

UNION PUMP



OCS-owned Union Pumps are heavy duty centrifugal pumps which are specialized for FCG and jetting projects. These pumps have 5-stage water compression inside that can produce up to 600psi of pressurized water. It can be used together with other pumps to be put in parallel and series that can even produce up to 1200psi of pressurized water. The design of the pump's skid based on DNV-rated design and can accommodate a 20ft container to be stacked on top of it. The power trains used are GM12V149 Detroit engine and Lufkin gearbox. The engine can produce up to 2000RPM and coupled with gearbox with gear ratio of 1:1.518, it can produce up to 3000RPM to the pump.

ENGINE GM DETROIT DIESEL (POWER TRAIN)	
Model	GM 12-V-149 TI Series
Power Output bhp (kW) / Speed (RPM)	1130 bhp (843kW) @ 1900 RPM
Peak Torque lb-ft (Nm)	3178 lb-ft (4309Nm) @ 1400 RPM
LUFKIN GEARBOX (RATIO GEARBOX)	
Model	NM 1000C
Gear Ratio	1:1.518
UNION PUMP (FLUID-END)	
Model	6x10 MOF-5 STG Stainless Steel 316 Material
Flow and Pressure Rating	454 m ³ /h (2,000 USGPM); Head 600 psi (1,350 ft) @ 2,732 RPM (Power Train 1,800 RPM) 10" #900 Suction – 6" #900 Discharge
SKID FRAMING	
Dimension (L x W x H)	8534 x 2439 x 3048 mm
Working Weight	17.5 Ton
No of Unit	4

UNION PUMP (5-STAGE CENTRIFUGAL PUMP)

OCS has Equipment passports for individual Engines Skids and Fluid ends which must be reviewed before each project to assess the status. The equipment passport gives the working history, maintenance, and certification history for Engines, Gearboxes, Fluid Ends, and Pump skids.

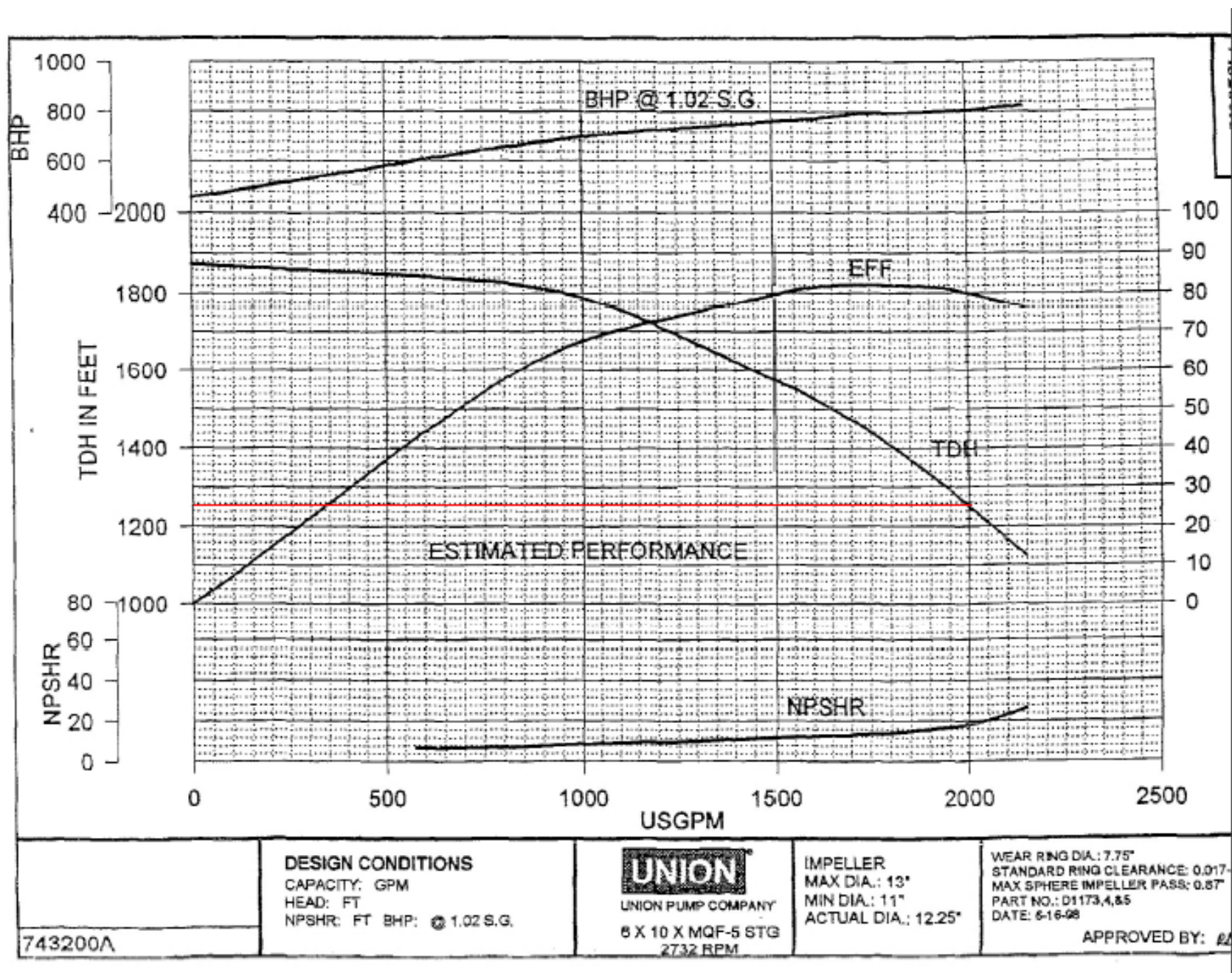
It is important to regularly review the list of critical spare parts of the equipment before each project. Common problems occur in these units during the operation include:

- Pump impellers and internals.
- Pump seals and bearings.
- Air starter kit engine.

Where failures occur during operations Equipment bulletins will be issued to document the problem and the remediation solutions applied. The equipment bulletin will be circulated to all field engineers to be informed about the possible failure that can occur during the operation and thereby avoid future failure.

This equipment file remains a live document and will be constantly updated by the equipment department.

Union Pump Fluid End Performance curve



Detroit Diesel Engine 12V149 Performance curve

DETROIT DIESEL
CORPORATION



12V-149T
Industrial
Rated BHP
1050 BHP @ 1900 RPM
3116 LB-FT @ 1200 RPM
Injector: 145
Turbocharger: TV7111 (1.08 A/R)

