
PRODUCT CATALOG

15,000^{PSI}
1,034 BAR

WORLDWIDE LEADER

IN TOTAL WATER BLASTING SOLUTIONS

Jetstream of Houston is a leading supplier of innovative water blasting solutions for a wide range of applications, including industrial cleaning, surface preparation, hydro-demolition and abrasive waterjet cutting.

Jetstream is committed to providing customers with safe, sure, simple solutions in everything we do. Our total water blasting solutions include:

- Manufacture and distribution of quality industrial high-pressure water blasting units, pumps, parts and accessories; that are built to last and easy to maintain
- Leading the way with an approved Visual Safety System (VSS) color-coding on most water blasting components for safer operation within each pressure range
- Providing a wide range of application appropriate automation tools - for safe, hands-free cleaning
- Sharing Application Expertise with customers for the best total solution approach for maximum productivity
- Training - operators on the application, product operation and safety
- Rentals for short-term or rent to own - units, accessories, automation tools - complete with training
- Service equipment with experienced technicians, provide 24/7 support by telephone and ship parts quickly (most same day)

TOTAL WATER BLASTING SOLUTIONS



24/7 SERVICE AND SUPPORT TAILORED TO YOU

The 24/7 Support Program provides Jetstream customers uninterrupted access to critical parts and accessories, service and expertise to keep the job running, no matter what time of day.

800.231.8192

832.590.1300

Jetstream Support Standard business hours

7 am – 6 pm CST

832.590.1369

After Hours Support Hotline



Jetstream TwinForce 800HP Unit

TYPICAL APPLICATIONS:

- TUBE AND TUBE BUNDLE CLEANING
- PIPE CLEANING
- STACK CLEANING
- COLLING TOWER CLEANING
- TANK CLEANING
- FACILITIES MAINTENANCE
- GRATE AND FLOOR CLEANING
- AUTOMOTIVE PAINT BOOTH CLEANING
- SHIP HULL CLEANING
- UNDERWATER CLEANING
- KILN CLEANING
- SURFACE PREPARATION
- HYDROSTATIC TESTING
- BOP TESTING
- CONCRETE DEMOLITION
- WATERJET CUTTING

SOME INDUSTRIES WE SERVE:

- CHEMICAL
- PETROCHEMICAL
- STEEL MILLS
- POWER GENERATION
- MARINE
- CONSTRUCTION
- MINING
- OIL FIELD
- MILITARY
- HYDRO-DEMOLITION

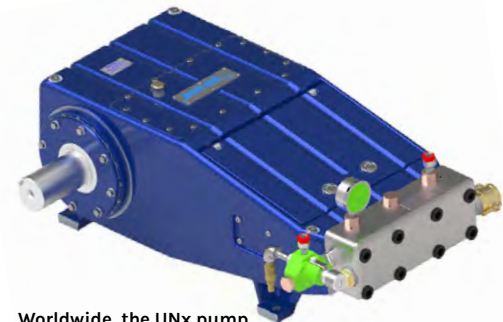
INNOVATIVE

ENGINEERED SOLUTIONS

Jetstream pioneered the use of valve cartridges to allow accessories to be repaired in the field in minutes.



Nozzles that spin on a bearing of water.



Worldwide, the UNx pump design is the easiest to maintain and operate.

TOOL RENTALS

Jetstream provides pumps, parts, and tool rentals for all the demands of your job. You can pick up the equipment you need, or we can deliver it straight to your job site. Our tools are ready to work the second they arrive on-site and are backed by our world-class customer support team and highly trained technicians that are committed to the success of your project.

BEST-IN-CLASS SERVICE AND SUPPORT, TAILORED TO YOU

Jetstream is a subsidiary of Federal Signal Corporation's Environmental Solutions Group. Member companies include Vactor Manufacturing, TRUVAC, Guzzler Manufacturing, Westech Vac Systems, Ltd., and Elgin Sweeper Company.



If you need service and support for your equipment, Jetstream has you covered with the most experienced and customer-focused team in the industry.

In the United States, our products are serviced by FS Solutions. With 13 convenient locations, FS Solutions provides high-performance parts and accessories, Jetstream rentals, repair and rebuild, and safety training services. In Canada, Joe Johnson Equipment (JJE) is there to handle your every need.

Whatever your needs may be, Jetstream offers a full range of products, services, and customized solutions designed to keep your products and projects running smoothly, effectively, and efficiently!



VALVE REBUILD PROGRAM

Get same as new performance and reliability for your valves with Jetstream's Valve Rebuild Program (VRP).

The program utilizes OEM parts and processes to maximize the value of your equipment by:

- ▶ Reducing hourly operational costs
- ▶ Boosting up-time
- ▶ Optimizing reliability
- ▶ Restoring original system performance
- ▶ Increasing return on investment

We guarantee to provide new seals, springs, suction/discharge valve, and lapping with every rebuild.

TRADE-IN PROGRAM

The Trade-In Program offers customers an opportunity to exchange any competitor tools for credit towards Jetstream Signature Series Premium Kits. Tools do not have to be functional, but they must be a complete part.

**Discounts applied at the time of trade-in.*

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NLB, Butterworth-Partek, Gardner-Denver, Woma, JobBox, Turtleskin, TST, Sonetics, Blue Goop, Loctite, Cordura, Tritan, Weatherford, Wheatley, Union, Universal Minerals, Sharpjet, MaxxStrip, SofStrip, Swagelok, DuPont, Teflon, Partek, Warwick Mills, North Safety, and American Aero are trademarked and/or registered tradenames of their respective companies. Jetstream disclaims any and all rights to these marks.

Jetstream reserves the right to suspend or discontinue the sale of any product contained herein or perform any modifications to product design without prior notification.

UNITS

Jetstream provides a comprehensive selection of waterblasters that can be tailored to suit specific demands. These waterblasters are thoughtfully engineered to serve various sectors, such as automobile manufacturing, food processing, infrastructure development, maritime operations, mining, paper production, power generation, petroleum and gas, and steel manufacturing, and many more.

All Jetstream waterblasters employ UNx™ Fluid End technology along with a variety of innovative features to achieve superior performance, greater flexibility in the field, and reduced downtime and maintenance (see page B-29 for details).



HORSEPOWER CHART

| COMMON ENGINE POWERS | | PUMP DISPLACEMENT* AT 8,000 PSI (551 BAR) | |
|------------------------------|-----|---|-----|
| hp | kw | gpm | lpm |
| TWINFORCE™ | | | |
| 800 | 600 | 154.0 | 582 |
| 650 | 484 | 125.2 | 470 |
| MODEL 5215 QUINTUPLEX | | | |
| 700 | 522 | 109.8 | 408 |
| MODEL 6015 | | | |
| 600 | 447 | 115.4 | 437 |
| MODEL 5215 | | | |
| 400 | 300 | 77.0 | 291 |
| MODEL 4215 | | | |
| 325 | 242 | 62.6 | 237 |
| 250 | 186 | 48.6 | 183 |
| 220 | 164 | 40.0 | 151 |
| MODEL 3615 | | | |
| 170 | 126 | 36.0 | 136 |
| MODEL 3015 | | | |
| 150 | 112 | 23.2 | 88 |
| 125 | 93 | 23.2 | 88 |
| 110 | 82 | 18.4 | 69 |

* Displacement (flow) values represented refer to "theoretical" flow, neglecting inefficiency resulting from compressibility of water and expansion of pressure-bearing components.

Values shown are for diesel engines only. Contact Jetstream for electric unit chart.

TWINFORCE™ UNITS

The TwinForce series was engineered to outperform other high-flow units by providing a multi-functional product to enhance the utilization of two waterblasting units on one single trailer.

- ▶ Two 325 or 400 hp high performance diesel engines
- ▶ Pilot bearing free PTOs and covered banded belt drives
- ▶ Dual Slave Control Panels for multiple control of both engines from either side
- ▶ Dual Water Filters
- ▶ High pressure discharge from both units combined into a single control station
- ▶ Dual Fuel Tanks
- ▶ Tier 4 Engines

5200 QUINTUPLEX UNITS

Building on the success and innovation of the Jetstream X-Series units, the 5200 Quintuplex waterblast unit offers high flow capability and premium features on an ergonomic and capable integrated trailer with a low deck height and easy towing.

- ▶ 700 hp Cummins or John Deere engines
- ▶ Quintuplex (five plunger) Jetstream UNx Pump
- ▶ 4 speed transmission with integrated gear drive
- ▶ Guardian tripple filter system allows for filter changes without stopping operation.
- ▶ Low deck integrated gooseneck trailer with storage, steps and crane
- ▶ Pressurized and cooled oil system for extended run timesStandard Charge Pump



6000 SERIES UNITS

The 6000 Series waterblasting system is engineered to outperform and outlast any other unit of its kind.

- ▶ 600 hp Volvo Tier 4 engines without the need for a diesel particulate filter.
- ▶ Pressure Lubricated Gear Drive Power End
- ▶ High-Capacity Aluminum Fuel Tank (Canadian Certified)
- ▶ Triple Filtration System - First in its class
- ▶ Standard Charge Pump
- ▶ Patented Jetstream UNx Fluid End system



X-SERIES UNITS

From the innovative UNx pump down to the EZ-Lube wheel bearings, every detail of the X-Series was engineered to minimize maintenance and provide contractors with the most productive and versatile waterblaster on the market today.



- ▶ 80 to 400 hp (59 to 300 kW) high performance diesel engines
- ▶ Pilot bearing free PTOs and covered banded belt drives
- ▶ Guardian Waterblast Filtration System extends component life and increases uptime with built-in filtration
- ▶ Available as a skid or low profile trailer with balanced weight distribution for stable towing
- ▶ State-of-the-art controls
- ▶ Electronic throttle control
- ▶ Hand-adjustable bypass valve
- ▶ Shutdown system to protect both the engine and the pump

ELECTRIC UNITS

For waterblast applications within process plants, industrial operations, military and government facilities, automotive manufacturing and other environments, electric waterblasters are available as stationary skids or steerable in-plant trailers. Jetstream offers a diverse range of electric waterblaster models designed specifically for in-plant installations that are tailored to meet the unique requirements of each user.



- ▶ 60 to 700 hp (45 to 522 kW)
- ▶ Patented Jetstream UNx Fluid End system
- ▶ Totally Enclosed Fan-Cooled (TEFC) or explosion proof motors (inquire for rating)
- ▶ Soft-start or VFD starters
- ▶ Galvanized skid with forklift channels standard
- ▶ Charge pump system for reliable pump operation
- ▶ Stationary Skid



HYDROFORCE™ UNITS

JETSTREAM OIL & GAS EQUIPMENT

Hydrostatic testing is a crucial aspect of the oil and gas industry, and Jetstream is dedicated to offering a comprehensive solution for this task. In addition to HydroForce™ waterblasting units that can reach pressures of up to 22,500 psi, Jetstream also provides all the necessary tools for accurate blow-out pipeline (BOP) and wellhead testing. With our complete solution, you can perform hydrostatic testing with confidence.

- ▶ 80 hp to 325 hp (59 to 242 kW) high performance diesel engines (Electric unit option available)
- ▶ Options including: Heavy duty lifting frame, 10,000 psi hydraulic system for torque tools, a JobBox, a digital or manual chart recorder, hydraulic hose reel or auxiliary hose stand



CUSTOM UNITS

In addition to a wide selection of standard units and options, close collaboration between Jetstream solutions providers and engineers provide almost unlimited custom options to meet specific needs. Common requests include:

- ▶ Custom trailers and skids
- ▶ Special control devices (pneumatic, electronic, hydraulic)
- ▶ Customizable to meet special plant requirements
Jetstream can build the perfect unit for any job

TRAINING



In order to ensure customer satisfaction, Jetstream has developed the Right Start program, a four-step plan designed to provide the owners and operators of new Jetstream waterblast units with the knowledge and support needed to feel familiar, confident and satisfied with Jetstream equipment and personnel.



1. Transportation

Once a new waterblaster is built and thoroughly tested, the Shipping Manager contacts the new owner to arrange for the unit's arrival to the right place at the right time.



2. Training

All new waterblasters include personal training by the Right Start Technician. Training involves both classroom and "hands-on" instruction to make sure that each operator is thoroughly familiar with the design and function of the unit and accessories, enabling him to safely put the new equipment to optimal use.



3. Follow-up

Within thirty days of delivery, and again within sixty days, the Solutions Provider will call to answer any questions and ensure complete satisfaction.



4. Trust

If any questions or problems ever arise, the Jetstream team is available and committed to providing prompt answers and solutions.

CLASSES OFFERED

PUMP OPERATION & MAINTENANCE

The course combines extensive hands-on training with classroom instruction and is recommended for maintenance personnel, operator and supervisors.

Class Length: 3 days

Class Size: 10 maximum

Location: Jetstream Manufacturing Training Center
Houston, TX

Call for class schedules and availability. Classes can be tailored to those in attendance.

This course covers:

- ▶ Safe waterblast operation
- ▶ Unit maintenance and troubleshooting
- ▶ Physical application and related safety issues
- ▶ Safe pump operation
- ▶ Pump maintenance
- ▶ The UNx System (10K, 20K and 40K)
- ▶ Swapping fluid ends
- ▶ Waterblast guns
- ▶ Pedals and accessories
- ▶ Uni-valves
- ▶ Proper packing, disassembly, repair and re-lapping
- ▶ Hoses, lances, nozzles
- ▶ Recommended spare parts
- ▶ Preventative maintenance and winterization

SAFETY-FS SOLUTIONS

As the experts on waterblast and industrial vacuum equipment, FS Solutions makes OSHA training and compliance more convenient than ever through hands on courses developed by Gary Toothe, whose significant contributions and 25 years of experience are well-known in the waterblast and industrial vacuum industries.

ONLINE WITH FEDERAL SIGNAL ESG UNIVERSITY

- ▶ Work at your pace and convenience
- ▶ Remain compliant with OSHA training
- ▶ Safety increase productivity
- ▶ Decrease risk of future liability

Additional Tools

- ▶ Jetstream Safety Manual Part No. 62113

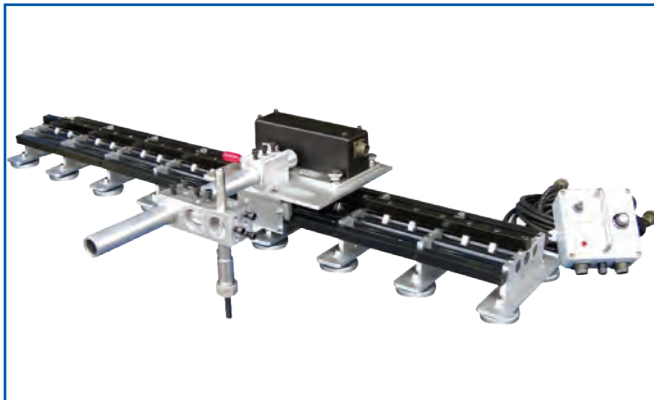


AUTOMATED WATERBLASTING SOLUTIONS

Automation is a rapidly growing waterblast solution for tube cleaning, tank and boiler cleaning, surface preparation and hydro-demolition. Hands-free operation is key to a safe work environment. Positioning the operator at a distance, away from the work area, is the number one benefit to utilizing automated tools. This placement away from direct contact with the high pressure application allows for quick reaction time and decreases the possibility for employee injury.



To enhance operator safety, productivity and efficiency, Jetstream has partnered with strategic manufacturers of specialty equipment in automated and robotic tools and accessories. These alliances allow Jetstream to provide a total solution to the customer, from the waterblasting unit to the tools needed to perform the job safely and efficiently.



Offering the broadest range of automation solutions for industrial cleaning contractors, Jetstream provides:

- ▶ The broadest offering of hands free cleaning solutions
- ▶ Innovative, automated and robotic tools and accessories
- ▶ On-site solutions provided by regional automation specialists
- ▶ Rent or purchase options on a variety of state-of-the-art tooling
- ▶ Convenience with availability through Jetstream and FS Solutions rental centers
- ▶ Robotic and mechanical hydro-demolition solutions available for rent
- ▶ Application and safety training



For a list of products offered, contact your Regional Sales Manager or Inside Sales Technician for more details.



UNx™ BARESHAFT PUMPS

UNRIVALED STRENGTH AND DURABILITY

The Jetstream 15,000 psi UNx Bareshaft Pump provides unrivaled durability and strength. The pump is capable of power inputs up to 700 horsepower and, coupled with the best Jetstream UNx fluid end, provides flow* rates approaching one hundred and ten gallons per minute. Jetstream bareshaft pumps are the best choice for those building their system or replacing a complicated, worn, or unreliable pump.

The following UNx Bareshaft Pumps are available:

- ▶ 6000 Series (6015): 600HP @ 115.4 gpm
- ▶ 5200Q Series (5215Q): 709HP @ 109.8 gpm
- ▶ 5200 Series (5215): 400 HP @ 90.4 gpm
- ▶ 4200 Series (4215): 325HP @ 73.5 gpm
- ▶ 3600 Series (3615): 270HP @ 27.4 gpm
- ▶ 3000 Series (3015): 200HP @ 23.2 gpm
- ▶ 2000 Series (2015): 75HP @ 19.8 gpm

Twenty-four different pump displacement levels are available within the seven series. See pages B-2, B-5, B-10, B-13, B-16, B-20 and B-23 for further details.

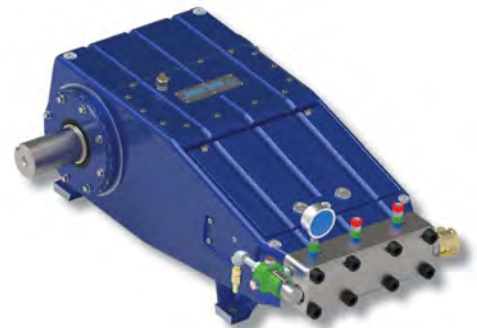
FEATURES AND BENEFITS

- ▶ The strongest ductile iron power frame in the industry is made tough to last
- ▶ A heat-treated billet alloy steel crankshaft delivers superior performance at high power inputs
- ▶ The largest bearings of any pump on the market to prevent overheating
- ▶ Components designed to be easily serviced and maintained to reduce downtime
- ▶ Locking rod box for increased operator safety
- ▶ Use of simple, bolt-on Jetstream UNx™ Fluid Ends for fast in-the-field pressure range conversions to allow one pump to perform multiple applications
- ▶ See more UNx Fluid End features and benefits on page B-27

An optional gear drive is available on the 3000, 3600, 4200 and 5200 Series Bareshaft Pumps. Several configurations are available. See pages B-11, B-14, B-18, and B-21 for ratio information. Clotting position required when ordering.



Please refer to the [Jetstream Bareshaft Pump Operation Manual](#) for general installation guidelines. Contact Jetstream Engineering for detailed technical guidance and design review before installing any Jetstream bareshaft pump.



NOTE

The customer can specify the placement of the crankshaft (right-hand or left-hand side) and paint color for a bareshaft pump. Standard paint color is blue. Other paint colors are available upon request.

*Displacement (flow) values represented refer to "theoretical" flow, neglecting inefficiency resulting from compressibility of water and expansion of pressure-bearing components.



MODEL 6015

UNx™ BARESHAFT PUMP

The Jetstream model 6015 waterblast pump is capable of power input of up to 600 horsepower (447 kW). It is the most advanced and efficient compact waterblast pump in the industry. Combining the strength and durability of a proven power end workhorse with the unparalleled simplicity, serviceability and versatility of the UNx fluid end design, Jetstream bareshaft pumps are the best choice for those building their own system or replacing a complicated, worn, or unreliable pump.

- ▶ Up to 600 horsepower (447 kW)
- ▶ Maximum Flow:
 - 61.7 gpm (233.6 lpm) at 15,000 psi (1034 bar)
 - 64.1 gpm (242.7 lpm) at 14,000 psi (965 bar)
 - 92.7 gpm (350.9 lpm) at 10,000 psi (689 bar)
 - 115.4 gpm (436.8 lpm) at 8,000 psi (551 bar)
- ▶ Three plunger (triplex) design

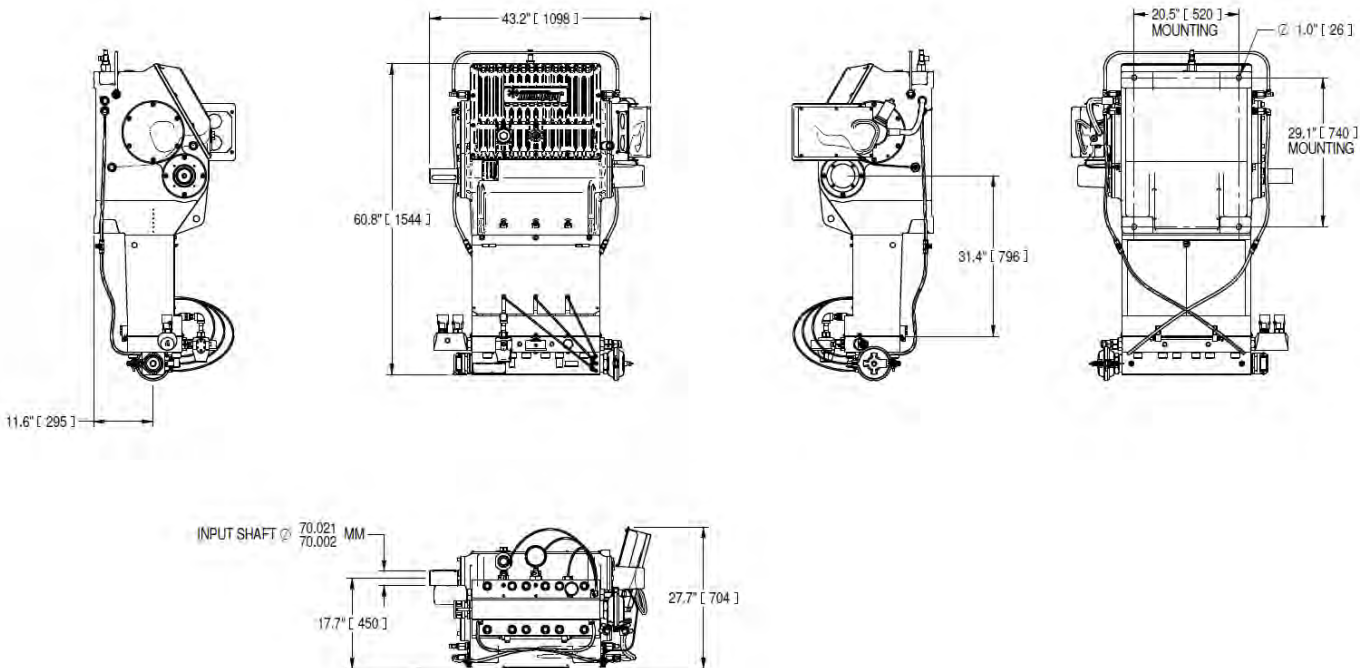
KEY FEATURES

- ▶ Internal Gear Drive

POWER END SPECS

| PLUNGERS | | | CONNECTION TYPE (DISCHARGE) | PUMP SPEED RANGE | MAX. POWER INPUT | | MAX. FRAME LOAD | | TOTAL WEIGHT | | PUMP OIL* | | |
|----------|--------|-----|-----------------------------|------------------|------------------|-----|-----------------|-----|--------------|------|-----------|------|----------|
| # | STROKE | | | | RPM | hp | kW | lb | kN | lb | kg | TYPE | CAPACITY |
| | in | mm | | | | | | | | | gal | l | |
| 3 | 5.51 | 140 | Jetstream HF | 100-457 | 600 | 447 | 28,775 | 128 | 2800 | 1270 | ISO-320 | 11.9 | 45 |

* See manual for list of approved oils.



FLUID END SPECS

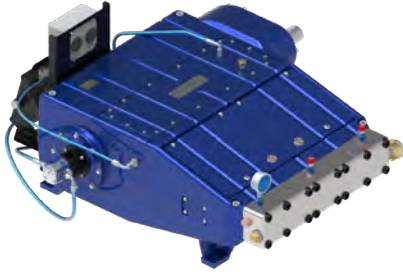
| PUMP AY PART NO.* | PLUNGER SIZE | | GEAR RATIO | PUMP DISPLACEMENT AT SPECIFIED PUMP SPEEDS** | | | | | | | | | | | | MAX. OPERATING PRESSURE | | |
|----------------------|--------------|----------|---------------|--|------|----------|------|----------|-------|----------|-------|----------|-------|----------|-------|-------------------------------|--------|------|
| | NO. | DIAMETER | | 1200 RPM | | 1400 RPM | | 1600 RPM | | 1800 RPM | | 2000 RPM | | 2100 RPM | | psi | bar | |
| | | in | | mm | gpm | lpm | gpm | lpm | gpm | lpm | gpm | lpm | gpm | lpm | gpm | | | lpm |
| 66510 | 15 | 1.55 | 39.37 | 3.96 LH | 40.9 | 155 | 47.8 | 180.9 | 54.6 | 206.7 | 61.7 | 233.6 | - | - | - | - | 15,000 | 1034 |
| 66511 | | | | 3.96 RH | 40.9 | 155 | 47.8 | 180.9 | 54.6 | 206.7 | 61.7 | 233.6 | - | - | - | - | | |
| 66509 | | | | 4.60 LH | 35.2 | 133.5 | 41.1 | 155.7 | 47 | 178 | 52.9 | 200.2 | 58.7 | 222.4 | 61.7 | 233.6 | | |
| 65025 | | | | 4.60 RH | 35.2 | 133.5 | 41.1 | 155.7 | 47 | 178 | 52.9 | 200.2 | 58.7 | 222.4 | 61.7 | 233.6 | | |
| 66514 | 16 | 1.58 | 40.13 | 3.96 LH | 42.5 | 161.1 | 49.6 | 187.9 | 56.7 | 214.8 | 64.1 | 242.6 | - | - | - | - | 14,500 | 1000 |
| 66168 | | | | 3.96 RH | 42.5 | 161.1 | 49.6 | 187.9 | 56.7 | 214.8 | 64.1 | 242.6 | - | - | - | - | | |
| 66512 | | | | 4.60 LH | 36.6 | 138.7 | 42.7 | 161.8 | 48.8 | 184.9 | 54.9 | 208 | 61 | 231.1 | 64.1 | 242.7 | | |
| 66513 | | | | 4.60 RH | 36.6 | 138.7 | 42.7 | 161.8 | 48.8 | 184.9 | 54.9 | 208 | 61 | 231.1 | 64.1 | 242.7 | | |
| 66517 | 19 | 1.90 | 48.26 | 3.96 LH | 61.5 | 233 | 71.8 | 271.8 | 82 | 310.6 | 92.8 | 351.3 | - | - | - | - | 10,000 | 689 |
| 66518 | | | | 3.96 RH | 61.5 | 233 | 71.8 | 271.8 | 82 | 310.6 | 92.8 | 351.3 | - | - | - | - | | |
| 66515 | | | | 4.60 LH | 53 | 200.5 | 61.8 | 234 | 70.6 | 267.4 | 79.4 | 300.8 | 88.3 | 334.2 | 92.7 | 350.9 | | |
| 66516 | | | | 4.60 RH | 53 | 200.5 | 61.8 | 234 | 70.6 | 267.4 | 79.4 | 300.8 | 88.3 | 334.2 | 92.7 | 350.9 | | |
| 66523 | 21 | 2.12 | 53.85 | 3.96 LH | 76.6 | 290 | 89.4 | 338.4 | 102.1 | 386.7 | 115.4 | 436.8 | - | - | - | - | 8,000 | 551 |
| 66524 | | | | 3.96 RH | 76.6 | 290 | 89.4 | 338.4 | 102.1 | 386.7 | 115.4 | 436.8 | - | - | - | - | | |
| 66519 | | | | 4.60 LH | 65.9 | 249.4 | 76.9 | 291 | 87.9 | 332.7 | 98.9 | 374.3 | 109.9 | 416.0 | 115.4 | 436.8 | | |
| 66520 | | | | 4.60 RH | 65.9 | 249.4 | 76.9 | 291 | 87.9 | 332.7 | 98.9 | 374.3 | 109.9 | 416.0 | 115.4 | 436.8 | | |

* Contact a Jetstream Solutions Provider to verify order lead time for power ends.

** Flow values represented refer to "theoretical" flow, neglecting inefficiency resulting from compressibility of water and expansion of pressure bearing components.

PUMPS &
FLUID ENDS





MODEL 5215Q

UNx™ BARESHAFT PUMP

The Jetstream model 5215Q waterblast pump is capable of power input of up to 700 horsepower (522 kW). It is the most advanced and efficient compact waterblast pump in the industry. Combining the strength and durability of a proven power end workhorse with the unparalleled simplicity, serviceability and versatility of the UNx fluid end design, Jetstream bareshaft pumps are the best choice for those building their own system or replacing a complicated, worn, or unreliable pump.

- ▶ Five plunger (quintuplex) design

KEY FEATURES

- ▶ Next generation Jetstream pump design
- ▶ Locking rod box designed for ultimate safety, protection, and ease of service
- ▶ Crankshaft supported by four bearings for long life operation
- ▶ Pressurized and filtered oiling system with cooling fan and high temperature and low pressure shutdown system
- ▶ Internal packing lube system protected inside the rod box
- ▶ Fully Integrated precision gear drive with shared oil sump
- ▶ Quintuplex design for reduced pulsation and vibration
- ▶ Maximum Flow: 109.8 gpm (416 lpm) at 10,000 psi (690 bar)

POWER END SPECS

| MAX. POWER INPUT | | PLUNGERS | | | CONNECTION TYPE (DISCHARGE) | PUMP RPM RANGE | MAX. FRAME LOAD | | TOTAL WEIGHT | | PUMP OIL* | | |
|------------------|-----|----------|--------|--------|-----------------------------|----------------|-----------------|----|--------------|------|-----------|----------|-----|
| hp | kW | # | STROKE | STROKE | | | lb | kN | lb | kg | TYPE | CAPACITY | |
| | | | in | mm | Jetstream HF | | | | | | gal | l | |
| 700 | 522 | 5 | 5.25 | 133 | | 200-547 | 17,716 | 79 | 5000 | 2268 | 80W-90* | 27 | 102 |

*See manual for list of approved oils.

FLUID END SPECS

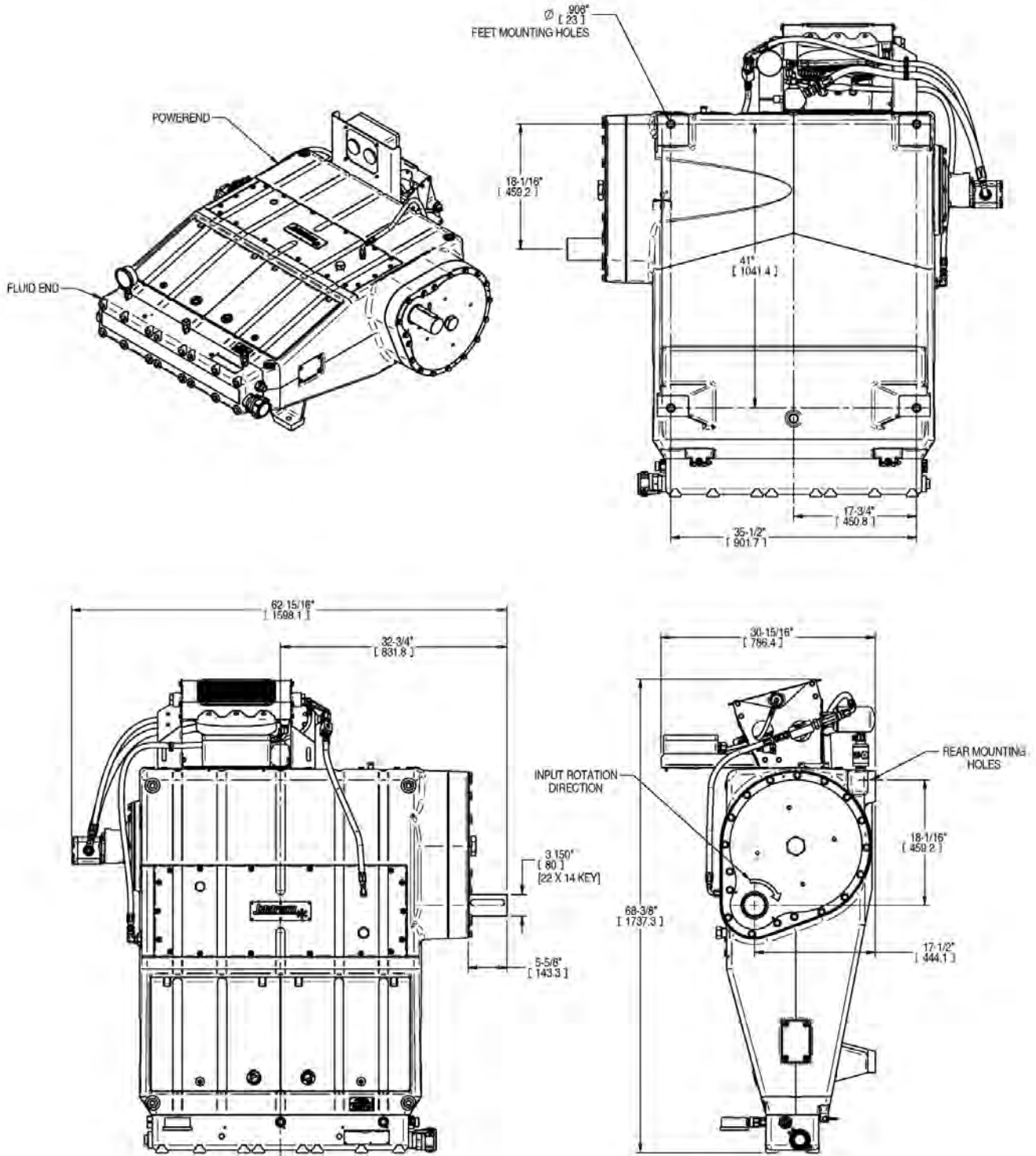
| PUMP PART NO. | PLUNGER SIZE NO. | DIAMETER | | INPUT RPM | GEAR RATIO | MAX. POWER INPUT | | FLOW AT SPECIFIED PUMP SPEEDS** | | | | COOLING FAN VOLTAGE | MAX. OPERATING PRESSURE | | | | | | | | | |
|---------------|------------------|----------|-------|-----------|------------|------------------|-----|---------------------------------|-----|---------|-----|---------------------|-------------------------|--------|-----|------|--------|-----|----|-----|--------|------|
| | | in | mm | | | hp | kW | 538 RPM | | 547 RPM | | | psi | bar | | | | | | | | |
| | | | | | | gpm | lpm | gpm | lpm | | | | | | | | | | | | | |
| 69254-3.3-12V | #12 | 1.200 | 30.48 | 1800 | 3.3 | 700 | 522 | -- | -- | 70.3 | 266 | 12V | 15,000 | 1035 | | | | | | | | |
| 69254-3.3-24V | | | | | | | | -- | -- | | | 24V | | | | | | | | | | |
| 69293-3.3-12V | #13 | 1.335 | 33.91 | | | | | 2100 | 3.9 | 700 | 522 | -- | -- | 87.0 | 329 | 12V | 12,500 | 863 | | | | |
| 69293-3.3-24V | | | | | | | | | | | | -- | -- | | | 24V | | | | | | |
| 69294-3.3-12V | #15 | 1.500 | 38.10 | | | | | | | | | 109.8 | 416 | 10,000 | 690 | -- | -- | | | 12V | 10,000 | 690 |
| 69294-3.3-24V | | | | | | | | | | | | | | | | -- | -- | | | 24V | | |
| 69254-3.9-12V | #12 | 1.200 | 30.48 | 2100 | 3.9 | 700 | 522 | | | | | | | | | 69.2 | 262 | -- | -- | 12V | 15,000 | 1035 |
| 69254-3.9-24V | | | | | | | | | | | | | | | | -- | -- | | | 24V | | |
| 69293-3.9-12V | #13 | 1.335 | 33.91 | | | | | 2100 | 3.9 | 700 | 522 | | | | | 85.6 | 324 | -- | -- | 12V | 12,500 | 863 |
| 69293-3.9-24V | | | | | | | | | | | | | | | | -- | -- | | | 24V | | |
| 69294-3.9-12V | #15 | 1.500 | 38.10 | | | | | | | | | 108.1 | 409 | 10,000 | 690 | -- | -- | -- | -- | 12V | 10,000 | 690 |
| 69294-3.9-24V | | | | | | | | | | | | | | | | -- | -- | | | 24V | | |

**Flow values represented refer to "theoretical" flow, neglecting inefficiency resulting compressibility of water and expansion of pressure-bearing components. Actual values may vary

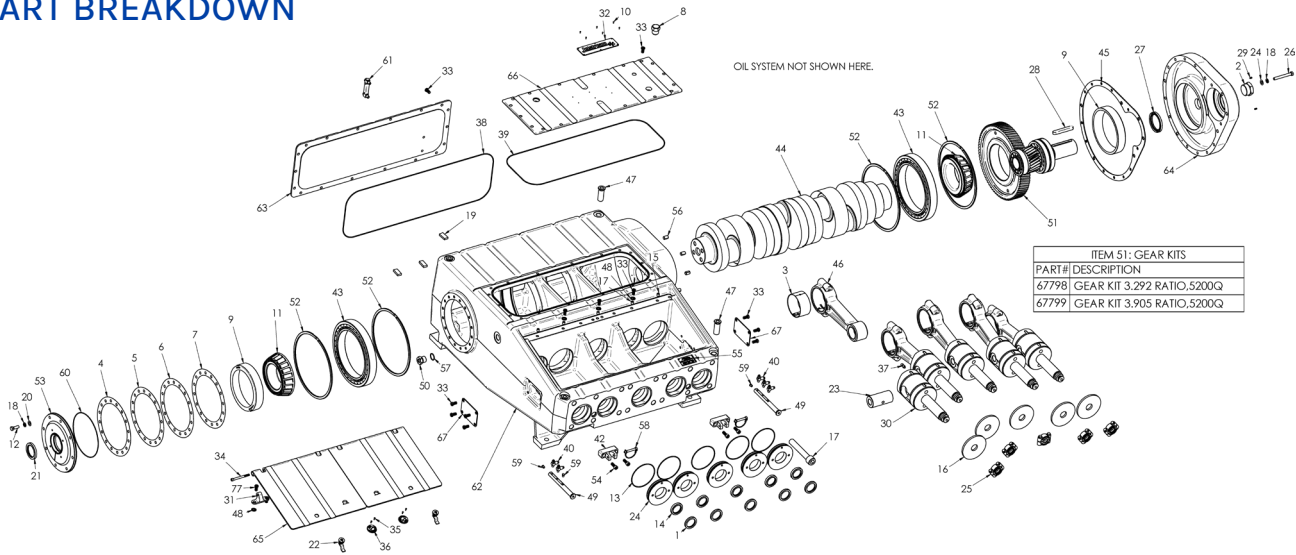


MODEL 5215Q
 UNx™ BARESHAFT PUMP
 DIAGRAMS

PUMPS &
 FLUID ENDS



MODEL 5215Q UNx™ BARESHAFT PUMP PART BREAKDOWN



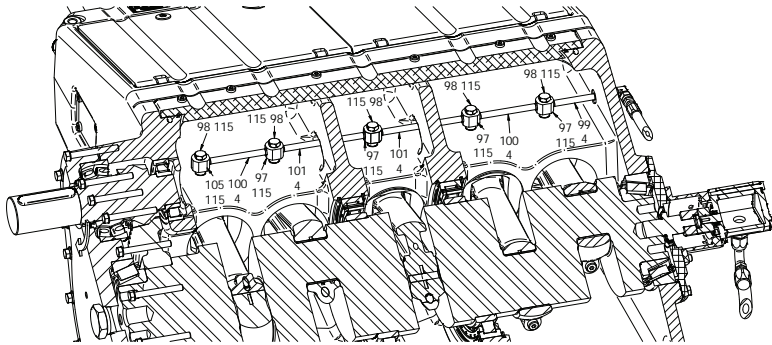
PUMPS &
FLUID ENDS

PART BREAKDOWN

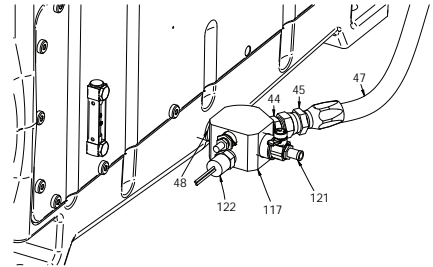
| ITEM | PART NO. | DESCRIPTION | ITEM | PART NO. | DESCRIPTION | ITEM | PART NO. | DESCRIPTION |
|------|----------|-----------------------|------|----------|-----------------------|------|-----------|----------------------|
| 1 | 04101 | Oil Seal, Outboard | 23 | 51534 | Crosshead Pin | 46 | 67757 | Connecting Rod Assy |
| 2 | 08130 | Plug | 24 | 51713 | Oil Seal Plate | 47 | 67763 | Lifting Adapter |
| 3 | 26051 | Journal Bearing | 25 | 51736 | Plunger Coupling | 48 | 67780 | Washer |
| 4 | 26259 | Shim, End Cap, Yellow | 26 | 58422 | Capscrew | 49 | 67781 | Lube Line Adapter |
| 5 | 26259-1 | Shim, End Cap, Brown | 27 | 59248 | Oil Seal | 50 | 67784 | Oil Adapter |
| 6 | 26259-2 | Shim, End Cap, White | 28 | 59260 | Key | 51 | See Table | Kit, Pinion Gear |
| 7 | 26259-3 | Shim, End Cap, Blue | 29 | 60350 | Setscrew | 52 | 67804 | Retaining Ring |
| 8 | 26360 | Breather Cap | 30 | 67076 | Crosshead Assy | 53 | 68910 | Cap, Frame, Outboard |
| 9 | 26376 | Bearing, Race | 31 | 67299 | Hinge, Rod Box Cover | 54 | 69056 | Capscrew |
| 10 | 26379 | Setscrew | 32 | 67305 | Logo Plate | 55 | 69063 | Identification Plate |
| 11 | 26390 | Bearing, Cone | 33 | 67341 | Capscrew, .5C x 1.0 | 56 | 67805 | Hollow Dowel |
| 12 | 26435 | Capscrew | 34 | 67342 | Capscrew, .38C x 4.5 | 57 | 69066 | Washer, M32 |
| 13 | 26479 | O-Ring | 35 | 67343 | Capscrew, #6-32 x .50 | 58 | 69068 | Clevis Pin, Locking |
| 14 | 26481 | Oil Seal, Inboard | 36 | 69832 | Lift Handle | 59 | 69249 | Plug |
| 15 | 26482 | Setscrew | 37 | 67348 | Setscrew | 60 | 71017 | O-Ring |
| 16 | 26487 | Deflector | 38 | 67349 | Rear Cover O-Ring | 61 | 71318 | Gauge, Oil Level |
| 17 | 26500 | Capscrew | 39 | 67349 | Top Cover O-Ring | 62 | 67639 | Power Frame |
| 18 | 26558 | Washer | 40 | 67412 | Needle Valve | 63 | 67645 | Rear Cover |
| 19 | 26705 | Magnet | 42 | 67687 | Trunnion Block | 64 | 67642 | Gear Box Cover |
| 20 | 26798 | Washer | 43 | 67735 | Cylindrical Roller | 65 | 67751 | Rod Box Cover |
| 21 | 29623 | Oil Seal Adapter | 44 | 67752 | Crankshaft | 66 | 67644 | Top Cover |
| 22 | 29829 | Locking Pawl Latch | 45 | 67753 | Gasket | 67 | 67298 | Side Access Plate |

MODEL 5215Q UNx™ BARESHAFT PUMP OIL COOLER PART BREAKDOWN

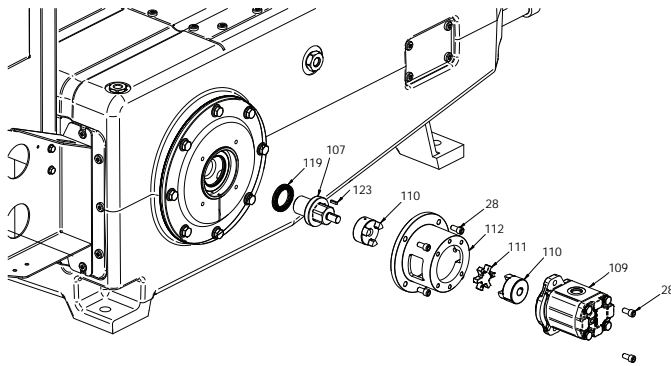
PUMPS &
FLUID ENDS



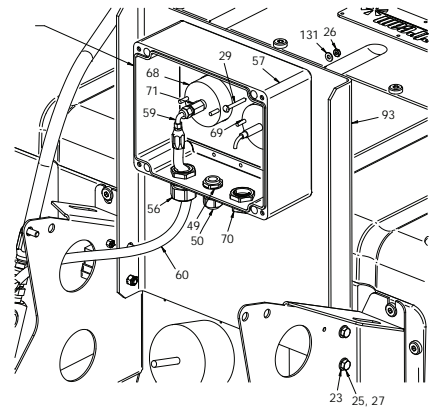
INTERNAL OIL DISTRIBUTION SYSTEM



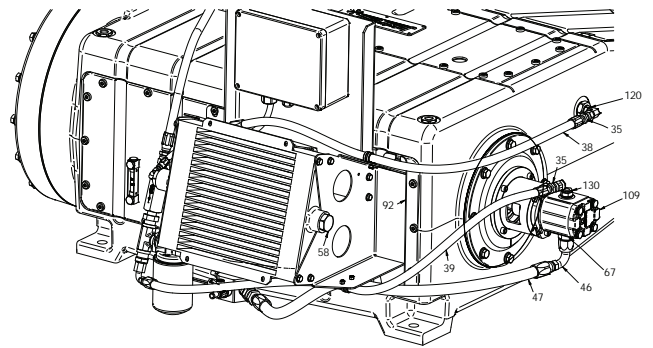
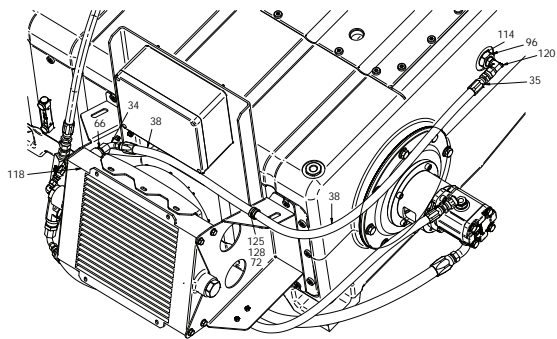
REAR PUMP OIL DRAIN ASSY



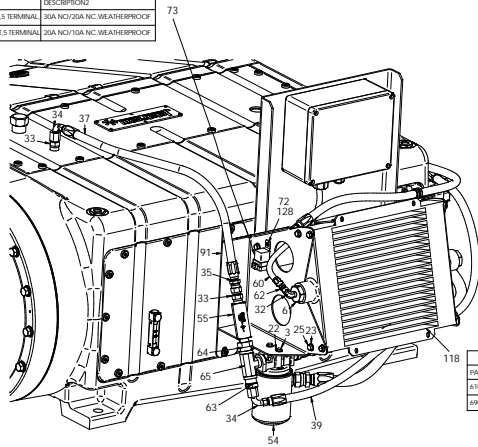
OIL PUMP ASSEMBLY



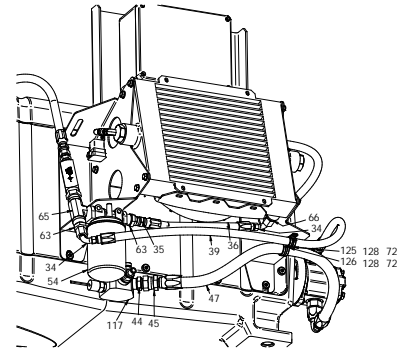
PRESSURE/TEMP GAUGE PANEL



| RELAY | | |
|--------|------------------------------|-----------------------------|
| PART # | DESCRIPTION1 | DESCRIPTION2 |
| 61075 | RELAY 12VDC,SPDT,5 TERMINAL | 25A NO/25A NC, WEATHERPROOF |
| 66329 | RELAY 24 VDC,SPDT,5 TERMINAL | 25A NO/25A NC, WEATHERPROOF |

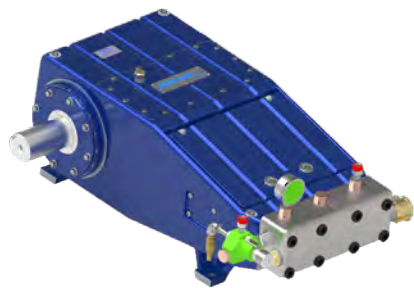


| OIL COOLER | | |
|------------|---------------------|------------------|
| PART # | DESCRIPTION1 | DESCRIPTION2 |
| 63012 | COOLER,OIL(AIR FAN) | 12V,SAE #16-PORT |
| 69083 | COOLER,OIL(AIR FAN) | 24V,SAE #16-PORT |



PART BREAKDOWN

| ITEM | PART NO. | DESCRIPTION | ITEM | PART NO. | DESCRIPTION | ITEM | PART NO. | DESCRIPTION |
|------|----------|-------------------|------|-----------|------------------------|------|-----------|-------------------------|
| 3 | 25264 | Capscrew | 54 | 60663 | Filter Assy | 97 | 67785 | Manifold, Banjo |
| 4 | 25610 | O-Ring | 55 | 61011 | Check Valve | 98 | 67786 | Bolt, Banjo |
| 22 | 26709 | Washer | 56 | 61129 | Cord Grip | 99 | 67787 | Oil Supply Tube, Side |
| 23 | 26789 | Washer | 57 | 61152 | Gauge w/ Enclosure | 100 | 67788 | Oil Supply Tube, Center |
| 25 | 27250 | Capscrew | 58 | 61166 | Plug | 101 | 67789 | Oil Supply Tube, Center |
| 26 | 27449 | Nut, Nylok | 59 | 61167 | Reusable Hose End | 105 | 68007 | Manifold End, Banjo |
| 27 | 27698 | Nut, Hex | 60 | 61168 | Fuel Hose | 107 | 68911 | Crank Adapter |
| 28 | 25250 | Capscrew | 61 | 61169 | Adapter | 109 | 69057 | Oil Pump |
| 29 | 27876 | Capscrew | 62 | 61171 | Reusable Hose End | 110 | 69059 | Hub Coupling |
| 32 | 29831 | Elbow | 63 | 61173 | Adapter | 111 | 69060 | Spider Coupling |
| 33 | 29847 | Adapter | 64 | 61174 | Adapter | 112 | 69061 | Pump Mount |
| 34 | 29848 | Reusable Hose End | 65 | 61175 | Tee | 114 | 69066 | Washer, M32 |
| 35 | 29851 | Reusable Hose End | 66 | 61178 | Adapter | 115 | 69067 | Washer, M14 |
| 36 | 29906 | Fuel Hose, 1 ft | 67 | 61179 | Adapter | 117 | 69077 | Oil Manifold |
| 37 | 29906 | Fuel Hose, 2.5 ft | 68 | 62247 | Switch, Pressure | 118 | See Table | Oil Cooler Fan |
| 38 | 29906 | Fuel Hose, 4 ft | 69 | 62248 | Switch, Temperature | 119 | 69096 | Lock Washer |
| 39 | 29906 | Fuel Hose, 4 ft | 70 | 62252 | Cable Gland, Split | 120 | 69180 | Fitting, 90° |
| 44 | 58493 | Adapter | 71 | 62337 | Adapter | 121 | 69181 | Drain Valve |
| 45 | 58497 | Reusable Hose End | 72 | 63282 | Nut, Loc | 122 | 69184 | Switch, Temperature |
| 46 | 58498 | Reusable Hose End | 73 | See Table | Relay | 123 | 69200 | Key |
| 47 | 58499 | Fuel Hose | 91 | 67779-01 | Oil Cooler Bracket, LH | 125 | 69250 | Loop Clamp, 3/4" |
| 48 | 58547 | Nipple | 92 | 67779-02 | Oil Cooler Bracket, RH | 128 | 71066 | Capscrew |
| 49 | 58576 | Locknut | 93 | 67779-03 | Bracket, Oil Gauges | 130 | 71502 | Adapter |
| 50 | 58577 | Connector Cord | 96 | 67784 | Oil Adapter | 131 | J70804 | Washer |



MODEL 5215

UNx™ BARESHAFT PUMP

The Jetstream model 5215 waterblast pump is capable of power input of up to 400 horsepower (298 kW). It is the most advanced and efficient compact waterblast pump in the industry. Combining the strength and durability of a proven power end workhorse with the unparalleled simplicity, serviceability and versatility of the UNx fluid end design, Jetstream bareshaft pumps are the best choice for those building their own system or replacing a complicated, worn, or unreliable pump.

- ▶ Up to 400 horsepower (298 kW)
- ▶ Three plunger (triplex) design

KEY FEATURES

- ▶ Ductile iron power frame is the strongest in the industry
- ▶ Crankshaft machined from high-tech forged alloy for superior performance at higher power input
- ▶ Largest bearings of any comparable pump on the market
- ▶ Maximum Flow: 40.0 gpm (151 lpm) at 15,000 psi (1034 bar)
49.5 gpm (187 lpm) at 12,500 psi (861 bar)
62.1 gpm (235 lpm) at 10,000 psi (689 bar)

POWER END SPECS

| # | PLUNGERS | | CONNECTION TYPE (DISCHARGE) | PUMP SPEED RANGE | MAX. POWER INPUT | | MAX. FRAME LOAD | | TOTAL WEIGHT | | PUMP OIL* | | | |
|---|----------|-----|-----------------------------|------------------|------------------|-----|-----------------|----|--------------|-----|-----------|------|----------|---|
| | STROKE | | | | RPM | hp | kW | lb | kN | lb | kg | TYPE | CAPACITY | |
| | in | mm | | | | | | | | | | | gal | l |
| 3 | 5.25 | 133 | Jetstream HF | 183-518 | 400 | 300 | 17,750 | 79 | 2100 | 954 | 80W-90 | 9 | 34 | |

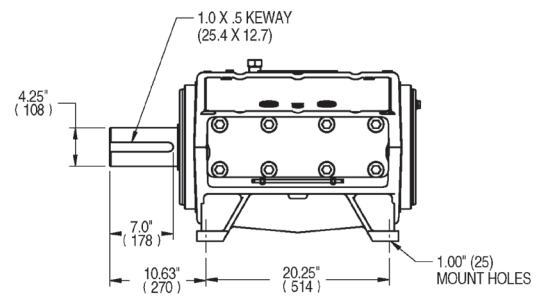
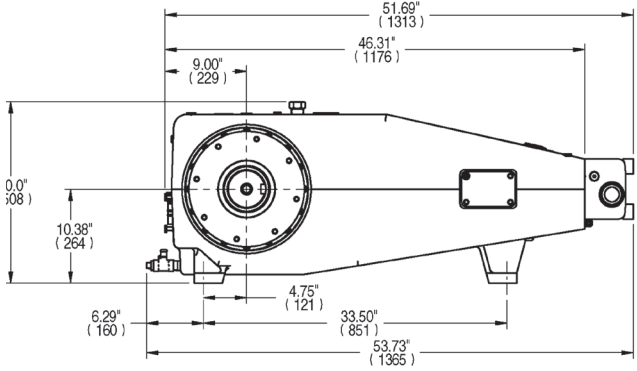
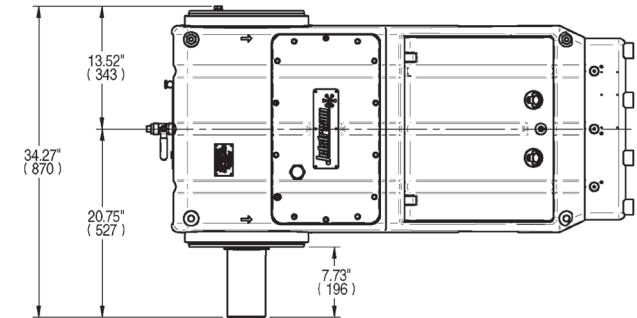
* See manual for list of approved oils.

FLUID END SPECS

| PUMP PART NO.* | PLUNGER NO. | PLUNGER SIZE | | MAX. POWER INPUT | PUMP DISPLACEMENT AT SPECIFIED PUMP SPEEDS** | | | | | | | | | | | | MAX. OPERATING PRESSURE | | |
|----------------------|----------------|--------------|-------|------------------------|--|------|---------|------|---------|------|---------|------|---------|------|---------|------|-------------------------------|--------|------|
| | | DIAMETER | | | 183 RPM | | 200 RPM | | 300 RPM | | 400 RPM | | 500 RPM | | 518 RPM | | psi | bar | |
| | | in | mm | | gpm | lpm | gpm | lpm | gpm | lpm | gpm | lpm | gpm | lpm | gpm | lpm | | | |
| 67354 | 11 | 1.100 | 27.94 | 325 | 242 | 11.2 | 42 | 13.0 | 49 | 19.4 | 73 | 25.9 | 98 | 32.4 | 122 | 33.6 | 127 | 15,000 | 1034 |
| 67355 | 12 | 1.200 | 30.48 | 387 | 288 | 13.3 | 50 | 15.4 | 58 | 23.1 | 87 | 30.9 | 117 | 38.6 | 146 | 40.0 | 151 | | |
| 67356 | 13 | 1.335 | 33.91 | 400 | 300 | 16.5 | 62 | 19.1 | 72 | 28.6 | 108 | 38.2 | 145 | 47.7 | 181 | 49.5 | 187 | 12,500 | 861 |
| 67357 | 15 | 1.500 | 38.10 | 400 | 300 | 20.9 | 79 | 24.1 | 91 | 36.2 | 137 | 48.2 | 183 | 60.3 | 228 | 62.1 | 235 | 10,000 | 689 |

** Flow values represented refer to "theoretical" flow, neglecting inefficiency resulting from compressibility of water and expansion of pressure bearing components.

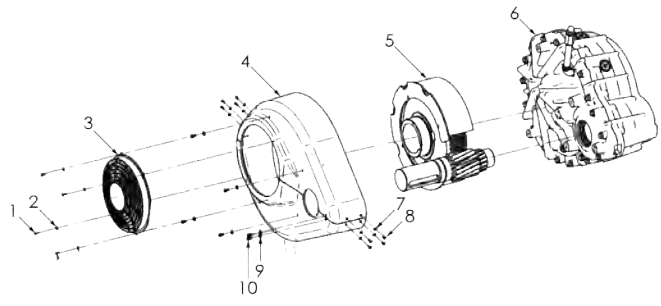
MODEL 5215 UNx™ BARESHAFT PUMP DIAGRAMS



GEAR DRIVE

An optional fan-cooled Gear Drive can be added to the 5215 Bareshaft Pump. Several options are available, as well as the specific clocking position needed. Contact your Jetstream Sales Manager for more information.

| PART NO. | DRIVE RATIO | MAX. INPUT SPEED |
|-----------------|-------------|------------------|
| 12V | | |
| 59100-16-69-12V | 4.31:1 | 2230 RPM |
| 59100-17-68-12V | 4.00:1 | 2070 RPM |
| 59100-19-67-12V | 3.53:1 | 1825 RPM |
| 59100-22-64-12V | 2.91:1 | 1500 RPM |
| 24V | | |
| 59100-16-69-24V | 4.31:1 | 2230 RPM |
| 59100-17-68-24V | 4.00:1 | 2070 RPM |
| 59100-19-67-24V | 3.53:1 | 1825 RPM |
| 59100-22-64-24V | 2.91:1 | 1500 RPM |

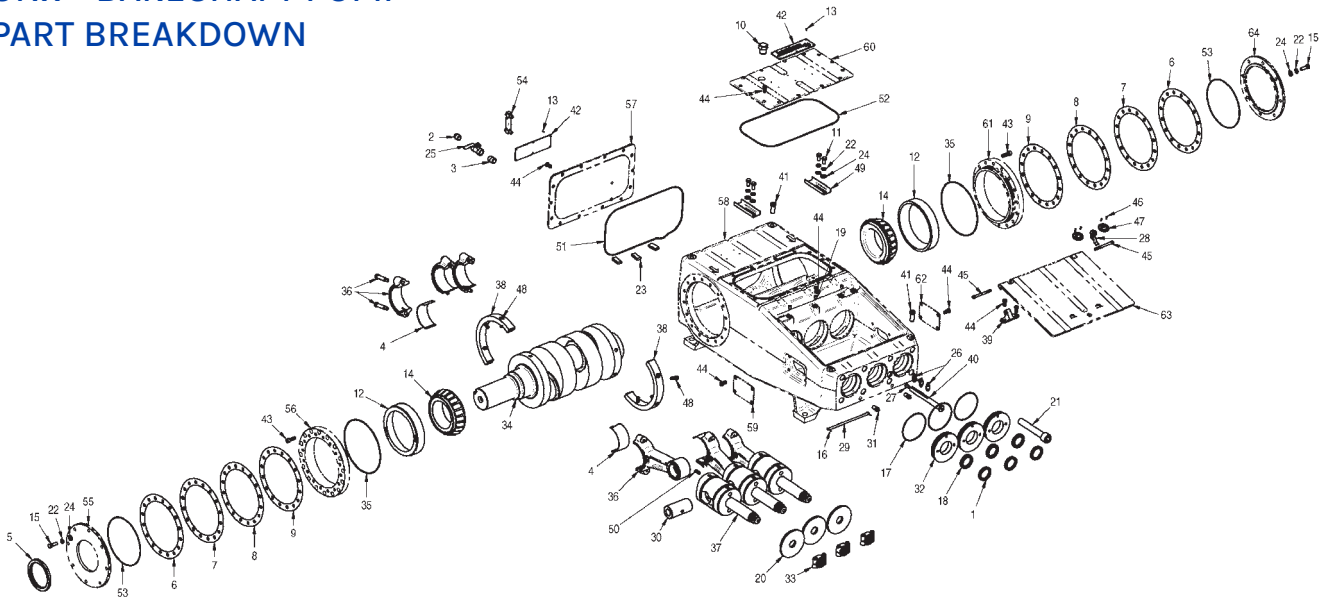


PART BREAKDOWN

| ITEM | PART NO. | DESCRIPTION | ITEM | PART NO. | DESCRIPTION |
|------|----------|---|------|----------|-----------------------------|
| 1 | 65082 | Screw | 6 | 59101 | Gear Drive Kit Common Parts |
| 2 | 57244 | Washer | 7 | 57244 | Washer |
| 3 | Various | Fan | 8 | 65082 | Screw |
| 4 | 64883 | Fan Shroud | 9 | 70206 | Washer |
| 5 | Various | Gear Drive Kit, dependent on gear ratio and voltage | 10 | 63790 | Capscrew |

MODEL 5215 UNx™ BARESHAFT PUMP PART BREAKDOWN

PUMPS &
FLUID ENDS

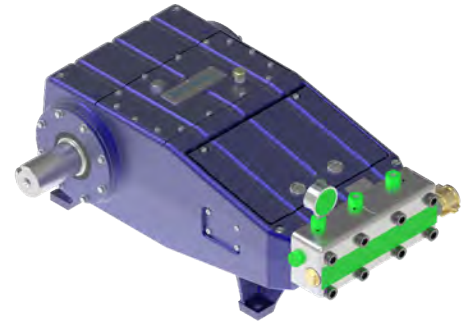


| ITEM | PART NO. | DESCRIPTION | ITEM | PART NO. | DESCRIPTION | ITEM | PART NO. | DESCRIPTION |
|------|----------|-----------------------|------|----------|----------------------|------|----------|------------------------|
| 1 | 04101 | Oil Seal, Outboard | 23 | 26705 | Magnet | 45 | 67342 | Capscrew, .38C x 4.5 |
| 2 | 25928 | Plug | 24 | 26798 | Washer | 46 | 67343 | Capscrew, #6-32 x .50 |
| 3 | 25946 | Nipple | 25 | 27101 | Ball Valve | 47 | 69832 | Lift Handle |
| 4 | 26051 | Journal Bearing | 26 | 67412 | Needle Valve | 48 | 67346 | Capscrew, .5F x 1 3/8" |
| 5 | 26208 | Crankshaft Seal | 27 | 25120 | Plug | 49 | 67347 | Oil Trough |
| 6 | 26259 | Shim, End Cap, Yellow | 28 | 29829 | Locking Pawl Latch | 50 | 67348 | Setscrew |
| 7 | 26259-1 | Shim, End Cap, Brown | 29 | 50295 | Trunnion Rod | 51 | 67349 | O-Ring |
| 8 | 26259-2 | Shim, End Cap, White | 30 | 51534 | Crosshead Pin | 52 | 67349 | O-Ring |
| 9 | 26259-3 | Shim, End Cap, Blue | 31 | 51659 | Trunnion | 53 | 71017 | O-Ring |
| 10 | 26360 | Breather Cap | 32 | 51713 | Oil Seal Plate | 54 | 71318 | Gauge, Oil Level, 3.5" |
| 11 | 26361 | Capscrew | 33 | 51736 | Plunger Coupling | 55 | 51538 | Cap, Frame, Inboard |
| 12 | 26376 | Bearing, Race | 34 | 66087 | Crankshaft | 56 | 66089 | Bearing Adapter |
| 13 | 26379 | Setscrew | 35 | 66112 | O-Ring | 57 | 67613 | Rear Cover |
| 14 | 26390 | Bearing, Cone | 36 | 66964 | Connecting Rod Assy | 58 | 66961 | Power Frame |
| 15 | 26435 | Capscrew | 37 | 67076 | Crosshead Assy | 59 | 67298 | Side Access Plate |
| 16 | 26468 | Cotter Pin | 38 | 67078 | Weight, Narrow | 60 | 67588 | Top Cover |
| 17 | 26479 | O-Ring | 39 | 67299 | Hinge, Rod Box Cover | 61 | 66089 | Bearing Adapter |
| 18 | 26481 | Oil Seal, Inboard | 40 | 67781 | Lube Line Adapter | 62 | 67298 | Side Access Plate |
| 19 | 26482 | Setscrew | 41 | 67301 | Lifting Adapter | 63 | 67614 | Rod Box Cover |
| 20 | 26487 | Deflector | 42 | 67305 | Logo Plate | 64 | 51536 | Cap, Frame, Outboard |
| 21 | 26500 | Capscrew | 43 | 67340 | Capscrew, .5C x 1.5 | | | |
| 22 | 26558 | Washer | 44 | 67341 | Capscrew, .5C x 1.0 | | | |

MODEL 4215HF

UNx™ BARESHAFT PUMP

The Jetstream model 4215HF waterblast pump is capable of power input of 200 to 325 horsepower (242 kW). It is the most advanced and efficient waterblast pump of its size in the industry. Combining the strength and durability of a proven power end workhorse with the unparalleled simplicity, serviceability and versatility of the UNx fluid end design, Jetstream bareshaft pumps are the best choice for those building their own system or replacing a complicated, worn or unreliable pump.



PUMPS &
FLUID ENDS

- ▶ 200 to 325 horsepower (149 to 242 kW)
- ▶ Three Plunger (triplex)

KEY FEATURES

- ▶ Ductile iron power frame is the strongest in the industry
- ▶ Crankshaft machined from high-tech forged alloy for superior performance at higher power input
- ▶ Largest bearings of any comparable pump on the market
- ▶ Maximum Flow:
 - 32.3 gpm (122 lpm) at 15,000 psi (1034 bar)
 - 40.0 gpm (151 lpm) at 12,500 psi (861 bar)
 - 50.5 gpm (191 lpm) at 10,000 psi (689 bar)
 - 62.6 gpm (237 lpm) at 8,000 psi (551 bar)
 - 73.5 gpm (278 lpm) at 6,800 psi (469 bar)

POWER END SPECS

| # | PLUNGERS | | CONNECTION TYPES* | | PUMP SPEED RANGE | MAX. POWER INPUT | | MAX. FRAME LOAD | | TOTAL WEIGHT | | PUMP OIL CAPACITY | | |
|---|----------|-----|-------------------|-----------------------|------------------|------------------|-----|-----------------|----|--------------|-----|-------------------|-----|---|
| | STROKE | | DISCHARGE PORTS | TOP PORTS (ACCESSORY) | | RPM | hp | kW | lb | kN | lb | kg | gal | l |
| | in | mm | | | | | | | | | | | | |
| 3 | 4.25 | 108 | Jetstream HF | Jetstream HF | 173-518 | 325 | 242 | 17,750 | 79 | 1,800 | 820 | 9 | 34 | |

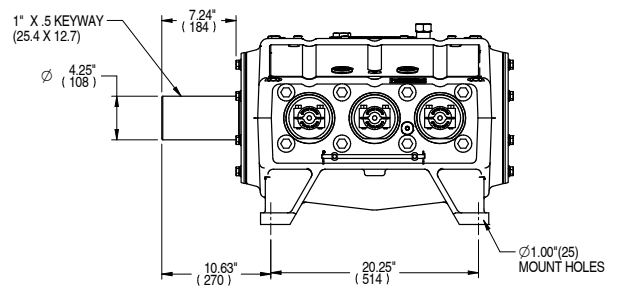
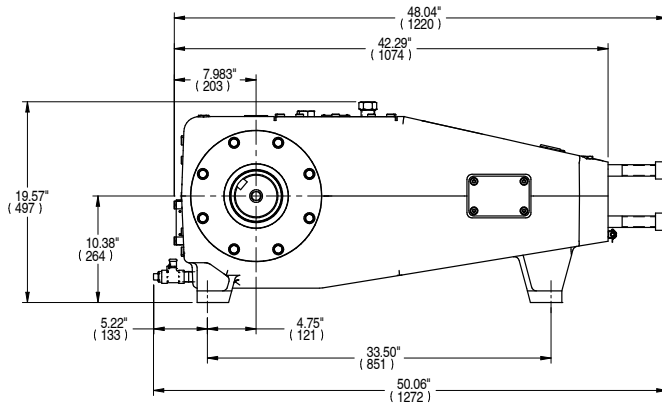
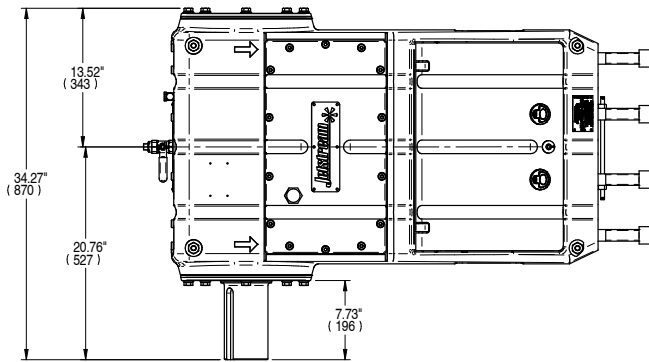
*See details on all connection types in Section I.

FLUID END SPECS

| PUMP AY PART NO.* | PLUNGER NO. | PLUNGER SIZE | | MAX. POWER INPUT | PUMP DISPLACEMENT AT SPECIFIED PUMP SPEEDS** | | | | | | | | | | | | MAX. OPERATING PRESSURE | | |
|----------------------------|----------------|--------------|-------|------------------------|--|------|---------|------|---------|------|---------|------|---------|------|---------|------|-------------------------------|--------|------|
| | | DIAMETER | | | 173 RPM | | 200 RPM | | 300 RPM | | 400 RPM | | 500 RPM | | 518 RPM | | psi | bar | |
| | | in | mm | | gpm | lpm | gpm | lpm | gpm | lpm | gpm | lpm | gpm | lpm | gpm | lpm | | | |
| 69255 | 10 | .980 | 24.89 | 210 | 157 | 7.2 | 27 | 8.3 | 32 | 12.5 | 47 | 16.7 | 63 | 20.8 | 79 | 21.6 | 82 | | |
| 69256 | 11 | 1.100 | 27.94 | 260 | 194 | 9.0 | 34 | 10.5 | 40 | 15.7 | 60 | 21.0 | 79 | 26.2 | 99 | 27.2 | 102 | 15,000 | 1034 |
| 69257 | 12 | 1.200 | 30.48 | 325 | 242 | 10.8 | 41 | 12.5 | 47 | 18.7 | 71 | 25.0 | 95 | 31.2 | 118 | 32.3 | 122 | | |
| 69258 | 13 | 1.335 | 33.91 | 325 | 242 | 13.3 | 50 | 15.5 | 59 | 23.2 | 88 | 30.9 | 117 | 38.6 | 146 | 40.0 | 151 | 12,500 | 961 |
| 69259 | 15 | 1.500 | 38.10 | 325 | 242 | 16.8 | 63 | 19.5 | 74 | 29.3 | 111 | 39.0 | 148 | 48.8 | 185 | 50.5 | 191 | 10,000 | 689 |
| 69260 | 16 | 1.670 | 42.42 | 325 | 242 | 20.9 | 79 | 24.2 | 92 | 36.3 | 137 | 48.4 | 183 | 60.5 | 229 | 62.6 | 237 | 8,000 | 551 |
| 69261 | 18 | 1.810 | 45.97 | 325 | 242 | 24.5 | 93 | 28.4 | 108 | 42.5 | 161 | 56.7 | 215 | 70.9 | 268 | 73.5 | 278 | 6,800 | 469 |

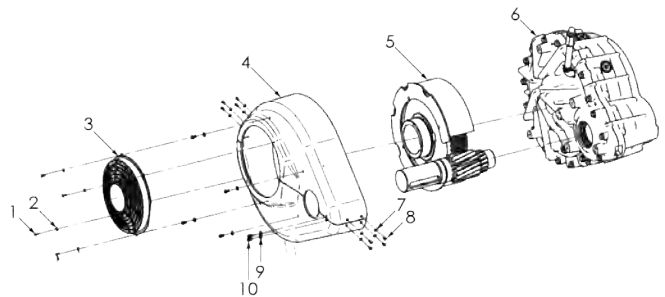
** Flow values represented refer to "theoretical" flow, neglecting inefficiency resulting from compressibility of water and expansion of pressure bearing components.

MODEL 4215HF UNX™ BARESHAFT PUMP DIAGRAMS



GEAR DRIVE

An optional fan-cooled Gear Drive can be added to the 4215HF Bareshaft Pump. Several options are available, as well as the specific clocking position needed. Contact your Jetstream Sales Manager for more information.

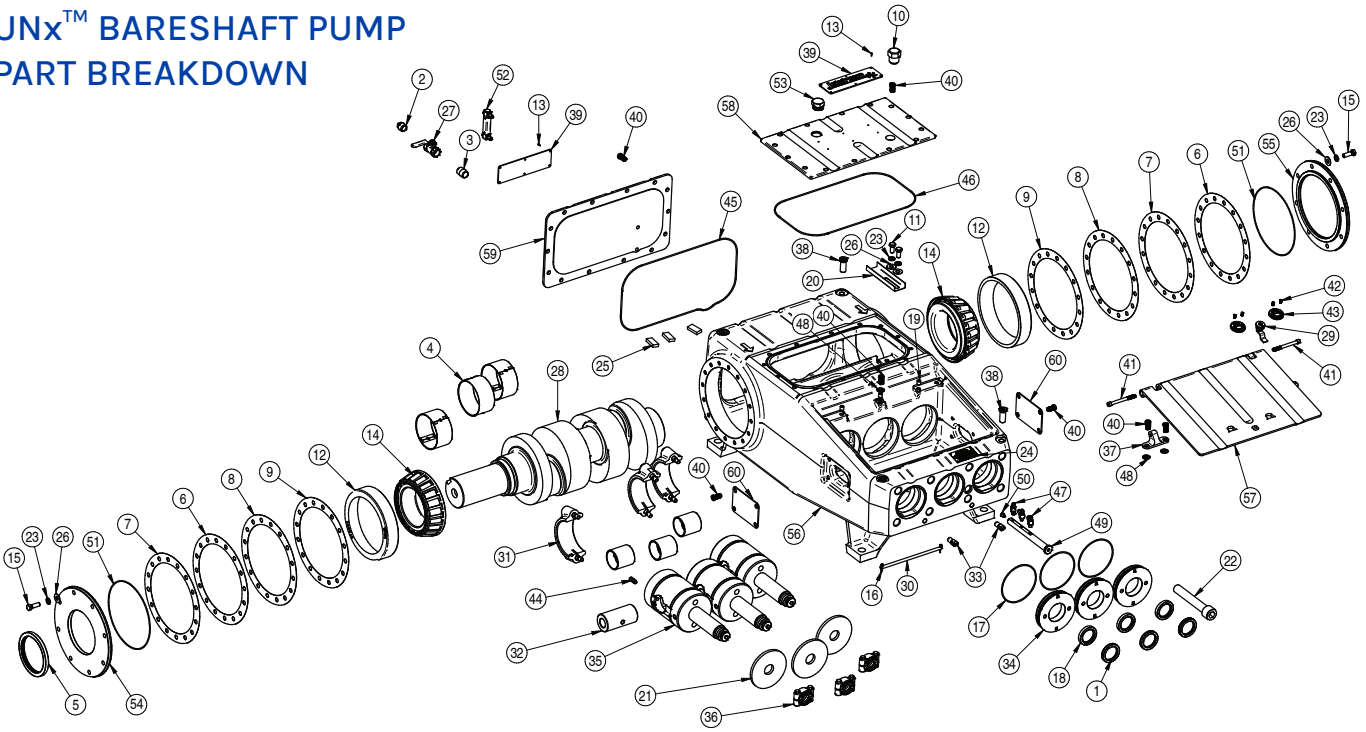


| PART NO. | DRIVE RATIO | MAX. INPUT SPEED |
|-----------------|-------------|------------------|
| 12V | | |
| 59100-16-69-12V | 4.31:1 | 2230 RPM |
| 59100-17-68-12V | 4.00:1 | 2070 RPM |
| 59100-19-67-12V | 3.53:1 | 1825 RPM |
| 59100-22-64-12V | 2.91:1 | 1500 RPM |
| 24V | | |
| 59100-16-69-24V | 4.31:1 | 2230 RPM |
| 59100-17-68-24V | 4.00:1 | 2070 RPM |
| 59100-19-67-24V | 3.53:1 | 1825 RPM |
| 59100-22-64-24V | 2.91:1 | 1500 RPM |

PART BREAKDOWN

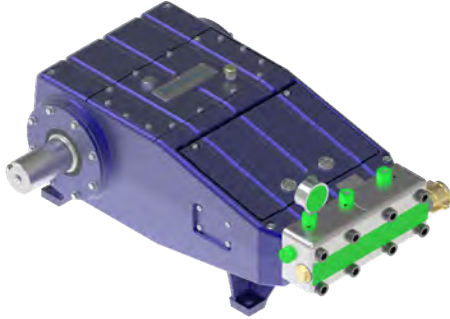
| ITEM | PART NO. | DESCRIPTION |
|------|----------|---|
| 1 | 65082 | Screw |
| 2 | 57244 | Washer |
| 3 | Various | Fan |
| 4 | 64883 | Fan Shroud |
| 5 | Various | Gear Drive Kit, dependent on gear ratio and voltage |
| 6 | 59101 | Gear Drive Kit Common Parts |
| 7 | 57244 | Washer |
| 8 | 65082 | Screw |
| 9 | 70206 | Washer |
| 10 | 63790 | Cap screw |

MODEL 4215HF
UNx™ BARESHAFT PUMP
PART BREAKDOWN



**PUMPS &
 FLUID ENDS**

| ITEM | PART NO. | DESCRIPTION | ITEM | PART NO. | DESCRIPTION | ITEM | PART NO. | DESCRIPTION |
|------|----------|-----------------------|------|----------|----------------------|------|----------|---------------------|
| 1 | 04101 | Oil Seal, Outboard | 21 | 26487 | Deflector | 41 | 67342 | Capscrew |
| 2 | 25928 | 3/4" NPT Plug | 22 | 26500 | Capscrew | 42 | 67343 | Capscrew |
| 3 | 25946 | 3/4" NIP Nipple | 23 | 26558 | Washer | 43 | 69832 | Rod Box Handle |
| 4 | 26051 | Journal Bearing | 24 | 26590 | Identification Plate | 44 | 67348 | Setscrew |
| 5 | 26208 | Crankcase Oil Seal | 25 | 26705 | Magnet | 45 | 67349 | Rear Cover Seal |
| 6 | 26259 | Shim, End Cap, Yellow | 26 | 26798 | Washer | 46 | 67349 | Top Cover Seal |
| 7 | 26259-1 | Shim, End Cap, Brown | 27 | 27101 | Ball Valve | 47 | 67412 | Needle Valve |
| 8 | 26259-2 | Shim, End Cap, White | 28 | 28826 | Crankshaft | 48 | 67780 | Washer |
| 9 | 26259-3 | Shim, End Cap, Blue | 29 | 29829 | Lid Latch | 49 | 67781 | Lube Line Adapter |
| 10 | 26360 | Breather Vent | 30 | 50295 | Trunnion Rod | 50 | 69249 | Brass NPT Plug |
| 11 | 26361 | Capscrew | 31 | 51487 | Connecting Rod Assy | 51 | 71017 | O-Ring |
| 12 | 26376 | Race Bearing | 32 | 51534 | Crosshead Pin | 52 | 71318 | Oil Level Indicator |
| 13 | 26379 | Drive Screw | 33 | 51659 | Trunnion | 53 | 69366 | Top Cover Oil Plug |
| 14 | 26390 | Cone Bearing | 34 | 51713 | Oil Seal Plate | 54 | 51538 | Inboard Cap |
| 15 | 26435 | Capscrew | 35 | 51731 | Crosshead Assembly | 55 | 51536 | Outboard Cap |
| 16 | 26468 | Cotter Pin | 36 | 51736 | Plunger Coupling | 56 | 67835 | Powerframe |
| 17 | 26479 | O-Ring | 37 | 67299 | Rod Box Hinge | 57 | 67842 | Rod Box Cover |
| 18 | 26481 | Oil Seal, Inboard | 38 | 67301 | Lifting Adapter | 58 | 67588 | Top Cover Plate |
| 19 | 26482 | Setscrew | 39 | 67305 | Logo Plate | 59 | 67613 | Rear Cover Plate |
| 20 | 26484 | Oil Trough | 40 | 67341 | Capscrew | 60 | 67298 | Side Access Plate |



MODEL 3615HF

UNx™ BARESHAFT PUMP

The Jetstream model 3615HF waterblast pump is capable of power input of up to 270 horsepower (201 kW). It is the most advanced and efficient medium horsepower waterblast pump in the industry. Combining the strength and durability of a proven power end workhorse with the unparalleled simplicity, serviceability and versatility of the UNx fluid end design, Jetstream bareshaft pumps are the best choice for those building their own system or replacing a complicated, worn or unreliable pump.

- ▶ Three Plunger (triplex) design
- ▶ Up to 270 horsepower (201 kW)
- ▶ Maximum Flow:
 - 19.4 gpm (73 lpm) at 15,000 psi (1034 bar)
 - 24.4 gpm (93 lpm) at 12,000 psi (827 bar)
 - 29.1 gpm (110 lpm) at 10,000 psi (689 bar)
 - 36.0 gpm (136 lpm) at 8,000 psi (551 bar)
 - 36.0 gpm (136 lpm) at 6,500 psi (448 bar)
 - 45.5 gpm (172 lpm) at 6,000 psi (413 bar)
 - 45.5 gpm (172 lpm) at 5,000 psi (344 bar)
 - 66.2 gpm (251 lpm) at 4,500 psi (310 bar)
 - 66.2 gpm (251 lpm) at 4,000 psi (276 bar)

POWER END SPECS (POWER END ONLY P/N 60209-XX)

| # | PLUNGERS | | CONNECTION TYPES* | | PUMP SPEED RANGE | MAX. POWER INPUT | | MAX. FRAME LOAD | | TOTAL WEIGHT | | OIL TYPE | PUMP OIL CAPACITY | | |
|---|----------|----|-------------------|-----------------------|------------------|------------------|-----|-----------------|----|--------------|-----|----------|-------------------|-----|---|
| | STROKE | | DISCHARGE PORTS | TOP PORTS (ACCESSORY) | | RPM | hp | kW | lb | kN | lb | | kg | gal | l |
| | in | mm | | | | | | | | | | | | | |
| 3 | 3.60 | 92 | Jetstream HF | Jetstream HF | 183-550 | 270 | 201 | 17,750 | 79 | 1,720 | 780 | 80W-90 | 9 | 34 | |

*See details on all connection types in Section I.

FLUID END SPECS

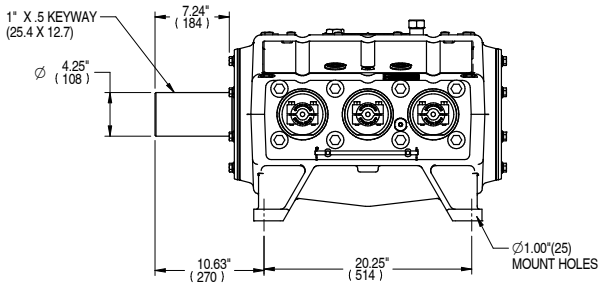
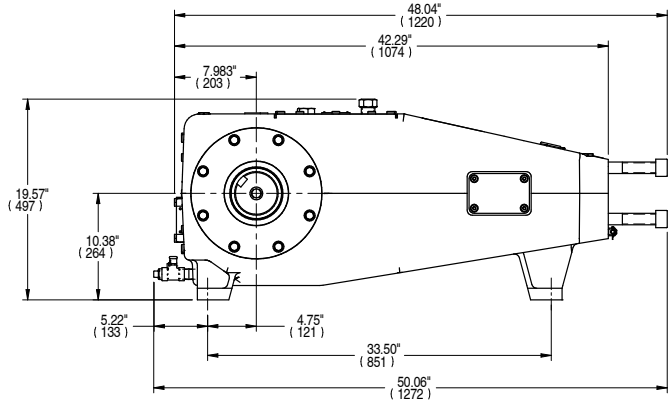
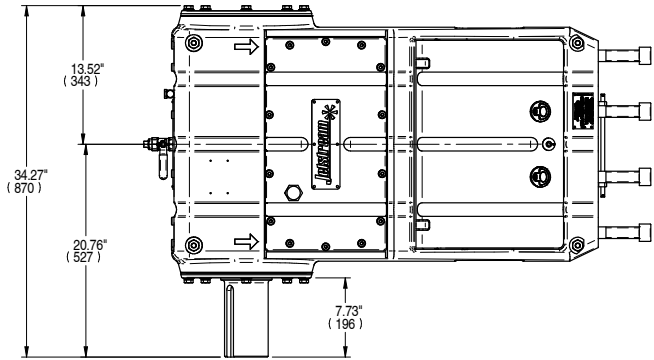
| PUMP AY PART NO. | PLUNGER SIZE | | MAX. POWER INPUT | | PUMP DISPLACEMENT AT SPECIFIED PUMP SPEEDS* | | | | | | | | | | | | MAX. OPERATING PRESSURE | | |
|---------------------|--------------|----------|------------------------|-----|---|------|---------|------|---------|------|---------|------|---------|------|---------|------|-------------------------------|--------|------|
| | NO. | DIAMETER | | | 183 RPM | | 200 RPM | | 300 RPM | | 400 RPM | | 500 RPM | | 518 RPM | | | | |
| | | in | mm | gpm | lpm | gpm | lpm | gpm | lpm | gpm | lpm | gpm | lpm | gpm | lpm | psi | bar | | |
| 69814 | 9 | .900 | 22.86 | 150 | 112 | 5.4 | 21 | 6.0 | 23 | 8.9 | 34 | 11.9 | 45 | 14.9 | 56 | 15.4 | 58 | 15,000 | 1034 |
| | | | | 190 | 142 | | | | | | | | | | | | | 15,000 | 1034 |
| 69815 | 10 | .980 | 24.89 | 170 | 127 | 6.5 | 24 | 7.1 | 27 | 10.6 | 40 | 14.1 | 53 | 17.6 | 67 | 18.3 | 69 | 13,500 | 931 |
| | | | | 150 | 112 | | | | | | | | | | | | | 12,000 | 827 |
| 69816 | 11 | 1.100 | 27.94 | 230 | 172 | 8.1 | 31 | 8.9 | 34 | 13.3 | 50 | 17.8 | 67 | 22.2 | 84 | 23.0 | 87 | 15,000 | 1034 |
| | | | | 190 | 142 | | | | | | | | | | | | | 12,000 | 827 |
| | | | | 170 | 127 | | | | | | | | | | | | | 11,000 | 758 |
| | | | | 150 | 112 | | | | | | | | | | | | | 10,000 | 689 |
| 69817 | 12 | 1.200 | 30.48 | 270 | 201 | 9.7 | 37 | 10.6 | 40 | 15.9 | 60 | 21.2 | 80 | 26.4 | 100 | 27.4 | 104 | 15,000 | 1034 |
| | | | | 190 | 142 | | | | | | | | | | | | | 10,000 | 689 |
| | | | | 170 | 127 | | | | | | | | | | | | | 9,000 | 620 |
| | | | | 150 | 112 | | | | | | | | | | | | | 8,000 | 551 |
| 69818 | 13 | 1.335 | 33.91 | 270 | 201 | 12.0 | 45 | 13.1 | 50 | 19.6 | 74 | 26.2 | 99 | 32.7 | 124 | 33.9 | 128 | 12,500 | 862 |
| | | | | 190 | 142 | | | | | | | | | | | | | 8,000 | 551 |
| | | | | 170 | 127 | | | | | | | | | | | | | 7,500 | 517 |
| | | | | 150 | 112 | | | | | | | | | | | | | 6,500 | 448 |
| 69819 | 15 | 1.500 | 38.10 | 270 | 201 | 15.1 | 57 | 16.5 | 63 | 24.8 | 94 | 33.1 | 125 | 41.3 | 156 | 42.8 | 162 | 10,000 | 689 |
| | | | | 190 | 142 | | | | | | | | | | | | | 6,500 | 448 |
| | | | | 170 | 127 | | | | | | | | | | | | | 6,000 | 413 |
| | | | | 150 | 112 | | | | | | | | | | | | | 5,000 | 344 |
| 69820 | 16 | 1.670 | 42.42 | 270 | 201 | 18.7 | 71 | 20.5 | 78 | 30.7 | 116 | 41.0 | 155 | 51.2 | 194 | 53.1 | 201 | 8,000 | 551 |
| | | | | 190 | 142 | | | | | | | | | | | | | 5,000 | 344 |
| | | | | 170 | 127 | | | | | | | | | | | | | 4,500 | 310 |
| | | | | 150 | 112 | | | | | | | | | | | | | 4,000 | 276 |
| 69821 | 18 | 1.800 | 45.72 | 270 | 201 | 22.0 | 83 | 24.1 | 91 | 36.1 | 137 | 48.1 | 182 | 60.2 | 228 | 62.3 | 236 | 6,800 | 469 |
| | | | | 190 | 142 | | | | | | | | | | | | | 4,500 | 310 |
| | | | | 170 | 127 | | | | | | | | | | | | | 4,000 | 276 |
| | | | | 150 | 112 | | | | | | | | | | | | | 3,500 | 241 |

PUMPS & FLUID ENDS

*Flow values represented refer to "theoretical" flow, neglecting inefficiency resulting from compressibility of water and expansion of pressure bearing components.

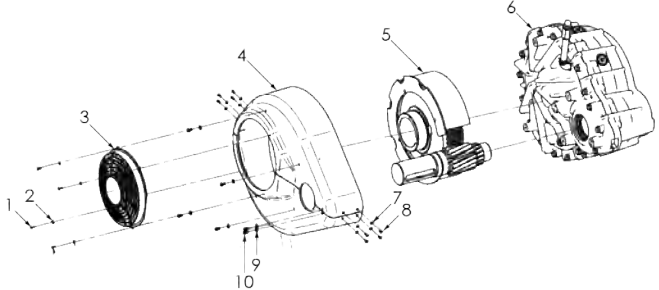


MODEL 3615HF UNx™ BARESHAFT PUMP DIAGRAMS



GEAR DRIVE

An optional fan-cooled Gear Drive can be added to the 3615HF Bareshaft Pump. Several options are available, as well as the specific clocking position needed. Contact your Jetstream Sales Manager for more information.

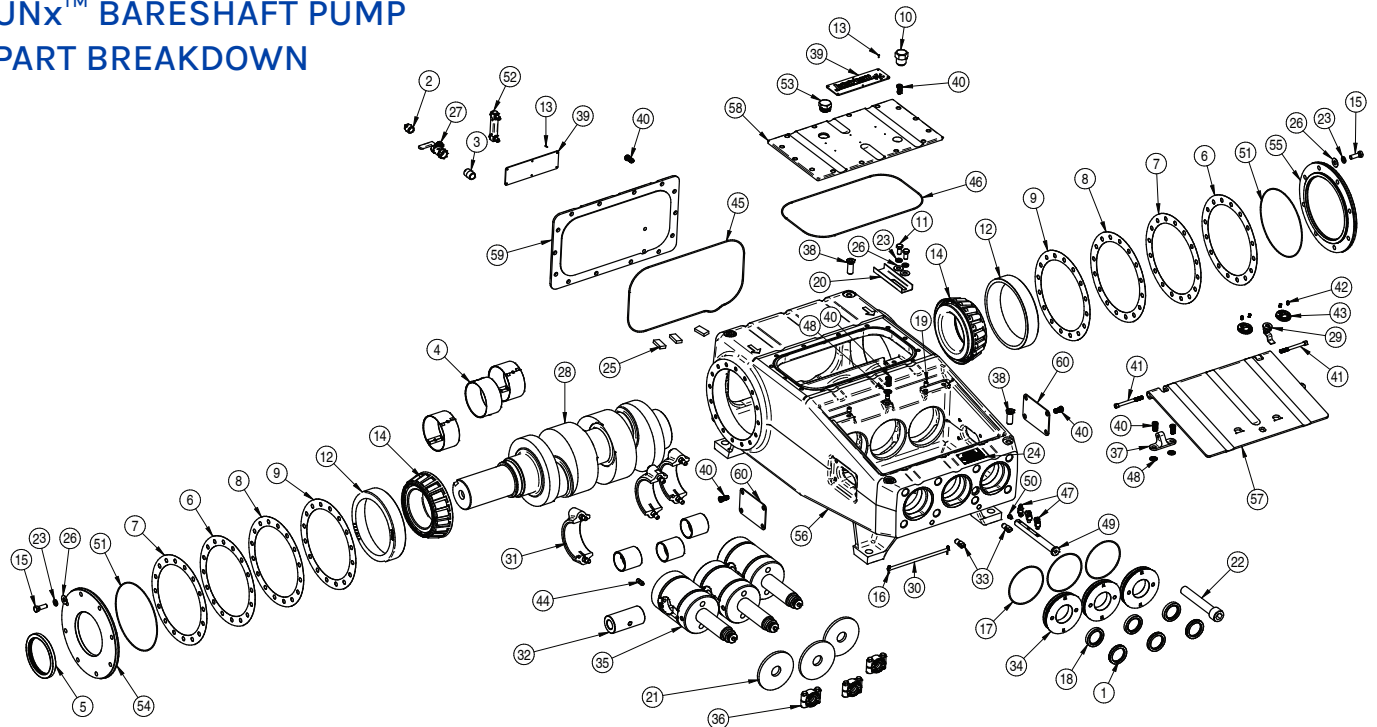


| PART NO. | DRIVE RATIO | MAX. INPUT SPEED |
|-----------------|-------------|------------------|
| 12V | | |
| 59100-16-69-12V | 4.31:1 | 2230 RPM |
| 59100-17-68-12V | 4.00:1 | 2070 RPM |
| 59100-19-67-12V | 3.53:1 | 1825 RPM |
| 59100-22-64-12V | 2.91:1 | 1500 RPM |
| 24V | | |
| 59100-16-69-24V | 4.31:1 | 2230 RPM |
| 59100-17-68-24V | 4.00:1 | 2070 RPM |
| 59100-19-67-24V | 3.53:1 | 1825 RPM |
| 59100-22-64-24V | 2.91:1 | 1500 RPM |

PART BREAKDOWN

| ITEM | PART NO. | DESCRIPTION |
|------|----------|---|
| 1 | 65082 | Screw |
| 2 | 57244 | Washer |
| 3 | Various | Fan |
| 4 | 64883 | Fan Shroud |
| 5 | Various | Gear Drive Kit, dependent on gear ratio and voltage |
| 6 | 59101 | Gear Drive Kit Common Parts |
| 7 | 57244 | Washer |
| 8 | 65082 | Screw |
| 9 | 70206 | Washer |
| 10 | 63790 | Capscrew |

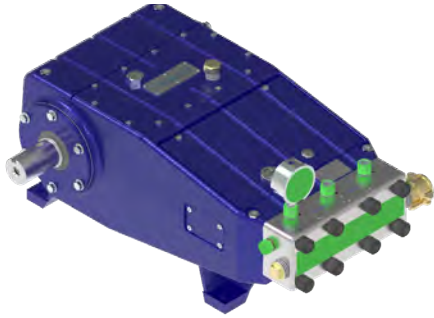
MODEL 3615HF UNx™ BARESHAFT PUMP PART BREAKDOWN



| ITEM | PART NO. | DESCRIPTION | ITEM | PART NO. | DESCRIPTION | ITEM | PART NO. | DESCRIPTION |
|------|----------|-----------------------|------|----------|----------------------|------|----------|---------------------|
| 1 | 4101 | Oil Seal, Outboard | 21 | 26487 | Deflector | 41 | 67342 | Capscrew |
| 2 | 25928 | 3/4" NPT Plug | 22 | 26500 | Capscrew | 42 | 67343 | Capscrew |
| 3 | 25946 | 3/4" NIP Nipple | 23 | 26558 | Washer | 43 | 69832 | Rod Box Handle |
| 4 | 26051 | Journal Bearing | 24 | 26590 | Identification Plate | 44 | 67348 | Setscrew |
| 5 | 26208 | Crankcase Oil Seal | 25 | 26705 | Magnet | 45 | 67349 | Rear Cover Seal |
| 6 | 26259 | Shim, End Cap, Yellow | 26 | 26798 | Washer | 46 | 67349 | Top Cover Seal |
| 7 | 26259-1 | Shim, End Cap, Brown | 27 | 27101 | Ball Valve | 47 | 67412 | Needle Valve |
| 8 | 26259-2 | Shim, End Cap, White | 28 | 28826 | Crankshaft | 48 | 67780 | Washer |
| 9 | 26259-3 | Shim, End Cap, Blue | 29 | 29829 | Lid Latch | 49 | 67781 | Lube Line Adapter |
| 10 | 26360 | Breather Vent | 30 | 50295 | Trunnion Rod | 50 | 69249 | Brass NPT Plug |
| 11 | 26361 | Capscrew | 31 | 51487 | Connecting Rod Assy | 51 | 71017 | O-Ring |
| 12 | 26376 | Race Bearing | 32 | 51534 | Crosshead Pin | 52 | 71318 | Oil Level Indicator |
| 13 | 26379 | Drive Screw | 33 | 51659 | Trunnion | 53 | 69366 | Top Cover Oil Plug |
| 14 | 26390 | Cone Bearing | 34 | 51713 | Oil Seal Plate | 54 | 51538 | Inboard Cap |
| 15 | 26435 | Capscrew | 35 | 51731 | Crosshead Assembly | 55 | 51536 | Outboard Cap |
| 16 | 26468 | Cotter Pin | 36 | 51736 | Plunger Coupling | 56 | 67835 | Powerframe |
| 17 | 26479 | O-Ring | 37 | 67299 | Rod Box Hinge | 57 | 67842 | Rod Box Cover |
| 18 | 26481 | Oil Seal, Inboard | 38 | 67301 | Lifting Adapter | 58 | 67588 | Top Cover Plate |
| 19 | 26482 | Setscrew | 39 | 67305 | Logo Plate | 59 | 67613 | Rear Cover Plate |
| 20 | 26484 | Oil Trough | 40 | 67341 | Capscrew | 60 | 67298 | Side Access Plate |

MODEL 3015

UNx™ BARESHAFT PUMP



The Jetstream model 3015 waterblast pump is capable of power input of up to 200 horsepower (149 kW). It is the most advanced and efficient compact waterblast pump in the industry. Combining the strength and durability of a proven power end workhorse with the unparalleled simplicity, serviceability and versatility of the UNx fluid end design, Jetstream bareshaft pumps are the best choice for those building their own system or replacing a complicated, worn or unreliable pump.

- ▶ Up to 200 horsepower (149 kW)
- ▶ Three Plunger (triplex) design

Key Features

- ▶ Ductile iron power frame is the strongest in the industry
- ▶ Largest bearings of any comparable pump on the market
- ▶ Maximum Flow: 18.4 gpm (70 lpm) at 15,000 psi (1034 bar)
23.2 gpm (88 lpm) at 10,000 psi (689 bar)

POWER END SPECS

| # | PLUNGERS | | CONNECTION TYPES* | | PUMP SPEED RANGE | MAX. POWER INPUT | | MAX. FRAME LOAD | | TOTAL WEIGHT | | OIL TYPE | PUMP OIL CAPACITY | |
|---|----------|----|-------------------|-----------------------|------------------|------------------|-----|-----------------|----|--------------|-----|----------|-------------------|-----|
| | STROKE | | DISCHARGE PORTS | TOP PORTS (ACCESSORY) | | RPM | hp | kW | lb | kN | lb | | kg | gal |
| | in | mm | | | | | | | | | | | | |
| 3 | 3.00 | 76 | Jetstream LF | Jetstream LF | 200-600 | 200 | 149 | 13,000 | 57 | 970 | 440 | 80W-90 | 5 | 19 |

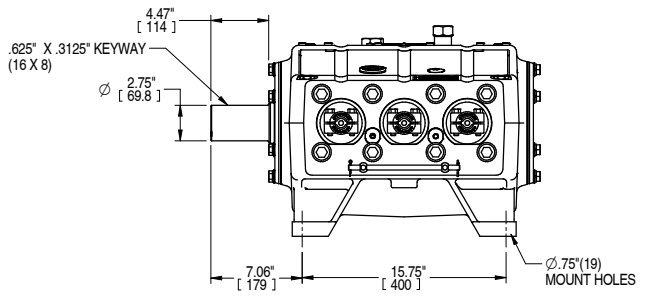
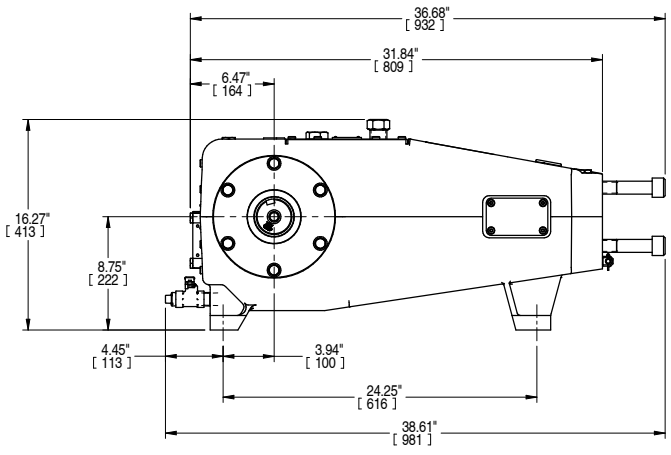
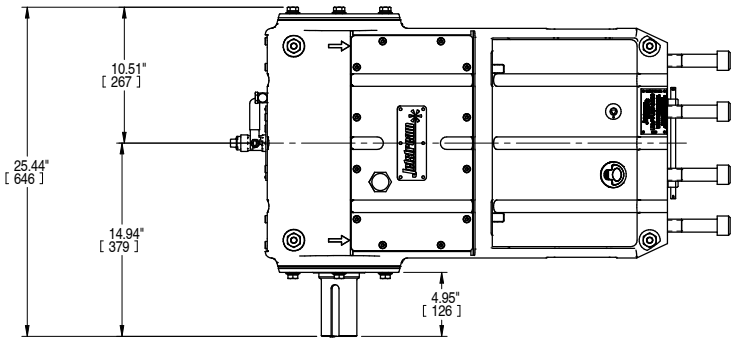
*See details on all connection types in Section I.

FLUID END SPECS

| PUMP AY PART NO.* | PLUNGER SIZE NO. | PLUNGER SIZE | | MAX. POWER INPUT | PUMP DISPLACEMENT AT SPECIFIED PUMP SPEEDS** | | | | | | | | | | MAX. OPERATING PRESSURE | | |
|-------------------|------------------|--------------|-------|------------------|--|-----|---------|------|---------|------|---------|------|---------|------|-------------------------|--------|------|
| | | DIAMETER | | | 200 RPM | | 300 RPM | | 400 RPM | | 500 RPM | | 600 RPM | | psi | bar | |
| | | in | mm | hp | kW | gpm | lpm | gpm | lpm | gpm | lpm | gpm | lpm | gpm | | | lpm |
| 69351 | 7 | .735 | 18.67 | 96 | 67 | 3.3 | 13 | 5.0 | 19 | 6.6 | 25 | 8.3 | 31 | 9.9 | 37 | 15,000 | 1034 |
| 69352 | 8 | .800 | 20.32 | 114 | 82 | 3.9 | 15 | 5.9 | 22 | 7.8 | 30 | 9.8 | 37 | 11.8 | 44 | 15,000 | 1034 |
| | | | | 96 | 67 | | | | | | | | | | | 12,000 | 827 |
| 69353 | 9 | .900 | 22.86 | 150 | 112 | 5.0 | 19 | 7.4 | 28 | 9.9 | 38 | 12.4 | 47 | 14.9 | 56 | 15,000 | 1034 |
| | | | | 125 | 93 | | | | | | | | | | | 12,500 | 861 |
| | | | | 90 | 67 | | | | | | | | | | | 10,000 | 689 |
| 69354 | 10 | 1.000 | 25.40 | 200 | 149 | 6.1 | 23 | 9.2 | 35 | 12.2 | 46 | 15.3 | 58 | 18.4 | 70 | 15,000 | 1034 |
| | | | | 150 | 112 | | | | | | | | | | | 13,000 | 896 |
| | | | | 125 | 93 | | | | | | | | | | | 10,000 | 689 |
| | | | | 90 | 67 | | | | | | | | | | | 8,000 | 551 |
| 69355 | 10HF | 1.062 | 26.97 | 200 | 149 | 6.9 | 26 | 10.4 | 39 | 13.8 | 52 | 17.2 | 65 | 20.7 | 78 | 15,000 | 1034 |
| | | | | 200 | 149 | | | | | | | | | | | 13,000 | 896 |
| 69356 | 11 | 1.125 | 28.58 | 150 | 112 | 7.7 | 29 | 11.6 | 44 | 15.5 | 59 | 19.4 | 73 | 23.2 | 88 | 10,000 | 689 |
| | | | | 125 | 93 | | | | | | | | | | | 8,000 | 551 |
| | | | | 100 | 75 | | | | | | | | | | | 6,500 | 448 |
| | | | | 200 | 149 | | | | | | | | | | | 13,000 | 896 |

** Flow values represented refer to "theoretical" flow, neglecting inefficiency resulting from compressibility of water and expansion of pressure bearing components..

MODEL 3015 UNx™ BARESHAFT PUMP DIAGRAMS



GEAR DRIVE

An optional Gear Drive can be added to the 3015 Bareshaft Pump. Several options are available, as well as the specific clocking position needed. Contact your Jetstream Sales Manager for more information.

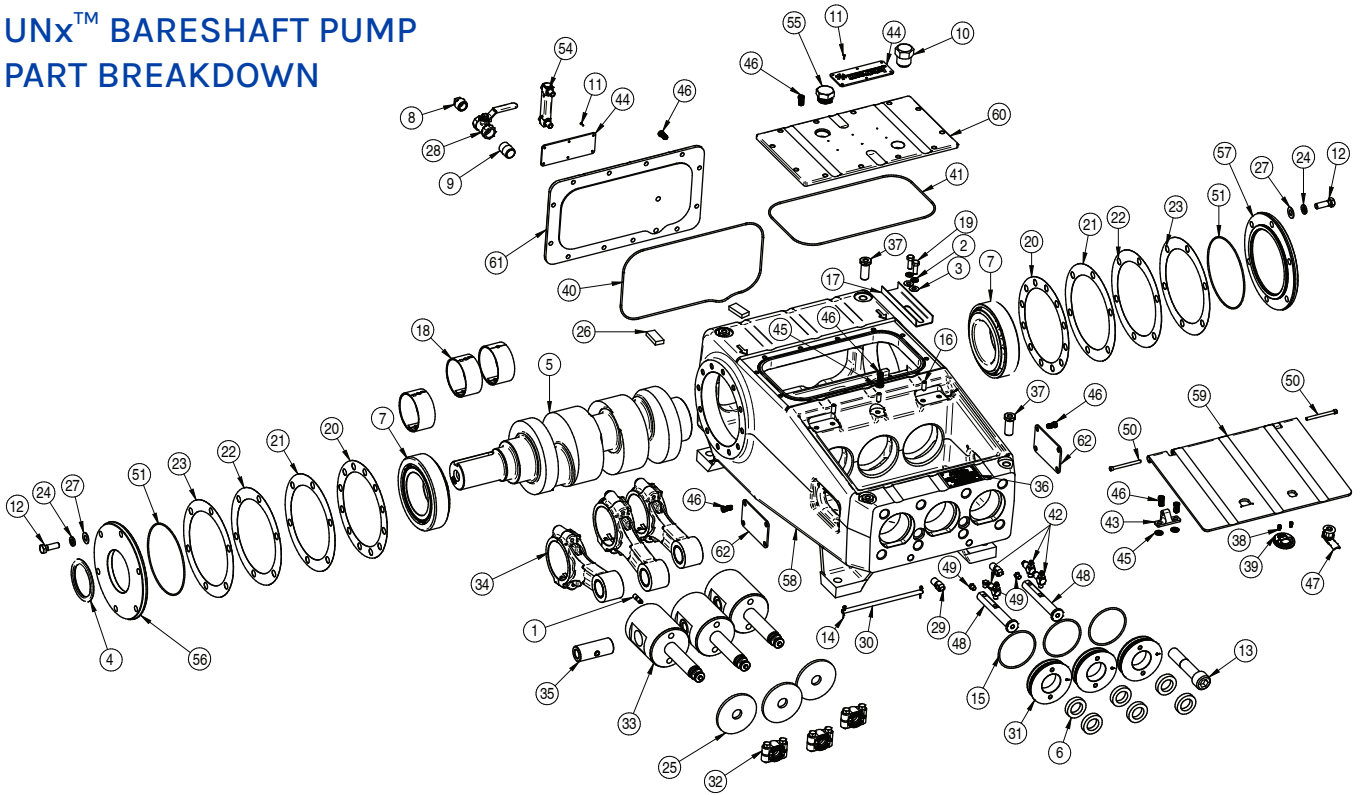
| PART NO. | DRIVE RATIO | MAX. INPUT SPEED |
|--|-------------|------------------|
| MODELS WITHOUT COOLING COIL (≤150 HP) | | |
| 58501-17-68 | 4.00:1 | 2400 RPM |
| 58501-18-66 | 3.67:1 | 2200 RPM |
| 58501-21-63 | 3.00:1 | 1800 RPM |
| 58501-24-60 | 2.50:1 | 1500 RPM |
| MODELS WITH COOLING COIL (200 HP)* | | |
| 68453-17-68 | 4.00:1 | 2400 RPM |
| 68453-18-66 | 3.67:1 | 2200 RPM |
| 68453-21-63 | 3.00:1 | 1800 RPM |
| 68453-24-60 | 2.50:1 | 1500 RPM |

* Cooling coil recommended for high temperature applications.



MODEL 3015
UNx™ BARESHAFT PUMP
PART BREAKDOWN

PUMPS &
 FLUID ENDS



| ITEM | PART NO. | DESCRIPTION | ITEM | PART NO. | DESCRIPTION | ITEM | PART NO. | DESCRIPTION |
|------|----------|-----------------------|------|----------|----------------------|------|----------|--------------------|
| 1 | 25132 | Setscrew | 21 | 26495-1 | Shim, End Cap, Brown | 41 | 67349 | Top Plate Gasket |
| 2 | 25249 | Washer | 22 | 26495-2 | Shim, End Cap, White | 42 | 67412 | Needle Valve |
| 3 | 25251 | Washer | 23 | 26495-3 | Shim, End Cap, Blue | 43 | 68601 | Rod Box Hinge |
| 4 | 25428 | Oil Seal | 24 | 26558 | Washer | 44 | 69155 | Logo Plate |
| 5 | 25508 | Crankshaft | 25 | 26623 | Deflector | 45 | 69173 | Washer |
| 6 | 25536 | Crosshead Oil Seal | 26 | 26705 | Magnet | 46 | 69174 | Capscrew |
| 7 | 25541 | Bearing Assembly | 27 | 26798 | Washer | 47 | 69185 | Locking Latch |
| 8 | 25928 | Plug | 28 | 27101 | Ball Valve | 48 | 69203 | Lube Line Adapter |
| 9 | 25946 | Nipple | 29 | 51659 | Trunnion | 49 | 69249 | Brass Plug |
| 10 | 26360 | Vent Breather | 30 | 51666 | Trunnion Rod | 50 | 69272 | Capscrew |
| 11 | 26379 | Screw | 31 | 51712 | Oil Seal Plate | 51 | 71016 | O-Ring |
| 12 | 26435 | Capscrew | 32 | 51737 | Plunger Coupling | 52* | 71147-17 | Oil Decal |
| 13 | 26462 | Fluid End Capscrew | 33 | 51738 | Crosshead Assembly | 53* | 71147-24 | Caution Decal |
| 14 | 26468 | Cotter Pin | 34 | 51749 | Connecting Rod | 54 | 71318 | Oil Level Gage |
| 15 | 26478 | O-Ring | 35 | 52077 | Pin | 55 | 69366 | Oil Fill Plug |
| 16 | 26483 | Setscrew | 36 | 60727 | ID Plate | 56 | 51732 | Inboard Frame Cap |
| 17 | 26484 | Oil Trough | 37 | 67301 | Lifting Adapter | 57 | 51733 | Outboard Frame Cap |
| 18 | 26486 | Journal Bearing | 38 | 67343 | Capscrew | 58 | 67848 | Powerframe |
| 19 | 26492 | Capscrew | 39 | 69832 | Lfit Handle | 59 | 68674 | Rod Box Cover |
| 20 | 26495 | Shim, End Cap, Yellow | 40 | 67349 | Rear Plate Gasket | 60 | 68675 | Top Cover |
| | | | | | | 61 | 68676 | Rear Cover |
| | | | | | | 62 | 69204 | Side Access Plate |

MODEL 2015

UNx™ BARESHAFT PUMP



The Jetstream model 2015 is a powerful compact waterblasting pump with all the features and benefits of a Jetstream UNx Fluid End design.

Key Features

- ▶ Up to 75 horsepower (120 kW)
- ▶ Three Plunger (triplex) design
- ▶ Locking rod box and external water lube adjustment for safety
- ▶ Shares Uni-Valves with Jetstream 3000 Series Pumps
- ▶ Ductile iron power frame is the strongest in the industry
- ▶ Largest bearings of any comparable pump on the market
- ▶ Maximum Flow: 7.7 gpm (29.1 lpm) at 15,000 psi (1034 bar)
19.8 gpm (44 lpm) at 6,000 psi (690 bar)

PUMPS & FLUID ENDS

POWER END SPECS

| # | PLUNGERS | | CONNECTION TYPES* | | PUMP SPEED RANGE RPM | MAX. POWER INPUT | | MAX. FRAME LOAD | | TOTAL WEIGHT | | OIL TYPE | PUMP OIL CAPACITY | |
|---|----------|------|-------------------|-----------------------|-------------------------|------------------|----|-----------------|----|--------------|-----|----------|-------------------|-----|
| | STROKE | | DISCHARGE PORTS | TOP PORTS (ACCESSORY) | | hp | kW | lb | kN | lb | kg | | gal | l |
| | in | mm | | | | | | | | | | | | |
| 3 | 2.00 | 50.8 | Jetstream LF | 1200 Series | 267-800 | 75 | 55 | 5700 | 25 | 325 | 147 | 80W-90 | 1 | 3.8 |

*See details on all connection types in Section I.

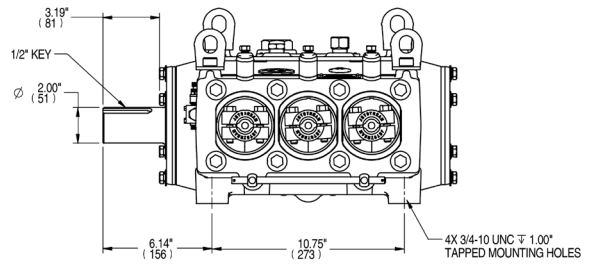
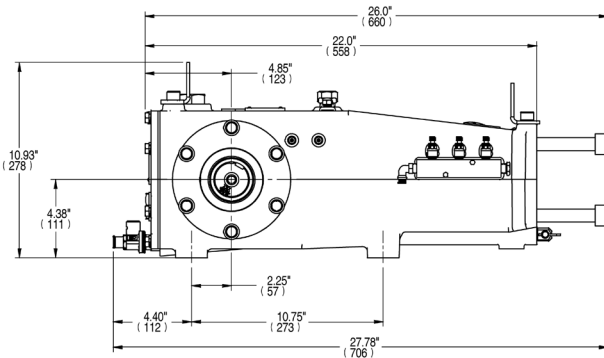
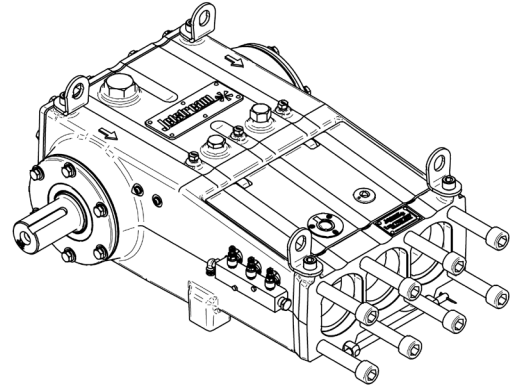
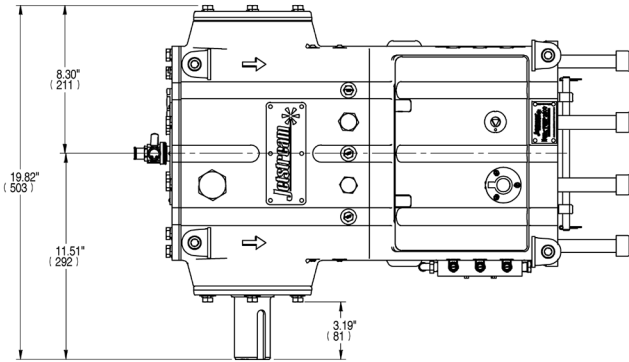
FLUID END SPECS

| PUMP AY PART NO.* | PLUNGER SIZE | | MAX. POWER INPUT | | RPM | | | | | | | | | | | | MAX. OPERATING PRESSURE | | |
|-------------------|--------------|----------|------------------|-----|------|-----|------|-----|------|------|------|------|------|------|------|------|-------------------------|--------|------|
| | NO. | DIAMETER | | | 267 | | 400 | | 500 | | 600 | | 700 | | 800 | | | | |
| | | in | mm | gpm | lpm | gpm | lpm | gpm | lpm | gpm | lpm | gpm | lpm | gpm | lpm | psi | bar | | |
| 69729 | 7 | 0.695 | 17.7 | 75 | 55.1 | 2.6 | 9.9 | 3.9 | 14.9 | 4.9 | 18.6 | 5.9 | 22.4 | 6.9 | 26.1 | 7.7 | 29.1 | 15,000 | 1035 |
| 69730 | 8 | 0.845 | 21.5 | | | 3.9 | 14.7 | 5.8 | 22.0 | 7.3 | 27.5 | 8.7 | 33.0 | 10.2 | 38.5 | 11.6 | 44.0 | 10,000 | 690 |
| 69731 | 9 | 0.945 | 24.0 | | | 4.9 | 18.4 | 7.3 | 27.6 | 9.1 | 34.4 | 10.9 | 41.3 | 12.8 | 48.2 | 14.6 | 55.1 | 8,000 | 552 |
| 69732 | 11 | 1.100 | 27.9 | | | 6.6 | 24.9 | 9.9 | 37.3 | 12.3 | 46.7 | 14.8 | 56.0 | 17.3 | 65.3 | 19.8 | 74.7 | 6,000 | 414 |

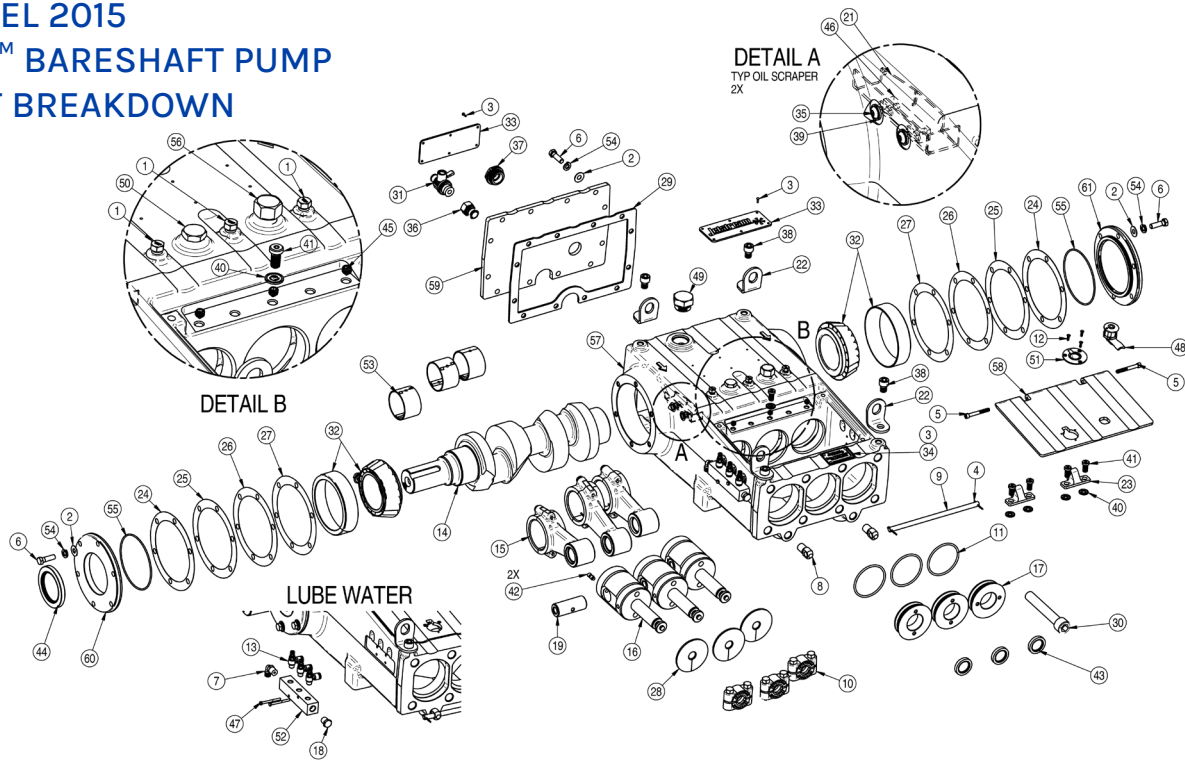
** Flow values represented refer to "theoretical" flow, neglecting inefficiency resulting from compressibility of water and expansion of pressure bearing components..

MODEL 2015 UNx™ BARESHAFT PUMP DIAGRAMS

PUMPS &
FLUID ENDS



MODEL 2015 UNx™ BARESHAFT PUMP PART BREAKDOWN



PUMPS &
FLUID ENDS

| ITEM | PART NO. | DESCRIPTION | ITEM | PART NO. | DESCRIPTION | ITEM | PART NO. | DESCRIPTION |
|------|----------|-------------------|------|----------|----------------------|------|----------|--------------------|
| 1 | 25120 | Plug | 21 | 68592-R | Right Oil Scraper | 41 | 69174 | Capscrew |
| 2 | 25251 | Washer | 22 | 68593 | Lifting Bracket | 42 | 69175 | Setscrew |
| 3 | 26379 | Screw | 23 | 68601 | Hinge | 43 | 69176 | Crosshead Oil Seal |
| 4 | 26468 | Cotter Pin | 24 | 68622 | Shim, Yellow | 44 | 69177 | Crankshaft Seal |
| 5 | 26690 | Capscrew | 25 | 68622-1 | Shim, Yellow | 45 | 69178 | Setscrew |
| 6 | 27126 | Capscrew | 26 | 68622-2 | Shim, Yellow | 46 | 69179 | Oil Scraper Plate |
| 7 | 28367 | Elbow | 27 | 68622-3 | Shim, Yellow | 47 | 69183 | Capscrew |
| 8 | 51659 | Manifold Trunnion | 28 | 68623 | Deflector | 48 | 69185 | Latch |
| 9 | 51666 | Trunnion Rod | 29 | 68624 | Rear Gasket | 49 | 69366 | Oil Plug |
| 10 | 51737 | Plunger Coupling | 30 | 69137 | Capscrew | 50 | 69812 | Plug |
| 11 | 60611 | O-Ring | 31 | 69138 | Drain Valve | 51 | 69832 | Lift Handle |
| 12 | 67343 | Capscrew | 32 | 69153 | Bearing Assembly | 52 | 69833 | Lube Manifold |
| 13 | 67412 | Needle Valve | 33 | 69155 | Logo Plate | 53 | 69993 | Journal Bearing |
| 14 | 68077 | Crankshaft | 34 | 69156 | Identification Plate | 54 | 71360 | Washer |
| 15 | 68093 | Connecting Rod | 35 | 69165 | Capscrew | 55 | 71450 | O-Ring |
| 16 | 68095 | Crosshead | 36 | 69166 | Adapter | 56 | J70439 | Breather Vent |
| 17 | 68105 | Oil Seal Plate | 37 | 69167 | Oil Sight Glass | 57 | 68076 | Power Frame |
| 18 | 28369 | Plug | 38 | 69168 | Capscrew | 58 | 68590 | Rod Box Cover |
| 19 | 68589 | Pin | 39 | 69172 | Washer | 59 | 68591 | Rear Cover |
| 20 | 68592-L | Left Oil Scraper | 40 | 69173 | Washer | 60 | 68594 | Inboard Frame Cap |
| | | | | | | 61 | 68600 | Outboard Frame Cap |

UNx™ FLUID ENDS

FEATURES AND BENEFITS

The Jetstream 15,000 psi UNx Fluid End is standard on every Jetstream 15,000 psi unit or bareshaft pump. It is also available as a conversion package for popular pump models or as an addition to an existing Jetstream 3000, 3600, 4200, 5200, 5200Q, or 6000 pump. Please refer to the catalog pages that follow for details on available models.

15-MINUTE VALVE REPLACEMENT



5-MINUTE PACKING CHANGE



SLIDE-OUT STUFFING BOXES



The UNx™ Advantage Serviceability

Reduced downtime and maintenance

- ▶ Five minute packing change
- ▶ Fifteen minute pop-out valve cartridge change
- ▶ No special tools or equipment required
- ▶ Plungers clamped, NOT threaded

Simplicity

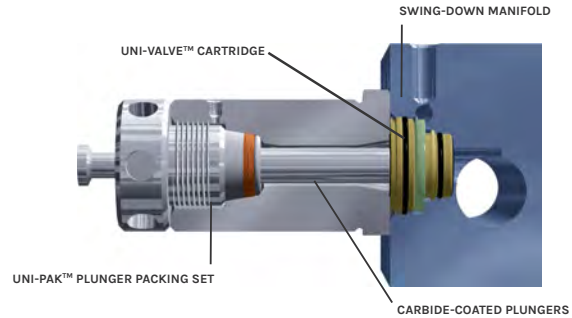
- ▶ Fewer parts than other 15,000 psi fluid ends
- ▶ Uni-Valve™ one-piece cartridges include suction & discharge valves, seats, springs, and seals
- ▶ Swing-down manifold for easy access to components

Versatility

- ▶ Fast in-the-field pressure range conversion with simple bolt-on Jetstream UNx Fluid Ends
- ▶ Convertibility of the UNx design allows one unit to do the work that another manufacturer would require multiple units or several hours of downtime to perform

Other Features

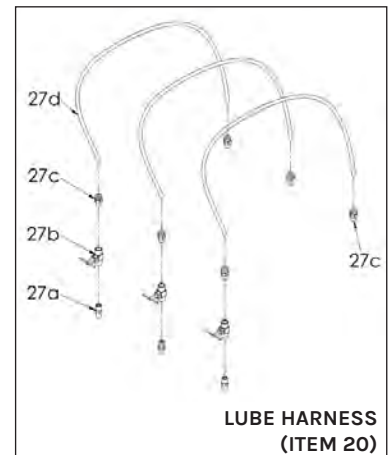
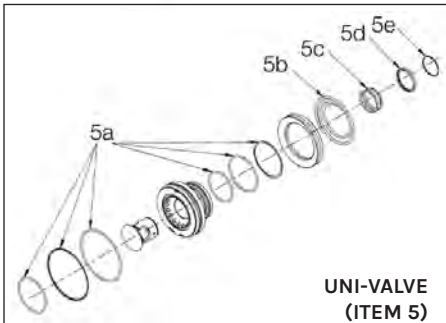
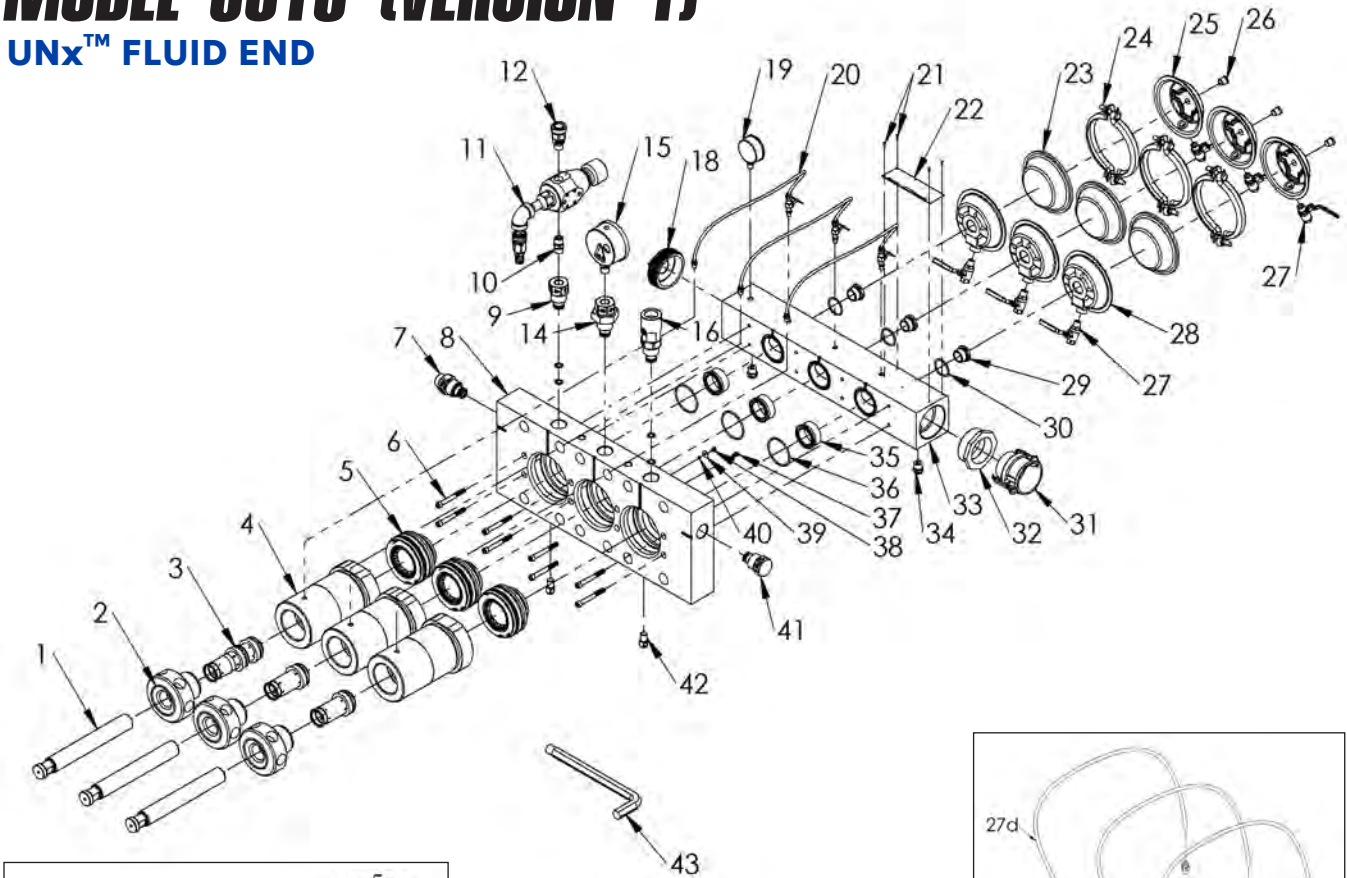
- ▶ Water lubricated packing set
- ▶ Colmonoy coated plungers (ceramic available upon request)
- ▶ High volumetric efficiency
- ▶ All pressure-bearing components precision machined high quality stainless steel
- ▶ Pulsation dampener built into the manifold



MODEL 6015 (VERSION 1)

UNx™ FLUID END

PUMPS &
FLUID ENDS



FLUID END SPECS

| FLUID END PART NO.* | CONNECTION TYPES | PLUNGER SIZE | | PLUNGER STROKE | | MAX. CRANK SPEED (RPM) | MAX. FLOW | | MAX. OPERATING PRESSURE | | |
|------------------------|------------------|--------------|----------|-------------------|------|---------------------------------|-----------|-------|-------------------------------|--------|------|
| | | NO. | DIAMETER | | in | | mm | gpm | lpm | psi | bar |
| | | | in | mm | | | | | | | |
| 62173 | Jetstream HF | 15 | 1.55 | 39.97 | 5.51 | 140 | 457 | 61.7 | 233.6 | 15,000 | 1034 |
| 62174 | | 16 | 1.58 | 40.13 | | | | 64.1 | 242.7 | 14,500 | 1000 |
| 62175 | | 19 | 1.90 | 48.26 | | | | 92.7 | 300.9 | 10,000 | 689 |
| 62176 | | 21 | 2.12 | 53.85 | | | | 115.4 | 436.9 | 8,000 | 551 |

PART BREAKDOWN

| ITEM | PART NO. | DESCRIPTION | ITEM | PART NO. | DESCRIPTION |
|------|----------|--------------------------------|------|----------|--------------------------------|
| 1 | 61916 | #15 Plunger | 18 | 60903 | Plug |
| | 62349* | #15 Plunger, Ceramic | 19 | 27779 | Gage |
| | 62125 | #16 Plunger | 20 | 62194 | Lube Harness |
| | 61917 | #19 Plunger | 20a | 26465 | Nipple |
| | 61918 | #21 Plunger | 20b | 27475 | Needle Valve |
| 2 | 62132 | #15 Gland Nut | 20c | 27732 | Hose Fitting |
| | 67437 | #16 Gland Nut | 20d | 27740 | Hose (order in feet) |
| | 61933 | #19 Gland Nut | 21 | 26379 | Screw Drive |
| | 61936 | #21 Gland Nut | 22 | 26589 | Plate, Caution |
| 3 | 62178 | #15 Packing Set | 23 | 61142 | Diaphragm, Pulsation Dampener |
| | 62179 | #16 Packing Set | 24 | 61143 | Kit, Clamp, Pulsation Dampener |
| | 62180 | #19 Packing Set | 25 | 61141 | Housing, Air Brake |
| | 62181 | #21 Packing Set | 26 | 26148 | Plug |
| 4 | 62126 | #15 & #16 Stuffing Box | 27 | 61145 | Ball Valve |
| | 61922 | #19 Stuffing Box | 28 | 61264 | Housing, Pulsation Dampener |
| | 61924 | #21 Stuffing Box | 29 | 60758 | Adapter, Pulsation Dampener |
| 5 | 60607 | Uni-Valve | 30 | 25566 | O-Ring |
| 5a | 62243 | Uni-Valve Seal Kit | 31 | 29461 | Coupler |
| 5b | 60603 | Discharge Spring | 32 | J70914 | Bushing |
| 5c | 60602 | Suction Spring | 33 | 61974 | Manifold, Suction |
| 5d | 60451 | Retainer, Suction Valve Spring | 34 | 62471 | Adapter |
| 5e | 60600 | Retaining Ring | 35 | 62379 | Insert, Flow Straightening |
| 6 | 60821 | Capscrew | 36 | 60611 | O-Ring |
| 7 | 60952 | Adapter | 37 | 62267 | Capscrew |
| 8 | 61977 | Manifold, Discharge | 38 | 62212 | Capscrew |
| 9 | 60954 | Adapter | 39 | 60265 | Washer |
| 10 | 50488 | Nipple | 40 | 62210 | Washer |
| 11 | 53920 | Bypass Valve | 41 | 60951 | Plug Assy |
| 12 | 51035 | Rupture Disc Assy | 42 | 51659 | Trunnion |
| 13** | 51053 | Burst Disc 24K Psi | 43 | 50889 | Wrench,7/8 Hex Key |
| 14 | 60955 | Adapter Assy | 44** | 26562 | Nut |
| 15 | 51126 | Pressure Gauge | 45** | 27233 | Capscrew |
| 16 | 61272 | Rupture Disc Assembly, 6015 | 46** | 62254 | Deflector |
| 17** | 51052 | Burst Disc 20K Psi | | | |

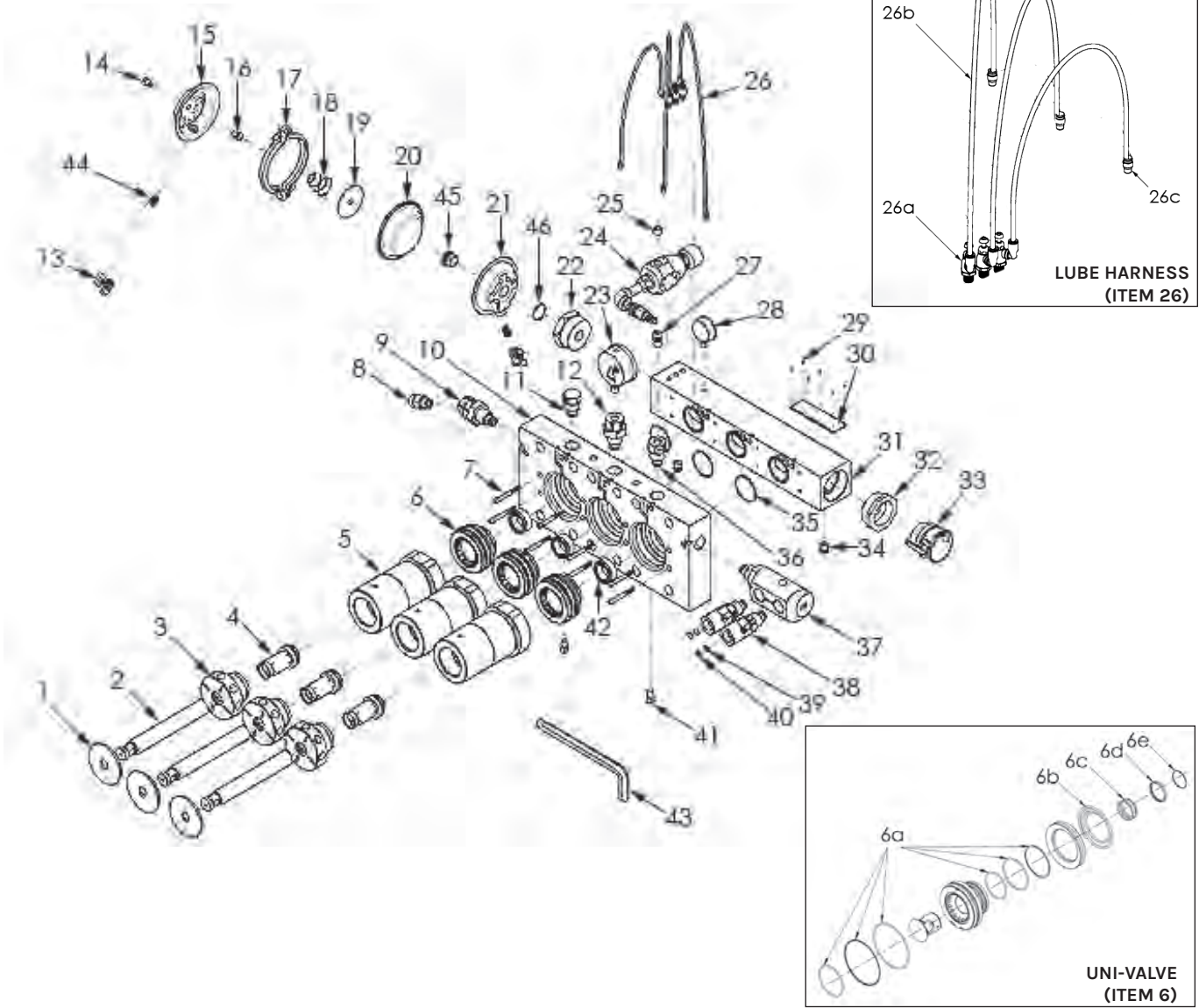
*Optional Ceramic Plunger available.

