



# DRILLJET™

## QUICK START GUIDE

### QSG-180



The DrillJet™ is a self-powered rotating nozzle designed for tube cleaning available in five sizes with a variety of inlet options. The DrillJet™ is a universal type of tool with six or seven nozzles that clear blockages, clean, and provide thrust to propel the tool down the pipe. The tool is available in a range of pressures and flows depending on size.

## DRILLJET™ | PRODUCT SPECIFICATIONS

	9.5mm	13mm	18mm	24mm	33mm
Operating Pressure Range (psi)	15,000 - 22,000				
Operating Pressure Range (bar)	1,000 - 1,500				
Flow Range (gpm)	7-8	8-10	10-14	10-24	8-47
Flow Range (lpm)	27-30	30-38	38-53	38-91	30-178
Inlet Connections	M7, 1/16" NPT, 1/4" MP LH/RH	1/8" BSPP, 1/8" NPT, 1/4" MP LH/ RH, 3/8" MP LH/RH	1/4" NPT, 1/4" BSPP, 9/16" MP LH/RH	3/8" NPT, 3/8" BSPP, 9/16" MP LH/RH	1/2" NPT, 1/2" BSPP, 9/16" MP GLAND
Tube I.D. range (in)	.47 - .63	.60 - 1.0	.87-1.3	1.1-2.0	1.5-2.4
Tube I.D. range (mm)	12 - 16	15 - 25	22-33	28-51	38-61
Diameter (in)	0.38	0.50	0.71	0.94	1.30
Diameter (mm)	9.5	13.0	18.0	24.0	33.0
Length (in)	1.54	1.65	2.16	2.54	3.30
Length (mm)	39	42	55	65	84
Weight (lbs)	0.073	0.075	0.150	0.320	0.830
Weight (kg)	0.033	0.034	0.068	0.145	0.376

NOTE: Part numbers and descriptions are subject to change without notice.

