



Jet Edge

WATERJET SYSTEMS

WATERJET INTENSIFIER PUMPS
PRECISION CUTTING
2010





PRECISION PUMPS



Model	xp90-50	xp90-100	iP55-30	iP60-50	iP55-75	iP55-100	iP55-150	iP55-200	
PERFORMANCE	Maximum pressure	90,000 psi (6,200 bar)		60,000 psi (4,100 bar)					
	Continuous output	75,000 psi (5,200 bar)		60,000 psi (4,100 bar)					
	Intensifier Ratio	25:1	25:1	20:1	20:1	19:1	19:1	19:1	19:1
	Intensifier Configuration	Single	Double	Single	Single/ Redundant	Single/Double	Single/Double	Double	Double
	Flow Rate	0.7 gpm (2.61 lpm)	1.45 gpm (5.49 lpm)	0.65 gpm (2.5 lpm)	1.1 gpm (5 lpm)	1.5 gpm (5.7 lpm)	2.0 gpm (7.6 lpm)	3.25 gpm (12.1 lpm)	4 gpm (15.2 lpm)
	Maximum Rated Orifice	.011 in (.28 mm)	.017 in (.43mm)	.011 in (.28mm)	.015 in (.38mm)	.018 in (.46mm)	.020 in (.51mm)	.025 in (.64mm)	.028 in (.71 mm)
POWER	Motor Output	50hp	100hp	30hp	50hp	75hp	100hp	150hp	200hp
	Full load amps @ 460 VAC (60Hz)	60	124	37	60	89	124	177	240
	Full load amps @ 230 VAC (60Hz0)	130	248	74	130	178	248	354	480
	Full load amps @ 380 VAC (50Hz)	71	147	46	75	112	147	218	288
PHYSICAL	Length	72 in (1830 mm)	86 in (2190 mm)	64 in (1630 mm)	72 in (1830 mm)	86 in (2190 mm)	86 in (2190 mm)	86 in (2190 mm)	93 in (2370 mm)
	Depth	32 in (820 mm)	40 in (1120 mm)	30 in (770 mm)	32 in (820 mm)	40 in (1120 mm)	40 in (1120 mm)	52 in (1320 mm)	57 in (1450 mm)
	Height	53 in (1350 mm)	55 in (1400 mm)	53 in (1350 mm)	53 in (1350 mm)	55 in (1400 mm)	55 in (1400 mm)	55 in (1400 mm)	61 in (1550 mm)
	Weight	2,700 lbs (1230 kg)	4,900 lbs (2230 kg)	2,000 lbs (910 kg)	2,500 lbs (1140 kg)	4,100 lbs (1970 kg)	4,600 lbs (2090 kg)	6,100 lbs (2770 kg)	6,200 lbs (2820 kg)

90,000 PSI WATERJET

**Increase productivity up to 50%!
Reduce operating costs up to 40%!**

Many of our customers have 35,000 + hours on Jet Edge pumps that are still going strong!



A CUT ABOVE

Jet Edge builds the most reliable and easy-to-maintain intensifier pumps on the market. We stand behind our pumps with an industry-leading warranty, free lifetime training, 24/7 service 365 days a year and 99% on-time parts delivery.

1. Reliable Tie-Rod Design eliminates threads on the high pressure cylinders, end caps, and hydraulic cylinders. This reduces the likelihood of cracking and increases component life. Matched-metal components prevent galling of hydraulic components.

2. CE/TUV design-approved attenuator smoothes pressure fluctuations and delivers constant and steady stream of UHP water.

3. On-board water filtration protects pump components, maximizing machine run time.

4. Easy Operation - Jet Edge pumps can be controlled remotely from the motion controller and have programmable dual pressures.



5. Hydraulic accumulators are standard on all pumps. This provides smoother hydraulic pressure, reduces spikes and prolongs hydraulic pump life. Hydraulic fluid is cooled and filtered. Rugged hydraulic center section incorporates high duty cycle-rated piston seal and wear rings.

6. Easy Maintenance - Access panels make it easy to maintain the pump. Intensifier components can be accessed without having to get into the hydraulic center section and hydraulic rod seal. Leak detection block indicates seals needing replacement. (optional on some pumps). No special tools required.

7. Standard Wye-Delta motor starter - Extends the life of the high-efficiency motor and minimizes installation costs.



ATTENUATOR



LEAK DETECTION BLOCK

"Jet Edge pumps are easy to work on and they are the best design out there. Replacing the seals takes a half-hour max." - Ron Palstring, Pegasus Northwest



THE WATERJET INTENSIFIER PUMP

The Jet Edge intensifier pump acts as an amplifier as it converts the energy from the low-pressure hydraulic fluid into ultra-high pressure water. The hydraulic system provides fluid power to a reciprocating piston in the intensifier center section. A limit switch, located at each end of the piston travel, signals the electronic controls to shift the directional control valve and reverse the piston direction.

