



# ULTRA-HIGH PRESSURE INTENSIFIER PUMPS



## A Tradition of Innovation and Excellence

The full range of ultra-high pressure (UHP) intensifier pumps are the heart of the waterjet cleaning and cutting systems manufactured by Jet Edge. The pumps are capable of adjusting both output pressures from 5,000 to 55,000 psi (345 to 3800 bar) and flow rates from 0 to 7.2 gallons (27 liters) per minute, in other words...**any pressure, any flow rate.**

The pumps utilize a pressure-compensated hydraulic system to drive plunger style intensifiers. The use of hydraulic fluid power provides smooth flowing UHP water resulting in long system life. Reliable and precise control of the electronically shifted intensifiers ensures superior performance standards with reduced operating costs. The pumps are built on a skid mounted frame with lifting eyes and forklift guides provided for increased mobility.

Jet Edge has manufactured standard and custom-designed cleaning and cutting systems for over a decade to meet your specific needs. Accessories such as lances, manifolds and automated self-propelled surface preparation units are built with quality for long-term operation. The years of proven research and design have developed Jet Edge ultra-high pressure pumps into the most reliable in the industry.

The **intensifier** multiplies input hydraulic pressure to generate ultra-high pressure water. The intensifier is built with the highest quality and includes innovative long-life check valves for reliable operation. Tie-rod construction ensures strength and ease of maintenance.

The in-line **filtration** cleans water through a set of filters down to 1 micron. The boost pump pressurizes the incoming water and maintains a constant flow to the intensifier.

Rugged steel welded framework and **access panels** make all parts easily accessible for machine inspection and routine maintenance.

With a variable displacement pressure-compensated **hydraulic pump**, only the water flow required for the specific job is produced. Pressure compensation maintains steady flow rates when operating multiple tools.



Auxiliary **hydraulic outputs** allow hydraulically driven accessories which provide more power and constant control compared to air driven accessories.

The dependable **Cummins C-6 diesel engine** ensures reliability, fuel efficiency, and meets or exceeds all U.S. and International emission standards.

The NEMA 12 rated **electrical cabinet** contains system controls and machine status display. The console provides on-line diagnostics and pressure control via the electronic controls which regulate and monitor system operation. The electrical distribution components are mounted within the panel including a fused disconnect, motor starter and control switches.

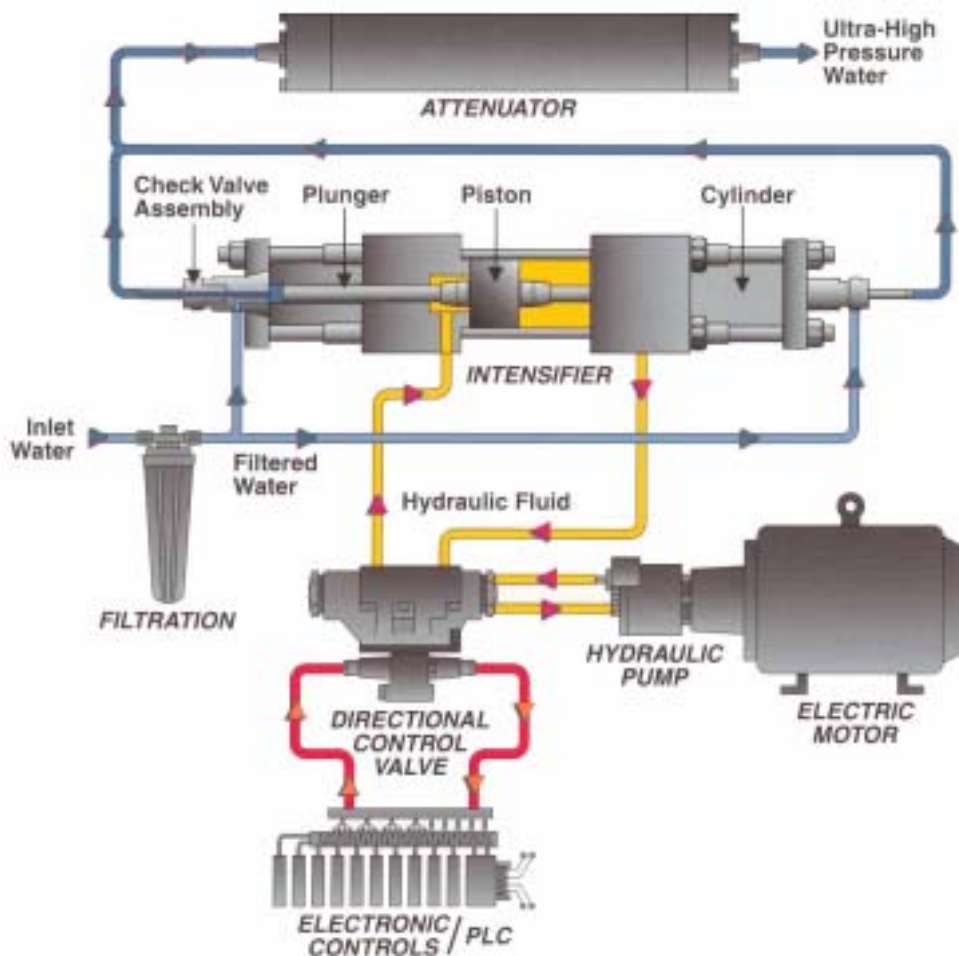
# MEANS BUSINESS

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The intensifier 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 stroke 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.

