

Jetstream[®]
Subsidiary of Federal Signal Corporation

HydroForce[™]

Hydrostatic Testing Units

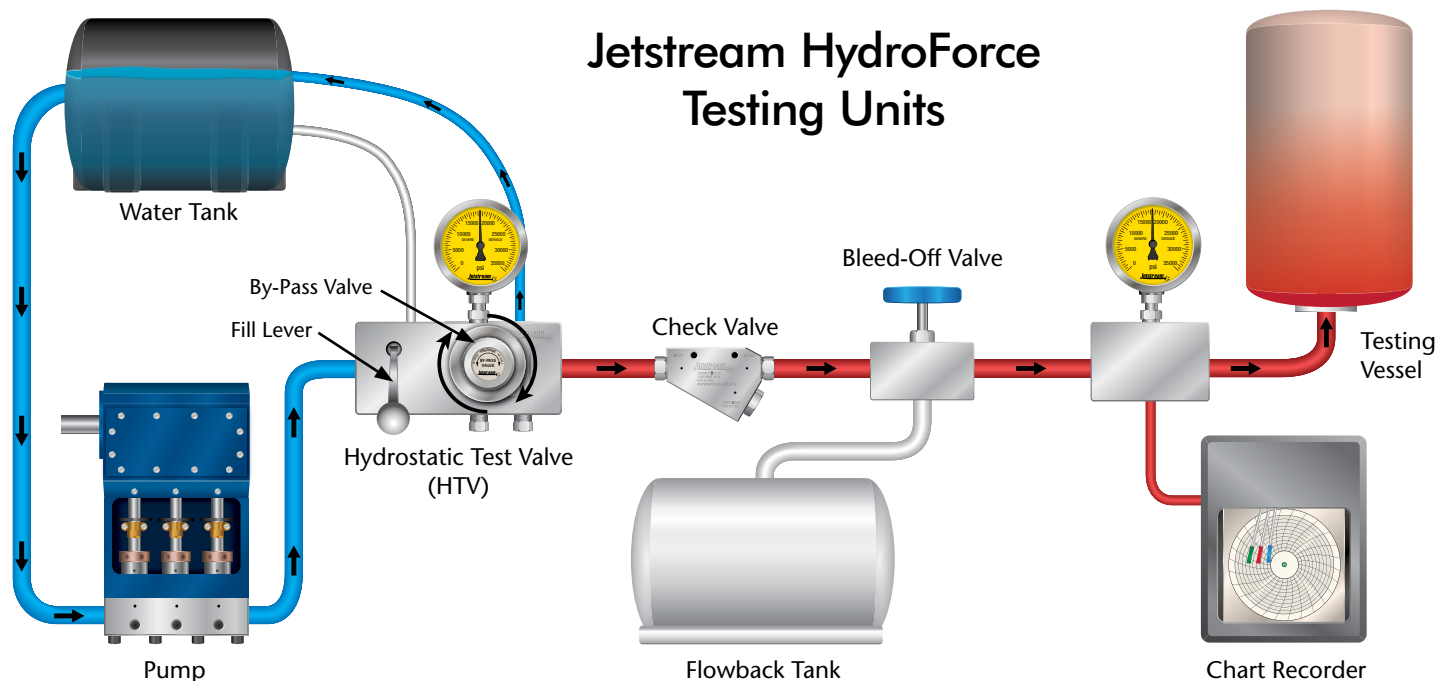


Jetstream® HydroForce™

Engineered for accurate hydrostatic testing. Built for ease of operation & maintenance.

When tough under pressure matters turn to the versatile Jetstream HydroForce. This series of hydrostatic testing units is designed for accurate blow out pressure (BOP) pipeline and wellhead testing. They are mounted on a heavy-duty trailer unit with integrated fluid containment. The HydroForce series features choices of 80 to 325 HP tier 3 or tier 4 diesel engines, pressures from 6K to 20K with flows from 6 to 60 gpm, high-capacity water tanks, and the Jetstream HTV test valve.

HydroForce units are also equipped with the dependable Jetstream UNx® fluid end system that gives users greater flexibility to meet the various exploration, drilling and production needs of the oil and gas market. Jetstream UNx pumps enable contractors to perform pump maintenance in the field quickly and efficiently, without compromising durability. Additional fluid ends can be installed within minutes, allowing the HydroForce to cover a full range of operating pressures without the need for special tools.