**Not shown.

MODEL 6015 (VERSION 3)

UNx™ FLUID END

PUMPS &
FLUID ENDS



FLUID END SPECS

| FLUID END PART NO.* | CONNECTION TYPES | PLUNGER SIZE | | PLUNGER STROKE | | MAX. CRANK SPEED (RPM) | MAX. FLOW | | MAX. OPERATING PRESSURE | | |
|---------------------|------------------|--------------|----------|----------------|------|------------------------|-----------|-------|-------------------------|--------|------|
| | | NO. | DIAMETER | | in | | mm | gpm | lpm | psi | bar |
| | | | in | mm | | | | | | | |
| 62173 | Jetstream HF | 15 | 1.55 | 39.97 | 5.51 | 140 | 457 | 61.7 | 233.6 | 15,000 | 1034 |
| 62174 | | 16 | 1.58 | 40.13 | | | | 64.1 | 242.7 | 14,500 | 1000 |
| 62175 | | 19 | 1.90 | 48.26 | | | | 92.7 | 300.9 | 10,000 | 689 |
| 62176 | | 21 | 2.12 | 53.85 | | | | 115.4 | 436.9 | 8,000 | 551 |

PART BREAKDOWN

| ITEM | PART NO. | DESCRIPTION | ITEM | PART NO. | DESCRIPTION |
|------|----------|--|------|----------|-------------------------------|
| 1* | 62254 | Deflector | 18 | 63177 | Spring, Conical |
| | 61916 | #15 Plunger | 19 | 63115 | Pusher, Pulsation Dampener |
| | 62349** | #15 Plunger, Ceramic | 20 | 61142 | Diaphragm, Pulsation Dampener |
| 2 | 62125 | #16 Plunger | 21 | 61264 | Housing, Pulsation Dampener |
| | 61917 | #19 Plunger | 22 | 62981 | Adapter, Pulsation Dampener |
| | 61918 | #21 Plunger | 23 | 51126 | Pressure Gauge |
| | 62132 | #15 Gland Nut | 24 | 53920 | Bypass Valve |
| 3 | 67437 | #16 Gland Nut | 25 | 26115 | Plug |
| | 61933 | #19 Gland Nut | 26 | 63111 | Lube Harness |
| | 61936 | #21 Gland Nut | 26a | 63019 | Flow Control Valve |
| | 62178 | #15 Packing Set | 26b | 27740 | Hose (order in feet) |
| 4 | 62179 | #16 Packing Set | 26c | 27732 | Adapter |
| | 62180 | #19 Packing Set | 27 | 50488 | Nipple |
| | 62181 | #21 Packing Set | 28 | 27779 | Gauge |
| | 62126 | #15 & #16 Stuffing Box | 29 | 26379 | Screw Drive |
| 5 | 61922 | #19 Stuffing Box | 30 | 26589 | Plate, Caution |
| | 61924 | #21 Stuffing Box | 31 | 63068 | Manifold, Suction |
| 6 | 60607 | Uni-Valve | 32 | J70914 | Bushing |
| 6a | 62243 | Uni-Valve Seal Kit | 33 | 29461 | Coupler |
| 6b | 60603 | Discharge Spring | 34 | 62471 | Adapter |
| 6c | 60602 | Suction Spring | 35 | 60611 | O-Ring |
| 6d | 60451 | Retainer, Suction Valve Spring | 36 | 60954 | Adapter |
| 6e | 60600 | Retaining Ring | 37 | 63057 | Adapter, Dual Burst Disc |
| 7 | 60821 | Capscrew | 38 | 61272 | Rupture Disc Assembly, 6015 |
| 8 | 28852 | 3/4" NPT Male Adapter x 1-5/16" Type M | 39 | Various | Standard 15K Rupture Discs |
| 9 | 61823 | Adapter, Clockable | 40 | 61271 | Diffuser, Rupture Disc Holder |
| 10 | 63092 | Manifold, Discharge | 41 | 51659 | Trunnion |
| 11 | 60951 | Plug Assy | 42 | 62379 | Insert, Flow Straightening |
| 12 | 60955 | Adapter Assy | 43 | 50889 | Wrench, 7/8 Hex Key |
| 13 | 63114 | Ball Valve, T-Handle | 44 | 63156 | Nipple |
| 14 | 63178 | Plug | 45 | 60758 | Adapter |
| 15 | 61141 | Housing, Air Brake | 46 | 25566 | O-Ring |
| 16 | 63179 | Retainer, Conical Spring | | | |
| 17 | 61143 | Kit, Clamp, Pulsation Dampener | | | |

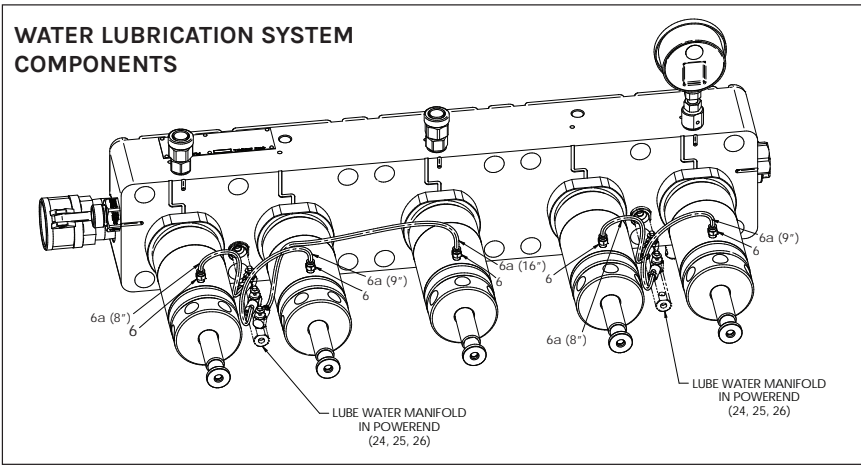
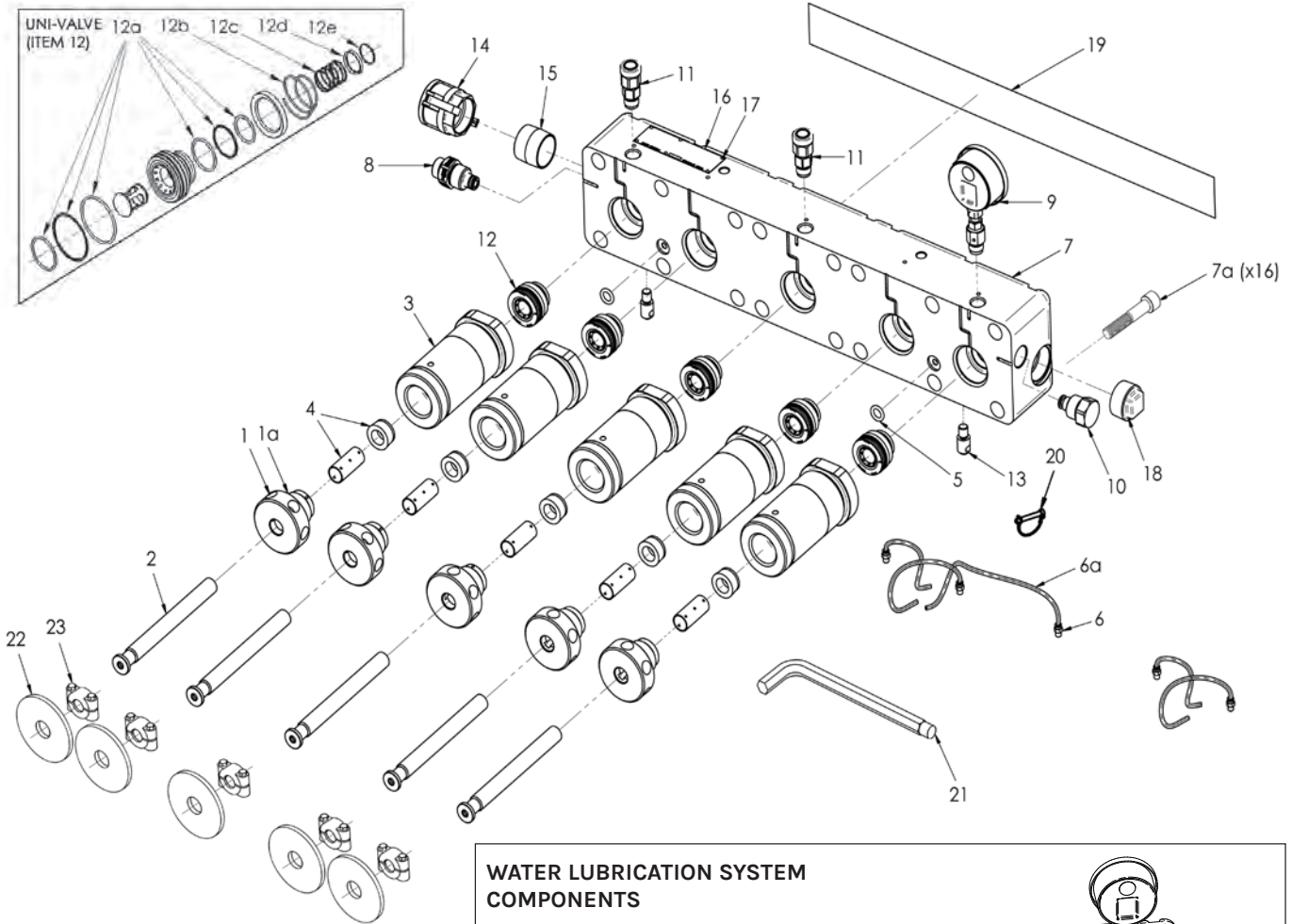
*Power end component included in drawing for convenience. Not included with new fluid ends.

**Optional Ceramic Plunger available.

MODEL 5215Q

UNx™ FLUID END

PUMPS &
FLUID ENDS



FLUID END SPECS

| FLUID END PART NO.* | CONNECTION TYPES | PLUNGER SIZE | | PLUNGER STROKE | | MAX. CRANK SPEED (RPM) | MAX. FLOW | | MAX. OPERATING PRESSURE | | |
|---------------------|------------------|--------------|----------|----------------|------|------------------------|-----------|-----|-------------------------|------|-----|
| | | NO. | DIAMETER | | in | | mm | gpm | lpm | psi | bar |
| | | | in | mm | | | | | | | |
| 69121 | Jetstream HF | 12 | 1.200 | 30.48 | 5.25 | 547 | 70.3 | 266 | 15,000 | 1034 | |
| 69383 | | 13 | 1.335 | 33.91 | | | 87.0 | 329 | 12,500 | 863 | |
| 69384 | | 15 | 1.500 | 38.10 | | | 109.8 | 416 | 10,000 | 690 | |

MODEL 5215Q UNx™ FLUID END PART BREAKDOWN

| ITEM | PART NO. | DESCRIPTION | ITEM | PART NO. | DESCRIPTION |
|------|----------|------------------------|------|-----------|------------------------|
| 1 | 51707 | #12 Gland Nut | 12 | 69389 | Uni-Valve |
| | 51744 | #13 Gland Nut | 12a | 52875 | Uni-Valve Seal Kit |
| | 51746 | #15 Gland Nut | 12b | 27119 | Discharge Valve Spring |
| 1a | 26387 | O-Ring (#11 to #15) | 12c | 27118 | Suction Valve Spring |
| 2 | 67038 | #12 Plunger | 12d | 52879 | Spring Retainer |
| | 67039 | #13 Plunger | 12e | 52878 | Retaining Ring |
| | 67040 | #15 Plunger | 13 | 67686 | Trunnion |
| 3 | 67070 | #12, #13, #15 Stuffing | 14 | 27539 | Coupler |
| 4 | 50660 | #12 Packing Set | 15 | 27114 | Nipple |
| | 50661 | #13 Packing Set | 16 | 26589 | Identifying Plate |
| | 50662 | #15 Packing Set | 17 | 26379 | Screw |
| 5 | 67548 | O-Ring | 18 | 25036 | Plug |
| 6 | 27732 | Adapter | 19 | 68714-GRN | 15K Manifold Decal |
| 6a | 67808 | Tubing | 20* | 69068 | Cotter Pin |
| 7 | 67769 | Manifold | 21 | 50889 | Pump Wrench |
| 7a* | 26500 | Capscrew | 22* | 26487 | Deflector |
| 8 | 60953 | Adapter Assy | 23* | 51736 | Plunger Coupling |
| 9 | 25771 | 10K Pressure Gauge | 24* | 67781 | Lube Line Adapter |
| | 51126 | 15K Pressure Gauge | 25* | 67412 | Needle Valve |
| 10 | 60951 | Port Plug | 26* | 25120 | Plug |
| 11 | 51035 | Rupture Disc Assy | | | |

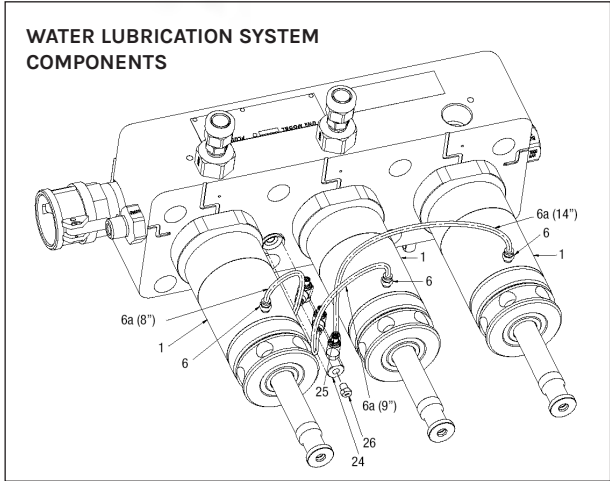
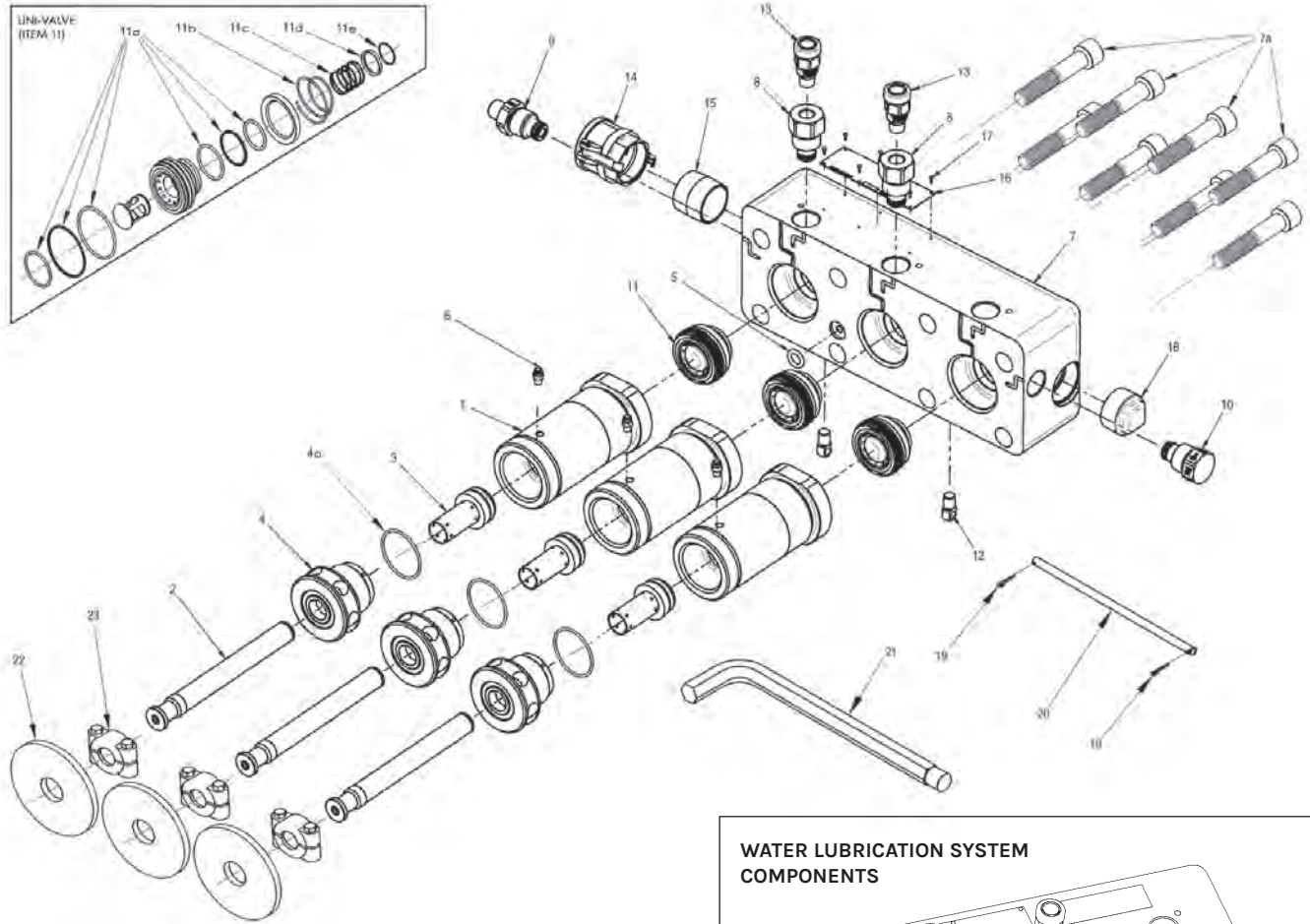
*Power end component included in drawing for convenience. Not included with new fluid ends.

PUMPS &
FLUID ENDS

MODEL 5215

UNx™ FLUID END

PUMPS &
FLUID ENDS



FLUID END SPECS

| FLUID END PART NO.* | CONNECTION TYPES | PLUNGER SIZE | | PLUNGER STROKE | | MAX. CRANK SPEED (RPM) | MAX. FLOW | | MAX. OPERATING PRESSURE | | |
|---------------------|------------------|--------------|----------|----------------|------|------------------------|-----------|------|-------------------------|--------|------|
| | | NO. | DIAMETER | | in | | mm | gpm | lpm | psi | bar |
| | | | in | mm | | | | | | | |
| 67378 | Jetstream HF | 11 | 1.100 | 27.94 | 5.25 | 133 | 518 | 33.6 | 127 | 15,000 | 1034 |
| 67379 | | 12 | 1.200 | 30.48 | | | | 40.0 | 151 | 15,000 | 1034 |
| 67380 | | 13 | 1.335 | 33.91 | | | | 49.5 | 187 | 12,000 | 861 |
| 67381 | | 15 | 1.500 | 38.10 | | | | 62.1 | 235 | 10,000 | 689 |

PART BREAKDOWN

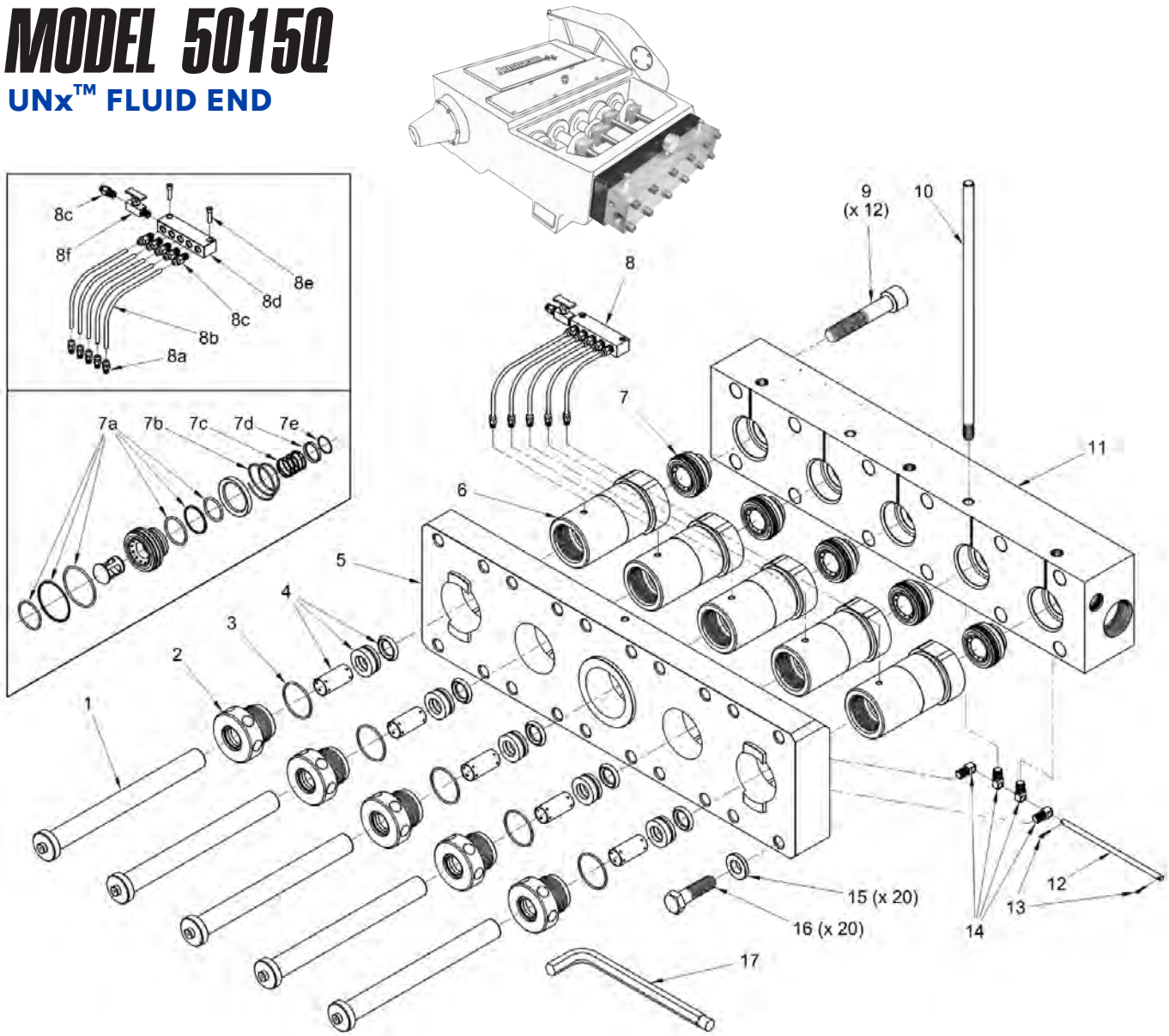
| ITEM | PART NO. | DESCRIPTION | ITEM | PART NO. | DESCRIPTION |
|------|----------|------------------------|------|----------|------------------------|
| 1 | 67069 | #11 Stuffing Box | 10 | 60951 | 15K Plug Assy |
| | 67070 | #12, #13, #15 Stuffing | 11 | 52875 | Uni-Valve Seal Kit |
| | 67037 | #11 Plunger | 11a | 27119 | Discharge Valve Spring |
| 2 | 67038 | #12 Plunger | 11b | 27118 | Suction Valve Spring |
| | 67039 | #13 Plunger | 11c | 52879 | Spring Retainer |
| | 67040 | #15 Plunger | 11d | 52878 | Retaining Ring |
| 3 | 50659 | #11 Packing Set | 11e | 52878 | Retaining Ring |
| | 50660 | #12 Packing Set | 12 | 51659 | Trunnion |
| | 50661 | #13 Packing Set | 13 | 51035 | Rupture Disc Assy |
| | 50662 | #15 Packing Set | 14 | 27539 | Coupler |
| 4 | 51651 | #11 Gland Nut | 15 | 27114 | Nipple |
| | 51707 | #12 Gland Nut | 16 | 26589 | Caution Plate |
| | 51744 | #13 Gland Nut | 17 | 26379 | Setscrew |
| | 51746 | #15 Gland Nut | 18 | 25036 | Plug |
| 4a | 26387 | O-Ring (#11 to #15) | 19* | 26468 | Cotter Pin |
| 5 | 67548 | O-Ring | 20* | 50295 | Trunnion Rod |
| 6 | 27732 | Adapter | 21 | 50889 | Pump Wrench |
| 6a | 67808 | Tubing | 22* | 26487 | Deflector |
| 7 | 67277 | Manifold | 23* | 51736 | Plunger Coupling |
| 7a* | 26500 | Capscrew | 24* | 67781 | Lube Line Adapter |
| 8 | 60954 | 15K Adapter Assy | 25* | 67412 | Needle Valve |
| 9 | 60953 | 15K Adapter Assy | 26* | 25120 | Plug |
| | | | 27* | 51126 | 15k Gauge |

*Included but not shown in exploded view

MODEL 5015Q

UNx™ FLUID END

PUMPS &
FLUID ENDS



FLUID END SPECS

| FLUID END PART NO.* | CONNECTION TYPES | | PLUNGER SIZE | | PLUNGER STROKE | | MAX. RPM | MAX. FLOW* | | MAX. OPERATING PRESSURE | | TYPICAL DIESEL POWER | | | | | |
|---------------------|------------------|---------------|--------------|-----------|----------------|------|----------|------------|------|-------------------------|--------|----------------------|-----|-----------------|----|----|--|
| | | | NO. | DIAMETER | | | | gpm | lpm | psi | bar | hp | kW | | | | |
| | | | | TOP PORTS | | | | | | | | | | DISCHARGE PORTS | in | mm | |
| 61534 | | | 10 | .980 | 24.89 | | | 33.7 | 128 | 15,000 | 1034 | 327 | 244 | | | | |
| 54655** | | | 12 | 1.200 | 30.48 | | | 50.6 | 192 | 15,000 | 1034 | 490 | 365 | | | | |
| 54906 | | | 13 | 1.335 | 33.91 | | | 62.6 | 237 | 12,500 | 862 | 505 | 376 | | | | |
| 60613 | 1/2" NPT Female | Jetstream HHP | 15 | 1.500 | 38.10 | 5.00 | 127 | 413 | 79.1 | 299 | 10,000 | 689 | 510 | 380 | | | |
| 54650** | | | 16 | 1.670 | 42.42 | | | | 98.0 | 371 | 8,000 | 551 | 506 | 377 | | | |
| 54873 | | | | | | | | | | | | | | | | | |
| 54700** | | | | | | | | | | | | | | | | | |
| 54872 | | | | | | | | | | | | | | | | | |

*Displacement (flow) values represented refer to "theoretical" flow, neglecting inefficiency resulting compressibility of water and expansion of pressure-bearing components. Specified maximum flow rates are based on selected input powers and working pressures and constrained by power end limitations (pump speed, frame load, maximum input power). Actual output may vary depending on the performance specifications of the engine (or motor), drive sheave ratio, and actual working pressure.
 **With adapter plate and mounting hardware.

PART BREAKDOWN

| ITEM | PART NO. | DESCRIPTION | ITEM | PART NO. | DESCRIPTION |
|------|----------|--|------|----------|------------------------|
| 1 | 61512 | #10 Plunger | 7 | 52870 | Uni-Valve |
| | 54631 | #12 Plunger | 7a | 52875 | Uni-Valve Seal Kit |
| | 57997* | #12 Plunger, Ceramic | 7b | 27119 | Discharge Valve Spring |
| | 60608 | #13 Plunger | 7c | 27118 | Suction Valve Spring |
| | 54629 | #15 Plunger | 7d | 52879 | Spring Retainer |
| | 54851 | #16 Plunger | 7e | 52878 | Retaining Ring |
| 2 | 51647 | #10 Gland Nut | 8** | 54690 | Lube Harness Assy |
| | 51707 | #12 Gland Nut | 8a** | 27732 | Tube Fitting, 1/8" NPT |
| | 51744 | #13 Gland Nut | 8b** | 27740 | Hose (order in feet) |
| | 51746 | #15 Gland Nut | 8c** | J70518 | Tube Fitting, 1/4" NPT |
| | 53316 | #16 Gland Nut | 8d** | 52494 | Lube Manifold |
| 3 | 26387 | O-Ring, #10, #12, #13, & #15 Gland Nut | 8e** | 26689 | Capscrew |
| | 26930 | O-Ring, #16 Gland Nut | 8f** | 26876 | Needle Valve |
| 4 | 50658 | #10 Packing Set | 9** | 26500 | Manifold Bolt |
| | 50660 | #12 Packing Set | 10** | 52114 | Lifting Rod |
| | 50661 | #13 Packing Set | 11 | 54626 | Manifold |
| | 50662 | #15 Packing Set | 12** | 50295 | Trunnion Rod |
| | 53321 | #16 Packing Set | 13** | 26468 | Cotter Pin |
| 5** | 54627 | Adapter Plate | 14 | 51659 | Trunnion |
| 6 | 61511 | #10 Stuffing Box | 15** | 54638 | Washer |
| | 54628 | #12, #13 & #15 Stuffing Box | 16** | 60248 | Adapter Plate Bolt |
| | 54849 | #16 Stuffing Box | 17 | 50889 | Pump Wrench |

*Optional Ceramic Plunger available.

**Pre-existing component included in drawing for convenience. Not included with new fluid ends.

REPLACEABLE POWER END PARTS**

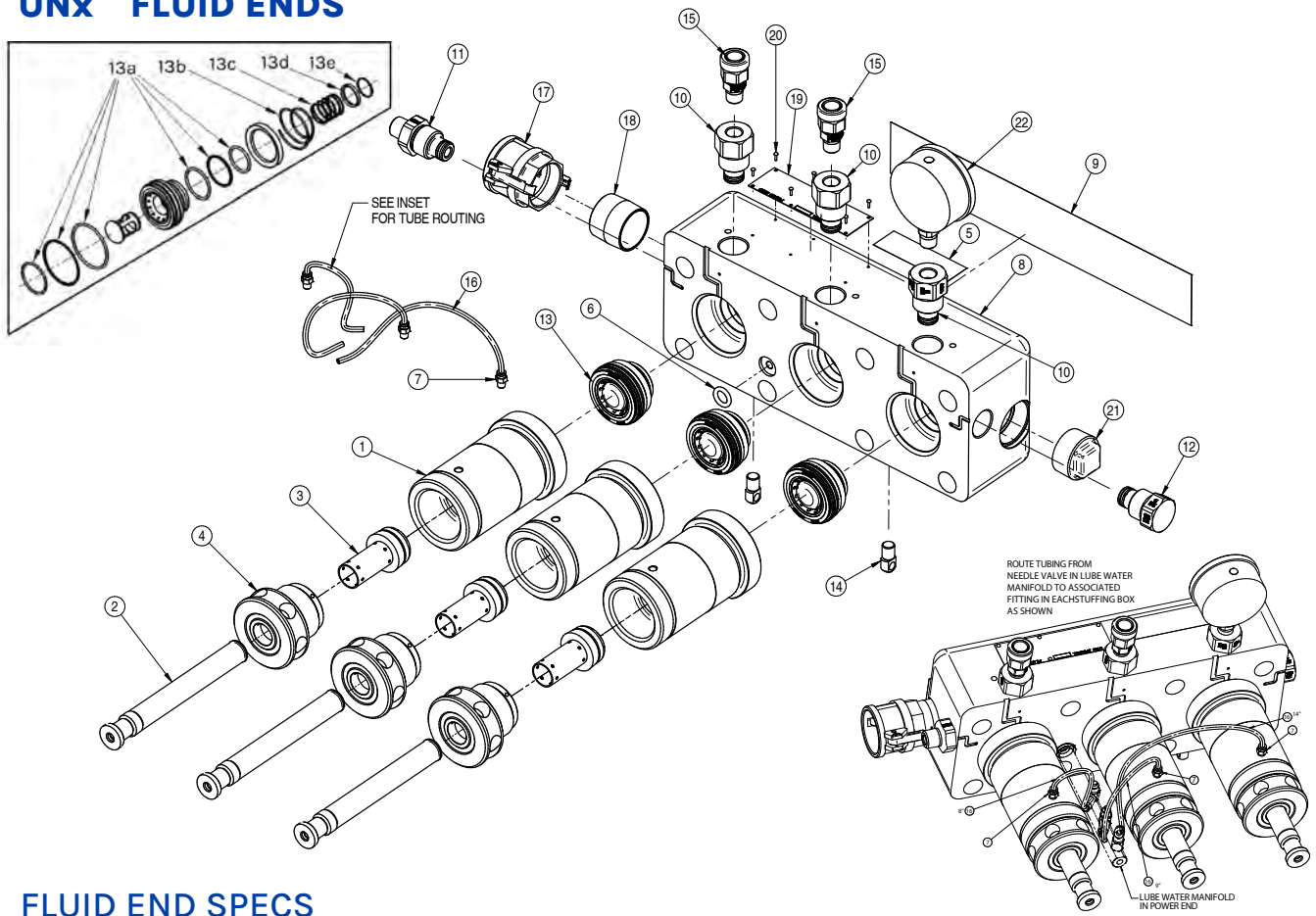
| PART NO. | DESCRIPTION |
|----------|--------------------------------|
| 29623 | Oil Seal (inside plate) |
| 29891 | NOV Wiper (inside plate) |
| 70039 | Seal Plate |
| 29630 | Gasket (to seal plate) |
| 59318 | Seal Washer (holds seal plate) |
| 58279 | Hook Belts |
| 29889 | Pony Rod |
| 29427 | Plunger Clamps |

**Parts not shown.

MODELS 4215 & 3615 GEN 2

UNx™ FLUID ENDS

PUMPS &
FLUID ENDS



FLUID END SPECS

| FLUID END PART NO.* | CONNECTION TYPES | | PLUNGER SIZE | | PLUNGER STROKE | | MAX. RPM | MAX. FLOW | | MAX. OPERATING PRESSURE | | TYPICAL DIESEL POWER | | |
|---------------------|------------------|-----------------|--------------|----------|----------------|------|----------|-----------|------|-------------------------|--------|----------------------|-----|-----|
| | | | NO. | DIAMETER | | | | gpm | lpm | psi | bar | hp | kW | |
| | TOP PORTS | DISCHARGE PORTS | | in | mm | in | | | | | | | | mm |
| 3615HF | | | | | | | | | | | | | | |
| 69828 | | | 9 | .900 | 22.86 | 3.60 | 92 | 550 | 16.4 | 62 | 15,000 | 1034 | 158 | 118 |
| 69275 | | | 10 | .980 | 24.89 | | | | 19.4 | 73 | 15,000 | 1034 | 188 | 140 |
| 69276 | Jetstream HF | Jetstream HF | 11 | 1.100 | 27.94 | | | | 24.4 | 92 | 12,500 | 861 | 197 | 147 |
| 69277 | | | 12 | 1.200 | 30.48 | | | | 29.1 | 110 | 10,000 | 689 | 188 | 140 |
| 69278 | | | 13 | 1.335 | 33.91 | | | | 36.0 | 136 | 8,000 | 551 | 186 | 139 |
| 69279 | | | 15 | 1.500 | 38.10 | | | | 45.5 | 172 | 6,500 | 469 | 191 | 142 |
| 4215HF | | | | | | | | | | | | | | |
| 69275 | | | 10 | .980 | 24.89 | 4.25 | 108 | 518 | 21.5 | 81 | 15,000 | 1034 | 209 | 156 |
| 69276 | | | 11 | 1.100 | 27.94 | | | | 27.1 | 102 | 15,000 | 1034 | 263 | 196 |
| 69277 | | | 12 | 1.200 | 30.48 | | | | 32.3 | 122 | 15,000 | 1034 | 313 | 233 |
| 69278 | Jetstream HF | Jetstream HF | 13 | 1.335 | 33.91 | | | | 40.0 | 151 | 12,500 | 861 | 323 | 241 |
| 69279 | | | 15 | 1.500 | 38.10 | | | | 50.5 | 191 | 10,000 | 689 | 326 | 243 |
| 69280 | | | 16 | 1.670 | 42.42 | | | | 62.6 | 237 | 8,000 | 551 | 323 | 241 |
| 69281 | | | 18 | 1.810 | 45.97 | | | | 73.5 | 278 | 6,800 | 469 | 323 | 241 |

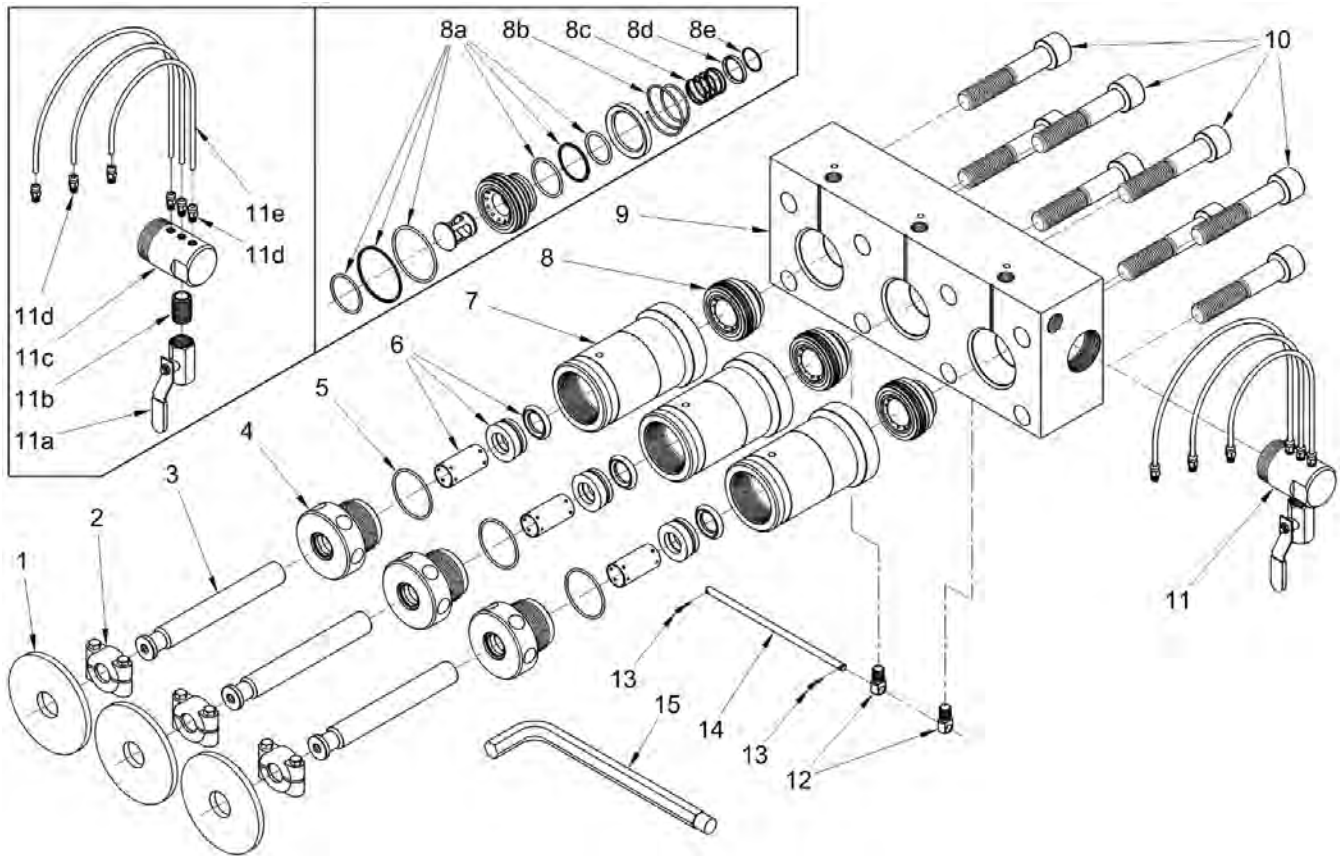
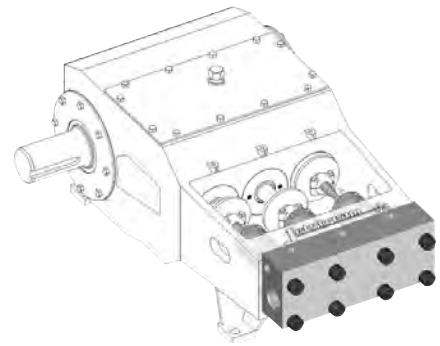
PART BREAKDOWN

| ITEM | PART NO. | DESCRIPTION | ITEM | PART NO. | DESCRIPTION |
|-------|----------|------------------------|-----------------|-----------|------------------------|
| 1 | 52872 | #10 - #11 Stuffing Box | 5 | 71147-7 | Warning Decals |
| | 52873 | #12 - #15 Stuffing Box | 6 | 67548 | O-Ring |
| | 53313 | #16 Stuffing Box | 7 | 27732 | Adapter |
| | 63767 | #18 Stuffing Box | 8 | 67277 | Manifold |
| 2 | 51721 | #10 Plunger | 9 | 62172-GRN | 15k Decal |
| | 51722 | #11 Plunger | 10 | 60954 | Adapter |
| | 51723 | #12 Plunger | 11 | 60953 | Adapter |
| | 51724 | #13 Plunger | 12 | 60951 | Plug |
| | 51726 | #15 Plunger | 13 | 52870 | Uni-Valve |
| | 53314 | #16 Plunger | 13a | 52875 | Uni-Valve Seal Kit |
| | 63765 | #18 Plunger | 13b | 27119 | Discharge Valve Spring |
| | 3 | 50658 | #10 Packing Set | 13c | 27118 |
| 50659 | | #11 Packing Set | 13d | 52879 | Spring Retainer |
| 50660 | | #12 Packing Set | 13e | 52878 | Retaining Ring |
| 50661 | | #13 Packing Set | 14 | 51659 | Trunnion |
| 50662 | | #15 Packing Set | 15 | 51035 | Rupture Disc Assembly |
| 53321 | | #16 Packing Set | 16 | 67808 | Hose (Order in Feet) |
| 61124 | | #18 Packing Set | 17 | 27539 | Cam-lok Coupling |
| 51647 | | #10 Gland Nut | 18 | 27114 | Nipple |
| 51651 | | #11 Gland Nut | 19 | 26589 | Caution Plate |
| 51707 | | #12 Gland Nut | 20 | 26379 | Screw |
| 4 | 51744 | #13 Gland Nut | 21 | 25036 | Brass Plug |
| | 51746 | #15 Gland Nut | 22 | 51126 | Pressure Gage |
| | 53316 | #16 Gland Nut | | | |
| | 63768 | #18 Gland Nut | | | |

NOTE: Parts listed on this page are components of current 4215HF & 3615HF fluid end models. For first generation fluid end models which utilize different stuffing boxes, valves and manifold, see the following page. “HF” and first generation models can be most easily distinguished by the part number stamped on the top face of the fluid end manifold. Current (HF) models use manifold part number 52864 while first generation fluid ends use manifold part number 50896.

MODELS 4215 & 3615 (GEN 1)

UNx™ FLUID ENDS



PUMPS &
FLUID ENDS

PART BREAKDOWN

| ITEM | PART NO. | DESCRIPTION | ITEM | PART NO. | DESCRIPTION |
|------|----------|------------------|------|----------|-----------------------------|
| 1* | 26487 | Deflector | 7 | 50297 | #9, #10 & #11 Stuffing Box |
| 2* | 51736 | Plunger Coupling | | 50299 | #12, #13 & #15 Stuffing Box |
| 3 | 51808 | #9 Plunger | 8 | 50365 | Uni-Valve |
| | 51721 | #10 Plunger | 8a | 50370 | Uni-Valve Seal Kit |
| | 51722 | #11 Plunger | 8b | 25060 | Discharge Valve Spring |
| | 51723 | #12 Plunger | 8c | 25059 | Suction Valve Spring |
| | 51724 | #13 Plunger | 8d | 50303 | Spring Retainer |
| | 51726 | #15 Plunger | 8e | 25255 | Retaining Ring |
| 4 | 51809 | #9 Gland Nut | 9 | 50896 | Manifold |
| | 51647 | #10 Gland Nut | 10* | 26500 | Manifold Bolt |
| | 51651 | #11 Gland Nut | 11 | 51975 | Lube Harness |
| | 51707 | #12 Gland Nut | 11a | 27101 | Ball Valve |
| | 51744 | #13 Gland Nut | 11b | 25946 | Nipple |
| | 51746 | #15 Gland Nut | 11c | 55477 | Lube Manifold |
| 5 | 26387 | O-Ring | 11d | 27732 | Hose Fitting |
| | 51802 | #9 Packing Set | 11e | 27740 | Hose (Order in feet) |
| | 50658 | #10 Packing Set | 12 | 51659 | Trunnion |
| 6 | 50659 | #11 Packing Set | 13* | 26468 | Cotter Pin |
| | 50660 | #12 Packing Set | 14* | 50295 | Trunnion Rod |
| | 50661 | #13 Packing Set | 15 | 50889 | Pump Wrench |
| | 50662 | #15 Packing Set | | | |

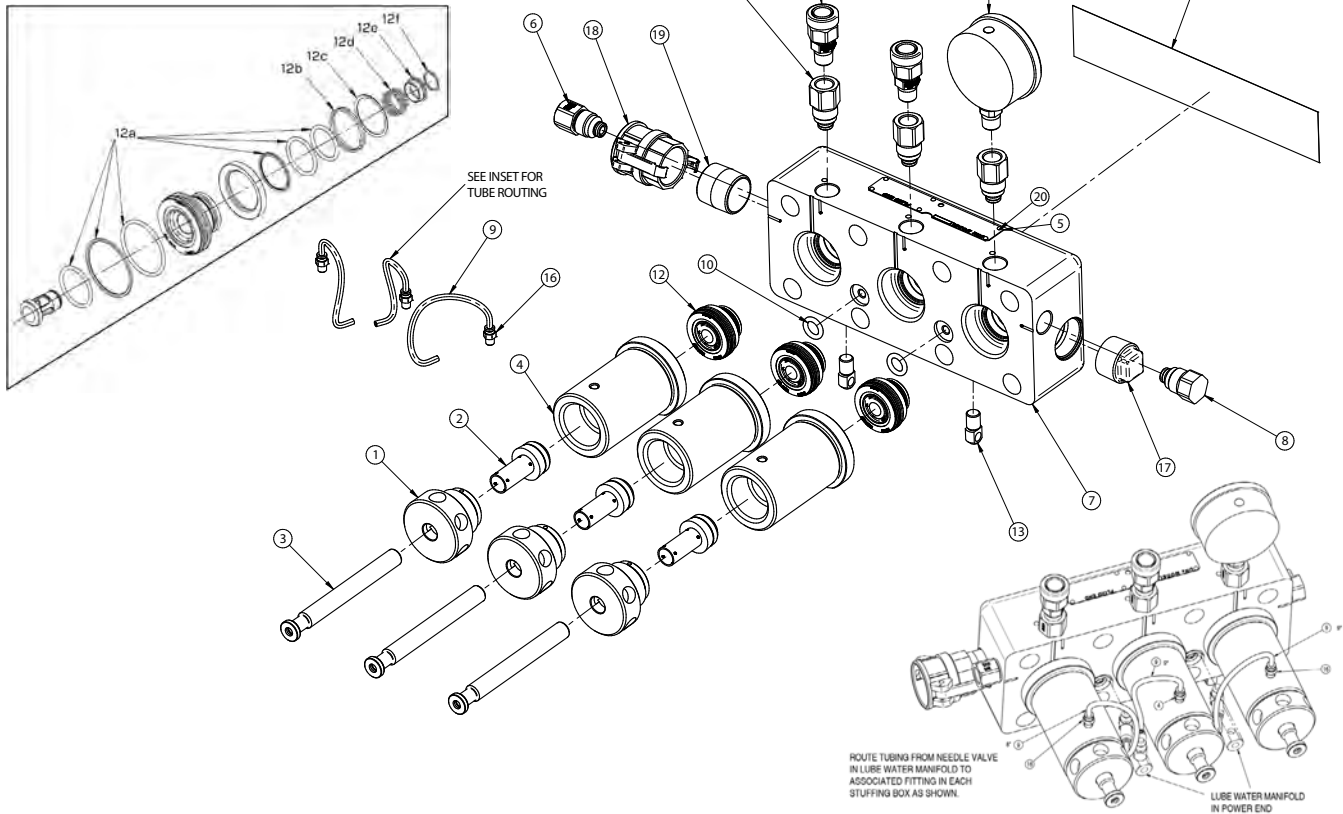
*Power end component included in drawing for convenience. Not included with new fluid ends.

NOTE: Parts listed on this page are components of first generation 4215 & 3615 fluid end models no longer sold. These models utilize different stuffing boxes, valve and manifold than the current "HF" design. "HF" and first generation models can be most easily distinguished by the part number stamped on the top face of the fluid end manifold. Current (HF) models use manifold part number 52864 while the first generation fluid ends featured on this page use manifold part number 50896.

MODEL 3015

UNx™ FLUID END

PUMPS &
FLUID ENDS



FLUID END SPECS

| FLUID END PART NO.* | CONNECTION TYPES | | | PLUNGER SIZE | | PLUNGER STROKE | | MAX. RPM | MAX. FLOW | | MAX. OPERATING-PRESSURE | | TYPICAL DIESEL POWER | | |
|---------------------|------------------|-----------------|--------------|--------------|----------|----------------|------|----------|-----------|--------|-------------------------|--------|----------------------|-----|-----|
| | | | | NO. | DIAMETER | | | | gpm | lpm | psi | bar | hp | kW | |
| | TOP PORTS | DISCHARGE PORTS | SUPPLY PORT | | in | mm | in | | | | | | | | mm |
| 69315 | | | | 7 | .735 | 18.67 | | | 600 | 9.9 | 37 | 15,000 | 1034 | 96 | 72 |
| 69316 | | | | 8 | .800 | 20.32 | | | 600 | 11.8 | 45 | 15,000 | 1034 | 114 | 85 |
| | | | | | | | 11.8 | 45 | | 12,500 | 861 | 95 | 71 | | |
| 69317 | | | | 9 | .900 | 22.86 | | | 600 | 14.9 | 56 | 15,000 | 1034 | 144 | 107 |
| | | | | | | | 14.0 | 6 | | 10,000 | 689 | 96 | 72 | | |
| 69318 | Jetstream LF | Jetstream LF | Jetstream LF | 10 | 1.000 | 25.40 | 3.00 | 76 | 600 | 18.4 | 70 | 15,000 | 1034 | 200 | 149 |
| | | | | | | | | | | 18.4 | 70 | 12,500 | 861 | 148 | 110 |
| | | | | | | | | | | 18.4 | 70 | 10,000 | 689 | 118 | 88 |
| | | | | | | | | | | 18.4 | 70 | 8,000 | 551 | 95 | 71 |
| 69319 | | | | 10HF | 1.062 | 26.97 | | | 600 | 20.7 | 78 | 15,000 | 1034 | 200 | 149 |
| 69320 | | | | 11 | 1.125 | 28.58 | | | 600 | 23.2 | 88 | 13,000 | 896 | 200 | 149 |
| | | | | | | | 23.2 | 88 | | 10,000 | 689 | 150 | 112 | | |
| | | | | | | | 23.2 | 88 | | 8,000 | 551 | 120 | 89 | | |
| | | | | | | | 23.2 | 88 | | 6,500 | 448 | 97 | 72 | | |

**Displacement (flow) values represented refer to "theoretical" flow, neglecting inefficiency resulting compressibility of water and expansion of pressure-bearing components. Performance data is based on power end specifications published by the original equipment manufacturer; however, some power ends may differ from those used to determine the values above. Contact a Jetstream Solutions Provider for help with fluid end selection.

PART BREAKDOWN

| ITEM | PART NO. | DESCRIPTION | ITEM | PART NO. | DESCRIPTION |
|------|----------|--------------------------|------|-----------|--------------------------------|
| 1 | 51617 | #7 Gland Nut | 5 | 69298 | Caution Plate |
| | 51619 | #8 Gland Nut | 6 | 69292 | Adapter |
| | 51621 | #9 Gland Nut | 7 | 69202 | Manifold |
| | 51623 | #10 Gland Nut | 8 | 68248 | Plug |
| | 67826 | #10HF Gland Nut | 9 | 67808 | Lube Line Tubing (Order in FT) |
| | 52231 | #11 Gland Nut | 10 | 67548 | O-Ring |
| 2 | 51689 | #7 Packing Set | 11 | 62171-GRN | 15k Decal |
| | 51691 | #8 Packing Set | 12 | 51675 | Uni-Valve |
| | 51674 | #9 Packing Set | 12a | 50034 | Uni-Valve Seal Kit |
| | 51697 | #10 Packing Set | 12b | 26476 | Discharge Valve Spring |
| | 68459 | #10HF Packing Set | 12c | 26470 | Retaining Ring |
| | 52233 | #11 Packing Set | 12d | 26472 | Suction Valve Spring |
| 3 | 51831 | #7 Plunger | 12e | 51664 | Spring Retainer |
| | 51741 | #8 Plunger | 12f | 26474 | Retaining Ring |
| | 51742 | #9 Plunger | 13 | 51659 | Trunnion |
| | 51743 | #10 Plunger | 14 | 51126 | Pressure Gage |
| | 67748 | #10HF Plunger | 15 | 51035 | Rupture Disc Assembly |
| | 52229 | #11 Plunger | 16 | 27732 | Adapter |
| 4 | 51611 | #7 - #8 Stuffing Box | 17 | 27693 | Brass Plug |
| | 51671 | #9 - #10 Stuffing Box | 18 | 27547 | Cam-Lok Coupling |
| | 52232 | #10HF - #11 Stuffing Box | 19 | 26631 | Nipple |
| | | | 20 | 26379 | Screw |

*Power end component included in drawing for convenience. Not included with new fluid ends.

**Optional Ceramic Plungers available.

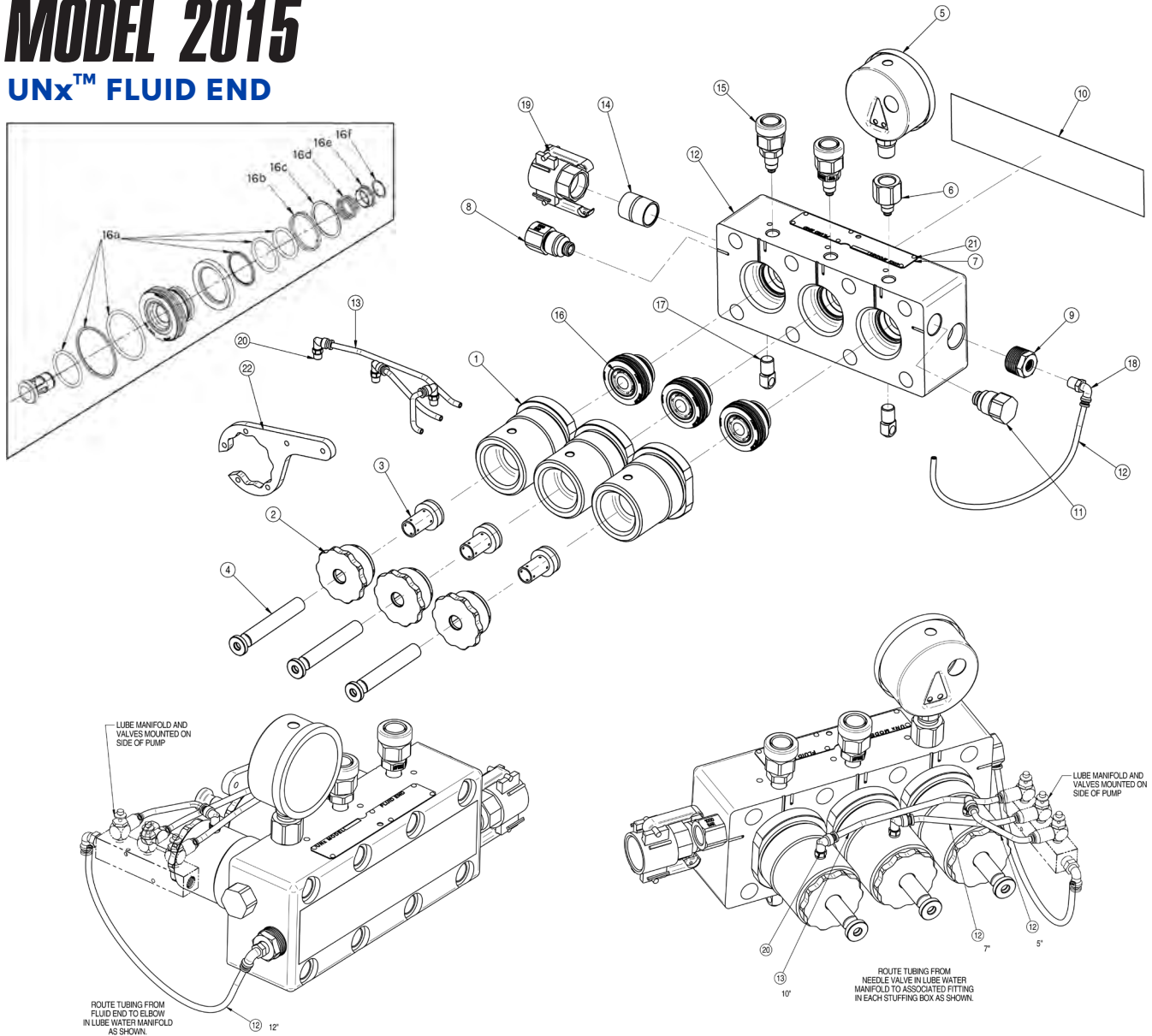
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PUMPS &
FLUID ENDS

MODEL 2015

UNx™ FLUID END

PUMPS &
FLUID ENDS



FLUID END SPECS

| FLUID END PART NO.* | CONNECTION TYPES | | | PLUNGER SIZE | | PLUNGER STROKE | | MAX. RPM | MAX. FLOW | | MAX. OPERATING-PRESSURE | | TYPICAL DIESEL POWER | | |
|---------------------|------------------|-----------------|--------------|--------------|----------|----------------|-----|----------|-----------|------|-------------------------|--------|----------------------|----|----|
| | | | | NO. | DIAMETER | | | | gpm | lpm | psi | bar | hp | kW | |
| | TOP PORTS | DISCHARGE PORTS | SUPPLY PORT | | in | mm | in | | | | | | | | mm |
| 69512 | | | | 7 | 0.695 | 17.6 | | | 800 | 7.9 | 29.8 | 15,000 | 1035 | 75 | 56 |
| 69513 | 1200 Series Port | Jetstream LF | Jetstream LF | 8 | 0.845 | 21.5 | 2.0 | 50.8 | 800 | 11.6 | 44.0 | 10,000 | 690 | 75 | 56 |
| 69514 | | | | 9 | 0.945 | 24 | | | 800 | 14.6 | 55.1 | 8,000 | 552 | 75 | 56 |
| 69515 | | | | 11 | 1.100 | 28 | | | 800 | 19.8 | 74.7 | 6,000 | 414 | 75 | 56 |

**Displacement (flow) values represented refer to "theoretical" flow, neglecting inefficiency resulting compressibility of water and expansion of pressure-bearing components. Performance data is based on power end specifications published by the original equipment manufacturer; however, some power ends may differ from those used to determine the values above. Contact a Jetstream Solutions Provider for help with fluid end selection.

PART BREAKDOWN

| ITEM | PART NO. | DESCRIPTION | ITEM | PART NO. | DESCRIPTION |
|------|----------|-------------------------|------|-----------|-------------------------------|
| 1 | 68616 | #7 Stuffing Box | 9 | 69164 | Bushing |
| | 68616 | #8 Stuffing Box | 10 | 68713-GRN | 15K Decal |
| | 68615 | #9 Stuffing Box | 11 | 68248 | Plug |
| | 68615 | #11 Stuffing Box | 12 | 68112 | Manifold |
| 2 | 68612 | #7 Gland Nut | 13 | 67808 | Lube Line |
| | 69493 | #8 Gland Nut | 14 | 58547 | Nipple |
| | 69492 | #9 Gland Nut | 15 | 53005 | 1200 Series Rupture Disc Asm. |
| | 68611 | #11 Gland Nut | 16 | 51675 | Uni-Valve |
| 3 | 69733 | #7 Packing Set | 16a | 50034 | Uni-Valve Seal Kit |
| | 69734 | #8 Packing Set | 16b | 26476 | Discharge Valve Spring |
| | 69735 | #9 Packing Set | 16c | 26470 | Retaining Ring |
| | 69736 | #11 Packing Set | 16d | 26472 | Suction Valve Spring |
| 4 | 68618 | #7 Plunger | 16e | 51664 | Spring Retainer |
| | 69395 | #8 Plunger | 16f | 26474 | Retaining Ring |
| | 69394 | #9 Plunger | 17 | 51659 | Trunnion |
| | 68617 | #11 Plunger | 18 | 28367 | Elbow |
| 5 | 51126 | 30K Pressure Gage | 19 | 28132 | Cam-Lok Coupling |
| 6 | 69310 | 1200 Series NPT Adapter | 20 | 27733 | Elbow |
| 7 | 69298 | Caution Plate | 21 | 26379 | Screw |
| 8 | 69292 | Adapter | 22 | 68256 | Wrench |

UNx™ FLUID END UPGRADES

BRINGING THE UNx™ ADVANTAGE TO YOUR EXISTING PUMP

Jetstream has created a wide variety of UNx Fluid Ends conversions to adapt to your existing competitor pump. The upgrade delivers all of the benefits of the UNx Fluid End design with the additional benefit that couples our fluid end to your current competitor pump. These benefits include and are not limited to:

- ▶ Pressures from 5,000 psi to 40,000 psi
- ▶ Superior performance to optimize productivity
- ▶ Greater flexibility in the field
- ▶ Quick serviceability reducing downtime and maintenance in the field
- ▶ Most major competitor conversions available
- ▶ Easily converted while on the job
- ▶ Water lubricated packing set

See Fluid End features and benefits on B-27. Contact Jetstream for questions regarding the upgrade required.

JETSTREAM FLUID END CONVERSIONS

| FLUID END PART NO. | FLUID END MODEL | DESCRIPTION | MANUFACTURER | MANUFACTURER MODEL |
|--------------------|-----------------|----------------|----------------------------|--|
| 51700 | 3015B | #7 Triplex | Butterworth/Gardner Denver | T-300, L-300, L-74, I-300, PT-33 |
| 51705 | 3015B | #8 Triplex | | |
| 51710 | 3015B | #9 Triplex | | |
| 51715 | 3015B | #10 Triplex | | |
| 52290 | 3015B | #11 Triplex | | |
| 65121 | 3015BM | #7 Triplex | Butterworth/Gardner Denver | T-300M |
| 65123 | 3015BM | #8 Triplex | | |
| 65124 | 3015BM | #9 Triplex | | |
| 65125 | 3015BM | #10 Triplex | | |
| 65126 | 3015BM | #11 Triplex | | |
| 52225 | 3715B | #9 Triplex | Butterworth/Gardner Denver | L-375, T-375, I-375, TF-375, L-130, TF-375, TX-375, TX-3750H |
| 52230 | 3715B | #10 Triplex | | |
| 52235 | 3715B | #11 Triplex | | |
| 52240 | 3715B | #12 Triplex | | |
| 52245 | 3715B | #13 Triplex | | |
| 59405 | 3715B | #15 Triplex | | |
| 51950 | 4015B | #9 Triplex | Butterworth/Gardner Denver | L-77 |
| 51865 | 4015B | #10 Triplex | | |
| 51870 | 4015B | #11 Triplex | | |
| 51875 | 4015B | #12 Triplex | | |
| 51880 | 4015B | #13 Triplex | | |
| 51840 | 4515HF B | #10 Triplex | Butterworth/Gardner Denver | L-450, T-450, TF-450, L-200 |
| 51845 | 4515HF B | #11 Triplex | | |
| 51850 | 4515HF B | #12 Triplex | | |
| 51855 | 4515HF B | #13 Triplex | | |
| 51860 | 4515HF B | #15 Triplex | | |
| J55775 | 4515B | #16 Triplex | | |
| 67132 | 4515BQ | #19 Quintuplex | Butterworth/Gardner Denver | QF450S |

JETSTREAM FLUID END CONVERSIONS

| FLUID END PART NO. | FLUID END MODEL | DESCRIPTION | MANUFACTURER | MANUFACTURER MODEL |
|--------------------|-----------------|----------------|-----------------|--|
| 52170 | 5015G | #15 Triplex | Gardner Denver | PE-5, P172 |
| 52185 | 5015G | #17 Triplex | | |
| 67583 | 3015NC | #9 Triplex | NLB | 8125, 10145, 125 Series Pumps |
| 51720 | 3015N | #7 Triplex | | |
| 51725 | 3015N | #8 Triplex | Union | 1012C, 1012D |
| 51730 | 3015N | #9 Triplex | | |
| 51735 | 3015N | #10 Triplex | NLB | 1012C, 1012D |
| 52265 | 3015N | #11 Triplex | Union | TD-60 (Power End) |
| 51800 | 4215N | #10 Triplex | NLB | 10150, 10200, 10225, 10203, TD-120, 225 Series Pumps |
| 51805 | 4215N | #11 Triplex | | |
| 51285 | 4215N | #12 Triplex | | |
| 51810 | 4215N | #13 Triplex | | |
| 51815 | 4215N | #15 Triplex | | |
| J55720 | 4215N | #16 Triplex | | |
| 53555 | 4215QN | #10 Quintuplex | NLB | 10250, QD-200 (Power End) |
| 53560 | 4215QN | #11 Quintuplex | | |
| 53565 | 4215QN | #12 Quintuplex | | |
| 53585 | 4215QN | #13 Quintuplex | | |
| 53575 | 4215QN | #15 Quintuplex | | |
| 69017 | 3015R | #8 Triplex | Reliable | RD115 |
| 68575 | 3015R | #10 Triplex | | |
| 52755 | 3115T | #7 Triplex | Tritan | 3310SS, 3310WSS, P-313, P-323, P-330A |
| 52760 | 3115T | #8 Triplex | | |
| 52765 | 3115T | #9 Triplex | | |
| 52770 | 3115T | #10 Triplex | | |
| 51915 | 3515Q | #7 Quintuplex | Tritan/Wheatley | 5127SS |
| 51920 | 3515Q | #8 Quintuplex | | |
| 51925 | 3515Q | #9 Quintuplex | | |
| 51930 | 3515Q | #10 Quintuplex | | |
| 51740 | 3015W | #7 Triplex | Weatherford | FE85 |
| 51745 | 3015W | #8 Triplex | | |
| 51750 | 3015W | #9 Triplex | | |
| 51755 | 3015W | #10 Triplex | | |
| 52280 | 3015W | #11 Triplex | | |
| 65187 | 3715W | #7 Triplex | Woma | 1502, 1503 |
| 54560 | 3715W | #8 Triplex | | |
| 54555 | 3715W | #9 Triplex | | |
| 54550 | 3715W | #10 Triplex | | |
| 54545 | 3715W | #11 Triplex | | |

JETSTREAM FLUID END CONVERSIONS

| FLUID END PART NO. | FLUID END MODEL | DESCRIPTION | MANUFACTURER | MANUFACTURER MODEL |
|--------------------|-----------------|----------------|--------------------------|--------------------|
| 55270 | 3715WZ | #8 Triplex | Woma | 150-Z |
| 55275 | 3715WZ | #9 Triplex | | |
| 55280 | 3715WZ | #10 Triplex | | |
| 55285 | 3715WZ | #11 Triplex | | |
| 51820 | 3015Q | #7 Quintuplex | American Aero / Whitford | FE145 |
| 51825 | 3015Q | #8 Quintuplex | | |
| 51830 | 3015Q | #9 Quintuplex | NLB | 10125 |
| 51835 | 3015Q | #10 Quintuplex | Union | QD100 (Power End) |
| 52285 | 3015Q | #11 Quintuplex | | |

Detailed breakdowns to follow on pages B-50 to B-100.

JETSTREAM INTERNATIONAL STYLE FLUID END CONVERSIONS

| FLUID END PART NO. | FLUID END MODEL | DESCRIPTION | MANUFACTURER | EURO MODEL INCLUDES |
|--------------------|-----------------|-------------|--------------|---|
| 55338 | 3015 | #7 Triplex | Jetstream | Euro Lube Harness Dual Scale Gauge Euro Regulator Valve Pump Accessory Package Spare Parts & Tools Package |
| 55186 | 3015J | #8 Triplex | | |
| 55339 | 3015 | #9 Triplex | | |
| 55340 | 3015 | #10 Triplex | | |
| 55341 | 3015 | #11 Triplex | | |
| 55343 | 3615 | #9 Triplex | | |
| 55190 | 3615J HF | #10 Triplex | | |
| 55344 | 3615 | #11 Triplex | | |
| 55345 | 3615 | #12 Triplex | | |
| 55346 | 3615 | #13 Triplex | | |
| 55347 | 3615 | #15 Triplex | | |
| 55348 | 3615 | #16 Triplex | | |
| 55351 | 4215 | #9 Triplex | | |
| 55352 | 4215 | #10 Triplex | | |
| 55194 | 4215J HF | #11 Triplex | | |
| 55198 | 4215J HF | #12 Triplex | | |
| 55353 | 4215 | #13 Triplex | | |
| 55354 | 4215 | #15 Triplex | | |
| 57345 | 4215J HF | #15 Triplex | | |
| 55355 | 4215 | #16 Triplex | | |

BUTTERWORTH/GARDER DENVER UPGRADES

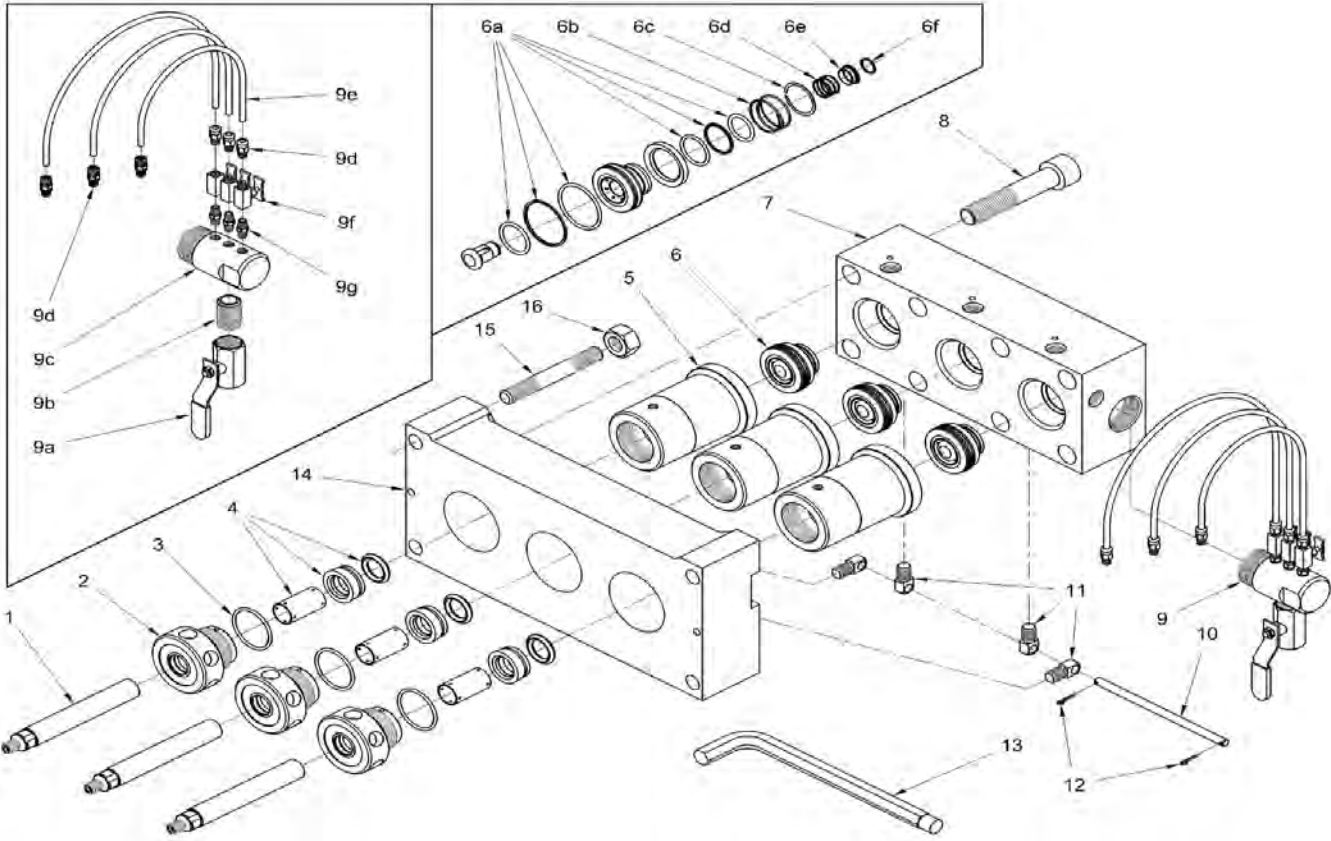
MODEL 3015B

UNx™ FLUID END UPGRADE

BUTTERWORTH | GARDNER-DENVER

T-300, L-300, L-74, I-300, PT-33 PUMPS

PUMPS &
FLUID ENDS



FLUID END SPECS

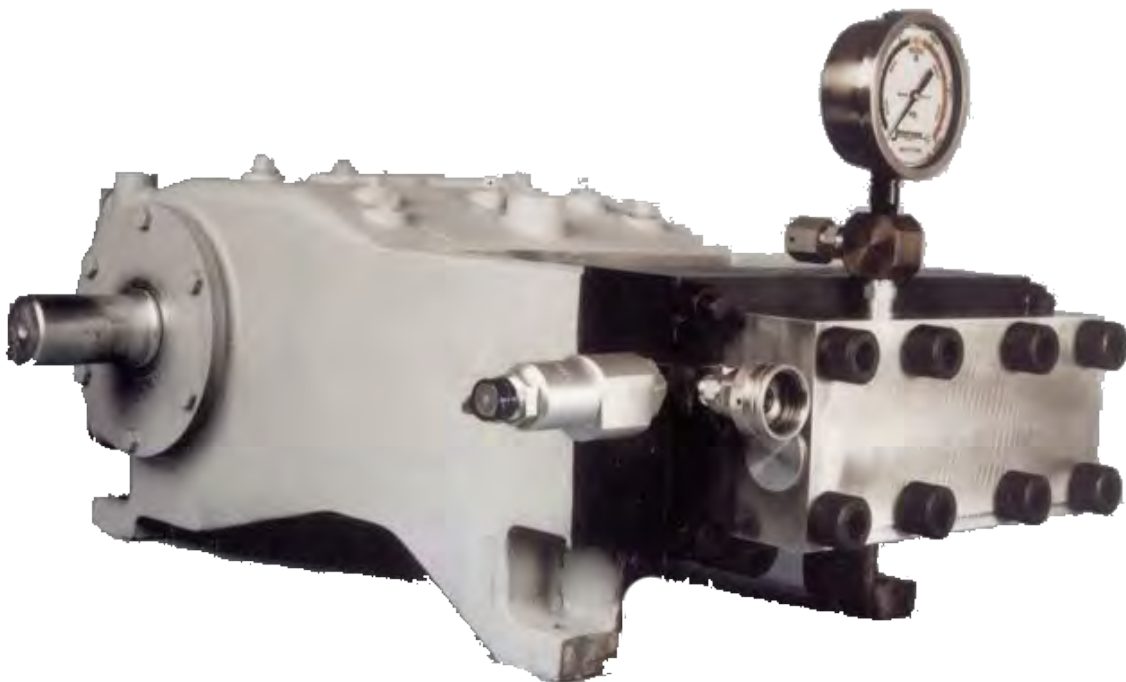
| PART NO. | PLUNGER SIZE | | CONNECTION TYPES | | | PUMP DISPLACEMENT AT SPECIFIED PUMP SPEEDS* | | | | | | | | MAX. OPERATING PRESSURE | | |
|----------|--------------|----------|------------------|-----------------|-----------------|---|------|---------|------|---------|------|---------|------|-------------------------|--------|------|
| | NO. | DIAMETER | | | | 200 RPM | | 300 RPM | | 400 RPM | | 500 RPM | | | | |
| | | in | mm | TOP PORTS | DISCHARGE PORTS | SUPPLY PORT | gpm | lpm | gpm | lpm | gpm | lpm | gpm | lpm | psi | bar |
| 51700 | 7 | .735 | 18.67 | 1/2" NPT Female | 1/2" NPT Female | 1 - 1/2" NPT Female | 5.0 | 19 | 6.6 | 25 | 8.3 | 31 | 9.9 | 37 | 15,000 | 1034 |
| 51705 | 8 | .800 | 20.32 | | | | 5.9 | 22 | 7.8 | 30 | 9.8 | 37 | 11.8 | 45 | 12,500 | 861 |
| 51710 | 9 | .900 | 22.86 | | | | 7.4 | 28 | 9.9 | 38 | 12.4 | 47 | 14.9 | 56 | 10,000 | 689 |
| 51715 | 10 | 1.000 | 25.40 | | | | 9.2 | 35 | 12.2 | 46 | 15.3 | 58 | 18.4 | 70 | 8,000 | 551 |
| 52290 | 11 | 1.125 | 28.50 | | | | 11.6 | 44 | 15.5 | 59 | 19.4 | 73 | 23.2 | 88 | 6,000 | 413 |

* Displacement (flow) values represented refer to "theoretical" flow, neglecting inefficiency resulting from compressibility of water and expansion of pressure bearing components. Performance data is based on power end specifications published by the original equipment manufacturer; however, some power ends may differ from those used to determine the values above. Contact a Jetstream Solutions Provider for help with fluid end selection.

PART BREAKDOWN

| ITEM | PART NO. | DESCRIPTION | ITEM | PART NO. | DESCRIPTION |
|-------|----------|------------------------|---------------------|-----------|----------------------|
| 1 | 51690 | #7 Plunger | 6c | 26470 | Retaining Ring |
| | 51696 | #8 Plunger | 6d | 26472 | Suction Valve Spring |
| | 51667 | #9 Plunger | 6e | 51664 | Spring Retainer |
| | 51694 | #10 Plunger | 6f | 26474 | Retaining Ring |
| | 52983 | #11 Plunger | 7 | 51672 | Manifold |
| 2 | 51617 | #7 Gland Nut | 8 | 26462 | Manifold Bolt |
| | 51619 | #8 Gland Nut | 9 | 51695 | Lube Harness |
| | 51621 | #9 Gland Nut | 9a | 27101 | Ball Valve |
| | 51623 | #10 Gland Nut | 9b | 25946 | Nipple |
| | 52231 | #11 Gland Nut | 9c | 53242 | Lube Manifold |
| 3 | 56416 | O-Ring | 9d | 27732 | Hose Fitting |
| | 51689 | #7 Packing Set | 9e | 27740 | Hose (Order in feet) |
| 4 | 51691 | #8 Packing Set | 9f | 27475 | Needle Valve |
| | 51674 | #9 Packing Set | 9g | 26465 | Nipple |
| | 51697 | #10 Packing Set | 10 | 51666 | Trunnion Rod |
| | 52233 | #11 Packing Set | 11 | 51659 | Trunnion |
| | 5 | 51611 | #7, #8 Stuffing Box | 12 | 26468 |
| 51671 | | #9, #10 Stuffing Box | 13 | 50064 | Pump Wrench |
| 52232 | | #11 Stuffing Box | 14 | 51673 | Adapter Plate |
| 6 | 51675 | Uni-Valve | 15 | 26473 | Adapter Plate Stud |
| 6a | 50034 | Uni-Valve Seal Kit | 16 | 25706 | Adapter Plate Nut |
| 6b | 26476 | Discharge Valve Spring | 17* | 62171-GRN | Manifold Decal |

*Not shown.



PUMPS &
FLUID ENDS

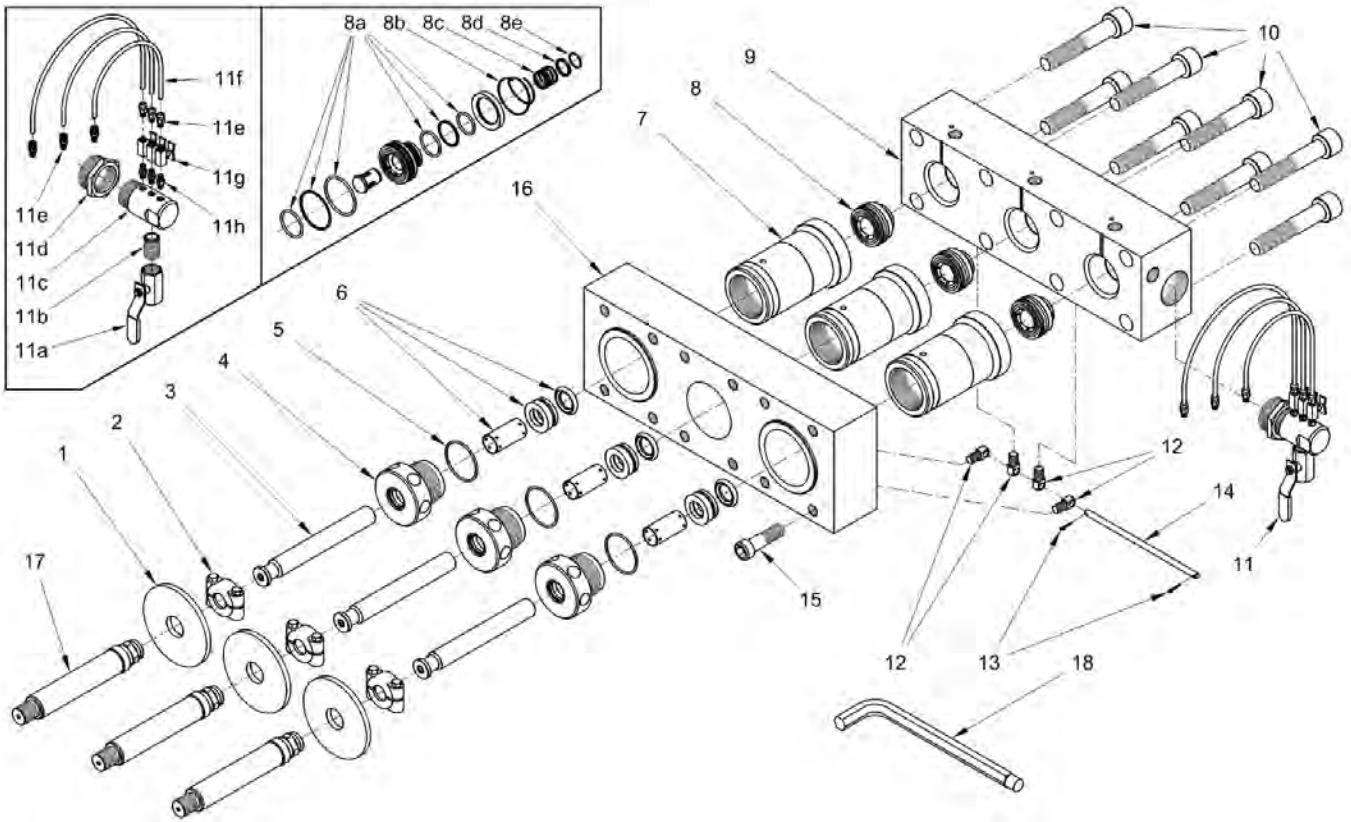
MODEL 3715B

UNx™ FLUID END UPGRADE

BUTTERWORTH | GARDNER-DENVER

L-375, T-375, I-375, TF-375, L-130, TX-375, TX-3750H PUMPS

PUMPS &
FLUID ENDS



FLUID END SPECS

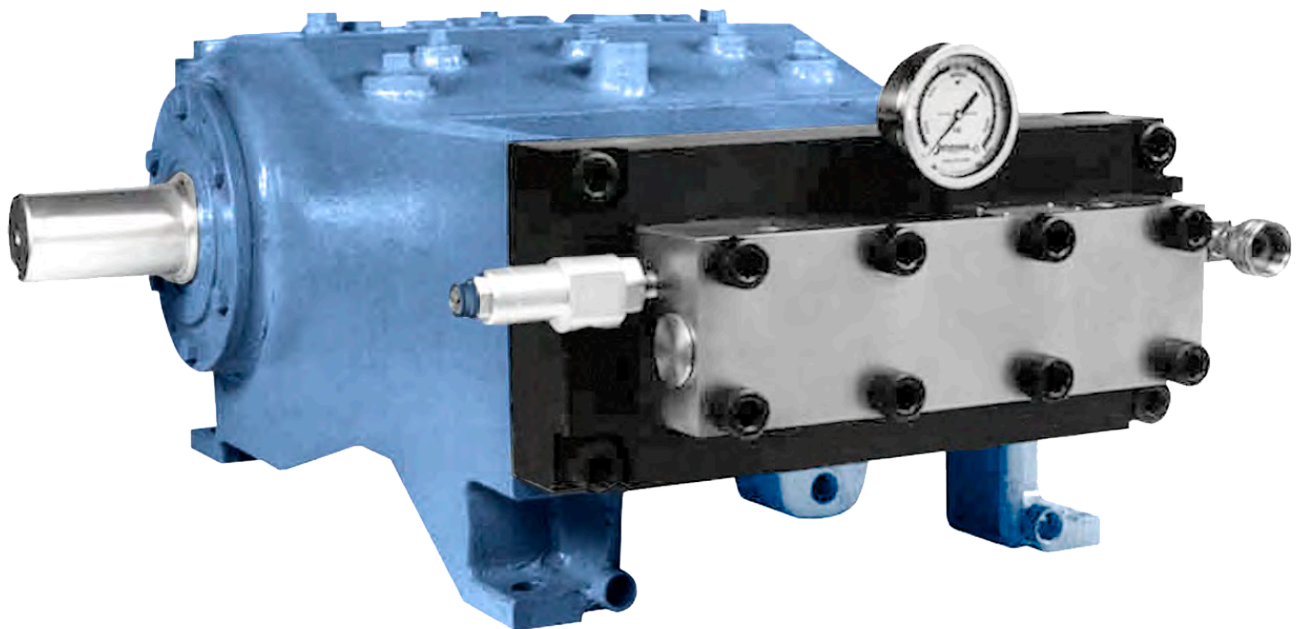
| PART NO. | PLUNGER SIZE | | CONNECTION TYPES | | | PUMP DISPLACEMENT AT SPECIFIED PUMP SPEEDS* | | | | | | | | MAX. OPERATING PRESSURE | | |
|----------|--------------|----------|------------------|-----------------|-----------------|---|---------|-----|---------|-----|---------|-----|---------|-------------------------|--------|------|
| | NO. | DIAMETER | | TOP PORTS | DISCHARGE PORTS | SUPPLY PORT | 300 RPM | | 400 RPM | | 500 RPM | | 575 RPM | | psi | bar |
| | | in | mm | | | | gpm | lpm | gpm | lpm | gpm | lpm | gpm | lpm | | |
| 52225 | 9 | .900 | 22.86 | 3/4" NPT Female | 1/2" NPT Female | 2" NPT Female | 9.3 | 35 | 12.4 | 47 | 15.5 | 59 | 17.8 | 67 | 15,000 | 1034 |
| 52230 | #0 | .980 | 24.89 | | | | 11.0 | 42 | 14.7 | 56 | 18.4 | 70 | 21.1 | 80 | 12,500 | 861 |
| 52235 | 11 | 1.100 | 27.94 | | | | 13.9 | 53 | 18.5 | 70 | 23.2 | 88 | 26.6 | 101 | 10,000 | 689 |
| 52240 | 12 | 1.200 | 30.48 | | | | 16.5 | 63 | 22.0 | 83 | 27.6 | 104 | 31.7 | 120 | 8,000 | 551 |
| 52245 | 13 | 1.335 | 33.91 | | | | 20.5 | 77 | 27.3 | 103 | 34.1 | 129 | 39.2 | 148 | 6,000 | 413 |

* Displacement (flow) values represented refer to "theoretical" flow, neglecting inefficiency resulting from compressibility of water and expansion of pressure bearing components. Performance data is based on power end specifications published by the original equipment manufacturer; however, some power ends may differ from those used to determine the values above. Contact a Jetstream Solutions Provider for help with fluid end selection.

PART BREAKDOWN

| ITEM | PART NO. | DESCRIPTION | ITEM | PART NO. | DESCRIPTION |
|------|----------|---------------------------|------|-----------|----------------------|
| 1 | 26487 | Deflector | 8c | 25059 | Suction Valve Spring |
| 2 | 51736 | Plunger Coupling | 8d | 50303 | Spring Retainer |
| 3 | 51808 | #9 Plunger | 8e | 25255 | Retaining Ring |
| | 51721 | #10 Plunger | 9 | 52194 | Manifold |
| | 51722 | #11 Plunger | 10 | 25607 | Manifold Bolt |
| | 51723 | #12 Plunger | 11 | 51955 | Lube Harness |
| | 51724 | #13 Plunger | 11a | 27101 | Ball Valve |
| 4 | 51809 | #9 Gland Nut | 11b | 25946 | Nipple |
| | 51647 | #10 Gland Nut | 11c | 53242 | Lube Manifold |
| | 51651 | #11 Gland Nut | 11d | 26802 | Reducing Bushing |
| | 51707 | #12 Gland Nut | 11e | 27732 | Hose Fitting |
| | 51744 | #13 Gland Nut | 11f | 27740 | Hose (Order in feet) |
| 5 | 26387 | O-Ring | 11g | 27475 | Needle Valve |
| | 51802 | #9 Packing Set | 11h | 26465 | Nipple |
| | 50658 | #10 Packing Set | 12 | 51659 | Trunnion |
| 6 | 50659 | #11 Packing Set | 13 | 26468 | Cotter Pin |
| | 50660 | #12 Packing Set | 14 | 50295 | Trunnion Rod |
| | 50661 | #13 Packing Set | 15 | 26220 | Adapter Plate Bolt |
| 7 | 50297 | #9, #10, #11 Stuffing Box | 16 | 52197 | Adapter Plate |
| | 50299 | #12, #13 Stuffing Box | 17 | 52196 | Plunger Adapter |
| 8 | 50365 | Uni-Valve | 18 | 50889 | Pump Wrench |
| 8a | 50370 | Uni-Valve Seal Kit | 19* | 62171-GRN | Manifold Decal |
| 8b | 25060 | Discharge Valve Spring | | | |

*Not shown.

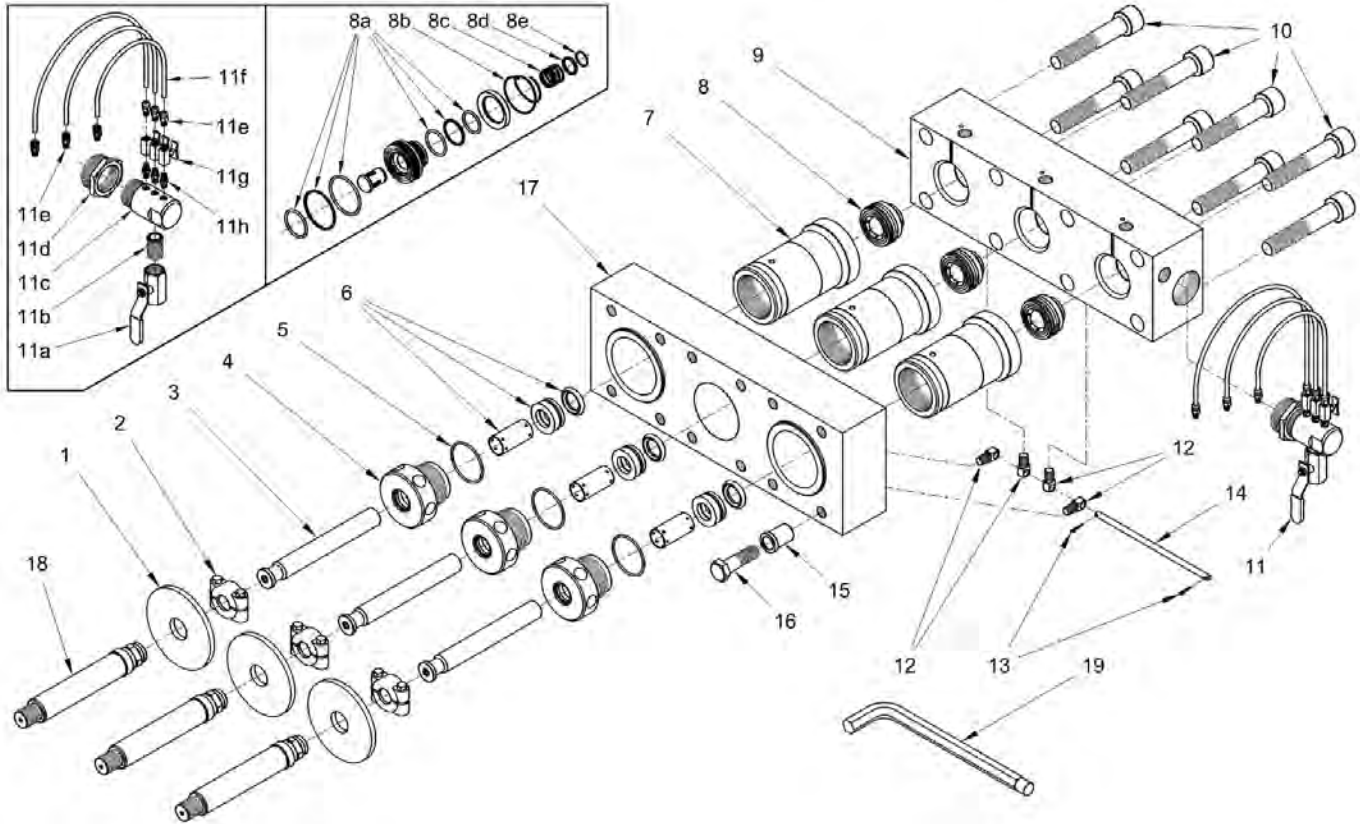


PUMPS &
FLUID ENDS

MODEL 4015B

UNx™ FLUID END UPGRADE BUTTERWORTH | GARDNER-DENVER L-77 PUMP

PUMPS &
FLUID ENDS



FLUID END SPECS

| PART NO. | PLUNGER SIZE | | CONNECTION TYPES | | | PUMP DISPLACEMENT AT SPECIFIED PUMP SPEEDS* | | | | | | | | MAX. OPERATING PRESSURE | | |
|----------|--------------|----------|------------------|-----------------|-----------------|---|---------|-----|---------|-----|---------|-----|---------|-------------------------|--------|------|
| | NO. | DIAMETER | | TOP PORTS | DISCHARGE PORTS | SUPPLY PORT | 200 RPM | | 300 RPM | | 400 RPM | | 500 RPM | | psi | bar |
| | | in | mm | | | | gpm | lpm | gpm | lpm | gpm | lpm | gpm | lpm | | |
| 51950 | 9 | .900 | 22.86 | 3/4" NPT Female | 1/2" NPT Female | 2" NPT Female | 6.6 | 25 | 9.9 | 38 | 13.2 | 50 | 16.5 | 63 | 15,000 | 1034 |
| 51865 | 10 | .980 | 24.89 | | | | 11.8 | 45 | 15.7 | 59 | 19.6 | 74 | 19.6 | 74 | 12,500 | 861 |
| 51870 | 11 | 1.100 | 27.94 | | | | 14.8 | 56 | 19.8 | 75 | 24.7 | 93 | 24.7 | 93 | 10,000 | 689 |
| 51875 | 12 | 1.200 | 30.48 | | | | 17.6 | 67 | 23.5 | 89 | 29.4 | 111 | 29.2 | 111 | 8,000 | 551 |
| 51880 | 13 | 1.335 | 33.91 | | | | 21.8 | 83 | 29.1 | 110 | 36.4 | 138 | 36.4 | 138 | 6,000 | 413 |

* Displacement (flow) values represented refer to "theoretical" flow, neglecting inefficiency resulting from compressibility of water and expansion of pressure bearing components. Performance data is based on power end specifications published by the original equipment manufacturer; however, some power ends may differ from those used to determine the values above. Contact a Jetstream Solutions Provider for help with fluid end selection.

PART BREAKDOWN

| ITEM | PART NO. | DESCRIPTION | ITEM | PART NO. | DESCRIPTION |
|------|----------|---------------------------|------|----------|----------------------|
| 1 | 26487 | Deflector | 8c | 25059 | Suction Valve Spring |
| 2 | 51736 | Plunger Coupling | 8d | 50303 | Spring Retainer |
| 3 | 51808 | #9 Plunger | 8e | 25255 | Retaining Ring |
| | 51721 | #10 Plunger | 9 | 51288 | Manifold |
| | 51722 | #11 Plunger | 10 | 25607 | Manifold Bolt |
| | 51723 | #12 Plunger | 11 | 51955 | Lube Harness |
| | 51724 | #13 Plunger | 11a | 27101 | Ball Valve |
| 4 | 51809 | #9 Gland Nut | 11b | 25946 | Nipple |
| | 51647 | #10 Gland Nut | 11c | 53242 | Lube Manifold |
| | 51651 | #11 Gland Nut | 11d | 26802 | Reducing Bushing |
| | 51707 | #12 Gland Nut | 11e | 27732 | Hose Fitting |
| | 51744 | #13 Gland Nut | 11f | 27740 | Hose (Order in feet) |
| 5 | 26387 | O-Ring | 11g | 27475 | Needle Valve |
| 6 | 51802 | #9 Packing Set | 11h | 26465 | Nipple |
| | 50658 | #10 Packing Set | 12 | 51659 | Trunnion |
| | 50659 | #11 Packing Set | 13 | 26468 | Cotter Pin |
| | 50660 | #12 Packing Set | 14 | 50295 | Trunnion Rod |
| | 50661 | #13 Packing Set | 15 | 50115 | Adapter Plate Spacer |
| 7 | 50297 | #9, #10, #11 Stuffing Box | 16 | 26494 | Adapter Plate Bolt |
| | 50299 | #12, #13 Stuffing Box | 17 | 51287 | Adapter Plate |
| 8 | 50365 | Uni-Valve | 18 | 51556 | Plunger Adapter |
| 8a | 50370 | Uni-Valve Seal Kit | 19 | 50889 | Pump Wrench |
| 8b | 25060 | Discharge Valve Spring | | | |

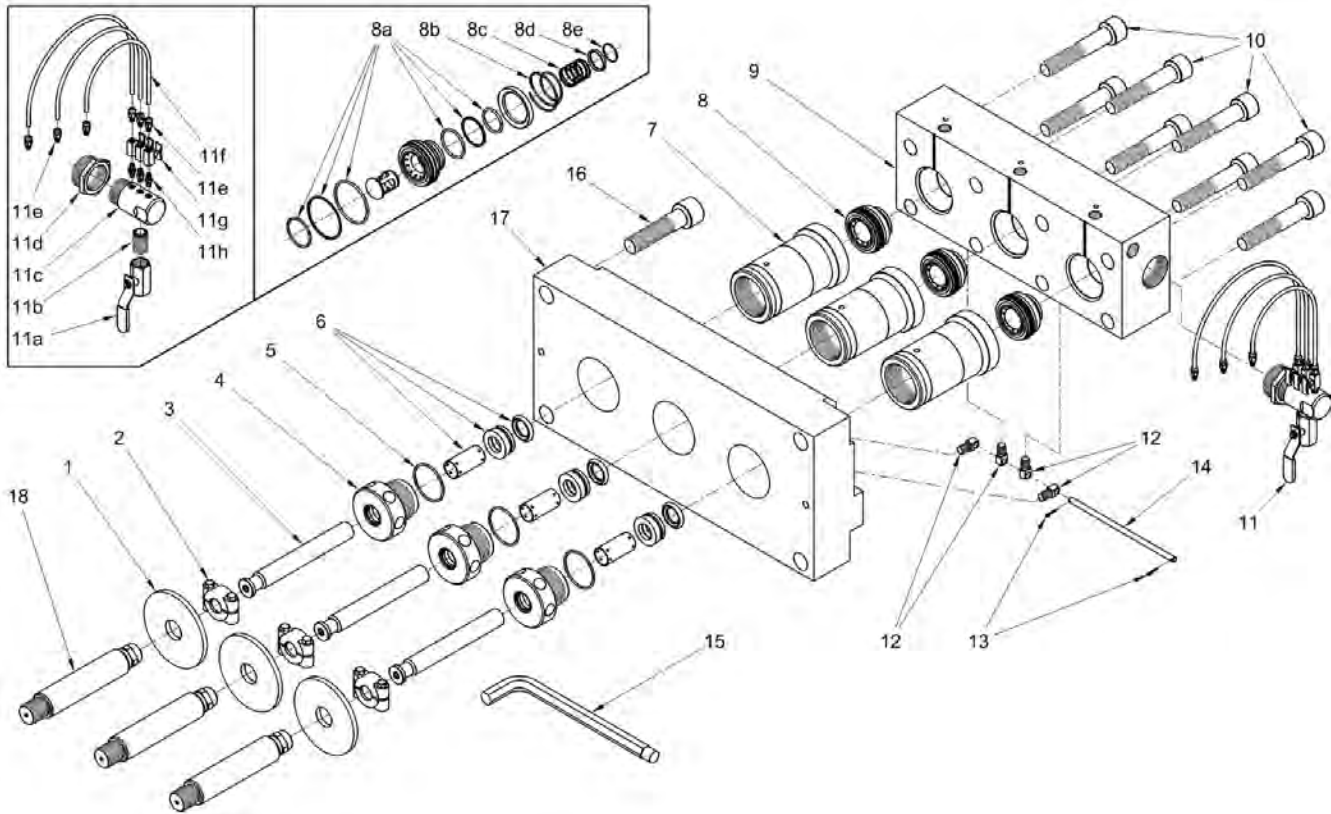
PUMPS &
FLUID ENDS



MODEL 4515B

UNx™ FLUID END UPGRADE
 BUTTERWORTH | GARDNER-DENVER
 L-450, T-450, TF-450, L-200 PUMPS

PUMPS &
 FLUID ENDS



FLUID END SPECS

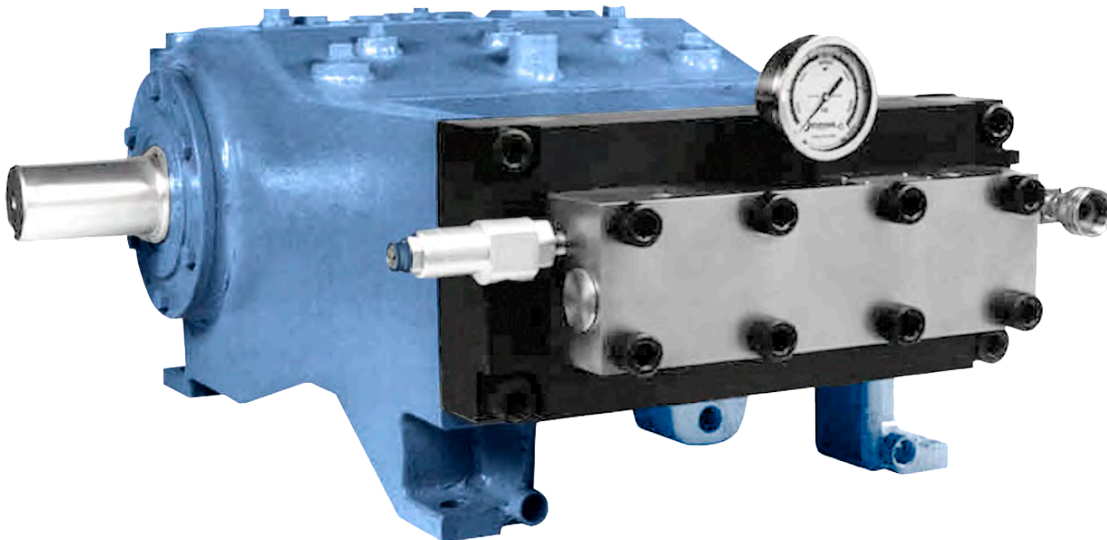
| PART NO. | PLUNGER SIZE | | CONNECTION TYPES | | | PUMP DISPLACEMENT AT SPECIFIED PUMP SPEEDS* | | | | | | | | MAX. OPERATING PRESSURE | | |
|----------|--------------|----------|------------------|-----------------|-----------------|---|---------|------|---------|------|---------|-------|---------|-------------------------|--------|------|
| | NO. | DIAMETER | | TOP PORTS | DISCHARGE PORTS | SUPPLY PORT | 200 RPM | | 300 RPM | | 400 RPM | | 500 RPM | | psi | bar |
| | | in | mm | | | | gpm | lpm | gpm | lpm | gpm | lpm | gpm | lpm | | |
| 51840 | 10 | .980 | 24.89 | 3/4" NPT Female | 1/2" NPT Female | 2" NPT Female | 8.8 | 33 | 13.2 | 50 | 17.6 | 67 | 22.1 | 84 | 15,000 | 1034 |
| 51845 | 11 | 1.10 | 27.94 | | | | 11.1 | 42 | 16.7 | 63 | 22.2 | 84 | 27.8 | 105 | 15,000 | 1034 |
| 51850 | 12 | 1.200 | 30.48 | | | | 13.2 | 50 | 19.8 | 75 | 26.4 | 100 | 33.1 | 125 | 15,000 | 1034 |
| 51855 | 13 | 1.335 | 33.91 | | | | 16.4 | 62 | 24.6 | 93 | 32.7 | 124 | 40.9 | 155 | 12,000 | 827 |
| 51860 | 15 | 1.500 | 38.10 | | | | 20.7 | 78 | 31.0 | 117 | 41.3 | 156 | 51.7 | 196 | 10,000 | 689 |
| J55775 | 16 | 1.670 | 42.42 | 25.6 | 97 | 38.4 | 145 | 51.2 | 194 | 64.0 | 242 | 8,000 | 551 | | | |

* Displacement (flow) values represented refer to "theoretical" flow, neglecting inefficiency resulting from compressibility of water and expansion of pressure bearing components. Performance data is based on power end specifications published by the original equipment manufacturer; however, some power ends may differ from those used to determine the values above. Contact a Jetstream Solutions Provider for help with fluid end selection.

PART BREAKDOWN

| ITEM | PART NO. | DESCRIPTION | ITEM | PART NO. | DESCRIPTION |
|------|----------|------------------------------|------|----------|------------------------|
| 1 | 26487 | Deflector | 8 | 52870 | Uni-Valve |
| 2 | 51736 | Plunger Coupling | 8a | 52875 | Uni-Valve Seal Kit |
| 3 | 51721 | #10 Plunger | 8b | 27119 | Discharge Valve Spring |
| | 51722 | #11 Plunger | 8c | 27118 | Suction Valve Spring |
| | 51723 | #12 Plunger | 8d | 52879 | Spring Retainer |
| | 51724 | #13 Plunger | 8e | 52878 | Retaining Ring |
| | 51726 | #15 Plunger | 9 | 52866 | Manifold |
| | 53314 | #16 Plunger | 10 | 25607 | Manifold Bolt |
| 4 | 51647 | #10 Gland Nut | 11 | 51955 | Lube Harness |
| | 51651 | #11 Gland Nut | 11a | 27101 | Ball Valve |
| | 51707 | #12 Gland Nut | 11b | 25946 | Nipple |
| | 51744 | #13 Gland Nut | 11c | 53242 | Lube Manifold |
| | 51746 | #15 Gland Nut | 11d | 26802 | Reducing Bushing |
| | 53316 | #16 Gland Nut | 11e | 27732 | Hose Fitting |
| 5 | 26387 | O-Ring (#9 to #15 Gland Nut) | 11f | 27740 | Hose (Order in feet) |
| | 26930 | O-Ring (#16 Gland Nut) | 11g | 27475 | Needle Valve |
| 6 | 50658 | #10 Packing Set | 11h | 26465 | Nipple |
| | 50659 | #11 Packing Set | 12 | 51659 | Trunnion |
| | 50660 | #12 Packing Set | 13 | 26468 | Cotter Pin |
| | 50661 | #13 Packing Set | 14 | 50295 | Trunnion Rod |
| | 50662 | #15 Packing Set | 15 | 50889 | Pump Wrench |
| | 53321 | #16 Packing Set | 16 | 26212 | Adapter Plate Bolt |
| 7 | 52869 | #10, #11 Stuffing Box | 17 | 51714 | Adapter Plate |
| | 52871 | #12, #13, #15 Stuffing Box | 18 | 51719 | Crosshead Stub |
| | J55773 | #16 Stuffing Box | | | |

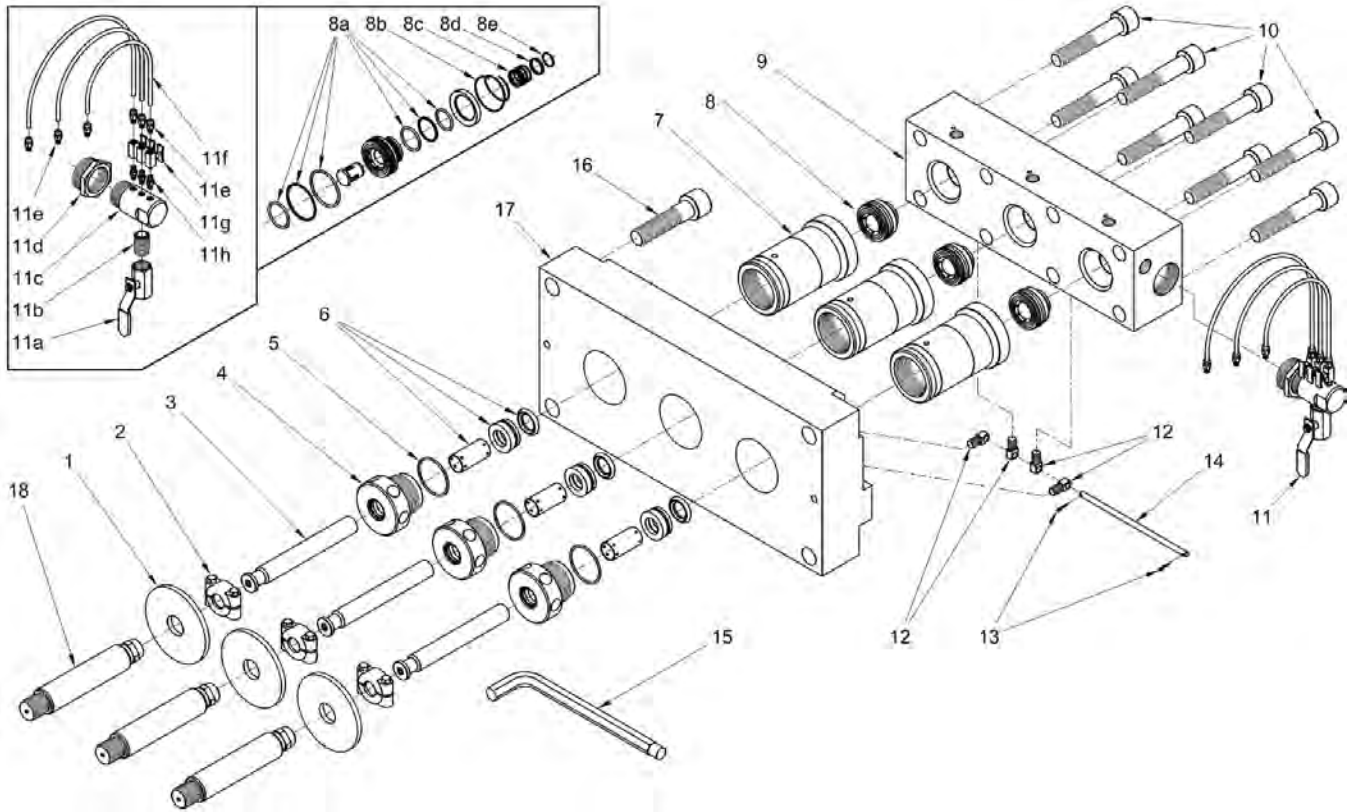
NOTE: Parts listed on this page are for current 4515B fluid end models. For first generation fluid end models, which utilize different stuffing boxes, valves, and manifold, see the following page. Models can be most easily distinguished by the part number stamped on the top face of the fluid end manifold. Current models use manifold part number 52866 while first generation fluid ends use manifold part number 51718.



MODEL 4515B (GEN 1)

UNx™ FLUID END UPGRADE
BUTTERWORTH | GARDNER-DENVER
L-450, T-450, TF-450, L-200 PUMPS

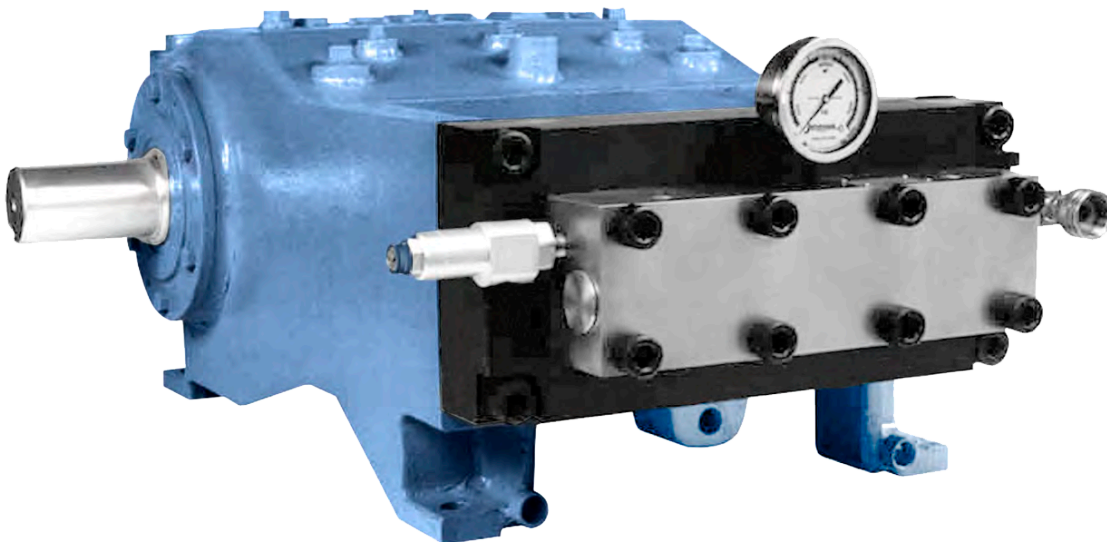
PUMPS &
FLUID ENDS



PART BREAKDOWN

| ITEM | PART NO. | DESCRIPTION | ITEM | PART NO. | DESCRIPTION |
|------|----------|----------------------------|------|----------|------------------------|
| 1 | 26487 | Deflector | 8b | 25060 | Discharge Valve Spring |
| 2 | 51736 | Plunger Coupling | 8c | 25059 | Suction Valve Spring |
| 3 | 51721 | #10 Plunger | 8d | 50303 | Spring Retainer |
| | 51722 | #11 Plunger | 8e | 25255 | Retaining Ring |
| | 51723 | #12 Plunger | 9 | 51718 | Manifold |
| | 51724 | #13 Plunger | 10 | 25607 | Manifold Bolt |
| | 51726 | #15 Plunger | 11 | 51955 | Lube Harness |
| 4 | 51647 | #10 Gland Nut | 11a | 27101 | Ball Valve |
| | 51651 | #11 Gland Nut | 11b | 25946 | Nipple |
| | 51707 | #12 Gland Nut | 11c | 53242 | Lube Manifold |
| | 51744 | #13 Gland Nut | 11d | 26802 | Reducing Bushing |
| | 51746 | #15 Gland Nut | 11e | 27732 | Hose Fitting |
| 5 | 26387 | O-Ring | 11f | 27740 | Hose (Order in feet) |
| | 50658 | #10 Packing Set | 11g | 27475 | Needle Valve |
| | 50659 | #11 Packing Set | 11h | 26465 | Nipple |
| 6 | 50660 | #12 Packing Set | 12 | 51659 | Trunnion |
| | 50661 | #13 Packing Set | 13 | 26468 | Cotter Pin |
| | 50662 | #15 Packing Set | 14 | 50295 | Trunnion Rod |
| | 51716 | #10, #11 Stuffing Box | 15 | 50889 | Pump Wrench |
| 7 | 51717 | #12, #13, #15 Stuffing Box | 16 | 26212 | Adapter Plate Bolt |
| 8 | 50365 | Uni-Valve | 17 | 51714 | Adapter Plate |
| 8a | 50370 | Uni-Valve Seal Kit | 18 | 51719 | Crosshead Stud |

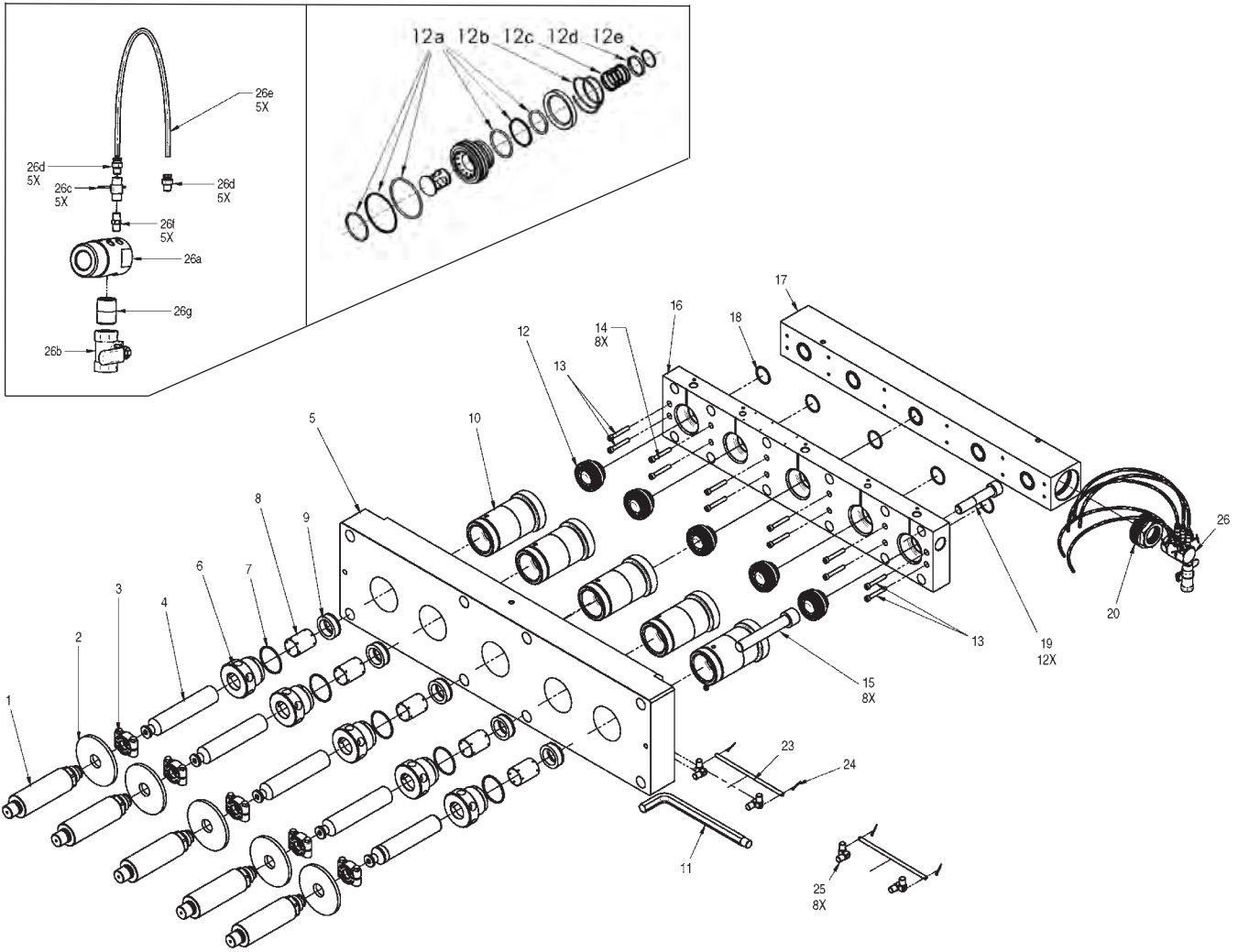
NOTE: Parts listed on this page are for first generation 4515B fluid end models no longer sold. These models utilize different stuffing boxes, valves, and manifold than the current design. Models can be most easily distinguished by the part number stamped on the top face of the fluid end manifold. Current models use manifold part number 52866 while first generation fluid ends featured on this page use manifold part number 51718.



MODEL 4515BQ

UNx™ FLUID END UPGRADE BUTTERWORTH | GARDNER-DENVER QF450S PUMP

PUMPS &
FLUID ENDS



FLUID END SPECS

| PART NO. | PLUNGER SIZE NO. | DIAMETER | | | CONNECTION TYPES | | | PUMP DISPLACEMENT AT SPECIFIED PUMP SPEEDS* | | | | | MAX. OPERATING PRESSURE | |
|----------|---------------------|----------|-------|-----------------|------------------|---------------|---------|---|---------|-----|---------|-----|-------------------------|-----|
| | | DIAMETER | | TOP PORTS | DISCHARGE PORTS | SUPPLY PORT | 200 RPM | | 400 RPM | | 500 RPM | | psi | bar |
| | | in | mm | | | | gpm | lpm | gpm | lpm | gpm | lpm | | |
| 67132 | 19 | 1.875 | 47.63 | 1/2" NPT Female | Jetstream HHP | 3" NPT Female | 53.8 | 204 | 107.6 | 407 | 134.5 | 509 | 7,000 | 483 |

* Displacement (flow) values represented refer to "theoretical" flow, neglecting inefficiency resulting from compressibility of water and expansion of pressure bearing components. Performance data is based on power end specifications published by the original equipment manufacturer; however, some power ends may differ from those used to determine the values above. Contact a Jetstream Solutions Provider for help with fluid end selection.

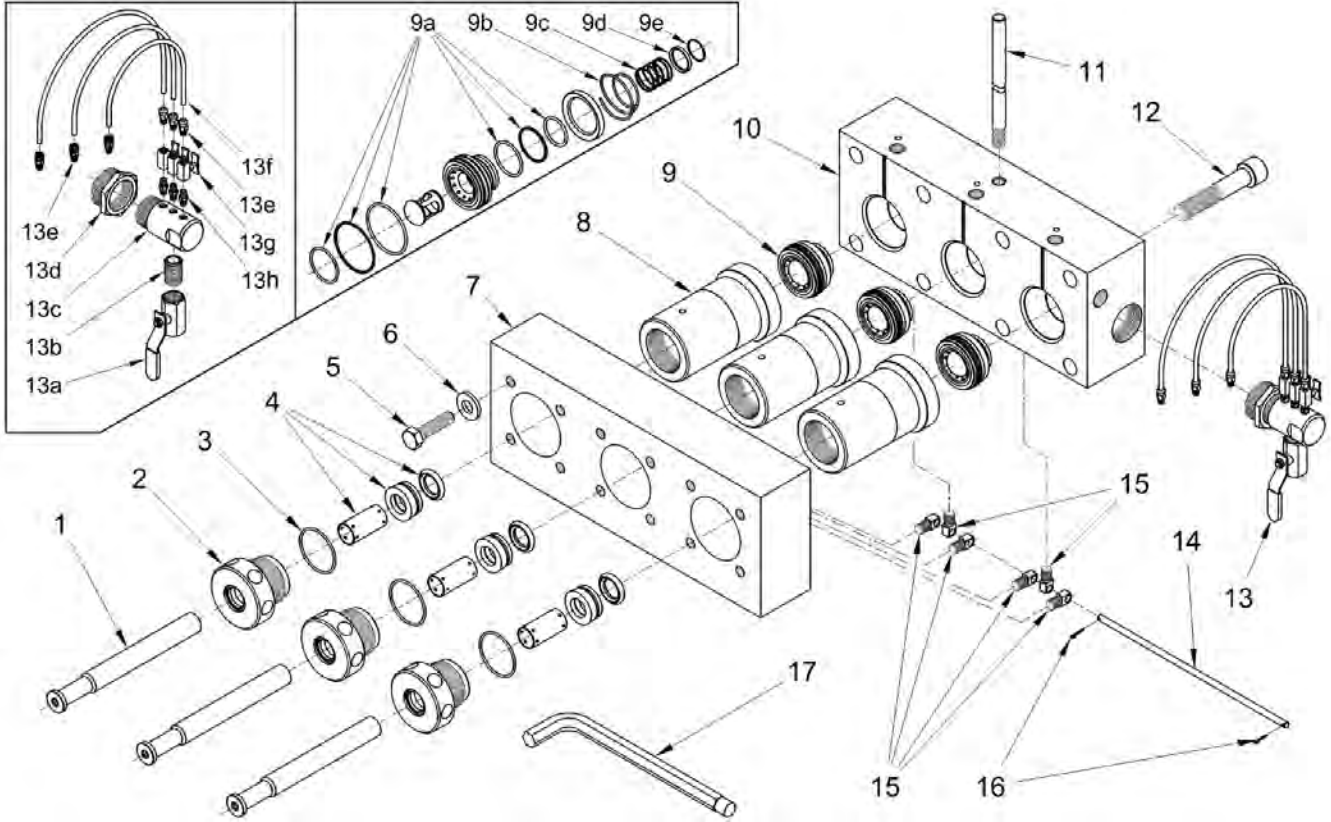
PART BREAKDOWN

| ITEM | PART NO. | DESCRIPTION | ITEM | PART NO. | DESCRIPTION |
|------|----------|------------------------|------|----------|----------------------|
| 1 | 51719 | Crosshead Stud | 14 | J70684 | Capscrew |
| 2 | 26487 | Deflector | 15 | 26212 | Adapter Plate Bolt |
| 3 | 51736 | Plunger Coupling | 16 | 67115 | Manifold |
| 4 | 67170 | #19 Plunger | 17 | 67133 | Suction Manifold |
| 5 | 67114 | Adapter Plate | 18 | 25165 | O-Ring |
| 6 | 67284 | #19 Gland Nut | 19 | 27550 | Manifold Bolt |
| 7 | 68030 | O-Ring | 20 | 67322 | Reducer Bushing |
| 8 | 67264 | #19 Bushing Guide | 23 | 50295 | Trunnion Rod |
| 9 | 67276 | #19 Packing Ring | 24 | 26468 | Cotter Pin |
| 10 | 67160 | #19 Stuffing Box | 25 | 51659 | Trunnion |
| 11 | 50889 | Pump Wrench | 26 | 67285 | Lube Harness |
| 12 | 52870 | Uni-Valve | 26a | 53793 | Lube Manifold |
| 12a | 52875 | Uni-Valve Seal Kit | 26b | 27101 | Ball Valve |
| 12b | 27119 | Discharge Valve Spring | 26c | 27475 | Needle Valve |
| 12c | 27118 | Suction Valve Spring | 26d | 26874 | Hose Fitting |
| 12d | 52879 | Spring Retainer | 26e | 26469 | Hose (Order in feet) |
| 12e | 52878 | Retaining Ring | 26f | 26465 | Nipple |
| 13 | 27551 | Capscrew | 26g | 25946 | Nipple |

MODEL 5015G

UNx™ FLUID END UPGRADE
 BUTTERWORTH | GARDNER-DENVER
 PE-5, P172 PUMPS

PUMPS &
 FLUID ENDS



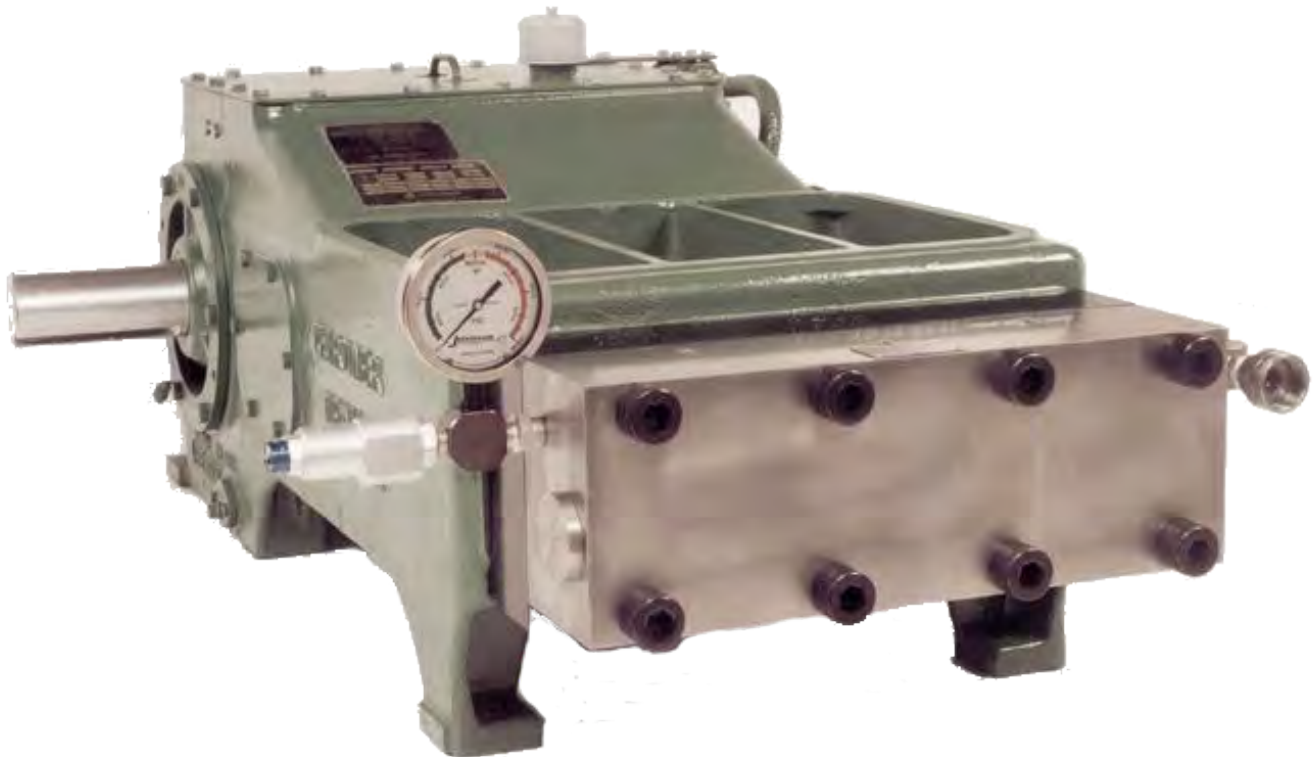
FLUID END SPECS

| PART NO. | NO. | PLUNGER SIZE | | CONNECTION TYPES | | | PUMP DISPLACEMENT AT SPECIFIED PUMP SPEEDS* | | | | | | MAX. OPERATING PRESSURE | |
|----------|-----|--------------|-------|------------------|-----------------|---------------------|---|-----|---------|-----|---------|-----|-------------------------|------|
| | | DIAMETER | | TOP PORTS | DISCHARGE PORTS | SUPPLY PORT | 150 RPM | | 200 RPM | | 300 RPM | | psi | bar |
| | | in | mm | | | | gpm | lpm | gpm | lpm | gpm | lpm | | |
| 52170 | 15 | 1.500 | 38.10 | 3/4" NPT Female | 1/2" NPT Female | 2 - 1/2" NPT Female | 17.2 | 65 | 23.0 | 87 | 23.0 | 87 | 15,000 | 1034 |

* Displacement (flow) values represented refer to "theoretical" flow, neglecting inefficiency resulting from compressibility of water and expansion of pressure bearing components. Performance data is based on power end specifications published by the original equipment manufacturer; however, some power ends may differ from those used to determine the values above. Contact a Jetstream Solutions Provider for help with fluid end selection.

PART BREAKDOWN

| ITEM | PART NO. | DESCRIPTION | ITEM | PART NO. | DESCRIPTION |
|------|----------|------------------------|------|----------|----------------------|
| 1 | 52092 | #15 Plunger | 10 | 52097 | Manifold |
| | 50378 | #17 Plunger | 11 | 52114 | Lifting Rod |
| 2 | 52121 | #15 Gland Nut | 12 | 26732 | Manifold Bolt |
| | 52122 | #17 Gland Nut | 13 | 54895 | Lube Harness |
| 3 | 26734 | O-Ring | 13a | 27101 | Ball Valve |
| 4 | 52111 | #15 Packing Set | 13b | 25946 | Nipple |
| | 52112 | #17 Packing Set | 13c | 53242 | Lube Manifold |
| 5 | 26836 | Adapter Plate Bolt | 13d | 27729 | Bushing |
| 6 | 52104 | Washer | 13e | 26874 | Hose Fitting |
| 7 | 52098 | Adapter Plate | 13f | 26469 | Hose (Order in feet) |
| 8 | 52099 | Stuffing Box | 13g | 27475 | Needle Valve |
| 9 | 52180 | Uni-Valve | 13h | 26465 | Nipple |
| 9a | 52118 | Uni-Valve Seal Kit | 14 | 52117 | Trunnion Rod |
| 9b | 26737 | Discharge Valve Spring | 15 | 51659 | Trunnion |
| 9c | 26735 | Suction Valve Spring | 16 | 26468 | Cotter Pin |
| 9d | 52102 | Spring Retainer | 17 | 50889 | Pump Wrench |
| 9e | 26733 | Retaining Ring | | | |



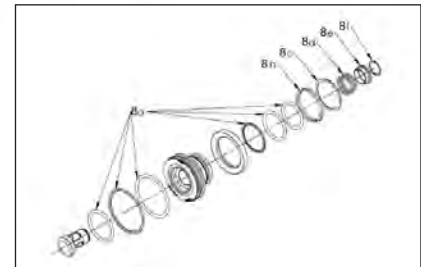
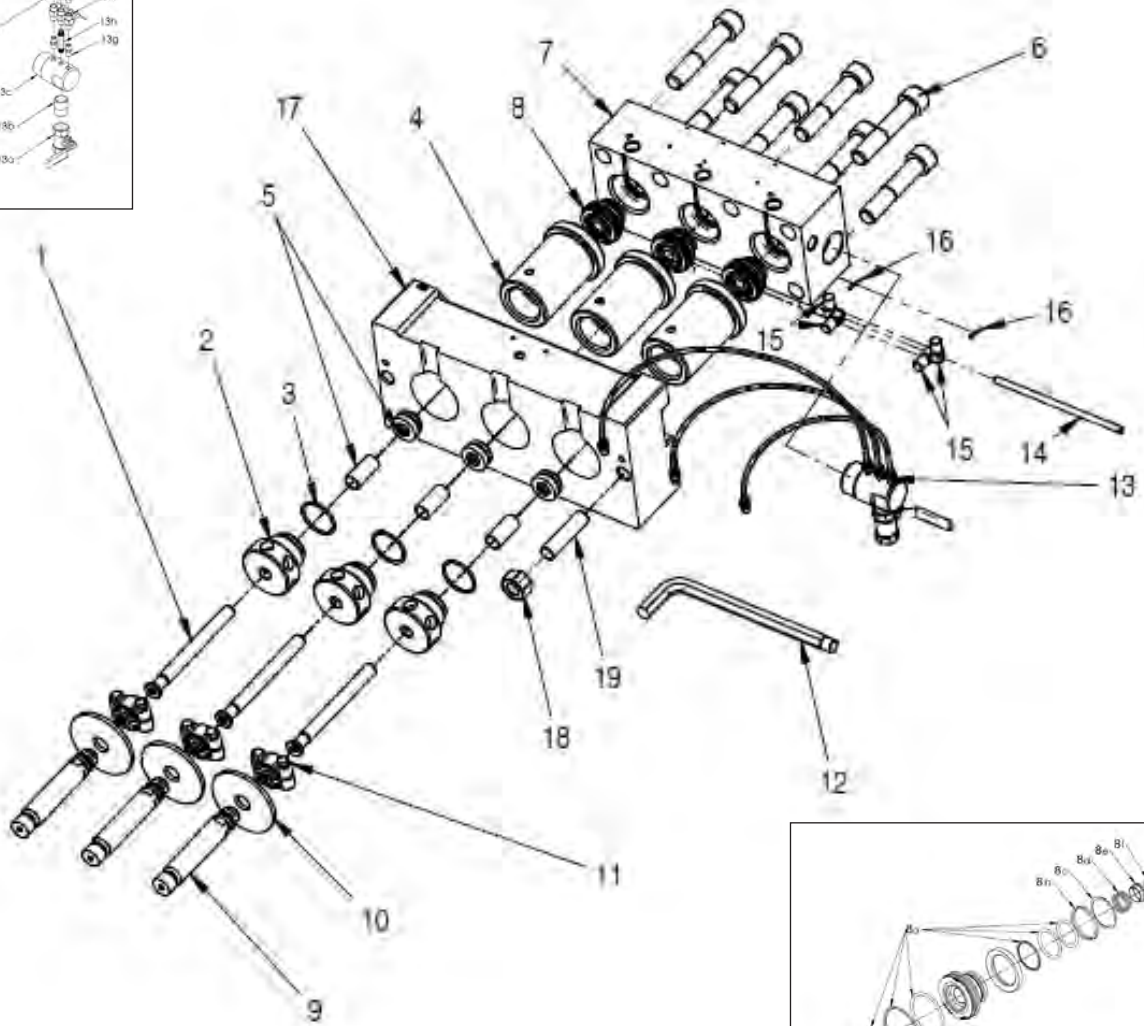
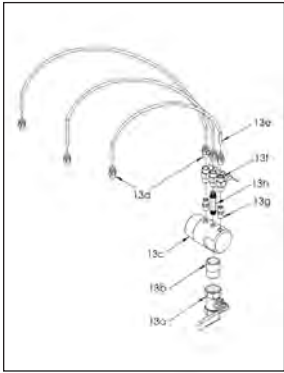


NLB UPGRADES

MODEL 3015NC

UNx™ FLUID END UPGRADE
NLB 8125, 10145, 125 SERIES PUMPS

PUMPS &
FLUID ENDS



FLUID END SPECS

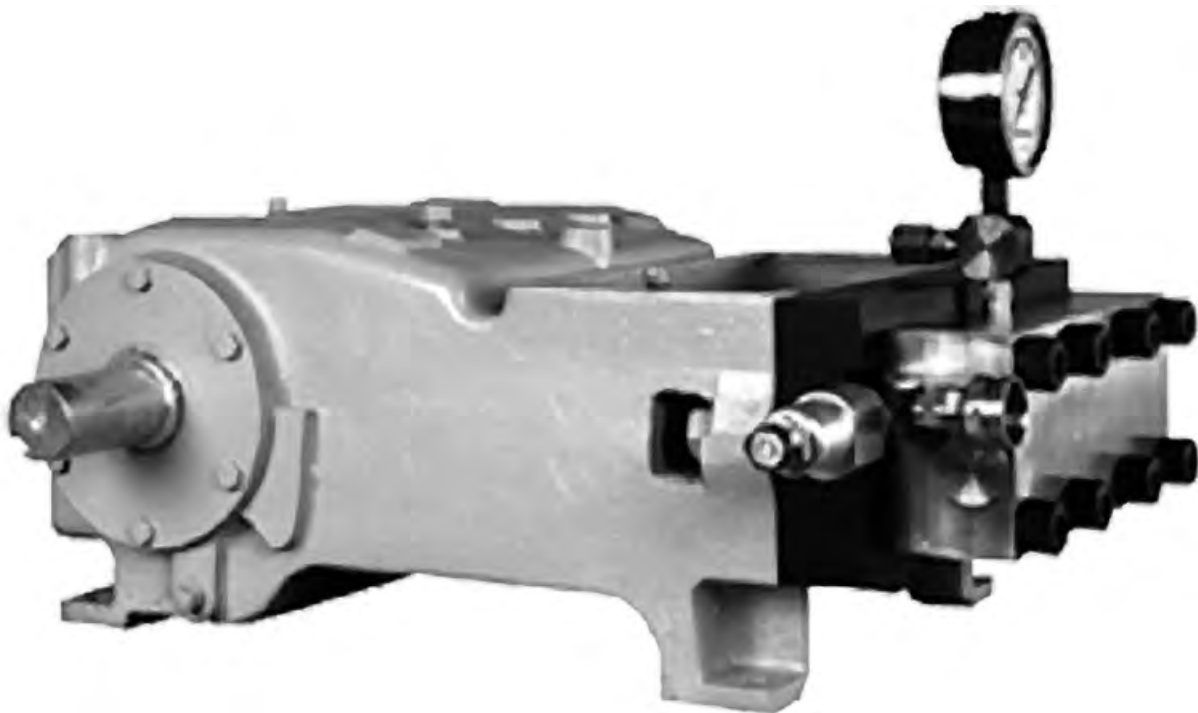
| PART NO. | PLUNGER SIZE | | CONNECTION TYPES | | | PUMP DISPLACEMENT AT SPECIFIED PUMP SPEEDS* | | | | | | | | MAX. OPERATING PRESSURE | | |
|----------|--------------|----------|------------------|-----------------|-----------------|---|---------|-----|---------|-----|---------|-----|---------|-------------------------|--------|------|
| | NO. | DIAMETER | | TOP PORTS | DISCHARGE PORTS | SUPPLY PORT | 200 RPM | | 300 RPM | | 400 RPM | | 500 RPM | | psi | bar |
| | | in | mm | | | | gpm | lpm | gpm | lpm | gpm | lpm | gpm | lpm | | |
| 67583 | 9 | .900 | 22.86 | 1/2" NPT Female | 1/2" NPT Female | 1-1/2" NPT Female | 5.0 | 19 | 7.4 | 28 | 9.9 | 38 | 12.4 | 47 | 15,000 | 1034 |

* Displacement (flow) values represented refer to "theoretical" flow, neglecting inefficiency resulting from compressibility of water and expansion of pressure bearing components. Performance data is based on power end specifications published by the original equipment manufacturer; however, some power ends may differ from those used to determine the values above. Contact a Jetstream Solutions Provider for help with fluid end selection.

