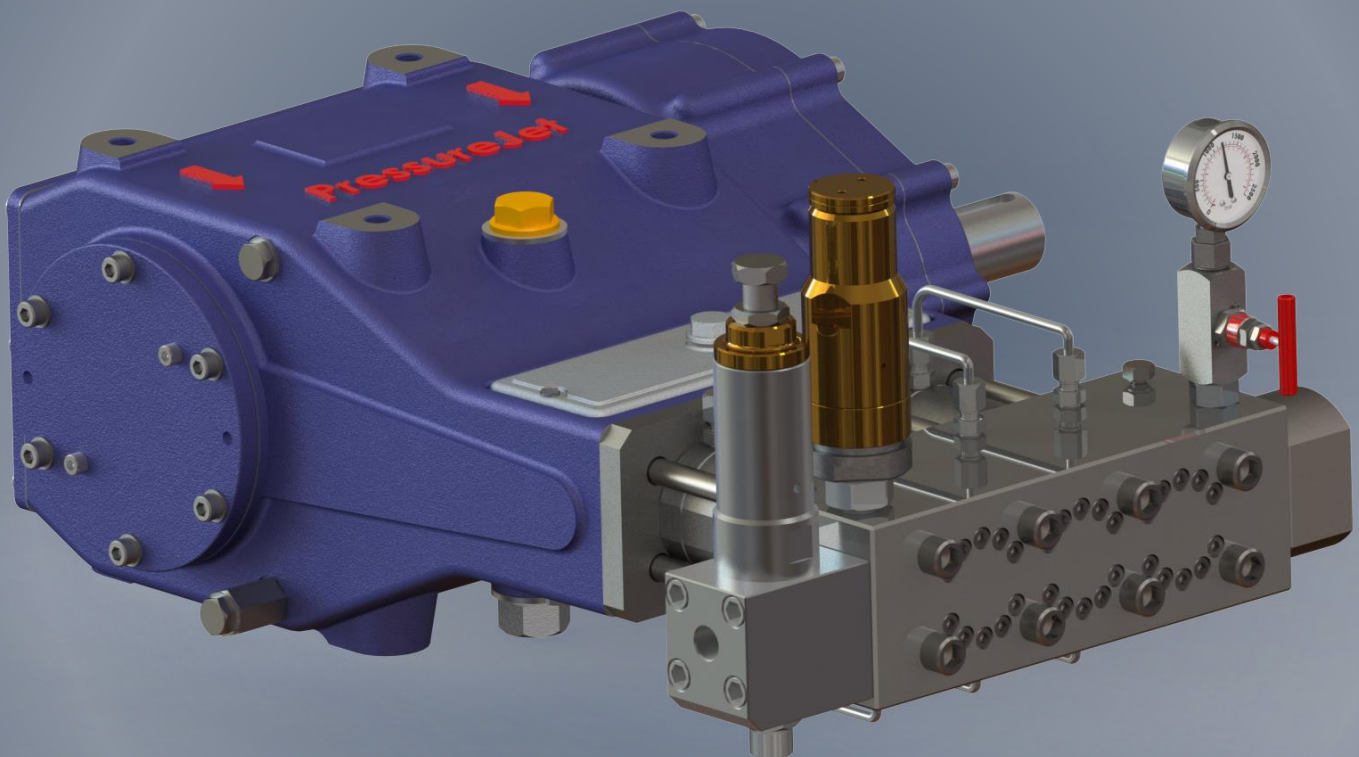


# HIGH PRESSURE TRIPLEX PLUNGER PUMP

VC-57

Max. Pressure : 1400 bar  
Flow Rate : 15 LPM

Min. Pressure : 600 bar  
Flow Rate : 32 LPM





## ABOUT COMPANY



**P**ressureJet Systems Pvt. Ltd. was established in 1996 in Ahmedabad, India. PressureJet (An ISO 9001:2015 certified company) is a leading manufacturer of high pressure, positive displacement, reciprocating triplex plunger pumps and relevant accessories. These pumps are most suitable for various applications like Water Jet Cleaning, Injection, Hydro test Hydro jetting, Hydro Blasting, Sewer jetting, Firefighting & many more.

