



# 12" Hydraulic Submersible Trash Pump 120HST w/78HPU

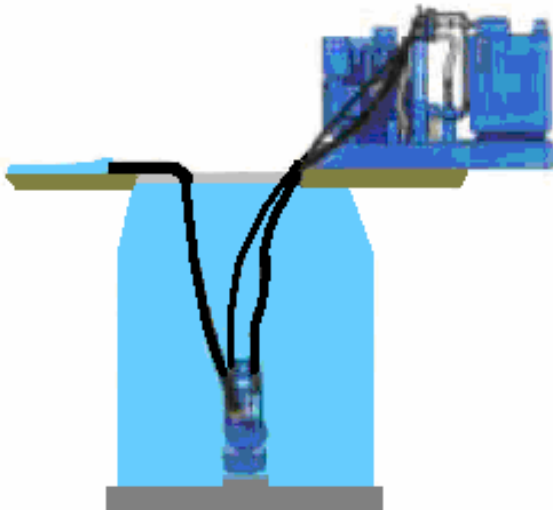
Thompson hydraulic submersible pumps provide a powerful answer when high heads or high lifts become a factor on job sites. These unique variable speed and variable flow hydraulically driven submersible pumps and power units are manufactured from heavy-duty cast iron and steel for high reliability. The Thompson design allows for maximum versatility in dewatering applications and pumping materials.

## Features

- Ability to place pump end in the pumping source
- Eliminates suction lift limitations
- Pumps efficiently at heads up to 101 feet
- Variable speed and flow
- Solids Handling to 4.25"
- 7,200-gpm capacity
- Standard biodegradable lubricants for environmentally sensitive areas

## Applications

- Open pit and trench dewatering
- Pipeline dewatering
- Rim ditches
- Manholes
- Sewer lines
- By-pass applications
- Floodwater control
- Drainage and irrigation
- Dewatering of gravel pits, mines, quarries



## Working Principle

Thompson's hydraulically driven submersible pumps enable the power unit to remain high and dry while the pump head is submerged into the liquid being pumped. Therefore, there is no need to worry about suction lift limitations or priming problems.

These pumps are designed to run dry without damage to the components and are engineered to handle liquids from muddy, trash-laden water to sewage and sludge.

## 120HST Materials of Construction

**Volute:** Heavy-duty ASTM A48, class 40 cast iron

**Shaft:** 17-4 pH stainless steel, fitted with a renewable 416 stainless steel sleeve

**Impeller:** Dynamically balanced, non-clogging, semi-open, heat treated ductile iron standard, with rear-equalizing vanes to reduce axial loading and prolong seal and bearing life; diameter 17.5"

**Wear Plate:** Heat treated steel standard

**Hydraulic Motor:** High efficiency, rotary vane type, 16 cubic inch displacement with SAE D splined output

**Hydraulic Couplings:** Delivery: 1.25" male Snap-Tite75 series quick disconnect, with dust cap; Return: 1.5" male Snap-Tite 75 series quick disconnect, with dust cap;