PART BREAKDOWN

| ITEM | PART NO. | DESCRIPTION | ITEM | PART NO. | DESCRIPTION |
|------|----------|------------------------|------|-----------|----------------------|
| 1 | 51742 | #9 Plunger | 13 | 51970 | Lube Harness |
| 2 | 51621 | #9 Gland Nut | 13a | 27101 | Ball Valve |
| 3 | 26416 | O-Ring | 13b | 25946 | Nipple |
| 4 | 51671 | #9 Stuffing Box | 13c | 53242 | Lube Manifold |
| 5 | 51674 | #9 Packing Set | 13d | 26874 | Hose Fitting |
| 6 | 26462 | Manifold Bolt | 13e | 26469 | Hose (Order in feet) |
| 7 | 51672 | Manifold | 13f | 27475 | Needle Valve |
| 8 | 51675 | Uni-Valve | 13g | 26465 | Nipple |
| 8a | 50034 | Uni-Valve Seal Kit | 13h | 60815 | Nipple |
| 8b | 26476 | Discharge Valve Spring | 14 | 51666 | Trunnion Rod |
| 8c | 26470 | Retaining Ring | 15 | 51659 | Trunnion |
| 8d | 26472 | Suction Valve Spring | 16 | 26468 | Cotter Pin |
| 8e | 51664 | Spring Retainer | 17 | 67625 | Adapter Plate |
| 9 | 67543 | Crosshead Stud | 18 | 25864 | Adapter Plate Nut |
| 10 | 26623 | Deflector | 19 | 67838 | Adapter Plate Stud |
| 11 | 51737 | Plunger Coupling | 20* | 62171-GRN | Manifold Decal |
| 12 | 50064 | Pump Wrench | | | |

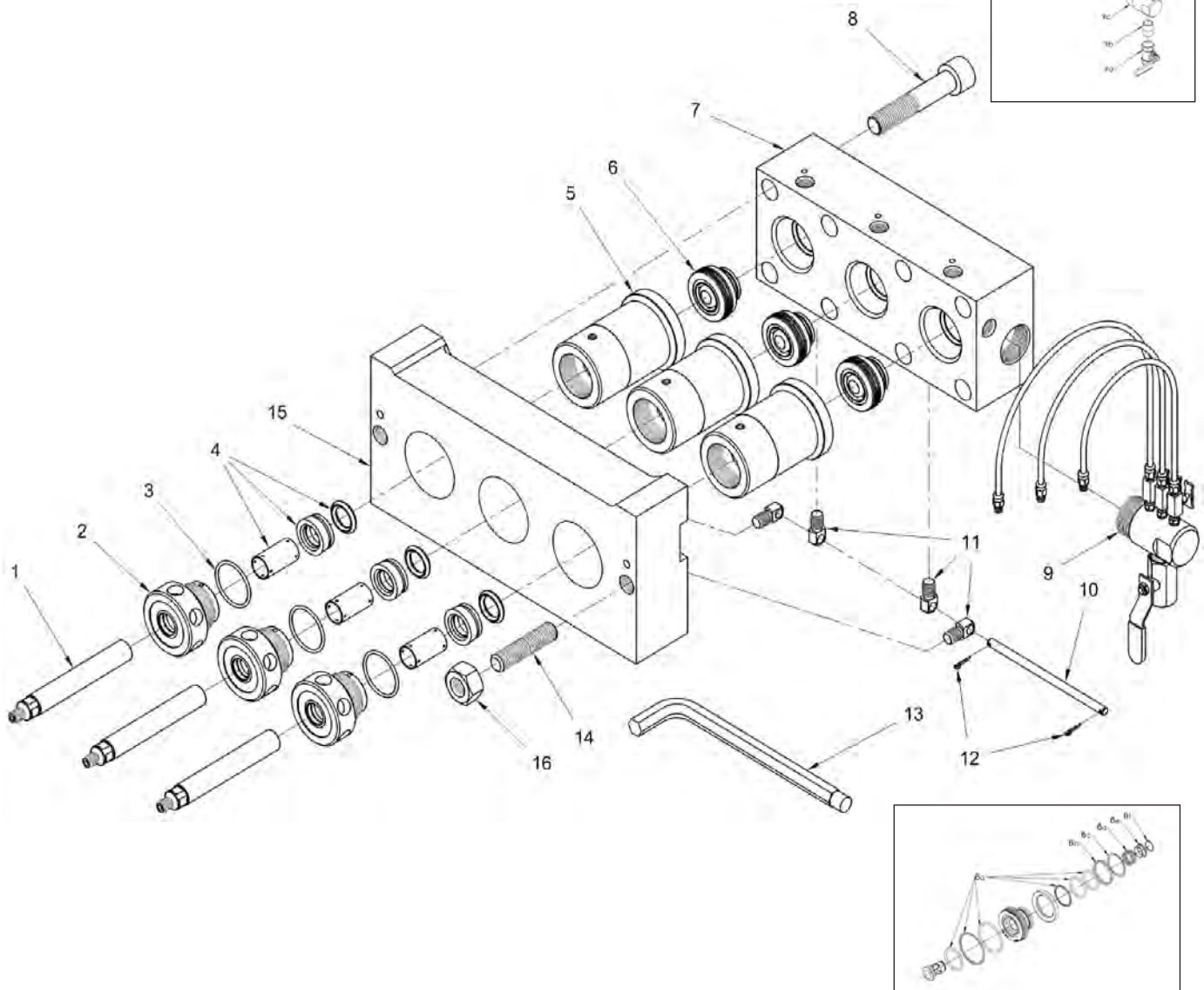
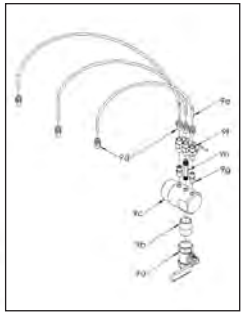
*Not shown.



MODEL 3015N

UNx™ FLUID END UPGRADE
NLB 1012C, 1012D PUMPS

PUMPS &
FLUID ENDS



FLUID END SPECS

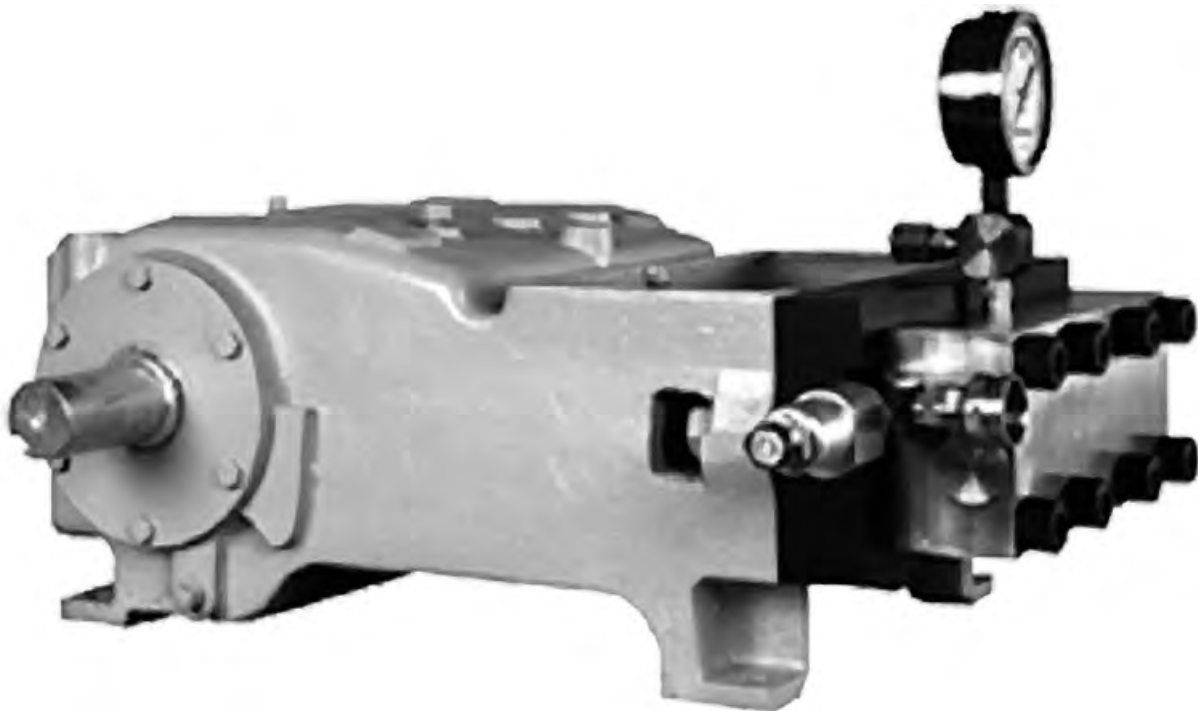
| PART NO. | PLUNGER SIZE | | CONNECTION TYPES | | | PUMP DISPLACEMENT AT SPECIFIED PUMP SPEEDS* | | | | | | | | MAX. OPERATING PRESSURE | | |
|----------|--------------|----------|------------------|-----------------|-----------------|---|---------|-----|---------|-----|---------|-----|---------|-------------------------|--------|------|
| | NO. | DIAMETER | | TOP PORTS | DISCHARGE PORTS | SUPPLY PORT | 200 RPM | | 300 RPM | | 400 RPM | | 500 RPM | | psi | bar |
| | | in | mm | | | | gpm | lpm | gpm | lpm | gpm | lpm | gpm | lpm | | |
| 51720 | 7 | .735 | 18.67 | 1/2" NPT Female | 1/2" NPT Female | 1-1/2" NPT Female | 3.3 | 13 | 5.0 | 19 | 6.6 | 25 | 8.3 | 31 | 15,000 | 1034 |
| 51725 | 8 | .800 | 20.32 | | | | 3.9 | 15 | 5.9 | 22 | 7.8 | 30 | 9.8 | 37 | 15,000 | 1034 |
| 51730 | 9 | .900 | 22.86 | | | | 5.0 | 19 | 7.4 | 28 | 9.9 | 38 | 12.4 | 47 | 12,000 | 827 |
| 51735 | 10 | 1.000 | 25.40 | | | | 6.1 | 23 | 9.2 | 35 | 12.2 | 46 | 15.3 | 58 | 10,000 | 689 |
| 52265 | 11 | 1.125 | 28.5 | | | | 7.7 | 29 | 11.6 | 74 | 15.5 | 59 | 19.4 | 73 | 8,000 | 551 |

* Displacement (flow) values represented refer to "theoretical" flow, neglecting inefficiency resulting from compressibility of water and expansion of pressure bearing components. Performance data is based on power end specifications published by the original equipment manufacturer; however, some power ends may differ from those used to determine the values above. Contact a Jetstream Solutions Provider for help with fluid end selection.

PART BREAKDOWN

| ITEM | PART NO. | DESCRIPTION | ITEM | PART NO. | DESCRIPTION |
|------|----------|------------------------|------|-----------|----------------------|
| 1 | 51690 | #7 Plunger | 6c | 26470 | Retaining Ring |
| | 51696 | #8 Plunger | 6d | 26472 | Suction Valve Spring |
| | 51667 | #9 Plunger | 6e | 51664 | Spring Retainer |
| | 51694 | #10 Plunger | 7 | 51672 | Manifold |
| | 52983 | #11 Plunger | 8 | 26462 | Manifold Bolt |
| 2 | 51617 | #7 Gland Nut | 9 | 51695 | Lube Harness |
| | 51619 | #8 Gland Nut | 9a | 27101 | Ball Valve |
| | 51621 | #9 Gland Nut | 9b | 25946 | Nipple |
| | 51623 | #10 Gland Nut | 9c | 53242 | Lube Manifold |
| | 52231 | #11 Gland Nut | 9d | 27732 | Hose Fitting |
| 3 | 26416 | O-Ring | 9e | 27740 | Hose (Order in feet) |
| 4 | 51689 | #7 Packing Set | 9f | 27475 | Needle Valve |
| | 51691 | #8 Packing Set | 9g | 26465 | Nipple |
| | 51674 | #9 Packing Set | 9h | 60815 | Nipple |
| | 51697 | #10 Packing Set | 10 | 51666 | Trunnion Rod |
| | 52233 | #11 Packing Set | 11 | 51659 | Trunnion |
| 5 | 51611 | #7, #8 Stuffing Box | 12 | 26468 | Cotter Pin |
| | 51671 | #9, 10 Stuffing Box | 13 | 50064 | Pump Wrench |
| | 52232 | #11 Stuffing Box | 14 | 28779 | Adapter Plate Stud |
| 6 | 51675 | Uni-Valve | 15 | 51692 | Adapter Plate |
| 6a | 50034 | Uni-Valve Seal Kit | 16 | 25864 | Adapter Plate Nut |
| 6b | 26476 | Discharge Valve Spring | 17* | 62171-GRN | Manifold Decal |

*Not shown.



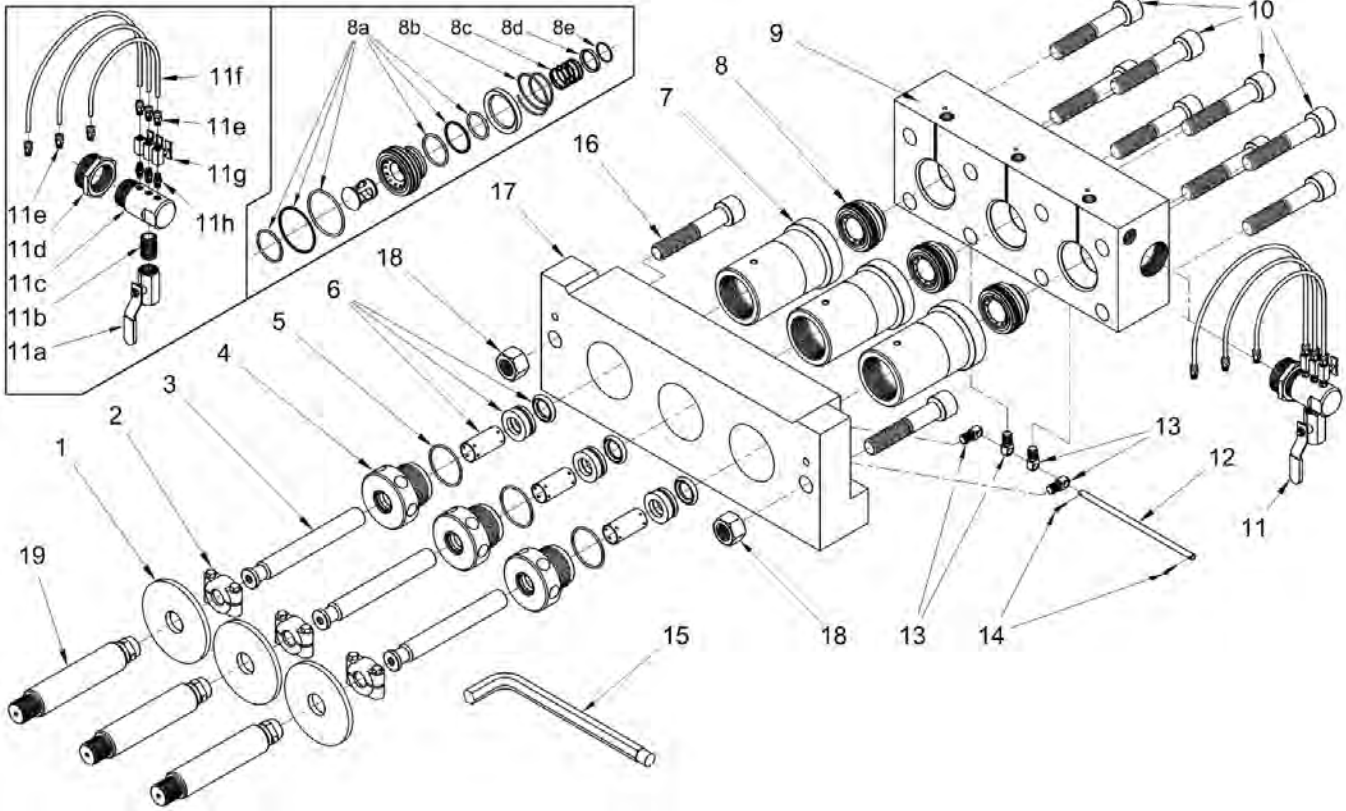
PUMPS &
FLUID ENDS

MODEL 4215N

UNx™ FLUID END UPGRADE

NLB 10150, 10200, 10225, 10203, TD-120 PUMPS

PUMPS &
FLUID ENDS



FLUID END SPECS

| PART NO. | PLUNGER SIZE | | CONNECTION TYPES | | | PUMP DISPLACEMENT AT SPECIFIED PUMP SPEEDS* | | | | | | | | MAX. OPERATING PRESSURE | | |
|----------|--------------|----------|------------------|-----------------|-----------------|---|---------|-----|---------|-----|---------|-----|---------|-------------------------|--------|------|
| | NO. | DIAMETER | | TOP PORTS | DISCHARGE PORTS | SUPPLY PORT | 200 RPM | | 300 RPM | | 400 RPM | | 500 RPM | | psi | bar |
| | | in | mm | | | | gpm | lpm | gpm | lpm | gpm | lpm | gpm | lpm | | |
| 51800 | 10 | .980 | 24.89 | 3/4" NPT Female | 1/2" NPT Female | 2" NPT Female | 8.3 | 32 | 12.5 | 47 | 7.8 | 63 | 20.8 | 79 | 15,000 | 1034 |
| 51805 | 11 | 1.100 | 27.94 | | | | 10.5 | 40 | 15.7 | 60 | 9.9 | 79 | 26.2 | 99 | 15,000 | 1034 |
| 51285 | 12 | 1.200 | 30.48 | | | | 12.5 | 47 | 18.7 | 71 | 12.2 | 95 | 31.2 | 118 | 12,000 | 827 |
| 51810 | 13 | 1.335 | 33.91 | | | | 15.5 | 59 | 23.2 | 88 | 15.5 | 117 | 38.6 | 146 | 10,000 | 689 |
| 51815 | 15 | 1.500 | 38.10 | | | | 19.5 | 74 | 29.3 | 111 | 15.5 | 117 | 48.8 | 185 | 8,000 | 551 |

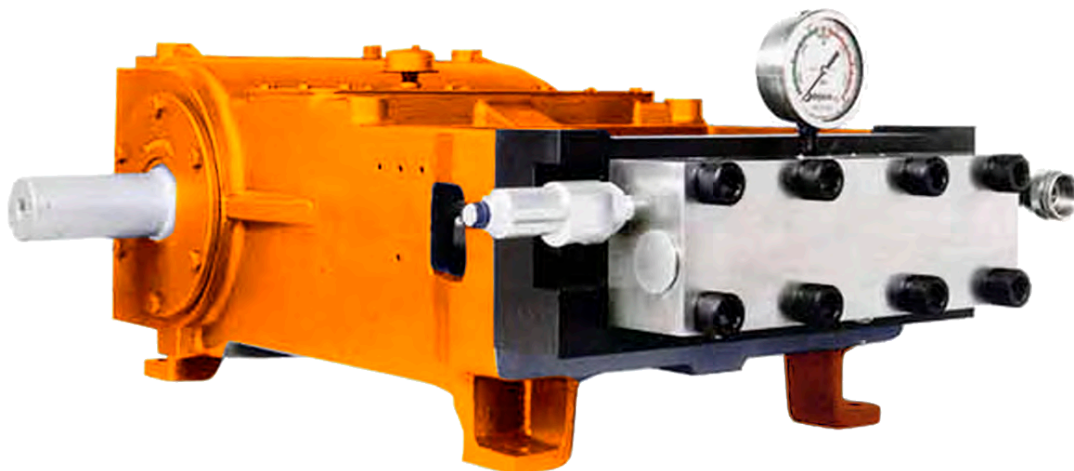
* Displacement (flow) values represented refer to "theoretical" flow, neglecting inefficiency resulting from compressibility of water and expansion of pressure bearing components. Performance data is based on power end specifications published by the original equipment manufacturer; however, some power ends may differ from those used to determine the values above. Contact a Jetstream Solutions Provider for help with fluid end selection.

PART BREAKDOWN

| ITEM | PART NO. | DESCRIPTION | ITEM | PART NO. | DESCRIPTION |
|------|----------|------------------------------|------|-----------|------------------------|
| 1 | 26487 | Deflector | 8a | 52875 | Uni-Valve Seal Kit |
| 2 | 51736 | Plunger Coupling | 8b | 27119 | Discharge Valve Spring |
| 3 | 51721 | #10 Plunger | 8c | 27118 | Suction Valve Spring |
| | 51722 | #11 Plunger | 8d | 52879 | Spring Retainer |
| | 51723 | #12 Plunger | 8e | 52878 | Retaining Ring |
| | 51724 | #13 Plunger | 9 | 52864 | Manifold |
| | 51726 | #15 Plunger | 10 | 25607 | Manifold Bolt |
| | 53314 | #16 Plunger | 11 | 51955 | Lube Harness |
| 4 | 51647 | #10 Gland Nut | 11a | 27101 | Ball Valve |
| | 51651 | #11 Gland Nut | 11b | 25946 | Nipple |
| | 51707 | #12 Gland Nut | 11c | 53242 | Lube Manifold |
| | 51744 | #13 Gland Nut | 11d | 26802 | Reducing Bushing |
| | 51746 | #15 Gland Nut | 11e | 27732 | Hose Fitting |
| | 53316 | #16 Gland Nut | 11f | 27740 | Hose (Order in feet) |
| 5 | 26387 | O-Ring (#9 to #15 Gland Nut) | 11g | 27475 | Needle Valve |
| | 26930 | O-Ring (#16 Gland Nut) | 11h | 26465 | Nipple |
| 6 | 50658 | #10 Packing Set | 12 | 50295 | Trunnion Rod |
| | 50659 | #11 Packing Set | 13 | 51659 | Trunnion |
| | 50660 | #12 Packing Set | 14 | 26468 | Cotter Pin |
| | 50661 | #13 Packing Set | 15 | 50889 | Pump Wrench |
| | 50662 | #15 Packing Set | 16 | 26500 | Adapter Plate Bolt |
| | 53321 | #16 Packing Set | 17 | 50293 | Adapter Plate |
| 7 | 52872 | #10, #11 Stuffing Box | 18 | 26669 | Adapter Plate Nut |
| | 52873 | #12, #13, #15 Stuffing Box | 19 | 51766 | Crosshead Stud |
| | 53313 | #16 Stuffing Box | 20* | 62171-GRN | Manifold Decal |
| 8 | 52870 | Uni-Valve | | | |

*Not shown.

NOTE: Parts listed on this page are for current 4215N fluid end models. For first generation fluid end models, which utilize different stuffing boxes, valves, and manifold, see the following page. Models can be most easily distinguished by the part number stamped on the top face of the fluid end manifold. Current models use manifold part number 52864 while first generation fluid ends use manifold part number 50896.



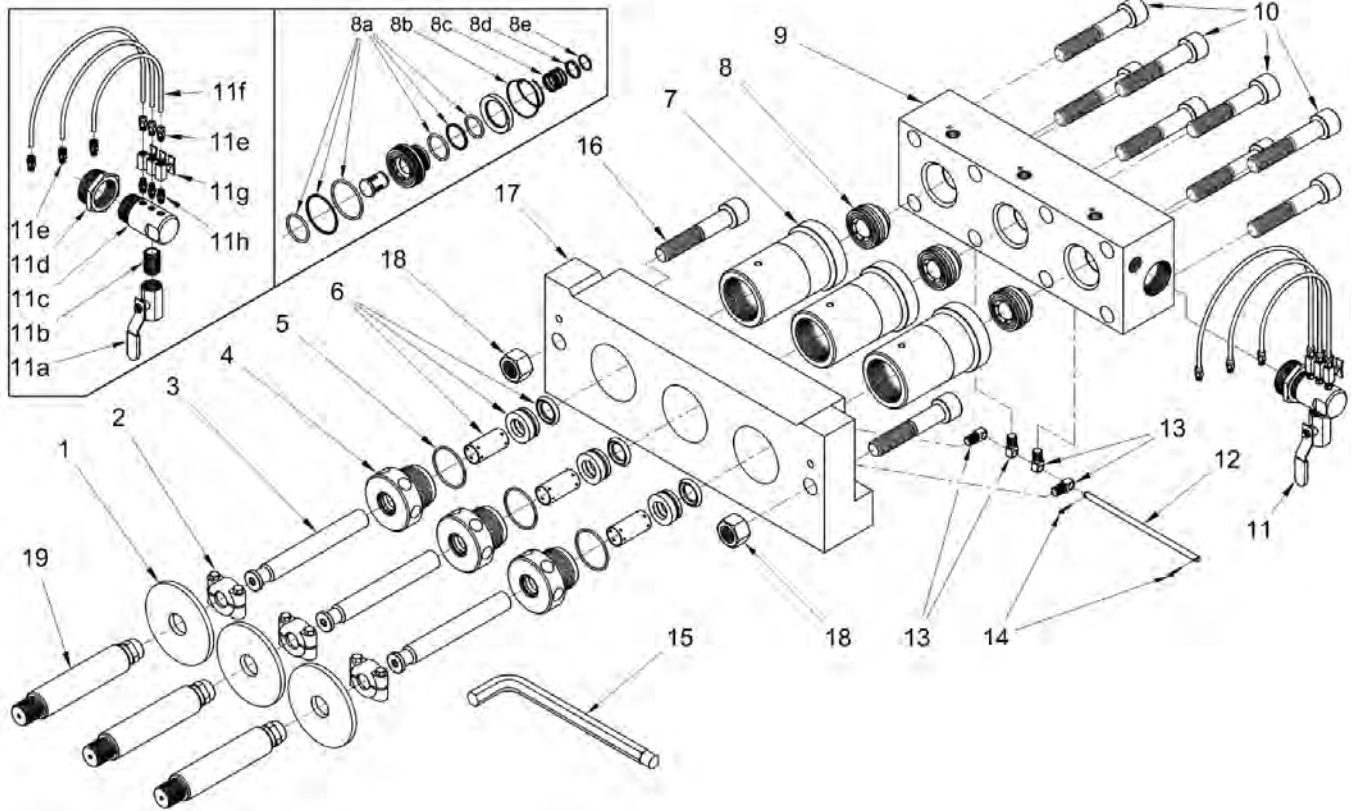
PUMPS &
FLUID ENDS

MODEL 4215N (GEN 1)

UNx™ FLUID END UPGRADE

NLB 10150, 10200, 10225, 10203, TD-120 PUMPS

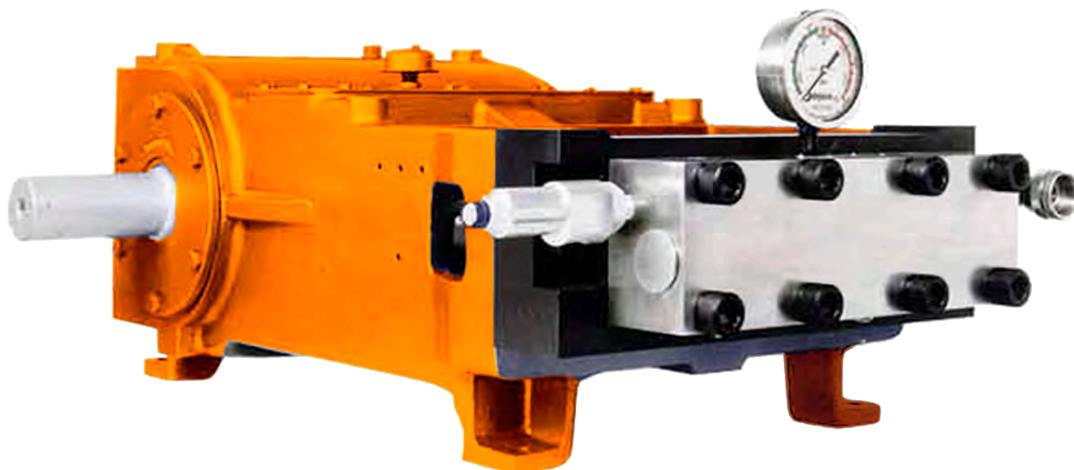
PUMPS &
FLUID ENDS



PART BREAKDOWN

| ITEM | PART NO. | DESCRIPTION | ITEM | PART NO. | DESCRIPTION |
|------|----------|----------------------------|------|----------|----------------------|
| 1 | 26487 | Deflector | 8c | 27118 | Suction Valve Spring |
| 2 | 51736 | Plunger Coupling | 8d | 52879 | Spring Retainer |
| 3 | 51721 | #10 Plunger | 8e | 52878 | Retaining Ring |
| | 51722 | #11 Plunger | 9 | 50896 | Manifold |
| | 51723 | #12 Plunger | 10 | 25607 | Manifold Bolt |
| | 51724 | #13 Plunger | 11 | 51955 | Lube Harness |
| | 51726 | #15 Plunger | 11a | 27101 | Ball Valve |
| 4 | 51647 | #10 Gland Nut | 11b | 25946 | Nipple |
| | 51651 | #11 Gland Nut | 11c | 53242 | Lube Manifold |
| | 51707 | #12 Gland Nut | 11d | 26802 | Reducing Bushing |
| | 51744 | #13 Gland Nut | 11e | 27732 | Hose Fitting |
| | 51746 | #15 Gland Nut | 11f | 27740 | Hose (Order in feet) |
| 5 | 26387 | O-Ring | 11g | 27475 | Needle Valve |
| 6 | 50658 | #10 Packing Set | 11h | 26465 | Nipple |
| | 50659 | #11 Packing Set | 12 | 50295 | Trunnion Rod |
| | 50660 | #12 Packing Set | 13 | 51659 | Trunnion |
| | 50661 | #13 Packing Set | 14 | 26468 | Cotter Pin |
| | 50662 | #15 Packing Set | 15 | 50889 | Pump Wrench |
| 7 | 50297 | #10, #11 Stuffing Box | 16 | 26500 | Adapter Plate Bolt |
| | 50299 | #12, #13, #15 Stuffing Box | 17 | 50293 | Adapter Bolt |
| 8 | 52870 | Uni-Valve | 18 | 26669 | Adapter Plate Nut |
| 8a | 52875 | Uni-Valve Seal Kit | 19 | 51766 | Crosshead Stud |
| 8b | 27119 | Discharge Valve Spring | | | |

NOTE: Parts listed on this page are for first generation 4215N fluid end models no longer sold. These models utilize different stuffing boxes, valves, and manifold than the current design. Models can be most easily distinguished by the part number stamped on the top face of the fluid end manifold. Current models use manifold part number 52864 while first generation fluid ends featured on this page use manifold part number 50896.

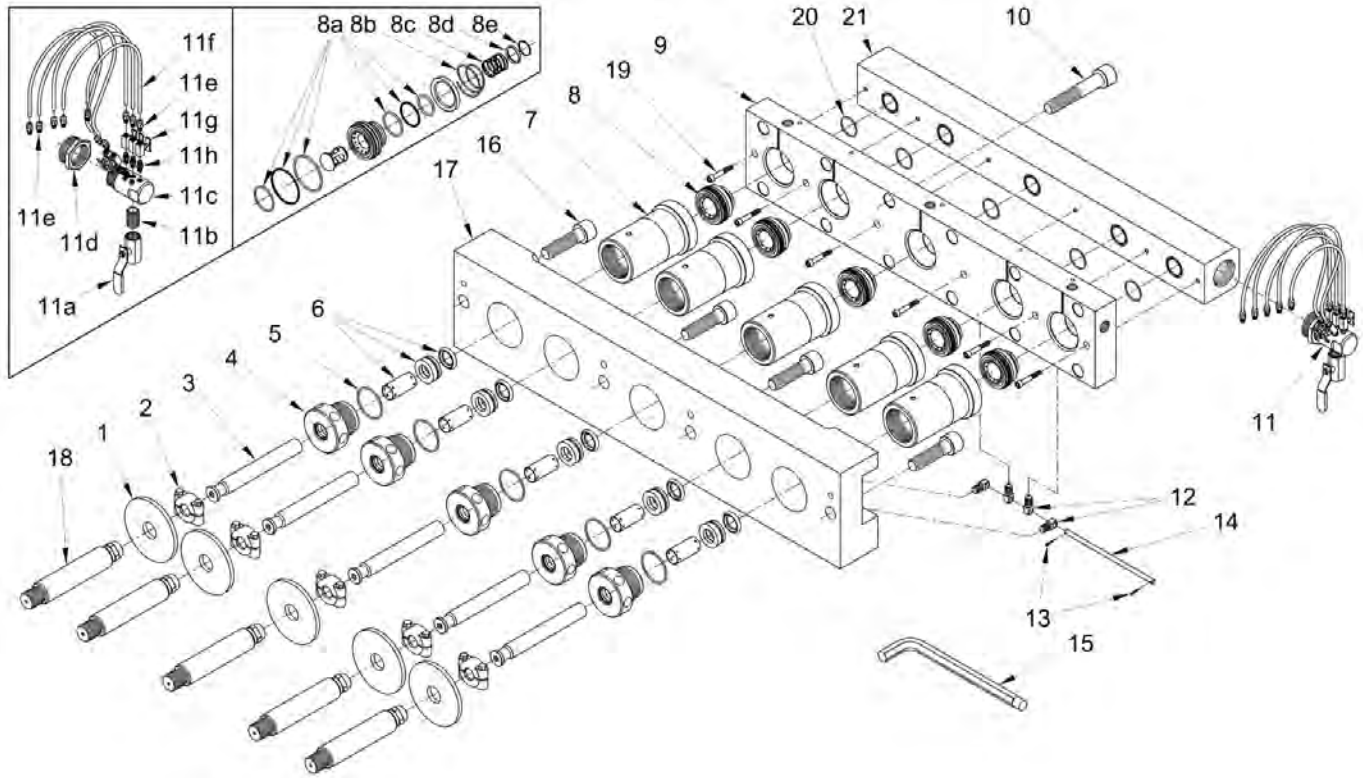


PUMPS &
FLUID ENDS

MODEL 4215QN

UNx™ FLUID END UPGRADE NLB 10250, QD-200 (POWER END) PUMPS

PUMPS &
FLUID ENDS



FLUID END SPECS

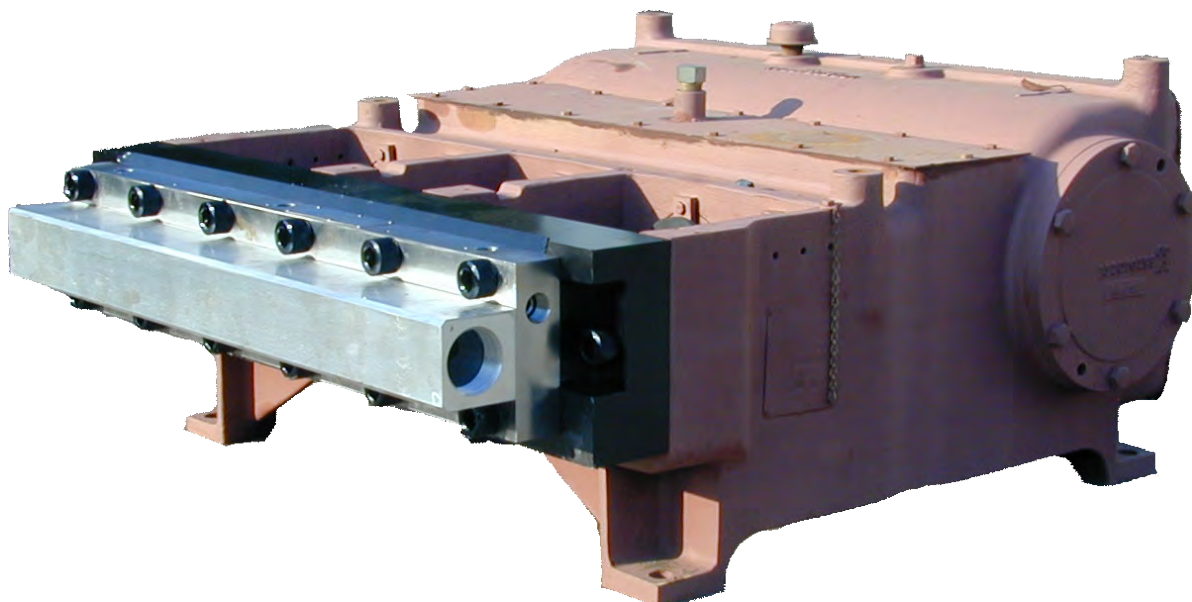
| PART NO. | PLUNGER SIZE | | CONNECTION TYPES | | | PUMP DISPLACEMENT AT SPECIFIED PUMP SPEEDS* | | | | | | | | MAX. OPERATING PRESSURE | | |
|----------|--------------|----------|------------------|-----------------|-----------------|---|------|---------|------|---------|------|---------|------|-------------------------|--------|------|
| | NO. | DIAMETER | | | | 150 RPM | | 200 RPM | | 300 RPM | | 400 RPM | | | | |
| | | in | mm | TOP PORTS | DISCHARGE PORTS | SUPPLY PORT | gpm | lpm | gpm | lpm | gpm | lpm | gpm | lpm | psi | bar |
| 53555 | 10 | .980 | 24.89 | 3/4" NPT Female | 1/2" NPT Female | 2" NPT Female | 6.9 | 26 | 13.9 | 53 | 20.8 | 79 | 27.8 | 105 | 15,000 | 1034 |
| 53560 | 11 | 1.100 | 27.94 | | | | 8.7 | 33 | 17.5 | 66 | 26.2 | 99 | 35.0 | 132 | 12,000 | 827 |
| 53565 | 12 | 1.200 | 30.48 | | | | 10.4 | 39 | 20.8 | 79 | 31.2 | 118 | 41.6 | 157 | 10,000 | 689 |
| 53585 | 13 | 1.335 | 33.91 | | | | 12.9 | 49 | 25.8 | 98 | 38.6 | 146 | 51.5 | 195 | 8,000 | 551 |
| 53575 | 15 | 1.500 | 38.10 | | | | 16.3 | 62 | 32.5 | 123 | 48.8 | 185 | 65.1 | 246 | 6,500 | 448 |

* Displacement (flow) values represented refer to "theoretical" flow, neglecting inefficiency resulting from compressibility of water and expansion of pressure bearing components. Performance data is based on power end specifications published by the original equipment manufacturer; however, some power ends may differ from those used to determine the values above. Contact a Jetstream Solutions Provider for help with fluid end selection.

PART BREAKDOWN

| ITEM | PART NO. | DESCRIPTION | ITEM | PART NO. | DESCRIPTION |
|------|----------|----------------------------|------|----------|-----------------------|
| 1 | 26487 | Deflector | 8d | 52879 | Spring Retainer |
| 2 | 51736 | Plunger Coupling | 8e | 52878 | Retaining Ring |
| 3 | 51721 | #10 Plunger | 9 | 53598 | Manifold |
| | 51722 | #11 Plunger | 10 | 27550 | Manifold Bolt |
| | 51723 | #12 Plunger | 11 | 53590 | Lube Harness |
| | 51724 | #13 Plunger | 11a | 27101 | Ball Valve |
| | 51726 | #15 Plunger | 11b | 25946 | Nipple |
| 4 | 51647 | #10 Gland Nut | 11c | 53793 | Lube Manifold |
| | 51651 | #11 Gland Nut | 11d | 27729 | Reducing Bushing |
| | 51707 | #12 Gland Nut | 11e | 26874 | Hose Fitting |
| | 51744 | #13 Gland Nut | 11f | 26469 | Hose (Order in feet) |
| | 51746 | #15 Gland Nut | 11g | 27475 | Needle Valve |
| 5 | 26387 | O-Ring | 11h | 26465 | Nipple |
| 6 | 50658 | #10 Packing Set | 12 | 51659 | Trunnion |
| | 50659 | #11 Packing Set | 13 | 26468 | Cotter Pin |
| | 50660 | #12 Packing Set | 14 | 50295 | Trunnion Rod |
| | 50661 | #13 Packing Set | 15 | 50889 | Pump Wrench |
| | 50662 | #15 Packing Set | 16 | 27550 | Adapter Plate Bolt |
| 7 | 52872 | #10, #11 Stuffing Box | 17 | 53602 | Adapter Plate |
| | 52873 | #12, #13, #15 Stuffing Box | 18 | 51766 | Crosshead Stud |
| 8 | 52870 | Uni-Valve | 19 | 27551 | Suction Manifold Bolt |
| 8a | 52875 | Uni-Valve Seal Kit | 20 | 25566 | O-Ring |
| 8b | 27119 | Discharge Valve Spring | 21 | 53601 | Suction Manifold |
| 8c | 27118 | Suction Valve Spring | | | |

PUMPS &
FLUID ENDS



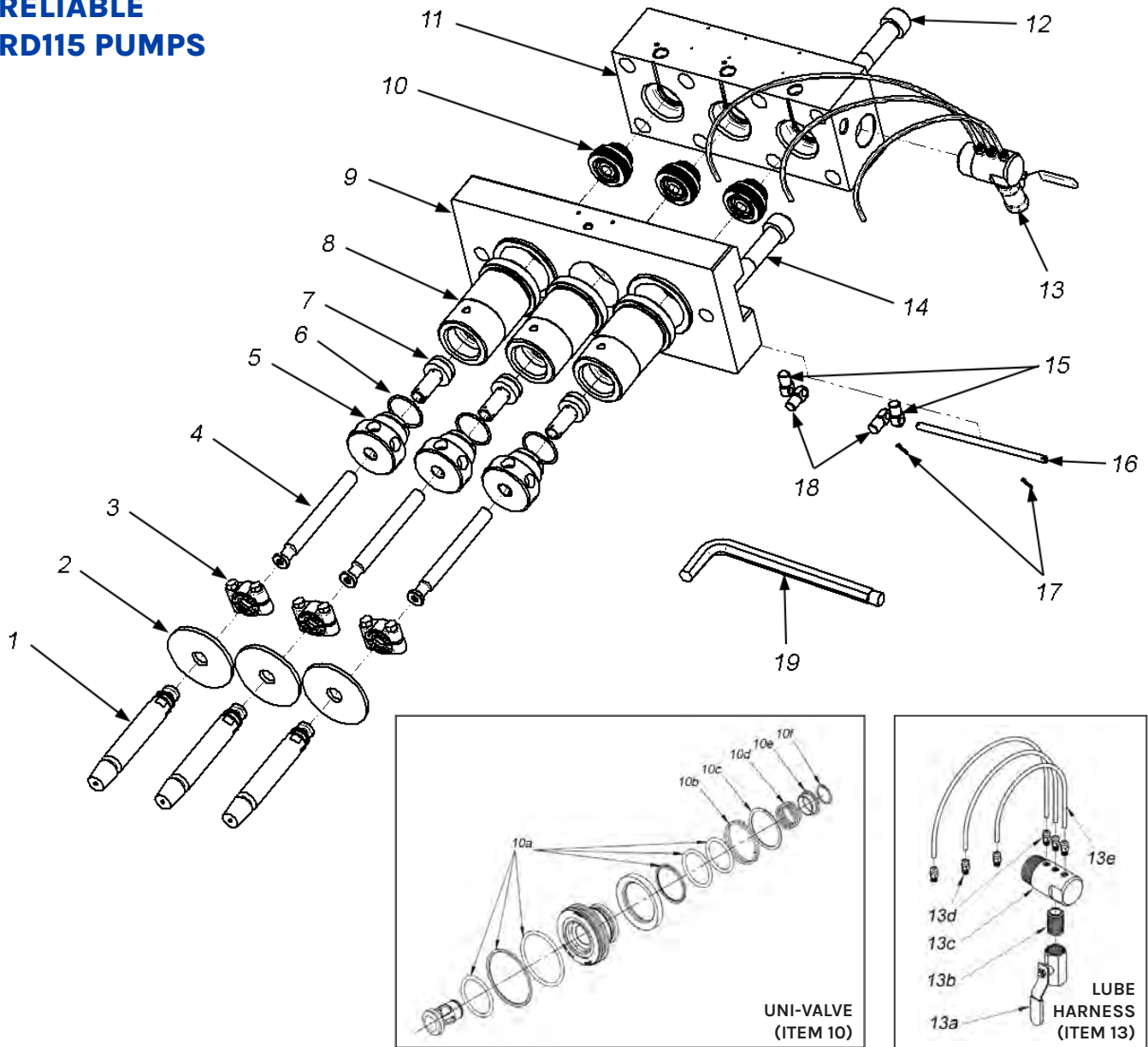


RELIABLE UPGRADES

MODEL 3015R

UNx™ FLUID END UPGRADE
RELIABLE
RD115 PUMPS

PUMPS &
FLUID ENDS



FLUID END SPECS

| PART NO. | PLUNGER SIZE | | CONNECTION TYPES | | | PUMP DISPLACEMENT AT SPECIFIED PUMP SPEEDS* | | | | | | | | MAX. OPERATING PRESSURE** | | |
|----------|--------------|----------|------------------|-----------|-----------------|---|---------|-----|---------|-----|---------|-----|---------|---------------------------|--------|------|
| | NO. | DIAMETER | | TOP PORTS | DISCHARGE PORTS | SUPPLY PORT | 200 RPM | | 300 RPM | | 400 RPM | | 500 RPM | | psi | bar |
| | | in | mm | | | | gpm | lpm | gpm | lpm | gpm | lpm | gpm | lpm | | |
| 69016 | 8 | .800 | 20.32 | 1/2" NPT | 1/2" NPT | 1-1/2" NPT | 3.6 | 14 | 5.4 | 20 | 7.2 | 27 | 9.0 | 34 | 15,000 | 1034 |
| 68584 | 10 | 1.000 | 25.40 | Female | Female | Female | 5.6 | 21 | 8.4 | 32 | 11.2 | 42 | 14.0 | 53 | 11,000 | 758 |

* Displacement (flow) values represented refer to "theoretical" flow, neglecting inefficiency resulting from compressibility of water and expansion of pressure bearing components. Performance data is based on power end specifications published by the original equipment manufacturer; however, some power ends may differ from those used to determine the values above. Contact a Jetstream Solutions Provider for help with fluid end selection.

** At 100 hp

PART BREAKDOWN

| ITEM | PART NO. | DESCRIPTION | ITEM | PART NO. | DESCRIPTION |
|------|----------|------------------------|------|----------|----------------------|
| 1 | 68577 | Pony Rod | 10d | 26472 | Suction Valve Spring |
| 2 | 26623 | Deflector | 10e | 51664 | Spring Retainer |
| 3 | 51737 | Plunger Clamp | 10f | 26474 | Retaining Ring |
| 4 | 51741 | #8 Plunger | 11 | 68574 | Manifold |
| | 51743 | #10 Plunger | 12 | 26462 | Manifold Bolt |
| 5 | 51619 | #8 Gland Nut | 13 | 51970 | Lube Harness |
| | 51623 | #10 Gland Nut | 13a | 27101 | Ball Valve |
| 6 | 26416 | O-Ring | 13b | 25946 | Nipple |
| 7 | 51691 | #8 Packing Set | 13c | 53242 | Lube Manifold |
| | 51697 | #10 Packing Set | 13d | 27732 | Hose Fitting |
| 8 | 51611 | #7, #8 Stuffing Box | 13e | 27740 | Hose (Order in feet) |
| | 51671 | #9, #10 Stuffing Box | 14 | 26220 | Adapter Plate Bolt |
| 9 | 68573 | Adapter Plate | 15 | 51659 | Trunnion |
| 10 | 51675 | Uni-Valve | 16 | 51666 | Trunnion Rod |
| 10a | 50034 | Uni-Valve Seal Kit | 17 | 26468 | Cotter Pin |
| 10b | 26476 | Discharge Valve Spring | 18 | 51659 | Trunnion |
| 10c | 26470 | Retaining Ring | 19 | 50064 | 5/8" Pump Wrench |

PUMPS &
FLUID ENDS





TRITAN/WHEATLEY UPGRADES

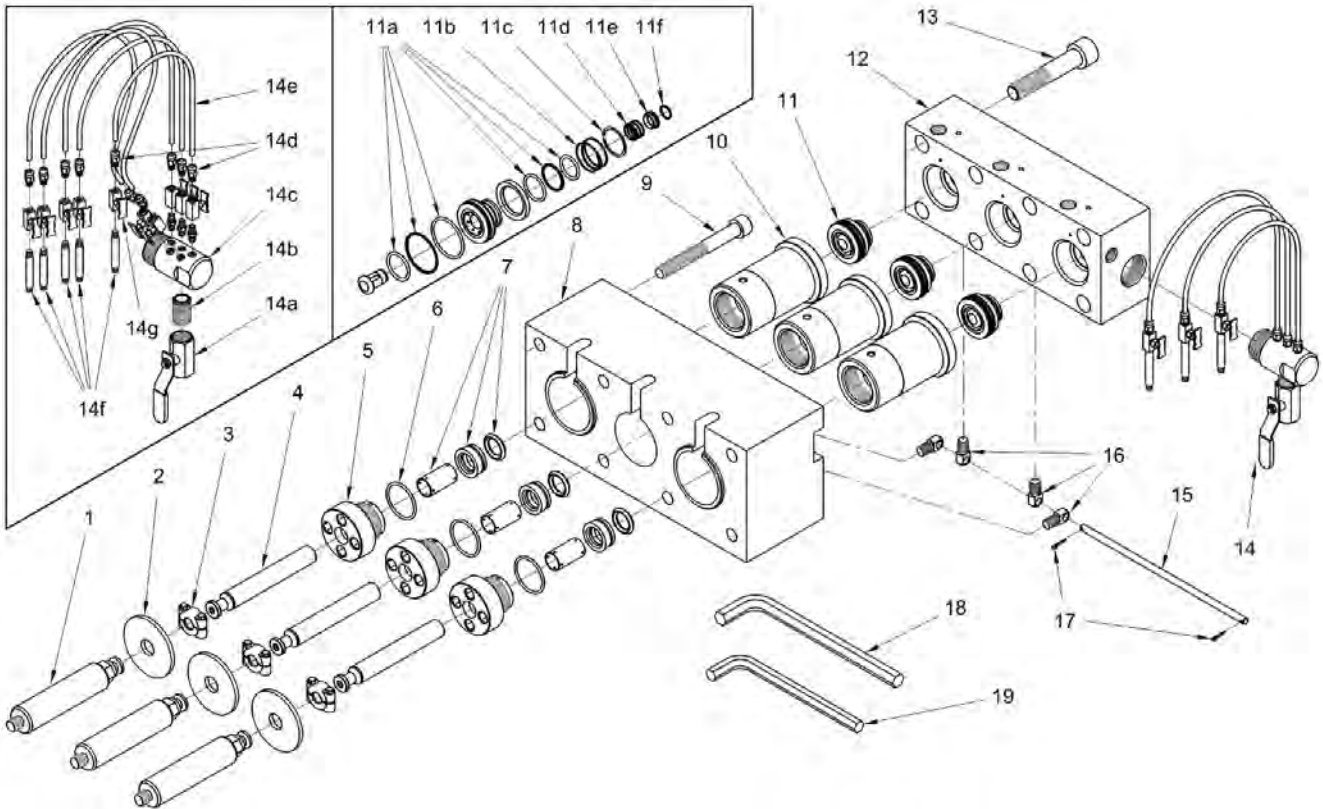
MODEL 3115T

UNx™ FLUID END UPGRADE

TRITAN

3310SS, 3310Wss, P-313, P-323, P-330A PUMPS

PUMPS &
FLUID ENDS



FLUID END SPECS

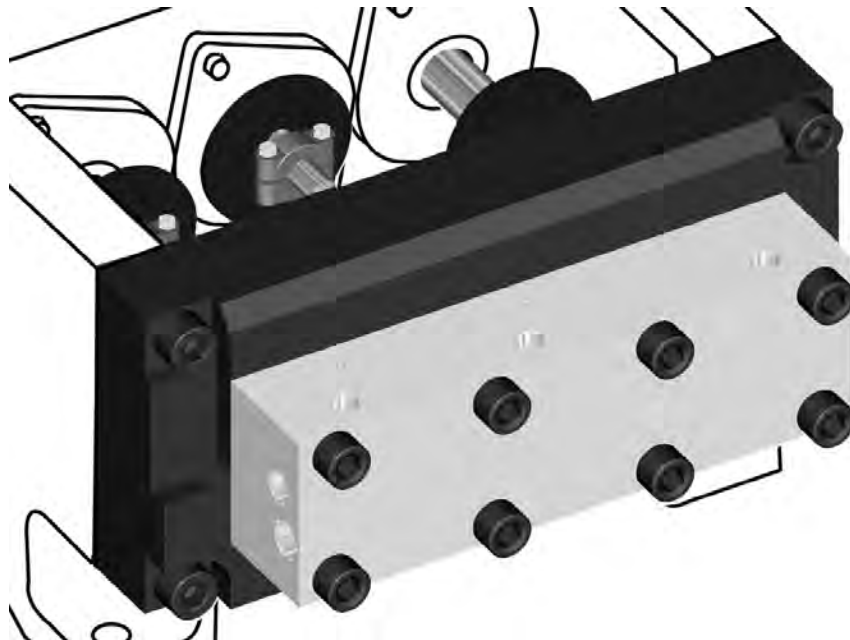
| PART NO. | PLUNGER SIZE | | CONNECTION TYPES | | | PUMP DISPLACEMENT AT SPECIFIED PUMP SPEEDS* | | | | | | | | MAX. OPERATING PRESSURE | | |
|----------|--------------|----------|------------------|-----------------|-----------------|---|---------|-----|---------|-----|---------|-----|---------|-------------------------|--------|------|
| | NO. | DIAMETER | | TOP PORTS | DISCHARGE PORTS | SUPPLY PORT | 200 RPM | | 300 RPM | | 400 RPM | | 500 RPM | | psi | bar |
| | | in | mm | | | | gpm | lpm | gpm | lpm | gpm | lpm | gpm | lpm | | |
| 52755 | 7 | .735 | 18.67 | | | | 3.4 | 13 | 5.2 | 20 | 6.9 | 26 | 8.6 | 33 | 15,000 | 1034 |
| 52760 | 8 | .800 | 20.32 | 1/2" NPT Female | 1/2" NPT Female | 1-1/2" NPT Female | 4.1 | 15 | 6.1 | 23 | 8.2 | 31 | 10.2 | 39 | 12,500 | 861 |
| 52765 | 9 | .900 | 22.86 | | | | 5.2 | 20 | 7.7 | 29 | 10.3 | 39 | 12.9 | 49 | 10,000 | 689 |
| 52770 | 10 | 1.000 | 25.40 | | | | 6.4 | 24 | 9.6 | 36 | 12.7 | 48 | 15.9 | 60 | 8,000 | 551 |

* Displacement (flow) values represented refer to "theoretical" flow, neglecting inefficiency resulting from compressibility of water and expansion of pressure bearing components. Performance data is based on power end specifications published by the original equipment manufacturer; however, some power ends may differ from those used to determine the values above. Contact a Jetstream Solutions Provider for help with fluid end selection.

PART BREAKDOWN

| ITEM | PART NO. | DESCRIPTION | ITEM | PART NO. | DESCRIPTION |
|------|----------|----------------------|------|----------|------------------------|
| 1 | 51791 | Pony Rod | 11a | 50034 | Uni-Valve Seal Kit |
| 2 | 26623 | Deflector | 11b | 26476 | Discharge Valve Spring |
| 3 | 51737 | Plunger Clamp | 11c | 26470 | Retaining Ring |
| 4 | 51831 | #7 Plunger | 11d | 26472 | Suction Valve Spring |
| | 51741 | #8 Plunger | 11e | 51664 | Spring Retainer |
| | 51742 | #9 Plunger | 11f | 26474 | Retaining Ring |
| | 51743 | #10 Plunger | 12 | 52702 | Manifold |
| 5 | 51796 | #7 Gland Nut | 13 | 26462 | Manifold Bolt |
| | 51797 | #8 Gland Nut | 14 | 52785 | Lube Harness |
| | 51798 | #9 Gland Nut | 14a | 27101 | Ball Valve |
| | 51799 | #10 Gland Nut | 14b | 25946 | Nipple |
| 6 | 26416 | O-Ring | 14c | 53242 | Lube Manifold |
| 7 | 51689 | #7 Packing Set | 14d | 27732 | Hose Fitting |
| | 51691 | #8 Packing Set | 14e | 27740 | Hose (Order in feet) |
| | 51674 | #9 Packing Set | 14f | 26543 | Nipple |
| | 51697 | #10 Packing Set | 14g | 27475 | Needle Valve |
| 8 | 52701 | Adapter Plate | 15 | 51666 | Trunnion Rod |
| 9 | 25220 | Adapter Plate Bolt | 16 | 51659 | Trunnion |
| 10 | 51788 | #7, #8 Stuffing Box | 17 | 26468 | Cotter Pin |
| | 51789 | #9, #10 Stuffing Box | 18 | 50064 | 3/4" Pump Wrench |
| 11 | 51675 | Uni-Valve | 19 | 26544 | 5/8" Pump Wrench |

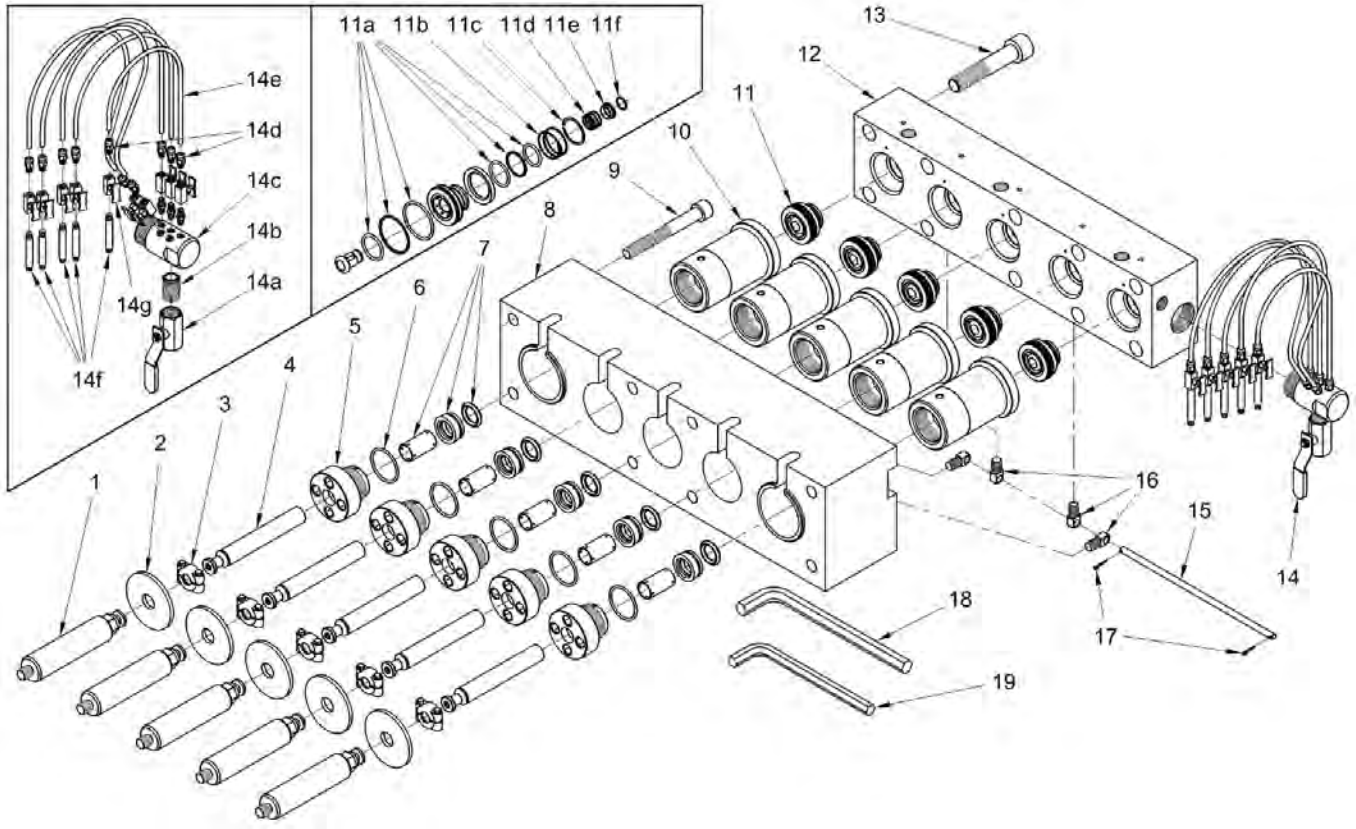
PUMPS &
FLUID ENDS



MODEL 3515Q

UNx™ FLUID END UPGRADE
TRITAN | WHEATLEY
5127SS PUMP

PUMPS &
FLUID ENDS



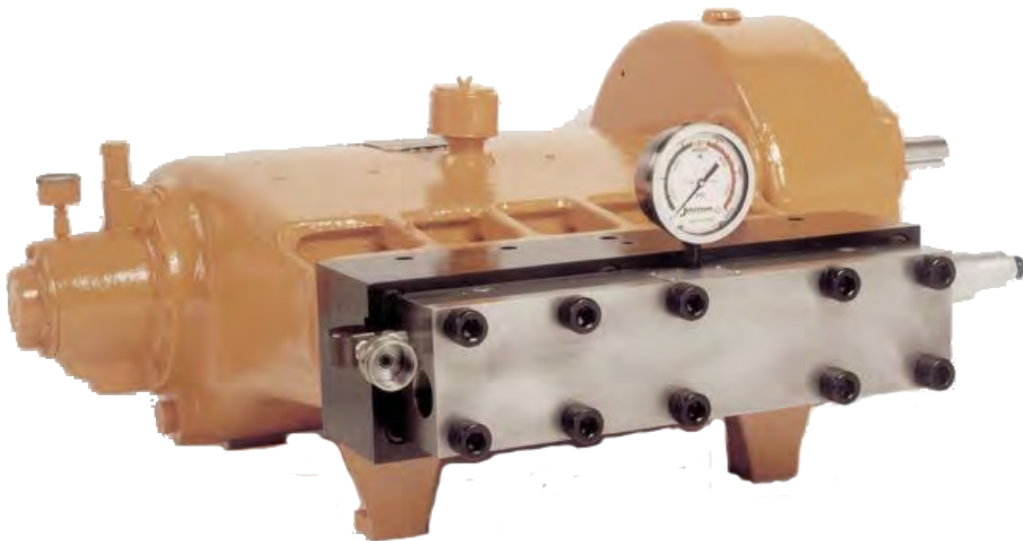
FLUID END SPECS

| PART NO. | PLUNGER SIZE | | CONNECTION TYPES | | | PUMP DISPLACEMENT AT SPECIFIED PUMP SPEEDS* | | | | | | | | MAX. OPERATING PRESSURE | | |
|----------|--------------|----------|------------------|-----------------|-----------------|---|---------|------|---------|------|---------|------|---------|-------------------------|--------|-----|
| | NO. | DIAMETER | | TOP PORTS | DISCHARGE PORTS | SUPPLY PORT | 200 RPM | | 300 RPM | | 400 RPM | | 500 RPM | | psi | bar |
| | | in | mm | | | | gpm | lpm | gpm | lpm | gpm | lpm | gpm | lpm | | |
| 51915 | 7 | .735 | 18.67 | | | 6.4 | 24 | 9.6 | 37 | 12.9 | 49 | 16.1 | 61 | 15,000 | 1034 | |
| 51920 | 8 | .800 | 20.32 | 1/2" NPT Female | 1/2" NPT Female | 1-1/2" NPT Female | 7.6 | 29 | 11.4 | 43 | 15.2 | 58 | 19.0 | 72 | 12,500 | 861 |
| 51925 | 9 | .900 | 22.86 | | | 9.6 | 36 | 14.5 | 55 | 19.3 | 73 | 24.1 | 91 | 10,000 | 689 | |
| 51930 | 10 | 1.000 | 25.40 | | | 11.9 | 45 | 17.9 | 68 | 90 | 29.8 | 113 | 60 | 8,000 | 551 | |

* Displacement (flow) values represented refer to "theoretical" flow, neglecting inefficiency resulting from compressibility of water and expansion of pressure bearing components. Performance data is based on power end specifications published by the original equipment manufacturer; however, some power ends may differ from those used to determine the values above. Contact a Jetstream Solutions Provider for help with fluid end selection.

PART BREAKDOWN

| ITEM | PART NO. | DESCRIPTION | ITEM | PART NO. | DESCRIPTION |
|------|----------|----------------------|------|----------|------------------------|
| 1 | 51791 | Pony Rod | 11a | 50034 | Uni-Valve Seal Kit |
| 2 | 26623 | Deflector | 11b | 26476 | Discharge Valve Spring |
| 3 | 51737 | Plunger Clamp | 11c | 26470 | Retaining Ring |
| 4 | 51831 | #7 Plunger | 11d | 26472 | Suction Valve Spring |
| | 51741 | #8 Plunger | 11e | 51664 | Spring Retainer |
| | 51742 | #9 Plunger | 11f | 26474 | Retaining Ring |
| | 51743 | #10 Plunger | 12 | 51793 | Manifold |
| 5 | 51796 | #7 Gland Nut | 13 | 26462 | Manifold Bolt |
| | 51797 | #8 Gland Nut | 14 | 51795 | Lube Harness |
| | 51798 | #9 Gland Nut | 14a | 27101 | Ball Valve |
| | 51799 | #10 Gland Nut | 14b | 25946 | Nipple |
| 6 | 26416 | O-Ring | 14c | 53793 | Lube Manifold |
| 7 | 51689 | #7 Packing Set | 14d | 26874 | Hose Fitting |
| | 51691 | #8 Packing Set | 14e | 26469 | Hose (Order in feet) |
| | 51674 | #9 Packing Set | 14f | 26543 | Nipple |
| | 51697 | #10 Packing Set | 14g | 27475 | Needle Valve |
| 8 | 51792 | Adapter Plate | 15 | 51016 | Trunnion Rod |
| 9 | 25220 | Adapter Plate Bolt | 16 | 51659 | Trunnion |
| 10 | 51788 | #7, #8 Stuffing Box | 17 | 26468 | Cotter Pin |
| | 51789 | #9, #10 Stuffing Box | 18 | 50064 | 3/4" Pump Wrench |
| 11 | 51675 | Uni-Valve | 19 | 26544 | 5/8" Pump Wrench |



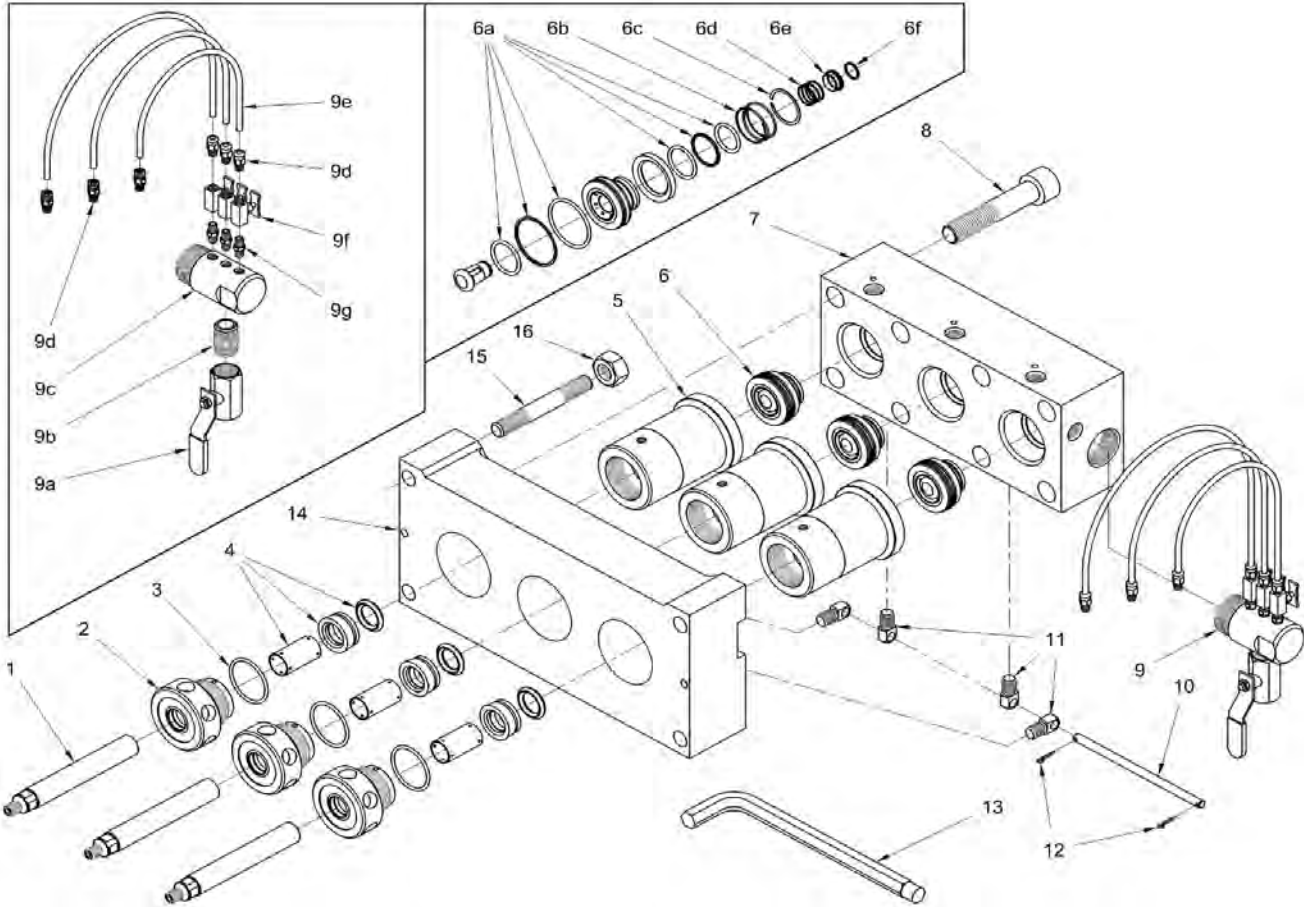


WEATHERFORD UPGRADE

MODEL 3015W

UNx™ FLUID END UPGRADE WEATHERFORD FE85 PUMP

PUMPS &
FLUID ENDS



FLUID END SPECS

| PART NO. | PLUNGER SIZE | | CONNECTION TYPES | | | PUMP DISPLACEMENT AT SPECIFIED PUMP SPEEDS* | | | | | | | | MAX. OPERATING PRESSURE | | |
|----------|--------------|----------|------------------|-----------------|-----------------|---|---------|-----|---------|-----|---------|-----|---------|-------------------------|--------|------|
| | NO. | DIAMETER | | TOP PORTS | DISCHARGE PORTS | SUPPLY PORT | 200 RPM | | 300 RPM | | 400 RPM | | 500 RPM | | psi | bar |
| | | in | mm | | | | gpm | lpm | gpm | lpm | gpm | lpm | gpm | lpm | | |
| 51740 | 7 | .735 | 18.67 | 1/2" NPT Female | 1/2" NPT Female | 1-1/2" NPT Female | 5.0 | 19 | 6.6 | 25 | 8.3 | 31 | 9.1 | 34 | 15,000 | 1034 |
| 51745 | 8 | .800 | 20.32 | | | | 5.9 | 22 | 7.8 | 30 | 9.8 | 37 | 10.8 | 41 | 12,500 | 861 |
| 51750 | 9 | .900 | 22.86 | | | | 7.4 | 28 | 9.9 | 38 | 12.4 | 47 | 13.6 | 51 | 10,000 | 689 |
| 51755 | 10 | 1.000 | 25.40 | | | | 9.2 | 35 | 12.2 | 46 | 15.3 | 58 | 16.8 | 64 | 8,000 | 551 |
| 52280 | 11 | 1.125 | 28.58 | | | | 11.6 | 44 | 15.5 | 59 | 19.4 | 73 | 21.3 | 81 | 6,000 | 413 |

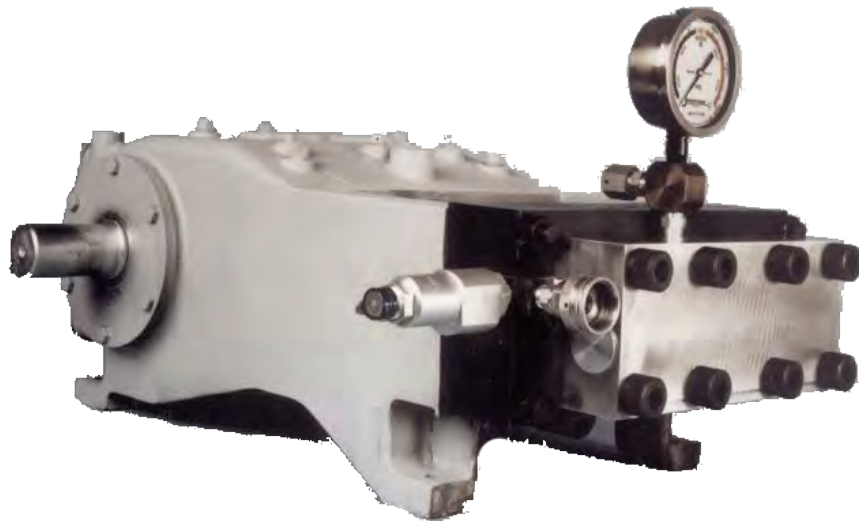
* Displacement (flow) values represented refer to "theoretical" flow, neglecting inefficiency resulting from compressibility of water and expansion of pressure bearing components. Performance data is based on power end specifications published by the original equipment manufacturer; however, some power ends may differ from those used to determine the values above. Contact a Jetstream Solutions Provider for help with fluid end selection.

PART BREAKDOWN

| ITEM | PART NO. | DESCRIPTION | ITEM | PART NO. | DESCRIPTION |
|------|----------|------------------------|------|-----------|----------------------|
| 1 | 51690 | #7 Plunger | 6c | 26470 | Retaining Ring |
| | 51696 | #8 Plunger | 6d | 26472 | Suction Valve Spring |
| | 51667 | #9 Plunger | 6e | 51664 | Spring Retainer |
| | 51694 | #10 Plunger | 6f | 26474 | Retaining Ring |
| | 52983 | #11 Plunger | 7 | 51672 | Manifold |
| 2 | 51617 | #7 Gland Nut | 8 | 26462 | Manifold Bolt |
| | 51619 | #8 Gland Nut | 9 | 51695 | Lube Harness |
| | 51621 | #9 Gland Nut | 9a | 27101 | Ball Valve |
| | 51623 | #10 Gland Nut | 9b | 25946 | Nipple |
| | 52231 | #11 Gland Nut | 9c | 53242 | Lube Manifold |
| 3 | 26416 | O-Ring | 9d | 27732 | Hose Fitting |
| | 51689 | #7 Packing Set | 9e | 27740 | Hose (Order in feet) |
| 4 | 51691 | #8 Packing Set | 9f | 27475 | Needle Valve |
| | 51674 | #9 Packing Set | 9g | 26465 | Nipple |
| | 51697 | #10 Packing Set | 10 | 51666 | Trunnion Rod |
| | 52233 | #11 Packing Set | 11 | 51659 | Trunnion |
| 5 | 51611 | #7, #8 Stuffing Box | 12 | 26468 | Cotter Pin |
| | 51671 | #9, 10 Stuffing Box | 13 | 50064 | Pump Wrench |
| | 52232 | #11 Stuffing Box | 14 | 51656 | Adapter Plate |
| 6 | 51675 | Uni-Valve | 15 | 26473 | Adapter Plate Stud |
| 6a | 50034 | Uni-Valve Seal Kit | 16 | 25706 | Adapter Plate Nut |
| 6b | 26476 | Discharge Valve Spring | 17* | 62171-GRN | Manifold Decal |

*Not shown.

PUMPS &
FLUID ENDS





WOMA UPGRADES

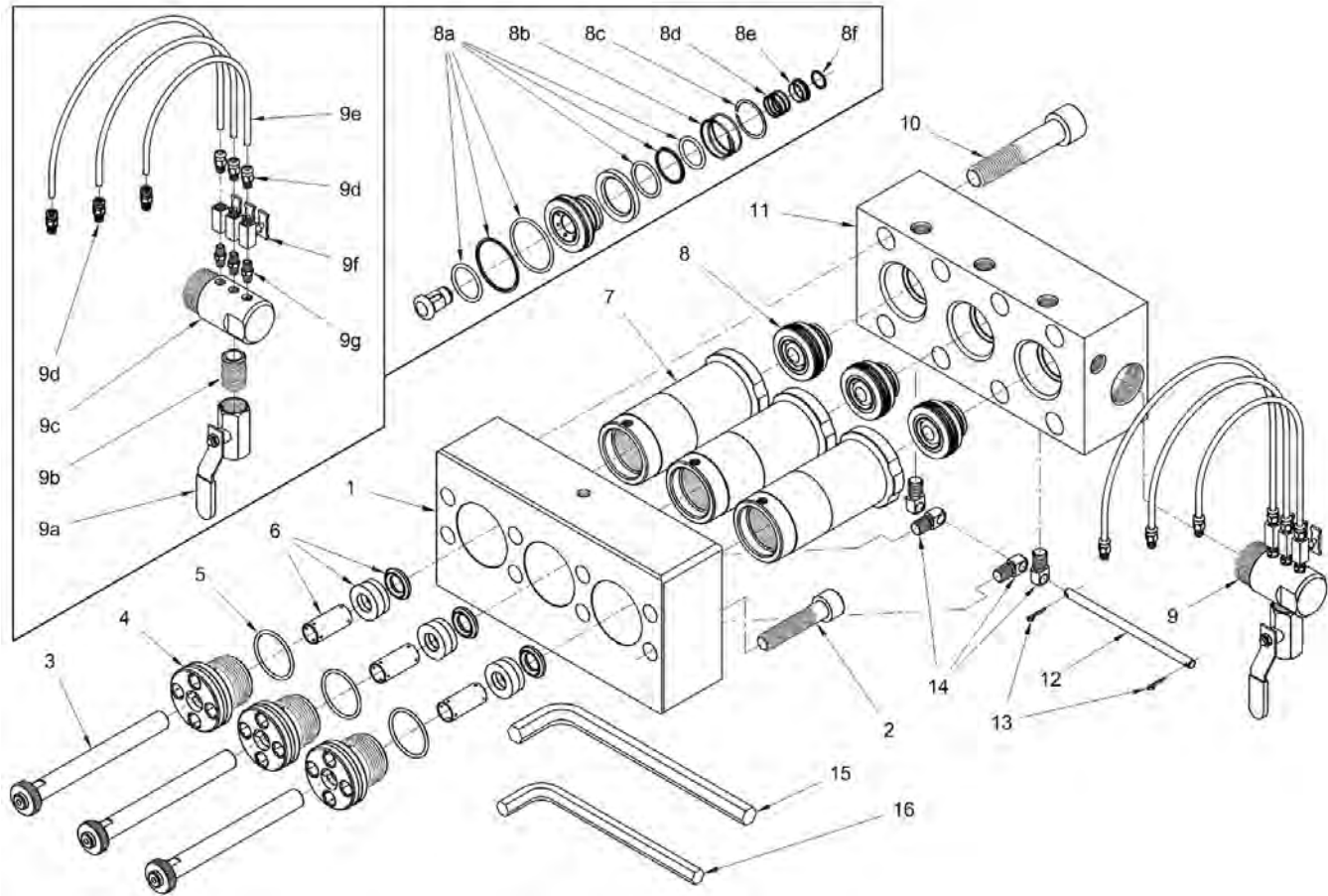
MODEL 3715W

UNx™ FLUID END UPGRADE

WOMA

1502, 1503 PUMPS

PUMPS &
FLUID ENDS



FLUID END SPECS

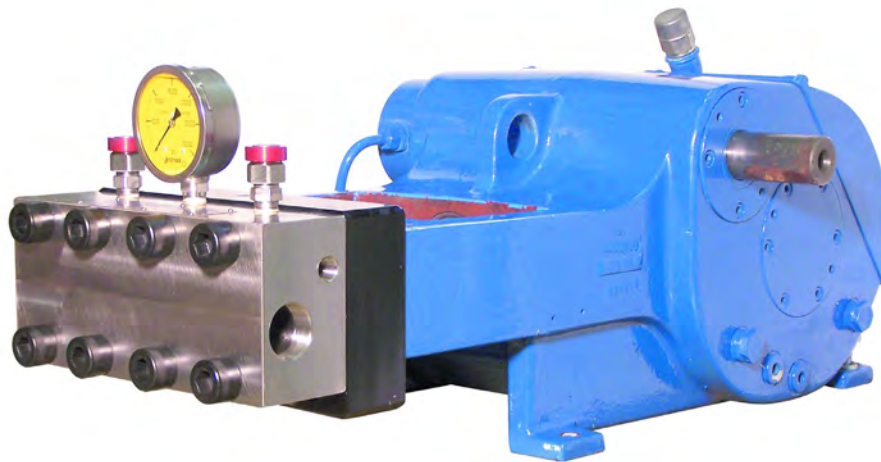
| PART NO. | PLUNGER SIZE | | CONNECTION TYPES | | | PUMP DISPLACEMENT AT SPECIFIED PUMP SPEEDS* | | | | | | | | MAX. OPERATING PRESSURE | | |
|----------|--------------|----------|------------------|-----------------|-----------------|---|---------|------|---------|------|---------|------|---------|-------------------------|--------|-----|
| | NO. | DIAMETER | | TOP PORTS | DISCHARGE PORTS | SUPPLY PORT | 200 RPM | | 300 RPM | | 400 RPM | | 500 RPM | | psi | bar |
| | | in | mm | | | | gpm | lpm | gpm | lpm | gpm | lpm | gpm | lpm | | |
| 65187 | 7 | .735 | 18.67 | | | 4.1 | 16 | 6.2 | 23 | 8.2 | 31 | 10.3 | 39 | 15,000 | 1034 | |
| 54560 | 8 | .800 | 20.32 | | | 4.9 | 18 | 7.3 | 28 | 9.8 | 37 | 12.2 | 46 | 15,000 | 1034 | |
| 54555 | 9 | .900 | 22.86 | 1/2" NPT Female | 1/2" NPT Female | 1-1/2" NPT Female | 6.2 | 23 | 9.3 | 35 | 12.4 | 47 | 15.5 | 59 | 12,500 | 861 |
| 54550 | 10 | 1.00 | 25.40 | | | 7.6 | 29 | 11.4 | 43 | 15.3 | 58 | 19.1 | 72 | 10,000 | 689 | |
| 54545 | 11 | 1.125 | 28.58 | | | 9.7 | 37 | 14.5 | 55 | 19.3 | 73 | 24.2 | 92 | 8,000 | 551 | |

* Displacement (flow) values represented refer to "theoretical" flow, neglecting inefficiency resulting from compressibility of water and expansion of pressure bearing components. Performance data is based on power end specifications published by the original equipment manufacturer; however, some power ends may differ from those used to determine the values above. Contact a Jetstream Solutions Provider for help with fluid end selection.

PART BREAKDOWN

| ITEM | PART NO. | DESCRIPTION | ITEM | PART NO. | DESCRIPTION |
|------|----------|----------------------|------|----------|------------------------|
| 1 | 54426 | Adapter Plate | 8b | 26476 | Discharge Valve Spring |
| 2 | 29748 | Adapter Plate Bolt | 8c | 26470 | Retaining Ring |
| 3 | 55489 | #8 Plunger | 8d | 26472 | Suction Valve Spring |
| | 54501 | #9 Plunger | 8e | 51664 | Spring Retainer |
| | 54502 | #10 Plunger | 8f | 26474 | Retaining Ring |
| | 54503 | #11 Plunger | 9 | 51695 | Lube Harness |
| 4 | 54428 | #8 Gland Nut | 9a | 27101 | Ball Valve |
| | 54506 | #9 Gland Nut | 9b | 25946 | Nipple |
| | 54507 | #10 Gland Nut | 9c | 53242 | Lube Manifold |
| | 54508 | #11 Gland Nut | 9d | 27732 | Hose Fitting |
| 5 | 26416 | O-Ring | 9e | 27740 | Hose (Order in feet) |
| 6 | 51691 | #8 Packing Set | 9f | 27475 | Needle Valve |
| | 51674 | #9 Packing Set | 9g | 26465 | Nipple |
| | 51697 | #10 Packing Set | 10 | 26462 | Manifold Bolt |
| | 52233 | #11 Packing Set | 11 | 55266 | Manifold |
| 7 | 55491 | #8 Stuffing Box | 12 | 51666 | Trunnion Rod |
| | 54496 | #9, #10 Stuffing Box | 13 | 26468 | Cotter Pin |
| | 54497 | #11 Stuffing Box | 14 | 51659 | Trunnion |
| 8 | 51675 | Uni-Valve | 15 | 50064 | 3/4" Pump Wrench |
| 8a | 50034 | Uni-Valve Seal Kit | 16 | 26544 | 5/8" Pump Wrench |

NOTE: Parts listed on this page are for current 3715W fluid end models. For first generation fluid end models, which utilize different stuffing boxes, plungers, manifold, and adapter plate, see the following page. Models can be most easily distinguished by the part number stamped on the top face of the fluid end manifold. Current models use manifold part number 55266 while first generation fluid ends use manifold part number 54424.



PUMPS &
FLUID ENDS

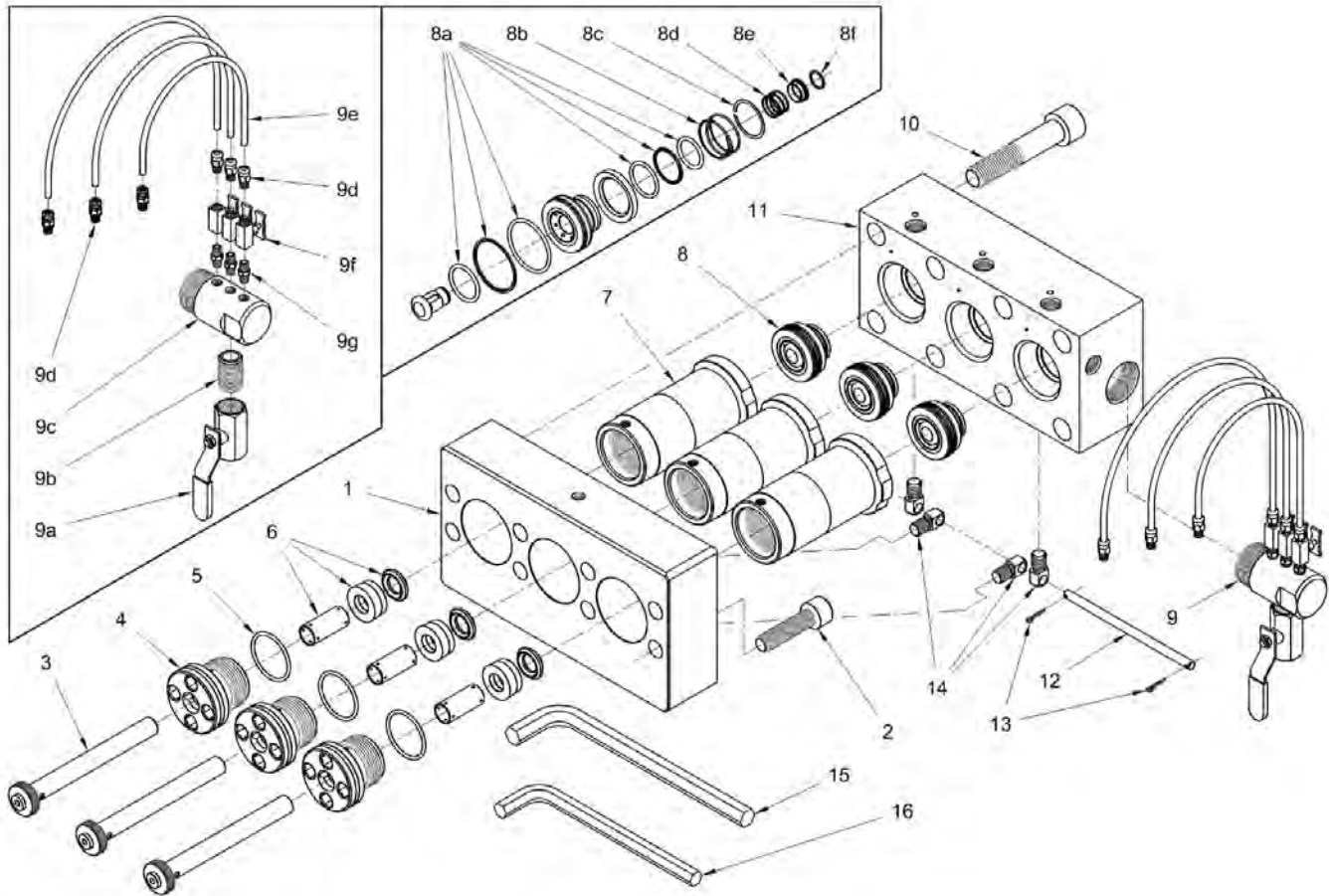
MODEL 3715W (GEN 1)

UNx™ FLUID END UPGRADE

WOMA

1502, 1503 PUMPS

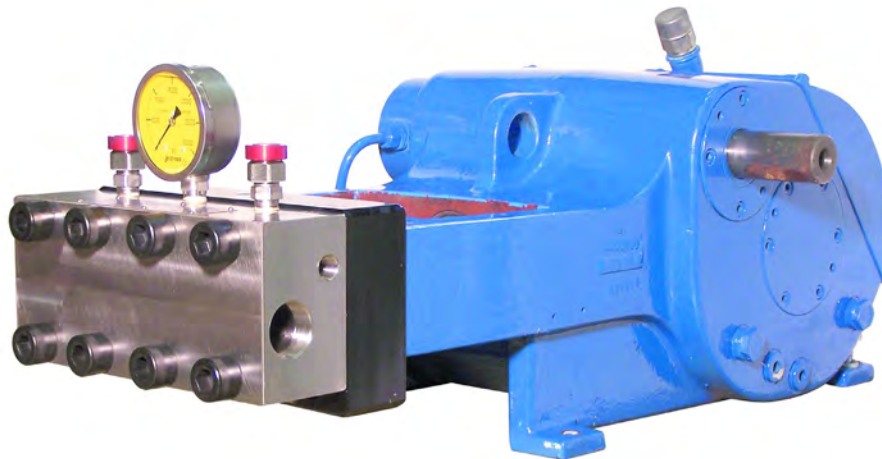
PUMPS &
FLUID ENDS



PART BREAKDOWN

| ITEM | PART NO. | DESCRIPTION | ITEM | PART NO. | DESCRIPTION |
|------|----------|------------------------|------|----------|----------------------|
| 1 | N/A | Adapter Plate | 9a | 27101 | Ball Valve |
| 2 | 28616 | Adapter Plate Bolt | 9b | 25946 | Nipple |
| 3 | 54429 | #8 Plunger | 9c | 53242 | Lube Manifold |
| 4 | 54428 | #8 Gland Nut | 9d | 27732 | Hose Fitting |
| 5 | 26416 | O-Ring | 9e | 27740 | Hose (Order in feet) |
| 6 | 51691 | #8 Packing Set | 9f | 27475 | Needle Valve |
| 7 | 54427 | #8 Stuffing Box | 9g | 26465 | Nipple |
| 8 | 51675 | Uni-Valve | 10 | 26462 | Manifold Bolt |
| 8a | 50034 | Uni-Valve Seal Kit | 11 | N/A | Manifold |
| 8b | 26476 | Discharge Valve Spring | 12 | 51666 | Trunnion Rod |
| 8c | 26470 | Retaining Ring | 13 | 26468 | Cotter Pin |
| 8d | 26472 | Suction Valve Spring | 14 | 51659 | Trunnion |
| 8e | 51664 | Spring Retainer | 15 | 50064 | 3/4" Pump Wrench |
| 8f | 26474 | Retaining Ring | 16 | 26544 | 5/8" Pump Wrench |
| 9 | 51695 | Lube Harness | | | |

NOTE: Parts listed on this page are for first generation 3715W fluid end models no longer sold. These models utilize different stuffing boxes, plungers, manifold, and adapter plate than the current design. Models can be most easily distinguished by the part number stamped on the top face of the fluid end manifold. Current models use manifold part number 55266 while first generation fluid ends featured on this page use manifold part number 54424.



PUMPS &
FLUID ENDS

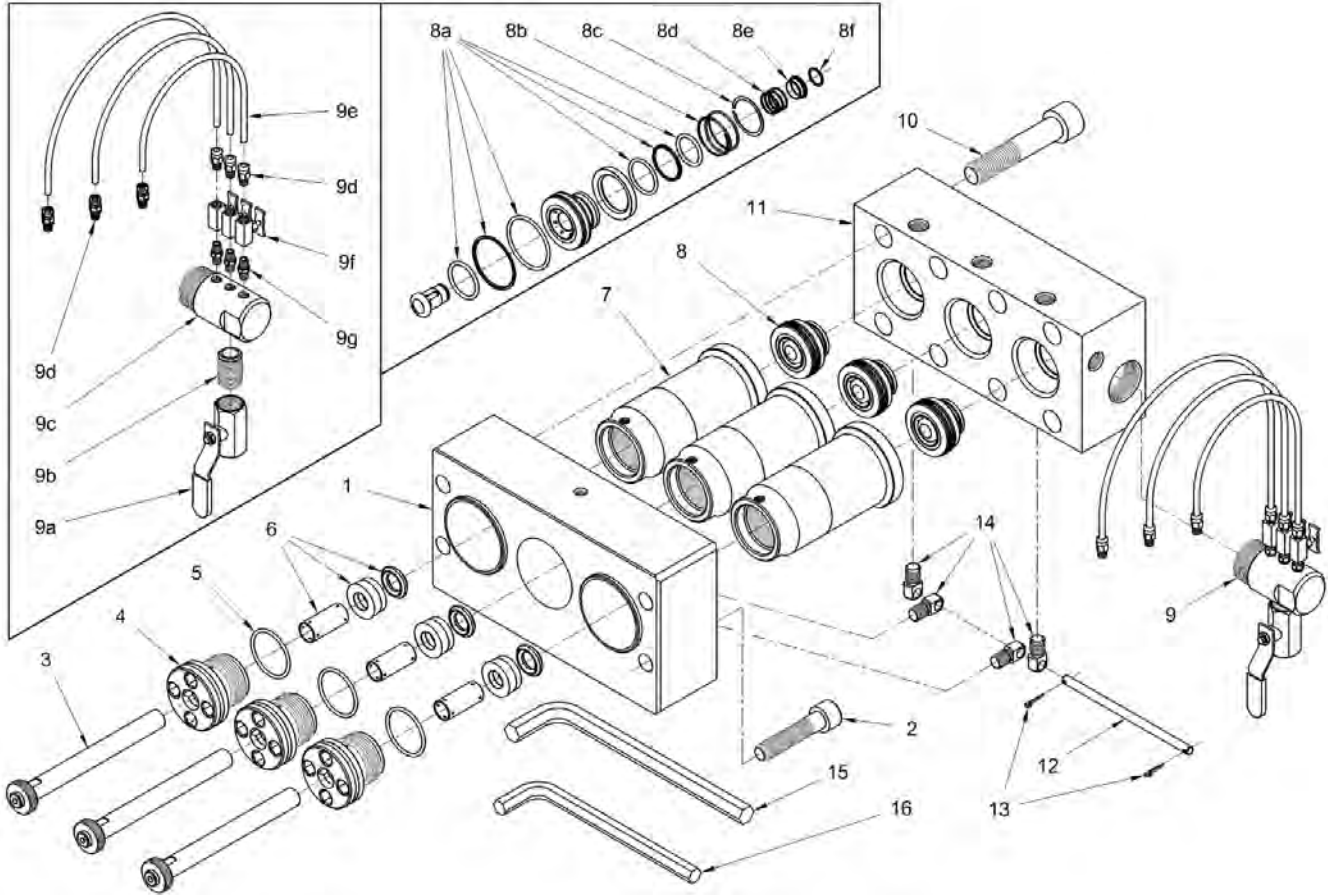
MODEL 3715WZ

UNx™ FLUID END UPGRADE

WOMA

150-Z PUMP

PUMPS &
FLUID ENDS



FLUID END SPECS

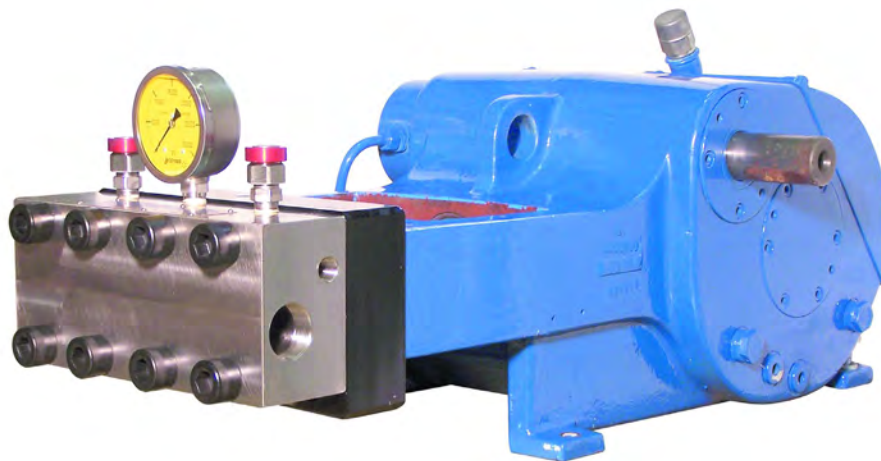
| PART NO. | PLUNGER SIZE | | CONNECTION TYPES | | | PUMP DISPLACEMENT AT SPECIFIED PUMP SPEEDS* | | | | | | | | MAX. OPERATING PRESSURE | | |
|----------|--------------|----------|------------------|-----------------|-----------------|---|---------|------|---------|------|---------|------|---------|-------------------------|--------|-----|
| | NO. | DIAMETER | | TOP PORTS | DISCHARGE PORTS | SUPPLY PORT | 200 RPM | | 300 RPM | | 400 RPM | | 500 RPM | | psi | bar |
| | | in | mm | | | | gpm | lpm | gpm | lpm | gpm | lpm | gpm | lpm | | |
| 55270 | 8 | .800 | 20.32 | | | 4.9 | 18 | 7.3 | 28 | 9.8 | 37 | 12.2 | 46 | 15,000 | 1034 | |
| 55275 | 9 | .900 | 22.86 | 1/2" NPT Female | 1/2" NPT Female | 1-1/2" NPT Female | 6.2 | 23 | 9.3 | 35 | 12.4 | 47 | 15.5 | 59 | 12,500 | 861 |
| 55280 | 10 | 1.00 | 25.40 | | | 7.6 | 29 | 11.4 | 43 | 15.3 | 58 | 19.1 | 72 | 10,000 | 689 | |
| 55285 | 11 | 1.125 | 28.58 | | | 9.7 | 37 | 14.5 | 55 | 19.3 | 73 | 24.2 | 92 | 8,000 | 551 | |

* Displacement (flow) values represented refer to "theoretical" flow, neglecting inefficiency resulting from compressibility of water and expansion of pressure bearing components. Performance data is based on power end specifications published by the original equipment manufacturer; however, some power ends may differ from those used to determine the values above. Contact a Jetstream Solutions Provider for help with fluid end selection.

PART BREAKDOWN

| ITEM | PART NO. | DESCRIPTION | ITEM | PART NO. | DESCRIPTION |
|------|----------|----------------------|------|----------|------------------------|
| 1 | 55267 | Adapter Plate | 8b | 26476 | Discharge Valve Spring |
| 2 | 29748 | Adapter Plate Bolt | 8c | 26470 | Retaining Ring |
| 3 | 55489 | #8 Plunger | 8d | 26472 | Suction Valve Spring |
| | 54501 | #9 Plunger | 8e | 51664 | Spring Retainer |
| | 54502 | #10 Plunger | 8f | 26474 | Retaining Ring |
| | 54503 | #11 Plunger | 9 | 51695 | Lube Harness |
| 4 | 54428 | #8 Gland Nut | 9a | 27101 | Ball Valve |
| | 54506 | #9 Gland Nut | 9b | 25946 | Nipple |
| | 54507 | #10 Gland Nut | 9c | 53242 | Lube Manifold |
| | 54508 | #11 Gland Nut | 9d | 27732 | Hose Fitting |
| 5 | 26416 | O-Ring | 9e | 27740 | Hose (Order in feet) |
| 6 | 51691 | #8 Packing Set | 9f | 27475 | Needle Valve |
| | 51674 | #9 Packing Set | 9g | 26465 | Nipple |
| | 51697 | #10 Packing Set | 10 | 26462 | Manifold Bolt |
| | 52233 | #11 Packing Set | 11 | 55266 | Manifold |
| 7 | 55268 | #8 Stuffing Box | 12 | 51666 | Trunnion Rod |
| | 55269 | #9, #10 Stuffing Box | 13 | 26468 | Cotter Pin |
| | 55271 | #11 Stuffing Box | 14 | 51659 | Trunnion |
| 8 | 51675 | Uni-Valve | 15 | 50064 | 3/4" Pump Wrench |
| 8a | 50034 | Uni-Valve Seal Kit | 16 | 26544 | 5/8" Pump Wrench |

PUMPS &
FLUID ENDS



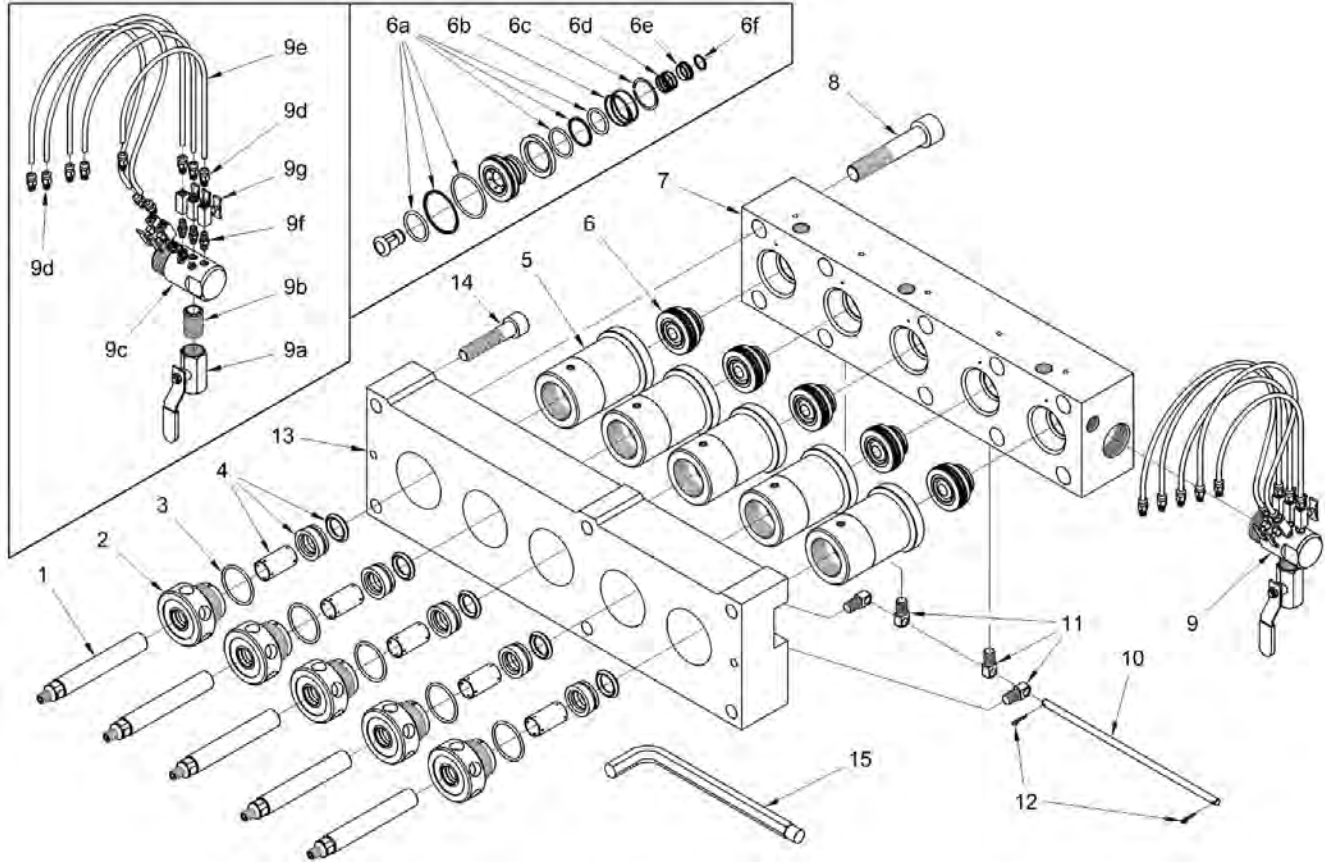


MULTIPLE MANUFACTURER UPGRADE

MODEL 3015Q

UNx™ FLUID END UPGRADE
 AMERICAN AERO | WHITFORD FE145
 NLB 10125
 UNION QD100 (POWER END)

PUMPS &
 FLUID ENDS



FLUID END SPECS

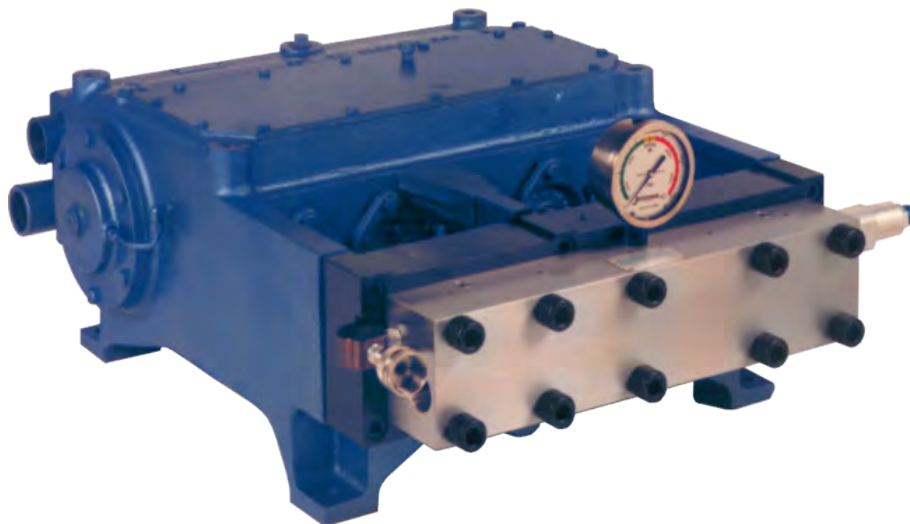
| PART NO. | PLUNGER SIZE | | CONNECTION TYPES | | | PUMP DISPLACEMENT AT SPECIFIED PUMP SPEEDS* | | | | | | | | MAX. OPERATING PRESSURE | | |
|----------|--------------|----------|------------------|-----------------|-----------------|---|---------|-----|---------|-----|---------|-----|---------|-------------------------|--------|------|
| | NO. | DIAMETER | | TOP PORTS | DISCHARGE PORTS | SUPPLY PORT | 200 RPM | | 300 RPM | | 400 RPM | | 500 RPM | | psi | bar |
| | | in | mm | | | | gpm | lpm | gpm | lpm | gpm | lpm | gpm | lpm | | |
| 51820 | 7 | .735 | 18.67 | 1/2" NPT Female | 1/2" NPT Female | 1-1/2" NPT Female | 8.3 | 31 | 11.0 | 42 | 13.8 | 52 | 15.2 | 58 | 15,000 | 1034 |
| 51825 | 8 | .800 | 20.32 | | | | 9.8 | 37 | 13.1 | 49 | 16.3 | 62 | 18.0 | 68 | 12,500 | 861 |
| 51830 | 9 | .900 | 22.86 | | | | 12.4 | 47 | 16.5 | 63 | 20.7 | 78 | 22.7 | 86 | 10,000 | 689 |
| 51835 | 10 | 1.000 | 25.40 | | | | 15.3 | 58 | 20.4 | 77 | 25.5 | 97 | 28.0 | 106 | 8,000 | 551 |
| 52285 | 11 | 1.125 | 28.58 | | | | 19.6 | 73 | 25.8 | 98 | 32.3 | 122 | 35.5 | 134 | 6,000 | 413 |

* Displacement (flow) values represented refer to "theoretical" flow, neglecting inefficiency resulting from compressibility of water and expansion of pressure bearing components. Performance data is based on power end specifications published by the original equipment manufacturer; however, some power ends may differ from those used to determine the values above. Contact a Jetstream Solutions Provider for help with fluid end selection.

PART BREAKDOWN

| ITEM | PART NO. | DESCRIPTION | ITEM | PART NO. | DESCRIPTION |
|-------|----------|----------------------|---------------------|----------|------------------------|
| 1 | 51690 | #7 Plunger | 6b | 26476 | Discharge Valve Spring |
| | 51696 | #8 Plunger | 6c | 26470 | Retaining Ring |
| | 51667 | #9 Plunger | 6d | 26472 | Suction Valve Spring |
| | 51694 | #10 Plunger | 6e | 51664 | Spring Retainer |
| | 52983 | #11 Plunger | 6f | 26474 | Retaining Ring |
| 2 | 51617 | #7 Gland Nut | 7 | 50887 | Manifold |
| | 51619 | #8 Gland Nut | 8 | 26462 | Manifold Bolt |
| | 51621 | #9 Gland Nut | 9 | 51490 | Lube Harness |
| | 51623 | #10 Gland Nut | 9a | 27101 | Ball Valve |
| | 52231 | #11 Gland Nut | 9b | 25946 | Nipple |
| 3 | 26416 | O-Ring | 9c | 53793 | Lube Manifold |
| | 51689 | #7 Packing Set | 9d | 27732 | Hose Fitting |
| 4 | 51691 | #8 Packing Set | 9e | 27740 | Hose (Order in feet) |
| | 51674 | #9 Packing Set | 9f | 26465 | Nipple |
| | 51697 | #10 Packing Set | 9g | 27475 | Needle Valve |
| | 52233 | #11 Packing Set | 10 | 51016 | Trunnion Rod |
| | 5 | 51611 | #7, #8 Stuffing Box | 11 | 51659 |
| 51671 | | #9, #10 Stuffing Box | 12 | 26468 | Cotter Pin |
| 52232 | | #11 Stuffing Box | 13 | 50897 | Adapter Plate |
| 6 | 51675 | Uni-Valve | 14 | 25427 | Adapter Plate Bolt |
| 6a | 50034 | Uni-Valve Seal Kit | 15 | 50064 | Pump Wrench |

PUMPS &
FLUID ENDS







PUMP ACCESSORIES

EVERYTHING YOU NEED TO SUCCEED

Jetstream's full range of recommended pump and fluid end parts and accessories help you succeed on every job. From pump tools, valves, hydro-throttles, filters, and other add-ons, to gear drives and spare parts packages, we have everything you need to maximize performance of your pump and ensure a safe and uninterrupted workday.

The Pump Accessories section includes the following parts and packages:

- ▶ Fluid End Spare Parts Packages
- ▶ Pump Tools (Wrenches, Studs, Lubricants)
- ▶ Filters and Filter Assemblies
- ▶ Pressure Gauges
- ▶ Rupture Disc Assembly and Discs
- ▶ Valves (Bypass, Air-Operated, Hydraulic, Electric, Multi-Gun Valves)
- ▶ Hydro-Throttle Assemblies
- ▶ Multi-Unit Manifold
- ▶ Hydrostatic Test Valve (HTV)





SPARE PARTS PACKAGES

FOR UNx™ FLUID ENDS

A must-have for field repairs, these packages include all major fluid end replacement parts packaged together for easy transport and storage.

- ▶ Available for most 15K UNx fluid ends
- ▶ Packaged in a top-of-the-line, waterproof case with tough custom foam inlay
- ▶ Contents: 1 or 3 Plungers, 3 Uni-Valves, 3 Packing Sets, 3 Uni-Valve Seal Kits, Locking waterproof case and keys, 10 Burst Discs (5 each at primary and secondary relief pressures, or 10 at the same relief pressure if only one rupture disc holder is used)

3015 SPARE PARTS PACKAGES

1 PLUNGER PACKAGES

3 PLUNGER PACKAGES

| PART NO. | PRESSURE (PSI) | DESCRIPTION | PART NO. | PRESSURE (PSI) | DESCRIPTION |
|---------------|----------------|-------------|---------------|----------------|-------------|
| S1301-6-11-S | 6,000 | 3015 #11 | SP301-6-11-B | 6,000 | 3015 #11 |
| S1301-8-10-B | 8,000 | 3015 #10 | SP301-6-11-S | 6,000 | 3015 #11 |
| S1301-8-10-S | 8,000 | 3015 #10 | SP301-8-10-B | 8,000 | 3015 #10 |
| S1301-8-11-B | 8,000 | 3015 #11 | SP301-8-10-S | 8,000 | 3015 #10 |
| S1301-8-11-S | 8,000 | 3015 #11 | SP301-8-11-B | 8,000 | 3015 #11 |
| S1301-10-9-B | 10,000 | 3015 #9 | SP301-8-11-S | 8,000 | 3015 #11 |
| S1301-10-9-S | 10,000 | 3015 #9 | SP301-10-9-B | 10,000 | 3015 #9 |
| S1301-10-10-B | 10,000 | 3015 #10 | SP301-10-9-S | 10,000 | 3015 #9 |
| S1301-10-10-S | 10,000 | 3015 #10 | SP301-10-10-B | 10,000 | 3015 #10 |
| S1301-12-8-B | 12,500 | 3015 #8 | SP301-10-10-S | 10,000 | 3015 #10 |
| S1301-12-8-S | 12,500 | 3015 #8 | SP301-10-11-S | 10,000 | 3015 #11 |
| S1301-12-9-B | 12,500 | 3015 #9 | SP301-12-8-B | 12,500 | 3015 #8 |
| S1301-12-9-S | 12,500 | 3015 #9 | SP301-12-8-S | 12,500 | 3015 #8 |
| S1301-15-7-B | 15,000 | 3015 #7 | SP301-12-9-B | 12,500 | 3015 #9 |
| S1301-15-7-S | 15,000 | 3015 #7 | SP301-12-9-S | 12,500 | 3015 #9 |
| S1301-15-8-B | 15,000 | 3015 #8 | SP301-15-7-B | 15,000 | 3015 #7 |
| S1301-15-8-S | 15,000 | 3015 #8 | SP301-15-7-S | 15,000 | 3015 #7 |
| | | | SP301-15-8-B | 15,000 | 3015 #8 |
| | | | SP301-15-8-S | 15,000 | 3015 #8 |
| | | | SP301-15-9-B | 15,000 | 3015 #9 |
| | | | SP301-15-9-S | 15,000 | 3015 #9 |

4215 SPARE PARTS PACKAGES

1 PLUNGER PACKAGES

3 PLUNGER PACKAGES

| PART NO. | PRESSURE (PSI) | DESCRIPTION | PART NO. | PRESSURE (PSI) | DESCRIPTION |
|---------------|----------------|-------------|---------------|----------------|-------------|
| S142H-5-15-S | 5,000 | 4215HF #15 | SP42H-5-15-S | 5,000 | 4215HF #15 |
| S142H-6-15-S | 6,000 | 4215HF #15 | SP42H-6-15-S | 6,000 | 4215HF #15 |
| S142H-6-16-S | 6,000 | 4215HF #16 | SP42H-6-16-S | 6,000 | 4215HF #16 |
| S142H-8-13-S | 8,000 | 4215HF #13 | SP42H-6-18-B | 6,000 | 4215HF #18 |
| S142H-8-13-B | 8,000 | 4215HF #13 | SP42H-8-13-B | 8,000 | 4215HF #13 |
| S142H-8-15-S | 8,000 | 4215HF #15 | SP42H-8-13-S | 8,000 | 4215HF #13 |
| S142H-8-15-B | 8,000 | 4215HF #15 | SP42H-8-15-B | 8,000 | 4215HF #15 |
| S142H-8-16-S | 8,000 | 4215HF #16 | SP42H-8-15-S | 8,000 | 4215HF #15 |
| S142H-8-16-B | 8,000 | 4215HF #16 | SP42H-8-16-B | 8,000 | 4215HF #16 |
| S142H-10-11-S | 10,000 | 4215HF #11 | SP42H-8-16-S | 8,000 | 4215HF #16 |
| S142H-10-11-B | 10,000 | 4215HF #11 | SP42H-10-11-B | 10,000 | 4215HF #11 |
| S142H-10-12-B | 10,000 | 4215HF #12 | SP42H-10-11-S | 10,000 | 4215HF #11 |
| S142H-10-12-S | 10,000 | 4215HF #12 | SP42H-10-12-B | 10,000 | 4215HF #12 |
| S142H-10-13-S | 10,000 | 4215HF #13 | SP42H-10-12-S | 10,000 | 4215HF #12 |
| S142H-10-13-B | 10,000 | 4215HF #13 | SP42H-10-13-B | 10,000 | 4215HF #13 |
| S142H-10-15-S | 10,000 | 4215HF #15 | SP42H-10-13-S | 10,000 | 4215HF #13 |
| S142H-10-15-B | 10,000 | 4215HF #15 | SP42H-10-15-B | 10,000 | 4215HF #15 |
| S142H-12-10-B | 12,000 | 4215HF #10 | SP42H-10-15-S | 10,000 | 4215HF #15 |
| S142H-12-10-S | 12,500 | 4215HF #10 | SP42H-12-10-B | 12,500 | 4215HF #10 |
| S142H-12-11-B | 12,500 | 4215HF #11 | SP42H-12-10-S | 12,500 | 4215HF #10 |
| S142H-12-11-S | 12,500 | 4215HF #11 | SP42H-12-11-B | 12,500 | 4215HF #11 |
| S142H-12-12-B | 12,500 | 4215HF #12 | SP42H-12-11-S | 12,500 | 4215HF #11 |
| S142H-12-12-S | 12,500 | 4215HF #12 | SP42H-12-12-B | 12,500 | 4215HF #12 |
| S142H-12-13-B | 12,500 | 4215HF #13 | SP42H-12-12-S | 12,500 | 4215HF #12 |
| S142H-12-13-S | 12,500 | 4215HF #13 | SP42H-12-13-B | 12,500 | 4215HF #13 |
| S142H-15-10-S | 15,000 | 4215HF #10 | SP42H-12-13-S | 12,500 | 4215HF #13 |
| S142H-15-10-B | 15,000 | 4215HF #10 | SP42H-15-9-B | 15,000 | 4215HF #9 |
| S142H-15-11-S | 15,000 | 4215HF #11 | SP42H-15-9-S | 15,000 | 4215HF #9 |
| S142H-15-11-B | 15,000 | 4215HF #11 | SP42H-15-10-B | 15,000 | 4215HF #10 |
| S142H-15-12-B | 15,000 | 4215HF #12 | SP42H-15-10-S | 15,000 | 4215HF #10 |
| S142H-15-12-S | 15,000 | 4215HF #12 | SP42H-15-11-B | 15,000 | 4215HF #11 |
| S142H-15-9-B | 15,000 | 4215HF #9 | SP42H-15-11-S | 15,000 | 4215HF #11 |
| S142H-15-9S | 15,000 | 4215HF #9 | SP42H-15-12-B | 15,000 | 4215HF #12 |
| | | | SP42H-15-12-S | 15,000 | 4215HF #12 |
| | | | P42H-S18 | 6,800 | 4215HF #18 |

5215 SPARE PARTS PACKAGES

1 PLUNGER PACKAGES

3 PLUNGER PACKAGES

| PART NO. | PRESSURE (PSI) | DESCRIPTION | PART NO. | PRESSURE (PSI) | DESCRIPTION |
|---------------|----------------|-------------|---------------|----------------|-------------|
| S1521-5-15-S | 5,000 | 5215 #15 | SP521-5-15-S | 5,000 | 5215 #15 |
| S1521-6-15-S | 6,000 | 5215 #15 | SP521-6-15-S | 6,000 | 5215 #15 |
| S1521-6-16-S | 6,000 | 5215 #16 | SP521-6-16-S | 6,000 | 5215 #16 |
| S1521-8-13-B | 8,000 | 5215 #13 | SP521-8-13-B | 8,000 | 5215 #13 |
| S1521-8-13-S | 8,000 | 5215 #13 | SP521-8-13-S | 8,000 | 5215 #13 |
| S1521-8-15-B | 8,000 | 5215 #15 | SP521-8-15-B | 8,000 | 5215 #15 |
| S1521-8-15-S | 8,000 | 5215 #15 | SP521-8-15-S | 8,000 | 5215 #15 |
| S1521-8-16-B | 8,000 | 5215 #16 | SP521-8-16-B | 8,000 | 5215 #16 |
| S1521-8-16-S | 8,000 | 5215 #16 | SP521-8-16-S | 8,000 | 5215 #16 |
| S1521-10-11-B | 10,000 | 5215 #11 | SP521-10-11-B | 10,000 | 5215 #11 |
| S1521-10-11-S | 10,000 | 5215 #11 | SP521-10-11-S | 10,000 | 5215 #11 |
| S1521-10-12-B | 10,000 | 5215 #12 | SP521-10-12-B | 10,000 | 5215 #12 |
| S1521-10-12-S | 10,000 | 5215 #12 | SP521-10-12-S | 10,000 | 5215 #12 |
| S1521-10-13-B | 10,000 | 5215 #13 | SP521-10-13-B | 10,000 | 5215 #13 |
| S1521-10-13-S | 10,000 | 5215 #13 | SP521-10-13-S | 10,000 | 5215 #13 |
| S1521-10-15-B | 10,000 | 5215 #15 | SP521-10-15-B | 10,000 | 5215 #15 |
| S1521-10-15-S | 10,000 | 5215 #15 | SP521-10-15-S | 10,000 | 5215 #15 |
| S1521-12-11-B | 12,000 | 5215 #11 | SP521-12-11-B | 12,000 | 5215 #11 |
| S1521-12-11-S | 12,000 | 5215 #11 | SP521-12-11-S | 12,000 | 5215 #11 |
| S1521-12-12-B | 12,000 | 5215 #12 | SP521-12-12-B | 12,000 | 5215 #12 |
| S1521-12-12-S | 12,000 | 5215 #12 | SP521-12-12-S | 12,000 | 5215 #12 |
| S1521-12-13-B | 12,000 | 5215 #13 | SP521-12-13-B | 12,000 | 5215 #13 |
| S1521-12-13-S | 12,000 | 5215 #13 | SP521-12-13-S | 12,000 | 5215 #13 |
| S1521-15-11-B | 15,000 | 5215 #11 | SP521-15-11-B | 15,000 | 5215 #11 |
| S1521-15-11-S | 15,000 | 5215 #11 | SP521-15-11-S | 15,000 | 5215 #11 |
| S1521-15-12-B | 15,000 | 5215 #12 | SP521-15-12-B | 15,000 | 5215 #12 |
| S1521-15-12-S | 15,000 | 5215 #12 | SP521-15-12-S | 15,000 | 5215 #12 |

5215 QUINTUPLEX SPARE PARTS PACKAGES

1 PLUNGER PACKAGES

5 PLUNGER PACKAGES

| PART NO. | PRESSURE (PSI) | DESCRIPTION | PART NO. | PRESSURE (PSI) | DESCRIPTION |
|----------------|----------------|-------------|----------------|----------------|-------------|
| S1521Q-10-12-B | 10,000 | 5215Q #12 | SP521Q-10-12-B | 10,000 | 5215Q #12 |
| S1521Q-10-12-S | 10,000 | 5215Q #12 | SP521Q-10-12-S | 10,000 | 5215Q #12 |
| S1521Q-12-12-B | 12,000 | 5215Q #12 | SP521Q-12-12-B | 12,000 | 5215Q #12 |
| S1521Q-12-12-S | 12,000 | 5215Q #12 | SP521Q-12-12-S | 12,000 | 5215Q #12 |
| S1521Q-15-12-B | 15,000 | 5215Q #12 | SP521Q-15-12-B | 15,000 | 5215Q #12 |
| S1521Q-15-12-S | 15,000 | 5215Q #12 | SP521Q-15-12-S | 15,000 | 5215Q #12 |
| S1522Q-20-10-B | 20,000 | 5220Q #10 | SP522Q-20-10-B | 20,000 | 5220Q #10 |
| S1522Q-20-10-S | 20,000 | 5220Q #10 | SP522Q-20-10-S | 20,000 | 5220Q #10 |
| S1522Q-20-11-B | 20,000 | 5220Q #11 | SP522Q-20-11-B | 20,000 | 5220Q #11 |
| S1522Q-20-11-S | 20,000 | 5220Q #11 | SP522Q-20-11-S | 20,000 | 5220Q #11 |

CONVERSION SPARE PARTS PACKAGES

1 PLUNGER PACKAGES

3 PLUNGER PACKAGES

| PART NO. | PRESSURE (PSI) | DESCRIPTION | PART NO. | PRESSURE (PSI) | DESCRIPTION |
|---------------|----------------|----------------|---------------|----------------|----------------|
| S1300-6-11-B | 6,000 | 3015B,N,W #11 | SP300-6-11-B | 6,000 | 3015B,N,W #11 |
| S1300-6-11-S | 6,000 | 3015B,N,W #11 | SP300-6-11-S | 6,000 | 3015B,N,W #11 |
| S1300-8-10-B | 8,000 | 3015B,N,W #10 | SP300-8-10-B | 8,000 | 3015B,N,W #10 |
| S1300-8-10-S | 8,000 | 3015B,N,W #10 | SP300-8-10-S | 8,000 | 3015B,N,W #10 |
| S1300-8-11-B | 8,000 | 3015B,N,W #11 | SP300-8-11-B | 8,000 | 3015B,N,W #11 |
| S1300-8-11-S | 8,000 | 3015B,N,W #11 | SP300-8-11-S | 8,000 | 3015B,N,W #11 |
| S1300-10-10-B | 10,000 | 3015B,N,W #10 | SP300-10-9-B | 10,000 | 3015B,N,W #9 |
| S1300-10-10-S | 10,000 | 3015B,N,W #10 | SP300-10-9-S | 10,000 | 3015B,N,W #9 |
| S1300-10-9-B | 10,000 | 3015B,N,W #9 | SP300-10-10-B | 10,000 | 3015B,N,W #10 |
| S1300-10-9-S | 10,000 | 3015B,N,W #9 | SP300-10-10-S | 10,000 | 3015B,N,W #10 |
| S1300-12-8-B | 12,500 | 3015B,N,W #8 | SP300-12-8-B | 12,500 | 3015B,N,W #8 |
| S1300-12-8-S | 12,500 | 3015B,N,W #8 | SP300-12-8-S | 12,500 | 3015B,N,W #8 |
| S1300-12-9-B | 12,500 | 3015B,N,W #9 | SP300-12-9-B | 12,500 | 3015B,N,W #9 |
| S1300-12-9-S | 12,500 | 3015B,N,W #9 | SP300-12-9-S | 12,500 | 3015B,N,W #9 |
| S1300-15-7-B | 15,000 | 3015B,N,W #7 | SP300-15-7-B | 15,000 | 3015B,N,W #7 |
| S1300-15-7-S | 15,000 | 3015B,N,W #7 | SP300-15-7-S | 15,000 | 3015B,N,W #7 |
| S1300-15-8-B | 15,000 | 3015B,N,W #8 | SP300-15-8-B | 15,000 | 3015B,N,W #8 |
| S1300-15-8-S | 15,000 | 3015B,N,W #8 | SP300-15-8-S | 15,000 | 3015B,N,W #8 |
| S1371-15-8-B | 15,000 | 3015W GEN I #8 | SP371-15-8-B | 15,000 | 3715W GEN I #8 |
| S1371-15-8-S | 15,000 | 3715W GEN I #8 | SP371-15-8-S | 15,000 | 3715W GEN I #8 |
| S137W-8-11-B | 8,000 | 3715W,WZ #11 | SP37W-8-11-B | 8,000 | 3715W,WZ #11 |
| S137W-8-11-S | 8,000 | 3715W,WZ #11 | SP37W-8-11-S | 8,000 | 3715W,WZ #11 |
| S137W-10-10-B | 10,000 | 3715W,WZ #10 | SP37W-10-10-B | 10,000 | 3715W,WZ #10 |
| S137W-10-10-S | 10,000 | 3715W,WZ #10 | SP37W-10-10-S | 10,000 | 3715W,WZ #10 |
| S137W-12-9-B | 12,500 | 3715W,WZ #9 | SP37W-15-8-B | 15,000 | 3715W,WZ #8 |
| | | | SP37W-15-8-S | 15,000 | 3715W,WZ #8 |
| | | | SP37W-12-9-B | 12,500 | 3715W,WZ #9 |
| | | | SP37W-12-9-S | 12,500 | 3715W,WZ #9 |

PUMP
ACCESSORIES

TOOLS

PUMP WRENCHES

The only special tool needed to work on a Jetstream UNx pump. For use with manifold and gland nut.



| SIZE 7/8" PART NO. 50889 | | SIZE 3/4" PART NO. 50064 | SIZE 5/8" PART NO. 26544 |
|-----------------------------|--------|-----------------------------|-----------------------------|
| 6015 | 4515B | 3015 | 3115T |
| 5015Q | 4215N | 3015B | 3515Q |
| 4215 | 4215QN | 3015N | 3715W |
| 3615 | 4015B | 3015QN | 3715WZ |
| 5015G | 3715B | 3015Q | |
| | | 3015W | |

MANIFOLD MOUNTING STUDS

For easy and safe removal of manifolds during pressure conversions that require a manifold change (e.g. 10,000psi-40,000psi). To use, replace the top two outer manifold bolts with the mounting studs. Then, remove all bolts and the trunnion rod (hinge rod). The manifold can then be easily slid out and replaced with another. Sold individually.



| FOR USE WITH THE FOLLOWING MODELS | | |
|-----------------------------------|----------------|----------------|
| PART NO. 62093 | PART NO. 54261 | PART NO. 56742 |
| 6015 | 4215 | 3015 |
| | 3615 | 3015B |
| | 4515B | 3015N |
| | 4215N | |
| | 4215QN | |
| | 4015B | |
| | 3715B | |
| | 3715WZ | |
| | 3515Q | |
| | 3115T | |

OIL SEAL PULLER PLATES

For easy and safe removal of oil seals on bareshaft pumps.



| PART NO. | PUMP SERIES |
|----------|----------------|
| 56949 | 3600/4200/5200 |
| 56950 | 3000 |

PUMP
ACCESSORIES

BELT TENSION GAUGE

Ensure pump drive belts are properly tensioned for proper pump operation and maximum belt life. For use with V-belts.
Part No. 26993



BELT TENSION GAUGE

For use with Power Band and synchronous belts.
Part No. 62140



VALVE PULLER

The perfect tool for easily extracting uni-valves from the manifold. Sold individually.
Part No. 70179



PUMP ACCESSORIES

O-RING PICK

6-7/8" length with cushioned grip
Part No. 63443



3/16" T-WRENCH (HEX KEY)

Hex key for ease of nozzle maintenance. Short Length with comfort handle.
Part No. 63442



1/4" T-WRENCH (HEX KEY)

Hex key for ease of nozzle maintenance. Short Length with comfort handle.
Part No. 63814



GLAND NUT TOOL

3/4" Drive tool for ease of gland nut removal for pumps.

| PART NO. | PUMP SERIES |
|----------|-------------|
| 62110 | 4200/5000 |
| 66607 | 3000 |
| 66608 | 6000 |



PUMP OPERATIONS & MAINTENANCE DVD

An excellent learning tool, the Pump Operations and Maintenance DVD from Jetstream covers important topics such as waterblast safety, waterblast unit and pump maintenance and operation.
Part No. 70002



1/2" VALVES
Part No. 53440



Part No. 55120

3/4" VALVES
Part No. 53845



Part No. 54995

1" VALVES
Part No. 53935



Part No. J55705

DUMP-STYLE DIVERTER VALVES

AIR-OPERATED

The Air-Operated Diverter Valve allows an operator to remotely control pressure in cleaning applications up to 15,000 psi. When air is sent to the cylinder, the valve closes and allows the system to build pressure. The valve opens when the air is exhausted, reducing system pressure to near atmospheric.

- ▶ 30-second field replaceable cartridge design for minimal downtime
- ▶ Remote pneumatic operation for reduced operator fatigue and added convenience and safety
- ▶ Pipe threaded (NPT) inlet and outlet
- ▶ Heavy-duty air cylinder
- ▶ All pressure-bearing components precision machined stainless steel
- ▶ Available in three sizes with or without plated steel base

| ASSEMBLY PART NO. | MOUNTING STYLE | CONNECTION TYPE | | MAXIMUM FLOW RATE | | MAX. OPERATING PRESSURE | INLET AIR PRESSURE | | | | WEIGHT | | |
|-------------------|----------------|-----------------|-------------------|-------------------|-----|-------------------------|--------------------|------|------|------|--------|------|------|
| | | INLET & OUTLET | DIFFUSER OUTLET | gpm | lpm | | MIN. | MAX. | MIN. | MAX. | lb | kg | |
| 53440 | Pump | 1/2" NPT Female | 3/4" NPT Female | 35 | 130 | 15,000 | 1034 | 70 | 4.8 | 125 | 8.6 | 6.5 | 2.9 |
| 55120 | Base | | | | | | | | | | | 16.1 | 7.3 |
| 53845 | Pump | 3/4" NPT Female | 1" NPT Female | 75 | 284 | 15,000 | 1034 | 70 | 4.8 | 125 | 8.6 | 7.7 | 3.5 |
| 54995 | Base | | | | | | | | | | | 17.3 | 7.9 |
| 53935 | Pump | 1" NPT Female | 1-1/4" NPT Female | 125 | 473 | 15,000 | 1034 | 70 | 4.8 | 125 | 8.6 | 12.7 | 5.8 |
| J55705 | Base | | | | | | | | | | | 22.3 | 10.1 |

REPLACEMENT CARTRIDGE

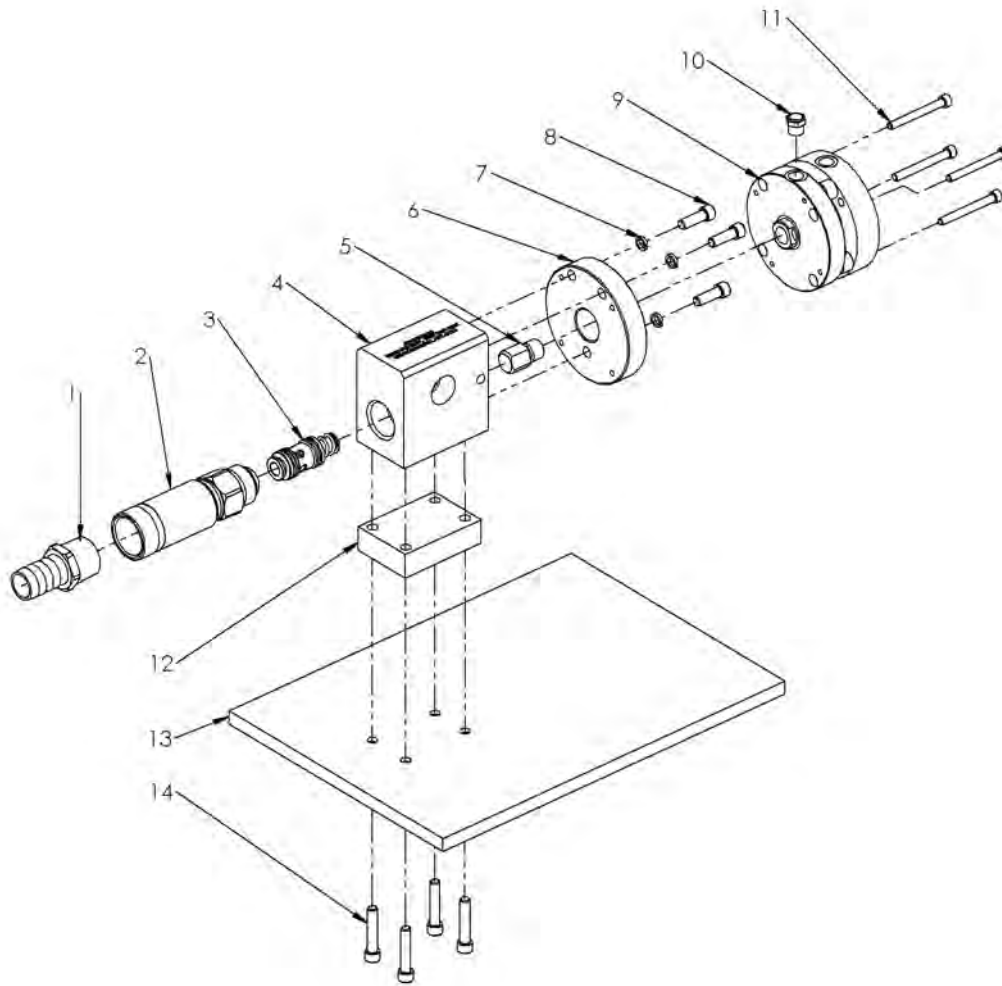
Diverter valve utilizes a cartridge, to completely rebuild the dump valve in about 30 seconds.

Part No. 50902
(for 53440)

Part No. 53915
(for 53935)

Part No. 52750
(for 53845)





PART BREAKDOWN

| ITEM | PART NO. | DESCRIPTION | ITEM | PART NO. | DESCRIPTION |
|------|----------|--------------------------------------|------|----------|------------------------------|
| 1 | 25796 | Hose Barb, 3/4" (for 53440) | 7 | J70633 | Washer (53440 & 53845) |
| | 27757 | Hose Barb, 1" (for 53845) | 8 | 25206 | Capscrew (53440 & 53845) |
| | 50460 | Diffuser, C-15 Series (53440) | | J70816 | Capscrew (53935) |
| 2 | 51638 | Diffuser, CF 3/4" Mag (53845) | 9 | 27251 | Air Cylinder (53440 & 53845) |
| | 53959 | Diffuser, DCF-15 1" Mag (53935) | | 54342 | Air Cylinder, 2.5" (53935) |
| 3 | 50902 | Cartridge, C-15 (53440) | 10 | 58848 | Muffler (53440 & 53845) |
| | 52750 | Cartridge, CF Mag (53845) | | 28364 | Muffler (53935) |
| | 53915 | Cartridge, C-15 Ultra Mag (53935) | 11 | 27107 | Capscrew (53440 & 53845) |
| | 53368 | Body, Durasafe DCF-15 (53440) | | 65656 | Capscrew (53935) |
| 4 | 53549 | Body, Durasafe DCF-15 Mag (53845) | 12* | 53788 | Spacer |
| | 53954 | Body, DCF-15 1" Ultra Mag (53935) | 13* | 53384 | Base Plate |
| 5 | 56999 | Pusher, Air Cylinder (53440 & 53845) | 14* | 26126 | Capscrew |
| | 53424 | Pusher, Air Cylinder (53935) | | | |
| 6 | J56366 | Adapter Plate (53440 & 53845) | | | |
| | 54321 | Mounting Plate (53935) | | | |

*Not shown.



DUMP STYLE DIVERTER VALVES

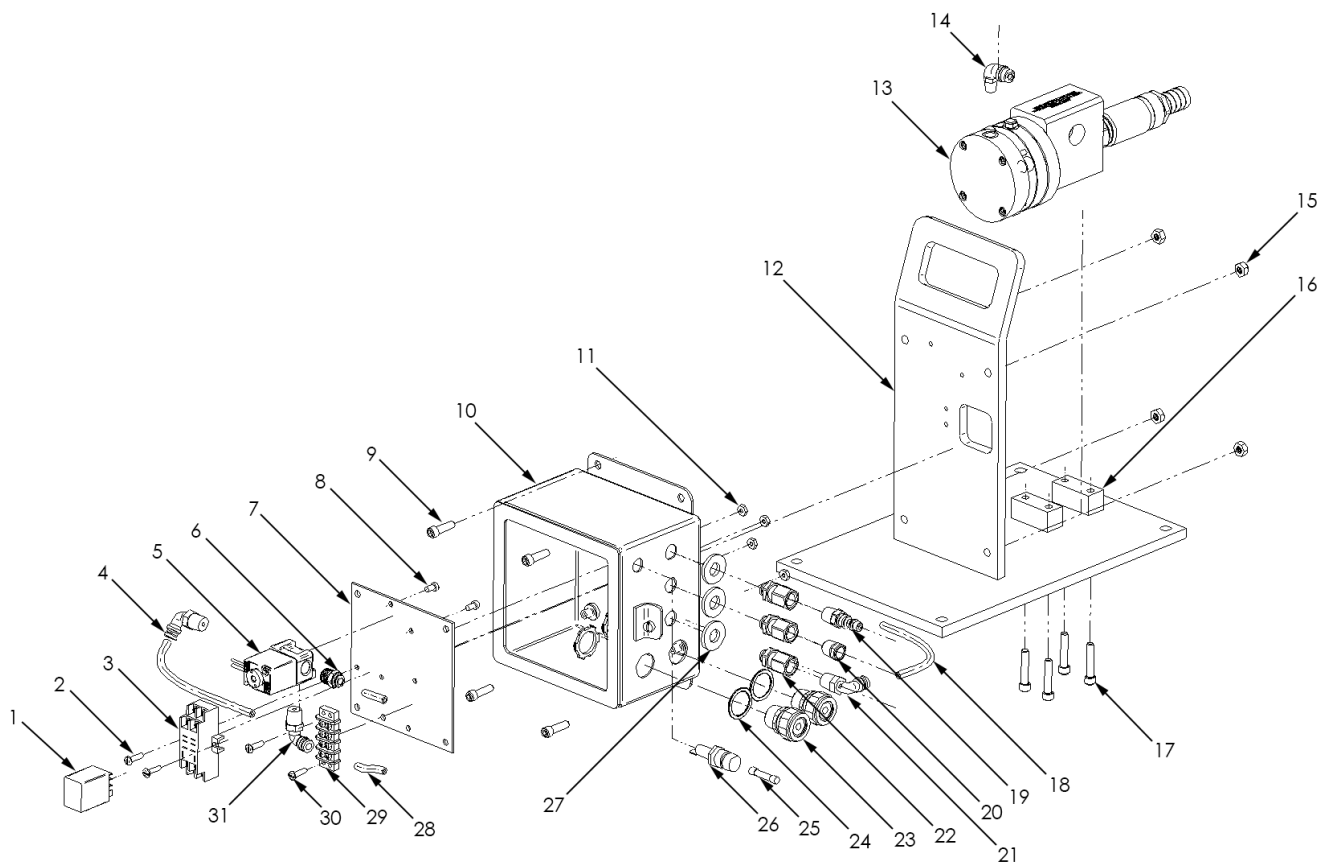
ELECTRIC/AIR-OPERATED

The Electric/Air-Operated Diverter Valve allows an operator to remotely control pressure in cleaning applications up to 15,000 psi, specifically in automated cleaning processes. Reduces operator fatigue by actuating the system electronically rather than mechanically.

