

PRODUCT CATALOG

20,000^{PSI}
1,379 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

SOME INDUSTRIES WE SERVE:

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

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

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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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 waterblasters are available in a wide selection of standard models with nearly limitless options for customization to suit specific needs. All Jetstream waterblasters employ UNx™ Fluid End technology for superior performance, greater flexibility in the field, and reduced downtime and maintenance (see page B-17 for details).

HORSEPOWER CHART

COMMON ENGINE POWERS		PUMP DISPLACEMENT* AT 20,000 PSI (1,379 BAR)	
hp	kW	gpm	lpm
TWINFORCE			
800	597	62.2	235.4
650	484	42.8	162.0
MODEL 6020			
600	447	46.1	174.5
MODEL 5220			
400	300	31.1	117.7
344	256	26.5	100.3
290	216	22.4	84.8
MODEL 4220			
325	242	25.2	95.4
275	205	21.6	81.8
250	186	19.4	73.4
190	142	14.3	54.1
MODEL 3620			
270	201	21.5	81.4
235	175	18.3	69.3
200	149	15.4	58.2
170	127	12.2	46.2
MODEL 3020			
150	116	11.2	42.4
120	89	9.0	34.1
100	75	7.4	28.0

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

The chart above is for diesel engines. Contact Jetstream for an 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



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

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



HYDROFORCE™ UNITS

JETSTREAM OIL & GAS EQUIPMENT



In the oil and gas industry, hydrostatic testing has always been a primary function. Jetstream strives to provide not only HydroForce™ waterblasting units with pressures up to 22,500 psi, but a complete solution with the assorted tools needed to perform testing with confidence, ensuring accurate blow-out pipeline (BOP) and wellhead testing.

- ▶ 80 to 400 hp 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



ELECTRIC UNITS

Jetstream manufactures several models of electric waterblasters for in-plant installations configured to user requirements.

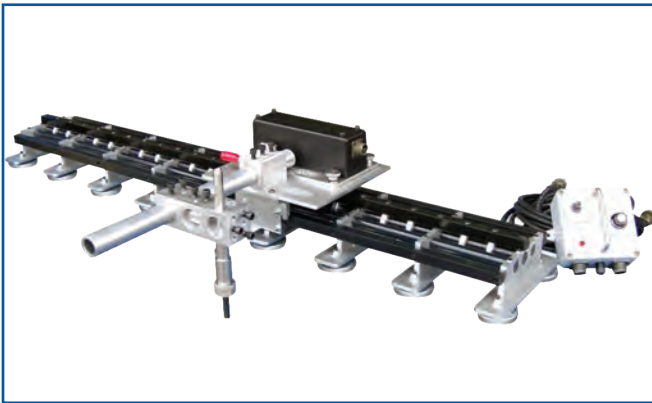
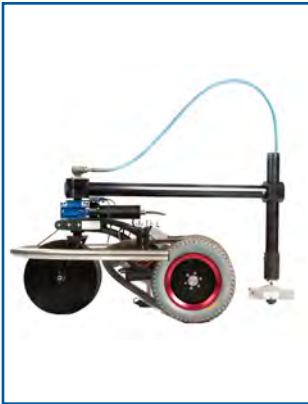
- ▶ 60 to 600 hp (45 to 447 kW)
- ▶ TEFC or explosion proof motors
- ▶ Soft-start or VFD starters
- ▶ Stationary skid

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





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.

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



UNx™ BARESHAFT PUMPS

UNRIVALED STRENGTH AND DURABILITY

The Jetstream 20,000 psi UNx Bareshaft Pump provides unrivaled durability and strength. The pump is capable of power inputs up to 600 horsepower and, coupled with the best Jetstream UNx fluid end, provides flow rates* up to forty-six gallons per minute. Jetstream bareshaft pumps are the best choice for those building their own system or replacing a complicated, worn, or unreliable pump.

The following UNx Bareshaft Pumps are available:

- ▶ 6000 Series (6020): 600HP @ 46.1 gpm
- ▶ 5200 Series (5220): 400 HP @ 31.1 gpm
- ▶ 4200 Series (4220): 325HP @ 25.3 gpm
- ▶ 3600 Series (3620): 270HP @ 21.5 gpm
- ▶ 3000 Series (3020): 200HP @ 15.5 gpm

Four different pump displacement levels are available within the five series. See pages B-2, B-4, B-7, B-10 and B-13 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
- ▶ 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-17

An optional gear drive is available on the 3000, 3600, 4200 and 5200 Series Bareshaft Pumps. Several configurations are available. See pages B-5, B-8, B-11, and B-14 for ratio information. Clocking 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 6020

UNx™ BARESHAFT PUMP

The Jetstream model 6020 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)
- ▶ Three plunger (triplex) design

KEY FEATURES

- ▶ Internal Gear Drive
- ▶ Maximum Flow: 46.1 gpm (174.5 lpm) at 20,000 psi (1379 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										
3	5.51	140	Jetstream HHP	100-457	600	447	28,775	128	2800	1,270	ISO-320*	11.9 gal 45 l

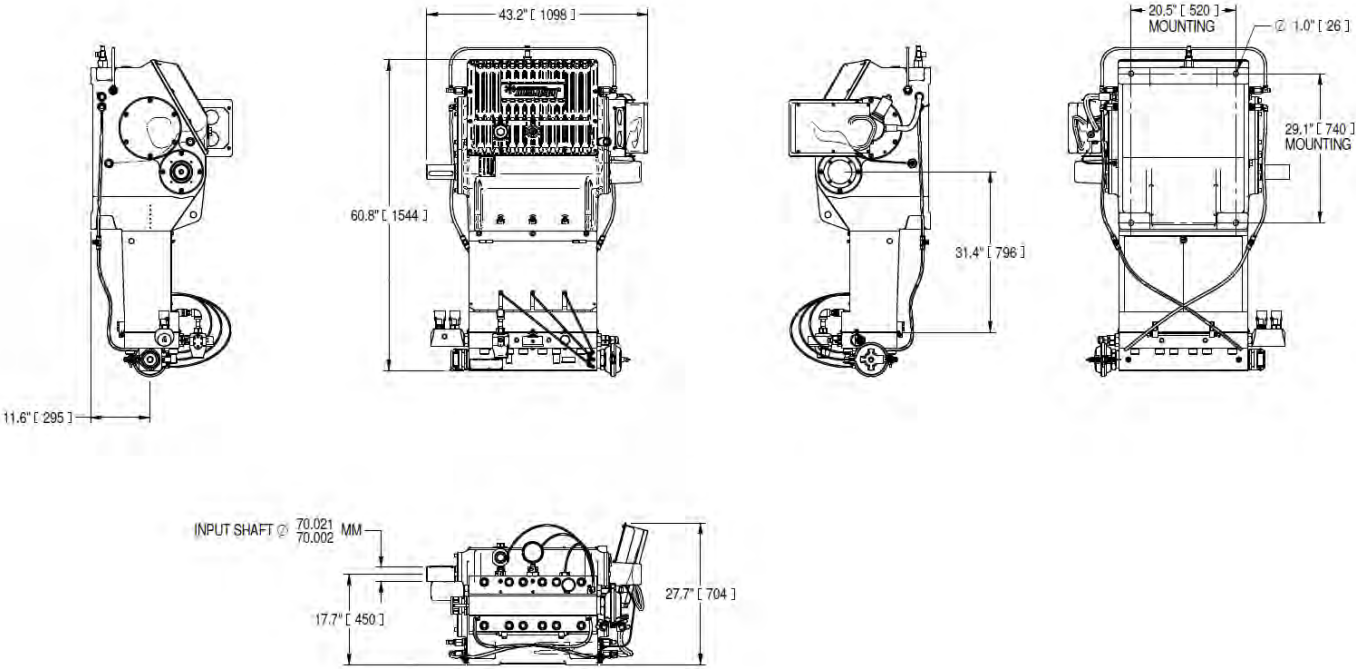
*Crank shaft speed after gear reduction. **See manual for list of approved oils.

FLUID END SPECS

PUMP AY PART NO.	PLUNGER SIZE			GEAR RATIO	PUMP DISPLACEMENT AT SPECIFIED INPUT 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						
66506	#13	1.34	34.04	3.96 LH	30.6	116	35.7	135	40.8	154	45.9	174	--	--	--	--	20,000	1,379		
65026				3.96 RH																
66507				4.60 LH	26.3	100	30.7	116	35.1	133	39.5	150	43.9	166	46.1	175				
66508				4.60 RH																

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

MODEL 6020
UNx™ BARESHAFT PUMP
DIAGRAMS





MODEL 5220

UNx™ BARESHAFT PUMP

The Jetstream model 5220 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: 31.1 gpm (118 lpm) at 20,000 psi (1379 bar)

POWER END SPECS

MAX. POWER INPUT		PLUNGERS			CONNECTION TYPE (DISCHARGE)	PUMP RPM RANGE	MAX. FRAME LOAD		TOTAL WEIGHT		PUMP OIL*		
		#	STROKE				TYPE	CAPACITY					
hp	kW			in	mm			lb	kN	lb	kg		gal
400	300	3	5.25	133	20K Port Female	183-518	17,750	79	2100	954	80W-90*	9	34

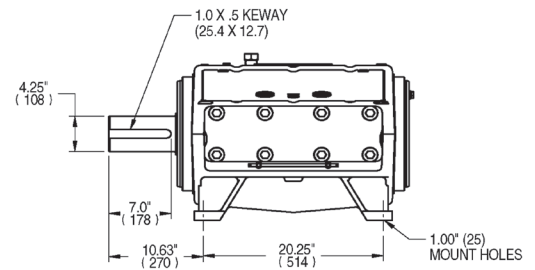
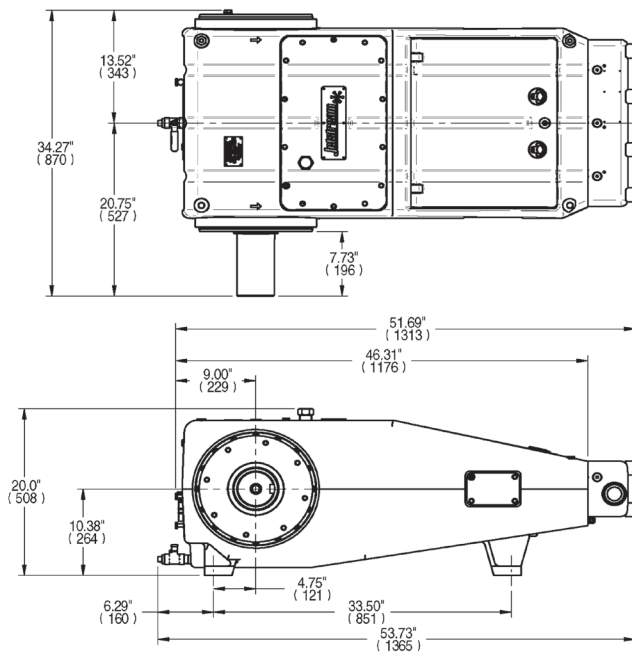
*See manual for list of approved oils.

FLUID END SPECS

PUMP PART NO.	PLUNGER SIZE NO.	DIAMETER		MAX. POWER INPUT		FLOW AT SPECIFIED PUMP SPEEDS**												MAX. OPERATING PRESSURE	
		in	mm	hp	kW	gpm	lpm	gpm	lpm	gpm	lpm	gpm	lpm	gpm	lpm	gpm	lpm	psi	bar
67371	#9	.900	22.86	290	216	7.5	28	8.7	33	13.0	49	17.4	66	21.7	82	22.4	85	20,000	1,379
67372	#10	.980	24.89	344	256	8.9	34	10.3	39	15.4	58	20.6	78	25.7	97	26.5	100	20,000	1,379
67373	#11	1.062	26.97	400	300	10.5	40	12.1	46	18.1	69	24.2	92	30.2	114	31.1	118	20,000	1,379

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

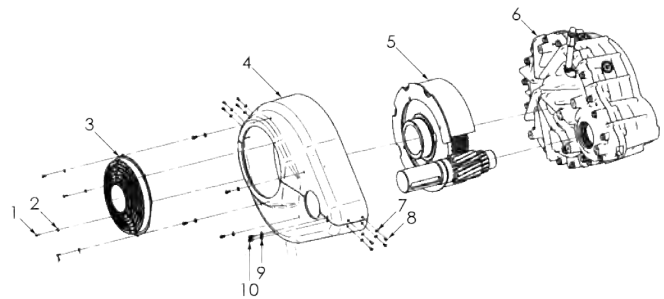
MODEL 5220 UNx™ BARESHAFT PUMP DIAGRAMS



GEAR DRIVE

An optional Gear Drive can be added to the 5220 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



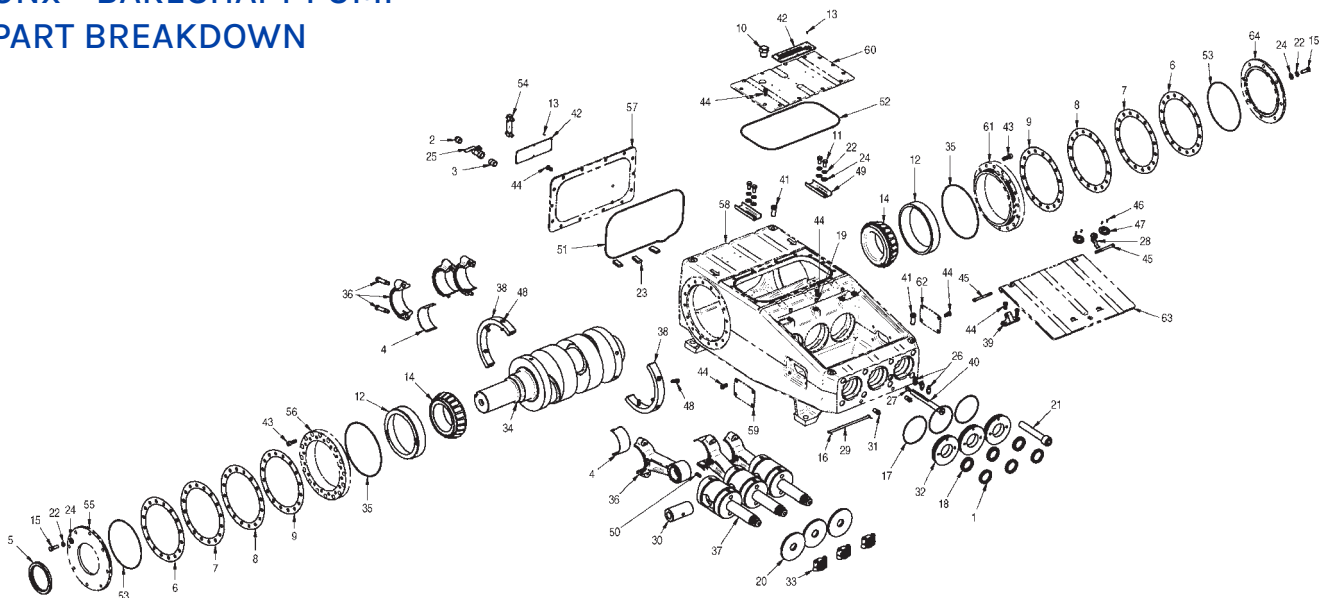
PART BREAKDOWN

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 5220

UNx™ BARESHAFT PUMP

PART BREAKDOWN



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	67345	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	62	67298	Side Access Plate
18	26481	Oil Seal, Inboard	40	67781	Lube Line Adapter	63	67614	Rod Box Cover
19	26482	Setscrew	41	67301	Lifting Adapter	64	51536	Cap, Frame, Outboard
20	26487	Deflector	42	67305	Logo Plate			
21	26500	Capscrew	43	67340	Capscrew, .5C x 1.5			
22	26558	Washer	44	67341	Capscrew, .5C x 1.0			

MODEL 4220

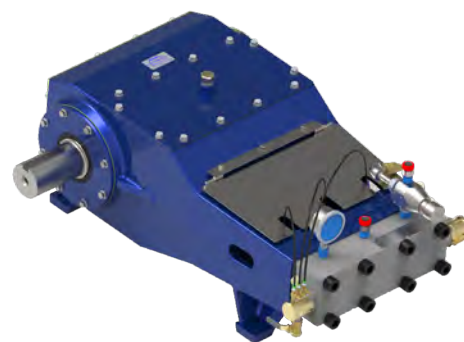
UNx™ BARESHAFT PUMP

The Jetstream model 4220 waterblast pump is capable of power input of up 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.

- ▶ 190 to 325 horsepower (142 to 252 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: 25.3 gpm (96 lpm) at 20,000 psi** (1379 bar)



PUMPS &
FLUID ENDS

POWER END SPECS

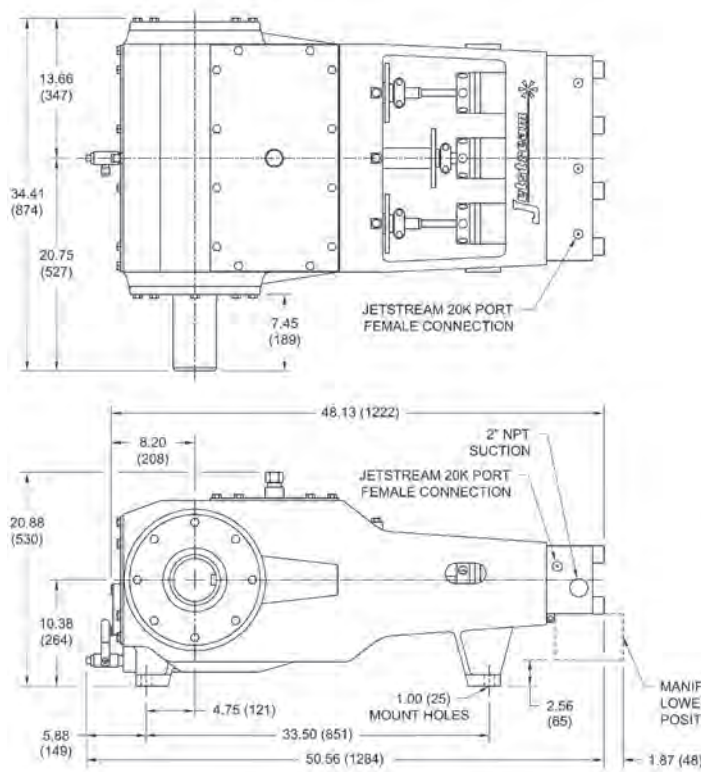
PLUNGERS			CONNECTION TYPES*		PUMP SPEED RANGE	MAX. POWER INPUT		MAX. FRAME LOAD		TOTAL WEIGHT		PUMP OIL		
#	STROKE		DISCHARGE PORTS	TOP PORTS (ACCESSORY)	RPM	hp	kW	lb	N	lb	kg	TYPE	CAPACITY	
	in	mm											gal	l
3	4.25	108	20K Port Fml	20K Port Fml	173 - 518	325	242	17,750	78,950	1,800	820	80W-90	9	34

*See details on all connection types in Section I.

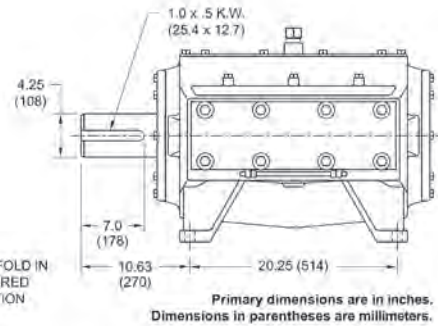
FLUID END SPECS

PUMP PART NO.	PLUNGER SIZE			POWER INPUT		FLOW AT SPECIFIED INPUT SPEEDS**										MAX. OPERATING PRESSURE	
	NO.	DIAMETER				173 RPM		200 RPM		300 RPM		400 RPM		518 RPM			
		in	mm	hp	kW	gpm	lpm	gpm	lpm	gpm	lpm	gpm	lpm	gpm	lpm	psi	bar
52120	#8	.800	20.32	190	142	4.9	19	5.6	21	8.3	32	11.1	42	14.4	54	20,000	1,379
52125	#9	.900	22.86	250	186	6.1	23	7.0	27	10.5	40	14.1	53	18.2	69	20,000	1,379
52507	#10	.980	24.89	275	205	7.3	28	8.3	32	12.5	47	16.7	63	21.6	82	20,000	1,379
54730	#11	1.062	26.97	325	242	8.5	32	9.8	37	14.7	56	19.6	74	25.3	96	20,000	1,379

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



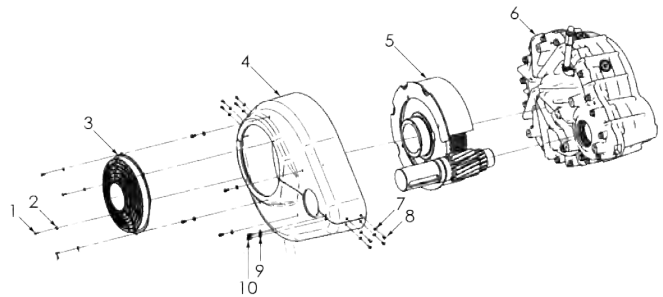
MODEL 4220 UNx™ BARESHAFT PUMP DIAGRAMS



GEAR DRIVE

An optional Gear Drive can be added to the 4220 Bareshaft Pump. Several options are available, as well as the specific clocking position needed. Contact your Jetstream Sales Manager for more information.

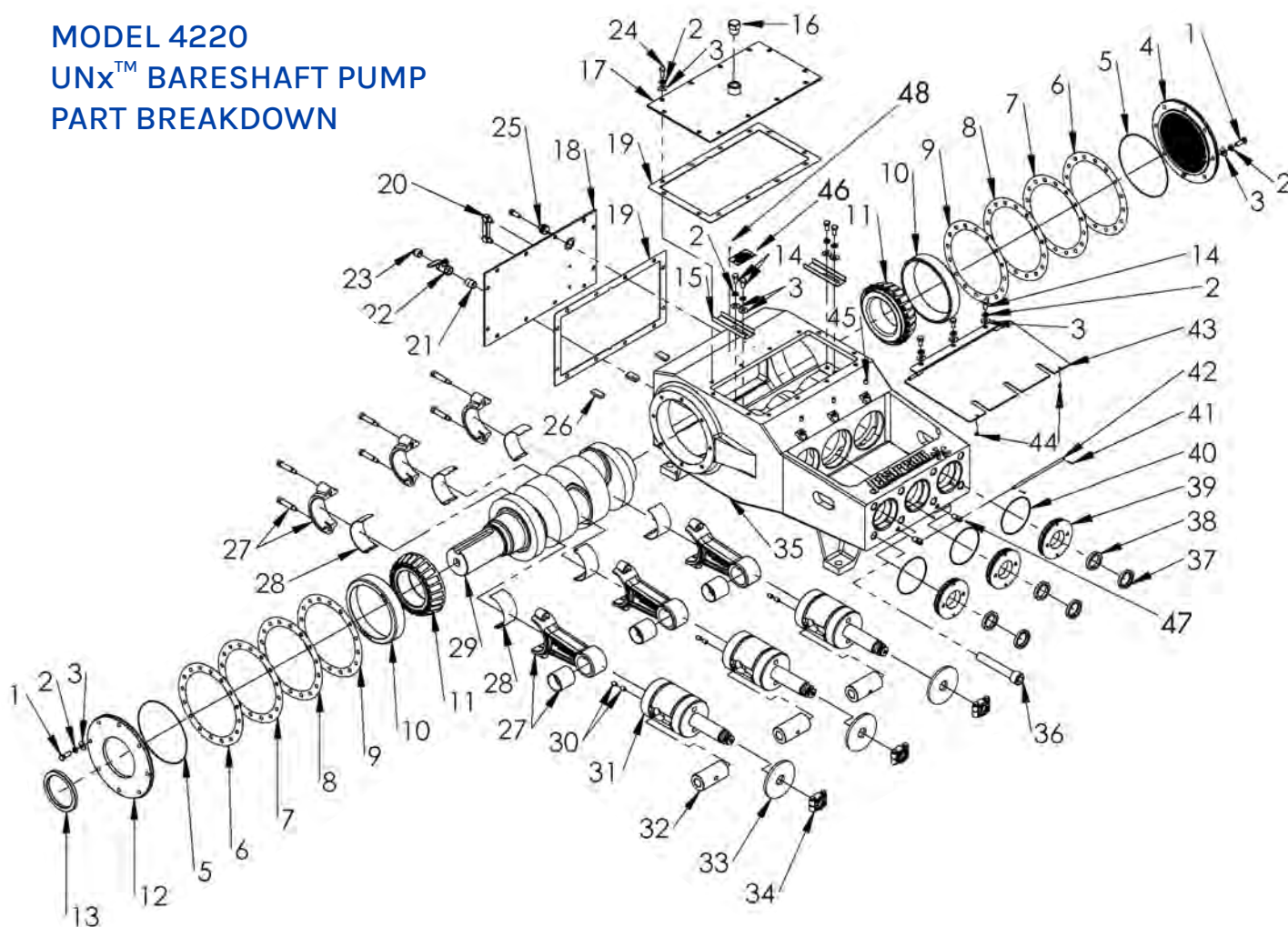
PART NO.	DRIVE RATIO	MAX. INPUT SPEED
12V		
59100-16-69-12V	4.31:1	2230 RPM
59100-17-68-12V	4.00:1	2070 RPM
59100-19-67-12V	3.53:1	1825 RPM
59100-22-64-12V	2.91:1	1500 RPM
24V		
59100-16-69-24V	4.31:1	2230 RPM
59100-17-68-24V	4.00:1	2070 RPM
59100-19-67-24V	3.53:1	1825 RPM
59100-22-64-24V	2.91:1	1500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



PART BREAKDOWN

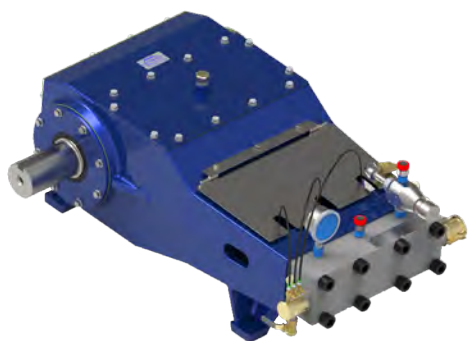
ITEM	PART NO.	DESCRIPTION	ITEM	PART NO.	DESCRIPTION
1	65082	Screw	6	59101	Gear Drive Kit Common Parts
2	57244	Washer	7	57244	Washer
3	Various	Fan	8	65082	Screw
4	64883	Fan Shroud	9	70206	Washer
5	Various	Gear Drive Kit, dependent on gear ratio and voltage	10	63790	Capscrew

MODEL 4220 **UNx™ BARESHAFT PUMP** **PART BREAKDOWN**



PUMPS &
FLUID ENDS

ITEM	PART NO.	DESCRIPTION	ITEM	PART NO.	DESCRIPTION	ITEM	PART NO.	DESCRIPTION
1	26435	Capscrew	18	55253	Plate, Back Cover	34	51736	Plunger Coupling
2	26558	Washer	19	26195	Gasket, Cover Plate	35	51421	Power Frame
3	26798	Washer	20	71318	Gauge, Oil Level, 3.5"	36	26500	Capscrew
4	51536	Cap, Frame, Outboard	20	28062	Gauge, Oil Level, 4"	37	04101	Oil Seal, Outboard
5	71017	O-Ring	21	25946	Nipple	38	26481	Oil Seal, Inboard
6	26259	Shim, End Cap, Yellow	22	27101	Ball Valve	39	51713	Oil Seal Plate
7	26259-1	Shim, End Cap, Brown	23	25928	Plug	40	26479	O-Ring
8	26259-2	Shim, End Cap, White	24	26491	Capscrew	41	26468	Cotter Pin
9	26259-3	Shim, End Cap, Blue	25	29738	Plug	42	50295	Trunnion Rod
10	26376	Bearing, Race	26	26705	Magnet	43	53632	Cover, Rod Box
11	26390	Bearing, Cone	27	51487	Connecting Rod Assy	44	27592	Rubber Stopper
12	51538	Cap, Frame, Inboard	28	26051	Journal Bearing	45	26482	Setscrew
13	26208	Crankshaft Seal	29	28826	Crankshaft	46	26590	Caution Plate
14	26361	Capscrew	30	26369	Setscrew	47	51659	Trunnion
15	26484	Oil Trough	31	51731	Crosshead	48	26379	Setscrew
16	26360	Breather Cap	32	51534	Crosshead Pin			
17	51279	Plate, Top Cover	33	26487	Deflector			



MODEL 3620

UNx™ BARESHAFT PUMP

The Jetstream model 3620 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

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: 21.5 gpm (81 lpm) at 20,000 psi** (1379 bar)

POWER END SPECS

PLUNGERS			CONNECTION TYPES*		PUMP SPEED RANGE	MAX. POWER INPUT		MAX. FRAME LOAD		TOTAL WEIGHT		PUMP OIL		
NO.	STROKE		DISCHARGE PORTS	TOP PORTS (ACCESSORY)	RPM	hp	kW	lb	kN	lb	kg	TYPE	CAPACITY	
	in	mm											gal	l
3	3.60	92	20K Port Fml	20K Port Fml	183 - 518	270	201	17,750	79	1,720	780	80W-90	9	34

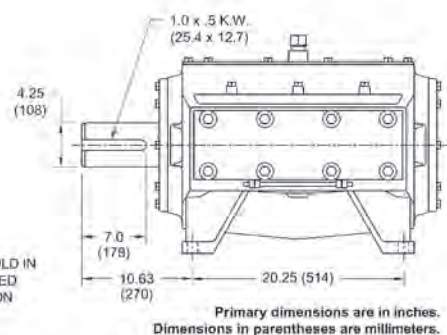
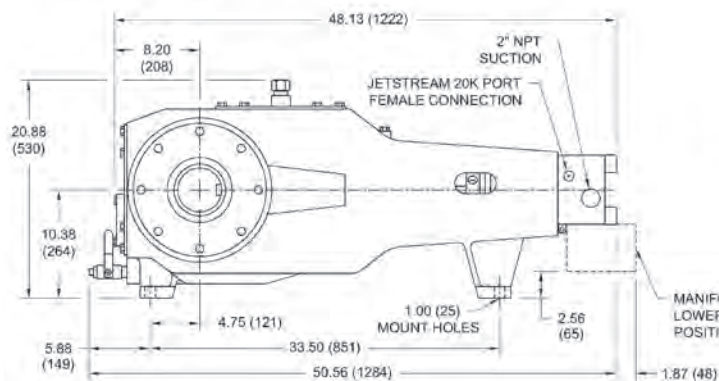
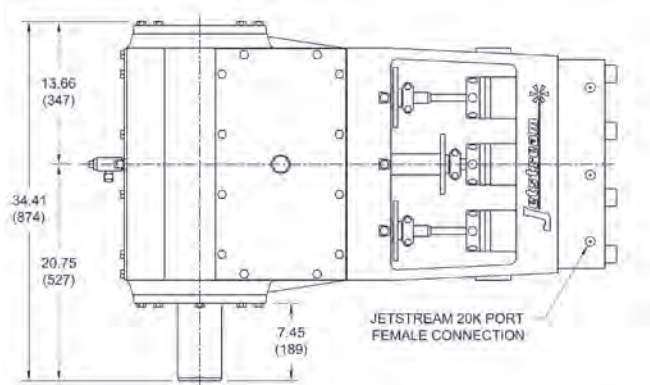
*See details on all connection types in Section I.

FLUID END SPECS

PUMP PART NO.	PLUNGER SIZE			POWER INPUT		FLOW AT SPECIFIED INPUT SPEEDS**												MAX. OPERATING PRESSURE	
	NO.	DIAMETER				183 RPM		200 RPM		300 RPM		400 RPM		500 RPM		518 RPM			
		in	mm	hp	kW	gpm	lpm	gpm	lpm	gpm	lpm	gpm	lpm	gpm	lpm	gpm	lpm	psi	bar
52585	#8	.800	20.32	170	127	4.3	16	4.7	18	7.1	27	9.4	36	11.8	44	12.2	46	20,000	1,379
56720	#9	.900	22.86	200	149	5.4	21	6.0	23	8.9	34	11.9	45	14.9	56	15.4	58	20,000	1,379
				190	142													18,000	1,241
				170	127													16,000	1,103
66945	#10	.980	24.89	235	175	6.5	24	7.1	27	10.6	40	14.1	53	17.6	67	18.3	69	20,000	1,379
				190	142													15,000	1,034
66946	#11	1.06	26.97	270	201	7.6	29	8.3	31	12.4	47	16.6	63	20.7	78	21.5	81	20,000	1,379

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

MODEL 3620 UNx™ BARESHAFT PUMP DIAGRAMS

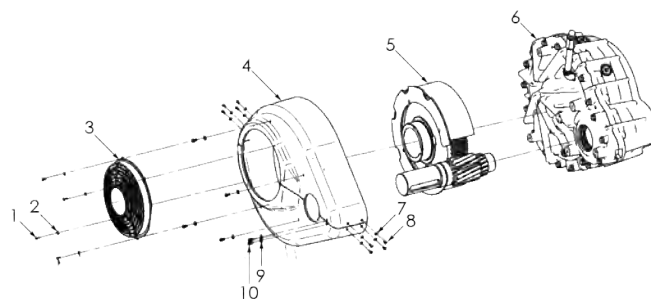


Primary dimensions are in inches.
Dimensions in parentheses are millimeters.

GEAR DRIVE

An optional Gear Drive can be added to the 3620 Bareshaft Pump. Several options are available, as well as the specific clocking position needed. Contact your Jetstream Sales Manager for more information.

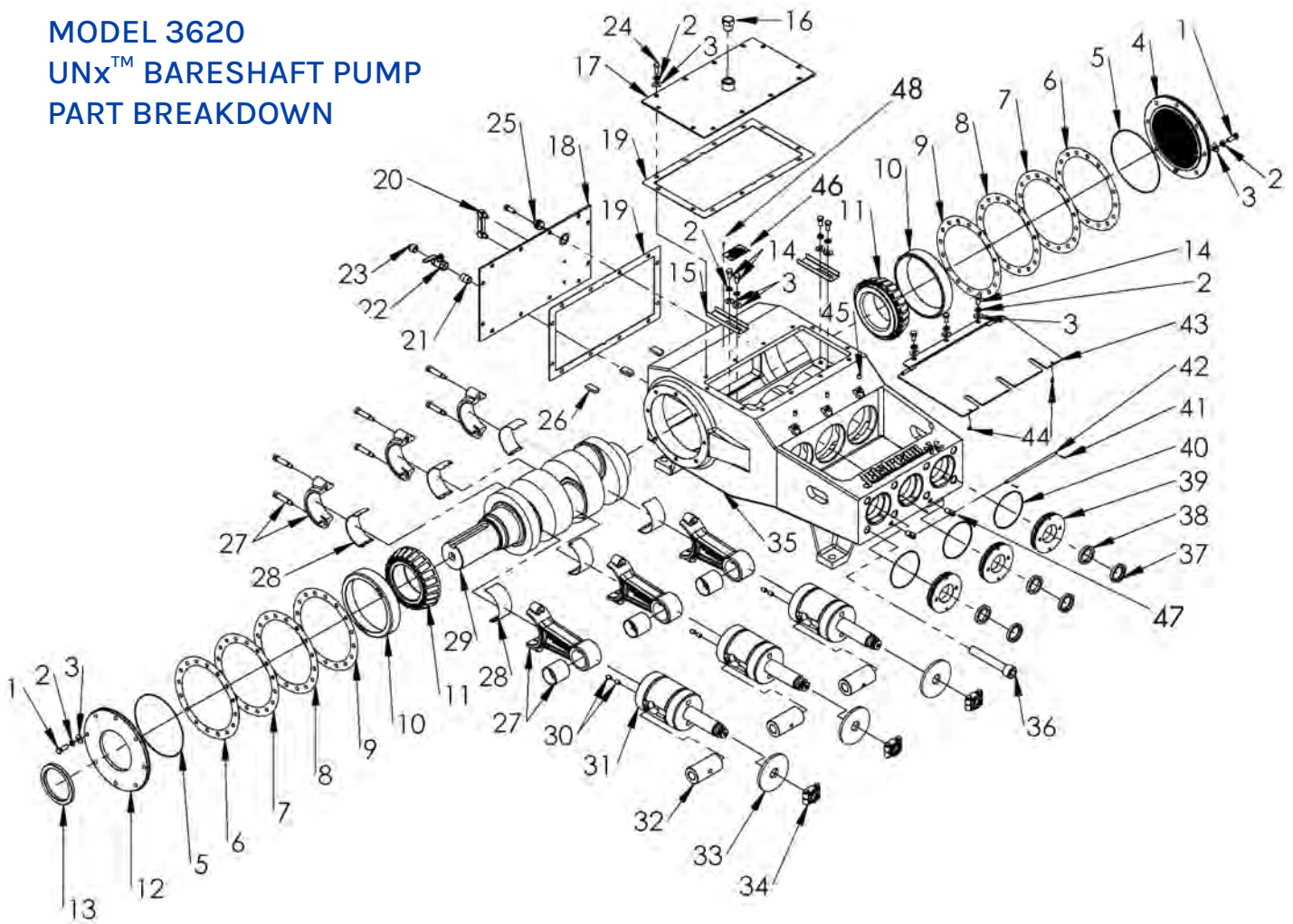
PART NO.	DRIVE RATIO	MAX. INPUT SPEED
12V		
59100-16-69-12V	4.31:1	2230 RPM
59100-17-68-12V	4.00:1	2070 RPM
59100-19-67-12V	3.53:1	1825 RPM
59100-22-64-12V	2.91:1	1500 RPM
24V		
59100-16-69-24V	4.31:1	2230 RPM
59100-17-68-24V	4.00:1	2070 RPM
59100-19-67-24V	3.53:1	1825 RPM
59100-22-64-24V	2.91:1	1500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



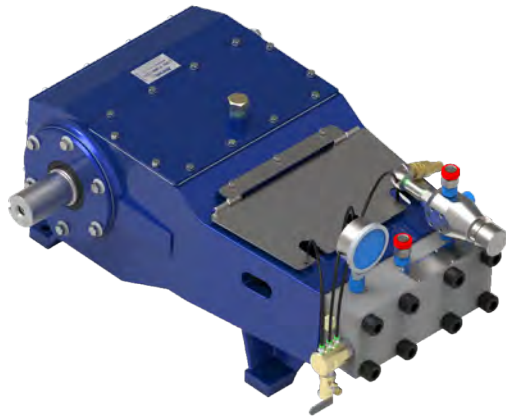
PART BREAKDOWN

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 3620 **UNx™ BARESHAFT PUMP** **PART BREAKDOWN**



ITEM	PART NO.	DESCRIPTION	ITEM	PART NO.	DESCRIPTION	ITEM	PART NO.	DESCRIPTION
1	26435	Capscrew	18	55253	Plate, Back Cover	34	51736	Plunger Coupling
2	26558	Washer	19	26195	Gasket, Cover Plate	35	51421	Power Frame
3	26798	Washer	20	71318	Gauge, Oil Level, 3.5"	36	26500	Capscrew
4	51536	Cap, Frame, Outboard		28062	Gauge, Oil Level, 4"	37	04101	Oil Seal, Outboard
5	71017	O-Ring		25946	Nipple	38	26481	Oil Seal, Inboard
6	26259	Shim, End Cap, Yellow	22	27101	Ball Valve	39	51713	Oil Seal Plate
7	26259-1	Shim, End Cap, Brown	23	25928	Plug	40	26479	O-Ring
8	26259-2	Shim, End Cap, White	24	26491	Capscrew	41	26468	Cotter Pin
9	26259-3	Shim, End Cap, Blue	25	29738	Plug	42	50295	Trunnion Rod
10	26376	Bearing, Race	26	26705	Magnet	43	53632	Cover, Rod Box
11	26390	Bearing, Cone	27	51487	Connecting Rod Assy	44	27592	Rubber Stopper
12	51538	Cap, Frame, Inboard	28	26051	Journal Bearing	45	26482	Setscrew
13	26208	Crankshaft Seal	29	53600	Crankshaft	46	26590	Caution Plate
14	26361	Capscrew	30	26369	Setscrew	47	51659	Trunnion
15	26484	Oil Trough	31	51731	Crosshead	48	26379	Setscrew
16	26360	Breather Cap	32	51534	Crosshead Pin			
17	51279	Plate, Top Cover	33	26487	Deflector			



MODEL 3020

UNx™ BARESHAFT PUMP

The Jetstream model 3020 waterblast pump is capable of power input up to 200 horsepower and displacement of 15.5 gallons per minute at 20,000 psi. 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
- ▶ Max Flow: 15.5 gallons per minute at 20,000 psi*

POWER END SPECS

PLUNGERS			CONNECTION TYPES*		PUMP SPEED RANGE	MAX. POWER INPUT		MAX. FRAME LOAD		TOTAL WEIGHT		PUMP OIL		
#	STROKE											TYPE	CAPACITY	
	in	mm	TOP PORTS	DISCHARGE PORTS	RPM	hp	kW	lb	N	lb	kg		gal	l
3	3.00	76.2	20K Port Female	20K Port Female	200 - 600	200	149	13,000	57,827	970	440	80W-90	5.0	19.0

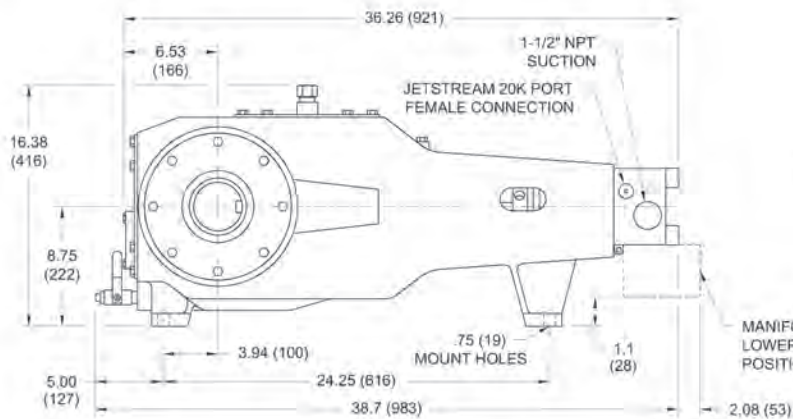
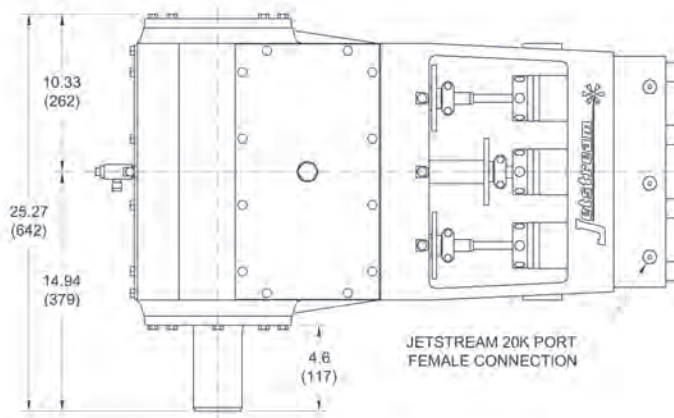
FLUID END SPECS

PUMP PART NO.	PLUNGER SIZE			MAX POWER INPUT		PUMP DISPLACEMENT AT SPECIFIED INPUT SPEEDS**										MAX. OPERATING PRESSURE	
	NO.	DIAMETER				200 RPM		300 RPM		400 RPM		500 RPM		600 RPM			
		in	mm	hp	kW	gpm	lpm	gpm	lpm	gpm	lpm	gpm	lpm	gpm	lpm	psi	bar
52110	#6	.635	16.13	100	75	2.5	9	3.7	14	4.9	19	6.2	24	7.4	28	20,000	1,379
52115	#7	.700	17.78	120	89	3.0	11	4.5	17	6.0	23	7.5	28	9.0	34	20,000	1,379
56714 ^A	#8	.780	19.86	150	112	3.7	14	5.6	21	7.5	28	9.3	35	11.2	42	20,000	1,379
68470	#9	.920	23.37	200	149	5.2	20	7.8	30	10.4	39	12.9	49	15.5	59	20,000	1,379

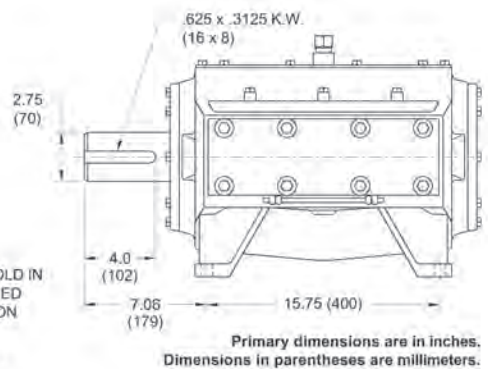
*See details on all connection types in Section I.

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

^AEuropean Configuration.



MODEL 3020 UNx™ BARESHAFT PUMP DIAGRAMS



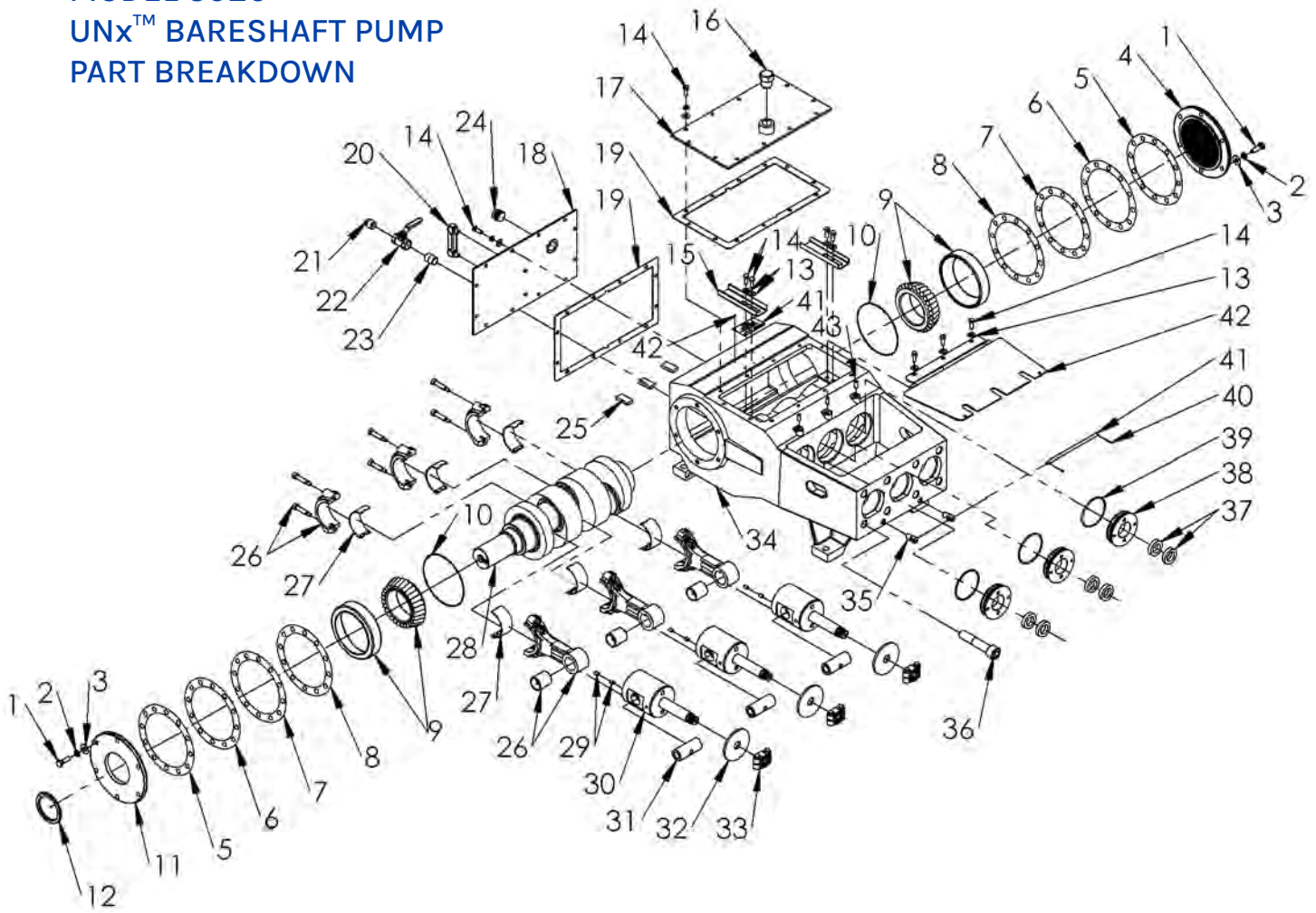
GEAR DRIVE

An optional Gear Drive can be added to the 3020 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		
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		
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



MODEL 3020 **UNx™ BARESHAFT PUMP** **PART BREAKDOWN**



PUMPS &
FLUID ENDS

ITEM	PART NO.	DESCRIPTION	ITEM	PART NO.	DESCRIPTION	ITEM	PART NO.	DESCRIPTION
1	26435	Capscrew	16	26360	Breather Cap	30	51738	Crosshead
2	26558	Washer	17	50807	Plate Top Cover	31	52077	Crosshead Pin
3	26798	Washer	18	55252	Plate, Back Cover	32	26623	Deflector
4	51733	Cap, Frame, Outboard	19	26496	Gasket, Cover Plate	33	51737	Plunger Coupling
5	26495	Shim, End Cap, Yellow	20	71318	Gauge, Oil Level, 3.5"	34	51748	Power Frame
6	26495-1	Shim, End Cap, Brown		28062	Gauge, Oil Level, 4"	35	51659	Trunnion
7	26495-2	Shim, End Cap, White		25928	Plug	36	26462	Capscrew
8	26495-3	Shim, End Cap, Blue	21	27101	Ball Valve	37	25536	Oil Seal
9	25541	Bearing Assembly	22	25946	Nipple	38	51712	Oil Seal Plate
10	71016	O-Ring	23	29738	Plug	39	26478	O-Ring
11	51732	Cap, Frame, Inboard	24	26705	Magnet	40	26468	Cotter Pin
12	25428	Crankshaft, Seal	25	51749	Connecting Rod Assy	41	51666	Trunnion Rod
13	25251	Washer	26	26486	Journal Bearing	42	59399	Cover, Rod Box
14	26492	Capscrew	27	25508	Crank Shaft	43	26483	Setscrew
15	26484	Oil Trough	28	25132	Setscrew			
			29					



UNx™ FLUID ENDS

FEATURES AND BENEFITS

The Jetstream 20,000 psi UNx Fluid End is standard on every Jetstream 20,000 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 or 6000 pump. Please refer to the catalog pages that follow for details on available models.

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

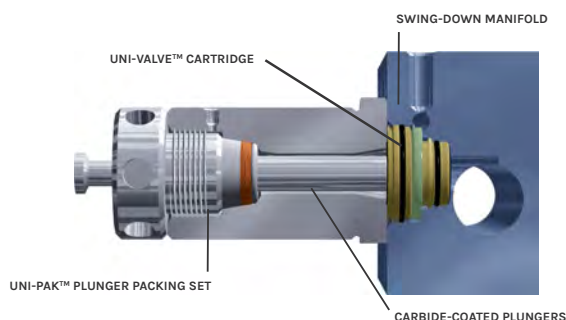
- ▶ Fewer parts than other 15,000 psi fluid ends
- ▶ Uni-Valve™ one-piece cartridges include suction & discharge valves, seats, springs, and seals
- ▶ Swing-down manifold for easy access to components

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



15-MINUTE VALVE
REPLACEMENT

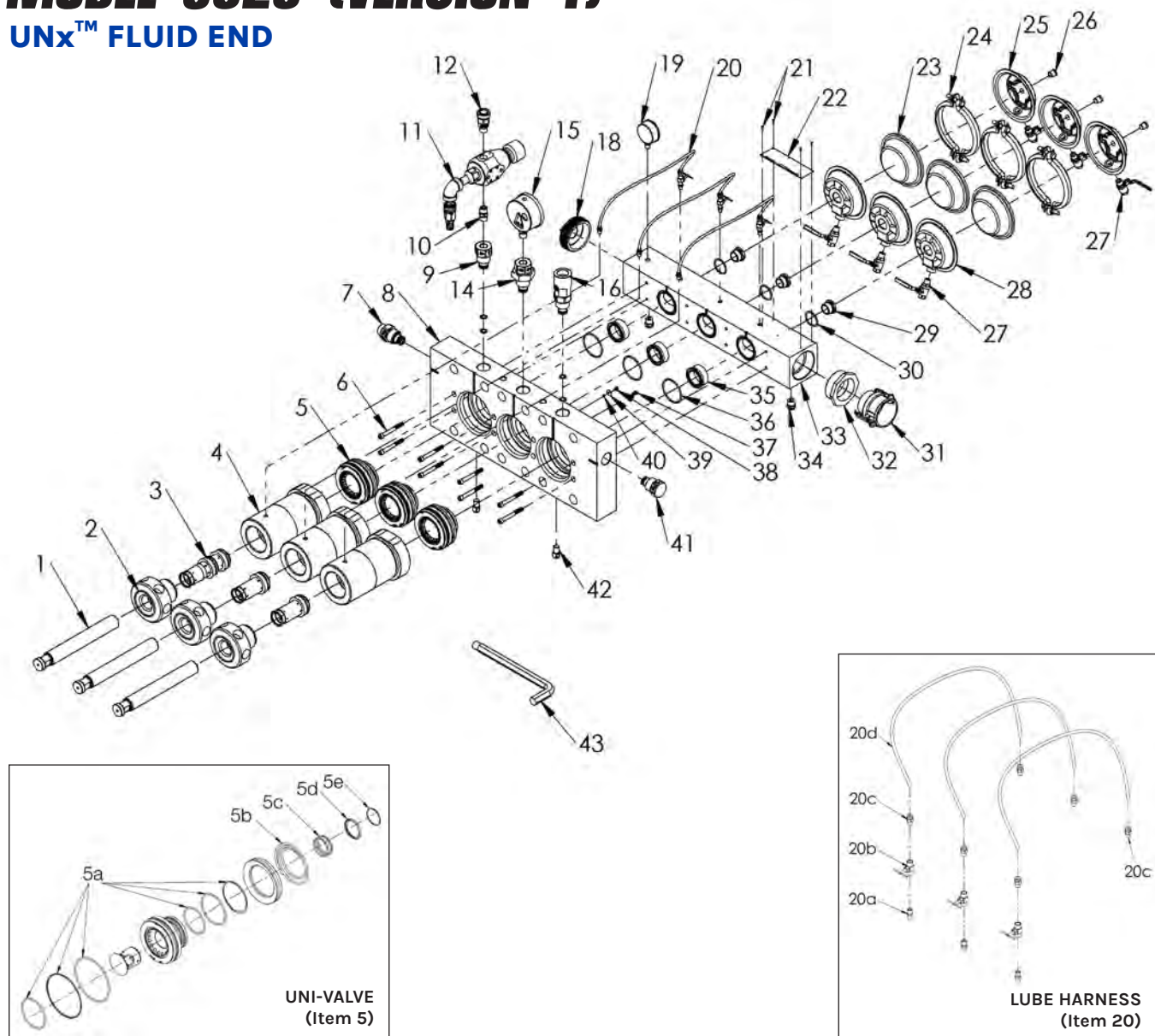
5-MINUTE
PACKING CHANGE

SLIDE-OUT
STUFFING BOXES

MODEL 6020 (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					gpm	lpm	psi	bar
			in	mm	in	mm					
62519	Jetstream HHP	13	1.34	34.04	5.51	140	457	46.1	175	20,000	1379

MODEL 6020 (VERSION 1)

UNx™ FLUID END

PART BREAKDOWN

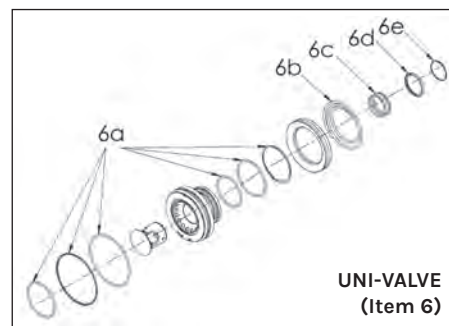
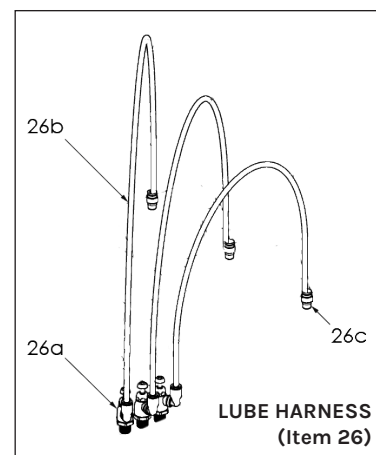
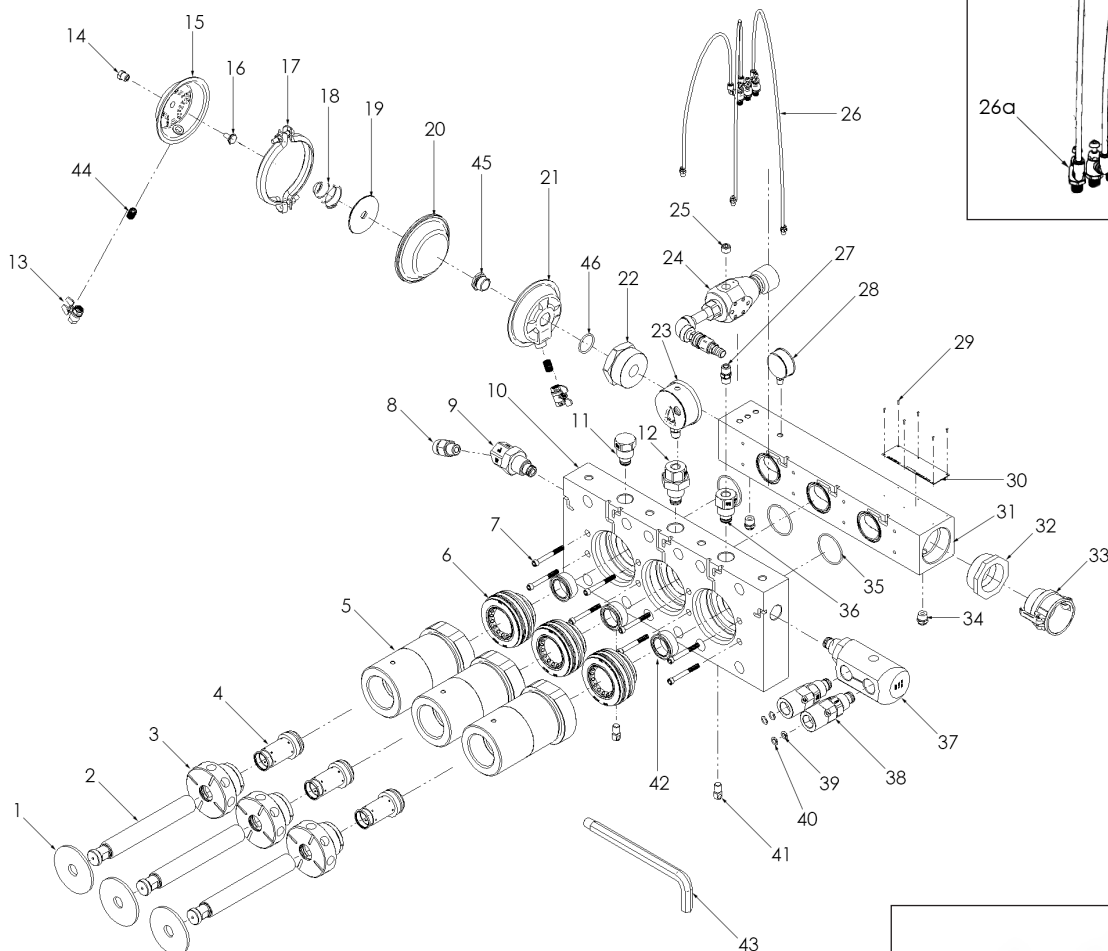
ITEM	PART NO.	DESCRIPTION	ITEM	PART NO.	DESCRIPTION
1	60905	#13 Plunger	21	26379	Screw Drive
2	60925	#13 Gland Nut	22	26589	Plate, Caution
3	62748	#13 Packing Set	23	61142	Diaphragm, Pulsation Dampener
4	60906	#13 Stuffing Box	24	61143	Kit, Clamp, Pulsation Dampener
5	61210	Uni-Valve	25	61141	Housing, Air Brake
5a	62746	Uni-Valve Seal Kit	26	26148	Plug
5b	61253	Discharge Spring	27	61145	Ball Valve
5c	61214	Suction Spring	28	61264	Housing, Pulsation Dampener
5d	61236	Retainer, Suction Valve Spring	29	60758	Adapter, Pulsation Dampener
5e	61232	Retaining Ring	30	25566	O-Ring
6	60821	Capscrew	31	29461	Coupler
7	62741	Adapter	32	J70914	Bushing
8	61267	Manifold, Discharge	33	61974	Manifold, Suction
9	54593	Adapter	34	62471	Adapter
10	70173	Nipple	35	62379	Insert, Flow Straightening
11	54592	Bypass Valve	36	60611	O-Ring
12	52035	Rupture Disc Assy	37	62267	Capscrew
13*	51837	Burst Disc 27K Psi	38	62212	Capscrew
14	62289	Adapter Assy	39	60265	Washer
15	52498	Pressure Gauge	40	62210	Washer
16	62291	Rupture Disc Assembly, 6015	41	54847	Plug Assy
17*	51838	Burst Disc 24K Psi	42	51659	Trunnion
18	60903	Plug	43	50889	Wrench, 7/8 Hex Key
19	27779	Gage	44*	26562	Nut
20	62194	Lube Harness	45*	27233	Capscrew
20a	26465	Nipple	46*	62254	Deflector
20b	27475	Needle Valve			
20c	27732	Hose Fitting			
20d	27740	Hose (order in feet)			

*Not shown.