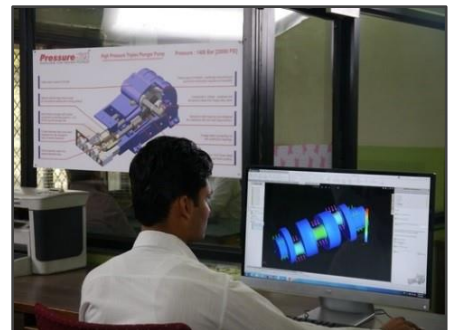
Today, PressureJet has a work force of more than 85 dedicated people. We have 11000 Sq. ft. area in Asia's premier industrial estate in Ahmedabad. Out of which, 5000 Sq. ft. area has been allocated for manufacturing activities.

## DESIGN AND DEVELOPMENT

**P**ressureJet has an in-house Design & Development Department that continuously strives to design pragmatic and cost-effective solution to fulfil customer's needs. It is equipped with six separate workstation with licensed modelling tools like SolidWorks 3-D software and has machine design analysis capabilities.

The Design and Development department of PressureJet is highly passionate about innovation and creating cutting edge products for clients. We have a team of highly qualified and passionate individuals who are always ready and eager to resolve any customer issues. This, along with our state-of-the-art infrastructure make us one of the most advanced and dedicated Product Development department in the industry.

There are 5 highly qualified and experienced engineers and 7 mid-level engineers dedicated to PressureJet's design and development.





## PRODUCTION FACILITIES

The high-pressure pump manufacturing process requires manufacturing extremely high-quality components, at comparatively low volume.

Further, the high-pressure pump mechanism is similar to an engine and has a crank-shaft, connecting rod, crank-case etc. and it converts rotary motion into reciprocating motion similar to an automobile engine. This necessitates the use of components that have very high dimensional accuracy/smooth surface finish. Outsourcing manufacturing of such critical quality components with low production volume is impossible since suppliers find the requirement unfeasible and commercially unviable.

Having worked with a variety of suppliers, PressureJet decided it best to set up the complete component manufacturing facility in-house. Today, PressureJet has world-class, state-of-the-art, highly accurate and extremely rugged branded machinery that ensure consistent manufacturing of very high precision critical components for high pressure pumps, which are at par with international quality. But then again, unlike most of other manufacturers, we don't want you to take us at face value. Adjectives can barely scratch the surface of what we do here at PressureJet. We are engineers, and we deal in facts and figures.

### High-Tech Machine Shop



**Mill-Turn Integrex i-200ST**



**Vertical Milling Center**



**Turn-Mill**



**CNC Grinding Machine**



**CNC Machine**



**CNC Band Saw Machine**



**Heat-Treatment Furnace  
with SCADA System**



**Lapping Machine**



**Radial Drill Machine**





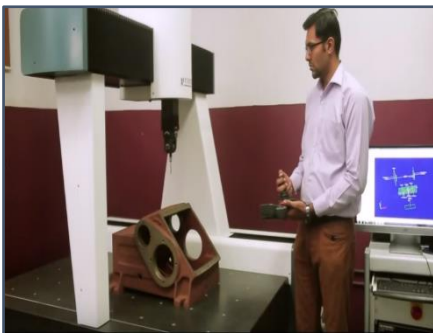
## QUALITY CONTROL

PressureJet is equipped with the most advanced quality checking instruments among all high pressure plunger pump manufacturers in India. This enables the company's quality to stand head and shoulders above competitors. PressureJet believes in maintaining international Quality standards for its products.

To the end, the company has invested over INR 10 million in establishing its Quality Checking department and checks all critical precision engineering components of the pumps in a controlled environment. It currently uses **257** sophisticated and different quality checking instruments across the entire manufacturing process-right from procurement of raw materials to final inspection and testing of pumps before dispatch.

PressureJet is the only High Pressure-Pump manufacturing company in India that has the highest number of quality checking instruments that are procured, maintained and regularly used to ensure quality of the component.