How the HydroForce Works:

1. By turning on the pump, water begins to flow between the water tank, pump, and HTV block in a low-pressure (blue) loop.
2. Lowering the fill lever on the HTV causes water to begin flowing out of the HTV block to the right and into the test vessel.
3. Rotating the by-pass valve on the HTV clockwise increases the pressure of the water going from the HTV block to the test vessel. The pressure reading on both gauges goes up.
4. When the desired pressure is achieved (red), the operator releases the fill lever on the HTV block. The pressurized water is then contained between the check valve and test vessel. Everything to the left of the check valve becomes depressurized (blue) and water again begins to flow in a closed loop between the water tank, pump, and HTV block. The pressure gauge on the HTV falls to zero.
5. The chart recorder monitors the integrity of the vessel for the desired test time (minutes to hours).
6. Once the desired test time is achieved, the operator opens the T handle on top of the bleed-off valve, causing everything to the right of the check valve to depressurize (turn blue) and the water to flow out of the bottom of the bleed off valve into the flowback tank.

HydroForce 3000, 3600 & 4200



Hydrostatic Test Station with Jetstream HTV

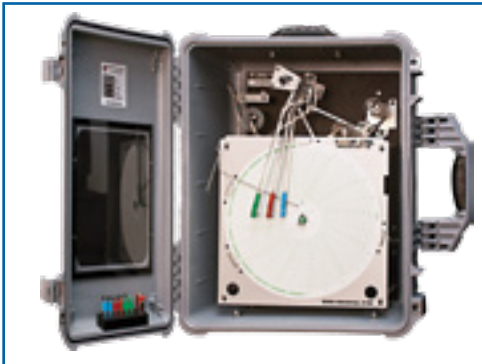
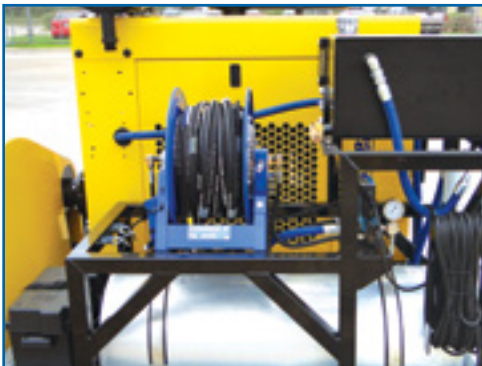


Chart Recorder (sold separately)



Hydraulic System (optional)



Power End Dependability

- Ductile iron power frame
- Largest bearings in the industry
- High-strength crankshaft

Sealed Control Panel

Full instrumentation at your fingertips:

- Hour meter
- Tachometer
- Oil pressure
- Voltmeter
- Water temperature

Improved Pump Access

Unobstructed access to fluid end for performing pressure conversion or routine maintenance

UNx Fluid End

Jetstream's exclusive system designed for fast conversion from 5,000 to 20,000 PSI operating pressures on the HydroForce series

High-Capacity

Aluminum Fuel Tank (50 gal)

- Reduced dry weight
- Resists corrosion
- Longer runs between refueling

High-Capacity Water Tanks

- Dual 220 gallon clean water tanks with 450 gallon reservoir for spill containment
- 75 gallon flowback tank to capture dirty test water

High-Performance Diesel Engines

- Choice of John Deere or Cummins
- 80 to 325 hp tier 3 or tier 4 diesel engine
- Full engine enclosure to protect from the elements
- Engine shutdown* on control panel or as a separate button with a 50' wire for remote shutdown of the unit

Powerband Belt Drive

- Dual five band belts
- High torque carrying capabilities

Safety Shutdown Systems

Protects against low oil pressure and high temperature

Greaseless Spread Bearing PTO

- Heavy-duty bearings for reliable power transmission
- Oil-bath lubrication – no daily greasing, changed with engine oil
- Increased reliability and reduced maintenance time

Hydro-Throttle Control*

- Reduce engine to idle while relieving pressure when the operator is not blasting
- Saves fuel and engine wear
- Manual throttle override to maintain set engine speed

Hydraulic System*

Up to 10,000 PSI of hydraulic pressure, ideal to run most hydraulic attachments

- 10 gallon tank reservoir
- 100 feet of dual hose
- Serviceable filter

Optional Features

- Flood Light
- Hose Rack
- Work Bench
- Chart Recorder
- Jetstream HTV
- Grease Lube Manifold
- Murphy Switch Gauge
- Control Station (for use with Jetstream HTV)
- Trailer (bumper pull or gooseneck)