When electric voltage is present, the air cylinder closes the valve and allows the system to build pressure. The valve opens when the voltage is removed, reducing system pressure to near atmospheric.

- ▶ Quick cartridge overhaul for easy field maintenance
- ▶ Remote operation for added operator convenience and safety
- ▶ Electric operation for reduced operator fatigue
- ▶ Valve operates at air pressures between 70-125 psi (4.8-8.6 bar) using a 1/8" NPT Female air connection

| ASSEMBLY PART NO. | VOLTAGE | INLET & OUTLET CONNECTION | MAXIMUM FLOW RATE | | MAX. OPERATING PRESSURE | | DIMENSIONS (H X W X D) | | WEIGHT | |
|-------------------|---------|---------------------------|-------------------|-----|-------------------------|------|------------------------|-----------------|--------|----|
| | | | gpm | lpm | psi | bar | in | mm | lb | kg |
| 53165 | 12 VDC | 1/2" NPT Female | 35 | 130 | 15,000 | 1034 | 12 x 8 x 17 | 305 x 203 x 432 | 36 | 16 |
| 53695 | 120 VAC | | | | | | | | | |
| 54724 | 12 VDC | 1" NPT Female | 125 | 473 | 15,000 | 1034 | 12 x 8 x 17 | 305 x 203 x 432 | 36 | 16 |
| 59459 | 110 VAC | | | | | | | | | |
| 54777 | 24 VDC | | | | | | | | | |



PART BREAKDOWN

| ITEM | PART NO. | DESCRIPTION | ITEM | PART NO. | DESCRIPTION |
|------|----------|--------------------------|------|----------|------------------|
| 1 | 27349 | Relay, 12 VDC | 15 | 26711 | Nut |
| | 27631 | Relay, 120 VAC | 16 | 53203 | Mounting Base |
| | 29155 | Relay, 24 VDC | 17 | 26126 | Capscrew |
| 2 | 58864 | Capscrew | 18 | 27740 | Plastic Tubing |
| 3 | 29158 | Relay Socket | 19 | 28223 | Nipple, Q.D. |
| 4 | 27740 | Plastic Tubing | 20 | 28364 | Muffler |
| 5 | 65002 | Valve, 3 Way, 12 VDC | 21 | 28367 | Elbow |
| | 65001 | Valve, 3 Way, 120 VAC | 22 | 65011 | Bulkhead Fitting |
| | 27783 | Valve, 3 Way, 24 VDC | 23 | 64998 | Gland |
| 6 | J70518 | Adapter | 24 | 64999 | Washer |
| 7 | 58868 | Mounting Panel | 25 | 27348 | Fuse |
| 8 | 27380 | Capscrew | 26 | 25644 | Fuse Holder |
| 9 | 58865 | Capscrew | 27 | 65012 | Washer |
| 10 | 58867 | Electrical Box | 28 | 27740 | Plastic Tubing |
| 11 | 29799 | Nut | 29 | 27347 | Block, Terminal |
| 12 | 53203 | Mounting Base | 30 | 58864 | Capscrew |
| 13 | 53440 | Air-Operated Valve, 1/2" | 31 | 28367 | Elbow |
| | 53935 | Air-Operated Valve, 1" | | | |
| 14 | 28367 | Elbow | | | |

3/4" VALVES
Part No. 62003



DUMP STYLE DIVERTER VALVES

HYDRAULIC-OPERATED

The Hydraulic-Operated Diverter Valve allows an operator to remotely control pressure in cleaning applications up to 15,000 psi, specifically in automated cleaning processes. Reduces operator fatigue by actuating the system hydraulically rather than mechanically.

1" VALVES
Part No. 65368

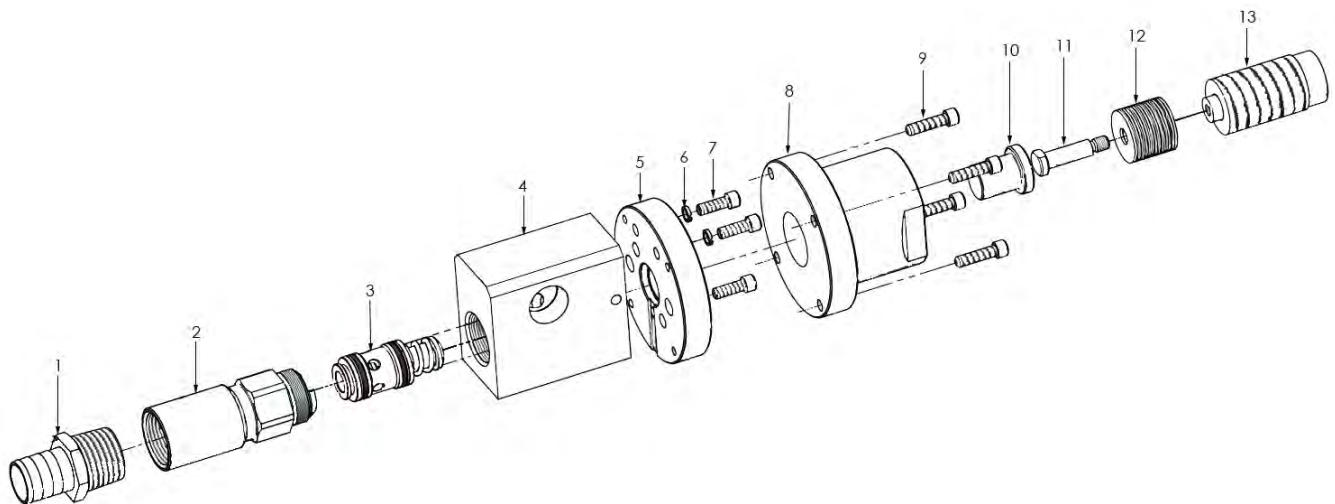


When hydraulic pressure is sent to the cylinder, the valve closes and allows the system to build pressure. The valve opens when the hydraulic pressure is exhausted, reducing system pressure to near atmospheric.

- ▶ Quick cartridge overhaul for easy field maintenance
- ▶ Remote operation for added operator convenience and safety

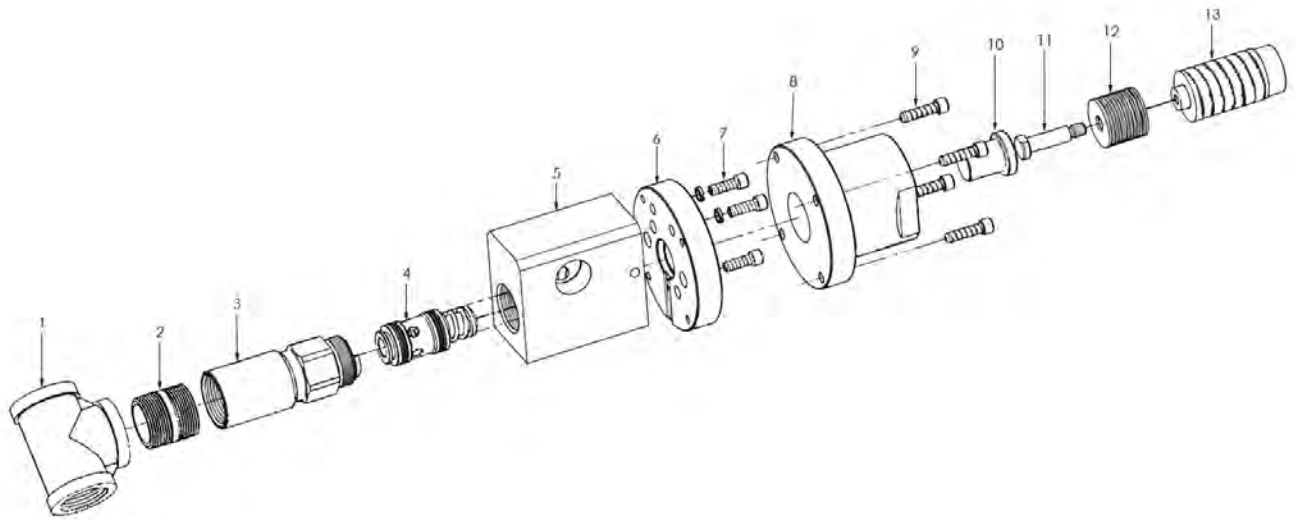
PUMP ACCESSORIES

| ASSEMBLY PART NO. | MOUNTING STYLE | CONNECTION TYPE | | MAXIMUM FLOW RATE | | MAX. OPERATING PRESSURE | | HYD. PRESSURE REQD. | | | | WEIGHT | |
|-------------------|----------------|-----------------|-------------------|-------------------|-----|-------------------------|------|---------------------|------|------|-------|--------|-----|
| | | INLET & OUTLET | DIFFUSER OUTLET | gpm | lpm | psi | bar | MIN. | | MAX. | | lb | kg |
| 62003 | Pump | 3/4" NPT Female | 1" NPT Female | 75 | 284 | 15,000 | 1034 | 500 | 34.5 | 5000 | 344.7 | 7.7 | 3.5 |
| 65368 | Pump | 1" NPT Female | 1-1/4" NPT Female | 125 | 473 | | | 12.7 | 5.8 | | | | |



PART BREAKDOWN (PART NO. 62003)

| ITEM | PART NO. | DESCRIPTION | ITEM | PART NO. | DESCRIPTION |
|------|----------|----------------|------|----------|-----------------------------|
| 1 | 27757 | Hose Barb | 8 | 60075 | Adapter, Hydraulic Cylinder |
| 2 | 51638 | Diffuser | 9 | 26689 | Capscrew |
| 3 | 52750 | Cartridge | 10 | 60025 | Pusher, Hydraulic Cylinder |
| 4 | 53549 | Body | 11 | 60027 | Guide, Spring |
| 5 | 54321 | Mounting Plate | 12 | 60026 | Spring, Disc |
| 6 | J70633 | Washer | 13 | 60079 | Hydraulic Cylinder |
| 7 | 25206 | Capscrew | | | |



PART BREAKDOWN (PART NO. 65368)

| ITEM | PART NO. | DESCRIPTION | ITEM | PART NO. | DESCRIPTION |
|------|----------|-----------------|------|----------|-----------------------------|
| 1 | 62259 | Tee, 1-1/4" NPT | 8 | 60075 | Adapter, Hydraulic Cylinder |
| 2 | 57432 | Nipple | 9 | 26689 | Capscrew |
| 3 | 53959 | Diffuser | 10 | 60025 | Pusher, Hydraulic Cylinder |
| 4 | 53915 | Cartridge | 11 | 60027 | Guide, Spring |
| 5 | 53954 | Body | 12 | 60026 | Spring, Disc |
| 6 | 54321 | Mounting Plate | 13 | 60079 | Hydraulic Cylinder |
| 7 | J70816 | Capscrew | | | |



SHUT-IN STYLE DIVERTER VALVES

AIR-OPERATED

Shut-In, Air-Operated Diverter Valves allow an operator to remotely control pressure in cleaning applications up to 15,000 psi. When air is sent to the cylinder, the valve opens to allow water to the nozzle. The valve closes when the air is exhausted, preventing water reaching the nozzle while maintaining system pressure.

- ▶ Use with plunger style pumps such as the UNx® requires the installation of a Shut-In Regulator Valve (see C-20)
- ▶ 30-second field replaceable cartridge design for minimal downtime
- ▶ Remote pneumatic operation for reduced operator fatigue and added convenience and safety
- ▶ Pipe threaded (NPT) inlet and outlet
- ▶ Heavy-duty air cylinder
- ▶ All pressure-bearing components precision machined stainless steel
- ▶ Available with or without plated steel base
- ▶ Valve operates at air pressures between 70-125 psi (4.8-8.6 bar) using a 1/8" NPT Female air connection

| PART NO. | MOUNTING | INLET & OUTLET CONNECTIONS* | MAXIMUM FLOW RATE | | DIMENSIONS (H X W X D) | | WEIGHT | | MAX. OPERATING PRESSURE | |
|----------|------------|-----------------------------|-------------------|-----|------------------------|-----------------|--------|-----|-------------------------|------|
| | | | gpm | lpm | in | mm | lb | kg | psi | bar |
| 53680 | No Base | 1/2" NPT Female | 35 | 132 | 3.3 x 3.1 x 6.1 | 85 x 79 x 154 | 6.4 | 2.9 | 15,000 | 1034 |
| J55710 | Base-Mount | | | | 4.0 x 8.0 x 11.3 | 101 x 203 x 286 | 16.0 | 7.3 | | |

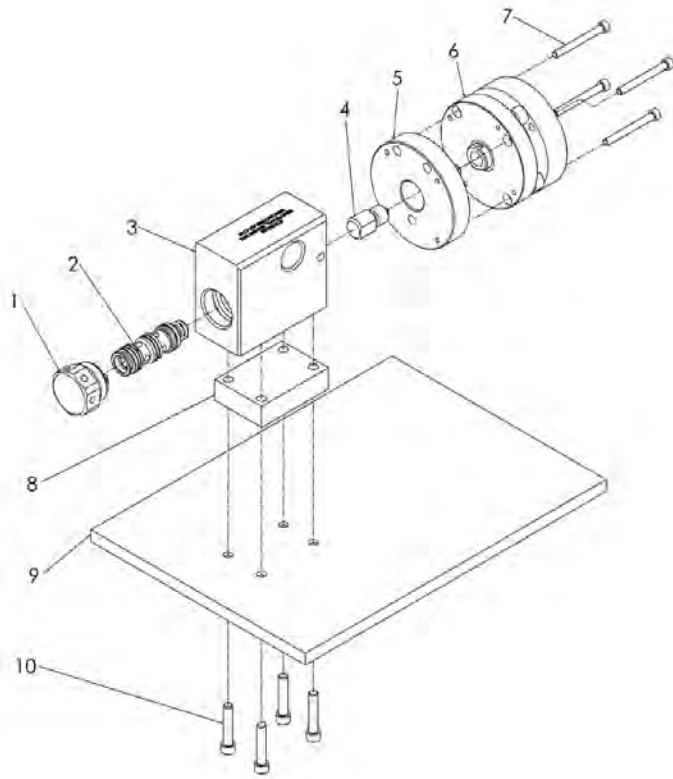
*See details on all connection types in Section I.

REPLACEMENT CARTRIDGE

15,000 psi Shut-in Style Diverter Valves utilize the CPSi-15 cartridge, shown above, to completely rebuild the gun in about 30 seconds!

Part No. 60419





PART BREAKDOWN

| ITEM | PART NO. | DESCRIPTION | ITEM | PART NO. | DESCRIPTION |
|------|----------|----------------------|------|----------|-------------------------------------|
| 1 | 52543 | Cartridge Plug | 7 | 27107 | Capscrew |
| 2 | 60419 | Cartridge | 8 | 53788 | Mounting Block (Base Mounted Model) |
| 3 | 53374 | Body | 9 | 53384 | Base (Base Mounted Model) |
| 4 | 56999 | Pusher, Air Cylinder | 10 | 26126 | Capscrew (Base Mounted Model) |
| 5 | J56366 | Adapter Plate | 11* | 25206 | Adapter, Capscrew |
| 6 | 27251 | Air Cylinder | 12* | J70633 | Washer |

*Not shown.



SHUT-IN STYLE DIVERTER VALVES

ELECTRIC/AIR-OPERATED

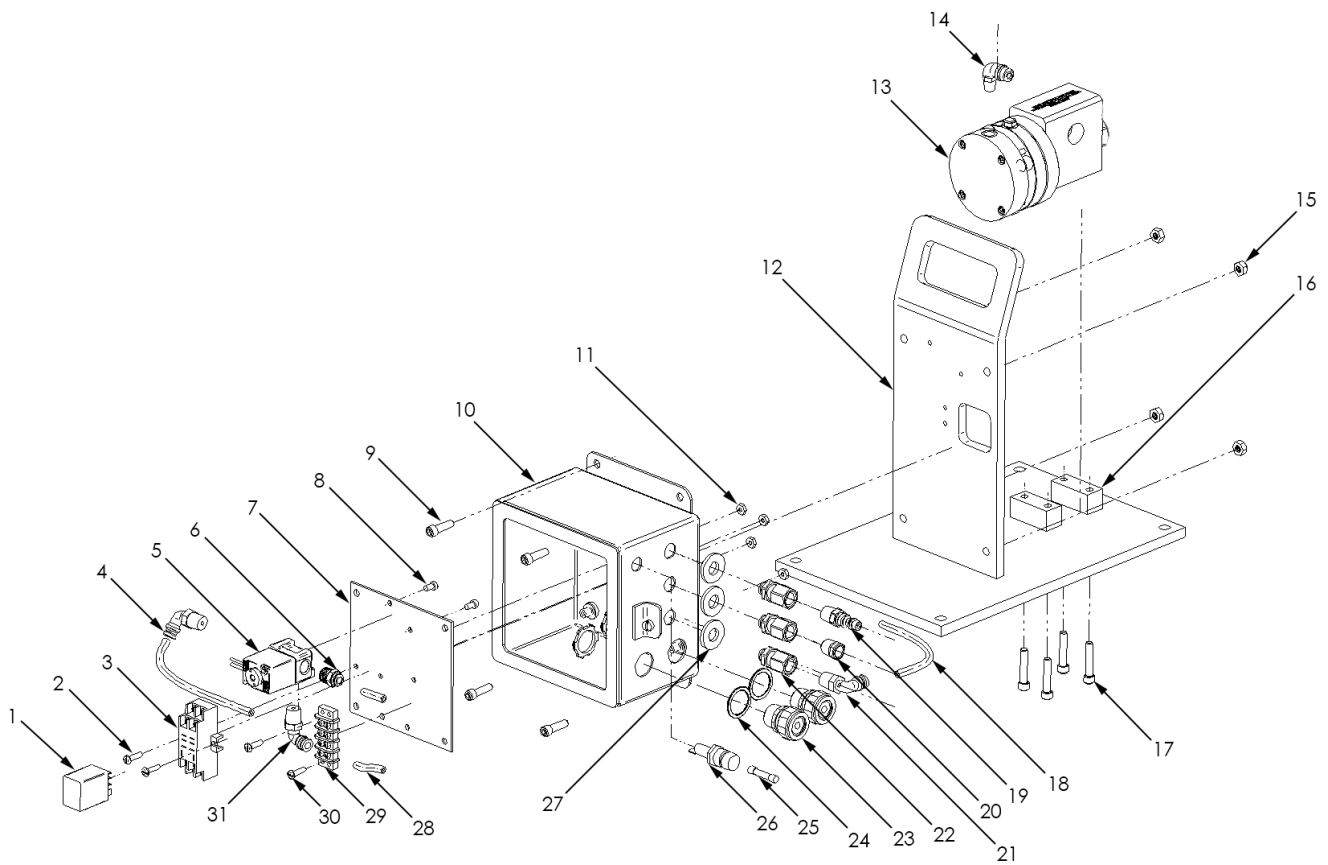
The Electric/Air-Operated Diverter Valve allows an operator to remotely control pressure in cleaning applications up to 15,000 psi, specifically in automated cleaning processes. Reduces operator fatigue by actuating the system electronically rather than mechanically.

When electric voltage is present, the valve opens to allow water to the nozzle. The valve closes when the voltage is removed, preventing the water from reaching the nozzle while maintaining system pressure.

- ▶ Use with plunger style pumps such as the UNx® requires the installation of a Shut-In Regulator Valve (see C-20)
- ▶ Quick cartridge overhaul for easy field maintenance
- ▶ Remote operation for added operator convenience and safety
- ▶ Electric operation for reduced operator fatigue
- ▶ Valve operates at air pressures between 70-125 psi (4.8-8.6 bar) using a 1/8" NPT Female air connection

| PART NO. | VOLTAGE | INLET & OUTLET CONNECTIONS* | MAXIMUM FLOW RATE | | MAX. OPERATING PRESSURE | | DIMENSIONS (H X W X D) | | WEIGHT | |
|----------|---------|-----------------------------|-------------------|-----|-------------------------|------|------------------------|-----------------|--------|----|
| | | | gpm | lpm | psi | bar | in | mm | lb | kg |
| 60650 | 110 VAC | 1/2" NPT Female | 35 | 132 | 15,000 | 1034 | 12 x 8 x 17 | 305 x 203 x 432 | 36 | 13 |

*See details on all connection types in Section I.



PART BREAKDOWN

| ITEM | PART NO. | DESCRIPTION | ITEM | PART NO. | DESCRIPTION |
|------|----------|--------------------|------|----------|------------------|
| 1 | 27631 | Relay | 17 | 26126 | Capscrew |
| 2 | 58864 | Capscrew | 18 | 27740 | Plastic Tubing |
| 3 | 29158 | Relay Socket | 19 | 28223 | Nipple, Q.D. |
| 4 | 27740 | Plastic Tubing | 20 | 28364 | Muffler |
| 5 | 65002 | Valve, 3 Way | 21 | 28367 | Elbow |
| 6 | 52756 | Adapter | 22 | 65011 | Bulkhead Fitting |
| 7 | 58868 | Mounting Panel | 23 | 64998 | Gland |
| 8 | 27380 | Capscrew | 24 | 64999 | Washer |
| 9 | 58865 | Capscrew | 25 | 27348 | Fuse |
| 10 | 58867 | Electrical Box | 26 | 25644 | Fuse Holder |
| 11 | 29799 | Nut | 27 | 65012 | Washer |
| 12 | 53203 | Mounting Base | 28 | 27740 | Plastic Tubing |
| 13 | 53680 | Air-Operated Valve | 29 | 27347 | Block, Terminal |
| 14 | 28367 | Elbow | 30 | 58864 | Capscrew |
| 15 | 26711 | Nut | 31 | 28367 | Elbow |
| 16 | 53203 | Mounting Base | | | |



BASE-MOUNTED
Part No. 52680

BYPASS VALVES

HAND ADJUSTABLE

A bypass valve diverts a portion of pump flow to a low-pressure outlet and is used on diesel and electric units. For diesel engines, it is used to prevent bogging the engine when using flows at the low end of the pump's capability. A bypass valve is required on non-VFD electric units due to the non-adjustability of motor speed.

- ▶ Two minute field-replaceable cartridge design for minimal downtime
- ▶ Hand adjustment—no wrench needed
- ▶ Pump-mount model connects to fluid end manifold using connection package (PN 56604) - sold separately.
- ▶ Base-mount model connects in-line downstream and includes a protective cage and a pressure gauge for remote adjustment
- ▶ All pressure-bearing components precision machined stainless steel
- ▶ Pipe threaded (NPT) inlet and outlet connections



PUMP-MOUNTED
Part No. 53920
Part No. 57197



**5215 SERIES PUMP
SIDE-MOUNTED**
Part No. 67392



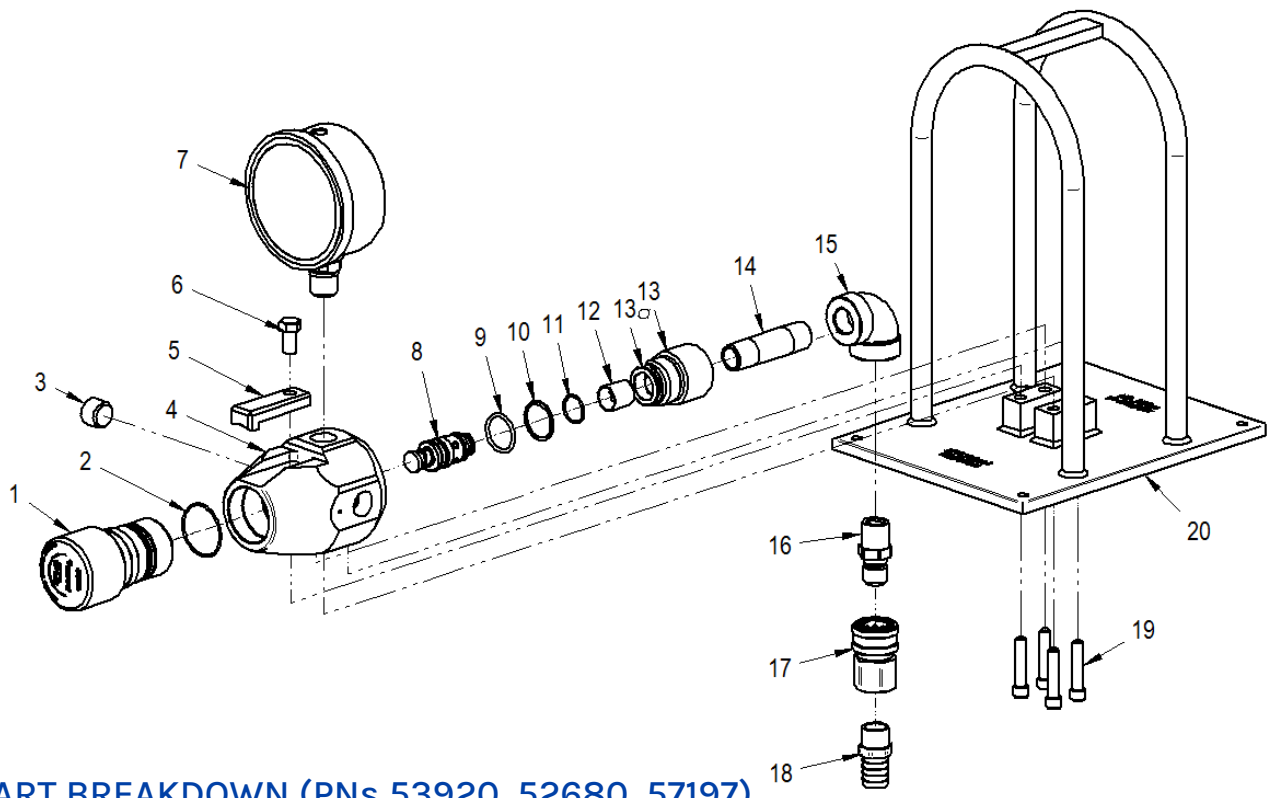
REPLACEMENT CARTRIDGE
Part No. 50234

| PART NO. | MOUNTING | PRESSURE GAUGE INCLUDED | INLET & OUTLET CONNECTIONS* | LOW PRESSURE OUTLET CONNECTION | DIMENSIONS (H X W X D) | | WEIGHT | | MAX. OPERATING PRESSURE | |
|----------|-------------|-------------------------|-----------------------------|--------------------------------|------------------------|-----------------|--------|----|-------------------------|------|
| | | | | | in | mm | lb | kg | psi | bar |
| 53920 | Pump | No | 1/2" NPT Female | 1/2" NPT Female | 3.2 x 3.3 x 7.9 | 80 x 84 x 200 | 11 | 5 | 15,000 | 1034 |
| 52680 | Base | Yes | | | 12.8 x 8.0 x 11.3 | 325 x 203 x 287 | 28 | 12 | | |
| 57197** | Pump | No | | | 3.2 x 3.3 x 7.9 | 80 x 84 x 200 | 11 | 5 | | |
| 67392*** | Pump (side) | No | HF Port | | 3.2 x 3.3 x 7.9 | 80 x 84 x 200 | 11 | 5 | | |

*See details on all connection types in Section I.

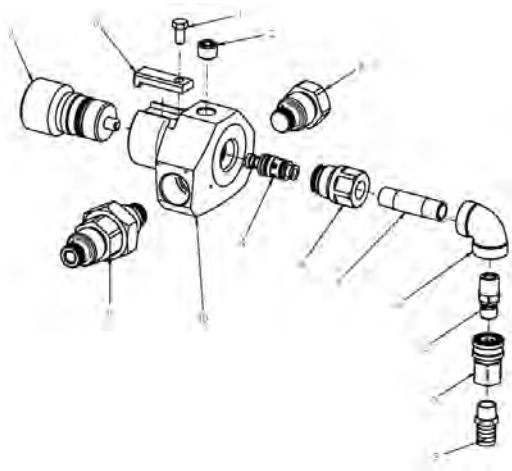
**Corrosion resistant style.

***5215 Series pumps only.



PART BREAKDOWN (PNs 53920, 52680, 57197)

| ITEM | PART NO. | DESCRIPTION | ITEM | PART NO. | DESCRIPTION |
|------|----------|----------------------------|------|----------|--------------------------------|
| 1 | 52144 | Adjuster | 12 | 52201 | Diffuser |
| 2 | 25603 | O-Ring | 13 | 51771 | Outlet Adapter |
| 3 | 26115 | Plug | 13a | 26509 | O-Ring |
| 4 | 53859 | Body | 14 | 63888 | Nipple |
| 5 | 50795 | Locking Arm | 15 | 71496 | Elbow Fitting |
| 6 | 25593 | Capscrew | 16 | 70173 | QD Nipple |
| 7 | 51126 | Gauge (Base-Mounted Model) | 17 | 70174 | QD Coupler |
| 8 | 50234 | Cartridge | 18 | 27350 | Hose Barb |
| 9 | 26522 | O-Ring | 19 | 25700 | Capscrew (Base-Mounted Model) |
| 10 | 53912 | Backup Ring | 20 | 52486 | Base/Cage (Base-Mounted Model) |
| 11 | 26782 | O-Ring | | | |



PART BREAKDOWN (PN 67392)

| ITEM | PART NO. | DESCRIPTION | ITEM | PART NO. | DESCRIPTION |
|------|----------|----------------|------|----------|--------------------|
| 1 | 25593 | Capscrew | 8 | 60951 | Plug, 15K |
| 2 | 26115 | Plug | 9 | 63888 | Nipple |
| 3 | 27350 | Hose Barb | 10 | 67266 | Body |
| 4 | 50234 | Cartridge | 11 | 67310 | Adapter, Clockable |
| 5 | 50795 | Locking Arm | 12 | 70173 | QD Nipple |
| 6 | 51771 | Outlet Adapter | 13 | 70174 | QD Coupler |
| 7 | 52144 | Adjuster | 14 | 71496 | Elbow Fitting |

SHUT-IN REGULATOR VALVES

HAND ADJUSTABLE

Required for use with shut-in systems on plunger pumps, the regulator valve maintains constant system pressure when operating one or more shut-in guns with a single pump. When a gun is disengaged, the regulator automatically adjusts to shift the excess flow to a low pressure outlet while maintaining system pressure.

- ▶ Two-minute field-replaceable cartridge design for minimal downtime
- ▶ Hand adjustment—no wrench needed
- ▶ Pump-mount model connects to fluid end manifold
- ▶ Base-mount model connects in-line downstream and includes a protective cage and a pressure gauge for remote adjustment
- ▶ All pressure-bearing components precision machined stainless steel
- ▶ Three operating pressure ranges available. Switching between ranges requires only a cartridge changeout.
- ▶ Pipe threaded (NPT) inlet and outlet connections

PUMP
ACCESSORIES

| PART NO. | MOUNTING | INLET & OUTLET CONNECTIONS* | | LOW PRESSURE OUTLET CONNECTION | DIMENSIONS (H X W X D) | | WEIGHT | | MAX. OPERATING PRESSURE | |
|----------|----------|-----------------------------|-----------------|--------------------------------|------------------------|-----------------|--------|----|-------------------------|----------|
| | | | | | in | mm | lb | kg | psi | bar |
| 54238 | Pump | | | | 3.2 x 3.3 x 7.9 | 80 x 84 x 200 | 11 | 5 | 10,000-15,000 | 689-1034 |
| 52690 | Base | | | | 12.8 x 8.0 x 11.3 | 325 x 203 x 287 | 28 | 12 | 10,000-15,000 | 689-1034 |
| 54432 | Pump | 3/4" NPT Female | 3/4" NPT Female | | 3.2 x 3.3 x 7.9 | 80 x 84 x 200 | 11 | 5 | 6,000-11,000 | 344-758 |
| 53605 | Base | | | | 12.8 x 8.0 x 11.3 | 325 x 203 x 287 | 28 | 12 | 6,000-11,000 | 344-758 |
| 57962 | Pump | | | | 3.2 x 3.3 x 7.9 | 80 x 84 x 200 | 11 | 5 | 2,000-6,000 | 137-413 |
| J55874 | Base | | | | 12.8 x 8.0 x 11.3 | 325 x 203 x 287 | 28 | 12 | 2,000-6,000 | 137-413 |

*See details on all connection types in Section I.

BASE-MOUNTED
Part No. 52690 & 53605,
J55874



PUMP-MOUNTED
Part No. 54238, 54432, 57962



REPLACEMENT CARTRIDGE

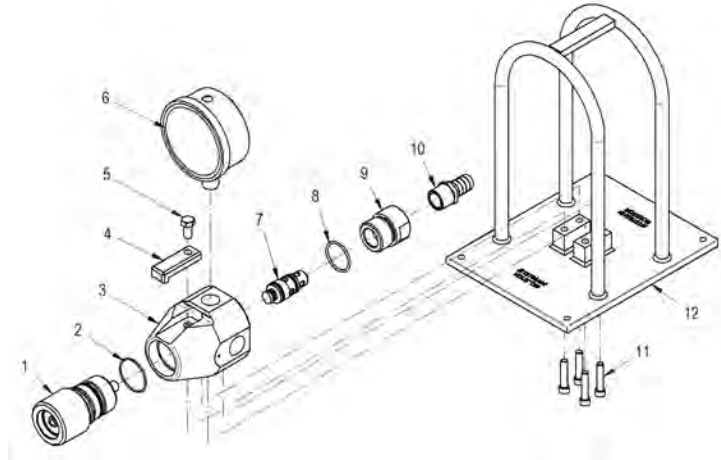


Part No. 52695, J55878, 53135

PART BREAKDOWN (BASE MOUNTED MODELS)

| ITEM | PART NO. | DESCRIPTION |
|------|----------|------------------------------|
| 1 | 52700 | Adjustment Knob |
| 2 | 26919 | O-Ring |
| 3 | 52572 | Body |
| 4 | 50795 | Locking Arm |
| 5 | 25593 | Capscrew |
| | 50562 | Gauge (0-10,000 psi scale) |
| | 25771 | Gauge (0-20,000 psi scale) |
| 6 | 51126 | Gauge (0-30,000 psi scale) |
| | J55878 | Cartridge, 2,000-6,000 psi |
| | 53135 | Cartridge, 6,000-11,000 psi |
| 7 | 52695 | Cartridge, 10,000-15,000 psi |
| | 25657 | O-Ring |
| 9 | 52583 | Outlet Adapter |
| 10 | 25796 | Hose Barb |
| 11 | 25700 | Capscrew |
| 12 | 52486 | Base |

USE FOR MODELS: 52690, 53605, J55874

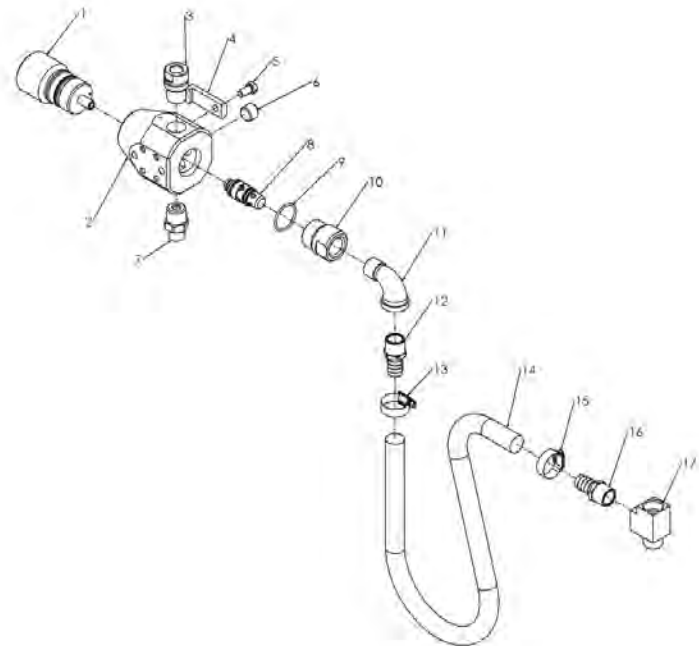


PUMP
ACCESSORIES

PART BREAKDOWN (PUMP MOUNTED MODELS)

| ITEM | PART NO. | DESCRIPTION |
|------|----------|-----------------------------|
| 1 | 52700 | Adjuster |
| 2 | 52572 | Body |
| 3 | 26065 | Bushing |
| 4 | 50795 | Locking Arm |
| 5 | 25593 | Capscrew |
| 6 | 26115 | Plug |
| 7 | 51702 | Straight Fitting |
| | J55878 | Cartridge, 2,000-6,000 psi |
| | 53135 | Cartridge, 6,000-11,000 psi |
| 8 | 52695 | Cartridge, 10,000-15,00 psi |
| | 25657 | O-Ring |
| 10 | 52583 | Outlet Adapter |
| 11 | 27989 | Elbow Fitting |
| 12 | 25796 | Hose Barb |
| 13 | 25807 | Hose Clamp |
| 14 | 25932 | Hose |
| 15 | 25807 | Hose Clamp |
| 16 | 25796 | Hose Barb |
| 17 | 27947 | Tee |

USE FOR MODELS: 54238, 54432, 57962



SHUT-IN REGULATOR VALVES

AIR-OPERATED

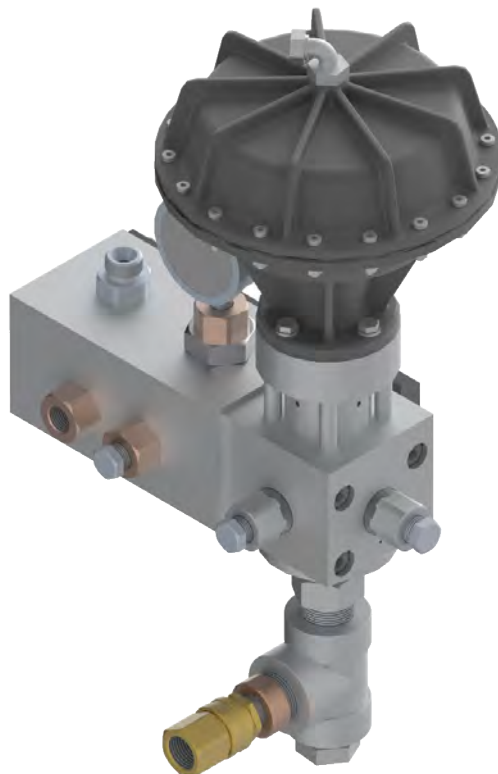
Regulator valves maintain a constant pressure when operating one or more shut-in style tools from a single bareshaft pump. The regulator automatically adjusts the excess flow to a lower pressure outlet to maintain the overall system constant pressure.

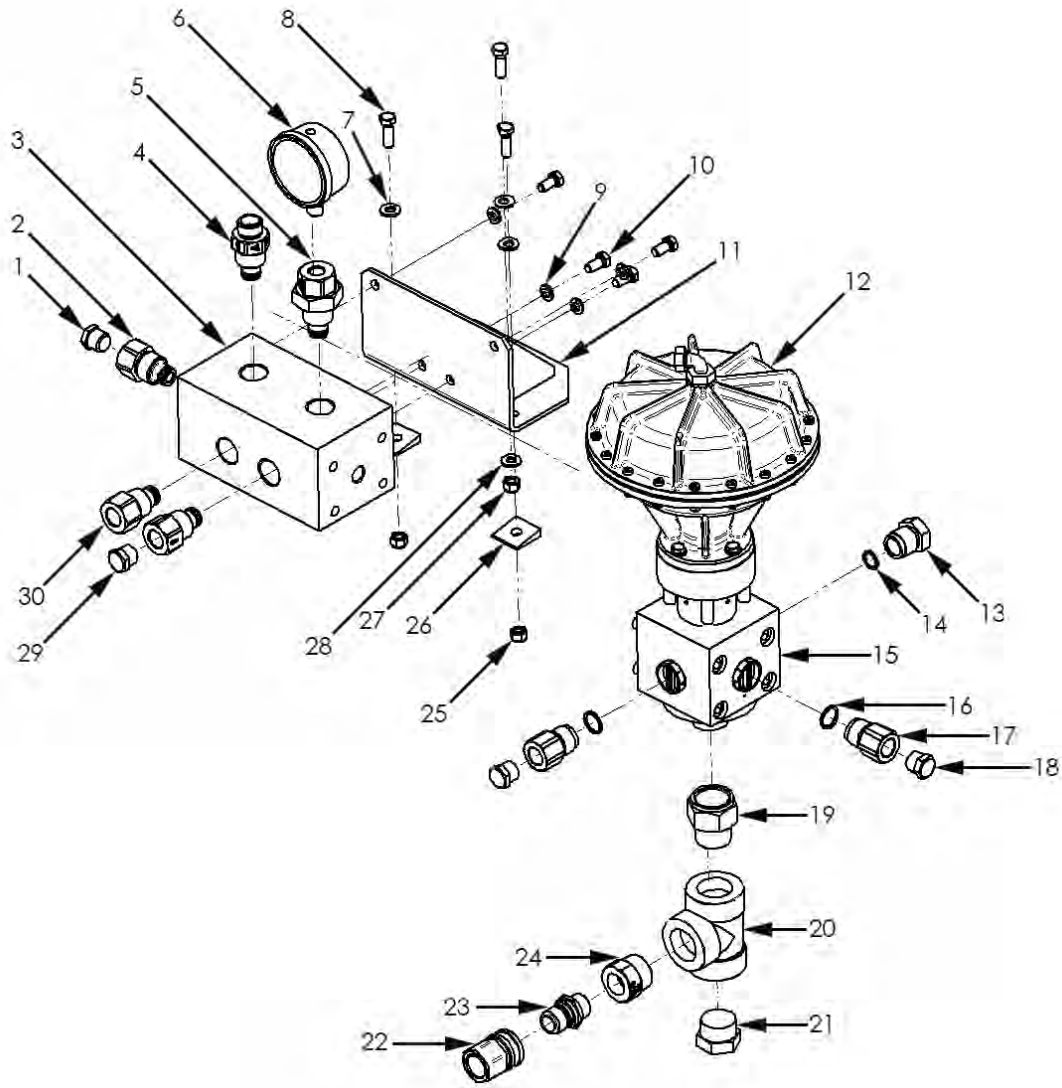
- ▶ Remote manifold mounting
- ▶ Pressure-bearing components stainless steel
- ▶ Six inlet ports available with various types of inlet and outlet connections. See page E-14 for HF adapter inlet options.

PUMP
ACCESSORIES

| PART NO. | MOUNTING | INLET & OUTLET CONNECTIONS* | LOW PRESSURE OUTLET CONNECTION | DIMENSIONS (H X W X D) | | WEIGHT | | MAX. OPERATING PRESSURE | |
|----------|----------|-----------------------------|--------------------------------|------------------------|---------------|--------|----|-------------------------|----------|
| | | | | in | mm | lb | kg | psi | bar |
| 63064 | Pump | HF | 1" NPT Female | 3.2 x 3.3 x 7.9 | 80 x 84 x 200 | 11 | 5 | 8,000-15,000 | 550-1034 |

*See details on all connection types in Section I.





PART BREAKDOWN

| ITEM | PART NO. | DESCRIPTION | ITEM | PART NO. | DESCRIPTION |
|------|-----------|-----------------------------|------|----------|-----------------------|
| 1 | 26147 | Plug | 16 | 63081 | Washer, Seal |
| 2 | 63089 | Adapter Assembly, 15K | 17 | 63087 | Adapter |
| 3 | 62838 | Manifold, Regulator, 15K | 18 | 26147 | Plug |
| 4 | 60952 | Adapter Assembly | 19 | 63079 | Adapter |
| 5 | 60955 | Adapter Assembly, Clockable | 20 | 08282 | Tee, 1-1/2" |
| 6 | 51126 | 30K Pressure Gauge | 21 | 71321 | Plug |
| 7 | 59149 | Washer | 22 | 63070 | QD Coupler |
| 8 | 26435 | Capscrew | 23 | 63069 | QD Nipple |
| 9 | 26558 | Washer, Lock | 24 | 28611 | Reducing Bushing |
| 10 | 26361 | Capscrew | 25 | 29904 | Nylok Nut |
| 11 | 63076-008 | Bracket, Remote Manifold | 26 | 26556 | Washer |
| 12 | 62966 | Regulator Valve, Pneumatic | 27 | 29904 | Nylok Nut |
| 13 | 62835 | Plug | 28 | 59149 | Washer |
| 14 | 62903 | Washer | 29 | 26147 | Plug |
| 15 | 62838 | Manifold, Regulator, 15K | 30 | 63089 | Adapter Assembly, 15K |

REGULATOR VALVE

LONG HANDLE (DUMP STYLE)

Required for use with shut-in systems on plunger pumps, the regulator valve maintains constant system pressure when operating one or more shut-in guns from a single pump. When a gun is disengaged, the regulator “senses” the reduction in flow downstream and shifts open just enough to divert water to a low pressure for other operators without over-pressurizing the system.

- ▶ Two minute field-repairable cartridge design for minimal downtime
- ▶ Hand Adjustment—no wrench needed



PUMP
ACCESSORIES

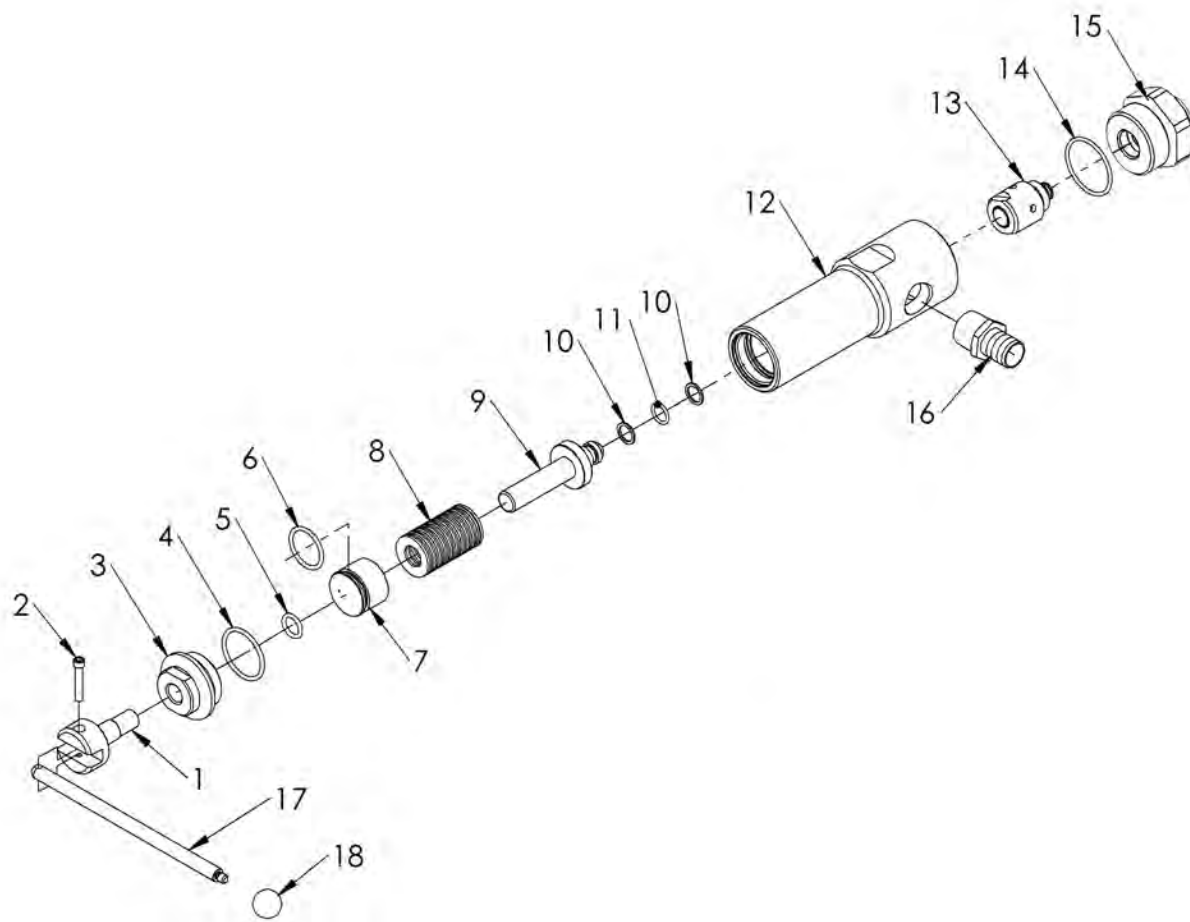
| PART NO. | STYLE | CONNECTION TYPE | MAX. OPERATING PRESSURE | | LENGTH | |
|----------|-------------|-----------------|-------------------------|------|--------|-------|
| | | | psi | bar | in | mm |
| 55515 | Long Handle | 3/4" NPT Female | 15,000 | 1034 | 12.0 | 304.8 |



REPLACEMENT CARTRIDGE



Regulator valve utilizes a cartridge, to completely rebuild the valve in about 30 seconds.
Part No. 55530



PART BREAKDOWN

| ITEM | PART NO. | DESCRIPTION | ITEM | PART NO. | DESCRIPTION |
|------|----------|----------------|------|----------|--------------|
| 1 | 55524 | Adjuster | 10 | 70125 | Backup Ring |
| 2 | 27680 | Capscrew | 11 | 25740 | O-Ring |
| 3 | 55523 | End Cap | 12 | 55521 | Body |
| 4 | 25165 | O-Ring | 13 | 55530 | Cartridge |
| 5 | 25212 | O-Ring | 14 | 26416 | O-Ring |
| 6 | 25125 | O-Ring | 15 | 55516 | Base |
| 7 | 55522 | Pusher, Spring | 16 | 29722 | Hose Barb |
| 8 | 70127 | Spring Disc* | 17 | 55531 | Handle |
| 9 | 55519 | Plunger | 18 | 70130 | Knob, Handle |

*Sold individually

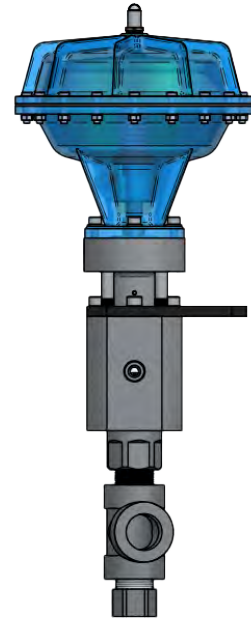
22K AIR-OPERATED REGULATOR

The 22K Air-Operated Regulator maintains constant system pressure when operating one or more guns or tools in a shut-in system.

After supplying it with a source of regulated low-pressure air, it will automatically adjust its bypass flow to maintain a constant system pressure. This system pressure will be maintained even through changes in the operation of the guns or tools, nozzle wear, or changes in engine speed. Once supplied with an initial charge of air, the regulator does not consume any air during operation. Because of this, a very small compressor can be used.

Features of the 22K Air-Operated Regulator include:

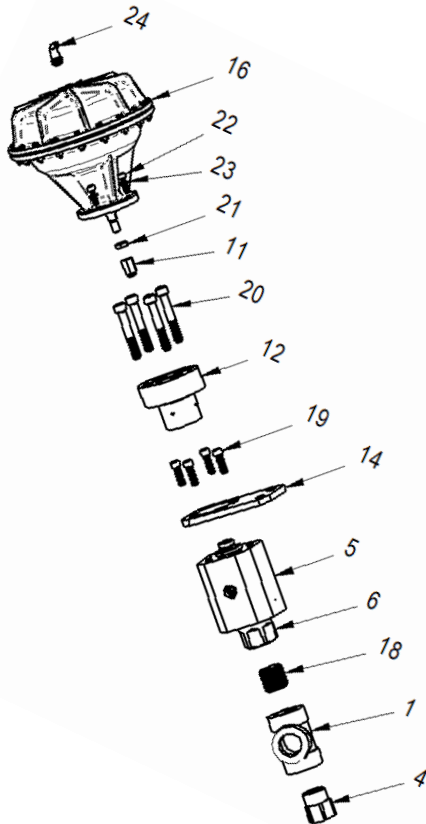
- ▶ High-strength ceramic valve components for long life and low maintenance.
- ▶ High flow capacity (up to 60 gpm).
- ▶ Outstanding control properties.
- ▶ Can be retrofitted to any unit.



PUMP ACCESSORIES

| PART NO. | STYLE | CONNECTION TYPE | MAX. OPERATING PRESSURE | | LENGTH | |
|----------|--------------|-------------------|-------------------------|------|--------|-----|
| | | | psi | bar | in | mm |
| 67158 | Air-Operated | 3/4" MP AE Female | 22,000 | 1517 | 30.8 | 782 |

PART BREAKDOWN



| ITEM | PART NO. | DESCRIPTION | ITEM | PART NO. | DESCRIPTION |
|------|----------|-------------------|------|-----------|------------------|
| 1 | 08282 | 1-1/2" Tee | 13* | 67143 | Plunger |
| 2* | 25165 | O-Ring | 14 | 67148-008 | Mounting Bracket |
| 3* | 25638 | O-Ring | 15* | 67328 | Disc Spring |
| 4 | 62413 | Plug | 16 | 67329 | Diaphragm |
| 5 | 64149 | Valve Body | 17* | 67681 | Cartridge Seat |
| 6 | 64150 | Outlet Adapter | 18* | 67844 | Nipple |
| 7* | 64153 | Guide Bushing | 19 | 68158 | Capscrew |
| 8* | 64154 | Seal | 20 | 68159 | Capscrew, M16 |
| 9* | 64158 | Seal Support Ring | 21 | 68160 | Nut |
| 10* | 65857 | Support Disc | 22 | 68161 | Capscrew, M10 |
| 11 | 66957 | Pusher Tip | 23 | 68162 | Washer |
| 12 | 66958 | Spacer | 24 | 68166 | Adapter |

*Not shown.

ELECTRONIC HYDRO-THROTTLE

THROTTLE CONTROLS FOR DUMP SYSTEMS



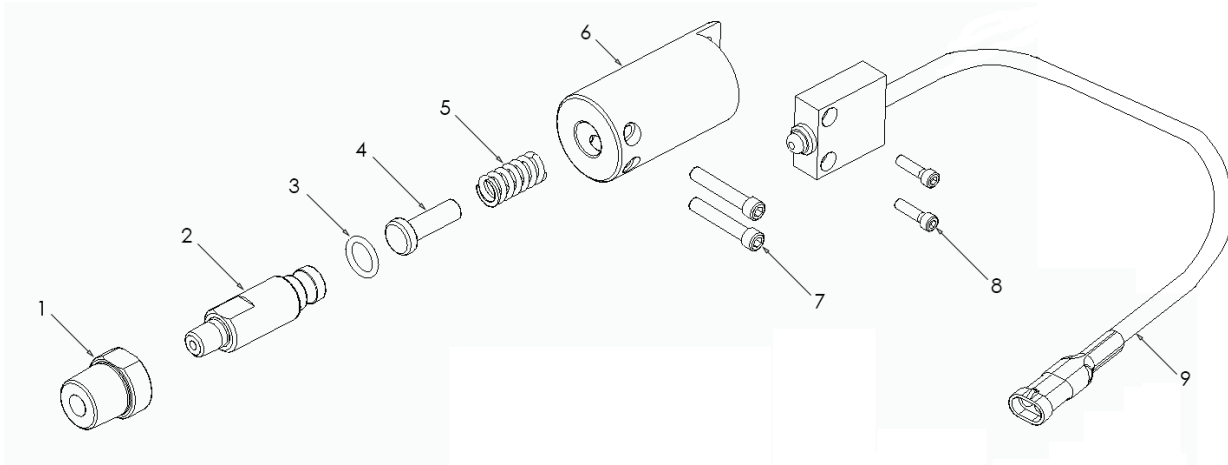
The Jetstream hydro-throttle enables the operator to reduce the engine to idle speed and relieve the system of high pressure when the dump gun trigger (or foot pedal) is released—saving water and fuel, while reducing wear on the engine and pump.

- ▶ Electronic hydro-throttle assembly is standard on current models and includes the actuator assembly, cartridge, and electrical plug to connect to the engine control panel
- ▶ Replaceable cartridge for fast field service or conversion to another pressure range

| TYPE | PART NO. | LENGTH (LESS CORD) | | MANIFOLD CONNECTION | DIAMETER | | WEIGHT | | MAX. OPERATING PRESSURE | |
|------|----------|--------------------|-----|---------------------|----------|------|--------|-----|-------------------------|------|
| | | in | mm | | in | mm | lb | kg | psi | bar |
| 4200 | J56371 | 7.2 | 182 | 3/4" NPT | 1.75 | 44.4 | 1.6 | .72 | 15,000 | 1034 |
| 3000 | 57902 | | | 1/2" NPT | | | | | | |

REPLACEMENT CARTRIDGE

Hydro-Throttle valve utilizes a cartridge, shown above, to completely rebuild the dump valve in about 30 seconds.
Part No. 51899



PART BREAKDOWN

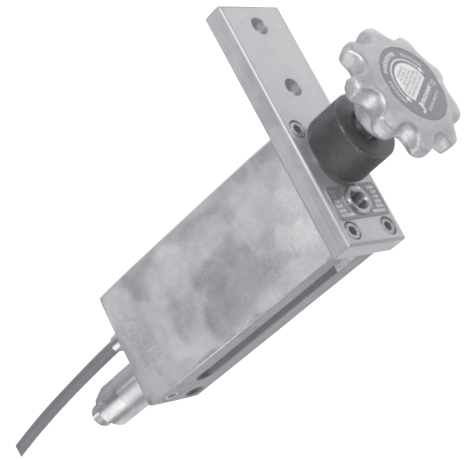
| ITEM | PART NO. | DESCRIPTION | ITEM | PART NO. | DESCRIPTION |
|------|----------|-----------------------|------|----------|-----------------------------|
| 1 | 26069 | Reducer Bushing, 4200 | 6 | 53443 | Body |
| | 25904 | Reducer Bushing, 3000 | 7 | 27680 | Capscrew |
| 2 | 51899 | Cartridge | 8 | 27716 | Capscrew |
| 3 | 26426 | O-Ring | 9 | 57970 | Switch Assy (after 9/2008) |
| 4 | 53444 | Plunger | | 56551 | Switch Assy (2007 - 9/2008) |
| 5 | 25279 | Spring | | 53446 | Switch Assy (before 2007) |

MECHANICAL HYDRO-THROTTLE

THROTTLE CONTROLS FOR DUMP SYSTEMS

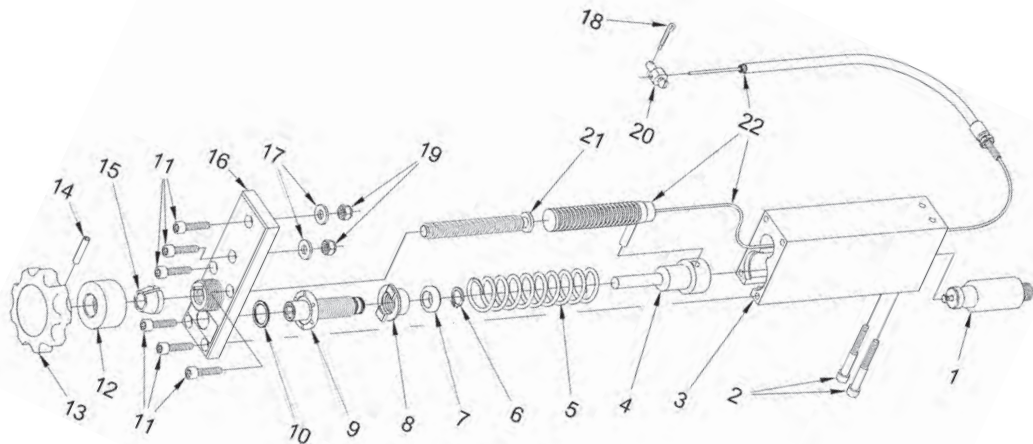
The Jetstream hydro-throttle enables the operator to reduce the engine to idle speed and relieve the system of high pressure when the dump gun trigger (or foot pedal) is released—saving water and fuel, while reducing wear on the engine and pump.

- ▶ Mechanical hydro-throttle parts can be purchased and include the control unit, cartridge and control cable
- ▶ Replaceable cartridge for fast field service or conversion to another pressure range
- ▶ For use on Tier I Mechanical engines only
- ▶ Requires high pressure hose connected to fluid end



PUMP ACCESSORIES

| PART NO. | CONTROL CABLE LENGTH | | HOSE CONNECTION THREAD | CONTROL UNIT SIZE (L X W X H) | | WEIGHT | | MAX. OPERATING PRESSURE | |
|----------|----------------------|-----|------------------------|-------------------------------|------------------|--------|-----|-------------------------|------|
| | ft | m | | in | mm | lb | kg | psi | bar |
| 51900 | 2 | 0.6 | 1/4" NPT Male | 11.7 x 1.75 x 5.6 | 297 x 44.5 x 142 | 4 | 1.8 | 15,000 | 1034 |
| 51900A | 5 | 1.5 | | | | | | | |



PART BREAKDOWN

| ITEM | PART NO. | DESCRIPTION | ITEM | PART NO. | DESCRIPTION |
|------|----------|------------------------|------|----------|----------------------|
| 1 | 51899 | Cartridge | 12 | 51887 | Friction Adjust. Nut |
| 2-21 | 52894 | Throttle Control Unit | 13 | 51879 | Hand Knob |
| 2 | 26690 | Capscrew | 14 | 26688 | Pin |
| 3 | 51877 | Body | 15 | 51888 | Friction Ring |
| 4 | 54293 | Spring Retainer | 16 | 51908 | Face Plate |
| 5 | 26682 | Return Spring | 17 | 25247 | Washer |
| 6 | 28274 | Retaining Spring | 18 | 26468 | Cotter Pin |
| 7 | 54272 | Adjuster Stop Ring | 19 | 25314 | Nut |
| 8 | 54269 | Pressure Adjust. Nut | 20 | 26728 | Pivot Terminal |
| 9 | 51885 | Pressure Adjust. Screw | 21 | 54268 | Adjustment Screw |
| 10 | 54271 | Thrust Washer | 22 | 51903 | 2' (0.6m) Ctrl Cable |
| 11 | 26689 | Capscrew | | 51903A | 5' (1.5m) Ctrl Cable |

REPLACEMENT CARTRIDGE



Hydro-Throttle valve utilizes a cartridge, shown above, to completely rebuild the dump valve in about 30 seconds.
Part No. 51899

REPLACEMENT PARTS

- 51903** Control Cable, 2 ft. solid wire
- 51903A** Control Cable, 5 ft. braided wire
- 53371** 6' (1.8m) Hydro-Throttle Hose, 1/2" NPT Male x 1/4" NPT Female

MULTI-GUN VALVE (MGV)

The MGV (Multi-Gun Valve) allows two dump style waterblast guns to be operated independently when connected to one waterblast pump. The MGV will divide the pump's total flow between the guns and will maintain system pressure when either or both guns are dumping.

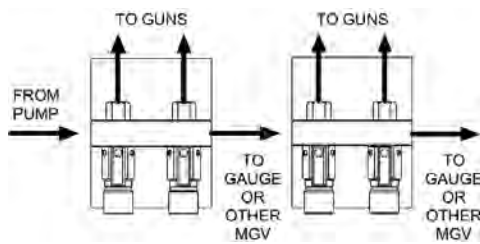


PUMP
ACCESSORIES

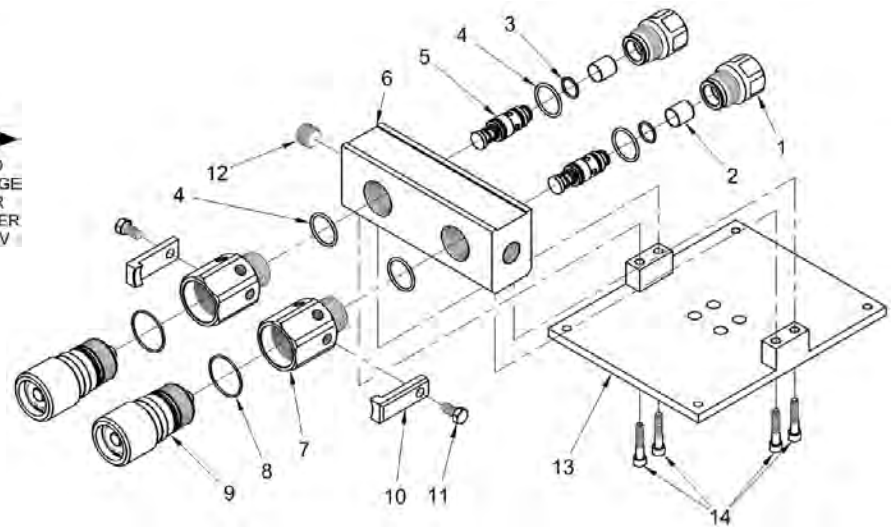
- ▶ Setup using two hand adjustment dials is fast and simple
- ▶ Utilizes two valve cartridges that can be easily replaced to completely repair the valve in the field in only three minutes
- ▶ All pressure-bearing components are stainless steel
- ▶ Zinc-plated base for corrosion resistance
- ▶ Pipe threaded (NPT) inlet and outlet connections
- ▶ Additional Multi-Gun Valves can be added to a system to further increase the number of tools in operation by a single waterblast unit

| PART NO. | INLET & THROUGH CONNECTIONS* | GUN CONNECTION* | MAXIMUM FLOW | | DIMENSIONS (H X W X D) | | WEIGHT | | MAX. OPERATING PRESSURE | |
|----------|------------------------------|-----------------|--------------|-----|------------------------|-----------------|--------|----|-------------------------|------|
| | | | gpm | lpm | in | mm | lb | kg | psi | bar |
| 51785 | 3/4" NPT Female | 1/2" NPT Female | 35 | 132 | 4.3 x 8.0 x 10.8 | 109 x 203 x 275 | 29 | 13 | 15,000 | 1034 |

*See details on all connection types in Section I. Inlet and Outlet (Gauge) connections can be reversed.



MULTIPLE MGV CONFIGURATIONS



PART BREAKDOWN

| ITEM | PART NO. | DESCRIPTION | ITEM | PART NO. | DESCRIPTION |
|------|----------|------------------|------|----------|---------------|
| 1 | 59047 | Outlet Adapter | 8 | 25603 | O-Ring |
| 2 | 52201 | Diffuser | 9 | 50900 | Adjuster |
| 3 | 26782 | O-Ring | 10 | 50795 | Locking Arm |
| 4 | 26509 | O-Ring | 11 | 25593 | Capscrew |
| 5 | 50234 | Cartridge | 12 | 26164 | 3/4" NPT Plug |
| 6 | 51767 | Manifold | 13 | 50811 | Base |
| 7 | 51769 | Adjuster Adapter | 14 | 25700 | Capscrew |

REPLACEMENT CARTRIDGE



Part No. 50234



SEVERE SERVICE RELIEF VALVE

For use as a primary relief device to protect waterblast systems and operators from dangerous overpressurization, the Severe Service Relief Valve opens to safely bypass some of the system flow in circumstances where the operating pressure exceeds the factory set opening pressure of the valve.

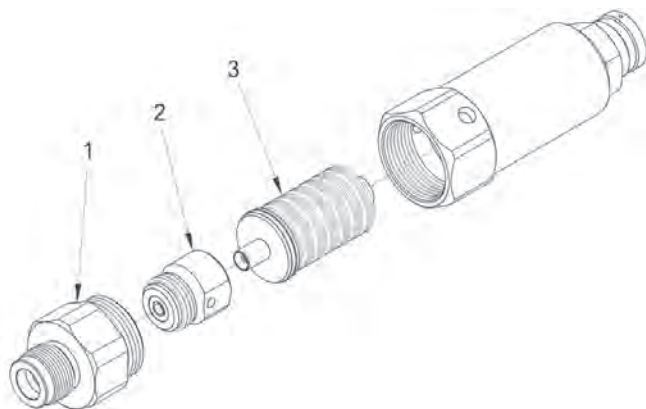
- ▶ Designed for rigorous service and low maintenance.
- ▶ Valve constructed with carbide ball and hardened stainless steel seat for long service life.
- ▶ Precise machining and cartridge design of ball-seat valve assembly and spring assembly allows quick and simple field repair without disturbing the valve pressure setting.
- ▶ Shipped from the factory preset and tested at customer specified opening (relief) pressure. Pressure cannot accurately be set lower than 4,000 PSI.
- ▶ Factory set opening pressure is stamped into anti-tamper ring which is installed to prevent set pressure from being changed without evidence

| PART NO. | CONNECTION TYPE* | OVERALL LENGTH | | DIAMETER | | RELIEF PRESSURE RANGE (FACTORY SET)** | | MAX. WORKING PRESSURE | |
|----------|------------------|----------------|-----|----------|------|---------------------------------------|------------|-----------------------|------|
| | | in | mm | in | mm | psi | bar | psi | bar |
| | | | | | | | | | |
| 51470A | 1/2" NPT Male | 6.5 | 165 | 1.94 | 49.3 | 4,000 - 6,000 | 276 - 415 | 5,000 | 345 |
| 51470B | 1/2" NPT Male | | | | | 6,000 - 12,000 | 415 - 825 | 10,000 | 689 |
| 51470C | 1/2" NPT Male | | | | | 12,000 - 18,000 | 825 - 1240 | 15,000 | 1034 |
| 51945A | 3/4" NPT Male | 6.7 | 170 | 1.94 | 49.3 | 4,000 - 6,000 | 276 - 415 | 5,000 | 345 |
| 51945B | 3/4" NPT Male | | | | | 6,000 - 12,000 | 415 - 825 | 10,000 | 689 |
| 51945C | 3/4" NPT Male | | | | | 12,000 - 18,000 | 825 - 1240 | 15,000 | 1034 |
| 51460A | 1" NPT Male | 7.9 | 200 | 2.20 | 55.9 | 4,000 - 6,000 | 276 - 415 | 5,000 | 345 |
| 51460B | 1" NPT Male | | | | | 6,000 - 12,000 | 415 - 825 | 10,000 | 689 |

*See details on all connection types in Section I.

**Valve pressure cannot accurately be set lower than 4,000 psi.

PART BREAKDOWN



| ITEM | PART NO. | DESCRIPTION |
|------|----------|---|
| 1 | 51452 | Base, 1/2" NPT Male (51470) |
| | 51822 | Base, 3/4" NPT Male (51945) |
| | 51441 | Base, 1" NPT Male (51460) |
| 2 | 51500 | Ball-Seat Cartridge Assy (51470, 51945) |
| | 51486 | Ball-Seat Cartridge Assy (51460) |
| 3 | 51477 | Spring Cartridge Assy (51470, 51945) |
| | 51468 | Spring Cartridge Assy (51460) |

MULTI-UNIT MANIFOLDS (MUM)



15,000 PSI HIGH FLOW
Part No. 55330

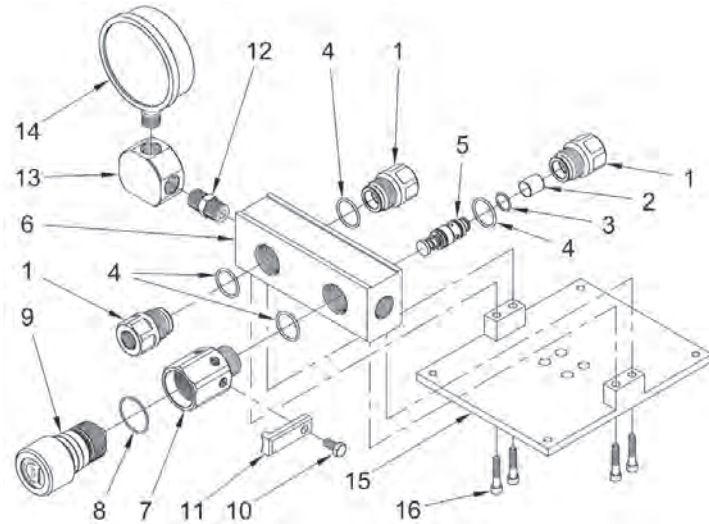
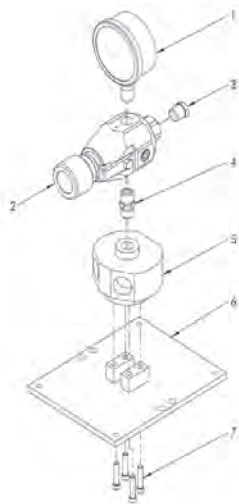


15,000 PSI
Part No. 52840

- ▶ Combine flow of two waterblast units
- ▶ Two sizes available
- ▶ Built-in bypass valve and pressure gauge for centralized, remote pressure control
- ▶ All pressure-bearing components are stainless steel
- ▶ Zinc-plated base for corrosion resistance
- ▶ Pipe threaded (NPT) inlet and outlet connections

| PART NO. | INLET CONNECTIONS* | OUTLET CONNECTIONS* | MAXIMUM FLOW | | DIMENSIONS (H X W X D) | | WEIGHT | | MAX. OPERATING PRESSURE | |
|----------|--------------------|---------------------|--------------|-----|------------------------|---------------------|--------|------|-------------------------|------|
| | | | gpm | lpm | in | mm | lb | kg | psi | bar |
| 55330 | 1" NPT Female | 1" NPT Female | 200 | 757 | 14 x 8 x 10 | 355 x 203.2 x 254 | 30 | 13.6 | 15,000 | 1034 |
| 52840 | 1/2" NPT Female | 3/4" NPT Female | 100 | 378 | 4.3 x 8 x 10.8 | 109 x 203.2 x 274.3 | 27 | 12.2 | | |

*See details on all connection types in Section I.



15,000 PSI HIGH FLOW PART BREAKDOWN (P/N 55330)

| ITEM | PART NO. | DESCRIPTION |
|------|----------|----------------|
| 1 | 51126 | Pressure Gauge |
| 2 | 53920 | Bypass Valve |
| 3 | 25174 | Plug |
| 4 | 50488 | Hex Nipple |
| 5 | 55297 | Y-Fitting, 1" |
| 6 | 55304 | Base |
| 7 | 25700 | Capscrew |

15,000 PSI PART BREAKDOWN (P/N 52840)

| ITEM | PART NO. | DESCRIPTION | ITEM | PART NO. | DESCRIPTION |
|------|----------|------------------|------|----------|----------------------|
| 1 | 54077 | Outlet Adapter | 9 | 52144 | Adjuster |
| 2 | 52201 | Diffuser | 10 | 25593 | Capscrew |
| 3 | 26782 | O-Ring | 11 | 50795 | Locking Arm |
| 4 | 26509 | O-Ring | 12 | 50496 | Nipple |
| 5 | 50234 | Cartridge | 13 | 50300 | Elbow |
| 6 | 51767 | Manifold | 14 | 51126 | Gauge (0-30,000 psi) |
| 7 | 51769 | Adjuster Adapter | 15 | 50811 | Base |
| 8 | 25603 | O-Ring | 16 | 25700 | Capscrew |

HYDROSTATIC TEST VALVE (HTV)

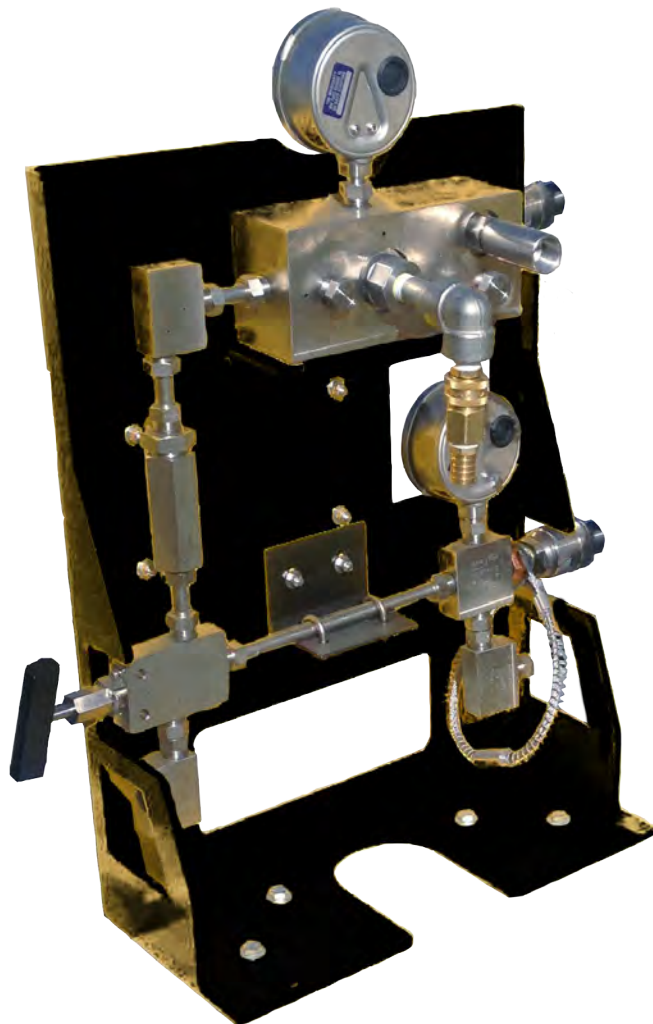
The Jetstream Hydrostatic Test Valve (HTV) is used for the pressure testing of pipes or other vessels. This valve allows one operator to control the filling, pressurizing and pressure bleeding from a central location. Included in this valve is the hand lever, which eliminates the need to “feather” the clutch on the Waterblasting unit.

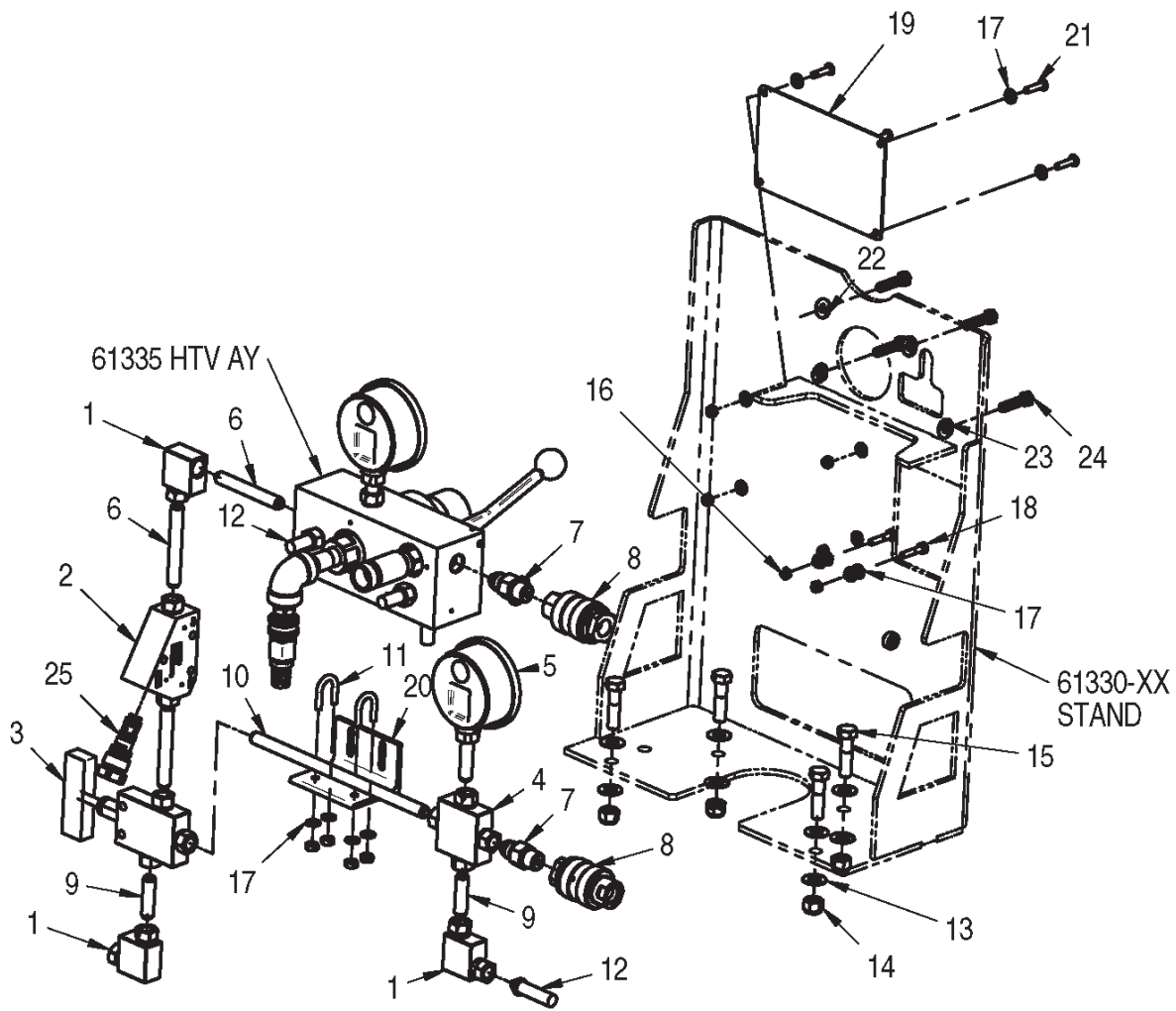
- ▶ wo-minute field replaceable cartridge design for minimal downtime
- ▶ Hand controls for high pressure filling and bleeding, without the use of a wrench
- ▶ Stainless steel pressure bearing components
- ▶ Internal ball check valve
- ▶ Adapts to various data acquisition apparatuses

PUMP
ACCESSORIES

| PART NO.* | INLET CONNECTIONS* | OUTLET (TEST DEVICE) CONNECTION** | OUTLET (CHART RECORDER) CONNECTION** | OUTLET (BLEED BACK TANK) CONNECTION** | WEIGHT | | MAX. OPERATING PRESSURE | |
|-----------|--------------------|-----------------------------------|--------------------------------------|---------------------------------------|--------|------|-------------------------|------|
| | | | | | lb | kg | psi | bar |
| 61376-XX | 1/2" NPT Female | 1/2" NPT Female | 9/16" MP Female | 9/16" MP Female | 100 | 45.3 | 20,000 | 1379 |

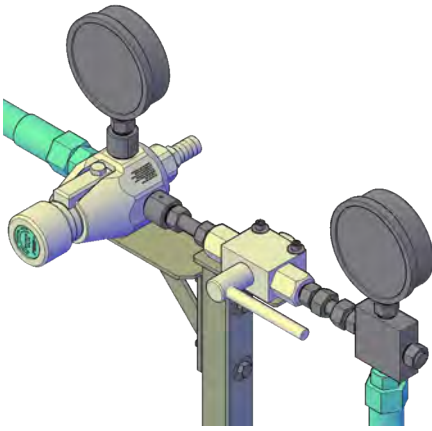
* The HTV is available in several paint colors, which are specified using a two digit code in the part number. 61376-01 is yellow, 61376-02 is blue, and 61376-08 is black.
 **See details on all connection types in Section I.





PART BREAKDOWN

| ITEM | PART NO. | DESCRIPTION | ITEM | PART NO. | DESCRIPTION |
|------|----------|----------------------------|------|----------|-----------------------|
| 1 | 28184 | Elbow | 14 | 29904 | Nut |
| 2 | 61993 | Check Valve | 15 | 27122 | Capscrew |
| 3 | 28025 | Needle Valve, 3-Way | 16 | 25314 | Nut |
| 4 | 27969 | Cross, 4-Way | 17 | 25247 | Washer |
| 5 | 25037 | Pressure Gauge | 18 | 26565 | Capscrew |
| 6 | 27968-04 | Nipple, 4" | 19 | 61331 | Plate, Instruction |
| 7 | 27971 | Adapter | 20 | 61686-08 | Bracket |
| 8 | 50989 | Coupling, Quick Disconnect | 21 | 26707 | Capscrew |
| 9 | 27968-03 | Nipple, 3" | 22 | 25251 | Flat, Washer |
| 10 | 27968-11 | Nipple, 11" | 23 | 25249 | Lock, Washer |
| 11 | 61687 | U-Bolt | 24 | 61378 | Capscrew |
| 12 | 27973 | Plug | 25 | 60765 | Check Valve Cartridge |
| 13 | 26798 | Washer | | | |



HYDROSTATIC TEST VALVE (HTV)

FOR USE WITH FOOT VALVE

The Jetstream Hydrostatic Test Valve (HTV) is used for the pressure testing of pipes or other vessels. This valve allows one operator to easily control test pressure without “feathering” the clutch on the Waterblasting unit.

- ▶ Up to 20,000 psi
- ▶ Precise hand-adjustable pressure setting
- ▶ Severe-duty ball valve eliminates need to manually hold pressure during test and requires only 1/4 turn to depressurize
- ▶ Used with foot valve for safe and absolute control of the system and vessel pressures
- ▶ Separate gauges to monitor system and test pressure
- ▶ Optional port for chart recorder
- ▶ Mounting bracket for easy installation

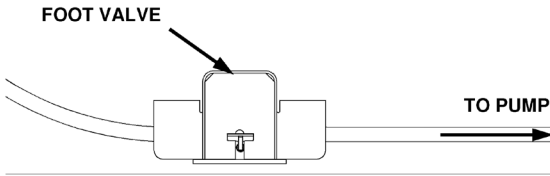
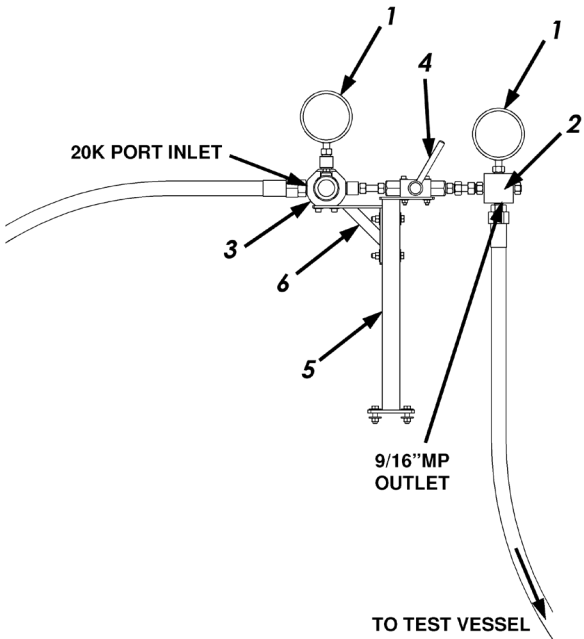
| PART NO. | INLET CONNECTION* | OUTLET (TEST DEVICE) CONNECTION* | OUTLET (CHART RECORDER) CONNECTION* | WEIGHT | | MAX. OPERATING PRESSURE | |
|----------|-------------------|----------------------------------|-------------------------------------|--------|------|-------------------------|-------|
| | | | | lb | kg | psi | bar |
| 57169 | 20K Port | 9/16" MP Female | 9/16" MP Female | 50 | 22.7 | 20,000 | 1,379 |

*See details on all connection types in Section I.

PART BREAKDOWN

| ITEM | PART NO. | DESCRIPTION |
|------|----------|---------------------------|
| 1 | 25037 | Pressure Gauge |
| 2 | 27969 | Cross, 9/16" MP |
| 3 | 54592 | Bypass Valve |
| 4 | 71706 | Ball Valve |
| 5 | 71716 | Bracket, Hydrostatic Test |
| 6 | 71717 | Bracket, Bypass Mounting |

Note: Foot valve, hoses, and adapters sold separately.

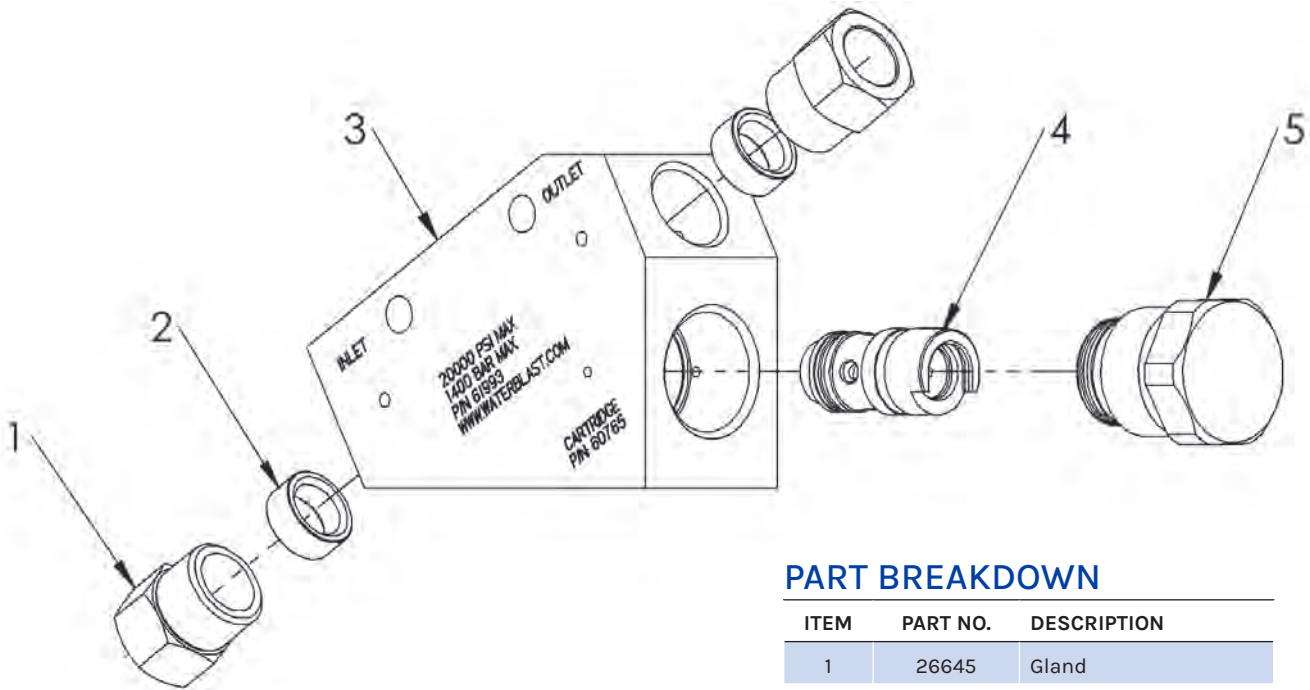


20K CHECK VALVE



The 20K Check Valve (PN 61993) is designed to protect components by ensuring flow in one direction only. This tool is ideal for the hydrostatic testing market; however, can be utilized in many other applications.

- ▶ 30 second field repairable cartridge design for minimal downtime
- ▶ Prevents removal of high pressure connections if valve maintenance is required
- ▶ Ball-style with low crack pressure



PART BREAKDOWN

| ITEM | PART NO. | DESCRIPTION |
|------|----------|-----------------------|
| 1 | 26645 | Gland |
| 2 | 26635 | Collar |
| 3 | 61904 | Inline Valve |
| 4 | 60765 | Check Valve Cartridge |
| 5 | 60766 | Plug Assy |

REPLACEMENT CARTRIDGE



The check valve utilizes a cartridge, to completely rebuild in about 30 seconds.

Part No. 60765

NOZZLE SHUT-OFF VALVE (NSOV)

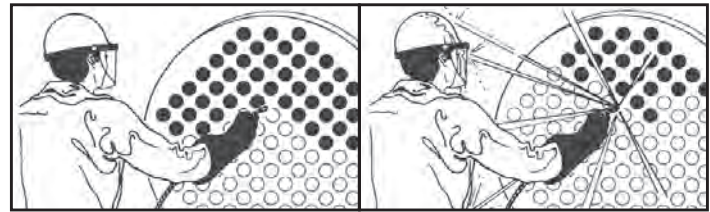
The Nozzle Shut-Off Valve (NSOV) is designed for use with dump style foot guns. The Nozzle Shut Off Valve completely stops all water flow to the cleaning nozzle in a waterblast operation while the foot valve is in its dump mode.

- ▶ Allows the operator to freely move the nozzle without impairment of vision caused by sprayback (shown below)
- ▶ Opens fully for unimpeded flow to the nozzle when blasting
- ▶ Mounts between lance and foot gun
- ▶ All pressure-bearing components precision machined stainless steel



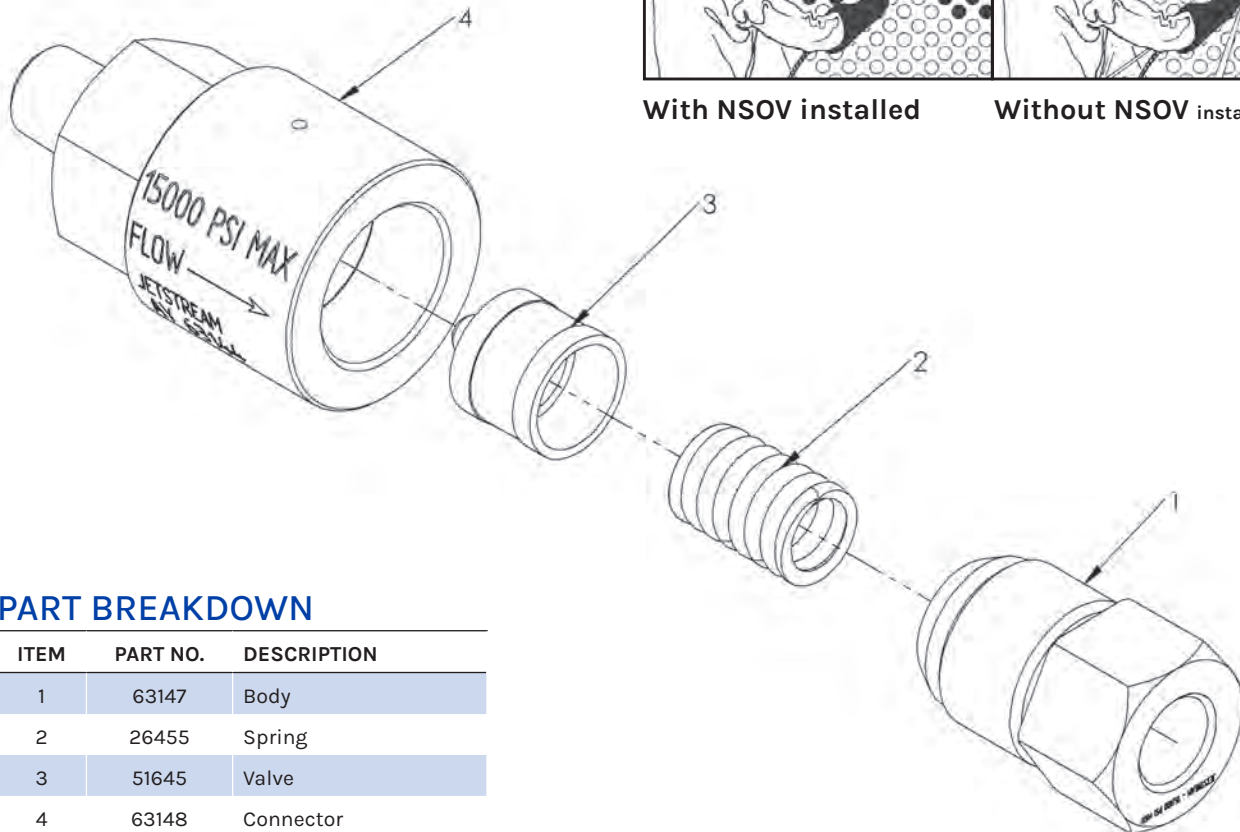
| PART NO. | INLET CONNECTION* | OUTLET CONNECTION* | DIMENSIONS (H X W X D) | | WEIGHT | | MAX. OPERATING PRESSURE | |
|----------|-------------------|--------------------|------------------------|----------------|--------|-----|-------------------------|------|
| | | | in | mm | lb | kg | psi | bar |
| 63144 | 1/2" NPT Male | 1/2" NPT Female | 5.15 x 2.25 | 130.81 x 57.15 | 3 | 1.4 | 15,000 | 1034 |

*See details on all connection types in Section I.



With NSOV installed

Without NSOV installed



PART BREAKDOWN

| ITEM | PART NO. | DESCRIPTION |
|------|----------|-------------|
| 1 | 63147 | Body |
| 2 | 26455 | Spring |
| 3 | 51645 | Valve |
| 4 | 63148 | Connector |

STANDARD FILTERS

Available for a range of flows to meet all needs, Jetstream filters provide the necessary protection to any waterblast system.



GUARDIAN SYSTEM
PART NO. 67776



PART NO. 70968



PART NO. 61607



PART NO. 60740

PUMP
ACCESSORIES

| PART NO. | INLET/OUTLET DRAIN CONNECTIONS | MAX FLOW RATE | | DIMENSIONS | | | | WEIGHT | | MAX. OPERATING PRESSURE | |
|----------|-----------------------------------|---------------|-----|---|-----|--------|---------|--------|------|-------------------------|-----|
| | | | | DIAMETER | | HEIGHT | | | | | |
| | | gpm | lpm | in | mm | in | mm | lb | kg | psi | bar |
| 67776 | 1-1/2" / 3" / 2" NPT | - | - | 18 5/16" deep x 47 5/8" wide x 50" tall | | | | 185 | 83.9 | 100 | 6.8 |
| 70968 | 2" / 2-3/4" NPT | 200 | 750 | 8.63 | 219 | 41.19 | 1046.23 | 40 | 18 | 150 | 10 |
| 61607 | 3/4" / 1-1/2" NPT | 40 | 150 | 4.0 | 102 | 20 | 510 | 7.5 | 3.4 | 150 | 10 |
| 60740* | 2" NPT | 200 | 750 | 8.63 | 219 | 47.18 | 1198.63 | 65 | 29.4 | 150 | 10 |

*For use with the 6000 Series units.

FILTER BAGS



| FILTER STYLE | BAG DIAMETER | | BAG LENGTH | | NOMINAL FILTRATION BAGS (MICRON) | | | |
|--------------|--------------|-----|------------|------|----------------------------------|-------------|-----------|-----------|
| | in | mm | in | mm | 5 micron | 10 micron** | 25 micron | 50 micron |
| 67776 | 7 | 180 | 42 | 1070 | 71254 | J56204** | J70917 | - |
| 70968 | 7 | 180 | 32 | 810 | 27688 | 26765** | 26766 | 27497 |
| 61607 | 4 | 100 | 14 | 360 | 28806 | 26916** | 25117 | 25866 |
| 60740* | 7 | 180 | 32 | 810 | - | 62652 | - | - |

*For use with the 6000 Series units.

**RECOMMENDED MICRON SIZE.

RELATED ITEMS

- 58414** Retrofit Float Assembly for non-Guardian Water Tanks
- 28519** Low Water Level Switch
- 28480MOD** Float Valve Modified (plastic floats)
- 57858** Float Assembly - Guardian Tank

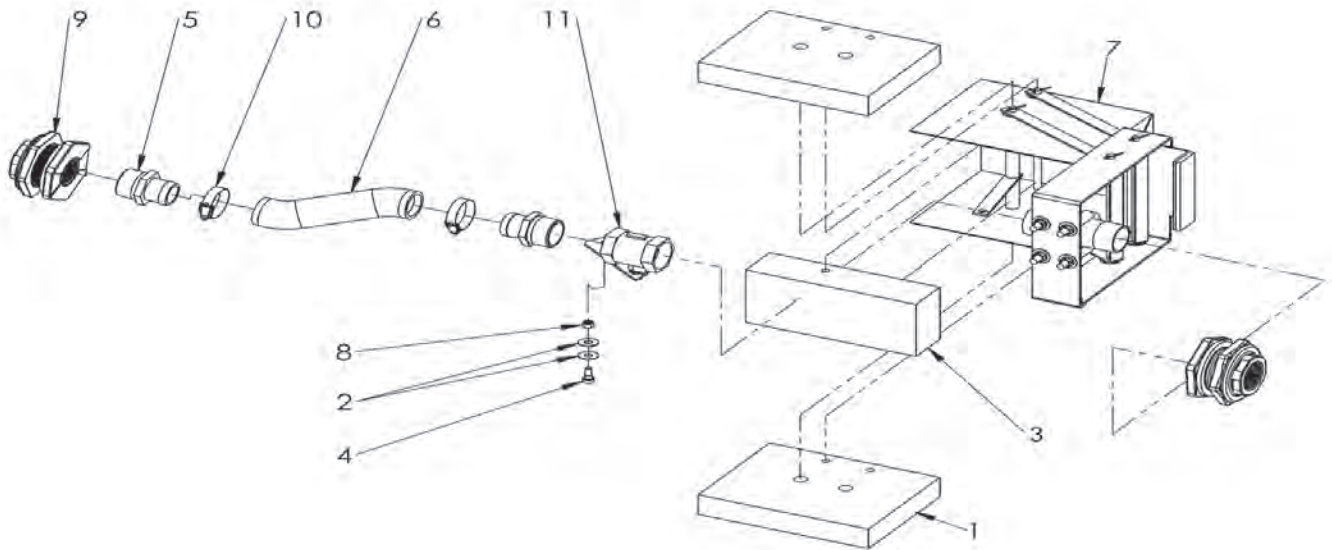
GUARDIAN TANK FILL VALVE ASSEMBLY

The new durable design for the fill valve assembly is constructed of stainless steel to withstand the rigor of transport. This valve assembly is used on all Jetstream units and is built to supply water for varying pressures. **Part No. 57858.**

An alternative fill valve assembly to fit non-Guardian tanks (**PN 58414**), is available with a 1-1/2" connection.



PUMP
ACCESSORIES



PART BREAKDOWN

| ITEM | PART NO. | DESCRIPTION | ITEM | PART NO. | DESCRIPTION |
|------|----------|-----------------|------|----------|----------------------|
| 1 | 57853 | Float Segment | 7 | 58305 | Frame Ay, Fill Valve |
| 2 | 71202 | Washer | 8 | 27698 | Nut |
| 3 | 58044 | Float Segment | 9 | 29374 | Fitting, Bulkhead |
| 4 | 57856 | Screw, Shoulder | 10 | 25221 | Clamp, Hose |
| 5 | 58002 | Nipple, King | 11 | 58314 | Valve Ay, Modified |
| 6 | 58000 | Hose | | | |



DESSICANT BREATHER

The dessicant breather filters out small particulates and removes moisture from the incoming air to ensure reliable and effective operation of the pump. Reduces downtime and costly repairs by minimizing abrasive wear, rust or corrosion. 1" NPT female connection. **Part No. 71671**

PRESSURE GAUGES

- ▶ Bottom mount
- ▶ 4" high visibility face with laminated safety glass dial cover
- ▶ Accurate within +/-0.5% of full scale range
- ▶ Stainless steel case, fitting and internals
- ▶ Heavy-duty movement
- ▶ Glycerin-filled for protection against vibration and pulsation
- ▶ Restrictor screw provides maximum protection against pulsation
- ▶ Blow-out pressure relief plug for maximum safety
- ▶ Pointer zero adjustment



Part No. 25771

Part No. 51126

Part No. 29818

PUMP
ACCESSORIES

| PART NO. | DIAL SIZE | | MOUNTING STYLE | CONNECTION TYPE* | UNITS | SCALE | GRADUATIONS | MAX. OPERATING PRESSURE | |
|----------|-----------|-----|----------------|------------------|---------|--------------------------------|-------------------|-------------------------|------|
| | in | mm | | | | | | psi | bar |
| 25771 | 4 | 100 | Bottom | 1/2" NPT Male | psi | 0 – 20,000 psi | 200 psi | 10,000 | 689 |
| 51126** | 4 | 100 | Bottom | 1/2" NPT Male | psi | 0 – 30,000 psi | 200 psi | 15,000 | 1034 |
| 55416*** | 4 | 100 | Bottom | 1/2" NPT Male | psi/bar | 0 – 30,000 psi 0 – 2000 bar | 500 psi 20 psi | 15,000 | 1034 |
| 29818 | 4 | 100 | Bottom | 9/16" HP Male | psi/bar | 0 – 30,000 psi 0 – 2000 bar | 500 psi 20 psi | 15,000 | 1034 |

*See details on all connection types in Section I.

**Identical part number 61626 is certified and comes with a certificate of compliance.

***Includes adapter, gland nut and collar to adapt 9/16" HP tube nipple.

GAUGE EXTENSION

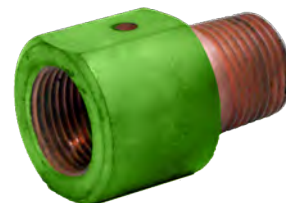
- ▶ Raises height of gauge for unobstructed reading
- ▶ 1/2" NPT Male x 1/2" NPT Female
- ▶ 4-1/2" (114 mm) lg.
- ▶ Stainless steel
- ▶ Copper-plated for galling resistance



Part No. 55176

GAUGE ADAPTER

- ▶ Connects gauge (part no. 29818) to 1/2" NPT Female port
- ▶ 1/2" NPT Male x 9/16" MP female
- ▶ Small I.D. for proper seating of 9/16" HP tube nipple
- ▶ 9/16" MP gland nut and collar sold separately
- ▶ Stainless steel
- ▶ Copper-plated for galling resistance

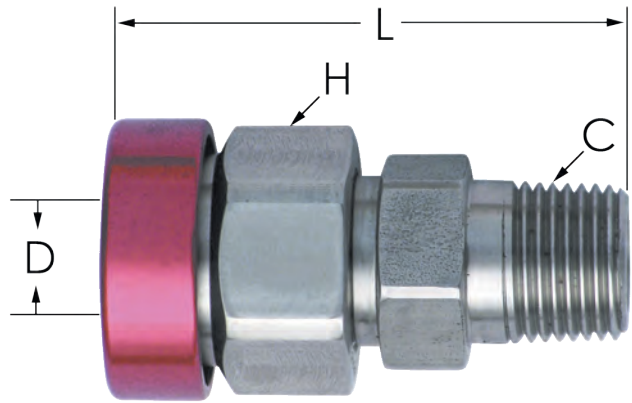


Part No. 55402

RUPTURE DISC HOLDERS

For protection from dangerous over-pressurization, rupture discs function in a waterblast system analogous to the function of fuses in an electrical circuit. When the system pressure exceeds that of the burst disc, the disc bursts and allows water to flow out of the holder's cap, relieving the system of high pressure.

- ▶ May be used as primary and/or secondary relief devices
- ▶ Tamper-resistant design
- ▶ Discs are quickly and easily replaceable
- ▶ Assembly components machined from high quality stainless steel



NOTE: Burst Disc not included with assembly.

| PART NO. | CONNECTION TYPE (C)* | OVERALL LENGTH (L) | | DISC BLOW OUT DIAMETER (D) | | FLATS (H) | | MAX. WORKING PRESSURE | |
|----------|----------------------|--------------------|----|----------------------------|------|-----------|------|-----------------------|------|
| | | in | mm | in | mm | in | mm | psi | bar |
| 51035 | 1/2" NPT Male | 2.7 | 69 | .50 | 12.7 | 1.25 | 31.8 | 15,000 | 1034 |

*See details on all connection types in Section I.

BURST DISCS

DISC SELECTION

For **primary** relief devices, select disc with burst pressure of approximately 1.2 times desired operation pressure.

Example

Operating pressure: 10,000 psi (700 bar)
 Desired burst pressure: 10,000 psi x 1.2 = 12,000 psi
 700 bar x 1.2 = 840 bar

Select 12,000 psi (827 bar) Burst Disc, part no. 51049

For **secondary** relief devices, select disc with burst pressure of approximately 1.4 times desired operating pressure.

Example

Operating pressure: 10,000 psi (700 bar)
 Desired burst pressure: 10,000 psi x 1.4 = 14,000 psi
 700 bar x 1.4 = 980 bar

Select 14,000 psi (965 bar) Burst Disc, part no. 51050

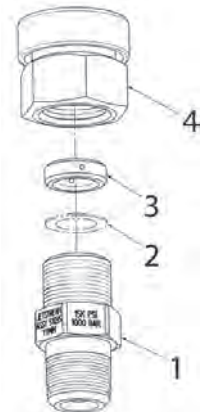
| PART NO. | BURST DISC PRESSURE | |
|----------|---------------------|------|
| | psi | bar |
| 53738 | 6,000 | 400 |
| 51047 | 8,000 | 550 |
| 51048 | 10,000 | 700 |
| 51049 | 12,000 | 850 |
| 51050 | 14,000 | 950 |
| 51051 | 16,000 | 1100 |
| 55316 | 18,000 | 1250 |
| 51052 | 20,000 | 1400 |



REPLACEMENT PARTS

| ITEM | PART NO. | DESCRIPTION |
|------|----------|----------------|
| 1 | 51033 | Base |
| 2 | ** | Burst Disc |
| 3 | 51040 | Hold-Down Ring |
| 4 | 51037 | Cap |

* See Burst Discs chart above



HOSES & LANCES

Jetstream provides a full arrangement of hoses and flex lances for high pressure waterblasting. The hoses and lances are designed to be durable and reliable for any 15,000 psi application. A large selection of 25', 35' and 50' hoses and lances are kept in inventory, while a wide variety of lengths can be custom ordered.

All hoses and flex lances are constructed of a plastic core reinforced with high tensile steel wire and enclosed in a durable, flexible thermoplastic jacket. The smooth plastic core minimizes pressure loss and offers maximum resistance to damage caused by aging, moisture absorption and changing environmental factors. All flex lances supplied will be green for 15K rated hose, or yellow for 10K rated, from end to end. Hoses with the abrasion cover are also color-coded accordingly.

A key element of the thermoplastic supply hose is the heavy-duty abrasion cover. This cover prevents excess damage caused by vibration and movement of the hose on rough or uneven surfaces when connecting from the pump to an intermediary high pressure tool, such as a foot gun.

The flex lances are uncovered lances used for the cleaning of small diameter tubes found in heat exchangers, condensers and boilers. The use of smaller flex lances allows for easy passage through bends due to great flexibility and small minimum bend radius.

HOW TO ORDER JETSTREAM HOSES & FLEX LANCES 26108-AAABCCX

- 1 Specify Series Number**
Insert dash after Series Number. **26108**
- 2 Specify Desired Length in Feet (AAA) (000 - 999)**
Example: 050 for a 50 ft. long hose. **AAA**
- 3 Specify End Fitting Codes (BB & CC)**
For a hose or lance requiring two different end fittings, list the codes in numerical order when creating the part number. **BB
CC**
- 4 Specify Cover Options Code (X)**
Leave blank if no cover is desired.
Cover Option Codes:
1 Abrasion Cover Guard
2 Burst Shield Guard
4 Cordura Cover Guard **X**



Rubber Hoses



Thermoplastic
Hoses & Flex Lances



SS Braided
Flex Lances



Rigid Lances



RUBBER WATERBLAST HOSES

These high pressure hose assemblies combine rugged construction, dependability and safe performance.

- ▶ Designed specifically for waterblast applications
- ▶ Lightweight and flexible
- ▶ Available in sizes from 1/4" to 1" (6 mm to 25 mm)
- ▶ Standard hoses are uncovered with plated steel male pipe thread end fittings in lengths of 25 or 50 ft
- ▶ For other lengths, fittings or cover options, use the custom order instructions on D-3
- ▶ See pages D-16-D-17 for pressure drop charts

HOSES & LANCES

| NOMINAL HOSE I.D. | | PART NO. | END FITTINGS CONNECTIONS* | LENGTH | | WORKING PRESSURE** | | MIN. BURST PRESSURE** | | BEND RADIUS | |
|-------------------|----|---------------|---------------------------|--------|------|--------------------|------|-----------------------|------|-------------|-----|
| in | mm | | | ft | m | psi | bar | psi | bar | in | mm |
| 1 | 25 | 53235-0500707 | 1" NPT Male | 50 | 15.2 | 10,000 | 689 | 25,000 | 1723 | 13.4 | 340 |
| | | 53235-0250707 | 1" NPT Male | 25 | 7.6 | 10,000 | 689 | 25,000 | 1723 | 13.4 | 340 |
| 3/4 | 20 | 51118-0500606 | 3/4" NPT Male | 50 | 15.2 | 14,500 | 1000 | 25,000 | 1723 | 10.0 | 254 |
| | | 51118-0250606 | 3/4" NPT Male | 25 | 7.6 | 14,500 | 1000 | 25,000 | 1723 | 10.0 | 254 |
| 1/2" | 13 | 52241-0500505 | 1/2" NPT Male | 50 | 15.2 | 15,000 | 1034 | 37,500 | 2585 | 9.0 | 228 |
| | | 52241-0250505 | 1/2" NPT Male | 25 | 7.6 | 15,000 | 1034 | 37,500 | 2585 | 9.0 | 228 |
| | | 25513-0500505 | 1/2" NPT Male | 50 | 15.2 | 10,000 | 689 | 25,000 | 1723 | 8.7 | 220 |
| | | 25513-0250505 | 1/2" NPT Male | 25 | 7.6 | 10,000 | 689 | 25,000 | 1723 | 8.7 | 220 |
| 3/8 | 8 | 52178-0500404 | 3/8" NPT Male | 50 | 15.2 | 15,000 | 1034 | 37,500 | 2585 | 9.0 | 228 |
| | | 52178-0250404 | 3/8" NPT Male | 25 | 7.6 | 15,000 | 1034 | 37,500 | 2585 | 9.0 | 228 |
| 1/4" | 6 | 25914-0500303 | 1/4" NPT Male | 50 | 15.2 | 10,000 | 689 | 25,000 | 1723 | 5.9 | 149 |
| | | 25914-0250303 | 1/4" NPT Male | 25 | 7.6 | 10,000 | 689 | 25,000 | 1723 | 5.9 | 149 |

* See details on all connection types in Section I.

** Maximum working pressure and minimum burst pressure may be greater than specified.

RUBBER WATERBLAST HOSES

CUSTOM ORDER

Use the information on this page to build part numbers for custom rubber hoses using the part numbering system described on the previous page.

Abrasion Cover Guard (Code: 1)

Constructed of clear PVC and reinforced with a rigid spiral coil, the Abrasion Cover protects the hose from external damage caused by vibration or movement along rough or uneven surfaces.

Burst Shield Guard (Code: 2)

Constructed of steel wire reinforced heavy-duty synthetic rubber. Helps to protect the user and/or surrounding areas from hose failures.

Cordura Cover Guard (Code: 4)

Heavy-duty, braided nylon cover protects hose from abrasion damage caused by vibration or movement along a rough surface.

HOSE COVER OPTIONS



Abrasion Cover Guard



Burst Shield Guard



Cordura Cover Guard

HOSES &
LANCES

HOSE SERIES

| NOMINAL HOSE I.D. | | SERIES | MAX. WORKING PRESSURE* | | MIN. BURST PRESSURE* | | BEND RADIUS | | WEIGHT | |
|-------------------|----|--------|------------------------|------|----------------------|------|-------------|-----|--------|------|
| in | mm | | psi | bar | psi | bar | in | mm | lb/ft | kg/m |
| 1" | 25 | 53235 | 10,000 | 689 | 25,000 | 1723 | 13.4 | 340 | 1.94 | 2.88 |
| 3/4" | 20 | 51118 | 14,500 | 1000 | 25,000 | 1723 | 10.0 | 254 | 1.16 | 1.72 |
| 1/2" | 13 | 52241 | 15,000 | 1034 | 37,500 | 2585 | 9.0 | 228 | .76 | 1.13 |
| 1/2" | 13 | 25513 | 10,000 | 689 | 25,000 | 1723 | 8.7 | 220 | .61 | 0.90 |
| 3/8" | 8 | 52178 | 15,000 | 1034 | 37,500 | 2585 | 9.0 | 228 | .55 | 0.81 |
| 1/4" | 6 | 25914 | 10,000 | 689 | 25,000 | 1723 | 5.9 | 149 | .40 | 0.59 |

* Maximum working pressure and minimum burst pressure may be greater than specified.

END FITTINGS - MALE PIPE THREADS (NPT MALE)

| NOMINAL HOSE I.D. | | END FITTING CONNECTION* | FITTING CODE** | |
|-------------------|----|-------------------------|----------------|----|
| in | mm | | SS | PS |
| 1" | 25 | 1" NPT Male | 14 | 07 |
| 3/4" | 20 | 3/4" NPT Male | 13 | 06 |
| 1/2" | 12 | 1/2" NPT Male | 12 | 05 |
| 3/8" | 9 | 3/8" NPT Male | 11 | 04 |
| 1/4" | 6 | 1/4" NPT Male | 10 | 03 |



Male Pipe Threads

*See details on all connection types in Section I. **SS: Stainless steel; PS: Plated carbon steel

END FITTINGS - METRIC FEMALE

| NOMINAL HOSE I.D. | | END FITTING CONNECTION* | FITTING CODE** | |
|-------------------|----|-------------------------|----------------|----|
| in | mm | | SS | PS |
| 1" | 25 | M42 x 2.0 Female | - | 48 |
| 3/4" | 20 | M36 x 2.0 Female | - | 47 |
| 1/2" | 12 | M24 x 1.5 Female | - | 46 |
| 3/8" | 9 | M22 x 1.5 Female | - | 45 |



Metric Female

*See details on all connection types in Section I. **SS: Stainless steel; PS: Plated carbon steel



THERMOPLASTIC HOSES

These premium hoses provide the most durable and reliable means of connecting system components.

- ▶ Constructed of plastic core reinforced with high tensile steel wire and enclosed in a tough, flexible thermoplastic jacket
- ▶ Smooth core minimizes pressure loss and offers the maximum resistance to damage caused by aging, moisture absorption and changing environmental factors
- ▶ Available with plated or stainless steel end fittings
- ▶ Heavy-duty vinyl abrasion cover prevents damage caused by vibration and movement of hose on rough or uneven surfaces
- ▶ See pages D-18–D-19 for pressure drop graphs
- ▶ For special lengths, end fittings, or cover options, see custom order instructions on pages D-6–D-8

HOSES & LANCES

STANDARD ASSEMBLIES

| NOMINAL HOSE I.D. | | PART NO. | END FITTINGS | | LENGTH | | INSIDE DIAMETER | | WORKING PRESSURE** | | MINIMUM BURST PRESSURE** | | BEND RADIUS | |
|-------------------|----|---------------|---------------|-----------------|--------|------|-----------------|------|--------------------|------|--------------------------|------|-------------|-----|
| in | mm | | CONNECTION* | MATERIAL | ft | mm | in | mm | psi | bar | psi | bar | in | mm |
| 3/4" | 20 | 29313-0500606 | 3/4" NPT Male | Plated Steel | 50 | 15.2 | .74 | 18.7 | 10,000 | 689 | 37,500 | 2585 | 9.8 | 248 |
| | | 29313-0250606 | 3/4" NPT Male | Plated Steel | 25 | 7.6 | .74 | 18.7 | 10,000 | 689 | 37,500 | 2585 | 9.8 | 248 |
| | | 29313-0501313 | 3/4" NPT Male | Stainless Steel | 50 | 15.2 | .74 | 18.7 | 10,000 | 689 | 37,500 | 2585 | 9.8 | 248 |
| | | 29313-0251313 | 3/4" NPT Male | Stainless Steel | 25 | 7.6 | .74 | 18.7 | 10,000 | 689 | 37,500 | 2585 | 9.8 | 248 |
| 1/2" | 13 | 28524-0500505 | 1/2" NPT Male | Plated Steel | 50 | 15.2 | .50 | 12.7 | 15,000 | 1034 | 37,500 | 2585 | 5.6 | 142 |
| | | 28524-0250505 | 1/2" NPT Male | Plated Steel | 25 | 7.6 | .50 | 12.7 | 15,000 | 1034 | 37,500 | 2585 | 5.6 | 142 |
| | | 28524-0501212 | 1/2" NPT Male | Stainless Steel | 50 | 15.2 | .50 | 12.7 | 15,000 | 1034 | 37,500 | 2585 | 5.6 | 142 |
| | | 28524-0251212 | 1/2" NPT Male | Stainless Steel | 25 | 7.6 | .50 | 12.7 | 15,000 | 1034 | 37,500 | 2585 | 5.6 | 142 |
| 5/16" | 8 | 28673-0500404 | 3/8" NPT Male | Plated Steel | 50 | 15.2 | .32 | 8.1 | 15,000 | 1034 | 37,500 | 2585 | 4.3 | 109 |
| | | 28673-0250404 | 3/8" NPT Male | Plated Steel | 25 | 7.6 | .32 | 8.1 | 15,000 | 1034 | 37,500 | 2585 | 4.3 | 109 |
| 1/4" | 6 | 28490-0500303 | 1/4" NPT Male | Plated Steel | 50 | 15.2 | .25 | 6.3 | 15,000 | 1034 | 37,500 | 2585 | 4.3 | 109 |
| | | 28490-0250303 | 1/4" NPT Male | Plated Steel | 25 | 7.6 | .25 | 6.3 | 15,000 | 1034 | 37,500 | 2585 | 4.3 | 109 |

* See details on all connection types in Section I.

** Maximum working pressure and minimum burst pressure may be greater than specified.

THERMOPLASTIC FLEX LANCES

Flex lances are uncovered hoses used for the cleaning of small diameter tubes such as those found in heat exchangers, condensers and boilers.

- ▶ Small minimum bend radius allows easy passage through bends
- ▶ Constructed of plastic core reinforced with high tensile steel wire and enclosed in a tough, flexible thermoplastic jacket
- ▶ Smooth plastic core minimizes pressure loss and offers the maximum resistance to damage caused by aging, moisture absorption and changing environmental factors
- ▶ Standard flex lances include plated steel end fittings. Stainless steel fittings available upon request. See pages D-7-D-8
- ▶ See pages D-18-D-19 for pressure drop graphs
- ▶ Standard lengths are 25, 35 and 50 feet. Other lengths or end fitting combinations can be ordered using the instructions on pages D-6-D-8



HOSES & LANCES

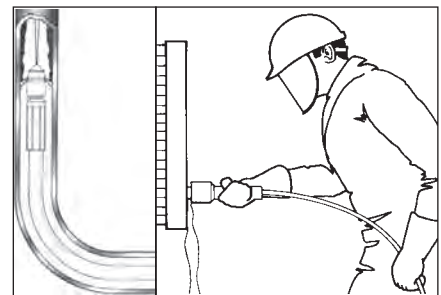
STANDARD ASSEMBLIES

| NOMINAL HOSE I.D. | | PART NO. | END FITTINGS* | | INSIDE DIAMETER | | LENGTH | | END FITTING DIAMETER** | | MAX. OPERATING PRESSURE*** | | BEND RADIUS | |
|-------------------|----|---------------|----------------|--------------|-----------------|-----|--------|------|------------------------|------|----------------------------|------|-------------|-----|
| in | mm | | CONNECTION | MATERIAL | in | mm | ft | mm | in | mm | psi | bar | in | mm |
| 5/16" | 8 | 27560-0500404 | 3/8" NPT Male | Plated Steel | .32 | 8.1 | 50 | 15.2 | .86 | 21.8 | 10,000 | 689 | 5.1 | 129 |
| | | 27560-0350404 | 3/8" NPT Male | Plated Steel | .32 | 8.1 | 35 | 10.7 | .86 | 21.8 | 10,000 | 689 | 5.1 | 129 |
| | | 27560-0250404 | 3/8" NPT Male | Plated Steel | .32 | 8.1 | 25 | 7.6 | .86 | 21.8 | 10,000 | 689 | 5.1 | 129 |
| | | 28673-0500404 | 3/8" NPT Male | Plated Steel | .32 | 8.1 | 50 | 15.2 | .86 | 21.8 | 15,000 | 1034 | 4.3 | 109 |
| | | 28673-0350404 | 3/8" NPT Male | Plated Steel | .32 | 8.1 | 35 | 10.7 | .86 | 21.8 | 15,000 | 1034 | 4.3 | 109 |
| | | 28673-0250404 | 3/8" NPT Male | Plated Steel | .32 | 8.1 | 25 | 7.6 | .86 | 21.8 | 15,000 | 1034 | 4.3 | 109 |
| 1/4" | 6 | 26108-0500303 | 1/4" NPT Male | Plated Steel | .25 | 6.3 | 50 | 15.2 | .53 | 13.4 | 15,000 | 1034 | 4.3 | 109 |
| | | 26108-0350303 | 1/4" NPT Male | Plated Steel | .25 | 6.3 | 35 | 10.7 | .53 | 13.4 | 15,000 | 1034 | 4.3 | 109 |
| | | 26108-0250303 | 1/4" NPT Male | Plated Steel | .25 | 6.3 | 25 | 7.6 | .53 | 13.4 | 15,000 | 1034 | 4.3 | 109 |
| 3/16" | 5 | 26106-0500202 | 1/8" NPT Male | Plated Steel | .20 | 5.0 | 50 | 15.2 | .47 | 11.9 | 15,000 | 1034 | 3.8 | 96 |
| | | 26106-0350202 | 1/8" NPT Male | Plated Steel | .20 | 5.0 | 35 | 10.7 | .47 | 11.9 | 15,000 | 1034 | 3.8 | 96 |
| | | 26106-0250202 | 1/8" NPT Male | Plated Steel | .20 | 5.0 | 25 | 7.6 | .47 | 11.9 | 15,000 | 1034 | 3.8 | 96 |
| 5/32" | 4 | 26104-0500101 | 1/16" NPT Male | Plated Steel | .16 | 4.0 | 50 | 15.2 | .39 | 9.9 | 15,000 | 1034 | 3.0 | 76 |
| | | 26104-0350101 | 1/16" NPT Male | Plated Steel | .16 | 4.0 | 35 | 10.7 | .39 | 9.9 | 15,000 | 1034 | 3.0 | 76 |
| | | 26104-0250101 | 1/16" NPT Male | Plated Steel | .16 | 4.0 | 25 | 7.6 | .39 | 9.9 | 15,000 | 1034 | 3.0 | 76 |

*See details on end fittings for these assemblies on page D-9 and specifications for all connection types in Section I.

**Outside diameter of end fitting sleeve.

***Maximum working pressure may be greater than specified.



THERMOPLASTIC HOSES & FLEX LANCES

CUSTOM ORDER

Thermoplastic hoses and flex lances are available in custom lengths or with special end fitting combinations or covers. Common lengths and configurations are available on the two preceding pages.

- ▶ Constructed of plastic core reinforced with high tensile steel wire and enclosed in a tough, flexible thermoplastic jacket
- ▶ Smooth plastic core minimizes pressure loss and offers the maximum resistance to damage caused by aging, moisture absorption, and changing environmental factors
- ▶ See pages D-18-D-19 for pressure drop graphs

HOSE SERIES

| NOMINAL HOSE I.D. | | SERIES | INSIDE DIAMETER | | OUTSIDE DIAMETER* | | MAX. WORKING PRESSURE** | | MIN. BURST PRESSURE** | | BEND RADIUS | | WEIGHT | |
|-------------------|----|--------|-----------------|------|-------------------|------|-------------------------|------|-----------------------|------|-------------|-----|--------|------|
| in | mm | | in | mm | in | mm | psi | bar | psi | bar | in | mm | lb/ft | kg/m |
| 3/4 | 20 | 29313 | .74 | 18.7 | 1.17 | 29.7 | 10,000 | 689 | 37,500 | 2585 | 9.8 | 248 | .91 | 1.35 |
| 1/2 | 13 | 28524 | .50 | 12.7 | .87 | 22.0 | 15,000 | 1034 | 37,500 | 2585 | 5.6 | 142 | .40 | 0.59 |
| 1/2 | 13 | 28481 | .50 | 12.7 | .76 | 19.3 | 10,000 | 689 | 25,000 | 1723 | 7.9 | 200 | .29 | 0.43 |
| 5/16 | 8 | 28673 | .32 | 8.1 | .63 | 16.0 | 15,000 | 1034 | 37,500 | 2585 | 4.3 | 109 | .26 | 0.38 |
| 5/16 | 8 | 27560 | .32 | 8.1 | .53 | 13.4 | 10,000 | 689 | 29,000 | 1999 | 5.1 | 129 | .13 | 0.19 |
| 1/4 | 6 | 28490 | .25 | 6.3 | .49 | 12.4 | 15,000 | 1034 | 37,500 | 2585 | 4.3 | 109 | .19 | 0.28 |
| 1/4 | 6 | 26108 | .25 | 6.3 | .46 | 11.6 | 15,000 | 1034 | 31,250 | 2154 | 4.3 | 109 | .12 | 0.17 |
| 3/16 | 5 | 26106 | .20 | 5.0 | .37 | 9.3 | 15,000 | 1034 | 37,500 | 2585 | 3.8 | 96 | .08 | 0.11 |
| 5/32 | 4 | 26104 | .16 | 4.0 | .32 | 8.1 | 15,000 | 1034 | 37,500 | 2585 | 3.0 | 76 | .07 | 0.10 |
| 1/8 | 3 | 28596 | .13 | 3.3 | .27 | 6.8 | 14,500 | 1034 | 36,200 | 2495 | 2.4 | 60 | .05 | 0.07 |

* Outside diameter of hose material (end fitting diameter will be greater).

** Maximum working pressure and minimum burst pressure may be greater than specified.



Abrasion Cover Guard (Code: 1)

Constructed of clear PVC and reinforced with a rigid spiral coil, the VSS color-coded Abrasion Cover protects the hose from external damage caused by vibration or movement along rough or uneven surfaces.

Burst Shield Guard (Code: 2)

Constructed of steel wire reinforced heavy-duty synthetic rubber. The Burst Shield Guard helps to protect the user and/or surrounding areas from hose failures.

Cordura Cover Guard (Code: 4)

Heavy-duty, braided nylon cover protects hose from abrasion damage caused by vibration or movement along a rough surface.

THERMOPLASTIC HOSES & FLEX LANCES

END FITTINGS

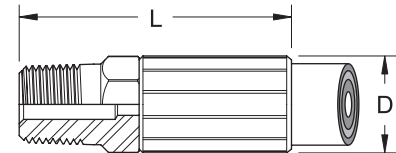
Use the information on this page to select the connections desired for custom thermoplastic hoses and flex lances.

MALE PIPE THREADS (NPT Male)

| NOMINAL HOSE I.D. | | SERIES | END FITTING CONNECTION* | FITTING LENGTH (L) | | FITTING O.D. (D) | | FITTING CODE** | |
|-------------------|----|--------|-------------------------|--------------------|-------|------------------|------|----------------|----|
| in | mm | | | in | mm | in | mm | SS | PS |
| 3/4 | 20 | 29313 | 1" NPT Male | 4.70 | 119.3 | 1.45 | 36.8 | - | 07 |
| | | | 3/4" NPT Male | 4.50 | 114.3 | 1.45 | 36.8 | 13 | 06 |
| 1/2 | 13 | 28524 | 1/2" NPT Male | 3.60 | 91.4 | 1.14 | 28.9 | 12 | 05 |
| 1/2 | 13 | 28481 | 1/2" NPT Male | 3.35 | 85.0 | 1.02 | 25.9 | - | 05 |
| 5/16 | 8 | 28673 | 3/8" NPT Male | 2.90 | 73.6 | .86 | 21.8 | - | 04 |
| | | | 1/4" NPT Male | 2.90 | 73.6 | .86 | 21.8 | - | 03 |
| 5/16 | 8 | 27560 | 3/8" NPT Male | 1.60 | 40.6 | .69 | 17.5 | - | 04 |
| | | | 1/4" NPT Male | 1.57 | 39.8 | .69 | 17.5 | - | 03 |
| 1/4 | 6 | 28490 | 1/4" NPT Male | 1.39 | 35.3 | .57 | 14.5 | - | 03 |
| | | | 1/8" NPT Male | 2.21 | 56.1 | .57 | 14.4 | - | 02 |
| 1/4 | 6 | 26108 | 1/4" NPT Male | 1.40 | 35.5 | .53 | 13.4 | - | 03 |
| | | | 1/8" NPT Male | 2.25 | 57.1 | .55 | 13.9 | - | 02 |
| 3/16 | 5 | 26106 | 1/4" NPT Male | 2.43 | 61.7 | .51 | 12.9 | - | 03 |
| | | | 1/8" NPT Male | 1.30 | 33.0 | .47 | 11.9 | 09 | 02 |
| 5/32 | 4 | 26104 | 1/8" NPT Male | 1.20 | 30.4 | .39 | 9.9 | - | 02 |
| | | | 1/16" NPT Male | 1.20 | 30.4 | .39 | 9.9 | - | 01 |
| 1/8 | 3 | 28596 | 1/8" NPT Male | 1.96 | 49.7 | .55 | 13.9 | - | 02 |
| | | | 1/16" NPT Male | 1.17 | 29.7 | .36 | 9.1 | - | 01 |

* See details on all connection types in Section I.

** SS: Stainless steel; PS: Plated carbon steel



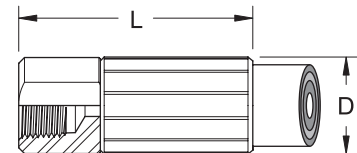
Male Pipe Threads

FEMALE PIPE THREADS (NPT Female)

| NOMINAL HOSE I.D. | | SERIES | END FITTING CONNECTION* | FITTING LENGTH (L) | | FITTING O.D. (D) | | FITTING CODE** | |
|-------------------|----|--------|-------------------------|--------------------|------|------------------|------|----------------|----|
| in | mm | | | in | mm | in | mm | SS | PS |
| 1/4 | 6 | 28490 | 1/4" NPT Female | 2.70 | 68.5 | .85 | 21.5 | 20 | 17 |
| 1/4 | 6 | 26108 | 1/4" NPT Female | 2.70 | 68.5 | .55 | 13.9 | 20 | 17 |
| 3/16 | 5 | 26106 | 1/8" NPT Female | 1.70 | 43.1 | .47 | 11.9 | - | 16 |
| 5/32 | 4 | 26104 | 1/16" NPT Female | 1.58 | 40.1 | .39 | 9.9 | - | 15 |

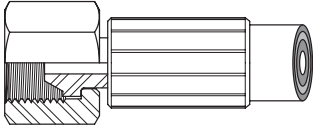
* See details on all connection types in Section I.

** SS: Stainless steel; PS: Plated carbon steel



Female Pipe Threads

HOSES & LANCES

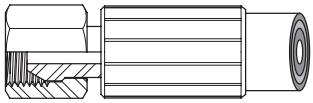


Type M Female

TYPE M FEMALE

| NOMINAL HOSE I.D. | | SERIES | END FITTING CONNECTION* | FITTING CODE** | |
|-------------------|----|--------|-------------------------|----------------|----|
| in | mm | | | SS | PS |
| 3/4 | 20 | 29313 | 1-5/16" Type M Female | 44 | - |
| 1/2 | 13 | 28524 | 1" Type M Female | 42 | - |
| 1/2 | 13 | 28481 | 1" Type M Female | 42 | - |
| 5/16 | 8 | 28673 | 3/4" Type M Female | 40 | - |
| 5/16 | 8 | 27560 | 3/4" Type M Female | 40 | - |
| 1/4 | 6 | 26108 | 9/16" Type M Female | 39 | - |
| 1/4 | 6 | 28490 | 9/16" Type M Female | 39 | - |
| 3/16 | 5 | 26106 | 9/16" Type M Female | 39 | - |
| 5/32 | 4 | 26104 | 9/16" Type M Female | 39 | - |
| 1/8 | 3 | 28596 | 9/16" Type M Female | 39 | - |

*See details on all connection types in Section I.
 **SS: Stainless steel; PS: Plated carbon steel

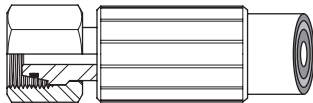


BSP Female

BSP FEMALE

| NOMINAL HOSE I.D. | | SERIES | END FITTING CONNECTION* | FITTING CODE** | |
|-------------------|----|--------|-------------------------|----------------|----|
| in | mm | | | SS | PS |
| 1/2 | 13 | 28524 | 1/2" BSP Female | - | 61 |
| 1/2 | 13 | 28481 | 1/2" BSP Female | - | 61 |
| 5/16 | 8 | 28673 | 3/8" BSP Female | - | 60 |
| 5/16 | 8 | 27560 | 3/8" BSP Female | - | 60 |
| 1/4 | 6 | 28490 | 1/4" BSP Female | - | 59 |
| 1/4 | 6 | 26108 | 1/4" BSP Female | - | 59 |
| 3/16 | 5 | 26106 | 1/4" BSP Female | - | 59 |
| 5/32 | 4 | 26104 | 9/16" Type M Female | 39 | - |

*See details on all connection types in Section I.
 **SS: Stainless steel; PS: Plated carbon steel



Metric Female

METRIC FEMALE

| NOMINAL HOSE I.D. | | SERIES | END FITTING CONNECTION* | FITTING CODE** | |
|-------------------|----|--------|-------------------------|----------------|----|
| in | mm | | | SS | PS |
| 3/4 | 20 | 29313 | M36 x 2.0 Female | - | 47 |
| 1/2 | 13 | 28524 | M24 x 1.5 Female | 50 | 46 |
| 1/2 | 13 | 28481 | M24 x 1.5 Female | - | 46 |
| 5/16 | 8 | 28673 | M24 x 1.5 Female | - | 46 |

*See details on all connection types in Section I.
 **SS: Stainless steel; PS: Plated carbon steel

STAINLESS STEEL BRAIDED FLEX LANCES

- ▶ Abrasion resistant, braided stainless steel cover
- ▶ Teflon® core ensures minimal pressure loss
- ▶ Small minimum bend radius allows easy passage through elbows, U-tubes and other sharp bends
- ▶ Stainless steel braid-anchored end fittings
- ▶ See page D-20 for pressure drop graphs
- ▶ Available in 25' and 50' lengths (7.6 m and 15.2 m)
- ▶ See dimensions for all end fittings and nozzle flow information for Mini-Mole nozzles on the following pages
- ▶ 350 degree F rated lances

| NOMINAL HOSE I.D. | | PART NO. | END FITTINGS* | | INSIDE DIAMETER | | LENGTH | | END FITTING DIAMETER** | | MAX. OPERATING PRESSURE | | MIN. BEND RADIUS | |
|-------------------|----|----------|----------------|------------------|-----------------|-----|--------|------|------------------------|------|-------------------------|-----|------------------|-----|
| in | mm | | INLET END | NOZZLE END | in | mm | ft | mm | in | mm | psi | bar | in | mm |
| 5/16" | 8 | 25571-50 | 1/4" NPT Male | 1/4" NPT Male | .300 | 7.6 | 50 | 15.2 | .721 | 18.3 | 8,000 | 551 | 5.0 | 127 |
| | | 25571-25 | 1/4" NPT Male | 1/4" NPT Male | .300 | 7.6 | 25 | 7.6 | .721 | 18.3 | 8,000 | 551 | 5.0 | 127 |
| 1/4" | 6 | 25570-50 | 1/8" NPT Male | 1/8" NPT Male | .229 | 5.8 | 50 | 15.2 | .575 | 14.6 | 10,000 | 689 | 3.0 | 76 |
| | | 25570-25 | 1/8" NPT Male | 1/8" NPT Male | .229 | 5.8 | 25 | 7.6 | .575 | 14.6 | 10,000 | 689 | 3.0 | 76 |
| | | 50752-50 | 1/8" NPT Male | 5/16" UNEF Male | .229 | 5.8 | 50 | 15.2 | .565 | 14.3 | 10,000 | 689 | 3.0 | 76 |
| | | 50752-25 | 1/8" NPT Male | 5/16" UNEF Male | .229 | 5.8 | 25 | 7.6 | .565 | 14.3 | 10,000 | 689 | 3.0 | 76 |
| 1/4" | 6 | 25568-50 | 1/8" NPT Male | 1/8" NPT Male | .229 | 5.8 | 50 | 15.2 | .500 | 12.7 | 8,000 | 551 | 3.0 | 76 |
| | | 25568-25 | 1/8" NPT Male | 1/8" NPT Male | .229 | 5.8 | 25 | 7.6 | .500 | 12.7 | 8,000 | 551 | 3.0 | 76 |
| | | 50673-50 | 1/8" NPT Male | 5/16" UNEF Male | .229 | 5.8 | 50 | 15.2 | .500 | 12.7 | 8,000 | 551 | 3.0 | 76 |
| | | 50673-25 | 1/8" NPT Male | 5/16" UNEF Male | .229 | 5.8 | 25 | 7.6 | .500 | 12.7 | 8,000 | 551 | 3.0 | 76 |
| 1/8" | 3 | 50559-50 | 1/16" NPT Male | 1/16" NPT Male | .125 | 3.1 | 50 | 15.2 | .340 | 8.6 | 8,000 | 551 | 2.0 | 50 |
| | | 50559-25 | 1/16" NPT Male | 1/16" NPT Male | .125 | 3.1 | 25 | 7.6 | .340 | 8.6 | 8,000 | 551 | 2.0 | 50 |
| | | 51162-50 | 1/16" NPT Male | 1/4" UNEF Female | .125 | 3.1 | 50 | 15.2 | .325 | 8.2 | 8,000 | 551 | 2.0 | 50 |
| | | 51162-25 | 1/16" NPT Male | 1/4" UNEF Female | .125 | 3.1 | 25 | 7.6 | .325 | 8.2 | 8,000 | 551 | 2.0 | 50 |
| | | 51498-50 | 1/16" NPT Male | Mini-Mole | .125 | 3.1 | 50 | 15.2 | .335 | 8.5 | 8,000 | 551 | 2.0 | 50 |
| | | 51498-25 | 1/16" NPT Male | Mini-Mole | .125 | 3.1 | 25 | 7.6 | .335 | 8.5 | 8,000 | 551 | 2.0 | 50 |

*See end fitting dimensions on page D-8 and specifications for all connection types in Section I.
 **Outside diameter of end fitting sleeve.