### High-Tech Instrumentation



**Co-ordinate Measuring Machine**



**Surface Roughness Tester**



**Hardness Tester**



**Thread Plug Gauge**



**Rubber Hardness Tester**



**Coating Thickness Gauge**



**Tensile Test Bar  
(OSP)**



**Ultra-Sonic Testing  
(OSP)**



**Spectro Test  
(OSP)**



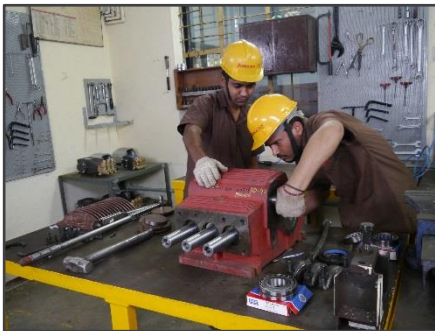
## STORE

PressureJet is home to a highly advanced and efficient warehousing system. It is equipped with Vertical Lift Machines (VLM) that ensures efficient bar code system, as well as an automatic first in first out system. The warehouse log is updated every day in order to keep tabs on the parts and equipment on hand. These features not only save time on last-minute deliveries but also ensure efficiency in picking required parts.



## BARE PUMP ASSEMBLY

We don't simply talk about engineering, we put it in action, and this reflects in every aspect of our business. High pressure pumps are similar to engines in a lot of ways and should ideally have a dust free assembly shop, like the one at PressureJet. Ours is the only engineering company, after Toyota and Ford Motors, to use the highly sophisticated and very accurate Atlas Copco CNC Torque Wrench to assemble the pumps. In addition, we have developed in house some very special and highly accurate fixtures that ensure highly accurate assembly of pumps.



## QUALITY ASSURANCE

PressureJet accord top priority to quality of pumps that it manufactures. Each pump/system is thoroughly tested against quality parameters, before it is dispatched to the client. Considering the range of high-pressure pumps in its portfolio, PressureJet has 5 SCADA based Computerized Test Benches, which are integrated to manage, monitor and control the entire test process of 5 pumps simultaneously.







The 5 test benches cater to the following power requirements:

1. 3 HP to 30 HP
2. 40 HP to 60 HP
3. 75 HP
4. 100 HP to 120 HP
5. 150 HP to 200 HP [Engine Driven as well as Electric Motor Driven]