Pump	Plunger Size	Pressure (PSI)	Flow (GPM)
3015	11	8,000	23.2
	10	10,000	18.4
	9	12,500	14.9
	8	15,000	11.8
	7	15,000	9.1
3020	8	17,000	11.2
	7	19,000	9.1
	6	20,000	6.8

*Available as an option

Tough Under Pressure



HydroForce 3000, 3600 & 4200 Series

Engine Options	125 HP JD, 174 HP JD, 325 HP JD
Water Tanks	Dual 220 gallon water tanks. Low water switch equipped.
Filters	Single or dual 200 GPM filter
Skid	Section drip pan
Pump	Jetstream 3000, 3600, or 4200 series pump
Trailer	22.5K GVWR Gooseneck
Hydraulics	10K PSI hydraulic pump. Driven off engine SAE pad. 1.5 gpm flow at 6K PSI & 1800 rpm. 100' dual 10K PSI hose. 10 gallon reservoir.
Water Tank Spill Containment	In the event of a leak, water is caught by a 450 gallon reservoir underneath the water tank stand.
Belt Drive	Predator belt drive system
Fuel	50 gallon fuel tank

Pump	Plunger Size	Pressure (PSI)	Flow (GPM)
3615	16	5,000	56.3
	15	6,000	45.05
	13	7,500	36
	12	9,000	29.1
	11	11,000	24.4
	10	14,000	19.4
	9	15,000	16.4
3620	11	12,000	22.8
	10	14,000	19.4
	9	16,500	16.4
	8	20,000	12.9

Pump	Plunger Size	Pressure (PSI)	Flow (GPM)
4215	16	8,000	62.7
	15	9,500	50.4
	13	12,500	40.2
	12	15,000	32.5
	11	15,000	25.8
	10	15,000	21.7
	9	15,000	18.1
4220	11	19,500	25.2
	10	20,000	21.4
	9	20,000	18.1
	8	20,000	14.3

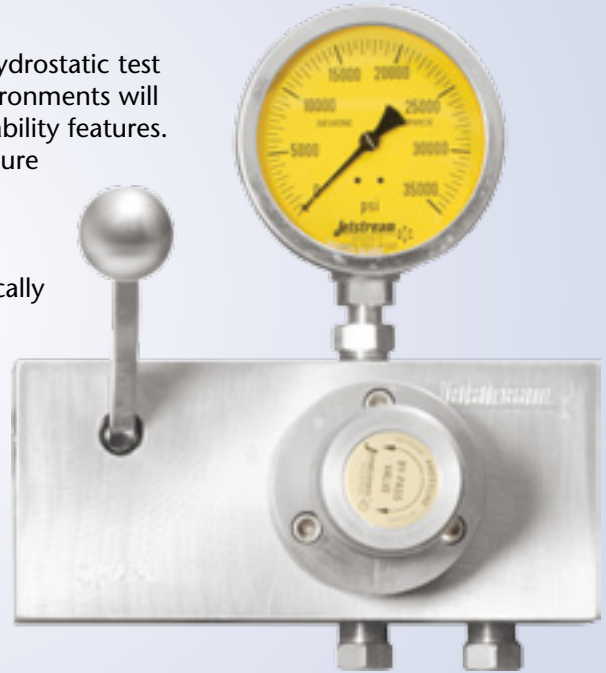
TOUGH UNDER PRESSURE

Jetstream HTV (Hydrostatic Test Valve)

Easy to use with precise control

The Jetstream HTV delivers outstanding results in applications few hydrostatic test valves can match. Operators working in harsh and demanding environments will appreciate the HTV's improved control, productivity, safety and durability features. The Jetstream HTV allows an operator to easily control the test pressure without "feathering" the clutch, boosting productivity and ensuring a longer clutch life. Pressures can be controlled up to 20,000 psi with the precise hand-adjustable pressure-setting fill lever. The HTV features an exclusive, heavy-duty internal check valve that automatically holds down-stream pressure upon releasing the lever, making an external foot gun unnecessary.