The attenuator smooths the water flow from the intensifier and delivers a constant and steady stream of ultra-high pressure water to the tool.



**Intensifier based pumps . . .** offer several advantages over positive displacement pumps. Intensifier pumps have a lower cost of operation when compared to positive displacement pumps due to the slower stroke rate and fewer moving parts. The slower stroke rate also reduces maintenance downtime compared to positive displacement pumps. The self-lubricating seal design eliminates the need for any chemical use or disposal making the system environmentally sound. The intensifier pump is pressure compensated offering true shut off which allows the intensifier pump to run at pressures less than 55,000 psi without requiring a dump valve and eliminates wasting excess water. Positive displacement pumps require a constant consumption of water and only operate at a fixed output pressure.

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## Standard Features:

- ◆ Electronically shifted intensifier(s)
- ◆ 12:1 Intensification ratio
- ◆ Axial piston, variable displacement, pressure-compensated hydraulic pump
- ◆ 0.5 gallon (1.9 liter) high pressure attenuator
- ◆ Automatic safety pressure bleed-down valve
- ◆ 1 micron water filtration
- ◆ Safety shutdown systems
- ◆ Incoming water supply booster pump
- ◆ Liquid filled gauges and UHP water gauge
- ◆ UHP safety shielded tubing
- ◆ Heavy gauge sheet metal covers
- ◆ Lifting eyes

## Options:

- ◆ Basic or advanced controls package
- ◆ Alternate Power
- ◆ Trailer Package
- ◆ Sound Insulation Package
- ◆ 42,000 psi or 55,000 psi models available
- ◆ CE Marking available
- ◆ 24 Volt auxilliary outlet

PERFORMANCE FEATURES*	36-50	36-100	36-200	36-250DXS	55-200	55-260DXS
Continuous Output Pressure, psi (bar)	36,000 psi (2,500 bar)				55,000 psi (3,800 bar)	
Motor Output, horsepower (kilowatt)	50 (37)	100 (75)	200 (149)	250 (187)	200 (149)	260 (193)
Flow Rate, gallons (liters) per minute	1.9 (7.2)	4.0 (15.1)	6.1 (23.1)	7.2 (27)	4.0 (15.2)	4.3 (16)
Intensifier Configuration	Single	Dual				
Intensifier Ratio	12:1				19:1	
Motor	Electric			Diesel	Electric	Diesel
Motor Starter	Wye-delta soft start with system disconnect			N/A	Wye-delta...	N/A
Motor Speed	1,780 rpm			1,850 rpm	1,780 rpm	1,850 rpm
Maximum Rated Orifice Size, in (mm)**	.023 (.58)	.034 (.86)	.040 (1.02)		.028 (.71)	.030 (.76)
Plunger Strokes per Minute with Maximum Rated Orifice	44	43	60	70	71	74
Full load amps @ 460 VAC (60Hz)	60	119	233	N/A	233	N/A
Full load amps @ 230 VAC (60Hz)	120	238	466	N/A	466	N/A
Full load amps @ 380 VAC (60Hz)	73	145	280	N/A	280	N/A
Electronic Controls	PLC					
Hydraulic Circuit	Open Loop			Closed Loop	Open Loop	Closed Loop
Hydraulic Accessory Port	1 Port with 3 gpm @ 1,500 psi	2 Ports with 6 gpm @ 1,500 psi	N/A	2 Ports with 8 gpm @ 1,500 psi	N/A	2 Ports with 8 gpm @ 1,500 psi
Water Filtration Cartridges	1	2	4			
Air Compressor	N/A			13 cfm @ 100 psi	N/A	13 cfm @ 100 psi
Skid Mount Frame	Standard					
DIMENSIONS*	36-50	36-100	36-200	36-250DXS	55-200	55-260DXS
Length x Width x Height, in (cm)	80x37x52 (203x94x132)	96x37x60 (224x94x152)	92x57x61 (233x145x155)	138x62x73 (350x157x185)	92x57x61 (233x145x155)	138x62x73 (350x157x185)
Weight, lbs. (kg)	3,020 (1,370)	4,600 (2,087)	6,200 (2,812)	9,000 (4,050)	6,200 (2,812)	9,000 (4,050)
*Specifications subject to change.    **No hydraulic accessory load (36-50 and 36-100).						



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