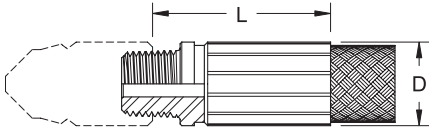
HOSES & LANCES

STAINLESS STEEL BRAIDED FLEX LANCES

END FITTINGS

NPT MALE

For use with female pipe threaded tube cleaning nozzles (see pages G-68 to G-72)..



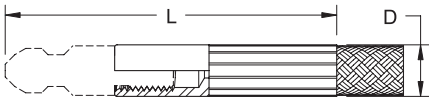
| NOMINAL HOSE I.D. | SERIES | END FITTING CONNECTION* | FITTING LENGTH** (L) | | FITTING O.D. (D) | |
|-------------------|--------|-------------------------|----------------------|------|------------------|------|
| | | | in | mm | in | mm |
| 5/16" | 25571 | 1/4" NPT Male | 1.48 | 37.5 | .721 | 18.3 |
| 1/4" | 25570 | 1/8" NPT Male | 1.25 | 31.7 | .575 | 14.6 |
| 1/4" | 25568 | 1/8" NPT Male | 1.10 | 27.9 | .500 | 12.7 |
| 1/8" | 50559 | 1/16" NPT Male | .97 | 24.6 | .340 | 8.6 |

*See details on all connection types in Section I.

**Add length of nozzle to "L" dimension to determine total rigid length.

MACHINE SCREW THREAD FEMALE

For use with MS2 nozzles (see page G-71).



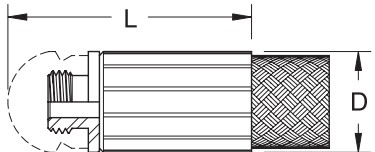
| NOMINAL HOSE I.D. | SERIES | END FITTING CONNECTION* | RIGID LENGTH** (L) | | FITTING O.D. | | NOZZLE TYPE/ SIZE |
|-------------------|--------|-------------------------|--------------------|------|--------------|-----|-------------------|
| | | | in | mm | in | mm | |
| 1/8" | 51162 | 1/4" UNF Female | 2.09 | 53.0 | .325 | 8.2 | MS2 |

*See details on all connection types in Section I.

**Combined length of nozzle and end fitting.

MACHINE SCREW THREAD MALE

For use with Series C nozzles (see page G-69).



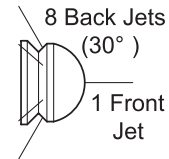
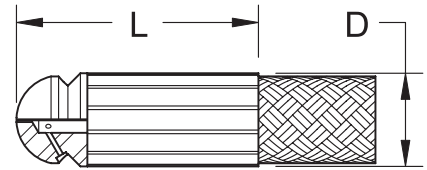
| NOMINAL HOSE I.D. | SERIES | END FITTING CONNECTION* | RIGID LENGTH** (L) | | FITTING O.D. | | NOZZLE TYPE/ SIZE |
|-------------------|--------|-------------------------|--------------------|------|--------------|------|-------------------|
| | | | in | mm | in | mm | |
| 1/4" | 50752 | 5/16" UNEF Male | 1.34 | 34.0 | .565 | 14.3 | C2 |
| 1/4" | 50673 | 1/4" UNEF Male | 1.38 | 35.0 | .500 | 12.7 | C1 |

*See details on all connection types in Section I.

**Combined length of nozzle and end fitting.

MINI-MOLE

- ▶ Special end fitting with permanently attached nozzle
- ▶ Provides the shortest possible rigid length at the end of the lance to allow navigation through very sharp bends
- ▶ One standard nozzle pattern available
- ▶ Two standard flow ratings available, one for each flex lance length. See nozzle flow chart below.
- ▶ Contact a Jetstream sales representative for custom lengths, patterns or flow rates

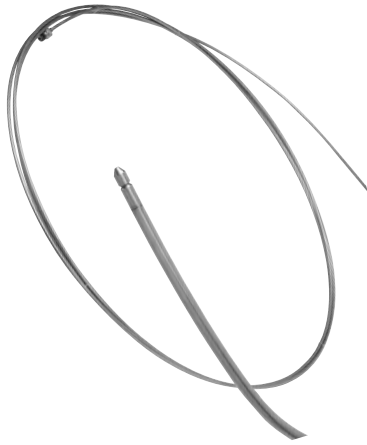


| NOMINAL HOSE I.D. | SERIES | FITTING LENGTH (L) | | FITTING O.D. | |
|-------------------|--------|--------------------|------|--------------|-----|
| | | in | mm | in | mm |
| 1/8" | 51498 | .87 | 22.0 | .335 | 8.5 |

MINI-MOLE NOZZLE FLOW

| LANCE LENGTH | | FLOW AT SPECIFIED PRESSURES (PSI/BAR) | | | | | | | | | | | |
|--------------|------|---------------------------------------|-----|------|-----|------|------|------|------|------|------|------|------|
| | | 3000 | 206 | 4000 | 275 | 5000 | 344 | 6000 | 413 | 7000 | 482 | 8000 | 551 |
| ft | m | gpm | lpm | gpm | lpm | gpm | lpm | gpm | lpm | gpm | lpm | gpm | lpm |
| 25 | 7.6 | 2.2 | 8.3 | 2.5 | 9.4 | 2.8 | 10.6 | 3.1 | 11.7 | 3.3 | 12.4 | 3.5 | 13.2 |
| 50 | 15.2 | 1.6 | 6.0 | 1.9 | 7.1 | 2.1 | 7.9 | 2.3 | 8.7 | 2.5 | 9.4 | 2.7 | 10.2 |

HOSES & LANCES

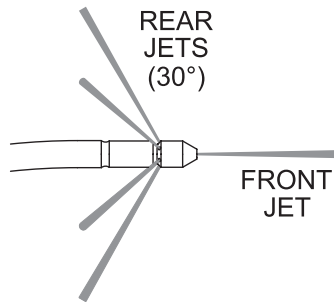


STEELEX™ LANCES

- ▶ Smallest outside diameters of any commercially available lances
- ▶ Special spring temper stainless steel can be used as either flex or rigid lance in very small tubes
- ▶ Integral nozzle and inlet fitting
- ▶ High strength material permits large inside to outside diameter
- ▶ Unlike normal rigid lances, the flexibility of SteelFlex permits use in confined space applications
- ▶ Two sizes available in multiple standard lengths as shown in table below. Additional or custom lengths not available.
- ▶ Coiled for transport and storage
- ▶ See page D-24 for flow charts

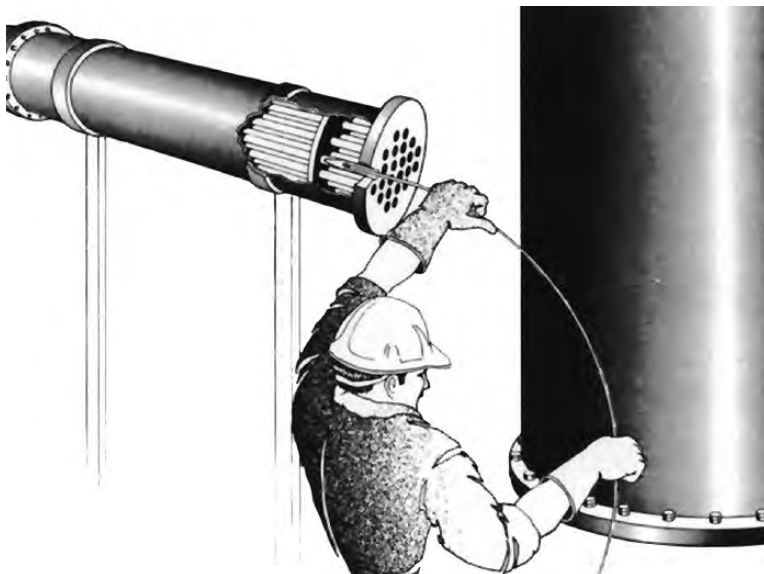
| PART NO. XX = LENGTH (FT) | STANDARD LENGTHS ft | OUTSIDE DIAMETER | | INSIDE DIAMETER | | INLET CONNECTION* | MAX. OPERATING PRESSURE | | BEND RADIUS A** | | BEND RADIUS B*** | |
|------------------------------|---------------------------|------------------|-----|-----------------|-----|-------------------|-------------------------|-----|-----------------|-----|------------------|-----|
| | | in | mm | in | mm | | psi | bar | in | mm | in | mm |
| 51015-XX | 5, 10, 15, 20, 25, 35, 50 | .170 | 4.3 | .140 | 3.5 | 1/8" NPT Male | 10,000 | 689 | 19 | 482 | 10 | 254 |
| 51020-XX | 5, 10, 15, 20, 25, 35 | .140 | 3.5 | .110 | 2.7 | 1/8" NPT Male | 10,000 | 689 | 16 | 406 | 7 | 177 |

*See details on all connection types in Section I.
 **Bend Radius A: Radius beyond which permanent set condition may occur.
 ***Bend Radius B: Radius beyond which kinking may occur.



STANDARD PATTERNS

| LENGTH (FT) | SERIES 51015 .170" O.D. | SERIES 51020 .140" O.D. |
|-------------|--|--|
| 5' | 1 Front 6 Back 30° 7 Jets Total | 1 Front 6 Back 30° 7 Jets Total |
| 10' | 1 Front 5 Back 30° 6 Jets Total | 1 Front 6 Back 30° 7 Jets Total |
| 15' | 1 Front 5 Back 30° 6 Jets Total | 1 Front 5 Back 30° 6 Jets Total |
| 20' | 1 Front 5 Back 30° 6 Jets Total | 1 Front 6 Back 30° 7 Jets Total |
| 25' | 1 Front 5 Back 30° 6 Jets Total | 1 Front 5 Back 30° 6 Jets Total |
| 35' | 1 Front 5 Back 30° 6 Jets Total | 1 Front 4 Back 30° 5 Jets Total |
| 50' | 1 Front 5 Back 30° 6 Jets Total | Not Available |



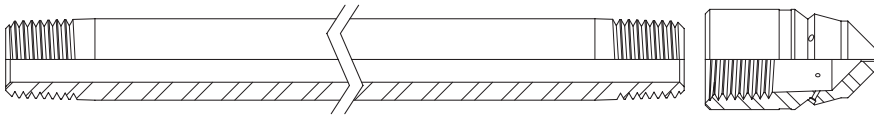
RIGID LANCES

- ▶ For use in manual or automatic tube cleaning applications
- ▶ To order, use five digit part number followed by a dash (-) and length in feet (up to 35 ft)
- ▶ Available in a range of sizes and connections
- ▶ See pages D-21 - D-23 for pressure drop graphs



NPT MALE x NPT MALE

For use with female pipe threaded tube cleaning nozzles (see Nozzle Section G).

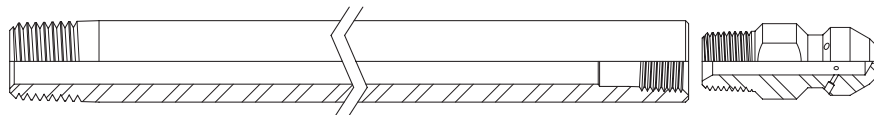


| PART NO. XX = LENGTH (FT) | CONNECTION TYPE* | | OUTSIDE DIAMETER | | INSIDE DIAMETER | | MATERIAL | MAX. OPERATING PRESSURE | |
|---------------------------------|------------------|----------------|------------------|-------|-----------------|-------|-----------------|-------------------------|------|
| | INLET END | NOZZLE END | in | mm | in | mm | | psi | bar |
| 54299-XX | 1" NPT Male | 1" NPT Male | 1.315 | 33.40 | .599 | 15.21 | Stainless Steel | 15,000 | 1034 |
| 56692-XX | 3/4" NPT Male | 3/4" NPT Male | 1.050 | 26.67 | .434 | 11.02 | Stainless Steel | 15,000 | 1034 |
| 53731-XX | 3/4" NPT Male | 3/4" NPT Male | 1.050 | 26.67 | .614 | 15.59 | Stainless Steel | 10,000 | 689 |
| 51082-XX | 1/2" NPT Male | 1/2" NPT Male | .840 | 21.33 | .534 | 13.56 | Stainless Steel | 15,000 | 1034 |
| 50596-XX | 3/8" NPT Male | 3/8" NPT Male | .675 | 17.14 | .415 | 10.54 | Stainless Steel | 15,000 | 1034 |
| 50594-XX | 1/4" NPT Male | 1/4" NPT Male | .540 | 13.71 | .302 | 7.67 | Stainless Steel | 15,000 | 1034 |
| 50592-XX | 1/8" NPT Male | 1/8" NPT Male | .405 | 10.28 | .215 | 5.46 | Stainless Steel | 15,000 | 1034 |
| 51081-XX | 1/16" NPT Male | 1/16" NPT Male | .312 | 7.92 | .182 | 4.62 | Stainless Steel | 15,000 | 1034 |

*See details on all connection types in Section I.

NPT MALE x NPT FEMALE

For use with MP Series nozzles (see page G-71).



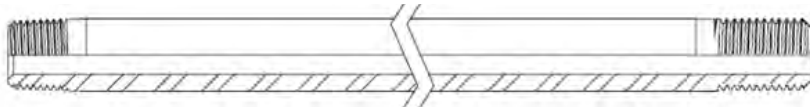
| PART NO. XX = LENGTH (FT) | CONNECTION TYPE* | | OUTSIDE DIAMETER | | INSIDE DIAMETER | | MATERIAL | MAX. OPERATING PRESSURE | | NOZZLE TYPE/ SIZE |
|---------------------------------|------------------|------------------|------------------|-------|-----------------|-------|-----------------|-------------------------|-----|-------------------|
| | INLET END | NOZZLE END | in | mm | in | mm | | psi | bar | |
| 51069-XX | 1/2" NPT Male | 3/8" NPT Female | .840 | 21.33 | .534 | 13.56 | Stainless Steel | 10,000 | 689 | MP4 |
| 51068-XX | 3/8" NPT Male | 1/4" NPT Female | .675 | 17.14 | .415 | 10.54 | Stainless Steel | 10,000 | 689 | MP3 |
| 51067-XX | 1/4" NPT Male | 1/8" NPT Female | .540 | 13.71 | .302 | 7.67 | Stainless Steel | 10,000 | 689 | MP2 |
| 51066-XX | 1/8" NPT Male | 1/16" NPT Female | .405 | 10.28 | .215 | 5.46 | Stainless Steel | 10,000 | 689 | MP1 |

*See details on all connection types in Section I.

HOSES & LANCES

NPT MALE x .56MP MALE

For use with female pipe threaded tube cleaning nozzles (see Nozzle Section G).

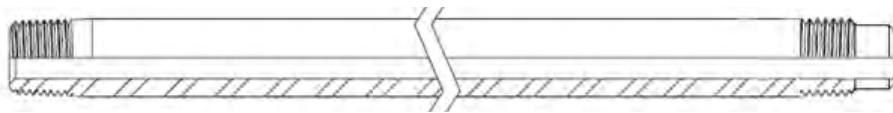


| PART NO. XX = LENGTH (FT) | CONNECTION TYPE* | | OUTSIDE DIAMETER | | INSIDE DIAMETER | | MATERIAL | MAX. OPERATING PRESSURE | |
|---------------------------------|------------------|-------------|------------------|-------|-----------------|------|-----------------|-------------------------|------|
| | INLET END | NOZZLE END | in | mm | in | mm | | psi | bar |
| J55624-XX | 1/4" NPT Male | .56 MP Male | .54 | 13.71 | .312 | 7.92 | Stainless Steel | 15,000 | 1034 |

*See details on all connection types in Section I.

NPT MALE x .56JS LANCE MALE

For use with female pipe threaded tube cleaning nozzles (see Nozzle Section G).

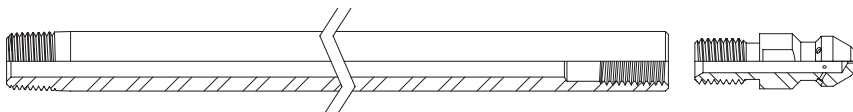


| PART NO. XX = LENGTH (FT) | CONNECTION TYPE* | | OUTSIDE DIAMETER | | INSIDE DIAMETER | | MATERIAL | MAX. OPERATING PRESSURE | |
|---------------------------------|------------------|-------------------|------------------|-------|-----------------|------|-----------------|-------------------------|------|
| | INLET END | NOZZLE END | in | mm | in | mm | | psi | bar |
| J55681-XX | 1/4" NPT Male | .56 JS Lance Male | .54 | 13.71 | .312 | 7.92 | Stainless Steel | 15,000 | 1034 |

*See details on all connection types in Section I.

NPT MALE x MACHINE SCREW THREAD FEMALE

For use with Series MS nozzles (see Nozzle Section G).

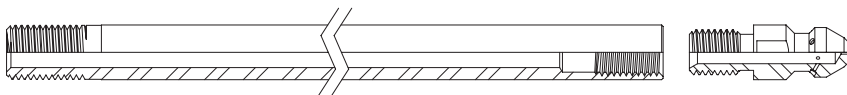


| PART NO. XX = LENGTH (FT) | CONNECTION TYPE* | | OUTSIDE DIAMETER | | INSIDE DIAMETER | | MATERIAL | MAX. OPERATING PRESSURE | | NOZZLE TYPE/SIZE |
|---------------------------------|------------------|------------------|------------------|-------|-----------------|------|-----------------|-------------------------|-----|------------------|
| | INLET END | NOZZLE END | in | mm | in | mm | | psi | bar | |
| 54411-XX | 1/8" NPT Male | 5/16" UNF Female | .405 | 10.28 | .215 | 5.46 | Stainless Steel | 10,000 | 689 | MS3 |

*See details on all connection types in Section I.

MACHINE SCREW THREAD MALE x MACHINE SCREW THREAD FEMALE

For use with Series MS nozzles (see Nozzle section G).



| PART NO. XX = LENGTH (FT) | CONNECTION TYPE* | | OUTSIDE DIAMETER | | INSIDE DIAMETER | | MATERIAL | MAX. OPERATING PRESSURE | | NOZZLE TYPE/SIZE |
|---------------------------------|------------------|------------------|------------------|------|-----------------|------|-----------------|-------------------------|------|------------------|
| | INLET END | NOZZLE END | in | mm | in | mm | | psi | bar | |
| 51062-XX | 3/8" UNF Male | 5/16" UNF Female | .375 | 9.52 | .209 | 5.30 | Alloy Steel | 10,000 | 689 | MS3 |
| 51061-XX | 5/16" UNF Male | 1/4" UNF Female | .312 | 7.92 | .182 | 4.62 | Stainless Steel | 10,000 | 689 | MS2 |
| 51059-XX | 1/4" UNF Male | #12 UNF Female | .250 | 6.35 | .120 | 3.04 | Alloy Steel | 10,000 | 689 | MS1 |
| 63222-XX | M10 x .75 Male | 5/16 - 24 Female | .415 | 10.5 | .198 | 5.03 | Alloy Steel | 20,000 | 1379 | |

*See details on all connection types in Section I.

PRESSURE DROP DATA

PRESSURE DROP DATA

The charts on this page and the next are used to approximate how much pressure will be lost through a particular hose or lance at a given flow rate. Because of frictional forces, the water exiting a hose or lance could be at a significantly lower pressure than at entry. In some cases, especially when using smaller hoses and lances, the flow rate that can be used is determined by pressure drop through a lance rather than the pump's maximum output.

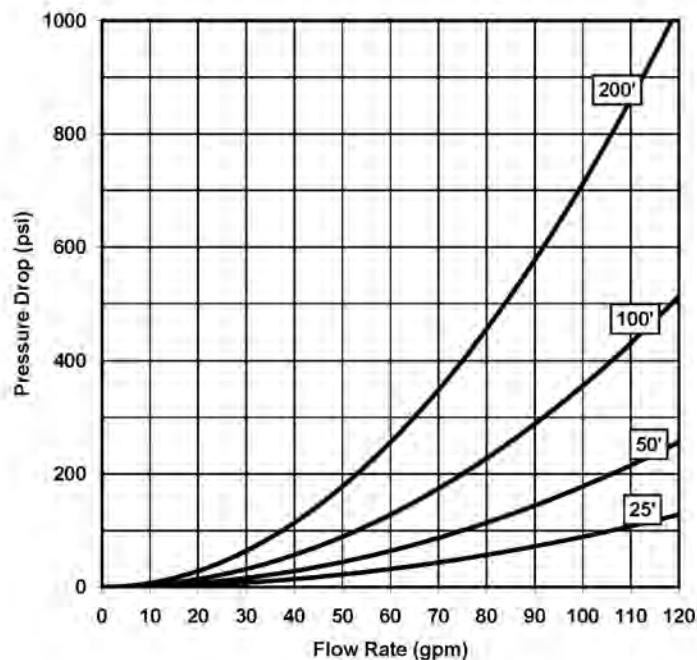
PRESSURE DROP & NOZZLE SIZING

Pressure drop is especially important to understand when sizing nozzles. Use the following procedure for correct nozzle sizing:

1. Determine the pressure needed for a particular cleaning operation and subtract that amount from the desired pump operating pressure. The result is the permissible pressure drop.
2. Consult pressure drop chart for the hose to be used to determine what flow rate will result in the permissible pressure drop.
- 3a. If this flow rate exceeds the maximum flow of the pump, use the chart to find the pressure drop at the maximum pump flow and subtract that amount from the desired pump operating pressure to get the pressure at the nozzle. Then use the flow charts provided for the desired nozzle to select a nozzle, or nozzles, matching the desired flow and pressure.
- 3b. If this flow rate is within the capability of the pump, use the flow charts provided for the desired nozzle to select a nozzle, or nozzles, matching the desired flow and pressure.

NOTE: Doubling the length of a hose or lance will result in approximately twice the pressure drop at the same flow rate.

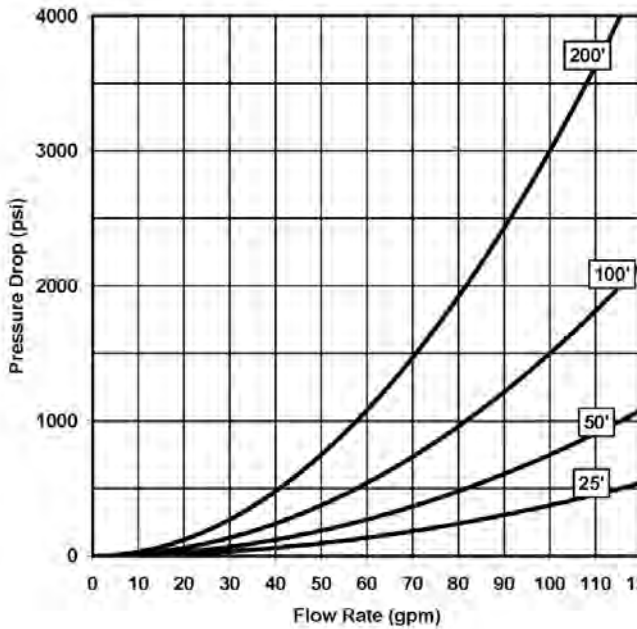
1" RUBBER WATERBLAST HOSE
Series 53235



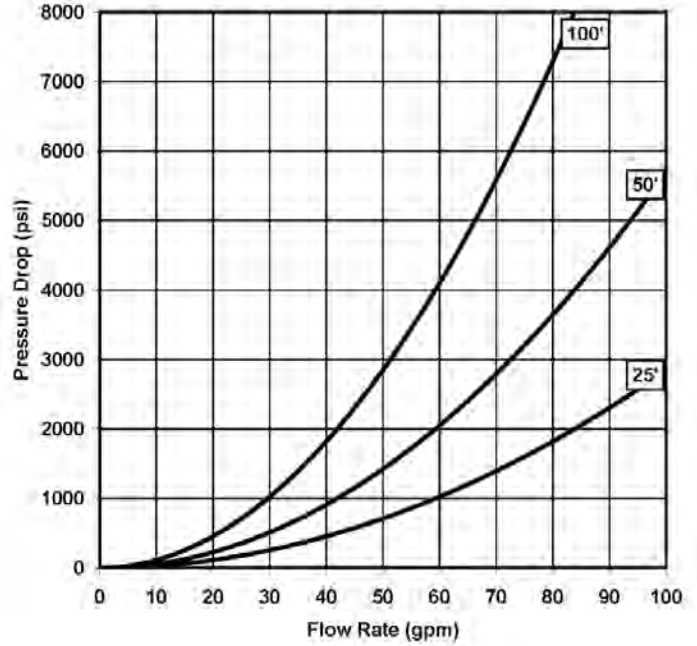
PRESSURE DROP DATA

RUBBER WATERBLAST HOSES

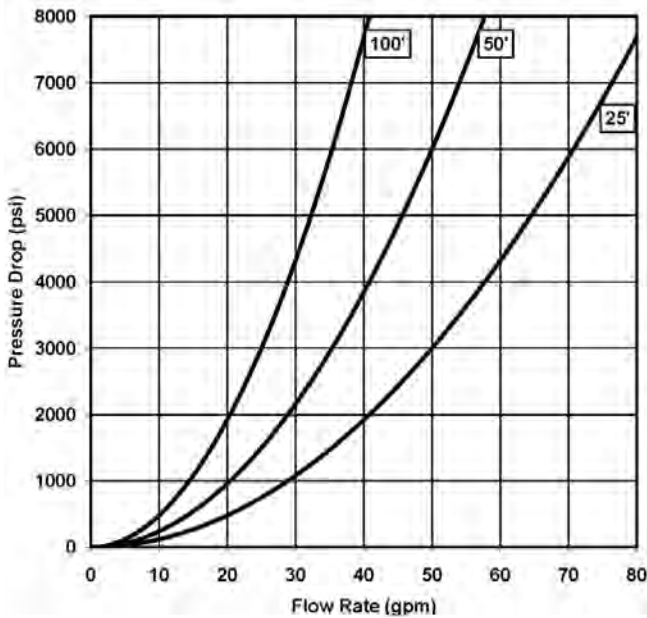
3/4" RUBBER WATERBLAST HOSE
Series 51118



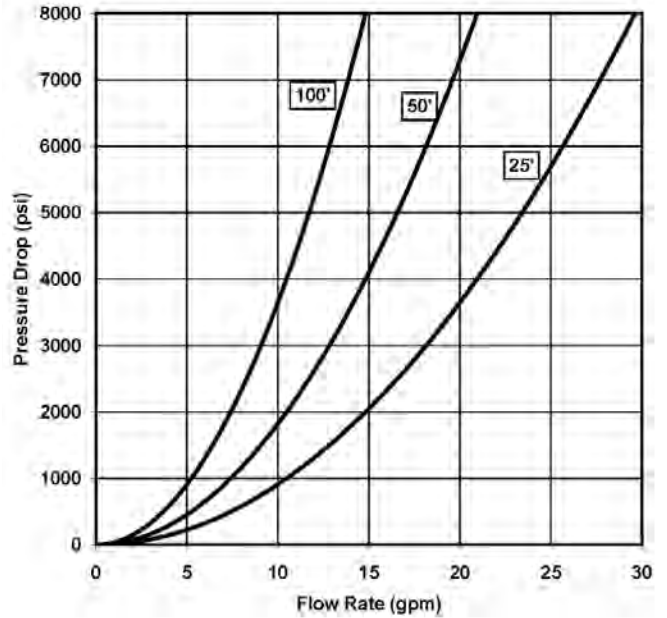
1/2" RUBBER WATERBLAST HOSE
Series 25513 & 52241



3/8" RUBBER WATERBLAST HOSE
SERIES 25576 & 52178



1/4" RUBBER WATERBLAST HOSE
SERIES 25914



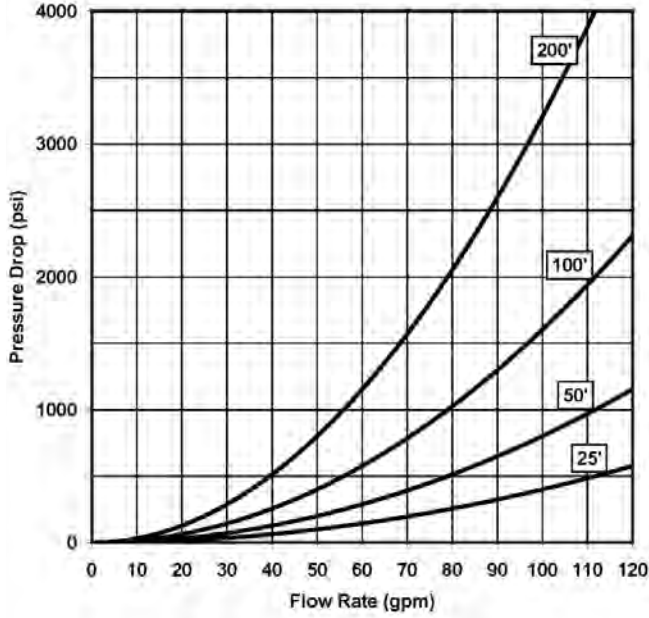
HOSES &
LANCES

PRESSURE DROP DATA

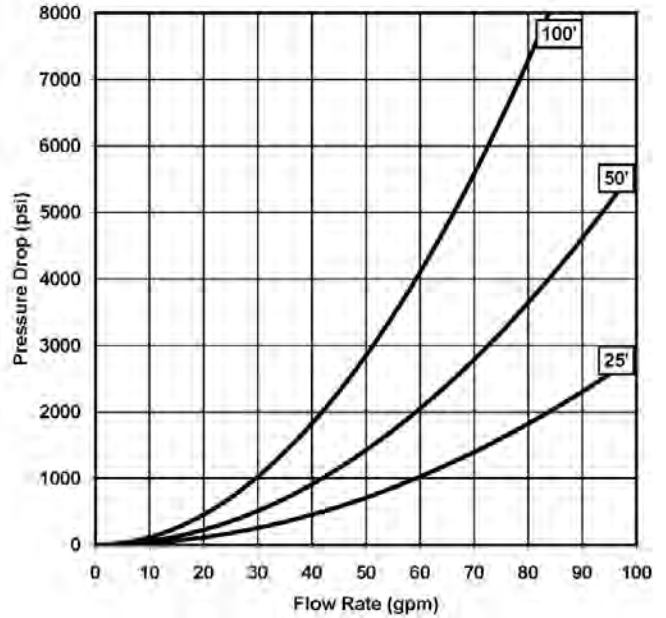
THERMOPLASTIC HOSES & FLEX LANCES

HOSES & LANCES

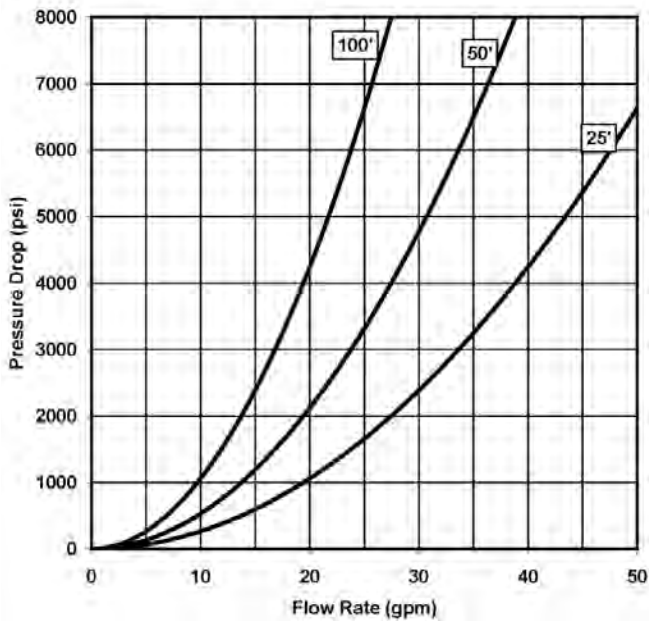
3/4" (20 MM) THERMOPLASTIC HOSE & FLEX LANCE - SERIES 29313



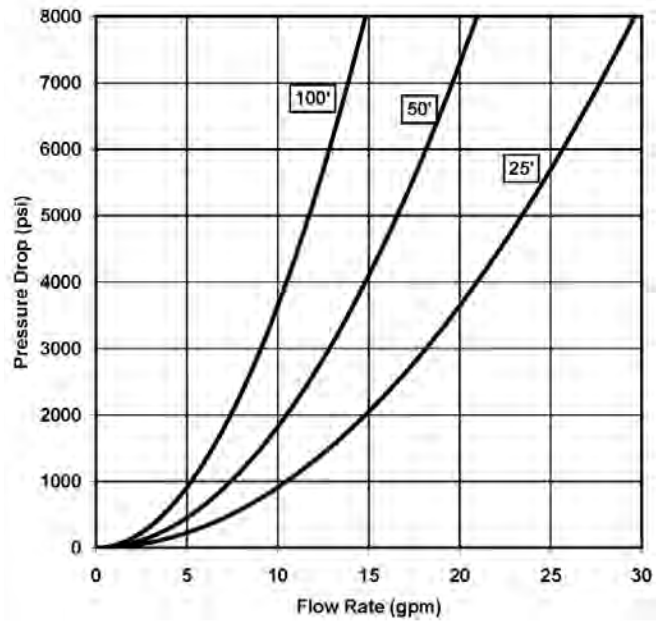
1/2" (13 MM) THERMOPLASTIC HOSE & FLEX LANCE - SERIES 28481 & 28524



5/16" (8 MM) THERMOPLASTIC HOSE & FLEX LANCE - SERIES 27560 & 28673



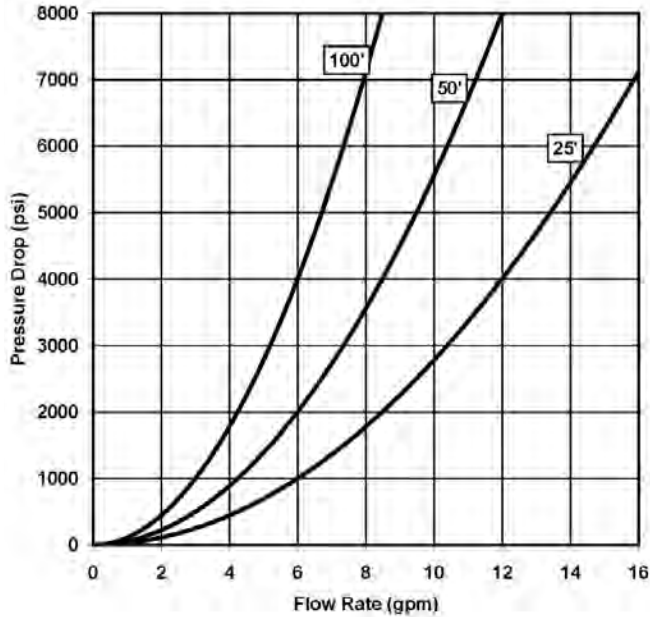
1/4" (6 MM) THERMOPLASTIC HOSE & FLEX LANCE - SERIES 26108 & 28490



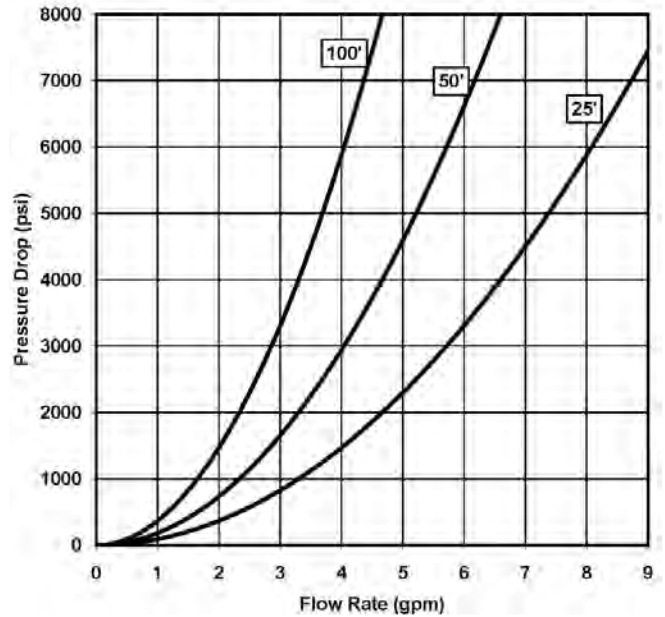
PRESSURE DROP DATA

THERMOPLASTIC HOSES & FLEX LANCES

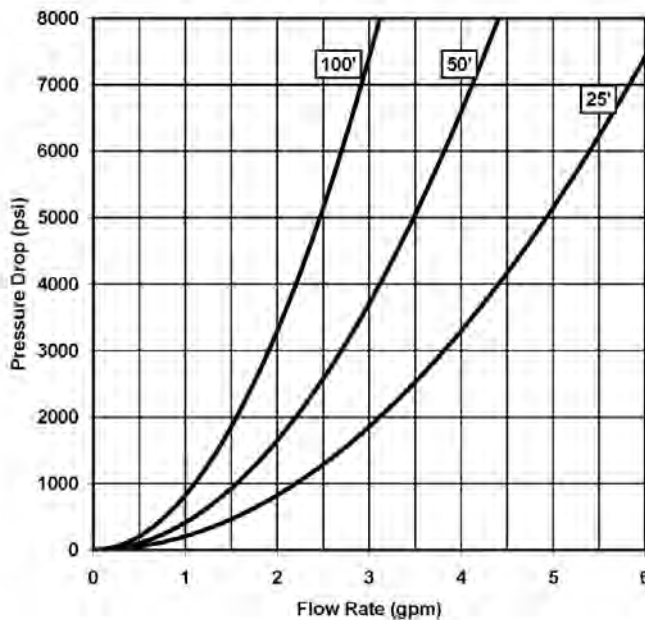
3/16" (5 MM) THERMOPLASTIC HOSE & FLEX LANCE - SERIES 26106



5/32" (4 MM) THERMOPLASTIC HOSE & FLEX LANCE - SERIES 26104



1/8" (3 MM) THERMOPLASTIC HOSE & FLEX LANCE - SERIES 28596



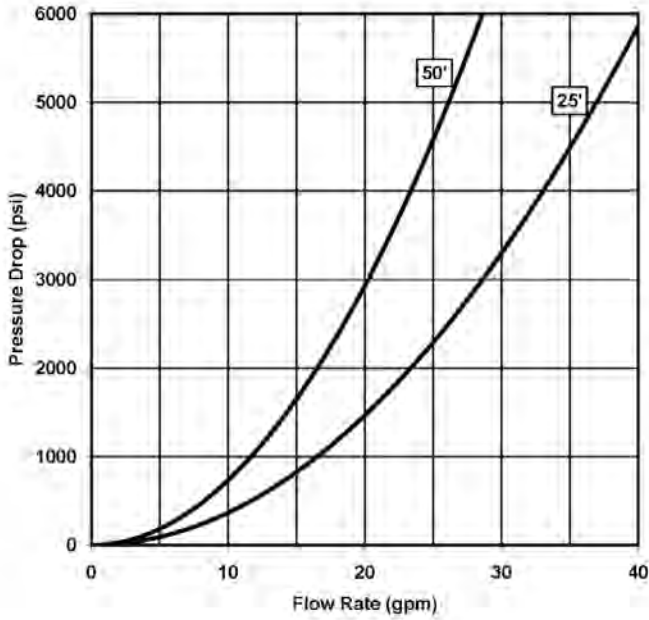
HOSES & LANCES

PRESSURE DROP DATA

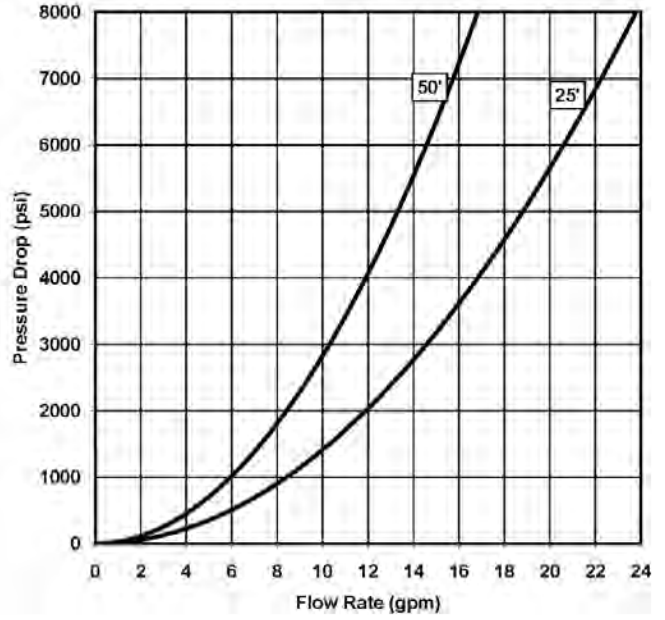
STAINLESS STEEL BRAIDED FLEX LANCES

HOSES &
LANCES

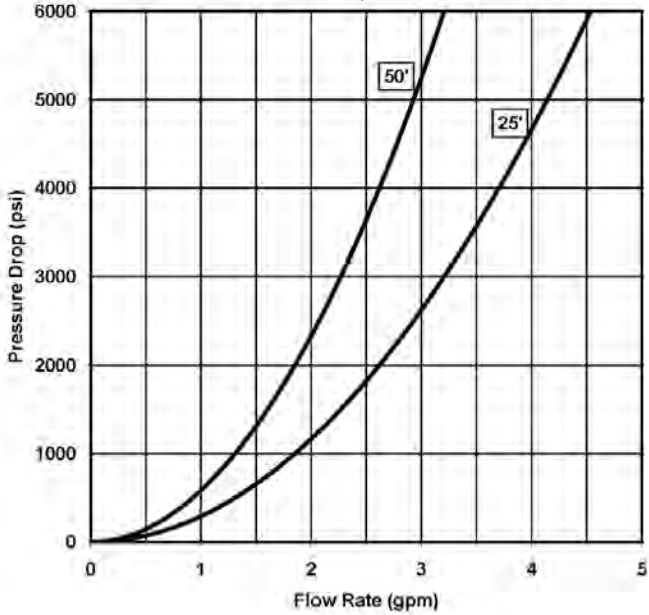
5/16" STAINLESS STEEL BRAIDED
FLEX LANCE - SERIES 25571



1/4" STAINLESS STEEL BRAIDED
FLEX LANCE
SERIES 25568, 25570, 50673 & 50752



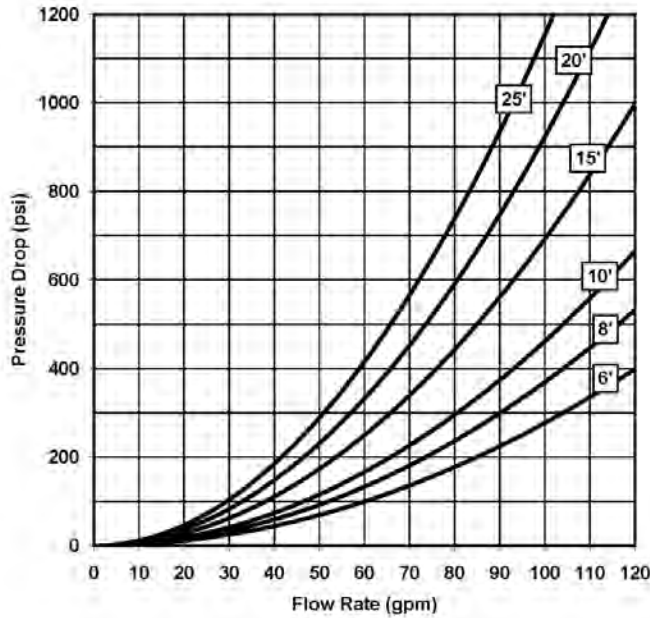
3/16" STAINLESS STEEL BRAIDED
FLEX LANCE
SERIES 50559, 51162 & 51498



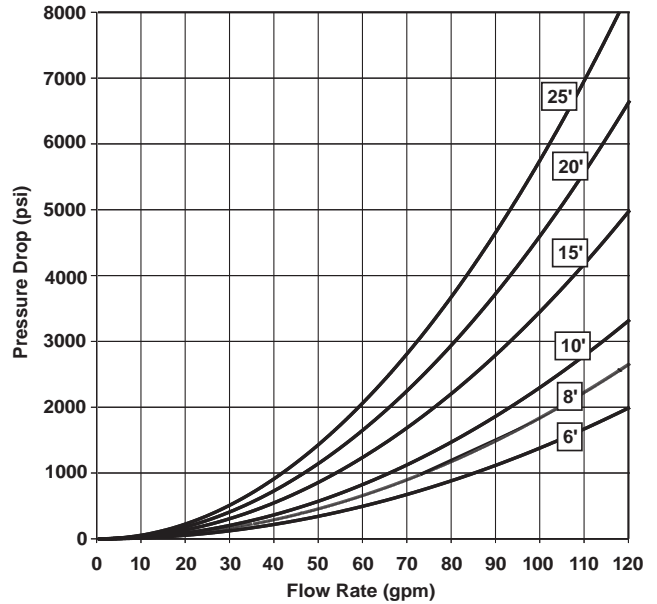
PRESSURE DROP DATA

RIGID LANCES

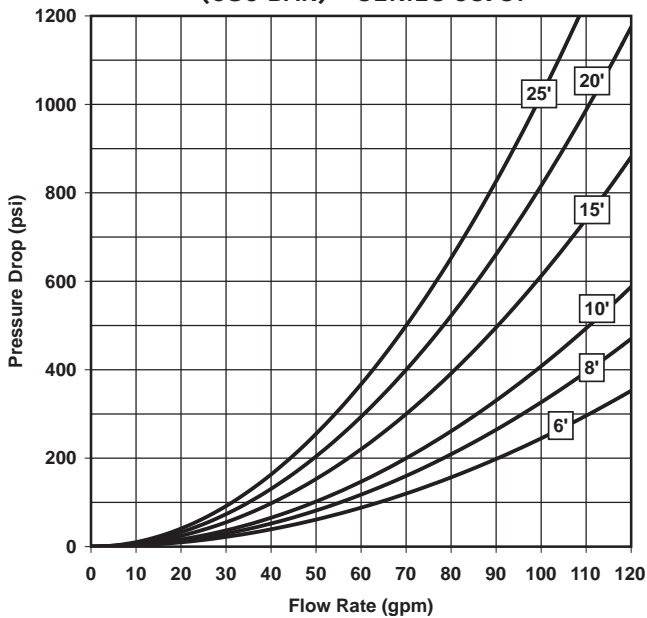
RIGID LANCES – 1" PIPE
SERIES 54299



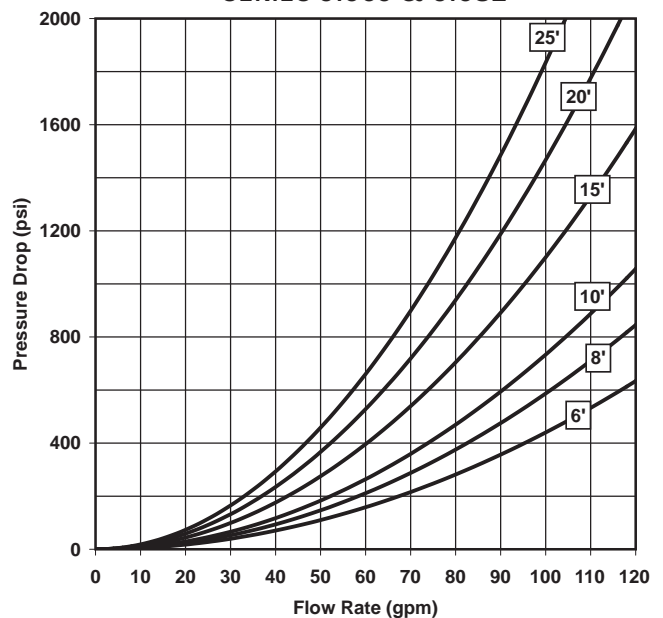
RIGID LANCES – 3/4" PIPE 15,000 PSI
(1034 BAR) – SERIES 56692



RIGID LANCES – 3/4" PIPE 10,000 PSI
(689 BAR) – SERIES 53731



RIGID LANCES – 1/2" PIPE
SERIES 51069 & 51082



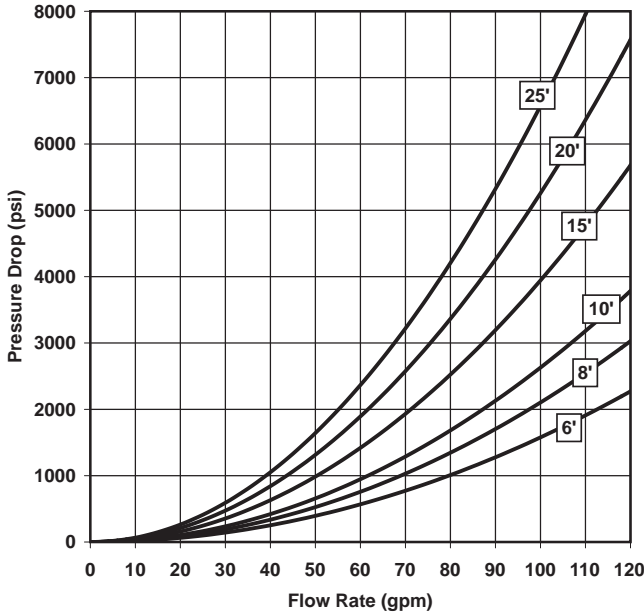
HOSES &
LANCES

PRESSURE DROP DATA

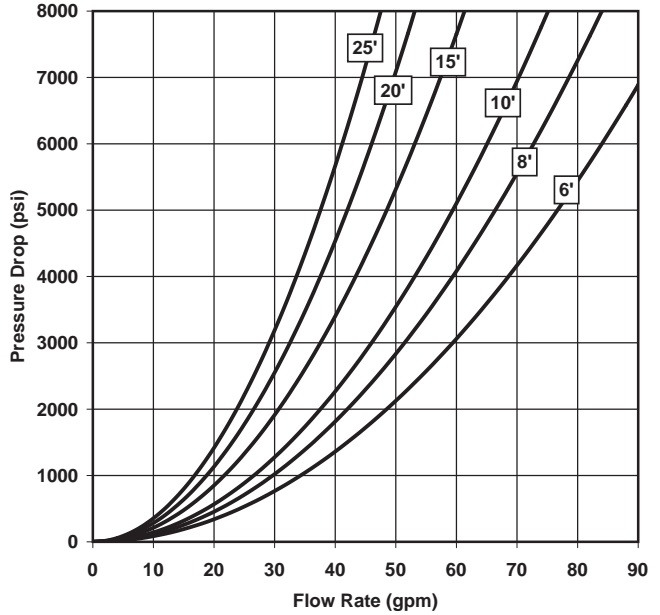
RIGID LANCES

HOSES & LANCES

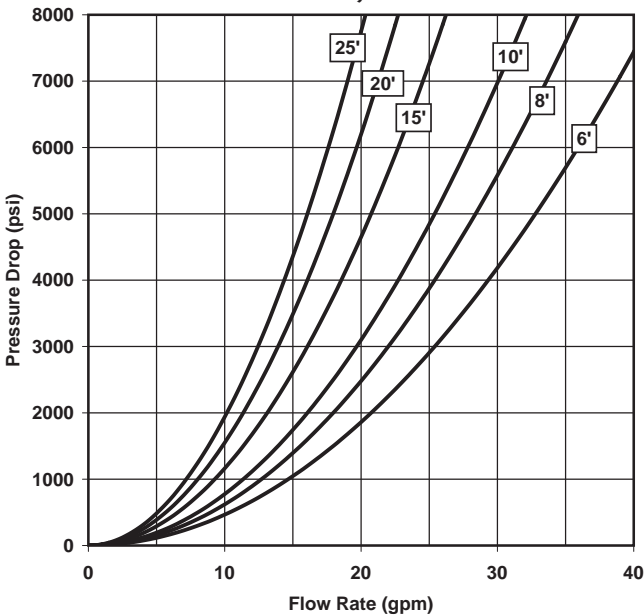
RIGID LANCES – 3/8" PIPE
SERIES 50596 & 51068



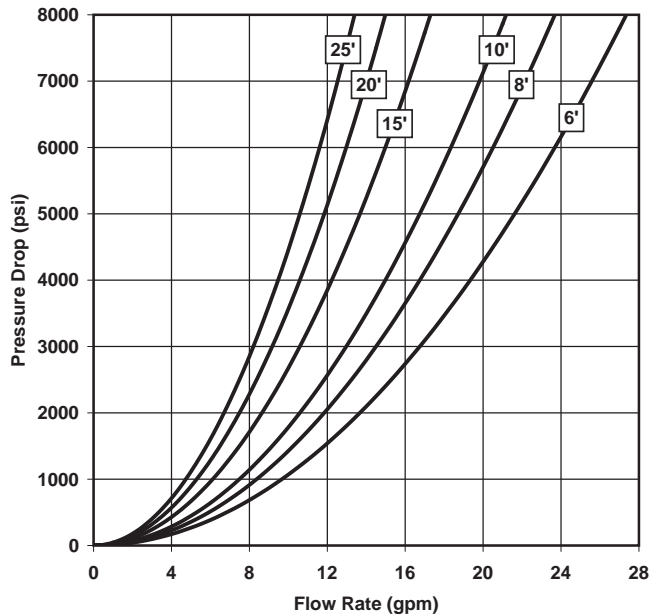
RIGID LANCES – 1/4" PIPE
SERIES 50594 & 51067



RIGID LANCES – 1/8" PIPE
SERIES 50592, 51066 & 54411



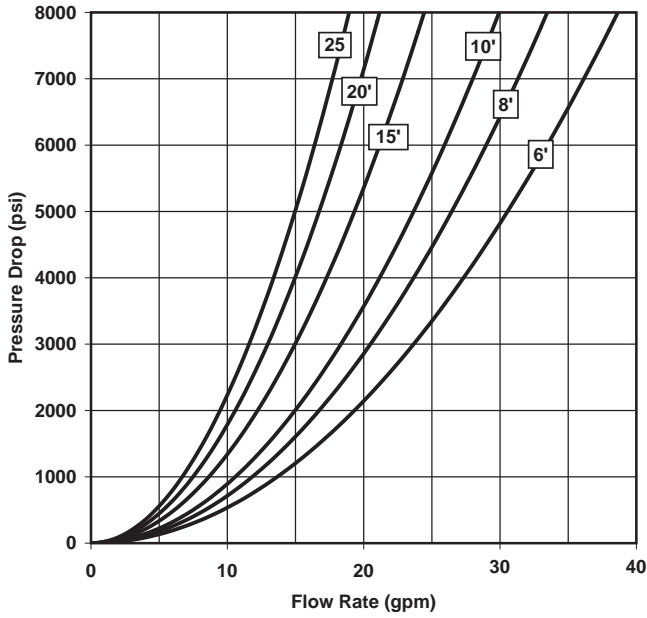
RIGID LANCES – 1/16" PIPE
SERIES 51061 & 51081



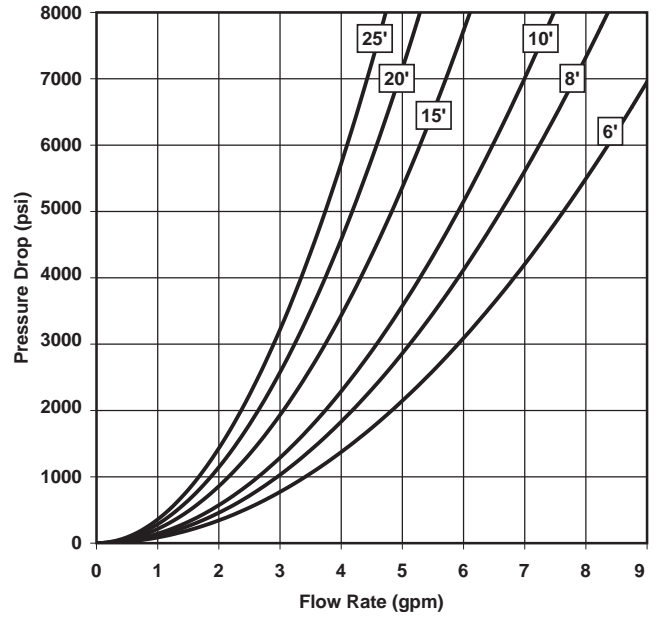
PRESSURE DROP DATA

RIGID LANCES

RIGID LANCES – 3/8" O.D. MECHANICAL TUBING – SERIES 51062



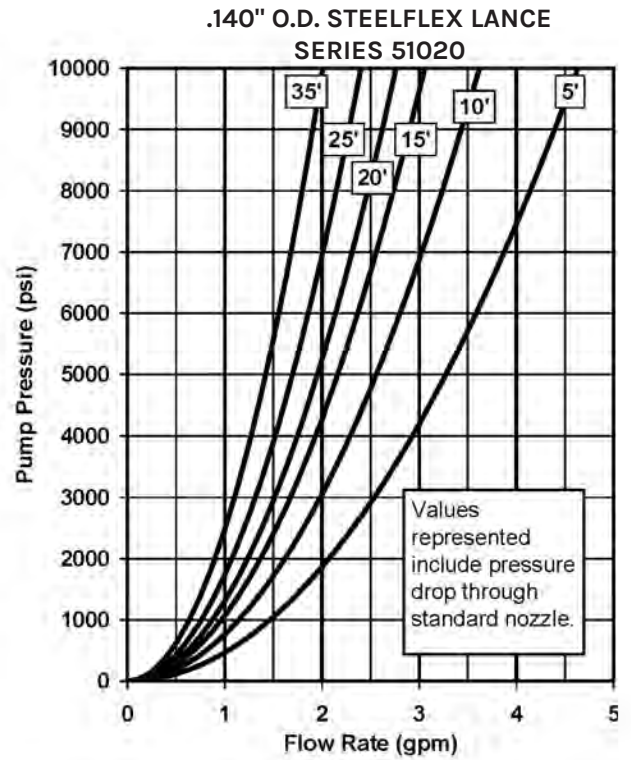
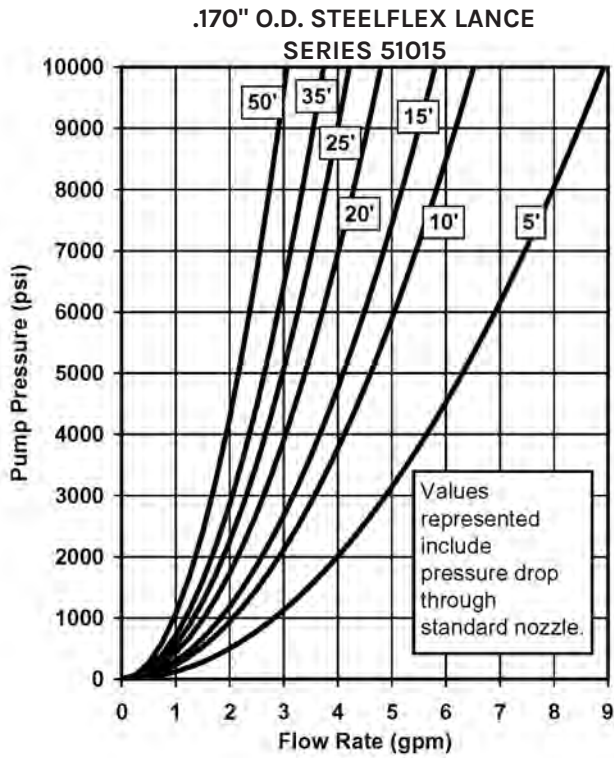
RIGID LANCES – 1/4" O.D. MECHANICAL TUBING – SERIES 51059



HOSES & LANCES

FLOW DATA

STEEFLEX™ LANCES



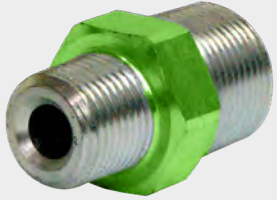
NOTE: These charts represent flow rates at specified pressure, not pressure drop.



FITTINGS

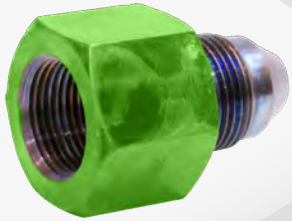
Jetstream offers a wide variety of fittings with various connection types to fit your 15,000 psi application needs. The standard connection types, NPT, HF, HHP, Type M, MP and BSPP, are available in standard thread sizes. A benefit that Jetstream brings to the fittings realm is the ability to offer a wide variety of connections for any application.

*See details on all connection types in Section I.



THREAD LUBRICANTS & TEFLON TAPE

Thread Lubricants prevent threaded connections from galling together or seizing up.



Part No. 27721

Blue Goop Thread Lubricant
2 oz. Tube



Part No. 28197

Nickel-Based Anti-Seize
1 lb. Brush Top Can



Part No. 29057

Silver-Based Anti-Seize
7 oz. Stick



Part No. 40282

Teflon Tape
For use on Pipe Thread (NPT)
connections, 1/2" x 520" Roll

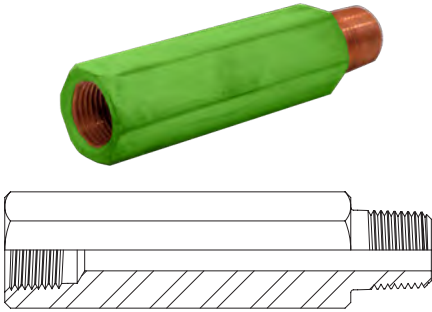
GAUGE ACCESSORIES

(See C-39 for available gauges.)

GAUGE EXTENSION

Part No. 55176

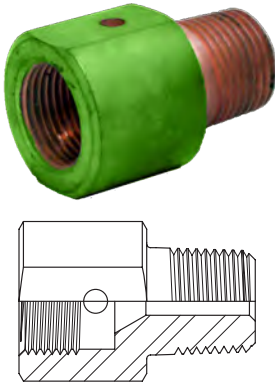
- ▶ Raises height of gauge for unobstructed reading
- ▶ 1/2" NPT Male x 1/2" NPT Female
- ▶ 4-1/2" (114 mm) long
- ▶ Stainless Steel
- ▶ Copper-plated for galling resistance



GAUGE ADAPTER

Part No. 55402

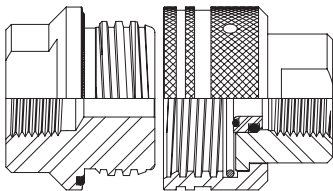
- ▶ Connects gauge (part no. 29818) to 1/2" NPT Female Port
- ▶ 1/2" NPT Male x 9/16" MP Female
- ▶ Small I.D. for proper seating of 9/16" HP tube nipple
- ▶ Stainless Steel
- ▶ Copper-plated for galling resistance
- ▶ 9/16" MP gland nut and collar sold separately




QUICK CONNECT COUPLINGS

TWIS-LOK QUICK CONNECT COUPLINGS

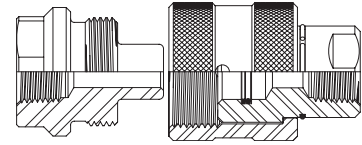
Rugged Acme threads allow easy, hand-tight connection of hoses and other components. Stainless steel.



| PART NO. | CONNECTION TYPE | COUPLING HALVES | | SEAL ASSEMBLY | MAX. OPERATING PRESSURE | |
|----------|-----------------|-----------------|--------|---|-------------------------|------|
| | | Male | Female | | psi | bar |
| 52663 | 1" NPT Female | 52662 | 52661 |  | 15,000 | 1034 |
| 51405 | 3/4" NPT Female | 51334 | 51665 | 51624 | 15,000 | 1034 |
| 51402 | 1/2" NPT Female | 51408 | 51670 | 51628 | 15,000 | 1034 |
| 51552 | 3/8" NPT Female | 51550 | 51554 | 51628 | 15,000 | 1034 |

SCREW TYPE QUICK CONNECT COUPLINGS

Easy, hand-tight connection of hoses and other components. Stainless steel. Also known as Partek Style.



Male Female

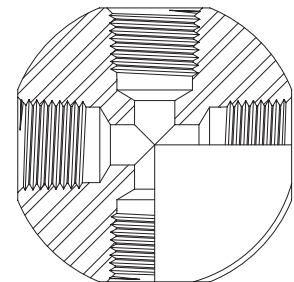
| PART NO. | CONNECTION TYPE | COUPLING HALVES | | SEAL KIT | RETAINING RING | MAX. OPERATING PRESSURE | |
|----------|------------------|-----------------|--------|----------|----------------|-------------------------|------|
| | | Male | Female | | | psi | bar |
| 28921 | 1" NPT Female | 28921M | 28921F | 28921S | J70380 | 15,000 | 1034 |
| 28844 | 3/4" NPT Female | 28844M | 28844F | 28844S | J70381 | 15,000 | 1034 |
| 50989* | 1/2" NPT Female | 50990 | 52684 | 50989S | 25690 | 15,000 | 1034 |
| 54180* | 3/8" NPT Female | 54178 | 54180F | 50989S | 25690 | 15,000 | 1034 |
| 54754** | 1" Type M Male | 54763 | 54762 | 54789 | 25690 | 20,000 | 1379 |
| 54767** | 3/4" Type M Male | 54764 | 54758 | 54789 | 25690 | 20,000 | 1379 |
| 54768** | 9/16" MP Female | 54766 | 54761 | 54789 | 25690 | 20,000 | 1379 |
| 56547 | 3/4" MP Female | 56614 | 56616 | N/A | J70381 | 20,000 | 1379 |

* 15K part has interchangeable halves.
 ** 20K part has interchangeable halves.

CROSSES

PIPE THREAD (NPT)

Stainless steel.

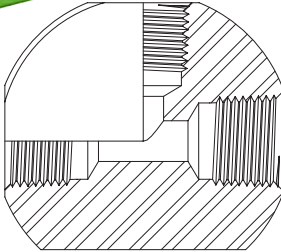


| PART NO. | CONNECTION TYPE | MAX. OPERATING PRESSURE | |
|----------|-----------------|-------------------------|------|
| | | psi | bar |
| 96048 | 1" NPT Female | 15,000 | 1034 |
| 54368 | 3/4" NPT Female | 15,000 | 1034 |
| 90262 | 1/2" NPT Female | 15,000 | 1034 |
| 29532 | 3/8" NPT Female | 15,000 | 1034 |
| 28577 | 1/4" NPT Female | 15,000 | 1034 |

TEES

PIPE THREAD (NPT)

Stainless steel.

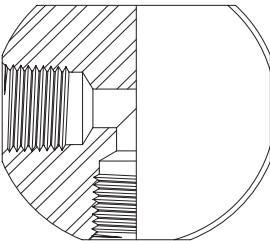


| PART NO. | CONNECTION TYPE | MAX. OPERATING PRESSURE | |
|----------|-----------------|-------------------------|------|
| | | psi | bar |
| 52673 | 1" NPT Female | 15,000 | 1034 |
| 50385 | 3/4" NPT Female | 15,000 | 1034 |
| 51001 | 1/2" NPT Female | 15,000 | 1034 |
| 50354 | 3/8" NPT Female | 15,000 | 1034 |
| 26166 | 1/4" NPT Female | 15,000 | 1034 |
| 26171 | 1/8" NPT Female | 15,000 | 1034 |

ELBOWS

90° PIPE THREAD (NPT)

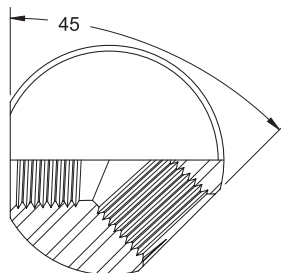
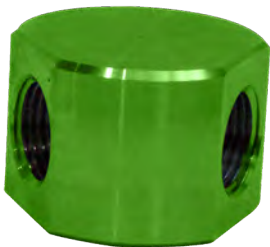
Stainless steel.



| PART NO. | CONNECTION TYPE | MAX. OPERATING PRESSURE | |
|----------|-----------------|-------------------------|------|
| | | psi | bar |
| 52672 | 1" NPT Female | 15,000 | 1034 |
| 50336 | 3/4" NPT Female | 15,000 | 1034 |
| 50300 | 1/2" NPT Female | 15,000 | 1034 |
| 50298 | 3/8" NPT Female | 15,000 | 1034 |
| 26162 | 1/4" NPT Female | 15,000 | 1034 |
| 26173 | 1/8" NPT Female | 15,000 | 1034 |

45° PIPE THREAD (NPT)

Stainless steel.



| PART NO. | CONNECTION TYPE | MAX. OPERATING PRESSURE | |
|----------|-----------------|-------------------------|------|
| | | psi | bar |
| 56594 | 1" NPT Female | 15,000 | 1034 |
| 50302 | 3/4" NPT Female | 15,000 | 1034 |
| 50824 | 1/2" NPT Female | 15,000 | 1034 |
| 50296 | 3/8" NPT Female | 15,000 | 1034 |

HAMMER UNIONS

PIPE THREAD (NPT)

Zinc-plated steel. Figure 300 flat-face style with o-ring seal.

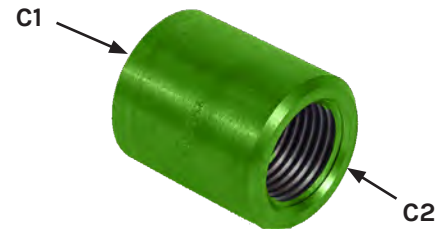
| PART NO. | CONNECTION TYPE | SEAL | MAX. OPERATING PRESSURE | |
|----------|-------------------|--------|-------------------------|-----|
| | | | psi | bar |
| 28319 | 1-1/4" NPT Female | 29319S | 10,000 | 689 |
| 27181 | 1" NPT Female | 92011 | 10,000 | 689 |
| 50392 | 3/4" NPT Female | 26314 | 10,000 | 689 |
| 29485 | 1/2" NPT Female | 29485S | 10,000 | 689 |
| 29486 | 3/8" NPT Female | 29486S | 10,000 | 689 |



COUPLINGS

PIPE THREAD (NPT)

Machined heat-treated stainless steel to allow small outside diameters for tube cleaning.



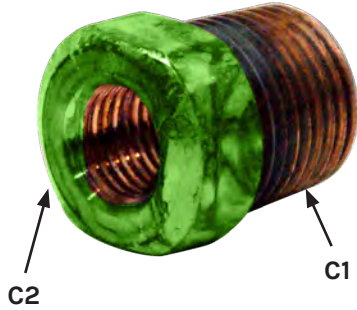
| PART NO. | CONNECTION TYPES | | OD | | MAX. OPERATING PRESSURE | |
|----------|------------------|------------------|------|------|-------------------------|------|
| | CONNECTION 1 | CONNECTION 2 | in | mm | psi | bar |
| 52676 | 1" NPT Female | 1" NPT Female | 2.00 | 50.8 | 15,000 | 1034 |
| 28894 | 1" NPT Female | 3/4" NPT Female | 2.00 | 50.8 | 15,000 | 1034 |
| J55701 | 1" NPT Female | 1/2" NPT Female | 2.00 | 50.8 | 15,000 | 1034 |
| 26055 | 3/4" NPT Female | 3/4" NPT Female | 1.50 | 38.1 | 15,000 | 1034 |
| 26067 | 3/4" NPT Female | 1/2" NPT Female | 1.50 | 38.1 | 15,000 | 1034 |
| 26059 | 3/4" NPT Female | 3/8" NPT Female | 1.50 | 38.1 | 15,000 | 1034 |
| 26056 | 1/2" NPT Female | 1/2" NPT Female | 1.19 | 30.2 | 15,000 | 1034 |
| 26072 | 1/2" NPT Female | 3/8" NPT Female | 1.19 | 30.2 | 15,000 | 1034 |
| 50342 | 1/2" NPT Female | 1/4" NPT Female | 1.25 | 31.8 | 15,000 | 1034 |
| 50059 | 1/2" NPT Female | 1/8" NPT Female | 1.19 | 30.2 | 15,000 | 1034 |
| 26057 | 3/8" NPT Female | 3/8" NPT Female | .88 | 22.2 | 15,000 | 1034 |
| 26061 | 3/8" NPT Female | 1/4" NPT Female | 1.13 | 28.6 | 15,000 | 1034 |
| 26064 | 3/8" NPT Female | 1/8" NPT Female | .94 | 23.8 | 15,000 | 1034 |
| 50816 | 1/4" NPT Female | 1/4" NPT Female | .75 | 19.1 | 15,000 | 1034 |
| 50852 | 1/4" NPT Female | 1/8" NPT Female | .75 | 19.1 | 15,000 | 1034 |
| J55702 | 1/4" NPT Female | 1/16" NPT Female | .75 | 19.1 | 15,000 | 1034 |
| 51191 | 1/8" NPT Female | 1/8" NPT Female | .50 | 12.7 | 15,000 | 1034 |
| 50933 | 1/8" NPT Female | 1/16" NPT Female | .50 | 12.7 | 15,000 | 1034 |
| 50638 | 1/16" NPT Female | 1/16" NPT Female | .40 | 10.2 | 15,000 | 1034 |

FITTINGS

REDUCING BUSHINGS

PIPE THREAD (NPT)

Stainless steel. Copper-plated for galling resistance.

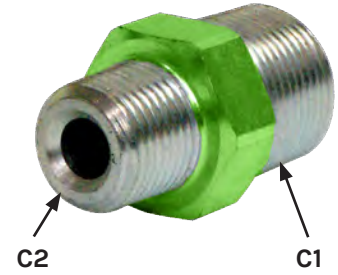


| PART NO. | CONNECTION TYPES | | MAX. OPERATING PRESSURE | |
|----------|------------------|-------------------|-------------------------|------|
| | CONNECTION 1 | CONNECTION 2 | psi | bar |
| 29054 | 2" NPT Male | 1-1/2" NPT Female | 7,500 | 517 |
| J70392 | 2" NPT Male | 1" NPT Female | 7,500 | 517 |
| 28611 | 1-1/2" NPT Male | 1" NPT Female | 7,500 | 517 |
| 29828 | 1-1/4" NPT Male | 1" NPT Female | 7,500 | 517 |
| 26157 | 1" NPT Male | 3/4" NPT Female | 15,000 | 1034 |
| 26124 | 1" NPT Male | 1/2" NPT Female | 15,000 | 1034 |
| 54721 | 1" NPT Male | 1/4" NPT Female | 15,000 | 1034 |
| 26065 | 3/4" NPT Male | 1/2" NPT Female | 15,000 | 1034 |
| 26063 | 3/4" NPT Male | 3/8" NPT Female | 15,000 | 1034 |
| 26069 | 3/4" NPT Male | 1/4" NPT Female | 15,000 | 1034 |
| 26074 | 3/4" NPT Male | 1/8" NPT Female | 15,000 | 1034 |
| 26062 | 1/2" NPT Male | 3/8" NPT Female | 15,000 | 1034 |
| 25904 | 1/2" NPT Male | 1/4" NPT Female | 15,000 | 1034 |
| 25902 | 1/2" NPT Male | 1/8" NPT Female | 15,000 | 1034 |
| 53623 | 1/2" NPT Male | 1/16" NPT Female | 15,000 | 1034 |
| 25903 | 3/8" NPT Male | 1/4" NPT Female | 15,000 | 1034 |
| 25901 | 3/8" NPT Male | 1/8" NPT Female | 15,000 | 1034 |
| 28822 | 3/8" NPT Male | 1/16" NPT Female | 15,000 | 1034 |
| 26073 | 1/4" NPT Male | 1/8" NPT Female | 15,000 | 1034 |
| J55719 | 1/4" NPT Male | 1/16" NPT Female | 15,000 | 1034 |
| 26158 | 1/8" NPT Male | 1/16" NPT Female | 15,000 | 1034 |

HEX NIPPLES

PIPE THREAD (NPT)

Stainless steel nipples are copper plated for galling resistance.



| PART NO | CONNECTION TYPES | | MATERIAL | MAXIMUM OPERATING PRESSURE | |
|---------|------------------|-----------------|-----------------|----------------------------|------|
| | CONNECTION 1 | CONNECTION 2 | | psi | bar |
| J70382 | 2" NPT Male | 2" NPT Male | Stainless Steel | 7,500 | 517 |
| J70383 | 2" NPT Male | 1-1/2" NPT Male | Stainless Steel | 7,500 | 517 |
| 29055 | 1-1/2" NPT Male | 1-1/2" NPT Male | Stainless Steel | 7,500 | 517 |
| J70384 | 1-1/2" NPT Male | 1-1/4" NPT Male | Stainless Steel | 7,500 | 517 |
| J70385 | 1-1/4" NPT Male | 1-1/4" NPT Male | Stainless Steel | 7,500 | 517 |
| J70386 | 1-1/4" NPT Male | 1" NPT Male | Stainless Steel | 7,500 | 517 |
| 52674 | 1" NPT Male | 1" NPT Male | Stainless Steel | 15,000 | 1034 |
| 53054 | 1" NPT Male | 3/4" NPT Male | Stainless Steel | 15,000 | 1034 |
| J70387 | 1" NPT Male | 1/2" NPT Male | Stainless Steel | 15,000 | 1034 |
| 26151 | 3/4" NPT Male | 3/4" NPT Male | Stainless Steel | 15,000 | 1034 |
| 51702 | 3/4" NPT Male | 1/2" NPT Male | Plated Steel | 15,000 | 1034 |
| J70388 | 3/4" NPT Male | 3/8" NPT Male | Stainless Steel | 15,000 | 1034 |
| J70389 | 3/4" NPT Male | 1/4" NPT Male | Stainless Steel | 15,000 | 1034 |
| 50488 | 1/2" NPT Male | 1/2" NPT Male | Stainless Steel | 15,000 | 1034 |
| 26153 | 1/2" NPT Male | 3/8" NPT Male | Stainless Steel | 15,000 | 1034 |
| 26084 | 1/2" NPT Male | 1/4" NPT Male | Stainless Steel | 15,000 | 1034 |
| 26154 | 1/2" NPT Male | 1/8" NPT Male | Stainless Steel | 15,000 | 1034 |
| 26152 | 3/8" NPT Male | 3/8" NPT Male | Stainless Steel | 15,000 | 1034 |
| 26155 | 3/8" NPT Male | 1/4" NPT Male | Stainless Steel | 15,000 | 1034 |
| 25454 | 3/8" NPT Male | 1/8" NPT Male | Stainless Steel | 15,000 | 1034 |
| 25455 | 1/4" NPT Male | 1/4" NPT Male | Stainless Steel | 15,000 | 1034 |
| 26075 | 1/4" NPT Male | 1/8" NPT Male | Stainless Steel | 15,000 | 1034 |
| J70390 | 1/4" NPT Male | 1/16" NPT Male | Stainless Steel | 15,000 | 1034 |
| 25452 | 1/8" NPT Male | 1/8" NPT Male | Stainless Steel | 15,000 | 1034 |
| 26156 | 1/8" NPT Male | 1/16" NPT Male | Stainless Steel | 15,000 | 1034 |
| J70391 | 1/16" NPT Male | 1/16" NPT Male | Stainless Steel | 15,000 | 1034 |

FITTINGS

NIPPLES

PIPE THREAD (NPT)

Lengths from 3" to 36". Stainless steel.



| PART NO. Specify Length in inches in Place of XX | CONNECTION TYPE | OD | | ID | | MAX. WORKING PRESSURE | |
|---|-----------------|-------|------|------|------|--------------------------|------|
| | | in | mm | in | mm | psi | bar |
| J55703-XX | 1" NPT Male | 1.315 | 33.4 | .599 | 15.2 | 15,000 | 1034 |
| 26146-XX | 3/4" NPT Male | 1.050 | 26.7 | .434 | 11.0 | 15,000 | 1034 |
| 28875-XX | 3/4" NPT Male | 1.050 | 26.7 | .614 | 15.6 | 10,000 | 689 |
| 55450-XX | 1/2" NPT Male | .840 | 21.3 | .534 | 13.6 | 15,000 | 1034 |
| 51098-XX | 3/8" NPT Male | .675 | 17.1 | .415 | 10.5 | 15,000 | 1034 |
| 51106-XX | 1/4" NPT Male | .540 | 13.7 | .302 | 7.7 | 15,000 | 1034 |
| 25215-XX* | 1/8" NPT Male | .405 | 10.3 | .215 | 5.5 | 15,000 | 1034 |
| 51397-XX* | 1/16" NPT Male | .312 | 7.9 | .182 | 4.6 | 15,000 | 1034 |

*A 2" length is available.

PLUGS

PIPE THREAD (NPT)

Stainless steel plugs are copper plated for galling resistance.

HEX HEAD



| PART NO. | CONNECTION TYPE | MATERIAL | MAX. OPERATING PRESSURE | |
|----------|-----------------|-----------------|----------------------------|------|
| | | | psi | bar |
| 28602 | 1" NPT Male | Stainless Steel | 10,000 | 689 |
| 26147 | 3/4" NPT Male | | 15,000 | 1034 |
| 25174 | 1/2" NPT Male | | 15,000 | 1034 |
| 68544 | 3/8" NPT Male | | 15,000 | 1034 |
| 68543 | 1/4" NPT Male | | 15,000 | 1034 |
| 68542 | 1/8" NPT Male | | 15,000 | 1034 |

SOCKET HEAD

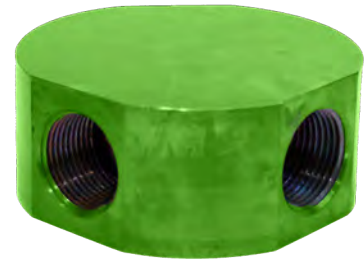


| PART NO. | CONNECTION TYPE | MATERIAL | MAX. OPERATING PRESSURE | |
|----------|-----------------|-----------------|----------------------------|------|
| | | | psi | bar |
| 68531 | 3/4" NPT Male | Stainless Steel | 15,000 | 1034 |
| 68530 | 1/2" NPT Male | | 15,000 | 1034 |
| 68529 | 3/8" NPT Male | | 15,000 | 1034 |
| 64682 | 1/4" NPT Male | | 22,000 | 1517 |
| 68528 | 1/8" NPT Male | | 15,000 | 1034 |
| 68527 | 1/16" NPT Male | | 15,000 | 1034 |

Y-FITTINGS

Stainless steel.

| PART NO. | CONNECTION TYPE | MAX. OPERATING PRESSURE | |
|----------|-----------------|-------------------------|------|
| | | psi | bar |
| 29678 | 1" NPT Female | 10,000 | 689 |
| 70040 | 3/4" NPT Female | 10,000 | 689 |
| J70393 | 1/2" NPT Female | 15,000 | 1034 |



RIGID LANCE ADAPTERS

MACHINE SCREW FEMALE TO PIPE THREAD MALE (NPT MALE)

Used to connect small diameter rigid lances with machine screw threads to pipe threaded hoses and fittings. Stainless steel. Copper plated for galling resistance.

| PART NO. | CONNECTION TYPE | | MAX. OPERATING PRESSURE | |
|----------|-----------------|-------------------|-------------------------|-----|
| | CONNECTION 1 | CONNECTION 2 | psi | bar |
| 51039 | 1/8" NPT Male | 1/4-28UNF Female | 10,000 | 689 |
| 51041 | 1/8" NPT Male | 5/16-24UNF Female | 10,000 | 689 |
| 51043 | 1/8" NPT Male | 3/8-24UNF Female | 10,000 | 689 |

*See details on all connection types in Section I.



FITTINGS

DUAL LANCE MANIFOLDS

PIPE THREAD (NPT)

Allows simultaneous operation of two lances. Stainless steel.

| PART NO. | CONNECTION TYPE | | MAX. OPERATING PRESSURE | |
|----------|-----------------|------------------|-------------------------|------|
| | CONNECTION 1 | CONNECTION 2 | psi | bar |
| 50999 | 1/2" NPT Female | 1/4" NPT Female | 15,000 | 1034 |
| 50585 | 1/2" NPT Female | 1/8" NPT Female | 15,000 | 1034 |
| 51401 | 1/2" NPT Female | 1/16" NPT Female | 15,000 | 1034 |



STRAIGHT BOSS PLUGS

Stainless steel.

| PART NO. | CONNECTION TYPE | REPLACEMENT TYPE | MAXIMUM OPERATING PRESSURE | |
|----------|------------------------|------------------|----------------------------|-----|
| | | | psi | bar |
| 25702 | #12 Straight Boss Male | 25670 | 10,000 | 689 |
| 25703 | #8 Straight Boss Male | 25824 | 10,000 | 689 |

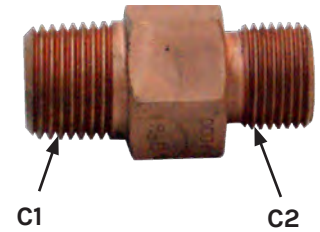


PRESSURE CONVERSION FITTINGS

PIPE THREAD MALE (NPT MALE) TO TYPE M MALE ADAPTERS

Stainless steel. Copper plated for galling resistance.

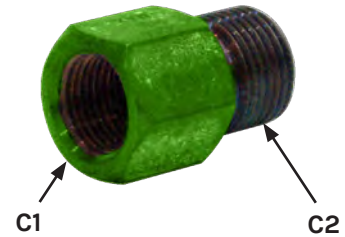
| PART NO. | CONNECTION TYPE | | MAX. OPERATING PRESSURE | |
|----------|-----------------|---------------------|-------------------------|------|
| | CONNECTION 1 | CONNECTION 2 | psi | bar |
| 54719 | 1" NPT Male | 1-5/16" Type M Male | 10,000 | 689 |
| J55704 | 1" NPT Male | 1" Type M Male | 10,000 | 689 |
| 28852 | 3/4" NPT Male | 1-5/16" Type M Male | 10,000 | 689 |
| 29178 | 3/4" NPT Male | 1" Type M Male | 10,000 | 689 |
| J55706 | 3/4" NPT Male | 3/4" Type M Male | 10,000 | 689 |
| J55707 | 3/4" NPT Male | 9/16" Type M Male | 10,000 | 689 |
| 29342 | 1/2" NPT Male | 1" Type M Male | 15,000 | 1034 |
| 29185 | 1/2" NPT Male | 3/4" Type M Male | 15,000 | 1034 |
| 28702 | 1/2" NPT Male | 9/16" Type M Male | 15,000 | 1034 |
| 01437 | 3/8" NPT Male | 9/16" Type M Male | 15,000 | 1034 |



PIPE THREAD FEMALE (NPT FEMALE) TO TYPE M MALE ADAPTERS

Stainless steel.

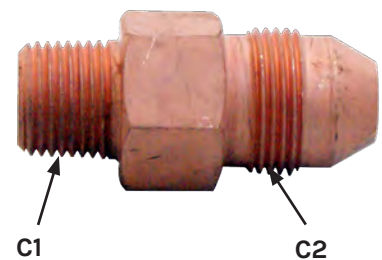
| PART NO. | CONNECTION TYPE | | MAX. OPERATING PRESSURE | |
|----------|-----------------|------------------|-------------------------|------|
| | CONNECTION 1 | CONNECTION 2 | psi | bar |
| 70167 | 1/2" NPT Female | 1" Type M Male | 15,000 | 1034 |
| 29327 | 1/2" NPT Female | 3/4" Type M Male | 15,000 | 1034 |
| 70168 | 3/8" NPT Female | 3/4" Type M Male | 15,000 | 1034 |



PIPE THREAD MALE (NPT MALE) TO MEDIUM PRESSURE MALE ADAPTERS

Stainless steel. Copper plated for galling resistance.

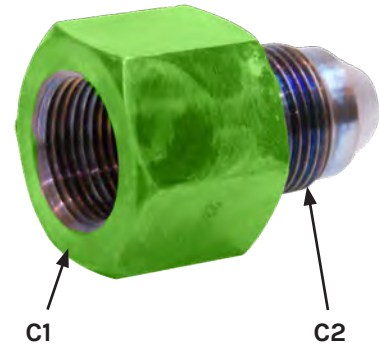
| PART NO. | CONNECTION TYPE | | MAX. OPERATING PRESSURE | |
|----------|-----------------|---------------|-------------------------|------|
| | CONNECTION 1 | CONNECTION 2 | psi | bar |
| 55033 | 1" NPT Male | 1" MP Male | 15,000 | 1034 |
| 29669 | 1" NPT Male | 3/4" MP Male | 15,000 | 1034 |
| 29316 | 1" NPT Male | 9/16" MP Male | 15,000 | 1034 |
| J55708 | 3/4" NPT Male | 1" MP Male | 10,000 | 689 |
| 29253 | 3/4" NPT Male | 3/4" MP Male | 10,000 | 689 |
| 28335 | 1/2" NPT Male | 1" MP Male | 15,000 | 1034 |
| 28261 | 1/2" NPT Male | 3/4" MP Male | 15,000 | 1034 |
| 27971 | 1/2" NPT Male | 9/16" MP Male | 15,000 | 1034 |
| 29000 | 1/2" NPT Male | 3/8" MP Male | 15,000 | 1034 |
| J55709 | 3/8" NPT Male | 9/16" MP Male | 15,000 | 1034 |
| J55711 | 3/8" NPT Male | 3/8" MP Male | 15,000 | 1034 |
| 29183 | 1/4" NPT Male | 9/16" MP Male | 15,000 | 1034 |
| 28610 | 1/4" NPT Male | 3/8" MP Male | 15,000 | 1034 |



PIPE THREAD FEMALE (NPT FEMALE) TO MEDIUM PRESSURE MALE ADAPTERS

Stainless steel.

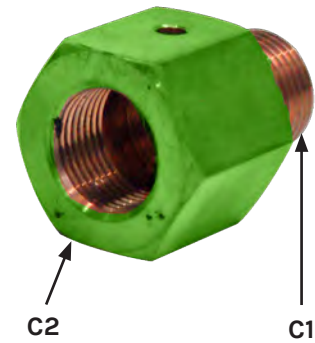
| PART NO. | CONNECTION TYPE | | MAX. OPERATING PRESSURE | |
|----------|-----------------|---------------|-------------------------|------|
| | CONNECTION 1 | CONNECTION 2 | psi | bar |
| 67896 | 1" NPT Female | 1" MP Male | 10,000 | 689 |
| 29534 | 3/4" NPT Female | 3/4" MP Male | 10,000 | 689 |
| 29673 | 1/2" NPT Female | 1" MP Male | 15,000 | 1034 |
| 28903 | 1/2" NPT Female | 3/4" MP Male | 15,000 | 1034 |
| 28334 | 1/2" NPT Female | 9/16" MP Male | 15,000 | 1034 |
| 28003 | 1/2" NPT Female | 3/8" MP Male | 15,000 | 1034 |
| 28386 | 3/8" NPT Female | 9/16" MP Male | 15,000 | 1034 |
| 54958 | 3/8" NPT Female | 3/8" MP Male | 15,000 | 1034 |
| 29184 | 1/8" NPT Female | 9/16" MP Male | 15,000 | 1034 |
| 29182 | 1/4" NPT Female | 9/16" MP Male | 15,000 | 1034 |



PIPE THREAD MALE (NPT MALE) TO MEDIUM PRESSURE FEMALE ADAPTERS

Stainless steel. Copper plated for galling resistance.

| PART NO. | CONNECTION TYPE | | MAX. OPERATING PRESSURE | |
|----------|-----------------|-----------------|-------------------------|------|
| | CONNECTION 1 | CONNECTION 2 | psi | bar |
| 29392 | 3/4" NPT Male | 1" MP Female | 10,000 | 689 |
| 00111 | 3/4" NPT Male | 3/4" MP Female | 10,000 | 689 |
| 28092 | 1/2" NPT Male | 9/16" MP Female | 15,000 | 1034 |
| J55712 | 1/2" NPT Male | 3/8" MP Female | 15,000 | 1034 |
| J55713 | 3/8" NPT Male | 9/16" MP Female | 15,000 | 1034 |
| J55714 | 3/8" NPT Male | 3/8" MP Female | 15,000 | 1034 |
| J55716 | 1/4" NPT Male | 9/16" MP Female | 15,000 | 1034 |
| J55717 | 1/4" NPT Male | 3/8" MP Female | 15,000 | 1034 |



FITTINGS

PIPE THREAD FEMALE (NPT FEMALE) TO MEDIUM PRESSURE FEMALE ADAPTERS

Stainless steel.

| PART NO. | CONNECTION TYPE | | MAX. OPERATING PRESSURE | |
|----------|-----------------|-----------------|-------------------------|------|
| | CONNECTION 1 | CONNECTION 2 | psi | bar |
| 29186 | 3/4" NPT Female | 9/16" MP Female | 10,000 | 689 |
| 29279 | 1/2" NPT Female | 3/4" MP Female | 15,000 | 1034 |
| 29010 | 1/2" NPT Female | 9/16" MP Female | 15,000 | 1034 |
| 28523 | 1/4" NPT Female | 9/16" MP Female | 15,000 | 1034 |



PIPE THREAD FEMALE (NPT FEMALE) TO HIGH PRESSURE MALE ADAPTER

Stainless steel.

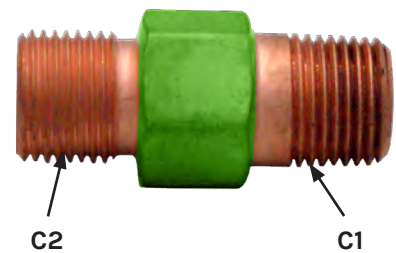
| PART NO. | CONNECTION TYPE | | MAX. OPERATING PRESSURE | |
|----------|-----------------|--------------|-------------------------|------|
| | CONNECTION 1 | CONNECTION 2 | psi | bar |
| 59189 | 1/2" NPT Female | 1/4" HP Male | 15,000 | 1034 |



PIPE THREAD MALE (NPT MALE) TO BRITISH STANDARD PIPE (BSPP) MALE ADAPTERS

Stainless steel. Copper plated for galling resistance.

| PART NO. | CONNECTION TYPE | | MAX. OPERATING PRESSURE | |
|----------|-----------------|-----------------|-------------------------|------|
| | CONNECTION 1 | CONNECTION 2 | psi | bar |
| J55789 | 1" NPT Male | G3/4" BSPP Male | 15,000 | 1034 |
| 55099 | 3/4" NPT Male | G3/4" BSPP Male | 15,000 | 1034 |
| 55098 | 1/2" NPT Male | G1/2" BSPP Male | 15,000 | 1034 |
| 55097 | 1/2" NPT Male | G3/8" BSPP Male | 15,000 | 1034 |
| 55096 | 1/2" NPT Male | G1/4" BSPP Male | 15,000 | 1034 |
| 67173 | 3/4" NPT Male | G1/4" BSPP Male | 15,000 | 1034 |



PIPE THREAD FEMALE (NPT FEMALE) TO BRITISH STANDARD PIPE (BSPP) MALE ADAPTERS

Stainless steel.

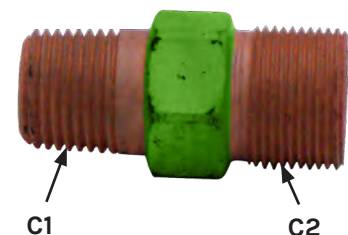
| PART NO. | CONNECTION TYPE | | MAX. OPERATING PRESSURE | |
|----------|-----------------|-----------------|-------------------------|------|
| | CONNECTION 1 | CONNECTION 2 | psi | bar |
| 55224 | 1/2" NPT Female | G1/2" BSPP Male | 15,000 | 1034 |
| 62253 | 1/2" NPT Female | G1" BSPP Male | 15,000 | 1034 |



PIPE THREAD MALE (NPT MALE) TO METRIC MALE ADAPTERS

Stainless steel. Copper plated for galling resistance.

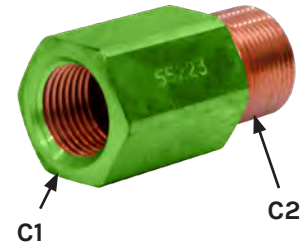
| PART NO. | CONNECTION TYPE | | MAX. OPERATING PRESSURE | |
|----------|-----------------|----------------|-------------------------|------|
| | CONNECTION 1 | CONNECTION 2 | psi | bar |
| 55094 | 3/4" NPT Male | M36 x 2.0 Male | 15,000 | 1034 |
| 55093 | 3/4" NPT Male | M24 x 1.5 Male | 15,000 | 1034 |
| 55092 | 1/2" NPT Male | M24 x 1.5 Male | 15,000 | 1034 |
| 55091 | 1/2" NPT Male | M22 x 1.5 Male | 15,000 | 1034 |



PIPE THREAD FEMALE (NPT FEMALE) TO METRIC MALE ADAPTERS

Stainless steel.

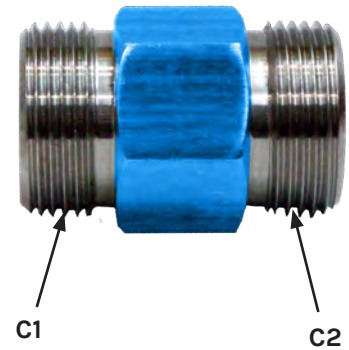
| PART NO. | CONNECTION TYPE | | MAX. OPERATING PRESSURE | |
|----------|-----------------|----------------|-------------------------|------|
| | CONNECTION 1 | CONNECTION 2 | psi | bar |
| 55223 | 1/2" NPT Female | M24 x 1.5 Male | 15,000 | 1034 |
| 55222 | 1/2" NPT Female | M22 x 1.5 Male | 15,000 | 1034 |



TYPE M MALE CONNECTORS

Stainless steel.

| PART NO. | CONNECTION TYPE | | MAX. OPERATING PRESSURE | |
|----------|---------------------|---------------------|-------------------------|------|
| | CONNECTION 1 | CONNECTION 2 | psi | bar |
| 29058 | 1-5/16" Type M Male | 1-5/16" Type M Male | 20,000 | 1379 |
| 29059 | 1-5/16" Type M Male | 1" Type M Male | 20,000 | 1379 |
| 29060 | 1-5/16" Type M Male | 3/4" Type M Male | 20,000 | 1379 |
| 29061 | 1" Type M Male | 1" Type M Male | 20,000 | 1379 |
| 28487 | 1" Type M Male | 3/4" Type M Male | 20,000 | 1379 |
| 29019 | 1" Type M Male | 9/16" Type M Male | 20,000 | 1379 |
| 28196 | 3/4" Type M Male | 3/4" Type M Male | 20,000 | 1379 |
| 29062 | 3/4" Type M Male | 9/16" Type M Male | 20,000 | 1379 |
| 27527 | 9/16" Type M Male | 9/16" Type M Male | 40,000 | 2750 |

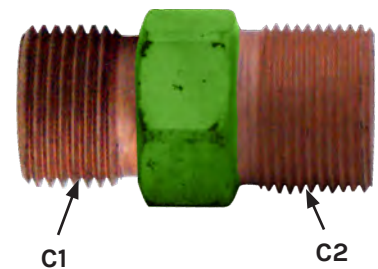


FITTINGS

TYPE M MALE TO METRIC MALE ADAPTERS

Stainless steel. Copper plated for galling resistance.

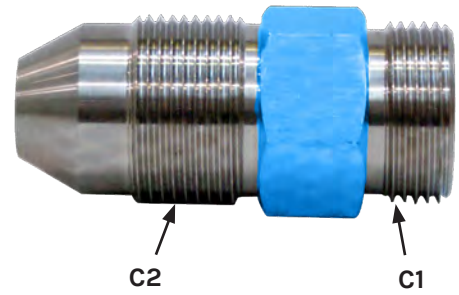
| PART NO. | CONNECTION TYPE | | MAX. OPERATING PRESSURE | |
|----------|---------------------|----------------|-------------------------|------|
| | CONNECTION 1 | CONNECTION 2 | psi | bar |
| 66560 | 1-5/16" Type M Male | M36 x 2.0 Male | 15,000 | 1034 |



TYPE M MALE TO MEDIUM PRESSURE MALE CONNECTORS

Stainless steel.

| PART NO. | CONNECTION TYPE | | MAX. OPERATING PRESSURE | |
|----------|---------------------|---------------|-------------------------|------|
| | CONNECTION 1 | CONNECTION 2 | psi | bar |
| 28330 | 1-5/16" Type M Male | 1" MP Male | 20,000 | 1379 |
| 28786 | 1-5/16" Type M Male | 3/4" MP Male | 20,000 | 1379 |
| 28299 | 1-5/16" Type M Male | 9/16" MP Male | 20,000 | 1379 |
| 28433 | 1" Type M Male | 1" MP Male | 20,000 | 1379 |
| 28629 | 1" Type M Male | 3/4" MP Male | 20,000 | 1379 |
| 28631 | 1" Type M Male | 9/16" MP Male | 20,000 | 1379 |
| 29063 | 3/4" Type M Male | 1" MP Male | 20,000 | 1379 |
| 29064 | 3/4" Type M Male | 3/4" MP Male | 20,000 | 1379 |
| 28350 | 3/4" Type M Male | 9/16" MP Male | 20,000 | 1379 |
| 29065 | 3/4" Type M Male | 3/8" MP Male | 20,000 | 1379 |
| 29066 | 9/16" Type M Male | 1" MP Male | 20,000 | 1379 |
| 28804 | 9/16" Type M Male | 3/4" MP Male | 20,000 | 1379 |
| 28193 | 9/16" Type M Male | 9/16" MP Male | 20,000 | 1379 |
| 28192 | 9/16" Type M Male | 3/8" MP Male | 20,000 | 1379 |
| 28328 | 9/16" Type M Male | 1/4" MP Male | 20,000 | 1379 |



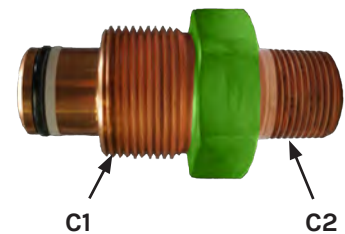
FITTINGS

JETSTREAM HF MALE ADAPTERS

The Jetstream HF connection features an easily replaceable seal to prevent wear or damage to the manifold and a large bore to minimize pressure drop through fittings. Stainless steel. Copper plated for galling resistance.

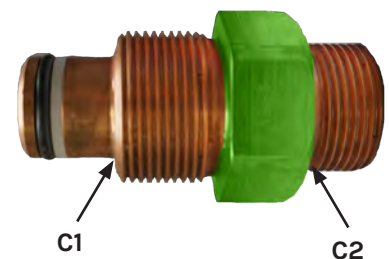
JETSTREAM HF MALE TO PIPE THREAD MALE (NPT) ADAPTERS

| PART NO. | CONNECTION TYPE | | MAX. OPERATING PRESSURE | |
|----------|-------------------|---------------|-------------------------|------|
| | CONNECTION 1 | CONNECTION 2 | psi | bar |
| 60953 | Jetstream HF Male | 3/4" NPT Male | 15,000 | 1034 |



JETSTREAM HF MALE TO TYPE M MALE ADAPTERS

| PART NO. | CONNECTION TYPE | | MAX. OPERATING PRESSURE | |
|----------|-------------------|---------------------|-------------------------|------|
| | CONNECTION 1 | CONNECTION 2 | psi | bar |
| 60952 | Jetstream HF Male | 1-5/16" Type M Male | 15,000 | 1034 |



JETSTREAM HF MALE TO FEMALE NPT ADAPTERS

| PART NO. | CONNECTION TYPE | | MAX. OPERATING PRESSURE | |
|----------|-------------------|-----------------|-------------------------|------|
| | CONNECTION 1 | CONNECTION 2 | psi | bar |
| 60954 | Jetstream HF Male | 1/2" NPT Female | 15,000 | 1034 |
| 63089 | Jetstream HF Male | 3/4" NPT Female | 15,000 | 1034 |



JETSTREAM HF MALE PLUG

| PART NO. | CONNECTION TYPE | MAX. OPERATING PRESSURE | |
|----------|-------------------|-------------------------|------|
| | | psi | bar |
| 60951 | Jetstream HF Male | 15,000 | 1034 |



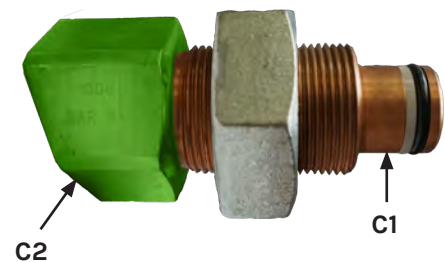
JETSTREAM HF MALE TO METRIC MALE ADAPTER

| PART NO. | CONNECTION TYPE | | MAX. OPERATING PRESSURE | |
|----------|-------------------|----------------|-------------------------|------|
| | CONNECTION 1 | CONNECTION 2 | psi | bar |
| 62284 | Jetstream HF Male | M36 x 2.0 Male | 15,000 | 1034 |
| 63576 | Jetstream HF Male | M24 x 1.5 Male | 15,000 | 1034 |



JETSTREAM HF CLOCKABLE ADAPTER FITTINGS

| PART NO. | CONNECTION TYPE | | MAX. OPERATING PRESSURE | |
|----------|-------------------|--------------------------|-------------------------|------|
| | CONNECTION 1 | CONNECTION 2 | psi | bar |
| 60955 | Jetstream HF Male | 1/2" NPT Female straight | 15,000 | 1034 |
| 61823 | Jetstream HF Male | 3/4" NPT Female angle | 15,000 | 1034 |



REPLACEMENT PARTS

Part No. 25238 O-Ring

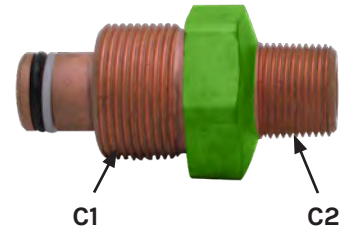
Part No. 60897 Backup Ring

JETSTREAM HHP MALE ADAPTERS

The Jetstream HHP connection features an easily replaceable seal to prevent wear or damage to the manifold and a large bore to minimize pressure drop through fittings. Stainless steel. Copper plated for galling resistance.

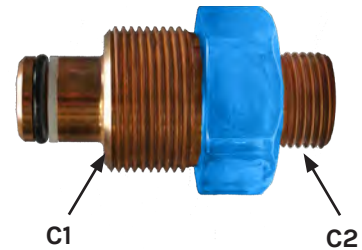
JETSTREAM HHP MALE TO PIPE THREAD MALE (NPT) ADAPTERS

| PART NO. | CONNECTION TYPE | | MAX. OPERATING PRESSURE | |
|----------|--------------------|---------------|-------------------------|------|
| | CONNECTION 1 | CONNECTION 2 | psi | bar |
| 56861 | Jetstream HHP Male | 1" NPT Male | 15,000 | 1034 |
| 56863 | Jetstream HHP Male | 1" NPT Male | 15,000 | 1034 |
| 56862 | Jetstream HHP Male | 3/4" NPT Male | 15,000 | 1034 |



JETSTREAM HHP MALE TO TYPE M MALE ADAPTERS

| PART NO. | CONNECTION TYPE | | MAX. OPERATING PRESSURE | |
|----------|--------------------|---------------------|-------------------------|------|
| | CONNECTION 1 | CONNECTION 2 | psi | bar |
| 54844 | Jetstream HHP Male | 1-5/16" Type M Male | 20,000 | 1379 |
| 55296 | Jetstream HHP Male | 1" Type M Male | 20,000 | 1379 |



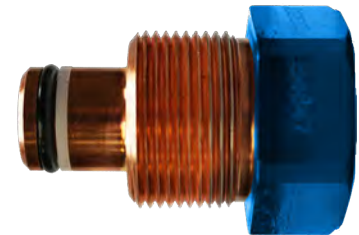
JETSTREAM HHP MALE TO MEDIUM PRESSURE FEMALE ADAPTERS

| PART NO. | CONNECTION TYPE | | MAX. OPERATING PRESSURE | |
|----------|--------------------|-----------------|-------------------------|------|
| | CONNECTION 1 | CONNECTION 2 | psi | bar |
| 54846 | Jetstream HHP Male | 1" MP Female | 20,000 | 1379 |
| 62289 | Jetstream HHP Male | 9/16" MP Female | 20,000 | 1379 |



JETSTREAM HHP MALE PLUG

| PART NO. | CONNECTION TYPE | MAX. OPERATING PRESSURE | |
|----------|--------------------|-------------------------|------|
| | | psi | bar |
| 54847 | Jetstream HHP Male | 20,000 | 1379 |

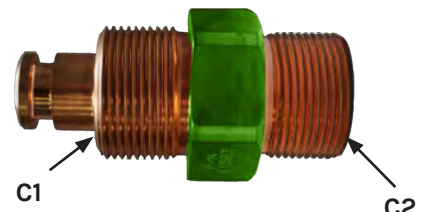


REPLACEMENT PARTS

Part No. 26523 O-Ring Part No. 54854 Backup Ring

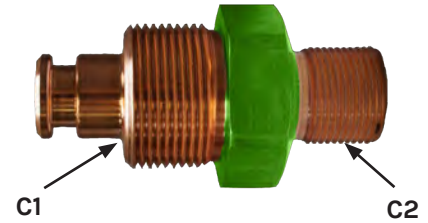
JETSTREAM HHP MALE TO METRIC MALE ADAPTER

| PART NO. | CONNECTION TYPE | | MAX. OPERATING PRESSURE | |
|----------|--------------------|----------------|-------------------------|------|
| | CONNECTION 1 | CONNECTION 2 | psi | bar |
| 61503 | Jetstream HHP Male | M36 x 2.0 Male | 15,000 | 1034 |
| 63575 | Jetstream HHP Male | M24 x 1.5 Male | 15,000 | 1034 |



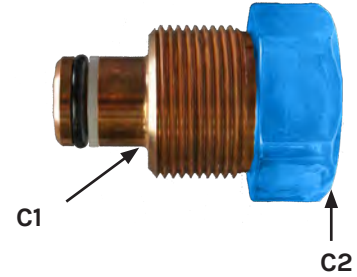
JETSTREAM HHP MALE TO BSPP MALE ADAPTER

| PART NO. | CONNECTION TYPE | | MAX. OPERATING PRESSURE | |
|----------|--------------------|------------------|-------------------------|------|
| | CONNECTION 1 | CONNECTION 2 | psi | bar |
| 61322 | Jetstream HHP Male | G 3/4" BSPP Male | 15,000 | 1034 |



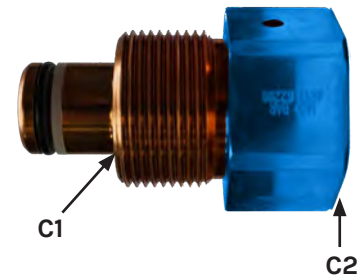
JETSTREAM HHP MALE TO METRIC FEMALE ADAPTER

| PART NO. | CONNECTION TYPE | | MAX. OPERATING PRESSURE | |
|----------|--------------------|------------------------|-------------------------|------|
| | CONNECTION 1 | CONNECTION 2 | psi | bar |
| 54938 | Jetstream HHP Male | .56 Rigid Lance Female | 20,000 | 1379 |



JETSTREAM HHP ADAPTER FITTINGS

| PART NO. | CONNECTION TYPE | | MAX. OPERATING PRESSURE | |
|----------|--------------------|-----------------|-------------------------|------|
| | CONNECTION 1 | CONNECTION 2 | psi | bar |
| 62288 | Jetstream HHP Male | 20K Port Female | 20,000 | 1379 |



FITTINGS

JETSTREAM HHP CLOCKABLE ADAPTER FITTINGS

| PART NO. | CONNECTION TYPE | | MAX. OPERATING PRESSURE | |
|----------|--------------------|-----------------------|-------------------------|------|
| | CONNECTION 1 | CONNECTION 2 | psi | bar |
| 62741 | Jetstream HHP Male | 3/4" MP Female angled | 20,000 | 1379 |

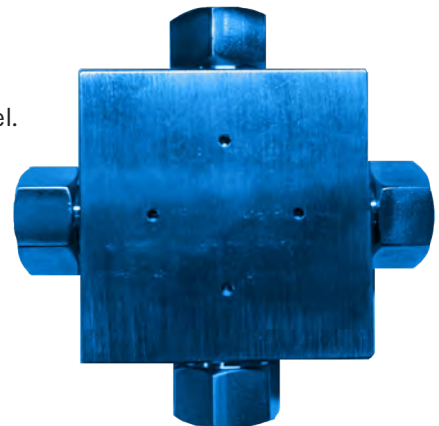


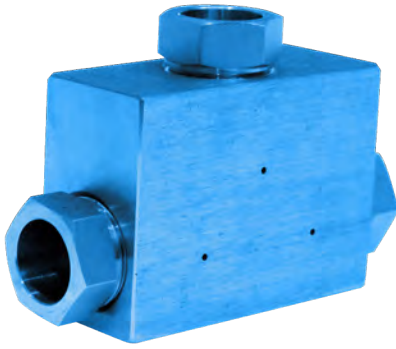
MEDIUM PRESSURE CONNECTIONS

MEDIUM PRESSURE CROSSES

All medium pressure crosses include gland nuts and collars. Stainless steel.

| PART NO. | CONNECTION TYPE | MAX. OPERATING PRESSURE | |
|----------|-----------------|-------------------------|------|
| | | psi | bar |
| 28301 | 1" MP Female | 20,000 | 1379 |
| 29067 | 3/4" MP Female | 20,000 | 1379 |
| 27969 | 9/16" MP Female | 20,000 | 1379 |
| 29068 | 3/8" MP Female | 20,000 | 1379 |
| 29069 | 1/4" MP Female | 20,000 | 1379 |





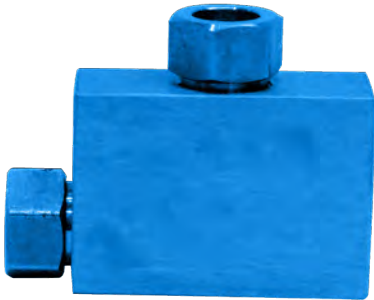
MEDIUM PRESSURE TEES

All medium pressure tees include gland nuts and collars. Stainless steel.

| PART NO. | CONNECTION TYPE | MAX. OPERATING PRESSURE | |
|----------|-----------------|-------------------------|------|
| | | psi | bar |
| 29070 | 1" MP Female | 20,000 | 1379 |
| 29071 | 3/4" MP Female | 20,000 | 1379 |
| 27966 | 9/16" MP Female | 20,000 | 1379 |
| 27964 | 3/8" MP Female | 20,000 | 1379 |
| 29072 | 1/4" MP Female | 20,000 | 1379 |

MEDIUM PRESSURE ELBOWS

All medium pressure elbows include gland nuts and collars. Stainless steel.



| PART NO. | CONNECTION TYPE | MAX. OPERATING PRESSURE | |
|----------|-----------------|-------------------------|------|
| | | psi | bar |
| 29073 | 1" MP Female | 20,000 | 1379 |
| 29074 | 3/4" MP Female | 20,000 | 1379 |
| 28184 | 9/16" MP Female | 20,000 | 1379 |
| 27997 | 3/8" MP Female | 20,000 | 1379 |
| 29075 | 1/4" MP Female | 20,000 | 1379 |



MEDIUM PRESSURE STRAIGHT COUPLINGS

All medium pressure straight couplings include gland nuts and collars. Stainless steel.

| PART NO. | CONNECTION TYPE | | MAX. OPERATING PRESSURE | |
|----------|-----------------|-----------------|-------------------------|------|
| | CONNECTION 1 | CONNECTION 2 | psi | bar |
| 28341 | 1" MP Female | 1" MP Female | 20,000 | 1379 |
| 29076 | 1" MP Female | 3/4" MP Female | 20,000 | 1379 |
| 29077 | 1" MP Female | 9/16" MP Female | 20,000 | 1379 |
| 28382 | 3/4" MP Female | 3/4" MP Female | 20,000 | 1379 |
| 29078 | 3/4" MP Female | 9/16" MP Female | 20,000 | 1379 |
| 29079 | 3/4" MP Female | 3/8" MP Female | 20,000 | 1379 |
| 27009 | 9/16" MP Female | 9/16" MP Female | 20,000 | 1379 |
| 28189 | 9/16" MP Female | 3/8" MP Female | 20,000 | 1379 |
| 28188 | 9/16" MP Female | 1/4" MP Female | 20,000 | 1379 |
| 28185 | 3/8" MP Female | 3/8" MP Female | 20,000 | 1379 |
| 28187 | 3/8" MP Female | 1/4" MP Female | 20,000 | 1379 |
| 29080 | 1/4" MP Female | 1/4" MP Female | 20,000 | 1379 |

MEDIUM PRESSURE UNION COUPLINGS

Union couplings feature a removable seat insert that allows the fitting to slip over one end of the tubing for ease of installation in confined spaces or rigid piping applications. Stainless steel. All medium pressure union couplings include gland nuts and collars.

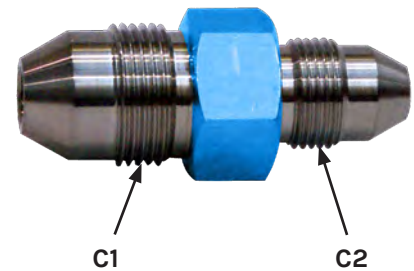


| PART NO. | CONNECTION TYPE | MAX. OPERATING PRESSURE | |
|----------|-----------------|-------------------------|------|
| | | psi | bar |
| 29081 | 1" MP Female | 20,000 | 1379 |
| 29082 | 3/4" MP Female | 20,000 | 1379 |
| 29083 | 9/16" MP Female | 20,000 | 1379 |
| 29084 | 3/8" MP Female | 20,000 | 1379 |
| 29119 | 1/4" MP Female | 20,000 | 1379 |

MEDIUM PRESSURE MALE CONNECTORS

Stainless steel.

| PART NO. | CONNECTION TYPE | | MAX. OPERATING PRESSURE | |
|----------|-----------------|---------------|-------------------------|------|
| | CONNECTION 1 | CONNECTION 2 | psi | bar |
| 29085 | 1" MP Male | 1" MP Male | 20,000 | 1379 |
| 29086 | 1" MP Male | 3/4" MP Male | 20,000 | 1379 |
| 29087 | 1" MP Male | 9/16" MP Male | 20,000 | 1379 |
| 29088 | 3/4" MP Male | 3/4" MP Male | 20,000 | 1379 |
| 29089 | 3/4" MP Male | 9/16" MP Male | 20,000 | 1379 |
| 29090 | 3/4" MP Male | 3/8" MP Male | 20,000 | 1379 |
| 29715 | 3/4" MP Male | 1/4" MP Male | 20,000 | 1379 |
| 29091 | 9/16" MP Male | 9/16" MP Male | 20,000 | 1379 |
| 29092 | 9/16" MP Male | 3/8" MP Male | 20,000 | 1379 |
| 29093 | 9/16" MP Male | 1/4" MP Male | 20,000 | 1379 |
| 28191 | 3/8" MP Male | 3/8" MP Male | 20,000 | 1379 |
| 28190 | 3/8" MP Male | 1/4" MP Male | 20,000 | 1379 |
| 29094 | 1/4" MP Male | 1/4" MP Male | 20,000 | 1379 |

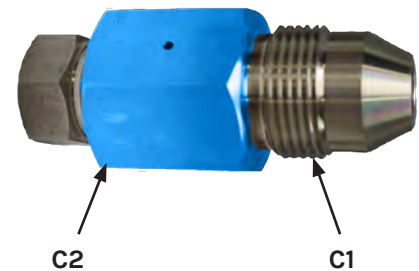


FITTINGS

MEDIUM PRESSURE MALE TO MEDIUM PRESSURE FEMALE CONNECTORS

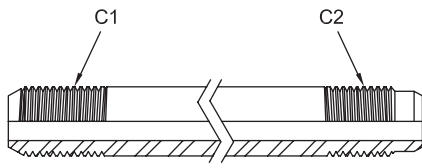
Stainless steel.

| PART NO. | CONNECTION TYPE | | MAX. OPERATING PRESSURE | |
|----------|-----------------|-----------------|-------------------------|------|
| | CONNECTION 1 | CONNECTION 2 | psi | bar |
| 29095* | 1" MP Male | 3/4" MP Female | 20,000 | 1379 |
| 28797* | 1" MP Male | 9/16" MP Female | 20,000 | 1379 |
| 28462* | 3/4" MP Male | 9/16" MP Female | 20,000 | 1379 |
| 29096* | 3/4" MP Male | 3/8" MP Female | 20,000 | 1379 |
| 28186* | 9/16" MP Male | 3/8" MP Female | 20,000 | 1379 |
| 28726* | 9/16" MP Male | 1/4" MP Female | 20,000 | 1379 |
| 29097* | 3/8" MP Male | 1/4" MP Female | 20,000 | 1379 |



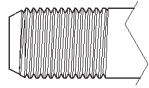
MEDIUM PRESSURE NIPPLES

High tensile strength, cold drawn stainless steel. Glands and collars not included.

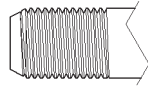


Left-hand Medium Pressure Tubing (MP Tube LH):

For use in standard medium pressure connections (using glands and collars) or with lance fittings (no glands and collars) or tube nozzles that have medium pressure, left-handed female threads. Available in 1/4" to 1" sizes.



MP Tube LH Connection



MP Tube RH Connection

Right-hand Medium Pressure Tubing (MP Tube RH):

For use with lance fittings (no glands and collars) or tube nozzles that have medium pressure, right-handed female threads. Available in 1/4" to 3/4" sizes.

| PART NO. | CONNECTIONS | | OUTER DIAMETER | | INNER DIAMETER | | MAX. WORKING PRESSURE | |
|----------|-----------------------|-----------------------|----------------|------|----------------|------|-----------------------|------|
| | CONNECTION 1 | CONNECTION 2 | in | mm | in | mm | psi | bar |
| 29013-XX | 1" MP Tube LH Male | 1" MP Tube LH Male | .990 | 25.1 | .688 | 17.5 | 20,000 | 1379 |
| 29108-XX | 3/4" MP Tube LH Male | 3/4" MP Tube LH Male | .740 | 18.8 | .438 | 11.1 | 20,000 | 1379 |
| 29109-XX | 3/4" MP Tube LH Male | 3/4" MP Tube RH Male | .740 | 18.8 | .438 | 11.1 | 20,000 | 1379 |
| 29110-XX | 3/4" MP Tube RH Male | 3/4" MP Tube RH Male | .740 | 18.8 | .438 | 11.1 | 20,000 | 1379 |
| 27968-XX | 9/16" MP Tube LH Male | 9/16" MP Tube LH Male | .553 | 14.0 | .312 | 7.9 | 20,000 | 1379 |
| 54769-XX | 9/16" MP Tube LH Male | 9/16" MP Tube RH Male | .553 | 14.0 | .312 | 7.9 | 20,000 | 1379 |
| 54781-XX | 9/16" MP Tube RH Male | 9/16" MP Tube RH Male | .553 | 14.0 | .312 | 7.9 | 20,000 | 1379 |
| 27960-XX | 3/8" MP Tube LH Male | 3/8" MP Tube LH Male | .368 | 9.3 | .203 | 5.2 | 20,000 | 1379 |
| 54783-XX | 3/8" MP Tube LH Male | 3/8" MP Tube RH Male | .368 | 9.3 | .203 | 5.2 | 20,000 | 1379 |
| 54784-XX | 3/8" MP Tube RH Male | 3/8" MP Tube RH Male | .368 | 9.3 | .203 | 5.2 | 20,000 | 1379 |
| 54787-XX | 1/4" MP Tube LH Male | 1/4" MP Tube LH Male | .245 | 6.2 | .109 | 2.8 | 20,000 | 1379 |
| 54788-XX | 1/4" MP Tube LH Male | 1/4" MP Tube RH Male | .245 | 6.2 | .109 | 2.8 | 20,000 | 1379 |
| 54789-XX | 1/4" MP Tube RH Male | 1/4" MP Tube RH Male | .245 | 6.2 | .109 | 2.8 | 20,000 | 1379 |

MEDIUM PRESSURE GLAND NUTS, COLLARS AND PLUGS



Gland Nut



Collar

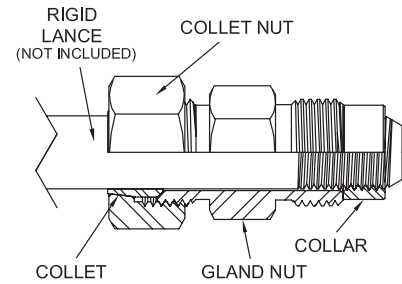


Plug

| CONNECTION TYPE | REPLACEMENT PART NO. | | |
|-----------------|----------------------|--------|-------|
| | GLAND NUT | COLLAR | PLUG |
| 1" MP Male | 28731 | 28732 | 29100 |
| 3/4" MP Male | 28383 | 28384 | 29101 |
| 9/16" MP Male | 26645 | 26635 | 27973 |
| 3/8" MP Male | 28181 | 28180 | 28229 |
| 1/4" MP Male | 29098 | 29099 | 29102 |

MEDIUM PRESSURE ANTI-VIBRATION GLAND ASSEMBLIES

Used to reduce stress on tubing threads in conditions where bending or vibration are present, anti-vibration gland assemblies feature a collet that clamps onto the tubing when the connection is tightened to provide extra support and strength.



| ASSEMBLY PART NO. | CONNECTION TYPE | COLLAR PART NUMBER | GLAND NUT ASSY PART NUMBER |
|-------------------|-----------------|--------------------|----------------------------|
| 29103 | 1" MP Male | 28732 | 61539 |
| 29104 | 3/4" MP Male | 28384 | 61540 |
| 28268 | 9/16" MP Male | 26635 | 61541 |
| 29105 | 3/8" MP Male | 28180 | 61542 |
| 29106 | 1/4" MP Male | 29099 | 61543 |

MEDIUM PRESSURE SLIMLINE LANCE COUPLINGS

Used to couple medium pressure rigid and flex lances without the use of glands and collars, allowing them to fit into tubes.



Additional couplings available by request.

| PART NO. | CONNECTIONS | | OUTER DIAMETER | | MAX. WORKING PRESSURE | |
|----------|-------------------------|-------------------------|----------------|------|-----------------------|------|
| | CONNECTION 1 | CONNECTION 2 | in | mm | psi | bar |
| 28668 | 9/16" MP Tube LH Female | 9/16" MP Tube LH Female | .750 | 19.1 | 20,000 | 1379 |
| 29111 | 9/16" MP Tube LH Female | 9/16" MP Tube RH Female | .750 | 19.1 | 20,000 | 1379 |
| 29112 | 9/16" MP Tube RH Female | 9/16" MP Tube RH Female | .750 | 19.1 | 20,000 | 1379 |
| 28349 | 9/16" MP Tube LH Female | 3/8" MP Tube LH Female | .750 | 19.1 | 20,000 | 1379 |
| 28314 | 9/16" MP Tube RH Female | 3/8" MP Tube RH Female | .750 | 19.1 | 20,000 | 1379 |
| 28667 | 3/8" MP Tube LH Female | 3/8" MP Tube LH Female | .500 | 12.7 | 20,000 | 1379 |
| 29113 | 3/8" MP Tube LH Female | 3/8" MP Tube RH Female | .500 | 12.7 | 20,000 | 1379 |
| 29114 | 3/8" MP Tube RH Female | 3/8" MP Tube RH Female | .500 | 12.7 | 20,000 | 1379 |
| 28315 | 3/8" MP Tube RH Female | 1/4" MP Tube RH Female | .500 | 12.7 | 20,000 | 1379 |
| 28666 | 1/4" MP Tube LH Female | 1/4" MP Tube LH Female | .375 | 9.5 | 20,000 | 1379 |
| 28700 | 1/4" MP Tube LH Female | 1/4" MP Tube RH Female | .375 | 9.5 | 20,000 | 1379 |
| 29115 | 1/4" MP Tube RH Female | 1/4" MP Tube RH Female | .375 | 9.5 | 20,000 | 1379 |

ROTO LINK™

RotoLink™ series swivels are compact rotary couplings designed to deliver high pressure water from a stationary line to a rotating or twisting assembly. These durable swivels are ideal for preventing hose kink and can be used in a variety of applications including floor cleaners, lance machines, hose reels, and shot guns. A variety of inlet options and configurations are available.

RotoLinks are easily maintained in the field using available wear kits that contain a high pressure seal, seat, and spring (if required). Rebuild kits include all the components in the wear kit, along with bearings and lip seals needed to completely overhaul the coupling.

| SERIES | TYPICAL APPLICATIONS |
|--------|--|
| JSG | Rotating manifold and nozzle assemblies can be mounted to output shaft. The swivel is also used on hose reels and connecting high pressure hose to a maneuverable jet. Commonly used in powered rotary surface cleaners, large hose reels, and automated surface cleaning systems. |
| JSH | Used as a swiveling connection between high pressure hose and a shotgun or on small hose reel devices. The swivel can be installed between a tool's inlet connection and the high pressure hose to prevent hose twist and ease handling. |
| JSL | Standard on rigid lance machines or used as an inlet swivel to a handgun. |
| JSM | Intended for use where an external motor/gearbox supplies power for rotation. These are also used on hose reels or where a hose connects to an assembly to aid in hose handling. |



JSG SERIES
Part No. 66660



JSH SERIES
Part No. 66659



JSL SERIES
Part No. 66658



JSM SERIES
Part No. 66661

FITTINGS

| PART NO. | SERIES | INLET CONNECTION TYPE* | INLET ANGLE (DEG) | SHAFT | WEAR KIT | REBUILD KIT | MAX. OPERATING PRESSURE | |
|----------|--------|------------------------|-------------------|-------------|----------|-------------|-------------------------|------|
| | | | | | | | psi | bar |
| 66658 | JSL | 1/2" NPT | 0 | 1/4" NPT | 66752 | 67521 | | |
| 66659 | JSH | 1/2" NPT | 0 | 1/2" NPT | 66753 | 67520 | 15,000 | 1034 |
| 66660 | JSG | 1/2" NPT | 0 | 1/2" NPT | 66754 | 67519 | | |
| 66661 | JSM | 1" NPT | 0 | 1" NPT, KEY | 66757 | 67524 | 12,000 | 827 |
| 67450 | JSL | 1/2" NPT | 90 | 1/4" NPT | 66752 | 67521 | | |
| 67451 | JSH | 1/2" NPT | 90 | 1/2" NPT | 66753 | 67520 | 15,000 | 1034 |
| 67452 | JSG | 1/2" NPT | 90 | 1/2" NPT | 66754 | 67519 | | |
| 67453 | JSM | 1" NPT | 90 | 1" NPT, KEY | 66757 | 67524 | | |
| 67454 | JSM | 1" NPT | 90 | 1" NPT | 66757 | 67524 | 12,000 | 827 |
| 67455 | JSM | 1" NPT | 0 | 1" NPT | 66757 | 67524 | | |

*See details on all connection types in Section I.

CONTROL GUNS

HAND-OPERATED, ZERO-THRUST AND FOOT-OPERATED

Control guns are a necessity in any hand lancing application. Jetstream offers several control gun styles for 15,000 psi waterblasting: Standard and Field-Repairable Hand Guns, Zero-Thrust (or Sub-Sea) Guns and several Foot-operated gun options for various cleaning needs.

DURASAFE™ HAND GUNS (STANDARD AND FIELD-REPAIRABLE)

Designed with safety, comfort and simplicity in mind, the 15,000 psi control guns are used for a variety of surface cleaning applications. The DCP models feature fully adjustable body pads for maximum operator comfort in any position (shoulder, hip, chest, etc.). The DCPx models showcase an ergonomically designed shoulder stock. In addition to the standard welded guns, Jetstream offers a field repairable option for barrel replacement to be performed in the field. Both standard and field repairable guns are offered in single or dual trigger, dump or shut-in style. All guns are color-coded in green for the 15,000 psi (1034 bar) rating.



ZERO-THRUST GUN

The Zero-Thrust gun is primarily designed for underwater cleaning in a marine environment. Due to no rear thrust, the operator is able to sustain a standard distance from the material needed to be cleaned without being propelled away.

DURASAFE™ FOOT GUNS

The Durasafe foot gun is ideal for numerous tube cleaning applications. A recent upgrade is the larger opening for easier boot clearance and is now standard on all Jetstream foot guns. Both dump or shut-in style come standard in green color for 15,000 psi (1034 bar).

- ▶ Fast field replaceable cartridge design for minimal downtime
- ▶ All pressure bearing components are stainless steel

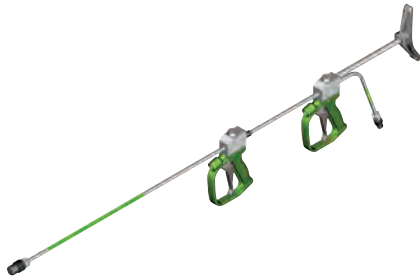


DURASAFE™ HAND GUNS

DUMP STYLE



DuraSafe 15,000 psi hand-operated dump style control guns allow the operator to have complete control of the pressure at all times. Designed with safety, comfort, and simplicity in mind, they are used for a variety of surface cleaning applications and are available in four standard configurations.



- ▶ 30-second field replaceable cartridge design for minimal downtime
- ▶ 48" distance from primary trigger to end of barrel to ensure maximum operator safety
- ▶ Lightweight
- ▶ Special cam-operated design cuts required trigger force in half
- ▶ DCP models feature fully adjustable body pad for maximum operator comfort in any position (shoulder, hip, chest, etc.), while an ergonomically designed shoulder stock is included with DCPx models
- ▶ Adjustable secondary grip included with single trigger models
- ▶ Dual trigger models require both triggers to be engaged in order to build system pressure for maximum operator safety
- ▶ All pressure-bearing components are stainless steel
- ▶ Includes coupling to attach 1/4" NPT Male nozzles (see HHTC Nozzles, page G-47)
- ▶ All Jetstream Hand Guns are color-coded green for added safety at 15,000 psi (1034 bar). See parts lists on the following pages for part numbers of replacement decals for the front barrel, rear barrel, and body.

REPLACEMENT CARTRIDGE

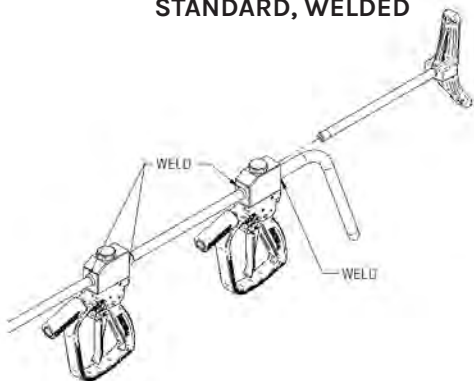


All 15,000 psi DuraSafe Dump Style Control Guns utilize the C-15 cartridge, shown above, to completely rebuild the dump valve in about 30 seconds!

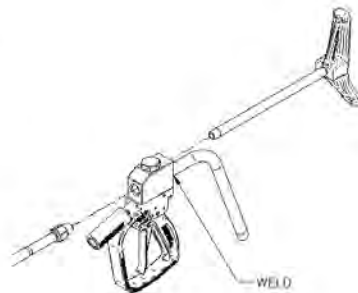
Part No. 50902

GUNS

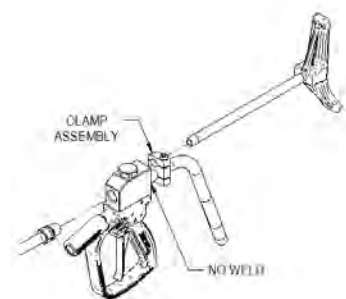
STANDARD, WELDED



PARTIALLY FIELD REPAIRABLE



FULLY FIELD REPAIRABLE



NOTE: The Jetstream PI082 Safety Pamphlet Section 'CONTROL GUNS AND DEVICES' Item 5:

The use of a Safety Shroud and Safety Whip Hose with handheld control guns is strongly recommended for additional operator protection against a burst occurring in the high pressure hose connected to the gun. Use of Hand Grip and Shoulder Stock in hand-held control guns will provide greater operator comfort and safety.

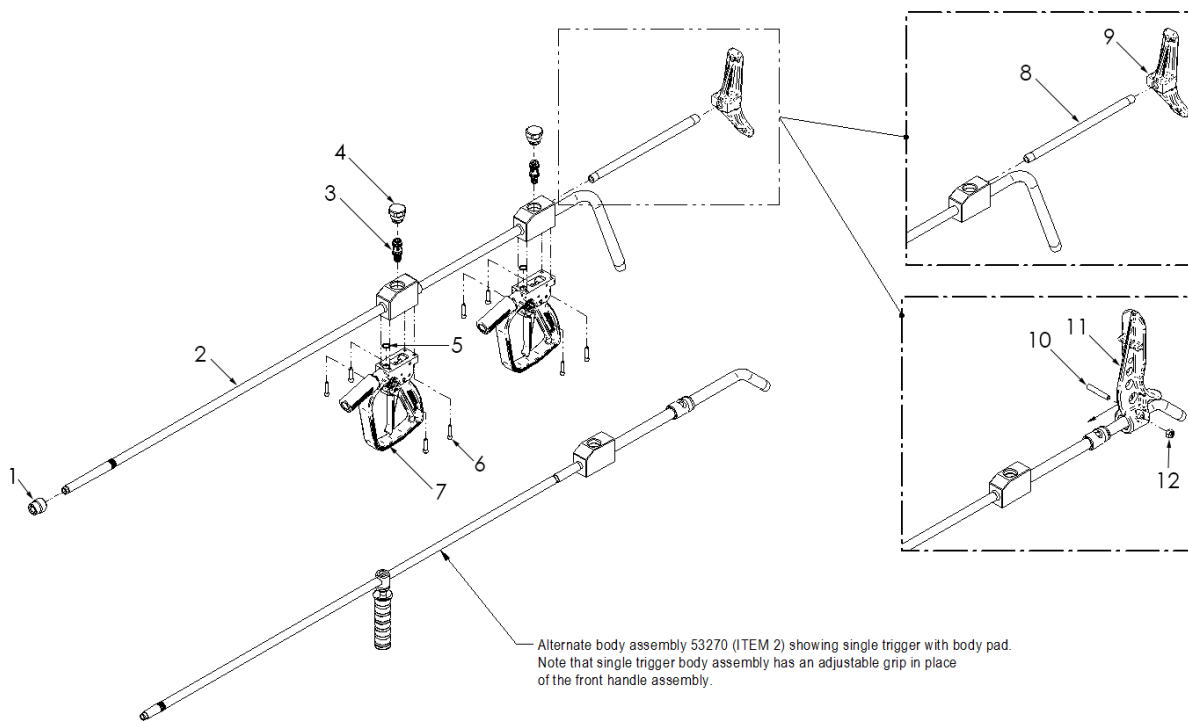
DURASAFE™ HAND GUNS

DUMP STYLE

STANDARD, WELDED GUN

| PART NO. | MODEL | TRIGGER ACTUATION | REST TYPE | INLET CONNECTION* | BARREL SIZE | LENGTH | | MAX. OPERATING PRESSURE | |
|----------|----------|-------------------|----------------|-------------------|-------------|--------|------|-------------------------|------|
| | | | | | | in | mm | psi | bar |
| 53300 | DCP-15 | Single | Body Pad | 1/2" NPT Male | 3/8" NPT | 71 | 1803 | 15,000 | 1034 |
| 54605 | DCPx-15 | Single | Shoulder Stock | | | 66 | 1676 | 15,000 | 1034 |
| 53225 | DCP-15DD | Dual | Body Pad | | | 75 | 1905 | 15,000 | 1034 |
| 54415 | DCPx-15D | Dual | Shoulder Stock | | | 70 | 1778 | 15,000 | 1034 |

*Adapters available for other connection types. See details on all connection types in Section I.



PART BREAKDOWN

| ITEM | PART NO. | DESCRIPTION | ITEM | PART NO. | DESCRIPTION |
|------|----------|--------------------|------|----------|--|
| 1 | 26061 | Coupling | 8 | 50127 | Extension, Shoulder Stock (54605, 54415) |
| 2 | 53270 | Body Assy (53330) | 9 | 65808 | Shoulder Stock (54605, 54415) |
| | 54360 | Body Assy (54605) | 10 | 53303 | Stud (53300, 53225) |
| | 53240 | Body Assy (53225) | 11 | 53304 | Body Pad (53300, 53225) |
| | 54420 | Body Assy (54415) | 12 | 25296 | Nut (53300, 53225) |
| 3 | 50902 | Cartridge | 13* | 65998 | Decal, Front Barrel, Green |
| 4 | 53175 | Plug | 14* | 64266 | Decal, Rear Barrel, Green |
| 5 | 25193 | O-Ring | 15* | 71742 | Decal, Body Green |
| 6 | 26689 | Capscrew | 16* | 66332 | Cushion, Shoulder Stock (54605, 54415) |
| 7 | 57956-66 | Handle Assy, Green | | | |

*Not shown.