## DRILLJET™ | JET PATTERNS



UNIVERSAL 7-JET PATTERN  
9.5 and 13 mm



UNIVERSAL 7-JET PATTERN  
18 and 24 mm



UNIVERSAL 7-JET PATTERN  
33 mm



UNIVERSAL 6-JET PATTERN  
9.5 and 13 mm



UNIVERSAL 6-JET PATTERN  
18 and 24 mm



UNIVERSAL 6-JET PATTERN  
33 mm

## DRILLJET™ | NOZZLE FLOW RATES - UNIVERSAL

	ASSEMBLY	INLET	FLOW (gpm)	FLOW (lpm)	PRESSURE (psi)	PRESSURE (bar)
<b>9.5mm</b>						
6 NOZZLES	DJ9.5-P1-222-15-8	P1	7-8	26-30	15K	1000
	DJ9.5-M7-222-22-8	M7	7-8	26-30	22K	1500
	DJ9.5-MP4L-222-22-8	MP4L	7-8	26-30	22K	1500
	DJ9.5-MP4R-222-22-8	MP4R	7-8	26-30	22K	1500
7 NOZZLES	DJ9.5-P1-322-15-8	P1	7-8	26-30	15K	1000
	DJ9.5-M7-322-22-8	M7	7-8	26-30	22K	1500
	DJ9.5-MP4L-322-22-8	MP4L	7-8	26-30	22K	1500
	DJ9.5-MP4R-322-22-8	MP4R	7-8	26-30	22K	1500
<b>13mm</b>						
6 NOZZLES	DJ13-P2-222-15-10	P2	8-10	30-38	15K	1000
	DJ13-BSPP2-222-15-10	BSPP2	8-10	30-38	15K	1000
	DJ13-MP4L-222-22-10	MP4L	8-10	30-38	22K	1500
	DJ13-MP4R-222-22-10	MP4R	8-10	30-38	22K	1500
	DJ13-MP6L-222-22-10	MP6L	8-10	30-38	22K	1500
	DJ13-MP6R-222-22-10	MP6R	8-10	30-38	22K	1500
7 NOZZLES	DJ13-P2-322-15-10	P2	8-10	30-38	15K	1000
	DJ13-BSPP2-322-15-10	BSPP2	8-10	30-38	15K	1000
	DJ13-MP4L-322-22-10	MP4L	8-10	30-38	22K	1500
	DJ13-MP4R-322-22-10	MP4R	8-10	30-38	22K	1500
	DJ13-MP6L-322-22-10	MP6L	8-10	30-38	22K	1500
	DJ13-MP6R-322-22-10	MP6R	8-10	30-38	22K	1500
<b>18mm</b>						
6 NOZZLES	DJ18-P4-222-15-10	P4	10-14	38-53	15K	1000
	DJ18-P4-222-15-14	P4	10-14	38-53	15K	1000
	DJ18-BSPP4-222-20-14	BSPP4	10-14	38-53	22K	1500
	DJ18-MP9L-222-22-14	MP9L	10-14	38-53	22K	1500
	DJ18-MP9R-222-22-14	MP9R	10-14	38-53	22K	1500
7 NOZZLES	DJ18-P4-322-15-10	P4	10-14	38-53	15K	1000
	DJ18-P4-322-15-14	P4	10-14	38-53	15K	1000
	DJ18-BSPP4-322-20-14	BSPP4	10-14	38-53	22K	1500
	DJ18-MP9L-322-22-14	MP9L	10-14	38-53	15K	1000
	DJ18-MP9R-322-22-14	MP9R	10-14	38-53	15K	1000

**DRILLJET™** | NOZZLE FLOW RATES - UNIVERSAL

	ASSEMBLY	INLET	FLOW (gpm)	FLOW (lpm)	PRESSURE (psi)	PRESSURE (bar)
<b>24mm</b>						
6 NOZZLES	DJ24-P6-222-15-10	P6	10-24	38-91	15K	1000
	DJ24-P6-222-15-15	P6	10-24	38-91	15K	1000
	DJ24-P6-222-15-24	P6	10-24	38-91	15K	1000
	DJ24-BSPP6-222-22-11	BSPP6	10-24	38-91	22K	1500
	DJ24-MP9L-222-22-11	MP9L	10-24	38-91	22K	1500
	DJ24-MP9R-222-22-11	MP9R	10-24	38-91	22K	1500
	DJ24-BSPP6-222-22-14	BSPP6	10-24	38-91	22K	1500
	DJ24-MP9L-222-22-14	MP9L	10-24	38-91	22K	1500
	DJ24-MP9R-222-22-14	MP9R	10-24	38-91	22K	1500
	DJ24-BSPP6-222-22-19	BSPP6	10-24	38-91	22K	1500
	DJ24-MP9L-222-22-19	MP9L	10-24	38-91	22K	1500
	DJ24-MP9R-222-22-19	MP9R	10-24	38-91	22K	1500
7 NOZZLES	DJ24-P6-322-15-10	P6	10-24	38-91	15K	1000
	DJ24-P6-322-15-15	P6	10-24	38-91	15K	1000
	DJ24-P6-322-15-24	P6	10-24	38-91	15K	1000
	DJ24-BSPP6-322-22-11	BSPP6	10-24	38-91	22K	1500
	DJ-24-MP9L-322-22-11	MP9L	10-24	38-91	22K	1500
	DJ-24-MP9R-322-22-11	MP9R	10-24	38-91	22K	1500
	DJ24-BSPP6-322-22-14	BSPP6	10-24	38-91	22K	1500
	DJ24-MP9L-322-22-14	MP9L	10-24	38-91	22K	1500
	DJ24-MP9R-322-22-14	MP9R	10-24	38-91	22K	1500
	DJ24-BSPP6-322-22-19	BSPP6	10-24	38-91	22K	1500
	DJ24-MP9L-322-22-19	MP9L	10-24	38-91	22K	1500
	DJ24-MP9R-322-22-19	MP9R	10-24	38-91	22K	1500