MODEL 6020 (VERSION 3)

UNx™ FLUID END

PUMPS &
FLUID ENDS



FLUID END SPECS

FLUID END PART NO.	CONNECTION TYPES* (HIGH PRESSURE PORTS)	PLUNGER SIZE			PLUNGER STROKE		MAX. CRANK SPEED RPM	MAX. FLOW		MAX. OPERATING PRESSURE	
		NO.	DIAMETER								
			in	mm	in	mm		gpm	lpm	psi	bar
65024	Jetstream HHP	13	1.34	34.04	5.51	140	457	46.1	175	20,000	1379

MODEL 6020 (VERSION 3)

UNx™ FLUID END

PART BREAKDOWN

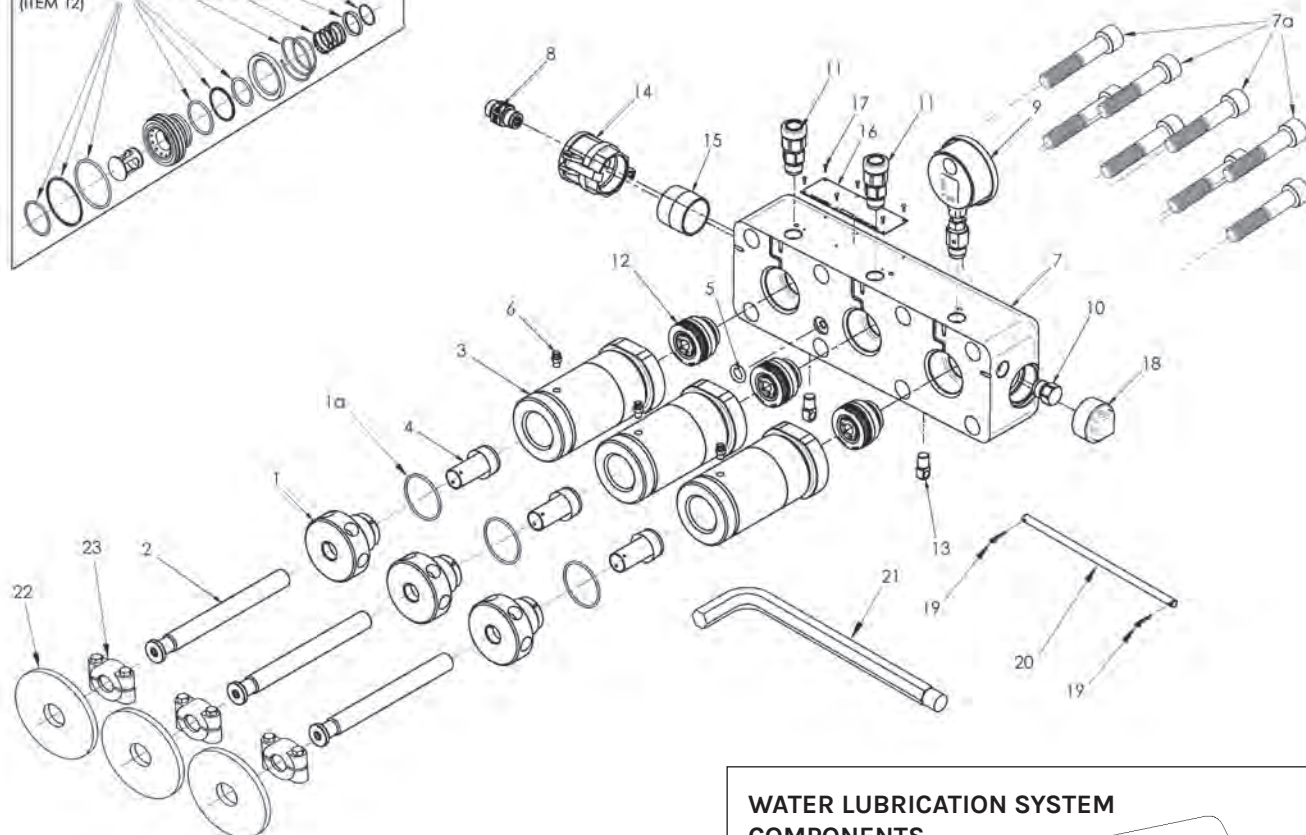
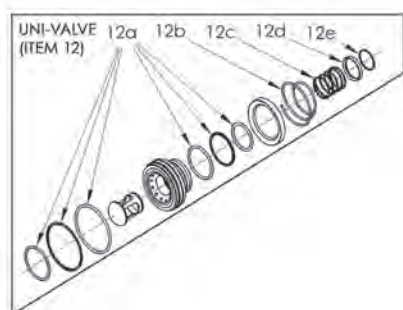
ITEM	PART NO.	DESCRIPTION	ITEM	PART NO.	DESCRIPTION
1*	62254	Deflector	23	52498	Pressure Gauge
2	60905	#13 Plunger	24	54592	Bypass Valve
3	60925	#13 Gland Nut	25	52076	Plug
4	62748	#13 Packing Set	26	63111	Lube Harness
5	60906	#13 Stuffing Box	26a	63019	Flow Control Valve
6	61210	Uni-Valve	26a	27740	Hose (order in feet)
6a	62746	Uni-Valve Seal Kit	26c	27732	Adapter
6b	61253	Discharge Spring	27	63888	Nipple
6c	61241	Suction Spring	28	27779	Gauge
6d	61236	Retainer, Suction Valve Spring	29	26379	Screw Drive
6e	61232	Retaining Ring	30	26589	Plate, Caution
7	60821	Capscrew	31	63068	Manifold, Suction
8	28786	3/4" NPT Male Adapter x 1-5/16" Type M	32	J70914	Bushing
9	62741	Adapter, Clockable	33	29461	Coupler
10	63093	Manifold, Discharge	34	62471	Adapter
11	54847	Plug Assy	35	60611	O-Ring
12	62289	Adapter Assy	36	54593	Adapter
13	63114	Ball Valve, T-Handle	37	63058	Adapter, Dual Burst Disc
14	63178	Plug	38	62291	Rupture Disc Assembly, 6020
15	61141	Housing, Air Brake	39	Various	Standard 20K Rupture Discs
16	63179	Retainer, Conical Spring	40	62747	Diffuser, Rupture Disc Holder
17	61143	Kit, Clamp, Pulsation Dampener	41	51659	Trunnion
18	63177	Spring, Conical	42	62379	Insert, Flow Straightening
19	63115	Pusher, Pulsation Dampener	43	50889	Wrench, 7/8 Hex Key
20	61142	Diaphragm, Pulsation Dampener	44	63156	Nipple
21	61264	Housing, Pulsation Dampener	45	60758	Adapter
22	62981	Adapter, Pulsation Dampener	46	25566	O-Ring

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

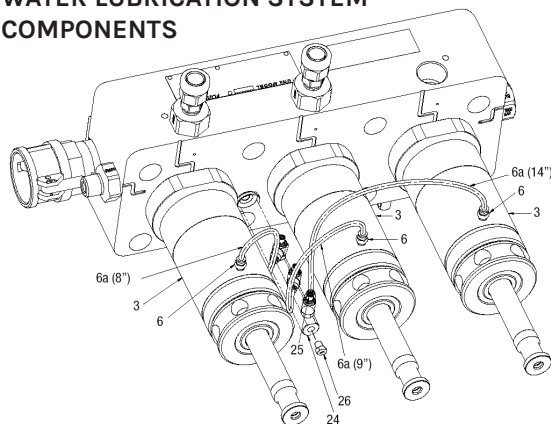
MODEL 5220

UNx™ FLUID END

PUMPS &
FLUID ENDS



WATER LUBRICATION SYSTEM COMPONENTS



FLUID END SPECS

FLUID END PART NO.	CONNECTION TYPES* (HIGH PRESSURE PORTS)	PLUNGER SIZE			PLUNGER STROKE		MAX. CRANK SPEED RPM	MAX. FLOW		MAX. OPERATING PRESSURE	
		NO.	DIAMETER					gpm	lpm	psi	bar
			in	mm							
67384	20K Port Female	9	.900	22.86	5.25	133	518	22.4	85	20,000	1,379
67385		10	.980	24.89				26.5	100		
67386		11	1.062	26.97				31.1	118		

MODEL 5220

UNx™ FLUID END

PART BREAKDOWN

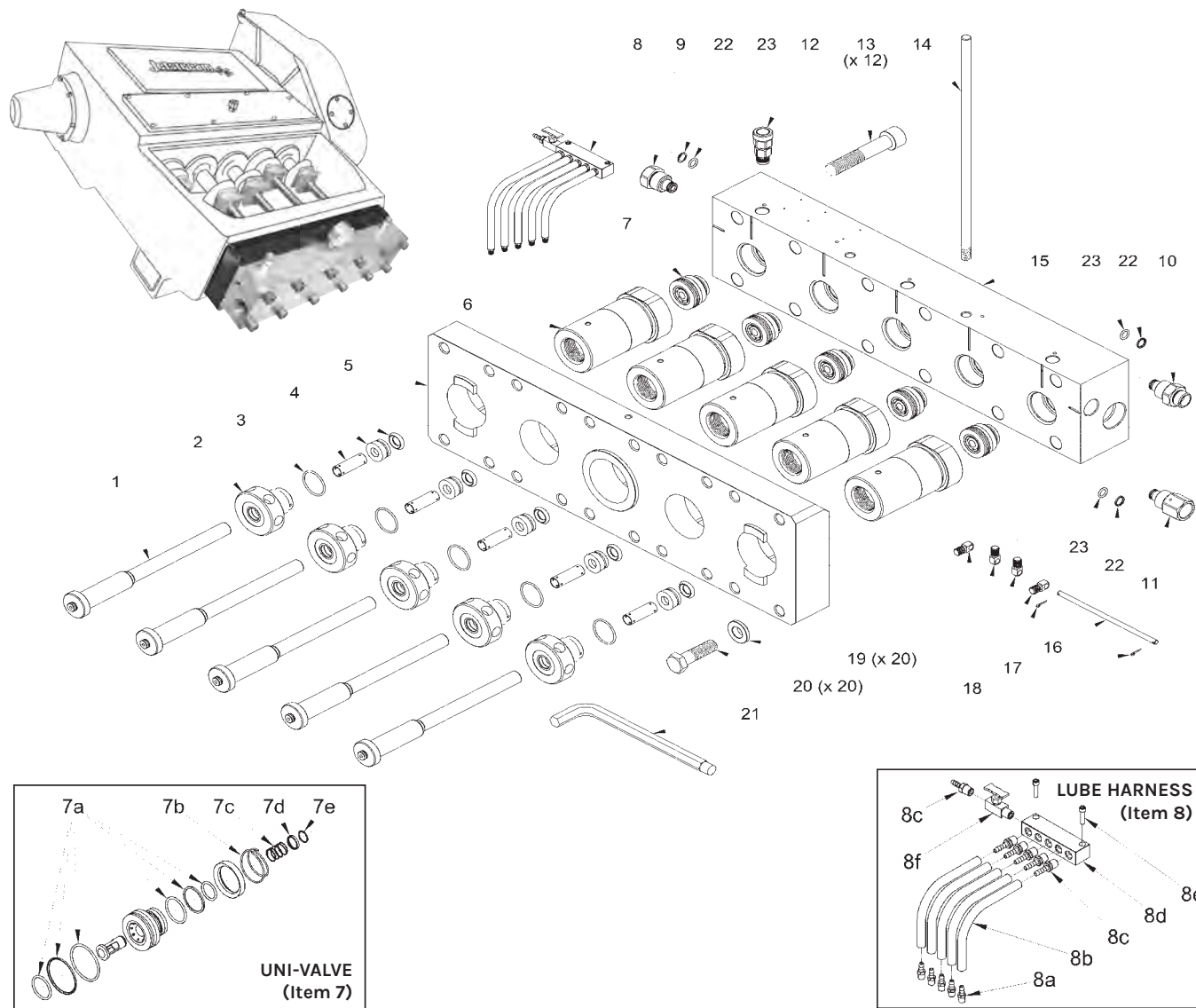
ITEM	PART NO.	DESCRIPTION	ITEM	PART NO.	DESCRIPTION
1	51829	#9 Gland Nut	12	67612	Uni-Valve
	52501	#10 Gland Nut	12a	50465	Uni-Valve Seal Kit
	54828	#11 Gland Nut	12b	26550	Discharge Valve Spring
1a	26416	O-Ring	12c	26549	Suction Valve Spring
2	67044	#9 Plunger	12d	67440	Spring Retainer
	67045	#10 Plunger	12e	26546	Retaining Ring
	67046	#11 Plunger	13	51659	Trunnion
3	67073	#9 Stuffing Box	14	27539	Coupler
	67074	#10, #11 Stuffing Box	15	27114	Nipple
	51826	#9 Packing Set	16	26589	Identifying Plate
4	52509	#10 Packing Set	17	26379	Screw
	J55877	#11 Packing Set	18	25036	Plug
5	67548	O-Ring	19*	26468	Cotter Pin
6	27732	Adapter	20*	50295	Trunnion Rod
6a	67808	Tubing	21	50889	Pump Wrench
7	67278	Manifold	22*	26487	Deflector
7a*	26500	Capscrew	23*	51736	Plunger Coupling
8	53284	Adapter Assy	24*	67781	Lube Line Adapter
9	52497	Gauge	25*	67412	Needle Valve
10	52076	Port Plug	26*	25120	Plug
11	52035	Rupture Disc Assy			

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

MODEL 5020Q

UNx™ FLUID END

PUMPS &
FLUID ENDS



FLUID END SPECS

PART NO.	CONNECTION TYPES**		PLUNGER SIZE			PLUNGER STROKE		MAX. RPM	MAX. FLOW*		MAX. OPERATING PRESSURE	
			NO.	DIAMETER								
	TOP PORTS	DISCHARGE PORTS			in	mm	in		mm	gpm	lpm	psi
54825	20K Port Female	20K HHP Port Female	#11	1.062	26.97	5.00	127	413	39.6	150	20,000	1,379

*Displacement (flow) values represented refer to "theoretical" flow, neglecting inefficiency resulting from compressibility of water and expansion of pressure-bearing components.
 **See details on all connection types in Section I.

MODEL 5020Q

UNx™ FLUID END

PART BREAKDOWN

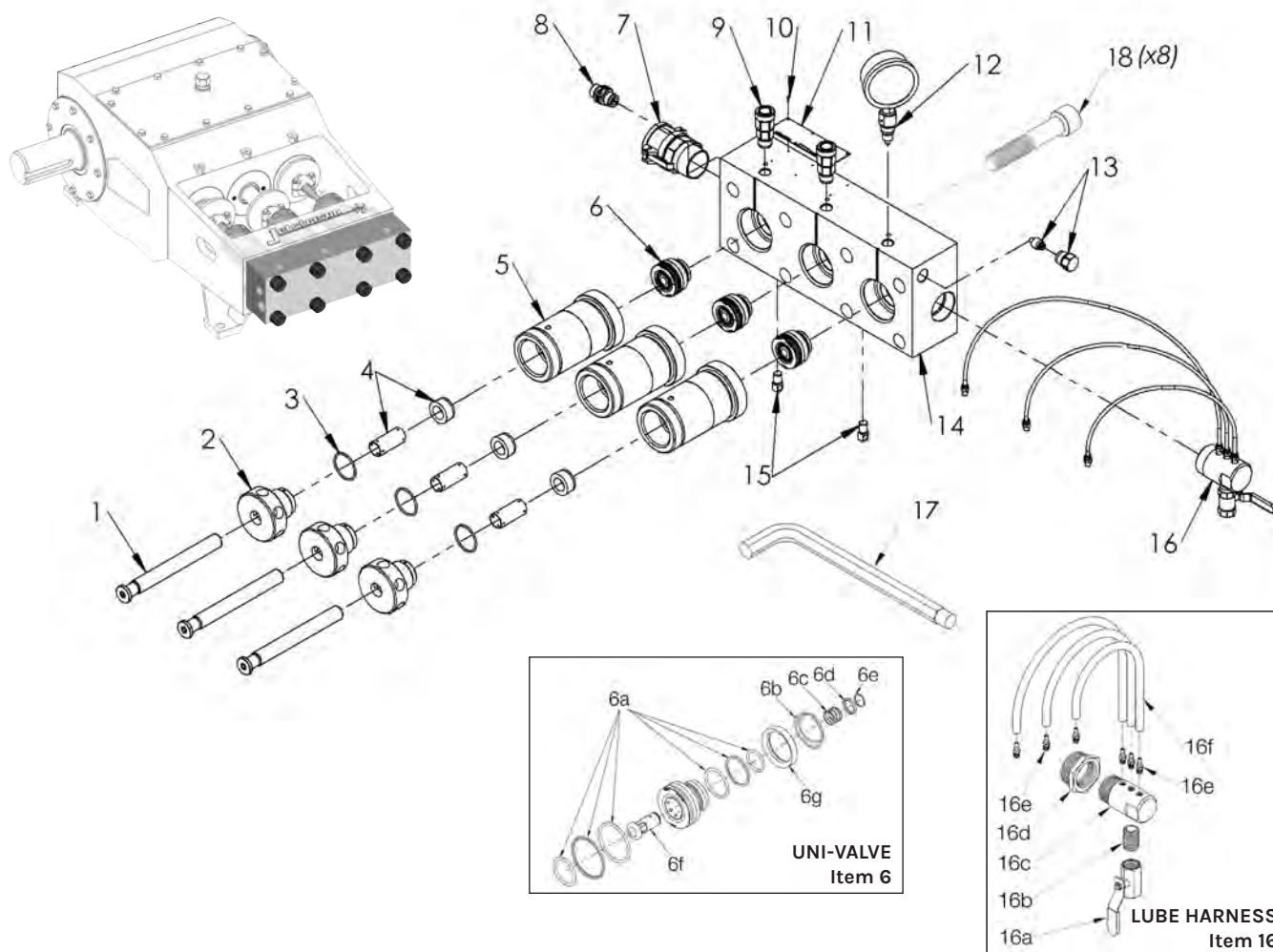
ITEM	PART NO.	DESCRIPTION	ITEM	PART NO.	DESCRIPTION
1	54827	#11 Plunger	8f	26876	Needle Valve
2	54828	#11 Gland Nut	9	54847	Plug, 20K HHP Port Male
3	26416	O-Ring	10	54844	Adapter, 20K HHP Port Male x 1- 5/16" Type M Male
4	J55877	#11 Packing Set	11	54846	Adapter, 20K HHP Port Male x 1" MP Female
5	54627	Adapter Plate	12	52035	Rupture Disc Holder
6	54826	#11 Stuffing Box	13	26500	Manifold Bolt
7	51790	Uni-Valve	14	52114	Lifting Rod
7a	50465	Uni-Valve Seal Kit	15	54824	Manifold
7b	26550	Discharge Valve Spring	16	50295	Trunnion Rod
7c	26549	Suction Valve Spring	17	26468	Cotter Pin
7d	51814	Spring Retainer	18	51659	Trunnion
7e	26546	Retaining Ring	19	54638	Washer
8	54690	Lube Harness Assy	20	60248	Adapter Plate Bolt
8a	27732	Hose Fitting	21	50889	Pump Wrench
8b	27740	Hose (Order in feet)	22	54854	Backup Ring, HHP Port Fitting
8c	J70518	Hose Fitting	22	26523	O-Ring, HHP Port Fitting
8d	52494	Lube Manifold	24*	70179	Valve Extraction Tool
8e	27671	Capscrew			

*Not shown.

MODELS 4220 & 3620

UNx™ FLUID END

PUMPS &
FLUID ENDS



3620 FLUID END SPECS

PART NO.	CONNECTION TYPES**		PLUNGER SIZE			PLUNGER STROKE		MAX. RPM	MAX. FLOW*		MAX. OPERATING PRESSURE	
			NO.	DIAMETER					gpm	lpm	psi	bar
	TOP PORTS	DISCHARGE PORTS		in	mm	in	mm					
51995	20K Port Female	20K Port Female	#8	.800	20.32	3.63	92	550	12.9	49	20,000	1,379

4220 FLUID END SPECS

PART NO.	CONNECTION TYPES**		PLUNGER SIZE		PLUNGER STROKE		MAX. RPM	MAX. FLOW*		MAX. OPERATING PRESSURE		
			NO.	DIAMETER								
	TOP PORTS	DISCHARGE PORTS		in	mm	in		mm	gpm	lpm	psi	bar
51995	20K Port Female	20K Port Female	#8	.800	20.32	4.25	108	518	14.3	53	20,000	1,379
52000			#9	.900	22.86	4.25	108	518	18.1	66	20,000	1,379
52506			#10	.980	24.89	4.25	108	518	21.4	79	20,000	1,379
54965			#11	1.06	26.92	4.25	108	518	25.2	93	20,000	1,379

MODELS 4220 & 3620

UNx™ FLUID END

PART BREAKDOWN

ITEM	PART NO.	DESCRIPTION	ITEM	PART NO.	DESCRIPTION
1	50301	#8 Plunger	7	27539	Coupler
	51828	#9 Plunger	8	53284	Adapter Assy
	51828C*	#9 Plunger, Ceramic	9	52035	Rupture Disc Assy
	52504	#10 Plunger	10	26379	Screw
	52504C*	#10 Plunger, Ceramic	11	26589	Identifying Plate
	54966	#11 Plunger	12	52497	Gauge
	54966C*	#11 Plunger, Ceramic	13	52076	Port Plug
2	51832	#8 Gland Nut	14	51818	Manifold
	51829	#9 Gland Nut	15	51659	Trunnion
	52501	#10 Gland Nut	16	51975	Lube Harness
	54828	#11 Gland Nut	16a	27101	Ball Valve
3	26416	O-Ring	16b	25946	Nipple
4	51857	#8 Packing Set	16c	55477	Lube Manifold
	51826	#9 Packing Set	16d	26802	Reducing Bushing
	52509	#10 Packing Set	16e	27732	Hose Fitting
	J55877	#11 Packing Set	16f	27740	Hose (Order in feet)
5	50306	#8 & #9 Stuffing Box	17	50889	Wrench
	52502	#10 & #11 Stuffing Box	18	25607	Manifold Bolt
6	51790	Uni-Valve	Optional Packing Sets**		
6a	50465	Uni-Valve Seal Kit		J70554	#8 (Plastic)
6b	26550	Discharge Valve Spring		07189	#8 (Plastic for #10-11 Stuffing Box)
6c	26549	Suction Valve Spring		J70555	#9 (Plastic)
5d	51814	Spring Retainer		J70556	#10 (Plastic)
6e	26546	Retaining Ring		54856	#11 (Composite)
6f	51813	Suction Valve			
6g	51812	Discharge Valve			

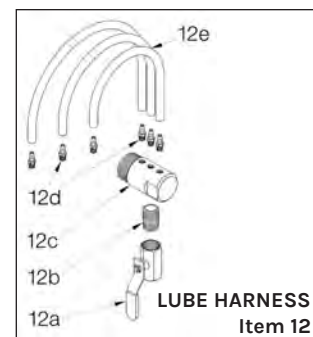
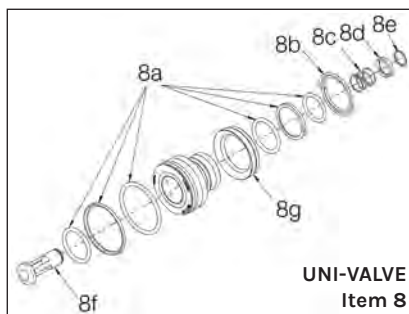
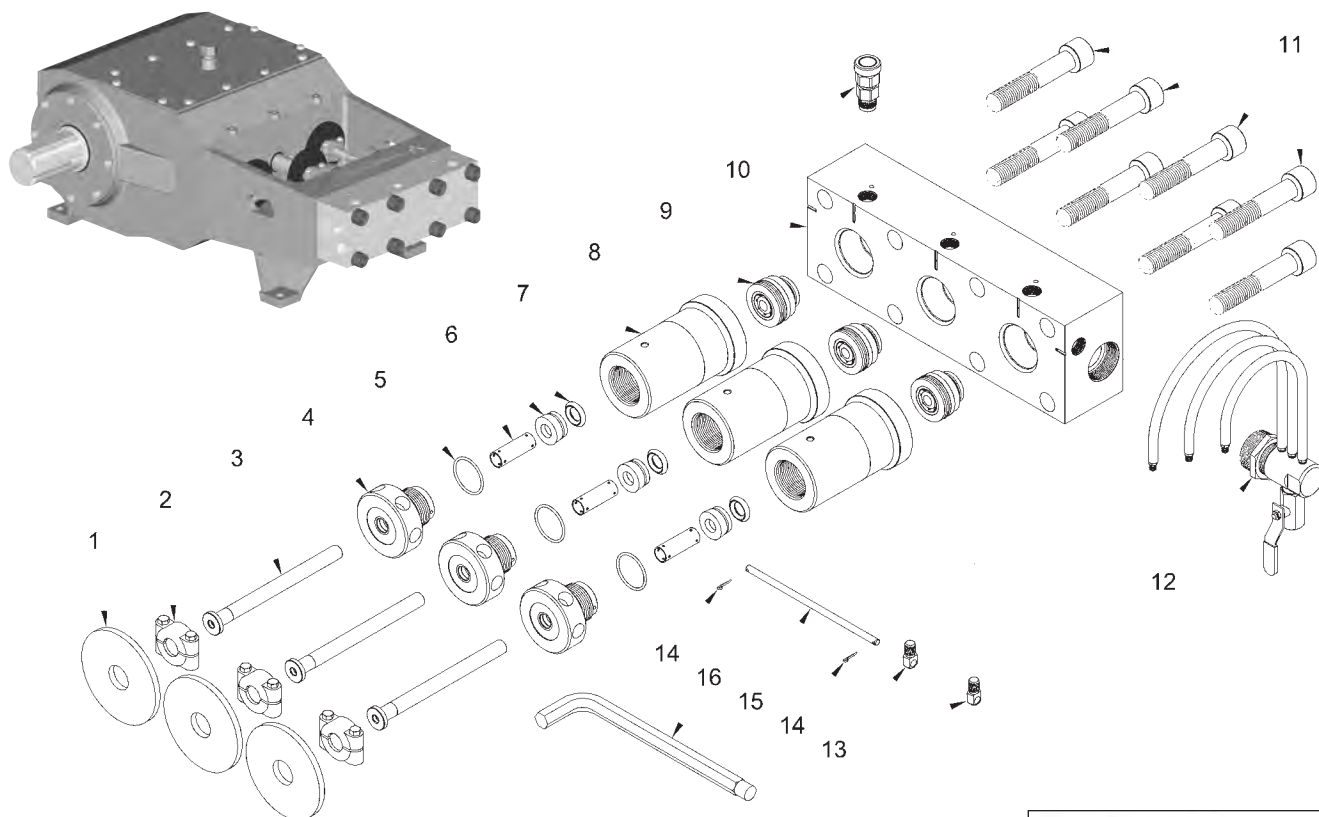
*Optional Ceramic Plungers available.

**Not shown.

MODEL 3020

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	
			NO.	DIAMETER								
	TOP PORTS	DISCHARGE PORTS		in	mm	in	mm		gpm	lpm	psi	bar
52075	20K Port Female	20K Port Female	#6	.635	16.13	3.00	76.2	600	7.4	28	20,000	1,379
52080			#7	.700	17.78	3.00	76.2	600	9.0	34	20,000	1,379
55465			#8	.780	19.83	3.00	76.2	600	11.2	42	20,000	1,379
68457			#9	.920	23.37	3.00	76.2	600	15.5	59	20,000	1,379

*Displacement (flow) values represented refer to "theoretical" flow, neglecting inefficiency resulting from compressibility of water and expansion of pressure bearing components.
 **See details on all connection types in Section I.

MODEL 3020

UNx™ FLUID END

PART BREAKDOWN

ITEM	PART NO.	DESCRIPTION	ITEM	PART NO.	DESCRIPTION
1	26487	Reflector*	8c	26145	Suction Valve Spring
2	51736	Plunger Coupling*	8d	51758	Spring Retainer
3	51849	#6 Plunger	8e	26501	Retaining Ring
	51739	#7 Plunger	8f	51757	Suction Valve
	55466	#8 Plunger	8g	51759	Discharge Valve
	67827	#9 Plunger	9	51558	Manifold
4	51761	#6 Gland Nut	10	52035	Rupture Disc Assy
	51851	#7 Gland Nut	11	26462	Manifold Bolt
	55467	#8 Gland Nut	12	51970	Lube Harness
	68062	#9 Gland Nut	12a	27101	Ball Valve
5	25165	O-Ring	12b	25946	Nipple
6	51786	#6 Packing Set	12c	53242	Lube Manifold
	51787	#7 Packing Set	12d	27732	Hose Fitting
	55475	#8 Packing Set	12e	27740	Hose (Order in feet)
	68460	#9 Packing Set	13	51659	Trunnion
7	51431	#6 & #7 Stuffing Box	14	26468	Cotter Pin
	55468	#8 Stuffing Box	15	51666	Trunnion Rod
	67830	#9 Stuffing Box	16	50064	Pump Wrench
8	51780	Uni-Valve			
8a	51968	Uni-Valve Seal Kit			
8b	25908	Discharge Valve Spring			

8d*Power end component included in drawing for convenience. Not included with new fluid ends.8e

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:

- ▶ 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 page B-17. Contact Jetstream for questions regarding the upgrade required.

JETSTREAM FLUID END CONVERSIONS

FLUID END PART NO.	FLUID END MODEL	DESCRIPTION	MANUFACTURER	MANUFACTURER MODEL
52095	3020B	#6 Triplex	Butterworth®/Gardner Denver®	L-74/L-300
68122	3020BC	#6 Triplex	Butterworth®/Gardner Denver	T-300H
68123	3020BC	#7 Triplex		
68124	3020BC	#8 Triplex		
52545*	3720B	#8 Triplex	Butterworth/Gardner Denver	L-375, T-375, I-375, TF-375, L-130
54790*	3720B	#9 Triplex		
59489*	3720B	#11 Triplex		
54820*	3720B	#9 Triplex w/o Mounting Pkg.		
59487*	3720B	#11 Triplex w/o Mounting Pkg.		
52090*	4520B	#8 Triplex	Butterworth/Gardner Denver	L-450, TF-450
54780*	4520B	#9 Triplex		
53660*	4520B	#10 Triplex		
55263*	4520B	#11 Triplex		
54830*	4520B	#9 Triplex w/o Mounting Pkg.		
52105	3020N	#7 Triplex	NLB®	1012
52160*	4220N	#8 Triplex	NLB	20153, 20156, 20203, 20225, 20305, 24155, 24205, 24225 and other / TD-120
54795*	4220N	#9 Triplex		
59687*	4220N	#10 Triplex		
54870*	4220N	#9 Triplex w/o Mounting Pkg.		
59688*	4220N	#10 Triplex w/o Mounting Pkg.		
53580*	4220QN	#8 Quintuplex	NLB	20253
J55885*	4220QN	#9 Quintuplex		
J55890*	4220QN	#10 Quintuplex		
59463*	4220QN	#11 Quintuplex		
52780	3120T	#6 Triplex	Tritan®	P.313
52100	3020W	#6 Triplex	Weatherford®	FE85/TD60
52155	3020Q	#6 Quintuplex	Weatherford	FE105, QD100, MB10125

*Detailed information to follow on pages B-32 to B-41.

JETSTREAM FLUID END CONVERSIONS (continued)

FLUID END PART NO.	FLUID END MODEL	DESCRIPTION	MANUFACTURER	MANUFACTURER MODEL
52085	3520Q	#6 Quintuplex	Wheatley®/Tritan	W:HP125/T:5127
54565*	3720W	#7 Triplex	Woma®	1502, 1503
55290	3720WZ	#7 Triplex	Woma	150-Z

*Detailed information to follow on pages B-32 to B-41.

EUROPEAN JETSTREAM FLUID END CONVERSIONS

FLUID END PART NO.	FLUID END MODEL	DESCRIPTION	MANUFACTURER	EURO MODEL INCLUDES
55337	3020	#6 Triplex	Jetstream	Euro Lube Harness Dual Gauge Euro Bypass Valve Hydrothrottle Package Spare Tools Package
55187	3020	#7 Triplex		
55362	3020	#8 Triplex		
55191	3620	#8 Triplex		
55350	4220	#9 Triplex		
55195	4220	#10 Triplex		
55199	4220	#11 Triplex		
55357	5020	#11 Quintuplex		

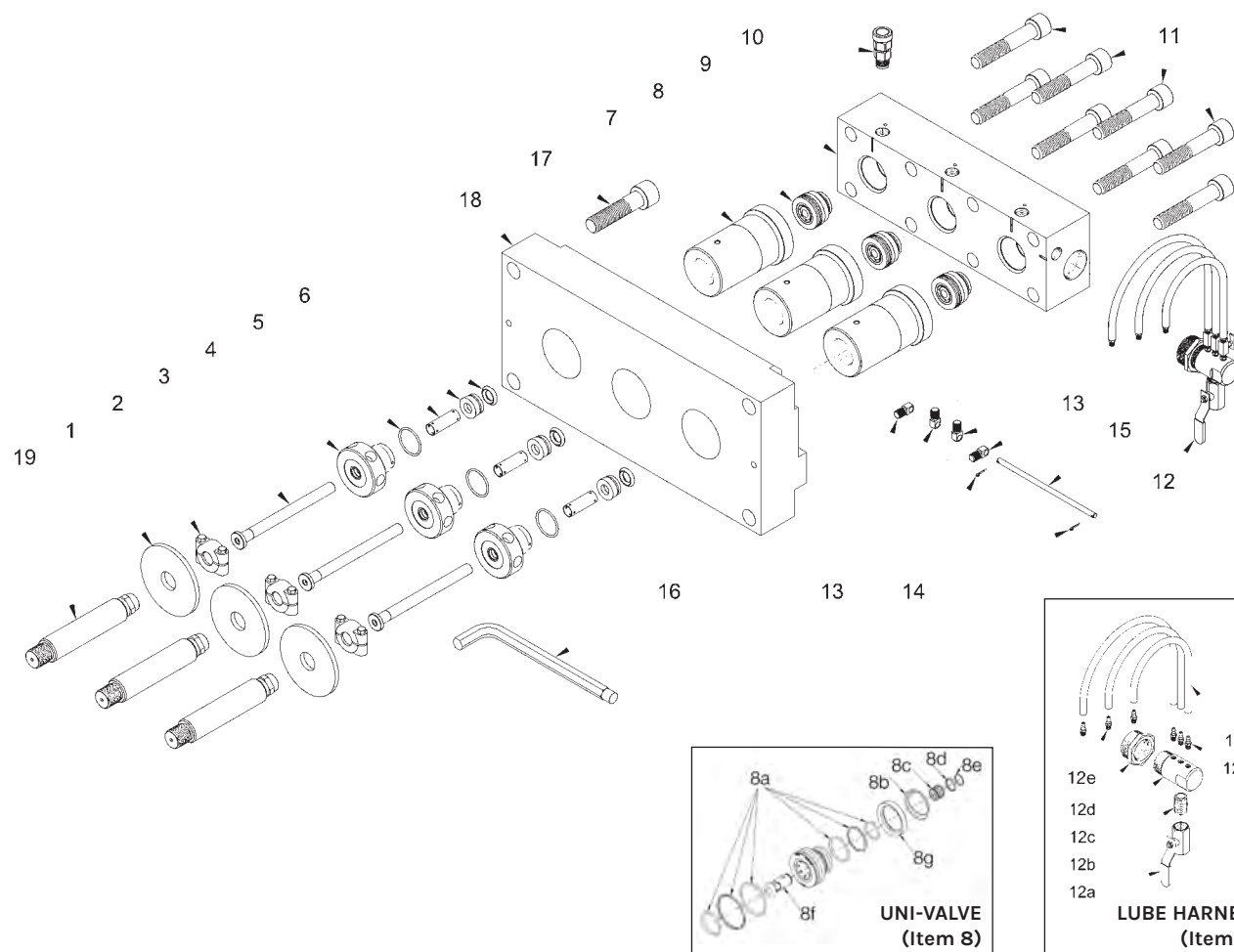
MODEL 4520B

UNx™ FLUID END UPGRADE

BUTTERWORTH® | GARDNER-DENVER®

L-450, TF-450 PUMPS

PUMPS &
FLUID ENDS



FLUID END SPECS

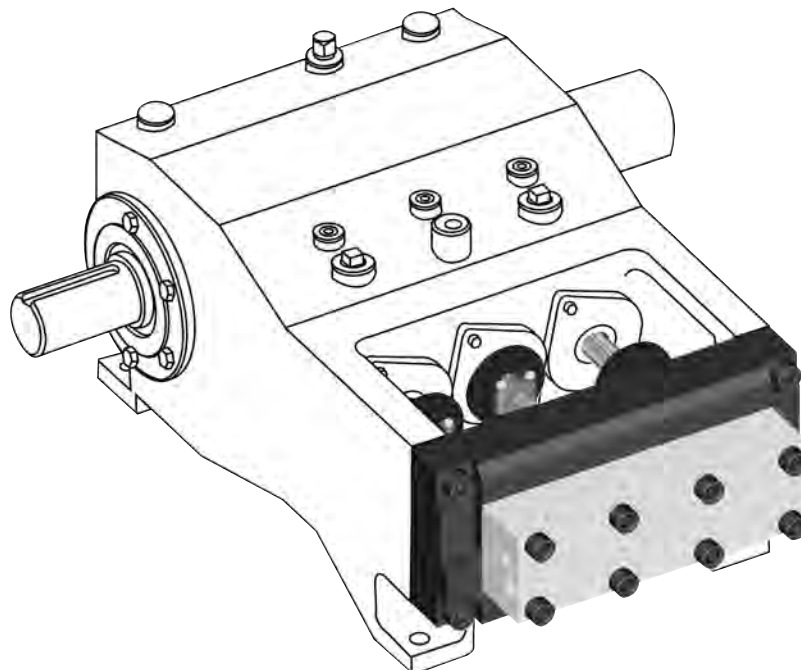
PART NO.	PLUNGER SIZE			CONNECTION TYPES**		PUMP DISPLACEMENT AT SPECIFIED PUMP SPEEDS*								MAX. OPERATING PRESSURE	
	NO.	DIAMETER				200 RPM		300 RPM		400 RPM		514 RPM			
		in	mm	TOP PORTS	DISCHARGE PORTS	gpm	lpm	gpm	lpm	gpm	lpm	gpm	lpm	psi	bar
52090	#8	.800	20.32	20K Port Female	20K Port Female	5.9	22	8.8	33	11.8	44	14.7	55	20,000	1,379
54780	#9	.900	22.86			7.4	28	11.2	42	14.9	56	18.6	70	20,000	1,379
53660	#10	.980	24.89			8.8	33	13.2	50	17.6	67	22.1	83	20,000	1,379
55263	#11	1.06	26.92			10.4	39	15.5	59	20.7	78	25.9	98	20,000	1,379

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

** See details on all connection types in Section I.

PART BREAKDOWN

ITEM	PART NO.	DESCRIPTION	ITEM	PART NO.	DESCRIPTION
1	26487	Deflector	8d	51814	Spring Retainer
2	51736	Plunger Coupling	8e	26546	Retaining Ring
3	50301	#8 Plunger	8f	51813	Suction Valve
	51828	#9 Plunger	8g	51812	Discharge Valve
	52504	#10 Plunger	9	51974	Manifold
	54966	#11 Plunger	10	52035	Rupture Disc Holder
4	51832	#8 Gland Nut	11	25607	Manifold Bolt
	51829	#9 Gland Nut	12	51955	Lube Harness
	52501	#10 Gland Nut	12a	27101	Ball Valve
	54828	#11 Gland Nut	12b	25946	Nipple
5	26416	O-Ring	12c	53242	Lube Manifold
6	51857	#8 Packing Set	12d	26802	Reducing Bushing
	51826	#9 Packing Set	12e	27732	Hose Fitting
	52509	#10 Packing Set	12f	27740	Hose (order in feet)
	J55877	#11 Packing Set	13	51659	Trunnion
7	51991	#8, #9 Stuffing Box	14	26468	Cotter Pin
	53296	#10, #11 Stuffing Box	15	50295	Trunnion Rod
8	51790	Uni-Valve	16	50889	Pump Wrench
8a	50465	Uni-Valve Seal Kit	17	26212	Adapter Plate Bolt
8b	26550	Discharge Valve Spring	18	51714	Adapter Plate
8c	26549	Suction Valve Spring	19	51719	Plunger Adapter

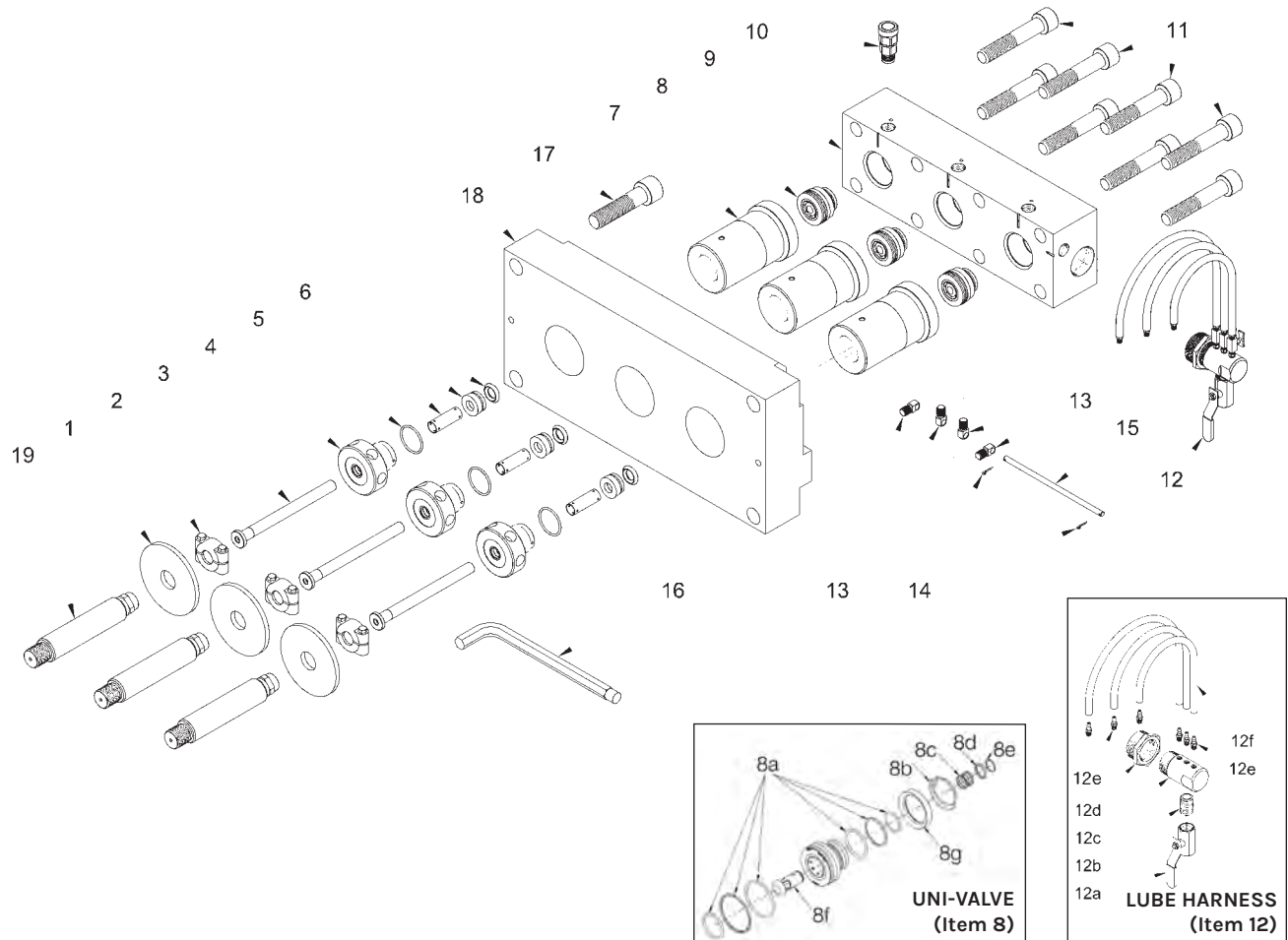


MODEL 3720B

UNx™ FLUID END UPGRADE

BUTTERWORTH® | GARDNER-DENVER®

L-375, TF-375 PUMPS



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	gpm	lpm	gpm	lpm	gpm	lpm	gpm	lpm	psi	bar
52545	#8	.800	20.32	20K Port Female	20K Port Female	4.9	18	7.3	28	9.8	37	12.2	46	20,000	1,379
54790	#9	.900	22.86			6.2	23	9.3	35	12.4	47	15.5	59	20,000	1,379
59489	#11	1.06	26.92			8.6	32	12.9	49-	17.3	65	21.6	82	20,000	1,379
54820 ^A	#9	.900	22.86			6.2	23	9.3	35	12.4	47	15.5	59	20,000	1,379
59487 ^A	#11	1.06	26.92			8.6	32	12.9	49	17.3	65	21.6	82	20,000	1,379

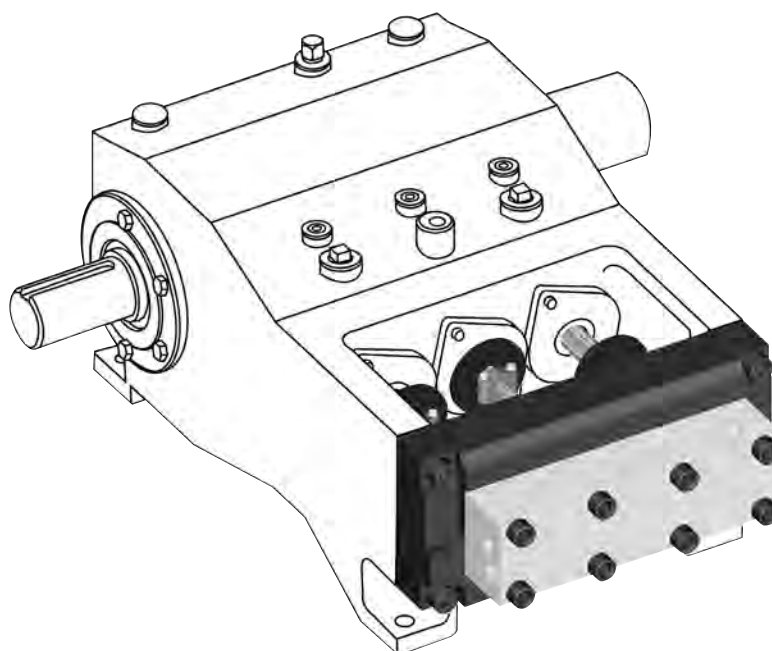
*Displacement (flow) values represented refer to "theoretical" flow, neglecting inefficiency resulting from compressibility of water and expansion of pressure-bearing components.

**See details on all connection types in Section I.

^A Fluid End connections without the mounting package.

PART BREAKDOWN

ITEM	PART NO.	DESCRIPTION	ITEM	PART NO.	DESCRIPTION
1	26487	Deflector	8g	51812	Discharge Valve
2	51736	Plunger Coupling	9	52487	Manifold
3	50301	#8 Plunger	10	52035	Rupture Disc Holder
	51828	#9 Plunger	11	25607	Manifold Bolt
	54966	#11 Plunger	12	51955	Lube Harness
4	51832	#8 Gland Nut	12a	27101	Ball Valve
	51829	#9 Gland Nut	12b	25946	Nipple
	54828	#11 Gland Nut	12c	53242	Lube Manifold
5	26416	O-Ring	12d	26802	Reducing Bushing
6	51857	#8 Packing Set	12e	27732	Hose Fitting
	51826	#9 Packing Set	12f	27740	Hose (order in feet)
	J55877	#11 Packing Set	12g	27475	Needle Valve
7	50306	#8, #9 Stuffing Box	12h	26465	Nipple
	52502	#11 Stuffing Box	13	51659	Trunnion
8	51790	Uni-Valve	14	26468	Cotter Pin
8a	50465	Uni-Valve Seal Kit	15	50295	Trunnion Rod
8b	26550	Discharge Valve Spring	16	50889	Pump Wrench
8c	26549	Suction Valve Spring	17	26220	Adapter Plate Bolt
8d	51814	Spring Retainer	18	52197	Adapter Plate
8e	26546	Retaining Ring	19	52196	Plunger Adapter
8f	51813	Suction Valve			

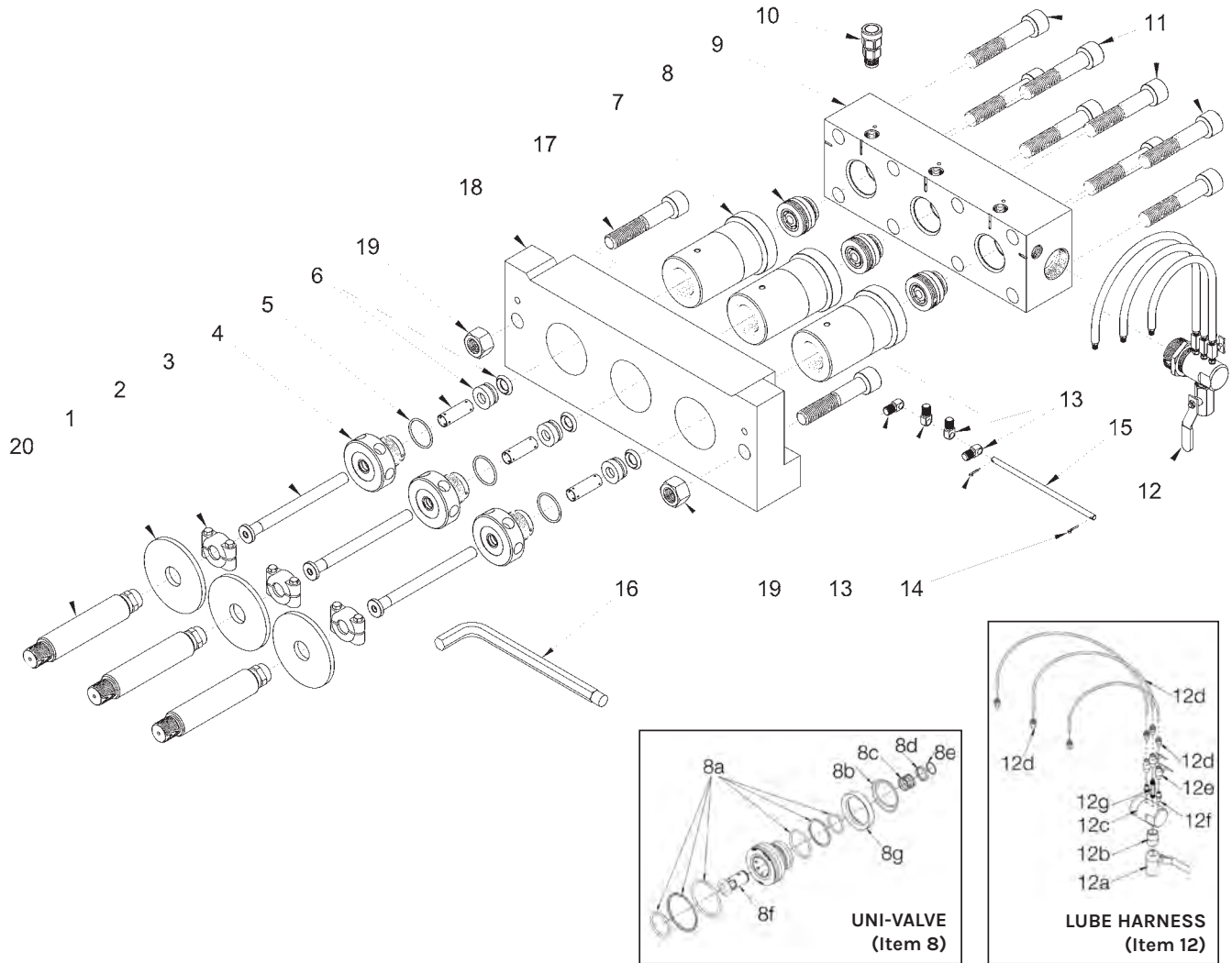


MODEL 4220N

UNx™ FLUID END UPGRADE

NLB® TRIPLEX PUMPS 150 TO 225 HORSEPOWER

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	gpm	lpm	gpm	lpm	gpm	lpm	gpm	lpm	psi	bar
52160	#8	.800	20.32	20K Port Female	20K Port Female	4.6	21	8.3	31	11.1	42	13.9	52	20,000	1,379
54795	#9	.900	22.86			7.0	27	10.5	40	14.1	53	17.6	66	20,000	1,379
59687	#10	.980	24.89			8.3	31	12.5	47	16.7	63	20.8	79	20,000	1,379
54870 ^A	#9	.900	22.86			7.0	27	10.5	40	14.1	33	17.6	66	20,000	1,379
59688 ^A	#10	.980	24.89			8.3	31	12.5	47	16.7	63	20.8	79	20,000	1,379

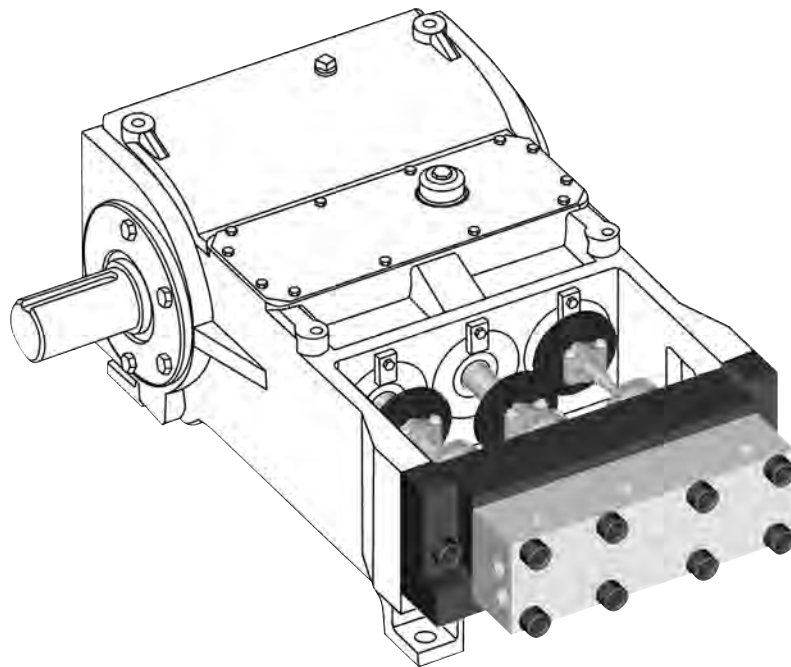
*Displacement (flow) values represented refer to "theoretical" flow, neglecting inefficiency resulting from compressibility of water and expansion of pressure-bearing components.

**See details on all connection types in Section I.

^AFluid End conversion without mounting package.

PART BREAKDOWN

ITEM	PART NO.	DESCRIPTION	ITEM	PART NO.	DESCRIPTION
1	26487	Deflector	8g	51812	Discharge Valve
2	51736	Plunger Coupling	9	51818	Manifold
3	50301	#8 Plunger	10	52035	Rupture Disc Holder
	51828	#9 Plunger	11	25607	Manifold Bolt
	52504	#10 Plunger	12	51955	Lube Harness
4	51832	#8 Gland Nut	12a	27101	Ball Valve
	51829	#9 Gland Nut	12b	25946	Nipple
	52501	#10 Gland Nut	12c	53242	Lube Manifold
5	26416	O-Ring	12d	26802	Reducing Bushing
6	51857	#8 Packing Set	12e	27732	Hose Fitting
	51826	#9 Packing Set	12f	27740	Hose (order in feet)
	52509	#10 Packing Set	12g	27475	Needle Valve
7	50306	#8, #9 Stuffing Box	12h	26465	Nipple
	52502	#10 Stuffing Box	13	51659	Trunnion
8	51790	Uni-Valve	14	26468	Cotter Pin
8a	50465	Uni-Valve Seal Kit	15	50295	Trunnion Rod
8b	26550	Discharge Valve Spring	16	50889	Pump Wrench
8c	26549	Suction Valve Spring	17	26500	Adapter Plate Bolt
8d	51814	Spring Retainer	18	50293	Adapter Plate
8e	26546	Retaining Ring	19	26669	Adapter Plate Nut
8f	51813	Suction Valve	20	51766	Plunger Adapter

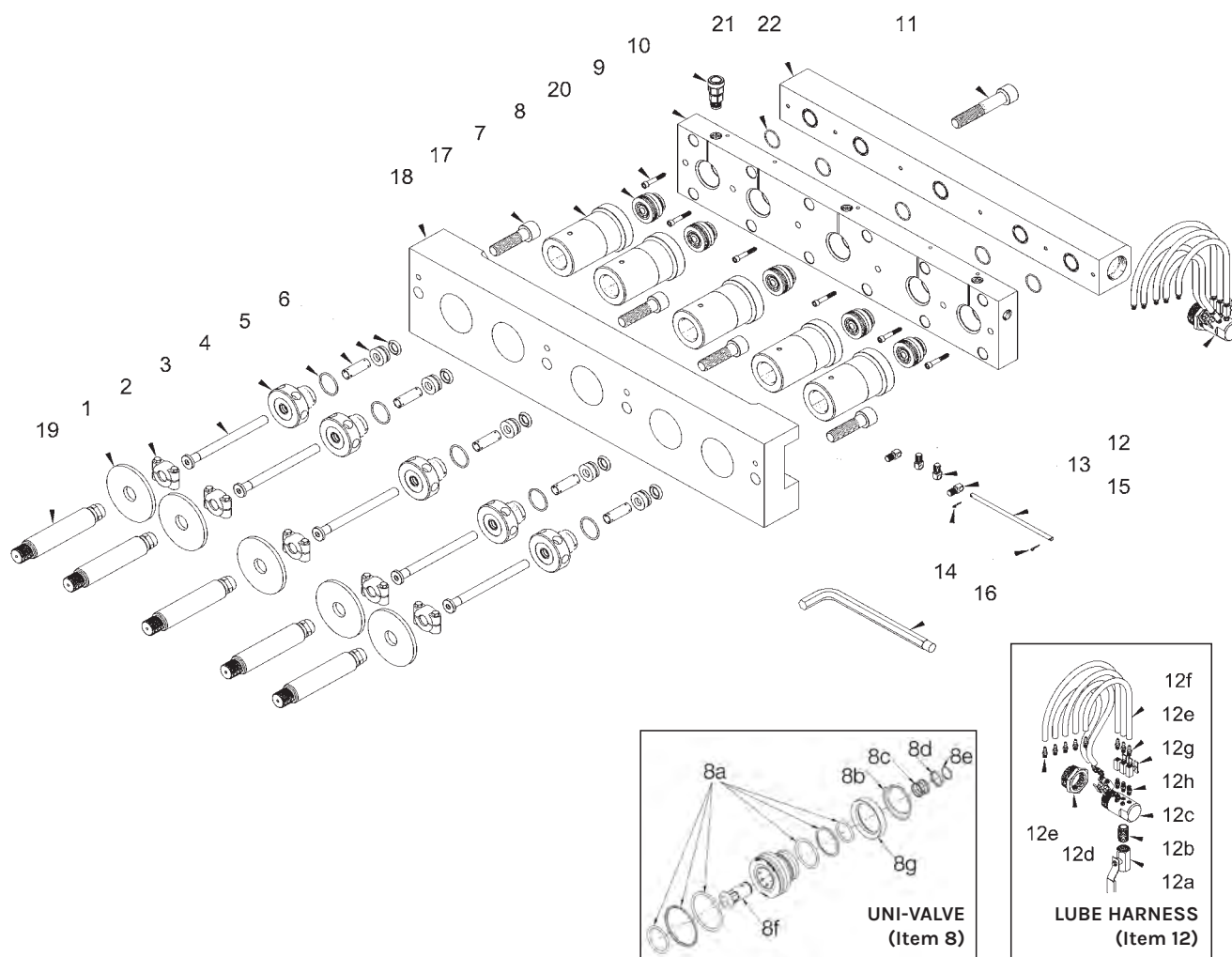


MODEL 4220QN

UNx™ FLUID END UPGRADE

NLB® QUINTUPLEX PUMPS UP TO 250 HORSEPOWER

PUMPS &
FLUID ENDS



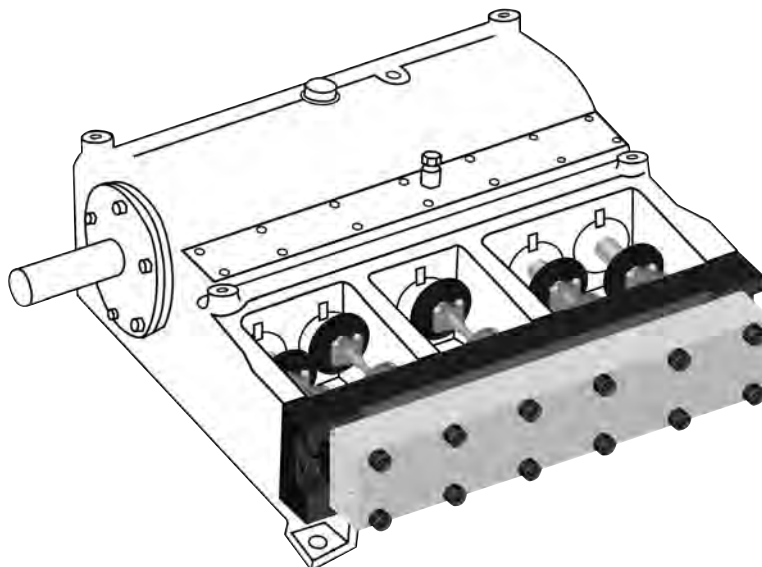
FLUID END SPECS

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	gpm	lpm	gpm	lpm	gpm	lpm	gpm	lpm	psi	bar
53580	#8	.800	20.32	20K Port Female	20K Port Female	6.9	26	9.3	35	13.9	52	18.5	70	20,000	1,379
J55885	#9	.900	22.86			11.7	44	17.6	67	23.4	88	29.3	111	20,000	1,379
J55890	#10	.980	24.89			13.9	53	20.8	79	27.8	105	34.7	131	20,000	1,379
59463	#11	1.06	26.92			16.3	62	24.5	93	32.6	123	40.8	154	20,000	1,379

*Displacement (flow) values represented refer to "theoretical" flow, neglecting inefficiency resulting from compressibility of water and expansion of pressure-bearing components.
 **See details on all connection types in Section I.