## CERTIFICATION

### ISO 9001:2015 Certificate

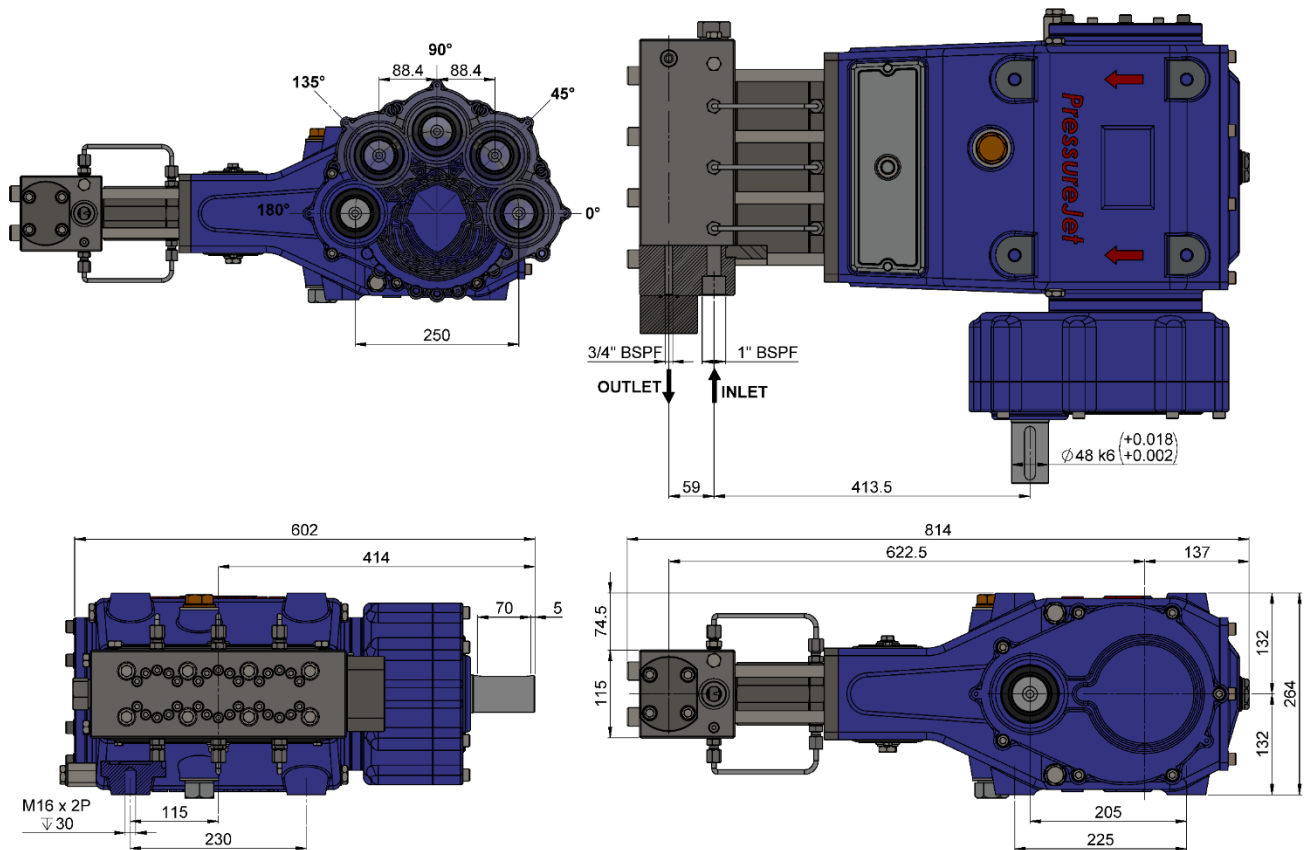
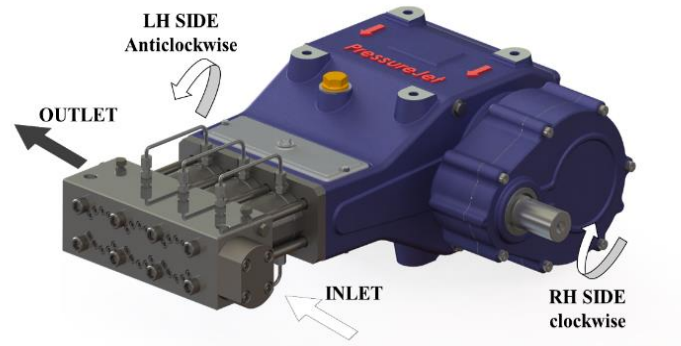




## VC-57 BARE PUMP

### SALIENT FEATURES

- Manufactured on state of the art machinery.
- Field proven design.
- Rigorously Subjected to full load testing.
- Light in weight & Heavy duty construction with Heavy duty model.
- Splash lubrication.
- Easy Maintenance.
- Both side mounting available.
- Pressure packing design with integrated cooling system for long life of seal.
- Forged Stainless steel Pump Head construction with high strength.
- In line Suction – Discharge Valve.



DRY WEIGHT : 235 Kg.



## Drive End Assembly

### Crosshead Assembly (Cast Ductile Iron + Stainless Steel)

Ra Value: 0.2  $\mu\text{m}$

GD & T : 10  $\mu\text{m}$  (Measured in CMM)

Anti-Corrosion treatment on Surface with  
Surface Hardness of 50HRC.