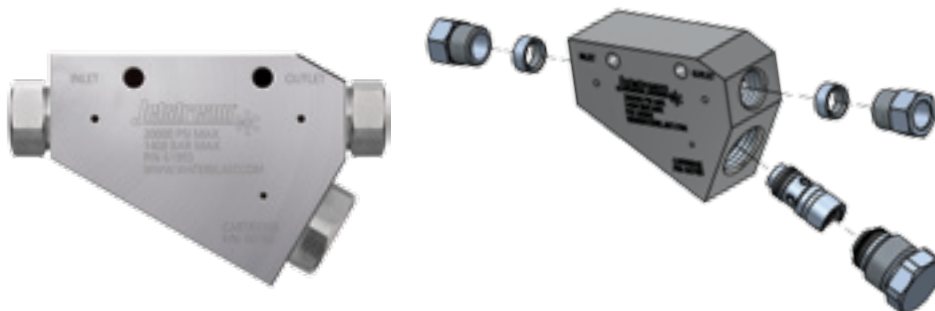
- Multiple auxiliary outlet ports allow for chart recorder or data collection
- Operators can depressurize with only a ¼-turn on the by-pass valve
- Field-repairable cartridges provide easy maintenance and service
- The operator can be up and running in a fraction of the time without the need to send out for repair or wait for replacements, reducing downtime and costs



20,000 PSI Cartridge-Style Check Valve

Performing maintenance without interfering with hydrostatic pressure-testing has just been made easier with the 20k check valve from Jetstream, designed with proven cartridge technology. When configuring the plumbing to perform a hydrostatic test, check valves have typically been placed in the middle of the system, making access difficult. If maintenance is required, such as fixing a faulty or stuck valve, the entire system must be disassembled and a new valve inserted, causing downtime. With the Jetstream 20k cartridge-style check valve, cartridge replacement is now fast and easy. No more complete disassembly required so the job can continue with minimal interruption.

- Unique Y-Block, stainless-steel body style
- Quick maintenance with replacement cartridges
- No flow restrictions
- Can retrofit most current plumbing systems
- Mounting holes at the top of the valve
- Low torque connections
- Low cracking pressure – less wear



The UNx Fluid End® Advantage

Contractors in the oil and gas field who live and breathe high-pressure-testing demand the superior performance, durability, and flexibility of the UNx fluid end system. For ease-of-maintenance, in-the-field versatility, or overall operating efficiency, nothing beats the UNx system.

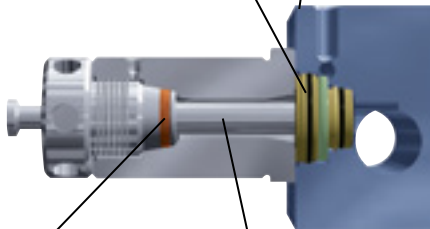
Engineered components streamline routine maintenance. Even operating pressures can be changed in minutes — from 5,000 to 20,000 PSI — with the interchangeable UNx fluid end design.

Uni-Valve Cartridge

- Self-contained suction and discharge valve assembly
- Slip-fit for easy maintenance
- In-line design minimizes turbulence

Swing-Down Manifold

- Easy access to valves
- Weep holes indicate source of seal leaks



Plunger Packing Set

- One-piece packing
- Tapered for easy removal
- Water lubricated — no oil

Clamp-Style Plungers

- Specifically designed for the rigors associated with each operating pressure
- Clamp-on design for easy maintenance

Fewer Parts, Fewer Problems



Jetstream



the others

Extremely Serviceable



Fewer parts, faster servicing. No special tools required.

- 5-minute packing change
- 15-minute valve cartridge change

Remarkably Versatile



Various applications in less time with one convertible system.

- On-site pressure conversion
- Slip-fit stuffing boxes
- Simple bolt-on conversion fluid ends

Your Waterblast Solutions Provider

Jetstream of Houston, LLP, a leading manufacturer of industrial high-pressure waterblasting equipment, offers a variety of other solutions for the oil and gas market including a variety of parts and accessories used in abrasive cutting, pipe cleaning, tube cleaning and vessel cleaning. Jetstream product offerings include a complete line of skid- and trailer-mounted high-pressure waterblasting pump units, control guns, valves, hoses, replacement parts and nozzles.

The RightStart program provides personal training with the purchase of your new hydrostatic test unit. Hands-on instruction by a RightStart technician helps your operators learn to use your new equipment with optimum efficiency and safety right from the start.



Jetstream products are also sold and serviced by FS Solutions, with 11 convenient locations across the U.S. FS Solutions provides high-performance parts, accessories, Jetstream rentals, repair, rebuild and safety and skills training. fssolutionsgroup.com

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219.924.3180

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253.584.0653

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281.674.8668

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800.822.8785

Lexington, SC
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Long Beach, CA
866.515.989

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Specifications and standard equipment listed are subject to change without notice. Some photos are shown with optional equipment.