PART BREAKDOWN

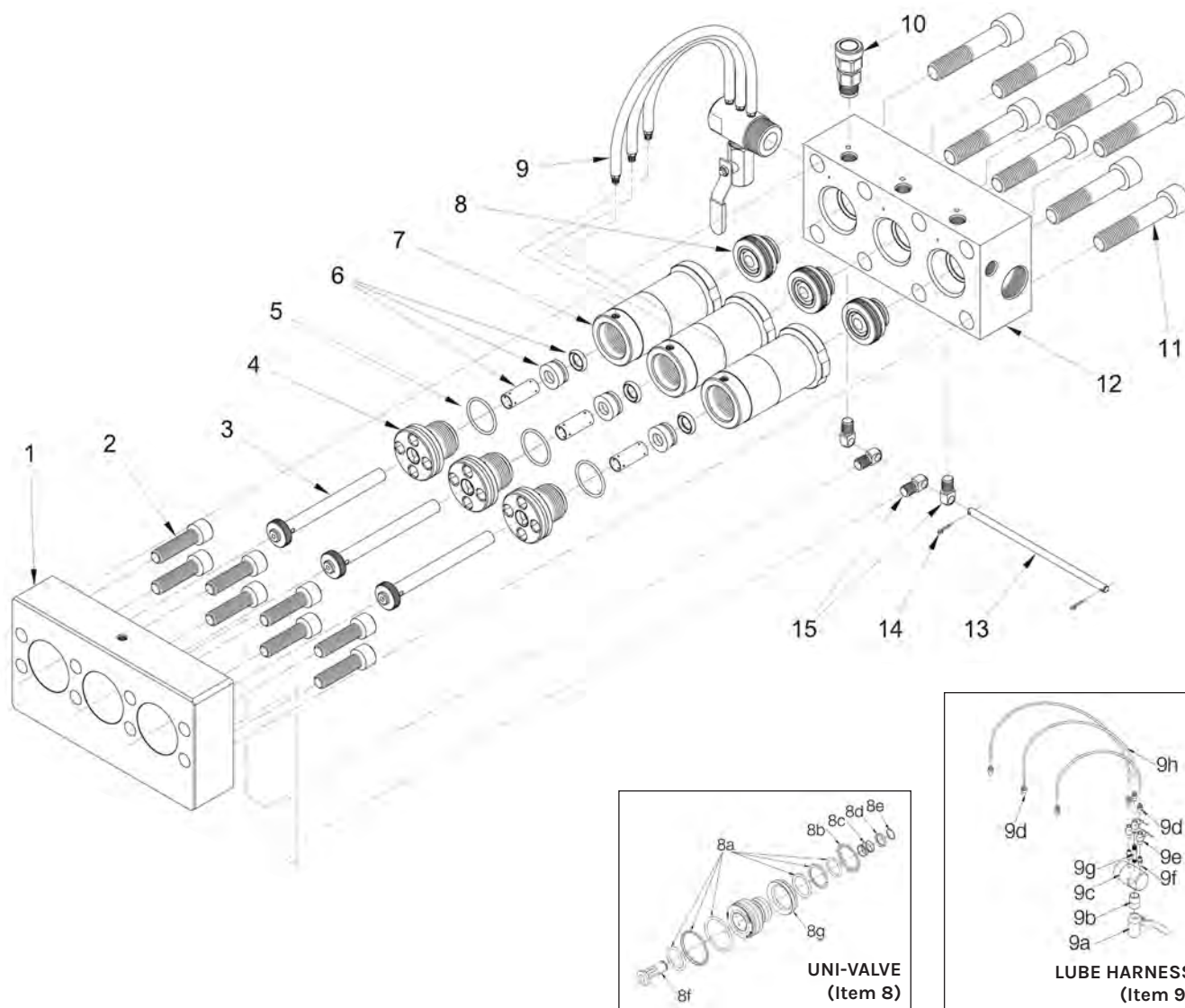
ITEM	PART NO.	DESCRIPTION	ITEM	PART NO.	DESCRIPTION
1	26487	Deflector	8g	51812	Discharge Valve
2	51736	Plunger Coupling	9	53599	Manifold
3	50301	#8 Plunger	10	52035	Rupture Disc Holder
	51828	#9 Plunger	11	27550	Manifold Bolt
	52504	#10 Plunger	12	53590	Lube Harness
	54966	#11 Plunger	12a	27101	Ball Valve
4	51832	#8 Gland Nut	12b	25946	Nipple
	51829	#9 Gland Nut	12c	53793	Lube Manifold
	52501	#10 Gland Nut	12d	27729	Reducing Bushing
	54828	#11 Gland Nut	12e	26874	Hose Fitting
5	26416	O-Ring	12f	26469	Hose (order in feet)
6	51857	#8 Packing Set	12g	27475	Needle Valve
	51826	#9 Packing Set	12h	26465	Nipple
	52509	#10 Packing Set	13	51659	Trunnion
	J55877	#11 Packing Set	14	26468	Cotter Pin
7	50306	#8, #9 Stuffing Box	15	50295	Trunnion Rod
	52502	#10, #11 Stuffing Box	16	50889	Pump Wrench
8	51790	Uni-Valve	17	27550	Adapter Plate Bolt
8a	50465	Uni-Valve Seal Kit	18	53602	Adapter Plate
8b	26550	Discharge Valve Spring	19	51766	Plunger Adapter
8c	26549	Suction Valve Spring	20	27551	Suction Manifold Bolt
8d	51814	Spring Retainer	21	25566	O-Ring
8e	26546	Retaining Ring	22	53601	Suction Manifold
8f	51813	Suction Valve			



MODEL 3720WZ

UNx™ FLUID END UPGRADE
WOMA® 150 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				150 RPM		200 RPM		300 RPM		400 RPM			
		in	mm	TOP PORTS	DISCHARGE PORTS	gpm	lpm	gpm	lpm	gpm	lpm	gpm	lpm	psi	bar
		54565	#7			.700	17.78	20K Port Female	20K Port Female	3.7	14	5.6	21	7.5	28
55290	#7	.708	17.98	3.7	14	5.6	21			7.5	28	9.4	35	20,000	1,379

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

**See details on all connection types in Section I.

PART BREAKDOWN

ITEM	PART NO.	DESCRIPTION	ITEM	PART NO.	DESCRIPTION
1	54426	Adapter Plate	9a	27101	Ball Valve
2	28616	Capscrew	9b	25946	Nipple
3	54504	#7 Plunger	9c	53242	Lube Manifold
4	54509	#7 Gland Nut	9d	27732	Hose Fitting
5	25165	O-Ring	9e	27475	Needle Valve
6	51787	#7 Packing Set	9f	26465	Nipple
7	54498	#7 Stuffing Box	9g	60815	Nipple, 7/6 Hx
8	51780	Uni-Valve	9h	27740	Hose (Order in feet)
8a	51968	Uni-Valve Seal Kit	10	52035	Rupture Disc Holder
8b	25908	Discharge Valve Spring	11	28462	Capscrew
8c	26145	Suction Valve Spring	12	55274	Manifold
8d	51758	Spring Retainer	13	51666	Trunnion Rod
8e	26501	Retainer Ring	14	26468	Cotter Pin
8f	51757	Suction Valve	15	29748	Capscrew
8g	51759	Discharge Valve	16*	26544	5/8" Hex Wrench
9	51695	Lube Harness	17*	25421	3/4" Hex Wrench

*Not shown





PUMP ACCESSORIES

EVERYTHING YOU NEED TO SUCCEED

Jetstream offers recommended pump and fluid end parts to ensure a safe and uninterrupted workday. From spare parts packages to filters to pump tools, necessary and optional parts associated with the bareshaft pump and fluid end are provided in this section. These parts are the skeleton to the functionality of the fluid end. Easily maintained parts ensure the pump is performing at required pressures throughout the entire job.

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, Multi-Gun Valves)
- ▶ Hydro-Throttle Assemblies
- ▶ Multi-Unit Manifold
- ▶ Hydrostatic Test Valve
- ▶ 20K Check Valve



**PACKAGING NOTES:**

# of Plungers	S1 or SP S1=1 plunger SP=3 plungers
Fluid End Model	302 or 422
Working Pressure	20
Plunger Size	6, 7, 8, 9, 10 or 11
Burst Discs	B or S B=five discs at primary and secondary relief pressures; S=ten discs for use with secondary relief device

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 20K UNx fluid ends.
- ▶ Packaged in a top-of-the-line, waterproof Pelican® case with tough custom foam inlay.

PACKAGE CONTENTS

- ▶ 1 or 3 Plungers
- ▶ 3 Uni-Valves
- ▶ 3 Packing Sets
- ▶ 3 Uni-Valve Seal Kits
- ▶ 10 Burst Discs (five each at primary and secondary relief pressures, or ten at the same relief pressure if only one rupture disc holder is used)
- ▶ Locking waterproof case and keys

1 PLUNGER PACKAGES

PART NO.	PRESSURE (PSI)	DESCRIPTION	PART NO.	PRESSURE (PSI)	DESCRIPTION
S1302-20-6-B	20,000	3020 #6	SP302-20-6-B	20,000	3020 #6
S1302-20-6-S	20,000	3020 #6	SP302-20-6-S	20,000	3020 #6
S1302-20-7-B	20,000	3020 #7	SP302-20-7-B	20,000	3020 #7
S1302-20-7-S	20,000	3020 #7	SP302-20-7-S	20,000	3020 #7
S1302-20-8-B	20,000	3020 #8	SP302-20-8-B	20,000	3020 #8
S1302-20-8-S	20,000	3020 #8	SP302-20-8-S	20,000	3020 #8
S1422-20-8-B	20,000	4220 #8	SP422-20-8-B	20,000	4220 #8
S1422-20-8-S	20,000	4220 #8	SP422-20-8-S	20,000	4220 #8
S1422-20-9-B	20,000	4220 #9	SP422-20-9-B	20,000	4220 #9
S1422-20-9-S	20,000	4220 #9	SP422-20-9-S	20,000	4220 #9
S1422-20-10-B	20,000	4220 #10	SP422-20-10-B	20,000	4220 #10
S1422-20-10-S	20,000	4220 #10	SP422-20-10-S	20,000	4220 #10
S1422-20-11-B	20,000	4220 #11	SP422-20-11-B	20,000	4220 #11
S1422-20-11-S	20,000	4220 #11	SP422-20-11-S	20,000	4220 #11

3 PLUNGER PACKAGES

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
5020Q	4020B	3020	3120T
4220	4220N	3020B	3520Q
3620	4220QN	3020N	3720W
3720B	4520B	3020Q	3720WZ
		3020W	

PUMP
ACCESSORIES

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
6020	5020Q	3020
	4520B	3020B
	4220	3020N
	4220N	3020Q
	4220QN	3020W
	4020B	3120T
	3720B	3520Q
	3620	3720W
		3720WZ

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

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



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



20K PILL SEAL PULLER

Tool for removing pill seals.
Part No. 59915







DUMP-STYLE DIVERTER VALVES

AIR-OPERATED

The Air-Operated Diverter Valve allows an operator to remotely control pressure in 20,000 psi cleaning applications, specially in automated cleaning processes. Reduces operator fatigue by actuating the system pneumatically rather than mechanically.

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.

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

ASSEMBLY PART NO.*	MOUNTING STYLE	CONNECTION TYPE		MAXIMUM FLOW RATE	MAX. OPERATING PRESSURE		INLET AIR PRESSURE			
							MIN.		MAX.	
		INLET	OUTLET	gpm	psi	bar	psi	bar	psi	bar
53445	Pump	20K Port Female		30-35	20,000	1,379	70	4.8	125	8.6
63631	Base									
J55780	Pump	3/4" MP Female		50	20,000	1,379	70	4.8	125	8.6
57292	Base									
62281	Pump	1" MP Female		80	22,000	1,516	70	4.8	125	8.6

*Additional high-flow options available upon request.

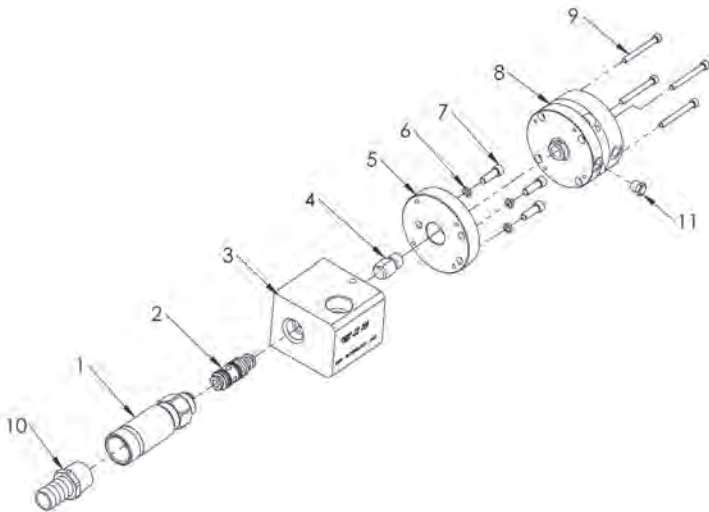
REPLACEMENT CARTRIDGE



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

Part No. 51869
(for 53445)

Part No. 52750
(for J55780 & 57292)

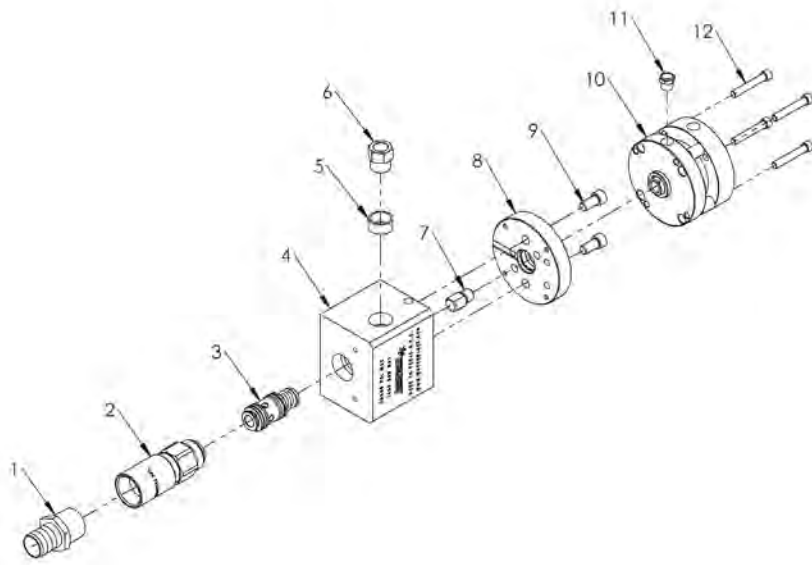


PART BREAKDOWN (PART NO. 53445)

ITEM	PART NO.	DESCRIPTION	ITEM	PART NO.	DESCRIPTION
1	51864	Diffuser	7	25206	Capscrew
2	51869	Cartridge	8	27251	2" Air Cylinder
3	53369	Body	9	27107	Capscrew
4	56999	Pusher Air Cylinder	10	25796	Hose Barb
5	J56366	Adapter Plate	11	58848	Muffler
6	J70633	Washer			

DIVERTER VALVE

AIR-OPERATED (DUMP) HI-FLOW



PART BREAKDOWN (PART NO. J55780)

ITEM	PART NO.	DESCRIPTION	ITEM	PART NO.	DESCRIPTION
1	29722	Hose Barb	9	27714	Capscrew
2	51638	Diffuser	10	54342	Air Cylinder, 2.5"
3	52750	Cartridge	11	28364	Muffler
4	55411	Body, Mag	12	28399	Capscrew
5	28384	Collar	13*	53788	Spacer Block (57292)
6	28383	Gland Nut	14*	53384	Base Plate (57292)
7	53424	Pusher	15*	26689	Capscrew (52792)
8	54321	Mounting Plate			

*Not shown.



DUMP STYLE DIVERTER VALVE

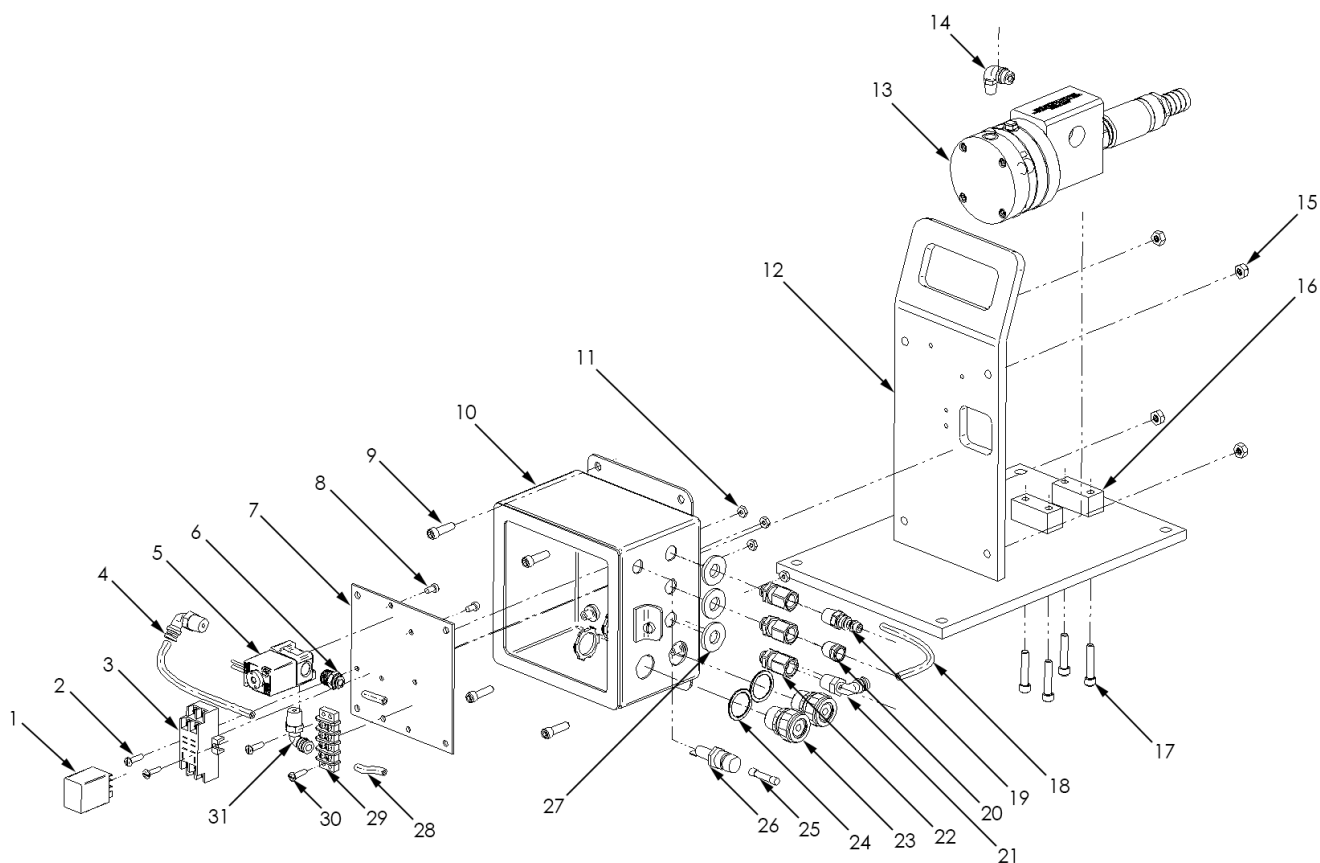
ELECTRIC/AIR-OPERATED

The Electric/Air-Operated Diverter Valve allows an operator to remotely control pressure in cleaning applications up to 20,000 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.

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

ASSEMBLY PART NO.	VOLTAGE	MOUNTING STYLE	INLET & OUTLET CONNECTIONS	MAXIMUM FLOW RATE		MAX. OPERATING PRESSURE		DIMENSIONS (H X W X D)		WEIGHT	
				gpm	lpm	psi	bar	in	mm	lb	kg
53690	12 VDC	Base	20K Port Female	30-35	114-132	20,000	1,379	12 X 8 X 17	305 x 203 x 432	36	16
57296	12 VDC	Panel	3/4" MP Female	50	189	20,000	1,379				



PART BREAKDOWN

ITEM	PART NO.	DESCRIPTION	ITEM	PART NO.	DESCRIPTION
1	27349	Relay, 12VDC	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, 12VDC	21	28367	Elbow
6	J70518	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	53615	Air-Operated Valve (53690)	29	27347	Block, Terminal
	57094	Air-Operated Valve (57296)	30	58864	Capscrew
14	28367	Elbow	31	28367	Elbow
15	26711	Nut	30	58864	Capscrew
16	53203	Mounting Base	31	28367	Elbow



Part No. 60078



Part No. 62025

REPLACEMENT CARTRIDGE



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

Part No. 52750

DUMP STYLE DIVERTER VALVE

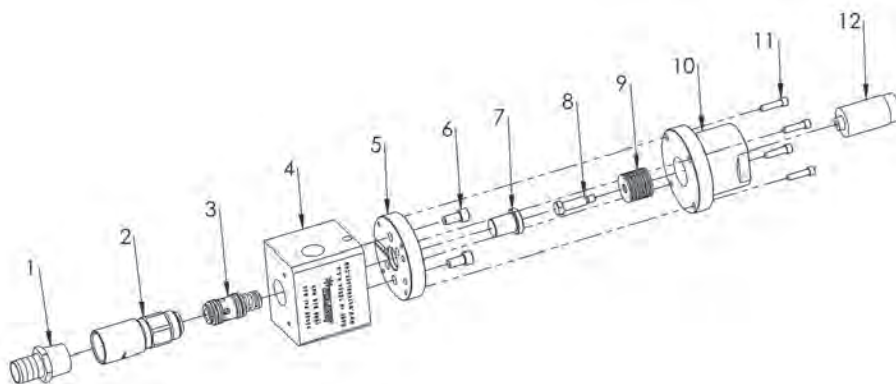
HYDRAULIC-OPERATED

The Hydraulic-Operated Diverter Valve allows an operator to remotely control pressure in 20,000 psi cleaning applications, specifically in automated cleaning processes. Reduces operator fatigue by actuating the system hydraulically rather than mechanically.

When hydraulic pressure 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
- Hydraulic operation for reduced operator fatigue

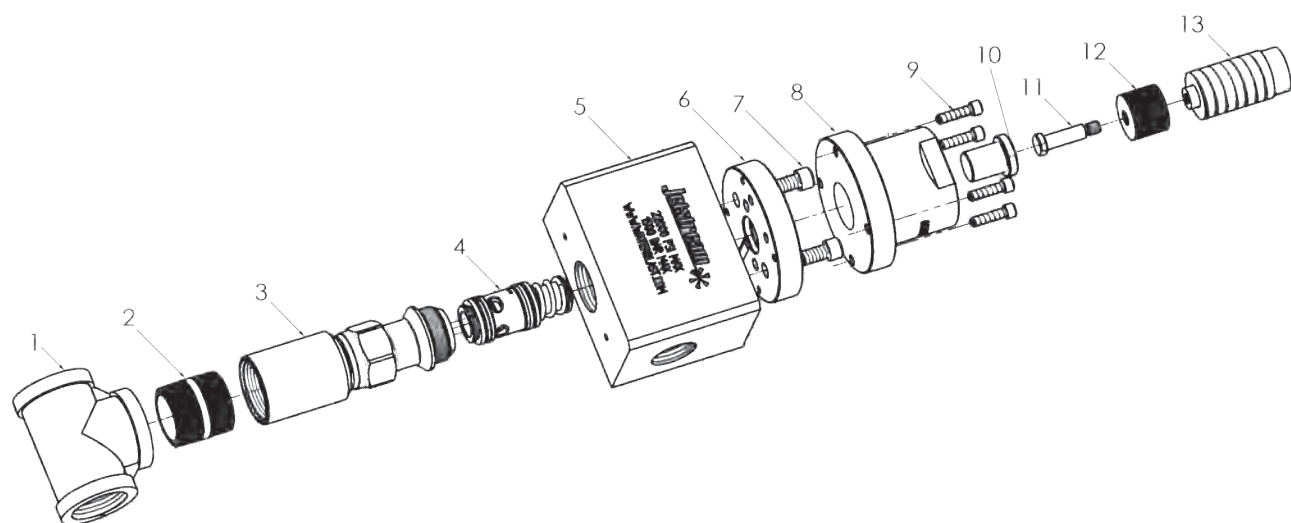
PART NO.	STYLE	CONNECTION TYPE	MAX OPERATING PRESSURE		INLET HYDRAULIC PRESSURE	LENGTH	
			psi	bar		in	mm
60078	Single Acting	3/4" MP Female	22,000	1,516	500-5,000 psi	13.3	339.0
60024	Double Acting	3/4" MP Female	22,000	1,516		13.2	337.3
62025	Single Acting HI-FLOW	1" MP Female	20,000	1,379			



PART BREAKDOWN

ITEM	PART NO.	DESCRIPTION	ITEM	PART NO.	DESCRIPTION
1*	29722	Hose Barb	7	60025	Diverter Valve
2	51638	Diffuser	8	60027	Guide Spring
	53959	Diffuser, Hi-Flow	9	60026	Spring
3	52750	Cartridge	10	60075	Hyd. Adapter, Single
	53915	Cartridge, Hi-Flow		60023	Hyd. Adapter, Dual
4	59383	Body	11	26689	Capscrew
	62026	Body, Hi-Flow	12	60079	Hyd. Cylinder, Single
5	54321	Adapting Plate		60022	Hyd. Cylinder, Dual
6	27714	Capscrew			

*For Std only, Hi-Flow includes 62259 (Tee) and 57432 (Nipple).



PART BREAKDOWN (PART NO. 62025)

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	62026	Body	12	60026	Spring, Disc
6	54321	Mounting Plate	13	60079	Hydraulic Cylinder
7	27714	Capscrew			



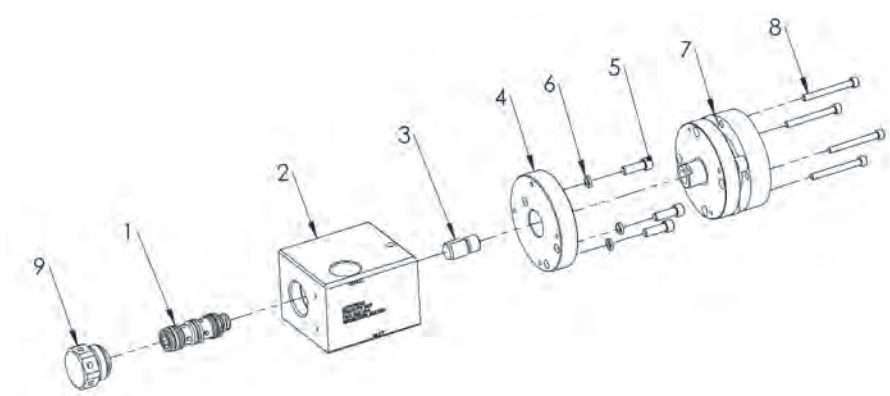
SHUT-IN STYLE DIVERTER VALVE

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.

- ▶ 30 second field replaceable cartridge design for minimal downtime
- ▶ Remote pneumatic operation for reduced operator fatigue and added convenience and safety
- ▶ Specially designed inlet and outlet connections are superior to industry standard connections and use a replaceable seal rather than metal to metal contact
- ▶ Heavy duty air cylinder
- ▶ All pressure-bearing components are stainless steel
- ▶ Available with or without plated steel base
- ▶ Valve operates at air pressures between 70-125 psi (4.8-8.6 bar)

ASSEMBLY PART NO.	MOUNTING STYLE	CONNECTION TYPE		MAXIMUM FLOW RATE	MAX. OPERATING PRESSURE			INLET AIR PRESSURE			
		INLET	OUTLET					MIN.		MAX.	
J55868	Pump	20K Port Female		gpm	psi	bar	psi	bar	psi	bar	
J55870	Base			30-35	20,000	1,379	70	4.8	125	8.6	



REPLACEMENT CARTRIDGE



20,000 psi Shut-in Style Diverter Valves utilize the CPSi-20 cartridge, shown above, to completely rebuild the gun in about 30 seconds! **Part No. 60420**

PART BREAKDOWN

ITEM	PART NO.	DESCRIPTION	ITEM	PART NO.	DESCRIPTION
1	60420	Cartridge	7	27251	2" Air Cylinder
2	54392	Body	8	27107	Capscrew
3	56999	Pusher Air Cylinder	9	52543	Plug Assy
4	J56366	Adapter Plates	10*	53788	Spacer Block (J55870)
5	25206	Capscrew	11*	53384	Base Plate (J55870)
6	J70633	Washer	12*	26126	Capscrew (J55870)

*Not shown.



BASE MOUNTED
Part No. 52685



PUMP MOUNTED Part No. 54592
5220 SERIES PUMP SIDE-MOUNTED
Part No. 67393

BYPASS VALVE

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 electric units due to the non-adjustability of motor speed.

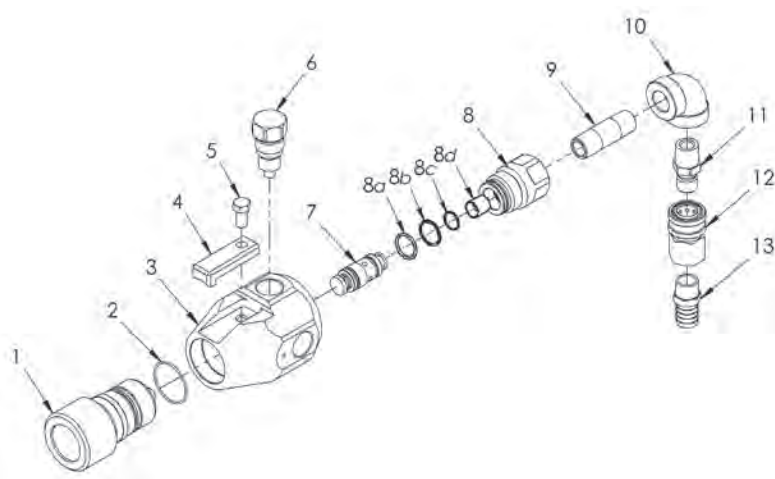
- ▶ Two minute field-replaceable cartridge design for minimal downtime.
- ▶ Hand adjustment—no wrench needed.
- ▶ Pump mount model connects to fluid end manifold.
- ▶ Base mount model connects in-line downstream and includes a protective cage and a pressure gauge for remote adjustment.
- ▶ All pressure-bearing components precision machined from stainless steel.
- ▶ Specially designed inlet connections are superior to industry standard connections and use a replaceable seal rather than metal to metal contact.

PART NO.	MOUNTING STYLE	PRESSURE GAUGE INCLUDED	INLET CONNECTIONS*	LOW PRESSURE OUTLET CONNECTION	DIMENSIONS				WEIGHT		MAX. OPERATING PRESSURE	
					LENGTH		DIAMETER					
					in	mm	in	mm	lbs	kg	psi	bar
54592	Pump	No	20K Port Female	1/2" NPTF	10.0	254	4.5	114	11	5	20,000	1,379
52685	Base	Yes	20K Port Female	1/2" NPTF	10.0	254	4.5	79	28	12	20,000	1,379
67393**	Pump - Side	No	HF Port	1/2" NPTF	10.0	254	4.5	114	11	5	20,000	1,379

*See details on all connection types in Section I.

**5220 series pumps only.

PART BREAKDOWN



REPLACEMENT CARTRIDGE



The bypass valve utilizes a cartridge to completely rebuild the valve in about 30 seconds.
Part No. 52255

ITEM	PART NO.	DESCRIPTION
1	52144	Adjuster
2	25603	O-Ring, Adjuster*
3	54584	Body
4	50795	Arm Adjuster
5	25593	Capscrew
6	52076	Port Plug
7	52255	Cartridge
8	54593	Outlet Adapter
8a	25229	O-Ring
8b	54591	Backup Ring
8c	26782	O-Ring
8d	52201	Diffuser
9	71495	Nipple
10	71496	Elbow
11	70173	Nipple, Quick Disconnect
12	70174	Coupler
13	27350	Hose Barb
14**	52497	Pressure Gauge (52685)
15**	52486	Base Assy (52685)
16**	25700	Capscrew (52685)

*Included on adjuster. ** Not shown.



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.

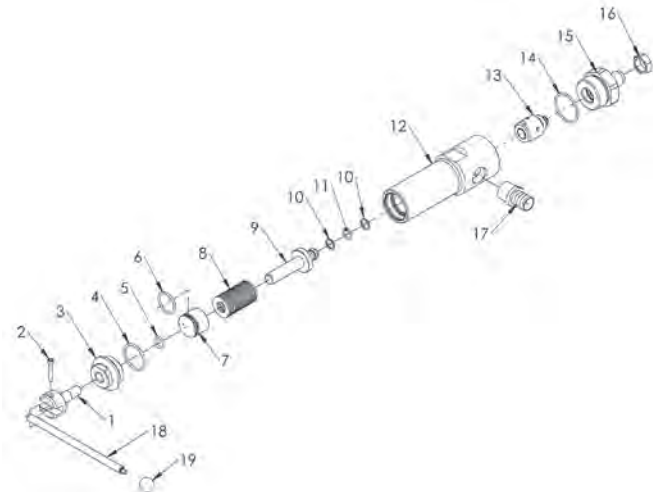
- ▶ Two minute field-repairable cartridge design for minimal downtime
- ▶ Hand Adjustment—no wrench needed
- ▶ Specially designed inlet connections are superior to industry standard connections and use a replaceable seal rather than metal to metal contact

REPLACEMENT CARTRIDGE



Regulator valve utilizes a cartridge, to completely rebuild the valve in about 30 seconds.
Part No. 55540

PART NO.	STYLE	CONNECTION TYPE	MAX OPERATING PRESSURE		LENGTH	
			psi	bar	in	mm
55520	Long Handle	1" MP Male	20,000	1,379	15.9	403.8
55570	Long Handle	20K Port Male	20,000	1,379	14.7	373.3

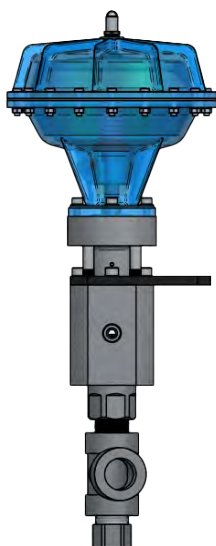


PART BREAKDOWN



ITEM	PART NO.	DESCRIPTION	ITEM	PART NO.	DESCRIPTION
1	55524	Adjuster	12	55521	Body
2	27680	Capscrew	13	55540	Cartridge
3	55523	End Cap	14	26416	O-Ring
4	25165	O-Ring	15	55517	Base (55520)
5	25212	O-Ring		55567	Base (55570)
6	25125	O-Ring	16	21929	Jam Nut
7	55522	Pusher, Spring	17	29722	Hose Barb
8	70127	Spring Disc*	18	55531	Handle
9	55519	Plunger	19	70130	Knob, Handle
10	70125	Backup Ring	20**	51929	Nut (55570)
11	25740	O-Ring			

*Sold individually **Not shown.



22K AIR-OPERATED REGULATOR

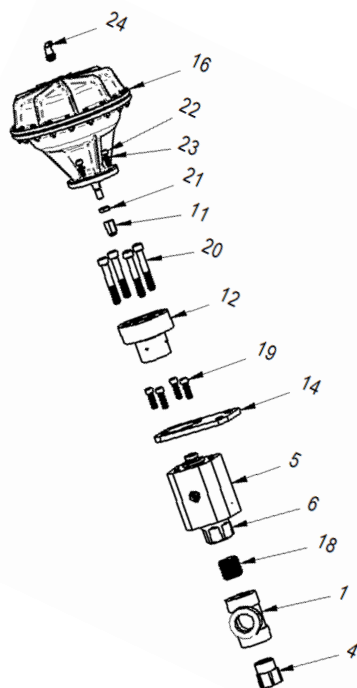
The 22K Air-Operated Regulator maintains constant system pressure when operating one or more guns or tools in a shut-in system.

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.

PART NO.	STYLE	CONNECTION TYPE	MAX OPERATING PRESSURE		LENGTH	
			psi	bar	in	mm
67158	Air-Operated	3/4" MP AE Female	22,000	1,517	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 automatically reduces the engine to idle speed and relieves 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)		HOSE CONNECTION THREAD	DIAMETER		WEIGHT		MAX. OPERATING PRESSURE	
		in	mm		in	mm	lbs	kg	psi	bar
ELECTRONIC	J56372	7.2	182	9/16" JS Lance Male	1.75	44.5	1.6	0.7	20,000	1,379

REPLACEMENT CARTRIDGE



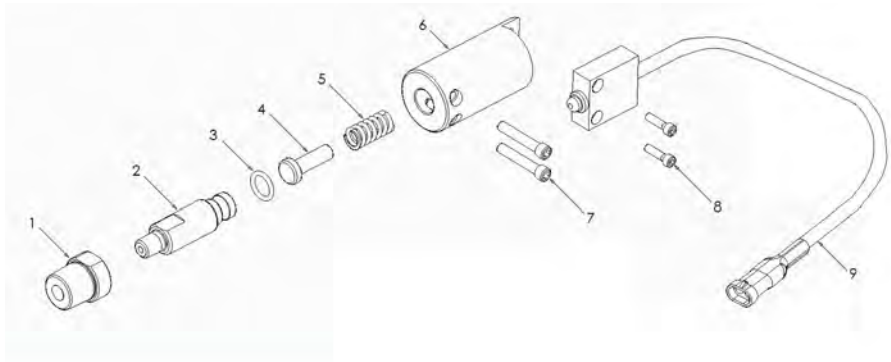
Hydro-Throttle utilizes a cartridge, to completely rebuild in about 30 seconds.
Part No. 51963

RELATED ITEMS

53816-00640671
Hose (Required)

54570
Kit includes: adapter and cartridge

For other connection types, see Section E, Fittings.



PART BREAKDOWN

ITEM	PART NO.	DESCRIPTION	ITEM	PART NO.	DESCRIPTION
1	57043	Reducer Bushing	7	53447	Capscrew
2	51963	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)
6	53443	Body			



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

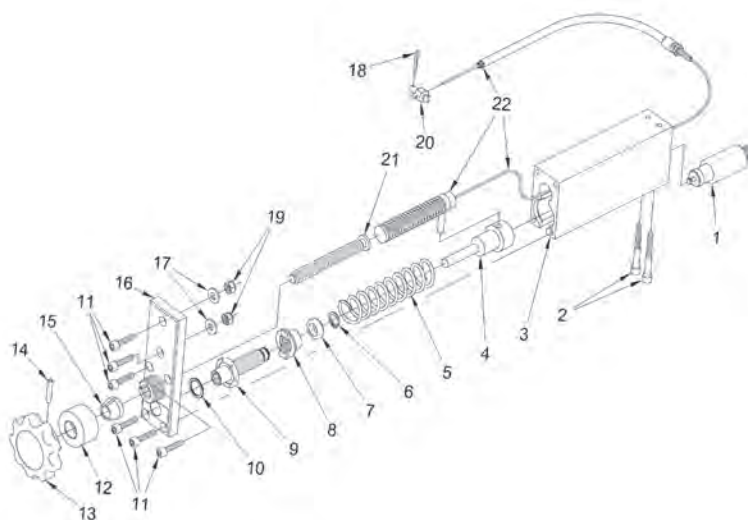
TYPE	PART NO.	CONTROL CABLE LENGTH		HOSE CONNECTION THREAD	CONTROL UNIT SIZE (L X W X H)		WEIGHT		MAX. OPERATING PRESSURE	
		ft	m		in	mm	lbs	kg	psi	bar
MECHANICAL	52050	2	0.6	9/16" JS Lance Male	11.7 x 1.75 x 5.6	297 x 44.5 x 142	4	1.8	20,000	1,379
	52050A	5	1.5							

REPLACEMENT CARTRIDGE



Hydro-Throttle utilizes a cartridge, to completely rebuild in about 30 seconds.

Part No. 51963



PART BREAKDOWN

ITEM	PART NO.	DESCRIPTION	ITEM	PART NO.	DESCRIPTION
1	51963	Cartridge	12	51887	Friction Adjustment 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	51822	Spring Retainer	16	51908	Face Plate
5	26682	Return Spring	17	25247	Washer
6	54293	Retaining Spring	18	26468	Cotter Pin
7	54272	Adjuster Stop Ring	19	25314	Nut
8	54269	Pressure Adjustment Nut	20	26728	Pivot Terminal
9	54268	Pressure Adjustment Screw	21	51885	Adjustment Screw
10	54271	Thrust Washer	22	51903A	5' (1.5m) Ctrl Cable
11	26689	Capscrew		51903	2' (0.6m) Ctrl Cable

REPLACEMENT PARTS

51963 Cartridge

51903 Control Cable,
2 ft. solid wire

51903A Control Cable,
5 ft. braided wire

55256 Kit includes: adapter,
cartridge and hose



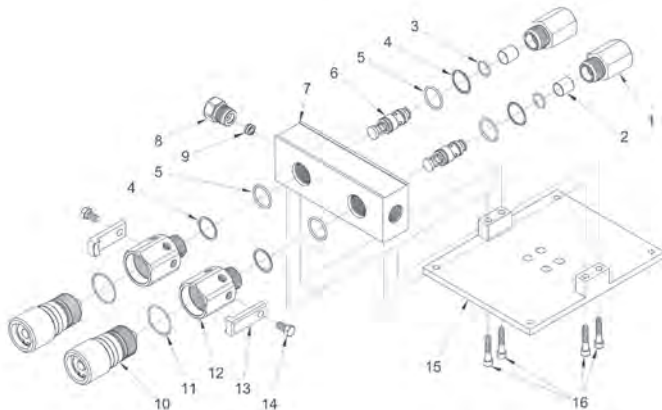
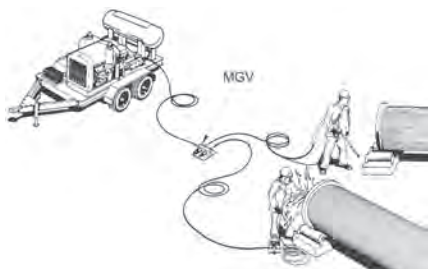
MULTI-GUN VALVE (MGV)

The Multi-Gun Valve (MGV) 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. The maximum flow through the MGV is 25 gpm (95 lpm).

- ▶ Setup using two hand adjustment dials is fast and simple.
- ▶ Utilizes two valve cartridges that can be easily replaced to completely rebuild the valve in the field in only three minutes.
- ▶ All pressure-bearing components are stainless steel.
- ▶ Zinc-plated base for corrosion resistance.
- ▶ Specially designed inlet and outlet connections are superior to industry standard connections and use a replaceable seal rather than metal to metal contact.
- ▶ 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 & OUTLET CONNECTIONS*	OUTLET (GAUGE) CONNECTIONS*	DIMENSIONS						WEIGHT		MAX. OPERATING PRESSURE	
			(GUN) CONNECTIONS*		WIDTH (W)		DEPTH (D)					
			in	mm	in	mm	in	mm	lbs	kg	psi	bar
52190	20K Port Female	20K Port Female	4.3	109	8.0	203	10.8	275	29	13	20,000	1,379
J55800	3/4" MP Female	3/4" MP Female	4.3	109	8.0	203	10.8	275	29	13	20,000	1,379

*See details on all connection types in Section I.



PART BREAKDOWN

REPLACEMENT CARTRIDGE



MGV utilizes a cartridge to completely rebuild the valve in about 30 seconds.
Part No. 52255

ITEM	PART NO.	DESCRIPTION	ITEM	PART NO.	DESCRIPTION
1	52202	Outlet Adapter	8	52076	Plug
	J55802	Outlet Adapter (J55800)		J28383	Plug (J55800)
2	52201	Diffuser	9	52040	20K Seal
3	26782	O-Ring	10	50900	Adjuster
4	52348	Backup Ring	11	25603	O-Ring
5	26776	O-Ring	12	52221	Adjuster Adapter
6	52255	Cartridge	13	50795	Locking Arm
7	52206	Manifold	14	25593	Capscrew
	J55801	Manifold (J55800)	15	50811	Base
			16	25700	Capscrew



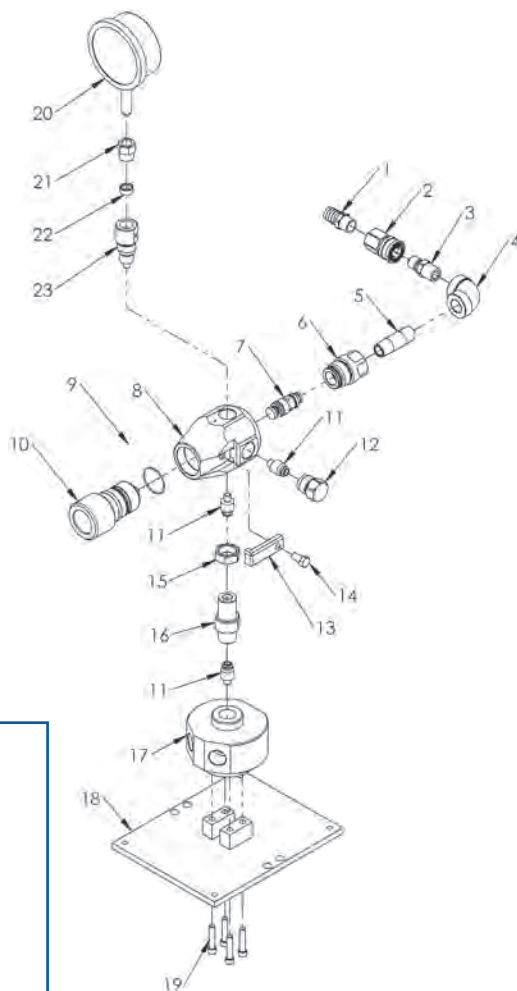
MULTI-UNIT MANIFOLD (MUM)

The Multi-Unit Manifold, or MUM, was designed to provide large flows through the utilization of two waterblaster pumps to one end source. The MUM provides a single device joining the water flows created through the use of two waterblasting systems while pump pressure is stabilized.

- ▶ One complete system including the bypass Valve and pressure gauge
- ▶ Ease of maintenance through a cartridge change on the bypass valve
- ▶ Specially designed inlet and outlet connections are superior to industry standard connections and use a replaceable seal rather than metal to metal contact

PART NO.	INLET & OUTLET CONNECTIONS*	OUTLET	OUTLET (GAUGE) CONNECTIONS*	DIMENSIONS				MAX. OPERATING PRESSURE	
				WIDTH (W)	DEPTH (D)			psi	bar
				in	mm	in	mm		
57164	3/4" MP Female	1/2" MP Female	20K Port Female	8	203.2	10	254	20,000	1,379

*See details on all connection types in Section I.



PART BREAKDOWN

ITEM	PART NO.	DESCRIPTION
1	27350	Hose Barb
2	70174	Coupler, 1/2" NPT
3	70173	Nipple, 1/2" NPT
4	71496	Elbow
5	71495	Nipple
6	54593	Outlet Adapter
7	52255	Cartridge
8	54584	Body-Bypass
9	25603*	O-Ring, Adapter
10	52144	Adjuster
11	52040	Seal
12	51918	Port Plug
13	50795	Adjuster, Arm
14	25593	Capscrew, Bypass
15	51929	Nut, Jam
16	52209	Adapter Assy
17	57157	Y-Fitting
18	55304	Base
19	25700	Capscrew, Base
20	25037	Pressure Gauge
21	26645	Gland
22	26635	Collar
23	52044	Adapter Assy

*Included in 52144 Adjuster.

REPLACEMENT CARTRIDGE



MUM utilizes a cartridge to completely rebuild the valve in about 30 seconds.

Part No. 52255

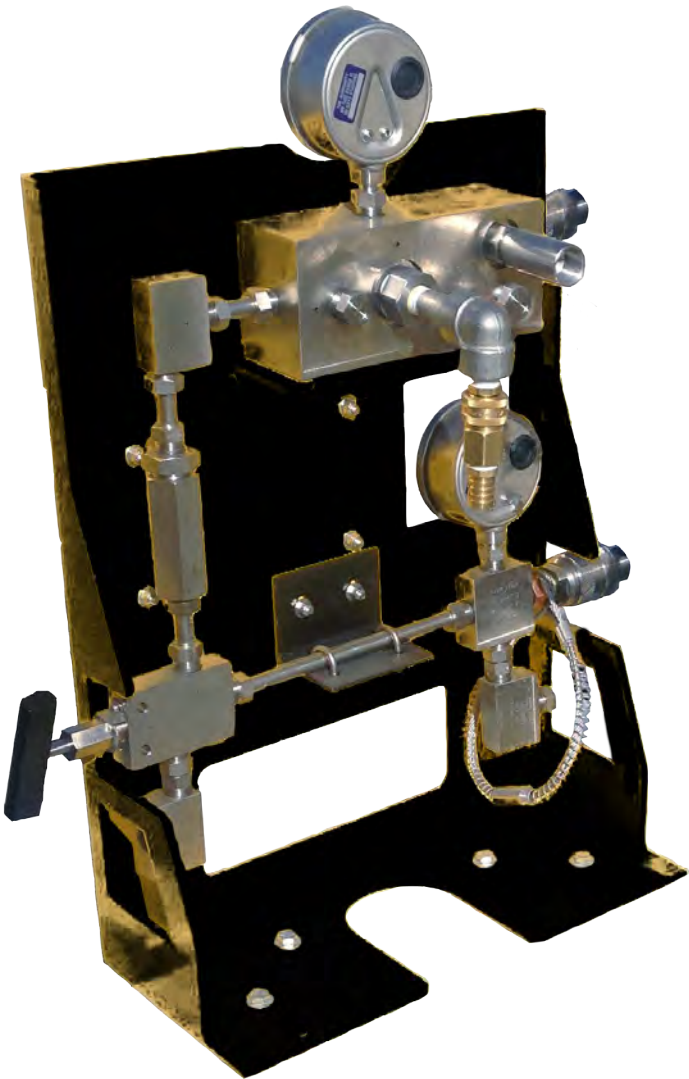
HYDROSTATIC TEST VALVE (HTV)

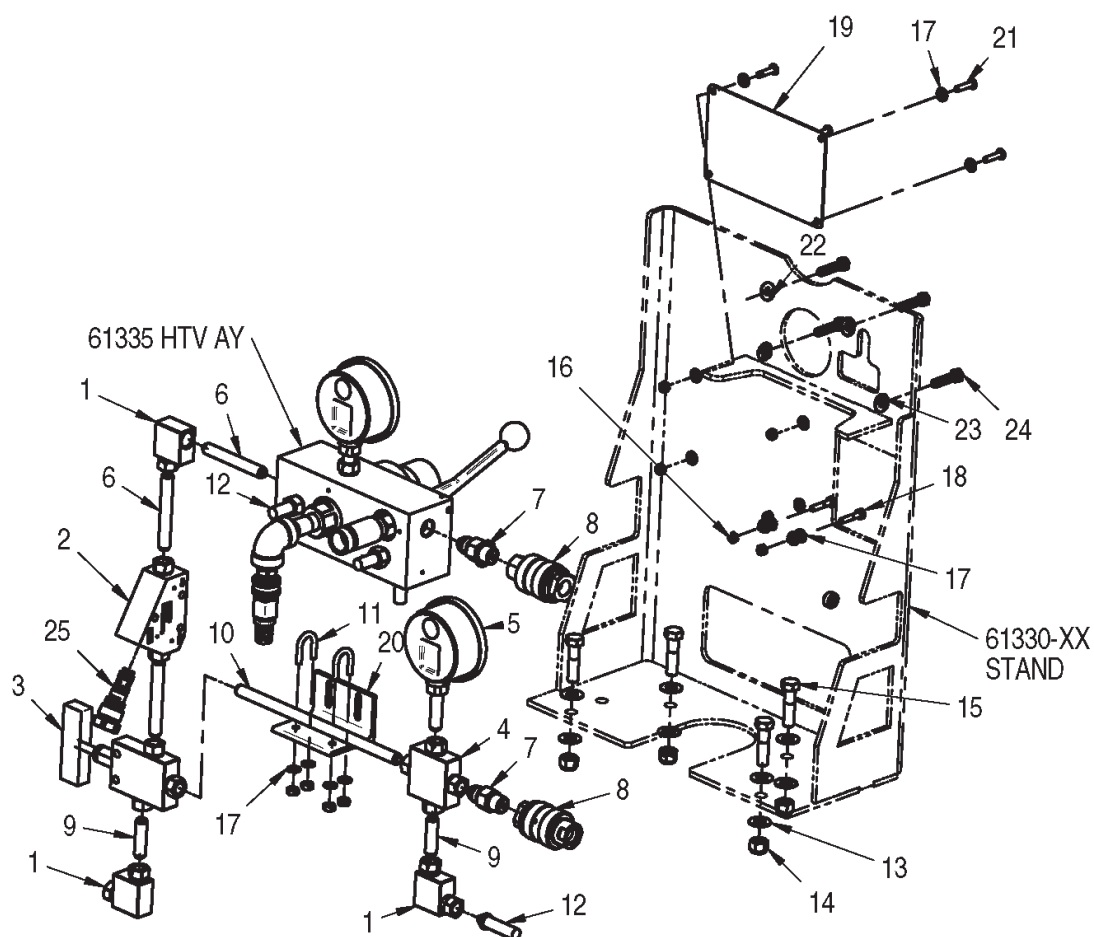
The Jetstream Hydrostatic Test Valve (HTV) is used for the pressure testing of pipes or other vessels. This valve allows one operator to control the filling, pressurizing and pressure bleeding from a central location. Included in this valve is the hand lever, which eliminates the need to “feather” the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

- ▶ Two-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

PART NO.*	INLET CONNECTION**	OUTLET (TEST DEVICE) CONNECTION**	OUTLET (CHART RECORDER) CONNECTION**	OUTLET (BLEED BACK TANK) CONNECTION*	WEIGHT		MAX. OPERATING PRESSURE	
					lbs	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	1,379

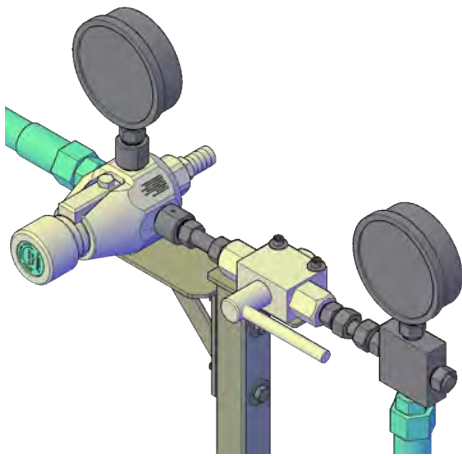
* The HTV is available in several paint colors, which are specified using a two digit code in the part number. 61376-01 is yellow, 61376-02 is blue, and 61376-08 is black.
**See details on all connection types in Section I.





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

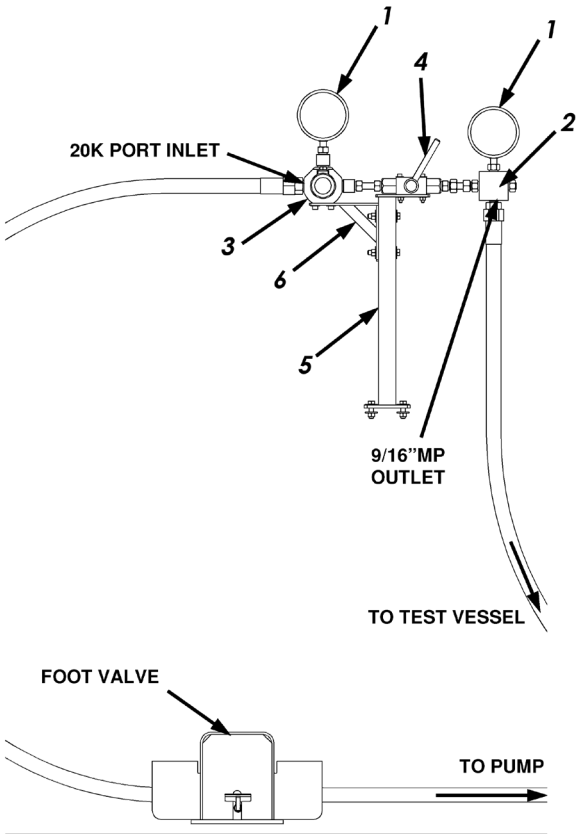
PART NO.*	INLET CONNECTION**	OUTLET (TEST DEVICE) CONNECTION**	OUTLET (CHART RECORDER) CONNECTION**	WEIGHT		MAX. OPERATING PRESSURE	
				lbs	kg	psi	bar
57169	20K Port	9/16" MP Female	9/16" MP Female	50	22.7	20,000	1,379

**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.





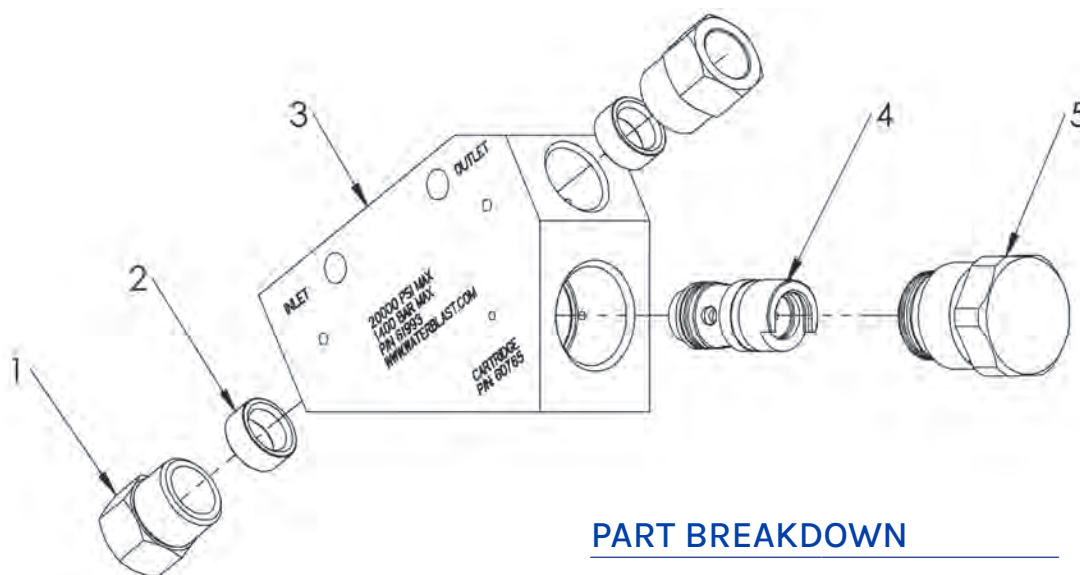
20K CHECK VALVE

The 20K Check Valve was 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 NO.	INLET & OUTLET CONNECTIONS*	LENGTH		WEIGHT		MAX. OPERATING PRESSURE		MAX FLOW	
		in	mm	lbs	kg	psi	bar	gpm	lpm
61993	9/16" Female MP	4	101.6	3.8	1.7	20,000	1,379	10-15	38-57

*See details on all connection types in Section I.



REPLACEMENT CARTRIDGE



The check valve utilizes a cartridge, to completely rebuild in about 30 seconds.
Part No. 60765

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

NOZZLE SHUT-OFF VALVE (NSOV)

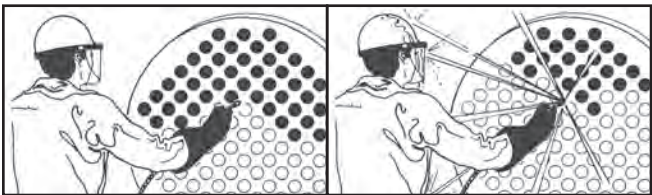


The Nozzle Shut Off Valve (NSOV) is designed for use with dump style foot guns. The Nozzle Shut Off Valve completely stops all water flow to the cleaning nozzle in a waterblast operation while the foot valve is in its dump mode.

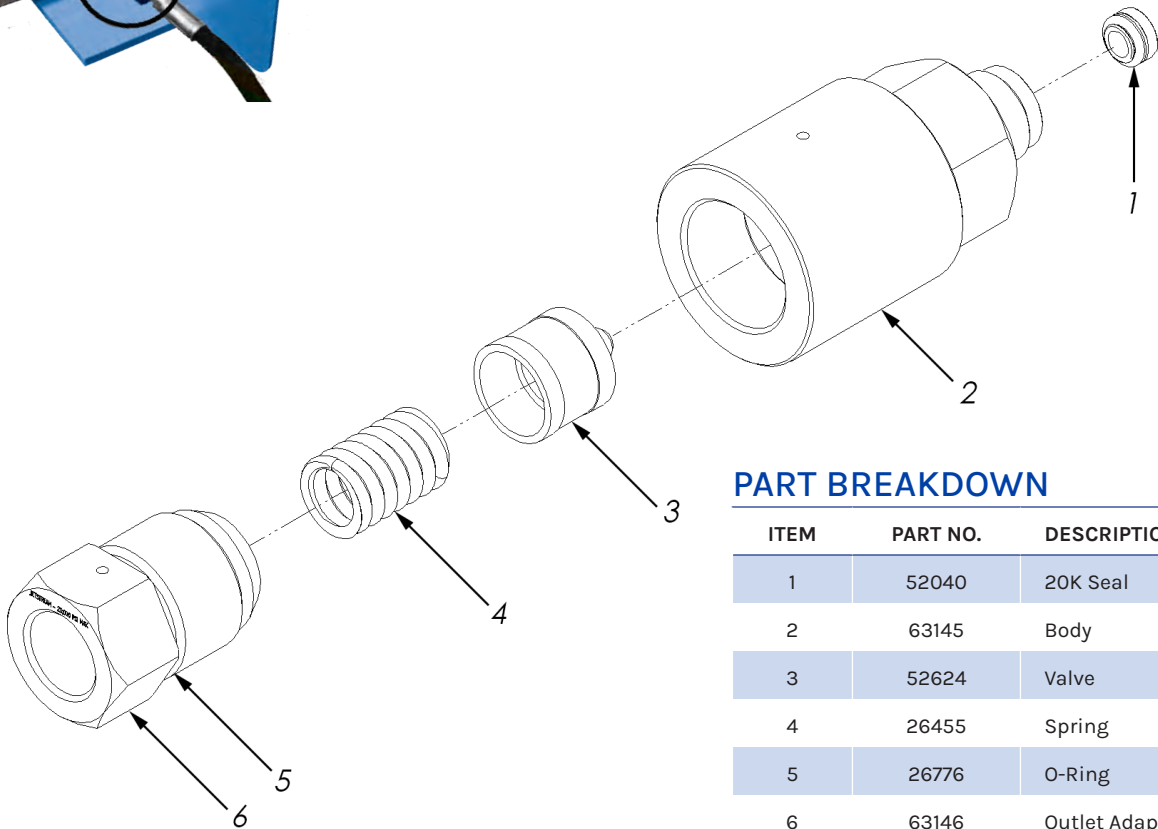
- ▶ Allows the operator to freely move the nozzle without impairment of vision caused by spray back (shown below).
- ▶ Opens fully for unimpeded flow to the nozzle when blasting.
- ▶ Mounts between lance and foot gun (shown at right).
- ▶ All pressure-bearing components precision machined from stainless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

PART NO.	INLET CONNECTION*	OUTLET CONNECTION*	DIMENSIONS				WEIGHT		MAX. OPERATING PRESSURE	
			LENGTH		DIAMETER					
			in	mm	in	mm	lbs	kg	psi	bar
63143	20K Port Male	20K Port Female	4.25	108	1.75	44.5	2	1	20,000	1,379

* See details on all connection types in Section I.