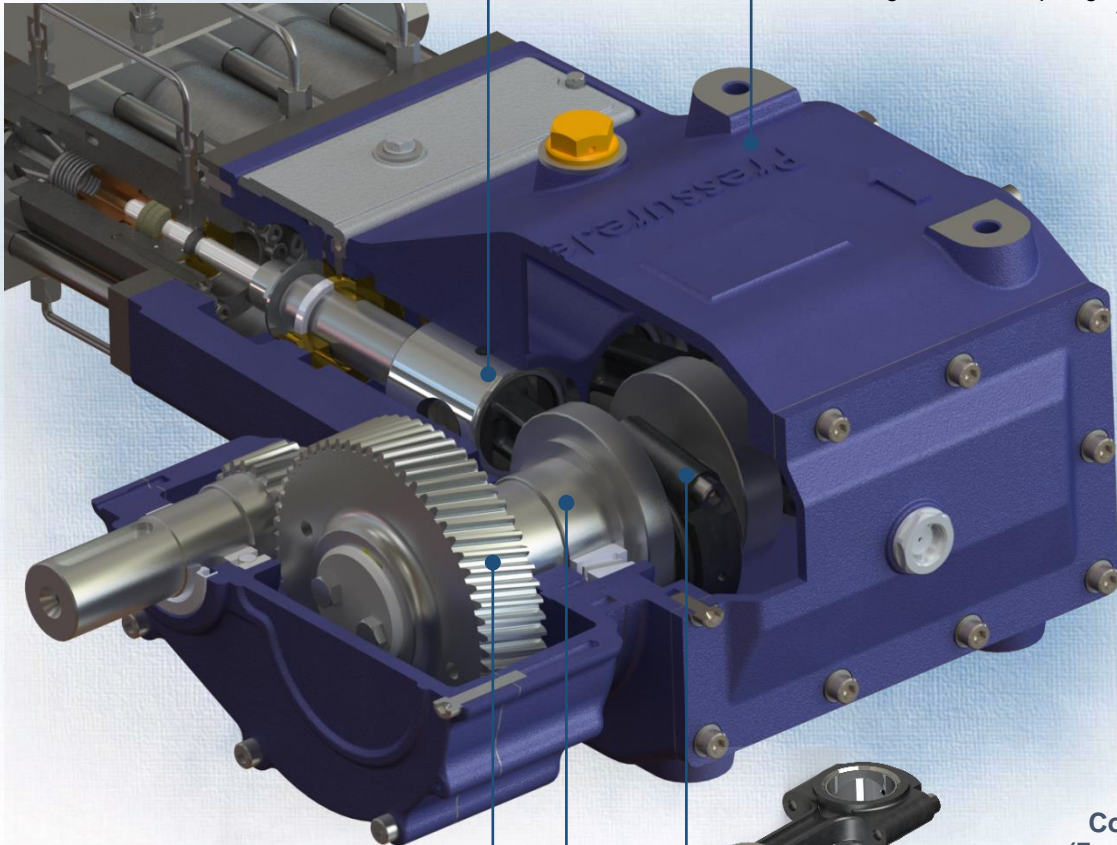
### Crank Case

(FG 260 IS 210-1993-Gr)

Crosshead Bore Ra Value : 0.2  $\mu\text{m}$   
(Measured in CMM) GD & T: 10  $\mu\text{m}$

Raw Material Testing: Physical Test

It's Single Piece housing which removes  
misalignment of the plunger and increases  
the life of Seal.



### Connecting Rod (Forged Alloy Steel)

(Measured in CMM) GD & T: 10  $\mu\text{m}$

Heavy pin area construction which  
added load strength.



### Integrated gear unit (Alloy Steel)

Class of Accuracy: DIN 6

The integrated gear unit allows for a  
Very compact construction with maximum Efficiency.



### Crank Shaft (Forged Alloy Steel)

Ra Value: 0.2  $\mu\text{m}$

(Measured in CMM) GD & T: 10  $\mu\text{m}$

Raw Material Testing: Physical Test, Chemical Test,  
Ultra-Sonic Test, Hardness Test, M.P.T Test



