

PRODUCT QUICK-START GUIDE

3" J-Force™ 15K/22K



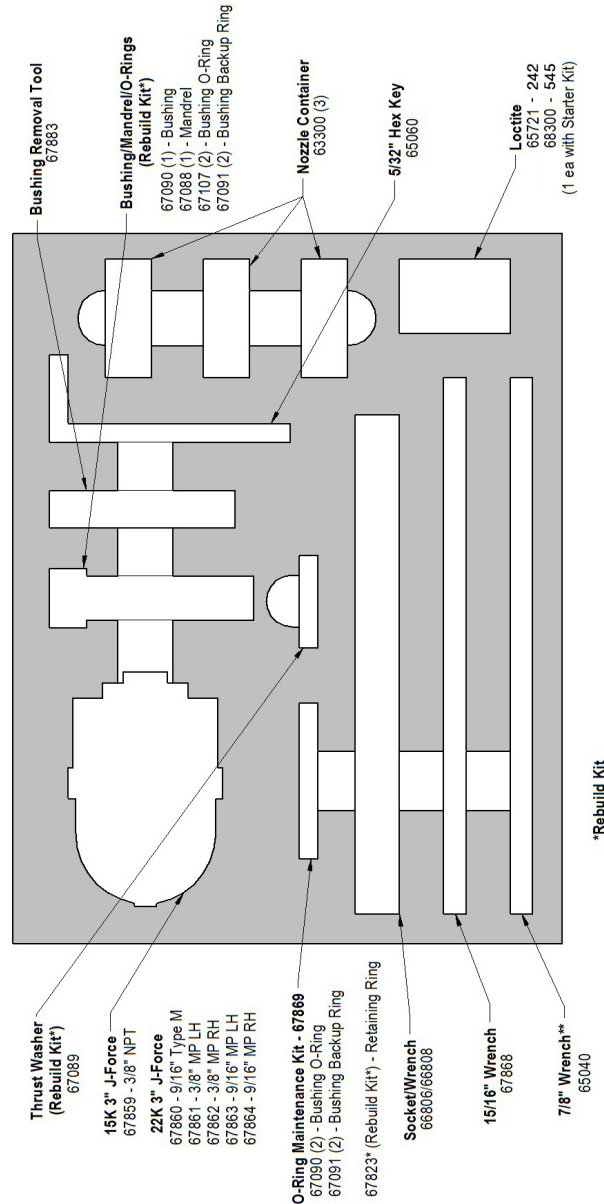
Model Name	JF3X15	JF3X22
Maximum Operating Pressure (psi)	15,000	22,000
Minimum Operating Pressure (psi)	2,500	
Maximum Flow (gpm)	30	
Maximum Operating Pressure (bar)	1000	1550
Minimum Operating Pressure (bar)	170	
Maximum Flow (l/min)	114	
Inlet Connection	3/8" NPT	9/16" Type M 3/8" MP LH/RH 9/16" MP LH/RH
Tube or Pipe I.D. (in)	3	
Tube or Pipe I.D. (mm)	76	
Speed Range (rpm)	1000 - 2000	
Nozzle Types Accepted	P1	
Nozzle Pattern	2 @ 10°, 2 @ 45°, 2 @ 100°, 2 @ 135°	
Diameter (in)	1.98	
Length (in)	2.87	
Weight (lbs)	1.45	
Diameter (mm)	50	
Length (mm)	73	
Weight (kg)	0.66	

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

Part Placement

67871 15K 3/8" NPT STARTER
67872 15K 3/8" NPT PREMIUM
67873 22K 9/16" TYPE M MALE STARTER
67874 22K 9/16" TYPE M MALE PREMIUM

67875 22K 3/8" MP TUBE LH STARTER
67876 22K 3/8" MP TUBE LH PREMIUM
67877 22K 3/8" MP TUBE RH STARTER
67878 22K 3/8" MP TUBE RH PREMIUM



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Nozzle Flow Rates

Flow (gpm)	3" J-Force, Universal														
	Pull (lbf)	2500 psi				Pull (lbf)	5000 psi				Pull (lbf)	7500 psi			
		Nozzle Diameter (inches)		Nozzle Diameter (inches)			Nozzle Diameter (inches)		Nozzle Diameter (inches)						
		Front,Fwd x 2,Side x 2	Rear x 2	Rear x 2		Front,Fwd x 2,Side x 2	Rear x 2	Rear x 2		Front,Fwd x 2,Side x 2	Rear x 2	Rear x 2	Rear x 2		
12	-13	0.018	0.026	0.018	0.062	-14	0.018	0.018	0.018	0.046	-10	0.018	0.018	0.018	0.038
13	-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
14	-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
15	-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
16	-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
17	-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
18	-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
19	-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
20	-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
21	-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
22	-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
23	-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
24	-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
25	-26	0.018	0.018	0.067	0.078	-49	0.018	0.018	0.018	0.078	-47	0.018	0.026	0.018	0.067
26	-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
27	-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
28	-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
29	-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

* Items part of Rebuild Kit PN 67870 (Premium Kits only)