WITH NSOV INSTALLED WITHOUT NSOV INSTALLED



PART BREAKDOWN

ITEM	PART NO.	DESCRIPTION
1	52040	20K Seal
2	63145	Body
3	52624	Valve
4	26455	Spring
5	26776	O-Ring
6	63146	Outlet Adapter

STANDARD FILTERS

Available for a range of flows to meet all needs, Jetstream filters provide the necessary protection to even the most versatile waterblast system. The severe condition of 20,000 psi pumps require a higher degree of protection, and it is recommended that water is filtered to 10 microns by a primary filter and then by a secondary 1 micron filter before entering the pump.



GUARDIAN SYSTEM
Part No. 58368



Part No. 70968



Part No. 61607



Part No. 60740

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
58368	1 ½" / 3" / 2" NPT	-	-	18 5/16" deep x 47 5/8" wide x 50" tall				185	83.9	100	6.8
61607	1 ½" NPT	40	150	4.0	102	20	510	7.5	3.4	150	10
70968	2" NPT	200	750	8.5	216	36	910	40	18	150	10
60740*	2" NPT	200	750	8.63	219	47.2	1199	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
58368	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	-	-

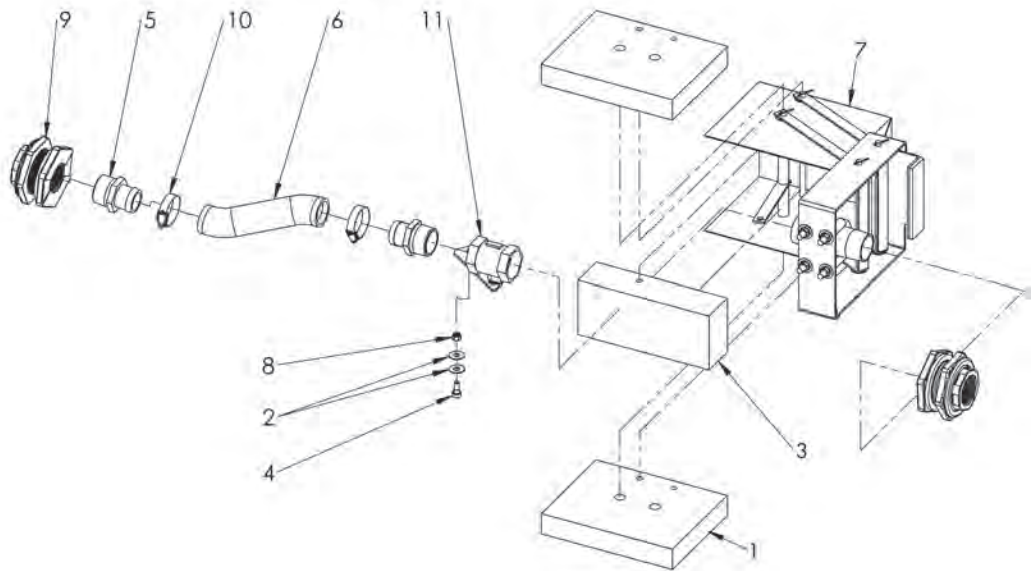
*For use with the 6000 Series units.

RELATED ITEMS

58414	Retrofit Float Assy for non-Guardian Water Tanks
28519	Low Water Level Switch
28480MOD	Float Valve Modified (plastic floats)
57888	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



PART BREAKDOWN

ITEM	PART NO.	DESCRIPTION	ITEM	PART NO.	DESCRIPTION
1	57853	Float Segment	7	58305	Frame
2	71202	Washer	8	27698	Nut
3	58044	Float Segment	9	29374	Fitting, Bulkhead
4	57856	Screw, Shldr	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 GAUGE

- ▶ 4" high visibility face with laminated safety glass dial cover
- ▶ Glycerin-filled for protection against pulsation and vibration
- ▶ Blow-out back panel pressure relief in the event of Bourdon tube failure for maximum safety
- ▶ Pointer zero adjustment

PART NO.	GAUGE TYPE	INLET CONNECTION	RANGE (PSI)	MAX. WORKING PRESSURE	
				psi	bar
52497	psi	20K Port Male	0-35,000	20,000	1,379
52498*	psi	9/16" MP Male	0-35,000	20,000	1,379
61627**	psi	20K Port Male	0-35,000	20,000	1,379

*Anti-vibration gland set not included. **Certified & Calibrated



RUPTURE DISC HOLDERS

For protection from dangerous over-pressurization, rupture discs function in a waterblast system similar to the function of fuses in an electrical circuit. When the system pressure exceeds that of the burst disc, the disc fails 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 device
- Tamper-resistant design
- Discs are quickly and easily replaceable

NOTE: Burst disc not included with assembly.

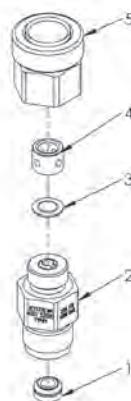
PART NO.	CONNECTION TYPE	OVERALL LENGTH		DISC BLOW OUT DIAMETER		FLATS		MAX. WORKING PRESSURE	
		in	mm	in	mm	in	mm	psi	bar
51890	9/16" MP Male	3.16	80.3	.40	10.2	1.25	31.8	20,000	1,379
52035	Jetstream 20K Port Male	3.03	77.0	.40	10.2	1.25	31.8	20,000	1,379



PART NO. 51890



PART NO. 52035



PART BREAKDOWN

ITEM	PART NO.	DESCRIPTION
1	52040	Seal Assy
2	52043	Base for 52035
	51774	Base for 51890
3	See chart	Burst Disc
4	51773	Ring
5	51772	Cap

BURST DISCS

DISC SELECTION

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

Example: For operating pressure of 20,000 psi, desired burst pressure is $20,000 \times 1.2 = 24,000$ psi. Select 24,000 psi Burst Disc, Part No. 51838.

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

Example: For operating pressure of 20,000 psi, desired burst pressure is $20,000 \times 1.4 = 28,000$ psi. Select 27,000 psi Burst Disc, Part No. 51837 or 29,000 psi Burst Disc, Part No. 51836.

PART NO.	BURST DISC PRESSURE	
	psi	bar
51838	24,000	1,655
51837	27,000	1,861
51836	29,000	2,000
54328	18,000	1,241





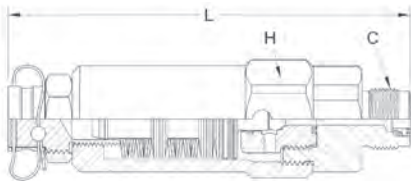
SEVERE SERVICE RELIEF VALVE

For use as a primary relief device to protect waterblast systems and operators from dangerous over-pressurization, 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.

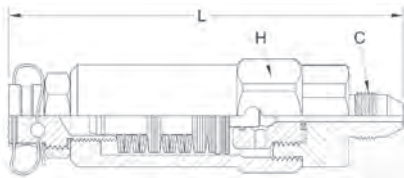
- ▶ Designed for rigorous service and low maintenance.
- ▶ Valve constructed with carbide ball and hardened stainless steel seat for long service life.
- ▶ Precise machining and cartridge design of ball-seat valve assembly and spring assembly allows quick and simple field repair without disturbing the valve pressure setting.
- ▶ Shipped from the factory preset and tested at customer specified opening (relief) pressure.
- ▶ 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* (C)	OVERALL LENGTH (L)		FLOW DIAMETER		MAX. RELIEF PRESSURE (FACTORY SET)		MAX. WORKING PRESSURE	
		in	mm	in	mm	psi	bar	psi	bar
50131	9/16" Medium Pressure Male	6.75	171.5	.203	5.2	24,000	1,655	20,000	1,379
52030	Jetstream 20K Port Male	6.62	168.1	.203	5.2	24,000	1,655	20,000	1,379

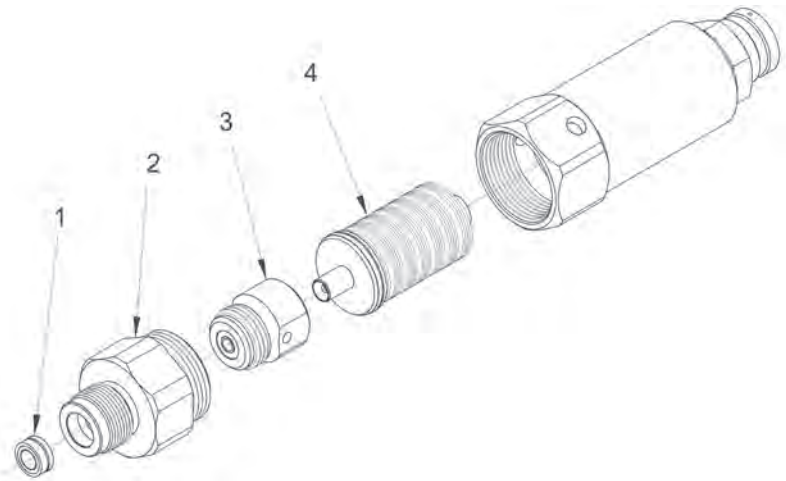
* See details on all connection types in Section I.



PART NO. 52030



PART NO. 50131



PART BREAKDOWN

ITEM	PART NO.	DESCRIPTION
1	52040	Seal Assy
2	50148	Base, 9/16" Medium Pressure Male
	52042	Base, Jetstream 20K Male Port
3	50133	Ball-Seat Cartridge Assy
4	50134	Spring Cartridge Assy





Thermoplastic
Hoses & Flex Lances



Rigid
Lances

HOSES & LANCES

Jetstream provides a full arrangement of hoses and flex lances for ultra high pressure waterblasting. The hoses and lances are designed to be durable and reliable for any 20,000 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 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. As an added safety benefit, all supply hoses with the abrasion cover spiral will be colored blue. All flex lances supplied will be blue from end to end.

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 minimal bend radius.

HOW TO ORDER JETSTREAM HOSES & FLEX LANCES 28347-AAABBCCX

1	Specify Series Number Insert dash after Series Number.	28347
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	X



THERMOPLASTIC HOSES

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

- ▶ Constructed of a plastic core reinforced by four or six spiral layers of high tensile steel wire enclosed in a tough, flexible polyamide jacket.
- ▶ Smooth plastic core minimizes pressure loss and offers the maximum resistance to damage caused by aging, moisture absorption, and changing environmental factors.
- ▶ Stainless steel end fittings with industry standard connections.
- ▶ For special lengths, end fittings, or cover options, see custom order instructions on page D-4.
- ▶ See pages D-8-D-10 for pressure drop graphs.

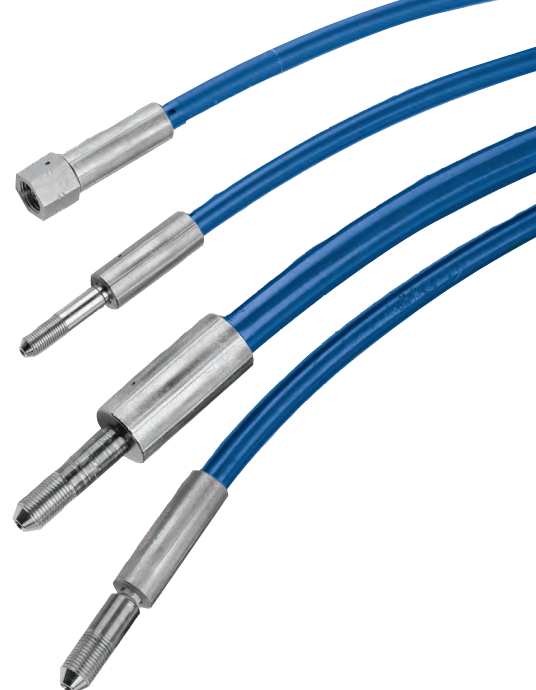
NOMINAL HOSE I.D.		PART NO.	END FITTING CONNECTIONS*	LENGTH		INSIDE DIAMETER		MAX. OPERATING PRESSURE		MINIMUM BEND RADIUS	
in	mm			ft	mm	in	mm	psi	bar	in	mm
3/4"	20	29120-02544441	1-5/16" Type M Female	25	7.6	.74	18.8	20,300	1,400	13.8	350
		29120-05044441	1-5/16" Type M Female	50	15.2	.74	18.8	20,300	1,400	13.8	350
		29120-02530301	1" MP Tube Nipple	25	7.6	.74	18.8	20,300	1,400	13.8	350
		29120-05030301	1" MP Tube Nipple	50	15.2	.74	18.8	20,300	1,400	13.8	350
1/2"	13	28347-02542421	1" Type M Female	25	7.6	.50	12.8	20,300	1,400	8.0	200
		28347-05042421	1" Type M Female	50	15.2	.50	12.8	20,300	1,400	8.0	200
		28347-02529291	3/4" MP Tube Nipple	25	7.6	.50	12.8	20,300	1,400	8.0	200
		28347-05029291	3/4" MP Tube Nipple	50	15.2	.50	12.8	20,300	1,400	8.0	200
		28347-02528281	9/16" MP Tube Nipple	25	7.6	.50	12.8	20,300	1,400	8.0	200
		28347-05028281	9/16" MP Tube Nipple	50	15.2	.50	12.8	20,300	1,400	8.0	200
		70941-05042421	1" Type M Female	50	15.2	.50	12.8	20,400	1,406	7.8	198
13/32"	10	28690-0504040	3/4" Type M Female	50	15.2	.39	9.9	21,750	1,500	7.8	198
5/16"	8	53816-02540401	3/4" Type M Female	25	7.6	.32	8.0	21,750	1,500	8.0	200
		53816-05040401	3/4" Type M Female	50	15.2	.32	8.0	21,750	1,500	8.0	200
		53816-02528281	9/16" MP Tube Nipple	25	7.6	.32	8.0	21,750	1,500	8.0	200
		53816-05028281	9/16" MP Tube Nipple	50	15.2	.32	8.0	21,750	1,500	8.0	200
1/4"	6	51954-02539391	9/16" Type M Female	25	7.6	.25	6.3	21,750	1,500	7.0	180
		51954-05039391	9/16" Type M Female	50	15.2	.25	6.3	21,750	1,500	7.0	180

*See details on all connection types in Section I. Medium Pressure (MP) Tube Nipple connections do not include gland nuts and collars.

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.

- ▶ Flex lances have a small minimum bend radius which allows them to pass through bends in the tubes.
- ▶ Constructed of plastic core reinforced by four spiral layers of high tensile steel wire enclosed in a tough, flexible polyamide jacket.
- ▶ Smooth plastic core minimizes pressure loss and offers the maximum resistance to damage caused by aging, moisture absorption, and changing environmental factors.
- ▶ Stainless steel end fittings.
- ▶ See pages D-8-D-10 for pressure drop graphs.
- ▶ Custom lengths and end fitting combinations are available upon request.



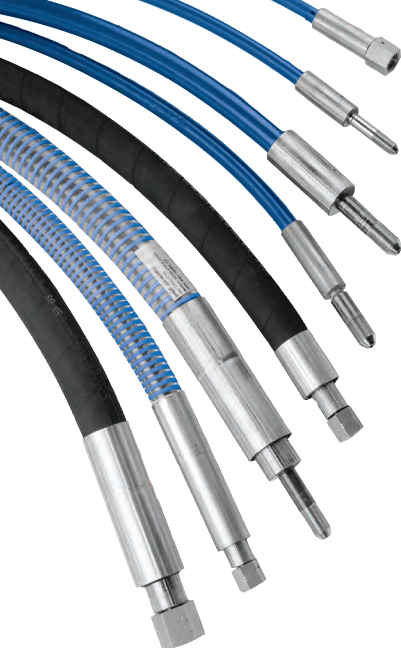
NOMINAL HOSE I.D.		PART NO.* XXX = LENGTH (FT)	END FITTING CONNECTIONS**		INSIDE DIAMETER		OUTSIDE DIAMETER***		MAX. OPERATING PRESSURE		MIN. BEND RADIUS	
in	mm		INLET SIDE	NOZZLE SIDE	in	mm	in	mm	psi	bar	in	mm
5/16"	8	28690-XXX4052	3/4" Type M Female	9/16" MP Nozzle Nipple LH	.39	9.9	.72	18.4	21,750	1,500	7.8	198
		53816-XXX4072†	3/4" Type M Female	9/16" MP Nozzle Nipple LH	.32	8.0	.67	17.0	21,750	1,500	8.0	200
		53816-XXX4075†	3/4" Type M Female	9/16" MP Nozzle Nipple RH	.32	8.0	.67	17.0	21,750	1,500	8.0	200
		53816-XXX4067	3/4" Type M Female	9/16" JS Lance Female	.32	8.0	.74	18.8	21,750	1,500	8.0	200
		53816-XXX6767	3/4" JS Lance Female	9/16" JS Lance Female	.32	8.0	.74	18.8	21,750	1,500	8.0	200
1/4"	6	51954-XXX3971†	9/16" Type M Female	3/8" MP Nozzle Nipple LH	.25	6.3	.57	14.4	21,750	1,500	7.0	180
		51954-XXX3974†	9/16" Type M Female	3/8" MP Nozzle Nipple RH	.25	6.3	.57	14.4	21,750	1,500	7.0	180
		51954-XXX3966	9/16" Type M Female	3/8" JS Lance Female	.25	6.3	.62	15.7	21,750	1,500	7.0	180
		51954-XXX6666	3/8" JS Lance Female	3/8" JS Lance Female	.25	6.3	.62	15.7	21,750	1,500	7.0	180
3/16"	5	51953-XXX3971†	9/16" Type M Female	3/8" MP Nozzle Nipple LH	.20	5.0	.49	12.5	26,100	1,800	6.0	150
		51953-XXX3974†	9/16" Type M Female	3/8" MP Nozzle Nipple RH	.20	5.0	.49	12.5	26,100	1,800	6.0	150
		51953-XXX3966	9/16" Type M Female	3/8" JS Lance Female	.20	5.0	.57	14.5	26,100	1,800	6.0	150
		51953-XXX6666	3/8" JS Lance Female	3/8" JS Lance Female	.20	5.0	.57	14.5	26,100	1,800	6.0	150
5/32"	4	51952-XXX3970†	9/16" Type M Female	1/4" MP Nozzle Nipple LH	.16	4.0	.50	12.7	31,320	2,160	5.0	130
		51952-XXX3973†	9/16" Type M Female	1/4" MP Nozzle Nipple RH	.16	4.0	.50	12.7	31,320	2,160	5.0	130
		51952-XXX3965	9/16" Type M Female	1/4" JS Lance Female	.16	4.0	.50	12.7	31,320	2,160	5.0	130
		51952-XXX6565	1/4" JS Lance Female	1/4" JS Lance Female	.16	4.0	.50	12.7	31,320	2,160	5.0	130
		66045-XXX3970†	9/16" Type M Female	1/4" MP Nozzle Nipple LH	.16	4.0	.32	8.1	20,300	1,400	2.9	75
		66045-XXX3973†	9/16" Type M Female	1/4" MP Nozzle Nipple RH	.16	4.0	.32	8.1	20,300	1,400	2.9	75
1/8"	3	28699-XXX3970†	9/16" Type M Female	1/4" MP Nozzle Nipple LH	.13	3.4	.31	8.0	29,000	2,000	4.3	110
		28699-XXX3973†	9/16" Type M Female	1/4" MP Nozzle Nipple RH	.13	3.4	.31	8.0	29,000	2,000	4.3	110

*Specify flex lance length in feet. For example, specify "050" for a fifty foot long flex lance.

**See details on end fittings for these assemblies on page D-5 and specifications for all connection types in Section I.

***Outside diameter of end fitting sleeve on nozzle end of flex lance.

†End fittings must only be used for tube cleaning operations inside the tube. They are not designed for use outside of tubes.



THERMOPLASTIC HOSES & FLEX LANCES

CUSTOM ORDER

All Jetstream 20,000 psi 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 by four or six spiral layers of high tensile steel wire enclosed in a tough, flexible polyamide jacket.
- ▶ Smooth plastic core minimizes pressure loss and offers the maximum resistance to damage caused by aging, moisture absorption, and changing environmental factors.
- ▶ Stainless steel end fittings.
- ▶ See pages D-8-D-10 for pressure drop graphs.
- ▶ Use charts and instructions below to build a custom hose or flex lance.



NOMINAL HOSE I.D.		HOSE SERIES	INSIDE DIAMETER (A)		OUTSIDE DIAMETER (B)*		BURST PRESSURE		MAX. OPERATING PRESSURE		MINIMUM BEND RADIUS		WEIGHT	
in	mm		in	mm	in	mm	psi	bar	psi	bar	in	mm	lbs/ft	kg/m
3/4"	20	29120	.74	18.8	1.24	31.4	50,760	3,500	20,300	1,400	13.8	350	1.29	1.92
1/2"	13	28347	.50	12.7	.87	22.0	50,760	3,500	20,300	1,400	8.0	200	.59	.88
1/2"	13	70941	.50	12.8	.88	22.3	50,750	3,500	20,400	1,406	7.8	200	.63	.28
5/16"	10	28690	.39	9.9	.72	18.4	55,100	3,799	21,750	1,500	7.8	200	.46	.69
5/16"	8	53816	.32	8.0	.57	14.6	55,100	3,800	21,750	1,500	8.0	200	.26	.39
1/4"	6	51954	.25	6.3	.50	12.7	55,100	3,800	21,750	1,500	7.0	180	.20	.30
3/16"	5	51953	.20	5.0	.44	11.2	65,250	4,500	26,100	1,800	6.0	150	.18	.26
5/32"	4	51952	.16	4.0	.41	10.4	78,300	5,400	31,320	2,160	5.0	130	.16	.23
5/32"	4	66045	.16	4.0	.32	8.1	50,750	3,500	20,300	1,400	2.9	75	.07	.11
1/8"	3	28699	.13	3.4	.31	8.0	72,500	5,000	29,000	2,000	4.3	110	.09	.13

*Outside diameter shown is for hose material. For maximum OD, see sleeve diameters listed in charts on the following page.

HOSE COVER OPTIONS

Abrasion Cover Guard (Code 1)



Constructed of a clear PVC or heavy-duty vinyl and reinforced with a rigid helix coil. The Abrasion Cover Guard helps protect the hose from excessive wear due to scuffing or rough surfaces, and also provides additional protection from external objects.

Burst Shield Guard (Code 2)



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

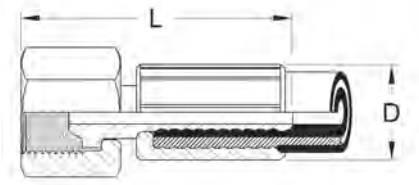
THERMOPLASTIC HOSES & FLEX LANCES

END FITTINGS

Use the information contained in the charts below to select the fitting codes for the connection types desired. See specifications for all connection types in Section I.

TYPE M FEMALE

HOSE SERIES NO.	CONNECTION	CODE	LENGTH (L)		SLEEVE OD (D)	
			in	mm	in	mm
29120	1 5/16" Type M (M-21)	44	4.29	109	1.69	42.9
28347	1" Type M (M-16)	42	3.70	94	1.16	29.5
70941	1" Type M (M-16)	42	3.70	94	1.16	29.5
53816	3/4" Type M (M-12)	40	3.37	86	.80	20.3
28690	3/4" Type M (M-12)	40	3.37	86	.80	20.3
51954	9/16" Type M (M-9)	39	2.80	71	.65	16.4
51953	9/16" Type M (M-9)	39	2.76	70	.61	15.5
51952	9/16" Type M (M-9)	39	2.77	70	.58	14.7

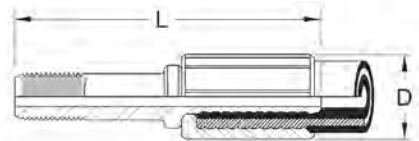


HOSES &
LANCES

MEDIUM PRESSURE MALE TUBE NIPPLES

Male left-hand threaded end fittings designed for connection to other medium pressure fittings and ports using the appropriate gland nuts and collars.

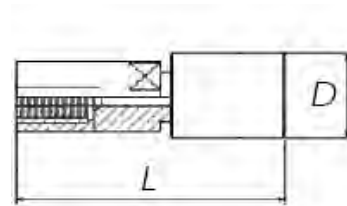
HOSE SERIES NO.	CONNECTION	CODE	LENGTH (L)		SLEEVE OD (D)	
			in	mm	in	mm
29120	1" MP Tube LH	30	6.00	152	1.69	42.9
28347	3/4" MP Tube LH	29	5.36	136	1.16	29.5
	9/16" MP Tube LH	28	4.67	119	1.16	29.5
53816	9/16" MP Tube LH	28	4.10	104	.80	20.3
51954	3/8" MP Tube LH	27	3.55	90	.65	16.4
51953	9/16" MP Tube LH	28	4.06	103	.61	15.5
	3/8" MP Tube LH	27	3.54	90	.61	15.5
	1/4" MP Tube LH	26	3.27	83	.61	15.5
51952	3/8" MP Tube LH	27	3.62	92	.58	14.7
	1/4" MP Tube LH	26	3.31	84	.58	14.7
28690	9/16" MP Tube LH	72	4.06	103	.61	15.5
28699 †	9/16" MP Tube LH	70	4.06	103	.61	15.5



† End fittings must only be used for tube cleaning operation inside the tube. They are not designed for use outside of tubes.

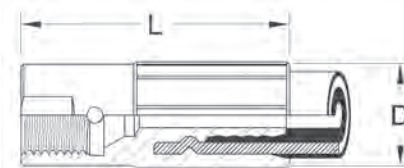
MEDIUM PRESSURE FEMALE

HOSE SERIES NO.	CONNECTION	CODE		LENGTH (L)		SLEEVE OD (D)	
		LH	RH	in	mm	in	mm
51952	1/4" MP	76	79	1.74	45	.49	12.4
51953	1/4" MP	76	79	1.74	45	.49	12.4
	3/8" MP	77	80	1.97	50	.57	14.5
51954	3/8" MP	77	80	1.97	50	.57	14.5
53816	9/16" MP	78	81	2.32	59	.67	17.0



JETSTREAM LANCE FEMALE

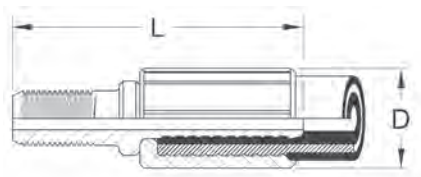
HOSE SERIES NO.	CONNECTION	CODE	LENGTH (L)		SLEEVE OD (D)	
			in	mm	in	mm
53816	9/16" JS Lance Female	67	2.06	52	.74	18.8
51954	3/8" JS Lance Female	66	1.72	44	.62	15.7
51953	3/8" JS Lance Female	66	1.70	43	.57	14.5
51952	1/4" JS Lance Female	65	1.50	38	.50	12.7



MEDIUM PRESSURE NOZZLE NIPPLES†

Connect directly to nozzles with female left or right hand medium pressure tube connections.

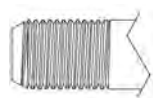
HOSE SERIES NO.	SIZE	CODE		LENGTH (L)		SLEEVE OD (D)	
		LH	RH	in	mm	in	mm
53816	9/16" MP Tube	72	75	2.36	60	.67	17.0
51954	3/8" MP Tube	71	74	2.10	53	.57	14.4
51953	3/8" MP Tube	71	74	2.05	52	.49	12.5
	1/4" MP Tube	70	73	1.82	46	.49	12.5
51952	1/4" MP Tube	70	73	1.82	46	.45	11.4



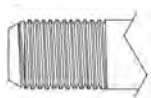
† End fittings must only be used for tube cleaning operation inside the tube. They are not designed for use outside of tubes.

RIGID LANCES

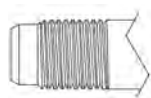
- ▶ For use in manual or automatic tube cleaning applications.
- ▶ Machined from high tensile strength, cold drawn stainless steel.
- ▶ Three connection types available:
- ▶ Left Hand Medium Pressure Tubing (MP Tube LH). Can be used with glands and collars or with tube nozzles. Available in 1/4" to 3/4" sizes.
- ▶ Right Hand Medium Pressure Tubing (MP Tube RH). Available in 1/4" to 3/4" sizes.
- ▶ Jetstream Lance Connections (JS Lance). Available in 1/4", 3/8", & 9/16" sizes.
- ▶ See pressure drop graphs on page D-11.



MP TUBE LH CONNECTION



MP TUBE RH CONNECTION



JS LANCE CONNECTION

To order, use five digit part number followed by a dash (-) and length in feet (up to 25 ft).

HOSES &
LANCES

PART NO.* XX = LENGTH (FT)	CONNECTION TYPES*		OUTSIDE DIAMETER		INSIDE DIAMETER		MAX. OPERATING PRESSURE		LENGTH	
	CONNECTION 1 (C1)	CONNECTION 2 (C2)	in	mm	in	mm	psi	bar	ft	m
54731-XX	3/4" MP Tube LH	3/4" MP Tube LH	.740	18.8	.438	11.1	20,000	1,379	25	7.62
54732-XX	3/4" MP Tube LH	3/4" MP Tube RH	.740	18.8	.438	11.1	20,000	1,379	25	7.62
54733-XX	3/4" MP Tube RH	3/4" MP Tube RH	.740	18.8	.438	11.1	20,000	1,379	25	7.62
54223-XX	9/16" MP Tube LH	9/16" MP Tube LH	.553	14.0	.312	7.9	20,000	1,379	35	10.66
54388-XX	9/16" MP Tube LH	9/16" MP Tube RH	.553	14.0	.312	7.9	20,000	1,379	35	10.66
54801-XX	9/16" MP Tube LH	9/16" JS Lance	.553	14.0	.312	7.9	20,000	1,379	35	10.66
54802-XX	9/16" MP Tube RH	9/16" MP Tube RH	.553	14.0	.312	7.9	20,000	1,379	35	10.66
54803-XX	9/16" MP Tube RH	9/16" JS Lance	.553	14.0	.312	7.9	20,000	1,379	35	10.66
51936-XX	9/16" JS Lance	9/16" JS Lance	.553	14.0	.312	7.9	20,000	1,379	35	10.66
54222-XX	3/8" MP Tube LH	3/8" MP Tube LH	.368	9.3	.203	5.2	20,000	1,379	35	10.66
54387-XX	3/8" MP Tube LH	3/8" MP Tube RH	.368	9.3	.203	5.2	20,000	1,379	35	10.66
54797-XX	3/8" MP Tube LH	3/8" JS Lance	.368	9.3	.203	5.2	20,000	1,379	35	10.66
54798-XX	3/8" MP Tube RH	3/8" MP Tube RH	.368	9.3	.203	5.2	20,000	1,379	35	10.66
54799-XX	3/8" MP Tube RH	3/8" JS Lance	.368	9.3	.203	5.2	20,000	1,379	35	10.66
51934-XX	3/8" JS Lance	3/8" JS Lance	.368	9.3	.203	5.2	20,000	1,379	35	10.66
54389-XX	1/4" MP Tube LH	1/4" MP Tube LH	.245	6.2	.109	2.8	20,000	1,379	35	10.66
54386-XX	1/4" MP Tube LH	1/4" MP Tube RH	.245	6.2	.109	2.8	20,000	1,379	35	10.66
54793-XX	1/4" MP Tube LH	1/4" JS Lance	.245	6.2	.109	2.8	20,000	1,379	35	10.66
54794-XX	1/4" MP Tube RH	1/4" MP Tube RH	.245	6.2	.109	2.8	20,000	1,379	35	10.66
54796-XX	1/4" MP Tube RH	1/4" JS Lance	.245	6.2	.109	2.8	20,000	1,379	35	10.66
51933-XX	1/4" JS Lance	1/4" JS Lance	.245	6.2	.109	2.8	20,000	1,379	35	10.66

*See details on all connection types in Section I.

PRESSURE DROP DATA

The charts shown 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 such as Series 51952 & 51953, the flow rate that can be used is determined by pressure drop through a lance rather than the pump's maximum output.

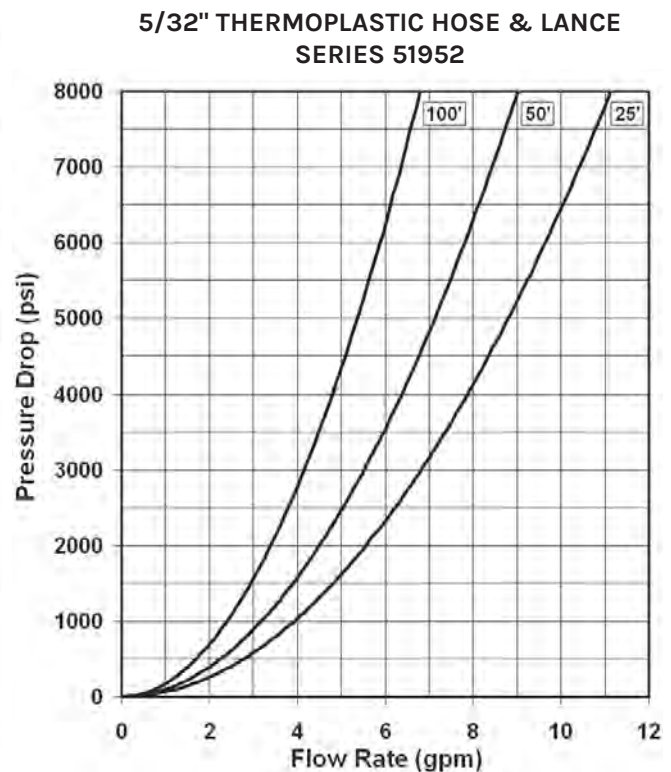
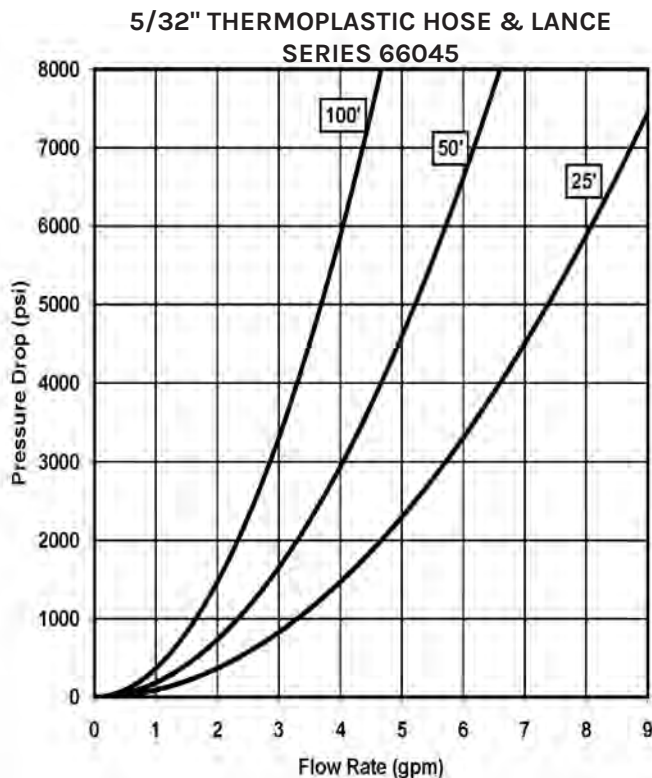
PRESSURE DROP & NOZZLE SIZING

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 desired pressure drop.
2. Consult pressure drop chart for the hose to be used to determine what flow rate will result in the intended pressure drop.
3. 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.
4. 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.

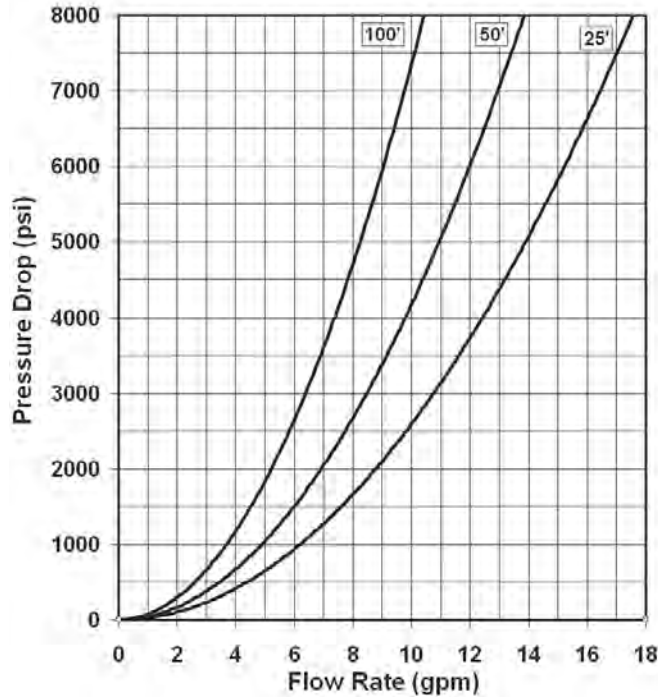
HOSES & FLEX LANCES



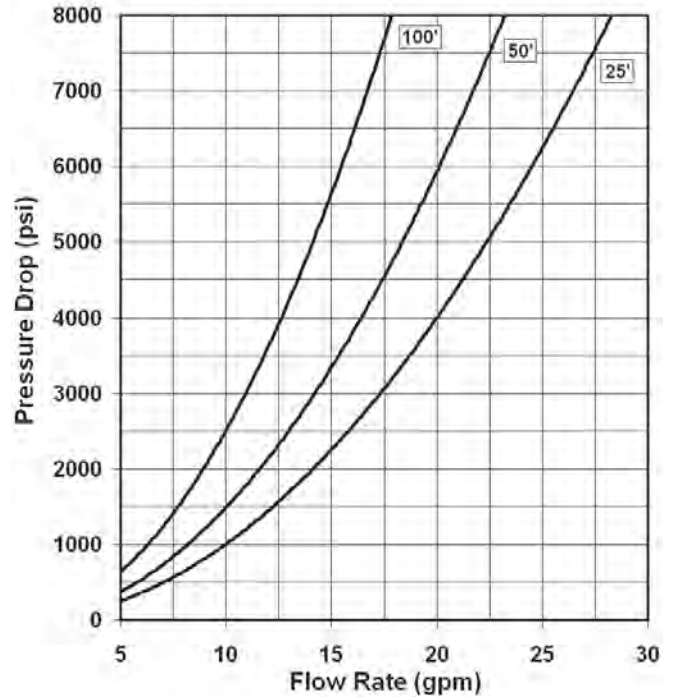
PRESSURE DROP DATA

HOSES & FLEX LANCES

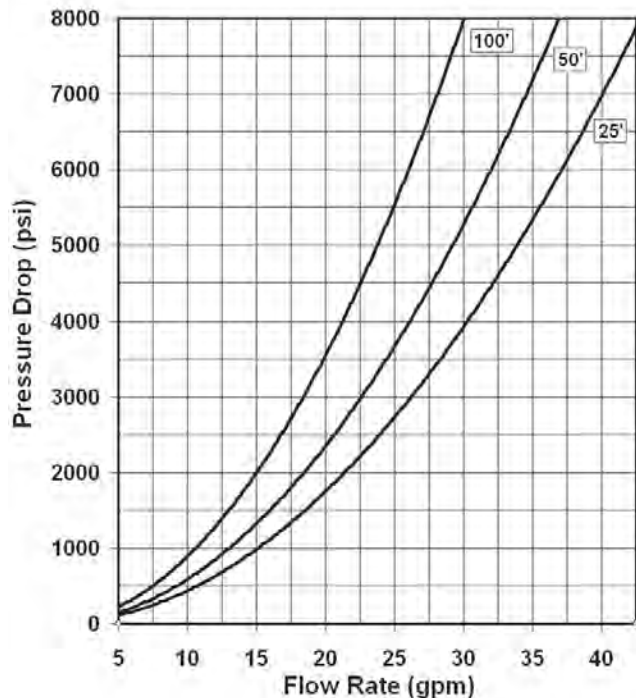
3/16" THERMOPLASTIC HOSE & LANCE
SERIES 51953



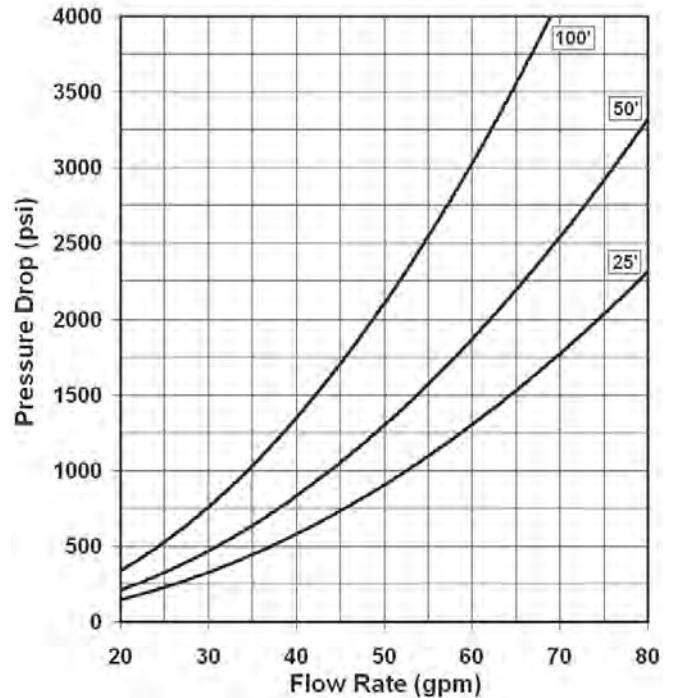
1/4" THERMOPLASTIC HOSE & LANCE
SERIES 51954



5/16" THERMOPLASTIC HOSE & LANCE
SERIES 53816



1/2" THERMOPLASTIC HOSE
SERIES 28347 & 70941

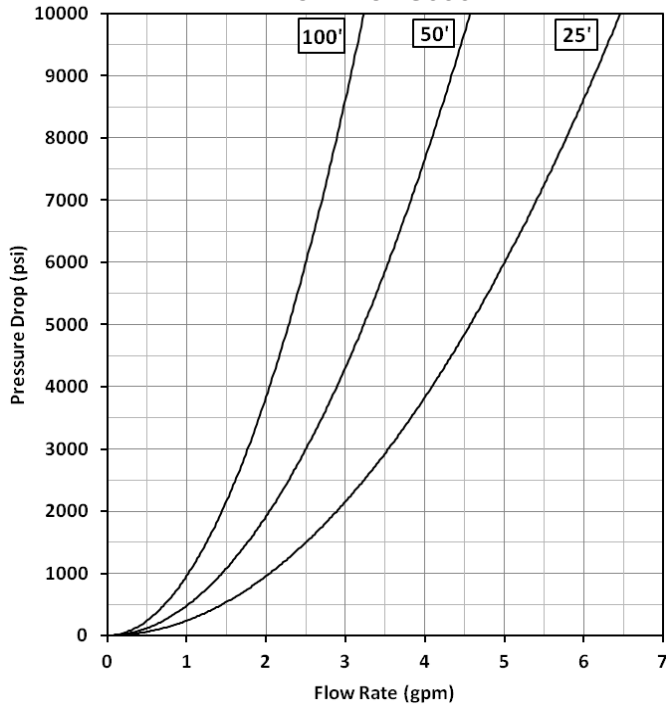


PRESSURE DROP DATA

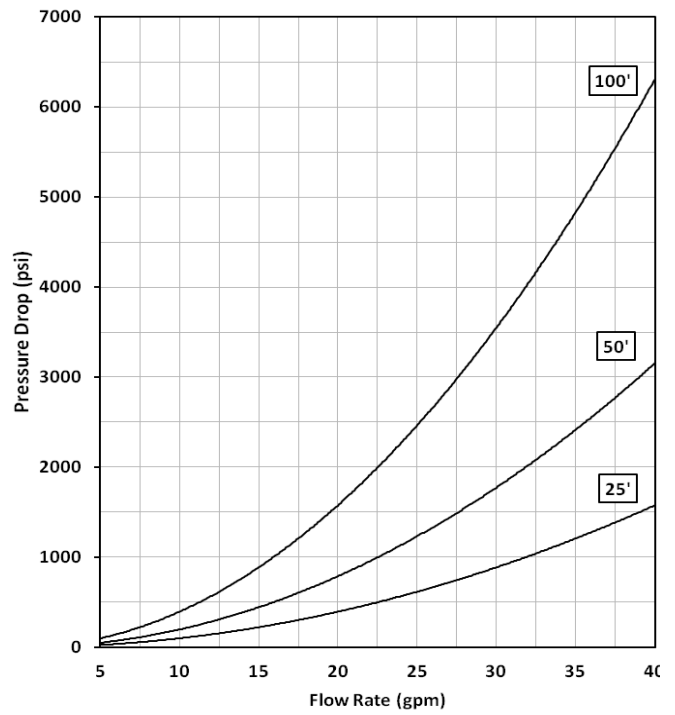
HOSES & FLEX LANCES

HOSES &
LANCES

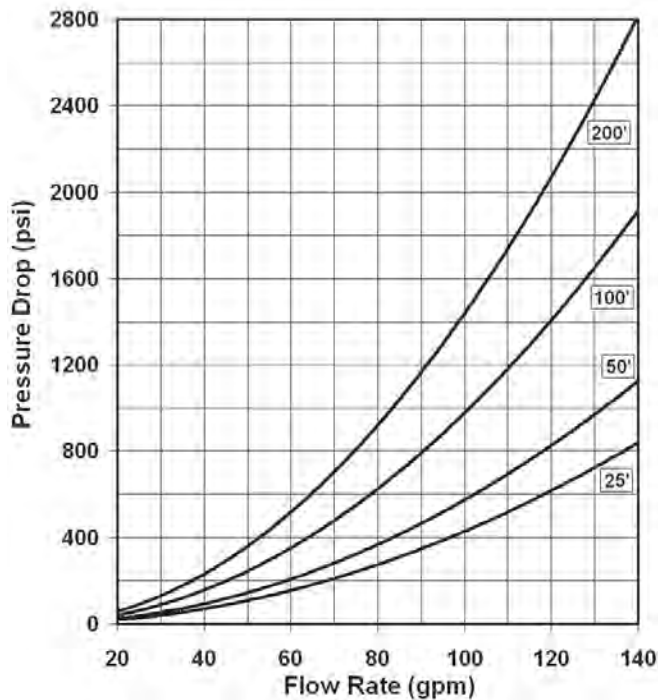
9/16" THERMOPLASTIC LANCE
SERIES 28699



3/4" THERMOPLASTIC HOSE & LANCE
SERIES 28690



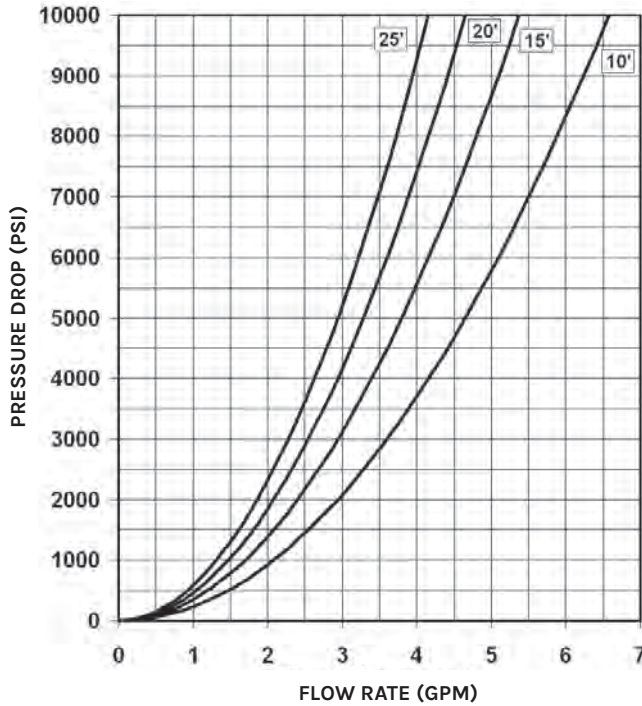
3/4" THERMOPLASTIC HOSE
SERIES 29120



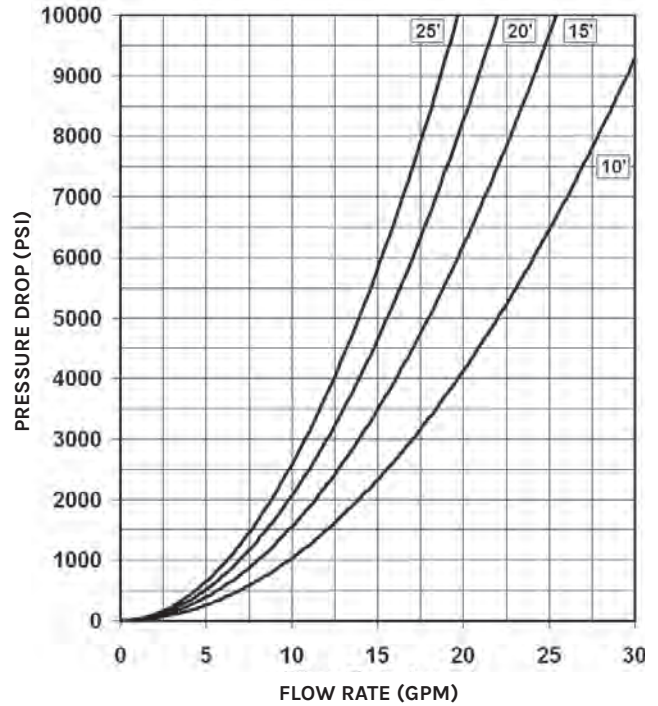
PRESSURE DROP DATA

RIGID LANCES

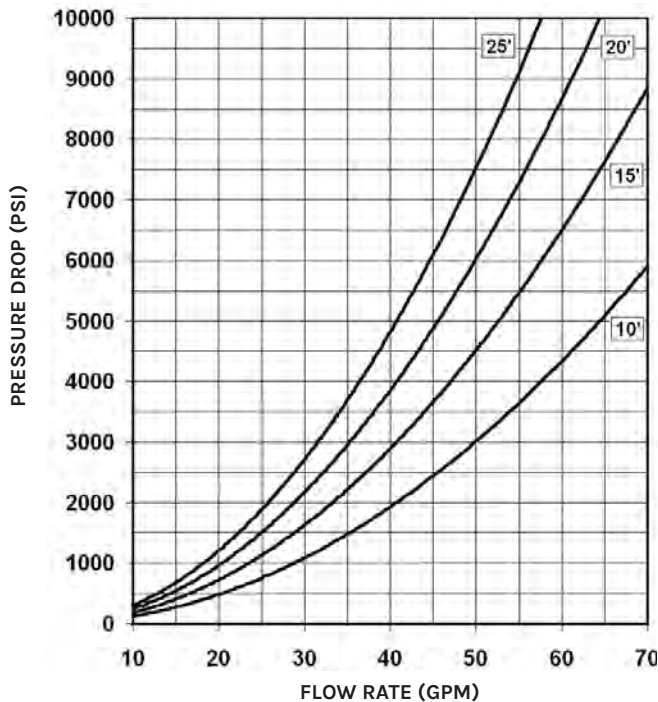
RIGID LANCES – 1/4" PIPE
SERIES 5438X, 5479X, 51933



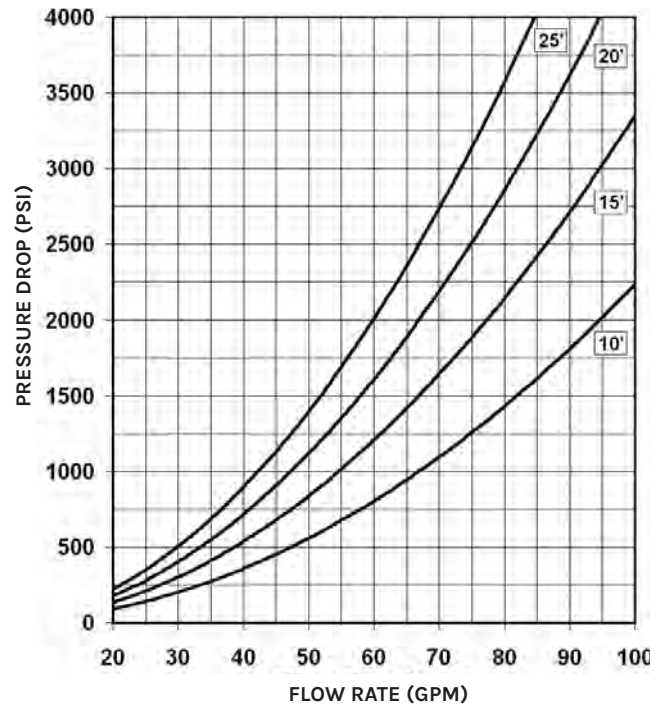
RIGID LANCES – 3/8" PIPE
SERIES 54222, 54387, 5479X, 51934



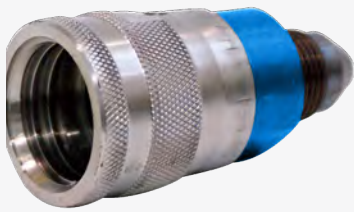
RIGID LANCES – 9/16" PIPE
SERIES 54233, 54388, 5480X & 51936



RIGID LANCES – 3/4" PIPE
SERIES 5473X







FITTINGS

Jetstream offers a wide variety of fittings with various connection types to fit your 20,000 psi application needs. The standard connection types, Type M, MP, and MP Tube lance, are available in standard thread sizes. A benefit that Jetstream brings to the fittings realm is the invention of our proprietary 20K Port fitting. This connector was specially designed to help prevent leakage and wear at the fluid end manifold.

*See details on all connection types in Section I.



THREAD LUBRICANTS & TEFLON TAPE

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



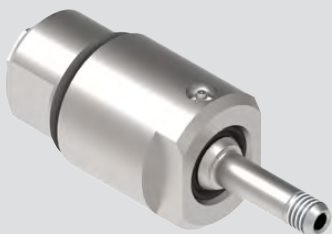
Part No. 27721

Blue Goop Thread Lubricant
2 oz. Tube



Part No. 28197

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



Part No. 29057

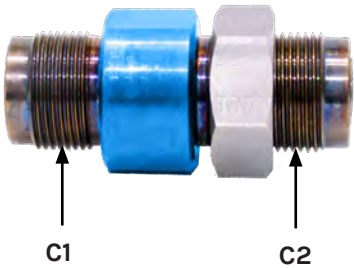
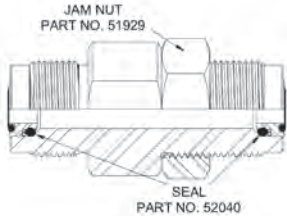
Silver-Based Anti-Seize
7 oz. Stick

PORT MALE NIPPLE

PART NO.	CONNECTION TYPE		MAX. OPERATING PRESSURE	
	CONNECTION 1	CONNECTION 2	psi	bar
52209	20K Port Male	20K Port Male	20,000	1,379

Replacement Parts

52040	20K Seal
51929	Jam Nut
59915	20K Seal Removal Tool

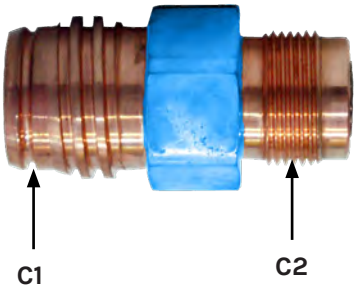
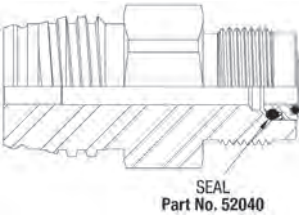


PORT MALE TO QUICK DISCONNECT MALE ADAPTER

PART NO.	CONNECTION TYPE		MAX. OPERATING PRESSURE	
	CONNECTION 1	CONNECTION 2	psi	bar
51917	20K QD Male	20K Port Male	20,000	1,379

Replacement Parts

52040	20K Seal
59915	20K Seal Removal Tool

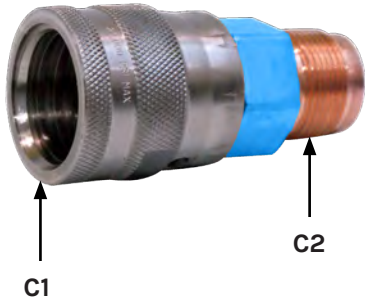
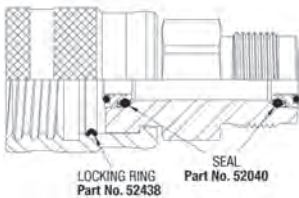


PORT MALE TO QUICK DISCONNECT FEMALE ADAPTER

PART NO.	CONNECTION TYPE		MAX. OPERATING PRESSURE	
	CONNECTION 1	CONNECTION 2	psi	bar
52041	20K QD Female	20K Port Male	20,000	1,379

Replacement Parts

52040	20K Seal
52438	Locking Ring
59915	20K Seal Removal Tool

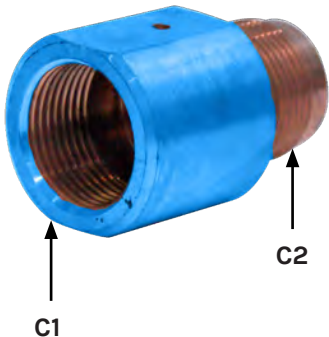


PORT MALE TO MEDIUM PRESSURE FEMALE ADAPTERS

PART NO.	CONNECTION TYPE		MAX. OPERATING PRESSURE	
	CONNECTION 1	CONNECTION 2	psi	bar
54737	3/4" MP Female	20K Port Male	20,000	1,379
52044	9/16" MP Female	20K Port Male	20,000	1,379

Replacement Parts

52040	20K Seal
51929	Jam Nut
59915	20K Seal Removal Tool

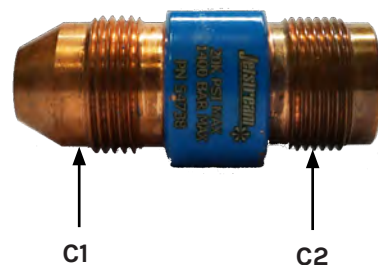
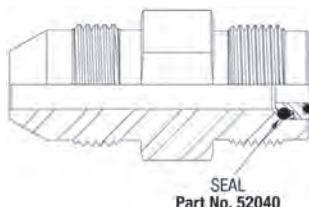


PORT MALE TO MEDIUM PRESSURE MALE ADAPTERS

PART NO.	CONNECTION TYPE		MAX. OPERATING PRESSURE	
	CONNECTION 1	CONNECTION 2	psi	bar
54738	3/4" MP Male	20K Port Male	20,000	1,379
52354	9/16" MP Male	20K Port Male	20,000	1,379

Replacement Parts

52040 20K Seal
59915 20K Seal Removal Tool

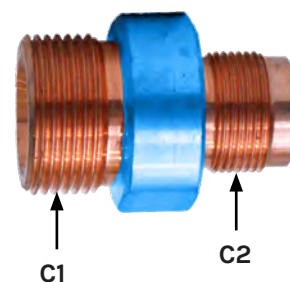
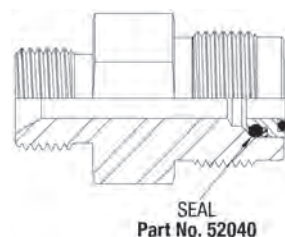


PORT MALE TO TYPE M MALE ADAPTERS

PART NO.	CONNECTION TYPE		MAX. OPERATING PRESSURE	
	CONNECTION 1	CONNECTION 2	psi	bar
54749	1 5/16" Type M Male	20K Port Male	20,000	1,379
53284*	1" Type M Male	20K Port Male	20,000	1,379
54741*	3/4" Type M Male	20K Port Male	20,000	1,379
54739*	9/16" Type M Male	20K Port Male	20,000	1,379

Replacement Parts

52040 20K Seal
59915 20K Seal Removal Tool



PORT PLUG

PART NO.	CONNECTION TYPE	MAX. OPERATING PRESSURE	
		psi	bar
52076	20K Port Male	20,000	1,379

Replacement Parts

52040 20K Seal
59915 20K Seal Removal Tool

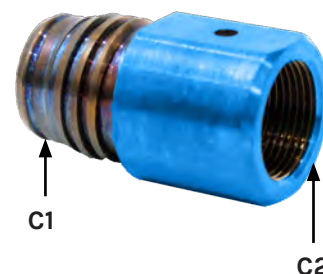


PORT FEMALE TO QUICK DISCONNECT MALE ADAPTER

PART NO.	CONNECTION TYPE		MAX. OPERATING PRESSURE	
	CONNECTION 1	CONNECTION 2	psi	bar
53038	20K QD Male	20K Port Female	20,000	1,379

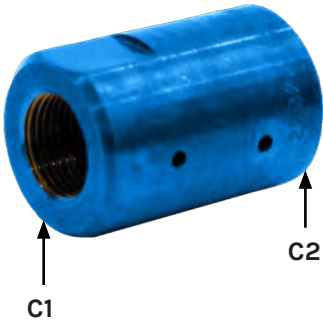
Replacement Parts

52040 20K Seal
59915 20K Seal Removal Tool



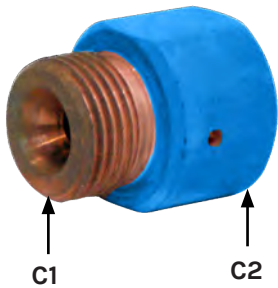
PORT FEMALE TO MEDIUM PRESSURE FEMALE ADAPTERS

PART NO.	CONNECTION TYPE		MAX. OPERATING PRESSURE	
	CONNECTION 1	CONNECTION 2	psi	bar
54746	3/4" MP Female	20K Port Female	20,000	1,379
53037	9/16" MP Female	20K Port Female	20,000	1,379



PORT FEMALE TO TYPE M MALE ADAPTERS

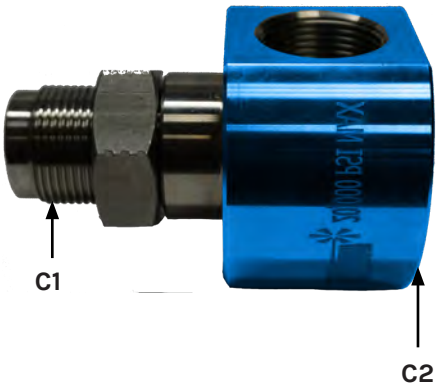
PART NO.	CONNECTION TYPE		MAX. OPERATING PRESSURE	
	CONNECTION 1	CONNECTION 2	psi	bar
54743	1" Type M Male	20K Port Female	20,000	1,379
54744	3/4" Type M Male	20K Port Female	20,000	1,379
54748	9/16" Type M Male	20K Port Female	20,000	1,379



MULTI-PORT ADAPTER

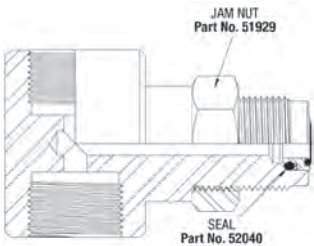
This fitting has a male 20K Port Connection that fits into a discharge port of the 20,000 psi UNx Fluid End and two female port outlet connections to split flow or add an accessory device. Ideal for shut-in (regulator operated systems).