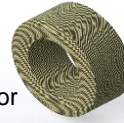




## Fluid End Assembly

### High Pressure Plunger Seal (Teflon)

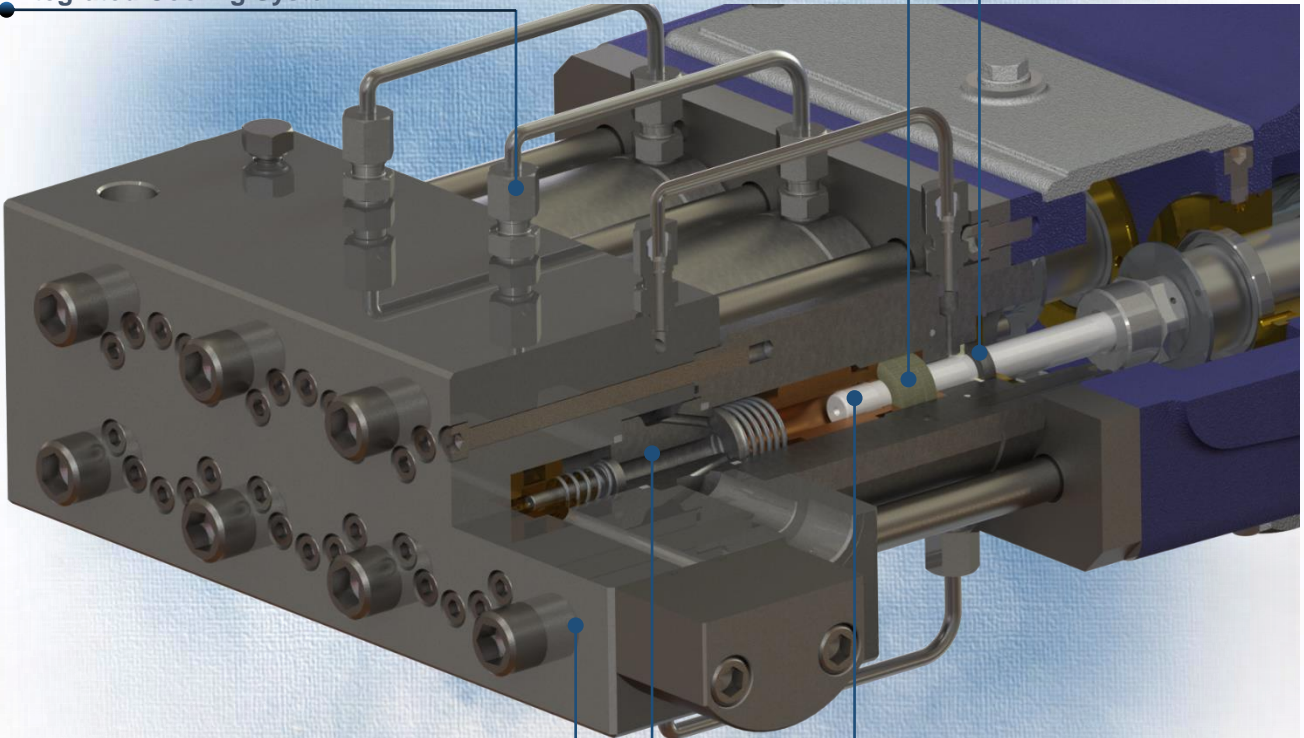
Special Teflon base high pressure seal moulded with low pressure seal for plunger cooling systems which increase long life of H.P seal.



### Low pressure Seal



### Integrated Cooling System



### Pump Head (Forged Stainless Steel)

Testing: - Chemical Test, UT Test



**Plunger  
(Solid Ceramic)**  
Ra Value: 0.025  $\mu\text{m}$   
(Measured in CMM) GD & T: 10  $\mu\text{m}$



**Complete Valve Assembly**  
Valves made of special imported stainless steel - hardened  
& anti corrosion hard surface coated for long life.



## SPECIFICATIONS

- Plunger Stroke : 57 mm
- Max. Plunger Speed : 1.14 m/sec. @ 600 spm
- Plunger Force : 23.5 KN (2400 Kgf)
- Required Inlet Pressure : 2-3 bar
- Required Inlet Flowrate : Booster Pump flow require min. 2 times of rated flow rate
- Lubrication Oil Type : SAE – 220
- Lubrication Oil Capacity : 12 liter
- Max. Liquid Temp. : 50°C (122°F)
- Discharge Connection : 3/4" BSPF
- Suction Connection : 1" BSPF
- Bare-Shaft Pump Weight : 235 Kg. Approx.
- Bare-Shaft Pump Overall Dim. (LxBxH) : 814 x 602 x 264 mm

Bare Pump Selection Chart for Gear Drive						
Input Speed			1500 RPM (50 Hz)		1800 RPM (60 Hz)	
Gear Ratio			2.48 : 1		3:1	
Pump Speed (SPM)			600		600	
Model	Plunger Diameter (mm)	Parameter	For Intermittent Duty Applications			
VC-57-600-14	14	Flow Rate (LPM)	-	15	-	15
		Pressure (BAR)	-	1400	-	1400
		Power (HP)	60	50	60	50
VC-57-600-16	16	Flow Rate (LPM)	20	20	20	20
		Pressure (BAR)	1050	850	1050	850
		Power (HP)	60	50	60	50
VC-57-600-18	18	Flow Rate (LPM)	26	26	26	26
		Pressure (BAR)	860	750	860	750
		Power (HP)	60	50	60	50
VC-57-600-20	20	Flow Rate (LPM)	32	32	32	32
		Pressure (BAR)	740	600	740	600
		Power (HP)	60	50	60	50
NOTE: - Above data are as per Theoretical Calculation.						