**DRILLJET™** | NOZZLE FLOW RATES - UNIVERSAL

	ASSEMBLY	INLET	FLOW (gpm)	FLOW (lpm)	PRESSURE (psi)	PRESSURE (bar)
<b>33mm</b>						
6 NOZZLES	DJ33-P8-222-15-17	P8	8-47	30-178	15K	1000
	DJ33-P8-222-15-24	P8	8-47	30-178	15K	1000
	DJ33-P8-222-15-32	P8	8-47	30-178	15K	1000
	DJ33-P8-222-15-37	P8	8-47	30-178	15K	1000
	DJ33-P8-222-15-47	P8	8-47	30-178	15K	1000
	DJ33-BSPP8-222-22-12	BSPP8	8-47	30-178	22K	1500
	DJ33-MP9-222-22-12	MP9	8-47	30-178	22K	1500
	DJ33-BSPP8-222-22-15	BSPP8	8-47	30-178	22K	1500
	DJ33-MP9-222-22-15	MP9	8-47	30-178	22K	1500
	DJ33-BSPP8-222-22-19	BSPP8	8-47	30-178	22K	1500
	DJ33-MP9-222-22-19	MP9	8-47	30-178	22K	1500
	DJ33-BSPP8-222-22-25	BSPP8	8-47	30-178	22K	1500
DJ33-MP9-222-22-25	MP9	8-47	30-178	22K	1500	
7 NOZZLES	DJ33-P8-322-15-17	P8	8-47	30-178	15K	1000
	DJ33-P8-322-15-24	P8	8-47	30-178	15K	1000
	DJ33-P8-322-15-32	P8	8-47	30-178	15K	1000
	DJ33-P8-322-15-37	P8	8-47	30-178	15K	1000
	DJ33-P8-322-15-47	P8	8-47	30-178	15K	1000
	DJ33-BSPP8-322-22-12	BSPP8	8-47	30-178	22K	1500
	DJ33-MP9-322-22-12	MP9	8-47	30-178	22K	1500
	DJ33-BSPP8-322-22-15	BSPP8	8-47	30-178	22K	1500
	DJ33-MP9-322-22-15	MP9	8-47	30-178	22K	1500
	DJ33-BSPP8-322-22-19	BSPP8	8-47	30-178	22K	1500
	DJ33-MP9-322-22-19	MP9	8-47	30-178	22K	1500
	DJ33-BSPP8-322-22-25	BSPP8	8-47	30-178	22K	1500
DJ33-MP9-322-22-25	MP9	8-47	30-178	22K	1500	



## **⚠ DANGER**

**THIS PRODUCT CAN BE DANGEROUS IF NOT USED PROPERLY!** Always wear appropriate Personal Protective Equipment (PPE). Detailed PPE information can be found at: [www.fsesgsafety.com](http://www.fsesgsafety.com) and clicking on the JETSTREAM name or by referring to the yellow JETSTREAM SAFETY WARNING pamphlet (PI-082).

The following Quick-Start Guide is intended to provide the customer with an expedient reference for DrillJet installation and operation. It does not replace the complete product instructions (PI-180).

This product is sold with the understanding that the purchaser agrees to thoroughly train all operators and maintenance personnel in the correct and safe installation, operation, and maintenance of the product and to provide adequate supervision of personnel at all times. JETSTREAM urges customers to make complete instructions available to all personnel and ensure they are read thoroughly before installing, connecting or using the DrillJet. Retain these instructions for future reference. If this product is resold or otherwise conveyed, the purchaser must pass on these instructions to the new user. If any questions remain, or to request additional copies, call JETSTREAM at (800) 231-8192 or (832) 590-1300.

Read the yellow JETSTREAM SAFETY WARNING pamphlet (PI-082) included with the shipment of the product.

## CONNECTING DRILLJET

Prior to the start of any job, make sure only high pressure rated fittings and hoses are used in the waterblasting system.