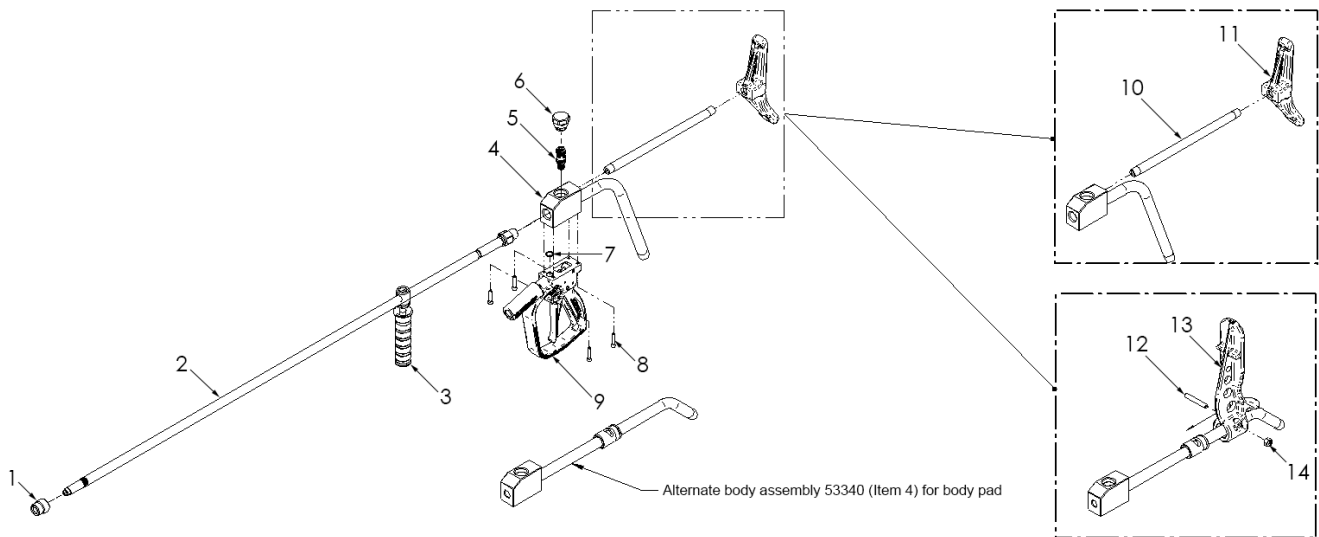
DURASAFE™ HAND GUNS

DUMP STYLE

PARTIALLY FIELD REPAIRABLE GUN

| PART NO. | MODEL | TRIGGER ACTUATION | REST TYPE | INLET CONNECTION* | BARREL SIZE | LENGTH | | MAX. OPERATING PRESURE | |
|----------|---------|-------------------|----------------|-------------------|-------------|--------|------|------------------------|------|
| | | | | | | in | mm | psi | bar |
| 53345 | DCP-15 | Single | Body Pad | 1/2" NPT Male | 1/2" NPT | 66 | 1676 | 15,000 | 1034 |
| 54900 | DCPx-15 | Single | Shoulder Stock | | 3/8" NPT | 67 | 1702 | 15,000 | 1034 |

* Adapters available for other connection types. See details on all connection types in Section I.



PART BREAKDOWN

| ITEM | PART NO. | DESCRIPTION | ITEM | PART NO. | DESCRIPTION |
|------|----------|--------------------|------|----------|-----------------------------------|
| 1 | 26061 | Coupling | 10 | 50127 | Extension, Shoulder Stock (54900) |
| 2 | 51973 | Barrel, Front | 11 | 65808 | Shoulder Stock (54900) |
| 3 | 52198 | Grip Assy | 12 | 53303 | Stud (53345) |
| 4 | 53340 | Body Assy (53345) | 13 | 53304 | Body Pad (53345) |
| | 54705 | Body Assy (54900) | 14 | 25296 | Nut (53345) |
| 5 | 50902 | Cartridge | 15* | 65998 | Decal, Front Barrel, Green |
| 6 | 53175 | Plug | 16* | 64266 | Decal, Rear Barrel, Green |
| 7 | 25193 | O-Ring | 17* | 71742 | Decal, Body Green |
| 8 | 26689 | Capscrew | 18* | 66332 | Cushion, Should Stock (54900) |
| 9 | 57956-66 | Handle Assy, Green | | | |

*Not shown.

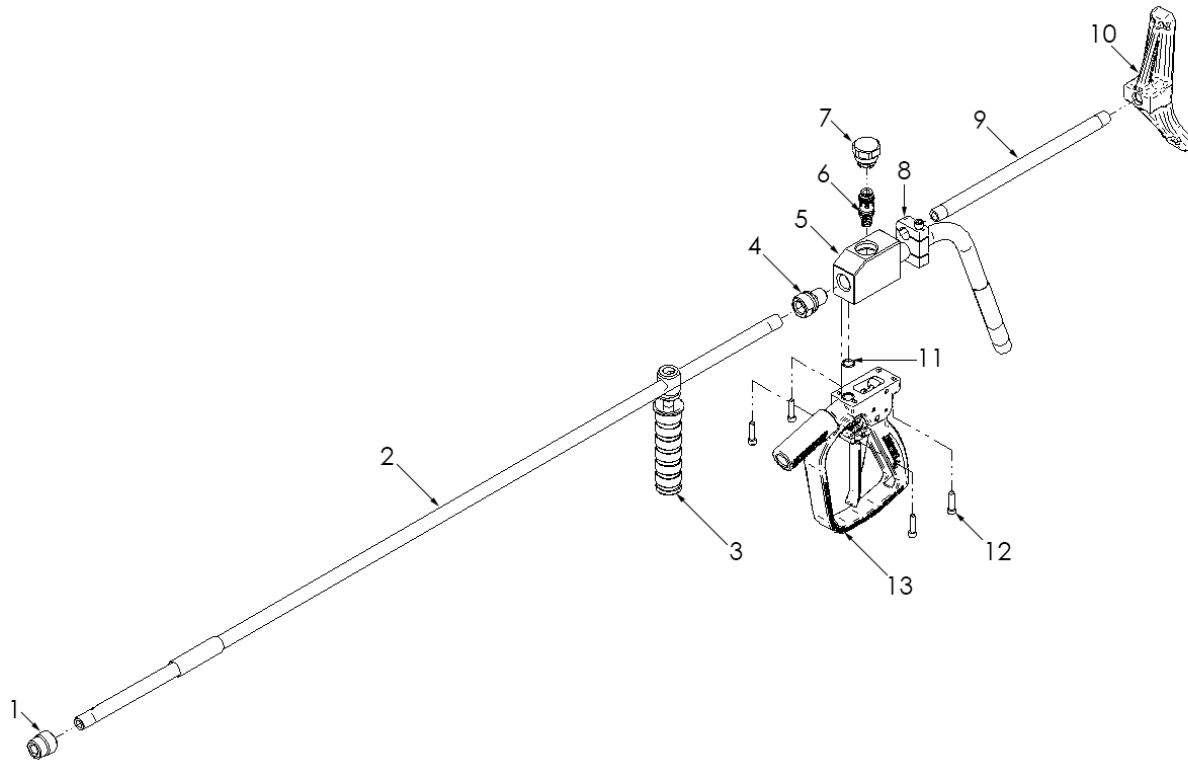
DURASAFE™ HAND GUNS

DUMP STYLE

FIELD REPAIRABLE, SINGLE TRIGGER GUN

| PART NO. | MODEL | TRIGGER ACTUATION | REST TYPE | INLET CONNECTION* | BARREL SIZE | LENGTH | | MAX. OPERATING PRESURE | |
|----------|---------|-------------------|----------------|-------------------|-------------|--------|------|------------------------|------|
| | | | | | | in | mm | psi | bar |
| 65745 | FR-15SD | Single | Shoulder Stock | 1/2" NPT Male | 3/8" NPT | 67 | 1702 | 15,000 | 1034 |
| 65739 | FR-15SD | Single | Shoulder Stock | | 1/2" NPT | 66 | 1676 | 15,000 | 1034 |

* Adapters available for other connection types. See details on all connection types in Section I.



PART BREAKDOWN

| ITEM | PART NO. | DESCRIPTION | ITEM | PART NO. | DESCRIPTION |
|------|----------|-----------------------|------|----------|----------------------------|
| 1 | 26061 | Coupling (65745) | 8 | 61880 | Clamp |
| | 50342 | Coupling (65739) | 9 | 50127 | Extension, Shoulder Stock |
| 2 | 51098-48 | Barrel, Front (65745) | 10 | 65808 | Shoulder Stock |
| | 55450-48 | Barrel, Front (65739) | 11 | 25193 | O-Ring |
| 3 | 52198 | Grip Assy (65745) | 12 | 26689 | Capscrew |
| | 04210 | Grip Assy (65739) | 13 | 57956-66 | Handle Assy, Green |
| 4 | 26062 | Bushing (65745) | 14* | 65998 | Decal, Front Barrel, Green |
| 5 | 65741 | Body Assy, DCP-15 | 15* | 64266 | Decal, Rear Barrel, Green |
| 6 | 50902 | Cartridge | 16* | 71742 | Decal, Body Green |
| 7 | 53175 | Plug | 17* | 66332 | Cushion, Shoulder Stock |

*Not shown.

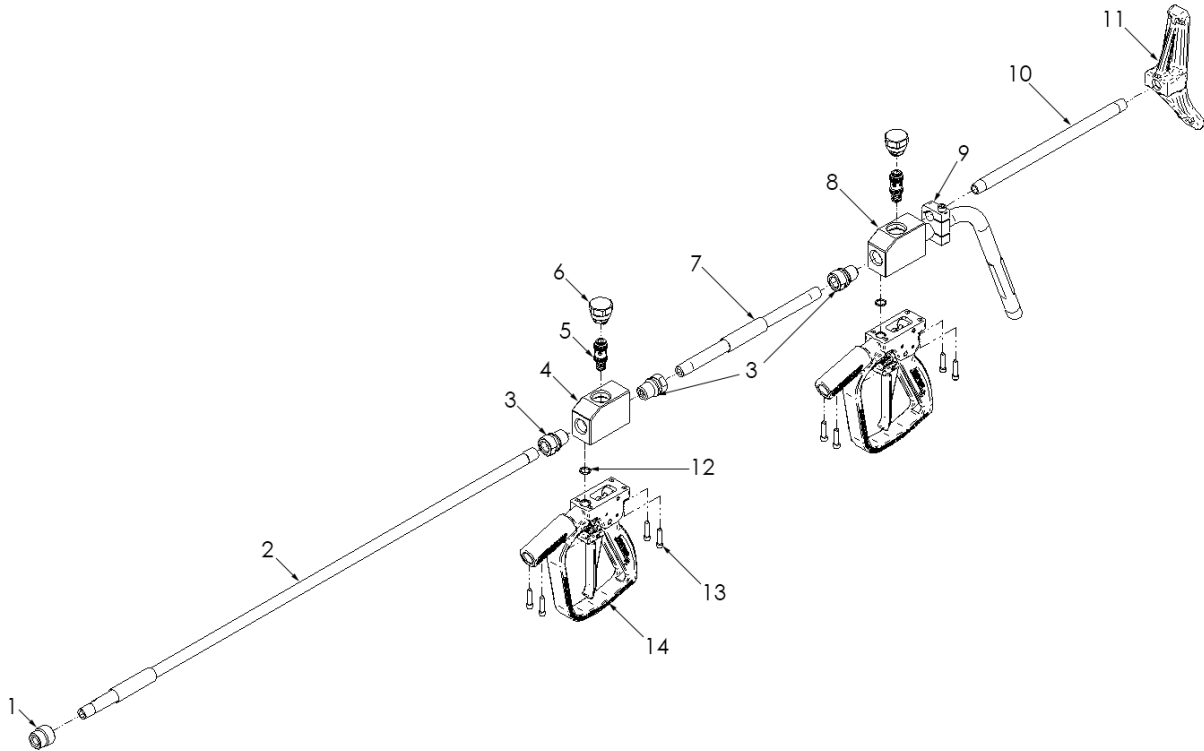
DURASAFE™ HAND GUNS

DUMP STYLE

FIELD REPAIRABLE, DUAL TRIGGER GUNS

| PART NO. | MODEL | TRIGGER ACTUATION | REST TYPE | INLET CONNECTION* | BARREL SIZE | LENGTH | | MAX. OPERATING PRESURE | |
|----------|---------|-------------------|----------------|-------------------|-------------|--------|------|------------------------|------|
| | | | | | | in | mm | psi | bar |
| 65746 | FR-15DD | Dual | Shoulder Stock | 1/2" NPT Male | 3/8" NPT | 78 | 1981 | 15,000 | 1034 |
| 65740 | FR-15DD | Dual | Shoulder Stock | | 1/2" NPT | 77 | 1956 | 15,000 | 1034 |

* Adapters available for other connection types. See details on all connection types in Section I.



PART BREAKDOWN

| ITEM | PART NO. | DESCRIPTION | ITEM | PART NO. | DESCRIPTION |
|------|----------|-----------------------|------|----------|----------------------------|
| 1 | 26061 | Coupling (65746) | 9 | 61880 | Clamp |
| | 50342 | Coupling (65740) | 10 | 50127 | Extension, Shoulder Stock |
| 2 | 51098-36 | Barrel, Front (65746) | 11 | 65808 | Shoulder Stock |
| | 55450-36 | Barrel, Front (65740) | 12 | 25193 | O-Ring |
| 3 | 26062 | Bushing (65746) | 13 | 26689 | Capscrew |
| 4 | 55497 | Body, DCP-15 | 14 | 57956-66 | Handle Assy, Green |
| 5 | 50902 | Cartridge | 15* | 65998 | Decal, Front Barrel, Green |
| 6 | 53175 | Plug | 16* | 64266 | Decal, Rear Barrel, Green |
| 7 | 51098-11 | Nipple (65746) | 17* | 71742 | Decal, Body Green |
| | 55450-11 | Nipple (65740) | 18* | 66332 | Cushion, Shoulder Stock |
| 8 | 65741 | Body Assy. DCP-15 | | | |

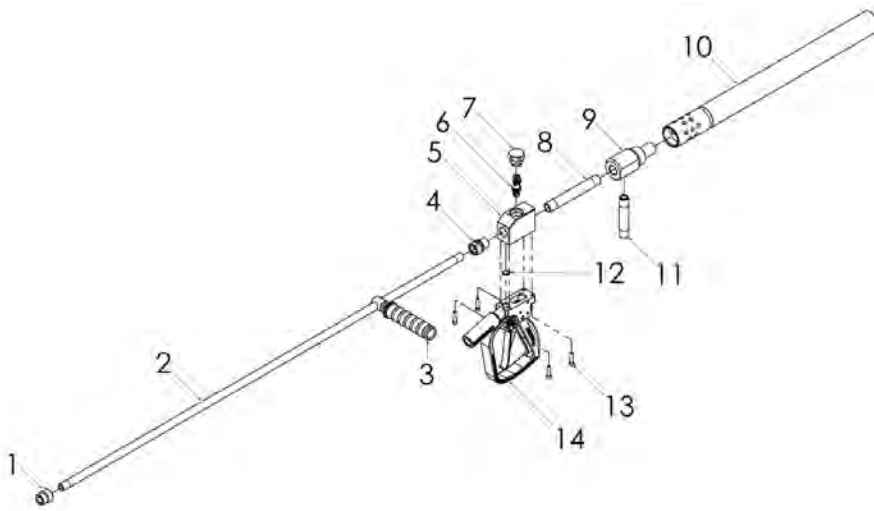
*Not shown.

ZERO-THRUST HAND GUNS

The Zero-Thrust gun is primarily designed for underwater cleaning in a marine environment. The gun uses two 1/4" nozzles, one facing forward and one installed in the rear adapter (item 9), to neutralize thrust. Due to no thrust, the operator is able to sustain a standard distance from the material needed to be cleaned without being propelled away. **Part No. 57066**

| PART NO. | MODEL | TRIGGER ACTUATION | REST TYPE | INLET CONNECTION* | BARREL SIZE | LENGTH | | MAX. OPERATING PRESSURE | |
|----------|-------|-------------------|-----------|-------------------|-------------|--------|------|-------------------------|------|
| | | | | | | in | mm | psi | bar |
| 57066 | ZT-15 | Single | None | 1/2" NPT Male | 3/8" NPT | 85 | 2159 | 15,000 | 1034 |

*Adapters available for other connection types. See details on all connection types in Section I.



REPLACEMENT CARTRIDGE



Zero Thrust Hand Gun utilizes a cartridge, shown above, to completely rebuild in about 30 seconds. **Part No. 50902**

PART BREAKDOWN

| ITEM | PART NO. | DESCRIPTION | ITEM | PART NO. | DESCRIPTION |
|------|----------|----------------------|------|----------|----------------------------|
| 1 | 26061 | Coupling | 10 | 50511 | Baffle Tube |
| 2 | 51098-48 | Nipple, Front Barrel | 11 | 55450-04 | Nipple |
| 3 | 52198 | Grip Adjuster | 12 | 25193 | O-Ring |
| 4 | 26062 | Bushing | 13 | 26689 | Capscrew |
| 5 | 55497 | Body | 14 | 57956-66 | Handle Assy, Green |
| 6 | 50902 | Cartridge | 15* | 65998 | Decal, Front Barrel, Green |
| 7 | 53175 | Plug | 16* | 64266 | Decal, Rear Barrel, Green |
| 8 | 55450-06 | Nipple | 17* | 71742 | Decal, Body Green |
| 9 | 57076 | Adapter, Baffle Tube | | | |

*Not shown.

NOTE: The Jetstream PI082 Safety Pamphlet Section 'CONTROL GUNS AND DEVICES' Item 5:

The use of a Safety Shroud and Safety Whip Hose with handheld control guns is strongly recommended for additional operator protection against a burst occurring in the high pressure hose connected to the gun. User of Hand Grip and Shoulder Stock in handheld control guns will provide greater operator comfort and safety.

DURASAFE™ HAND GUNS

SHUT-IN STYLE



DuraSafe 15,000 psi hand-operated shut-in style control guns allow the operator to have complete control of the pressure at all times. Designed with safety, comfort, and simplicity in mind, they are used for a variety of surface cleaning applications and are available in two standard configurations.

- ▶ Shut-in style control guns do not dump water when the trigger is released. Useful in applications where excess water spillage and disposal are concerns. Use with plunger style pumps, such as the UNx®, requires the installation of a Shut-In Regulator Valve (see page C-20).
- ▶ 30-second field replaceable cartridge design for minimal downtime
- ▶ 48" distance primary trigger to end of barrel to ensure maximum operator safety
- ▶ All Jetstream Hand Guns are color-coded green for added safety at 15,000 psi (1,034 bar)
- ▶ Special cam-operated design cuts required trigger force in half
- ▶ DCPSi model features a fully adjustable body pad for maximum operator comfort in any position (shoulder, hip, chest, etc.)
- ▶ DCPxSi model includes an ergonomically designed shoulder stock
- ▶ Adjustable secondary hand grip
- ▶ All pressure-bearing components are stainless steel
- ▶ Includes coupling to attach 1/4" NPT Male nozzles (see HHTC Nozzles, page G-47)

REPLACEMENT CARTRIDGE



15,000 psi DuraSafe Shut-in Style Control Guns utilize the CPSi-15 cartridge, shown above, to completely rebuild the gun in about 30 seconds! **Part No. 60419**

STANDARD, WELDED GUN

| PART NO. | MODEL | TRIGGER ACTUATION | REST TYPE | INLET CONNECTION* | BARREL SIZE | LENGTH | | MAX. OPERATING PRESSURE | |
|----------|-----------|-------------------|----------------|-------------------|-------------|--------|------|-------------------------|------|
| | | | | | | in | mm | psi | bar |
| 54445 | DCPxSI-15 | Single | Shoulder Stock | 1/2" NPT Male | 3/8" NPT | 70 | 1778 | 15,000 | 1034 |
| 54330 | DCPSI-15 | Single | Body Pad | 1/2" NPT Male | 3/8" NPT | 67 | 1702 | 15,000 | 1034 |

FULLY FIELD REPAIRABLE GUN

| | | | | | | | | | |
|-------|---------|--------|----------------|---------------|----------|----|------|--------|------|
| 65747 | FR-15SI | Single | Shoulder Stock | 1/2" NPT Male | 3/8" NPT | 65 | 1651 | 15,000 | 1034 |
|-------|---------|--------|----------------|---------------|----------|----|------|--------|------|

*Adapters available for other connection types. See details on all connection types in Section I.

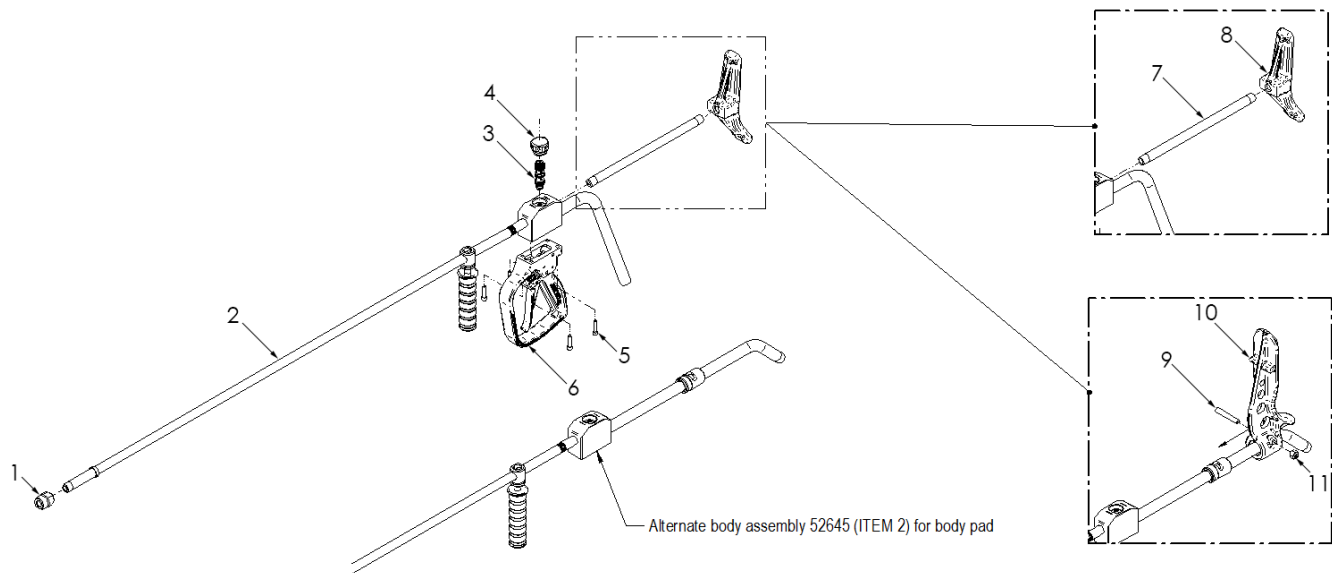
NOTE: The Jetstream PI082 Safety Pamphlet Section 'CONTROL GUNS AND DEVICES' Item 5:

The use of a Safety Shroud and Safety Whip Hose with handheld control guns is strongly recommended for additional operator protection against a burst occurring in the high pressure hose connected to the gun. User of Hand Grip and Shoulder Stock in handheld control guns will provide greater operator comfort and safety.

DURASAFE™ HAND GUNS SHUT-IN STYLE STANDARD, WELDED GUN

| PART NO. | MODEL | TRIGGER ACTUATION | REST TYPE | INLET CONNECTION* | BARREL SIZE | LENGTH | | MAX. OPERATING PRESSURE | |
|----------|-----------|-------------------|----------------|-------------------|-------------|--------|------|-------------------------|------|
| | | | | | | in | mm | psi | bar |
| 54445 | DCPxSI-15 | Single | Shoulder Stock | 1/2" NPT Male | 3/8" NPT | 70 | 1778 | 15,000 | 1034 |
| 54330 | DCPSI-15 | Single | Body Pad | 1/2" NPT Male | 3/8" NPT | 67 | 1702 | 15,000 | 1034 |

*Adapters available for other connection types. See details on all connection types in Section I.



PART BREAKDOWN

| ITEM | PART NO. | DESCRIPTION | ITEM | PART NO. | DESCRIPTION |
|------|----------|-----------------------------------|------|----------|---------------------------------|
| 1 | 26061 | Coupling | 8 | 65808 | Shoulder Stock (54445) |
| 2 | 54450 | Body Assy (54445) | 9 | 53303 | Stud (54330) |
| | 52645 | Body Assy (54330) | 10 | 53304 | Body Pad (54330) |
| 3 | 60419 | Cartridge | 11 | 25296 | Nut (54330) |
| 4 | 52543 | Plug | 12* | 65998 | Decal, Front Barrel, Green |
| 5 | 26689 | Capscrew | 13* | 64266 | Decal, Rear Barrel, Green |
| 6 | 57986-66 | Handle Assy, Green | 14* | 71742 | Decal, Body Green |
| 7 | 50127 | Extension, Shoulder Stock (54445) | 15* | 66332 | Cushion, Shoulder Stock (54445) |

*Not shown.

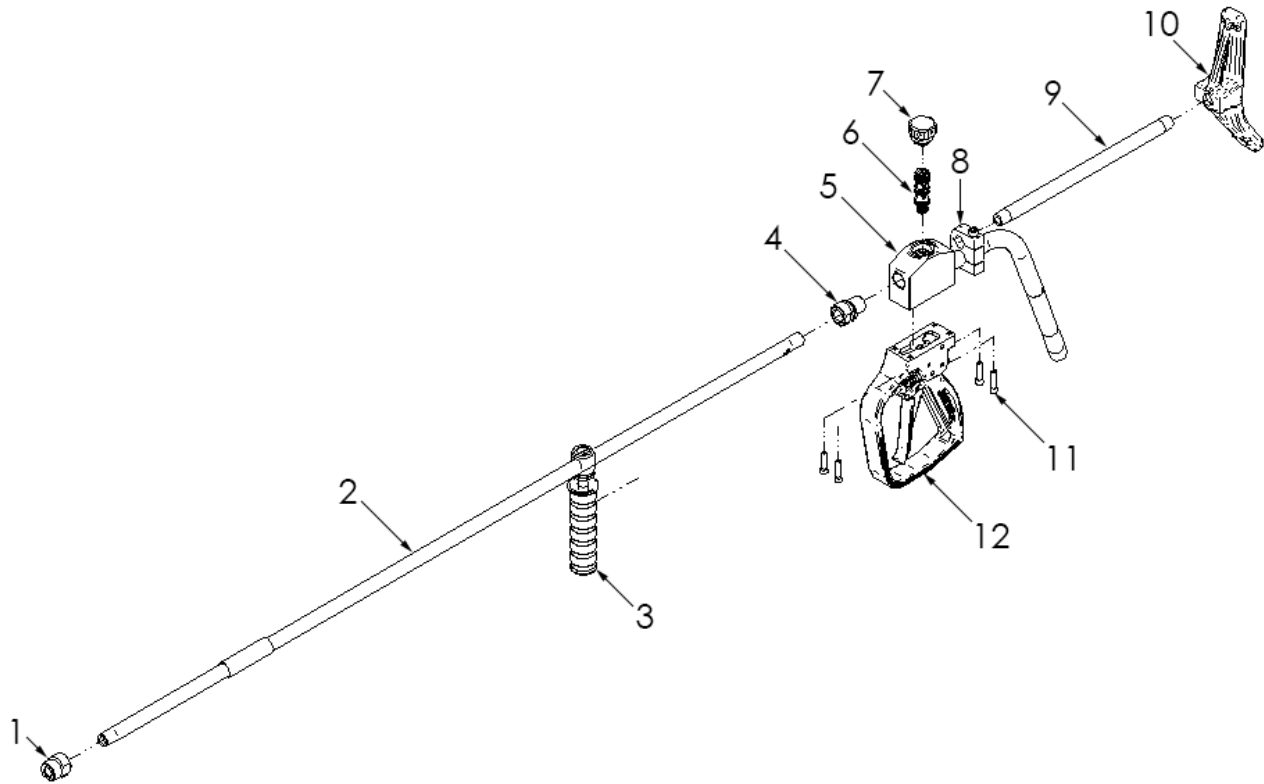
DURASAFE™ HAND GUNS

SHUT-IN STYLE

FIELD REPAIRABLE GUN

| PART NO. | MODEL | TRIGGER ACTUATION | REST TYPE | INLET CONNECTION* | BARREL SIZE | LENGTH | | MAX. OPERATING PRESSURE | |
|----------|---------|-------------------|----------------|-------------------|-------------|--------|------|-------------------------|------|
| | | | | | | in | mm | psi | bar |
| 65747 | FR-15SI | Single | Shoulder Stock | 1/2" NPT Male | 3/8" NPT | 65 | 1651 | 15,000 | 1034 |

*Adapters available for other connection types. See details on all connection types in Section I.



PART BREAKDOWN

| ITEM | PART NO. | DESCRIPTION | ITEM | PART NO. | DESCRIPTION |
|------|----------|---------------|------|----------|----------------------------|
| 1 | 26061 | Coupling | 9 | 50127 | Extension, Shoulder Stock |
| 2 | 51098-48 | Barrel, Front | 10 | 65808 | Shoulder Stock |
| 3 | 52198 | Grip Assy | 11 | 26689 | Capscrew |
| 4 | 26062 | Bushing | 12 | 57986-66 | Handle Assy, Green |
| 5 | 65742 | Body Assy | 13* | 65998 | Decal, Front Barrel, Green |
| 6 | 60419 | Cartridge | 14* | 64266 | Decal, Rear Barrel, Green |
| 7 | 52543 | Plug | 15* | 71742 | Decal, Body Green |
| 8 | 62055 | Clamp | 16* | 66332 | Cushion, Shoulder Stock |

*Not shown.



DURASAFE™ FOOT GUNS

DUMP STYLE

Ideal for a variety of waterblast tube cleaning applications, the DuraSafe family of foot-operated dump style control guns allow the operator to have complete control of the pressure at all times.

- ▶ 30-second field replaceable cartridge design for minimal downtime
- ▶ Safest foot valves in the industry! Custom safety cage and thick blast wall protect operator better than any foot control gun in the industry
- ▶ Pipe threaded (NPT) inlet and outlet
- ▶ Built-in “wings” protect high pressure hoses and fittings from external damage
- ▶ All pressure-bearing components precision machined stainless steel
- ▶ Threaded diffuser to route dump water for collection or disposal
- ▶ All Jetstream Foot Guns are color-coded green for added safety at 15,000 psi (1034 bar)

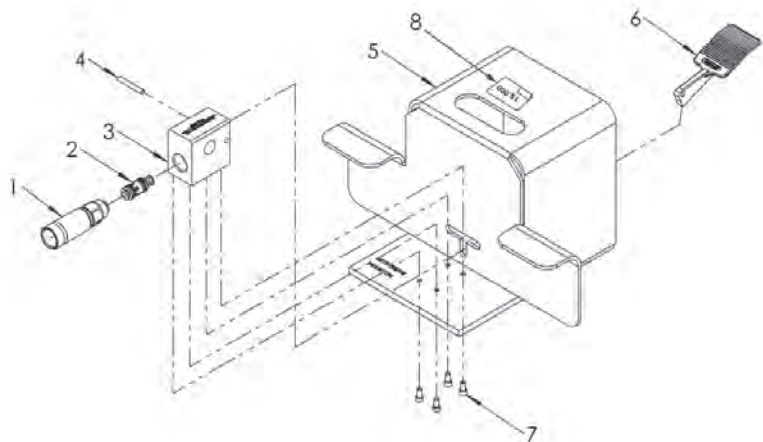
| PART NO. | MODEL | INLET & OUTLET CONNECTION* | DIFFUSER OUTLET CONNECTION | MAXIMUM FLOW | | DIMENSIONS (H X W X D) | | MAX. OPERATING PRESSURE | |
|----------|-------------|----------------------------|----------------------------|--------------|-----|------------------------|-----------------|-------------------------|------|
| | | | | gpm | lpm | in | mm | psi | bar |
| 55435 | DCF-15-1/2" | 1/2" NPT Female | 3/4" NPT Female | 35 | 130 | 7.9 x 14.8 x 13.3 | 200 x 375 x 338 | 15,000 | 1034 |
| 59374 | DCF-15-3/4" | 3/4" NPT Female | 1" NPT Female | 75 | 285 | 7.9 x 14.8 x 13.5 | 200 x 375 x 343 | 15,000 | 1034 |
| 59376 | DCF-15-1" | 1" NPT Female | 1-1/4" NPT Female | 125 | 475 | 7.9 x 14.8 x 15.5 | 200 x 375 x 393 | 15,000 | 1034 |

*See details on all connection types in Section I.

REPLACEMENT CARTRIDGE



All 15,000 psi DuraSafe Dump Style Control Guns utilize the C-15 cartridge, shown above, to completely rebuild the dump valve in about 30 seconds!
Part No. 50902



PART BREAKDOWN

| ITEM | PART NO. | DESCRIPTION | ITEM | PART NO. | DESCRIPTION |
|------|----------|----------------------------------|------|----------|--------------------|
| 1 | 50460 | Diffuser (DCF-15-1/2") | 3 | 53368 | Body (DCF-15-1/2") |
| | 51638 | Diffuser (DCF-15-3/4") | | 53549 | Body (DCF-15-3/4") |
| | 53959 | Diffuser (DCF-15-1") | | 53954 | Body (DCF-15-1") |
| 2 | 50902 | C-15 Cartridge (DCF-15-1/2") | 4 | 26453 | Pin |
| | 52750 | C-15 Mag Cartridge (DCF-15-3/4") | 5 | 55432 | Base |
| | 53915 | C-15-1" Cartridge (DCF-15-1") | 6 | 53373 | Pedal |
| | | | 7 | 25261 | Capscrew |
| | | | 8 | 66114 | Decal, 15K, VSS |

DURASAFE™ FOOT GUNS

SHUT-IN STYLE

Ideal for a variety of waterblast tube cleaning applications, the DCFSi-15 DuraSafe foot-operated shut-in style control gun allows the operator to have complete control of the pressure at all times.

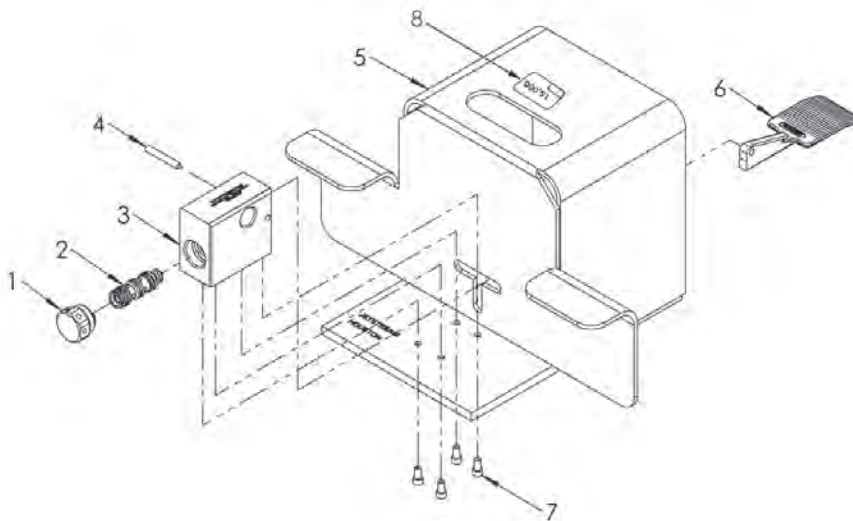


- ▶ Shut-in style control guns do not dump water when the trigger is released. Useful in applications where excess water spillage and disposal are concerns. Use with plunger style pumps such as the UNx® require the installation of a Shut-In Regulator Valve (see page C-20)
- ▶ 30-second field replaceable cartridge design for minimal downtime
- ▶ Safest shut-in foot valve in the industry! Custom safety cage and thick blast wall protect operator better than any foot control gun in the industry
- ▶ Pipe threaded (NPT) inlet and outlet
- ▶ Built-in “wings” protect high pressure and fittings from external damage
- ▶ All pressure-bearing components precision machined stainless steel

| PART NO. | MODEL | INLET & OUTLET CONNECTION* | MAXIMUM FLOW | | DIMENSIONS (H X W X D) | | MAX. OPERATING PRESSURE | |
|----------|----------|----------------------------|--------------|-----|------------------------|-----------------|-------------------------|------|
| | | | gpm | lpm | in | mm | psi | bar |
| 59377 | DCFSi-15 | 1/2" NPT Female | 35 | 130 | 7.9 x 14.8 x 11.3 | 200 x 375 x 286 | 15,000 | 1034 |

*See details on all connection types in Section I.

GUNS



REPLACEMENT CARTRIDGE



15,000 psi DuraSafe Shut-in Style Control Guns utilize the CPSi-15 cartridge, shown above, to completely rebuild the gun in about 30 seconds!
Part No. 60419

PART BREAKDOWN

| ITEM | PART NO. | DESCRIPTION | ITEM | PART NO. | DESCRIPTION |
|------|----------|-------------------|------|----------|-----------------|
| 1 | 52543 | Cartridge Plug | 5 | 55432 | Base |
| 2 | 60419 | CPSi-15 Cartridge | 6 | 53373 | Pedal |
| 3 | 53374 | Body | 7 | 25261 | Capscrew |
| 4 | 26453 | Pin | 8 | 66114 | Decal, 15K, VSS |

ROTARY, STRAIGHT, PIPE & TUBE CLEANING TOOLS & NOZZLES

Jetstream provides tools for different 15,000 psi applications in surface preparation, pipe cleaning and tube cleaning. All of our tools are made of stainless steel, hardened steel, or tungsten carbide and treated to withstand high pressures.

The Orbi-Jet™ X22 is a self-powered rotating tool that utilizes up to four rotating jets. The four-jet tool can use either four or two nozzles and includes a magnetic braking system for maximum control. There is minimal wear for longer run-time hours. Maintenance is made easy through a rebuild kit.

Replacement nozzle tips are available in various connection sizes and orifice materials.

Pipe cleaning tools adapt to various diameter pipes. Our RotoMag™ X22 is a self-powered rotating, eight port tool designed specifically for larger diameter pipes. For smaller pipes, two static nozzles are available with up to sixteen ports.

Jetstream J-Force™ two, three, four, and six-inch rotating tools are self-powered with nozzles designed to easily navigate and clean two, three, four, and six-inch pipes with bends.

Tube cleaning nozzles are drilled for each order and are designed for use at the end of a flex lance or rigid lance. The configurations and flow ratings are customized to each specific request per the job requirements. Jetstream has put together eighteen standard patterns; however, these can be drilled in any pattern requested, once deemed the nozzle will perform efficiently. These drilled nozzles can also be enhanced with the additions of a tube spinner and thruster.

NOTE: Jetstream is an authorized reseller for many vendors and offers specialized rotary, abrasive cutting surface preparation, pipe and tube cleaning nozzles upon request.



ORBI-JET™ X22

ROTARY SURFACE PREPARATION TOOL



Orbi-Jet X22 shown with Twis-Lok shroud.



Premium Kit (Part No. 63305).

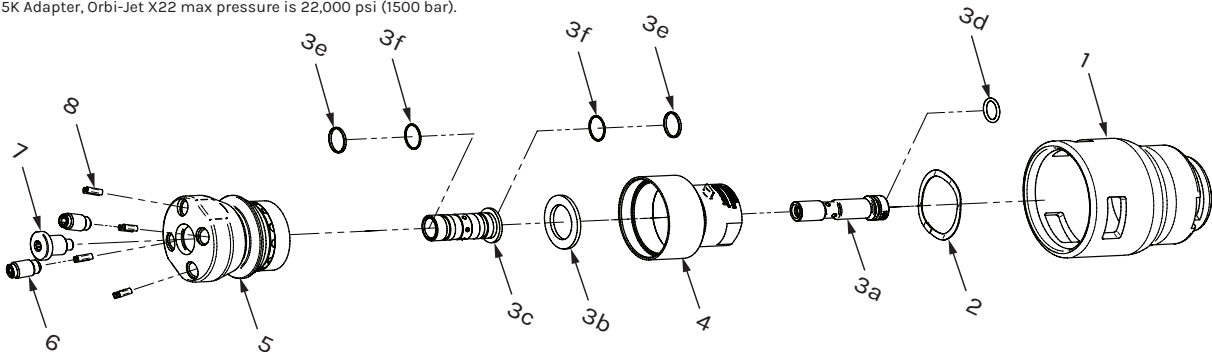
The Jetstream Orbi-Jet X22 is a rugged, self-powered, rotating tool utilizing up to four compound angle, hard-hitting, replaceable nozzles, rated up to 22,000 psi. The tool rotates in multiple 360° user-selectable patterns to provide maximum surface coverage and superior cleaning.

- ▶ Each of the four powerful, compound-angle, rotating jets follows a different cleaning path to provide greater coverage and less streaking.
- ▶ Three tools in one: use two nozzles for a narrow path, two nozzles for a wide path, or all four nozzles for a complete clean
- ▶ Magnetic braking system controls rotational speed for minimal wear and maximum impact without streaking.
- ▶ Jetstream light-weight, Twis-Lok™ shroud protects the tool from damage during operation and provides safer water displacement.
- ▶ Rebuild kit allows seven minute overhaul of wear components right in the field using two standard hex wrenches.
- ▶ Use with Tungsten Carbide OX Series, Sapphire UHPX/UHPXi Series, or tetraCORE™ Synthetic Diamond UHPXD Series nozzles
- ▶ **Premium Kit (PN. 63305)** and **Starter Kit (PN. 63230)** available for full product tools. **15K Adapter (PN. 28386)** included in Premium & 15K Kit **(PN 63306)**. **Note:** The Starter kit does NOT come with the adapter.

| PART NO. | INLET CONNECTION* | SPEED RANGE | DIAMETER (LESS SHROUD) | | ASSEMBLY LENGTH (WITH ADAPTER) | | ASSEMBLY WEIGHT | | MAX. FLOW RATE (HAND GUN) | | MAX. OPERATING PRESSURE** | |
|----------|-------------------|-------------|------------------------|----|--------------------------------|-----|-----------------|------|---------------------------|------|---------------------------|------|
| | | | RPM | in | mm | in | mm | lbs | kg | gpm | lpm | psi |
| 63230 | 3/8" NPT Female | 1000-1500 | 2.0 | 51 | 4.0 | 102 | 2.1 | 0.95 | 7.5 | 28.4 | 15,000 | 1034 |

*Inlet connection on the tool is 9/16" MP; inlet listed is with the adapter that is included in the part numbers shown.

**Without 15K Adapter, Orbi-Jet X22 max pressure is 22,000 psi (1500 bar).



PART BREAKDOWN

| ITEM | PART NO. | DESCRIPTION | ITEM | PART NO. | DESCRIPTION |
|------|----------|------------------------------|------|-----------|--------------------|
| 1 | 63202 | Twis-Lok Shroud | 6 | 28435 | Straightening Vane |
| 2 | 26762 | Shroud Retaining Ring | 7 | UHPX-PLUG | Plug |
| 3 | 52305 | Rebuild Kit (Items 3a to 3g) | 8 | 54276 | Retaining Screw |
| 4 | 63207 | Body | 9 | 28386 | 15K Adapter |
| 5 | 54277 | Rotor | 10* | 63302 | Maintenance Kit |

*Not shown.

TOOLS & NOZZLES

ORBI-JET™ X22 NOZZLES

OX SERIES CARBIDE NOZZLES

- ▶ High productivity carbide nozzles designed for use in the Orbi-Jet X22 tool
- ▶ Specially engineered carbide orifices provide the most aggressive waterjets available
- ▶ Efficient design reduces turbulence and orifice wear
- ▶ Select nozzles from the charts below by choosing operating pressure, desired flow, and two or four nozzle operation



| FOUR OX NOZZLES | | | | | | | | | | | | | ACCESSORIES |
|-----------------|------------------|------|---------------------|------|---------------------|------|----------------------|------|----------------------|-------|------------------------|-------|--|
| PART NO.* | ORIFICE DIAMETER | | 6,000 PSI (413 BAR) | | 8,000 PSI (551 BAR) | | 10,000 PSI (689 BAR) | | 12,000 PSI (827 BAR) | | 15,000 PSI (1,034 BAR) | | NOZZLE EXTENSIONS |
| | in | mm | gpm | lpm | gpm | lpm | gpm | lpm | gpm | lpm | gpm | lpm | |
| OX-018 | .018 | .46 | 3.5 | 13.2 | 4.2 | 15.9 | 4.8 | 18.2 | 5.3 | 20.1 | 5.8 | 22.0 | Part No. 53844 Extensions are installed into the Orbi-Jet™ X22 tool to provide a wider cleaning pattern and serve as flow straighteners, further reducing turbulence for more aggressive waterjets. Sold Individually. |
| OX-025 | .025 | .64 | 6.1 | 23.1 | 7.2 | 27.3 | 8.1 | 30.7 | 9.0 | 34.1 | 9.9 | 37.5 | |
| OX-029 | .029 | .74 | 8.0 | 30.3 | 9.4 | 35.6 | 10.6 | 40.1 | 11.6 | 43.9 | 12.9 | 48.8 | |
| OX-033 | .033 | .84 | 10.2 | 38.6 | 11.8 | 44.7 | 13.3 | 50.3 | 14.7 | 55.6 | 16.3 | 61.7 | |
| OX-038 | .038 | .97 | 13.3 | 50.3 | 15.4 | 58.3 | 17.3 | 65.5 | 19.0 | 71.9 | 21.2 | 80.3 | |
| OX-042 | .042 | 1.07 | 16.0 | 60.6 | 18.6 | 70.4 | 20.9 | 79.1 | 23.0 | 87.1 | 25.5 | 96.5 | |
| OX-046 | .046 | 1.17 | 19.1 | 72.3 | 22.1 | 83.7 | 24.8 | 93.9 | 27.3 | 103.3 | 30.4 | 115.1 | |
| TWO OX NOZZLES | | | | | | | | | | | | | |
| OX-018 | .018 | .46 | 1.9 | 7.2 | 2.6 | 9.8 | 3.0 | 11.4 | 3.3 | 12.5 | 3.6 | 13.6 | |
| OX-025 | .025 | .64 | 3.1 | 11.7 | 4.1 | 15.5 | 4.6 | 17.4 | 5.1 | 19.3 | 5.6 | 21.2 | |
| OX-029 | .029 | .74 | 4.0 | 15.1 | 5.1 | 19.3 | 5.8 | 22.0 | 6.5 | 24.6 | 7.1 | 26.9 | |
| OX-033 | .033 | .84 | 4.9 | 18.5 | 6.4 | 24.2 | 7.2 | 27.3 | 8.0 | 30.3 | 8.8 | 33.3 | |
| OX-038 | .038 | .97 | 6.3 | 23.8 | 8.2 | 31.0 | 9.2 | 34.8 | 10.2 | 38.6 | 11.3 | 42.8 | |
| OX-042 | .042 | 1.07 | 7.6 | 28.8 | 9.8 | 37.1 | 11.0 | 41.6 | 12.1 | 45.8 | 13.4 | 50.7 | |
| OX-046 | .046 | 1.17 | 9.0 | 34.1 | 11.5 | 43.5 | 13.0 | 49.2 | 14.3 | 54.1 | 15.9 | 60.2 | |

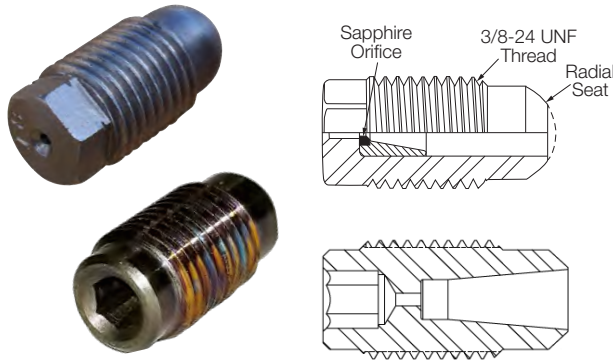
*Orifice size (or equivalent for fan types) is denoted in the part number (-018, etc.)

Flow charts on this page are applicable only to the Orbi-Jet™ X22 tool which uses a portion of the water to provide a bearing for nozzle rotation. Lower flow rates available and are listed in the Product Instructions.

WARNING: Flow rates greater than 7.5 gpm (28.4 lpm) are not recommended for use in hand gun cleaning operations with an Orbi-Jet™ X22 due to excessive thrust.

ORBI-JET X22 NOZZLES

UHPX/UHPXi/UHPXD SERIES NOZZLES



- ▶ Premium high productivity sapphire (UHPX and UHPXi) and synthetic diamond (UHPXD) nozzles for use in the Orbi-Jet X22.
- ▶ Tapered orifice retainer reduces turbulence and provides a cohesive, aggressive waterjet.
- ▶ Select nozzles from the charts below by choosing operating pressure, desired flow, and two or four nozzle operation.
- ▶ UHPX and UHPXD have 5/16" external hex, UHPXi have 5/32" internal hex

FOUR UHPX/UHPXi/UHPXD NOZZLES

| UHPX PART NO. | UHPXi PART NO. | UHPXD PART NO. | ORIFICE DIAMETER | | 10,000 PSI (689 BAR) | | 12,500 PSI (862 BAR) | | 15,000 PSI (1,034 BAR) | | 17,500 PSI (1,207 BAR) | | 20,000 PSI (1,379 BAR) | | 22,500 PSI (1,551 BAR) | |
|------------------|-------------------|-------------------|---------------------|------|-------------------------|------|-------------------------|------|---------------------------|------|---------------------------|------|---------------------------|------|---------------------------|------|
| | | | in | mm | gpm | lpm | gpm | lpm | gpm | lpm | gpm | lpm | gpm | lpm | gpm | lpm |
| UHPX-018 | UHPXi-018 | UHPXD-018 | .018 | 0.46 | 3.7 | 14.0 | 4.2 | 15.9 | 4.5 | 17.0 | 4.8 | 18.2 | 5.0 | 18.9 | 5.2 | 19.7 |
| UHPX-019 | UHPXi-019 | UHPXD-019 | .019 | 0.48 | 4.0 | 15.1 | 4.6 | 17.4 | 4.9 | 18.5 | 5.2 | 19.7 | 5.4 | 20.4 | 5.6 | 21.2 |
| UHPX-020 | UHPXi-020 | UHPXD-020 | .020 | 0.51 | 4.3 | 16.3 | 4.9 | 18.5 | 5.3 | 20.1 | 5.6 | 21.2 | 5.8 | 22.0 | 6.1 | 23.1 |
| UHPX-021 | UHPXi-021 | UHPXD-021 | .021 | 0.53 | 4.7 | 17.8 | 5.3 | 20.1 | 5.7 | 21.6 | 6.0 | 22.7 | 6.3 | 23.8 | 6.6 | 25.0 |
| UHPX-022 | UHPXi-022 | UHPXD-022 | .022 | 0.56 | 5.0 | 18.9 | 5.7 | 21.6 | 6.1 | 23.1 | 6.5 | 24.6 | 6.8 | 25.7 | 7.1 | 26.9 |
| UHPX-023 | UHPXi-023 | UHPXD-023 | .023 | 0.58 | 5.4 | 20.4 | 6.1 | 23.1 | 6.5 | 24.6 | 6.9 | 26.1 | 7.3 | 27.6 | 7.6 | 28.8 |
| UHPX-024 | UHPXi-024 | UHPXD-024 | .024 | 0.61 | 5.7 | 21.6 | 6.5 | 24.6 | 7.0 | 26.5 | 7.4 | 28.0 | 7.8 | 29.5 | 8.2 | 31.0 |
| UHPX-025 | UHPXi-025 | UHPXD-025 | .025 | 0.64 | 6.1 | 23.1 | 6.9 | 26.1 | 7.5 | 28.4 | 7.9 | 29.9 | 8.4 | 31.8 | 8.8 | 33.3 |
| UHPX-026 | UHPXi-026 | UHPXD-026 | .026 | 0.66 | 6.5 | 24.6 | 7.4 | 28.0 | 8.0 | 30.3 | 8.5 | 32.2 | 9.0 | 34.1 | 9.4 | 35.6 |
| UHPX-027 | UHPXi-027 | UHPXD-027 | .027 | 0.69 | 7.0 | 26.5 | 7.9 | 29.9 | 8.5 | 32.2 | 9.0 | 34.1 | 9.6 | 36.3 | 10.0 | 37.9 |
| UHPX-028 | UHPXi-028 | UHPXD-028 | .028 | 0.71 | 7.4 | 28.0 | 8.4 | 31.8 | 9.0 | 34.1 | 9.6 | 36.3 | 10.2 | 38.6 | 10.7 | 40.5 |
| UHPX-029 | UHPXi-029 | UHPXD-029 | .029 | 0.74 | 7.9 | 29.9 | 8.9 | 33.7 | 9.6 | 36.3 | 10.2 | 38.6 | 10.8 | 40.9 | 11.4 | 43.2 |
| UHPX-030 | UHPXi-030 | UHPXD-030 | .030 | 0.76 | 8.3 | 31.4 | 9.4 | 35.6 | 10.2 | 38.6 | 10.9 | 41.3 | 11.5 | 43.5 | 12.1 | 45.8 |
| UHPX-031 | UHPXi-031 | UHPXD-031 | .031 | 0.79 | 8.8 | 33.3 | 9.9 | 37.5 | 10.8 | 40.9 | 11.5 | 43.5 | 12.2 | 46.2 | 12.8 | 48.5 |
| UHPX-032 | UHPXi-032 | UHPXD-032 | .032 | 0.81 | 9.3 | 35.2 | 10.5 | 39.7 | 11.4 | 43.2 | 12.2 | 46.2 | 12.9 | 48.8 | 13.6 | 51.5 |
| UHPX-033 | UHPXi-033 | UHPXD-033 | .033 | 0.84 | 9.8 | 37.1 | 11.1 | 42.0 | 12.0 | 45.4 | 12.9 | 48.8 | 13.6 | 51.5 | 14.4 | 54.5 |
| UHPX-034 | UHPXi-034 | UHPXD-034 | .034 | 0.86 | 10.4 | 39.4 | 11.7 | 44.3 | 12.7 | 48.1 | 13.6 | 51.5 | 14.4 | 54.5 | 15.2 | 57.5 |
| UHPX-035 | UHPXi-035 | UHPXD-035 | .035 | 0.89 | 10.9 | 41.3 | 12.3 | 46.6 | 13.4 | 50.7 | 14.3 | 54.1 | 15.2 | 57.5 | 16.0 | 60.6 |
| UHPX-036 | UHPXi-036 | UHPXD-036 | .036 | 0.91 | 11.5 | 43.5 | 12.9 | 48.8 | 14.0 | 53.0 | 15.0 | 56.8 | 16.0 | 60.6 | 16.8 | 63.6 |
| UHPX-037 | UHPXi-037 | UHPXD-037 | .037 | 0.94 | 12.1 | 45.8 | 13.6 | 51.5 | 14.8 | 56.0 | 15.8 | 59.8 | 16.8 | 63.6 | 17.7 | 67.0 |
| UHPX-038 | UHPXi-038 | UHPXD-038 | .038 | 0.97 | 12.7 | 48.1 | 14.3 | 54.1 | 15.5 | 58.7 | 16.6 | 62.8 | 17.6 | 66.6 | 18.6 | 70.4 |
| UHPX-039 | UHPXi-039 | UHPXD-039 | .039 | 0.99 | 13.3 | 50.3 | 15.0 | 56.8 | 16.3 | 61.7 | 17.4 | 65.9 | 18.5 | 70.0 | 19.5 | 73.8 |
| UHPX-040 | UHPXi-040 | UHPXD-040 | .040 | 1.02 | 13.9 | 52.6 | 15.7 | 59.4 | 17.0 | 64.4 | 18.3 | 69.3 | 19.4 | 73.4 | 20.5 | 77.6 |
| UHPX-042 | UHPXi-042 | UHPXD-042 | .042 | 1.07 | 15.2 | 57.5 | 17.1 | 64.7 | 18.6 | 70.4 | 20.0 | 75.7 | 21.3 | 80.6 | 22.5 | 85.2 |

*Orifice size (or equivalent for fan types) is denoted in the part number (-018, etc.).

Flow charts on this page are applicable only to the Orbi-Jet™ X22 tool which uses a portion of the water to provide a bearing for nozzle rotation. Lower flow rates available and are listed in the Product Instructions.

WARNING: Flow rates greater than 7.5 gpm (28.4 lpm) are not recommended for use in hand gun cleaning operations with an Orbi-Jet X22 due to excessive thrust.

ORBI-JET X22 NOZZLES

TWO UHPX/UHPXI/UHPXD NOZZLES

| UHPX PART NO. | UHPXI PART NO. | UHPXD PART NO. | ORIFICE DIAMETER | | 10,000 PSI (689 BAR) | | 12,500 PSI (862 BAR) | | 15,000 PSI (1,034 BAR) | | 17,500 PSI (1,207 BAR) | | 20,000 PSI (1,379 BAR) | | 22,500 PSI (1,551 BAR) | |
|------------------|-------------------|-------------------|---------------------|------|-------------------------|------|-------------------------|------|---------------------------|------|---------------------------|------|---------------------------|------|---------------------------|------|
| | | | in | mm | gpm | lpm | gpm | lpm | gpm | lpm | gpm | lpm | gpm | lpm | gpm | lpm |
| UHPX-025 | UHPXI-025 | UHPXD-025 | .025 | 0.64 | 3.6 | 13.6 | 4.1 | 15.5 | 4.4 | 16.7 | 4.6 | 17.4 | 4.8 | 18.2 | 5.0 | 18.9 |
| UHPX-026 | UHPXI-026 | UHPXD-026 | .026 | 0.66 | 3.8 | 14.4 | 4.4 | 16.7 | 4.7 | 17.8 | 4.9 | 18.5 | 5.1 | 19.3 | 5.3 | 20.1 |
| UHPX-027 | UHPXI-027 | UHPXD-027 | .027 | 0.69 | 4.1 | 15.5 | 4.6 | 17.4 | 4.9 | 18.5 | 5.2 | 19.7 | 5.4 | 20.4 | 5.7 | 21.6 |
| UHPX-028 | UHPXI-028 | UHPXD-028 | .028 | 0.71 | 4.3 | 16.3 | 4.9 | 18.5 | 5.2 | 19.7 | 5.5 | 20.8 | 5.7 | 21.6 | 6.0 | 22.7 |
| UHPX-029 | UHPXI-029 | UHPXD-029 | .029 | 0.74 | 4.5 | 17.0 | 5.1 | 19.3 | 5.5 | 20.8 | 5.8 | 22.0 | 6.1 | 23.1 | 6.3 | 23.8 |
| UHPX-030 | UHPXI-030 | UHPXD-030 | .030 | 0.76 | 4.7 | 17.8 | 5.4 | 20.4 | 5.8 | 22.0 | 6.1 | 23.1 | 6.4 | 24.2 | 6.7 | 25.4 |
| UHPX-031 | UHPXI-031 | UHPXD-031 | .031 | 0.79 | 5.0 | 18.9 | 5.6 | 21.2 | 6.1 | 23.1 | 6.4 | 24.2 | 6.7 | 25.4 | 7.1 | 26.9 |
| UHPX-032 | UHPXI-032 | UHPXD-032 | .032 | 0.81 | 5.2 | 19.7 | 5.9 | 22.3 | 6.4 | 24.2 | 6.7 | 25.4 | 7.1 | 26.9 | 7.4 | 28.0 |
| UHPX-033 | UHPXI-033 | UHPXD-033 | .033 | 0.84 | 5.5 | 20.8 | 6.2 | 23.5 | 6.7 | 25.4 | 7.1 | 26.9 | 7.5 | 28.4 | 7.8 | 29.5 |
| UHPX-034 | UHPXI-034 | UHPXD-034 | .034 | 0.86 | 5.8 | 22.0 | 6.5 | 24.6 | 7.0 | 26.5 | 7.4 | 28.0 | 7.8 | 29.5 | 8.2 | 31.0 |
| UHPX-035 | UHPXI-035 | UHPXD-035 | .035 | 0.89 | 6.0 | 22.7 | 6.8 | 25.7 | 7.4 | 28.0 | 7.8 | 29.5 | 8.2 | 31.0 | 8.6 | 32.6 |
| UHPX-036 | UHPXI-036 | UHPXD-036 | .036 | 0.91 | 6.3 | 23.8 | 7.1 | 26.9 | 7.7 | 29.1 | 8.2 | 31.0 | 8.6 | 32.6 | 9.1 | 34.4 |
| UHPX-037 | UHPXI-037 | UHPXD-037 | .037 | 0.94 | 6.6 | 25.0 | 7.5 | 28.4 | 8.1 | 30.7 | 8.6 | 32.6 | 9.1 | 34.4 | 9.5 | 36.0 |
| UHPX-038 | UHPXI-038 | UHPXD-038 | .038 | 0.97 | 6.9 | 26.1 | 7.8 | 29.5 | 8.4 | 31.8 | 9.0 | 34.1 | 9.5 | 36.0 | 10.0 | 37.9 |
| UHPX-039 | UHPXI-039 | UHPXD-039 | .039 | 0.99 | 7.2 | 27.3 | 8.2 | 31.0 | 8.8 | 33.3 | 9.4 | 35.6 | 9.9 | 37.5 | 10.4 | 39.4 |
| UHPX-040 | UHPXI-040 | UHPXD-040 | .040 | 1.02 | 7.5 | 28.4 | 8.5 | 32.2 | 9.2 | 34.8 | 9.8 | 37.1 | 10.4 | 39.4 | 10.9 | 41.3 |
| UHPX-042 | UHPXI-042 | UHPXD-042 | .042 | 1.07 | 8.2 | 31.0 | 9.2 | 34.8 | 10.0 | 37.9 | 10.7 | 40.5 | 11.3 | 42.8 | 11.9 | 45.0 |
| UHPX-046 | UHPXI-046 | UHPXD-046 | .046 | 1.17 | 9.6 | 36.3 | 10.8 | 40.9 | 11.7 | 44.3 | 12.5 | 47.3 | 13.3 | 50.3 | 14.0 | 53.0 |

*Orifice size (or equivalent for fan types) is denoted in the part number (-018, etc.).

Flow charts on this page are applicable only to the Orbi-Jet™ X22 tool which uses a portion of the water to provide a bearing for nozzle rotation. Lower flow rates available and are listed in the Product Instructions.



WARNING: Flow rates greater than 7.5 gpm (28.4 lpm) are not recommended for use in hand gun cleaning operations with an Orbi-Jet X22 due to excessive thrust.

TOOLS & NOZZLES



These resources contain additional technical information about the Orbi-Jet™ X22.

Click or scan the QR code.



Quick Start Guide
QSG-077



Product Instruction
PI-077



Jetting Calculator

2" J-FORCE™

PIPE CLEANING TOOL

The Jetstream 2-inch J-Force™ tool is a self-powered rotating tool designed to easily navigate and clean pipes with two-inch bends. The 2-inch J-Force™ tool has front, side, and rear jets that clear blockages, clean, and provide thrust to propel the tool down the pipe for maximum cleaning power and minimum wear. Water provides the rotational motion and creates the bearing on which the nozzles spin. No oil or ball bearings to replace!

- ▶ Equipped with three forward-facing ports at 15°/30°/45°, two radial ports at 90°, and two rearward-facing ports at 132°.
- ▶ Seven non-replaceable nozzles are factory installed and must be purchased separately at the time of order.
- ▶ **The tool is not designed to be repairable in the field.**



2" J-FORCE™ TOOL
(JF2X15, JF2X22)

| PART NO. | INLET CONNECTION* | SPEED RANGE | DIAMETER | | ASSEMBLY LENGTH | | ASSEMBLY WEIGHT | | MAX. FLOW RATE | | MAX. OPERATING PRESSURE | |
|---------------|-------------------|-------------|----------|----|-----------------|----|-----------------|-----|----------------|-----|-------------------------|------|
| | | RPM | in | mm | in | mm | lbs | kg | gpm | lpm | psi | bar |
| JF2X15 | | | | | | | | | | | | |
| 65225 | 1/4" BSPP | 1000-2000 | 1.36 | 35 | 2.02 | 51 | .5 | 1.1 | 20 | 75 | 15,000 | 1000 |
| 64772 | 1/4" NPT | 1000-2000 | 1.36 | 35 | 2.02 | 51 | .5 | 1.1 | 20 | 75 | 22,000 | 1550 |
| JF2X22 | | | | | | | | | | | | |
| 65272 | 3/8" MP LH | 1000-2000 | 1.36 | 35 | 2.02 | 51 | .5 | 1.1 | 20 | 75 | 22,000 | 1550 |
| 65273 | 3/8" MP RH | 1000-2000 | 1.36 | 35 | 2.02 | 51 | .5 | 1.1 | 20 | 75 | 22,000 | 1550 |
| 65274 | 9/16" MP LH | 1000-2000 | 1.36 | 35 | 2.02 | 51 | .5 | 1.1 | 20 | 75 | 22,000 | 1550 |
| 65275 | 9/16" MP RH | 1000-2000 | 1.36 | 35 | 2.02 | 51 | .5 | 1.1 | 20 | 75 | 22,000 | 1550 |

*See details on all connection types in Section I.



These resources contain additional technical information about the 2" J-Force™.

Click or scan the QR code.



Quick Start Guide-
QSG-176

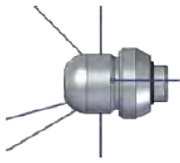


Product Instruction
PI-176



Jetting Calculator

2" J-FORCE™ NOZZLES



- ▶ Tool is equipped with seven nozzles: three forward-facing ports at 15°/30°/45°, two radial ports at 90°, and two rearward-facing ports at 132°.
- ▶ Non-replaceable nozzles are factory installed and must be purchased separately at the time of order.

UNIVERSAL CONFIGURATION*

| FLOW (GPM) | 10000 PSI | | | | 12500 PSI | | | | 15000 PSI | | | |
|------------|------------|----------------------|--------|----------|------------|----------------------|--------|----------|------------|----------------------|--------|----------|
| | PULL (LBF) | NOZZLE DIAMETER (IN) | | | PULL (LBF) | NOZZLE DIAMETER (IN) | | | PULL (LBF) | NOZZLE DIAMETER (IN) | | |
| | | FWD x 3 | 90 X 2 | REAR x 2 | | FWD x 3 | 90 X 2 | REAR x 2 | | FWD x 3 | 90 X 2 | REAR x 2 |
| 7 | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | |
| 9 | -6 | 0.016 | 0.016 | 0.029 | | | | | | | | |
| 10 | -6 | 0.016 | 0.020 | 0.029 | -5 | 0.020 | 0.024 | 0.039 | | | | |
| 11 | -7 | 0.018 | 0.018 | 0.032 | -8 | 0.018 | 0.032 | 0.039 | | | | |
| 12 | -7 | 0.018 | 0.024 | 0.032 | -8 | 0.022 | 0.029 | 0.042 | -6 | 0.016 | 0.016 | 0.026 |
| 13 | -8 | 0.020 | 0.02 | 0.035 | -9 | 0.018 | 0.018 | 0.032 | -6 | 0.016 | 0.022 | 0.026 |
| 14 | -8 | 0.020 | 0.024 | 0.035 | -9 | 0.018 | 0.024 | 0.032 | -6 | 0.018 | 0.020 | 0.029 |
| 15 | -8 | 0.020 | 0.029 | 0.035 | -9 | 0.018 | 0.026 | 0.032 | -7 | 0.018 | 0.024 | 0.029 |
| 16 | -8 | 0.020 | 0.032 | 0.035 | -7 | 0.022 | 0.022 | 0.035 | -7 | 0.02 | 0.020 | 0.032 |
| 17 | -7 | 0.024 | 0.026 | 0.039 | -7 | 0.022 | 0.024 | 0.035 | -7 | 0.02 | 0.024 | 0.032 |
| 18 | -7 | 0.024 | 0.029 | 0.039 | -7 | 0.022 | 0.029 | 0.035 | -7 | 0.02 | 0.026 | 0.032 |
| 19 | -7 | 0.024 | 0.032 | 0.039 | -7 | 0.022 | 0.032 | 0.035 | -8 | 0.022 | 0.024 | 0.035 |
| 20 | -7 | 0.026 | 0.029 | 0.042 | | | | | -8 | 0.022 | 0.026 | 0.035 |
| FLOW (GPM) | 17500 PSI | | | | 20000 PSI | | | | 22000 PSI | | | |
| | PULL (LBF) | NOZZLE DIAMETER (IN) | | | PULL (LBF) | NOZZLE DIAMETER (IN) | | | PULL (LBF) | NOZZLE DIAMETER (IN) | | |
| | | FWD x 3 | 90 X 2 | REAR x 2 | | FWD x 3 | 90 X 2 | REAR x 2 | | FWD x 3 | 90 X 2 | REAR x 2 |
| 7 | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | |
| 11 | | | | | | | | | | | | |
| 12 | | | | | | | | | | | | |
| 13 | -7 | 0.016 | 0.016 | 0.026 | | | | | | | | |
| 14 | -7 | 0.016 | 0.02 | 0.026 | | | | | | | | |
| 15 | -7 | 0.018 | 0.018 | 0.029 | -8 | 0.016 | 0.018 | 0.026 | | | | |
| 16 | -7 | 0.018 | 0.022 | 0.029 | -8 | 0.016 | 0.022 | 0.026 | -9 | 0.016 | 0.018 | 0.026 |
| 17 | -7 | 0.018 | 0.024 | 0.029 | -8 | 0.018 | 0.020 | 0.029 | -9 | 0.016 | 0.022 | 0.026 |
| 18 | -8 | 0.02 | 0.022 | 0.032 | -8 | 0.018 | 0.024 | 0.029 | -9 | 0.018 | 0.020 | 0.029 |
| 19 | -8 | 0.02 | 0.024 | 0.032 | -8 | 0.018 | 0.026 | 0.029 | -9 | 0.018 | 0.022 | 0.029 |
| 20 | -8 | 0.02 | 0.026 | 0.032 | | | | | -9 | 0.018 | 0.026 | 0.029 |

* Jetstream does not recommend operating the 2" J-Force tool at pressure/configuration combinations indicated in dark gray.

TOOLS & NOZZLES

3" J-FORCE™

PIPE CLEANING TOOL

The Jetstream J-Force™ 3" tool is a self-powered rotating tool designed to easily navigate and clean pipes with three-inch bends. The 3-inch J-Force tool has front, side, and rear jets that clear blockages, clean, and provide thrust to propel the tool down the pipe for maximum cleaning power and minimum wear. Water provides the rotational motion and creates the bearing on which the nozzles spin. No oil or ball bearings to replace!



3" J-FORCE™ TOOL
(JF3X15, JF3X22)

- ▶ Equipped with two forward-facing ports at 10°, 2 two radial ports at 45° and two at 100°, and two rearward-facing ports at 135° that accept Jetstream **P1** and **P150** type nozzles.
- ▶ Designed with an eddy-current braking system which controls rotation speed for maximum cleaning power and minimum wear.
- ▶ Completely field repairable in less than 5 minutes!
- ▶ **Premium Kits** and **Starter Kits** are available for full product tools (see table below). Premium kits include a rebuild kit with a replacement mandrel, O-rings, bushings, a thrust bearing, and sealant required to completely rebuild the tool quickly and easily.

| PART NO. | INLET CONNECTION* | SPEED RANGE | DIAMETER | | ASSEMBLY LENGTH | | ASSEMBLY WEIGHT | | MAX. FLOW RATE | | MAX. OPERATING PRESSURE | |
|---------------|-------------------|-------------|----------|----|-----------------|----|-----------------|------|----------------|-----|-------------------------|------|
| | | RPM | in | mm | in | mm | lbs | kg | gpm | lpm | psi | bar |
| JF3X15 | | | | | | | | | | | | |
| 67859 | 3/8" NPT | 1000-2000 | 1.98 | 50 | 2.87 | 73 | 1.45 | 0.66 | 30 | 114 | 15,000 | 1034 |
| JF3X22 | | | | | | | | | | | | |
| 67860 | 9/16" Type M Male | 1000-2000 | 1.98 | 50 | 2.87 | 73 | 1.45 | 0.66 | 30 | 114 | 22,000 | 1516 |
| 67861 | 3/8" MP Tube LH | 1000-2000 | 1.98 | 50 | 2.87 | 73 | 1.45 | 0.66 | 30 | 114 | 22,000 | 1516 |
| 67862 | 3/8" MP Tube RH | 1000-2000 | 1.98 | 50 | 2.87 | 73 | 1.45 | 0.66 | 30 | 114 | 22,000 | 1516 |
| 67863 | 9/16" MP Tube LH | 1000-2000 | 1.98 | 50 | 2.87 | 73 | 1.45 | 0.66 | 30 | 114 | 22,000 | 1516 |
| 67864 | 9/16" MP Tube RH | 1000-2000 | 1.98 | 50 | 2.87 | 73 | 1.45 | 0.66 | 30 | 114 | 22,000 | 1516 |

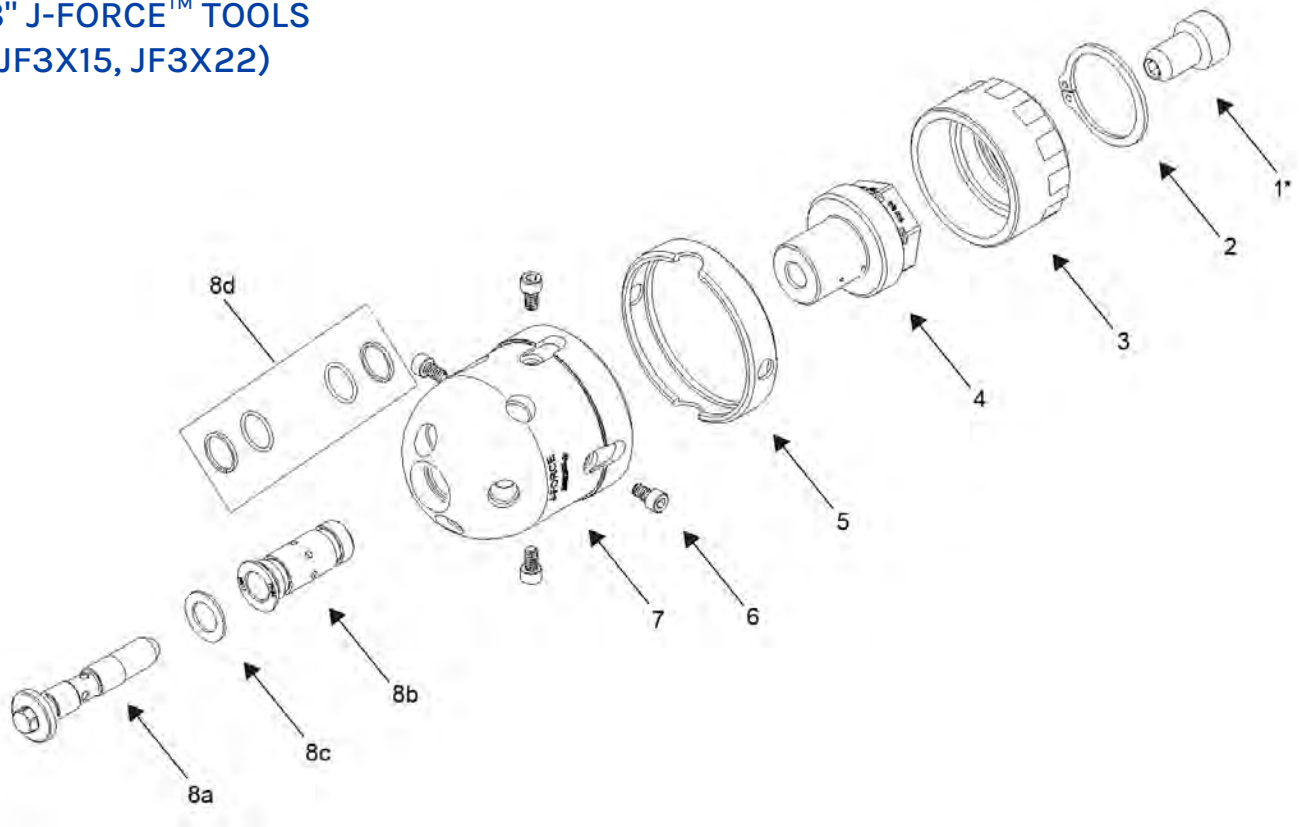
*See details on all connection types in Section I.

TOOL KITS

| PART NO. | KIT TYPE | INLET CONNECTION |
|----------|----------|-------------------|
| 67871 | Starter | 3/8" NPT |
| 67872 | Premium | 3/8" NPT |
| 67873 | Starter | 9/16" Type M Male |
| 67874 | Premium | 9/16" Type M Male |
| 67875 | Starter | 3/8" MP Tube LH |
| 67876 | Premium | 3/8" MP Tube LH |
| 67877 | Starter | 3/8" MP Tube RH |
| 67878 | Premium | 3/8" MP Tube RH |
| 67879 | Starter | 9/16" MP Tube LH |
| 67880 | Premium | 9/16" MP Tube LH |
| 67881 | Starter | 9/16" MP Tube RH |
| 67882 | Premium | 9/16" MP Tube RH |



3" J-FORCE™ TOOLS (JF3X15, JF3X22)



PART BREAKDOWN

| ITEM | PART NO. | DESCRIPTION | ITEM | PART NO. | DESCRIPTION |
|------|----------|---------------------------------|------|----------|------------------------|
| 1 | 67101 | Connector, Mandrel (67860 only) | 5 | 67094 | Wear Ring |
| 2 | 67823 | Retaining Ring | 6 | 67822 | Wear Ring Screws |
| 3 | 67093 | Brake Adjuster | 7 | 68130 | Head Assy |
| 4 | 67102 | Inlet Nut, 9/16" Type M (67860) | 8 | 67870 | Rebuild Kit |
| | 67100 | Inlet Nut, 3/8" MP LH (67861) | 8a | 67088 | Mandrel |
| | 67491 | Inlet Nut, 3/8" MP RH (67862) | 8b | 67090 | Flange Bushing |
| | 67095 | Inlet Nut, 9/16" MP LH (67863) | 8c | 67089 | Thrust Bearing |
| | 67821 | Inlet Nut, 9/16" MP RH (67864) | 8d | 67869 | O-Ring Maintenance Kit |

3" J-FORCE™ NOZZLES

P1 / P1SO NOZZLES



P1



P1SO

- ▶ Low profile design for unobstructed pipe cleaning
- ▶ Stainless steel (P1) and sapphire (P1SO) orifices
- ▶ Tapered geometry provides highly cohesive, distortion-free waterjets for concentrated, work saving cleaning and cutting power
- ▶ Straight (0°) patterns
- ▶ 1/16" NPT Male connection
- ▶ 22,000 psi (1516 bar) maximum working pressure

UNIVERSAL CONFIGURATION*

| FLOW (GPM) | 10000 PSI | | | | | 12500 PSI | | | | | 15000 PSI | | | | |
|------------|------------|--------------------------|----------|--------------------------|----------|------------|--------------------------|----------|--------------------------|----------|------------|------------------------|-------|-------|-------|
| | PULL (LBF) | NOZZLE DIAMETER (IN)** | | | | PULL (LBF) | NOZZLE DIAMETER (IN)** | | | | PULL (LBF) | NOZZLE DIAMETER (IN)** | | | |
| | | FRONT, FWD x 2, SIDE x 2 | REAR x 2 | FRONT, FWD x 2, SIDE x 2 | REAR x 2 | | FRONT, FWD x 2, SIDE x 2 | REAR x 2 | FRONT, FWD x 2, SIDE x 2 | REAR x 2 | | | | | |
| 12 | | | | | | -13 | 0.018 | 0.018 | 0.018 | 0.046 | -10 | 0.018 | 0.018 | 0.018 | 0.038 |
| 13 | -13 | 0.018 | 0.026 | 0.018 | 0.062 | -14 | 0.018 | 0.018 | 0.026 | 0.046 | -15 | 0.018 | 0.018 | 0.018 | 0.042 |
| 14 | -17 | 0.018 | 0.018 | 0.018 | 0.067 | -18 | 0.018 | 0.018 | 0.018 | 0.052 | -15 | 0.018 | 0.018 | 0.024 | 0.042 |
| 15 | -19 | 0.018 | 0.018 | 0.018 | 0.070 | -21 | 0.018 | 0.018 | 0.018 | 0.055 | -19 | 0.018 | 0.018 | 0.018 | 0.046 |
| 16 | -21 | 0.018 | 0.018 | 0.018 | 0.073 | -22 | 0.018 | 0.018 | 0.026 | 0.055 | -21 | 0.018 | 0.018 | 0.026 | 0.046 |
| 17 | -21 | 0.018 | 0.018 | 0.026 | 0.073 | -22 | 0.018 | 0.018 | 0.029 | 0.055 | -27 | 0.018 | 0.018 | 0.018 | 0.052 |
| 18 | -25 | 0.018 | 0.018 | 0.018 | 0.078 | -29 | 0.018 | 0.018 | 0.018 | 0.062 | -32 | 0.018 | 0.018 | 0.018 | 0.055 |
| 19 | -25 | 0.018 | 0.018 | 0.029 | 0.078 | -29 | 0.018 | 0.018 | 0.026 | 0.062 | -29 | 0.018 | 0.018 | 0.029 | 0.052 |
| 20 | -24 | 0.020 | 0.022 | 0.029 | 0.078 | -35 | 0.018 | 0.018 | 0.018 | 0.067 | -33 | 0.018 | 0.018 | 0.026 | 0.055 |
| 21 | -26 | 0.018 | 0.018 | 0.038 | 0.078 | -35 | 0.018 | 0.018 | 0.026 | 0.067 | -34 | 0.018 | 0.018 | 0.029 | 0.055 |
| 22 | -26 | 0.018 | 0.018 | 0.042 | 0.078 | -38 | 0.018 | 0.018 | 0.018 | 0.070 | -43 | 0.018 | 0.018 | 0.018 | 0.062 |
| 23 | -27 | 0.018 | 0.018 | 0.046 | 0.078 | -42 | 0.018 | 0.018 | 0.018 | 0.073 | -44 | 0.018 | 0.018 | 0.026 | 0.062 |
| 24 | -27 | 0.018 | 0.018 | 0.052 | 0.078 | -43 | 0.018 | 0.018 | 0.026 | 0.073 | -45 | 0.018 | 0.018 | 0.029 | 0.062 |
| 25 | -28 | 0.018 | 0.018 | 0.055 | 0.078 | -43 | 0.018 | 0.018 | 0.029 | 0.073 | -41 | 0.020 | 0.022 | 0.029 | 0.062 |
| 26 | -26 | 0.018 | 0.018 | 0.067 | 0.073 | -49 | 0.018 | 0.018 | 0.018 | 0.078 | -47 | 0.018 | 0.026 | 0.018 | 0.067 |
| 27 | -29 | 0.018 | 0.018 | 0.062 | 0.078 | -50 | 0.018 | 0.018 | 0.026 | 0.078 | -48 | 0.018 | 0.026 | 0.026 | 0.067 |
| 28 | -29 | 0.018 | 0.018 | 0.067 | 0.078 | -47 | 0.018 | 0.026 | 0.026 | 0.078 | -49 | 0.018 | 0.026 | 0.029 | 0.067 |
| 29 | -30 | 0.018 | 0.018 | 0.070 | 0.078 | -48 | 0.018 | 0.024 | 0.032 | 0.078 | -49 | 0.018 | 0.018 | 0.046 | 0.062 |
| 30 | -27 | 0.018 | 0.029 | 0.067 | 0.078 | -43 | 0.026 | 0.026 | 0.029 | 0.078 | -48 | 0.026 | 0.024 | 0.024 | 0.070 |

* Jetstream does not recommend operating the 3" J-Force tool at pressure/configuration combinations indicated in dark gray.
 ** Nozzle part numbers are P1-XXX and P1SO-XXX, where -XXX is the orifice size.

TOOLS & NOZZLES

3" J-FORCE™ NOZZLES

| UNIVERSAL CONFIGURATION* | | | | | | | | | | | | | | | |
|--------------------------|------------|--------------------------|-------|----------|-------|------------|--------------------------|-------|----------|-------|------------|--------------------------|-------|----------|-------|
| FLOW (GPM) | 17500 PSI | | | | | 20000 PSI | | | | | 22500 PSI | | | | |
| | PULL (LBF) | NOZZLE DIAMETER (IN)** | | | | PULL (LBF) | NOZZLE DIAMETER (IN)** | | | | PULL (LBF) | NOZZLE DIAMETER (IN)** | | | |
| | | FRONT, FWD x 2, SIDE x 2 | | REAR x 2 | | | FRONT, FWD x 2, SIDE x 2 | | REAR x 2 | | | FRONT, FWD x 2, SIDE x 2 | | REAR x 2 | |
| 15 | -11 | 0.018 | 0.018 | 0.020 | 0.032 | -12 | 0.018 | 0.018 | 0.018 | 0.032 | | | | | |
| 16 | -17 | 0.018 | 0.018 | 0.018 | 0.035 | -13 | 0.018 | 0.018 | 0.020 | 0.032 | | | | | |
| 17 | -24 | 0.018 | 0.018 | 0.018 | 0.038 | -11 | 0.018 | 0.020 | 0.022 | 0.032 | | | | | |
| 18 | -16 | 0.018 | 0.020 | 0.024 | 0.035 | -27 | 0.018 | 0.018 | 0.018 | 0.038 | -11 | 0.018 | 0.018 | 0.029 | 0.029 |
| 19 | -34 | 0.018 | 0.018 | 0.018 | 0.042 | -19 | 0.018 | 0.020 | 0.024 | 0.035 | -30 | 0.018 | 0.018 | 0.018 | 0.038 |
| 20 | -20 | 0.020 | 0.020 | 0.024 | 0.038 | -29 | 0.018 | 0.018 | 0.024 | 0.038 | -25 | 0.018 | 0.018 | 0.026 | 0.035 |
| 21 | -36 | 0.018 | 0.018 | 0.024 | 0.042 | -39 | 0.018 | 0.018 | 0.018 | 0.042 | -20 | 0.018 | 0.018 | 0.032 | 0.032 |
| 22 | -45 | 0.018 | 0.018 | 0.018 | 0.046 | -32 | 0.018 | 0.018 | 0.029 | 0.038 | -26 | 0.018 | 0.022 | 0.024 | 0.038 |
| 23 | -38 | 0.018 | 0.018 | 0.029 | 0.042 | -42 | 0.018 | 0.018 | 0.026 | 0.042 | -35 | 0.018 | 0.018 | 0.029 | 0.038 |
| 24 | -48 | 0.018 | 0.018 | 0.026 | 0.046 | -44 | 0.018 | 0.018 | 0.029 | 0.042 | -28 | 0.020 | 0.020 | 0.029 | 0.038 |
| 25 | -49 | 0.018 | 0.018 | 0.029 | 0.046 | -24 | 0.018 | 0.024 | 0.032 | 0.038 | -14 | 0.020 | 0.024 | 0.032 | 0.035 |
| 26 | -28 | 0.020 | 0.024 | 0.032 | 0.042 | -42 | 0.018 | 0.020 | 0.032 | 0.042 | -23 | 0.024 | 0.018 | 0.032 | 0.038 |
| 27 | -43 | 0.018 | 0.018 | 0.038 | 0.042 | -21 | 0.018 | 0.018 | 0.046 | 0.029 | -41 | 0.018 | 0.018 | 0.038 | 0.038 |
| 28 | -28 | 0.018 | 0.020 | 0.046 | 0.035 | -49 | 0.018 | 0.018 | 0.038 | 0.042 | -23 | 0.018 | 0.018 | 0.046 | 0.029 |
| 29 | -45 | 0.018 | 0.018 | 0.042 | 0.042 | -20 | 0.022 | 0.024 | 0.038 | 0.038 | -28 | 0.020 | 0.020 | 0.042 | 0.035 |
| 30 | -16 | 0.024 | 0.024 | 0.042 | 0.038 | -11 | 0.029 | 0.018 | 0.038 | 0.038 | -44 | 0.018 | 0.018 | 0.042 | 0.038 |

* Jetstream does not recommend operating the 3" J-Force tool at pressure/configuration combinations indicated in dark gray.
 ** Nozzle part numbers are PI-XXX and PISO-XXX, where -XXX is the orifice size.



These resources contain additional technical information about the 3" J-Force™.

Click or scan the QR code.



Quick Start Guide
QSG-198



Product Instruction
PI-198



Jetting Calculator

4" J-FORCE™ GEN III

PIPE CLEANING TOOL

The Jetstream J-Force™ 4" Gen III tool is a self-powered rotating tool designed to easily navigate and clean pipes with four-inch bends. The 4-inch J-Force Gen III tool has front, side, and rear jets that clear blockages, clean, and provide thrust to propel the tool down the pipe for maximum cleaning power and minimum wear. Water provides the rotational motion and creates the bearing on which the nozzles spin. No oil or ball bearings to replace!



4" J-FORCE™ GEN III TOOL
(JF4X15, JF4X22)

- ▶ Equipped with two forward-facing ports at 10° and two at 45°, two radial ports at 100°, and two rearward-facing ports at 135° that accept Jetstream **JS2**, **JS2D** and **P2TCS** type nozzles.
- ▶ Designed with an eddy-current braking system which controls rotation speed for maximum cleaning power and minimum wear.
- ▶ Completely field repairable in less than 5 minutes!
- ▶ **Premium Kits** and **Starter Kits** are available for full product tools (see table below). Premium kits include a rebuild kit with a replacement mandrel, O-rings, bushings, a thrust bearing, and sealant required to completely rebuild the tool quickly and easily.

| PART NO. | INLET CONNECTION* | SPEED RANGE | DIAMETER | | ASSEMBLY LENGTH | | ASSEMBLY WEIGHT | | MAX. FLOW RATE | | MAX. OPERATING PRESSURE | |
|---------------|-------------------|-------------|----------|----|-----------------|----|-----------------|------|----------------|-----|-------------------------|------|
| | | RPM | in | mm | in | mm | lbs | kg | gpm | lpm | psi | bar |
| JF4X15 | | | | | | | | | | | | |
| 67029 | 3/8" NPT | 1000-2000 | 2.75 | 70 | 3.85 | 98 | 3.85 | 1.75 | 40 | 150 | 15,000 | 1034 |
| JF4X22 | | | | | | | | | | | | |
| 67030 | 3/4" Type M | 1000-2000 | 2.75 | 70 | 3.85 | 98 | 3.90 | 1.77 | 40 | 150 | 22,000 | 1516 |
| 67031 | 9/16" MP LH | 1000-2000 | 2.75 | 70 | 3.85 | 98 | 3.90 | 1.77 | 40 | 150 | 22,000 | 1516 |
| 67032 | 9/16" MP RH | 1000-2000 | 2.75 | 70 | 3.85 | 98 | 3.90 | 1.77 | 40 | 150 | 22,000 | 1516 |

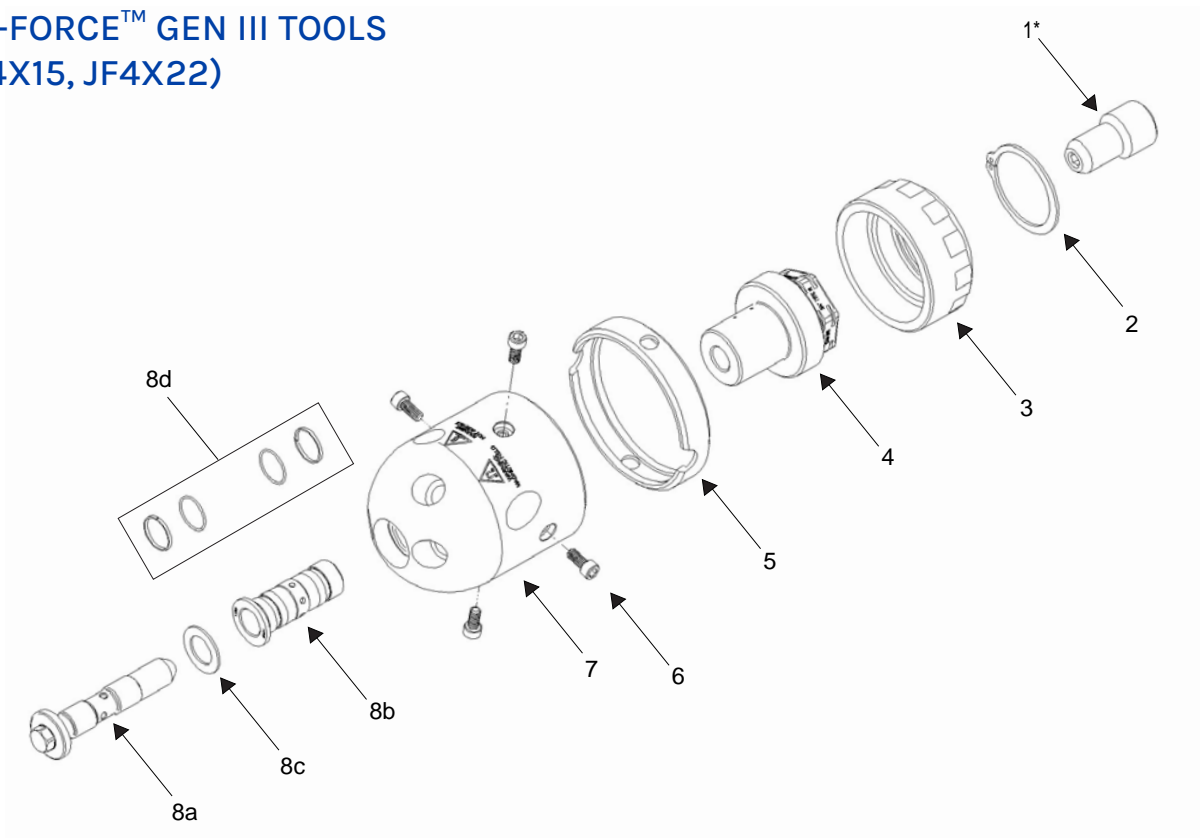
*See details on all connection types in Section I.



TOOL KITS

| PART NO. | KIT TYPE | INLET CONNECTION |
|----------|----------|------------------|
| 67627 | Starter | 3/8" NPT |
| 67629 | Starter | Type M |
| 67631 | Starter | 9/16" MP LH |
| 67633 | Starter | 9/16" MP RH |
| 67628 | Premium | 3/8" NPT |
| 67630 | Premium | Type M |
| 67632 | Premium | 9/16" MP LH |
| 67634 | Premium | 9/16" MP RH |

4" J-FORCE™ GEN III TOOLS (JF4X15, JF4X22)



PART BREAKDOWN

| ITEM | PART NO. | DESCRIPTION | ITEM | PART NO. | DESCRIPTION |
|------|----------|---------------------------------|------|----------|------------------------|
| 1 | 65923 | Connector, Mandrel (67030 only) | 6 | 66220 | Wear Ring Screws |
| 2 | 64864 | Retaining Ring | 7 | 67028 | Head Assy |
| 3 | 64007 | Brake Adjuster | 8 | 66248 | Rebuild Kit |
| 4 | 65906 | Inlet Nut, 3/8" NPT (67029) | 8a | 66336 | Mandrel |
| | 65922 | Inlet Nut, 3/4" Type M (67030) | 8b | 52349 | Flange Bushing |
| | 65921 | Inlet Nut, 9/16" MP LH (67031) | 8c | 64100 | Thrust Bearing |
| | 65919 | Inlet Nut, 9/16" MP RH (67032) | 8d | 66249 | O-Ring Maintenance Kit |
| 5 | 64103 | Wear Ring | | | |

TOOLS &
NOZZLES

4" J-FORCE™ GEN III NOZZLES

JS2 / P2TCS NOZZLES



JS2

P2TCS



- ▶ Low profile design for unobstructed pipe cleaning with short inlet
- ▶ Stainless steel (JS2) and carbide (P2TCS) nozzles
- ▶ Tapered geometry provides highly cohesive, distortion-free waterjets for concentrated, work saving cleaning and cutting power
- ▶ Straight (0°) patterns
- ▶ 1/8" NPT Male connection
- ▶ 22,000 psi (1517 bar) maximum working pressure

UNIVERSAL CONFIGURATION*

| FLOW (GPM) | 10000 PSI | | | 12500 PSI | | | 15000 PSI | | |
|------------|------------|------------------------|----------|------------|------------------------|----------|------------|------------------------|----------|
| | PULL (LBF) | NOZZLE DIAMETER (IN)** | | PULL (LBF) | NOZZLE DIAMETER (IN)** | | PULL (LBF) | NOZZLE DIAMETER (IN)** | |
| | | FWD x 4, SIDE x 2 | REAR x 2 | | FWD x 4, SIDE x 2 | REAR x 2 | | FWD x 4, SIDE x 2 | REAR x 2 |
| 21 | -27 | 0.020 | 0.047 | | | | | | |
| 22 | | | | -38 | 0.018 | 0.047 | | | |
| 23 | -40 | 0.018 | 0.052 | | | | -27 | 0.020 | 0.042 |
| 24 | -37 | 0.020 | 0.052 | -34 | 0.020 | 0.047 | | | |
| 25 | -33 | 0.022 | 0.052 | -29 | 0.022 | 0.047 | -46 | 0.018 | 0.047 |
| 26 | -51 | 0.018 | 0.057 | | | | -41 | 0.020 | 0.047 |
| 27 | -48 | 0.020 | 0.057 | -46 | 0.020 | 0.052 | | | |
| 28 | -44 | 0.022 | 0.057 | -42 | 0.022 | 0.052 | -35 | 0.022 | 0.047 |
| 29 | | | | -64 | 0.018 | 0.057 | -56 | 0.020 | 0.052 |
| 30 | -40 | 0.024 | 0.057 | -60 | 0.020 | 0.057 | | | |
| 31 | -36 | 0.026 | 0.057 | | | | | | |
| 32 | -59 | 0.022 | 0.063 | -31 | 0.026 | 0.052 | | | |
| 34 | -29 | 0.029 | 0.057 | | | | | | |
| 35 | -51 | 0.026 | 0.063 | | | | | | |
| FLOW (GPM) | 17500 PSI | | | 20000 PSI | | | 22000 PSI | | |
| | PULL (LBF) | NOZZLE DIAMETER (IN)** | | PULL (LBF) | NOZZLE DIAMETER (IN)** | | PULL (LBF) | NOZZLE DIAMETER (IN)** | |
| | | FWD x 4, SIDE x 2 | REAR x 2 | | FWD x 4, SIDE x 2 | REAR x 2 | | FWD x 4, SIDE x 2 | REAR x 2 |
| 23 | -38 | 0.018 | 0.042 | | | | | | |
| 24 | | | | | | | -33 | 0.018 | 0.038 |
| 25 | -32 | 0.020 | 0.042 | -43 | 0.018 | 0.042 | -26 | 0.020 | 0.038 |
| 26 | | | | | | | -47 | 0.018 | 0.042 |
| 27 | -26 | 0.022 | 0.042 | -36 | 0.020 | 0.042 | | | |
| 28 | -48 | 0.020 | 0.047 | | | | | | |

* Jetstream does not recommend operating the 4" J-Force Gen III tool at pressure/configuration combinations indicated in dark gray.
 ** Nozzle part numbers are JS2-XXX and P2TCS-XXX, where -XXX is the orifice size.

TOOLS & NOZZLES

4" J-FORCE™ GEN III NOZZLES

JS2D NOZZLES



JS2D

- ▶ Low profile design for unobstructed pipe cleaning with short inlet
- ▶ High productivity synthetic diamond nozzles
- ▶ Tapered geometry provides highly cohesive, distortion-free waterjets for concentrated, work saving cleaning and cutting power
- ▶ Straight (0°) patterns
- ▶ 1/8" NPT Male connection
- ▶ 22,000 psi (1517 bar) maximum working pressure
- ▶ Please use the Jetting Calculator on the web site or contact your Jetstream Representative to determine the proper nozzle configuration for your application

** Nozzle part numbers are JS2D-XXX, where -XXX is the orifice size.



These resources contain additional technical information about the 4" J-Force™ Gen III.

Click or scan the QR code.



[Quick Start Guide](#)
QSG-197



[Product Instruction](#)
PI-197



[Jetting Calculator](#)

6" J-FORCE™ GEN II

PIPE CLEANING TOOL

The Jetstream J-Force™ 6" Gen II tool is a self-powered rotating tool designed to easily navigate and clean pipes with six-inch bends. The 6-inch J-Force Gen II tool has front, side, and rear jets that clear blockages, clean, and provide thrust to propel the tool down the pipe for maximum cleaning power and minimum wear. Water provides the rotational motion and creates the bearing on which the nozzles spin. No oil or ball bearings to replace!



6" J-FORCE™ GEN II TOOL
(JF6X15, JF6X22)

- ▶ Equipped with two forward-facing ports at 10°, two radial ports at 45° and two at 100°, and two rearward-facing ports at 135° that accept Jetstream **P4TC**, **JS4F** and **JS4FD** type nozzles.
- ▶ Designed with an eddy-current braking system which controls rotation speed for maximum cleaning power and minimum wear.
- ▶ Completely field repairable in less than 5 minutes!
- ▶ **Premium Kits** and **Starter Kits** are available for full product tools (see table below). Premium kits include a rebuild kit with a replacement mandrel, O-rings, bushings, a thrust bearing, and sealant required to completely rebuild the tool quickly and easily.

| PART NO. | INLET CONNECTION* | SPEED RANGE | DIAMETER | | ASSEMBLY LENGTH | | ASSEMBLY WEIGHT | | MAX. FLOW RATE | | MAX. OPERATING PRESSURE | |
|---------------|-------------------|-------------|----------|----|-----------------|-----|-----------------|-----|----------------|-----|-------------------------|------|
| | | RPM | in | mm | in | mm | lbs | kg | gpm | lpm | psi | bar |
| JF6X15 | | | | | | | | | | | | |
| 68883 | 1/2" NPT | 800-1000 | 3.75 | 95 | 5.34 | 136 | 11.0 | 5.0 | 60 | 226 | 15,000 | 1034 |
| JF6X22 | | | | | | | | | | | | |
| 68884 | 9/16" MP | 800-1000 | 3.75 | 95 | 5.34 | 136 | 11.0 | 5.0 | 60 | 226 | 22,000 | 1516 |
| 68885 | M24 | 800-1000 | 3.75 | 95 | 5.34 | 136 | 11.0 | 5.0 | 60 | 226 | 22,000 | 1516 |

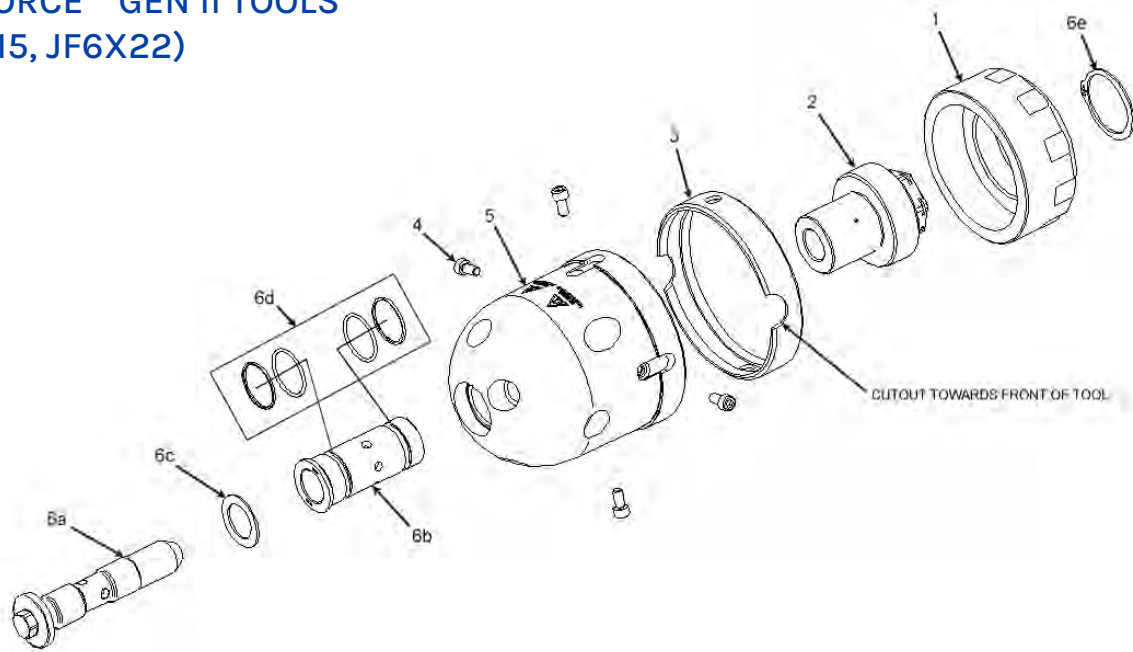
*See details on all connection types in Section I.



TOOL KITS

| PART NO. | KIT TYPE | INLET CONNECTION |
|----------|----------|------------------|
| 68886 | Starter | 1/2" NPT |
| 68887 | Premium | 1/2" NPT |
| 68888 | Starter | 9/16" MP |
| 68889 | Premium | 9/16" MP |
| 68890 | Starter | M24 |
| 68891 | Premium | M24 |

6" J-FORCE™ GEN II TOOLS (JF6X15, JF6X22)



PART BREAKDOWN

| ITEM | PART NO. | DESCRIPTION | ITEM | PART NO. | DESCRIPTION |
|------|----------|-----------------------------|------|----------|------------------------|
| 1 | 64827 | Brake Adjuster | 6 | 65388 | Rebuild Kit |
| | 66740 | Inlet Nut, 1/2" NPT (64915) | 6a | 66347 | Mandrel |
| 2 | 66348 | Inlet Nut, 9/16" MP (65380) | 6b | 66137 | Flange Bushing |
| | 66741 | Inlet Nut, M24 (65381) | 6c | 64823 | Thrust Bearing |
| 3 | 68656 | Wear Ring | 6d | 65387 | O-Ring Maintenance Kit |
| 4 | 68898 | Wear Ring Screws | 6e | 64864 | Retaining Ring |
| 5 | 68889 | Head Assy | | | |

6" J-FORCE™ GEN II NOZZLES

JS4FD NOZZLES

JS4FD



- ▶ Low profile design for unobstructed pipe cleaning with short inlet
- ▶ High productivity synthetic diamond (JS4FD) orifice
- ▶ Tapered geometry provides highly cohesive, distortion-free waterjets for concentrated, work saving cleaning and cutting power
- ▶ Straight (0°) patterns
- ▶ 1/4" NPT Male connection
- ▶ 22,000 psi (1517 bar) maximum working pressure
- ▶ Please use the Jetting Calculator on the web site or contact your Jetstream Representative to determine the proper nozzle configuration for your application

* Jetstream does not recommend operating the 6" J-Force Gen II tool at pressure/configuration combinations indicated in dark gray.
** Nozzle part numbers are JS4FD-XXX, where -XXX is the orifice size.

6" J-FORCE™ GEN II NOZZLES

JS4F / P4TC NOZZLES



JS4F

P4TC



- ▶ Low profile design for unobstructed pipe cleaning
- ▶ Stainless steel (JS4F) and carbide (P4TC) nozzles
- ▶ Tapered geometry provides highly cohesive, distortion-free waterjets for concentrated, work saving cleaning and cutting power
- ▶ Straight (0°) patterns
- ▶ 1/4" NPT Male connection
- ▶ 22,000 psi (1517 bar) maximum working pressure

UNIVERSAL CONFIGURATION*

| FLOW (GPM) | 10000 PSI | | | 12500 PSI | | | 15000 PSI | | |
|------------|------------|------------------------|----------|------------|------------------------|----------|------------|------------------------|----------|
| | PULL (LBF) | NOZZLE DIAMETER (IN)** | | PULL (LBF) | NOZZLE DIAMETER (IN)** | | PULL (LBF) | NOZZLE DIAMETER (IN)** | |
| | | FWD x 4, SIDE x 2 | REAR x 2 | | FWD x 4, SIDE x 2 | REAR x 2 | | FWD x 4, SIDE x 2 | REAR x 2 |
| 29 | | | | | | | -41 | 0.020 | 0.047 |
| 30 | | | | | | | -35 | 0.022 | 0.047 |
| 31 | | | | -64 | 0.018 | 0.057 | | | |
| 32 | -40 | 0.024 | 0.057 | -37 | 0.024 | 0.052 | -29 | 0.024 | 0.047 |
| 33 | -63 | 0.020 | 0.063 | | | | | | |
| 34 | -59 | 0.022 | 0.063 | -31 | 0.026 | 0.052 | -77 | 0.018 | 0.057 |
| 35 | | | | -82 | 0.018 | 0.063 | -44 | 0.024 | 0.052 |
| 36 | -29 | 0.029 | 0.057 | | | | | | |
| 37 | -69 | 0.022 | 0.067 | -78 | 0.020 | 0.063 | -67 | 0.022 | 0.057 |
| 38 | | | | -74 | 0.022 | 0.063 | | | |
| 39 | -93 | 0.018 | 0.073 | | | | -61 | 0.024 | 0.057 |
| 40 | -43 | 0.029 | 0.063 | -102 | 0.018 | 0.069 | -94 | 0.020 | 0.063 |
| 41 | | | | -87 | 0.022 | 0.067 | -54 | 0.026 | 0.057 |
| 42 | -96 | 0.020 | 0.075 | -63 | 0.026 | 0.063 | | | |
| 43 | -108 | 0.018 | 0.078 | -94 | 0.022 | 0.069 | | | |
| 44 | -105 | 0.020 | 0.078 | -26 | 0.032 | 0.057 | | | |
| 45 | -78 | 0.026 | 0.073 | -54 | 0.029 | 0.063 | | | |
| 46 | -27 | 0.035 | 0.063 | | | | | | |
| 47 | -97 | 0.024 | 0.078 | | | | | | |
| 48 | | | | | | | | | |
| 49 | -37 | 0.035 | 0.067 | | | | | | |

* Jetstream does not recommend operating the 6" J-Force Gen II tool at pressure/configuration combinations indicated in dark gray.

** Nozzle part numbers are JS4F-XXX and P4TC-XXX, where -XXX is the orifice size.


TOOLS & NOZZLES

6" J-FORCE™ GEN II NOZZLES

| UNIVERSAL CONFIGURATION* | | | | | | | | | |
|--------------------------|------------|------------------------|----------|------------|------------------------|----------|------------|------------------------|----------|
| FLOW (GPM) | 17500 PSI | | | 20000 PSI | | | 22000 PSI | | |
| | PULL (LBF) | NOZZLE DIAMETER (IN)** | | PULL (LBF) | NOZZLE DIAMETER (IN)** | | PULL (LBF) | NOZZLE DIAMETER (IN)** | |
| | | FWD x 4, SIDE x 2 | REAR x 2 | | FWD x 4, SIDE x 2 | REAR x 2 | | FWD x 4, SIDE x 2 | REAR x 2 |
| 27 | | | | | | | -33 | 0.018 | 0.038 |
| 28 | -32 | 0.020 | 0.042 | -43 | 0.018 | 0.042 | -26 | 0.020 | 0.038 |
| 29 | -53 | 0.018 | 0.047 | | | | -47 | 0.018 | 0.042 |
| 30 | | | | -36 | 0.020 | 0.042 | | | |
| 31 | -48 | 0.020 | 0.047 | -61 | 0.018 | 0.047 | -40 | 0.020 | 0.042 |
| 32 | | | | | | | | | |
| 33 | -71 | 0.018 | 0.052 | -54 | 0.020 | 0.047 | -32 | 0.022 | 0.042 |
| 34 | -65 | 0.020 | 0.052 | | | | | | |
| 35 | -34 | 0.024 | 0.047 | -81 | 0.018 | 0.052 | -60 | 0.020 | 0.047 |
| 36 | -59 | 0.022 | 0.052 | | | | | | |
| 37 | -27 | 0.026 | 0.047 | -39 | 0.024 | 0.047 | -52 | 0.022 | 0.047 |
| 38 | -52 | 0.024 | 0.052 | | | | | | |
| 39 | | | | | | | | | |
| 40 | -44 | 0.026 | 0.052 | | | | | | |


* Jetstream does not recommend operating the 6" J-Force Gen II tool at pressure/configuration combinations indicated in dark gray.

** Nozzle part numbers are JS4F-XXX and P4TC-XXX, where -XXX is the orifice size.




These resources contain additional technical information about the 6" J-Force™ Gen II.


Click or scan the QR code.



[Quick Start Guide](#)
QSG-202



[Product Instruction](#)
PI-202



[Jetting Calculator](#)

ROTOMAG™ X22

PIPE CLEANING TOOL

The Jetstream RotoMag X22 and RotoMag X22N are self-powered rotating tools designed for cleaning stacks, sewer lines, drains, tanks, on-line boilers, and other large diameter pipes.



- ▶ Water provides the rotational motion and creates the bearing on which the nozzles spin. No oil or ball bearings to replace!
- ▶ Up to eight flush mounted nozzle inserts provide low profile for cleaning small pipes. Extensions are available for larger pipes, allowing the RotoMag to clean pipes ranging from 3-1/2 to 60 inches in diameter.
- ▶ The RotoMag X22 uses Tungsten Carbide **RM Series**, Sapphire **RMS Series** or tetraCORE™ Synthetic Diamond **RMD Series** nozzles. The RotoMag X22N uses Tungsten Carbide **P4TC Series** or tetraCORE™ Synthetic Diamond **JS4FD Series** nozzles.
- ▶ Magnetic braking system controls rotational speed for minimal wear and maximum impact without streaking.
- ▶ Rebuild kit allows five minute replacement of wear components right in the field using two standard hex wrenches.
- ▶ Includes six nozzle port plugs.
- ▶ **Premium Kits** and **Starter Kits** are available for full product tools. **15K Adapter (PN. 29534)** included in Premium Kits.

TOOL KITS

| PART NO. | KIT TYPE | ASSY NO. |
|----------|----------|----------|
| 63811 | Starter | 63945 |
| 63813 | Premium | 63945 |
| 65129 | Starter | 65095 |
| 65130 | Premium | 65095 |

| MODEL | PART NO. | INLET CONNECTION* | NOZZLE SIZE | SPEED RANGE | DIAMETER (LESS SHROUD) | | ASSEMBLY LENGTH (WITH ADAPTER) | | ASSEMBLY WEIGHT | | MAX. FLOW RATE | | MAX. OPERATING PRESSURE | |
|-------|----------|-------------------|--------------|-------------|------------------------|----|--------------------------------|-----|-----------------|-----|----------------|-----|-------------------------|------|
| | | | | RPM | in | mm | in | mm | lbs | kg | gpm | lpm | psi | bar |
| X22 | 63945** | 3/4" NPT Female | 1/2"-28 UNEF | 50-300 | 2.75 | 70 | 8.65 | 225 | 6 | 2.7 | 80 | 189 | 15,000 | 1034 |
| X22N | 65095** | | 1/4" NPT | | | | | | | | | | | |

*Inlet connection on the tool is 3/4" MP Female; inlet listed is with the adapter that is included in the Premium Kit with the part numbers shown.

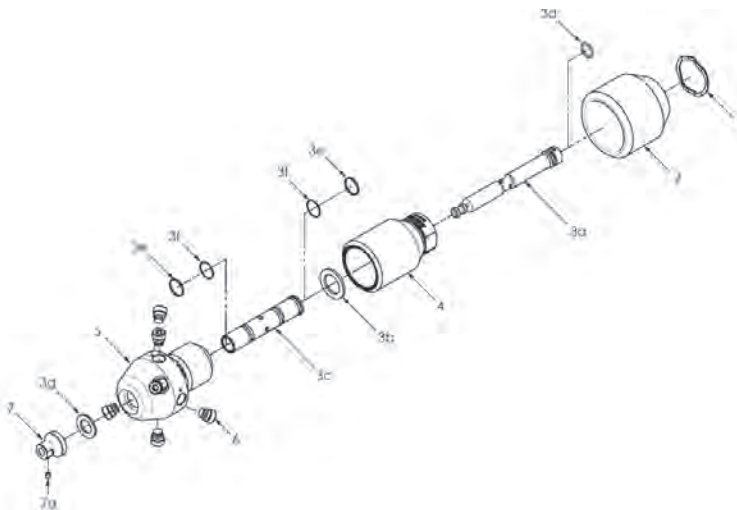
**Without 15K Adapter, RotoMag X22 max pressure is 22,000 psi (1500 bar).

PART BREAKDOWN

| ITEM | PART NO. | DESCRIPTION |
|------|----------|------------------|
| 1 | 27072 | Retaining Ring |
| 2 | 52803 | Shroud |
| 3 | 54535 | Rebuild Kit |
| 4 | 54452 | Body |
| 5 | 63944 | Rotor (X22) |
| | 65094 | Rotor (X22N) |
| 6 | RM-PLUG | Plug (X22) |
| | 64682 | Plug (X22N) |
| 6a* | 26759 | O-Ring |
| 7 | 66170** | Tow Ring, No Eye |
| 7a | 26869 | Setscrew |
| 8* | 29534 | 15K Adapter |

*Not Shown. Reference page G-7.

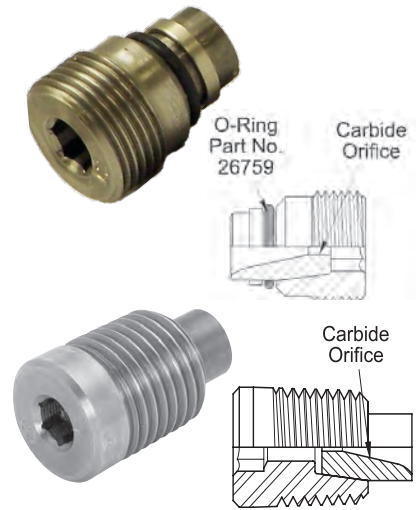
**Standard. Tow Ring with Eye (52386) included with Premium kits only.



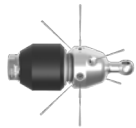
ROTOMAG™ X22 NOZZLES

RM / P4TC SERIES—CARBIDE NOZZLES

- ▶ High productivity carbide nozzles designed for use in the RotoMag.
- ▶ Precision honed carbide orifices significantly outlast conventional nozzle orifice material.
- ▶ Low profile design mounts flush with the outside diameter of the RotoMag.
- ▶ Tapered geometry provides highly cohesive, distortion-free waterjets for concentrated, work-saving cleaning and cutting power
- ▶ Select nozzles from the charts below by choosing operating pressure, desired flow, and two, four, six, or eight nozzle operation.
- ▶ 1/2"-28 UNEF Male connection (RM Series) or 1/4" NPT Male (P4TC Series).



EIGHT RM / P4TC NOZZLES



| RM PART NO. | P4TC PART NO. | ORIFICE DIAMETER* | | 3,000 PSI (206 BAR) | | 5,000 PSI (344 BAR) | | 7,000 PSI (482 BAR) | | 10,000 PSI (690 BAR) | | 12,500 PSI (862 BAR) | | 15,000 PSI (1,034 BAR) | |
|-------------|---------------|-------------------|------|---------------------|-------|---------------------|-------|---------------------|-------|----------------------|-------|----------------------|-------|------------------------|-------|
| | | in | mm | gpm | lpm | gpm | lpm | gpm | lpm | gpm | lpm | gpm | lpm | gpm | lpm |
| RM-018 | P4TC-018 | .018 | .46 | | | 5.3 | 20.0 | 6.3 | 23.8 | 7.5 | 28.3 | 8.4 | 31.8 | 9.2 | 35.2 |
| RM-025 | P4TC-025 | .025 | .64 | 7.6 | 28.7 | 9.9 | 37.4 | 11.7 | 44.2 | 14.1 | 53.3 | 15.7 | 59.4 | 17.1 | 64.7 |
| RM-029 | P4TC-029 | .029 | .74 | 10.1 | 38.2 | 13.2 | 49.9 | 15.6 | 59.0 | 18.7 | 70.7 | 20.9 | 79.1 | 22.8 | 86.3 |
| RM-033 | P4TC-033 | .033 | .84 | 13.1 | 49.5 | 16.9 | 63.9 | 20.1 | 76.0 | 24.1 | 91.2 | 26.9 | 101.8 | 29.4 | 111.3 |
| RM-038 | P4TC-038 | .038 | .97 | 17.3 | 65.4 | 22.4 | 84.7 | 26.5 | 100.3 | 31.7 | 120.0 | 35.5 | 134.4 | 38.8 | 146.9 |
| RM-042 | P4TC-042 | .042 | 1.07 | 21.1 | 79.8 | 27.3 | 103.3 | 32.3 | 122.3 | 38.7 | 146.5 | 43.2 | 163.5 | 47.3 | 179.0 |
| RM-046 | P4TC-046 | .046 | 1.17 | 25.2 | 95.3 | 32.6 | 123.4 | 38.7 | 146.5 | 46.3 | 175.3 | | | | |
| RM-055 | P4TC-055 | .055 | 1.40 | 36.0 | 136.3 | 46.5 | 176.0 | | | | | | | | |
| RM-063 | P4TC-063 | .063 | 1.59 | 47.1 | 178.3 | | | | | | | | | | |

SIX RM / P4TC NOZZLES



| | | | | | | | | | | | | | | | |
|--------|----------|------|------|------|-------|------|-------|------|-------|------|-------|------|-------|------|-------|
| RM-018 | P4TC-018 | .018 | .46 | | | | | | | 5.8 | 21.9 | 6.4 | 24.2 | 7 | 26.5 |
| RM-025 | P4TC-025 | .025 | .64 | 5.7 | 21.5 | 7.5 | 28.3 | 8.9 | 33.6 | 10.7 | 40.5 | 11.9 | 45.0 | 13.0 | 49.2 |
| RM-029 | P4TC-029 | .029 | .74 | 7.7 | 29.1 | 9.9 | 37.4 | 11.8 | 44.6 | 14.2 | 53.7 | 15.8 | 59.8 | 17.3 | 65.4 |
| RM-033 | P4TC-033 | .033 | .84 | 9.9 | 37.4 | 12.8 | 48.4 | 15.2 | 57.5 | 18.2 | 68.8 | 20.3 | 76.8 | 22.2 | 84.0 |
| RM-038 | P4TC-038 | .038 | .97 | 13.0 | 49.2 | 16.9 | 63.9 | 20.0 | 75.7 | 23.9 | 90.4 | 26.7 | 101.1 | 29.2 | 110.5 |
| RM-042 | P4TC-042 | .042 | 1.07 | 15.8 | 59.8 | 20.5 | 77.6 | 24.3 | 91.9 | 29.1 | 110.2 | 32.5 | 123.0 | 35.6 | 134.8 |
| RM-046 | P4TC-046 | .046 | 1.17 | 19.0 | 71.9 | 24.6 | 93.1 | 29.1 | 110.2 | 34.8 | 131.7 | 38.9 | 147.3 | 42.6 | 161.3 |
| RM-055 | P4TC-055 | .055 | 1.40 | 27.0 | 102.2 | 35.0 | 132.5 | 41.4 | 156.7 | 49.6 | 187.8 | | | | |
| RM-063 | P4TC-063 | .063 | 1.59 | 35.4 | 134.0 | 45.8 | 173.4 | | | | | | | | |
| RM-067 | P4TC-067 | .067 | 1.70 | 40.0 | 151.4 | | | | | | | | | | |
| RM-070 | P4TC-070 | .070 | 1.78 | 43.7 | 165.4 | | | | | | | | | | |
| RM-073 | P4TC-073 | .073 | 1.85 | 47.5 | 179.8 | | | | | | | | | | |

*Orifice size (or equivalent for fan types) is denoted in the part number (-018, etc.)

Flow charts on this page are applicable only to the RotoMag™ X22 tool which uses a portion of the water to provide a bearing for nozzle rotation. Lower flow rates available and are listed in the Product Instructions.

TOOLS & NOZZLES

ROTMAG™ X22 NOZZLES

FOUR RM / P4TC NOZZLES

| RM PART NO. | P4TC PART NO. | ORIFICE DIAMETER* | | 3,000 PSI (206 BAR) | | 5,000 PSI (344 BAR) | | 7,000 PSI (482 BAR) | | 10,000 PSI (690 BAR) | | 12,500 PSI (862 BAR) | | 15,000 PSI (1,034 BAR) | |
|-------------|---------------|-------------------|------|---------------------|-------|---------------------|-------|---------------------|-------|----------------------|-------|----------------------|-------|------------------------|-------|
| | | in | mm | gpm | lpm | gpm | lpm | gpm | lpm | gpm | lpm | gpm | lpm | gpm | lpm |
| RM-025 | P4TC-025 | .025 | .64 | | | | | 6.1 | 23.0 | 7.3 | 27.6 | 8.1 | 30.6 | 8.9 | 33.6 |
| RM-029 | P4TC-029 | .029 | .74 | | | 6.7 | 25.3 | 8.0 | 30.2 | 9.6 | 36.2 | 10.7 | 40.5 | 11.7 | 44.2 |
| RM-033 | P4TC-033 | .033 | .84 | 6.6 | 24.9 | 8.6 | 32.5 | 10.3 | 38.9 | 12.3 | 46.5 | 13.7 | 51.8 | 15.0 | 56.7 |
| RM-038 | P4TC-038 | .038 | .97 | 8.7 | 32.9 | 11.3 | 42.7 | 13.5 | 51.1 | 16.1 | 60.9 | 18.0 | 68.1 | 19.7 | 74.5 |
| RM-042 | P4TC-042 | .042 | 1.07 | 10.6 | 40.1 | 13.8 | 52.2 | 16.4 | 62.0 | 19.6 | 74.1 | 21.9 | 82.9 | 23.9 | 90.4 |
| RM-046 | P4TC-046 | .046 | 1.17 | 12.7 | 48.0 | 16.5 | 62.4 | 19.6 | 74.1 | 23.4 | 87.4 | 26.1 | 98.8 | 28.6 | 108.3 |
| RM-055 | P4TC-055 | .055 | 1.40 | 18.1 | 68.5 | 23.4 | 88.5 | 27.8 | 105.2 | 33.2 | 125.7 | 37.1 | 140.4 | 40.6 | 153.7 |
| RM-063 | P4TC-063 | .063 | 1.59 | 23.7 | 89.7 | 30.6 | 115.8 | 36.3 | 137.4 | 43.4 | 164.3 | 48.5 | 183.6 | | |
| RM-067 | P4TC-067 | .067 | 1.70 | 26.7 | 101.1 | 34.6 | 131 | 41.0 | 155.2 | 49.0 | 185.5 | | | | |
| RM-070 | P4TC-070 | .070 | 1.78 | 29.2 | 110.5 | 37.7 | 142.7 | 44.7 | 169.2 | | | | | | |
| RM-073 | P4TC-073 | .073 | 1.85 | 31.7 | 120.0 | 41.0 | 155.2 | 48.6 | 184.0 | | | | | | |
| RM-078 | P4TC-078 | .078 | 1.98 | 36.2 | 137.0 | 46.8 | 177.2 | | | | | | | | |
| RM-081 | P4TC-081 | .081 | 2.06 | 39.0 | 147.6 | | | | | | | | | | |
| RM-089 | P4TC-089 | .089 | 2.26 | 47.0 | 177.9 | | | | | | | | | | |



TWO RM / P4TC NOZZLES

| | | | | | | | | | | | | | | | |
|--------|----------|------|------|------|-------|------|-------|------|-------|------|-------|------|-------|------|-------|
| RM-029 | P4TC-029 | .029 | .74 | | | | | | | | | 5.7 | 21.6 | 6.2 | 23.5 |
| RM-033 | P4TC-033 | .033 | .84 | | | | | 5.4 | 20.4 | 6.4 | 24.2 | 7.2 | 27.2 | 7.8 | 29.5 |
| RM-038 | P4TC-038 | .038 | .97 | | | 5.8 | 22.1 | 7.0 | 26.5 | 8.3 | 31.4 | 9.3 | 35.2 | 10.1 | 38.2 |
| RM-042 | P4TC-042 | .042 | 1.07 | 5.4 | 20.4 | 7.0 | 26.5 | 8.4 | 31.8 | 10.1 | 38.2 | 11.2 | 42.2 | 12.3 | 46.5 |
| RM-046 | P4TC-046 | .046 | 1.17 | 6.4 | 24.2 | 8.4 | 31.8 | 10.0 | 37.8 | 12.0 | 45.4 | 13.4 | 50.7 | 14.6 | 55.2 |
| RM-055 | P4TC-055 | .055 | 1.40 | 9.1 | 34.6 | 11.9 | 45.0 | 14.1 | 53.3 | 16.9 | 63.9 | 18.8 | 71.1 | 20.6 | 77.9 |
| RM-063 | P4TC-063 | .063 | 1.59 | 11.9 | 44.9 | 15.5 | 58.6 | 18.4 | 69.6 | 22.0 | 83.2 | 24.5 | 92.7 | 26.8 | 101.4 |
| RM-067 | P4TC-067 | .067 | 1.70 | 13.5 | 51.1 | 17.5 | 66.3 | 20.7 | 78.3 | 24.8 | 93.8 | 27.7 | 104.9 | 30.3 | 114.7 |
| RM-070 | P4TC-070 | .070 | 1.78 | 14.7 | 55.8 | 19.0 | 71.9 | 22.6 | 85.5 | 27.0 | 100.2 | 30.2 | 114.3 | 33.0 | 124.9 |
| RM-073 | P4TC-073 | .073 | 1.85 | 16.0 | 60.5 | 20.7 | 78.3 | 24.5 | 92.7 | 29.3 | 110.9 | 32.8 | 124.2 | 35.8 | 135.5 |
| RM-078 | P4TC-078 | .078 | 1.98 | 18.2 | 68.8 | 23.5 | 88.9 | 27.9 | 105.6 | 33.4 | 126.4 | 37.3 | 141.2 | 40.8 | 154.4 |
| RM-081 | P4TC-081 | .081 | 2.06 | 19.6 | 74.1 | 25.4 | 96.1 | 30.1 | 113.9 | 36.0 | 136.3 | 40.2 | 152.2 | 44.0 | 166.6 |
| RM-089 | P4TC-089 | .089 | 2.26 | 23.6 | 89.3 | 30.6 | 115.8 | 36.2 | 137.0 | 43.3 | 163.9 | 48.4 | 183.2 | | |
| RM-093 | P4TC-093 | .093 | 2.36 | 25.8 | 97.6 | 33.3 | 126.1 | 39.5 | 149.5 | 47.3 | 179.0 | | | | |
| RM-110 | P4TC-110 | .110 | 2.79 | 36.0 | 136.3 | 46.5 | 176.0 | | | | | | | | |



TOOLS & NOZZLES

*Orifice size (or equivalent for fan types) is denoted in the part number (-018, etc.)

Flow charts on this page are applicable only to the RotoMag X22 tool which uses a portion of the water to provide a bearing for nozzle rotation. Lower flow rates available and are listed in the Product Instructions.

These resources contain additional technical information about the RotoMag™ X22.

Click or scan the QR code.

Quick Start Guide
QSG-078

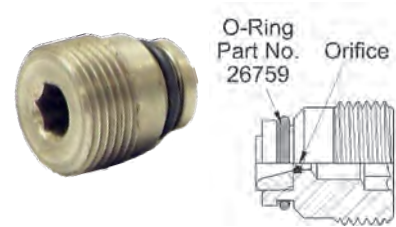
Product Instruction
PI-078

Jetting Calculator

ROTOMAG™ X22 NOZZLES

RMS / RMD NOZZLES

- ▶ High productivity sapphire (RMS) or synthetic diamond (RMD) nozzles designed for use in the RotoMag
- ▶ More durable than tungsten carbide for longer service life and lower operating cost
- ▶ Low profile design mounts flush with the outside diameter of the RotoMag
- ▶ Select nozzles from the charts below by choosing operating pressure, desired flow, and two, four, six or eight nozzle operation



EIGHT RMS / RMD NOZZLES

| RMS PART NO. | RMD PART NO. | ORIFICE DIAMETER* | | 10,000 PSI (690 BAR) | | 12,500 PSI (862 BAR) | | 15,000 PSI (1,034 BAR) | | 17,500 PSI (1,207 BAR) | | 20,000 PSI (1,379 BAR) | |
|--------------|--------------|-------------------|------|----------------------|-------|----------------------|-------|------------------------|-------|------------------------|-------|------------------------|-------|
| | | in | mm | gpm | lpm | gpm | lpm | gpm | lpm | gpm | lpm | gpm | lpm |
| RMS-018 | RMD-018 | .018 | 0.46 | 7.2 | 27.3 | 8.0 | 30.1 | 8.8 | 33.3 | 9.5 | 36.0 | 10.2 | 38.6 |
| RMS-025 | RMD-025 | .025 | 0.64 | 12.0 | 45.4 | 13.4 | 50.7 | 14.7 | 55.8 | 15.9 | 60.2 | 17.0 | 64.3 |
| RMS-029 | RMD-029 | .029 | 0.74 | 15.5 | 58.7 | 17.3 | 65.4 | 18.9 | 71.5 | 20.4 | 77.2 | 21.9 | 82.9 |
| RMS-033 | RMD-033 | .033 | 0.84 | 19.4 | 73.4 | 21.7 | 82.1 | 23.8 | 90.1 | 25.7 | 97.3 | 27.5 | 104.0 |
| RMS-038 | RMD-038 | .038 | 0.97 | 25.1 | 97.0 | 28.1 | 106.0 | 30.7 | 116.0 | 33.2 | 126.0 | 35.5 | 134.0 |
| RMS-042 | RMD-042 | .042 | 1.07 | 30.2 | 114.0 | 33.8 | 128.0 | 37.0 | 140.0 | 40.0 | 151.0 | 42.7 | 162.0 |
| RMS-046 | RMD-046 | .046 | 1.17 | 35.9 | 136.0 | 40.1 | 152.0 | 43.9 | 166.0 | 47.4 | 179.0 | 50.7 | 192.0 |
| RMS-052 | RMD-052 | .052 | 1.32 | 45.3 | 171.0 | 50.6 | 192.0 | | | | | | |

SIX RMS / RMD NOZZLES

| | | | | | | | | | | | | | |
|---------|---------|------|------|------|-------|------|-------|------|-------|------|-------|------|-------|
| RMS-018 | RMD-018 | .018 | 0.46 | 5.4 | 20.4 | 5.8 | 22.1 | 6.3 | 23.7 | 6.6 | 25.1 | 7.0 | 26.5 |
| RMS-025 | RMD-025 | .025 | 0.64 | 9.0 | 34.1 | 9.9 | 37.4 | 10.7 | 40.4 | 11.4 | 43.2 | 12.1 | 45.8 |
| RMS-029 | RMD-029 | .029 | 0.74 | 11.6 | 43.9 | 12.8 | 48.4 | 13.9 | 52.5 | 14.9 | 56.2 | 15.8 | 59.7 |
| RMS-033 | RMD-033 | .033 | 0.84 | 14.6 | 55.1 | 16.1 | 61.0 | 17.5 | 66.3 | 18.8 | 71.1 | 20.0 | 75.6 |
| RMS-038 | RMD-038 | .038 | 0.97 | 18.8 | 71.3 | 20.9 | 79.0 | 22.7 | 86.0 | 24.4 | 92.4 | 26.0 | 98.4 |
| RMS-042 | RMD-042 | .042 | 1.07 | 22.7 | 85.8 | 25.2 | 95.3 | 27.4 | 103.8 | 29.5 | 111.7 | 31.4 | 119.0 |
| RMS-046 | RMD-046 | .046 | 1.17 | 26.9 | 101.8 | 29.9 | 113.1 | 32.6 | 123.4 | 35.1 | 132.8 | 37.4 | 141.6 |
| RMS-052 | RMD-052 | .052 | 1.32 | 33.9 | 128.5 | 37.8 | 143.0 | 41.2 | 156.1 | 44.4 | 168.1 | 47.4 | 179.4 |

FOUR RMS / RMD NOZZLES

| | | | | | | | | | | | | | |
|---------|---------|------|------|------|------|------|------|------|-------|------|-------|------|-------|
| RMS-025 | RMD-025 | .025 | 0.64 | 6.5 | 24.6 | 7.1 | 26.8 | 7.6 | 28.9 | 8.1 | 30.7 | 8.6 | 32.4 |
| RMS-029 | RMD-029 | .029 | 0.74 | 8.2 | 31.1 | 9.0 | 34.1 | 9.7 | 36.9 | 10.4 | 39.4 | 11.0 | 41.7 |
| RMS-033 | RMD-033 | .033 | 0.84 | 10.2 | 38.7 | 11.2 | 42.5 | 12.2 | 46.1 | 13.0 | 49.3 | 13.8 | 52.3 |
| RMS-038 | RMD-038 | .038 | 0.97 | 13.1 | 49.4 | 14.4 | 54.6 | 15.6 | 59.2 | 16.8 | 63.5 | 17.8 | 67.5 |
| RMS-042 | RMD-042 | .042 | 1.07 | 15.6 | 59.1 | 17.3 | 65.4 | 18.8 | 71.1 | 20.2 | 76.3 | 21.5 | 81.2 |
| RMS-046 | RMD-046 | .046 | 1.17 | 18.4 | 69.7 | 20.4 | 77.3 | 22.2 | 84.1 | 23.9 | 90.4 | 25.4 | 96.3 |
| RMS-052 | RMD-052 | .052 | 1.32 | 23.1 | 87.6 | 25.7 | 97.2 | 28.0 | 106.0 | 30.1 | 114.0 | 32.1 | 121.5 |

TWO RMS / RMD NOZZLES

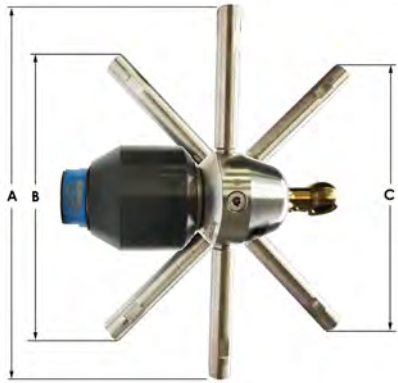
| | | | | | | | | | | | | | |
|---------|---------|------|------|------|------|------|------|------|------|------|------|------|------|
| RMS-033 | RMD-033 | .033 | 0.84 | 5.9 | 22.2 | 6.4 | 24.1 | 6.8 | 25.9 | 7.3 | 27.5 | 7.7 | 29.0 |
| RMS-038 | RMD-038 | .038 | 0.92 | 7.3 | 27.5 | 8.0 | 30.1 | 8.6 | 32.5 | 9.1 | 34.6 | 9.7 | 36.6 |
| RMS-042 | RMD-042 | .042 | 1.01 | 8.6 | 32.4 | 9.4 | 35.5 | 10.1 | 38.4 | 10.8 | 41.0 | 11.5 | 43.4 |
| RMS-046 | RMD-046 | .046 | 1.17 | 10.0 | 37.7 | 11.0 | 41.5 | 11.9 | 44.9 | 12.7 | 48.1 | 13.5 | 51.0 |
| RMS-052 | RMD-052 | .052 | 1.32 | 12.3 | 46.6 | 13.6 | 51.4 | 14.7 | 55.8 | 15.8 | 59.8 | 16.8 | 63.6 |

*Orifice size (or equivalent for fan types) is denoted in the part number (-018, etc.)

Flow charts on this page are applicable only to the RotoMag X22 tool which uses a portion of the water to provide a bearing for nozzle rotation. Lower flow rates available and are listed in the Product Instructions.

TOOLS & NOZZLES

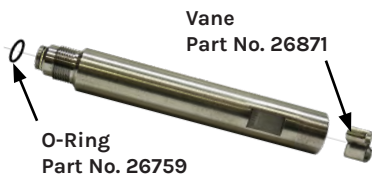
ROTOMAG™ X22 ACCESSORIES



NOZZLE EXTENSIONS

- ▶ Available in two connection types and three lengths and can be coupled.
- ▶ 52320-XX part numbers for 1/2"-28 UNEF ports (RotoMag X22)
- ▶ 65166-XX part numbers for 1/4" NPT ports (RotoMag X22N)
- ▶ Puts nozzles closer to the inner surface of large pipes for more effective cleaning.

| PART NO. | DIAMETER "A" | | DIAMETER "B" | | DIAMETER "C" | | INDIVIDUAL LENGTH "D" | |
|---------------------|--------------|-----|--------------|-----|--------------|-----|-----------------------|-----|
| | in | mm | in | mm | in | mm | in | mm |
| 52320-05 / 65166-05 | 5.0 | 127 | 4.3 | 109 | 4.3 | 109 | 1.25 | 32 |
| 52320-10 / 65166-10 | 10.0 | 254 | 7.9 | 201 | 7.8 | 198 | 3.75 | 95 |
| 52320-15 / 65166-15 | 15.0 | 381 | 11.4 | 290 | 11.3 | 287 | 6.25 | 159 |



REPLACEMENT PARTS (FOR 52320-XX)

| PART NO. | DESCRIPTION |
|----------|-------------|
| 26759 | O-Ring |
| 26871 | Vane |

NOTE: Diameter includes two extensions plus rotor diameter. Individual length is the length of single extension when installed. When stacking extensions, add individual lengths to "A" dimension to reach desired diameter. New diameter = A + 2*D. Contact Jetstream representative for assistance.

TOW RINGS

- ▶ Eye-less tow ring (PN. 66170) standard with all RotoMag assemblies
- ▶ Optional tow ring with eye (PN. 52386) included in all Premium Kits.