## SYSTEM DRAWING AND ITEM LIST



**Trolley Mounted System**

Sr No.	Item Description
1	High Pressure Pump
2	Electric Motor
3	Skid (Trolley or Base Frame)
4	Pressure Regulating Valve
5	Safety Valve
6	Pressure Gauge
7	Basket Filter
8	Booster Pump
9	Control Panel
10	Plastic Water Tank with Solenoid valve and Float Switch (150ltr or 200ltr)



**Base Frame Mounted System**

For Trolley Mounted:

- System weight : 1150 Kg. Approx.
- System Overall Dim. (LxBxH) : 1970 x 1120 x 1530 mm

For Base Frame Mounted:

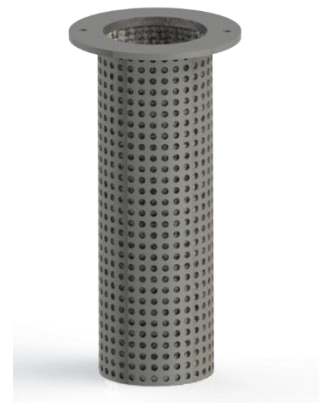
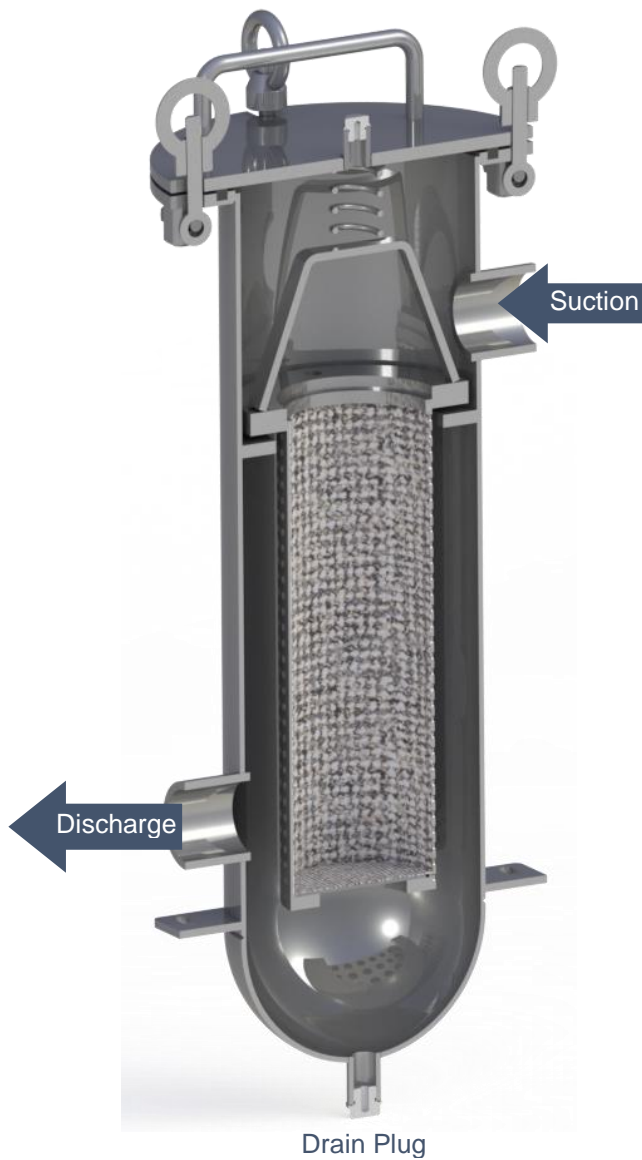
- System weight : 930 Kg. Approx.
- System Overall Dim. (LxBxH) : 1700 x 1120 x 1080