PART NO.	CONNECTION TYPE		MAX. OPERATING PRESSURE	
	CONNECTION 1	CONNECTION 2	psi	bar
52073	20K Port Male	20K Port Female	20,000	1,379



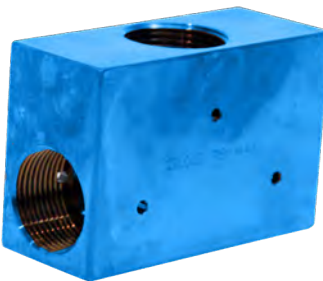
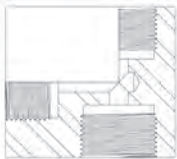
Replacement Parts

52040	20K Seal
51929	Jam Nut
59915	20K Seal Removal Tool



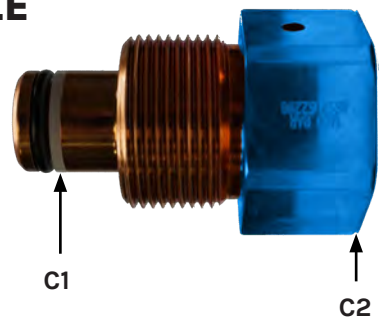
MULTI-PORT ADAPTER

PART NO.	CONNECTION TYPE	MAX. OPERATING PRESSURE	
		psi	bar
54747	20K Port Female	20,000	1,379



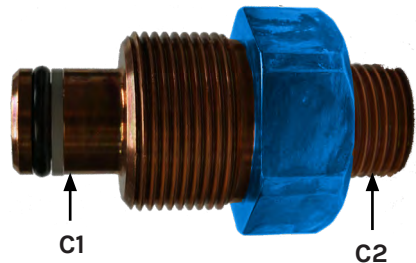
HIGH PRESSURE HHP MALE TO PORT FEMALE

PART NO.	CONNECTION TYPE		MAX. OPERATING PRESSURE	
	CONNECTION 1	CONNECTION 2	psi	bar
62288	HHP Male	20K Port Female	20,000	1,379



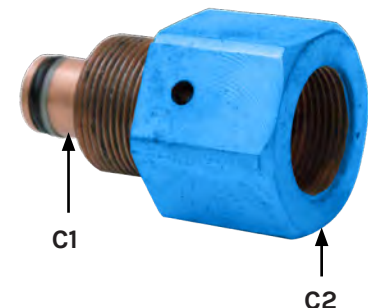
HIGH PRESSURE HHP MALE TO TYPE M MALE ADAPTERS

PART NO.	CONNECTION TYPE		MAX. OPERATING PRESSURE	
	CONNECTION 1	CONNECTION 2	psi	bar
54844	HHP Male	1 5/16" Type M Male	20,000	1,379
55296	HHP Male	1" Type M Male	20,000	1,379



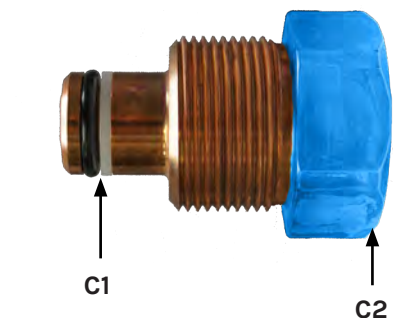
HIGH PRESSURE HHP MALE TO MEDIUM PRESSURE FEMALE ADAPTER

PART NO.	CONNECTION TYPE		MAX. OPERATING PRESSURE	
	CONNECTION 1	CONNECTION 2	psi	bar
54846	HHP Male	1" MP Female	20,000	1,379
62290	HHP Male	9/16" MP Male	20,000	1,379



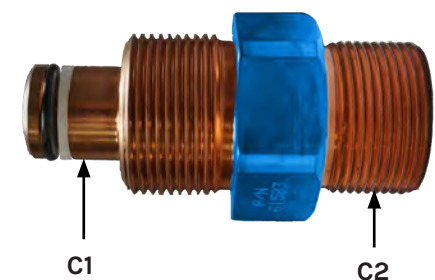
HIGH PRESSURE HHP MALE TO JETSTREAM LANCE FEMALE ADAPTER

PART NO.	CONNECTION TYPE		MAX. OPERATING PRESSURE	
	CONNECTION 1	CONNECTION 2	psi	bar
54938	HHP Male	9/16" JS Lance Female	20,000	1,379



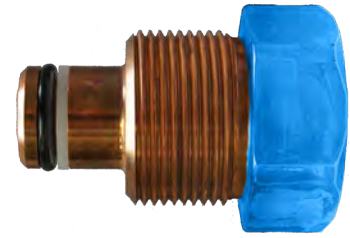
HIGH PRESSURE HHP MALE TO METRIC

PART NO.	CONNECTION TYPE		MAX. OPERATING PRESSURE	
	CONNECTION 1	CONNECTION 2	psi	bar
61503	HHP Male	Metric M36 Male	20,000	1,379



HIGH PRESSURE HHP MALE PLUG

PART NO.	CONNECTION TYPE	MAX. OPERATING PRESSURE	
		psi	bar
54847	HHP Male	20,000	1,379

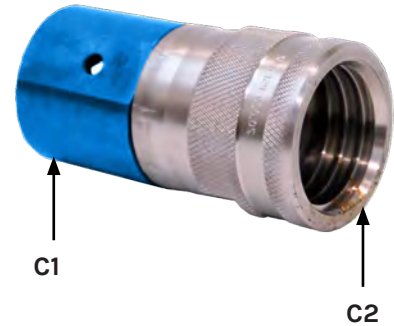
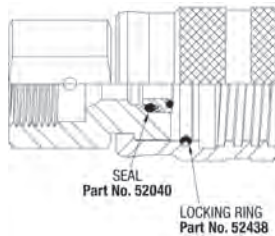


QUICK DISCONNECT FEMALE TO MEDIUM PRESSURE FEMALE ADAPTERS

PART NO.	CONNECTION TYPE		MAX. OPERATING PRESSURE	
	CONNECTION 1	CONNECTION 2	psi	bar
52193	3/4" MP Female	20K QD Female	20,000	1,379
52039	9/16" MP Female	20K QD Female	20,000	1,379

Replacement Parts

52040 20K Seal
52438 Locking Ring
59915 20K Seal Removal Tool

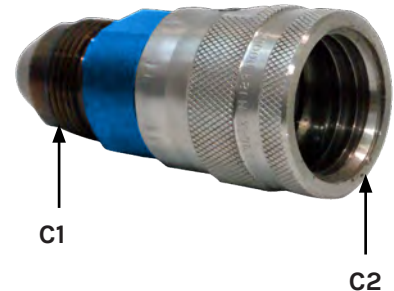
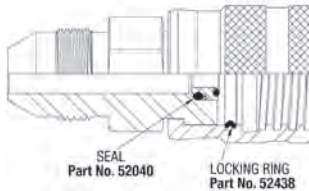


QUICK DISCONNECT FEMALE TO MEDIUM PRESSURE MALE ADAPTERS

PART NO.	CONNECTION TYPE		MAX. OPERATING PRESSURE	
	CONNECTION 1	CONNECTION 2	psi	bar
52187	3/4" MP Male	20K QD Female	20,000	1,379
52038	9/16" MP Male	20K QD Female	20,000	1,379

Replacement Parts

52040 20K Seal
52438 Locking Ring
59915 20K Seal Removal Tool

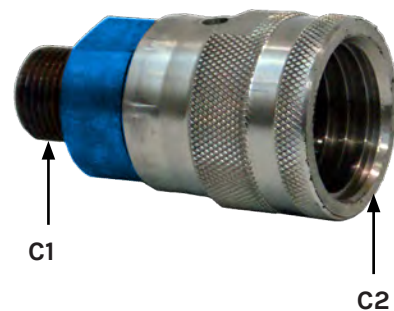
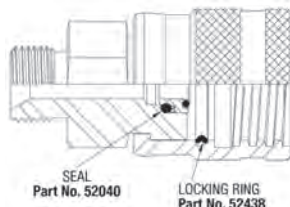


QUICK DISCONNECT FEMALE TO TYPE M MALE ADAPTERS

PART NO.	CONNECTION TYPE		MAX. OPERATING PRESSURE	
	CONNECTION 1	CONNECTION 2	psi	bar
52189	1" Type M Male	20K QD Female	20,000	1,379
52188	3/4" Type M Male	20K QD Female	20,000	1,379
52668	9/16" Type M Male	20K QD Female	20,000	1,379

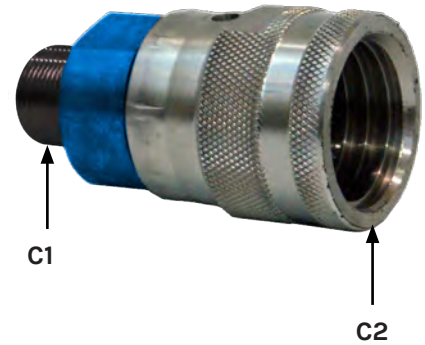
Replacement Parts

52040 20K Seal
52438 Locking Ring
59915 20K Seal Removal Tool



QUICK DISCONNECT FEMALE TO METRIC MALE ADAPTER

PART NO.	CONNECTION TYPE		MAX. OPERATING PRESSURE	
	CONNECTION 1	CONNECTION 2	psi	bar
53219	Metric Male 24 x 1.5	20K QD Female	20,000	1,379

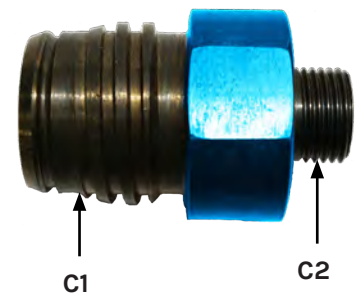


QUICK DISCONNECT MALE TO MP TUBE LANCE FEMALE ADAPTER

PART NO.	CONNECTION TYPE		MAX. OPERATING PRESSURE	
	CONNECTION 1	CONNECTION 2	psi	bar
51912	20K QD Male	3/8" MP Tube Female	20,000	1,379

Replacement Parts

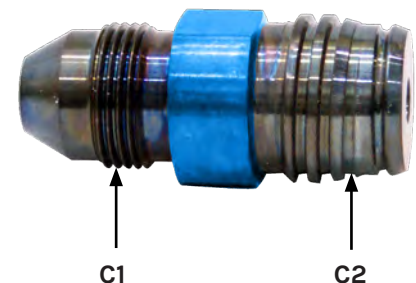
52040	20K Seal
52438	Locking Ring
59915	20K Seal Removal Tool



FITTINGS

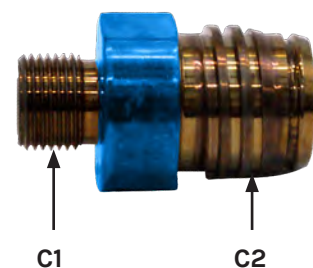
QUICK DISCONNECT MALE TO MEDIUM PRESSURE MALE ADAPTERS

PART NO.	CONNECTION TYPE		MAX. OPERATING PRESSURE	
	CONNECTION 1	CONNECTION 2	psi	bar
54753	1" MP Male	20K QD Male	20,000	1,379
52179	3/4" MP Male	20K QD Male	20,000	1,379
52031	9/16" MP Male	20K QD Male	20,000	1,379



QUICK DISCONNECT MALE TO TYPE M MALE ADAPTERS

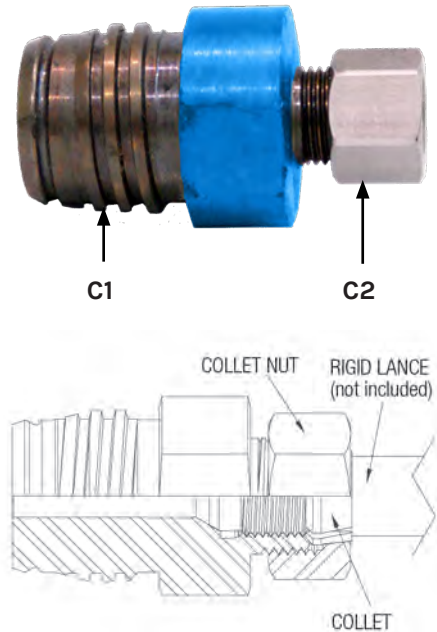
PART NO.	CONNECTION TYPE		MAX. OPERATING PRESSURE	
	CONNECTION 1	CONNECTION 2	psi	bar
52182	1" Type M Male	20K QD Male	20,000	1,379
52181	3/4" Type M Male	20K QD Male	20,000	1,379
52667	9/16" Type M Male	20K QD Male	20,000	1,379



QUICK DISCONNECT MALE RIGID LANCE HOLDERS

- ▶ Connect rigid lances that feature Jetstream Lance connections to hoses that have Jetstream Quick Disconnect end fittings
- ▶ Support collet prevents lance breakage by reducing stress on lance threads

PART NO.	CONNECTION TYPE		REPLACEMENT PART NO.		MAX. WORKING PRESSURE	
	CONNECTION 1	CONNECTION 2	COLLET	COLLET NUT	psi	bar
52648	20K QD Male	9/16" JS Lance Female	52087	52083	20,000	1,379
52647	20K QD Male	3/8" JS Lance Female	52086	52082	20,000	1,379
52646	20K QD Male	1/4" JS Lance Female	52084	52081	20,000	1,379

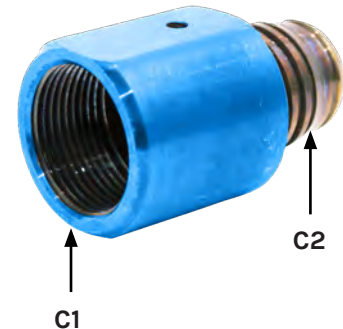


QUICK DISCONNECT MALE TO MEDIUM PRESSURE FEMALE ADAPTERS

PART NO.	CONNECTION TYPE		MAX. OPERATING PRESSURE	
	CONNECTION 1	CONNECTION 2	psi	bar
54752	1" MP Female	20K QD Male	20,000	1,379
52191	3/4" MP Female	20K QD Male	20,000	1,379
52032	9/16" MP Female	20K QD Male	20,000	1,379

Replacement Parts

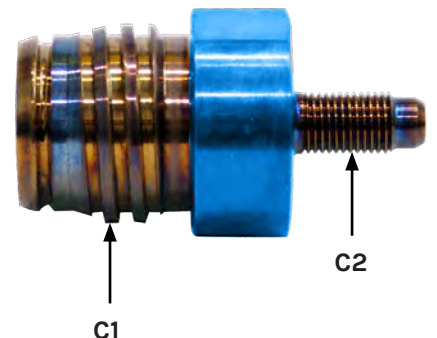
52040	20K Seal
52438	Locking Ring
59915	20K Seal Removal Tool



QUICK DISCONNECT MALE FLEX LANCE CONNECTORS

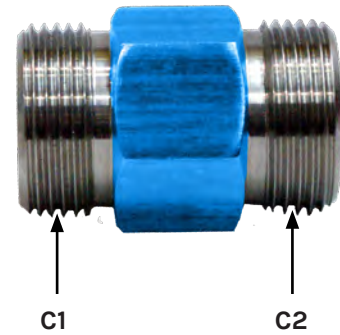
Connect flex lances that feature female Jetstream Lance connections to hoses that have Jetstream Quick Disconnect end fittings.

PART NO.	CONNECTION TYPE		MAX. WORKING PRESSURE	
	CONNECTION 1	CONNECTION 2	psi	bar
53967	20K QD Male	9/16" JS Lance Male	20,000	1,379
51916	20K QD Male	3/8" JS Lance Male	20,000	1,379



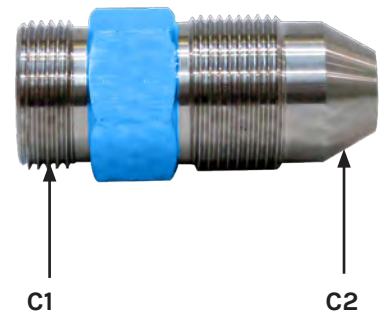
TYPE M MALE CONNECTORS

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	1,379
29059	1 5/16" Type M Male	1" Type M Male	20,000	1,379
29060	1 5/16" Type M Male	3/4" Type M Male	20,000	1,379
29061*	1" Type M Male	1" Type M Male	20,000	1,379
28854	1" Type M Male	7/8" Type M Male	20,000	1,379
28101	1" Type M Male	3/4" Type M Male	20,000	1,379
29019	1" Type M Male	9/16" Type M Male	20,000	1,379
28196	3/4" Type M Male	3/4" Type M Male	20,000	1,379
29062	3/4" Type M Male	9/16" Type M Male	20,000	1,379
27527	9/16" Type M Male	9/16" Type M Male	40,000	2,758



TYPE M MALE TO MEDIUM PRESSURE MALE CONNECTORS

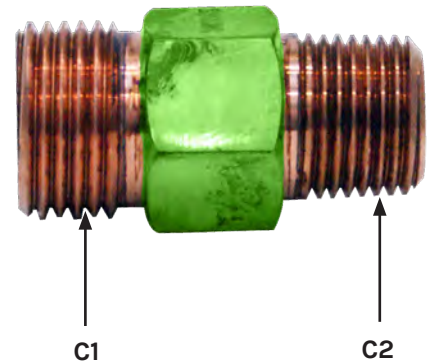
PART NO.	CONNECTION TYPE		MAX. OPERATING PRESSURE	
	CONNECTION 1	CONNECTION 2	psi	bar
28330	1 5/16" Type M Male	1" MP Male	20,000	1,379
28786*	1 5/16" Type M Male	3/4" MP Male	20,000	1,379
28299	1 5/16" Type M Male	9/16" MP Male	20,000	1,379
28433	1" Type M Male	1" MP Male	20,000	1,379
28629*	1" Type M Male	3/4" MP Male	20,000	1,379
28631	1" Type M Male	9/16" MP Male	20,000	1,379
29063	3/4" Type M Male	1" MP Male	20,000	1,379
29064	3/4" Type M Male	3/4" MP Male	20,000	1,379
28350	3/4" Type M Male	9/16" MP Male	20,000	1,379
29065	3/4" Type M Male	3/8" MP Male	20,000	1,379
29066	9/16" Type M Male	1" MP Male	20,000	1,379
28804	9/16" Type M Male	3/4" MP Male	20,000	1,379
28193	9/16" Type M Male	9/16" MP Male	20,000	1,379
28192	9/16" Type M Male	3/8" MP Male	20,000	1,379
28328	9/16" Type M Male	1/4" MP Male	20,000	1,379



FITTINGS

TYPE M MALE TO NPT MALE ADAPTER

PART NO.	CONNECTION TYPE		MAX. OPERATING PRESSURE	
	CONNECTION 1	CONNECTION 2	psi	bar
29342	1" Type M Male	1/2" NPT Male	15,000	1,034
J55707	9/16" Type M Male	3/4" NPT Male	15,000	1,034



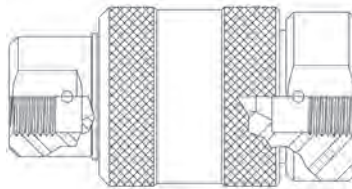
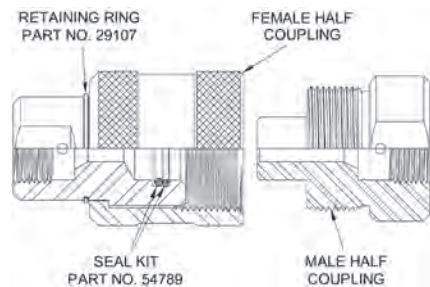
SCREW TYPE QUICK CONNECT COUPLINGS

PART NO.	CONNECTION TYPE	COUPLING HALVES		MAX. OPERATING PRESSURE	
		FEMALE	MALE	psi	bar
54754*	1" Type M Male	54762	54763	20,000	1,379
54767*	3/4" Type M Male	54758	54764	20,000	1,379
54768*	9/16" MP Female	54761	54766	20,000	1,379
56547	3/4" MP Female	56616	56614	20,000	1,379

* All size halves are interchangeable except for 3/4" MP coupling.

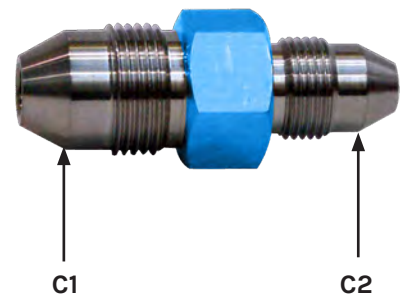
Replacement Parts

54789 Seal Kit
25690 Retaining Ring



MEDIUM PRESSURE MALE CONNECTORS

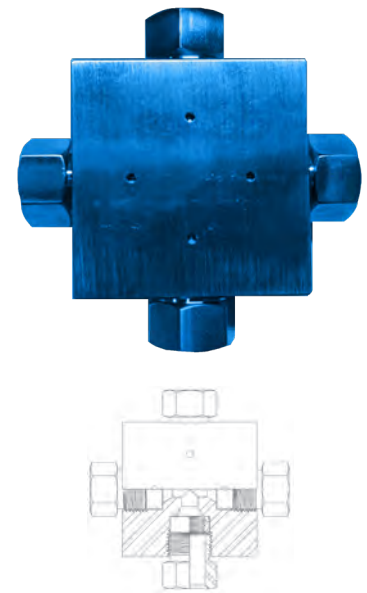
PART NO.	CONNECTION TYPE		MAX. OPERATING PRESSURE	
	CONNECTION 1	CONNECTION 2	psi	bar
29085	1" MP Male	1" MP Male	20,000	1,379
29086	1" MP Male	3/4" MP Male	20,000	1,379
29087	1" MP Male	9/16" MP Male	20,000	1,379
29088	3/4" MP Male	3/4" MP Male	20,000	1,379
29089	3/4" MP Male	9/16" MP Male	20,000	1,379
29090	3/4" MP Male	3/8" MP Male	20,000	1,379
29091	9/16" MP Male	9/16" MP Male	20,000	1,379
29092	9/16" MP Male	3/8" MP Male	20,000	1,379
29093	9/16" MP Male	1/4" MP Male	20,000	1,379
28191	3/8" MP Male	3/8" MP Male	20,000	1,379
28190	3/8" MP Male	1/4" MP Male	20,000	1,379
29094	1/4" MP Male	1/4" MP Male	20,000	1,379
02173	9/16" MP Male	9/16" HP Male	20,000	1,379



MEDIUM PRESSURE CROSSES

All medium pressure crosses include gland, nuts, and collars.

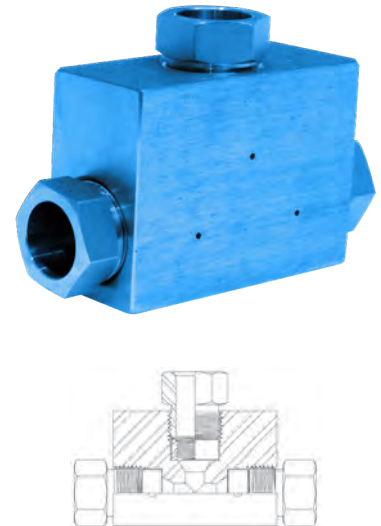
PART NO.	CONNECTION TYPE	MAX. OPERATING PRESSURE	
		psi	bar
28301	1" MP Female	20,000	1,379
29067	3/4" MP Female	20,000	1,379
27969	9/16" MP Female	20,000	1,379
29068	3/8" MP Female	20,000	1,379
29069	1/4" MP Female	20,000	1,379



MEDIUM PRESSURE TEES

All medium pressure tees include gland, nuts, and collars.

PART NO.	CONNECTION TYPE	MAX. OPERATING PRESSURE	
		psi	bar
29070	1" MP Female	20,000	1,379
29071	3/4" MP Female	20,000	1,379
27966	9/16" MP Female	20,000	1,379
27964	3/8" MP Female	20,000	1,379
29072	1/4" MP Female	20,000	1,379

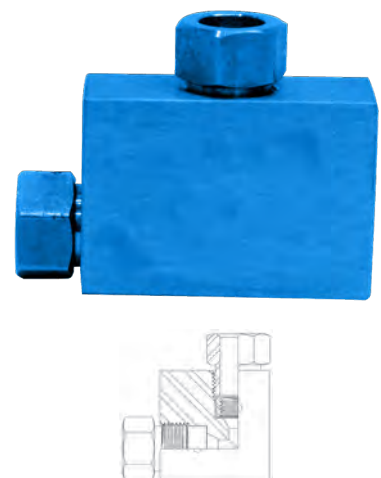


FITTINGS

MEDIUM PRESSURE ELBOWS

All medium pressure elbows include gland, nuts, and collars.

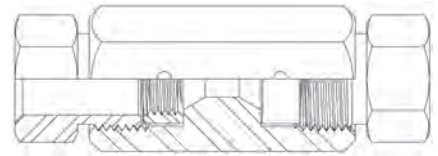
PART NO.	CONNECTION TYPE	MAX. OPERATING PRESSURE	
		psi	bar
29073	1" MP Female	20,000	1,379
29074	3/4" MP Female	20,000	1,379
28184	9/16" MP Female	20,000	1,379
27997	3/8" MP Female	20,000	1,379
29075	1/4" MP Female	20,000	1,379



MEDIUM PRESSURE STRAIGHT COUPLINGS

All medium pressure couplings include gland, nuts, and collars.

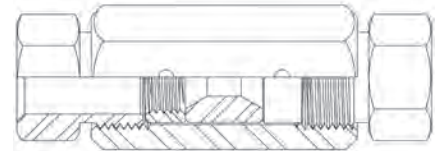
PART NO.	CONNECTION TYPE		MAX. OPERATING PRESSURE	
	CONNECTION 1	CONNECTION 2	psi	bar
28341	1" MP Female	1" MP Female	20,000	1,379
29076	1" MP Female	3/4" MP Female	20,000	1,379
29077	1" MP Female	9/16" MP Female	20,000	1,379
28382	3/4" MP Female	3/4" MP Female	20,000	1,379
29078	3/4" MP Female	9/16" MP Female	20,000	1,379
29079	3/4" MP Female	3/8" MP Female	20,000	1,379
27009	9/16" MP Female	9/16" MP Female	20,000	1,379
28189	9/16" MP Female	3/8" MP Female	20,000	1,379
28188	9/16" MP Female	1/4" MP Female	20,000	1,379
28185	3/8" MP Female	3/8" MP Female	20,000	1,379
28187	3/8" MP Female	1/4" MP Female	20,000	1,379
29080	1/4" MP Female	1/4" MP Female	20,000	1,379



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 installation in confined spaces or rigid piping applications. All medium pressure couplings include gland, nuts, and collars.

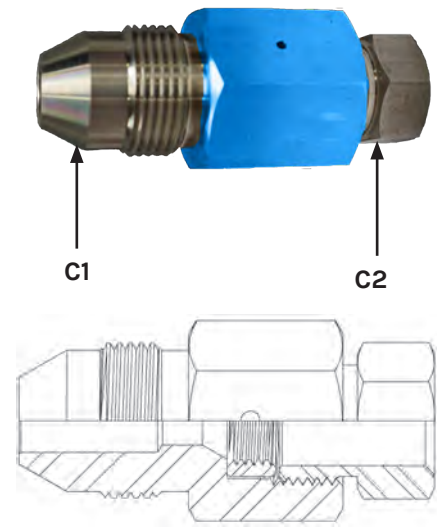
PART NO.	CONNECTION TYPE	MAX. OPERATING PRESSURE	
		psi	bar
29081	1" MP Female	20,000	1,379
29082	3/4" MP Female	20,000	1,379
29083	9/16" MP Female	20,000	1,379
29084	3/8" MP Female	20,000	1,379
29119	1/4" MP Female	20,000	1,379



MEDIUM PRESSURE MALE TO MEDIUM PRESSURE FEMALE CONNECTIONS

Fittings include gland nut and collar for female connection.

PART NO.	CONNECTION TYPE		MAX. OPERATING PRESSURE	
	CONNECTION 1	CONNECTION 2	psi	bar
29095	1" MP Male	3/4" MP Female	20,000	1,379
28797	1" MP Male	9/16" MP Female	20,000	1,379
28462	3/4" MP Male	9/16" MP Female	20,000	1,379
29096	3/4" MP Male	3/8" MP Female	20,000	1,379
28186	9/16" MP Male	3/8" MP Female	20,000	1,379
28726	9/16" MP Male	1/4" MP Female	20,000	1,379
29097	3/8" MP Male	1/4" MP Female	20,000	1,379



MEDIUM PRESSURE GLAND, NUTS, COLLARS, AND PLUGS

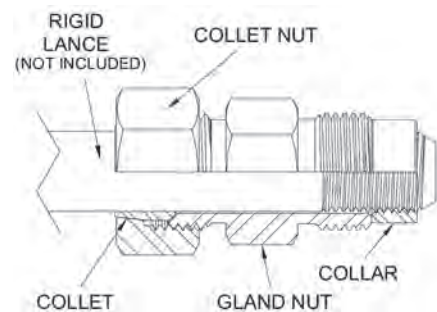
CONNECTION TYPE*	PART NUMBERS		
	GLAND NUT	COLLAR	PLUG
1" MP Male	28731	28732	29100
3/4" MP Male	28383	28384	29101
9/16" MP Male	26645	26635	27973
3/8" MP Male	28181	28180	28229
1/4" MP Male	29098	29099	29102



MEDIUM PRESSURE ANTI-VIBRATION GLAND ASSEMBLIES

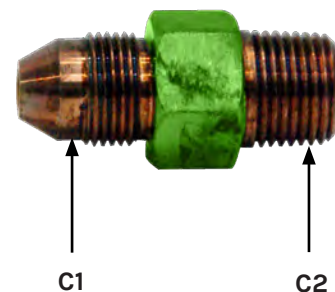
Used to reduce stress on tubing threads in conditions where bending or vibration are present, anti-vibration gland assemblies feature a collet that clamps onto the tubing when the connection is tightened to provide extra support and strength.

PART NO.	CONNECTION TYPE	COLLAR PART NUMBER
29103	1" MP Male	28732
29104	3/4" MP Male	28384
28268	9/16" MP Male	26635
29105	3/8" MP Male	28180
29106	1/4" MP Male	29099



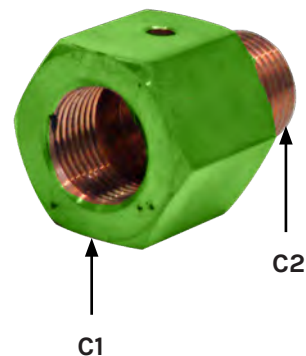
MEDIUM PRESSURE MALE TO NPT MALE CONNECTORS

PART NO.	CONNECTION TYPE		MAX. OPERATING PRESSURE	
	CONNECTION 1	CONNECTION 2	psi	bar
27971	9/16" MP Male	1/2" NPT Male	15,000	1,034
28261	3/4" MP Male	1/2" NPT Male	15,000	1,034
29253	3/4" MP Male	3/4" NPT Male	15,000	1,034
29669	3/4" MP Male	1" NPT Male	15,000	1,034
28610	3/8" MP Male	1/4" NPT Male	15,000	1,034
29000	3/8" MP Male	1/2" NPT Male	15,000	1,034



MEDIUM PRESSURE FEMALE TO NPT MALE ADAPTERS

PART NO.	CONNECTION TYPE		MAX. OPERATING PRESSURE	
	CONNECTION 1	CONNECTION 2	psi	bar
28092	9/16" MP Female	1/2" NPT Male	15,000	1,034



NIPPLES

- ▶ High tensile strength, cold drawn stainless steel
- ▶ Glands and collars not included
- ▶ Three connection types available

Left Hand Medium Pressure Tubing (MP Tube LH):

Used 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.

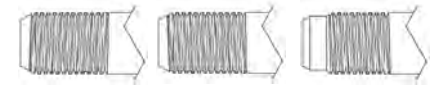
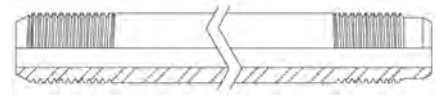
Right Hand Medium Pressure Tubing (MP Tube RH):

Used 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.

Jetstream Lance Connections (JS Lance):

Right-handed connections for use with Jetstream's popular tube nozzles and lance fittings. Available in 1/4", 3/8", and 9/16" sizes.



MP TUBE LH CONNECTION MP TUBE RH CONNECTION JS LANCE CONNECTION

TO ORDER: Use five digit part number corresponding to the desired connection types, followed by a dash (-), and ending with two digits representing the length, in inches.

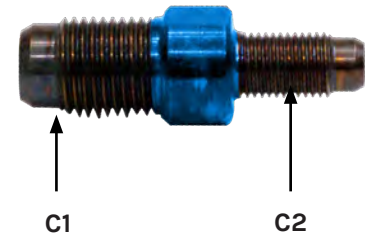
EXAMPLE: A 6" nipple with a 9/16" MP Tube LH connection on one end and a 9/16" JS Lance connection on the other would be ordered as **Part No. 53279-06**.

PART NO. SPECIFY LENGTH IN INCHES, IN PLACE OF "XX"	CONNECTION TYPES		OUTER DIAMETER		INNER DIAMETER		MAX. WORKING PRESSURE		LENGTH	
	CONNECTION 1	CONNECTION 2	in	mm	in	mm	psi	bar	in	mm
29013-XX	1" MP Tube LH Male	1" MP Tube LH Male	.990	25.1	.688	17.5	20,000	1,379	3-24	76-609
29108-XX	3/4" MP Tube LH Male	3/4" MP Tube LH Male	.740	18.8	.438	11.1	20,000	1,379	3-24	76-609
29109-XX	3/4" MP Tube LH Male	3/4" MP Tube RH Male	.740	18.8	.438	11.1	20,000	1,379	3-24	76-609
29110-XX	3/4" MP Tube RH Male	3/4" MP Tube RH Male	.740	18.8	.438	11.1	20,000	1,379	3-24	76-609
27968-XX	9/16" MP Tube LH Male	9/16" MP Tube LH Male	.553	14.0	.312	7.9	20,000	1,379	3-24	76-609
54769-XX	9/16" MP Tube LH Male	9/16" MP Tube RH Male	.553	14.0	.312	7.9	20,000	1,379	3-24	76-609
53279-XX	9/16" MP Tube LH Male	9/16" JS Lance Male	.553	14.0	.312	7.9	20,000	1,379	3-24	76-609
54781-XX	9/16" MP Tube RH Male	9/16" MP Tube RH Male	.553	14.0	.312	7.9	20,000	1,379	3-24	76-609
54782-XX	9/16" MP Tube RH Male	9/16" JS Lance Male	.553	14.0	.312	7.9	20,000	1,379	3-24	76-609
53063-XX	9/16" JS Lance Male	9/16" JS Lance Male	.553	14.0	.312	7.9	20,000	1,379	3-24	76-609
27960-XX	3/8" MP Tube LH Male	3/8" MP Tube LH Male	.368	9.3	.203	5.2	20,000	1,379	3-24	76-609
54783-XX	3/8" MP Tube LH Male	3/8" MP Tube RH Male	.368	9.3	.203	5.2	20,000	1,379	3-24	76-609
53280-XX	3/8" MP Tube LH Male	3/8" JS Lance Male	.368	9.3	.203	5.2	20,000	1,379	3-24	76-609
54784-XX	3/8" MP Tube RH Male	3/8" MP Tube RH Male	.368	9.3	.203	5.2	20,000	1,379	3-24	76-609
54786-XX	3/8" MP Tube RH Male	3/8" JS Lance Male	.368	9.3	.203	5.2	20,000	1,379	3-24	76-609
51921-XX	3/8" JS Lance Male	3/8" JS Lance Male	.368	9.3	.203	5.2	20,000	1,379	3-24	76-609
54787-XX	1/4" MP Tube LH Male	1/4" MP Tube LH Male	.245	6.2	.109	2.8	20,000	1,379	3-24	76-609
54788-XX	1/4" MP Tube LH Male	1/4" MP Tube RH Male	.245	6.2	.109	2.8	20,000	1,379	3-24	76-609
53281-XX	1/4" MP Tube LH Male	1/4" JS Lance Male	.245	6.2	.109	2.8	20,000	1,379	3-24	76-609
54789-XX	1/4" MP Tube RH Male	1/4" MP Tube RH Male	.245	6.2	.109	2.8	20,000	1,379	3-24	76-609
54791-XX	1/4" MP Tube RH Male	1/4" JS Lance Male	.245	6.2	.109	2.8	20,000	1,379	3-24	76-609
51919-XX	1/4" JS Lance Male	1/4" JS Lance Male	.245	6.2	.109	2.8	20,000	1,379	3-24	76-609

LANCE CLOSE NIPPLES

- Used to connect tube cleaning nozzles, fittings, and lances that have Jetstream Lance connections
- Wrench flats for easy connection and removal

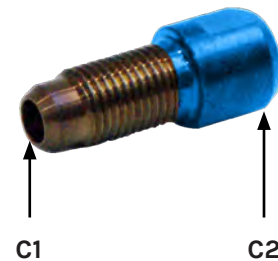
PART NO.	CONNECTION TYPE		MAX. OUTER DIAMETER		MAX. WORKING PRESSURE	
	CONNECTION 1	CONNECTION 2	in	mm	psi	bar
53221	9/16" JS Lance Male	9/16" JS Lance Male	.750	19.1	20,000	1,379
53149	9/16" JS Lance Male	3/8" JS Lance Male	.750	19.1	20,000	1,379
54792	9/16" JS Lance Male	1/4" JS Lance Male	.750	19.1	20,000	1,379
52088	3/8" JS Lance Male	3/8" JS Lance Male	.500	12.7	20,000	1,379
52521	3/8" JS Lance Male	1/4" JS Lance Male	.500	12.7	20,000	1,379
52437	1/4" JS Lance Male	1/4" JS Lance Male	.375	9.5	20,000	1,379



SLIMLINE MALE TO FEMALE TUBE ADAPTERS

Used to connect components with female Jetstream Lance connectors to those with male left-handed medium pressure tubing connections without the use of glands and collars.

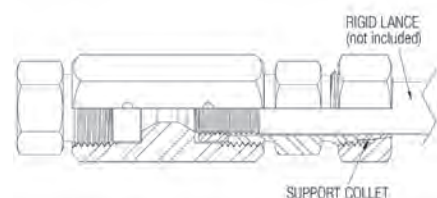
PART NO.	CONNECTION TYPE		MAX. OUTER DIAMETER		MAX. WORKING PRESSURE	
	CONNECTION 1	CONNECTION 2	in	mm	psi	bar
52552	9/16" JS Lance Male	9/16" MP Tube LH Female	.750	19.1	20,000	1,379
54174	3/8" JS Lance Male	3/8" MP Tube LH Female	.500	12.7	20,000	1,379
54176	1/4" JS Lance Male	1/4" MP Tube LH Female	.375	9.5	20,000	1,379



MEDIUM PRESSURE RIGID LANCE HOLDERS

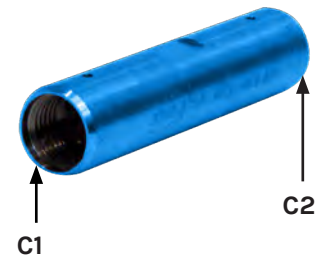
The Jetstream medium pressure rigid lance holder is used to provide reduced stress on the rigid lance to flexible lance connection, greatly reducing lance breakage and increasing safety. The rigid lance is inserted into the support tube and screwed into the female threaded connection.

PART NO.	CONNECTION TYPE		MAX. WORKING PRESSURE	
	CONNECTION 1	CONNECTION 2	psi	bar
29116	9/16" MP Female	9/16" MP Tube LH Female	20,000	1,379
29117	9/16" MP Female	3/8" MP Tube LH Female	20,000	1,379
29118	9/16" MP Female	1/4" MP Tube LH Female	20,000	1,379



SLIMLINE LANCE COUPLINGS

- Used to couple rigid and flex lances without the use of glands and collars to allow them to fit into tubes
- Additional couplings available upon request



PART NO.	CONNECTION TYPE		MAX. 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	1,379
29111	9/16" MP Tube LH Female	9/16" MP Tube RH Female	.750	19.1	20,000	1,379
52767	9/16" MP Tube LH Female	9/16" JS Lance Female	.750	19.1	20,000	1,379
29112	9/16" MP Tube RH Female	9/16" MP Tube RH Female	.750	19.1	20,000	1,379
52766	9/16" JS Lance Female	9/16" JS Lance Female	.750	19.1	20,000	1,379
28349	9/16" MP Tube LH Female	3/8" MP Tube LH Female	.750	19.1	20,000	1,379
28314	9/16" MP Tube RH Female	3/8" MP Tube RH Female	.750	19.1	20,000	1,379
28667	3/8" MP Tube LH Female	3/8" MP Tube LH Female	.500	12.7	20,000	1,379
29113	3/8" MP Tube LH Female	3/8" MP Tube RH Female	.500	12.7	20,000	1,379
53282	3/8" MP Tube LH Female	3/8" JS Lance Female	.500	12.7	20,000	1,379
29114	3/8" MP Tube RH Female	3/8" MP Tube RH Female	.500	12.7	20,000	1,379
52373	3/8" JS Lance Female	3/8" JS Lance Female	.500	12.7	20,000	1,379
28315	3/8" MP Tube RH Female	1/4" MP Tube RH Female	.500	12.7	20,000	1,379
28666	1/4" MP Tube LH Female	1/4" MP Tube LH Female	.375	9.5	20,000	1,379
28700	1/4" MP Tube LH Female	1/4" MP Tube RH Female	.375	9.5	20,000	1,379
53283	1/4" MP Tube LH Female	1/4" JS Lance Female	.375	9.5	20,000	1,379
29115	1/4" MP Tube RH Female	1/4" MP Tube RH Female	.375	9.5	20,000	1,379
52374	1/4" JS Lance Female	1/4" JS Lance Female	.375	9.5	20,000	1,379

ROTOLINK™

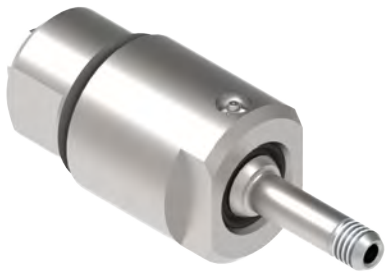
RotoLink™ series swivels are compact rotary couplings designed to deliver high pressure water from a stationary line to a rotating or twisting assembly. These durable swivels are ideal for preventing hose kink and can be used in a variety of applications including floor cleaners, lance machines, hose 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 and seat. 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.
JSL	Standard on rigid lance machines or used as an inlet swivel to a handgun.

PART NO.	SERIES	INLET CONNECTION TYPE*	INLET ANGLE (DEG)	SHAFT	WEAR KIT	REBUILD KIT	MAX. OPERATING PRESSURE	
							psi	bar
66655	JSL	9/16" MP	0	9/16" AV	66755	67522	22,000	1517
66656	JSG	3/4" MP	0	3/4" MP	66756	67519		
67456	JSL	9/16" MP	90	9/16" MP, Long	66755	67523		
67457	JSL	9/16" MP	90	9/16" AV	66755	67523		
67458	JSL	9/16" MP	0	9/16" MP, Long	66755	67522		
67459	JSG	3/4" MP	90	3/4" MP	66756	67519		

*See details on all connection types in Section I.



JSG SERIES
Part No. 66656



JSL SERIES
Part No. 66655

CONTROL GUNS

HAND-OPERATED, ZERO-THRUST, AND FOOT OPERATED

Control guns are a necessity in any hand lancing application. Jetstream offers several control gun options for 20,000 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 20,000 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 blue for the 20,000 psi (1379 bar) rating.



ZERO-THRUST GUN

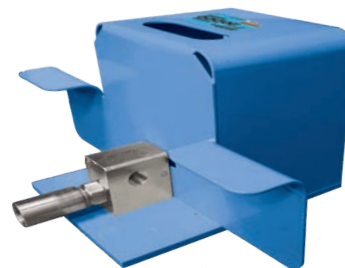
The Zero-Thrust gun is primarily designed for underwater cleaning in a marine environment. Due to no thrust, the operator is able to sustain a standard distance from the material needing to be cleaned without being propelled away.



DURASAFE™ FOOT GUNS

The Durasafe foot gun is ideal for numerous tube cleaning applications. A recent upgrade was the larger opening for easier boot clearance, which is now standard on all Jetstream foot guns. Both dump or shut-in style come standard in blue color for 20,000 psi (1379 bar).

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



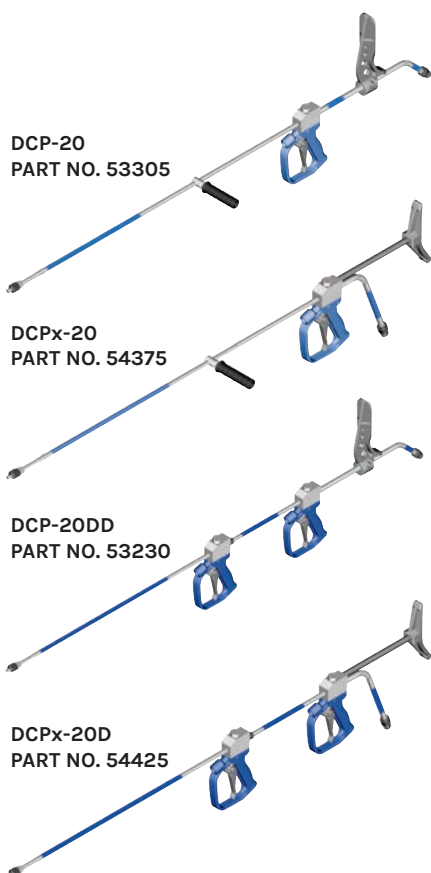


DURASAFE™ HAND GUNS

DUMP STYLE

DuraSafe™ 20,000 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.
- ▶ 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.
- ▶ Equipped with holder for single nozzle. Ideal for use with the Jetstream Orbi-Jet self-rotating nozzles. A nozzle holder (**Part No. 28523**) is available for use with NPT nozzles.
- ▶ All Jetstream Hand Guns are color-coded blue for added safety at 20,000 psi (1379 bar).



DCP-20
PART NO. 53305

DCPx-20
PART NO. 54375

DCP-20DD
PART NO. 53230

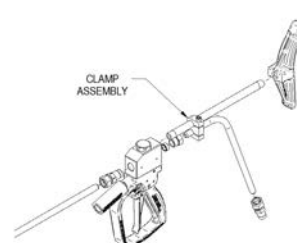
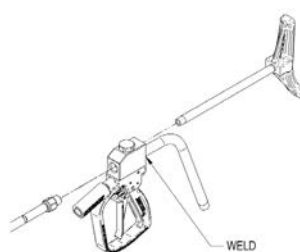
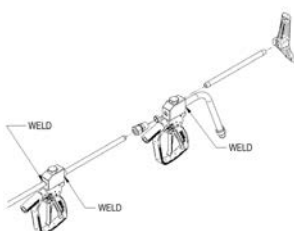
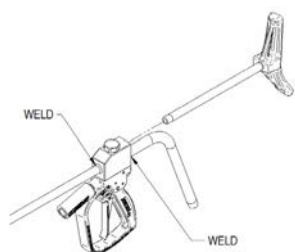
DCPx-20D
PART NO. 54425

STANDARD, WELDED

DUAL TRIGGER, CLOCKABLE

PARTIALLY FIELD REPAIRABLE

FULLY FIELD REPAIRABLE



NOTE: The Jetstream P1082 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.

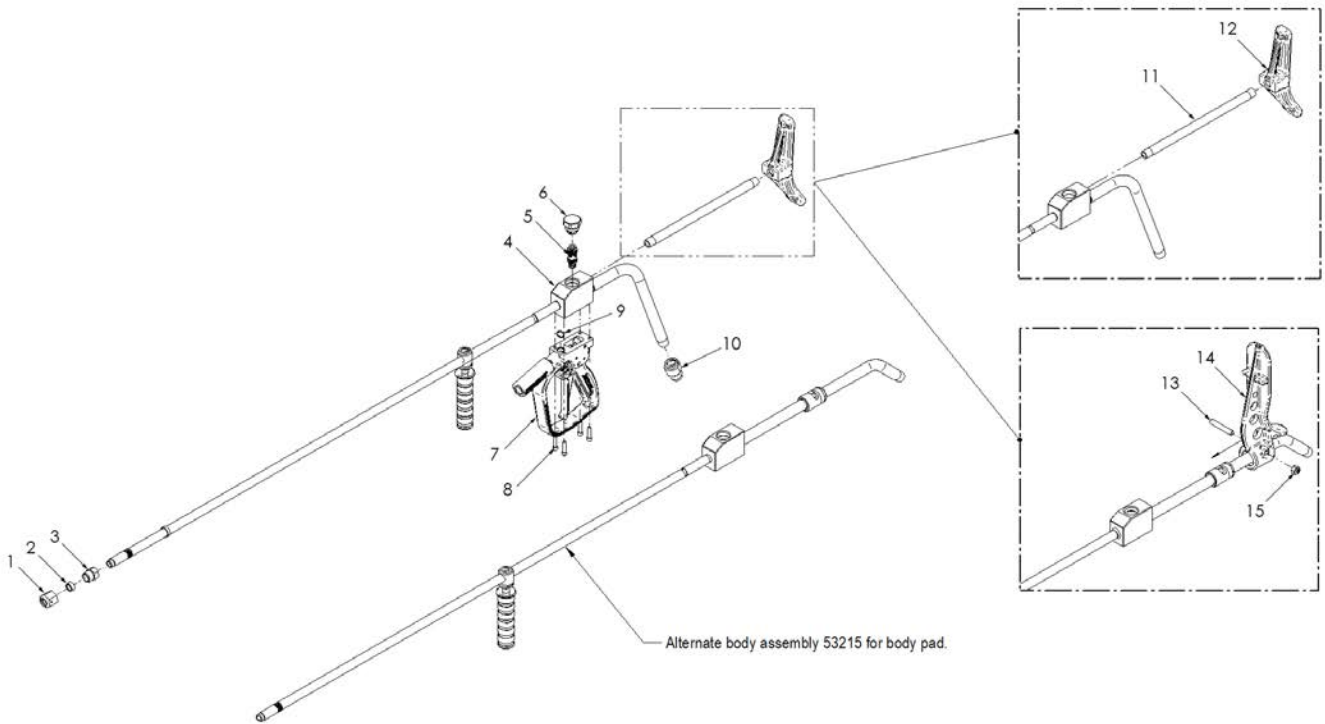
DURASAFE™ HAND GUNS

DUMP STYLE

STANDARD, WELDED GUN

PART NO.	MODEL	TRIGGER ACTUATION	REST TYPE	INLET CONNECTION*	OUTLET CONNECTION	LENGTH		MAX. OPERATING PRESSURE	
						in	mm	psi	bar
53305	DCP-20	Single	Body Pad	20K Port Male	9/16" MP Male	71	1803	20,000	1,379
54375	DCPx-20	Single	Shoulder Stock			66	1676	20,000	1,379

*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	51874	Nozzle Sleeve, HPO	10	54409	Gland, 3/4" MP
2	26635	Collar, 9/16" MP	11	50127	Extension, Shoulder Stock (54375)
3	26645	Gland, 9/16" MP	12	65808	Shoulder Stock (54375)
4	54365	Body Assy (53305)	13	53303	Stud (53305)
	53215	Body Assy (54375)	14	53304	Body Pad (53305)
5	51869	Cartridge	15	25296	Nut (53305)
6	53175	Cartridge Plug	16*	65999	Decal, Front Barrel, Blue
7	57956-67	Handle Assy, Blue	17*	64267	Decal, Rear Barrel, Blue
8	26689	Capscrew	18*	71743	Decal, Body, Blue
9	25193	O-Ring	19*	66332	Cushion, Shoulder Stock (54375)

*Not shown.

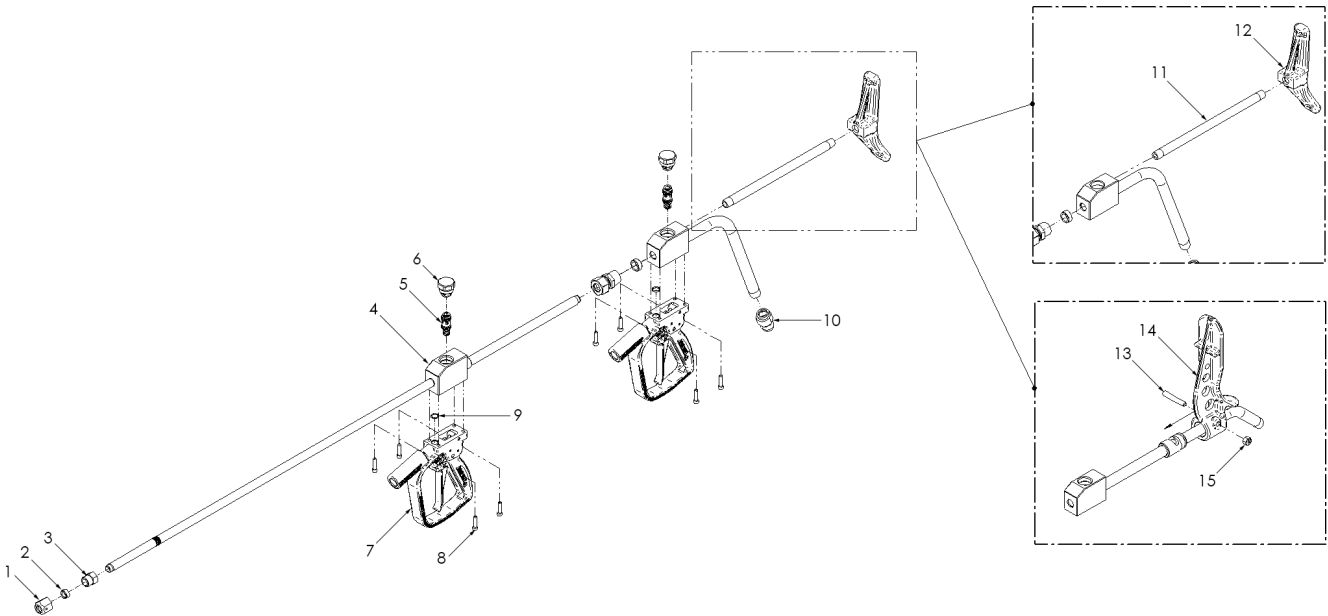
DURASAFE™ HAND GUNS

DUMP STYLE

DUAL TRIGGER, CLOCKABLE GUN

PART NO.	MODEL	TRIGGER ACTUATION	REST TYPE	INLET CONNECTION*	OUTLET CON-NECTION	LENGTH		MAX. OPERATING PRESSURE	
						in	mm	psi	bar
53230	DCP-20DD	Dual	Body Pad	20K Port Male	9/16" MP Male	75	1905	20,000	1,379
54425	DCPx-20D	Dual	Shoulder Stock			70	1778	20,000	1,379

*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	51874	Nozzle Sleeve, HPO	10	54409	Gland, 3/4" MP
2	26635	Collar, 9/16" MP	11	50127	Extension, Shoulder Stock (54425)
3	26645	Gland, 9/16" MP	12	65808	Shoulder Stock (54425)
4	55294	Body Assy (54425)	13	53303	Stud (53230)
	55317	Body Assy (53230)	14	53304	Body Pad (53230)
5	51869	Cartridge	15	25296	Nut (53230)
6	53175	Cartridge Plug	16*	65999	Decal, Front Barrel, Blue
7	57956-67	Handle Assy, Blue	17*	64267	Decal, Rear Barrel, Blue
8	26689	Capscrew	18*	71743	Decal, Body, Blue
9	25193	O-Ring	19*	66332	Cushion, Shoulder Stock (54425)

*Not shown.

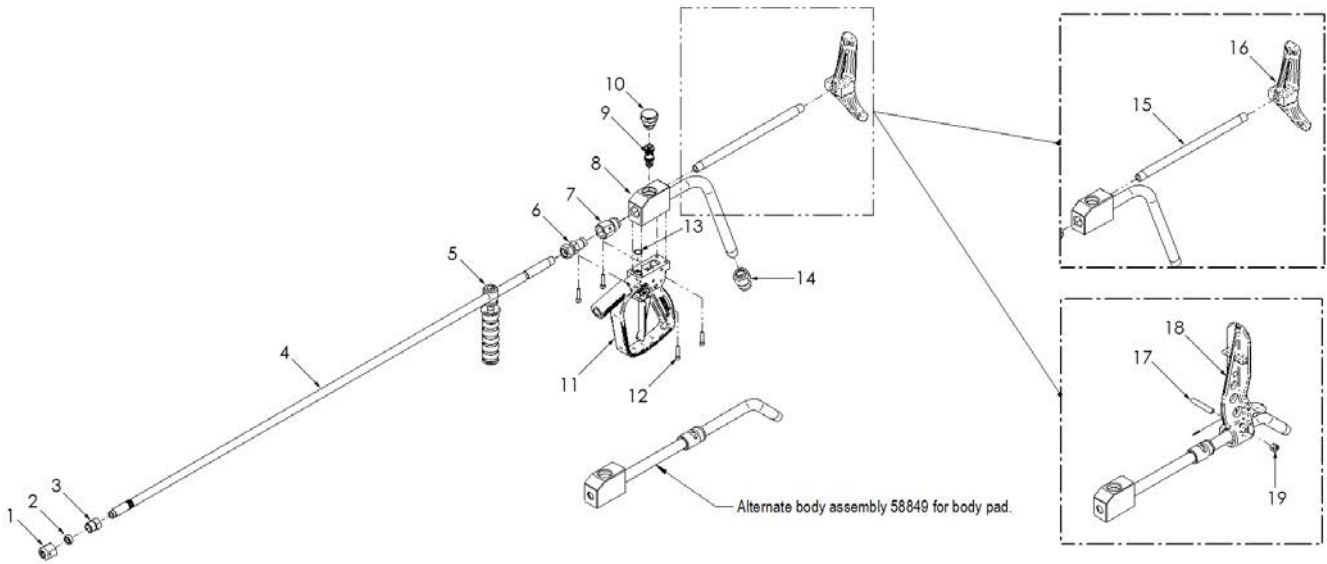
DURASAFE™ HAND GUNS

DUMP STYLE

PARTIALLY FIELD REPAIRABLE GUN

PART NO.	MODEL	TRIGGER ACTUATION	REST TYPE	INLET CONNECTION*	OUTLET CONNECTION	LENGTH		MAX. OPERATING PRESSURE	
						in	mm	psi	bar
54915	DCPx-20X	Single	Shoulder Stock	20K Port Male	.56 MP Female	66	1676	20,000	1,379
58818	DCP-20x	Single	Body Pad	9/16" MP Male	9/16" MP Male	71	1803	20,000	1,379
58124	DCPx-20X	Single	Shoulder Stock			66	1676	20,000	1,379

*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	51874	Nozzle Sleeve, HPO	12	26689	Capscrew
2	26635	Collar, 9/16" MP	13	25193	O-Ring
3	26645	Gland, 9/16" MP	14	54409	3/4" MP Gland (54915)
4	27968-48	Barrel, Front		28268	9/16" MP Anti-Vibe Gland (58818, 58124)
5	53464	Grip Assy	15	50127	Extension, Shoulder Stock (54915, 58124)
6	28268	9/16" MP Anti-Vibe Gland	16	65808	Shoulder Stock (54915, 58124)
7	52044	Port Adapter (54915)	17	53303	Stud (58818)
8	54475	Body Assy (54915)	18	53304	Body Pad (58818)
	58131	Body Assy (58124)	19	25296	Nut (58818)
	58819	Body Assy (58818)	20*	65999	Decal, Front Barrel, Blue
9	51869	Cartridge	21*	64267	Decal, Rear Barrel, Blue
10	53175	Cartridge Plug	22*	71743	Decal, Body, Blue
11	57956-67	Handle Assy, Blue	23*	66332	Cushion, Shoulder Stock (54915, 58124)

*Not shown.