PART NO. 66170



PART NO. 52386

NOZZLE PLUGS

Used to close unused RotoMag nozzle ports.



| PART NO. | CONNECTION TYPE |
|-----------|--|
| RM-PLUG | 1/2"- 28 UNEF (X22) |
| 64682 | 1/4" NPT Internal Hex (X22N, standard) |
| JS4F-PLUG | 1/4" NPT External Hex (X22N) |

| REPLACEMENT PARTS | |
|-------------------|-------------|
| PART NO. | DESCRIPTION |
| 26759 | O-Ring |

ROTOMAG™ X22 ACCESSORIES

CENTRALIZERS

- ▶ Three models are available.
- ▶ Supports the tool while providing a controlled, even cleaning along with damage protection.

SKID STYLE

Used in pipes with and without elbows up to 10 in. (250 mm) in diameter.



REPLACEMENT RUNNERS

Three plastic runners and six screws.

| PART NO. | DIAMETER | |
|----------|----------|-----|
| | in | mm |
| 66104-06 | 6.0 | 150 |
| 66104-08 | 8.0 | 200 |
| 66104-10 | 10.0 | 250 |

| PART NO. | DIAMETER | |
|---------------|----------|-----|
| | in | mm |
| 63842-ROTO-6 | 6.0 | 150 |
| 63842-ROTO-8 | 8.0 | 200 |
| 63842-ROTO-10 | 10.0 | 250 |

NOTE: Does not include nipple or fittings.

RELATED ITEMS

Use 20K fittings listed below and adapt to 15K hose using proper fittings.

| PART NO. | DESCRIPTION |
|-----------|------------------------|
| 29108-08 | 3/4" MP LH Tube Nipple |
| 28383 (2) | 3/4" MP Gland |
| 28384 (2) | 3/4" MP Collar |

CAGE STYLE

Recommended for navigating complex piping arrangements to clean built up debris.



| PART NO. | DIAMETER | |
|------------|----------|-----|
| | in | mm |
| 63843-ROTO | 18.75 | 475 |

NOTE: Does not include nipple or fittings.

RELATED ITEMS

| PART NO. | DESCRIPTION |
|-----------|---|
| 55450-7 | 7" long 1/2" NPT Male Nipple |
| 28903 | 1/2" NPTF x 3/4" MP Male Adapter (Nipple to Tool) |
| 27722 (4) | Capscrew, .25 F x 1.0" |

NOTE: 3/4" NPT Nipple WILL NOT fit in cage centralizer because OD is too large. If 1/2" NPT Nipple is used, quantity (4) of capscrew 27722 must be used for the clamps to fit. Hose to nipple adapter may be needed based on end fitting.

RotoMag X22 shown with optional Nozzle Extensions

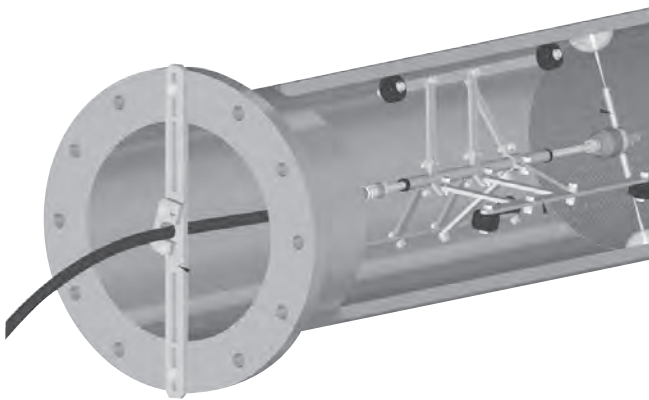
TOOLS & NOZZLES

ROTOMAG™ X22 ACCESSORIES

SCISSOR STYLE

Designed for straight pipe runs only. The adjustable frames allow for an effective pipe clean anywhere from 9-60 inches (230-1500 mm) in diameter. Compatible with most tools. Comes with a central lance (shown at right) for mounting tools.

| PART NO. | CONNECTION | PRESSURE | WEIGHT | LENGTH |
|---|------------|----------|----------------|------------------|
| SMALL 9-18" [230-460 MM] PIPE DIAMETER | | | | |
| 64452-S15-8 | 1/2" NPT | 15K PSI | 20 lb. (9 kg) | 36 in. (915 mm) |
| 64452-S15-12 | 3/4" NPT | 15K PSI | 20 lb. (9 kg) | 36 in. (915 mm) |
| MEDIUM 13-40" [330-1000MM] PIPE DIAMETER | | | | |
| 64452-M15-8 | 1/2" NPT | 15K PSI | 32 lb. (15 kg) | 48 in. (1220 mm) |
| 64452-M15-12 | 3/4" NPT | 15K PSI | 32 lb. (15 kg) | 48 in. (1220 mm) |
| LARGE 16-60" [410-1500 MM] PIPE DIAMETER | | | | |
| 64452-L15-8 | 1/2" NPT | 15K PSI | 40 lb. (18 kg) | 72 in. (1850 mm) |
| 64452-L15-12 | 3/4" NPT | 15K PSI | 40 lb. (18 kg) | 72 in. (1850 mm) |



THE WARDEN™

Backout preventers are safety devices that mount to pipe flanges to prevent the RotoMag from backing out in the event of an unexpected and sudden shift in thrust that could result in injury to operators. Fits around hoses from 1/4" to 1" I.D.

Part No. 61447



TOOLS &
NOZZLES

SWIVEL X15

PIPE CLEANING SWIVEL TOOL

The Jetstream Swivel X15 is a self-powered, 360° rotating swivel tool designed for cleaning medium to large diameter pipes.

- ▶ Rotational speed of the nozzle head is controlled by the internal oil pump assembly on the swivel
- ▶ Up to six flush mounted **P4TC**, **HHTCO** or **HHD** Series nozzles
- ▶ Stainless steel swivel and head with flows up to 50 gpm (189.2 lpm). Flow rate calculated by multiplying number of nozzles used by the flow rates given on pages G-53 (P4TC and HHTCO nozzles) and G-48 (HHD nozzles).
- ▶ Uses two, four or six nozzles
- ▶ Typical seal and oil life over 100 hours
- ▶ No Silicone needed
- ▶ Low seal replacement cost and quick change, with the seal shaft and cartridge all in one piece
- ▶ Speed adjustment without oil change or spillage
- ▶ A **Mega Kit (PN 66003)**, **Premium Kits (PNs. 64234-XXXXX)** and **Starter Kits (PNs. 64233-XXXXX)**, are available for full product tools. The Mega Kit contains all of the available nozzle holder configurations shown below; other kits contain one of the available nozzle holder configurations.
- ▶ **Oil Kit (PN. 64180)** and **Rebuild Kit (PN. 64247)** available for full servicing tools.



| PART NO. | INLET CONNECTION* | SPEED RANGE | | DIAMETER | | ASSEMBLY LENGTH | | ASSEMBLY WEIGHT | | MAX. FLOW RATE | | MAX. OPERATING PRESSURE | |
|----------|-------------------|-------------|--|----------|----|-----------------|-----|-----------------|----|----------------|-----|-------------------------|------|
| | | RPM | | in | mm | in | mm | lbs | kg | gpm | lpm | psi | bar |
| 52820** | 3/4" NPT Female | 50-1000 | | 3-5/8" | 92 | 9.5 | 241 | 11 | 5 | 50 | 189 | 15,000 | 1034 |

*See details on all connection types in Section I.

**Swivel only, no nozzle holder. See below for available nozzle holder configurations.

NOZZLE HOLDERS

| PART NO. | NUMBER OF PORTS | HEAD STYLE | ORIFICE SIZE |
|----------|-----------------|------------|--------------|
| 52963 | 6 | R44 | 1/4" NPT |
| 65162 | 6 | R44 | 3/4" ORS |
| 65323 | 7 | R44 | 1/4" NPT |
| 65326 | 6 | R22 | 1/4" NPT |
| 65327 | 6 | R22 | 3/4" ORS |
| 65328 | 7 | R22 | 1/4" NPT |



Part No. 65162



Part No. 65328

TOOLS & NOZZLES



These resources contain additional technical information about the Swivel X15.

Click or scan the QR code.



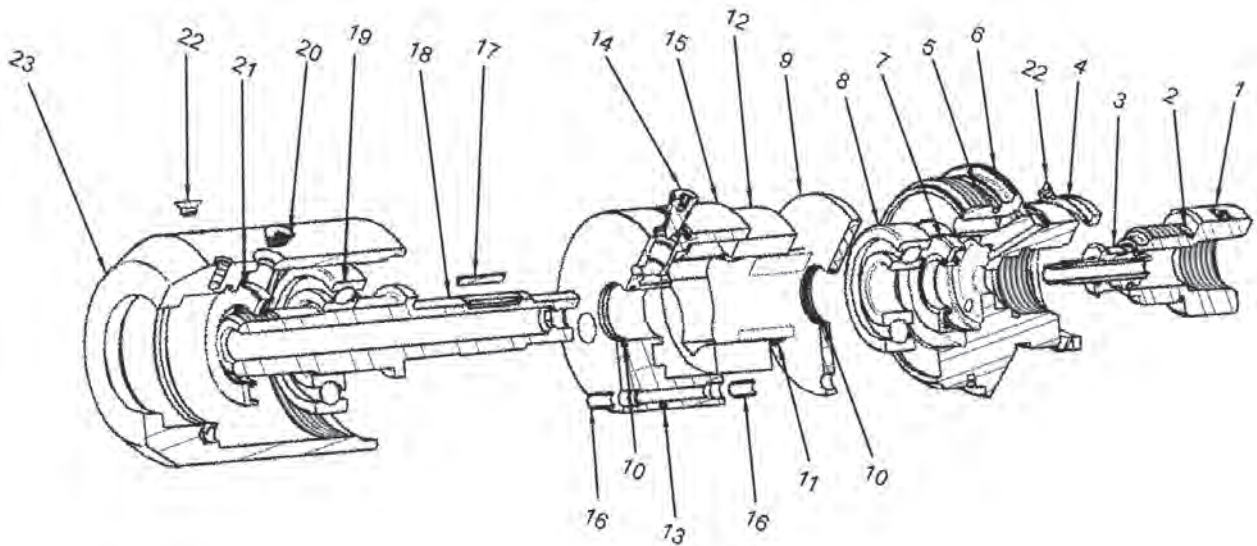
Quick Start Guide
QSG-173



Product Instruction
PI-173



Jetting Calculator



PART BREAKDOWN

| ITEM | PART NO. | DESCRIPTION | ITEM | PART NO. | DESCRIPTION | ITEM | PART NO. | DESCRIPTION |
|------|----------|------------------|------|----------|------------------------|------|------------|----------------|
| 1 | 53397 | Seal Cap | 11 | 52762 | Inner Rotor | 21 | 27043 | Outer Oil Seal |
| 2 | 25229 | O-Ring | 12 | 27040 | Outer Rotor | 22 | 64054 | Seal Screw |
| 3 | 53410 | 15K Seal Assy | 13 | 27204 | O-Ring | 23 | 52753 | Swivel Body |
| 4 | 27042 | V-ring Seal | 14 | 52757 | Speed Adjustment Screw | 24* | 64180 | Oil Kit, 6 oz. |
| 5 | 65816 | O-Ring | 15 | 52764 | Oil Pump Body | 25** | 66199 | Syringe Assy |
| 6 | 53395 | Swivel Cap | 16 | 52958 | Hollow Dowel | 26** | Various*** | Nozzle Holder |
| 7 | 27044 | Inner Oil Seal | 17 | 27038 | Dowel Pin | 27** | 52965 | Tow Ring |
| 8 | 27048 | Radial Bearing | 18 | 53398 | Swivel Shaft | 28** | 65978 | Plug |
| 9 | 52756 | Pump Cover Plate | 19 | 27049 | Thrust Bearing | | | |
| 10 | 27046 | O-Ring | 20 | 52819 | Seal Screw | | | |

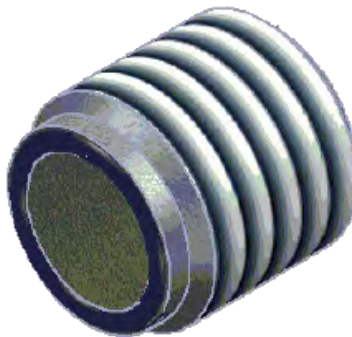
*Not Shown **Only included with kits. ***See table on previous page.

SWIVEL X15 ACCESSORIES

TOW RING (PN. 52965)



PLUG (PN. 65978)



NOZZLE EXTENSIONS



| PART NO. | LENGTH (IN.) |
|----------|--------------|
| 65456-02 | 2 |
| 65456-06 | 6 |
| 65456-12 | 12 |
| 65456-24 | 24 |
| 65456-30 | 30 |
| 65456-36 | 36 |
| 65456-42 | 42 |

Extensions used with 3/4" ORS nozzle holders.

SWIVEL X15 ACCESSORIES

CENTRALIZERS

- ▶ Three models are available.
- ▶ Supports the tool while providing a controlled, even cleaning along with damage protection.



SKID STYLE

Used in pipes with and without elbows up to 10 in. (250 mm) in diameter.

| PART NO. | DIAMETER | |
|---------------|----------|-----|
| | in | mm |
| 63842-SWVL-6 | 6.0 | 150 |
| 63842-SWVL-8 | 8.0 | 200 |
| 63842-SWVL-10 | 10.0 | 250 |

REPLACEMENT RUNNERS

Three plastic runners and six screws.

| PART NO. | DIAMETER | |
|----------|----------|-----|
| | in | mm |
| 66104-06 | 6.0 | 150 |
| 66104-08 | 8.0 | 200 |
| 66104-10 | 10.0 | 250 |

CAGE STYLE

Recommended for navigating complex piping arrangements to clean built up debris.

| PART NO. | DIAMETER | |
|------------|----------|-----|
| | in | mm |
| 63843-SWVL | 18.75 | 475 |



SCISSOR STYLE

Designed for straight pipe runs only. The adjustable frames allow for an effective pipe clean anywhere from 9-60 inches (230-1500 mm) in diameter. Compatible with most tools. Comes with a central lance (shown below) for mounting tools.



| PART NO. | CONNECTION | PRESSURE | WEIGHT | LENGTH |
|---|------------|----------|----------------|------------------|
| SMALL 9-18" [230-460 MM] PIPE DIAMETER | | | | |
| 64452-S15-8 | 1/2" NPT | 15K PSI | 20 lb. (9 kg) | 36 in. (915 mm) |
| 64452-S15-12 | 3/4" NPT | 15K PSI | 20 lb. (9 kg) | 36 in. (915 mm) |
| MEDIUM 13-40" [330-1000MM] PIPE DIAMETER | | | | |
| 64452-M15-8 | 1/2" NPT | 15K PSI | 32 lb. (15 kg) | 48 in. (1220 mm) |
| 64452-M15-12 | 3/4" NPT | 15K PSI | 32 lb. (15 kg) | 48 in. (1220 mm) |
| LARGE 16-60" [410-1500 MM] PIPE DIAMETER | | | | |
| 64452-L15-8 | 1/2" NPT | 15K PSI | 40 lb. (18 kg) | 72 in. (1850 mm) |
| 64452-L15-12 | 3/4" NPT | 15K PSI | 40 lb. (18 kg) | 72 in. (1850 mm) |

H₃ORBITER™

3-D CLEANING TOOL

The H₃Orbiter (H₃O) is a 3-D waterblasting tool designed to effectively and efficiently clean tanks and vessels. The rotation of the nozzles and body allow the tool to perform a complete 360 degree clean at pressures up to 22,000 psi (1500 bar). Flow rates required are controlled through four different manifold options that provide 10 to 80 gpm (37 to 302 lpm): High Flow, Medium Flow, Low Flow, and Extra Low Flow. A maintenance-free magnetic brake is used to control rotation speed.

- ▶ Made from stainless steel
- ▶ Enhanced components for longer life
- ▶ Rotational speed controlled by a maintenance-free magnetic brake
- ▶ Four manifolds offered for application precision: High (50 to 80 gpm), Medium (28 to 55 gpm), Low (16 to 30 gpm), and Extra Low Flow (10 to 18 gpm)
- ▶ Wide range of accessories are available including cage centralizers and extensions. Only 1" or 2" extensions can be used when the H₃Orbiter is installed in the centralizer.
- ▶ For pipe cleaning, the H₃Orbiter can be placed in a centralizer with an optional kick plate. When installed with the centralizer, the kick plate allows for self generated forward movement with each 180o rotation of the manifold.
- ▶ A **Premium Kit (PN. 65634)** and **Starter Kits (PN. 65633-XXX; XXX** designates the manifold flow rate) are available for full product tools.
- ▶ Premium kit includes the adapters listed in the table below:



Premium Kit (Part No. 65634).

| PART NO. | DESCRIPTION |
|----------|-----------------------------|
| 28335 | 1" MP Male x 1/2" NPT Male |
| 28433 | 1" MP Male x 1" Type M Male |

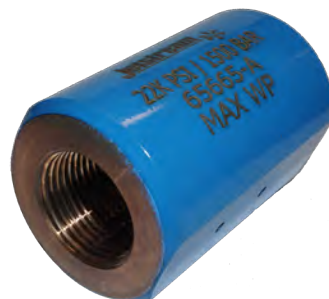
- ▶ A Tool Kit (PN. 66339) is available for full servicing tools.

| PART NO. | CONNECTION* (MALE) | SPEED RANGE RPM | DIAMETER | | ASSEMBLY LENGTH | | ASSEMBLY WEIGHT | | MAX. FLOW RATE | | MAX. OPERATING PRESSURE | |
|----------|--------------------|----------------------|----------|-----|-----------------|-----|-----------------|----|----------------|-----|-------------------------|------|
| | | | in | mm | in | mm | lbs | kg | gpm | lpm | psi | bar |
| 65367 | 1-1/8" ORS Male | Adjustable; 8-50 rpm | 4 | 100 | 16.65 | 423 | 35 | 16 | 80 | 307 | 22,000 | 1500 |

*Shaft on tool is a 1-1/8" ORS Male connection. Inlet connection is made with female x female adapter, which is not included with the tool. Inlet adapters are listed in the table below. See details on all connection types in Section I.

INLET ADAPTERS

| PART NO. | DESCRIPTION |
|----------|--------------------|
| 65664 | 3/4" MP Female |
| 65665 | 1" MP Female |
| 65666 | 3/4" NPT Female |
| 65667 | 1" NPT Female |
| 65233 | Replacement O-Ring |



1" MP Female (Part No. 65665)



1" NPT Female (Part No. 65667)

MANIFOLD ASSEMBLY

There are four manifold options depending on required flow rate. Consult charts in the Product Instructions/Quick Start Guide to select the correct manifold.

| PART NO. | FLOW RATE | | DESIGNATION (-XXX) |
|----------|-----------|---------|-----------------------|
| | gpm | lpm | |
| 65675 | 50-80 | 189-303 | -030 (R30) |
| 65676 | 28-55 | 106-208 | -050 (R50) |
| 65677 | 16-30 | 61-114 | -090 (R90) |
| 65678 | 10-18 | 38-68 | -150 (R150) |

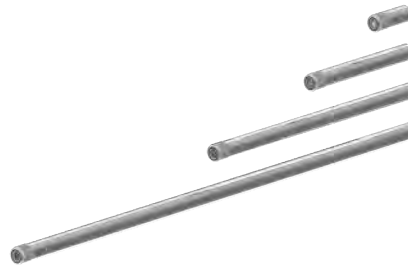


TOW RING (PART NO. 65729)



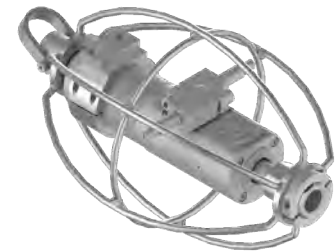
NOZZLE EXTENSIONS

| PART NO. | LENGTH (IN.) |
|----------|--------------|
| 65456-01 | 1 |
| 65456-02 | 2 |
| 65456-06 | 6 |
| 65456-12 | 12 |
| 65456-24 | 24 |
| 65456-30 | 30 |
| 65456-36 | 36 |

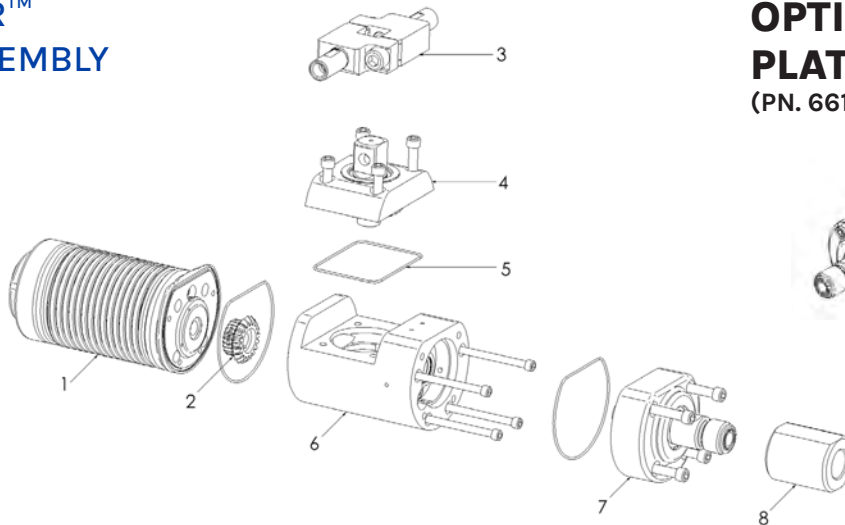


CENTRALIZER (PN. 63843-H30)

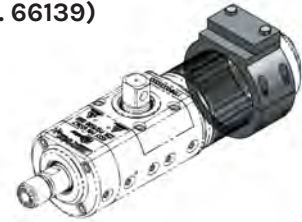
(shown with H₃Orbiter and optional Kick Plate Assy)



H₃ORBITER™ MAIN ASSEMBLY



OPTIONAL KICK PLATE ASSY (PN. 66139)



PART BREAKDOWN

| ITEM | PART NO. | DESCRIPTION | ITEM | PART NO. | DESCRIPTION |
|------|----------|------------------|------|-----------|---------------|
| 1 | 66359 | Brake Assy | 4 | 66358 | Elbow Assy |
| 2 | Various* | Manifold Assy | 5 | 66360 | Inlet Assy |
| 3 | 66361 | Cross Shaft Assy | 6 | Various** | Inlet Adapter |

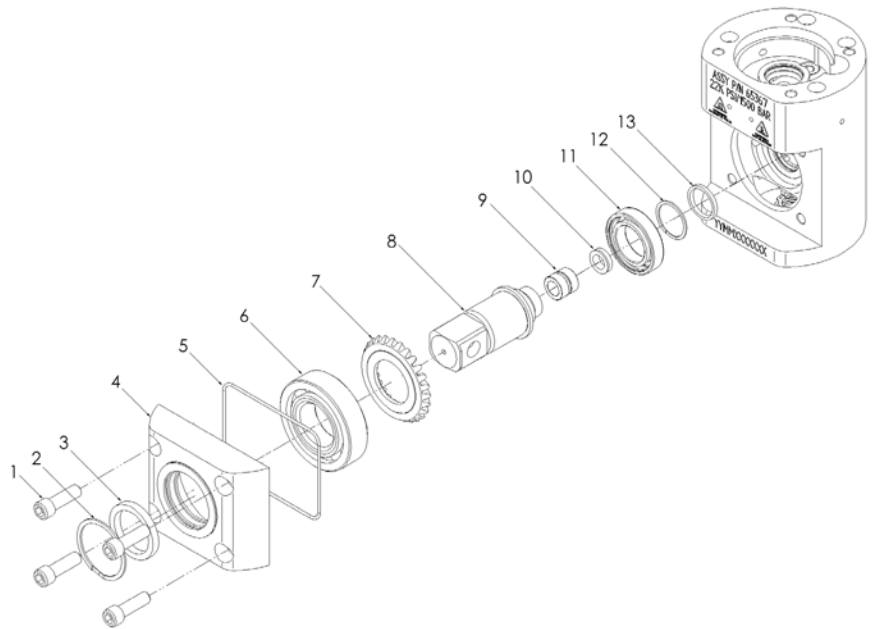
*See table above. ** See table on page G-30.

H₃ORBITER™

CROSS SHAFT ASSEMBLY (PART NO. 66361)

PART BREAKDOWN

| ITEM | PART NO. | DESCRIPTION |
|------|----------|-------------------------------|
| 1 | 65240 | Capscrew |
| 2 | 65229 | Retaining Ring |
| 3 | 65220 | Oil Seal, Double Lip |
| 4 | 65410 | Output Shaft Cover |
| 5 | 65454 | O-Ring |
| 6 | 65215 | Ball Bearing, Angular Contact |
| 7 | 65292 | Gear, Bevel |
| 8 | 65298 | Discharge Shaft |
| 9 | 65645 | Seal Assy, Swivel |
| 10 | 65463 | Seat, Carbide |
| 11 | 65214 | Ball Bearing, Deep Groove |
| 12 | 65230 | Retaining Ring |
| 13 | 65221 | Oil Seal, Single Lip |

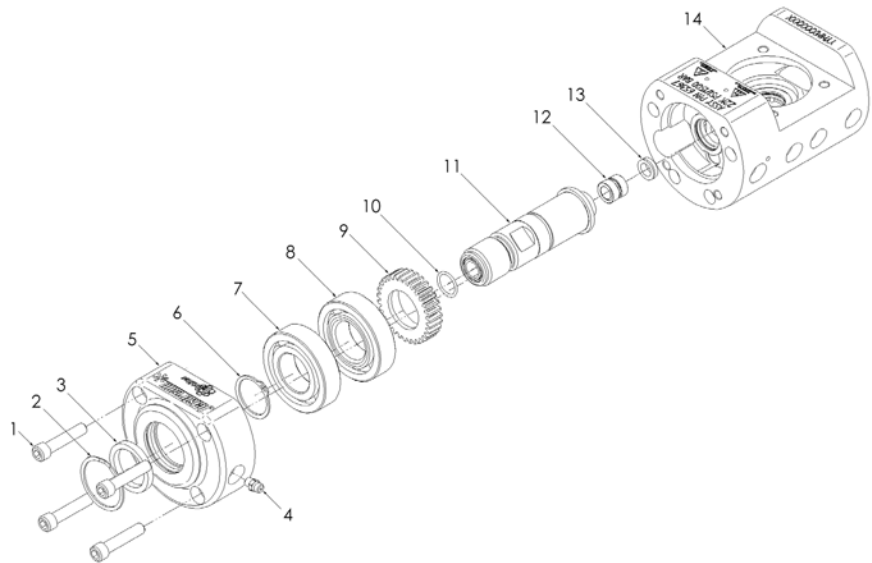


H₃ORBITER

INLET ASSEMBLY (PART NO. 66360)

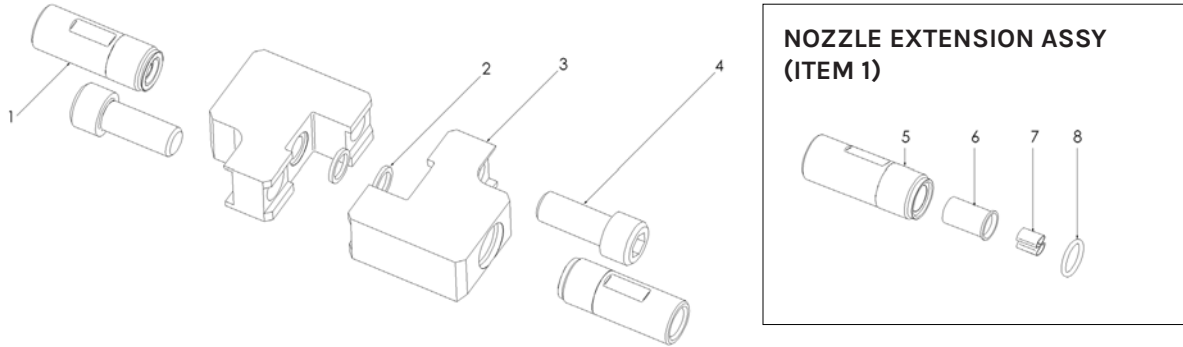
PART BREAKDOWN

| ITEM | PART NO. | DESCRIPTION |
|------|----------|-------------------------------|
| 1 | 65239 | Capscrew |
| 2 | 65229 | Retaining Ring |
| 3 | 65220 | Oil Seal, Double Lip |
| 4 | 27492 | Grease Zerk |
| 5 | 65409 | Inlet Cap |
| 6 | 65226 | Retaining Ring |
| 7 | 65217 | Ball Bearing, Deep Groove |
| 8 | 65215 | Ball Bearing, Angular Contact |
| 9 | 65290 | Gear, Spur |
| 10 | 65233 | O-Ring |
| 11 | 65297 | Inlet Shaft |
| 12 | 65645 | Seal Assy, Swivel |
| 13 | 65463 | Seat, Carbide |
| 14 | 65333 | Elbow Body |



TOOLS & NOZZLES

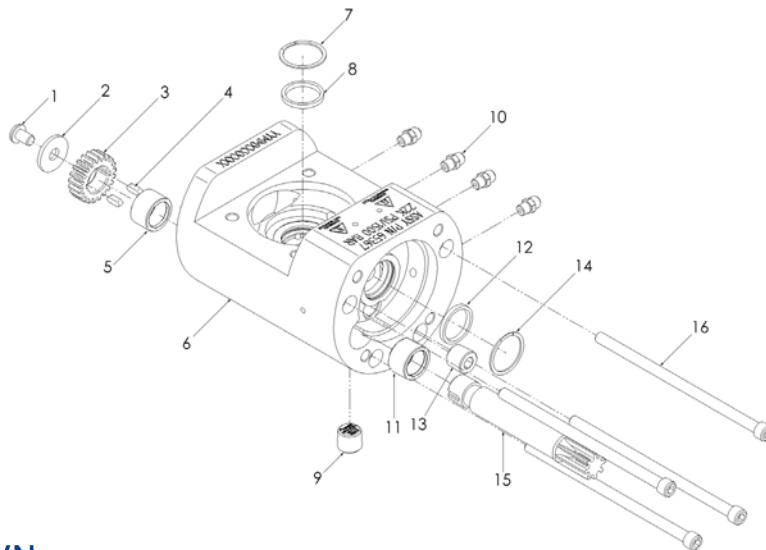
H₃ORBITER™ MANIFOLD ASSEMBLY



PART BREAKDOWN

| ITEM | PART NO. | DESCRIPTION | ITEM | PART NO. | DESCRIPTION |
|------|----------|-----------------------|------|----------|--------------------------|
| 1 | 65456-XX | Nozzle Extension Assy | 5 | 65300-XX | Nozzle Extension |
| 2 | 65402 | HP Manifold Seal | 6 | 65301 | Flow Straightener Insert |
| 3 | Various | Half Manifold | 7 | 26871 | Vane |
| 4 | 65250 | Capscrew | 8 | 65236 | O-Ring |

H₃ORBITER ELBOW ASSEMBLY (PART NO. 66358)

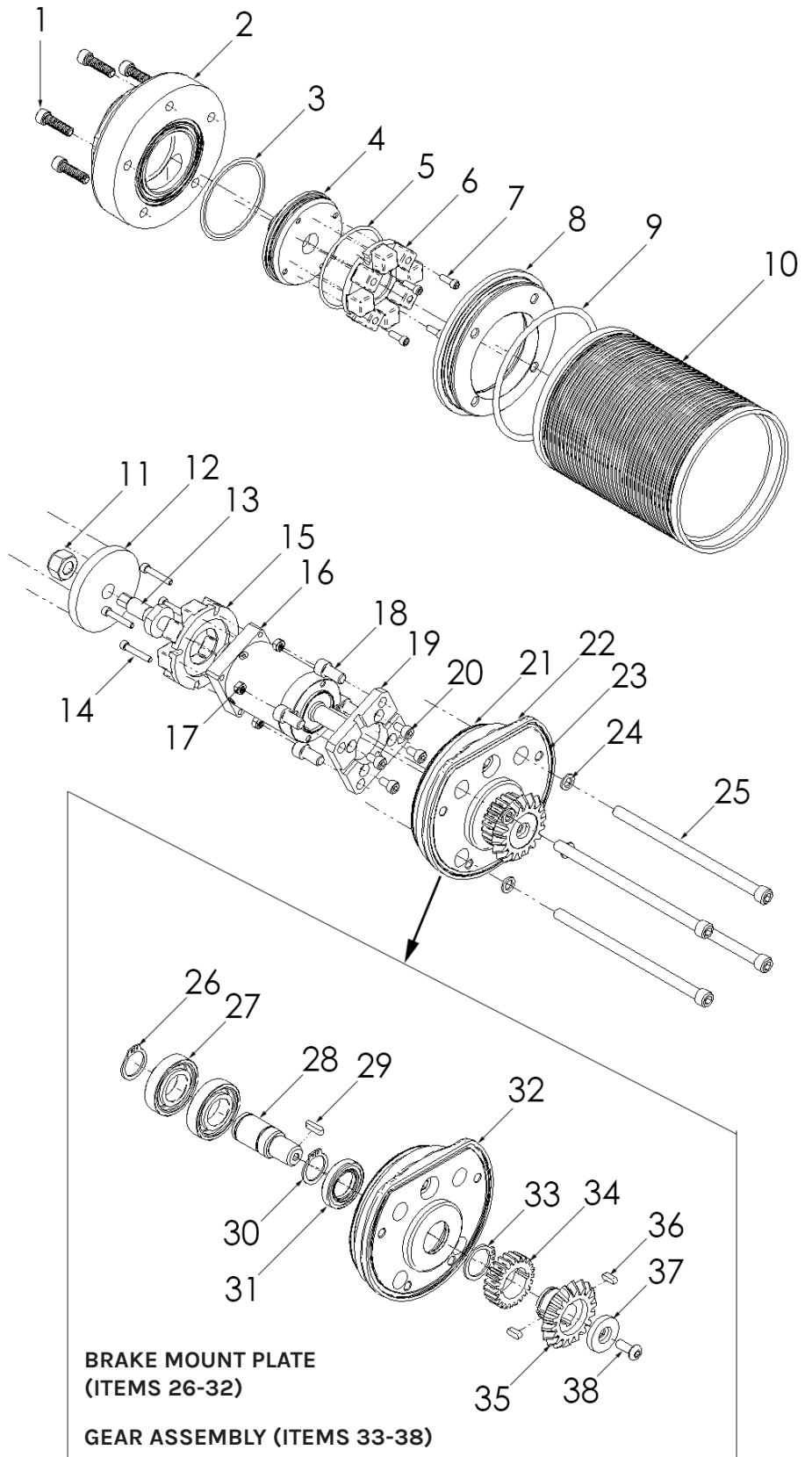


PART BREAKDOWN

| ITEM | PART NO. | DESCRIPTION | ITEM | PART NO. | DESCRIPTION |
|------|----------|----------------------|------|----------|----------------------|
| 1 | 25782 | Capscrew | 9 | 64682 | Plug |
| 2 | 65248 | Flat Washer | 10 | 27492 | Grease Zerk |
| 3 | 65207 | Change Gear | 11 | 65218 | Needle Bearing |
| 4 | 65237 | Key | 12 | 65221 | Oil Seal, Single Lip |
| 5 | 65218 | Needle Bearing | 13 | 64682 | Plug |
| 6 | 65333 | Elbow Body | 14 | 65230 | Retaining Ring |
| 7 | 65230 | Retaining Ring | 15 | 65291 | Shaft, Pinion |
| 8 | 65221 | Oil Seal, Single Lip | 16 | 65241 | Capscrew |

TOOLS &
NOZZLES

**H₃ORBITER™
BRAKE ASSEMBLY
(PART NO. 66359)**



TOOLS &
NOZZLES

PART BREAKDOWN

| ITEM | PART NO. | DESCRIPTION | ITEM | PART NO. | DESCRIPTION |
|------|---------------|-----------------------|------|----------|---------------------------|
| 1 | 65453 | Capscrew | 20 | 65242 | Capscrew |
| 2 | 65414 | Cap, Pulling Ring | 21 | 65816 | O-Ring |
| 3 | 57927 / 65234 | O-Rings | 22 | 65411 | Brake Mount Plate |
| 4 | 65415 | Cap, Speed Adjust | 23 | 65454 | O-Ring |
| 5 | 57927 | O-Ring | 24 | 65247 | Copper Seal Washer |
| 6 | 65455 | Magnetic Brake Assy 1 | 25 | 65452 | Capscrew |
| 7 | 65243 | Capscrew | 26 | 65227 | Retaining Ring |
| 8 | 65413 | Lower Brake Cover | 27 | 65216 | Ball Bearing, Deep Groove |
| 9 | 65816 | O-Ring | 28 | 65416 | Brake Input Shaft |
| 10 | 65412 | Brake Housing | 29 | 65238 | Key |
| 11 | 25296 | Nut | 30 | 65227 | Retaining Ring |
| 12 | 65420 | Brake Rotor | 31 | 65219 | Oil Seal, Double Lip |
| 13 | 65419 | Shaft, Brake Rotor | 32 | 65411 | Brake Mount Plate |
| 14 | 65244 | Capscrew | 33 | 65228 | Retaining Ring |
| 15 | 65455 | Magnetic Brake Assy 2 | 34 | 65289 | Brake Spur Gear |
| 16 | 65213 | Gearbox | 35 | 65293 | Brake Bevel Gear |
| 17 | 65246 | Nut | 36 | 65237 | Key |
| 18 | 25782 | Capscrew | 37 | 65421 | Gearbox Input Retainer |
| 19 | 65417 | Gearbox Adapter Plate | 38 | 65245 | Capscrew |



These resources contain additional technical information about the H₃Orbiter™.

Click or scan the QR code.



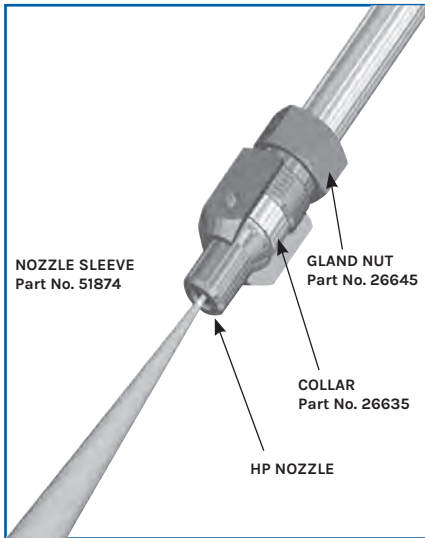
[Quick Start Guide](#)
QSG-177



[Product Instruction](#)
PI-177



[Jetting Calculator](#)



HP SURFACE CLEANING NOZZLES

HP Series Nozzles produce well defined, hard hitting jets for concentrated, work saving cleaning power.

- ▶ Available with carbide (**HPO and HP15**) or sapphire (**HPSO**) orifices.
- ▶ Attach directly to the end of any control gun or nipple that uses a 9/16" medium pressure male connection.
- ▶ 20,000 psi (1,379 bar) maximum working pressure.

HPO CARBIDE NOZZLES



- ▶ Tungsten carbide orifice inserts significantly outlast conventional nozzle orifice material
- ▶ Tapered geometry provides highly cohesive, distortion-free waterjets for concentrated, work saving cleaning and cutting power
- ▶ Straight (0°) patterns
- ▶ 9/16 MP Male connection*
- ▶ 22,000 psi (1516 bar) maximum working pressure

HPO STRAIGHT JET

| PART NO.** | |
|------------|---------|
| HPO-018 | HPO-073 |
| HPO-020 | HPO-075 |
| HPO-022 | HPO-078 |
| HPO-024 | HPO-082 |
| HPO-026 | HPO-090 |
| HPO-029 | HPO-093 |
| HPO-032 | HPO-098 |
| HPO-035 | HPO-106 |
| HPO-038 | HPO-110 |
| HPO-042 | HPO-115 |
| HPO-047 | HPO-125 |
| HPO-052 | HPO-135 |
| HPO-057 | HPO-145 |
| HPO-063 | HPO-155 |
| HPO-067 | HPO-165 |
| HPO-069 | |



*See details on all connection types in Section I.
 **Orifice size (or equivalent for fan types) is denoted in the part number (-018, etc.)
 For nozzle flow rates, see Orifice Group C chart, page G-44.

HP SURFACE CLEANING NOZZLES

HP15 CARBIDE NOZZLES



- ▶ Tungsten carbide orifice inserts significantly outlast conventional nozzle orifice material
- ▶ Tapered geometry provides highly cohesive, distortion-free waterjets for concentrated, work saving cleaning and cutting power
- ▶ Fan (15°) patterns create wide waterjets without significant reduction in power.
- ▶ 9/16 MP Male connection*
- ▶ 22,000 psi (1516 bar) maximum working pressure

| HP15 FAN JET | |
|--------------|------------|
| | PART NO.** |
| | HP15-029 |
| | HP15-038 |
| | HP15-042 |
| | HP15-047 |
| | HP15-057 |
| | HP15-063 |
| | HP15-067 |
| | HP15-069 |
| | HP15-073 |
| | HP15-078 |

*See details on all connection types in Section I.
 **Orifice size (or equivalent for fan types) is denoted in the part number (-018, etc.)
 For nozzle flow rates, see Orifice Group C chart, page G-44.

HPSO SAPPHIRE NOZZLES



- ▶ Sapphire orifice inserts more durable than carbide for longer service life and lower operating cost
- ▶ Tapered geometry provides highly cohesive, distortion-free waterjets for concentrated, work saving cleaning and cutting power
- ▶ Straight (0°) patterns
- ▶ 9/16 MP Male connection*
- ▶ 22,000 psi (1516 bar) maximum working pressure

| HPSO STRAIGHT JET | |
|-------------------|------------|
| | PART NO.** |
| | HPSO-018 |
| | HPSO-025 |
| | HPSO-029 |
| | HPSO-033 |
| | HPSO-038 |
| | HPSO-042 |
| | HPSO-046 |
| | HPSO-052 |

*See details on all connection types in Section I.
 For nozzle flow rates, see Orifice Group C chart, page G-44.

TOOLS & NOZZLES



REPLACEABLE NOZZLE TIPS – QUICK REFERENCE CHART

| NOZZLE SIDE VIEW | NOZZLE | CONNECTION* | TYPE/USE | ORIFICE MATERIAL | PATTERNS | PAGE |
|---|---------------|----------------|-------------------|-------------------|---------------------|----------------|
|  | HHTCO | | | | Straight | |
| | HHTC15 | 1/4" NPT Male | Hard Hitter | Tungsten Carbide | 15° Fan | G-47 |
| | HHTC25 | | | | 25° Fan | |
| | HHTC50 | | | | 50° Fan | |
| | HHSO | 1/4" NPT Male | Hard Hitter | Sapphire | Straight | G-48 |
| HHD | 1/4" NPT Male | Hard Hitter | Synthetic Diamond | Straight | G-48 | |
|  | P4TC | 1/4" NPT Male | Low Profile | Tungsten Carbide | Straight | G-53 |
|  | P2TC | 1/8" NPT Male | Low Profile | Tungsten Carbide | Straight | G-53 |
|  | P2TCS | 1/8" NPT Male | Low Profile | Tungsten Carbide | Straight | G-54 |
|  | JS2 | 1/8" NPT Male | Low Profile | Stainless Steel | Straight | G-54 |
| | JS2D | 1/8" NPT Male | Low Profile | Synthetic Diamond | Straight | G-55 |
|  | JS4 | 1/4" NPT Male | Hard Hitter | Stainless Steel | Straight | G-55 |
|  | JS4F | 1/4" NPT Male | Low Profile | Stainless Steel | Straight | G-56 |
| | JS4FD | 1/4" NPT Male | Low Profile | Synthetic Diamond | Straight | G-56 |
|  | HPO/ HP15 | 9/16" MP Male | Hard Hitter | Tungsten Carbide | Straight 15° Fan | G-36 / G-37 |
| | HPSO | 9/16" MP Male | Hard Hitter | Sapphire | Straight | G-37 |
|  | P1 | 1/16" NPT Male | Low Profile | Stainless Steel | Straight | G-49 |
|  | PISO | 1/16" NPT Male | Low Profile | Sapphire | Straight | G-57 |
|  | OX | 3/8" - 24UNEF | Orbi-Jet™ X22 | Tungsten Carbide | Straight | G-3 |
|  | UHPX | 3/8" - 24UNF | Orbi-Jet™ X22 | Sapphire | Straight | G-50 |
| | UHPXD | 3/8" - 24 UNF | Orbi-Jet™ X22 | Synthetic Diamond | Straight | G-51 |
|  | UHPXi | 3/8" - 24 UNF | Orbi-Jet™ X22 | Sapphire | Straight | G-52 |
|  | RM | 1/2" - 28UNEF | RotoMag™ X22 | Tungsten Carbide | Straight | G-57 |
| | RMD | 1/2" - 28UNEF | RotoMag™ X22 | Synthetic Diamond | Straight | G-58 |
|  | RMS | 1/2" - 28UNEF | RotoMag™ X22 | Sapphire | Straight | G-58 |

*See details on all connection types in Section I.

REPLACEABLE NOZZLE TIPS

ORIFICE GROUP A



HHSO/HHD
(PAGE G-48)



JS2D
(PAGE G-55)



w
(PAGE G-56)



PISO
(PAGE G-57)



RMD/RMS
(PAGE G-58)



UHPX/UHPXD/UHPXi
(PAGE G-50/G-51/G-52)

| ORIFICE SIZE* | | FLOW AT SPECIFIED PRESSURES (PSI / BAR) | | | | | | | | AVAILABLE SERIES | | | | | | | | | |
|---------------|------|---|------|-------|------|-------|------|--------|------|------------------|-----|------|-------|------|-----|-----|------|-------|-------|
| in | mm | 5,000 | 344 | 6,000 | 413 | 8,000 | 551 | 10,000 | 689 | HHSO | HHD | JS2D | JS4FD | PISO | RMD | RMS | UHPX | UHPXD | UHPXi |
| | | gpm | lpm | gpm | lpm | gpm | lpm | gpm | lpm | | | | | | | | | | |
| .005 | .13 | 0.04 | 0.1 | 0.04 | 0.2 | 0.04 | 0.2 | 0.1 | 0.2 | | | | | | | | • | • | • |
| .006 | .15 | 0.1 | 0.2 | 0.1 | 0.2 | 0.1 | 0.2 | 0.1 | 0.3 | | | | | | | | • | • | • |
| .007 | .17 | 0.1 | 0.3 | 0.1 | 0.3 | 0.1 | 0.3 | 0.1 | 0.4 | | | | | | | | • | • | • |
| .008 | .20 | 0.1 | 0.3 | 0.1 | 0.4 | 0.1 | 0.4 | 0.1 | 0.5 | | | | | | | | • | • | • |
| .009 | .22 | 0.1 | 0.4 | 0.1 | 0.5 | 0.1 | 0.6 | 0.2 | 0.6 | | | | | | | | • | • | • |
| .010 | .25 | 0.1 | 0.5 | 0.2 | 0.6 | 0.2 | 0.7 | 0.2 | 0.8 | | | | | | | | • | • | • |
| .011 | .27 | 0.2 | 0.7 | 0.2 | 0.7 | 0.2 | 0.8 | 0.2 | 0.9 | | | | | | | | • | • | • |
| .012 | .30 | 0.2 | 0.8 | 0.2 | 0.8 | 0.3 | 1.0 | 0.3 | 1.1 | | | | | | | | • | • | • |
| .013 | .33 | 0.2 | 0.9 | 0.3 | 1.0 | 0.3 | 1.1 | 0.3 | 1.3 | | | | | | | | • | • | • |
| .014 | .35 | 0.3 | 1.1 | 0.3 | 1.2 | 0.4 | 1.3 | 0.4 | 1.5 | | | | | | | | • | • | • |
| .015 | .38 | 0.3 | 1.2 | 0.4 | 1.3 | 0.4 | 1.5 | 0.5 | 1.7 | | | | | | | | • | • | • |
| .016 | .40 | 0.4 | 1.4 | 0.4 | 1.5 | 0.5 | 1.7 | 0.5 | 1.9 | | | | | | | | • | • | • |
| .017 | .43 | 0.4 | 1.6 | 0.5 | 1.7 | 0.5 | 2.0 | 0.6 | 2.2 | | | | | | | | • | • | • |
| .018 | .45 | 0.5 | 1.7 | 0.5 | 1.9 | 0.6 | 2.2 | 0.6 | 2.5 | | | • | | • | • | • | • | • | • |
| .019 | .48 | 0.5 | 1.9 | 0.6 | 2.1 | 0.7 | 2.4 | 0.7 | 2.7 | | | • | | | | | • | • | • |
| .020 | .50 | 0.6 | 2.1 | 0.6 | 2.4 | 0.7 | 2.7 | 0.8 | 3.0 | | | • | | | | | • | • | • |
| .021 | .53 | 0.6 | 2.4 | 0.7 | 2.6 | 0.8 | 3.0 | 0.9 | 3.3 | | | • | | | | | • | • | • |
| .022 | .55 | 0.7 | 2.6 | 0.8 | 2.8 | 0.9 | 3.3 | 1.0 | 3.7 | | | • | | | | | • | • | • |
| .023 | .58 | 0.8 | 2.8 | 0.8 | 3.1 | 1.0 | 3.6 | 1.1 | 4.0 | | | • | | | | | • | • | • |
| .024 | .60 | 0.8 | 3.1 | 0.9 | 3.4 | 1.1 | 3.9 | 1.2 | 4.4 | | | • | | | | | • | • | • |
| .025 | .63 | 0.9 | 3.4 | 1.0 | 3.7 | 1.1 | 4.2 | 1.3 | 4.7 | • | | | | • | • | • | • | • | • |
| .026 | .66 | 1.0 | 3.6 | 1.1 | 4.0 | 1.2 | 4.6 | 1.4 | 5.1 | | | • | | | | | • | • | • |
| .027 | .68 | 1.0 | 3.9 | 1.1 | 4.3 | 1.3 | 4.9 | 1.5 | 5.5 | | | | | | | | • | • | • |
| .028 | .71 | 1.1 | 4.2 | 1.2 | 4.6 | 1.4 | 5.3 | 1.6 | 5.9 | | | | | | | | • | • | • |
| .029 | .73 | 1.2 | 4.5 | 1.3 | 4.9 | 1.5 | 5.7 | 1.7 | 6.4 | • | | • | | • | • | • | • | • | • |
| .030 | .76 | 1.3 | 4.8 | 1.4 | 5.3 | 1.6 | 6.1 | 1.8 | 6.8 | | | | | | | | • | • | • |
| .031 | .78 | 1.4 | 5.1 | 1.5 | 5.6 | 1.7 | 6.5 | 1.9 | 7.3 | | | | | | | | • | • | • |
| .032 | .81 | 1.5 | 5.5 | 1.6 | 6.0 | 1.8 | 6.9 | 2.0 | 7.8 | | | • | • | | | | • | • | • |
| .033 | .83 | 1.5 | 5.8 | 1.7 | 6.4 | 2.0 | 7.4 | 2.2 | 8.2 | • | | | | • | • | • | • | • | • |
| .034 | .86 | 1.6 | 6.2 | 1.8 | 6.8 | 2.0 | 7.8 | 2.3 | 8.8 | | | | | | | | • | • | • |
| .035 | .89 | 1.7 | 6.6 | 1.9 | 7.2 | 2.2 | 8.3 | 2.5 | 9.3 | | | • | • | | | | • | • | • |
| .036 | .91 | 1.8 | 6.9 | 2.0 | 7.6 | 2.3 | 8.8 | 2.6 | 9.8 | | | | | | | | • | • | • |
| .037 | .93 | 1.9 | 7.3 | 2.1 | 8.0 | 2.5 | 9.3 | 2.7 | 10.4 | | | | | | | | • | • | • |
| .038 | .96 | 2.0 | 7.7 | 2.2 | 8.5 | 2.6 | 9.8 | 2.9 | 10.9 | • | • | • | • | • | • | • | • | • | • |
| .039 | .99 | 2.2 | 8.1 | 2.4 | 8.9 | 2.7 | 10.3 | 3.0 | 11.5 | | | | | | | | • | • | • |
| .040 | 1.02 | 2.3 | 8.6 | 2.5 | 9.4 | 2.7 | 10.8 | 3.2 | 12.1 | | | | | | | | • | • | • |
| .042 | 1.06 | 2.5 | 9.4 | 2.7 | 10.3 | 3.2 | 11.9 | 3.5 | 13.4 | • | • | • | • | • | • | • | • | • | • |
| .046 | 1.16 | 3.0 | 11.3 | 3.3 | 12.4 | 3.8 | 14.3 | 4.2 | 16.0 | • | • | | | • | • | • | • | • | • |
| .047 | 1.19 | 3.1 | 11.8 | 3.4 | 13.0 | 4.0 | 15.0 | 4.4 | 16.7 | | • | | • | | | | | | |
| .052 | 1.32 | 3.8 | 14.5 | 4.2 | 16.0 | 4.8 | 18.0 | 5.4 | 20.5 | | • | • | • | • | • | • | • | • | • |
| .055 | 1.40 | 4.3 | 16.2 | 4.7 | 17.7 | 5.4 | 20.5 | 6.1 | 22.9 | • | | | | | | | | | |
| .057 | 1.45 | 4.6 | 17.4 | 5.0 | 19.0 | 5.8 | 22.0 | 6.5 | 24.6 | | • | • | • | | | | | | |
| .063 | 1.60 | 5.6 | 21.3 | 6.2 | 23.3 | 7.1 | 26.9 | 7.9 | 30.0 | | • | • | | | | | | | |
| .067 | 1.70 | 6.3 | 24.0 | 7.0 | 26.0 | 8.0 | 30.0 | 9.0 | 34.0 | | • | | | | | | • | • | • |
| .069 | 1.75 | 6.7 | 25.5 | 7.4 | 27.9 | 8.5 | 32.2 | 9.5 | 36.0 | | • | | | | | | | | |
| .073 | 1.85 | 7.5 | 28.5 | 8.3 | 31.3 | 9.5 | 36.1 | 10.7 | 40.3 | | • | | | | | | | | |
| .075 | 1.90 | 8.0 | 30.1 | 8.7 | 33.0 | 10.1 | 38.1 | 11.3 | 42.6 | | | | • | | | | | | |
| .078 | 1.98 | 8.6 | 32.6 | 9.4 | 35.7 | 10.9 | 41.2 | 12.2 | 46.1 | | • | • | | | | | | | |

*Orifice size (or equivalent for fan types) is denoted in the part number (-018, etc.)

TOOLS & NOZZLES

REPLACEABLE NOZZLE TIPS

ORIFICE GROUP A



HHSO/HHD
(PAGE G-48)



JS2D
(PAGE G-55)



JS4FD
(PAGE G-56)



PISO
(PAGE G-57)



RMD/RMS
(PAGE G-58)



UHPX/UHPXD/UHPXi
(PAGE G-50/G-51/G-52)

| ORIFICE SIZE* | | FLOW AT SPECIFIED PRESSURES (PSI / BAR) | | | | | | | | AVAILABLE SERIES | | | | | | | | | |
|---------------|------|---|------|--------|------|--------|------|--------|------|------------------|-----|------|-------|------|-----|-----|------|-------|-------|
| in | mm | 11,000 | 758 | 12,000 | 827 | 14,000 | 965 | 15,000 | 1034 | HHSO | HHD | JS2D | JS4FD | PISO | RMD | RMS | UHPX | UHPXD | UHPXi |
| | | gpm | lpm | gpm | lpm | gpm | lpm | gpm | lpm | | | | | | | | | | |
| .005 | .13 | 0.1 | 0.2 | 0.1 | 0.2 | 0.1 | 0.2 | 0.1 | 0.2 | | | | | | | | • | • | • |
| .006 | .15 | 0.1 | 0.3 | 0.1 | 0.3 | 0.1 | 0.3 | 0.1 | 0.3 | | | | | | | | • | • | • |
| .007 | .17 | 0.1 | 0.4 | 0.1 | 0.4 | 0.1 | 0.4 | 0.1 | 0.5 | | | | | | | | • | • | • |
| .008 | .20 | 0.1 | 0.5 | 0.1 | 0.5 | 0.1 | 0.6 | 0.2 | 0.6 | | | | | | | | • | • | • |
| .009 | .22 | 0.2 | 0.6 | 0.2 | 0.7 | 0.2 | 0.7 | 0.2 | 0.8 | | | | | | | | • | • | • |
| .010 | .25 | 0.2 | 0.8 | 0.2 | 0.8 | 0.2 | 0.9 | 0.2 | 0.9 | | | | | | | | • | • | • |
| .011 | .27 | 0.3 | 1.0 | 0.3 | 1.0 | 0.3 | 1.1 | 0.3 | 1.1 | | | | | | | | • | • | • |
| .012 | .30 | 0.3 | 1.1 | 0.3 | 1.2 | 0.3 | 1.3 | 0.4 | 1.3 | | | | | | | | • | • | • |
| .013 | .33 | 0.4 | 1.3 | 0.4 | 1.4 | 0.4 | 1.5 | 0.4 | 1.6 | | | | | | | | • | • | • |
| .014 | .35 | 0.4 | 1.6 | 0.4 | 1.6 | 0.5 | 1.8 | 0.5 | 1.8 | | | | | | | | • | • | • |
| .015 | .38 | 0.5 | 1.8 | 0.5 | 1.9 | 0.5 | 2.0 | 0.6 | 2.1 | | | | | | | | • | • | • |
| .016 | .40 | 0.5 | 2.0 | 0.6 | 2.1 | 0.6 | 2.3 | 0.6 | 2.4 | | | | | | | | • | • | • |
| .017 | .43 | 0.6 | 2.3 | 0.6 | 2.4 | 0.7 | 2.6 | 0.7 | 2.7 | | | | | | | | • | • | • |
| .018 | .45 | 0.7 | 2.6 | 0.7 | 2.7 | 0.8 | 2.9 | 0.8 | 3.0 | | | • | | • | • | | • | • | • |
| .019 | .48 | 0.8 | 2.9 | 0.8 | 3.0 | 0.9 | 3.2 | 0.9 | 3.3 | | | | | | | | • | • | • |
| .020 | .50 | 0.8 | 3.2 | 0.9 | 3.3 | 1.0 | 3.6 | 1.0 | 3.7 | | | • | | | | | • | • | • |
| .021 | .53 | 0.9 | 3.5 | 1.0 | 3.7 | 1.0 | 4.0 | 1.1 | 4.1 | | | | | | | | • | • | • |
| .022 | .55 | 1.0 | 3.8 | 1.1 | 4.0 | 1.2 | 4.3 | 1.2 | 4.5 | | | • | | | | | • | • | • |
| .023 | .58 | 1.1 | 4.2 | 1.2 | 4.4 | 1.3 | 4.7 | 1.3 | 4.9 | | | | | | | | • | • | • |
| .024 | .60 | 1.2 | 4.6 | 1.3 | 4.8 | 1.4 | 5.2 | 1.4 | 5.3 | | | • | | | | | • | • | • |
| .025 | .63 | 1.3 | 5.0 | 1.4 | 5.2 | 1.5 | 5.6 | 1.5 | 5.8 | • | | | | • | • | • | • | • | • |
| .026 | .66 | 1.4 | 5.6 | 1.5 | 5.6 | 1.6 | 6.1 | 1.7 | 6.3 | | | • | | | | | • | • | • |
| .027 | .68 | 1.5 | 5.8 | 1.6 | 6.0 | 1.7 | 6.5 | 1.8 | 6.8 | | | | | | | | • | • | • |
| .028 | .71 | 1.6 | 6.2 | 1.7 | 6.5 | 1.9 | 7.0 | 1.9 | 7.3 | | | | | | | | • | • | • |
| .029 | .73 | 1.8 | 6.7 | 1.8 | 7.0 | 2.0 | 7.5 | 2.1 | 7.8 | • | | • | | • | • | • | • | • | • |
| .030 | .76 | 1.9 | 7.2 | 2.0 | 7.5 | 2.1 | 8.1 | 2.2 | 8.3 | | | | | | | | • | • | • |
| .031 | .78 | 2.0 | 7.6 | 2.1 | 8.0 | 2.3 | 8.6 | 2.4 | 8.9 | | | | | | | | • | • | • |
| .032 | .81 | 2.2 | 8.1 | 2.2 | 8.5 | 2.4 | 9.2 | 2.5 | 9.5 | | | • | • | | | | • | • | • |
| .033 | .83 | 2.3 | 8.7 | 2.4 | 9.0 | 2.6 | 9.8 | 2.7 | 10.1 | • | | | | • | • | • | • | • | • |
| .034 | .86 | 2.4 | 9.2 | 2.5 | 9.6 | 2.7 | 10.4 | 2.8 | 10.7 | | | | | | | | • | • | • |
| .035 | .89 | 2.6 | 9.7 | 2.7 | 10.2 | 2.9 | 11.0 | 3.0 | 11.4 | | | • | • | | | | • | • | • |
| .036 | .91 | 2.7 | 10.3 | 2.8 | 10.7 | 3.1 | 11.6 | 3.2 | 12.0 | | | | | | | | • | • | • |
| .037 | .93 | 2.9 | 10.9 | 3.0 | 11.4 | 3.2 | 12.3 | 3.4 | 12.7 | | | | | | | | • | • | • |
| .038 | .96 | 3.0 | 11.5 | 3.2 | 12.0 | 3.4 | 12.9 | 3.5 | 13.4 | • | • | • | • | • | • | • | • | • | • |
| .039 | .99 | 3.2 | 12.1 | 3.3 | 12.6 | 3.6 | 13.6 | 3.7 | 14.1 | | | | | | | | • | • | • |
| .040 | 1.02 | 3.4 | 12.7 | 3.5 | 13.3 | 3.8 | 14.3 | 3.9 | 14.8 | | | | | | | | • | • | • |
| .042 | 1.06 | 3.7 | 14.0 | 3.9 | 14.6 | 4.2 | 15.8 | 4.3 | 16.4 | • | • | • | • | • | • | • | • | • | • |
| .046 | 1.16 | 4.4 | 16.8 | 4.6 | 17.5 | 5.0 | 19.0 | 5.2 | 19.6 | • | • | | | • | • | • | • | • | • |
| .047 | 1.19 | 4.6 | 17.5 | 4.8 | 18.3 | 5.2 | 19.8 | 5.4 | 20.5 | | • | | • | | | | • | • | • |
| .052 | 1.32 | 5.7 | 21.0 | 5.9 | 22.0 | 6.4 | 24.0 | 6.6 | 25.1 | | • | • | • | • | • | • | • | • | • |
| .055 | 1.40 | 6.4 | 24.0 | 6.6 | 25.1 | 7.2 | 27.1 | 7.4 | 28.0 | • | | | | | | | | | |
| .057 | 1.45 | 6.8 | 25.8 | 7.1 | 26.9 | 7.7 | 29.1 | 8.0 | 30.1 | | • | • | • | | | | | | |
| .063 | 1.60 | 8.3 | 31.5 | 8.7 | 32.9 | 9.4 | 35.6 | 9.7 | 36.8 | | • | • | | | | | | | |
| .067 | 1.70 | 9.4 | 36.0 | 9.8 | 37.0 | 11.0 | 40.0 | 11.0 | 41.6 | | • | | | | | | • | • | • |
| .069 | 1.75 | 10.0 | 37.8 | 10.4 | 39.5 | 11.3 | 42.6 | 11.7 | 44.1 | | • | | | | | | | | |
| .073 | 1.85 | 11.2 | 42.3 | 11.7 | 44.2 | 12.6 | 47.7 | 13.1 | 49.4 | | • | | | | | | | | |
| .075 | 1.90 | 11.8 | 44.7 | 12.3 | 46.6 | 13.3 | 50.4 | 13.8 | 52.2 | | | | • | | | | | | |
| .078 | 1.98 | 12.8 | 48.3 | 13.3 | 50.5 | 14.4 | 54.5 | 14.9 | 56.4 | | • | • | | | | | | | |

*Orifice size (or equivalent for fan types) is denoted in the part number (-018, etc.)



REPLACEABLE NOZZLE TIPS

ORIFICE GROUP B



JS2
(PAGE G-43)



P1
(PAGE G-49)



P2TCS
(PAGE G-54)

| ORIFICE SIZE* | | FLOW AT SPECIFIED PRESSURES (PSI / BAR) | | | | | | | | | | | | | | | | AVAILABLE SERIES | | |
|---------------|------|---|-------|-------|-------|-------|-------|--------|-------|--------|-------|--------|-------|--------|-------|--------|-------|------------------|----|-------|
| in | mm | 5,000 | 344 | 6,000 | 413 | 8,000 | 551 | 10,000 | 689 | 11,000 | 758 | 12,000 | 827 | 14,000 | 965 | 15,000 | 1034 | JS2 | R1 | P2TCS |
| | | gpm | lpm | gpm | lpm | gpm | lpm | gpm | lpm | gpm | lpm | gpm | lpm | gpm | lpm | gpm | lpm | | | |
| .018 | .46 | 0.6 | 2.1 | 0.6 | 2.3 | 0.7 | 2.7 | 0.8 | 3.0 | 0.8 | 3.2 | 0.9 | 3.3 | 0.9 | 3.6 | 1.0 | 3.7 | • | | • |
| .020 | .51 | 0.7 | 2.6 | 0.8 | 2.9 | 0.9 | 3.3 | 1.0 | 3.7 | 1.0 | 3.9 | 1.1 | 4.1 | 1.2 | 4.4 | 1.2 | 4.5 | • | | • |
| .022 | .56 | 0.8 | 3.2 | 0.9 | 3.5 | 1.1 | 4.0 | 1.2 | 4.5 | 1.2 | 4.7 | 1.3 | 4.9 | 1.4 | 5.3 | 1.5 | 5.5 | • | | • |
| .024 | .61 | 1.0 | 3.8 | 1.1 | 4.1 | 1.3 | 4.8 | 1.4 | 5.3 | 1.5 | 5.6 | 1.5 | 5.9 | 1.7 | 6.3 | 1.7 | 6.5 | • | | • |
| .026 | .66 | 1.2 | 4.4 | 1.3 | 4.9 | 1.5 | 5.6 | 1.7 | 6.3 | 1.7 | 6.6 | 1.8 | 6.9 | 2.0 | 7.4 | 2.0 | 7.7 | • | | • |
| .029 | .74 | 1.5 | 5.5 | 1.6 | 6.0 | 1.8 | 7.0 | 2.1 | 7.8 | 2.2 | 8.2 | 2.3 | 8.5 | 2.4 | 9.2 | 2.5 | 9.6 | • | | • |
| .032 | .81 | 1.8 | 6.7 | 1.9 | 7.4 | 2.2 | 8.5 | 2.5 | 9.5 | 2.6 | 10.0 | 2.7 | 10.4 | 3.0 | 11.2 | 3.1 | 11.6 | • | | • |
| .035 | .89 | 2.1 | 8.0 | 2.3 | 8.8 | 2.7 | 10.2 | 3.0 | 11.4 | 3.1 | 11.9 | 3.3 | 12.4 | 3.6 | 13.4 | 3.7 | 13.9 | • | | • |
| .038 | .97 | 2.5 | 9.5 | 2.7 | 10.4 | 3.2 | 12.0 | 3.5 | 13.4 | 3.7 | 14.0 | 3.9 | 14.7 | 4.2 | 15.8 | 4.3 | 16.4 | • | • | • |
| .042 | 1.07 | 3.1 | 11.6 | 3.3 | 12.7 | 3.9 | 14.6 | 4.3 | 16.4 | 4.5 | 17.2 | 4.7 | 17.9 | 5.1 | 19.4 | 5.3 | 20.0 | • | • | • |
| .046 | 1.16 | 3.7 | 13.9 | 4.0 | 15.2 | 4.6 | 17.6 | 5.2 | 19.6 | 5.4 | 20.6 | 5.7 | 21.5 | 6.1 | 23.2 | 6.3 | 24.0 | | • | |
| .047 | 1.19 | 3.8 | 14.5 | 4.2 | 15.9 | 4.8 | 18.3 | 5.4 | 20.5 | 5.7 | 21.5 | 5.9 | 22.4 | 6.4 | 24.2 | 6.6 | 25.1 | • | | • |
| .052 | 1.32 | 4.7 | 17.7 | 5.1 | 19.4 | 5.9 | 22.4 | 6.6 | 25.1 | 6.9 | 26.3 | 7.3 | 27.5 | 7.8 | 29.7 | 8.1 | 30.7 | • | | • |
| .055 | 1.40 | 5.2 | 19.8 | 5.7 | 21.7 | 6.6 | 25.1 | 7.4 | 28.1 | 7.8 | 29.4 | 8.1 | 30.7 | 8.8 | 33.2 | 9.1 | 34.4 | | • | |
| .057 | 1.45 | 5.6 | 21.3 | 6.2 | 23.3 | 7.1 | 26.9 | 8.0 | 30.1 | 8.3 | 31.6 | 8.7 | 33.0 | 9.4 | 35.6 | 9.7 | 36.9 | • | | • |
| .063 | 1.60 | 6.9 | 26.0 | 7.5 | 28.5 | 8.7 | 32.9 | 9.7 | 36.8 | 10.2 | 38.6 | 10.7 | 40.3 | 11.5 | 43.5 | 11.9 | 45.1 | • | • | • |
| .067 | 1.70 | 7.8 | 29.4 | 8.5 | 32.2 | 9.8 | 37.2 | 11.0 | 41.6 | 11.5 | 43.7 | 12.0 | 45.6 | 13.0 | 49.3 | 13.5 | 51.0 | | • | • |
| .069 | 1.75 | 8.2 | 31.2 | 9.0 | 34.2 | 10.4 | 39.5 | 11.7 | 44.1 | 12.2 | 46.3 | 12.8 | 48.4 | 13.8 | 52.2 | 14.3 | 54.1 | • | | • |
| .070 | 1.78 | 8.5 | 32.1 | 9.3 | 35.2 | 10.7 | 40.6 | 12.0 | 45.4 | 12.6 | 47.7 | 13.2 | 49.8 | 14.2 | 53.8 | 14.7 | 55.7 | | • | |
| .073 | 1.85 | 9.2 | 34.9 | 10.1 | 38.3 | 11.7 | 44.2 | 13.1 | 49.4 | 13.7 | 51.8 | 14.3 | 54.1 | 15.4 | 58.5 | 16.0 | 60.5 | | • | • |
| .075 | 1.91 | 9.7 | 36.9 | 10.7 | 40.4 | 12.3 | 46.7 | 13.8 | 52.2 | 14.5 | 54.7 | 15.1 | 57.1 | 16.3 | 61.7 | 16.9 | 63.9 | • | | • |
| .078 | 1.98 | 10.5 | 39.9 | 11.5 | 43.7 | 13.3 | 50.5 | 14.9 | 56.4 | 15.6 | 59.2 | 16.3 | 61.8 | 17.6 | 66.8 | 18.3 | 69.1 | | • | • |
| .082 | 2.08 | 11.6 | 44.1 | 12.8 | 48.3 | 14.7 | 55.8 | 16.5 | 62.4 | 17.3 | 65.4 | 18.0 | 68.3 | 19.5 | 73.8 | 20.2 | 76.4 | • | | • |
| .090 | 2.29 | 14.0 | 53.1 | 15.4 | 58.2 | 17.7 | 67.2 | 19.8 | 75.1 | 20.8 | 78.8 | 21.7 | 82.3 | 23.5 | 88.9 | 24.3 | 92.0 | • | | • |
| .093 | 2.36 | 15.0 | 56.7 | 16.4 | 62.1 | 19.0 | 71.7 | 21.2 | 80.2 | 22.2 | 84.1 | 23.2 | 87.9 | 25.1 | 94.9 | 26.0 | 98.2 | | | • |
| .098 | 2.49 | 16.6 | 63.0 | 18.2 | 69.0 | 21.0 | 79.7 | 23.5 | 89.1 | 24.7 | 93.4 | 25.8 | 97.6 | 27.8 | 105.4 | 28.8 | 109.1 | • | | • |
| .106 | 2.69 | 19.5 | 73.7 | 21.3 | 80.7 | 24.6 | 93.2 | 27.5 | 104.2 | 28.9 | 109.3 | 30.2 | 114.1 | 32.6 | 123.3 | 33.7 | 127.6 | • | | • |
| .110 | 2.79 | 21.0 | 79.3 | 23.0 | 86.9 | 26.5 | 100.4 | 29.6 | 112.2 | 31.1 | 117.7 | 32.5 | 122.9 | 35.1 | 132.8 | 36.3 | 137.4 | | | • |
| .115 | 2.92 | 22.9 | 86.7 | 25.1 | 95.0 | 29.0 | 109.7 | 32.4 | 122.6 | 34.0 | 128.6 | 35.5 | 134.3 | 38.3 | 145.1 | 39.7 | 150.2 | • | | • |
| .125 | 3.18 | 27.1 | 102.5 | 29.7 | 112.2 | 34.2 | 129.6 | 38.3 | 144.9 | 40.1 | 152.0 | 41.9 | 158.7 | 45.3 | 171.4 | 46.9 | 177.5 | • | | • |
| .135 | 3.43 | 31.6 | 119.5 | 34.6 | 130.9 | 39.9 | 151.2 | 44.7 | 169.0 | 46.8 | 177.3 | 48.9 | 185.1 | 52.8 | 200.0 | 54.7 | 207.0 | • | | |
| .145 | 3.68 | 36.4 | 137.9 | 39.9 | 151.0 | 46.1 | 174.4 | 51.5 | 195.0 | 54.0 | 204.5 | 56.4 | 213.6 | 60.9 | 230.7 | 63.1 | 238.8 | • | | |

*Orifice size (or equivalent for fan types) is denoted in the part number (-018, etc.)

TOOLS & NOZZLES

REPLACEABLE NOZZLE TIPS

ORIFICE GROUP C



| ORIFICE SIZE* | | FLOW AT SPECIFIED PRESSURES (PSI / BAR) | | | | | | | | AVAILABLE SERIES | | | | | | |
|---------------|------|---|-------|-------|-------|-------|-------|--------|-------|------------------|----|-----|------|------|------|----|
| in | mm | 5,000 | 344 | 6,000 | 413 | 8,000 | 551 | 10,000 | 689 | HHTC | HP | JS4 | JS4F | P2TC | P4TC | RM |
| | | gpm | lpm | gpm | lpm | gpm | lpm | gpm | lpm | | | | | | | |
| .018 | 0.46 | 0.6 | 2.3 | 0.7 | 2.6 | 0.8 | 3.0 | 0.9 | 3.3 | • | • | • | • | • | • | • |
| .020 | 0.51 | 0.8 | 2.9 | 0.8 | 3.2 | 1.0 | 3.7 | 1.1 | 4.1 | • | • | • | • | • | • | • |
| .022 | 0.56 | 0.9 | 3.5 | 1.0 | 3.8 | 1.2 | 4.4 | 1.3 | 4.9 | • | • | • | • | • | • | • |
| .024 | 0.61 | 1.1 | 4.2 | 1.2 | 4.6 | 1.4 | 5.3 | 1.6 | 5.9 | • | • | • | • | • | • | • |
| .026 | 0.66 | 1.3 | 4.9 | 1.4 | 5.4 | 1.6 | 6.2 | 1.8 | 6.9 | • | • | • | • | • | • | • |
| .029 | 0.74 | 1.6 | 6.1 | 1.8 | 6.7 | 2.0 | 7.7 | 2.3 | 8.6 | • | • | • | • | • | • | • |
| .032 | 0.81 | 2.0 | 7.4 | 2.1 | 8.1 | 2.5 | 9.4 | 2.8 | 10.5 | • | • | • | • | • | • | • |
| .035 | 0.89 | 2.3 | 8.9 | 2.6 | 9.7 | 3.0 | 11.2 | 3.3 | 12.5 | • | • | • | • | • | • | • |
| .038 | 0.97 | 2.8 | 10.4 | 3.0 | 11.4 | 3.5 | 13.2 | 3.9 | 14.8 | • | • | • | • | • | • | • |
| .042 | 1.07 | 3.4 | 12.7 | 3.7 | 14.0 | 4.3 | 16.1 | 4.8 | 18.0 | • | • | • | • | • | • | • |
| .047 | 1.19 | 4.2 | 16.0 | 4.6 | 17.5 | 5.3 | 20.2 | 6.0 | 22.6 | • | • | • | • | • | • | • |
| .052 | 1.32 | 5.2 | 19.5 | 5.7 | 21.4 | 6.5 | 24.7 | 7.3 | 27.6 | • | • | • | • | • | • | • |
| .057 | 1.45 | 6.2 | 23.5 | 6.8 | 25.7 | 7.8 | 29.7 | 8.8 | 33.2 | • | • | • | • | • | • | • |
| .063 | 1.60 | 7.6 | 28.7 | 8.3 | 31.4 | 9.6 | 36.3 | 10.7 | 40.6 | • | • | • | • | • | • | • |
| .067 | 1.70 | 8.6 | 32.4 | 9.4 | 35.5 | 10.8 | 41.0 | 12.1 | 45.9 | • | • | • | • | • | • | • |
| .069 | 1.75 | 9.1 | 34.4 | 10.0 | 37.7 | 11.5 | 43.5 | 12.9 | 48.7 | • | • | • | • | • | • | • |
| .073 | 1.85 | 10.2 | 38.5 | 11.1 | 42.2 | 12.9 | 48.7 | 14.4 | 54.5 | • | • | • | • | • | • | • |
| .075 | 1.90 | 10.7 | 40.6 | 11.8 | 44.5 | 13.6 | 51.4 | 15.2 | 57.5 | • | • | • | • | • | • | • |
| .078 | 1.98 | 11.6 | 44.0 | 12.7 | 48.2 | 14.7 | 55.6 | 16.4 | 62.2 | • | • | • | • | • | • | • |
| .082 | 2.08 | 12.8 | 48.6 | 14.1 | 53.2 | 16.2 | 61.5 | 18.2 | 68.7 | • | • | • | • | • | • | • |
| .090 | 2.29 | 15.5 | 58.5 | 16.9 | 64.1 | 19.6 | 74.0 | 21.9 | 82.8 | • | • | • | • | • | • | • |
| .093 | 2.36 | 16.5 | 62.5 | 18.1 | 68.5 | 20.9 | 79.1 | 23.4 | 88.4 | • | • | • | • | • | • | • |
| .098 | 2.49 | 18.3 | 69.4 | 20.1 | 76.0 | 23.2 | 87.8 | 25.9 | 98.1 | • | • | • | • | • | • | • |
| .106 | 2.69 | 21.5 | 81.2 | 23.5 | 88.9 | 27.1 | 102.7 | 30.3 | 114.8 | • | • | • | • | • | • | • |
| .110 | 2.79 | 23.1 | 87.4 | 25.3 | 95.8 | 29.2 | 110.6 | 32.7 | 123.7 | • | • | • | • | • | • | • |
| .115 | 2.92 | 25.2 | 95.6 | 27.7 | 104.7 | 31.9 | 120.9 | 35.7 | 135.2 | • | • | • | • | • | • | • |
| .125 | 3.18 | 29.8 | 112.9 | 32.7 | 123.7 | 37.7 | 142.8 | 42.2 | 159.7 | • | • | • | • | • | • | • |
| .135 | 3.43 | 34.8 | 131.7 | 38.1 | 144.3 | 44.0 | 166.6 | 49.2 | 186.3 | • | • | • | • | • | • | • |
| .145 | 3.68 | 40.1 | 151.9 | 44.0 | 166.4 | 50.8 | 192.2 | 56.8 | 214.9 | • | • | • | • | • | • | • |
| .155 | 3.94 | 45.9 | 173.6 | 50.2 | 190.2 | 58.0 | 219.6 | 64.9 | 245.5 | • | • | • | • | • | • | • |
| .165 | 4.19 | 52.0 | 196.7 | 56.9 | 215.5 | 65.7 | 248.9 | 73.5 | 278.2 | • | • | • | • | • | • | • |

*Orifice size (or equivalent for fan types) is denoted in the part number (-018, etc.)

TOOLS & NOZZLES

REPLACEABLE NOZZLE TIPS

ORIFICE GROUP C



| ORIFICE SIZE* | | FLOW AT SPECIFIED PRESSURES (PSI / BAR) | | | | | | | | AVAILABLE SERIES | | | | | | |
|---------------|------|---|-------|--------|-------|--------|-------|--------|-------|------------------|----|-----|------|------|------|----|
| in | mm | 11,000 | 758 | 12,000 | 827 | 14,000 | 965 | 15,000 | 1034 | HHTC | HP | JS4 | JS4F | P2TC | P4TC | RM |
| | | gpm | lpm | gpm | lpm | gpm | lpm | gpm | lpm | | | | | | | |
| .018 | 0.46 | 0.9 | 3.5 | 1.0 | 3.6 | 1.0 | 3.9 | 1.1 | 4.1 | • | • | • | • | • | • | • |
| .020 | 0.51 | 1.1 | 4.3 | 1.2 | 4.5 | 1.3 | 4.8 | 1.3 | 5.0 | • | • | • | • | • | • | • |
| .022 | 0.56 | 1.4 | 5.2 | 1.4 | 5.4 | 1.5 | 5.9 | 1.6 | 6.1 | • | • | • | • | • | • | • |
| .024 | 0.61 | 1.6 | 6.2 | 1.7 | 6.4 | 1.8 | 7.0 | 1.9 | 7.2 | • | • | • | • | • | • | • |
| .026 | 0.66 | 1.9 | 7.2 | 2.0 | 7.6 | 2.2 | 8.2 | 2.2 | 8.5 | • | • | • | • | • | • | • |
| .029 | 0.74 | 2.4 | 9.0 | 2.5 | 9.4 | 2.7 | 10.2 | 2.8 | 10.5 | • | • | • | • | • | • | • |
| .032 | 0.81 | 2.9 | 11.0 | 3.0 | 11.5 | 3.3 | 12.4 | 3.4 | 12.8 | • | • | • | • | • | • | • |
| .035 | 0.89 | 3.5 | 13.1 | 3.6 | 13.7 | 3.9 | 14.8 | 4.1 | 15.3 | • | • | • | • | • | • | • |
| .038 | 0.97 | 4.1 | 15.5 | 4.3 | 16.2 | 4.6 | 17.5 | 4.8 | 18.1 | • | • | • | • | • | • | • |
| .042 | 1.07 | 5.0 | 18.9 | 5.2 | 19.7 | 5.6 | 21.3 | 5.8 | 22.1 | • | • | • | • | • | • | • |
| .047 | 1.19 | 6.3 | 23.7 | 6.5 | 24.7 | 7.1 | 26.7 | 7.3 | 27.6 | • | • | • | • | • | • | • |
| .052 | 1.32 | 7.7 | 29.0 | 8.0 | 30.3 | 8.6 | 32.7 | 8.9 | 33.8 | • | • | • | • | • | • | • |
| .057 | 1.45 | 9.2 | 34.8 | 9.6 | 36.4 | 10.4 | 39.3 | 10.7 | 40.7 | • | • | • | • | • | • | • |
| .063 | 1.60 | 11.2 | 42.5 | 11.7 | 44.4 | 12.7 | 48.0 | 13.1 | 49.7 | • | • | • | • | • | • | • |
| .067 | 1.70 | 12.7 | 48.1 | 13.3 | 50.3 | 14.3 | 54.3 | 14.8 | 56.2 | • | • | • | • | • | • | • |
| .069 | 1.75 | 13.5 | 51.0 | 14.1 | 53.3 | 15.2 | 57.6 | 15.7 | 59.6 | • | • | • | • | • | • | • |
| .073 | 1.85 | 15.1 | 57.1 | 15.8 | 59.7 | 17.0 | 64.4 | 17.6 | 66.7 | • | • | • | • | • | • | • |
| .075 | 1.90 | 15.9 | 60.3 | 16.6 | 63.0 | 18.0 | 68.0 | 18.6 | 70.4 | • | • | • | • | • | • | • |
| .078 | 1.98 | 17.2 | 65.2 | 18.0 | 68.1 | 19.4 | 73.6 | 20.1 | 76.1 | • | • | • | • | • | • | • |
| .082 | 2.08 | 19.0 | 72.1 | 19.9 | 75.3 | 21.5 | 81.3 | 22.2 | 84.2 | • | • | • | • | • | • | • |
| .090 | 2.29 | 22.9 | 86.8 | 24.0 | 90.7 | 25.9 | 97.9 | 26.8 | 101.4 | • | • | • | • | • | • | • |
| .093 | 2.36 | 24.5 | 92.7 | 25.6 | 96.8 | 27.6 | 104.6 | 28.6 | 108.3 | • | • | • | • | • | • | • |
| .098 | 2.49 | 27.2 | 102.9 | 28.4 | 107.5 | 30.7 | 116.1 | 31.8 | 120.2 | • | • | • | • | • | • | • |
| .106 | 2.69 | 31.8 | 120.4 | 33.2 | 125.8 | 35.9 | 135.9 | 37.2 | 140.6 | • | • | • | • | • | • | • |
| .110 | 2.79 | 34.3 | 129.7 | 35.8 | 135.5 | 38.7 | 146.3 | 40.0 | 151.4 | • | • | • | • | • | • | • |
| .115 | 2.92 | 37.5 | 141.7 | 39.1 | 148.1 | 42.2 | 159.9 | 43.7 | 165.5 | • | • | • | • | • | • | • |
| .125 | 3.18 | 44.2 | 167.5 | 46.2 | 174.9 | 49.9 | 188.9 | 51.7 | 195.6 | • | • | • | • | • | • | • |
| .135 | 3.43 | 51.6 | 195.3 | 53.9 | 204.0 | 58.2 | 220.4 | 60.3 | 228.1 | • | • | • | • | • | • | • |
| .145 | 3.68 | 59.5 | 225.4 | 62.2 | 235.4 | 67.2 | 254.2 | 69.5 | 263.2 | • | • | • | • | • | • | • |
| .155 | 3.94 | 68.0 | 257.5 | 71.1 | 269.0 | 76.8 | 290.5 | 79.4 | 300.7 | • | • | • | • | • | • | • |
| .165 | 4.19 | 77.1 | 291.8 | 80.5 | 304.8 | 87.0 | 329.2 | 90.0 | 340.8 | • | • | • | • | • | • | • |

*Orifice size (or equivalent for fan types) is denoted in the part number (-018, etc.)

TOOLS & NOZZLES

REPLACEABLE NOZZLE TIPS

OX SERIES CARBIDE ORIFICES



OX
(PAGE G-46)

| ORIFICE SIZE* | | FLOW AT SPECIFIED PRESSURES (PSI / BAR) | | | | | | | | | | | | | | | |
|---------------|------|---|------|-------|------|-------|------|--------|------|--------|------|--------|------|--------|------|--------|------|
| in | mm | 5,000 | 344 | 6,000 | 413 | 8,000 | 551 | 10,000 | 689 | 11,000 | 758 | 12,000 | 827 | 14,000 | 965 | 15,000 | 1034 |
| | | gpm | lpm | gpm | lpm | gpm | lpm | gpm | lpm | gpm | lpm | gpm | lpm | gpm | lpm | gpm | lpm |
| .018 | 0.46 | 0.6 | 2.4 | 0.7 | 2.7 | 0.8 | 3.1 | 0.9 | 3.4 | 1.0 | 3.6 | 1.0 | 3.8 | 1.1 | 4.1 | 0.9 | 3.4 |
| .025 | 0.64 | 1.2 | 4.7 | 1.4 | 5.1 | 1.6 | 5.9 | 1.8 | 6.6 | 1.8 | 6.9 | 1.9 | 7.3 | 2.1 | 7.8 | 1.8 | 6.6 |
| .029 | 0.74 | 1.7 | 6.3 | 1.8 | 6.9 | 2.1 | 8.0 | 2.4 | 8.9 | 2.5 | 9.3 | 2.6 | 9.8 | 2.8 | 10.5 | 2.4 | 8.9 |
| .033 | 0.84 | 2.2 | 8.2 | 2.4 | 8.9 | 2.7 | 10.3 | 3.0 | 11.5 | 3.2 | 12.1 | 3.3 | 12.6 | 3.6 | 13.7 | 3.0 | 11.5 |
| .038 | 0.97 | 2.9 | 10.8 | 3.1 | 11.9 | 3.6 | 13.7 | 4.0 | 15.3 | 4.2 | 16.1 | 4.4 | 16.8 | 4.8 | 18.1 | 4.0 | 15.3 |
| .042 | 1.07 | 3.5 | 13.2 | 3.8 | 14.5 | 4.4 | 16.7 | 4.9 | 18.7 | 5.2 | 19.6 | 5.4 | 20.5 | 5.8 | 22.1 | 4.9 | 18.7 |
| .046 | 1.17 | 4.2 | 15.9 | 4.6 | 17.4 | 5.3 | 20.1 | 5.9 | 22.4 | 6.2 | 23.5 | 6.5 | 24.6 | 7.0 | 26.5 | 5.9 | 22.4 |

*Orifice size (or equivalent for fan types) is denoted in the part number (-018, etc.)

NOZZLE NUMBER CROSS-REFERENCE CHART

Historically, Jetstream has used a random 5-digit part number with a 'Flow Number' to designate specific orifice sizes. Nozzle part numbers have since been updated to include the nozzle series and orifice size directly in the part number (i.e. JS2-018 for a JS2 series nozzle with a .018" diameter orifice). The charts below give a cross reference between the old 'Flow Number' and orifice diameter.

| NO. | IN | MM |
|-----|------|------|
| 000 | .018 | 0.46 |
| 00 | .025 | 0.64 |
| 0 | .029 | 0.74 |
| 1 | .033 | 0.84 |
| 2 | .038 | 0.97 |

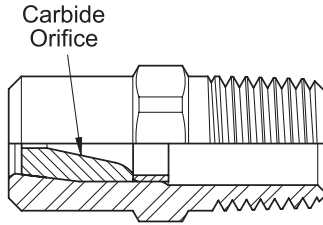
| NO. | IN | MM |
|-----|------|------|
| 3 | .042 | 1.07 |
| 4 | .046 | 1.17 |
| 5 | .055 | 1.40 |
| 6 | .063 | 1.60 |
| 7 | .067 | 1.70 |

| NO. | IN | MM |
|-----|------|------|
| 8 | .070 | 1.78 |
| 9 | .073 | 1.85 |
| 10 | .078 | 1.98 |
| 12 | .082 | 2.08 |
| 14 | .090 | 2.28 |





| NO. | IN | MM |
|-----|------|------|
| 15 | .093 | 2.36 |
| 20 | .110 | 2.79 |
| 30 | .125 | 3.18 |

REPLACEABLE NOZZLE TIPS

HHTC NOZZLES



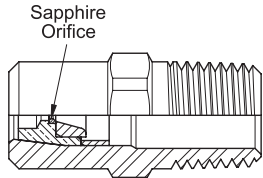
- ▶ Tungsten carbide orifice inserts significantly outlast conventional nozzle orifice material
- ▶ Tapered geometry provides highly cohesive, distortion-free waterjets for concentrated, work saving cleaning and cutting power
- ▶ Enables more work to be done in less time
- ▶ Straight (0°) and fan patterns available
- ▶ 1/4" NPT Male connection*
- ▶ 22,000 psi (1516 bar) maximum working pressure

| HHTC0 STRAIGHT JET | | HHTC15 15° FAN JET | | HHTC25 25° FAN JET | | HHTC50 50° FAN JET | |
|---|-----------|---|--|--|--|---|--|
|  | |  | |  | |  | |
| PART NO.** | | PART NO.** | | PART NO.** | | PART NO.** | |
| HHTC0-018 | HHTC0-073 | HHTC15-029 | | HHTC25-047 | | HHTC50-057 | |
| HHTC0-020 | HHTC0-075 | HHTC15-038 | | HHTC25-057 | | HHTC50-063 | |
| HHTC0-022 | HHTC0-078 | HHTC15-042 | | HHTC25-063 | | HHTC50-067 | |
| HHTC0-024 | HHTC0-082 | HHTC15-047 | | HHTC25-067 | | HHTC50-069 | |
| HHTC0-026 | HHTC0-090 | HHTC15-057 | | HHTC25-069 | | HHTC50-073 | |
| HHTC0-029 | HHTC0-093 | HHTC15-063 | | HHTC25-073 | | HHTC50-078 | |
| HHTC0-032 | HHTC0-098 | HHTC15-067 | | HHTC25-078 | | | |
| HHTC0-035 | HHTC0-106 | HHTC15-069 | | HHTC25-093 | | | |
| HHTC0-038 | HHTC0-110 | HHTC15-073 | | | | | |
| HHTC0-042 | HHTC0-115 | HHTC15-078 | | | | | |
| HHTC0-047 | HHTC0-125 | HHTC15-082 | | | | | |
| HHTC0-052 | HHTC0-135 | HHTC15-090 | | | | | |
| HHTC0-057 | HHTC0-145 | HHTC15-093 | | | | | |
| HHTC0-063 | HHTC0-155 | | | | | | |
| HHTC0-067 | HHTC0-165 | | | | | | |
| HHTC0-069 | | | | | | | |

*See details on all connection types in Section I.
 **Orifice size (or equivalent for fan types) is denoted in the part number (-018, etc.)
 For nozzle flow rates, see Orifice Group C chart, page G-44.

REPLACEABLE NOZZLE TIPS

HHSO NOZZLES



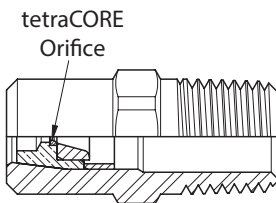
- ▶ Precision honed sapphire orifice inserts are twice as durable as tungsten carbide
- ▶ Tapered orifice retainer provides highly cohesive, distortion-free waterjets for concentrated, work saving cleaning and cutting power
- ▶ Straight (0°) patterns
- ▶ 1/4" NPT Male connection*
- ▶ 22,000 psi (1516 bar) maximum working pressure

HHSO STRAIGHT JET

| | PART NO.** |
|--|------------|
| | HHSO-025 |
| | HHSO-029 |
| | HHSO-033 |
| | HHSO-038 |
| | HHSO-042 |
| | HHSO-046 |
| | HHSO-055 |

*See details on all connection types in Section I.
 **Orifice size (or equivalent for fan types) is denoted in the part number (-018, etc.)
 For nozzle flow rates, see Orifice Group A chart, page G-40.

HHD NOZZLES



- ▶ tetraCORE™ synthetic diamond orifice inserts are 10-15x as durable as sapphire
- ▶ Tapered orifice retainer provides highly cohesive, distortion-free waterjets for concentrated, work saving cleaning and cutting power
- ▶ Straight (0°) patterns
- ▶ 1/4" NPT Male connection*
- ▶ 22,000 psi (1516 bar) maximum working pressure

HHD STRAIGHT JET

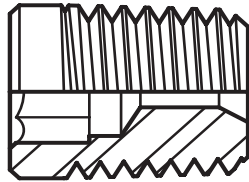
| | PART NO.** |
|---------|------------|
| | HHD-038 |
| | HHD-042 |
| | HHD-047 |
| | HHD-052 |
| | HHD-057 |
| | HHD-063 |
| | HHD-069 |
| | HHD-073 |
| HHD-078 | |

*See details on all connection types in Section I.
 **Orifice size (or equivalent for fan types) is denoted in the part number (-018, etc.)
 For nozzle flow rates, see Orifice Group A chart, page G-40.

TOOLS & NOZZLES

REPLACEABLE NOZZLE TIPS

P1 PIPE CLEANING NOZZLES



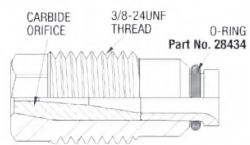
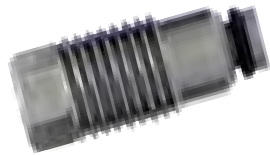
- ▶ Low profile design for unobstructed pipe cleaning
- ▶ Stainless steel
- ▶ Precision drilled orifice
- ▶ Tapered geometry provides highly cohesive, distortion-free waterjets for concentrated, work saving cleaning and cutting power
- ▶ Straight (0°) patterns
- ▶ 1/16" NPT Male connection*
- ▶ 22,000 psi (1516 bar) maximum working pressure

P1 STRAIGHT JET

| | PART NO.** |
|--------|------------|
| | P1-038 |
| P1-042 | |
| P1-046 | |
| P1-055 | |
| P1-063 | |
| P1-067 | |
| P1-070 | |
| P1-073 | |
| P1-078 | |

*See details on all connection types in Section I.
 **Orifice size (or equivalent for fan types) is denoted in the part number (-018, etc.)
 For nozzle flow rates, see Orifice Group B chart, page G-43.

OX NOZZLES



- ▶ High productivity carbide nozzles designed for use in the Orbi-Jet X22 tool
- ▶ Specially engineered carbide orifices provide the most aggressive waterjets available
- ▶ Efficient design reduces turbulence and orifice wear

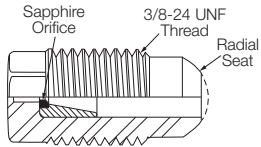
OX STRAIGHT JET

| | PART NO.** |
|--------|------------|
| | OX-018 |
| OX-025 | |
| OX-029 | |
| OX-033 | |
| OX-038 | |
| OX-042 | |
| OX-046 | |
| OX-055 | |

*See details on all connection types in Section I.
 **Orifice size (or equivalent for fan types) is denoted in the part number (-018, etc.)
 For nozzle flow rates, see the OX Series Carbide Orifices chart, page G-46.

REPLACEABLE NOZZLE TIPS

UHPX NOZZLES



- ▶ Premium high productivity sapphire nozzles
- ▶ Tapered orifice retainer reduces turbulence and provides a cohesive, aggressive waterjet.
- ▶ 5/16" external hex
- ▶ 22,000 psi (1516 bar) maximum working pressure

UHPX STRAIGHT JET

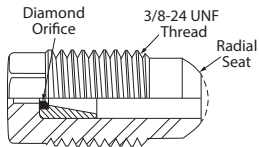
| PART NO.** | |
|------------|----------|
| UHPX-005 | UHPX-025 |
| UHPX-006 | UHPX-026 |
| UHPX-007 | UHPX-027 |
| UHPX-008 | UHPX-028 |
| UHPX-009 | UHPX-029 |
| UHPX-010 | UHPX-030 |
| UHPX-011 | UHPX-031 |
| UHPX-012 | UHPX-032 |
| UHPX-013 | UHPX-033 |
| UHPX-014 | UHPX-034 |
| UHPX-015 | UHPX-035 |
| UHPX-016 | UHPX-036 |
| UHPX-017 | UHPX-037 |
| UHPX-018 | UHPX-038 |
| UHPX-019 | UHPX-039 |
| UHPX-020 | UHPX-040 |
| UHPX-021 | UHPX-042 |
| UHPX-022 | UHPX-046 |
| UHPX-023 | UHPX-052 |
| UHPX-024 | UHPX-067 |



*See details on all connection types in Section I.
 **Orifice size (or equivalent for fan types) is denoted in the part number (-018, etc.)
 For nozzle flow rates, see Orifice Group A chart, page G-40.

REPLACEABLE NOZZLE TIPS

UHPXD NOZZLES



- ▶ Premium high productivity tetraCORE™ synthetic diamond nozzles
- ▶ Tapered orifice retainer reduces turbulence and provides a cohesive, aggressive waterjet.
- ▶ 5/16" external hex
- ▶ 22,000 psi (1516 bar) maximum working pressure

UHPXD STRAIGHT JET

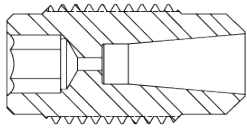
| PART NO.** | |
|------------|-----------|
| UHPXD-005 | UHPXD-025 |
| UHPXD-006 | UHPXD-026 |
| UHPXD-007 | UHPXD-027 |
| UHPXD-008 | UHPXD-028 |
| UHPXD-009 | UHPXD-029 |
| UHPXD-010 | UHPXD-030 |
| UHPXD-011 | UHPXD-031 |
| UHPXD-012 | UHPXD-032 |
| UHPXD-013 | UHPXD-033 |
| UHPXD-014 | UHPXD-034 |
| UHPXD-015 | UHPXD-035 |
| UHPXD-016 | UHPXD-036 |
| UHPXD-017 | UHPXD-037 |
| UHPXD-018 | UHPXD-038 |
| UHPXD-019 | UHPXD-039 |
| UHPXD-020 | UHPXD-040 |
| UHPXD-021 | UHPXD-042 |
| UHPXD-022 | UHPXD-046 |
| UHPXD-023 | UHPXD-052 |
| UHPXD-024 | UHPXD-067 |



*See details on all connection types in Section I.
 **Orifice size (or equivalent for fan types) is denoted in the part number (-018, etc.)
 For nozzle flow rates, see Orifice Group A chart, page G-40.

REPLACEABLE NOZZLE TIPS

UHPXi NOZZLES



- ▶ Premium high productivity sapphire nozzles
- ▶ Tapered orifice retainer reduces turbulence and provides a cohesive, aggressive waterjet.
- ▶ 5/32" internal hex
- ▶ 22,000 psi (1516 bar) maximum working pressure

UHPXi STRAIGHT JET

| PART NO.** | |
|------------|-----------|
| UHPXi-005 | UHPXi-025 |
| UHPXi-006 | UHPXi-026 |
| UHPXi-007 | UHPXi-027 |
| UHPXi-008 | UHPXi-028 |
| UHPXi-009 | UHPXi-029 |
| UHPXi-010 | UHPXi-030 |
| UHPXi-011 | UHPXi-031 |
| UHPXi-012 | UHPXi-032 |
| UHPXi-013 | UHPXi-033 |
| UHPXi-014 | UHPXi-034 |
| UHPXi-015 | UHPXi-035 |
| UHPXi-016 | UHPXi-036 |
| UHPXi-017 | UHPXi-037 |
| UHPXi-018 | UHPXi-038 |
| UHPXi-019 | UHPXi-039 |
| UHPXi-020 | UHPXi-040 |
| UHPXi-021 | UHPXi-042 |
| UHPXi-022 | UHPXi-046 |
| UHPXi-023 | UHPXi-052 |
| UHPXi-024 | UHPXi-067 |

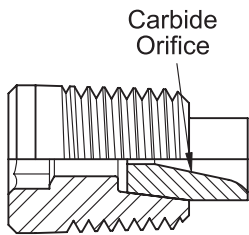


*See details on all connection types in Section I.

**Orifice size (or equivalent for fan types) is denoted in the part number (-018, etc.)
For nozzle flow rates, see Orifice Group A chart, page G-40.

LOW PROFILE NOZZLE TIPS

P4TC PIPE CLEANING NOZZLES



- ▶ Low profile design for unobstructed pipe cleaning
- ▶ Tungsten carbide orifice inserts significantly outlast conventional nozzle orifice material
- ▶ Tapered geometry provides highly cohesive, distortion-free waterjets for concentrated, work-saving cleaning and cutting power
- ▶ Straight (0°) patterns
- ▶ 1/4" NPT Male connection*
- ▶ 22,000 psi (1516 bar) maximum working pressure

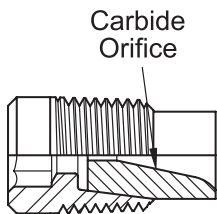
P4TC STRAIGHT JET

| PART NO.** | |
|------------|----------|
| P4TC-018 | P4TC-073 |
| P4TC-020 | P4TC-075 |
| P4TC-022 | P4TC-078 |
| P4TC-024 | P4TC-082 |
| P4TC-026 | P4TC-090 |
| P4TC-029 | P4TC-093 |
| P4TC-032 | P4TC-098 |
| P4TC-035 | P4TC-106 |
| P4TC-038 | P4TC-110 |
| P4TC-042 | P4TC-115 |
| P4TC-047 | P4TC-125 |
| P4TC-052 | P4TC-135 |
| P4TC-057 | P4TC-145 |
| P4TC-063 | P4TC-155 |
| P4TC-067 | P4TC-165 |
| P4TC-069 | |

*See details on all connection types in Section I.

**Orifice size (or equivalent for fan types) is denoted in the part number (-018, etc.)
For nozzle flow rates, see Orifice Group C chart, page G-44.

P2TC PIPE CLEANING NOZZLES



- ▶ Low profile design for unobstructed pipe cleaning
- ▶ Tungsten carbide orifice inserts significantly outlast conventional nozzle orifice material
- ▶ Tapered geometry provides highly cohesive, distortion-free waterjets for concentrated, work saving cleaning and cutting power
- ▶ Straight (0°) patterns
- ▶ 1/8" NPT Male connection*
- ▶ 22,000 psi (1516 bar) maximum working pressure

P2TC STRAIGHT JET

| PART NO.** | |
|------------|----------|
| P2TC-018 | P2TC-073 |
| P2TC-020 | P2TC-075 |
| P2TC-022 | P2TC-078 |
| P2TC-024 | P2TC-082 |
| P2TC-026 | P2TC-090 |
| P2TC-029 | P2TC-093 |
| P2TC-032 | P2TC-098 |
| P2TC-035 | P2TC-106 |
| P2TC-038 | P2TC-110 |
| P2TC-042 | P2TC-115 |
| P2TC-047 | P2TC-125 |
| P2TC-052 | P2TC-135 |
| P2TC-057 | P2TC-145 |
| P2TC-063 | P2TC-155 |
| P2TC-067 | P2TC-165 |
| P2TC-069 | |

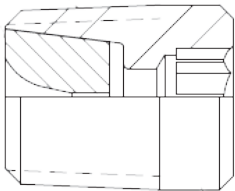
*See details on all connection types in Section I.

**Orifice size (or equivalent for fan types) is denoted in the part number (-018, etc.)
For nozzle flow rates, see Orifice Group C chart, page G-44.

TOOLS & NOZZLES


LOW PROFILE NOZZLE TIPS

P2TCS PIPE CLEANING NOZZLES



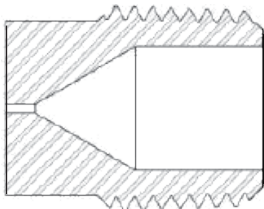
- ▶ Low profile design for unobstructed pipe cleaning with short inlet
- ▶ Tungsten carbide orifice inserts significantly outlast conventional nozzle orifice material
- ▶ Tapered geometry provides highly cohesive, distortion-free waterjets for concentrated, work saving cleaning and cutting power
- ▶ Straight (0°) patterns
- ▶ 1/8" NPT Male connection*
- ▶ 22,000 psi (1516 bar) maximum working pressure

P2TCS STRAIGHT JET

| | PART NO.** | |
|-----------|---|-----------|
| |  | P2TCS-018 |
| P2TCS-020 | | P2TCS-069 |
| P2TCS-022 | | P2TCS-073 |
| P2TCS-024 | | P2TCS-075 |
| P2TCS-026 | | P2TCS-078 |
| P2TCS-029 | | P2TCS-082 |
| P2TCS-032 | | P2TCS-090 |
| P2TCS-035 | | P2TCS-093 |
| P2TCS-038 | | P2TCS-098 |
| P2TCS-042 | | P2TCS-106 |
| P2TCS-047 | | P2TCS-110 |
| P2TCS-052 | | P2TCS-115 |
| P2TCS-057 | | P2TCS-125 |
| P2TCS-063 | | |


*See details on all connection types in Section I.
 **Orifice size (or equivalent for fan types) is denoted in the part number (-018, etc.)
 For nozzle flow rates, see Orifice Group B chart, page G-43.

JS2 PIPE CLEANING NOZZLES



- ▶ Low profile design for unobstructed pipe cleaning with short inlet
- ▶ Stainless steel
- ▶ Precision drilled orifice
- ▶ Tapered geometry provides highly cohesive, distortion-free waterjets for concentrated, work saving cleaning and cutting power
- ▶ Straight (0°) patterns
- ▶ 1/8" NPT Male connection*
- ▶ 22,000 psi (1516 bar) maximum working pressure

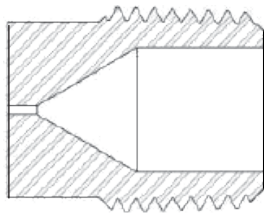
JS2 STRAIGHT JET

| | PART NO.** | |
|---------|---|----------|
| |  | JS2-018 |
| JS2-020 | | JS2-069 |
| JS2-022 | | JS2-075 |
| JS2-024 | | JS2-082 |
| JS2-026 | | JS2-090 |
| JS2-029 | | JS2-098 |
| JS2-032 | | JS2-106 |
| JS2-035 | | JS2-115 |
| JS2-038 | | JS2-125 |
| JS2-042 | | JS2-135 |
| JS2-047 | | JS2-145 |
| JS2-052 | | JS2-PLUG |
| JS2-057 | | |

*See details on all connection types in Section I.
 **Orifice size (or equivalent for fan types) is denoted in the part number (-018, etc.)
 For nozzle flow rates, see Orifice Group B chart, page G-43.

LOW PROFILE NOZZLE TIPS

JS2D PIPE CLEANING NOZZLES



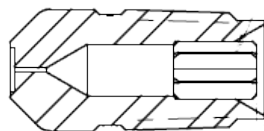
- ▶ Low profile design for unobstructed pipe cleaning with short inlet
- ▶ tetraCORE™ synthetic diamond orifice inserts are 10-15x as durable as sapphire
- ▶ Precision drilled orifice
- ▶ Tapered geometry provides highly cohesive, distortion-free waterjets for concentrated, work saving cleaning and cutting power
- ▶ Straight (0°) patterns
- ▶ 1/8" NPT Male connection*
- ▶ 22,000 psi (1516 bar) maximum working pressure

JS2D STRAIGHT JET

| | PART NO.** | |
|----------|------------|----------|
| | | JS2D-018 |
| JS2D-020 | | |
| JS2D-022 | | |
| JS2D-024 | | |
| JS2D-026 | | |
| JS2D-029 | | |
| JS2D-032 | | |
| JS2D-035 | | |
| JS2D-038 | | |
| JS2D-042 | | |
| JS2D-052 | | |
| JS2D-057 | | |
| JS2D-063 | | |
| JS2D-078 | | |

*See details on all connection types in Section I.
 **Orifice size (or equivalent for fan types) is denoted in the part number (-018, etc.)
 For nozzle flow rates, see Orifice Group A chart, page G-40.

JS4 PIPE CLEANING NOZZLES



- ▶ Low profile design for unobstructed pipe cleaning with short inlet
- ▶ Stainless steel
- ▶ Precision drilled orifice
- ▶ Tapered geometry provides highly cohesive, distortion-free waterjets for concentrated, work saving cleaning and cutting power
- ▶ Straight (0°) patterns
- ▶ 1/4" NPT Male connection*
- ▶ 22,000 psi (1516 bar) maximum working pressure

JS4 STRAIGHT JET

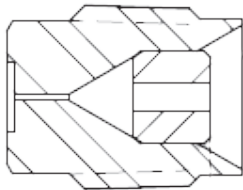
| | PART NO.** | |
|---------|------------|---------|
| | | JS4-018 |
| JS4-020 | | JS4-069 |
| JS4-022 | | JS4-075 |
| JS4-024 | | JS4-082 |
| JS4-026 | | JS4-090 |
| JS4-029 | | JS4-098 |
| JS4-032 | | JS4-106 |
| JS4-035 | | JS4-115 |
| JS4-038 | | JS4-125 |
| JS4-042 | | JS4-135 |
| JS4-047 | | JS4-145 |
| JS4-052 | | JS4-155 |
| JS4-057 | | JS4-165 |

*See details on all connection types in Section I.
 **Orifice size (or equivalent for fan types) is denoted in the part number (-018, etc.)
 For nozzle flow rates, see Orifices Group C chart, page G-44.

TOOLS &
NOZZLES


LOW PROFILE NOZZLE TIPS

JS4F PIPE CLEANING NOZZLES



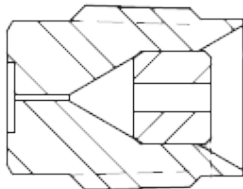
- ▶ Flush mount design
- ▶ Stainless steel
- ▶ Precision drilled orifice
- ▶ Tapered geometry provides highly cohesive, distortion-free waterjets for concentrated, work saving cleaning and cutting power
- ▶ Straight (0°) patterns
- ▶ 1/4" NPT Male connection*
- ▶ 22,000 psi (1516 bar) maximum working pressure

JS4F STRAIGHT JET

| | PART NO.** | |
|----------|---|-----------|
| |  | JS4F-018 |
| JS4F-020 | | JS4F-069 |
| JS4F-022 | | JS4F-075 |
| JS4F-024 | | JS4F-082 |
| JS4F-026 | | JS4F-090 |
| JS4F-029 | | JS4F-098 |
| JS4F-032 | | JS4F-106 |
| JS4F-035 | | JS4F-115 |
| JS4F-038 | | JS4F-125 |
| JS4F-042 | | JS4F-135 |
| JS4F-047 | | JS4F-145 |
| JS4F-052 | | JS4F-155 |
| JS4F-057 | | JS4F-165 |
| | | JS4F-PLUG |

*See details on all connection types in Section I.
 **Orifice size (or equivalent for fan types) is denoted in the part number (-018, etc.)
 For nozzle flow rates, see Orifice Group C chart, page G-44.

JS4FD PIPE CLEANING NOZZLES



- ▶ Flush mount design
- ▶ tetraCORE™ synthetic diamond orifices are 10-15x as durable as sapphire
- ▶ Precision drilled orifice
- ▶ Tapered geometry provides highly cohesive, distortion-free waterjets for concentrated, work saving cleaning and cutting power
- ▶ Straight (0°) patterns
- ▶ 1/4" NPT Male connection*
- ▶ 22,000 psi (1516 bar) maximum working pressure

JS4FD STRAIGHT JET

| | PART NO.** | |
|-----------|---|-----------|
| |  | JS4FD-032 |
| JS4FD-035 | | |
| JS4FD-038 | | |
| JS4FD-042 | | |
| JS4FD-047 | | |
| JS4FD-052 | | |
| JS4FD-057 | | |
| JS4FD-075 | | |

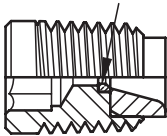
*See details on all connection types in Section I.
 **Orifice size (or equivalent for fan types) is denoted in the part number (-018, etc.)
 For nozzle flow rates, see Orifice Group A chart, page G-40.

FLUSH MOUNT NOZZLE TIPS

P1SO PIPE CLEANING NOZZLES



Sapphire Orifice



- ▶ Low profile design for unobstructed pipe cleaning
- ▶ Precision honed sapphire orifice inserts are twice as durable as tungsten carbide
- ▶ Tapered geometry provides highly cohesive, distortion-free waterjets for concentrated, work saving cleaning and cutting power
- ▶ Enables more work to be done in less time
- ▶ Straight (0°) patterns
- ▶ 1/16" NPT Male connection*
- ▶ 22,000 psi (1516 bar) maximum working pressure

P1SO STRAIGHT JET

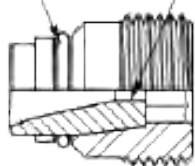
| | PART NO.** | |
|----------|------------|----------|
| | | P1SO-018 |
| P1SO-025 | | |
| P1SO-029 | | |
| P1SO-033 | | |
| P1SO-038 | | |
| P1SO-042 | | |
| P1SO-046 | | |
| P1SO-052 | | |

*See details on all connection types in Section I.
 **Orifice size (or equivalent for fan types) is denoted in the part number (-018, etc.)
 For nozzle flow rates, see Orifice Group A chart, page G-40.

RM PIPE CLEANING NOZZLES



O-Ring Part No. 26759
 Carbide Orifice



- ▶ Flush mount design
- ▶ Tapered geometry provides highly cohesive, distortion-free waterjets for concentrated, work saving cleaning and cutting power
- ▶ Enables more work to be done in less time
- ▶ Straight (0°) patterns
- ▶ 1/2"-28UNEF male connection
- ▶ 22,000 psi (1516 bar) maximum working pressure

RM STRAIGHT JET

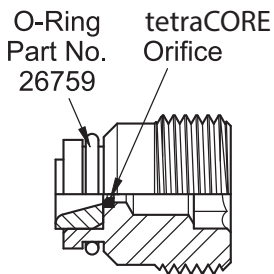
| | PART NO.** | |
|--------|------------|---------|
| | | RM-018 |
| RM-020 | | RM-075 |
| RM-022 | | RM-078 |
| RM-024 | | RM-082 |
| RM-026 | | RM-090 |
| RM-029 | | RM-093 |
| RM-032 | | RM-098 |
| RM-035 | | RM-106 |
| RM-038 | | RM-110 |
| RM-042 | | RM-115 |
| RM-047 | | RM-125 |
| RM-052 | | RM-135 |
| RM-057 | | RM-145 |
| RM-063 | | RM-155 |
| RM-067 | | RM-165 |
| RM-069 | | RM-PLUG |

*See details on all connection types in Section I.
 **Orifice size (or equivalent for fan types) is denoted in the part number (-018, etc.)
 For nozzle flow rates, see Orifice Group C chart, page G-44.

TOOLS & NOZZLES

FLUSH MOUNT NOZZLE TIPS

RMD PIPE CLEANING NOZZLES



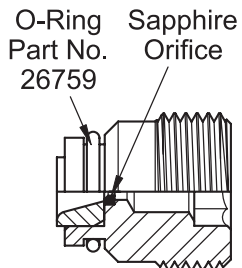
- ▶ Flush mount design
- ▶ tetraCORE™ synthetic diamond orifices are 10-15x as durable as sapphire
- ▶ Tapered geometry provides highly cohesive, distortion-free waterjets for concentrated, work saving cleaning and cutting power
- ▶ Enables more work to be done in less time
- ▶ Straight (0°) patterns
- ▶ 1/2"-28UNEF male connection
- ▶ 22,000 psi (1516 bar) maximum working pressure

RM STRAIGHT JET

| | PART NO.** |
|--|------------|
| | RMD-018 |
| | RMD-025 |
| | RMD-029 |
| | RMD-033 |
| | RMD-038 |
| | RMD-042 |
| | RMD-046 |
| | RMD-052 |

*See details on all connection types in Section I.
 **Orifice size (or equivalent for fan types) is denoted in the part number (-018, etc.)
 For nozzle flow rates, see Orifice Group A chart, page G-40.

RMS PIPE CLEANING NOZZLES



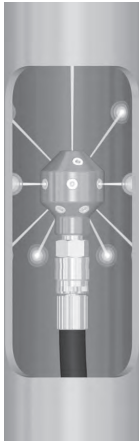
- ▶ Flush mount design
- ▶ Precision-honed sapphire orifice inserts are twice as durable as tungsten carbide
- ▶ Tapered orifice retainer provides highly cohesive, distortion-free waterjets for concentrated, work-saving cleaning and cutting power
- ▶ Straight (0°) patterns
- ▶ 1/2"-28UNEF male connection*
- ▶ 22,000 psi (1516 bar) maximum working pressure

RMS STRAIGHT JET

| | PART NO.** |
|--|------------|
| | RMS-018 |
| | RMS-025 |
| | RMS-029 |
| | RMS-033 |
| | RMS-038 |
| | RMS-042 |
| | RMS-046 |
| | RMS-052 |

*See details on all connection types in Section I.
 **Orifice size (or equivalent for fan types) is denoted in the part number (-018, etc.)
 For nozzle flow rates, see Orifice Group A chart, page G-40.


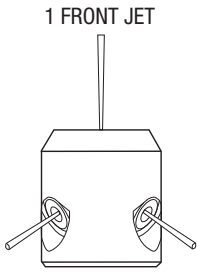
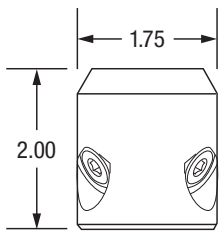
TOOLS & NOZZLES




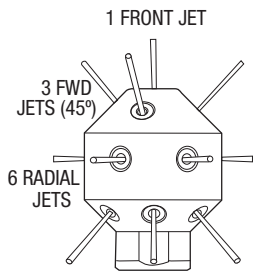
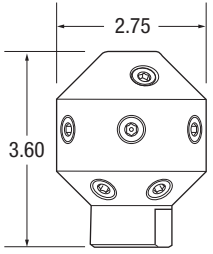
PIPE CLEANING NOZZLES

Commonly called “pineapples,” pipe cleaning nozzles are used for cleaning large diameter pipes (generally 4” or larger).

- ▶ Available in a variety of sizes and patterns
- ▶ Nozzle ports can be plugged to create several unique patterns to perform specific tasks (unplugging, flushing, etc.)
- ▶ Heat-treated stainless steel

| NOZZLE | NUMBER OF JETS | DIMENSIONS | USE WITH | NOZZLE PORT PLUG |
|---|---|---|---------------------------|--|
|  | <p>1 FRONT JET</p>  <p>3 BACK JETS (30°)</p> |  <p>1.75</p> <p>2.00</p> <p>Dimensions shown in inches</p> | P4TC Nozzles Page G-53 | Plug unused nozzle ports Part No. 64682 |
| PART NO. 50512 | CONNECTIONS* | | MAX OPERATING PRESSURE | |
| | INLET | NOZZLE | psi | bar |
| | 1/2" NPT Female | 1/4" NPT Female | 10,000 | 689 |


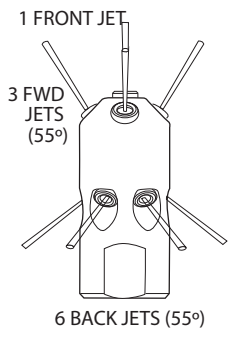
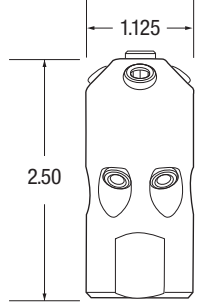


*See details on all connection types in Section I.

| NOZZLE | NUMBER OF JETS | DIMENSIONS | USE WITH | NOZZLE PORT PLUG |
|---|--|---|--------------------------------------|--|
|  | <p>1 FRONT JET</p>  <p>3 FWD JETS (45°)</p> <p>6 RADIAL JETS</p> <p>6 BACK JETS (45°)</p> |  <p>2.75</p> <p>3.60</p> <p>Dimensions shown in inches</p> | P2TC/JS2 Nozzles Pages G-53, G-54 | Plug unused nozzle ports Part No. 68528 |
| PART NO. 54184 | CONNECTIONS* | | MAX OPERATING PRESSURE | |
| | INLET | NOZZLE | psi | bar |
| | 3/4" NPT Female | 1/8" NPT Female | 15,000 | 1034 |

*See details on all connection types in Section I.


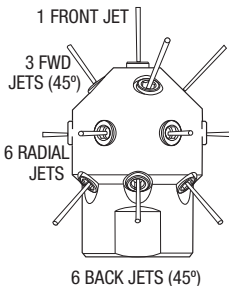
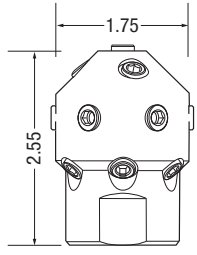


TOOLS &
NOZZLES

PIPE CLEANING NOZZLES

| NOZZLE | NUMBER OF JETS | DIMENSIONS | USE WITH | NOZZLE PORT PLUG |
|---|---|---|---|--|
|  |  <p>1 FRONT JET 3 FWD JETS (55°) 6 BACK JETS (55°)</p> |  <p>1.125 2.50</p> <p>Dimensions shown in inches</p> | P1S0 Nozzles Page G-57  | Plug unused nozzle ports Part No. 25395  |

| PART NO. 54165 | CONNECTIONS* | | MAX OPERATING PRESSURE | |
|-------------------|-----------------|------------------|------------------------|------|
| | INLET | NOZZLE | psi | bar |
| | 1/2" NPT Female | 1/16" NPT Female | 15,000 | 1034 |

*See details on all connection types in Section I.


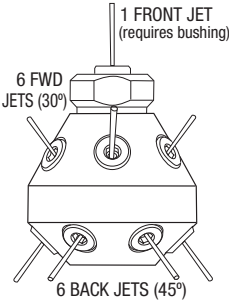
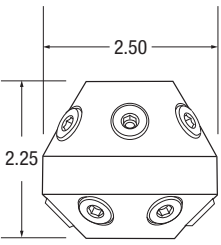


| NOZZLE | NUMBER OF JETS | DIMENSIONS | USE WITH | NOZZLE PORT PLUG |
|---|---|--|---|--|
|  |  <p>1 FRONT JET 3 FWD JETS (45°) 6 RADIAL JETS 6 BACK JETS (45°)</p> |  <p>1.75 2.55</p> <p>Dimensions shown in inches</p> | P1S0 Nozzles Page G-57  | Plug unused nozzle ports Part No. 25395  |

| PART NO. 54166 | CONNECTIONS* | | MAX OPERATING PRESSURE | |
|-------------------|-----------------|------------------|------------------------|------|
| | INLET | NOZZLE | psi | bar |
| | 3/4" NPT Female | 1/16" NPT Female | 15,000 | 1034 |

*See details on all connection types in Section I.

TOOLS &
NOZZLES

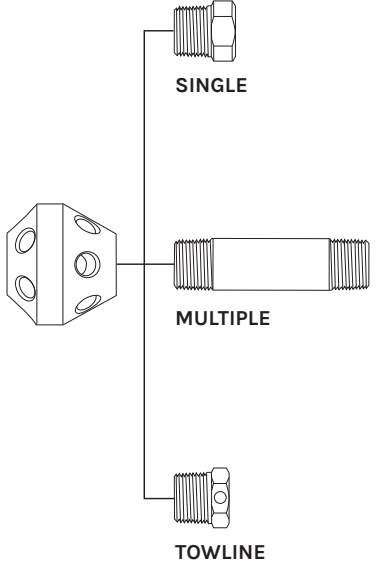
PIPE CLEANING NOZZLES

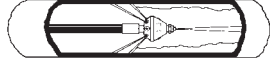
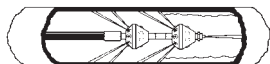
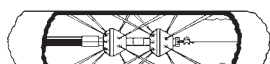
| NOZZLE | NUMBER OF JETS | DIMENSIONS | USE WITH | NOZZLE PORT PLUG |
|---|--|--|--|--|
|  |  <p>1 FRONT JET (requires bushing) 6 FWD JETS (30°) 6 BACK JETS (45°)</p> |  <p>2.50 2.25</p> <p>Dimensions shown in inches</p> |  <p>P4TC Nozzles Page G-53</p> |  <p>Plug unused nozzle ports Part No. 64682</p> |

| PART NO. 51094 | CONNECTIONS* | | MAX OPERATING PRESSURE | |
|-------------------|-----------------|-----------------|------------------------|------|
| | INLET | NOZZLE | psi | bar |
| | 3/4" NPT Female | 1/4" NPT Female | 15,000 | 1034 |

*See details on all connection types in Section I.


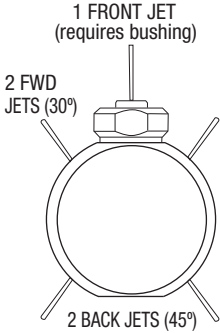
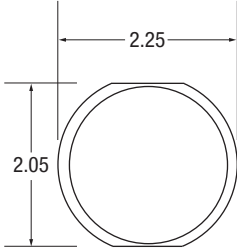


CONFIGURATIONS & ACCESSORIES



- SINGLE**
Reducing Bushing
 Allows the connection of a nozzle to the front port
Part No. 26069

- MULTIPLE**
Nipple
 Connect multiple pipe cleaning nozzles
Part No. 28875-04

- TOWLINE**
Towing Eye Plug
 Use to pull nozzle through pipe
Part No. 51156


TOOLS & NOZZLES

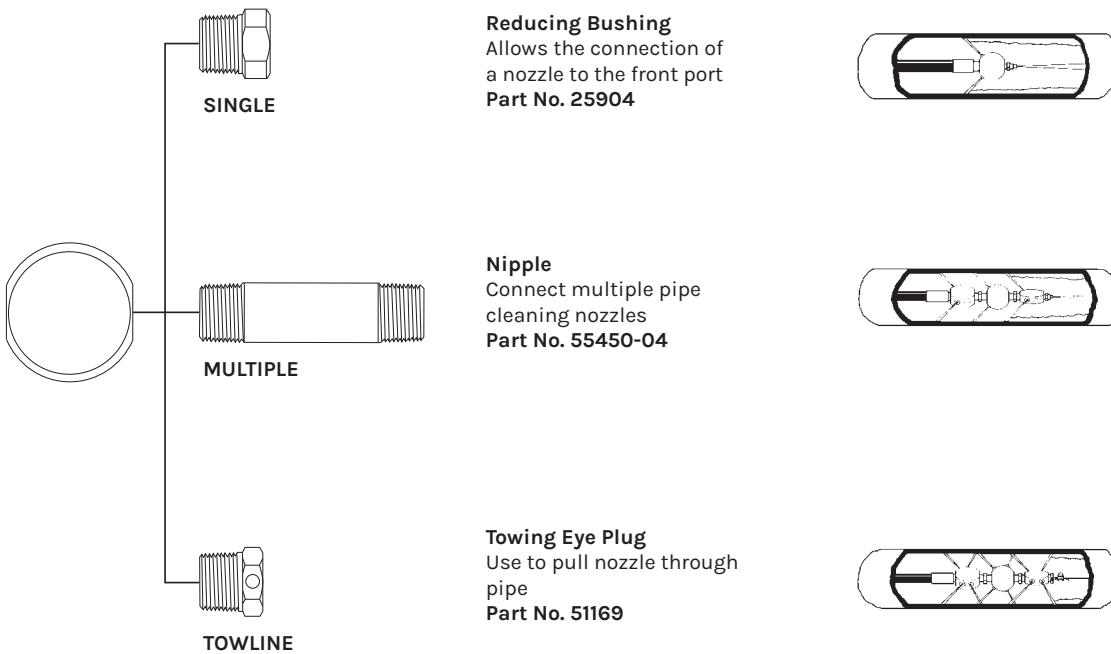
PIPE CLEANING NOZZLES

| NOZZLE | NUMBER OF JETS | DIMENSIONS | USE WITH | NOZZLE PORT PLUG |
|---|--|---|---|--|
|  | <p>1 FRONT JET (requires bushing)</p>  <p>2 FWD JETS (30°)</p> <p>2 BACK JETS (45°)</p> |  <p>2.25</p> <p>2.05</p> | <p>P4TC Nozzles Page G-53</p>  | <p>Plug unused nozzle ports Part No. 64682</p>  |

| PART NO. 51096 | CONNECTIONS* | | | MAX OPERATING PRESSURE | |
|-------------------|-----------------|-----------------|-----------------|------------------------|-----|
| | INLET | FRONT | NOZZLE PORT | psi | bar |
| | 1/2" NPT Female | 1/4" NPT Female | 1/4" NPT Female | 10,000 | 689 |

*See details on all connection types in Section I.

CONFIGURATIONS & ACCESSORIES



TOOLS & NOZZLES



DRILLJET™

TUBE CLEANING NOZZLES



The DrillJet™ is a self-powered rotating nozzle used for removing deposits in tubes. The main rotor (with four orifices - two front facing and two radial), the only rotating component in the DrillJet, spins at ultra-high rpms. The nozzle can be used with either rigid or flexible lances.

- ▶ Designed for unplugging and cleaning tubes found in heat exchangers and industrial tube bundles
- ▶ Water bearing design - no bearings, seals, or lubricants to replace!
- ▶ 9.5 mm, 13 mm, 18 mm, 24 mm, and 33 mm sizes available
- ▶ Different inlet and orifice configurations are available for working pressures up to 15,000 psi (1034 bar)
- ▶ The tool is not designed to be repairable in the field

NOZZLE PART NUMBERING

Example Part Number DJ13-P2-322-15-10

| | |
|----------------------------------|-------|
| SIZE (mm) | _____ |
| INLET CONFIGURATION | _____ |
| NOZZLE COUNT (forward/side/rear) | _____ |
| PRESSURE (Kpsi) | _____ |
| FLOW (gpm) | _____ |



UNIVERSAL 7-JET PATTERN
9.5 and 13 mm



UNIVERSAL 7-JET PATTERN
18 and 24 mm



UNIVERSAL 7-JET PATTERN
33 mm



UNIVERSAL 6-JET PATTERN
9.5 and 13 mm



UNIVERSAL 6-JET PATTERN
18 and 24 mm



UNIVERSAL 6-JET PATTERN
33 mm

TOOLS & NOZZLES

DRILLJET™ TUBE CLEANING NOZZLES

| ASSEMBLY PART NO. | TUBE ID RANGE | | INLET CONNECTIONS* | OUTSIDE DIAMETER | | LENGTH | | FLOW AT MAX OPERATING PRESSURE | | MAX OPERATING PRESSURE | | PULL lbs |
|------------------------|---------------|-------|--------------------|------------------|-----|--------|----|--------------------------------|-----|------------------------|------|-------------|
| | in | mm | | in | mm | in | mm | gpm | lpm | psi | bar | |
| UNIVERSAL 7-JET | | | | | | | | | | | | |
| DJ9.5-P1-322-15-8 | .47-.63 | 12-16 | 1/16" NPT | 0.37 | 9.5 | 1.54 | 39 | 8 | 30 | 15,000 | 1034 | 3.5 |
| DJ13-P2-322-15-10 | .60-1.0 | 15-25 | 1/8" NPT | 0.50 | 13 | 1.65 | 42 | 10 | 38 | | | 7 |
| DJ13-BSPP2-322-15-10 | | | 1/8" BSPP | | | | | | | | | 4 |
| DJ18-P4-322-15-10 | .87-1.3 | 22-33 | 1/4" NPT | 0.71 | 18 | 2.16 | 55 | 10 | 38 | | | 5 |
| DJ18-P4-322-15-14 | | | | | | | | 14 | 53 | | | 6 |
| DJ24-P6-322-15-10 | 1.1-2.0 | 28-51 | 3/8" NPT | 0.94 | 24 | 2.54 | 65 | 10 | 38 | | | 6 |
| DJ24-P6-322-15-15 | | | | | | | | 15 | 57 | | | 7 |
| DJ24-P6-322-15-24 | | | | | | | | 24 | 91 | | | 6 |
| DJ33-P8-322-15-17 | 1.5-2.4 | 38-61 | 1/2" NPT | 1.30 | 33 | 3.30 | 84 | 17 | 64 | | | 6 |
| DJ33-P8-322-15-24 | | | | | | | | 24 | 91 | | | 9 |
| DJ33-P8-322-15-32 | | | | | | | | 32 | 121 | | | 11 |
| DJ33-P8-322-15-37 | | | | | | | | 37 | 140 | | | 13 |
| DJ33-P8-322-15-47 | | | | | | | | 47 | 178 | | | 9 |
| UNIVERSAL 6-JET | | | | | | | | | | | | |
| DJ9.5-P1-222-15-8 | .47-.63 | 12-16 | 1/16" NPT | 0.37 | 9.5 | 1.54 | 39 | 8 | 30 | 15,000 | 1034 | 8.5 |
| DJ13-P2-222-15-10 | .60-1.0 | 15-25 | 1/8" NPT | 0.50 | 13 | 1.65 | 42 | 10 | 38 | | | 11.5 |
| DJ13-BSPP2-222-15-10 | | | 1/8" BSPP | | | | | | | | | 9 |
| DJ18-P4-222-15-10 | .87-1.3 | 22-33 | 1/4" NPT | 0.71 | 18 | 2.16 | 55 | 10 | 38 | | | 14 |
| DJ18-P4-222-15-14 | | | | | | | | 14 | 53 | | | 13 |
| DJ24-P6-222-15-10 | 1.1-2.0 | 28-51 | 3/8" NPT | 0.94 | 24 | 2.54 | 65 | 10 | 38 | | | 19 |
| DJ24-P6-222-15-15 | | | | | | | | 15 | 57 | | | 22 |
| DJ24-P6-222-15-24 | | | | | | | | 24 | 91 | | | 16 |
| DJ33-P8-222-15-17 | 1.5-2.4 | 38-61 | 1/2" NPT | 1.30 | 33 | 3.30 | 84 | 17 | 64 | | | 22 |
| DJ33-P8-222-15-24 | | | | | | | | 24 | 91 | | | 27 |
| DJ33-P8-222-15-32 | | | | | | | | 32 | 121 | | | 33 |
| DJ33-P8-222-15-37 | | | | | | | | 37 | 140 | | | 30 |
| DJ33-P8-222-15-47 | | | | | | | | 47 | 178 | | | |

*See details on all connection types in Section I.

TOOLS & NOZZLES



These resources contain additional technical information about the DrillJet™ tube cleaning nozzles.

Click or scan the QR code.



Quick Start Guide
QSG-180



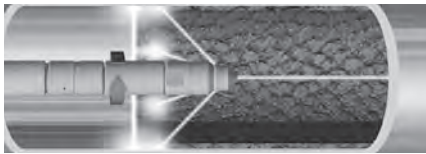
Product Instruction
PI-180

TUBE SPINNER™

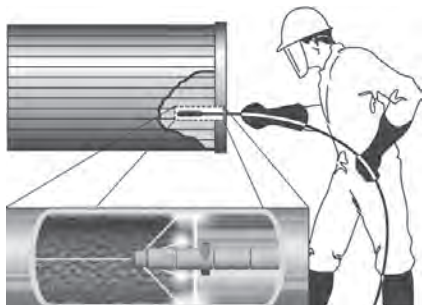
TUBE CLEANING NOZZLES



NOTE: Shown with FP series cap nozzles, SOLD SEPARATELY.



- ▶ Provide the most thorough cleaning of tube walls
- ▶ Maximum impact without streaking
- ▶ Self-rotating, heat-treated stainless steel sleeve spins on a bearing of water and features two radial jets that spin at high speed for complete coverage
- ▶ Specially coated nozzle body for maximum lubricity
- ▶ Custom flow rates available for special applications
- ▶ Tube nozzles or blanks are used to cap the end of the nozzle **(sold separately)**
- ▶ Thruster nozzles can be used in conjunction for greater inertia forward **(sold separately)**
- ▶ Female pipe thread (NPT Female) inlet, male pipe thread outlet (NPT Male)
- ▶ 15,000 psi (1034 bar) maximum working pressure



REPLACEMENT PART FOR FLAT SEAL CONNECTIONS



Copper Crush Washer

For flat seal connections between the tube spinner and the lance.

| SIZE | PART NO. |
|-----------|----------|
| M7 | 59932 |
| 1/8" BSPP | 59933 |
| 1/4" BSPP | 59934 |

| ASSEMBLY PART NO. | CONNECTIONS* FEMALE INLET X MALE OUTLET* | FLOW RATE | OUTSIDE DIAMETER | | LENGTH W/ NOZZLE | | SLEEVE PART NO. | BODY PART NO. |
|-------------------|--|-----------|------------------|------|---------------------|-----|-----------------|---------------|
| | | | in | mm | in | mm | | |
| 52146 | 1/16" NPT | 1 | .375 | 9.5 | 2.72 | 69 | 52141 | 69516 |
| 52147 | | 2 | .375 | 9.5 | 2.72 | 69 | 52142 | 69516 |
| 51997 | 1/8" NPT | 1 | .500 | 12.7 | 2.66 | 68 | 51992 | 69517 |
| 51998 | | 2 | .500 | 12.7 | 2.66 | 68 | 51993 | 69517 |
| 52002 | 1/4" NPT | 1 | .665 | 16.8 | 3.14 | 80 | 51922 | 69518 |
| 52003 | | 2 | .665 | 16.8 | 3.14 | 80 | 51923 | 69518 |
| 52007 | 3/8" NPT | 1 | .875 | 22.2 | 3.30 | 84 | 51926 | 69519 |
| 52008 | | 2 | .875 | 22.2 | 3.30 | 84 | 51927 | 69519 |
| 64104 | 1/2" NPT | 3 | .875 | 22.2 | 3.30 | 84 | 64088 | 69519 |
| 64105 | | 4 | .875 | 22.2 | 3.30 | 84 | 64089 | 69519 |
| 52012 | 1/8" BSPP Flat Seal | 1 | 1.040 | 26.4 | 3.92 | 100 | 51941 | 69520 |
| 52013 | | 2 | 1.040 | 26.4 | 3.92 | 100 | 51942 | 69520 |
| 64106 | 1/4" BSPP Flat Seal | 3 | 1.040 | 26.4 | 3.92 | 100 | 64090 | 69520 |
| 64107 | | 4 | 1.040 | 26.4 | 3.92 | 100 | 64091 | 69520 |
| 59900 | M7 Flat Seal | 1 | .375 | 9.5 | 2.28 | 58 | 52141 | 69529 |
| 59901 | | 2 | .375 | 9.5 | 2.28 | 58 | 52142 | 69529 |
| 59902 | 1/8" BSPP Flat Seal | 1 | .500 | 12.7 | 2.38 | 61 | 51992 | 69527 |
| 59903 | | 2 | .500 | 12.7 | 2.38 | 61 | 51993 | 69527 |
| 59904 | 1/4" BSPP Flat Seal | 1 | .665 | 16.9 | 2.68 | 68 | 51922 | 69528 |
| 59905 | | 2 | .665 | 16.9 | 2.68 | 68 | 51923 | 69528 |

*See details on all connection types in Section I.