## SALIENT FEATURES OF BASKET FILTER

- All component material is SS 304.
- Easy maintenance. It will take 1 minute to replace the mesh of the filter.
- Easy to clean.
- L x W x H : 255 x 255 x 675 mm
- Total Volume : 0.0073 m<sup>3</sup>
- Suction Size : 1 ½" BSPF
- Discharge Size : 1 ½" BSPF



**Filter Mesh**

Outside Mesh size : 20 or 40 Micron  
Inside Mesh size : 100 Micron



## COMMON ACCESSORIES

### SAFETY VALVE



- Provide over pressure protection.
- Redundant safety for operator
- Intentionally designed weak part to avoid major loss

### PRESSURE REGULATING VALVE



- Regulate output pressure as required from min. to max. pressure
- Bypass excess water

### BASKET TYPE FILTER



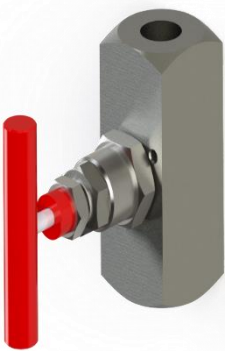
- 100 micron and 20 micron mesh to ensure clean water supply to pump
- Easy to clean in less than 2 minutes

### HOSE PIPE



- Flexible type Rubber hose
- Available in various lengths as per requirement
- Swivel type SS Connection

### NEEDLE VALVE



- For Safe operation of Pressure Gauge

### PRESSURE GAUGE

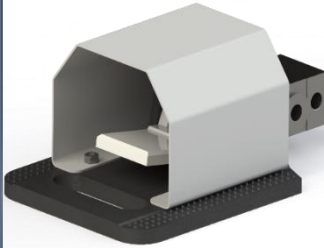


- Approx. 2 times pump operating pressure
- Glycerine filled
- Easy to read dial
- SS Body
- 4" Dial



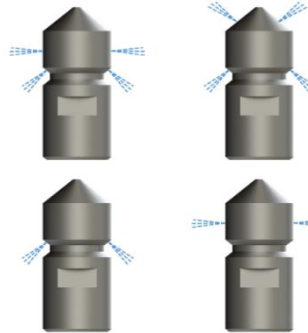
## HYDRO JETTING

### FOOT OPERATED VALVE



- To control the flow of water by foot of the operator
- Very essential for Operator Safety to avoid any accident

### TUBE CLEANING NOZZLE



- SS Hardened nozzles designed to suit High Pressure
- Various hole patterns available for effective cleaning
- 5 different sizes available for different ranges of Tube id of 12mm-60mm

### ROTATING TUBE CLEANING NOZZLE



- Highly effective and time saving than conventional
- 3 different types of head available
- Various sizes available to suit different Tube IDs min. 12mm to max. 60mm

### HIGH PRESSURE FLEXIBLE LANCE



- Small diameter pipes to easily enter inside ID of Tubes
- Specially designed to withstand high pressures
- Available in various lengths
- SS Connection

PressureJet manufactures high-pressure Hydro Jetting Machine for the pressures ranging from 140 bar (2000 PSI) to 1400 bar (20,000 PSI). This pressure range meet the tube cleaning requirements of most industrial applications.







## HYDRO BLASTING

### TRIGGER OPERATED DUMP TYPE GUN



- To control the start-stop of jet of water with Trigger by hand
- Provide safety to operator
- Ergonomic Design

### HIGH PRESSURE CLEANING NOZZLE



- Highly effective and time saving than conventional

### HIGH PRESSURE SPRAYING NOZZLE



- To distribute a liquid over an area
- To increase liquid surface area, and create impact force on a solid surface

A high pressure stream of water (pressure jet range: 450 bar to 1400 bar) is used to remove old paint, rust, rubber, chemicals, or other heavy build up without causing damage to the surface below it.





## HYDRO-TEST

### HIGH PRESSURE BALL VALVE



- To isolate the pump from testing equipment's when required
- To control the flow of water to testing job

### NON-RETURN VALVE



- To restrict the return flow from testing job to pump so that job can be pressurized properly

PressureJet offers wide range of hydrostatic pressure testing pumps & system ranging from 12 LPM to 445 LPM and pressure from 70 bar(1000 PSI) to 1400 bar(20000 PSI). Hydraulic pressure test pump is either electric motor driven or engine driven.



**PressureJet Systems Pvt. Ltd.**

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