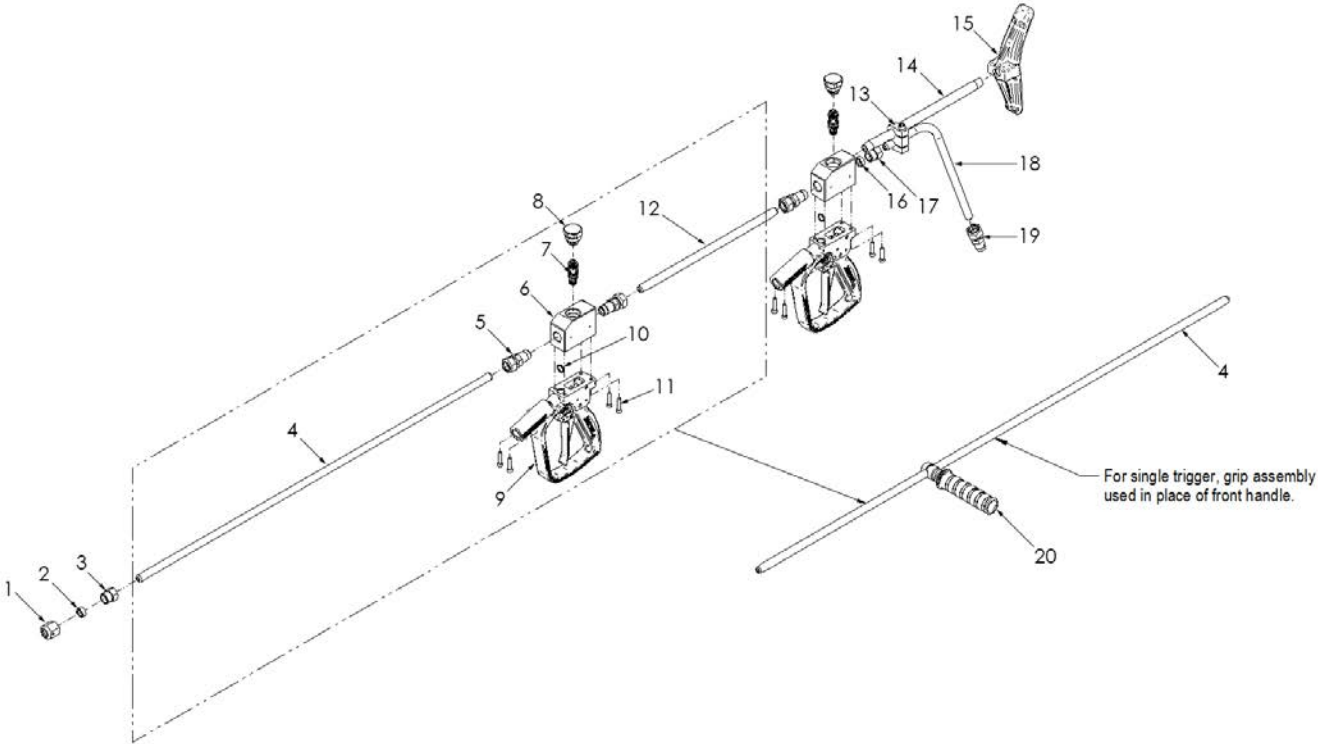
DURASAFE™ HAND GUNS

DUMP STYLE

FIELD REPAIRABLE GUN

PART NO.	MODEL	TRIGGER ACTUATION	REST TYPE	INLET CONNECTION*	OUTLET CONNECTION	LENGTH		MAX. OPERATING PRESSURE	
						in	mm	psi	bar
56988	FR-20SD	Single	Shoulder Stock	9/16" MP	9/16" MP Male	66	1676	20,000	1,379
56983	FR-20DD	Dual	Shoulder Stock			70	1778	20,000	1,379

*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	51874	Nozzle Sleeve, HPO	13	61881	Clamp
2	26635	Collar	14	50127	Extension, Shoulder Stock
3	26645	Gland	15	65808	Shoulder Stock
4	27968-48	Front Barrel, 48" (56988)	16	26635	Collar, 9/16" MP
	27968-36	Front Barrel, 36" (56983)	17	26645	Gland, 9/16" MP
5	28268	Anti-Vibe Adapter	18	57095	Rear Barrel
6	J55768	Body	19	28268	9/16" MP Anti-Vibe Gland
7	51869	Cartridge	20	53464	Grip Assy (56988)
8	53175	Cartridge Plug	21*	65999	Decal, Front Barrel, Blue
9	57956-67	Handle Assy, Blue	22*	64267	Decal, Rear Barrel, Blue
10	25193	O-Ring	23*	71743	Decal, Body, Blue
11	26689	Capscrew	24*	66332	Cushion, Shoulder Stock
12	27968-14	Nipple (56983)			

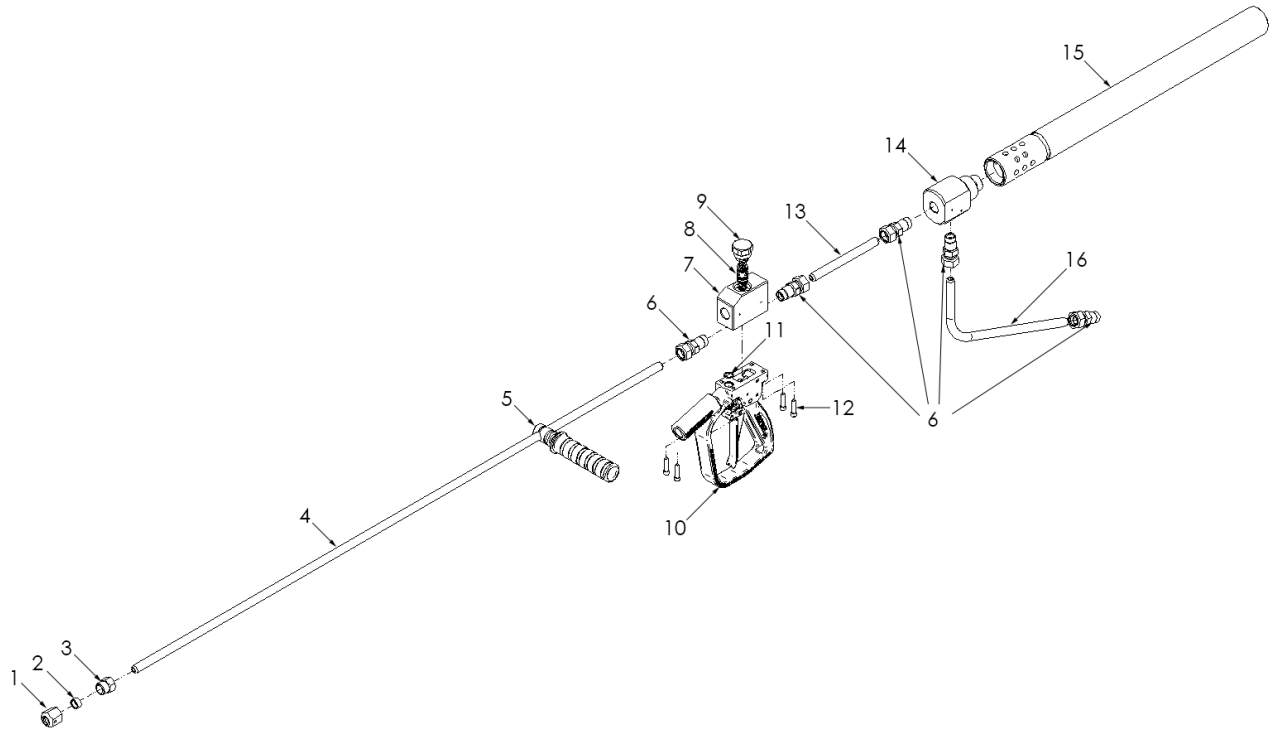
*Not shown.

ZERO THRUST HAND GUNS

The Zero-Thrust gun is primarily designed for underwater cleaning in a marine environment. The gun uses two nozzles, one HPO nozzle facing forward and one RM or RMS nozzle installed in the rear adapter (item 14), 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. 58396**

PART NO.	MODEL	TRIGGER ACTUATION	REST TYPE	INLET CONNECTION*	BARREL SIZE	LENGTH		MAX. OPERATING PRESSURE	
						in	mm	psi	bar
58396	ZT-20	Single	None	9/16" MP Male	9/16" MP LH Male	85	2159	20,000	1379

*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	51874	Nozzle Sleeve, HPO	11	25193	O-Ring
2	26635	Collar	12	26689	Capscrew
3	26645	Gland	13	27968-06	Middle Barrel, 6"
4	27968-48	Front Barrel, 48"	14	58398	Baffle Tube Adapter
5	53464	Grip Assy	15	50511	Sub Sea Tube Baffle
6	28268	Anti-Vibe Assy	16	57095	Rear Barrel
7	J55768	Body, Durasafe	17*	65999	Decal, Front Barrel, Blue
8	51869	Cartridge	18*	64267	Decal, Rear Barrel, Blue
9	53175	Cartridge Plug	19*	71743	Decal, Body, Blue
10	57956-67	Handle Assy, Blue			

*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 hand-held control guns will provide greater operator comfort and safety.

REPLACEMENT CARTRIDGE



Zero Thrust Hand Gun utilizes a cartridge to completely rebuild in about 30 seconds.

Part No. 51869

DURASAFE™ HAND GUNS

SHUT-IN STYLE



DCPxSi-20
PART NO. 54395



FR-20Si
PART NO. 56984



FR-20Si
PART NO. 59299



DuraSafe™ 20,000 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 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™ require the installation of a Shut-In Regulator Valve (see page C-14).
- ▶ 30 second field replaceable cartridge design for minimal downtime.
- ▶ 48" distance from primary trigger to end of barrel to ensure maximum operator safety.**
- ▶ Lightweight.
- ▶ DCPxSi 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.
- ▶ Equipped with holder for single nozzle. Ideal for use with the Jetstream Orbi-Jet self-rotating nozzles. A nozzle holder (**Part No. 28523**) is available for use with NPT nozzles.
- ▶ All Jetstream Hand Guns are color-coded blue for added safety at 20,000 psi (1379 bar).

REPLACEMENT CARTRIDGE



All 20,000 psi DuraSafe Shut-in Style Control Guns utilize the CPSi-20 cartridge, shown above, to completely rebuild the gun in about 30 seconds! **Part No. 60420**

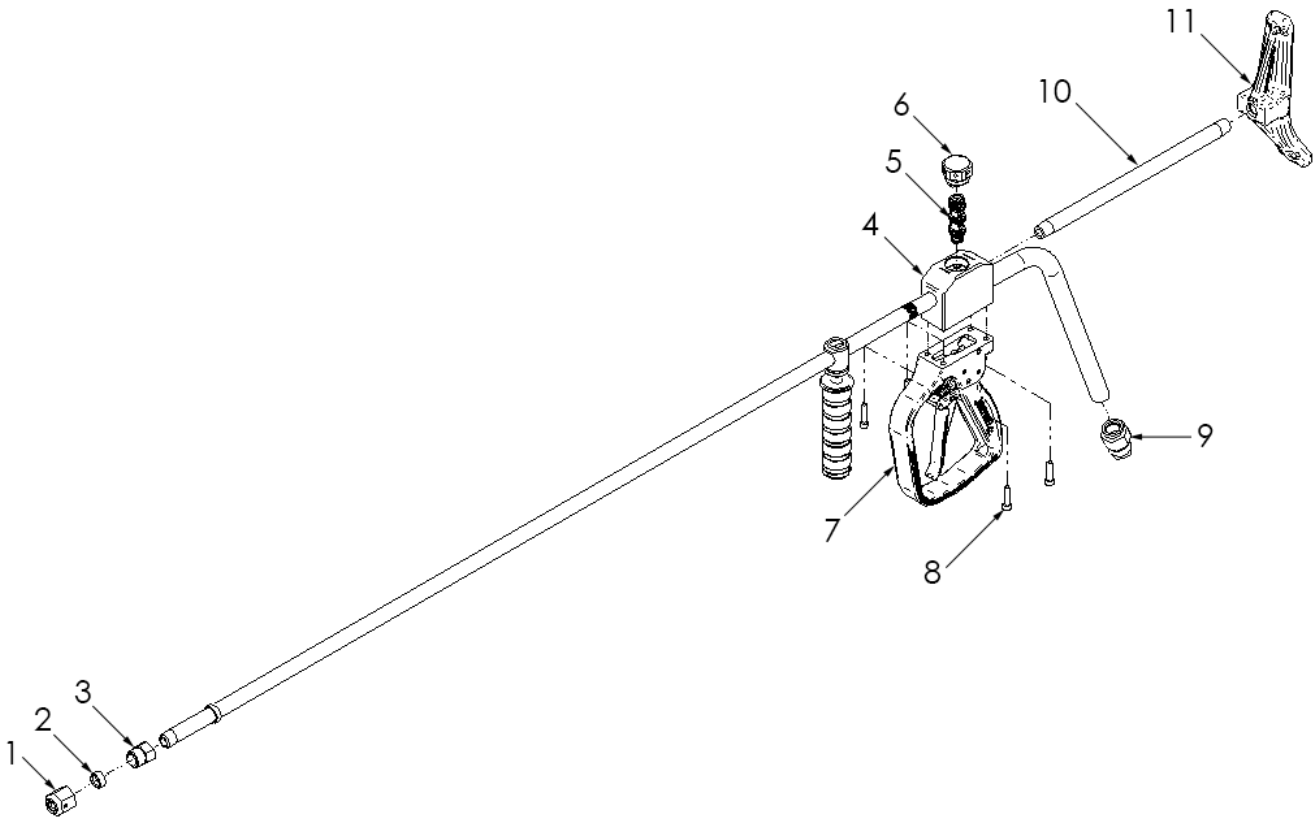
DURASAFE™ HAND GUNS

SHUT-IN STYLE

STANDARD, WELDED GUN

PART NO.	MODEL	REST TYPE	INLET CONNECTION*	OUTLET (NOZZLE) CONNECTION	LENGTH		WEIGHT		MAX. OPERATING PRESSURE	
					in	mm	lbs	kg	psi	bar
54395	DCPxSi-20	Shoulder Stock	20K Port Male	9/16" MP Male	70	1778	11.4	5.2	20,000	1,379

*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	51874	Nozzle Sleeve, HPO	9	54409	Gland, 3/4" MP
2	26635	Collar, 9/16" MP	10	50127	Shoulder Stock Extension
3	26645	Gland, 9/16" MP	11	65808	Shoulder Stock
4	54400	Body	12*	65999	Decal, Front Barrel, Blue
5	60420	Cartridge	13*	64267	Decal, Rear Barrel, Blue
6	52543	Cartridge Plug	14*	71743	Decal, Body, Blue
7	57956-67	Handle Assy, Blue	15*	66332	Cushion, Shoulder Stock
8	26689	Capscrew			

*Not shown.

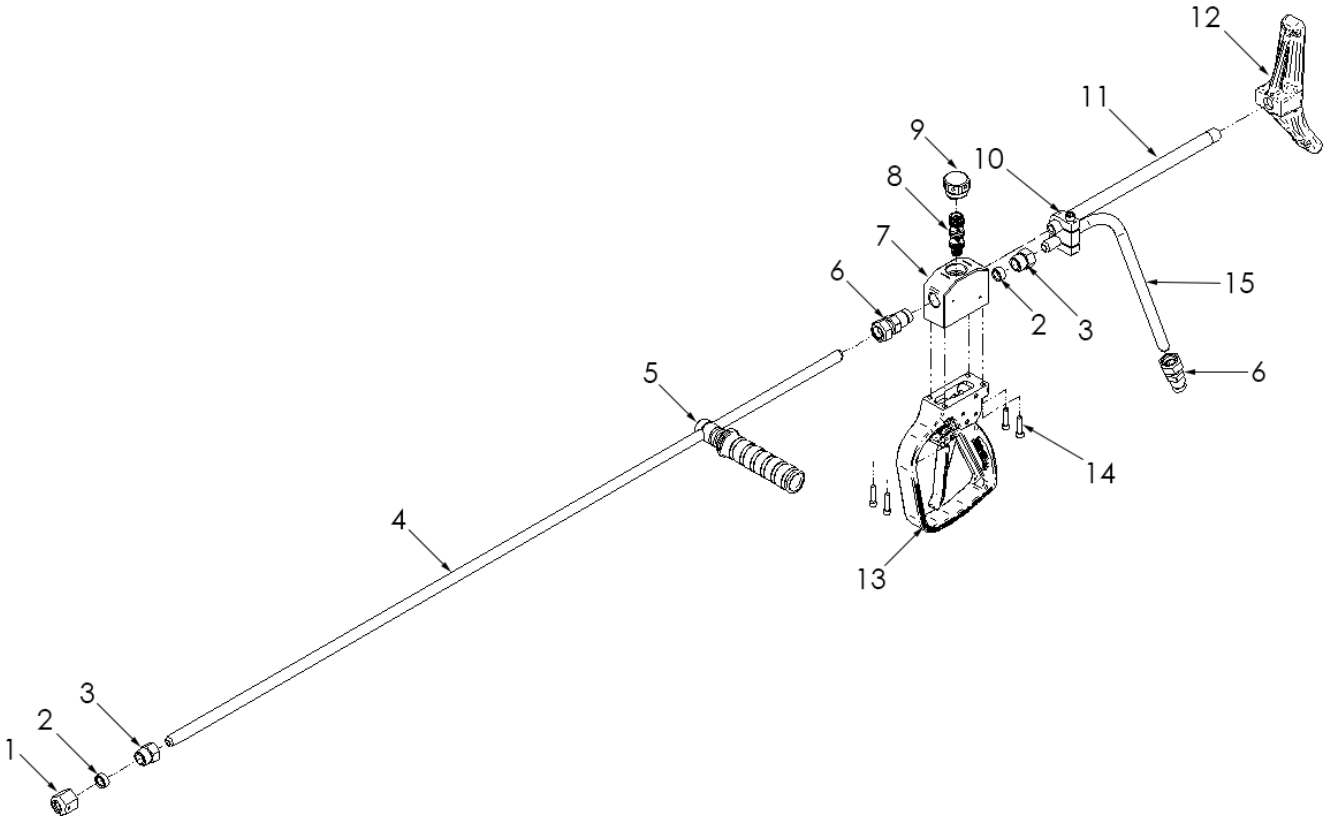
DURASAFE™ HAND GUNS

SHUT-IN STYLE

FIELD REPAIRABLE GUN

PART NO.	MODEL	REST TYPE	INLET CONNECTION*	OUTLET (NOZZLE) CONNECTION	LENGTH		WEIGHT		MAX. OPERATING PRESSURE	
					in	mm	lbs	kg	psi	bar
59299	FR-20Si	Shoulder Stock	9/16" MP Male	9/16" MP Male	70	1778	11.4	5.2	20,000	1,379

*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	51874	Nozzle Sleeve, HPO	11	50127	Shoulder Stock Extension
2	26635	Collar, 9/16" MP	12	65808	Shoulder Stock
3	26645	Gland, 9/16" MP	13	57956-67	Handle Assy, Blue
4	27968-48	Barrel, Front	14	26689	Capscrew
5	53464	Grip Assy	15	57095	Rear Barrel
6	28268	Anti-Vibe Gland	16*	65999	Decal, Front Barrel, Blue
7	57000	Body	17*	64267	Decal, Rear Barrel, Blue
8	60420	Cartridge	18*	71743	Decal, Body, Blue
9	52543	Cartridge Plug	19*	66332	Cushion, Shoulder Stock
10	61881	Clamp Assy			

*Not shown.



DURASAFE™ FOOT GUNS

DUMP STYLE

Ideal for a variety of waterblast tube cleaning applications, the DCF-20 DuraSafe™ foot-operated dump style control gun allows the operator to have complete control of the pressure at all times.

- ▶ 30 second field replaceable cartridge design for minimal downtime.
- ▶ Safest gun in the industry! Custom safety cage and thick blast wall protect operator better than any foot control gun in the industry.
- ▶ Specially designed inlet and outlet connections are superior to industry standard connections and use a replaceable seal rather than metal to metal contact.
- ▶ Built in “wings” protect high pressure end fittings from external damage.
- ▶ All pressure-bearing components are stainless steel.
- ▶ Threaded diffuser to route dump water for collection or disposal.
- ▶ All Jetstream foot guns are color-coded blue for added safety at 20,000 psi (1379 bar).

REPLACEMENT CARTRIDGE

All 20,000 psi DuraSafe Dump Style Control Guns utilize a cartridge to completely rebuild the gun in about 30 seconds!



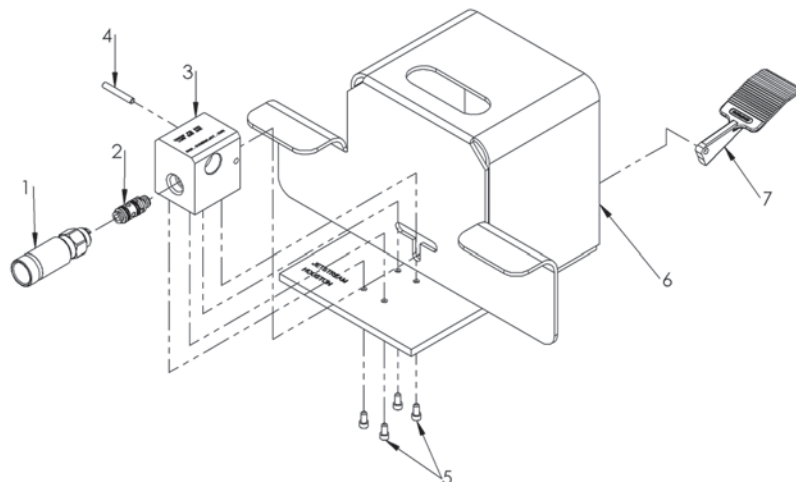
PART NO. 51869 (59372)



PART NO. 52750 (59379)

PART NO.	MODEL	INLET & OUTLET CONNECTION*	FLOW		DIMENSIONS (H X W X D)	MAX. OPERATING PRESSURE	
			gpm	in		psi	bar
59372	DCF-20	20K Port Female	30-35	8.8 x 16.7 x 9.25	223 x 424 x 235	20,000	1,379
59379	DCF-20 Mag	3/4" MP Female	50	8.8 x 16.7 x 9.25	223 x 424 x 235	20,000	1,379

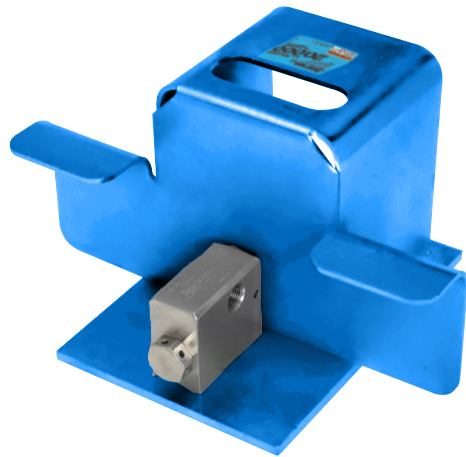
*See details on all connection types in Section I.



PART BREAKDOWN

ITEM	PART NO.	DESCRIPTION
1	51864	Diffuser
	51638	Diffuser (59379)
2	51869	Cartridge
	52750	Cartridge (59379)
3	53369	Body
	55411	Body (59379)
4	26453	Pin
5	25261	Capscrew
6	55432	Base
7	53373	Pedal
8*	52390	Plug & O-Ring for Body

*Not shown.



REPLACEMENT CARTRIDGE



20,000 psi Shut-in Style Diverter Valves utilize the CPSi-20 cartridge, shown above, to completely rebuild the gun in about 30 seconds! **Part No. 60420**

DURASAFE™ FOOT GUNS

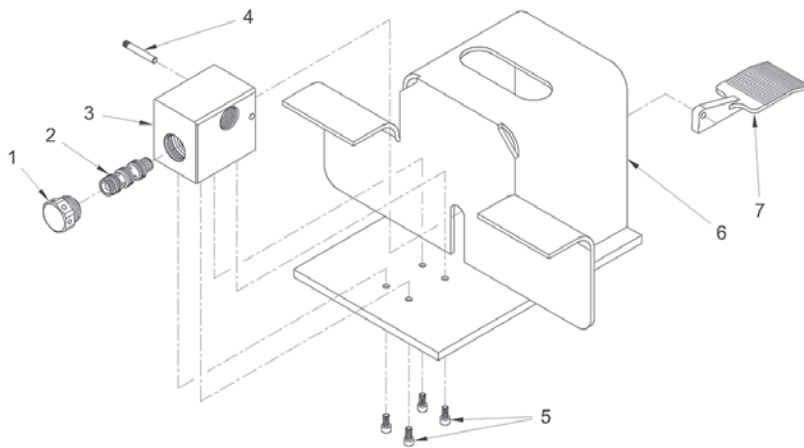
SHUT-IN STYLE

Ideal for a variety of waterblast tube cleaning applications, the DCFSi-20 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-14).
- ▶ 30 second field replaceable cartridge design for minimal downtime.
- ▶ Safest gun in the industry! Custom safety cage and thick blast wall protect operator better than any foot control gun in the industry.
- ▶ Specially designed inlet and outlet connections are superior to industry standard connections and use a replaceable seal rather than metal to metal contact.
- ▶ All pressure-bearing components are stainless steel.
- ▶ Built in “wings” protect high pressure and fittings from external damage.

PART NO.	MODEL	INLET & OUTLET CONNECTIONS*	DIMENSIONS (H X W X D)		MAX. OPERATING PRESSURE	
			in	mm	psi	bar
59378	DCFSi-20	20K Port Female	8.8 x 16.7 x 9.2	223 x 424 x 235	20,000	1,379

*See details on all connection types in Section I.



PART BREAKDOWN

ITEM	PART NO.	DESCRIPTION
1	52543	Cartridge Plug
2	60420	CPSi-20 Cartridge
3	54392	Body
4	26453	Pin
5	25261	Capscrew
6	55432	Base
7	53373	Pedal
8*	52390	Plug & O-Ring for Body

*Not shown.

ROTARY, STRAIGHT, PIPE & TUBE CLEANING TOOLS & NOZZLES

Jetstream provides tools for different 20,000 psi applications in surface preparation, pipe cleaning and tube cleaning. All of our nozzles are made of stainless steel, hardened steel, or tungsten carbide and treated to withstand high pressures.

The Orbi-Jet™ X22 tool 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.

Jetstream's HP Series surface cleaning nozzles provide a powerful, stream-lined jet for tough cleaning applications. These nozzles come in carbide and sapphire orifices with a zero degree pattern. (A fifteen degree pattern is also offered in the carbide nozzles.) Many orifice sizes are available.

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 shown with Twis-Lok shroud.



Premium Kit (Part No. 63305).

ORBI-JET™ X22

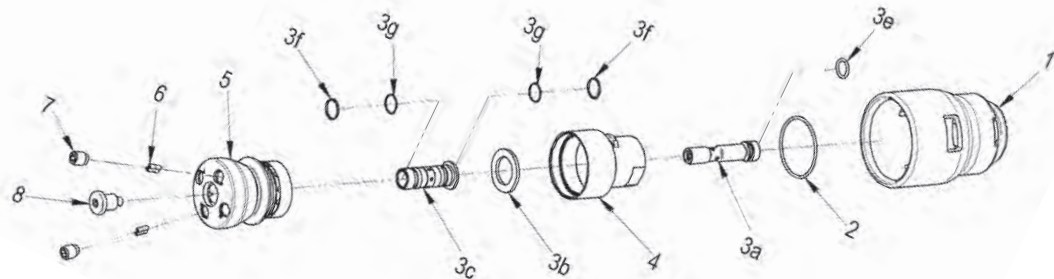
ROTARY SURFACE PREPARATION TOOL

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	9/16" MP Female	1000-1500	2.0	51	3.7	94	2.1	0.95	7.5	28.4	22,000	1517

*See details on all connection types in Section I.



PART BREAKDOWN

ITEM	PART NO.	DESCRIPTION	ITEM	PART NO.	DESCRIPTION
1	63202	Twis-Lok Shroud	7	UHPX-PLUG	Plug
2	63304	Shroud O-Ring	8	54276	Retaining Screw
3	52305	Rebuild Kit (Items 3a to 3g)	9*	28386	15K Adapter
4	63207	Body	10*	63302	Maintenance Kit
5	54277	Rotor	11*	26758N (S)	Magnets
6	28435	Straightening Vane			

*Not shown.

ORBI-JET™ X22 ACCESSORIES

NOZZLE EXTENSIONS

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.

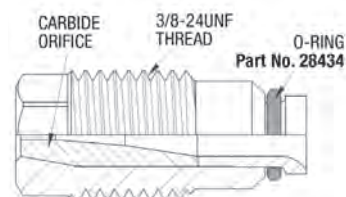
Part No. 53844



ORBI-JET™ X22 NOZZLES

OX SERIES—CARBIDE NOZZLES

- High productivity carbide nozzles designed for use in the Orbi-Jet X22.
- 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



PART NO.	ORIFICE DIAMETER		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
OX-018	.018	.46	5.4	20.4	5.8	22.0	6.1	23.1	6.4	24.2	6.7	25.4
OX-025	.025	.64	9.2	34.8	9.9	37.5	10.6	40.1	11.2	42.4	11.8	44.7
OX-029	.029	.74	11.9	45.0	12.9	48.8	13.8	52.2	14.6	55.3	15.4	58.3
OX-033	.033	.84	15.0	56.8	16.3	61.7	17.5	66.2	18.6	70.4	19.6	74.2
OX-038	.038	.92	19.4	73.4	21.2	80.3	22.7	85.9	24.2	91.6	25.5	96.5

TWO OX NOZZLES



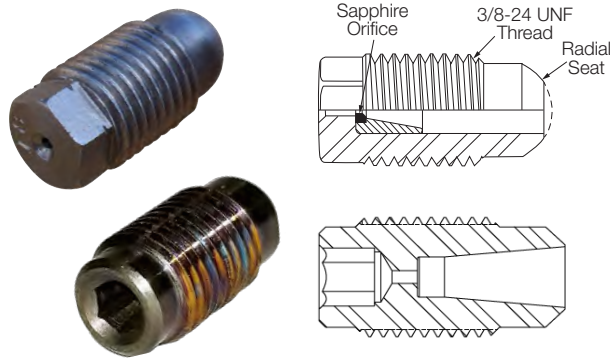
OX-018	.018	.46	3.4	12.9	3.6	13.6	3.7	14.0	3.9	14.8	4.0	15.1
OX-025	.025	.64	5.3	20.1	5.6	21.2	6.0	22.7	6.3	23.8	6.5	24.6
OX-029	.029	.74	6.6	25.0	7.1	26.9	7.6	28.8	8.0	30.3	8.4	31.8
OX-033	.033	.84	8.2	31.0	8.8	33.3	9.4	35.6	9.9	37.5	10.4	39.4
OX-038	.038	.92	10.4	39.4	11.3	42.8	12.0	45.4	12.7	48.1	13.4	50.7
OX-042	.042	1.01	12.4	46.9	13.4	50.7	14.4	54.5	15.3	57.9	16.1	60.9
OX-046	.046	1.11	14.6	55.3	15.9	60.2	17.0	64.4	18.1	68.5	19.1	72.3



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		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
UHPX-018	UHPXi-018	UHPXD-018	.018	0.46	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	4.6	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	4.9	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	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	5.7	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	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	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	6.9	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	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	7.9	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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		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
UHPX-025	UHPXI-025	UHPXD-025	.025	0.64	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	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	4.6	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	4.9	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	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	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	5.6	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	5.9	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	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	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	6.8	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	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	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	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	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	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	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	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.



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
(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
JF2X22												
65272	3/8" MP LH	1000-2000	1.36	35	2.02	51	.5	1.1	20	75	22,000	1516
65273	3/8" MP RH	1000-2000	1.36	35	2.02	51	.5	1.1	20	75	22,000	1516
65274	9/16" MP LH	1000-2000	1.36	35	2.02	51	.5	1.1	20	75	22,000	1516
65275	9/16" MP RH	1000-2000	1.36	35	2.02	51	.5	1.1	20	75	22,000	1516

*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

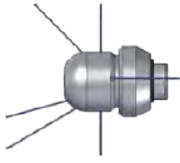


Product Instruction
PI-176



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.

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 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!

- ▶ 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 **P1SO** 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.



3" J-FORCE™ TOOL
(JF3X22)

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
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

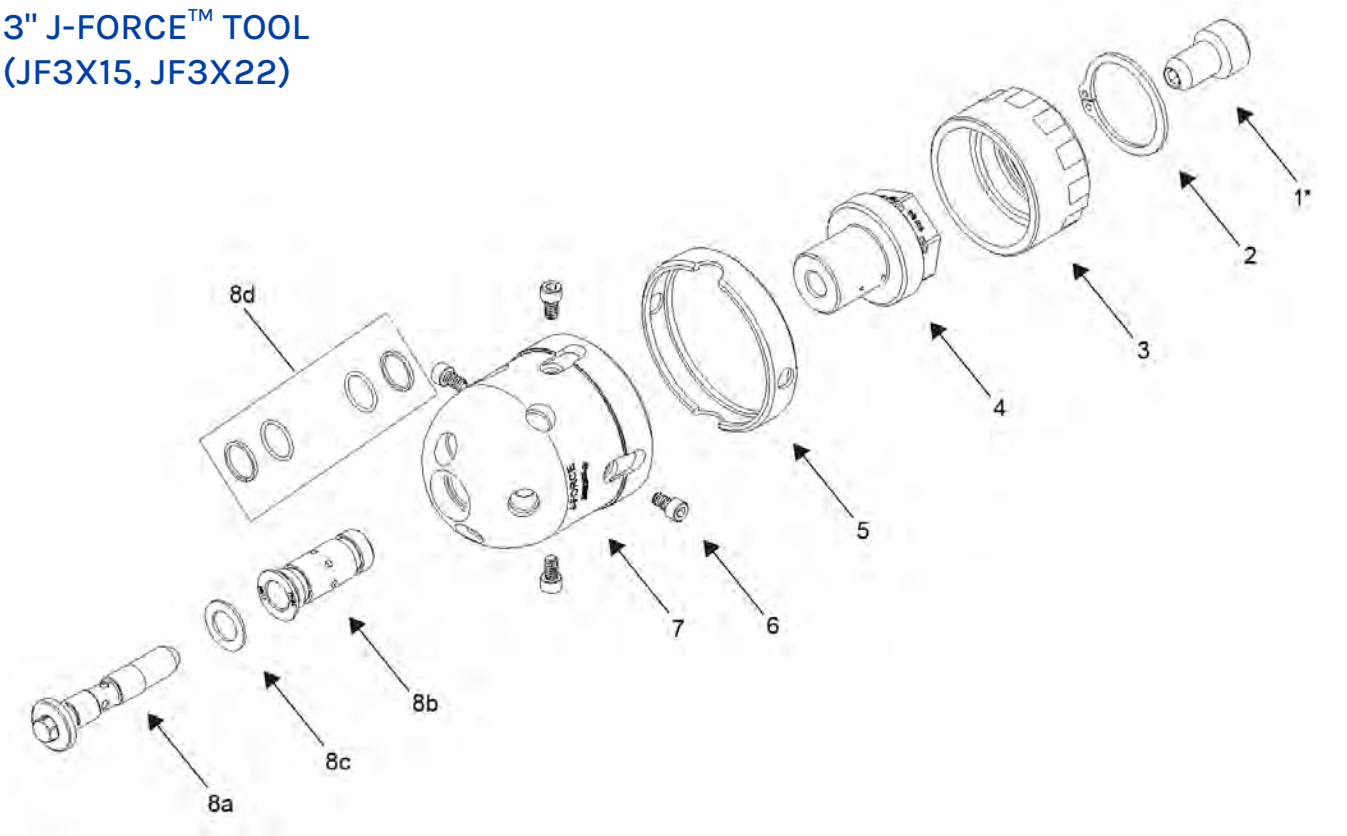
*See details on all connection types in Section I.



TOOL KITS

PART NO.	KIT TYPE	INLET CONNECTION
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™ TOOL (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	67103	Inlet Nut, 1/4" NPT (67859)	8	67870	Rebuild Kit
	67102	Inlet Nut, 9/16" Type M (67860)	8a	67088	Mandrel
	67100	Inlet Nut, 3/8" MP LH (67861)	8b	67090	Flange Bushing
	67491	Inlet Nut, 3/8" MP RH (67862)	8c	67089	Thrust Bearing
	67095	Inlet Nut, 9/16" MP LH (67863)	8d	67869	O-Ring Maintenance Kit
	67821	Inlet Nut, 9/16" MP RH (67864)			

TOOLS &
NOZZLES

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	
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.

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!

- ▶ 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.



4" J-FORCE™ GEN III TOOL
(JF4X22)

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
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

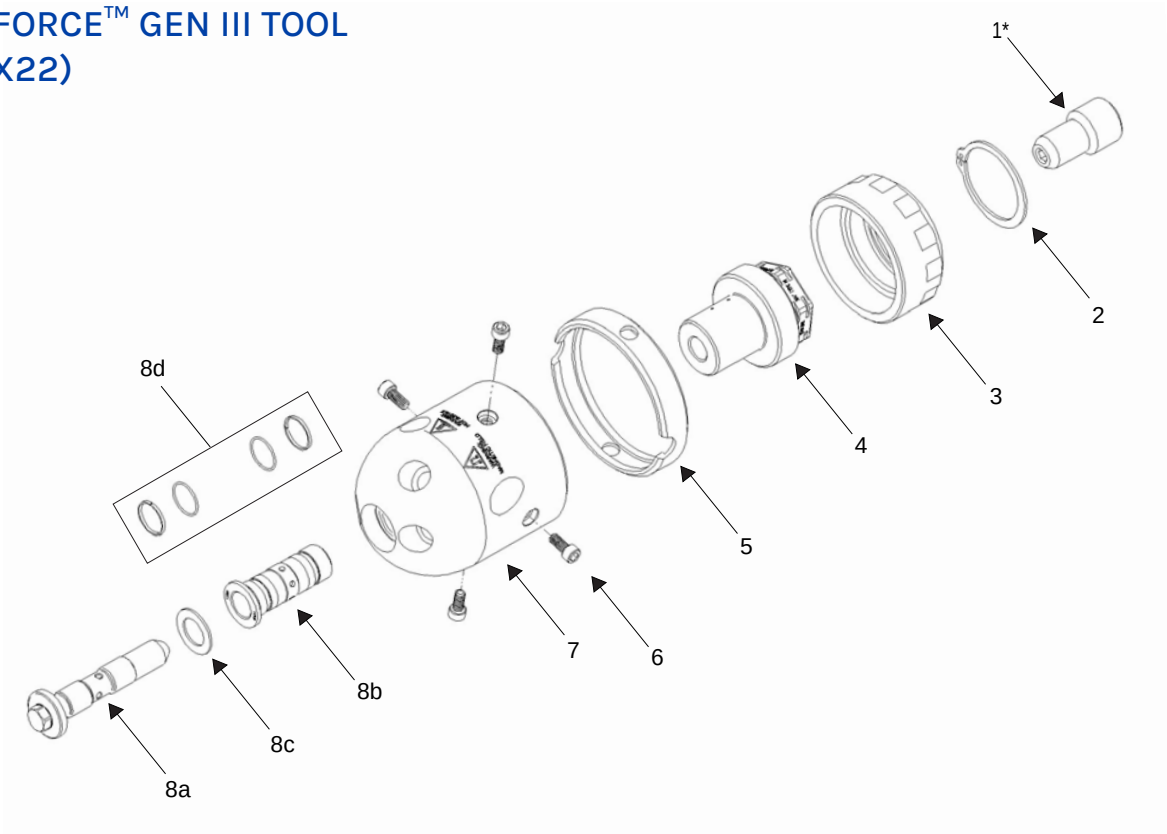
*See details on all connection types in Section I.



TOOL KITS

PART NO.	KIT TYPE	INLET CONNECTION
67629	Starter	Type M
67631	Starter	9/16" MP LH
67633	Starter	9/16" MP RH
67630	Premium	Type M
67632	Premium	9/16" MP LH
67634	Premium	9/16" MP RH

4" J-FORCE™ GEN III TOOL
(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	65922	Inlet Nut, 3/4" Type M (67030)	8a	66336	Mandrel
	65921	Inlet Nut, 9/16" MP LH (67031)	8b	52349	Flange Bushing
	65919	Inlet Nut, 9/16" MP RH (67032)	8c	64100	Thrust Bearing
5	64103	Wear Ring	8d	66249	O-Ring Maintenance Kit

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.

4" J-FORCE™ GEN III NOZZLES

JS2D NOZZLES



- ▶ 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

4" J-FORCE™ GEN II

PIPE CLEANING TOOL

The Jetstream J-Force™ 4" Gen II tool is a self-powered rotating tool designed to easily navigate and clean pipes with four-inch bends. The 4-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!

- ▶ Equipped with two forward-facing ports at 10°, 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.



4" J-FORCE™ GEN II TOOL
(JF4X22)

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
		JF4X22										
66216	3/4" Type M	1000-2000	2.75	70	3.85	98	3.90	1.77	40	150	22,000	1516
66217	9/16" MP LH	1000-2000	2.75	70	3.85	98	3.90	1.77	40	150	22,000	1516
66218	9/16" MP RH	1000-2000	2.75	70	3.85	98	3.90	1.77	40	150	22,000	1516

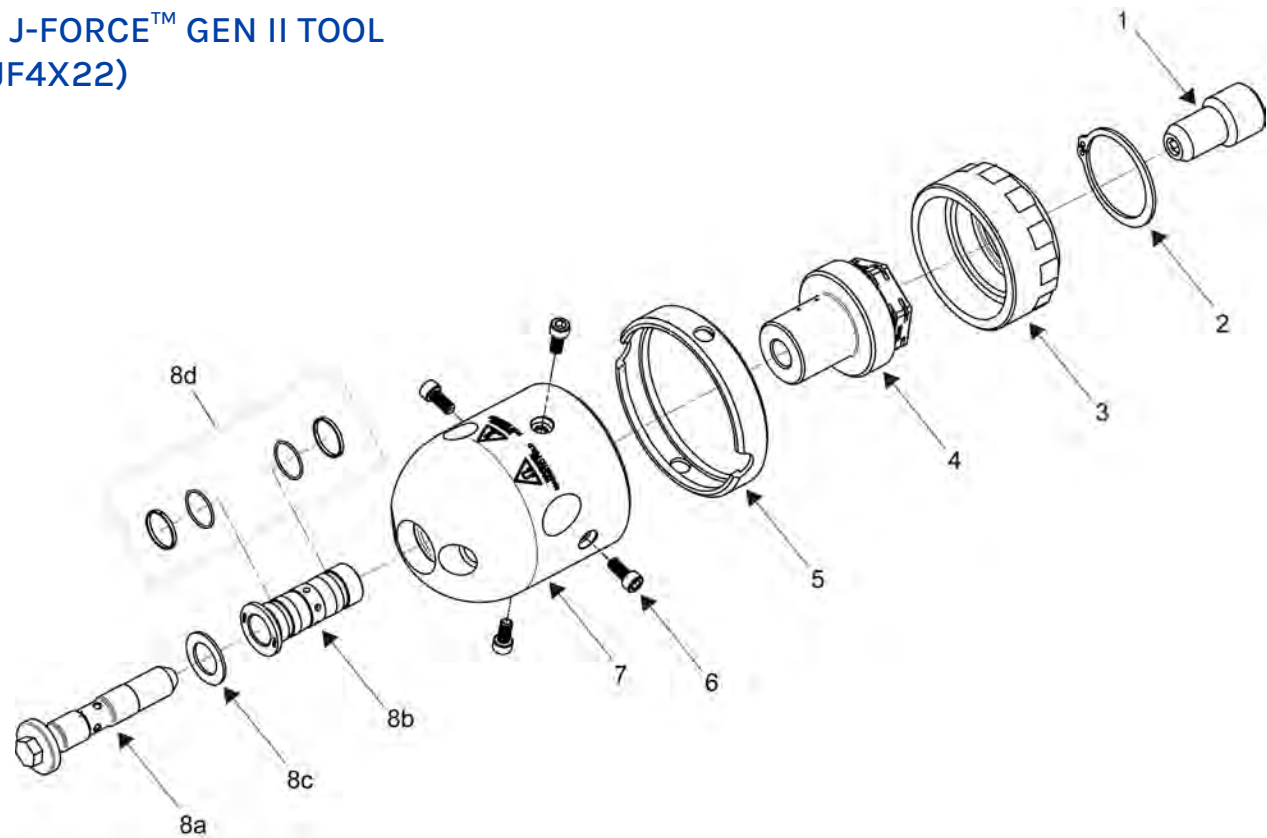
*See details on all connection types in Section I.



TOOL KITS

PART NO.	KIT TYPE	INLET CONNECTION
66252	Starter	Type M
66254	Starter	9/16" MP LH
66256	Starter	9/16" MP RH
66253	Premium	Type M
66255	Premium	9/16" MP LH
66257	Premium	9/16" MP RH

4" J-FORCE™ GEN II TOOL (JF4X22)



PART BREAKDOWN

ITEM	PART NO.	DESCRIPTION	ITEM	PART NO.	DESCRIPTION
1	65923	Connector, Mandrel (66216 only)	6	66220	Wear Ring Screws
2	64864	Retaining Ring	7	66219	Head Assy
3	64007	Brake Adjuster	8	66248	Rebuild Kit
4	65922	Inlet Nut, 3/4" Type M (66216)	8a	66336	Mandrel
	65921	Inlet Nut, 9/16" MP LH (66217)	8b	52349	Flange Bushing
	65919	Inlet Nut, 9/16" MP RH (66218)	8c	64100	Thrust Bearing
5	64103	Wear Ring	8d	66249	O-Ring Maintenance Kit

TOOLS &
NOZZLES

4" J-FORCE™ GEN II 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 2, SIDE x 2	REAR x 2		FWD x 2, SIDE x 2	REAR x 2		FWD x 2, SIDE x 2	REAR x 2
16	-28	0.018	0.042	-27	0.018	0.038	-26	0.018	0.035
17	-26	0.020	0.042				-32	0.018	0.038
18	-37	0.018	0.047	-35	0.018	0.042	-30	0.020	0.038
19	-35	0.020	0.047	-33	0.020	0.042	-42	0.018	0.042
20	-33	0.022	0.047	-46	0.018	0.047	-39	0.020	0.042
21	-31	0.024	0.047	-44	0.020	0.047	-36	0.022	0.042
22	-29	0.026	0.047	-42	0.022	0.047	-55	0.018	0.047
23	-43	0.022	0.052	-59	0.018	0.052	-53	0.020	0.047
24	-58	0.018	0.057	-56	0.020	0.052	-30	0.026	0.042
25	-39	0.026	0.052	-54	0.022	0.052	-50	0.022	0.047
26	-35	0.029	0.052	-51	0.024	0.052	-47	0.024	0.047
27	-52	0.024	0.057	-31	0.029	0.047	-43	0.026	0.047
28	-50	0.026	0.057	-48	0.026	0.052	-65	0.022	0.052
29	-46	0.029	0.057	-26	0.032	0.047	-62	0.024	0.052
30	-26	0.035	0.052	-44	0.029	0.052	-58	0.026	0.052
31	-42	0.032	0.057	-62	0.026	0.057			
32	-64	0.026	0.063	-38	0.032	0.052	-31	0.032	0.047
33	-60	0.029	0.063	-57	0.029	0.057	-52	0.029	0.052
34	-37	0.035	0.057	-32	0.035	0.052			
35	-56	0.032	0.063						
36	-32	0.038	0.057	-26	0.038	0.052			
37	-52	0.035	0.063						

* Jetstream does not recommend operating the 3" J-Force tool at pressure/configuration combinations indicated in dark gray.

** Nozzle part numbers are JS2-XXX and P2TCS-XXX, where -XXX is the orifice size.

4" 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 2, SIDE x 2	REAR x 2		FWD x 2, SIDE x 2	REAR x 2		FWD x 2, SIDE x 2	REAR x 2
17	-30	0.018	0.035	-26	0.018	0.032			
18	-27	0.020	0.035	-34	0.018	0.035	-29	0.018	0.032
19	-38	0.018	0.038	-31	0.020	0.035	-38	0.018	0.035
20	-35	0.020	0.038	-43	0.018	0.038	-34	0.020	0.035
21	-49	0.018	0.042	-40	0.020	0.038	-47	0.018	0.038
22	-46	0.020	0.042	-56	0.018	0.042	-44	0.020	0.038
23	-43	0.022	0.042						
24	-65	0.018	0.047	-31	0.024	0.038	-39	0.022	0.038
25	-62	0.020	0.047	-49	0.022	0.042	-58	0.020	0.042
26	-35	0.026	0.042	-44	0.024	0.042	-53	0.022	0.042
27							-30	0.026	0.038
28	-54	0.024	0.047	-40	0.026	0.042	-49	0.024	0.042
29	-50	0.026	0.047						
30				-32	0.029	0.042			

* Jetstream does not recommend operating the 3" J-Force tool at pressure/configuration combinations indicated in dark gray.

** Nozzle part numbers are JS2-XXX and P2TCS-XXX, where -XXX is the orifice size.

JS2D NOZZLES



- ▶ 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 II.

Click or scan the QR code.



Quick Start Guide
QSG-190



Product Instruction
PI-190



Jetting Calculator

6" J-FORCE™

PIPE CLEANING TOOL

The Jetstream J-Force™ 6" tool is a self-powered rotating tool designed to easily navigate and clean pipes with four-inch bends. The 6-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 two forward-facing ports at 10°, two radial ports 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.



6" J-FORCE™ TOOL
(JF6X22)

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
JF6X22												
65380	9/16" MP	800-1000	3.75	95	5.34	136	11.0	5.0	60	226	22,000	1516
65381	M24	800-1000	3.75	95	5.34	136	11.0	5.0	60	226	22,000	1516

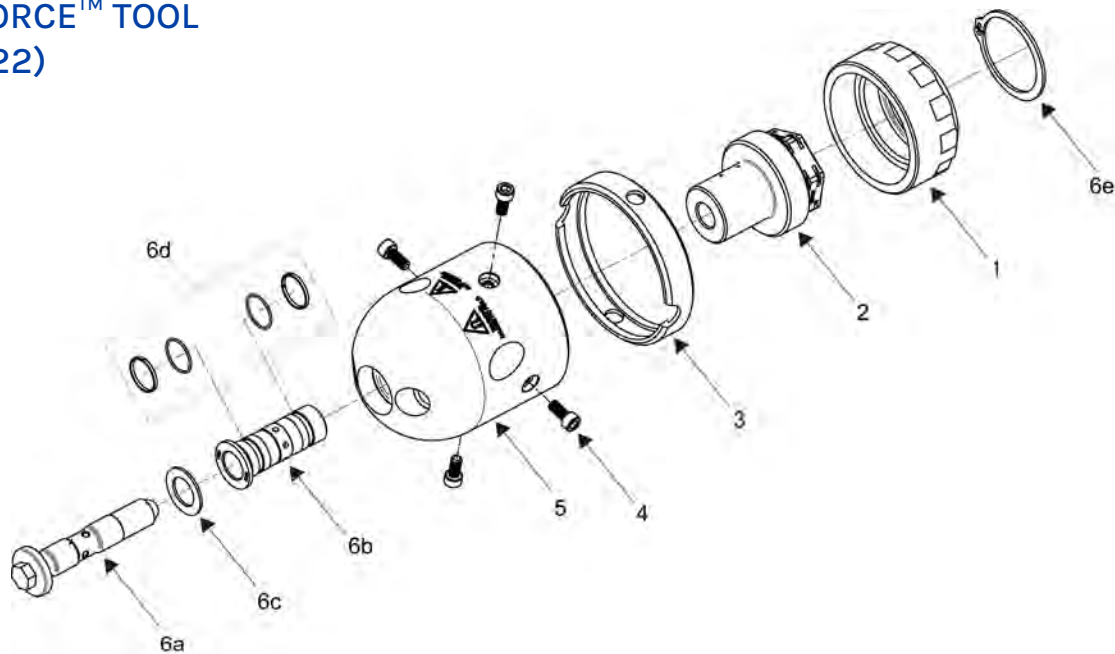
*See details on all connection types in Section I.



TOOL KITS

PART NO.	KIT TYPE	INLET CONNECTION
65481	Starter	9/16" MP
65482	Premium	9/16" MP
65483	Starter	M24
65484	Premium	M24

6" J-FORCE™ TOOL (JF6X22)



PART BREAKDOWN

ITEM	PART NO.	DESCRIPTION	ITEM	PART NO.	DESCRIPTION
1	64827	Brake Adjuster	6	65388	Rebuild Kit
2	66348	Inlet Nut, 9/16" MP (65380)	6a	66347	Mandrel
	66741	Inlet Nut, M24 (65381)	6b	66137	Flange Bushing
3	64828	Wear Ring	6c	64823	Thrust Bearing
4	66220	Wear Ring Screws	6d	65387	O-Ring Maintenance Kit
5	65385	Head Assy	6e	64864	Retaining Ring

6" J-FORCE™ 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 4" J-Force tool at pressure/configuration combinations indicated in dark gray.
 ** Nozzle part numbers are JS4FD-XXX, where -XXX is the orifice size.

6" J-FORCE™ 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 2, SIDE x 2	REAR x 2		FWD x 2, SIDE x 2	REAR x 2		FWD x 2, SIDE x 2	REAR x 2
26							-53	0.020	0.047
27							-50	0.022	0.047
28				-54	0.022	0.052	-70	0.018	0.052
29				-72	0.018	0.057	-68	0.020	0.052
30	-72	0.018	0.063	-48	0.026	0.052	-65	0.022	0.052
31	-71	0.020	0.063	-68	0.022	0.057			
32	-69	0.022	0.063	-65	0.024	0.057	-87	0.018	0.057
33	-26	0.035	0.052	-62	0.026	0.057	-58	0.026	0.052
34	-88	0.018	0.069	-38	0.032	0.052	-31	0.032	0.047
35	-86	0.020	0.069	-57	0.029	0.057	-52	0.029	0.052
36	-85	0.022	0.069	-83	0.024	0.063	-75	0.026	0.057
37	-82	0.024	0.069	-101	0.020	0.067	-46	0.032	0.052
38	-98	0.020	0.073	-110	0.018	0.069	-106	0.020	0.063
39	-96	0.022	0.073	-108	0.020	0.069	-103	0.022	0.063
40	-67	0.032	0.067	-46	0.035	0.057	-39	0.035	0.052
41	-92	0.026	0.073	-103	0.024	0.069	-63	0.032	0.057
42	-46	0.038	0.063	-70	0.032	0.063	-119	0.022	0.067
43	-88	0.029	0.073	-89	0.029	0.067	-32	0.038	0.052
44	-94	0.029	0.075	-64	0.035	0.063	-127	0.022	0.069
45	-39	0.042	0.063	-83	0.032	0.067	-112	0.026	0.067
46	-62	0.038	0.069	-114	0.026	0.073	-84	0.032	0.063
47	-79	0.035	0.073	-58	0.038	0.063	-48	0.038	0.057
48	-50	0.042	0.067	-110	0.029	0.073			
49	-74	0.038	0.073	-84	0.035	0.069			
50	-116	0.029	0.082	-71	0.038	0.067			
51	-80	0.038	0.075	-49	0.042	0.063			
52	-112	0.032	0.082						
53	-39	0.047	0.067						
54	-72	0.042	0.075						
58	-28	0.052	0.067						

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

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

6" J-FORCE™ 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 2, SIDE x 2	REAR x 2		FWD x 2, SIDE x 2	REAR x 2		FWD x 2, SIDE x 2
24							-47	0.018
25				-56	0.018	0.042	-44	0.020
26	-43	0.022	0.042					
27	-65	0.018	0.047	-52	0.020	0.042	-62	0.018
28	-62	0.020	0.047	-27	0.026	0.038	-35	0.024
29	-58	0.022	0.047	-44	0.024	0.042	-53	0.022
30	-82	0.018	0.052	-70	0.020	0.047	-81	0.018
31	-28	0.029	0.042	-67	0.022	0.047	-77	0.020
32	-50	0.026	0.047				-44	0.026
33	-76	0.022	0.052	-94	0.018	0.052	-73	0.022
34	-72	0.024	0.052	-58	0.026	0.047	-103	0.018
35	-98	0.020	0.057	-86	0.022	0.052	-99	0.020
36				-82	0.024	0.052	-63	0.026
37	-36	0.032	0.047	-116	0.018	0.057	-95	0.022
38	-91	0.024	0.057	-78	0.026	0.052	-90	0.024
39	-87	0.026	0.057	-108	0.022	0.057	-85	0.026
40	-54	0.032	0.052	-70	0.029	0.052		
41	-124	0.020	0.063	-104	0.024	0.057	-46	0.032
42	-120	0.022	0.063					
43	-46	0.035	0.052	-62	0.032	0.052		
44	-73	0.032	0.057					
45								
46	-37	0.038	0.052					

* Jetstream does not recommend operating the 6" J-Force 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™.

Click or scan the QR code.



Quick Start Guide
QSG-178



Product Instruction
PI-178



Jetting Calculator

ROТОMAG™ 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
66367	Starter	65231
66368	Premium	65231
66369	Starter	65232
66370	Premium	65232

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	303	22,500	1551
X22N	65095		1/4" NPT											
NO MAGNETS														
X22	65231	3/4" NPT Female	1/2"-28 UNEF	>300	2.75	70	8.65	225	6	2.7	80	303	22,500	1551
X22N	65232		1/4" NPT											

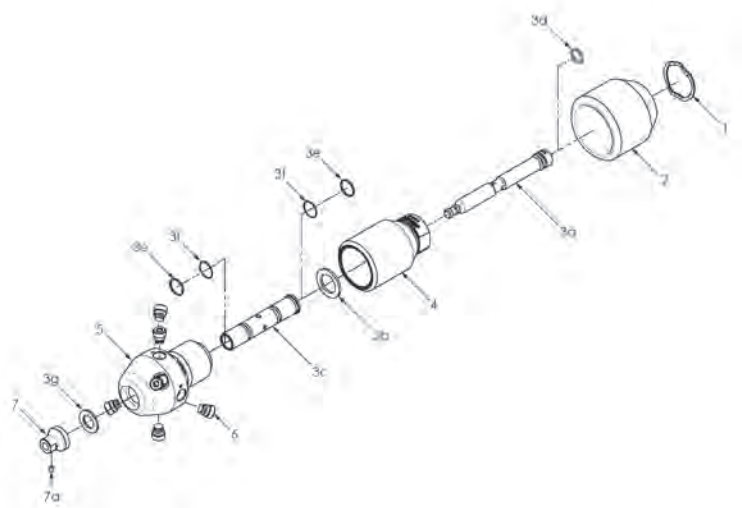
*See details on all connection types in Section I.

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.

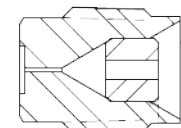
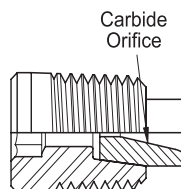
**Standard. Tow Ring with Eye (52386) included with Premium kits only.



ROTOMAG™ X22 NOZZLES

RM / P4TC / JS4F SERIES NOZZLES

- ▶ High productivity nozzles designed for use in the RotoMag.
- ▶ Precision honed carbide (RM and P4TC Series) and stainless steel (JS4F Series) orifices.
- ▶ 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 and JS4F Series).