Bypass: .75" male Snap-Tite 75 series quick disconnect, with dust cap

**Mechanical Seal:** 65mm type AR3 oil lubricated with Tungsten Carbide rotating and stationary seal faces.

**Bearings:** Heavy-duty, oil lubricated to carry both axial and radial loads

**Bearing Housing:** Heavy-duty AISI 1040 steel

**Strainer:** Large, round hole, A36 steel

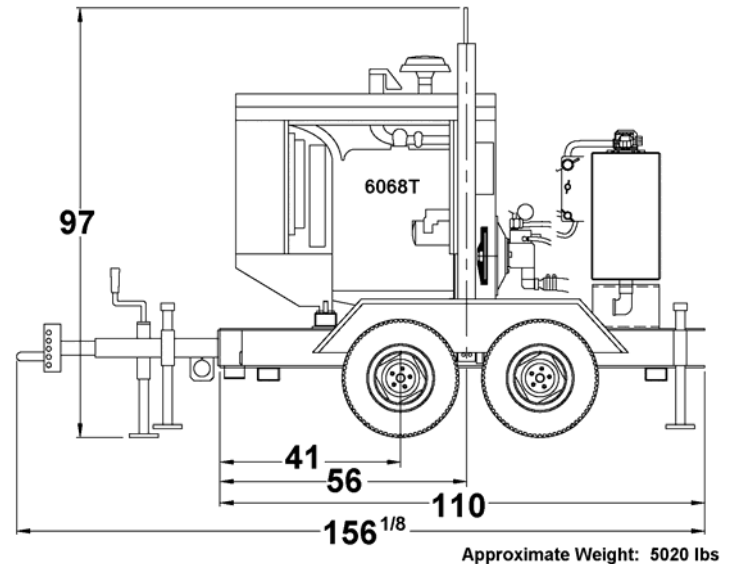
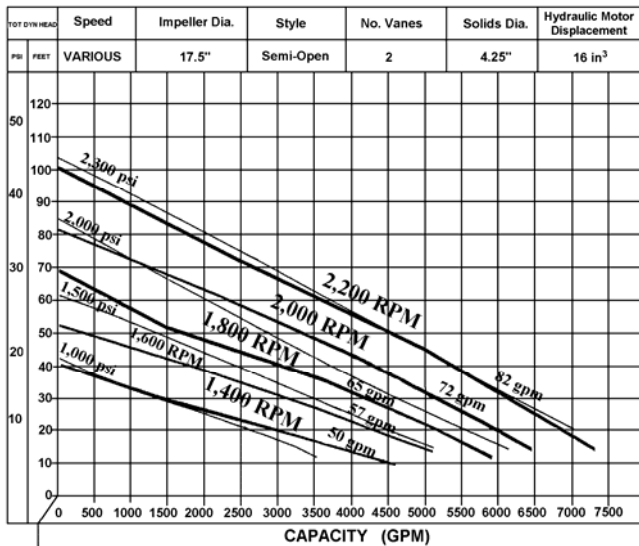
**Discharge Fitting:** 12" ANSI 125-lb flange

**Oil Cooler:** Tubular steel, air to oil



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## 120HST Performance Curve



## Engine Specifications

**Engine:** John Deere 6068T, 135 hp @ 2,000 rpm  
**Type:** 6-cylinder, in-line, 4-cycle, water-cooled, turbo charged, direct-injected, Tier II diesel  
**Standard Equipment:** Alternator, radiator, muffler, and exhaust stack with rain protection  
**Displacement:** 414 cubic inches  
**Fuel Economy:** .376 lb/hp-hr @ 1,800 rpm  
**Safety Shutdowns:** High coolant temperature; Low oil pressure

## Unit Specifications

**Fuel Tank Capacity:** 127 US gallons  
**Fuel Consumption:** 6.78 gph  
**Maximum Operating Speed:** 2,000 rpm  
**Maximum Operating Temperature:** 212°F  
**Maximum Working Pressure:** 50 psi  
**Maximum Casing Pressure:** 75 psi

## 78HPU Materials of Construction

**Pump:** P365A-2.5, positive displacement, external gear type, single pump, 9 in<sup>3</sup> displacement  
**Control Valve:** Needle type  
**Relief Valve:** Pump mounted, internally pilot operated, pressure compensated with vent provision and pressure gauge for system diagnostics  
**50-gallon Reservoir:** Fabricated steel, with internal baffles, large access port, drain valve, sight glass level and temperature gauge, air vent, sump strainer, and shutoff valve  
**Sump Strainer:** 100 mesh spin on type  
**Return Filter:** 100 gpm at 5 psi backpressure, 25 micron, in tank mounted with internal bypass at 25 psi, integral filler/breather  
**Hydraulic Couplings:** Delivery: 1.25" female Snap-Tite 75 series quick disconnect with dust plug; Return: 1.5" female Snap-Tite 75 series quick disconnect, with dust plug; Bypass: .75" female Snap-Tite 75 series quick disconnect, with dust plug  
**Safety Shutdowns:** Low hydraulic fluid level; high hydraulic fluid temperature

*In the interest of product improvement, Thompson Pump & Manufacturing reserves the right to change specifications without incurring any obligation for equipment previously or subsequently sold. Capacity, Head and Pump Curve are for comparative purposes. Consult engineering data for exact capabilities.*  
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