Jetstream
Subsidiary of Federal Signal Corporation

2” J-FORCE™

QUICK START GUIDE

QSG-176

2" J-FORCE ASSY PN	PRESSURE	INLET CONNECTION
64772	15K	1/4" NPT
65225	15K	1/4" BSPP
65272	22K	3/8" MP LH
65273	22K	3/8" MP RH
65274	22K	9/16" MP LH
65275	22K	9/16" MP RH

2” J-FORCE™ | PRODUCT SPECIFICATIONS

Model Name	JF2X15	JF2X22
Maximum Operating Pressure (psi)	15,000	22,000
Minimum Operating Pressure (psi)	2,500	
Maximum Flow (gpm)	20	
Maximum Operating Pressure (bar)	1000	1550
Minimum Operating Pressure (bar)	170	
Maximum Flow (l/min)	75	
Inlet Connection	1/4” BSPP 1/4” NPT	3/8” LH/RH 9/16” LH/RH
Tube or Pipe I.D. (in)	2	
Tube or Pipe I.D. (mm)	50.8	
Speed Range (rpm)	1000 - 2000	
Nozzle Types Accepted	N/A	
Nozzle Pattern	1 @ 15°/ 30°/ 45°, 2 @ 90°, 2 @ 132°	
Diameter (in)	1.36	
Length (in)	2.02	
Weight (lbs)	.5	.5
Diameter (mm)	35	
Length (mm)	98	
Weight (kg)	1.1	1.1

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2” J-FORCE™ | NOZZLE FLOW RATES

2" J-Force, Universal Configuration

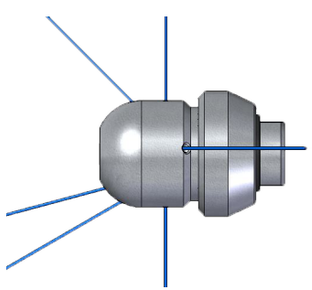
Flow (GPM)	2500 PSI Pull (LBS)	Nozzle Diameter (inches) Fwd X 3	90 X 2	Rear X 2	5000 PSI Pull (LBS)	Nozzle Diameter (inches) Fwd X 3	90 X 2	Rear X 2	7500 PSI Pull (LBS)	Nozzle Diameter (inches) Fwd X 3	90 X 2	Rear X 2
7	-7	0.016	0.018	0.047	-6	0.016	0.016	0.035				
8	-7	0.016	0.026	0.047	-9	0.016	0.016	0.039	-7	0.016	0.016	0.032
9	-8	0.020	0.020	0.052	-8	0.018	0.020	0.039	-7	0.016	0.02	0.032
10	-7	0.024	0.024	0.052	-7	0.020	0.024	0.039	-8	0.018	0.018	0.035
11	-8	0.020	0.035	0.052	-8	0.018	0.032	0.039	-8	0.018	0.024	0.035
12	-8	0.022	0.039	0.052	-7	0.022	0.029	0.042	-8	0.018	0.029	0.035
13	-7	0.024	0.042	0.052	-9	0.020	0.035	0.042	-8	0.022	0.022	0.039
14	-7	0.024	0.047	0.052	-9	0.020	0.039	0.042	-8	0.022	0.026	0.039
15	-6	0.026	0.047	0.052	-7	0.026	0.029	0.047	-9	0.024	0.024	0.042
16					-7	0.026	0.035	0.047	-9	0.024	0.029	0.042
17					-7	0.026	0.039	0.047	-9	0.024	0.032	0.042
18					-7	0.026	0.042	0.047	-9	0.024	0.035	0.042
19					-7	0.032	0.032	0.052	-9	0.024	0.039	0.042
20					-7	0.032	0.035	0.052	-8	0.029	0.032	0.047

Flow (GPM)	10000 PSI Pull (LBS)	Nozzle Diameter (inches) Fwd X 3	90 X 2	Rear X 2	12500 PSI Pull (LBS)	Nozzle Diameter (inches) Fwd X 3	90 X 2	Rear X 2	15000 PSI Pull (LBS)	Nozzle Diameter (inches) 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 Pull (LBS)	Nozzle Diameter (inches) Fwd X 3	90 X 2	Rear X 2	20000 PSI Pull (LBS)	Nozzle Diameter (inches) Fwd X 3	90 X 2	Rear X 2	22000 PSI Pull (LBS)	Nozzle Diameter (inches) 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

NOTE: *See 2” J-Force PI (PI-176) for full flow charts.*

NOTE: *Flow rate values include leak-by GPM.*



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2” J-FORCE™ | QUICK START GUIDE

⚠ 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 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 2” J-Force installation and operation. It does not replace the complete product instructions (PI-176).

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 2” J-Force. 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 2” J-FORCE

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 2” J-Force onto the hose, flush the system to clear any debris.

15K PSI RATED CONNECTION (1/4” BSPP)

1. BSPP flat seal connections require a copper crush washer between the male and female connections.
2. Seat copper crush washer in female BSPP connection on mandrel
3. Apply anti-seize compound to male threads of mating hose end.
4. Install the JF2X15 by using an appropriate open-ended wrench on flats found on the body and tighten to 20 lbs. ft.

22K PSI RATED CONNECTION (9/16” & 3/8” LH/RH FEMALE INLET)

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

NOTE: DO NOT use Teflon tape on 22K PSI connections.

2. Install the JF3X22 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.

22K PSI RATED CONNECTION (1/2” NPT FEMALE INLET)

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 JF2X22 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.) 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 2” J-Force™ 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).

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⚠ DANGER

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

- *DO NOT operate the 2” J-Force 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 the 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.*

⚠ CAUTION

DO NOT use the 2” J-Force if it has not been cleaned and inspected prior to starting the working shift.

FOR FURTHER INFORMATION SEE:

YouTube https://www.youtube.com/user/JetstreamWaterblast

and the

Jetstream Safety Manual