EIGHT RM / P4TC / JS4F NOZZLES

RM PART NO.	P4TC PART NO.	JS4F 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)		22,500 PSI (1,551 BAR)	
			in	mm	gpm	lpm	gpm	lpm	gpm	lpm	gpm	lpm	gpm	lpm	gpm	lpm
RM-018	P4TC-018	JS4F-018	.018	.46	9.0	34.1	10.1	38.2	11.0	41.6	11.9	45.0	12.7	48.1	13.5	51.1
RM-024	P4TC-024	JS4F-024	.024	.61	14.4	54.5	16.1	60.9	17.7	67.0	19.1	72.3	20.4	77.2	21.7	82.1
RM-029	P4TC-029	JS4F-029	.029	.74	20.2	76.5	22.5	85.1	24.7	93.5	26.7	101.1	28.5	107.9	30.2	114.3
RM-032	P4TC-032	JS4F-032	.032	.81	24.1	91.2	27.0	102.2	29.5	111.7	31.9	120.8	34.1	129.1	36.2	137.0
RM-038	P4TC-038	JS4F-038	.038	.92	33.2	125.7	37.1	140.4	40.6	153.7	43.9	166.2	46.9	177.5	49.8	188.5
RM-042	P4TC-042	JS4F-042	.042	1.01	40.1	151.8	44.8	169.6	49.1	185.9	53.1	201.0	56.7	214.6	60.2	227.9
RM-047	P4TC-047	JS4F-047	.047	1.19	49.7	188.1	55.6	210.5	60.9	230.5	65.8	249.1	70.3	266.1	74.6	282.4
RM-052	P4TC-052	JS4F-052	.052	1.32	60.4	228.6	67.5	255.5	74.0	280.1	79.9	302.4				
RM-057	P4TC-057	JS4F-057	.057	1.45	72.2	273.3										

SIX RM / P4TC / JS4F NOZZLES

RM-018	P4TC-018	JS4F-018	.018	.46							9.6	36.3	10.3	39.0	10.9	41.3
RM-024	P4TC-024	JS4F-024	.024	.61			12.7	48.1	13.9	52.6	15.0	56.8	16.0	60.6	17.0	64.4
RM-029	P4TC-029	JS4F-029	.029	.74	15.6	59.1	17.5	66.2	19.1	72.3	20.7	78.4	22.1	83.7	23.4	88.6
RM-032	P4TC-032	JS4F-032	.032	.81	18.6	70.4	20.8	78.7	22.8	86.3	24.6	93.1	26.3	99.6	27.9	105.6
RM-038	P4TC-038	JS4F-038	.038	.92	25.4	96.1	28.4	107.5	31.1	117.7	33.6	127.2	35.9	135.9	38.1	144.2
RM-042	P4TC-042	JS4F-042	.042	1.01	30.6	115.8	34.2	129.5	37.4	141.6	40.4	152.9	43.2	163.5	45.9	173.8
RM-047	P4TC-047	JS4F-047	.047	1.19	37.8	143.1	42.2	159.7	46.3	175.2	50.0	189.3	53.4	202.1	56.7	214.6
RM-052	P4TC-052	JS4F-052	.052	1.32	45.8	173.4	51.2	193.8	56.1	212.3	60.6	229.4	64.8	245.3	68.7	260.0
RM-057	P4TC-057	JS4F-057	.057	1.45	54.6	206.7	61.1	231.3	66.9	253.2	72.3	273.7				
RM-063	P4TC-063	JS4F-063	.063	1.59	66.3	250.9	74.1	280.5								
RM-067	P4TC-067	JS4F-067	.067	1.70	74.7	282.7										
RM-069	P4TC-069	JS4F-069	.069	1.75	79.1	299.4										

ROTOMAG™ X22 NOZZLES

FOUR RM / P4TC / JS4F NOZZLES

RM PART NO.	P4TC PART NO.	JS4F 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)		22,500 PSI (1,551 BAR)													
			in	mm	gpm	lpm	gpm	lpm	gpm	lpm	gpm	lpm	gpm	lpm	gpm	lpm												
RM-020	P4TC-020	JS4F-020	.020	.51									8.9	33.7	9.5	36.0												
RM-022	P4TC-022	JS4F-022	.022	.56									9.6	36.3	10.2	38.6	10.8	40.9										
RM-024	P4TC-024	JS4F-024	.024	.61									10.1	38.2	10.9	41.3	11.6	43.9	12.3	46.6								
RM-026	P4TC-026	JS4F-026	.026	.66	9.3	35.2	10.4	39.4	11.4	43.1	12.3	46.6	13.2	50.0	14.0	53.0												
RM-029	P4TC-029	JS4F-029	.029	.74	11.1	42.0	12.4	46.9	13.6	51.5	14.7	55.6	15.7	59.4	16.6	62.8												
RM-032	P4TC-032	JS4F-032	.032	.81	13.1	49.6	14.6	55.3	16.0	60.6	17.3	65.5	18.5	70.0	19.6	74.2												
RM-035	P4TC-035	JS4F-035	.035	.89	15.2	57.5	17.0	64.3	18.7	70.8	20.1	76.1	21.5	81.4	22.8	86.3												
RM-038	P4TC-038	JS4F-038	.038	.92	17.6	66.6	19.7	74.6	21.5	81.4	23.3	88.2	24.9	94.3	26.4	99.9												
RM-042	P4TC-042	JS4F-042	.042	1.01	21.1	79.9	23.5	89.0	25.8	97.7	27.8	105.2	29.8	112.8	31.6	119.6												
RM-047	P4TC-047	JS4F-047	.047	1.19	25.9	98.0	28.9	109.4	31.7	120.0	34.2	129.5	36.6	138.5	38.8	146.9												
RM-052	P4TC-052	JS4F-052	.052	1.32	31.2	118.2	34.9	132.1	38.2	144.6	41.3	156.3	44.1	166.9	46.8	177.1												
RM-057	P4TC-057	JS4F-057	.057	1.45	37.1	140.4	41.5	157.1	45.4	171.9	49.1	185.9	52.5	198.7	55.6	210.5												
RM-063	P4TC-063	JS4F-063	.063	1.59	44.9	170.0	50.2	190.0	54.9	207.8	59.4	224.9	63.4	240.0	67.3	254.8												
RM-067	P4TC-067	JS4F-067	.067	1.70	50.5	191.1	56.4	213.5	61.8	233.9	66.8	252.8	71.4	270.2	75.7	286.5												
RM-069	P4TC-069	JS4F-069	.069	1.75	53.4	202.1	59.7	226.0	65.4	247.5	70.7	267.6	75.5	285.8														
RM-073	P4TC-073	JS4F-073	.073	1.85	59.6	225.6	66.6	252.1	72.9	275.9	78.8	298.3																
RM-075	P4TC-075	JS4F-075	.075	1.91	62.8	237.7	70.2	265.7	76.9	291.1																		
RM-078	P4TC-078	JS4F-078	.078	1.98	67.7	256.2	75.7	286.5																				
RM-082	P4TC-082	JS4F-082	.082	2.08	74.6	282.4																						

TWO RM / P4TC / JS4F NOZZLES

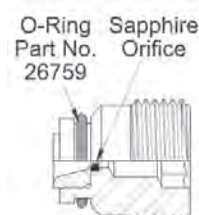
RM-029	P4TC-029	JS4F-029	.029	.74									9.3	35.2	9.8	37.1								
RM-032	P4TC-032	JS4F-032	.032	.81									9.2	34.8	10.0	37.9	10.6	40.1	11.3	42.8				
RM-035	P4TC-035	JS4F-035	.035	.89									9.6	36.3	10.6	40.1	11.4	43.1	12.2	46.2	12.9	48.8		
RM-038	P4TC-038	JS4F-038	.038	.92									11.0	41.6	12.0	45.4	13.0	49.2	13.9	52.6	14.7	55.6		
RM-042	P4TC-042	JS4F-042	.042	1.01	11.5	43.5	12.9	48.8	14.1	53.4	15.2	57.5	16.3	61.7	17.3	65.5								
RM-047	P4TC-047	JS4F-047	.047	1.19	13.9	52.6	15.6	59.1	17.1	64.7	18.4	69.7	19.7	74.6	20.9	79.1								
RM-052	P4TC-052	JS4F-052	.052	1.32	16.6	62.8	18.6	70.4	20.3	76.8	22.0	83.3	23.5	88.9	24.9	94.2								
RM-057	P4TC-057	JS4F-057	.057	1.45	19.5	73.8	21.9	82.9	23.9	90.5	25.9	98.0	27.6	104.5	29.3	110.9								
RM-063	P4TC-063	JS4F-063	.063	1.59	23.4	88.6	26.2	99.2	28.7	108.6	31.0	117.3	33.1	125.3	35.1	132.9								
RM-067	P4TC-067	JS4F-067	.067	1.70	26.2	99.2	29.3	110.9	32.1	121.5	34.7	131.4	37.1	140.4	39.4	149.1								
RM-069	P4TC-069	JS4F-069	.069	1.75	27.7	104.9	31.0	117.3	33.9	128.3	36.7	138.9	39.2	148.4	41.6	157.5								
RM-073	P4TC-073	JS4F-073	.073	1.85	30.8	116.6	34.4	130.2	37.7	142.7	40.7	154.0	43.5	164.6	46.2	174.9								
RM-075	P4TC-075	JS4F-075	.075	1.91	32.4	122.6	36.2	137.0	39.7	150.3	42.8	162.0	45.8	173.4	48.6	184.0								
RM-078	P4TC-078	JS4F-078	.078	1.98	34.9	132.1	39.0	147.6	42.7	161.6	46.1	174.5	49.3	186.6	52.3	198.0								
RM-082	P4TC-082	JS4F-082	.082	2.08	38.3	145.0	42.8	162.0	46.9	177.5	50.7	191.9	54.2	205.1	57.5	217.6								
RM-090	P4TC-090	JS4F-090	.090	2.29	45.7	173.0	51.1	193.4	56.0	212.0	60.5	229.0	64.7	244.9	68.6	259.7								
RM-093	P4TC-093	JS4F-093	.093	2.36	48.7	184.3	54.5	206.3	59.7	226.0	64.4	243.8	68.9	260.8	73.1	276.7								
RM-098	P4TC-098	JS4F-098	.098	2.49	53.9	204.0	60.2	227.9	66.0	249.8	71.3	269.9	76.2	288.4										
RM-106	P4TC-106	JS4F-106	.106	2.69	62.7	237.3	70.1	265.3	76.8	290.7														
RM-110	P4TC-110	JS4F-110	.110	2.79	67.3	254.7	75.3	285.0																
RM-115	P4TC-115	JS4F-115	.115	2.92	73.4	277.8																		



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

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)		22,500 PSI (1,551 BAR)	
	in	mm	gpm	lpm	gpm	lpm	gpm	lpm	gpm	lpm	gpm	lpm	gpm	lpm
RMS-018	.018	0.46	7.2	27.3	8.0	30.3	8.8	33.4	9.5	36.0	10.2	38.7	10.8	40.9
RMS-025	.025	0.64	12.0	45.5	13.4	50.8	14.7	55.7	15.9	60.3	17.0	64.4	18.0	68.2
RMS-029	.029	0.74	15.5	58.7	17.3	65.6	18.9	71.6	20.4	77.3	21.9	83.0	23.2	87.9
RMS-033	.033	0.84	19.4	73.5	21.7	82.2	23.8	90.2	25.7	97.4	27.5	104.2	29.1	110.3
RMS-038	.038	0.97	25.1	95.1	28.1	106.5	30.7	116.4	33.2	125.8	35.5	134.5	37.7	142.9
RMS-042	.042	1.07	30.2	114.5	33.8	128.1	37.0	140.2	40.0	151.6	42.7	161.8	45.3	171.7
RMS-046	.046	1.17	35.9	136.1	40.1	152.0	43.9	166.4	47.4	179.6	50.7	192.2	53.8	203.9
RMS-052	.052	1.32	45.3	171.7	50.6	191.8	55.4	210.0	59.9	227.0	64.0	242.6	67.9	257.3

SIX RMS / RMD NOZZLES

RMS-018	.018	0.46					7.2	27.3	7.8	29.6	8.3	31.5	8.8	33.4
RMS-025	.025	0.64	9.5	36.0	10.6	40.2	11.6	44.0	12.6	47.8	13.4	50.8	14.3	54.2
RMS-029	.029	0.74	12.1	45.9	13.5	51.2	14.8	56.1	16.0	60.6	17.1	64.8	18.1	68.6
RMS-033	.033	0.84	15.1	57.2	16.8	63.7	18.5	70.1	19.9	75.4	21.3	80.7	22.6	85.7
RMS-038	.038	0.97	19.3	73.1	21.6	81.9	23.7	89.8	25.6	97.0	27.3	103.5	29.0	109.9
RMS-042	.042	1.07	23.2	87.9	25.9	98.2	28.4	107.6	30.6	116.0	32.8	124.3	34.8	131.9
RMS-046	.046	1.17	27.4	103.8	30.6	116.0	33.5	127.0	36.2	137.2	38.7	146.7	41.1	155.8
RMS-052	.052	1.32	34.4	130.4	38.5	145.9	42.2	159.9	45.6	172.8	48.7	184.6	51.7	195.9

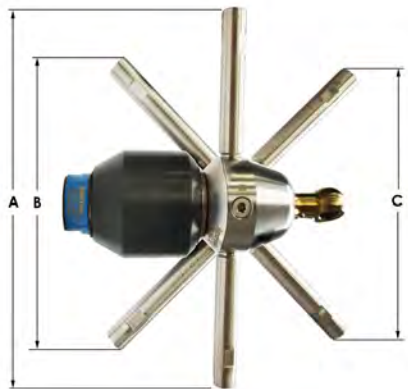
FOUR RMS / RMD NOZZLES

RMS-018	.018	0.46									6.5	24.6	6.9	26.2
RMS-025	.025	0.64			7.8	29.6	8.6	32.6	9.3	35.2	9.9	37.5	10.5	39.8
RMS-029	.029	0.74	8.7	33.0	9.8	37.1	10.7	40.6	11.5	43.6	12.3	46.6	13.1	49.6
RMS-033	.033	0.84	10.7	40.6	12.0	45.5	13.1	49.6	14.2	53.8	15.1	57.2	16.1	61.0
RMS-038	.038	0.97	13.6	51.5	15.2	57.6	16.6	62.9	17.9	67.8	19.2	72.8	20.3	76.9
RMS-042	.042	1.07	16.1	61.0	18.0	68.2	19.7	74.7	21.3	80.7	22.8	86.4	24.2	91.7
RMS-046	.046	1.17	18.9	71.6	21.2	80.3	23.2	87.9	25.0	94.8	26.8	101.6	28.4	107.6
RMS-052	.052	1.32	23.6	89.4	26.4	100.1	28.9	109.5	31.3	118.6	33.4	126.6	35.4	134.2

TWO RMS / RMD NOZZLES

RMS-025	.025	0.64									6.4	24.3	6.8	25.8
RMS-029	.029	0.74							7.1	26.9	7.6	28.8	8.0	30.3
RMS-033	.033	.84					7.8	29.6	8.4	31.8	9.0	34.1	9.5	36.0
RMS-038	.038	.92			8.7	33.0	9.5	36.0	10.3	39.0	11.0	41.7	11.7	44.3
RMS-042	.042	1.01	9.1	34.5	10.1	38.3	11.1	42.1	12.0	45.5	12.8	48.5	13.6	51.5
RMS-046	.046	1.17	10.5	39.8	11.7	44.3	12.8	48.5	13.8	52.3	14.8	56.1	15.7	59.5
RMS-052	.052	1.32	12.8	48.5	14.3	54.2	15.7	59.5	17.0	64.4	18.1	68.6	19.2	72.8

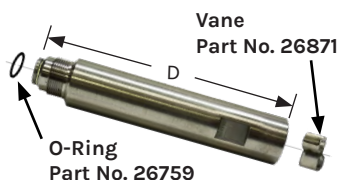
ROTOMAG™ X22 ACCESSORIES



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 = $A + 2 \times D$. Contact Jetstream representative for assistance.



PART NO. 66170



PART NO. 52386

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.

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.



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.

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

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
29108-08	8 long 3/4" MP LH Tube Nipple
28383	3/4" MP Gland
28384	3/4" MP Collar

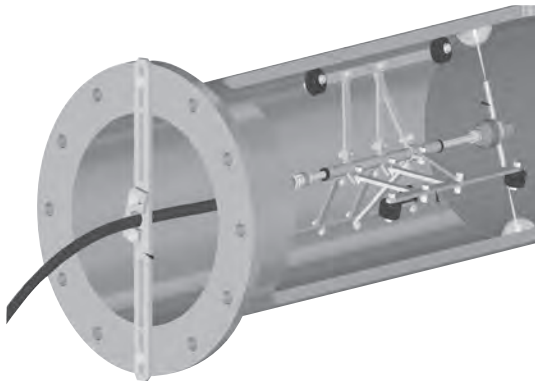
RotoMag X22 shown with optional Nozzle Extensions

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-S20	3/4" MP Male Tube	20K PSI	20 lb. (9 kg)	36 in. (915 mm)
MEDIUM 13-40" [330-1000MM] PIPE DIAMETER				
64452-M20	3/4" MP Male Tube	20K PSI	32 lb. (15 kg)	48 in. (1220 mm)
LARGE 16-60" [410-1500 MM] PIPE DIAMETER				
64452-L20	3/4" MP Male Tube	20K 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





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](#)
PI-078

SWIVEL X22

PIPE CLEANING SWIVEL TOOL

The Jetstream Swivel X22 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
- ▶ 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 rate.
- ▶ Uses two, four, six or seven Tungsten Carbide **RM Series**, Sapphire **RMS Series**, or tetraCORE™ Synthetic Diamond **RMD Series** 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 66004)**, **Premium Kits (PNs. 65045-XXXXX)** and **Starter Kits (PNs. 65044-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. See chart for the dash number for the kit.
- ▶ **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
63983**	3/4" MP Female	50-1000	3-5/8"	92	9.5	241	11	5	50	189	22,000	1516

*See details on all connection types in Section I.

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

NOZZLE HOLDERS

HEAD PART NO.*	NUMBER OF PORTS	HEAD STYLE	ORIFICE SIZE	KIT PART DASH NO. (-XXXXX)
63970	6	R44	1/2" - 28 UNEF	-6RM44
65330	6	R22	1/2" - 28 UNEF	-6RM22
65331	7	R44	1/2" - 28 UNEF	-7RM44
65332	7	R22	1/2" - 28 UNEF	-7RM22

*Refer to PI-179 for information on selecting head and nozzle configurations.



Part No. 65330



Part No. 65331



These resources contain additional technical information about the Swivel X22.

Click or scan the QR code.



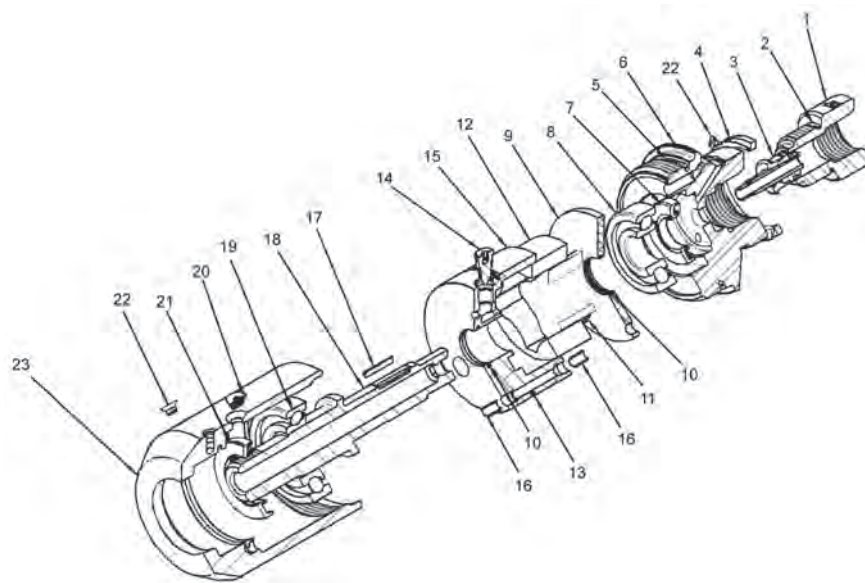
Quick Start Guide
QSG-179



Product Instruction
PI-179



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 X22 ACCESSORIES

TOW RING (PN. 52965)



PLUG (PN. RM-PLUG)



NOZZLE EXTENSIONS

PART NO.	DIAMETER* (IN.)
67147-31**	31
52320-15**	15
52320-10**	10
52320-05**	5

*Diameter includes tool. See G-28 for information on stacking extensions.

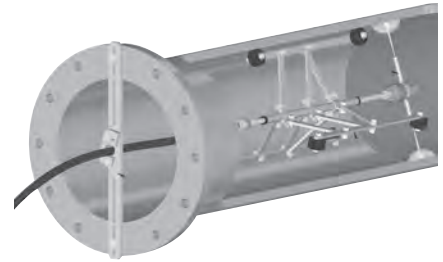
**Sold as set of two.



SWIVEL 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.

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-S20	3/4" MP Male	20K PSI	20 lb. (9 kg)	36 in. (915 mm)
MEDIUM 13-40" [330-1000MM] PIPE DIAMETER				
64452-M20	3/4" MP Male	20K PSI	32 lb. (15 kg)	48 in. (1220 mm)
LARGE 16-60" [410-1500 MM] PIPE DIAMETER				
64452-L20	3/4" MP Male	20K 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 180° 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:

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.



Premium Kit (Part No. 65634).

PART NO.	CONNECTION* (MALE)	SPEED RANGE	DIAMETER		ASSEMBLY LENGTH		ASSEMBLY WEIGHT		MAX. FLOW RATE		MAX. OPERATING PRESSURE	
		RPM	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)



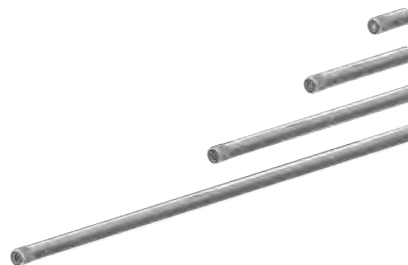
TOW RING

(PART NO. 65729)



NOZZLE EXTENSIONS

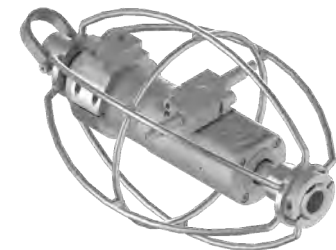
PART NO.	LENGTH (IN.)
65456-01	1
65456-02	2
65456-06	6
65456-12	12
65456-24	24
65456-30	30
65456-36	36



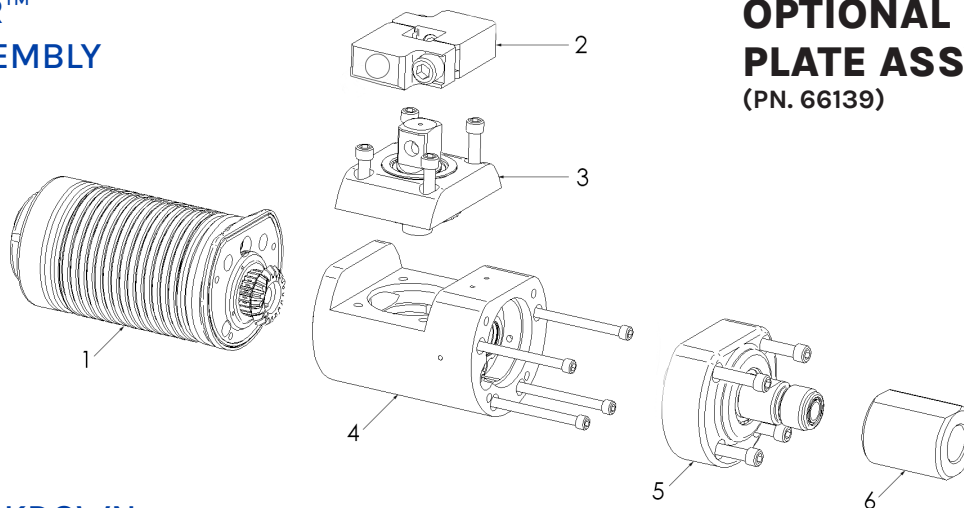
CENTRALIZER

(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

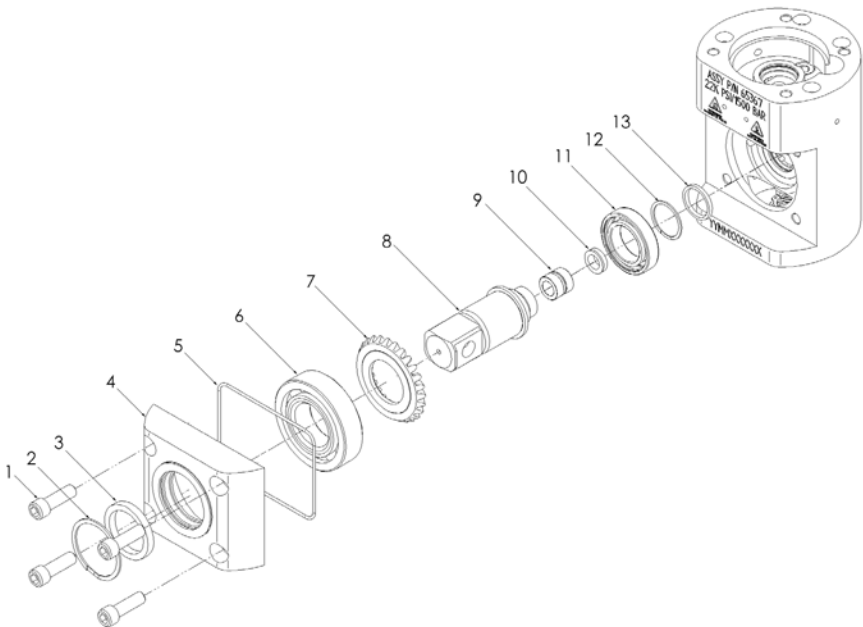
*See table above. ** See table on G-34.

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

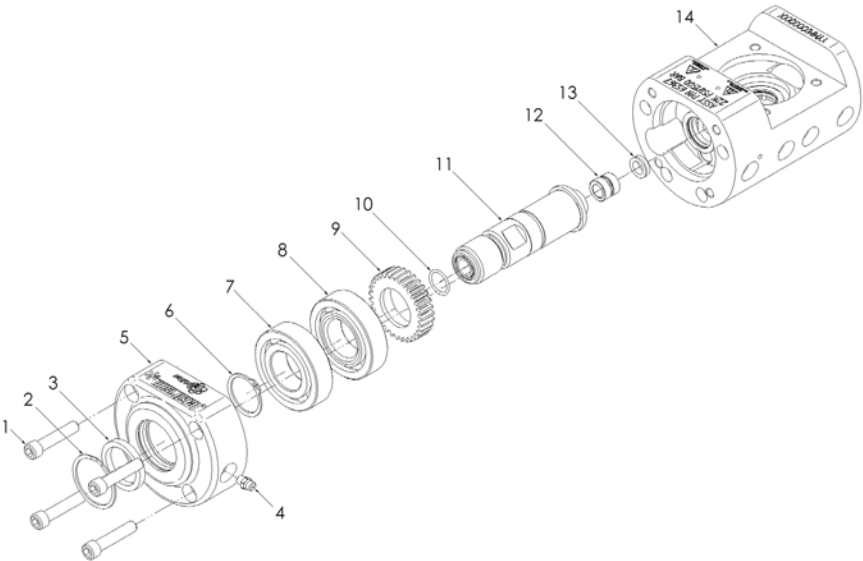


H₃ORBITER

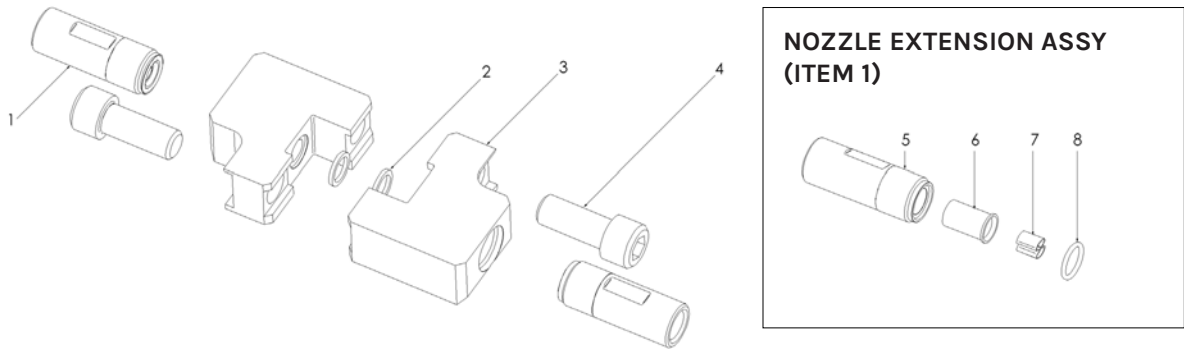
INLET ASSEMBLY (PART NO. 66360)

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



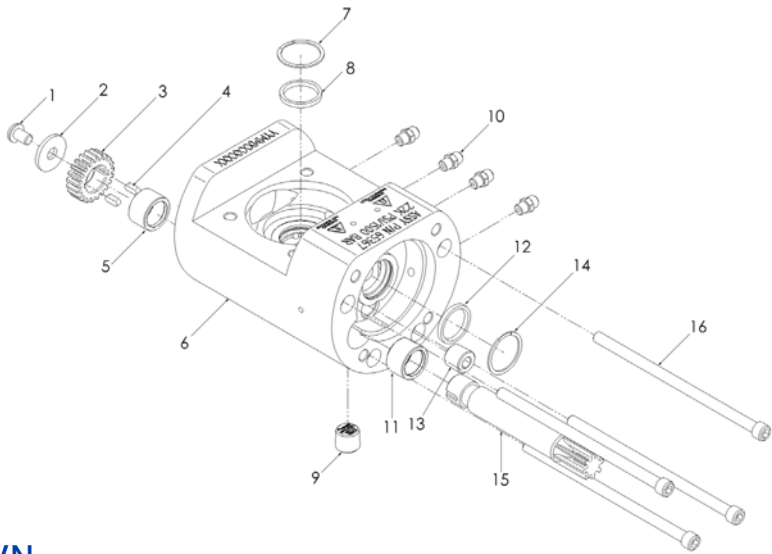
H₃ORBITER™
MANIFOLD ASSEMBLY



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

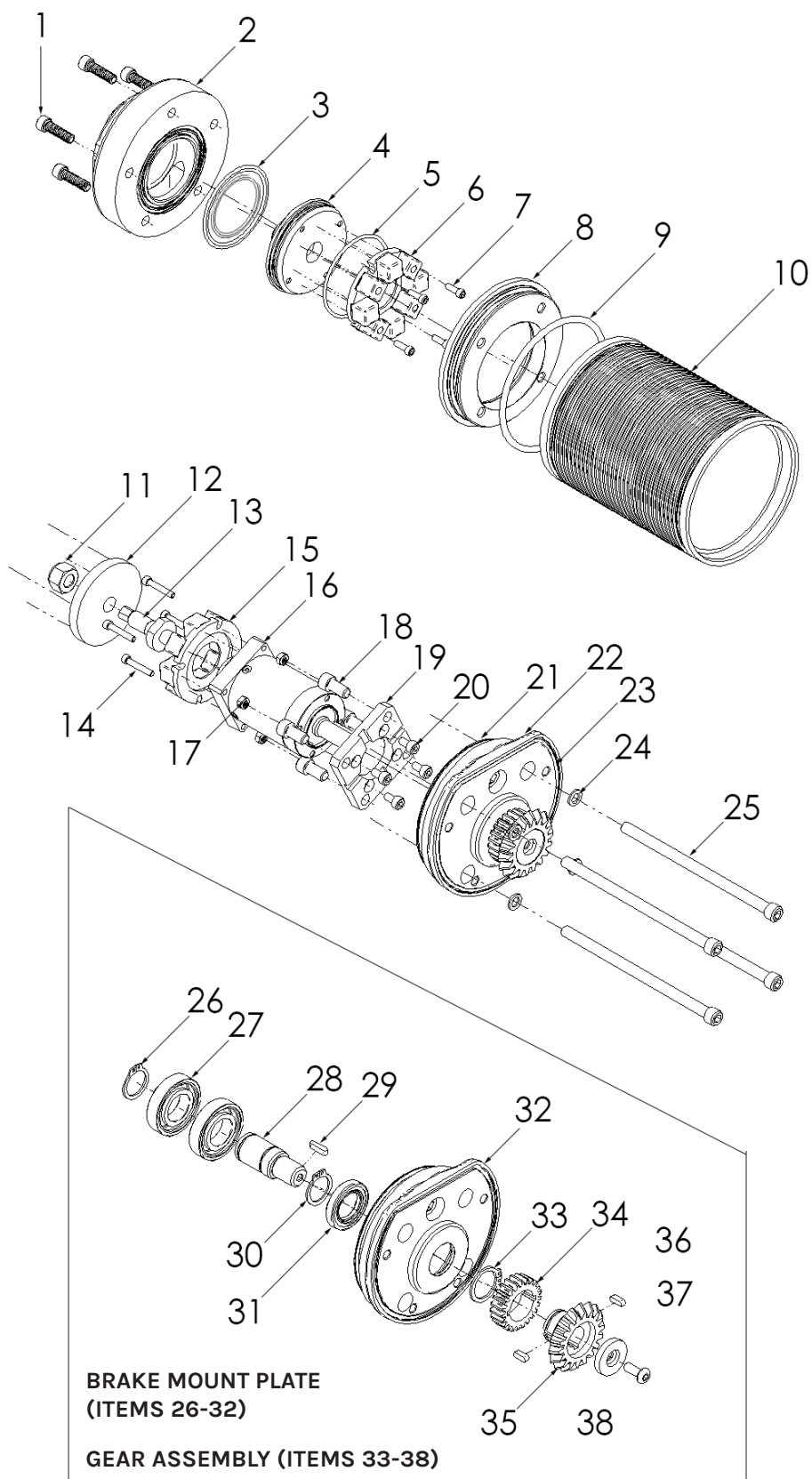
H₃ORBITER
ELBOW ASSEMBLY (PART NO. 66358)



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

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



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



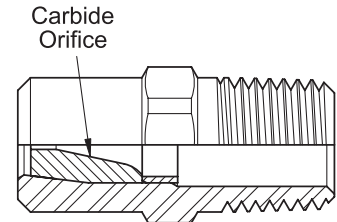
Product Instruction
PI-177



Jetting Calculator

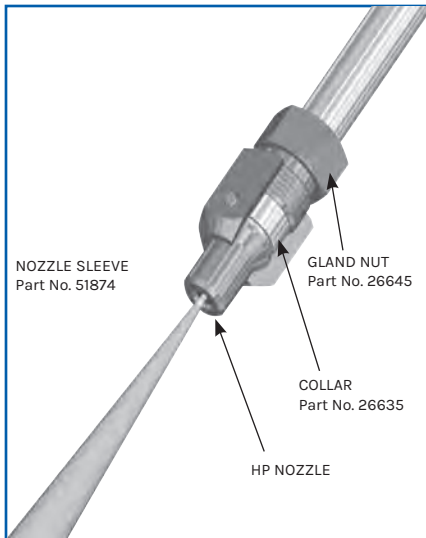
HHTC SERIES—CARBIDE NOZZLES

- ▶ 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
- ▶ 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



TWO HHTC NOZZLES

HHTCO PART NO.	HHTC15 (15° FAN JET) PART NO.	HHTC25 (25° FAN JET) PART NO.	HHTC50 (50° FAN JET) PART NO.	ORIFICE DIAMETER		10,000 PSI (690 BAR)		15,000 PSI (1,034 BAR)		20,000 PSI (1,379 BAR)			
				in	mm	gpm	lpm	gpm	lpm	gpm	lpm		
HHTCO-035	--	--	--	.035	.889					10.0	37.8		
HHTCO-038	HHTC15-038	--	--	.038	.965					10.0	37.8	11.0	41.6
HHTCO-042	HHTC15-042	--	--	.042	1.06					12.0	45.4	13.0	49.2
HHTCO-047	HHTC15-047	HHTC25-047	--	.047	1.19	12.0	45.4	15.0	56.7	17.0	64.3		
HHTCO-052	--	--	--	.052	1.32	15.0	56.7	18.0	68.1	20.0	75.7		
HHTCO-057	HHTC15-057	HHTC25-057	HHTC50-057	.057	1.44	17.0	64.3	21.0	79.4	24.0	90.8		
HHTCO-063	HHTC15-063	HHTC25-063	HHTC50-063	.063	1.60	22.0	83.2	27.0	102.2	30.0	113.5		
HHTCO-069	HHTC15-069	HHTC25-069	HHTC50-069	.069	1.75	26.0	98.4	31.0	117.3	36.0	136.2		
HHTCO-075	--	--	--	.075	1.90	30.0	113.5	37.0	140.0	42.0	158.9		
HHTCO-082	HHTC15-082	--	--	.082	2.08	36.0	136.2	44.0	166.5	51.0	193.0		
HHTCO-090	HHTC15-090	--	--	.090	2.28	42.0	158.9	52.0	196.8	60.0	227.1		
HHTCO-098	--	--	--	.098	2.48	50.0	189.2	61.0	230.9	70.0	264.9		
HHTCO-105	--	--	--	.105	2.66	57.0	215.7	70.0	264.9	81.0	306.6		
HHTCO-115	--	--	--	.115	2.92	66.0	249.8	81.0	306.6				
HHTCO-125	--	--	--	.125	3.17	76.0	287.6						
HHTCO-135	--	--	--	.135	3.42								
HHTCO-145	--	--	--	.145	3.68								
HHTCO-155	--	--	--	.155	3.93								
HHTCO-165	--	--	--	.165	4.19								



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 (HPS0)** 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-48.

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-48.

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-48.

REPLACEABLE NOZZLE TIPS – QUICK REFERENCE CHART

NOZZLE SIDE VIEW	NOZZLE	CONNECTION*	TYPE/USE	ORIFICE MATERIAL	PATTERNS	PAGE
	HHTC0/ HHTC15/ HHTC25/ HHTC50	1/4" NPT Male	Hard Hitter	Tungsten Carbide	Straight 15° Fan 25° Fan 50° Fan	G-51
	HHD	1/4" NPT Male	Hard Hitter	Synthetic Diamond	Straight	G-52
	P4TC	1/4" NPT Male	Low Profile	Tungsten Carbide	Straight	G-57
	P2TCS	1/8" NPT Male	Low Profile	Tungsten Carbide	Straight	G-57
	JS2	1/8" NPT Male	Low Profile	Stainless Steel	Straight	G-58
	JS2D	1/8" NPT Male	Low Profile	Synthetic Diamond	Straight	G-58
	JS4	1/4" NPT Male	Hard Hitter	Stainless Steel	Straight	G-60
	JS4F	1/4" NPT Male	Low Profile	Stainless Steel	Straight	G-59
	JS4FD	1/4" NPT Male	Low Profile	Synthetic Diamond	Straight	G-60
	HP0/ HP15	9/16" MP Male	Hard Hitter	Tungsten Carbide	Straight 15° Fan	G-41 / G-42
	HPS0	9/16" MP Male	Hard Hitter	Sapphire	Straight	G-42
	OX	3/8" - 24UNEF	Orbi-Jet™ X22	Tungsten Carbide	Straight	G-53
	UHPX	3/8" - 24UNF	Orbi-Jet™ X22	Sapphire	Straight	G-54
	UHPXD	3/8" - 24 UNF	Orbi-Jet™ X22	Synthetic Diamond	Straight	G-55
	UHPXi	3/8" - 24 UNF	Orbi-Jet™ X22	Sapphire	Straight	G-56
	RM	1/2" - 28UNEF	RotoMag™ X22	Tungsten Carbide	Straight	G-61
	RMD	1/2" - 28UNEF	RotoMag™ X22	Synthetic Diamond	Straight	G-62
	RMS	1/2" - 28UNEF	RotoMag™ X22	Sapphire	Straight	G-62

*See details on all connection types in Section I.

REPLACEABLE NOZZLE TIPS

ORIFICE GROUP A



HHS0/HHD
(PAGE G-52)



JS2D
(PAGE G-58)



JS4FD
(PAGE G-60)



RMD/RMS
(PAGE G-62)



UHPX/UHPXD/UHPXi
(PAGE G-54/G-55/G-56)

ORIFICE SIZE*		FLOW AT SPECIFIED PRESSURES (PSI / BAR)						AVAILABLE SERIES								
in	mm	10,000	689	12,500	862	15,000	1034	HHS0	HHD	JS2D	JS4FD	RMD	RMS	UHPX	UHPD	UHPXi
		gpm	lpm	gpm	lpm	gpm	lpm									
.006	.15	0.1	0.3	0.1	0.3	0.1	0.3							•	•	•
.007	.17	0.1	0.4	0.1	0.4	0.1	0.5							•	•	•
.008	.20	0.1	0.5	0.1	0.5	0.2	0.6							•	•	•
.009	.22	0.2	0.6	0.2	0.7	0.2	0.8							•	•	•
.010	.25	0.2	0.8	0.2	0.8	0.2	0.9							•	•	•
.011	.27	0.2	0.9	0.3	1.0	0.3	1.1							•	•	•
.012	.30	0.3	1.1	0.3	1.2	0.4	1.3							•	•	•
.013	.33	0.3	1.3	0.4	1.4	0.4	1.6							•	•	•
.014	.35	0.4	1.5	0.4	1.7	0.5	1.8							•	•	•
.015	.38	0.5	1.7	0.5	1.9	0.6	2.1							•	•	•
.016	.40	0.5	1.9	0.6	2.2	0.6	2.4							•	•	•
.017	.43	0.6	2.2	0.6	2.4	0.7	2.7							•	•	•
.018	.45	0.6	2.5	0.7	2.7	0.8	3.0			•		•	•	•	•	•
.019	.48	0.7	2.7	0.8	3.1	0.9	3.3							•	•	•
.020	.50	0.8	3.0	0.9	3.4	1.0	3.7			•				•	•	•
.021	.53	0.9	3.3	1.0	3.7	1.1	4.1							•	•	•
.022	.55	1.0	3.7	1.1	4.1	1.2	4.5			•				•	•	•
.023	.58	1.1	4.0	1.2	4.5	1.3	4.9							•	•	•
.024	.60	1.2	4.4	1.3	4.9	1.4	5.3			•				•	•	•
.025	.63	1.3	4.7	1.4	5.3	1.5	5.8					•	•	•	•	•
.026	.66	1.4	5.1	1.5	5.7	1.7	6.3			•				•	•	•
.027	.68	1.5	5.5	1.6	6.2	1.8	6.8							•	•	•
.028	.71	1.6	5.9	1.8	6.6	1.9	7.3							•	•	•
.029	.73	1.7	6.4	1.9	7.1	2.1	7.8	•		•		•	•	•	•	•
.030	.76	1.8	6.8	2.0	7.6	2.2	8.3							•	•	•
.031	.78	1.9	7.3	2.1	8.1	2.4	8.9							•	•	•
.032	.81	2.0	7.8	2.3	8.7	2.5	9.5			•	•			•	•	•
.033	.83	2.2	8.2	2.4	9.2	2.7	10.1					•	•	•	•	•
.034	.86	2.3	8.8	2.6	9.8	2.8	10.7			•	•			•	•	•
.035	.89	2.5	9.3	2.7	10.4	3.0	11.4			•	•			•	•	•
.036	.91	2.6	9.8	2.9	11.0	3.2	12.0							•	•	•
.037	.93	2.7	10.4	3.1	11.6	3.4	12.7			•	•			•	•	•
.038	.96	2.9	10.9	3.2	12.2	3.5	13.4	•	•			•	•	•	•	•
.039	.99	3.0	11.5	3.4	12.9	3.7	14.1							•	•	•
.040	1.02	3.2	12.1	3.6	13.5	3.9	14.8							•	•	•
.042	1.06	3.5	13.4	3.9	14.9	4.3	16.4	•	•	•	•	•	•	•	•	•
.046	1.16	4.2	16.0	4.7	17.9	5.2	19.6		•	•		•	•	•	•	•
.052	1.32	5.4	20.5	6.0	22.9	6.6	25.0		•			•	•	•	•	•
.067	1.70	9.0	34.0	10.0	38.0	11.0	42.0		•					•	•	•

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

REPLACEABLE NOZZLE TIPS

ORIFICE GROUP A



HHSO/HHD
(PAGE G-52)



JS2D
(PAGE G-58)



JS4FD
(PAGE G-60)



RMD/RMS
(PAGE G-62)



UHPX/UHPXD/UHPXi
(PAGE G-54/G-55/G-56)

ORIFICE SIZE*		FLOW AT SPECIFIED PRESSURES (PSI / BAR)						AVAILABLE SERIES								
in	mm	17,500	1207	20,000	1379	22,500	1551	HHSO	HHD	JS2D	JS4FD	RMD	RMS	UHPX	UHPD	UHPXi
		gpm	lpm	gpm	lpm	gpm	lpm									
.006	.15	0.1	0.4	0.1	0.4	0.1	0.4							•	•	•
.007	.17	0.1	0.5	0.1	0.5	0.1	0.6							•	•	•
.008	.20	0.2	0.6	0.2	0.7	0.2	0.7							•	•	•
.009	.22	0.2	0.8	0.2	0.9	0.2	0.9							•	•	•
.010	.25	0.3	1.0	0.3	1.1	0.3	1.1							•	•	•
.011	.27	0.3	1.2	0.3	1.3	0.4	1.4							•	•	•
.012	.30	0.4	1.4	0.4	1.5	0.4	1.6							•	•	•
.013	.33	0.4	1.7	0.5	1.8	0.5	1.9							•	•	•
.014	.35	0.5	2.0	0.6	2.1	0.6	2.2							•	•	•
.015	.38	0.6	2.3	0.6	2.4	0.7	2.6							•	•	•
.016	.40	0.7	2.6	0.7	2.7	0.8	2.9							•	•	•
.017	.43	0.8	2.9	0.8	3.1	0.9	3.3							•	•	•
.018	.45	0.9	3.2	0.9	3.5	1.0	3.7			•		•	•	•	•	•
.019	.48	1.0	3.6	1.0	3.9	1.1	4.1							•	•	•
.020	.50	1.1	4.0	1.1	4.3	1.2	4.5			•				•	•	•
.021	.53	1.2	4.4	1.2	4.7	1.3	5.0							•	•	•
.022	.55	1.3	4.8	1.4	5.2	1.5	5.5			•				•	•	•
.023	.58	1.4	5.3	1.5	5.7	1.6	6.0							•	•	•
.024	.60	1.5	5.8	1.6	6.2	1.7	6.5			•				•	•	•
.025	.63	1.7	6.3	1.8	6.7	1.9	7.1					•	•	•	•	•
.026	.66	1.8	6.8	1.9	7.2	2.0	7.7			•				•	•	•
.027	.68	1.9	7.3	2.1	7.8	2.2	8.3							•	•	•
.028	.71	2.1	7.9	2.2	8.4	2.4	8.9							•	•	•
.029	.73	2.2	8.4	2.4	9.0	2.5	9.5	•		•		•	•	•	•	•
.030	.76	2.4	9.0	2.5	9.6	2.7	10.2							•	•	•
.031	.78	2.5	9.6	2.7	10.3	2.9	10.9							•	•	•
.032	.81	2.7	10.3	2.9	11.0	3.1	11.6			•	•			•	•	•
.033	.83	2.9	10.9	3.1	11.7	3.3	12.4					•	•	•	•	•
.034	.86	3.1	11.6	3.3	12.4	3.5	13.1			•	•			•	•	•
.035	.89	3.2	12.3	3.5	13.1	3.7	13.9			•	•			•	•	•
.036	.91	3.4	13.0	3.7	13.9	3.9	14.7							•	•	•
.037	.93	3.6	13.7	3.9	14.7	4.1	15.5			•	•			•	•	•
.038	.96	3.8	14.5	4.1	15.5	4.3	16.4	•	•			•	•	•	•	•
.039	.99	4.0	15.2	4.3	16.3	4.6	17.3							•	•	•
.040	1.02	4.2	16.0	4.5	17.1	4.8	18.2							•	•	•
.042	1.06	4.7	17.7	5.0	18.9	5.3	20.0	•	•	•	•	•	•	•	•	•
.046	1.16	5.6	21.2	6.0	22.7	6.3	24.0		•	•		•	•	•	•	•
.052	1.32	7.2	27.1	7.6	29.0	8.1	31.0		•			•	•	•	•	•
.067	1.70	12.0	45.0	13.0	48.0	13.0	51.0		•					•	•	•

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



REPLACEABLE NOZZLE TIPS

ORIFICE GROUP B



JS2
(PAGE G-58)



P2TCS
(PAGE G-57)

ORIFICE SIZE*		FLOW AT SPECIFIED PRESSURES (PSI / BAR)												AVAILABLE SERIES	
in	mm	10,000	689	12,500	862	15,000	1034	17,500	1207	20,000	1379	22,500	1551	JS2	P2TCS
		gpm	lpm	gpm	lpm	gpm	lpm	gpm	lpm	gpm	lpm	gpm	lpm		
.018	.46	0.8	3.0	0.9	3.4	1.0	3.7	1.1	4.0	1.1	4.2	1.2	4.5	•	•
.020	.51	1.0	3.7	1.1	4.1	1.2	4.5	1.3	4.9	1.4	5.2	1.5	5.6	•	•
.022	.56	1.2	4.5	1.3	5.0	1.5	5.5	1.6	5.9	1.7	6.3	1.8	6.7	•	•
.024	.61	1.4	5.3	1.6	6.0	1.7	6.5	1.9	7.1	2.0	7.6	2.1	8.0	•	•
.026	.66	1.7	6.3	1.9	7.0	2.0	7.7	2.2	8.3	2.3	8.9	2.5	9.4	•	•
.029	.74	2.1	7.8	2.3	8.7	2.5	9.6	2.7	10.3	2.9	11.0	3.1	11.7	•	•
.032	.81	2.5	9.5	2.8	10.6	3.1	11.6	3.3	12.6	3.5	13.4	3.8	14.2	•	•
.035	.89	3.0	11.4	3.4	12.7	3.7	13.9	4.0	15.0	4.2	16.1	4.5	17.0	•	•
.038	.97	3.5	13.4	4.0	15.0	4.3	16.4	4.7	17.7	5.0	18.9	5.3	20.1	•	•
.042	1.07	4.3	16.4	4.8	18.3	5.3	20.0	5.7	21.6	6.1	23.1	6.5	24.5	•	•
.047	1.19	5.4	20.5	6.1	22.9	6.6	25.1	7.2	27.1	7.7	29.0	8.1	30.7	•	•
.052	1.32	6.6	25.1	7.4	28.0	8.1	30.7	8.8	33.2	9.4	35.5	9.9	37.6	•	•
.057	1.45	8.0	30.1	8.9	33.7	9.7	36.9	10.5	39.9	11.3	42.6	11.9	45.2	•	•
.063	1.60	9.7	36.8	10.9	41.1	11.9	45.1	12.9	48.7	13.8	52.1	14.6	55.2	•	•
.069	1.75	11.7	44.1	13.0	49.4	14.3	54.1	15.4	58.4	16.5	62.4	17.5	66.2	•	•
.075	1.91	13.8	52.2	15.4	58.3	16.9	63.9	18.2	69.0	19.5	73.8	20.7	78.2	•	•
.082	2.08	16.5	62.4	18.4	69.7	20.2	76.4	21.8	82.5	23.3	88.2	24.7	93.5	•	•
.090	2.29	19.8	75.1	22.2	84.0	24.3	92.0	26.3	99.4	28.1	106.2	29.8	112.7	•	•
.098	2.49	23.5	89.1	26.3	99.6	28.8	109.1	31.1	117.8	33.3	126.0	35.3	133.6	•	•
.106	2.69	27.5	104.2	30.8	116.5	33.7	127.6	36.4	137.8	38.9	147.4	41.3	156.3	•	•
.110	2.79	29.6	112.2	33.1	125.5	36.3	137.4	39.2	148.4	41.9	158.7	44.5	168.3	•	•
.115	2.92	32.4	122.6	36.2	137.1	39.7	150.2	42.9	162.2	45.8	173.4	48.6	184.0	•	•
.125	3.18	38.3	144.9	42.8	162.0	46.9	177.5	50.6	191.7	54.1	204.9	57.4	217.3	•	•
.135	3.43	44.7	169.0	49.9	189.0	54.7	207.0	59.1	223.6	63.1	239.0	67.0	253.5	•	
.145	3.68	51.5	195.0	57.6	218.0	63.1	238.8	68.1	257.9	72.8	275.7	77.3	292.5	•	

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

REPLACEABLE NOZZLE TIPS

ORIFICE GROUP C



HHTC
(PAGE G-51)



HP
(PAGE G-41)



JS4
(PAGE G-60)



JS4F
(PAGE G-59)



P4TC
(PAGE G-57)



RM
(PAGE G-61)

ORIFICE SIZE*		FLOW AT SPECIFIED PRESSURES (PSI / BAR)						AVAILABLE SERIES					
in	mm	10,000	689	12,500	862	15,000	1034	HHTC	HP	JS4	JS4F	P4TC	RM
		gpm	lpm	gpm	lpm	gpm	lpm						
.018	0.46	0.9	3.3	1.0	3.7	1.1	4.1	•	•	•	•	•	•
.020	0.51	1.1	4.1	1.2	4.6	1.3	5.0	•	•	•	•	•	•
.022	0.56	1.3	4.9	1.5	5.5	1.6	6.1	•	•	•	•	•	•
.024	0.61	1.6	5.9	1.7	6.6	1.9	7.2	•	•	•	•	•	•
.026	0.66	1.8	6.9	2.0	7.7	2.2	8.5	•	•	•	•	•	•
.029	0.74	2.3	8.6	2.5	9.6	2.8	10.5	•	•	•	•	•	•
.032	0.81	2.8	10.5	3.1	11.7	3.4	12.8	•	•	•	•	•	•
.035	0.89	3.3	12.5	3.7	14.0	4.1	15.3	•	•	•	•	•	•
.038	0.97	3.9	14.8	4.4	16.5	4.8	18.1	•	•	•	•	•	•
.042	1.07	4.8	18.0	5.3	20.2	5.8	22.1	•	•	•	•	•	•
.047	1.19	6.0	22.6	6.7	25.2	7.3	27.6	•	•	•	•	•	•
.052	1.32	7.3	27.6	8.2	30.9	8.9	33.8	•	•	•	•	•	•
.057	1.45	8.8	33.2	9.8	37.1	10.7	40.7	•	•	•	•	•	•
.063	1.60	10.7	40.6	12.0	45.3	13.1	49.7	•	•	•	•	•	•
.067	1.70	12.1	45.9	13.6	51.3	14.8	56.2	•	•			•	•
.069	1.75	12.9	48.7	14.4	54.4	15.7	59.6	•	•	•	•	•	•
.073	1.85	14.4	54.5	16.1	60.9	17.6	66.7	•	•			•	•
.075	1.90	15.2	57.5	17.0	64.3	18.6	70.4	•	•	•	•	•	•
.078	1.98	16.4	62.2	18.4	69.5	20.1	76.1	•	•			•	•
.082	2.08	18.2	68.7	20.3	76.8	22.2	84.2	•	•	•	•	•	•
.090	2.29	21.9	82.8	24.5	92.5	26.8	101.4	•	•	•	•	•	•
.093	2.36	23.4	88.4	26.1	98.8	28.6	108.3	•	•			•	•
.098	2.49	25.9	98.1	29.0	109.7	31.8	120.2	•	•	•	•	•	•
.106	2.69	30.3	114.8	33.9	128.4	37.2	140.6	•	•	•	•	•	•
.110	2.79	32.7	123.7	36.5	138.3	40.0	151.4	•	•			•	•
.115	2.92	35.7	135.2	39.9	151.1	43.7	165.5	•	•	•	•	•	•
.125	3.18	42.2	159.7	47.2	178.5	51.7	195.6	•	•	•	•	•	•
.135	3.43	49.2	186.3	55.0	208.2	60.3	228.1	•	•	•	•	•	•
.145	3.68	56.8	214.9	63.5	240.2	69.5	263.2	•	•	•	•	•	•
.155	3.94	64.9	245.5	72.5	274.5	79.4	300.7	•	•	•	•	•	•
.165	4.19	73.5	278.2	82.2	311.1	90.0	340.8	•	•	•	•	•	•

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

REPLACEABLE NOZZLE TIPS

ORIFICE GROUP C



HHTC
(PAGE G-51)



HP
(PAGE G-41)



JS4
(PAGE G-60)



JS4F
(PAGE G-59)



P4TC
(PAGE G-57)



RM
(PAGE G-61)

ORIFICE SIZE*		FLOW AT SPECIFIED PRESSURES (PSI / BAR)						AVAILABLE SERIES					
in	mm	17,500	1207	20,000	1379	22,500	1551	HHTC	HP	JS4	JS4F	P4TC	RM
		gpm	lpm	gpm	lpm	gpm	lpm						
.018	0.46	1.2	4.4	1.2	4.7	1.3	5.0	•	•	•	•	•	•
.020	0.51	1.4	5.4	1.5	5.8	1.6	6.1	•	•	•	•	•	•
.022	0.56	1.7	6.5	1.8	7.0	2.0	7.4	•	•	•	•	•	•
.024	0.61	2.1	7.8	2.2	8.3	2.3	8.8	•	•	•	•	•	•
.026	0.66	2.4	9.1	2.6	9.8	2.7	10.4	•	•	•	•	•	•
.029	0.74	3.0	11.4	3.2	12.2	3.4	12.9	•	•	•	•	•	•
.032	0.81	3.7	13.8	3.9	14.8	4.1	15.7	•	•	•	•	•	•
.035	0.89	4.4	16.6	4.7	17.7	5.0	18.8	•	•	•	•	•	•
.038	0.97	5.2	19.5	5.5	20.9	5.8	22.1	•	•	•	•	•	•
.042	1.07	6.3	23.8	6.7	25.5	7.1	27.0	•	•	•	•	•	•
.047	1.19	7.9	29.9	8.4	31.9	8.9	33.9	•	•	•	•	•	•
.052	1.32	9.7	36.6	10.3	39.1	11.0	41.5	•	•	•	•	•	•
.057	1.45	11.6	43.9	12.4	47.0	13.2	49.8	•	•	•	•	•	•
.063	1.60	14.2	53.7	15.2	57.4	16.1	60.8	•	•	•	•	•	•
.067	1.70	16.0	60.7	17.1	64.9	18.2	68.8	•	•			•	•
.069	1.75	17.0	64.4	18.2	68.8	19.3	73.0	•	•	•	•	•	•
.073	1.85	19.0	72.0	20.3	77.0	21.6	81.7	•	•			•	•
.075	1.90	20.1	76.0	21.5	81.3	22.8	86.2	•	•	•	•	•	•
.078	1.98	21.7	82.3	23.2	87.9	24.6	93.3	•	•			•	•
.082	2.08	24.0	90.9	25.7	97.2	27.2	103.1	•	•	•	•	•	•
.090	2.29	28.9	109.5	30.9	117.1	32.8	124.2	•	•	•	•	•	•
.093	2.36	30.9	116.9	33.0	125.0	35.0	132.6	•	•			•	•
.098	2.49	34.3	129.8	36.7	138.8	38.9	147.2	•	•	•	•	•	•
.106	2.69	40.1	151.9	42.9	162.4	45.5	172.2	•	•	•	•	•	•
.110	2.79	43.2	163.6	46.2	174.9	49.0	185.5	•	•			•	•
.115	2.92	47.2	178.8	50.5	191.1	53.6	202.7	•	•	•	•	•	•
.125	3.18	55.8	211.2	59.7	225.8	63.3	239.5	•	•	•	•	•	•
.135	3.43	65.1	246.4	69.6	263.4	73.8	279.4	•	•	•	•	•	•
.145	3.68	75.1	284.2	80.3	303.9	85.2	322.3	•	•	•	•	•	•
.155	3.94	85.8	324.8	91.7	347.2	97.3	368.3	•	•	•	•	•	•
.165	4.19	97.2	368.1	104.0	393.5	110.3	417.3	•	•	•	•	•	•

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

REPLACEABLE NOZZLE TIPS

OX SERIES CARBIDE ORIFICES



OX
(PAGE G-53)

ORIFICE SIZE*		FLOW AT SPECIFIED PRESSURES (PSI / BAR)											
in	mm	10,000	689	12,500	862	15,000	1034	17,500	1207	20,000	1379	22,500	1551
		gpm	lpm	gpm	lpm	gpm	lpm	gpm	lpm	gpm	lpm	gpm	lpm
.018	0.46	0.9	3.4	1.0	3.8	0.9	3.4	1.2	4.5	1.3	4.9	1.4	5.2
.025	0.64	1.8	6.6	2.0	7.4	1.8	6.6	2.3	8.8	2.5	9.4	2.6	9.9
.029	0.74	2.4	8.9	2.6	10.0	2.4	8.9	3.1	11.8	3.3	12.6	3.5	13.4
.033	0.84	3.0	11.5	3.4	12.9	3.0	11.5	4.0	15.3	4.3	16.3	4.6	17.3
.038	0.97	4.0	15.3	4.5	17.1	4.0	15.3	5.3	20.2	5.7	21.6	6.1	23.0
.042	1.07	4.9	18.7	5.5	20.9	4.9	18.7	6.5	24.7	7.0	26.4	7.4	28.0
.046	1.17	5.9	22.4	6.6	25.1	5.9	22.4	7.8	29.7	8.4	31.7	8.9	33.6

*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

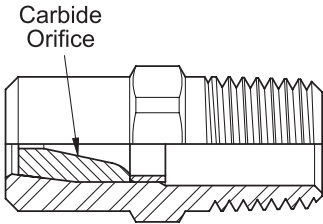
NO.	IN	MM
8	.070	1.78
9	.073	1.85
10	.078	1.98
12	.082	2.08
14	.090	2.28

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

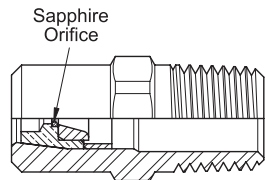


HHTC0 STRAIGHT JET		HHTC15 15° FAN JET		HHTC25 25° FAN JET		HHTC50 50° FAN JET	
							
PART NO.**		PART NO.**		PART NO.**		PART NO.**	
HHTC0-018	HHTC0-073	HHTC15-029		HHTC25-047		HHTC50-057	
HHTC0-020	HHTC0-075	HHTC15-038		HHTC25-057		HHTC50-063	
HHTC0-022	HHTC0-078	HHTC15-042		HHTC25-063		HHTC50-067	
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-48.

REPLACEABLE NOZZLE TIPS

HHSO NOZZLES



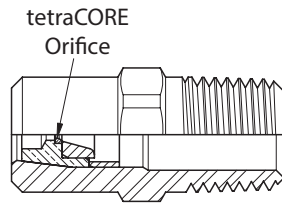
- ▶ Precision honed sapphire orifice inserts are twice as durable as tungsten carbide
- ▶ Tapered orifice retainer provides highly cohesive, distortion-free waterjets for concentrated, work saving cleaning and cutting power
- ▶ Straight (0°) patterns
- ▶ 1/4" NPT Male connection*
- ▶ 22,000 psi (1516 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-44.

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

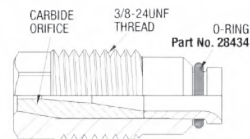
HHD STRAIGHT JET

	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-44.

REPLACEABLE NOZZLE TIPS

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

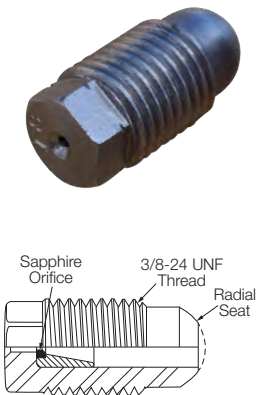
OX STRAIGHT JET

	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-50.

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

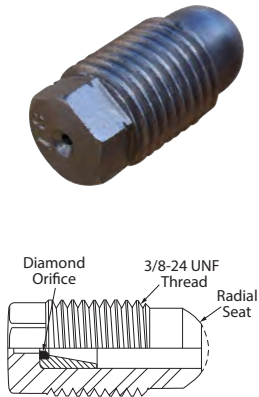
UHPX STRAIGHT JET

	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-44.

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

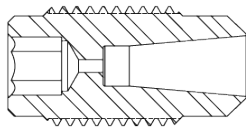
UHPXD STRAIGHT JET

	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-44.

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

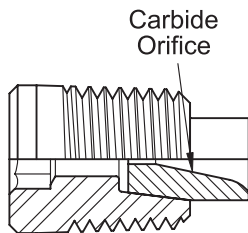
PART NO.**	
UHPXi-005	UHPXi-025
UHPXi-006	UHPXi-026
UHPXi-007	UHPXi-027
UHPXi-008	UHPXi-028
UHPXi-009	UHPXi-029
UHPXi-010	UHPXi-030
UHPXi-011	UHPXi-031
UHPXi-012	UHPXi-032
UHPXi-013	UHPXi-033
UHPXi-014	UHPXi-034
UHPXi-015	UHPXi-035
UHPXi-016	UHPXi-036
UHPXi-017	UHPXi-037
UHPXi-018	UHPXi-038
UHPXi-019	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-44.

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

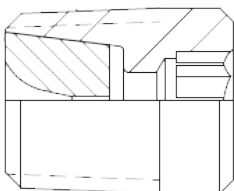
P4TC STRAIGHT JET

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-48.

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

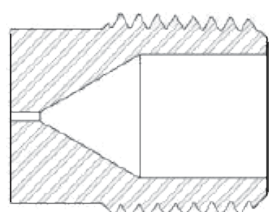
PART NO.**	
P2TCS-018	P2TCS-067
P2TCS-020	P2TCS-069
P2TCS-022	P2TCS-073
P2TCS-024	P2TCS-075
P2TCS-026	P2TCS-078
P2TCS-029	P2TCS-082
P2TCS-032	P2TCS-090
P2TCS-035	P2TCS-093
P2TCS-038	P2TCS-098
P2TCS-042	P2TCS-106
P2TCS-047	P2TCS-110
P2TCS-052	P2TCS-115
P2TCS-057	P2TCS-125
P2TCS-063	

*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-47.

LOW PROFILE NOZZLE TIPS

JS2 PIPE CLEANING NOZZLES



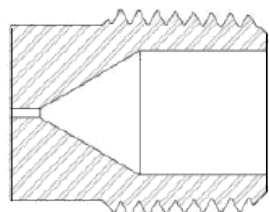
- ▶ Low profile design for unobstructed pipe cleaning with short inlet
- ▶ Stainless steel
- ▶ Precision drilled orifice
- ▶ Tapered geometry provides highly cohesive, distortion-free waterjets for concentrated, work saving cleaning and cutting power
- ▶ Straight (0°) patterns
- ▶ 1/8" NPT Male connection*
- ▶ 22,000 psi (1516 bar) maximum working pressure

JS2 STRAIGHT JET

	PART NO.**	
	JS2-018	JS2-063
	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-47.