TOOLS &
NOZZLES

TUBE SPINNER™ NOZZLE FLOW RATINGS

FLOW AT SPECIFIED PRESSURES (PSI / BAR)**

| SIZE* | FLOW RATE | 3,000 | 206 | 4,000 | 275 | 5,000 | 344 | 6,000 | 413 | 7,000 | 482 | 8,000 | 551 | 9,000 | 620 | 10,000 | 689 | 12,500 | 861 | 15,000 | 1034 |
|-------|-----------|-------|-----|-------|-----|-------|-----|-------|-----|-------|-----|-------|-----|-------|-----|--------|-----|--------|-----|--------|------|
| | | gpm | lpm | gpm | lpm | gpm | lpm | gpm | lpm | gpm | lpm | gpm | lpm | gpm | lpm | gpm | lpm | gpm | lpm | gpm | lpm |

NPT INLET

| | | | | | | | | | | | | | | | | | | | | | |
|-------|---|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|------|-------|------|-------|
| 1/16" | 1 | 1.9 | 7.1 | 2.3 | 8.7 | 2.6 | 9.8 | 2.9 | 10.9 | 3.2 | 12.1 | 3.5 | 13.2 | 3.7 | 14.0 | 4.0 | 15.1 | 4.6 | 17.4 | 5.1 | 19.3 |
| | 2 | 3.0 | 11.3 | 3.5 | 13.2 | 4.0 | 15.1 | 4.4 | 16.6 | 4.8 | 18.1 | 5.2 | 19.6 | 5.6 | 21.2 | 5.9 | 22.3 | 6.8 | 25.7 | 7.5 | 28.3 |
| 1/8" | 1 | 2.6 | 9.8 | 3.1 | 11.7 | 3.5 | 13.2 | 3.9 | 14.7 | 4.3 | 16.6 | 4.7 | 17.7 | 5.0 | 18.9 | 5.4 | 20.4 | 6.2 | 23.4 | 7.0 | 26.5 |
| | 2 | 5.0 | 18.9 | 5.9 | 22.3 | 6.7 | 25.3 | 7.4 | 28.0 | 8.0 | 30.2 | 8.7 | 32.9 | 9.3 | 35.2 | 9.9 | 37.4 | 11.3 | 42.7 | 12.5 | 47.3 |
| 1/4" | 1 | 2.4 | 9.0 | 2.9 | 10.9 | 3.4 | 12.8 | 3.8 | 14.3 | 4.2 | 15.9 | 4.6 | 17.4 | 5.0 | 18.9 | 5.4 | 20.4 | 6.3 | 23.8 | 7.2 | 27.2 |
| | 2 | 5.2 | 19.6 | 6.2 | 23.4 | 7.0 | 26.5 | 7.8 | 29.5 | 8.5 | 32.1 | 9.2 | 34.8 | 9.9 | 37.4 | 10.6 | 40.1 | 12.1 | 45.8 | 13.5 | 51.1 |
| 3/8" | 1 | 3.6 | 13.6 | 4.3 | 16.6 | 4.9 | 18.5 | 5.5 | 20.8 | 6.1 | 23.0 | 6.6 | 24.9 | 7.2 | 27.2 | 7.7 | 29.1 | 9.0 | 34.0 | 10.1 | 38.2 |
| | 2 | 7.0 | 26.5 | 8.2 | 31.0 | 9.3 | 35.2 | 10.4 | 39.3 | 11.3 | 42.7 | 12.2 | 46.1 | 13.1 | 49.5 | 14.0 | 53.0 | 15.9 | 60.1 | 17.8 | 67.3 |
| | 3 | 10.0 | 37.8 | 11.7 | 44.2 | 13.3 | 50.3 | 14.7 | 55.6 | 16.0 | 60.5 | 17.2 | 65.1 | 18.4 | 69.6 | 19.6 | 74.1 | 22.1 | 83.6 | 24.6 | 93.1 |
| | 4 | 13.7 | 51.8 | 15.9 | 60.1 | 18.0 | 68.1 | 19.9 | 75.3 | 21.5 | 81.3 | 23.1 | 87.4 | 24.7 | 93.5 | 26.2 | 99.1 | 29.5 | 111.7 | 32.7 | 123.8 |
| 1/2" | 1 | 3.0 | 11.3 | 3.7 | 14.0 | 4.3 | 16.2 | 4.9 | 18.5 | 5.5 | 20.8 | 6.1 | 23.0 | 6.6 | 24.9 | 7.1 | 26.8 | 8.5 | 32.1 | 9.7 | 36.7 |
| | 2 | 6.7 | 25.3 | 7.9 | 29.9 | 9.0 | 34.0 | 10.0 | 37.8 | 11.0 | 41.6 | 12.0 | 45.4 | 12.9 | 48.8 | 13.7 | 51.8 | 15.8 | 59.8 | 17.8 | 67.3 |
| | 3 | 10.3 | 38.9 | 12.2 | 46.1 | 13.8 | 52.2 | 15.2 | 57.5 | 16.7 | 63.2 | 18.1 | 68.5 | 19.3 | 73.0 | 20.5 | 77.6 | 23.4 | 88.5 | 26.1 | 98.9 |
| | 4 | 14.0 | 53.0 | 16.4 | 62.0 | 18.5 | 70.0 | 20.4 | 77.2 | 22.2 | 84.0 | 24.0 | 90.8 | 25.6 | 96.9 | 27.1 | 102.6 | 30.8 | 116.6 | 34.2 | 129.5 |

M7 FLAT SEAL INLET

| | | | | | | | | | | | | | | | | | | | | | |
|----|---|-----|------|-----|------|-----|------|-----|------|-----|------|-----|------|-----|------|-----|------|-----|------|-----|------|
| M7 | 1 | 1.9 | 7.1 | 2.3 | 8.7 | 2.6 | 9.8 | 2.9 | 10.9 | 3.2 | 12.1 | 3.5 | 13.2 | 3.7 | 14.0 | 4.0 | 15.1 | 4.6 | 17.4 | 5.1 | 19.3 |
| | 2 | 3.0 | 11.3 | 3.5 | 13.2 | 4.0 | 15.1 | 4.4 | 16.6 | 4.8 | 18.1 | 5.2 | 19.6 | 5.6 | 21.2 | 5.9 | 22.3 | 6.8 | 25.7 | 7.5 | 28.3 |

BSPP FLAT SEAL INLET

| | | | | | | | | | | | | | | | | | | | | | |
|------|---|-----|------|-----|------|-----|------|-----|------|-----|------|-----|------|-----|------|------|------|------|------|------|------|
| 1/8" | 1 | 2.6 | 9.8 | 3.1 | 11.7 | 3.5 | 13.2 | 3.9 | 14.7 | 4.3 | 16.6 | 4.7 | 17.7 | 5.0 | 18.9 | 5.4 | 20.4 | 6.2 | 23.4 | 7.0 | 26.5 |
| | 2 | 5.0 | 18.9 | 5.9 | 22.3 | 6.7 | 25.3 | 7.4 | 28.0 | 8.0 | 30.2 | 8.7 | 32.9 | 9.3 | 35.2 | 9.9 | 37.4 | 11.3 | 42.7 | 12.5 | 47.3 |
| 1/4" | 1 | 2.4 | 9.0 | 2.9 | 10.9 | 3.4 | 12.8 | 3.8 | 14.3 | 4.2 | 15.9 | 4.6 | 17.4 | 5.0 | 18.9 | 5.4 | 20.4 | 6.3 | 23.8 | 7.2 | 27.2 |
| | 2 | 5.2 | 19.6 | 6.2 | 23.4 | 7.0 | 26.5 | 7.8 | 29.5 | 8.5 | 32.1 | 9.2 | 34.8 | 9.9 | 37.4 | 10.6 | 40.1 | 12.1 | 45.8 | 13.5 | 51.1 |

*See details on all connection types in Section I.

**Flow rates do not include additional flow if a drilled cap nozzle is used.

TOOLS & NOZZLES



These resources contain additional technical information about the Tube Spinner™ tube cleaning nozzles.

Click or scan the QR code.



Quick Start Guide
QSG-123



Product Instruction
PI-123

NOZZLES
UP TO 15,000 PSI (1,000 BAR)

TUBE CLEANING NOZZLES
SERIES FP

PATTERNS

| SIZE | Pattern | Min. Flow # | Min. Flow # | Min. Flow # | Min. Flow # |
|------|---------------|-------------|-------------|-------------|-------------|
| 2 | 1 Front | 2 | 3 | 4 | 5 |
| 3 | 3 Forward 45° | 3 | 4 | 5 | 6 |
| 4 | 8 Back 30° | 4 | 5 | 6 | 7 |
| 5 | 12 Jets Total | 5 | 6 | 7 | 8 |

Min Flow #5

In the pattern and size charts, each unique pattern specifies the minimum flow rate at which the nozzle is available. Be certain that the Flow Rate selected is equal to or greater than the specified minimum.

TUBE CLEANING NOZZLES

SELECTION & PART NUMBERING

Use the part numbering instructions and flow chart on this page for ordering tube nozzles pages G-68 to G-88.

NOZZLE PART NUMBERING

Example Part Number **EP 3 4 - 7**

NOZZLE SERIES
 FP FPC FPT E EX
 C MP MS TP
 FM FB2

SIZE
 From left column of nozzle size and pattern charts (Pages G-75 - G-88.)

PATTERN
 Specify number corresponding to desired pattern nozzle size and pattern charts. (Pages G-75 - G-88.)

HYPHEN

FLOW RATING
 Find the flow rate number that most closely matches the desired flow and pressure chart below.
Example:
 A flow rate number of 7 will flow 6.6 gpm at 6,000 psi.

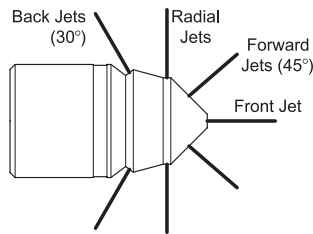
NOZZLE FLOW RATES

| FLOW RATE | FLOW AT SPECIFIED PRESSURES (PSI / BAR) | | | | | | | | | | | | | | | | | |
|-----------|---|------|-------|------|-------|------|-------|-------|--------|-------|--------|-------|--------|-------|--------|-------|--------|-------|
| | 3,000 | 206 | 5,000 | 344 | 6,000 | 413 | 8,000 | 551 | 10,000 | 689 | 11,000 | 758 | 12,000 | 827 | 14,000 | 965 | 15,000 | 1034 |
| | gpm | lpm | gpm | lpm | gpm | lpm | gpm | lpm | gpm | lpm | gpm | lpm | gpm | lpm | gpm | lpm | gpm | lpm |
| 2 | 1.5 | 5.6 | 1.9 | 7.1 | 2.1 | 7.9 | 2.4 | 9.1 | 2.7 | 10.2 | 2.9 | 10.9 | 3.0 | 11.3 | 3.2 | 12.3 | 3.3 | 12.4 |
| 3 | 1.8 | 7.1 | 2.4 | 9.1 | 2.6 | 9.8 | 3.0 | 11.3 | 3.3 | 12.4 | 3.5 | 13.2 | 3.7 | 14.0 | 4.0 | 15.2 | 4.1 | 15.5 |
| 4 | 2.2 | 8.3 | 2.9 | 10.9 | 3.2 | 12.3 | 3.7 | 14.0 | 4.1 | 15.5 | 4.3 | 16.3 | 4.5 | 17.0 | 4.8 | 18.1 | 5.0 | 18.9 |
| 5 | 3.1 | 12.1 | 4.0 | 15.2 | 4.4 | 16.6 | 5.1 | 19.3 | 5.7 | 21.5 | 6.0 | 22.7 | 6.3 | 23.8 | 6.8 | 25.7 | 7.0 | 26.5 |
| 6 | 4.1 | 15.5 | 5.2 | 19.6 | 5.7 | 21.5 | 6.6 | 24.9 | 7.4 | 28.0 | 7.8 | 29.5 | 8.1 | 30.6 | 8.7 | 32.9 | 9.1 | 34.5 |
| 7 | 4.7 | 17.7 | 6.0 | 22.7 | 6.6 | 24.9 | 7.6 | 28.9 | 8.5 | 32.1 | 8.9 | 33.6 | 9.3 | 35.2 | 10.1 | 38.2 | 10.4 | 39.3 |
| 8 | 5.1 | 19.3 | 6.6 | 24.9 | 7.2 | 27.4 | 8.3 | 31.4 | 9.3 | 35.2 | 9.7 | 36.8 | 10.2 | 38.6 | 11.0 | 41.6 | 11.4 | 43.1 |
| 9 | 5.5 | 20.8 | 7.1 | 26.8 | 7.8 | 29.5 | 9.0 | 34.0 | 10.1 | 38.2 | 10.6 | 40.3 | 11.1 | 42.0 | 11.9 | 45.0 | 12.4 | 47.0 |
| 10 | 6.3 | 23.8 | 8.1 | 30.6 | 8.9 | 33.6 | 10.3 | 38.9 | 11.5 | 43.6 | 12.1 | 45.8 | 12.6 | 47.7 | 13.6 | 51.4 | 14.1 | 53.3 |
| 12 | 6.8 | 25.7 | 8.8 | 33.3 | 9.6 | 36.3 | 11.1 | 42.0 | 12.4 | 47.0 | 13.0 | 49.2 | 13.6 | 51.4 | 14.7 | 55.6 | 15.2 | 57.5 |
| 14 | 8.2 | 31.0 | 10.6 | 40.3 | 11.6 | 43.9 | 13.4 | 50.7 | 15.0 | 56.7 | 15.7 | 59.4 | 16.4 | 62.0 | 17.7 | 67.0 | 18.4 | 69.6 |
| 15 | 9.0 | 34.0 | 11.6 | 43.9 | 12.7 | 48.0 | 14.6 | 55.2 | 16.4 | 62.0 | 17.2 | 65.1 | 17.9 | 67.7 | 19.4 | 73.4 | 20.1 | 76.0 |
| 20 | 12.5 | 47.3 | 16.2 | 61.3 | 17.7 | 67.0 | 20.5 | 77.6 | 22.9 | 86.6 | 24.0 | 90.8 | 25.1 | 95.0 | 27.1 | 102.6 | 28.1 | 106.4 |
| 40 | 16.2 | 61.3 | 20.9 | 79.1 | 22.9 | 86.6 | 26.5 | 100.3 | 29.8 | 112.8 | 31.0 | 117.3 | 32.4 | 122.6 | 35.0 | 132.5 | 36.2 | 137.0 |

TOOLS & NOZZLES

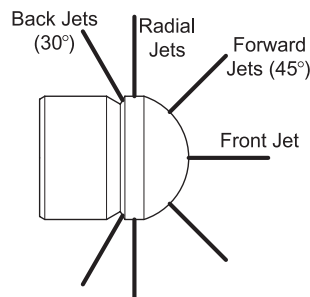
FP SERIES TUBE CLEANING NOZZLES

- ▶ For use with flex or rigid lances that have male pipe threads (NPT Male)
- ▶ Recessed orifices for protection surface abrasion or damage by wrenches
- ▶ Double-tapered nose for fast, unrestricted travel through plugged tubes
- ▶ Machined heat-treated stainless steel
- ▶ Maximum working pressure: 15,000 psi (1034 bar)
- ▶ Six sizes, seven standard patterns, and fourteen flow ratings (see page G-77)
- ▶ Custom patterns available
- ▶ Standard patterns with minimum flows



FPC SERIES TUBE CLEANING NOZZLES

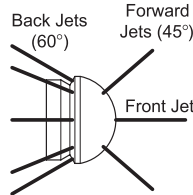
- ▶ For use with flex or rigid lances that have male pipe threads (NPT Male)
- ▶ Ultra-compact design ideal for getting around sharp bends in tube
- ▶ Orifices recessed for protection surface abrasion or damage by wrenches
- ▶ Machined heat-treated stainless steel
- ▶ Maximum working pressure: 15,000 psi (1034 bar)
- ▶ Five sizes, seven standard patterns and fourteen flow ratings
- ▶ Custom patterns available
- ▶ See page G-67 for flow ratings and ordering instructions





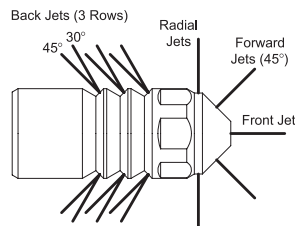
C SERIES TUBE CLEANING NOZZLES

- ▶ For use with specially designed Jetstream flex lances that have male machine screw threads (UNEF)
- ▶ Ultra-compact design for cleaning U-tubes and other small diameter tubes
- ▶ Wrench flats for easy installation and removal
- ▶ Machined heat-treated stainless steel
- ▶ Locking pin (see page G-79) must be installed to prevent nozzle unscrewing lance
- ▶ Maximum working pressure: C1: 8,000 psi (551 bar) C2: 10,000 psi (689 bar)
- ▶ Two sizes, four standard patterns and fourteen flow ratings
- ▶ See page G-67 for flow ratings and ordering instructions
- ▶ Custom patterns available



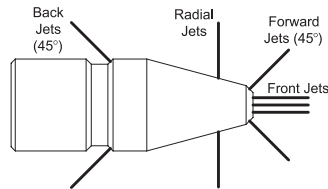
FPT SERIES TUBE CLEANING NOZZLES

- ▶ For use with flex or rigid lances that have male pipe threads (NPT Male)
- ▶ Features three rows of rearward facing jets for powerful polishing and flushing
- ▶ Wrench flats for easy installation and removal
- ▶ Machined heat-treated stainless steel
- ▶ Maximum working pressure: 15,000 psi (1034 bar)
- ▶ Five sizes, four standard patterns and fourteen flow ratings (ten for standard patterns)
- ▶ See page G-67 for flow ratings and ordering instructions
- ▶ Custom patterns available



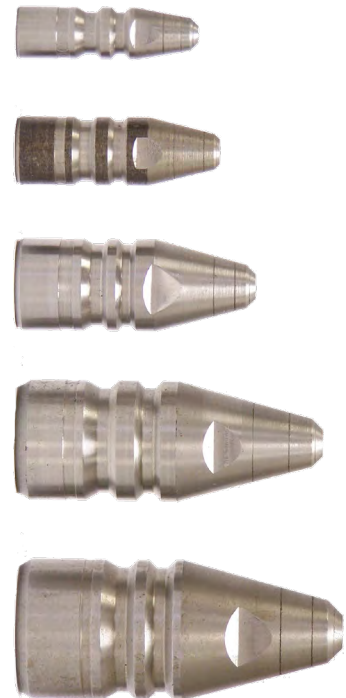
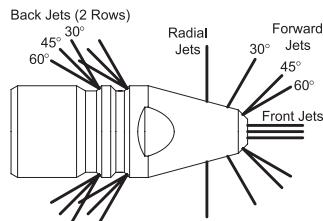
E SERIES TUBE CLEANING NOZZLES

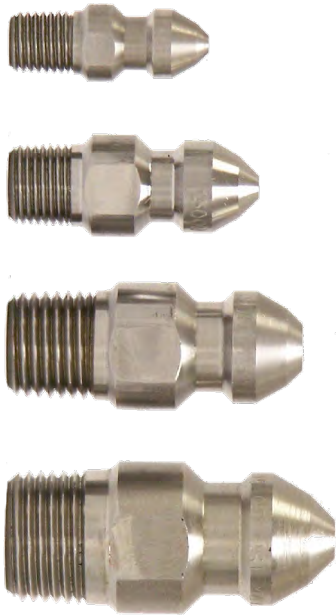
- ▶ For use with flex or rigid lances that have male pipe threads (NPT Male)
- ▶ Features long, tapered nose for penetrating fouled tubes
- ▶ Machined heat-treated stainless steel
- ▶ Maximum working pressure: 15,000 psi (1034 bar)
- ▶ Five sizes, two standard patterns and fourteen flow ratings (eleven for standard patterns)
- ▶ See page G-67 for flow ratings and ordering instructions
- ▶ Custom patterns available



EX SERIES TUBE CLEANING NOZZLES

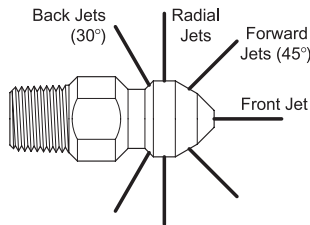
- ▶ For use with flex or rigid lances that have male pipe threads (NPT Male)
- ▶ Features long, tapered nose for penetrating front jets and two rows of recessed rear jets for flushing, polishing and pulling
- ▶ Wrench flats for easy installation and removal
- ▶ Machined heat-treated stainless steel
- ▶ Maximum working pressure: 15,000 psi (1034 bar)
- ▶ Five sizes, five standard patterns and fourteen flow ratings (11 for standard patterns)
- ▶ See page G-67 for flow ratings and ordering instructions
- ▶ Custom patterns available





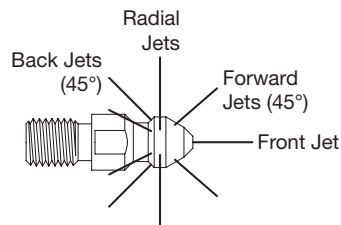
MP SERIES TUBE CLEANING NOZZLES

- ▶ Specifically for use with rigid lances that have female pipe threads (NPT Female)
- ▶ Recessed orifices for protection from surface abrasion or damage by wrenches
- ▶ Double-tapered nose for fast, unrestricted travel through plugged tubes
- ▶ Machined heat-treated stainless steel
- ▶ Maximum working pressure: 15,000 psi (1034 bar)
- ▶ Four sizes, seven standard patterns and fourteen flow ratings
- ▶ Custom patterns available
- ▶ See page G-67 for flow ratings and ordering instructions



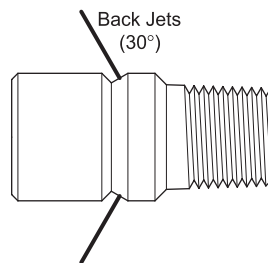
MS SERIES TUBE CLEANING NOZZLES

- ▶ For use with Jetstream flex or rigid lances that have female machine screw threads (UNF, UNC)
- ▶ Designed with the smallest possible outside diameter for cleaning small tubes
- ▶ Wrench flats for easy installation and removal
- ▶ Machined heat-treated stainless steel
- ▶ Maximum working pressure: 10,000 psi (689 bar)
- ▶ Four sizes, seven standard patterns and fourteen flow ratings
- ▶ See page G-67 for flow ratings and ordering instructions
- ▶ Custom patterns available



TP SERIES THRUSTERS TUBE CLEANING NOZZLES

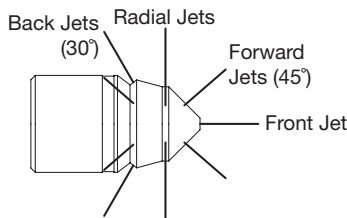
- ▶ Used in combination with Tube Spinners or other nozzles that do not have rear jets to provide thrust for pulling through tubes
- ▶ Rear orifices recessed for protection surface abrasion or damage by wrenches
- ▶ Female pipe threads at inlet (NPT Female) and male pipe threads at outlet (NPT Male)
- ▶ Machined heat-treated stainless steel
- ▶ Maximum working pressure: 15,000 psi (1034 bar)
- ▶ Three sizes, two standard patterns and thirteen flow ratings
- ▶ See page G-67 for flow ratings and ordering instructions
- ▶ Custom patterns available





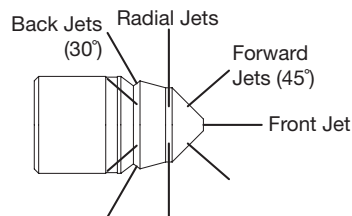
FM7 SERIES TUBE CLEANING NOZZLES

- ▶ For use with Jetstream flex lances that have male M7 Flat Seal end fittings
- ▶ Heat-treated stainless steel
- ▶ Copper Crush Washer (shown on page G-65) must be installed for seal connection between the nozzle and lance
- ▶ Maximum working pressure: 15,000 psi (1034 bar)
- ▶ Seven standard patterns and fourteen flow ratings
- ▶ See page G-67 for flow ratings and ordering instructions
- ▶ Custom patterns available






FB SERIES TUBE CLEANING NOZZLES

- ▶ For use with Jetstream flex lances that have male BSPP Flat Seal end fittings
- ▶ Heat-treated stainless steel
- ▶ Copper Crush Washer (shown on page G-65) must be installed for seal connection between the nozzle and lance
- ▶ Maximum working pressure: 15,000 psi (1034 bar)
- ▶ Seven standard patterns and 14 flow ratings
- ▶ See page G-67 for flow ratings and ordering instructions
- ▶ Custom patterns available

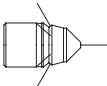

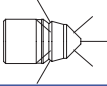

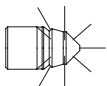






FM / FB SERIES TUBE CLEANING NOZZLES

| PART NO. | FM7 | FB2 | FB4 |
|------------------------------|---|--|---|
| NOZZLES SHOWN AS ACTUAL SIZE |  |  |  |
| INLET CONNECTION* | M7 FLAT SEAL | 1/8" BSPP FLAT SEAL | 1/4" BSPP FLAT SEAL |
| OUTSIDE DIAMETER | .375 9.5 mm | .500 12.7 mm | .665 16.9 mm |
| OVERALL LENGTH | .85" 21.6 mm | .88" 22.4 mm | 1.16" 29.5 mm |




PATTERNS - NUMBER OF JETS BY LOCATION

| | | | |
|---|---|---|---|
| PATTERN 1 FLEX OR RIGID LANCES  | 1 Front 6 Back 30° 7 Jets Total Min Flow #2 | 1 Front 6 Back 30° 7 Jets Total Min Flow #2 | 1 Front 8 Back 30° 9 Jets Total Min Flow #4 |
| PATTERN 2 FLEX OR RIGID LANCES  | 1 Front 12 Back 30° 13 Jets Total Min Flow #5 | 1 Front 12 Back 30° 13 Jets Total Min Flow #5 | 1 Front 16 Back 30° 17 Jets Total Min Flow #6 |
| PATTERN 3 FLEX OR RIGID LANCES  | 1 Front 3 Forward 45° 6 Back 30° 10 Jets Total Min Flow #4 | 1 Front 3 Forward 45° 6 Back 30° 10 Jets Total Min Flow #4 | 1 Front 3 Forward 45° 8 Back 30° 12 Jets Total Min Flow #5 |
| PATTERN 4 FLEX OR RIGID LANCES  | 1 Front 3 Forward 45° 8 Back 30° 12 Jets Total Min Flow #5 | 1 Front 3 Forward 45° 8 Back 30° 12 Jets Total Min Flow #5 | 1 Front 3 Forward 45° 12 Back 30° 16 Jets Total Min Flow #6 |
| PATTERN 5 FLEX OR RIGID LANCES  | 1 Front 3 Forward 45° 6 Radial 6 Back 30° 16 Jets Total Min Flow #6 | 1 Front 3 Forward 45° 6 Radial 6 Back 30° 16 Jets Total Min Flow #6 | 1 Front 3 Forward 45° 8 Radial 8 Back 30° 20 Jets Total Min Flow #7 |
| PATTERN 6 RIGID LANCE ONLY  | 1 Front 6 Radial 7 Jets Total Min Flow #2 | 1 Front 6 Radial 7 Jets Total Min Flow #2 | 1 Front 8 Radial 9 Jets Total Min Flow #4 |
| PATTERN 7 RIGID LANCE ONLY  | 1 Front 12 Radial 13 Jets Total Min Flow #5 | 1 Front 12 Radial 13 Jets Total Min Flow #5 | 1 Front 16 Radial 17 Jets Total Min Flow #6 |








*See details on all connection types in Section I.

TOOLS &
NOZZLES

FP SERIES TUBE CLEANING NOZZLES

| PART NO. | FP1 | FP3 | FP4 |
|------------------------------|---|--|---|
| NOZZLES SHOWN AS ACTUAL SIZE |  |  |  |
| BLANK PART NO. | 50624 | 50554 | 50639 |
| INLET CONNECTION* | 1/16" NPT FEMALE* | 1/8" NPT FEMALE* | 1/4" NPT FEMALE* |
| OUTSIDE DIAMETER | .375 9.5 mm | .500 12.7 mm | .665 16.9 mm |
| OVERALL LENGTH | .85" 21.6 mm | .88" 22.4 mm | 1.16" 29.5 mm |

PATTERNS - NUMBER OF JETS BY LOCATION

| | | | |
|---|---|---|---|
| PATTERN 1 FLEX OR RIGID LANCES  | 1 Front 6 Back 30° 7 Jets Total Min Flow #2 | 1 Front 6 Back 30° 7 Jets Total Min Flow #2 | 1 Front 8 Back 30° 9 Jets Total Min Flow #4 |
| PATTERN 2 FLEX OR RIGID LANCES  | 1 Front 12 Back 30° 13 Jets Total Min Flow #5 | 1 Front 12 Back 30° 13 Jets Total Min Flow #5 | 1 Front 16 Back 30° 17 Jets Total Min Flow #6 |
| PATTERN 3 FLEX OR RIGID LANCES  | 1 Front 3 Forward 45° 6 Back 30° 10 Jets Total Min Flow #4 | 1 Front 3 Forward 45° 6 Back 30° 10 Jets Total Min Flow #4 | 1 Front 3 Forward 45° 8 Back 30° 12 Jets Total Min Flow #5 |
| PATTERN 4 FLEX OR RIGID LANCES  | 1 Front 3 Forward 45° 8 Back 30° 12 Jets Total Min Flow #5 | 1 Front 3 Forward 45° 8 Back 30° 12 Jets Total Min Flow #5 | 1 Front 3 Forward 45° 12 Back 30° 16 Jets Total Min Flow #6 |
| PATTERN 5 FLEX OR RIGID LANCES  | 1 Front 3 Forward 45° 6 Radial 6 Back 30° 16 Jets Total Min Flow #6 | 1 Front 3 Forward 45° 6 Radial 6 Back 30° 16 Jets Total Min Flow #6 | 1 Front 3 Forward 45° 8 Radial 8 Back 30° 20 Jets Total Min Flow #7 |
| PATTERN 6 RIGID LANCE ONLY  | 1 Front 6 Radial 7 Jets Total Min Flow #2 | 1 Front 6 Radial 7 Jets Total Min Flow #2 | 1 Front 8 Radial 9 Jets Total Min Flow #4 |
| PATTERN 7 RIGID LANCE ONLY  | 1 Front 12 Radial 13 Jets Total Min Flow #5 | 1 Front 12 Radial 13 Jets Total Min Flow #5 | 1 Front 16 Radial 17 Jets Total Min Flow #6 |

*See details on all connection types in Section I.

FP SERIES TUBE CLEANING NOZZLES

| FP5 | FP6 | FP7 |
|---|---|---|
|  |  |  |
| 50640 | 50620 | 50851 |
| 3/8" NPT FEMALE* | 1/2" NPT FEMALE* | 3/4" NPT FEMALE* |
| .875" 22.2 mm | 1.040" 26.4 mm | 1.375" 34.9 mm |
| 1.20" 30.5 mm | 1.47" 37.3 mm | 1.87" 47.5 mm |






PATTERNS - NUMBER OF JETS BY LOCATION

| | | |
|---|---|---|
| 1 Front 8 Back 30° 9 Jets Total Min Flow #4 | 1 Front 8 Back 30° 9 Jets Total Min Flow #4 | 1 Front 8 Back 30° 9 Jets Total Min Flow #4 |
| 1 Front 16 Back 30° 17 Jets Total Min Flow #6 | 1 Front 16 Back 30° 17 Jets Total Min Flow #6 | 1 Front 16 Back 30° 17 Jets Total Min Flow #6 |
| 1 Front 3 Forward 45° 8 Back 30° 12 Jets Total Min Flow #5 | 1 Front 3 Forward 45° 8 Back 30° 12 Jets Total Min Flow #5 | 1 Front 3 Forward 45° 8 Back 30° 12 Jets Total Min Flow #5 |
| 1 Front 3 Forward 45° 12 Back 30° 16 Jets Total Min Flow #6 | 1 Front 3 Forward 45° 12 Back 30° 16 Jets Total Min Flow #6 | 1 Front 3 Forward 45° 12 Back 30° 16 Jets Total Min Flow #6 |
| 1 Front 3 Forward 45° 8 Radial 8 Back 30° 20 Jets Total Min Flow #7 | 1 Front 3 Forward 45° 8 Radial 8 Back 30° 20 Jets Total Min Flow #7 | 1 Front 3 Forward 45° 8 Radial 8 Back 30° 20 Jets Total Min Flow #7 |
| 1 Front 8 Radial 9 Jets Total Min Flow #4 | 1 Front 8 Radial 9 Jets Total Min Flow #4 | 1 Front 8 Radial 9 Jets Total Min Flow #4 |
| 1 Front 16 Radial 17 Jets Total Min Flow #6 | 1 Front 16 Radial 17 Jets Total Min Flow #6 | 1 Front 16 Radial 17 Jets Total Min Flow #6 |






*See details on all connection types in Section I.

TOOLS &
NOZZLES

FPC SERIES TUBE CLEANING NOZZLES



| PART NO. | FPC1 | FPC3 | FPC4 | FPC5 | FPC6 |
|------------------------------|---|---|---|---|---|
| NOZZLES SHOWN AS ACTUAL SIZE |  |  |  |  |  |
| BLANK PART NO. | 53487 | 53486 | 53484 | 53483 | 53482 |
| INLET CONNECTION* | 1/16" NPT Female* | 1/8" NPT Female* | 1/4" NPT Female* | 3/8" NPT Female* | 1/2" NPT Female* |
| OUTSIDE DIAMETER | .370" 9.4 mm | .500" 12.7 mm | .620" 15.7 mm | .870" 22.1 mm | 1.00" 25.4 mm |
| OVERALL LENGTH | .51" 13.0 mm | .58" 14.7 mm | .75" 19.1 mm | .88" 22.4 mm | 1.00" 25.4 mm |

PATTERNS - NUMBER OF JETS BY LOCATION

| | | | | | |
|---|---|---|---|---|---|
| PATTERN 1  | 1 Front 6 Back 30° 7 Jets Total Min Flow #2 | 1 Front 6 Back 30° 7 Jets Total Min Flow #2 | 1 Front 8 Back 30° 9 Jets Total Min Flow #4 | 1 Front 8 Back 30° 9 Jets Total Min Flow #4 | 1 Front 8 Back 30° 9 Jets Total Min Flow #4 |
| PATTERN 2 FLEX OR RIGID LANCES  | 1 Front 12 Back 30° 13 Jets Total Min Flow #5 | 1 Front 12 Back 30° 13 Jets Total Min Flow #5 | 1 Front 16 Back 30° 17 Jets Total Min Flow #6 | 1 Front 16 Back 30° 17 Jets Total Min Flow #6 | 1 Front 16 Back 30° 17 Jets Total Min Flow #6 |
| PATTERN 3 FLEX OR RIGID LANCES  | 1 Front 3 Forward 45° 6 Back 30° 10 Jets Total Min Flow #4 | 1 Front 3 Forward 45° 6 Back 30° 10 Jets Total Min Flow #4 | 1 Front 3 Forward 45° 8 Back 30° 12 Jets Total Min Flow #5 | 1 Front 3 Forward 45° 8 Back 30° 12 Jets Total Min Flow #5 | 1 Front 3 Forward 45° 8 Back 30° 12 Jets Total Min Flow #5 |
| PATTERN 4 FLEX OR RIGID LANCES  | 1 Front 3 Forward 45° 8 Back 30° 12 Jets Total Min Flow #5 | 1 Front 3 Forward 45° 8 Back 30° 12 Jets Total Min Flow #5 | 1 Front 3 Forward 45° 12 Back 30° 16 Jets Total Min Flow #6 | 1 Front 3 Forward 45° 12 Back 30° 16 Jets Total Min Flow #6 | 1 Front 3 Forward 45° 12 Back 30° 16 Jets Total Min Flow #6 |
| PATTERN 5 FLEX OR RIGID LANCES  | 1 Front 3 Forward 45° 6 Radial 6 Back 30° 16 Jets Total Min Flow #6 | 1 Front 3 Forward 45° 6 Radial 6 Back 30° 16 Jets Total Min Flow #6 | 1 Front 3 Forward 45° 8 Radial 8 Back 30° 20 Jets Total Min Flow #7 | 1 Front 3 Forward 45° 8 Radial 8 Back 30° 20 Jets Total Min Flow #7 | 1 Front 3 Forward 45° 8 Radial 8 Back 30° 20 Jets Total Min Flow #7 |
| PATTERN 6 RIGID LANCE ONLY  | 1 Front 6 Radial 7 Jets Total Min Flow #2 | 1 Front 6 Radial 7 Jets Total Min Flow #2 | 1 Front 8 Radial 9 Jets Total Min Flow #4 | 1 Front 8 Radial 9 Jets Total Min Flow #4 | 1 Front 8 Radial 9 Jets Total Min Flow #4 |
| PATTERN 7 RIGID LANCE ONLY  | 1 Front 12 Radial 13 Jets Total Min Flow #5 | 1 Front 12 Radial 13 Jets Total Min Flow #5 | 1 Front 16 Radial 17 Jets Total Min Flow #6 | 1 Front 16 Radial 17 Jets Total Min Flow #6 | 1 Front 16 Radial 17 Jets Total Min Flow #6 |

*See details on all connection types in Section I.

C SERIES TUBE CLEANING NOZZLES

| PART NO. | C1 | C2 |
|------------------------------|---|---|
| NOZZLES SHOWN AS ACTUAL SIZE |  |  |
| BLANK PART NO. | 50541 | 50518 |
| INLET CONNECTION* | 5/16"-32 UNEF Female | 5/16"-32 UNEF Female |
| OUTSIDE DIAMETER | .500" 12.7 mm | .560" 14.2 mm |
| OVERALL LENGTH | .40" 10.2 mm | .47" 11.9 mm |

PATTERNS - NUMBER OF JETS BY LOCATION

| | | |
|---|---|---|
| <p>PATTERN 1</p>  | <p>1 Front 8 Back 60° 9 Jets Total Min Flow #4</p> | <p>1 Front 8 Back 60° 9 Jets Total Min Flow #4</p> |
| <p>PATTERN 2</p>  | <p>1 Front 16 Back 60° 17 Jets Total Min Flow #6</p> | <p>1 Front 16 Back 60° 17 Jets Total Min Flow #6</p> |
| <p>PATTERN 4</p>  | <p>1 Front 3 Forward 45° 16 Back 60° 20 Jets Total Min Flow #7</p> | <p>1 Front 3 Forward 45° 16 Back 60° 20 Jets Total Min Flow #7</p> |

*See details on all connection types in Section I.

ACCESSORIES

NOZZLE LOCKING PIN

Fits both C1 and C2 size nozzles.
Installed through hole in side of nozzle.
Part No. 25501 (Sold Individually)



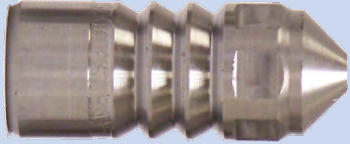


PIN REMOVAL TOOL

For removal of pin.
Part No. 25749



FPT SERIES TUBE CLEANING NOZZLES

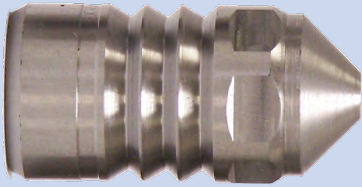

| PART NO. | FPT1 | FPT3 | FPT4 |
|------------------------------|---|---|---|
| NOZZLES SHOWN AS ACTUAL SIZE |  |  |  |
| BLANK PART NO. | 54153 | 54154 | 54156 |
| INLET CONNECTION* | 1/16" NPT Female* | 1/8" NPT Female* | 1/4" NPT Female* |
| OUTSIDE DIAMETER | .370" 9.4 mm | .500" 12.7 mm | .665" 16.9 mm |
| OVERALL LENGTH | 1.13" 28.7 mm | 1.20" 30.5 mm | 1.62" 41.1 mm |

PATTERNS - NUMBER OF JETS BY LOCATION

| PATTERN 1 | FPT1 | FPT3 | FPT4 |
|---|---|--|--|
|  | 1 Front 2 Forward 45° 12 Back 30° 15 Jets Total Min Flow #6 | 1 Front 3 Forward 45° 18 Back 30° 22 Jets Total Min Flow #8 | 1 Front 3 Forward 45° 24 Back 30° 28 Jets Total Min Flow #10 |
|  | 1 Front 3 Forward 45° 12 Back 45° 16 Jets Total Min Flow #6 | 1 Front 4 Forward 45° 18 Back 45° 23 Jets Total Min Flow #8 | 1 Front 6 Forward 45° 24 Back 45° 31 Jets Total Min Flow #12 |
|  | 1 Front 2 Forward 45° 4 Radial 9 Back 30° 16 Jets Total Min Flow #6 | 1 Front 3 Forward 45° 6 Radial 12 Back 30° 22 Jets Total Min Flow #8 | 1 Front 4 Forward 45° 12 Radial 18 Back 30° 35 Jets Total Min Flow #14 |
|  | 1 Front 2 Forward 45° 4 Radial 9 Back 45° 16 Jets Total Min Flow #6 | 1 Front 4 Forward 45° 6 Radial 12 Back 45° 23 Jets Total Min Flow #8 | 1 Front 8 Forward 45° 8 Radial 15 Back 45° 32 Jets Total Min Flow #14 |

*See details on all connection types in Section I.

FPT SERIES TUBE CLEANING NOZZLES




| FPT5 | FPT6 |
|---|--|
|  |  |
| 54157 | 54158 |
| 3/8" NPT Female* | 1/2" NPT Female* |
| .870" 22.1 mm | 1.040" 26.4 mm |
| 1.73" 43.9 mm | 2.10" 53.3 mm |

PATTERNS - NUMBER OF JETS BY LOCATION

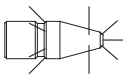
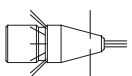
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| <p>1 Front 4 Forward 45° 24 Back 30° 29 Jets Total Min Flow #12</p> | <p>1 Front 4 Forward 45° 24 Back 30° 29 Jets Total Min Flow #10</p> |
| <p>1 Front 8 Forward 45° 24 Back 45° 33 Jets Total Min Flow #14</p> | <p>1 Front 8 Forward 45° 24 Back 45° 33 Jets Total Min Flow #14</p> |
| <p>1 Front 4 Forward 45° 12 Radial 18 Back 30° 35 Jets Total Min Flow #14</p> | <p>1 Front 4 Forward 45° 12 Radial 18 Back 30° 35 Jets Total Min Flow #14</p> |
| <p>1 Front 8 Forward 45° 12 Radial 18 Back 45° 39 Jets Total Min Flow #15</p> | <p>1 Front 8 Forward 45° 12 Radial 18 Back 45° 39 Jets Total Min Flow #15</p> |

*See details on all connection types in Section I.

E SERIES TUBE CLEANING NOZZLES



| PART NO. | E0 | E1 | E2 |
|------------------------------|---|--|---|
| NOZZLES SHOWN AS ACTUAL SIZE |  |  |  |
| BLANK PART NO. | 52134 | 51125 | 51123 |
| INLET CONNECTION* | 1/16" NPT Female* | 1/8" NPT Female* | 1/4" NPT Female* |
| OUTSIDE DIAMETER | .375" 9.5 mm | .500" 12.7 mm | .665" 16.9 mm |
| OVERALL LENGTH | 1.17" 29.7 mm | 1.40" 35.6 mm | 1.76" 44.7 mm |

PATTERNS - NUMBER OF JETS BY LOCATION

| | | | |
|---|---|---|---|
| PATTERN 1 FLEX OR RIGID LANCES  | 1 Front 3 Forward 45° 4 Radial 6 Back 45° 14 Jets Total Min Flow #5 | 1 Front 3 Forward 45° 6 Radial 6 Back 45° 16 Jets Total Min Flow #6 | 1 Front 3 Forward 45° 6 Radial 6 Back 45° 16 Jets Total Min Flow #6 |
| PATTERN 2 FLEX OR RIGID LANCES  | N/A | 4 Front 6 Radial 12 Back 45° 22 Jets Total Min Flow #8 | 4 Front 6 Radial 12 Back 45° 22 Jets Total Min Flow #8 |

*See details on all connection types in Section I.

E SERIES TUBE CLEANING NOZZLES




| E3 | E4 |
|---|--|
|  |  |
| 51121 | 51119 |
| 3/8" NPT Female* | 1/2" NPT Female* |
| 2.10" 53.3 mm | 2.27" 57.7 mm |
| .870" 22.1 mm | 1.040" 26.4 mm |

PATTERNS - NUMBER OF JETS BY LOCATION

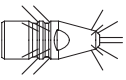
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|---|---|
| 1 Front 3 Forward 45° 8 Radial 8 Back 45° 20 Jets Total Min Flow #7 | 1 Front 3 Forward 45° 8 Radial 8 Back 45° 20 Jets Total Min Flow #7 |
| 4 Front 8 Radial 16 Back 45° 28 Jets Total Min Flow #10 | 4 Front 8 Radial 16 Back 45° 28 Jets Total Min Flow #10 |

*See details on all connection types in Section I.

EX SERIES TUBE CLEANING NOZZLES



| PART NO. | EX1 | EX3 | EX4 |
|------------------------------|---|--|---|
| NOZZLES SHOWN AS ACTUAL SIZE |  |  |  |
| BLANK PART NO. | 54168 | 54169 | 54171 |
| INLET CONNECTION* | 1/16" NPT Female* | 1/8" NPT Female* | 1/4" NPT Female* |
| OUTSIDE DIAMETER | .375" 9.5 mm | .500" 12.7 mm | .665" 16.9 mm |
| OVERALL LENGTH | 1.29" 32.8 mm | 1.45" 36.8 mm | 1.72" 43.7 mm |

PATTERNS - NUMBER OF JETS BY LOCATION

| | | | |
|---|--|--|--|
| PATTERN 1 FLEX OR RIGID LANCES  | 1 Front 3 Forward 45° 4 Radial 8 Back 30° 16 Jets Total Min Flow #6 | 1 Front 4 Forward 45° 8 Radial 10 Back 30° 23 Jets Total Min Flow #8 | 1 Front 6 Forward 45° 8 Radial 16 Back 30° 31 Jets Total Min Flow #12 |
| PATTERN 2 FLEX OR RIGID LANCES  | N/A | 4 Front 6 Radial 10 Back 30° 20 Jets Total Min Flow #7 | 4 Front 8 Radial 12 Back 30° 24 Jets Total Min Flow #9 |
| PATTERN 3 FLEX OR RIGID LANCES  | 1 Front 3 Forward 60° 3 Radial 6 Back 60° 13 Jets Total Min Flow #5 | 3 Front 3 Forward 60° 4 Radial 8 Back 60° 18 Jets Total Min Flow #6 | 4 Front 4 Forward 60° 8 Radial 12 Back 60° 28 Jets Total Min Flow #10 |
| PATTERN 4 FLEX OR RIGID LANCES  | N/A | 2 Front 2 Forward 60° 6 Forward 30° 12 Back 45° 22 Jets Total Min Flow #8 | 3 Front 3 Forward 60° 8 Forward 30° 16 Back 45° 30 Jets Total Min Flow #12 |
| PATTERN 5 FLEX OR RIGID LANCES  | 1 Front 3 Forward 45° 3 Forward 30° 6 Back 30° 6 Back 60° 19 Jets Total Min Flow #6 | 1 Front 3 Forward 45° 3 Forward 30° 8 Back 30° 6 Back 60° 21 Jets Total Min Flow #7 | 1 Front 4 Forward 45° 4 Forward 30° 8 Back 30° 6 Back 60° 23 Jets Total Min Flow #8 |

*See details on all connection types in Section I.

EX SERIES TUBE CLEANING NOZZLES





| EX5 | EX6 |
|---|--|
|  |  |
| 54172 | 54173 |
| 3/8" NPT Female* | 1/2" NPT Female* |
| .875" 22.2 mm | 1.040" 26.4 mm |
| 2.21" 56.1 mm | 2.37" 60.2 mm |

PATTERNS - NUMBER OF JETS BY LOCATION

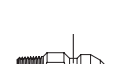
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|--|--|
| 1 Front 6 Forward 45° 8 Radial 16 Back 30° 31 Jets Total Min Flow #12 | 1 Front 6 Forward 45° 8 Radial 16 Back 30° 31 Jets Total Min Flow #12 |
| 4 Front 8 Radial 16 Back 30° 28 Jets Total Min Flow #10 | 4 Front 8 Radial 16 Back 30° 28 Jets Total Min Flow #10 |
| 4 Front 4 Forward 60° 8 Radial 12 Back 60° 28 Jets Total Min Flow #10 | 4 Front 4 Forward 60° 8 Radial 12 Back 60° 28 Jets Total Min Flow #10 |
| 3 Front 3 Forward 60° 8 Forward 30° 16 Back 45° 30 Jets Total Min Flow #12 | 4 Front 4 Forward 60° 8 Forward 30° 24 Back 45° 40 Jets Total Min Flow #15 |
| 1 Front 4 Forward 45° 4 Forward 30° 8 Back 30° 6 Back 60° 23 Jets Total Min Flow #8 | 1 Front 4 Forward 45° 4 Forward 30° 8 Back 30° 6 Back 60° 23 Jets Total Min Flow #9 |

*See details on all connection types in Section I.

MP SERIES TUBE CLEANING NOZZLES




| PART NO. | MP1 | MP2 | MP3 | MP4 |
|------------------------------|---|---|--|---|
| NOZZLES SHOWN AS ACTUAL SIZE |  |  |  |  |
| BLANK PART NO. | 51114 | 51115 | 51116 | 51117 |
| INLET CONNECTION* | 1/16" NPT Male* | 1/8" NPT Male* | 1/4" NPT Male* | 3/8" NPT Male* |
| OUTSIDE DIAMETER | 3.75" 9.5 mm | .500" 12.7 mm | .625" 15.9 mm | .75" 19.1 mm |
| OVERALL LENGTH | .96" 24.4 mm | 1.21" 30.7 mm | 1.43" 36.3 mm | 1.60" 40.6 mm |

PATTERNS - NUMBER OF JETS BY LOCATION

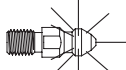
| PATTERN | MP1 | MP2 | MP3 | MP4 |
|---|--|---|---|---|
| PATTERN 1  | 1 Front 6 Back 30° 7 Jets Total Min Flow #2 | 1 Front 8 Back 30° 9 Jets Total Min Flow #4 | 1 Front 8 Back 30° 9 Jets Total Min Flow #4 | 1 Front 8 Back 30° 9 Jets Total Min Flow #4 |
| PATTERN 2  | 1 Front 12 Back 30° 13 Jets Total Min Flow #5 | 1 Front 16 Back 30° 17 Jets Total Min Flow #6 | 1 Front 16 Back 30° 17 Jets Total Min Flow #6 | 1 Front 16 Back 30° 17 Jets Total Min Flow #6 |
| PATTERN 3  | 1 Front 3 Forward 45° 6 Back 30° 10 Jets Total Min Flow #4 | 1 Front 3 Forward 45° 8 Back 30° 12 Jets Total Min Flow #5 | 1 Front 3 Forward 45° 8 Back 30° 12 Jets Total Min Flow #5 | 1 Front 3 Forward 45° 8 Back 30° 12 Jets Total Min Flow #5 |
| PATTERN 4  | 1 Front 3 Forward 45° 8 Back 30° 12 Jets Total Min Flow #5 | 1 Front 3 Forward 45° 6 Radial 6 Back 30° 16 Jets Total Min Flow #6 | 1 Front 6 Radial 7 Jets Total Min Flow #2 | 1 Front 12 Radial 13 Jets Total Min Flow #5 |
| PATTERN 5  | 1 Front 3 Forward 45° 12 Back 30° 16 Jets Total Min Flow #6 | 1 Front 3 Forward 45° 8 Radial 8 Back 30° 20 Jets Total Min Flow #7 | 1 Front 8 Radial 9 Jets Total Min Flow #4 | 1 Front 16 Radial 17 Jets Total Min Flow #6 |
| PATTERN 6  | 1 Front 3 Forward 45° 12 Back 30° 16 Jets Total Min Flow #6 | 1 Front 3 Forward 45° 8 Radial 8 Back 30° 20 Jets Total Min Flow #7 | 1 Front 8 Radial 9 Jets Total Min Flow #4 | 1 Front 16 Radial 17 Jets Total Min Flow #6 |
| PATTERN 7  | 1 Front 3 Forward 45° 12 Back 30° 16 Jets Total Min Flow #6 | 1 Front 3 Forward 45° 8 Radial 8 Back 30° 20 Jets Total Min Flow #7 | 1 Front 8 Radial 9 Jets Total Min Flow #4 | 1 Front 16 Radial 17 Jets Total Min Flow #6 |

*See details on all connection types in Section I.

MS SERIES TUBE CLEANING NOZZLES

| PART NO. | MS1 | MS2 | MS3 |
|------------------------------|---|--|---|
| NOZZLES SHOWN AS ACTUAL SIZE |  |  |  |
| BLANK PART NO. | 51113 | 51060 | 50468 |
| INLET CONNECTION** | #12-28UNF MALE | 1/4"-28UNF MALE | 5/16"-24UNF MALE |
| DIAMETER | .250" 6.4 mm | .312" 7.9 mm | .375" 9.5 mm |
| LENGTH | .95" 24.4 mm | 1.06" 26.9 mm | 1.12" 28.4 mm |



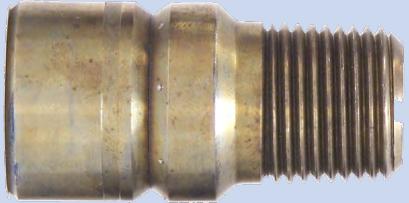
PATTERNS - NUMBER OF JETS BY LOCATION

| PATTERN | MS1 | MS2 | MS3 |
|--|---|---|---|
| PATTERN 1 FLEX OR RIGID LANCE  | 1 Front 6 Back 45° 7 Jets Total Min Flow #2 | 1 Front 6 Back 45° 7 Jets Total Min Flow #2 | 1 Front 6 Back 45° 7 Jets Total Min Flow #2 |
| PATTERN 2 FLEX OR RIGID LANCE  | 1 Front 12 Back 45° 13 Jets Total Min Flow #5 | 1 Front 12 Back 45° 13 Jets Total Min Flow #5 | 1 Front 12 Back 45° 13 Jets Total Min Flow #5 |
| PATTERN 3 FLEX OR RIGID LANCE  | 1 Front 3 Forward 45° 6 Back 45° 10 Jets Total Min Flow #4 | 1 Front 3 Forward 45° 6 Back 45° 10 Jets Total Min Flow #4 | 1 Front 3 Forward 45° 6 Back 45° 10 Jets Total Min Flow #4 |
| PATTERN 4 FLEX OR RIGID LANCE  | 1 Front 3 Forward 45° 8 Back 45° 12 Jets Total Min Flow #5 | 1 Front 3 Forward 45° 8 Back 45° 12 Jets Total Min Flow #5 | 1 Front 3 Forward 45° 8 Back 45° 12 Jets Total Min Flow #5 |
| PATTERN 5 FLEX OR RIGID LANCE  | 1 Front 3 Forward 45° 6 Radial 6 Back 45° 16 Jets Total Min Flow #6 | 1 Front 3 Forward 45° 6 Radial 6 Back 45° 16 Jets Total Min Flow #6 | 1 Front 3 Forward 45° 6 Radial 6 Back 45° 16 Jets Total Min Flow #6 |
| PATTERN 6 RIGID LANCE ONLY  | 1 Front 6 Radial 7 Jets Total Min Flow #2 | 1 Front 6 Radial 7 Jets Total Min Flow #2 | 1 Front 6 Radial 7 Jets Total Min Flow #2 |
| PATTERN 7 RIGID LANCE ONLY  | 1 Front 12 Radial 13 Jets Total Min Flow #5 | 1 Front 12 Radial 13 Jets Total Min Flow #5 | 1 Front 12 Radial 13 Jets Total Min Flow #5 |

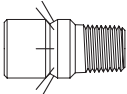
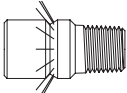
*See details on all connection types in Section I.

TOOLS &
NOZZLES

TP SERIES THRUSTERS TUBE CLEANING NOZZLES

| PART NO. | TP4 | TP5 | TP6 |
|------------------------------|---|--|---|
| NOZZLES SHOWN AS ACTUAL SIZE |  |  |  |
| BLANK PART NO. | 54709 | 52138 | 52151 |
| INLET CONNECTION* | 1/4" NPT Female | 3/8" NPT Female | 1/2" NPT Female |
| OUTLET CONNECTION* | 1/4" NPT Male | 3/8" NPT Male | 1/2" NPT Male |
| OUTSIDE DIAMETER | .665" 16.9 mm | .875" 22.2 mm | 1.040" 26.4 mm |
| OVERALL LENGTH | 1.63" 41.4 mm | 1.65" 41.9 mm | 2.03" 51.6 mm |

PATTERNS - NUMBER OF JETS BY LOCATION

| | | | |
|--|--------------------------------|--------------------------------|--------------------------------|
| PATTERN 1  | 8 Back 30° Min Flow #3 | 8 Back 30° Min Flow #3 | 8 Back 30° Min Flow #3 |
| PATTERN 2  | 16 Back 30° Min Flow #6 | 16 Back 30° Min Flow #6 | 16 Back 30° Min Flow #6 |

*See details on all connection types in Section I.

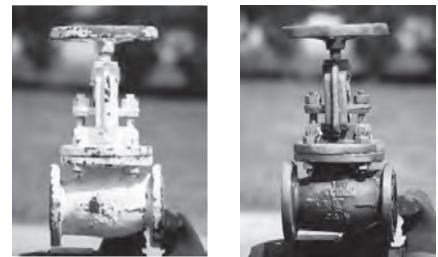
ABRASIVE INJECTOR NOZZLE

- ▶ Provides powerful, cohesive mix of water and abrasive
- ▶ Easily replaceable, precision-drilled spool nozzle creates a powerful, focused waterjet and provides suction force to pull the abrasive media into the nozzle and mix with pressurized water. No air feed required!
- ▶ Wear-resistant, lightweight boron carbide abrasive nozzle
- ▶ Integral nozzle shut-off valve prevents clogging of abrasive
- ▶ Heat-treated stainless steel construction
- ▶ Lightweight, compact design
- ▶ Includes #5 Spool Nozzle



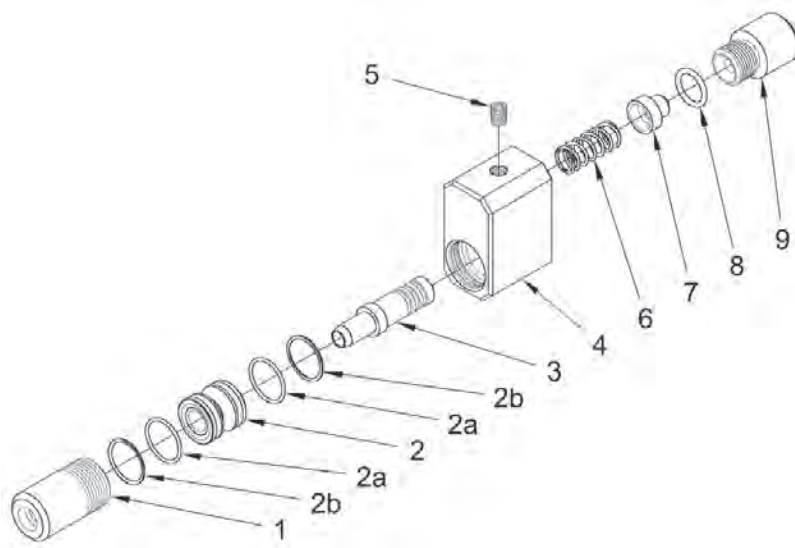
| PART NO. | INLET WATER CONNECTION* | INLET ABRASIVE CONNECTION* | ASSEMBLY WEIGHT | | MAX. OPERATING PRESSURE | |
|----------|-------------------------|----------------------------|-----------------|-----|-------------------------|------|
| | | | lb | kg | psi | bar |
| 52810 | 3/8" NPT Female | 1/2" Hose Barb | 1.5 | 0.7 | 15,000 | 1034 |

*See details on all connection types in Section I.



Before

After



PART BREAKDOWN

| ITEM | PART NO. | DESCRIPTION | ITEM | PART NO. | DESCRIPTION |
|------|----------|-----------------|------|----------|--------------------------|
| 1 | 52815 | Abrasive Nozzle | 4 | 52706 | Body |
| 2 | 53106 | #2 Spool Nozzle | 5 | 25395 | Plug |
| | 53107 | #5 Spool Nozzle | 6 | 26534 | Spring |
| 2a | 26920 | O-Ring | 7 | 52711 | Valve |
| 2b | 27030 | Backup Ring | 8 | 25228 | O-Ring |
| 3 | 52708 | Hose Barb | 9 | 52709 | Adapter, 3/8" NPT Female |

SPOOL NOZZLES



- ▶ Control flow of water through the nozzle
- ▶ Two standard flow ratings are available
- ▶ Custom drilled spool nozzles available

FLOW AT SPECIFIED PRESSURES (PSI / BAR)

| PART NO. | FLOW RATE | 3,000 | 206 | 5,000 | 344 | 6,000 | 413 | 8,000 | 551 | 10,000 | 689 | 11,000 | 758 | 12,000 | 827 | 14,000 | 965 | 15,000 | 1034 |
|----------|-----------|-------|------|-------|------|-------|------|-------|------|--------|------|--------|------|--------|------|--------|------|--------|------|
| | | gpm | lpm | gpm | lpm | gpm | lpm | gpm | lpm | gpm | lpm | gpm | lpm | gpm | lpm | gpm | lpm | gpm | lpm |
| 53106 | 2 | 1.4 | 5.3 | 1.8 | 7.1 | 1.9 | 7.1 | 2.2 | 8.3 | 2.5 | 9.4 | 2.6 | 9.8 | 2.7 | 10.2 | 3.0 | 11.3 | 3.1 | 12.1 |
| 53107 | 5 | 3.6 | 13.6 | 4.6 | 17.4 | 5.1 | 19.3 | 5.9 | 22.3 | 6.6 | 24.9 | 6.9 | 26.1 | 7.2 | 27.4 | 7.8 | 29.5 | 8.0 | 30.2 |

ABRASIVES



SHARPJET GARNET

55 lb (25 kg) bag

| PART NO. | GRIT |
|-----------|------|
| 70034-36 | 36 |
| 70034-50 | 50 |
| 70034-60 | 60 |
| 70034-80 | 80 |
| 70034-120 | 120 |



MAXXSTRIP MAGNESIUM SULPHATE/ KIESERITE

50 lb (23 kg) bag

| PART NO. | MESH SIZE |
|----------|-----------|
| J70378-C | 20-40 |
| J70378-M | 40-60 |
| J70378-F | 60-80 |



SOFSTRIP SODIUM BICARBONATE

50 lb (23 kg) bag

| PART NO. | MESH SIZE |
|-----------|-----------|
| J70377-XL | 60-80 |
| J70377-M | 80-100 |



ABRASIVE POT

Part No. 27301

SAFETY APPAREL & EQUIPMENT

SAFETY. The one word every organization places at the top of the list when thinking about an employee. Jetstream understands the importance of conducting a safe environment when working in any high pressure waterblasting application. From personal protective equipment (PPE) to caution tape and signage, Jetstream provides a complete line of safety products to ensure a well protected job site and operator safety.

Products included in this section:

VISUAL SAFETY SYSTEM

- ▶ Jetstream's pioneered Visual Safety System
- ▶ Safety Protection through color coding of parts
- ▶ Guns, Foot Guns, Hoses, Lances, Fittings, and Decals

SAFETY SHROUDS

- ▶ Standard Waterblasting Safety Shrouds
- ▶ TST[®] Hose Shrouds
- ▶ TST Hose Connection Covers
- ▶ Covered Safety Whips

FLEX LANCE SAFETY

- ▶ Hand-Held Lance Grip and Accessories
- ▶ Pipe and Tube Cleaning Exit Safety Devices

PERSONAL PROTECTIVE EQUIPMENT (PPE)

- ▶ TurtleSkin[®] WaterArmor
- ▶ TST Waterjet Protection

SAFETY ACCESSORIES

- ▶ Sonetics[®] APEX wireless headsets
- ▶ Safety Glasses, Goggles, Boots, and Gloves
- ▶ Face Shield, Hard Hats, and Ear Protection
- ▶ Protection Suits

SAFETY TAPE, SIGNS AND DECALS

SAFETY HOSE CHECKS

- ▶ Nylon
- ▶ Stainless Steel





VISUAL SAFETY SYSTEM DECALS

are highly visible and brightly colored to provide operators and supervisors with visual confirmation that all waterblast components, not colored, are appropriately matched to pressure ratings.
Part No. 71742

VISUAL SAFETY SYSTEM

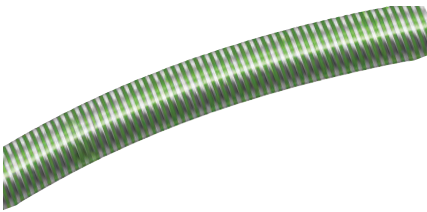
PROTECT YOUR WORKERS AND THE WATERBLASTING EQUIPMENT WITH JETSTREAM'S VISUAL SAFETY SYSTEM.

Ensuring the operator is using the correct equipment is now identifiable from a distance. Jetstream's Visual Safety System uses highly visible and color-matched decals and additional markers to clearly show waterblast components in use are correctly and safely suited to current pump pressures.

Jetstream is now following the WJTA recommended colors to visually identify the pressure being used on a job site:

- ▶ 15,000 psi - GREEN
- ▶ 20,000 psi - BLUE
- ▶ 40,000 psi - ORANGE

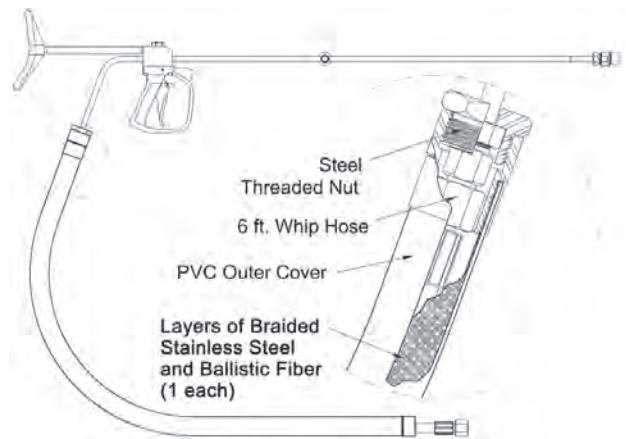
All 15K psi rated Jetstream lances, adapters, couplers and connectors are color-coded green to represent 15,000 psi (1034 bar) working pressure.



SAFETY

SAFETY SHROUDS

Designed for use with 15,000 psi control guns that have pipe thread inlet connections, these safety shroud assemblies improve operator protection in the event of a hose or end fitting failure by completely enclosing the hose and connection fittings. Assemblies include shroud, nut, and a six foot whip hose, or items can be purchased individually.

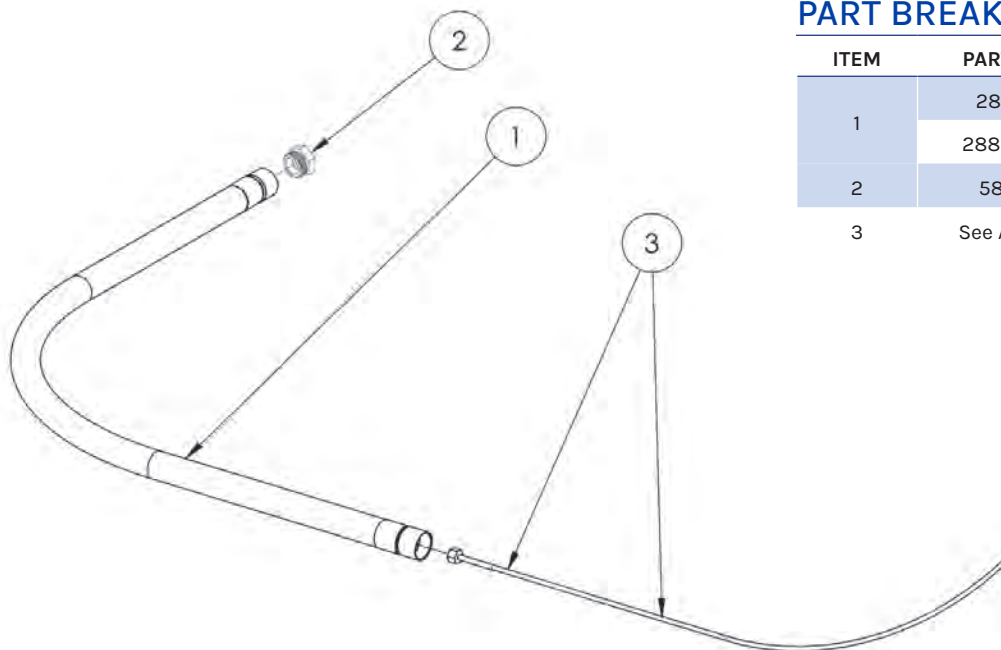


- ▶ Shroud is constructed of a wire braided stainless steel inner core, surrounded by strands of woven ballistic fiber and a durable, fiber reinforced, abrasion resistant thermoplastic outer cover for maximum protection and flexibility.
- ▶ Shroud is easily fastened or removed from rear barrel of control gun by a steel nut which fits over connection fittings.
- ▶ Whip hoses are lengths of waterblast hose designed to be a cost effective solution for ensuring operator safety. They are meant to be replaced at regular intervals to ensure that the hose nearest the operator's body is always in good condition.
- ▶ Contact factory for connection types other than those listed below

| PART NO. | LENGTH | | HOSE CONNECTION* | HOSE I.D. | | REPLACEMENT PARTS | | | | MAX. OPERATING PRESSURE | |
|----------|--------|-----|------------------|-----------|------|-------------------|-------|---------------|---------------|-------------------------|-------|
| | ft | m | | in | mm | SHROUD | NUT | WHIP HOSE** | WHIP MATERIAL | psi | bar |
| 59391 | 6 | 1.8 | 1/2" NPT | .50 | 12.7 | 28860 | 58100 | 52241-0060505 | Rubber | 15,000 | 1,034 |
| 58101 | 10 | 3.0 | 1/2" NPT | .50 | 12.7 | 28860-10 | 58100 | 52241-0100505 | Rubber | 15,000 | 1,034 |

*See Section I for a description of each connection type.

**Whip Hoses listed do not have abrasion or burst shield guards and are not intended for use near an operator without a safety shroud.



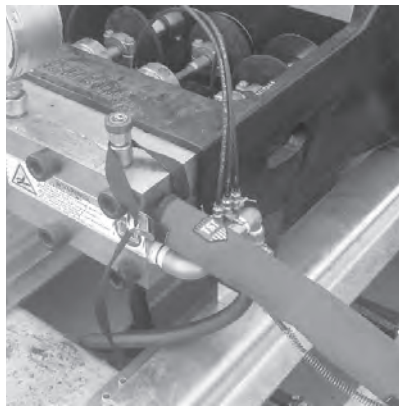
PART BREAKDOWN

| ITEM | PART NO. | DESCRIPTION |
|------|-----------|----------------|
| 1 | 28860 | Shroud, 6 ft. |
| | 28860-10 | Shroud, 10 ft. |
| 2 | 58100 | Nut |
| 3 | See Above | Whip Hose |



TST[®] HOSE SHROUDS

| PART NO. | SIZE |
|----------|------------------------------|
| 59008 | 36mm ID x 750mm long |
| 59009 | 36mm ID x 1400mm long |
| 59010 | 36mm ID x 180mm long |
| 59011 | 47mm ID x 1400mm long swivel |
| 59012 | 59mm ID x 750mm long |
| 59013 | 59mm ID x 1400mm long |
| 59014 | 59mm ID x 1800mm long |



HOSE CONNECTION COVER

Perfect use to protect connections on pumps or foot panels. The cover has an adjustable strap and the other end has two loops for flexible use.

| PART NO. | SIZE |
|----------|----------------------|
| 62257 | 50mm ID x 400mm long |

STRAIN RELIEF HOSE

Used for flex lance applications, the strain relief hose prevents kinking of the flex lance to extend service life.

- ▶ Rubber hose material is more flexible and manageable than thermoplastic flex lance material
- ▶ Connects the foot control gun to the flex lance



| PART NO. | LENGTH | | HOSE CONNECTION* | | HOSE I.D. | | MAX. OPERATING PRESSURE | |
|----------|--------|-----|---------------------------------|------------------------------------|-----------|------|-------------------------|------|
| | ft | m | INLET CONNECTION* (TO FOOT GUN) | OUTLET CONNECTION* (TO FLEX LANCE) | in | mm | psi | bar |
| 50135 | 3 | 0.9 | 1/2" NPT Male | 1/4" NPT Male | .50 | 12.7 | 15,000 | 1034 |
| 50138 | 3 | 0.9 | 1/2" NPT Male | 1/8" NPT Male | .50 | 12.7 | 15,000 | 1034 |

* See Section I for a description of each connection type.

SAFETY HOSE CHECKS



NYLON HOSE CHECK - HIGH STRENGTH

One Size Fits All.
Part No. 66743



CONTAINMENT GRIP HOSE CHECK

Coated, Galvanized Carbon Steel

| PART NO. | HOSE O.D. |
|----------|---------------|
| 63210 | 3/4" - 1 1/4" |
| 59291 | 1 1/4" - 2" |
| 61255 | 2" - 2 3/4" |



SHACKLE ANCHOR FOR CONTAINMENT GRIP HOSE CHECKS

Part No. 65670



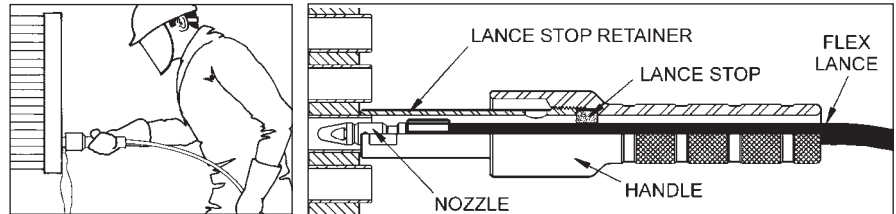
LOCKING COTTER PIN FOR SHACKLE ANCHOR

Part No. 65671

FLEX LANCE SAFETY GRIP



For use in flex lance tube cleaning operations, the safety grip prevents a nozzle from unexpectedly exiting a tube by providing a stop through which the sleeve of the flex lance will not pass. Package includes handle, lance stop retainer for use on tubes up to 3/4" O.D. Choose lance stop below (not included). **Part No. 54164**



SAFETY GRIP ACCESSORIES

LANCE STOPS

Choose lance stops below based on flex lance ID.

LANCE STOP RETAINERS

Choose lance stop retainers based on the outside diameter of the tube to be cleaned.



SAFETY GRIP SHIELD

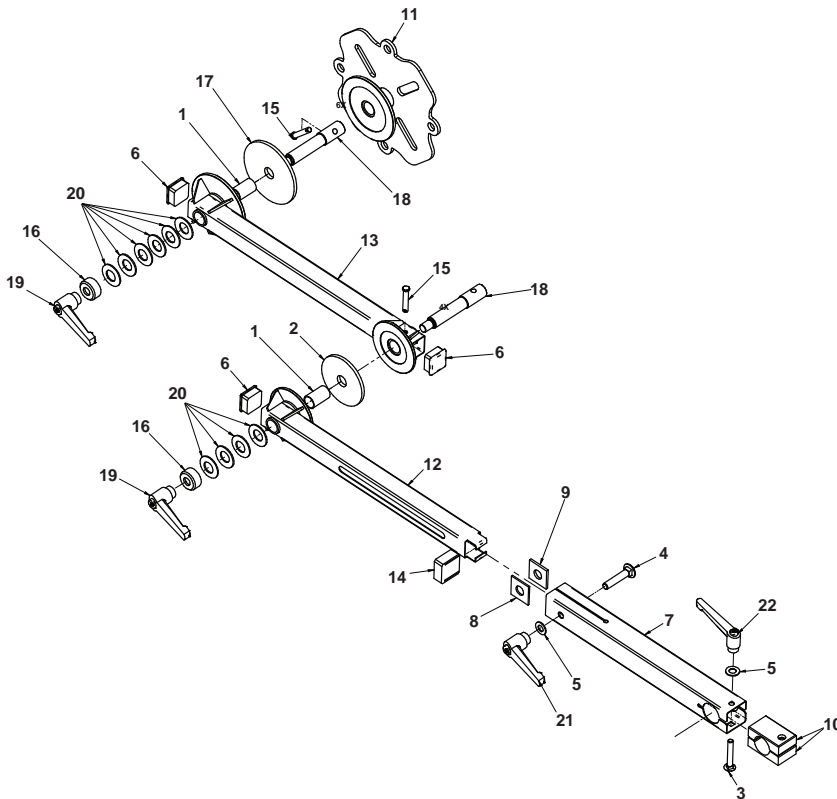
Clear, plastic shield attaches to the safety grip handle to deflect water exiting the tube. **Part No. J55785**

| LANCE STOP PART NO. | FLEX LANCE SERIES NUMBER | FLEX LANCE NOMINAL I.D. | | PART NO. | LENGTH |
|---------------------|--------------------------|-------------------------|----|----------|---|
| | | in | mm | | |
| 51779 | 27560 | 5/16 | 8 | 51055 | for tubes up to 3/4" O.D. (included in package) |
| 51044* | 26108 | 1/4 | 6 | 51425 | for tubes up to 1" O.D. |
| 51038* | 26106 | 3/16 | 5 | 51427 | for tubes up to 2" O.D. |
| 51036* | 26104 | 5/32 | 4 | | |
| | 28596 | 1/8 | 3 | | |

FLEXSTOP™

The FlexStop Lance Safety Device protects the operator from a flex lance exiting a tube sheet during cleaning operations in either a horizontal or vertical application. An articulating arm, two friction disc hubs and a telescoping tube allow for a wide range of adjustment and positioning possibilities. Durable stainless steel construction. **Part No. 66288**

The FlexStop Kit contains the articulating arm, the safety grip assembly with Lexan splash guard, all four lance stops, both guide bushings, an extension tube, and two flange clamps. **Part No. 61374**



LANCE STOPS



| LANCE STOP PART NO. | FLEX LANCE NOMINAL I.D. | | HOSE TYPE |
|---------------------|-------------------------|----|-----------|
| | in | mm | |
| 51036 | .325 | 8 | 4/2 & 3/2 |
| 51038 | .445 | 11 | 5/2 |
| 51044 | .510 | 13 | 6/2 & 6/4 |
| 51779 | .610 | 15 | 8/2 & 8/6 |

GUIDE BUSHINGS



| GUIDE BUSHING PART NO. | NOMINAL I.D. | |
|------------------------|--------------|----|
| | in | mm |
| 60288 | .550 | 14 |
| 60289 | .780 | 20 |

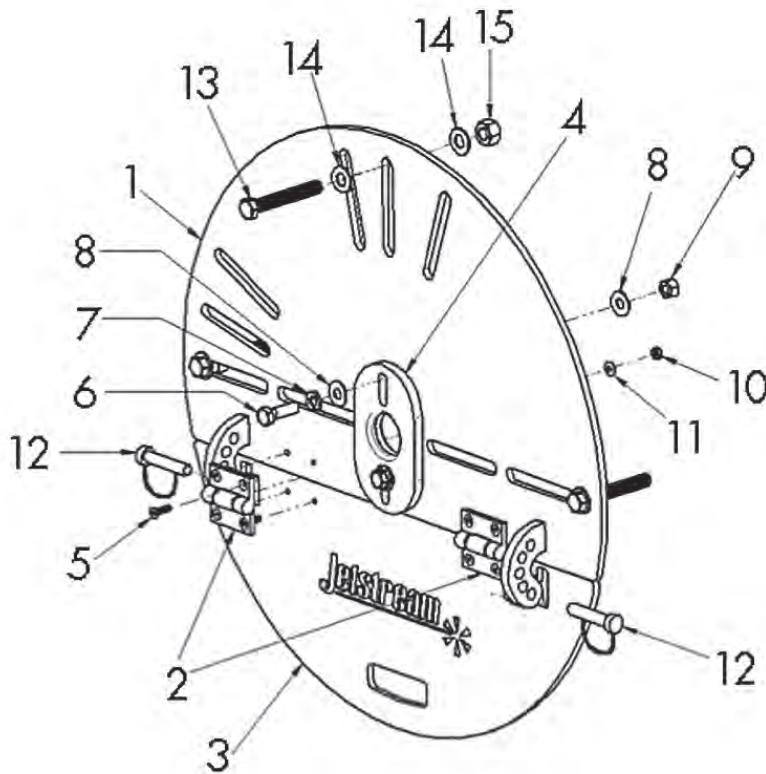
PART BREAKDOWN

| ITEM | PART NO. | DESCRIPTION | ITEM | PART NO. | DESCRIPTION |
|------|----------|--------------------------------|------|----------|------------------------|
| 1 | 60311 | Sleeve Bearing | 12 | 66298 | Outer Arm |
| 2 | 60998 | 4" Friction Element | 13 | 66299 | Inner Arm |
| 3 | 61046 | Capscrew | 14 | 66300 | Centering Block |
| 4 | 61050 | Capscrew | 15 | 66302 | Clevis Pin |
| 5 | 61148 | Thrust Washer | 16 | 66865 | Friction Plate Plunger |
| 6 | 66274 | Finishing Plug | 17 | 66866 | 5" Friction Element |
| 7 | 66291 | Outer Telescoping Arm | 18 | 66867 | Pivot Pin |
| 8 | 66293 | Spacer, Telescoping Arm, Thin | 19 | 66870 | Adjustment Handle |
| 9 | 66294 | Spacer, Telescoping Arm, Thick | 20 | 66871 | Disc Spring |
| 10 | 66296 | Clamp Block | 21 | 66889 | Adjustment Handle |
| 11 | 66297 | Mounting Plate | 22 | 66890 | Adjustment Handle |

THE WARDEN™

The Jetstream Warden is an anti-withdrawal device used for pipe cleaning applications with pipes ranging from 5"-18". With the multiple mounting location points, the pipe shield provides complete pipe coverage with a lockable shutter to allow large debris removal.

Part No. 61447



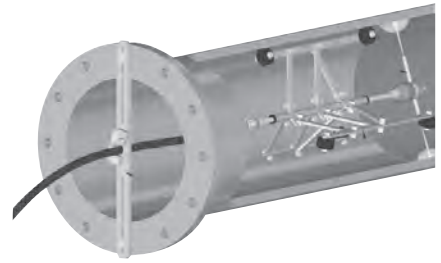
PART BREAKDOWN

| ITEM | PART NO. | DESCRIPTION | ITEM | PART NO. | DESCRIPTION |
|------|----------|-----------------------------|------|----------|-------------------------|
| 1 | 61283 | Pipe Cover Wldt, 1-19" Dia. | 9 | 26562 | Nut .38 C,Hx |
| 2 | 61448 | Shield Door Hinge | 10 | 27449 | Nut #10-24,Hx,Nylok |
| 3 | 61284 | Tilt Panel Wldt | 11 | J70804 | Washer #10 Flat |
| 4 | 61288 | Dia. Adjustment Plate | 12 | 61449 | .375" Dia. Locking Pin |
| 5 | 61461 | Capscrew #10-24 X .87 | 13 | 61450 | Capscrew .43 C X 3.0 SS |
| 6 | 27126 | Capscrew .38 C X 1.25 | 14 | 59229 | Washer .44 Flat |
| 7 | 25249 | Washer .38 Lock | 15 | 26834 | Nut .44 F,Hx Lock |
| 8 | 25251 | Washer .38 Flat | | | |

SAFETY

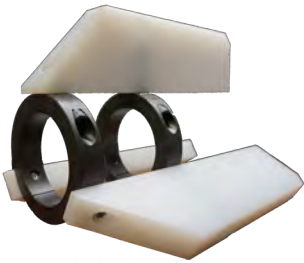
CENTRALIZERS

- ▶ Three styles are available.
- ▶ Supports the tool while providing a controlled, even cleaning along with damage protection.

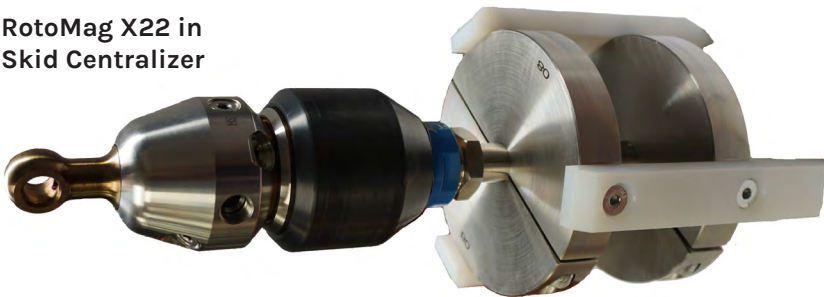


SKID STYLE

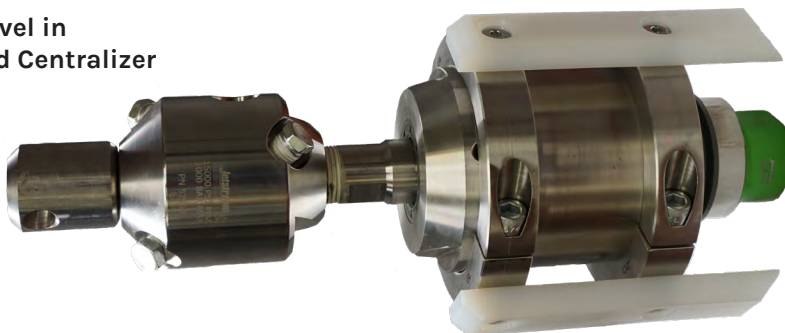
Used in pipes with and without elbows up to 10 in. (250 mm) in diameter. Designed to be used with RotoMag™ X22 and Swivel X15/X22.



RotoMag X22 in Skid Centralizer



Swivel in Skid Centralizer



REPLACEMENT RUNNERS

Three plastic runners and six screws.

| PART NO. | DIAMETER | |
|----------|----------|-----|
| | in | mm |
| 66104-06 | 6.0 | 150 |
| 66104-08 | 8.0 | 200 |
| 66104-10 | 10.0 | 250 |

ROTOMAG X22

| PART NO. | DIAMETER | |
|---------------|----------|-----|
| | in | mm |
| 63842-ROTO-6 | 6.0 | 150 |
| 63842-ROTO-8 | 8.0 | 200 |
| 63842-ROTO-10 | 10.0 | 250 |

NOTE: Does not include nipple or fittings.

RELATED ITEMS

Use 20K fittings listed below and adapt to 15K hose using proper fittings.

| PART NO. | DESCRIPTION |
|-----------|------------------------|
| 29108-08 | 3/4" MP LH Tube Nipple |
| 28383 (2) | 3/4" MP Gland |
| 28384 (2) | 3/4" MP Collar |

SWIVEL X15/X22

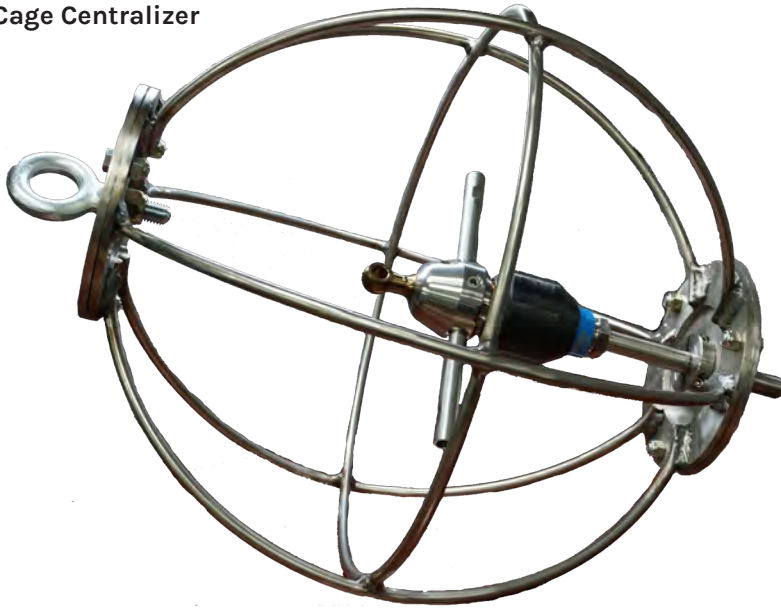
| PART NO. | DIAMETER | |
|---------------|----------|-----|
| | in | mm |
| 63842-SWVL-6 | 6.0 | 150 |
| 63842-SWVL-8 | 8.0 | 200 |
| 63842-SWVL-10 | 10.0 | 250 |

CAGE STYLE

Recommended for navigating complex piping arrangements to clean built up debris. Designed for RotoMag X22 (clamp to nipple), Swivel X15/X22 (clamp to tool), and H₃Orbiter (clamp to tool).



RotoMag X22 with Nozzle Extensions in Cage Centralizer



ROTOMAG X22

| PART NO. | DIAMETER | |
|------------|----------|-----|
| | in | mm |
| 63843-ROTO | 18.75 | 475 |

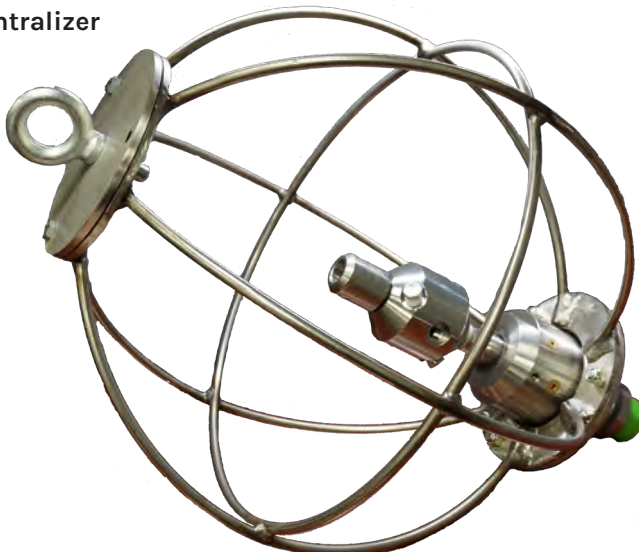
63843-ROTO does not include nipple or fittings recommended as follows:

RELATED ITEMS

| PART NO. | DESCRIPTION |
|-----------|---|
| 55450-7 | 7" long 1/2" NPT Male Nipple |
| 28903 | 1/2" NPTF x 3/4" MP Male Adapter (Nipple to Tool) |
| 27722 (4) | Capscrew, .25 F x 1.0" |

NOTE: *3/4" NPT Nipple **WILL NOT** fit in cage centralizer because OD is too large. If 1/2" NPT Nipple is used, quantity (4) of capscrew 27722 must be used for the clamps to fit. Hose to nipple adapter may be needed based on end fitting.

Swivel in Cage Centralizer



SWIVEL X15/X22

| PART NO. | DIAMETER | |
|------------|----------|-----|
| | in | mm |
| 63843-SWVL | 18.75 | 475 |

SAFETY

CAGE STYLE



H₃ ORBITER

| PART NO. | DIAMETER | |
|-----------|----------|-----|
| | in | mm |
| 63843-H30 | 11.75 | 298 |

SCISSOR STYLE

Designed for straight pipe runs only. The adjustable frames allow for an effective pipe clean anywhere from 9-60 inches (230-1500 mm) in diameter. Compatible with most tools. Comes with a central lance (shown below) for mounting tools.

| PART NO. | CONNECTION | PRESSURE | WEIGHT | LENGTH |
|---|--------------------|----------|----------------|------------------|
| SMALL 9-18" [230-460 MM] PIPE DIAMETER | | | | |
| 64452-S15-8 | 1/2" NPT | 15K PSI | 20 lb. (9 kg) | 36 in. (915 mm) |
| 64452-S15-12 | 3/4" NPT | 15K PSI | 20 lb. (9 kg) | 36 in. (915 mm) |
| 64452-S20 | 3/4" MP Male Tube | 20K PSI | 20 lb. (9 kg) | 36 in. (915 mm) |
| 64452-S40 | 9/16" HP Male Tube | 40K PSI | 20 lb. (9 kg) | 36 in. (915 mm) |
| MEDIUM 13-40" [330-1000MM] PIPE DIAMETER | | | | |
| 64452-M15-8 | 1/2" NPT | 15K PSI | 32 lb. (15 kg) | 48 in. (1220 mm) |
| 64452-M15-12 | 3/4" NPT | 15K PSI | 32 lb. (15 kg) | 48 in. (1220 mm) |
| 64452-M20 | 3/4" MP Male Tube | 20K PSI | 32 lb. (15 kg) | 48 in. (1220 mm) |
| 64452-M40 | 9/16" HP Male Tube | 40K PSI | 32 lb. (15 kg) | 48 in. (1220 mm) |
| LARGE 16-60" [410-1500 MM] PIPE DIAMETER | | | | |
| 64452-L15-8 | 1/2" NPT | 15K PSI | 40 lb. (18 kg) | 72 in. (1850 mm) |
| 64452-L15-12 | 3/4" NPT | 15K PSI | 40 lb. (18 kg) | 72 in. (1850 mm) |
| 64452-L20 | 3/4" MP Male Tube | 20K PSI | 40 lb. (18 kg) | 72 in. (1850 mm) |
| 64452-L40 | 9/16" HP Male Tube | 40K PSI | 40 lb. (18 kg) | 72 in. (1850 mm) |



SAFETY

VERSABOOM™

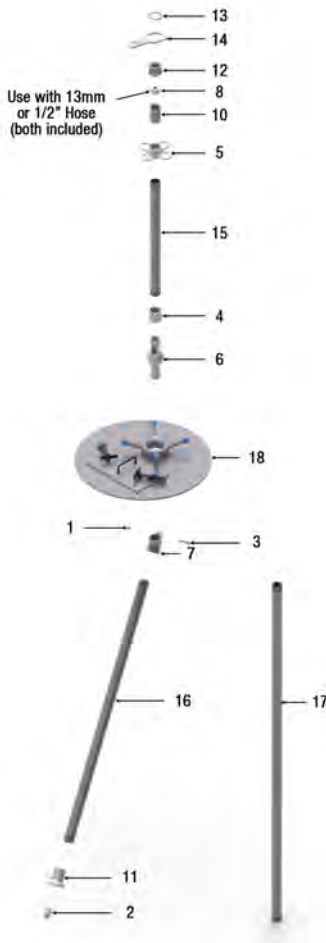
Large tanks and vessels can be challenging to clean. They come in all shapes and sizes, and they often have limited access, making it hard to get a cleaning tool into the proper position to ensure a complete cleaning.

The Versaboom™ is a positioning device designed to hold a 3D waterblast tool in a desired location inside tanks and vessels with limited access. **(Part No. 67901)**

- ▶ Adjustable extensions make it easy to extend or retract the cleaning tool to a variety of insertion depths and angles for optimal cleaning
- ▶ Aluminum mounting plate clamps to the tank or vessel during cleaning, increasing operator safety
- ▶ Access hatch in the mounting plate allows the operator to visually position the cleaning tool and check cleaning progress
- ▶ Easy to set up and operate; no special tools are required



| PART NO. | MAX. HOSE I.D. | | MAX. END FITTING | | WEIGHT | |
|----------|----------------|------|------------------|------|--------|----|
| | in | mm | in | mm | lbs | kg |
| 67901 | .50 | 12.7 | 1.5 | 38.1 | 80 | 36 |



PART BREAKDOWN

| ITEM | PART NO. | DESCRIPTION |
|------|----------|--------------------|
| 1 | 25296 | Lock Nut |
| 2 | 26065 | Bushing |
| 3 | 27091 | Capscrew |
| 4 | 67908 | Coupler |
| 5 | 67919 | Coupling, Anchor |
| 6 | 67920 | 1" Ball Pipe |
| 7 | 67921 | Elbow |
| 8 | 67922 | Collet, 13mm |
| 9 | 67923 | Collet, 1/2" NPT |
| 10 | 67924 | Nipple |
| 11 | 67925 | Outlet Fitting |
| 12 | 67926 | Gland |
| 13 | 67927 | Retaining Ring |
| 14 | 67928 | Gland Wrench |
| 15 | 67929 | Tube Extension, 2' |
| 16 | 67930 | Tube Extension, 4' |
| 17 | 67931 | Tube Extension, 6' |
| 18 | 67936 | Base Plate Assy |

SAFETY

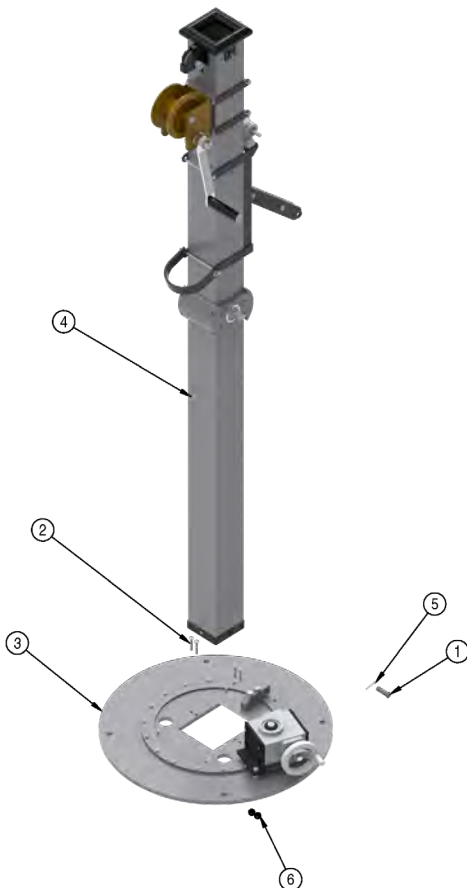
VERSABOOM-XT™

The Versaboom-XT™ is a device that helps users safely access and clean large tanks and vessels, even in difficult positions or awkward geometry. It is designed to securely hold the H3 Orbiter™ and other 3D cleaning tools in specific locations within tanks and vessels that have limited access. **(Part No. 67902)**



- ▶ Adjustable length, angle and rotation via hand operated cranks for optimum tool position
- ▶ Aluminum mounting plate clamps to the tank or vessel during cleaning, increasing operator safety
- ▶ Easy to set up and operate; no special tools are required
- ▶ 67902 comes standard with 3/4" NPTF fluid coupling **67949** and 3/4" NPTM Nipple. Additional couplings available.

| PART NO. | MAX. HOSE I.D. | | INLET CONNECTIONS | EXTENDED LENGTH | | COLLAPSED LENGTH | | WEIGHT | | MAX ANGLE | MOUNTING PLATE DIAMETER |
|----------|----------------|----|-------------------------------|-----------------|------|------------------|------|--------|----|-----------|-------------------------|
| | in | mm | | ft | m | ft | m | lbs | kg | | |
| 67902 | .75 | 19 | 3/4" NPT 1" NPT 3/4" MP | 15 | 4.57 | 6.5 | 1.98 | 115 | 52 | +/- 45° | 24" |



PART BREAKDOWN

| ITEM | PART NO. | DESCRIPTION |
|------|----------|---------------------|
| 1 | 67963 | Clevi Pin |
| 2 | 67975 | Capscrew |
| 3 | 68333 | Turn Plate Assembly |
| 4 | 68379 | Tube Assembly |
| 5 | 68434 | Cotter Pin |
| 6 | 71391 | Nut |

COUPLING SELECTION

| PART NO. | DESCRIPTION | PRESSURE (PSI) |
|----------|------------------------|----------------|
| 69233 | 1-1/8" ORS x 1" NPTF | 12,000 |
| 69232 | 1-1/8" ORS x 3/4" NPTF | 15,000 |
| 67949 | 3/4" NPTF x 3/4" NPTF | 15,000 |
| 69231 | 1-1/8" ORS x 3/4" MP F | 22,000 |

SAFETY

SONETICS® APEX WIRELESS HEADSET



Headset
Part No. 64299 (wireless)
65911 (wireless w/Bluetooth)

Sonetics APEX wireless headsets provide a communication solution for all members on your team. Operators today rely on eye-contact and hand signals to communicate when operating large, noisy machinery, including waterblasting systems.

What if you could know word-for-word what the other operator needs in an instant with NO interpretation required? Sonetics developed a headset that provides a piece-of-mind in an instant through actual voice communication, noise reduction, and noise filtration with an industry first in integrated personal sound dosimeter. Built to withstand extreme environments, Sonetics wireless systems are dust proof, watertight, and ready to perform in the same tough conditions you face every day.

FEATURES

- ▶ Secure interference-free communication with excellent range (up to 1,600 feet)
- ▶ EPA NRR of 20dB in both behind-the-head and hard-hat configurations
- ▶ Front microphones to provide situational awareness limited to no higher than 82dB
- ▶ Personal sound dosimeter measures the exposure to sound over time and adjusts headset volume to keep the operator's ears safe
- ▶ Auto-leveling microphone with automatic voice adjustments for exterior noise
- ▶ Noise suppression limits high impulse events from transmission
- ▶ Convertible headband to allow over-the-head or behind the head wear
- ▶ Customizable ruggedized colors available to aid in identification of team members
- ▶ Integration with wired or wireless two-way portable radios
- ▶ Optional bluetooth integration for communication with cell phones, MP3 players, mobile radios, and computers
- ▶ In-case charging of headsets available when not in use



Wireless Base Station
Part No. 66090



Portable Com Hub
Part No. 64298 (5/100)
65644 (10/100)



Charging Cases
Part No. 64300 (5-user)
65925 (10-user)

Contact your Jetstream Sales Manager for more details about the system that's right for you.

TST[®] WORKPLACE SAFETY SOLUTIONS

TST Workplace Safety Solutions (WSS) provide protection to sensitive equipment, machinery, or people from water, water jetting, gravel spray, and ricochets! They are made with an extremely strong outer protective fabric called TECHSTEEL™, which can withstand up to 43,500 psi (3000 bar) at a stand-off distance of 5 ft (1.5 m).

WSS OPERATOR BOOTH

Inflatable body with floor to protect operator. Can be connected to protective walls and curtains. Easy to transport and store.
Part No. 66649



WSS PROTECTIVE CURTAIN

Practical curtains which can be put together to form a protective wall of desired length. Each section is approximately 5 x 8.2 ft.
Part No. 66650



WSS PROTECTIVE WALL

Protective Wall is a stand alone solution. Several walls can be connected together indefinitely. The wall can be disassembled for easy transport and storage. Each section is approximately 5.5 x 7.2 ft. Comes with aluminum frame, feet, protective fabric and bottom flap.
Part No. 66651



WSS PROTECTIVE WALL CONNECTING PANEL

Connecting panels uses waterproof Keder connections to connect WSS Protective Walls, Curtains, and Booths.



| PART NO. | CONNECTION TYPE |
|----------|---|
| 67659 | Keder Between Walls |
| 67660 | Female Keder Between Walls and Curtains or Booths |
| 67661 | Male Keder Between Walls and Curtains or Booths |

WSS SCUFFGUARD

Protect valuable hoses from wear and tear. The 6.6 ft. version is easy to mount with hooks and loops. The 16.4 ft. version is like a tube. Inner diameter is approximately 2.2 in. Eyelets are used for fastening at the ends.



| PART NO. | LENGTH |
|----------|--------------|
| 66652 | 6.6 ft (2m) |
| 66653 | 16.4 ft (5m) |

TST® WATERJET PROTECTION



TST products provide protection to the operator without compromising on comfort or quality. Two levels of protection are offered depending on the protection needs and working pressures. See chart below for specific protection levels.

| PROTECTION LEVEL* | COLOR IDENTIFIER | SINGLE JET | ROTARY JET |
|-------------------|------------------|---------------------|---------------------|
| 10/28 | YELLOW | 14,500 psi/1000 bar | 40,600 psi/2800 bar |
| 20/30 | ORANGE | 30,000 psi/2000 bar | 43,500 psi/3000 bar |

*Protection levels are located on all articles for quick identification.



TST ALFA KIT

Waistcoat and apron with hand protection. One size fits all.

PROTECTION LEVEL 10/28

PART NO.

67445

PROTECTION LEVEL 20/30

PART NO.

67446

TST GAMMA KIT

Trousers and jacket with integrated hand protection.



PROTECTION LEVEL 10/28

| PART NO. | VENTILATED PART NO.* | SIZE |
|----------|----------------------|---------|
| 58962 | 58962-V | S/M |
| 58901 | 58901-V | L/XL |
| 58902 | 58902-V | 2XL/3XL |
| 59873 | 59873-V | 4XL/5XL |
| 59875 | 59875-V | 6XL |

PROTECTION LEVEL 20/30

| PART NO. | VENTILATED PART NO.* | SIZE |
|----------|----------------------|---------|
| 58963 | 58963-V | S/M |
| 58964 | 58964-V | L/XL |
| 58965 | 58965-V | 2XL/3XL |
| 59874 | 59874-V | 4XL/5XL |
| 59876 | 59876-V | 6XL |

*Ventilated products consist of tubing throughout the suit with holes every five inches for complete coverage. (A cooling tube will need to be purchased with this system, as well. See page H-19.)

TST® DELTA KIT

Trousers, waistcoat, and hand protection.

PROTECTION LEVEL 10/28

| PART NO. | VENTILATED PART NO.* | SIZE |
|----------|----------------------|---------|
| 58956 | 58956-V | S/M |
| 58957 | 58957-V | L/XL |
| 58958 | 58958-V | 2XL/3XL |

PROTECTION LEVEL 20/30

| PART NO. | VENTILATED PART NO.* | SIZE |
|----------|----------------------|---------|
| 58959 | 58959-V | S/M |
| 58960 | 58960-V | L/XL |
| 58961 | 58961-V | 2XL/3XL |

*Ventilated products consist of tubing throughout the suit with holes every five inches for complete coverage. (A cooling tube will need to be purchased with this system, as well. See page H-19.)



TST SIGMA KIT

Waistcoat & overall with integrated hand protection.

PROTECTION LEVEL 10/28

| PART NO. | SIZE |
|----------|------|
| 58944 | S |
| 58945 | M |
| 58946 | L |
| 58947 | XL |
| 58948 | 2XL |
| 58949 | 3XL |

PROTECTION LEVEL 20/30

| PART NO. | SIZE |
|----------|------|
| 58950 | S |
| 58951 | M |
| 58952 | L |
| 58953 | XL |
| 58954 | 2XL |
| 58955 | 3XL |



TST TROUSERS

Individual item.

PROTECTION LEVEL 10/28

| PART NO. | VENTILATED PART NO.* | SIZE |
|----------|----------------------|---------|
| 58966 | 58966-V | S/M |
| 58967 | 58967-V | L/XL |
| 58968 | 58968-V | 2XL/3XL |

PROTECTION LEVEL 20/30

| PART NO. | VENTILATED PART NO.* | SIZE |
|----------|----------------------|---------|
| 58969 | 58969-V | S/M |
| 58970 | 58970-V | L/XL |
| 58971 | 58971-V | 2XL/3XL |

*Ventilated products consist of tubing throughout the suit with holes every five inches for complete coverage. (A cooling tube will need to be purchased with this system, as well. See page H-19.)



SAFETY



TST® JACKET

Integrated hand protection. Individual item.

PROTECTION LEVEL 10/28

| PART NO. | SIZE |
|----------|---------|
| 58972 | S/M |
| 58973 | L/XL |
| 58974 | 2XL/3XL |

PROTECTION LEVEL 20/30

| PART NO. | SIZE |
|----------|---------|
| 58975 | S/M |
| 58976 | L/XL |
| 58977 | 2XL/3XL |
| 59492 | 4XL/5XL |



TST WAISTCOAT

Individual item.

PROTECTION LEVEL 10/28

| PART NO. | SIZE |
|----------|-------|
| 58978 | M-2XL |
| 58979 | 3XL |

PROTECTION LEVEL 20/30

| PART NO. | SIZE |
|----------|-------|
| 58980 | M-2XL |
| 58981 | 3XL |



TST OVERALL

Integrated hand protection. Individual item.

PROTECTION LEVEL 10/28

| PART NO. | SIZE |
|----------|------|
| 58982 | S |
| 58983 | M |
| 58984 | L |
| 58985 | XL |
| 58986 | 2XL |
| 58987 | 3XL |

PROTECTION LEVEL 20/30

| PART NO. | SIZE |
|----------|------|
| 58988 | S |
| 58989 | M |
| 58990 | L |
| 58991 | XL |
| 58992 | 2XL |
| 58993 | 3XL |

TST® HAND PROTECTION

One size fits all. Sold in pairs.

| PART NO. | PROTECTION LEVEL |
|----------|------------------|
| 67526 | 10/28 |
| 67527 | 20/30 |



TST APRON

One size fits all. Individual Item.

| PART NO. | PROTECTION LEVEL |
|----------|------------------|
| 58903 | 10/28 |
| 58997 | 20/30 |



TST WAISTCOAT WITH APRON

One size fits all. Individual Item.

| PART NO. | PROTECTION LEVEL |
|----------|------------------|
| 58955 | 10/28 |
| 58996 | 20/30 |



TST BOOTS 3000

| PART NO. | SIZE APPROX. US MEN |
|----------|---------------------|
| 59000 | 9 |
| 59001 | 9.5 |
| 59002 | 10 |
| 58932 | 10.5 |
| 59003 | 11 |
| 59004 | 12 |
| 59005 | 13 |



TST GAITERS

One size fits all. Pair.

| PART NO. | PROTECTION LEVEL |
|----------|------------------|
| 59007 | 20/30 |



TST BALACLAVA

Comfort accessory for use under protective gear. One size fits all.

| PART NO. | PROTECTION LEVEL |
|----------|------------------|
| 59006 | N/A |



VORTEX COOLER TUBE

(Not shown.) Personal Air Conditioner. For full body cooling, a 25cfm or 35cfm tube is recommended. If the tube is not sized for the available air supply, it will perform poorly.

| PART NO. | CFM |
|----------|--------|
| 61415 | 25 CFM |
| 51416 | 35 CFM |

TST GREASE REMOVER

| PART NO. | L |
|----------|-----|
| 59015 | 0.5 |
| 59016 | 2.5 |



SAFETY



TST® PRO-OPERATOR TROUSERS

Individual item. Grey or High Visibility Orange.

| GREY | | HIGH VISIBILITY | |
|------------------------|------|------------------------|------|
| PROTECTION LEVEL 5/5/2 | | PROTECTION LEVEL 5/5/2 | |
| PART NO. | SIZE | PART NO. | SIZE |
| 66694 | XS | 66715 | XS |
| 66695 | S | 66716 | S |
| 66696 | M | 66717 | M |
| 66697 | L | 66718 | L |
| 66698 | XL | 66719 | XL |
| 66699 | XXL | 66720 | XXL |
| 66700 | 3XL | 66721 | 3XL |



TST PRO-OPERATOR JACKET WITH HOOD

Individual item. Grey or High Visibility Orange.

| GREY | | HIGH VISIBILITY | |
|------------------------|------|------------------------|------|
| PROTECTION LEVEL 5/5/2 | | PROTECTION LEVEL 5/5/2 | |
| PART NO. | SIZE | PART NO. | SIZE |
| 66687 | XS | 66708 | XS |
| 66688 | S | 66709 | S |
| 66689 | M | 66710 | M |
| 66690 | L | 66711 | L |
| 66691 | XL | 66712 | XL |
| 66692 | XXL | 66713 | XXL |
| 66693 | 3XL | 66714 | 3XL |



TST PRO-OPERATOR VEST

Individual item. High Visibility Orange.

| HIGH VISIBILITY | |
|------------------------|------|
| PROTECTION LEVEL 5/5/2 | |
| PART NO. | SIZE |
| 66552 | S |
| 66553 | M |
| 66554 | L |
| 66555 | XL |
| 66556 | XXL |
| 66557 | 3XL |

SAFETY



TST® PRO-OPERATOR OVERALL WITH HOOD

Individual item. Grey or High Visibility Orange.

| GREY | | HIGH VISIBILITY | |
|------------------------|------|------------------------|------|
| PROTECTION LEVEL 5/5/2 | | PROTECTION LEVEL 5/5/2 | |
| PART NO. | SIZE | PART NO. | SIZE |
| 66701 | XS | 66722 | XS |
| 66702 | S | 66723 | S |
| 66703 | M | 66724 | M |
| 66704 | L | 66725 | L |
| 66705 | XL | 66726 | XL |
| 66706 | XXL | 66727 | XXL |
| 66707 | 3XL | 66728 | 3XL |



Supplied with carrying bag

TST HEAD PROTECTION

Helmet with visor and hearing protectors. One size fits all.

| PART NO. | PROTECTION LEVEL |
|----------|------------------|
| 65498 | 20/30 |



TST HELMET

Helmet with CE marking approved to SS-EN397:2012. Adjustable. One size fits all.

| PART NO. | PROTECTION LEVEL |
|----------|------------------|
| 66645 | 20/30 |



TST HEARING PROTECTION

One size fits all. Adjustable.
Part No. 66647



TST BLUETOOTH ADAPTER

Enables wireless communication while using TST Hearing Protection.
Part No. 67658



TST VISOR HOLDER

Visor holder for TST Head Protection.
Part No. 66646



TST VISORS (10 PACK)

10 pack of replaceable visors for TST Head Protection.
Part No. 67657



TST® CHIN STRAP

3-point chin strap for use with TST Head Protection.
Part No. 66648



TST PRO-OPERATOR GLOVES

Includes inner gloves. Pair.

| PART NO. | PROTECTION LEVEL |
|----------|------------------|
| 60396 | 5/5/2 |



TURTLESKIN® WATERARMOR

Provides waterblast operators with a high level of protection from high-pressure waterjets.

- ▶ Proven protection up to 40,000 psi (2750 bar)
- ▶ Lightweight, hinged panel design provides flexibility without fatigue
- ▶ Modular design—buy only what you need
- ▶ Open back keeps operator cooler longer

| ITEM(S) | PART NO. | DESCRIPTION |
|------------------------------|----------|------------------------------|
| TURTLESKIN MAIN PARTS | | |
| A | 27885 | Safety Suit—Torso & Chaps |
| B | 27884 | Gaiters (Shins & Feet) |
| C | 28589 | Gauntlets (Hands & Forearms) |
| REPAIR KITS | | |
| - | 71613 | Torso |
| - | 71614 | Chaps |
| - | 71615 | Gaiters |

SAFETY ACCESSORIES



SAFETY GLASSES PREMIUM

Clear/Gray anti-fog lens, adjustable nose pad, scratch resistant, UV-blocking, Z87+ approved.
Part No. J70316

SAFETY GLASSES PREMIUM

Gray/Gray anti-fog lens, adjustable nose pad, scratch resistant, UV-blocking, Z87+ approved.
Part No. J70317

SAFETY GLASSES ECONOMY

Scratch resistant, UV-blocking.
Part No. J70318



SAFETY GOGGLES

Soft frame with impact and chemical splash protection, anti-fog lens, Neoprene strap, Z87+ approved.
Part No. 25620



FACE SHIELD

Multiple Mounting Slots. Polycarbonate.
Part No. 26255

FACE SHIELD

Multiple Mounting Slots. Polycarbonate.
Part No. 26255T

FACE SHIELD

Multiple Mounting Slots with Velcro strip. Polycarbonate.
Part No. 26255V



EAR PLUGS

Uncorded with noise reduction rating: 33. Molded Polyurethane Foam.
Part No. J70321

UNIVERSAL FACE SHIELD BRACKET

Fits the brim of most hard hats. Plastic.
Part No. 25621



HARD HAT

White, six-point nylon suspension with ratchet knob. Hard Plastic.
Part No. J70315

HARD HAT

White, six-point nylon suspension with pin-lock adjustment. Hard Plastic.
Part No. 25625



EAR PLUGS

Corded with noise reduction rating: 30. Molded Polyurethane Foam.
Part No. J70322



PREMIUM 16" BOOTS

Steel toe, waterproof, meets ANSI Z41 PT99 Sect 1, 2, & 5. Size 6 to 14. Black/Yellow Rubber.
Part No. J70324-size

ECONOMY 16" BOOTS

Steel toe, waterproof. Size 7 to 13. Black Rubber.
Part No. 27168-size

12" BOOTS

Steel toe, waterproof, meets ANSI Z41 PT99 Sect 1. Size 6 to 14. Copper/Tan Neoprene.
Part No. J70326-size



SHIN & FOOT GUARDS

Padded instep and nylon straps. Aluminum.
Part No. 26894



WATER PROTECTION SUITS

Jacket, bib overall pants & face shield bib. PVC/Polyester. Sizes M-5XL
Part No. J70323-size

WATER PROTECTION SUITS

Jacket and bib overall pants. PVC/Polyester. Size M-7XL
Part No. 25617-size



GLOVES

14" PVC/NITRILE. Chemical resistant with rough finish. Fully coated with jersey lining. Size 10.
Part No. 25624

GLOVES

12" PVC Rough Finished gloves. Cotton Lining. Size 10.
Part No. J70327

SAFETY TAPE, SIGNS AND DECALS



HEALTH HAZARD
CAUTION SIGN

8½" x 11"
Part No. 26247



RESTRICTED
CAUTION SIGN

8½" x 11"
Part No. 26253



WATERBLASTING
DANGER SIGN

8½" x 11"
Part No. 25614



SAFETY WARNING
STICKER

Part No. 28501



SAFETY TAPE
"CAUTION:
WATERBLASTING
IN PROGRESS"

Dimensions:
3" x 300ft
75mm x 90 m
Part No. 57998



SAFETY TAPE
"DANGER:
HYDROBLASTING"

Dimensions:
3" x 1000ft
75mm x 300 m
Part No. J70413



SAFETY WARNING
DECAL SET
(UNIT AND FLUID
END)

Part No. 71147



SAFETY WARNING
DECAL SET
(FLUID END ONLY)

Part No. 71147-FE



15K COLOR CODED
PRESSURE DECAL

Part No. 71742



JETSTREAM UNIT
DECAL - BLUE

Part No. 29956



JETSTREAM UNIT
DECAL - WHITE

Part No. 26717

SAFETY LITERATURE AND MEDIA



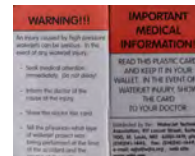
WJTA® INDUSTRY
BEST PRACTICES
FOR HIGH
PRESSURE
WATERJETTING
EQUIPMENT

Part No. 64625



WJTA®
HYDROBLASTER
ORANGE BOOK

Pocket sized.
Part No. 66858



SAFETY WARNING
MEDICAL CARD

Part No. 29263

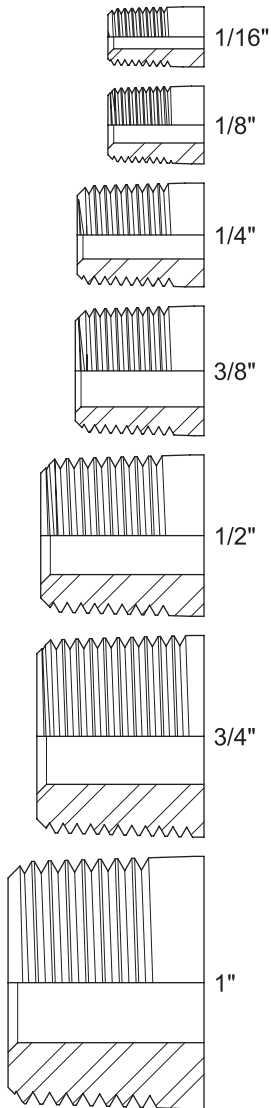
TECHNICAL

UNIT CONVERSIONS & FORMULAS

| MEASUREMENT | CONVERSION | EXAMPLE |
|---------------------|------------------------|-----------------------------------|
| LENGTH | 1 in. = 25.4 mm | 12 in. x 25.4 = 304.8 mm |
| | 1 in. = .0254 m | 120 in. x .0254 = 3.05 m |
| | 1 ft. = .3048 m | 12 ft. x .3048 = 3.68 m |
| | 1 mm = .0394 in. | 100 mm x .0394 = 3.94 in. |
| | 1 m = 39.37 in. | 10 m x 39.37 = 393.7 in. |
| | 1 m = 3.281 ft. | 10 m x 3.281 = 32.81 ft. |
| VOLUME | 1 gal = 3.785 l | 10 gal x 3.785 = 37.85 l |
| | 1 liter = .2642 gal | 100 liters x 26.42 = 26.42 gal |
| WEIGHT | 1 lb. = .454 kg | 10 lbs. x .454 = 4.54 kg |
| | 1 kg = 2.205 lbs. | 10 kg x 2.205 = 22.05 lbs. |
| PRESSURE | 1 psi = .06895 bar | 40,000 psi x .06895 = 2,750 bar |
| | 1 bar = 14.503 psi | 2,750 bar x 14.503 = 40,000 psi |
| FLOW | 1 gpm = 3.785 lpm | 30 gpm x 3.785 = 113.55 lpm |
| | 1 lpm = .2642 gpm | 100 lpm x .264 = 26.42 gpm |
| FORCE | 1 lb. = 4.448 N | 100 lbs. x 4.448 = 444.8 N |
| | 1 N = .2248 lbs. | 900 N x .2248 = 202.32 lbs. |
| TORQUE | 1 lb.-ft. = 1.3567 N-m | 100 lb.-ft. x 1.3567 = 135.67 N-m |
| | 1 N-m = .737 lb.-ft. | 100 N-m x .737 = 73.7 lb.-ft. |
| POWER | 1 hp = .7457 kW | 50 hp x .7457 = 37.29 kW |
| | 1 kW = 1.341 hp | 50 kW x 1.341 = 67.05 hp |
| FORMULA | ENGLISH UNITS | METRIC UNITS |
| POWER REQUIREMENTS* | hp = gpm x psi / 1550 | kW = lpm x bar / 540 |

*Formulas assume 90% mechanical efficiency

Actual Size
Reference Chart



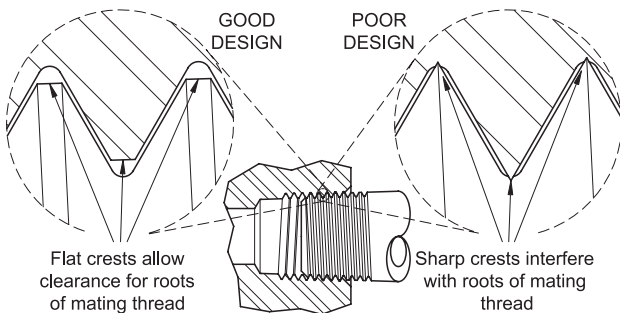
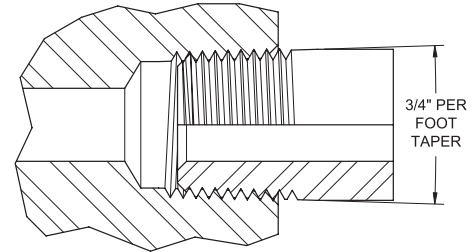
(continued on I-3)

CONNECTION TYPES

Several connection types are used at pressures of 15,000 psi (1034 bar) and below. The purpose of this section is to allow users to identify the connections needed and provide information on the features and proper use of each.

PIPE THREADS (NPT)

- ▶ Most widely used connection type at pressures of 15,000 psi (1034 bar) and below.
- ▶ NPT threads are tapered so that, as the thread engagement between the male and female threaded components increases, the threads get closer until the connection becomes tight.
- ▶ Unlike connection types that seal using closely machined seating surfaces or soft seals (such as O-rings), pipe threads seal around the threads, with Teflon® tape or pipe joint compound applied to the threads to prevent water from escaping through the tiny gaps between the male and female threads.
- ▶ Pipe threads have a significant potential for galling – where threads seize together as threaded components are tightened. Some factors that affect the likelihood of galling are:
 - ▶ **Materials:** many stainless steels have a higher tendency to gall than carbon steels, and like materials are more prone to galling than two different materials.
 - ▶ **Thread quality:** a rough finish on thread surfaces increases the potential for galling.
 - ▶ **Thread profile:** some manufacturers allow sharp edges at the crest of each thread, causing interference with the thread roots of mating part (see illustration below) and significantly increasing the risk of galling. All pipe threads on Jetstream products are machined with flat thread crests to prevent damage to mating parts.
 - ▶ **Copper plating** is used on Jetstream stainless steel fittings with male pipe threads to prevent galling.



Flat crests allow clearance for roots of mating thread

Sharp crests interfere with roots of mating thread

- ▶ **Thread lubricants (anti-seize)** applied to the male threads before engagement greatly reduce the chance of galling. Consistent use of thread lubricant is **strongly recommended** for all connections but absolutely essential for pipe threads or stainless steel connections.
- ▶ Jetstream pipe threads are machined to a special specification to ensure greater thread engagement for increased safety and to reduce the risk of galling.

CONNECTION TYPES

PIPE THREAD CONNECTION INSTRUCTIONS

1. Wrap Teflon® tape three or four times around the male threads in a clockwise direction (if looking at the face of the threaded end of the part).



2. Brush on nickel- or silver-based thread lubricant (anti-seize) over the Teflon.



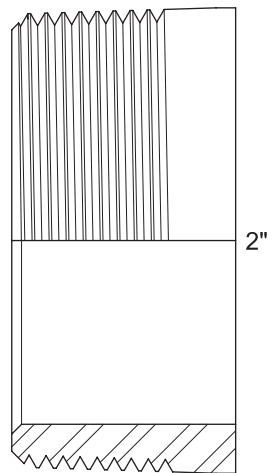
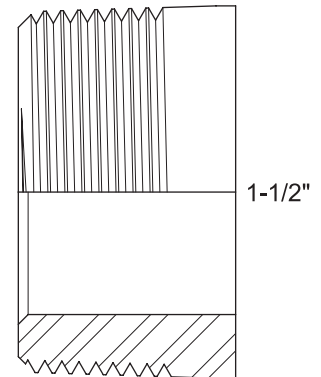
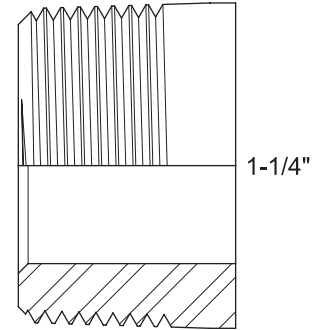
3. Install male threaded component into female threaded component and hand tighten.



4. Wrench tighten 1/2 to 2 turns past hand tight.



Actual Size
Reference Chart (continued)

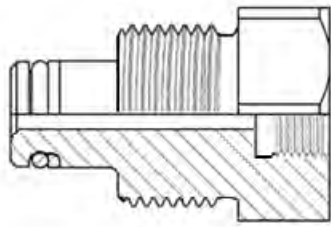


CONNECTION TYPES

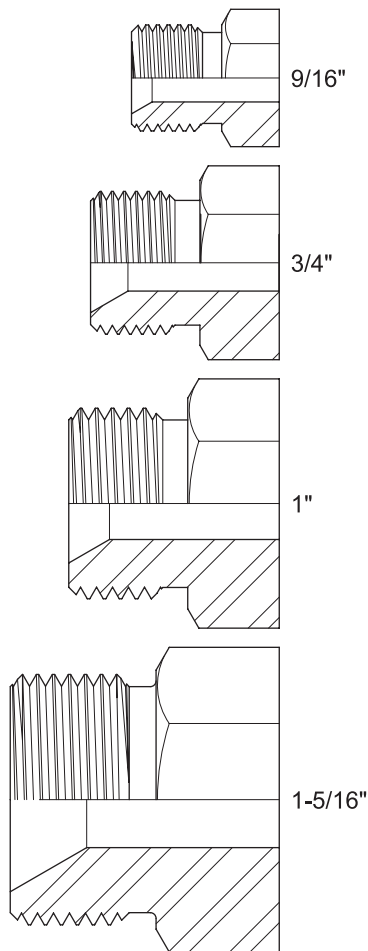
JETSTREAM HF MALE ADAPTERS

For use with 5015Q and 6015 pumps, the Jetstream HF connection features an easily replaceable seal to prevent wear or damage to the manifold and a large bore to minimize pressure drop through fittings.

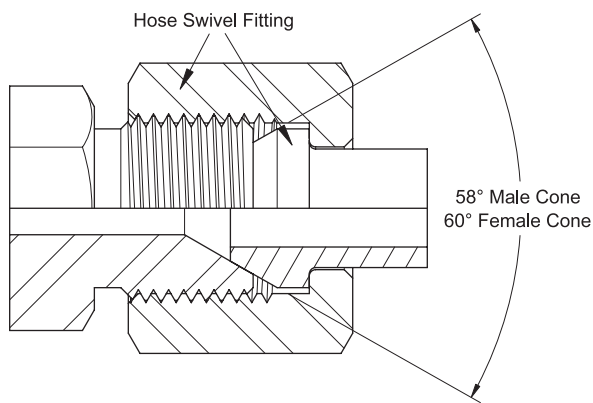
- ▶ Copper plated for galling resistance
- ▶ Stainless steel



Actual Size
Reference Chart



TYPE M



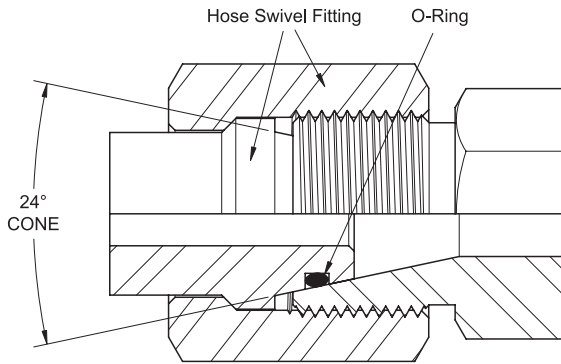
- ▶ Industry standard connection
- ▶ Designed for fast, simple connection of waterblast hoses and lances to waterblast equipment
- ▶ Male conical seat protected from damage by the hose swivel nut
- ▶ Unlike medium pressure connections, the seating surfaces do not rotate against each other when connections are made, resulting in a more reliable, longer lasting connection
- ▶ Verify pressure rating of Type M hoses and fittings before use as the connection type is used for a wide range of pressures due to its ease of use and reliability

| SIZE | CONNECTION THREAD | RECOMMENDED TORQUE | |
|----------------|-------------------|--------------------|-----|
| | | FT-LB | N-M |
| 9/16" Type M | 9/16" - 18UNF | 30 | 41 |
| 3/4" Type M | 3/4" - 16UNF | 45 | 61 |
| 1" Type M | 1" - 12UNF | 70 | 95 |
| 1-5/16" Type M | 1-5/16" - 12UN | 110 | 149 |

Note: Always apply thread lubricant (anti-seize) to male threads before assembling waterblast connections. See Section E for thread lubricants available from Jetstream.

CONNECTION TYPES

METRIC

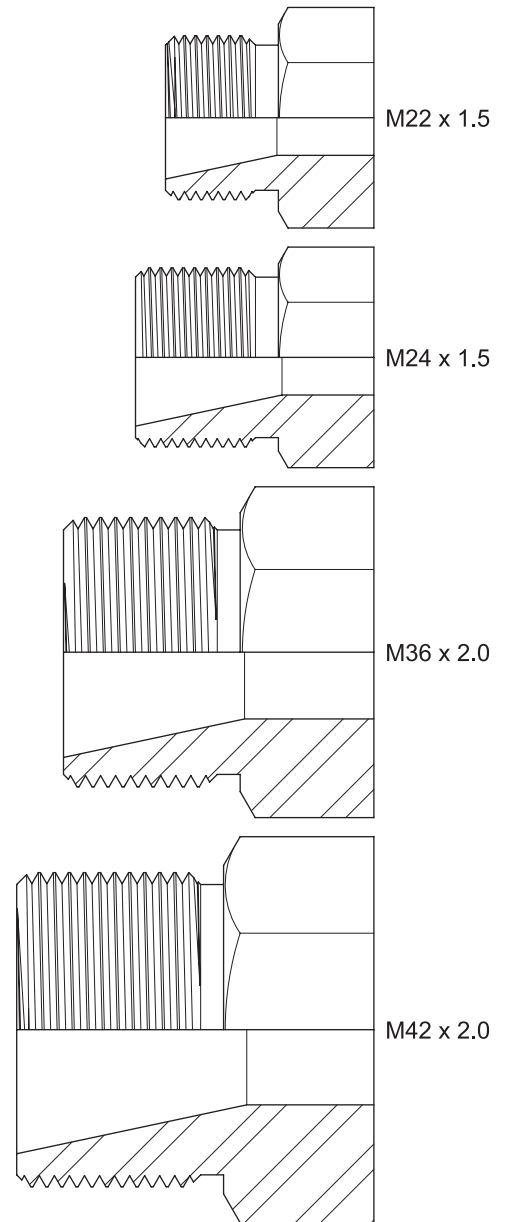


- ▶ Internationally used connection
- ▶ Designed for fast, simple connection of waterblast hoses and lances to waterblast equipment
- ▶ Male conical seat protected from damage by the hose swivel nut

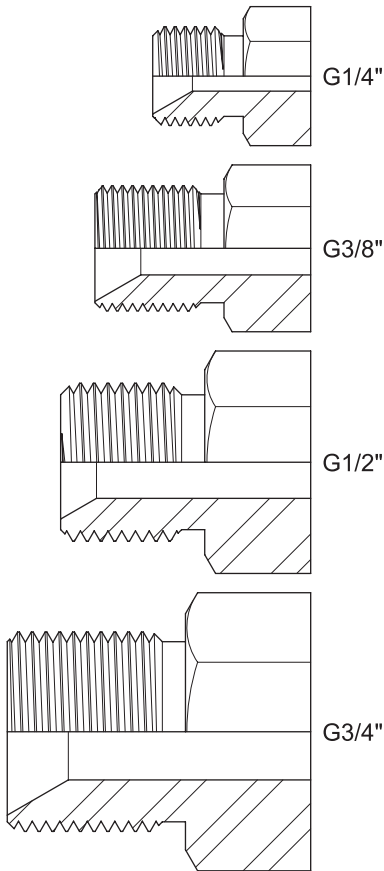
| CONNECTION SIZES |
|------------------|
| M22 x 1.5 |
| M24 x 1.5 |
| M36 x 2.0 |
| M43 x 2.0 |

Note: Always apply thread lubricant (anti-seize) to male threads before assembling waterblast connections. See Section E for thread lubricants available from Jetstream.

Actual Size Reference Chart



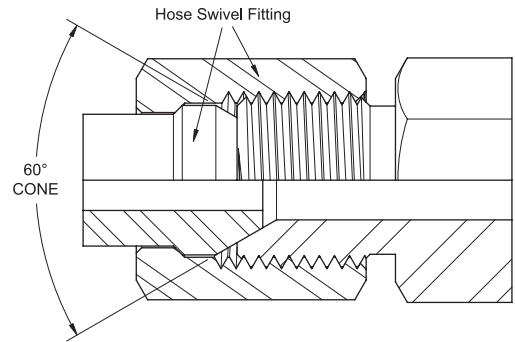
**Actual Size
Reference Chart**



CONNECTION TYPES

BRITISH STANDARD PIPE (BSPP)

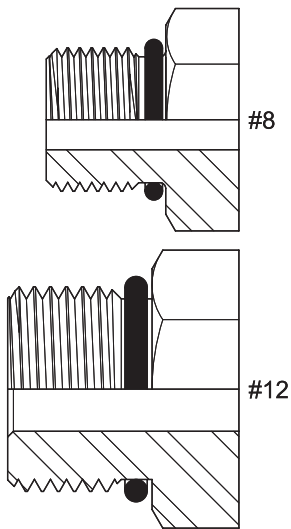
- ▶ Industry standard connection most common in Europe
- ▶ Designed for fast, simple connection of waterblast hoses and lances to waterblast equipment
- ▶ Male conical seat protected from damage by the hose swivel nut
- ▶ Products with BSPP connections featured in this catalog are straight thread connection using a metal-to-metal conical seat as the sealing method. BSPP is also available as a tapered thread similar in function to NPT pipe threads, but this variation is not found on products in this catalog.



| SIZE | CONNECTION TYPES |
|-------|------------------|
| G1/4" | 1/4"-19BSPP |
| G3/8" | 3/8"-19BSPP |
| G1/2" | 1/2"-14BSPP |
| G3/4" | 3/4"-14BSPP |

Note: Always apply thread lubricant (anti-seize) to male threads before assembling waterblast connections. See Section E for thread lubricants available from Jetstream.

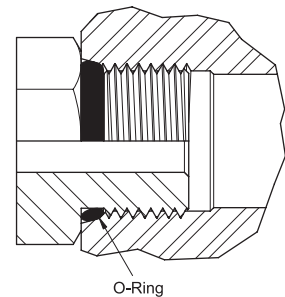
**Actual Size
Reference Chart**



STRAIGHT BOSS

- ▶ Hydraulic connection adapted for waterblast use with American Aero pumps
- ▶ Sealing accomplished by O-ring behind male threads
- ▶ Used at 10,000 psi (689 bar) or below

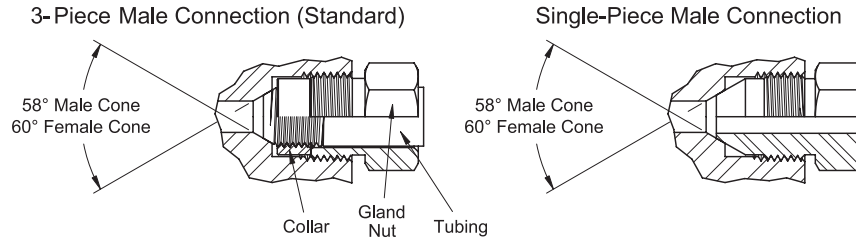
| SIZE | CONNECTION THREAD |
|------|-------------------|
| #8 | 3/4"-16UNF |
| #12 | 1-1/16"-12UN |



Note: Always apply thread lubricant (anti-seize) to male threads before assembling waterblast connections. See Section E for thread lubricants available from Jetstream.

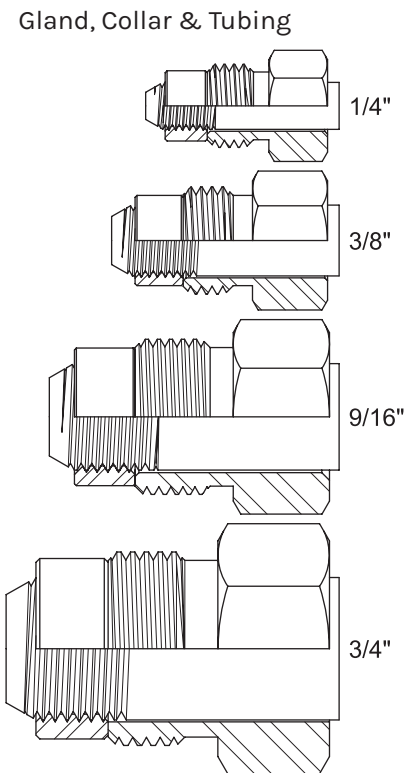
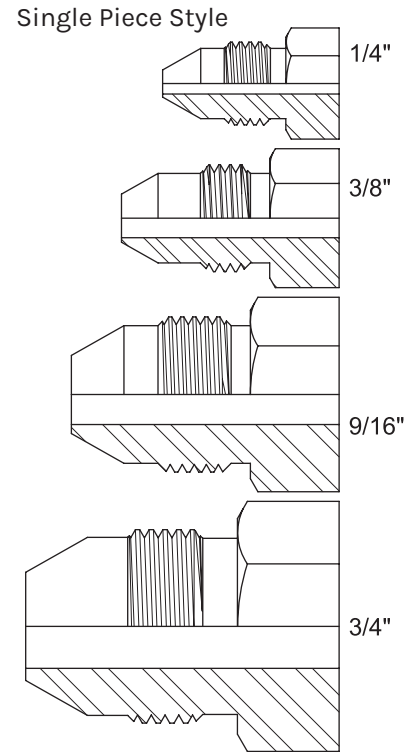
CONNECTION TYPES

MEDIUM PRESSURE (MP)



- ▶ Industry standard connection for 20,000 psi (1379 bar) applications, medium pressure is occasionally used in applications at 15,000 psi (1034 bar) and below.
- ▶ Connections exist in two different forms:
 1. Used to connect medium pressure tubing with a conical male seat and left-handed threads to a female port using a gland nut and left-hand threaded collar (Gland, Collar & Tubing).
 2. For many medium pressure male fittings, the geometry of the gland, collar, and tubing is combined into one component that connects directly to a medium pressure female port (Single Piece Style).
- ▶ With proper care, this connection is suitable for repetitive connection/disconnection.
- ▶ Damage from repeated or improper use can often be repaired using reconing tools. For details on tubing preparation and repair equipment, contact Jetstream Sales.

Actual Size Reference Chart



1\"/>

| SIZE | CONNECTION THREAD | TUBING THREAD* LEFT-HAND | RECOMMENDED TORQUE | |
|----------|-------------------|-----------------------------|--------------------|-----|
| | | | ft-lb | N-m |
| 1/4\"/> | | | | |
| 3/8\"/> | | | | |
| 9/16\"/> | | | | |
| 3/4\"/> | | | | |
| 1\"/> | | | | |

* For three-piece connection styles only

CONNECTION INSTRUCTIONS

1. **3-piece Male Connection Style only** – Liberally apply anti-seize to male tubing threads to prevent thread galling.
2. **3-piece Male Connection Style only** – Slide gland nut over tubing and thread collar (left-hand threaded) onto tubing until it is past the first one or two full threads of the tubing.
3. **Both Styles** – Liberally apply anti-seize to male connection threads and male cone.
4. **Both Styles** – Install male connection into female port and tighten according to torque specification in chart above.

Note: Always apply thread lubricant (anti-seize) to male threads before assembling waterblast connections. See Section E for thread lubricants available from Jetstream.



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