Prior to installing the DrillJet onto the hose, flush the system to clear any debris.

### BSPP CONNECTION

1. BSPP flat seal connections require a copper crush washer between the male and female connectors.
2. Seat copper crush washer in female BSPP connection on mandrel.
3. Apply anti-seize compound to the mating threads of mating hose end.
4. Install the DrillJet by using an appropriate open-ended wrench on flats found on the body and tighten until firmly snug (20 ft-lbs. max).

### STRAIGHT THREAD CONNECTION (M7 and MEDIUM PRESSURE (MP))

1. Apply anti-seize compound to male threads of the connection.

**NOTE: DO NOT** use Teflon tape.

2. Install the DrillJet by using an appropriate open-ended wrench on flats found on the body and tighten until firmly snug.

**NOTE: DO NOT OVERTIGHTEN;** damage to coned sealing surface could result.

### FOR ALL NPT CONNECTIONS

1. Apply 3-4 wraps of Teflon thread sealant tape to the available male threads of the connection.
2. Apply anti-seize compound over the sealant tape for additional protection against galling.
3. Install the DrillJet by using an appropriate open-ended wrench on flats found on the body and tighten 1-2 turns past hand-tight. All NPT pipe connections should have a minimum thread engagement of (4) threads.

## OPERATION

As per the WJTA-IMCA Recommended Practices, all operators shall follow the OSHA regulations for personal protective equipment. (OSHA guidelines for Personal Protective Equipment are available in document number 3151-12R 2004, which can be obtained from [www.osha.gov](http://www.osha.gov).) All operators shall be issued suitable head protection, eye protection, hearing protection, body protection, hand and foot protection and respiratory protection (if needed). For detailed specifications on all protections required, refer to the WJTA-IMCA 'Recommended Practices for the Use of High Pressure Waterjetting Equipment' Section 6, Protective Equipment For Personnel.

## **⚠ CAUTION**

The DrillJet™ can be used at a minimum service temperature of -20°C (-4°F) and a maximum service temperature of 115°C (240°F). Use at temperatures lower or higher than these recommended temperatures may result in premature tool failure.

1. Start by slowly increasing pressure to 500 psi and check the entire system, including all connections, for leaks. Increase pressure in increments, pausing at each to inspect the system for leaks, proper rotation of tool, temperature, and other operational anomalies. If any problems are discovered, lower pressure back to zero and turn off source of power before making any adjustments.
2. During operation, it is normal for water to leak out of the front of the head from around the front nozzle (or front plug). This leak-by water comes from the water-bearing that the tool operates on.

## **⚠ WARNING**

Remove the nozzle from service if:

- a. The rotor or mandrel shows signs of cracking or other damage.
- b. The wall thickness of these parts is reduced by 25% at any point.
- c. The nozzles can no longer hold pressure at water flow rate for which it was sized.


**NOTE:** For improved reliability and longer life, it is recommended that a filter of at least 10 microns be used on the water supply inlet. A strainer (100 mesh minimum) must also be used in the water tank (if equipped with tank).

## **⚠ DANGER**

Failure to follow the following instructions will cause unsafe conditions, severe injury can result.

- DO NOT operate the DrillJet above its specified pressure.
- Operator must wear ear protection due to the noise generated by the spinning nozzle.
- NEVER stand in the plane of blasting.
- A Lance Safety Grip is recommended to minimize the risk of a live nozzle unexpectedly exiting the tube back at the lance operator.
- At high-pressure, the water can be hot. Wear gloves and use caution to prevent scalding.
- Place barricades with warning signs or barricade tape around work area. This includes the waterblast unit and all high-pressure hoses.
- Operator must be outfitted with proper safety apparel (refer to yellow JETSTREAM SAFETY WARNING pamphlet). Body armor is strongly recommended.

## FOR FURTHER INFORMATION SEE:

 **YouTube** <https://www.youtube.com/user/JetstreamWaterblast>

and the

### Jetstream Safety Manual