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

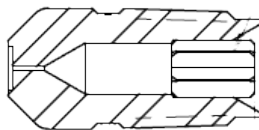
JS2D STRAIGHT JET

	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-44.

LOW PROFILE NOZZLE TIPS

JS4 PIPE CLEANING NOZZLES



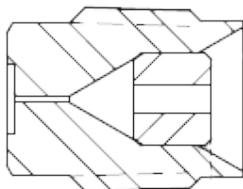
- ▶ Low profile design for unobstructed pipe cleaning with short inlet
- ▶ Stainless steel
- ▶ Precision drilled orifice
- ▶ Tapered geometry provides highly cohesive, distortion-free waterjets for concentrated, work saving cleaning and cutting power
- ▶ Straight (0°) patterns
- ▶ 1/4" NPT Male connection*
- ▶ 22,000 psi (1516 bar) maximum working pressure

JS4 STRAIGHT JET

	PART NO.**	
	JS4-018	JS4-063
	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-48.

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

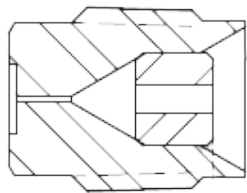
JS4F STRAIGHT JET

	PART NO.**	
	JS4F-018	JS4F-063
	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-48.

LOW PROFILE NOZZLE TIPS

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

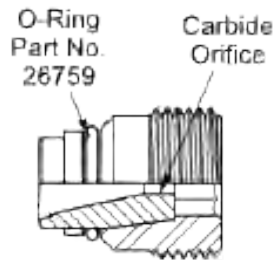


JS4FD STRAIGHT JET	
	PART NO.**
	JS4FD-032
	JS4FD-035
	JS4FD-038
	JS4FD-042
	JS4FD-047
	JS4FD-052
	JS4FD-057
	JS4FD-075

*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-44.

FLUSH MOUNT NOZZLE TIPS

RM PIPE CLEANING NOZZLES



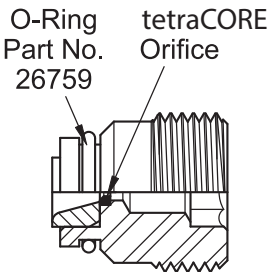
- ▶ Flush mount design
- ▶ Tapered geometry provides highly cohesive, distortion-free waterjets for concentrated, work saving cleaning and cutting power
- ▶ Enables more work to be done in less time
- ▶ Straight (0°) patterns
- ▶ 1/2"-28UNEF male connection
- ▶ 22,000 psi (1516 bar) maximum working pressure

RM STRAIGHT JET	
	PART NO.**
	RM-018 RM-073
	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-48.

FLUSH MOUNT NOZZLE TIPS

RMD PIPE CLEANING NOZZLES



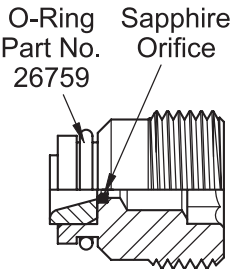
- ▶ Flush mount design
- ▶ tetraCORE™ synthetic diamond orifices are 10-15x as durable as sapphire
- ▶ Tapered geometry provides highly cohesive, distortion-free waterjets for concentrated, work saving cleaning and cutting power
- ▶ Enables more work to be done in less time
- ▶ Straight (0°) patterns
- ▶ 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-44.

RMS PIPE CLEANING NOZZLES

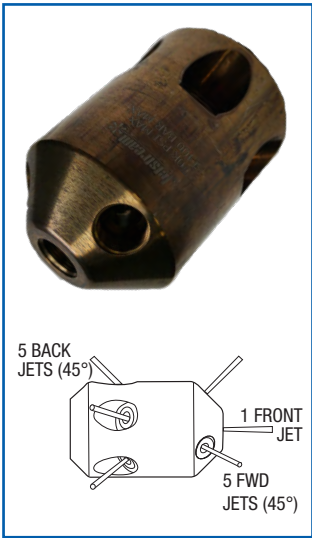


- ▶ Flush mount design
- ▶ Precision-honed sapphire orifice inserts are twice as durable as tungsten carbide
- ▶ Tapered orifice retainer provides highly cohesive, distortion-free waterjets for concentrated, work-saving cleaning and cutting power
- ▶ Straight (0°) patterns
- ▶ 1/2"-28UNEF male connection*
- ▶ 22,000 psi (1516 bar) maximum working pressure

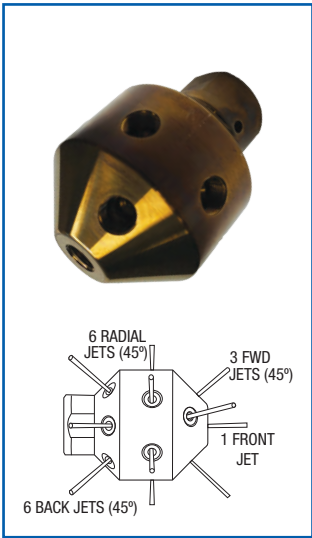
RMS STRAIGHT JET

	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-44.



PART NOS. 52644, 64959



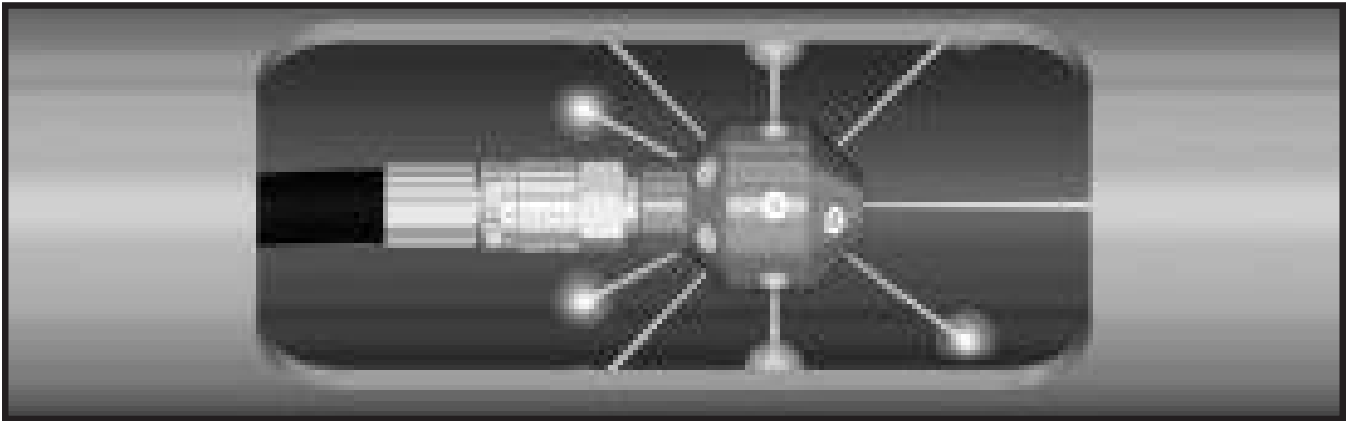
PART NO. 54887

PIPE CLEANING NOZZLES

- ▶ Two models available
- ▶ Uses up to sixteen flush mounted RM Series Tungsten Carbide nozzles or RMS Series Sapphire nozzles
- ▶ Flush mounted nozzle inserts provide low profile for cleaning small pipes while extensions are available for larger pipes
- ▶ Heat treated stainless steel

PART NO.*	INLET CONNECTION*	NOZZLE INSERT TYPE	JET CONFIGURATION	LENGTH		DIAMETER		MAX.OPERATING PRESSURE	
				in	mm	in	mm	psi	bar
52644	20K Port Female	RM/RMS	1 Front, 3 Forward (45°), 5 Back (45°)	3.25	83	2.0	51	20,000	1,379
54887	3/4" MP Female	RM/RMS	1 Front, 3 Forward (45°), 6 Radial, 6 Back (45°)	3.75	95	2.75	70	20,000	1,379
64959	3/4" MP Female	RM/RMS	1 Front, 3 Forward (45°), 5 Back (45°)	3.25	83	2.0	51	20,000	1,379

*See details on all connection types in Section I.



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 and 13 mm sizes available now. 18 mm, 24 mm, and 33 mm sizes coming soon.
- ▶ Different inlet and orifice configurations are available for working pressures up to 20,000 psi (1379 bar)
- ▶ The tool is not designed to be repairable in the field.

NOZZLE PART NUMBERING

Example Part Number **DJ13-MP6R-322-22-10**

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
COMING SOON



UNIVERSAL 7-JET PATTERN
33 mm
COMING SOON



UNIVERSAL 6-JET PATTERN
9.5 and 13 mm



UNIVERSAL 6-JET PATTERN
18 and 24 mm
COMING SOON



UNIVERSAL 6-JET PATTERN
33 mm
COMING SOON

DRILLJET™ TUBE CLEANING NOZZLES

ASSEMBLY PART NO.	TUBE ID RANGE		INLET CONNECTIONS*	OUTSIDE DIAMETER		LENGTH		FLOW AT MAX OPERATING PRESSURE		MAX OPERATING PRESSURE		PULL
	in	mm		in	mm	in	mm	gpm	lpm	psi	bar	
UNIVERSAL 7-JET												
DJ9.5-M7-322-22-8	.47-.63	12-16	M7	0.37	9.5	1.54	39	8	30	22,000	1517	5
DJ9.5-MP4L-322-22-8			1/4" MP LH									
DJ9.5-MP4R-322-22-8			1/4" MP RH									
DJ13-MP4L-322-22-10	.60-1.0	15-25	1/4" MP LH	0.50	13	1.65	42	10	38	22,000	1517	3
DJ13-MP4R-322-22-10			1/4" MP RH									
DJ13-MP6L-322-22-10			3/8" MP LH									
DJ13-MP6R-322-22-10			3/8" MP RH									
DJ18-BSPP4-322-20-14	.87-1.3	20-25	1/4" BSPP	0.71	18	2.16	55	14	53	20,000	1379	3
DJ18-MP9L-322-22-14			9/16" MP LH							22,000	1517	
DJ18-MP9R-322-22-14			9/16" MP RH									
DJ24-BSPP6-322-22-11			3/8" BSPP					11	42			4
DJ24-MP9L-322-22-11			9/16" MP LH									
DJ24-MP9R-322-22-11			9/16" MP RH									
DJ24-BSPP6-322-22-14	1.1-2.0	28-51	3/8" BSPP	0.9		2.54	65	14	53	22,000	1517	6
DJ24-MP9L-322-22-14			9/16" MP LH									
DJ24-MP9R-322-22-14			9/16" MP RH									
DJ24-BSPP6-322-22-19			3/8" BSPP					19	72			7
DJ24-MP9L-322-22-19			9/16" MP LH									
DJ24-MP9R-322-22-19			9/16" MP RH									
DJ33-BSPP8-322-22-12	1.5-2.4	38-61	1/2" BSPP	1.30	33	3.30	84	15	45	20,000	1517	7
DJ33-MP9-322-22-12			9/16" MP GLAND									
DJ33-BSPP8-322-22-15			1/2" BSPP						57			
DJ33-MP9-322-22-15			9/16" MP GLAND									
DJ33-BSPP8-322-22-19			1/2" BSPP						72			
DJ33-MP9-322-22-19			9/16" MP GLAND									
DJ33-BSPP8-322-22-25			1/2" BSPP						95			
DJ33-MP9-322-22-25	9/16" MP GLAND											

* See details on all connection types in Section I.

DRILLJET™ TUBE CLEANING NOZZLES

ASSEMBLY PART NO.	TUBE ID RANGE		INLET CONNECTIONS*	OUTSIDE DIAMETER		LENGTH		FLOW AT MAX OPERATING PRESSURE		MAX OPERATING PRESSURE		PULL	
	in	mm		in	mm	in	mm	gpm	lpm	psi	bar		lbs
UNIVERSAL 6-JET													
DJ9.5-M7-222-22-8	.47-.63	12-16	M7	0.37	9.5	1.54	39	8	30				
DJ9.5-MP4L-222-22-8			1/4" MP LH										
DJ9.5-MP4R-222-22-8			1/4" MP RH										
DJ13-MP4L-222-22-10	.60-1.0	15-25	1/4" MP LH	0.50	13	1.65	42	10	38	22,000	1517	12.5	
DJ13-MP4R-222-22-10			1/4" MP RH										
DJ13-MP6L-222-22-10			3/8" MP LH										
DJ13-MP6R-222-22-10			3/8" MP RH										
DJ18-BSPP4-222-20-14	1.3	20-33	1/4" BSPP	0.71	18	2.16	55	14	53	20,000	1379	14	
DJ18-MP9L-222-22-14			9/16" MP LH							22,000	1517		
DJ18-MP9R-222-22-14			9/16" MP RH										
DJ24-BSPP6-222-22-11			1.1-2.0							28-51	3/8" BSPP		0.94
DJ24-MP9L-222-22-11	9/16" MP LH												
DJ24-MP9R-222-22-11	9/16" MP RH												
DJ24-BSPP6-222-22-14	3/8" BSPP												
DJ24-MP9L-222-22-14	9/16" MP LH	19		72	18								
DJ24-MP9R-222-22-14	9/16" MP RH												
DJ24-BSPP6-222-22-19	3/8" BSPP												
DJ24-MP9L-222-22-19	9/16" MP LH												
DJ24-MP9R-222-22-19	9/16" MP RH												
DJ33-BSPP8-222-22-12	1.5-2.4	38-61	1/2" BSPP	1.30		33	3.30	84	15	58	22,000	1517	14
DJ33-MP9-222-22-12			9/16" MP GLAND										
DJ33-BSPP8-222-22-15			1/2" BSPP										
DJ33-MP9-222-22-15			9/16" MP GLAND										
DJ33-BSPP8-222-22-19			1/2" BSPP		19				72	22			
DJ33-MP9-222-22-19			9/16" MP GLAND										
DJ33-BSPP8-222-22-25			1/2" BSPP										
DJ33-MP9-222-22-25			9/16" MP GLAND										

* See details on all connection types in Section I.



These resources contain additional technical information about the DrillJet™ tube cleaning nozzles.

Click or scan the QR code.



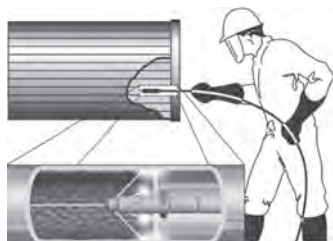
Quick Start Guide
QSG-180



Product Instruction
PI-180



NOTE: Cap nozzles sold separately.



TUBE SPINNER™

TUBE CLEANING NOZZLES

Jetstream Tube Spinner nozzles provide the most thorough cleaning of tube walls. Maximum impact and the elimination of streaking result from having two larger spinning jets rather than several smaller non-rotating jets.

- ▶ Self-rotating sleeve has two radial jets that spin at high speed for complete coverage.
- ▶ Simple two piece design features a nozzle body, specially coated for maximum lubricity and surface hardness, and a stainless steel sleeve, hardened to extend orifice life and precision honed to prevent galling.
- ▶ A thin layer of water between the nozzle body and sleeve provides a liquid bearing on which the sleeve spins. No ball bearings to replace!
- ▶ HPFR/HPFL or HPER/HPEL tube cleaning nozzles are connected to the tube spinner nozzle to add forward jets for unplugging tubes and/or rearward jets to pull nozzles and flex lance through tube (sold separately.)
- ▶ HPFR/HPFL nozzle blanks, sold below, can be installed in place of HPFR/HPFL or HPER/HPEL nozzles when no forward or rearward jets are required.
- ▶ Tube Spinner outside diameters are the same as standard tube cleaning nozzles.
- ▶ Custom flow rates available for special applications.

ASSEMBLY PART NO.	FLOW RATE NO.	CONNECTIONS* FEMALE INLET X MALE OUTLET*	OUTSIDE DIAMETER		LENGTH (WITH HPF NOZZLE)**		FLOW AT SPECIFIED PRESSURES (PSI/ BAR)***									
							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	in	mm	gpm	lpm	gpm	lpm	gpm	lpm	gpm	lpm	gpm	lpm
64199	1	1/4" MP LH	.375	9.5	2.22/2.57	55/65	2.3	8.7	2.7	10.2	3.0	11.4	3.4	12.9	3.8	14.4
64200	1	1/4" MP RH	.375	9.5	2.22/2.57	55/65	2.3	8.7	2.7	10.2	3.0	11.4	3.4	12.9	3.8	14.4
64201	1	3/8" MP LH	.500	12.7	2.57/2.99	65/76	3.3	12.5	3.9	14.8	4.5	17.0	5.1	19.3	5.7	21.6
64202	1	3/8" MP RH	.500	12.7	2.57/2.99	65/76	3.3	12.5	3.9	14.8	4.5	17.0	5.1	19.3	5.7	21.6
64203	1	9/16" MP LH	.750	19.1	3.55/4.02	90/102	4.5	17.0	5.5	20.8	6.4	24.2	7.4	28.0	8.5	32.2
64204	1	9/16" MP RH	.750	19.1	3.55/4.02	90/102	4.5	17.0	5.5	20.8	6.4	24.2	7.4	28.0	8.5	32.2
64205	2	9/16" MP LH	.750	19.1	3.55/4.02	90/102	8.8	33.3	10.3	39.0	11.7	44.3	13.1	49.6	14.6	55.3
64206	2	9/16" MP RH	.750	19.1	3.55/4.02	90/102	8.8	33.3	10.3	39.0	11.7	44.3	13.1	49.6	14.6	55.3

*See details on all connection types in Section I.

**MP connection uses HPFR/HPFL/HPER/HPEL cap nozzle. Lengths are HPFR and HPFL/HPER and HPEL respectively. SOLD SEPARATELY.

*** Flow rates do not include additional flow if a drilled cap nozzle is used.

ASSEMBLY PART NO.	SLEEVE PART NO.	BODY PART NO.	ASSEMBLY PART NO.	SLEEVE PART NO.	BODY PART NO.
64199	51956	64193	64203	52551	64197
64200	51956	64194	64204	52551	64198
64201	51958	64195	64205	54256	64197
64202	51958	64196	64206	54256	64198



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

TUBE CLEANING NOZZLES

HPFR/HPFL SERIES TUBE CLEANING NOZZLES

- ▶ Designed for use with flex or rigid lances.
- ▶ HPFR nozzles feature right-hand female medium pressure tube connections.
- ▶ HPFL nozzles feature left-hand female medium pressure tube connections.
- ▶ Recessed orifices provide protection from surface abrasion that could distort waterjets.
- ▶ Both series have three sizes with six patterns each and fourteen flow ratings to choose.
- ▶ Custom patterns and flows available.



HPFR1 & HPFL1



HPFR2 & HPFL2



HPFR3 & HPFL3

HPER/HPEL SERIES TUBE CLEANING NOZZLES

- ▶ Designed for use with flex or rigid lances.
- ▶ HPER nozzles feature right-hand female medium pressure tube connections.
- ▶ HPEL nozzles feature left-hand female medium pressure tube connections.
- ▶ Two rows for rearward jets provide extra flushing power while special nose design allows for a greater number and optimal positioning of forward jets for unplugging.
- ▶ Both series have three sizes with six patterns each and fourteen flow ratings to choose.
- ▶ Custom patterns and flows available.



HPER1 & HPEL1



HPER2 & HPEL2



HPER3 & HPEL3

HPM SERIES TUBE CLEANING NOZZLES

- ▶ Designed specifically for use with Jetstream flex lances.
- ▶ Right-hand threaded male Jetstream Lance connections.
- ▶ Compact design easily navigates sharp bends.
- ▶ Three sizes with six patterns each and fourteen flow ratings to choose.
- ▶ Custom patterns and flows available.



HPM1



HPM2



HPM3

Nozzles shown as actual size.

HPFR/HPFL • HPER/HPEL • HPM NOZZLE FLOW RATINGS

FLOW RATE NO.	10,000 PSI (690 BAR)		12,000 PSI (827 BAR)		14,000 PSI (965 BAR)		16,000 PSI (1,103 BAR)		18,000 PSI (1,241 BAR)		20,000 PSI (1,379 BAR)	
	gpm	lpm	gpm	lpm	gpm	lpm	gpm	lpm	gpm	lpm	gpm	lpm
2	2.7	10.3	3.0	11.3	3.2	12.2	3.5	13.1	3.7	13.9	3.9	14.6
3	3.3	12.6	3.7	13.8	3.9	14.9	4.2	16.0	4.5	16.9	4.7	17.8
4	4.1	15.5	4.5	16.9	4.8	18.3	5.2	19.6	5.5	20.8	5.8	21.9
5	5.7	21.6	6.3	23.7	6.8	25.6	7.2	27.4	7.7	29.0	8.1	30.6
6	7.4	27.9	8.1	30.6	8.7	33.1	9.3	35.3	9.9	37.5	10.4	39.5
7	8.5	32.1	9.3	35.2	10.0	38.0	10.7	40.6	11.4	43.1	12.0	45.4
8	9.3	35.1	10.1	38.4	11.0	41.5	11.7	44.3	12.4	47.0	13.1	49.6
9	10.1	38.1	11.0	41.8	11.9	45.1	12.7	48.2	13.5	51.1	14.2	53.9
10	11.5	43.5	12.6	47.7	13.6	51.5	14.5	55.1	15.4	58.4	16.3	61.6
12	12.4	46.9	13.6	51.4	14.7	55.5	15.7	59.4	16.6	63.0	17.5	66.4
14	15.0	56.7	16.4	62.1	17.7	67.0	18.9	71.7	20.1	76.0	21.2	80.1
15	16.3	61.9	17.9	67.8	19.3	73.2	20.7	78.3	21.9	83.0	23.1	87.5
20	22.9	86.6	25.1	94.8	27.1	102.4	28.9	109.5	30.7	116.1	32.3	122.4
40	29.5	111.8	32.3	122.4	34.9	132.3	37.4	141.4	39.6	150.0	41.8	158.1

ORDERING HPFR/HPFL • HPER/HPEL • HPM NOZZLES

HPX L 3 4 - 7

1 NOZZLE SERIES

HPX

2 THREADS

L = Left hand medium pressure threads.
Omit for right hand Jetstream lance threads.

L

3 SIZE

1 = 1/4" Threads
2 = 3/8" Threads
3 = 9/16" Threads

3

4 PATTERN

Specify number corresponding to
desired pattern from chart above

4

5 FLOW RATING

See flow rating chart.

Example: a flow rating number of
7 will flow 10.7 gpm (40.6 lpm)
at 16,000 psi (1,103 bar).

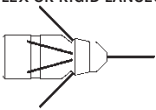
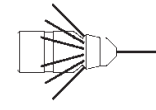
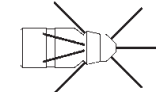
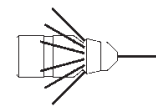
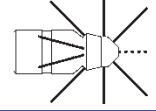
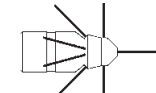
7



HPFR/HPFL TUBE CLEANING NOZZLES

NOZZLES SHOWN AS ACTUAL SIZE						
PART NO.	HPFR1	HPFL1	HPFR2	HPFL2	HPFR3	HPFL3
HPF BLANK PART NO.	64259	54242	64260	54243	64261	54244
INLET CONNECTION*	1/4" MP Tube RH Female	1/4" MP Tube LH Female	3/8" MP Tube RH Female	3/8" MP Tube LH Female	9/16" MP Tube RH Female	9/16" MP Tube LH Female
OVERALL LENGTH	.71 in 18.0 mm	.71 in 18.0 mm	.87 in 22.1 mm	.87 in 22.1 mm	1.15in 29.2 mm	1.15in 29.2 mm
OUTSIDE DIAMETER	.375 in 9.5 mm		.50 in 12.7 mm		.75 in 19.1 mm	

PATTERNS - NUMBER OF JETS BY LOCATION

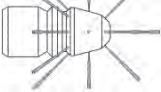
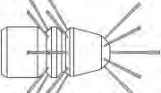
PATTERN 1 FLEX OR RIGID LANCES 	1 Front 6 Back Min Flow #3	1 Front 6 Back Min Flow #3	1 Front 8 Back Min Flow #4
PATTERN 2 FLEX OR RIGID LANCES 	1 Front 8 Back Min Flow #4	1 Front 8 Back Min Flow #4	1 Front 12 Back Min Flow #5
PATTERN 3 FLEX OR RIGID LANCES 	1 Front 3 Forward 6 Back Min Flow #4	1 Front 3 Forward 6 Back Min Flow #4	1 Front 3 Forward 8 Back Min Flow #5
PATTERN 4 FLEX OR RIGID LANCES 	1 Front 3 Forward 8 Back Min Flow #5	1 Front 3 Forward 8 Back Min Flow #5	1 Front 3 Forward 12 Back Min Flow #6
PATTERN 5 FLEX OR RIGID LANCES 	3 Forward 3 Radial 6 Back Min Flow #5	4 Forward 4 Radial 6 Back Min Flow #5	4 Forward 4 Radial 8 Back Min Flow #6
PATTERN 6 FLEX OR RIGID LANCES 	1 Front 3 Radial 6 Back Min Flow #4	1 Front 4 Radial 6 Back Min Flow #5	1 Front 4 Radial 8 Back Min Flow #5

*See details on all connection types in Section I.

HPER/HPEL TUBE CLEANING NOZZLES

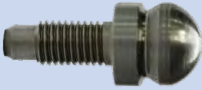
NOZZLES SHOWN AS ACTUAL SIZE						
PART NO.	HPER1	HPEL1	HPER2	HPEL2	HPER3	HPEL3
HPE BLANK PART NO.	64262	54249	64263	54251	64264	54252
INLET CONNECTION*	1/4" MP Tube RH Female	1/4" MP Tube LH Female	3/8" MP Tube RH Female	3/8" MP Tube LH Female	9/16" MP Tube RH Female	9/16" MP Tube LH Female
OVERALL LENGTH	1.06 in 26.9 mm	1.06 in 26.9 mm	1.28 in 32.5 mm	1.28 in 32.5 mm	1.62 in 41.1 mm	1.62 in 41.1 mm
OUTSIDE DIAMETER	.375 in 9.5 mm		.50 in 12.7 mm		.75 in 19.1 mm	

PATTERNS - NUMBER OF JETS BY LOCATION

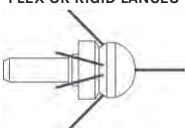
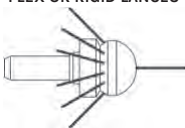
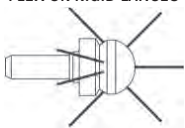
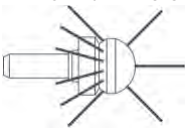
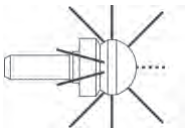
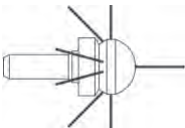
TOOLS & NOZZLES	PATTERN 1 FLEX OR RIGID LANCES 	1 Front 2 Forward 2 Radial 6 Back (45°) Min Flow #5	1 Front 3 Forward 3 Radial 8 Back (45°) Min Flow #5	1 Front 4 Forward 4 Radial 8 Back (45°) Min Flow #6
	PATTERN 2 FLEX OR RIGID LANCES 	1 Front 3 Forward 8 Back (30°) Min Flow #5	1 Front 4 Forward 12 Back (30°) Min Flow #6	1 Front 6 Forward 16 Back (30°) Min Flow #8
	PATTERN 3 FLEX OR RIGID LANCES 	1 Front 3 Radial 8 Back (30°) Min Flow #5	1 Front 4 Radial 8 Back (30°) Min Flow #5	1 Front 6 Radial 12 Back (30°) Min Flow #7
	PATTERN 4 FLEX OR RIGID LANCES 	1 Front 2 Forward 3 Radial 6 Back (30°) Min Flow #5	1 Front 3 Forward 3 Radial 8 Back (30°) Min Flow #6	1 Front 4 Forward 6 Radial 12 Back (30°) Min Flow #8
	PATTERN 5 FLEX OR RIGID LANCES 	1 Front 12 Back (30°) Min Flow #5	1 Front 12 Back (30°) Min Flow #5	1 Front 16 Back (30°) Min Flow #6
	PATTERN 6 FLEX OR RIGID LANCES 	2 Front 3 Forward 8 Back (45°) Min Flow #5	3 Front 3 Forward 10 Back (45°) Min Flow #6	3 Front 4 Forward 8 Back (30°) 8 Back (45°) Min Flow #8

*See details on all connection types in Section I.

HPM TUBE CLEANING NOZZLES

NOZZLES SHOWN AS ACTUAL SIZE			
PART NO.	HPM1	HPM2	HPM3
HPM BLANK PART NO.	52239	52238	54311
INLET CONNECTION*	1/4" JS Lance Female	3/8" JS Lance Female	9/16" JS Lance Female
OVERALL LENGTH	1.06 in 26.9 mm	1.17 in 29.7 mm	1.42 in 36.1 mm
OUTSIDE DIAMETER	.475 in 12.1 mm	.550 in 14.0 mm	.730 in 18.5 mm

PATTERNS - NUMBER OF JETS BY LOCATION

PATTERN 1 FLEX OR RIGID LANCES 	1 Front 6 Back Min Flow #3	1 Front 6 Back Min Flow #3	1 Front 8 Back Min Flow #4
PATTERN 2 FLEX OR RIGID LANCES 	1 Front 8 Back Min Flow #4	1 Front 8 Back Min Flow #4	1 Front 12 Back Min Flow #5
PATTERN 3 FLEX OR RIGID LANCES 	1 Front 3 Forward 6 Back Min Flow #4	1 Front 3 Forward 6 Back Min Flow #4	1 Front 3 Forward 8 Back Min Flow #5
PATTERN 4 FLEX OR RIGID LANCES 	1 Front 3 Forward 8 Back Min Flow #5	1 Front 3 Forward 8 Back Min Flow #5	1 Front 3 Forward 12 Back Min Flow #6
PATTERN 5 FLEX OR RIGID LANCES 	3 Forward 3 Radial 6 Back Min Flow #5	4 Forward 4 Radial 6 Back Min Flow #5	4 Forward 4 Radial 8 Back Min Flow #6
PATTERN 6 FLEX OR RIGID LANCES 	1 Front 3 Radial 6 Back Min Flow #4	1 Front 4 Radial 6 Back Min Flow #5	1 Front 4 Radial 8 Back Min Flow #5

*See details on all connection types in Section I.

ABRASIVE CUTTING NOZZLE

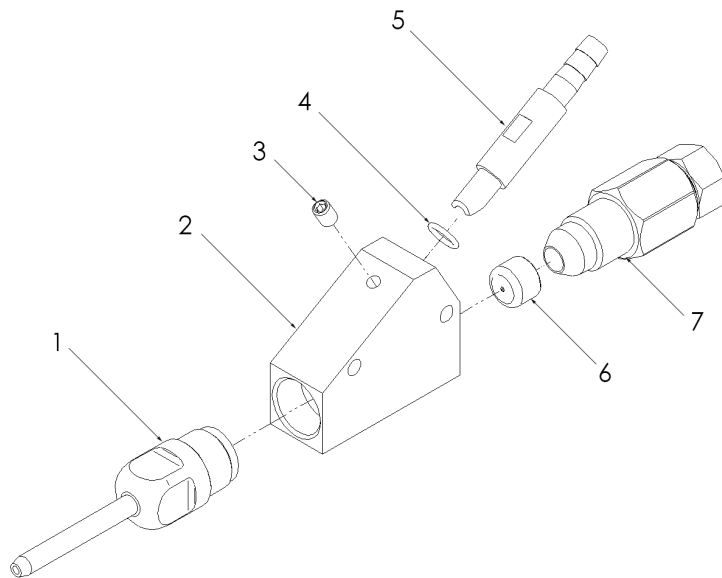
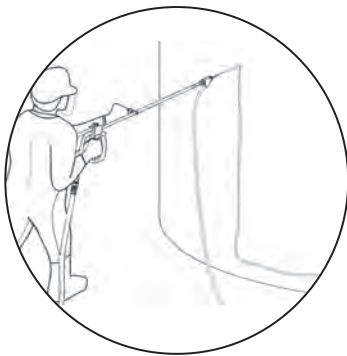
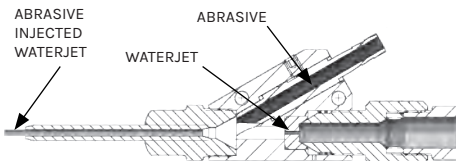


Designed for cutting of materials by injection of an abrasive solid into a high velocity waterjet, the Abrasive Cutting Nozzle is ideal where conventional cutting methods are unsuitable.

- ▶ Nozzle can be attached directly to the end of a hand control gun or mounted to an automated cutting system.
- ▶ Durable sapphire orifice creates a high velocity waterjet which creates suction force to pull abrasive into waterjet.
- ▶ Stainless steel body, nozzle holder, and gun adapter.
- ▶ Abrasive feed tube protects nozzle body from damage.
- ▶ Tungsten carbide slurry nozzle features a funnel to aid in mixing abrasive with water and a long orifice to create an extremely cohesive and powerful cutting jet.
- ▶ Maximum Working Pressure: 20,000 psi (1,379 bar).
- ▶ Additional nozzle sizes available for other flow rates.

PART NO.	INLET CONNECTION* (FEMALE)	OVERALL LENGTH		WEIGHT		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	lbs	kg	gpm	lpm	gpm	lpm	gpm	lpm	gpm	lpm	gpm	lpm
28484	9/16" MP Female	6.0	153	1.5	0.7	3.4	12.8	3.8	14.3	4.1	15.6	4.5	16.9	4.8	18.1

*See details on all connection types in Section I.



PART BREAKDOWN

ITEM	PART NO.	DESCRIPTION	ITEM	PART NO.	DESCRIPTION
1	28547	Slurry Nozzle	5	28562	Abrasive Feed Tube
2	54888	Body	6	29030	.040" Sapphire Orifice
3	29032	Setscrew	7	54889	Adapter, 9/16" MP Female
4	29033	O-Ring			

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. 71743



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:

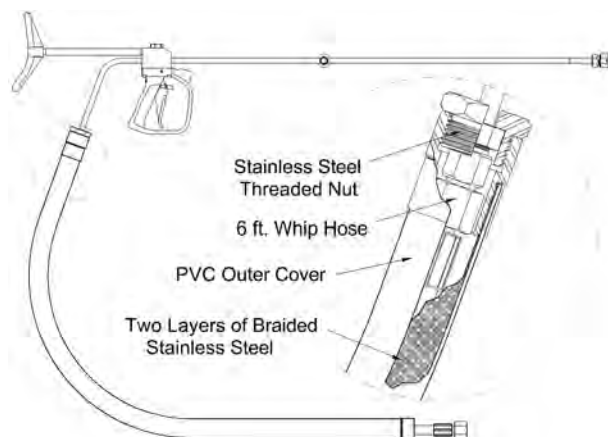
- ▶ 15,000 psi - GREEN
- ▶ 20,000 psi - BLUE
- ▶ 40,000 psi - ORANGE

All 20K psi rated Jetstream lances, adapters, couplers and connectors are color-coded blue to represent 20,000 psi (1379 bar) working pressure.

SAFETY SHROUDS

Designed for use with 20,000 psi control guns that have medium pressure inlet connections (non-DuraSafe™), 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.

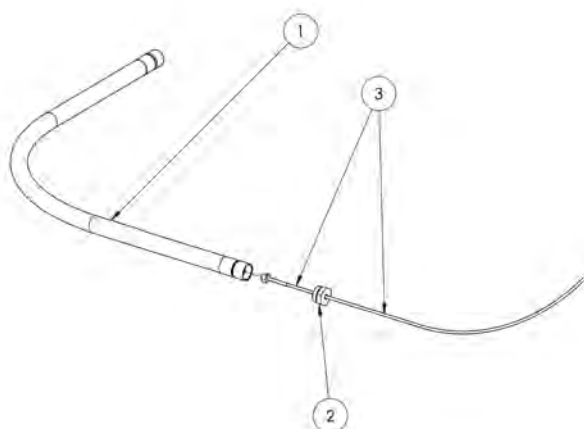
- ▶ Shroud is constructed of flexible, durable, and abrasion resistant thermoplastic around two layers of stainless steel braiding for maximum protection.
- ▶ Shroud is easily fastened or removed from rear barrel of control gun by a stainless steel nut which fits over connection fittings.
- ▶ Whip hoses 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
J56223	6	1.8	1" Type M Female	.50	12.7	28860	55265	28347-0064242	Rubber	20,000	1,379
55259	6	1.8	20K Port Female	.39	9.9	28860	55265	28690-0064040	Plastic	20,000	1,379
56735	10	3.0	1" Type M Female	.50	12.7	28860-10	55265	28347-0104242	Plastic	20,000	1,379

*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	55265	Nut
3	See Above	Whip Hose

RELATED PARTS

Part No. 57126 9/16" MP Female x 1" Type M adapter (used with field repairable guns)

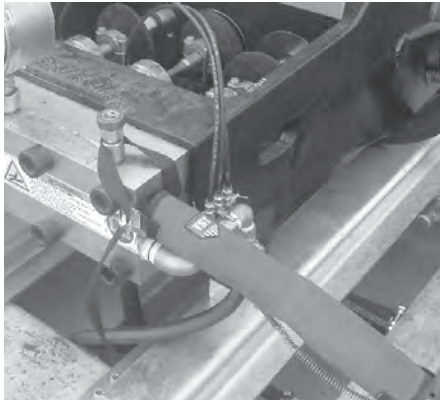
Part No. 57125 9/16" MP Female x 3/4" Type M adapter (used with field repairable guns)

Part No. 52181 (used with 55259 shroud)

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 and the flex lance.



PART NO.	LENGTH		INLET CONNECTION* (TO FOOT GUN)	OUTLET CONNECTION* (TO FLEX LANCE)	HOSE I.D.		MAX. OPERATING PRESSURE	
	ft	m			in	mm	psi	bar
55260	3	0.9	Jetstream 20K QD Male	9/16" Jetstream 20K QD Male	.39	9.9	20,000	1,379

*See Section I for a description of each connection type.

**Part No. 52041 needed to connect to foot gun.

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



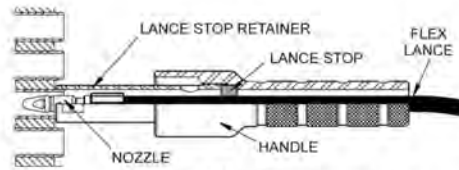
LOCKING COTTER PIN FOR SHACKLE ANCHOR

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**



Flex Lance Safety Grip Part Number 51024

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.	
		in	mm
51044	51952	.16	4.0
51038	51953	.20	5.0
51038	51954	.25	6.3
51779	53816	.32	8.0

*Included in package above.

PART NO.	LENGTH
51055	for tubes up to 3/4" O.D. (included with safety grip)
51425	for tubes up to 1" O.D.
51427	for tubes up to 2" O.D.

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

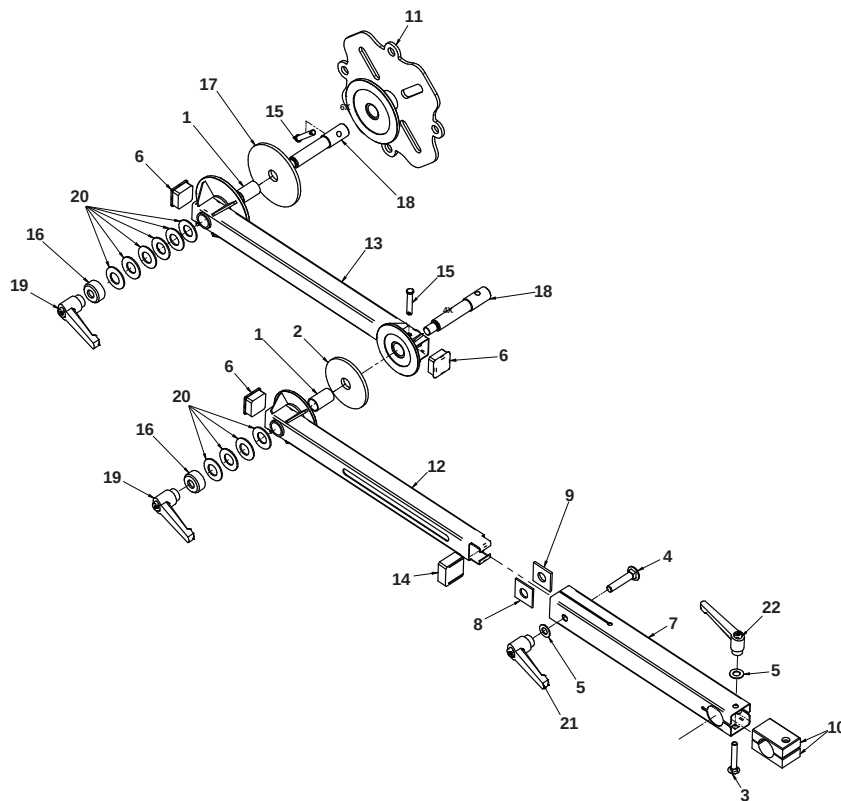


LANCE STOP PART NO.	FLEX LANCE NOMINAL I.D.		HOSE TYPE
	in	mm	
51036	.325	8	4/2 & 3/2
51038	.445	11	5/2
51044	.510	13	6/2 & 6/4
51779	.610	15	8/2 & 8/6

GUIDE BUSHINGS



GUIDE BUSHING PART NO.	NOMINAL I.D.	
	in	mm
60288	.550	14
60289	.780	20



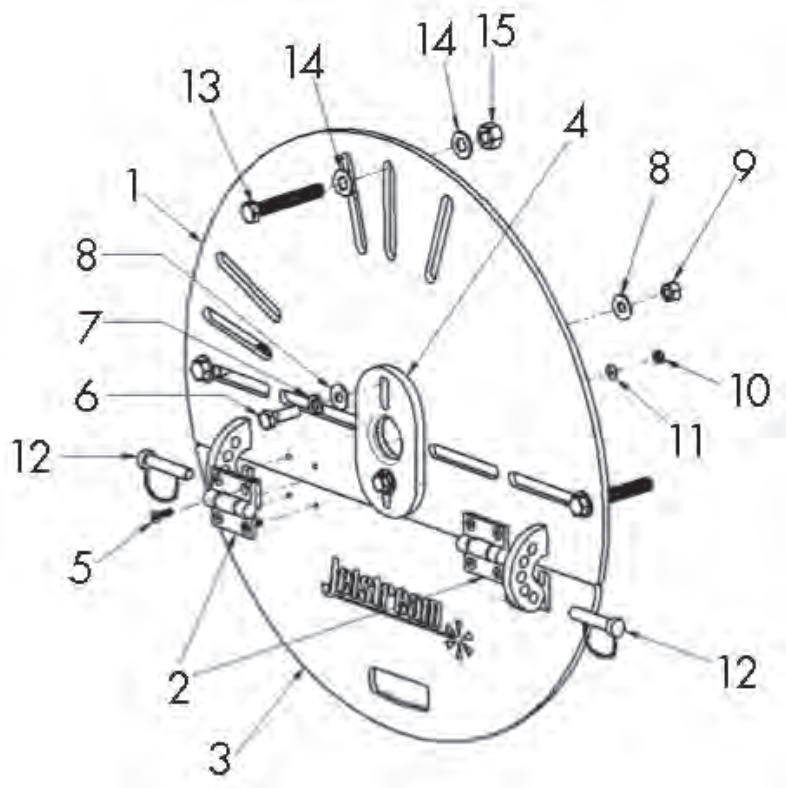
PART BREAKDOWN

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

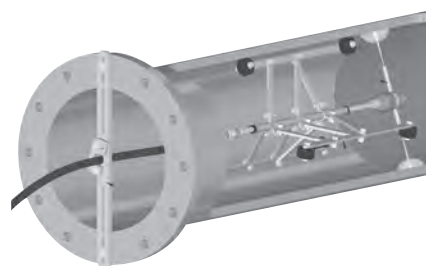


PART BREAKDOWN

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			

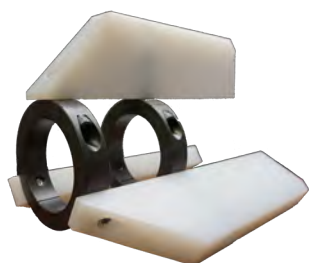
CENTRALIZERS

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

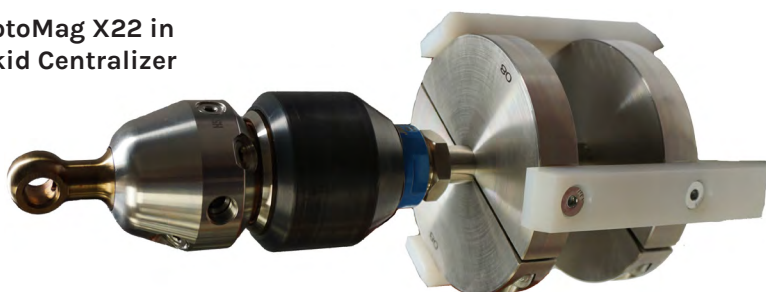


SKID STYLE

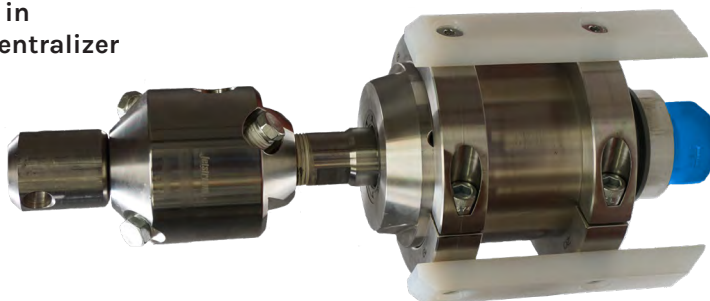
Used in pipes with and without elbows up to 10 in. (250 mm) in diameter. Designed to be used with RotoMag™ X22 and Swivel X15/X22.



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:

RELATED ITEMS

PART NO.	DESCRIPTION
29108-08	8" long 3/4" MP LH Tube Nipple
28383	3/4" MP Gland
28384	3/4" MP Collar

Swivel in
Cage Centralizer



SWIVEL X15, X22

PART NO.	DIAMETER	
	in	mm
63843-SWVL	18.75	475

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™

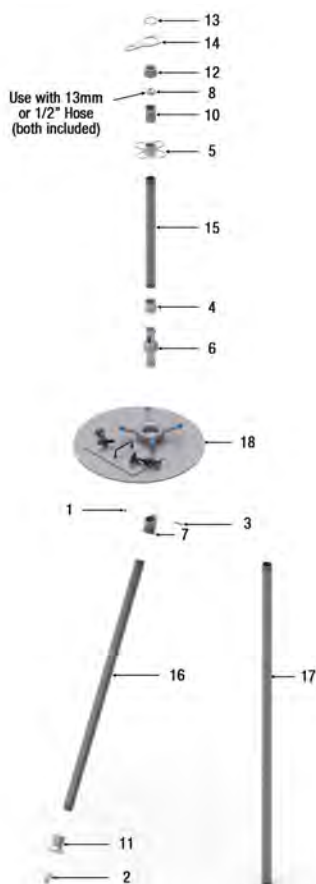
Large tanks and vessels can be challenging to clean. They come in all shapes and sizes, and they often have limited access, making it hard to get a cleaning tool into the proper position to ensure a complete cleaning.

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

SONETICS® APEX WIRELESS HEADSET



Headset
Part No. 64299 (wireless)
65911 (wireless w/Bluetooth)



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)

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

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 use 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	8.5
59001	9
59002	10
58932	11
59003	12
59004	13
59005	14



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 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



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	27885C	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: HYDRO-
BLASTING"

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



20K COLOR CODED
PRESSURE DECAL

Part No. 71743



JETSTREAM UNIT
DECAL - BLUE

Part No. 29956



JETSTREAM UNIT
DECAL - WHITE

Part No. 26717

SAFETY LITERATURE AND MEDIA



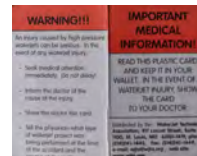
WJTA® INDUSTRY
BEST PRACTICES
FOR HIGH
PRESSURE
WATERJETTING
EQUIPMENT

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 .2642 = 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

CONNECTION TYPES

Several connection types are available for use with Jetstream 20,000 PSI products. 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.



NOTE: Always apply thread lubricant (anti-seize) to male threads before assembling Jetstream 20K Port connections. See Section E. Fittings, for thread lubricants available from Jetstream.

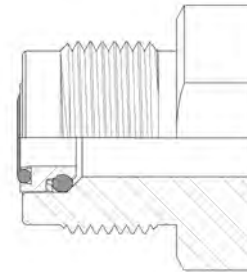
JETSTREAM 20K PORT

- Specially designed to prevent leakage and wear frequently associated with standard connections by incorporating a replaceable seal assembly that is hydraulic biased to increase sealing force as pressure increases.
- Repairing leaks requires only replacement of the seal, compared with standard connections which often require re-coning or component replacement
- Utilized in most Jetstream 20,000 psi products

CONNECTION THREAD	RECOMMENDED TORQUE	
	ft-lbs	N-m
1" - 16UN	50	68



Actual Size Reference Chart



Jetstream 20k Port Male

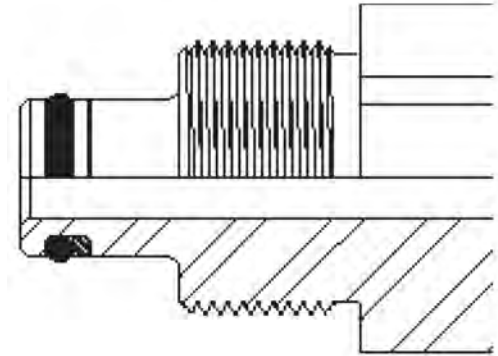
CONNECTION TYPES

JETSTREAM HHP MALE ADAPTERS

For use with 6020 and 5020Q pumps, 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.

- ▶ Copper plated for galling resistance
- ▶ Stainless steel

Actual Size Reference Chart

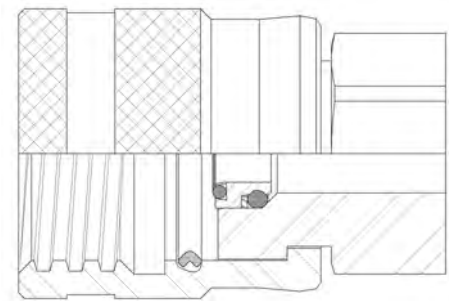


JETSTREAM 20K QUICK DISCONNECT

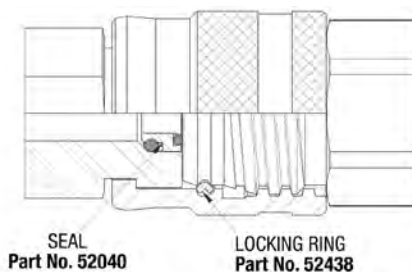
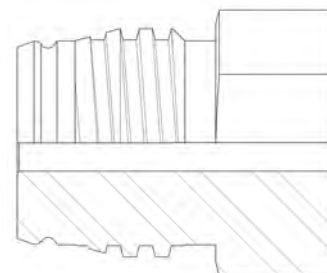
- ▶ Enables fast connection and removal of 20,000 psi tools
- ▶ Utilizes the same hydraulically-biased replaceable seal as the Jetstream 20K Port Connection
- ▶ Hand-tightening is all that is required. A locking ring in the female swivel fitting holds the male fitting in place
- ▶ Repairing leaks requires only replacement of the seal, compared with standard connections which often require re-coning or component replacement
- ▶ Available on Jetstream 20,000 psi rubber hoses
- ▶ Connectors are available to use the Quick Disconnect fitting with any 20,000 psi product

Actual Size Reference Chart

Jetstream 20K QD Female



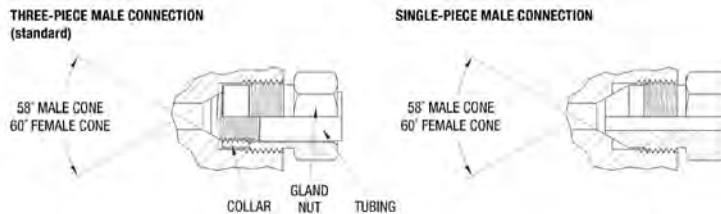
Jetstream 20K QD Male



CONNECTION TYPES

MEDIUM PRESSURE (MP)

- ▶ Industry standard connection for 20,000 psi applications.
- ▶ 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.



SIZE	GLAND CONNECTION THREAD	TUBING THREAD* LEFT-HAND	RECOMMENDED TORQUE	
			ft-lbs	N-m
1/4" MP	7/16" - 20UNF	1/4" - 28UNF	20	27
3/8" MP	9/16" - 18UNF	3/8" - 24UNF	30	41
9/16" MP	13/16" - 16UNF	9/16" - 18UNF	85	15
3/4" MP	3/4" - 14NPSM	3/4" - 16UNF	90	122
1" MP	1-3/8" - 12UNF	1" - 14UNF	125	170

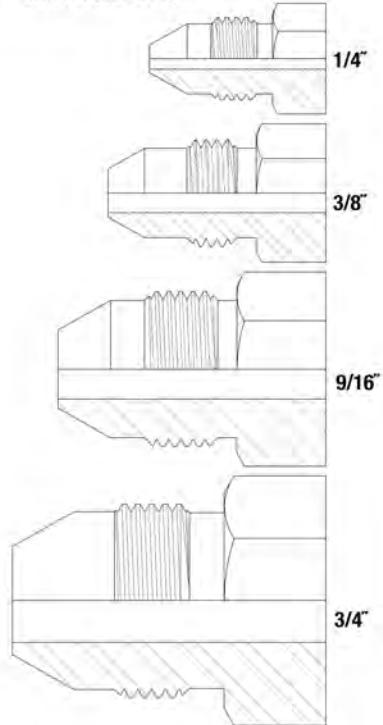
*For three-piece connection styles only

CONNECTION INSTRUCTIONS

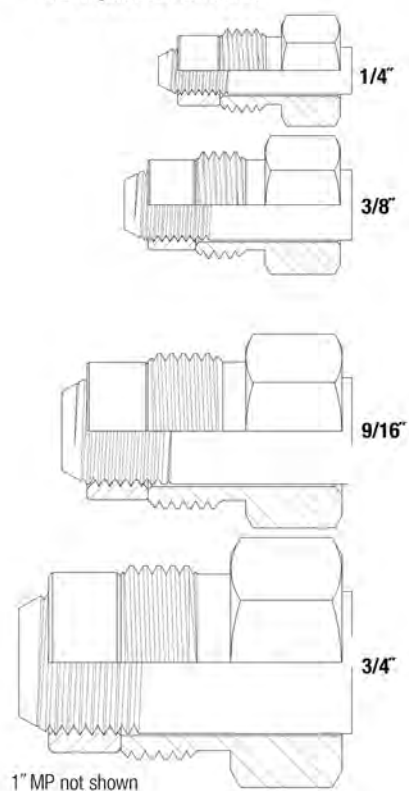
- 1. 3 pc. Male Connection Style Only** – Liberally apply anti-seize to male tubing threads to prevent thread galling.
- 2. 3 pc. Male Connection Style Only** – Slide gland nut over tubing and thread collar (left-hand threaded) onto tubing until it is past the first one or two full threads of the tubing.
- 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.

Actual Size Reference Chart

SINGLE PIECE STYLE



GLAND, COLLAR & TUBING



CONNECTION TYPES

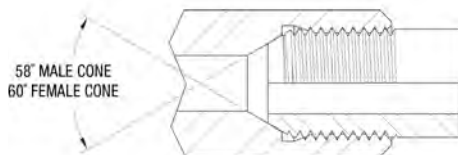
MEDIUM PRESSURE TUBE (MP TUBE)

- ▶ Industry standard connection for 20,000 psi applications.
- ▶ Left-hand threaded connections are used in standard medium pressure three-piece connection style.
- ▶ Both left- and right-hand threaded connections are used in tube cleaning applications in which the male connection is inserted directly into a female connection without use of a gland and collar. For use where standard connections are too large in diameter.

SIZE	TUBE CONNECTION THREAD	RECOMMENDED TORQUE	
		ft-lbs	N-m
1/4" MP Tube LH	1/4"-28UNF-LH	15	20
1/4" MP Tube RH	1/4"-28UNF-RH		
3/8" MP Tube LH	3/8"-24UNF-LH	25	34
3/8" MP Tube RH	3/8"-24UNF-RH		
9/16" MP Tube LH	9/16"-18UNF-LH	30	41
9/16" MP Tube RH	9/16"-18UNF-RH		
3/4" MP Tube LH	3/4"-16UNF-LH	45	61
3/4" MP Tube RH	3/4"-16UNF-RH		
1" MP Tube LH	1"-14UNF-LH	70	95

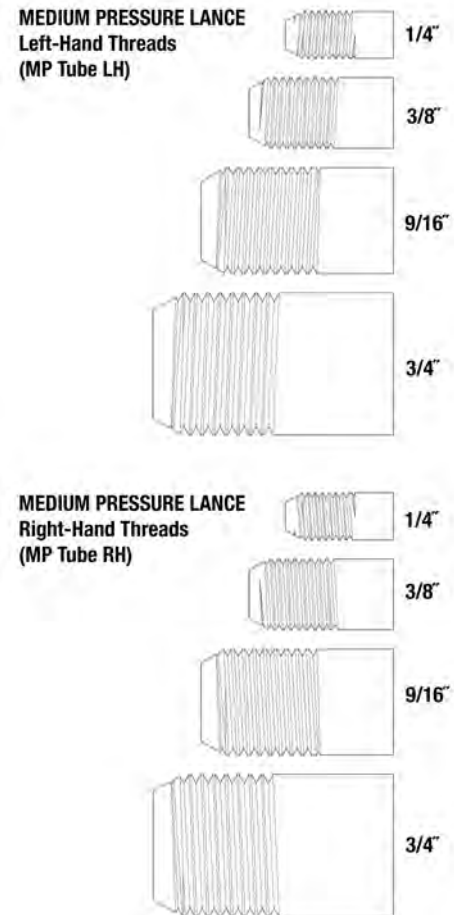
JETSTREAM LANCE

- ▶ Formerly known as Jetstream's "Rigid Lance" connection.
- ▶ Commonly found in Jetstream flex and rigid lances and tube nozzles.
- ▶ Male Jetstream Lance connections will fit into female right hand medium pressure tube connections, but female Jetstream Lance connections cannot be used with male medium pressure tube connections.

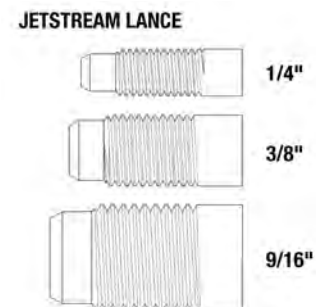


SIZE	LANCE CONNECTION THREAD	RECOMMENDED TORQUE	
		ft-lbs	N-m
1/4" JS Lance	1/4"-28UNF	15	20
3/8" JS Lance	3/8"-24UNF	25	34
9/16" JS Lance	9/16"-18UNF	30	41

Actual Size Reference Chart



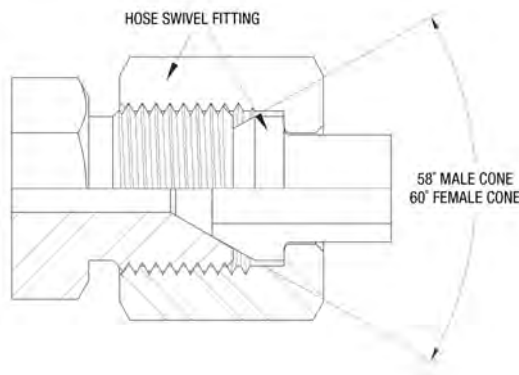
Actual Size Reference Chart



CONNECTION TYPES

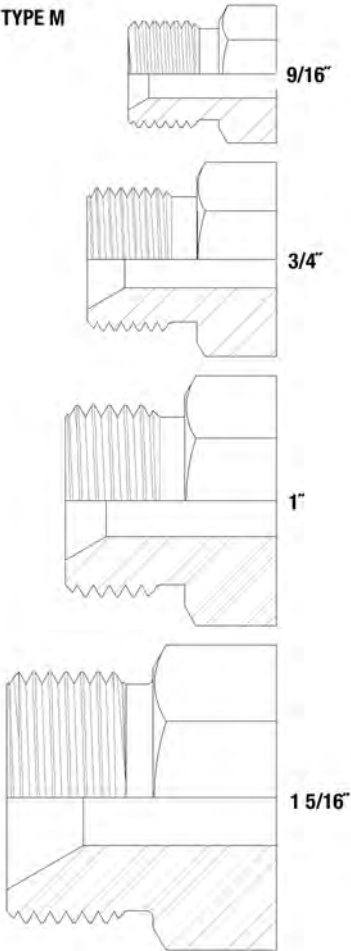
TYPE M

- ▶ 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		GLAND CONNECTION THREAD	RECOMMENDED TORQUE	
			ft-lbs	N-m
9/16" Type M	M9	9/16" - 18UNF	30	41
3/4" Type M	M12	3/4" - 16UNF 1"	45	61
7/8" Type M	M14	7/8" - 14UNF	50	67
1" Type M	M16	1" - 12UNF	75	95
1 5/16" Type M	M21	1-5/16" - 12UN	110	149

Actual Size Reference Chart



7/8" Type M not shown.

THREADING AND CONING TOOLS

MP CONNECTIONS



THREADING TOOL



CONING TOOL

- ▶ Coning tool assemblies include tool as well as cutter and collet specific to the connection size and type needed.
- ▶ Threading tool assemblies include tool (consisting of housing and handle) as well as die and guide bushing specific to connection size needed.

NOTE:

- ▶ 1/4" & 3/8" coning tools use the same tool with differing cutters & collets.
- ▶ 9/16" coning tools use the same tool with differing cutters.
- ▶ All threading tool assemblies include LH die and all use the same handle and housing.

CONING

CONNECTION TYPE	CONING TOOL AY	CONING CUTTER	CONING COLLET
1/4" MP	71077	71082	71088
3/8" MP	28784	71083	71089
3/4" MP	71270	-	-
9/16" MP	71078	71084	71090

THREADING

CONNECTION TYPE	THREAD TOOL AY	LH DIE	RH DIE	BUSHING
1/4" MP	71091	71092	71095	71097
3/8" MP	28783	71093	71096	71098
3/4" MP	71271	-	-	-
9/16" MP	28872	71094	28873	71099



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