** Items only part of NPT kits

Flow (gpm)	3" J-Force, Universal															
	Pull (lbf)	10000 psi				Pull (lbf)	12500 psi				Pull (lbf)	15000 psi				
		Nozzle Diameter (inches)		Nozzle Diameter (inches)			Nozzle Diameter (inches)		Nozzle Diameter (inches)							
		Front,Fwd x 2,Side x 2	Rear x 2	Rear x 2		Front,Fwd x 2,Side x 2	Rear x 2	Rear x 2		Front,Fwd x 2,Side x 2	Rear x 2	Rear x 2	Rear x 2			
13	-14	0.018	0.018	0.018	0.038	-12	0.018	0.018	0.020	0.035	-11	0.018	0.018	0.018	0.033	
14	-14	0.018	0.018	0.020	0.038	-12	0.018	0.018	0.018	0.038	-12	0.018	0.018	0.018	0.022	0.033
15	-19	0.018	0.018	0.018	0.042	-17	0.018	0.018	0.029	0.033	-20	0.018	0.018	0.018	0.038	
16	-16	0.018	0.018	0.029	0.038	-12	0.018	0.018	0.029	0.033	-20	0.018	0.018	0.018	0.038	
17	-26	0.018	0.018	0.018	0.046	-24	0.018	0.018	0.018	0.042	-17	0.018	0.018	0.026	0.035	
18	-27	0.018	0.018	0.024	0.046	-26	0.018	0.018	0.024	0.042	-29	0.018	0.018	0.018	0.042	
19	-28	0.018	0.018	0.029	0.046	-32	0.018	0.018	0.018	0.046	-24	0.018	0.018	0.029	0.038	
20	-37	0.018	0.018	0.018	0.052	-27	0.018	0.024	0.018	0.046	-39	0.018	0.018	0.018	0.046	
21	-43	0.018	0.018	0.018	0.055	-35	0.018	0.018	0.029	0.046	-33	0.018	0.018	0.029	0.042	
22	-39	0.018	0.018	0.029	0.052	-46	0.018	0.018	0.018	0.052	-24	0.018	0.020	0.035	0.038	
23	-44	0.018	0.018	0.026	0.055	-42	0.020	0.020	0.020	0.052	-42	0.018	0.018	0.029	0.046	
24	-45	0.018	0.018	0.029	0.055	-40	0.020	0.022	0.022	0.052	-33	0.018	0.020	0.035	0.042	
25	-40	0.018	0.024	0.029	0.055	-49	0.018	0.018	0.029	0.052	-29	0.020	0.026	0.026	0.046	
26	-40	0.018	0.025	0.032	0.055	-37	0.022	0.024	0.026	0.052	-23	0.029	0.018	0.029	0.046	
27	-50	0.026	0.018	0.018	0.062	-38	0.020	0.026	0.029	0.052	-46	0.018	0.018	0.038	0.046	
28	-49	0.018	0.018	0.042	0.055	-33	0.024	0.026	0.029	0.052	-28	0.018	0.022	0.046	0.038	
29	-46	0.020	0.020	0.042	0.055	-34	0.024	0.026	0.032	0.052	-49	0.018	0.018	0.042	0.046	
30	-43	0.018	0.026	0.042	0.055	-44	0.018	0.026	0.038	0.052	-25	0.018	0.029	0.042	0.042	

Flow (gpm)	3" J-Force, Universal														
	Pull (lbf)	17500 psi				Pull (lbf)	20000 psi				Pull (lbf)	22000 psi			
		Nozzle Diameter (inches)		Nozzle Diameter (inches)			Nozzle Diameter (inches)		Nozzle Diameter (inches)						
		Front,Fwd x 2,Side x 2	Rear x 2	Rear x 2		Front,Fwd x 2,Side x 2	Rear x 2	Rear x 2		Front,Fwd x 2,Side x 2	Rear x 2	Rear 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

QSG-198 3" J-FORCE™ 15K/22K

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 3" J-Force 15K/22K installation and operation. It does not replace the complete product instructions (PI-198).

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 that all instructions are read thoroughly before installing, connecting or using the 3" J-Force 15K/22K. 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 for additional copies, call JETSTREAM at (800) 231-8192 or (832) 590-1300.

Read the yellow JETSTREAM SAFETY WARNING pamphlet included with the shipment of the product.

CONNECTING 3" 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 3" J-Force onto the hose, flush the system to clear any debris.

15K PSI RATED CONNECTION (NPT 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 JF3X15 by using appropriate open-end wrench on flats found on body and tighten 1-2 turns past hand-tight. All NPT pipe connections should have a minimum thread engagement of (4) threads.

22K PSI RATED CONNECTION (9/16" Type M Male, 3/8" MP LH/RH , 9/16" MP LH/RH Inlet)

1. Apply anti-seize compound to the threads of the Type M connection or to the male MP hose/lance end.
NOTE: DO NOT use Teflon tape on 22K PSI connections.
2. Install the JF3X22 by using appropriate open-end wrench on flats found on body and tighten to 30 lb-ft. (9/16" Type M Male), 25 lb-ft. (3/8"MP LH/RH) or 30 lb-ft. (9/16"MP LH/RH).

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

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 3" J-Force™ can be used for minimum service temperature of -20°C (-4°F) and a maximum service temperature of 115°C (240°F). Use at lower or higher than 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 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).



J-Force surface may exceed 200°F.



J-Force utilizes magnets which produce strong magnetic fields. Keep the tool at least 6 inches away from any medical device.

QSG-198 3" J-FORCE™ 15K/22K

DANGER

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

- *DO NOT operate the 3" 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 exiting the tube unexpectedly back at the lance operator.*
- *At high-pressure, the water can be hot. Wear gloves and use precaution 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.*

CAUTION

DO NOT use the 3" J-Force 15K/22K if it has not been cleaned and inspected prior to starting the working shift.

For further info see:



Click on JETSTREAM