The intensifier assembly, with a plunger on each side of the piston, generates pressure in both directions. As one side of the intensifier is in the inlet stroke, the opposite side is generating ultra-high pressure output. During the plunger inlet stroke, filtered water enters the high pressure cylinder through the check valve assembly. After the plunger reverses direction, the water is compressed and exits as ultra-high pressure water and then enters the pressure vessel (attenuator). The attenuator smoothes pressure fluctuations from the intensifier and delivers a constant and steady stream of ultra-high pressure water to the cutting or cleaning tool.

INTENSIFIER VS. DIRECT DRIVE

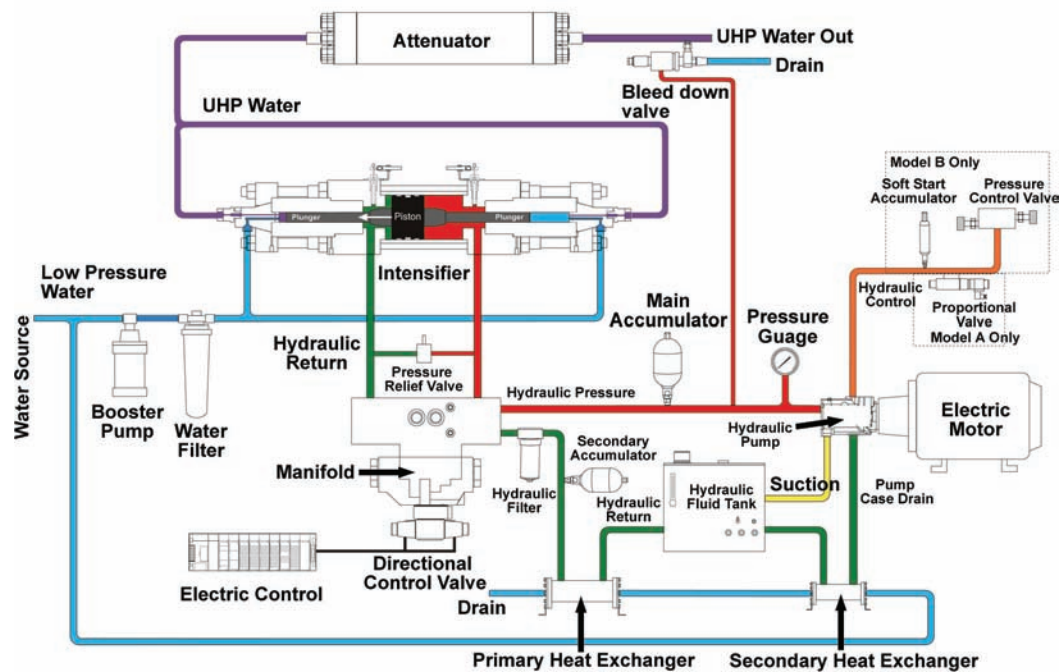
Intensifier pumps last longer and are less expensive to maintain than direct-drive pumps. While intensifiers may cost more upfront, the difference in price is quickly negated with less downtime, longevity and lower maintenance costs.

WHAT'S THE DIFFERENCE?

A crankshaft or direct-drive style pump uses a crank to drive the pump's plunger, while an intensifier uses a hydraulic cylinder to drive the plunger.

FUNDAMENTAL DIFFERENCES IN THE OPERATION:

- Intensifiers stroke at less than 60 strokes per minute. Most direct drives stroke at over 1,000. Each cycle consists of a pressure cycle that goes from 60 psi to 60,000 or 90,000 psi. These rapid pressure fluctuations can quickly fatigue and break expensive parts such as high-pressure cylinders and check tubes.
- Poppets and valves open and close at the same rate as the plunger is stroking.
- Direct-drive pumps never stop stroking but rather recycle or dump water when the nozzle is not in use.
- Direct drive pumps do not use a stand-alone attenuator. Instead the attenuator is combined with the high-pressure end caps or outlet manifold. In the event of a failure, the entire direct drive pump must be disassembled and the components replaced. Jet Edge's stand alone attenuator can be quickly replaced without touching the main pump assembly. If a Jet Edge attenuator develops a leak, it can usually be repaired rather than replaced. With Jet Edge's attenuator loan program, you can continue to use your system while your attenuator is being repaired.
- Intensifier pumps can vary pressure, making it possible to cut sensitive materials at lower pressures and extend part life.
- Direct drive system manufacturers typically recommend replacing all of the high pressure seals at the same time, even if only one seal has failed. A Jet Edge intensifier only requires the replacement of the faulty seals.



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