

12GHTAPICT4T10P
12" HIGH PERFORMANCE TRASH PUMP, AUTO PRIME, OPEN UNIT



12GHT GLOBAL HIGH PERFORMANCE TRASH



Global Pump® High Performance Trash pumps are specifically designed to effectively handle a wide-range of liquids from water to sewage and sludge that can contain solids and other material.

Global Pump High Performance Trash pumps provide a dependable, highly efficient solution. The model 12GHT is capable of achieving maximum flows of 8,500 gpm (1,999 m³/h) and maximum total head of 169' (51.5 m) while handling solids up to 4" (101.6 mm) in diameter.

The standard 12GHT is powered by a water-cooled, 6-cylinder diesel engine. Alternative drives are available, including other diesel engines or electric motor options.

FEATURES

Global Pump's rugged, heavy duty pumps are engineered specifically for portable application

Non-return valve uses only a single moving part to allow full flow with minimal restriction

Standard engine control panel provides preset emergency shutdown protection and allows the addition of automatic level control

Fully guarded coupling

Pump casings are hydrostatically tested to 50 psig (345 kPa) above the peak casing design pressure

Skid-mounted formats with tie downs, lifting bail, and fork pockets

OPTIONS

Available with a variety of priming systems, including Global's Auto Prime® automatic priming system (compressor-fed venturi priming) or a diaphragm priming system

Mechanical seal with glycol (biodegradable optional) quench allows the pump to start and run dry

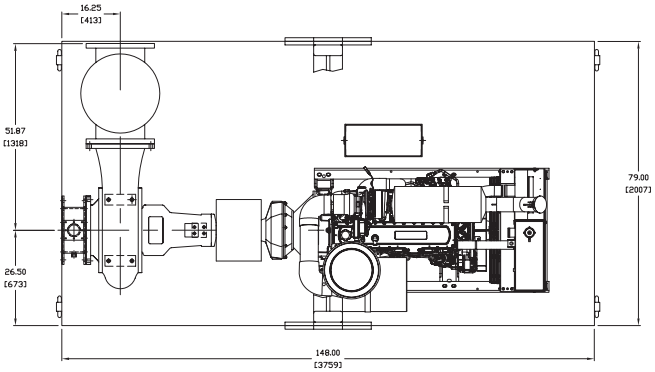
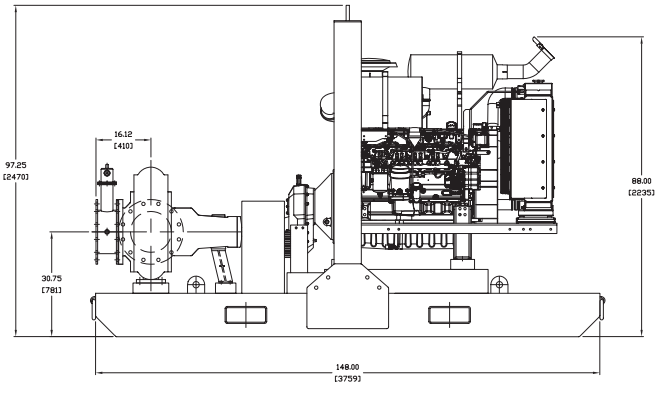
Global Pump's Environmental Box separates and silences air exhaust and returns liquid to the pump suction.

Fuel cubes for extended run times and/or remote location as required

Sound attenuated enclosure options

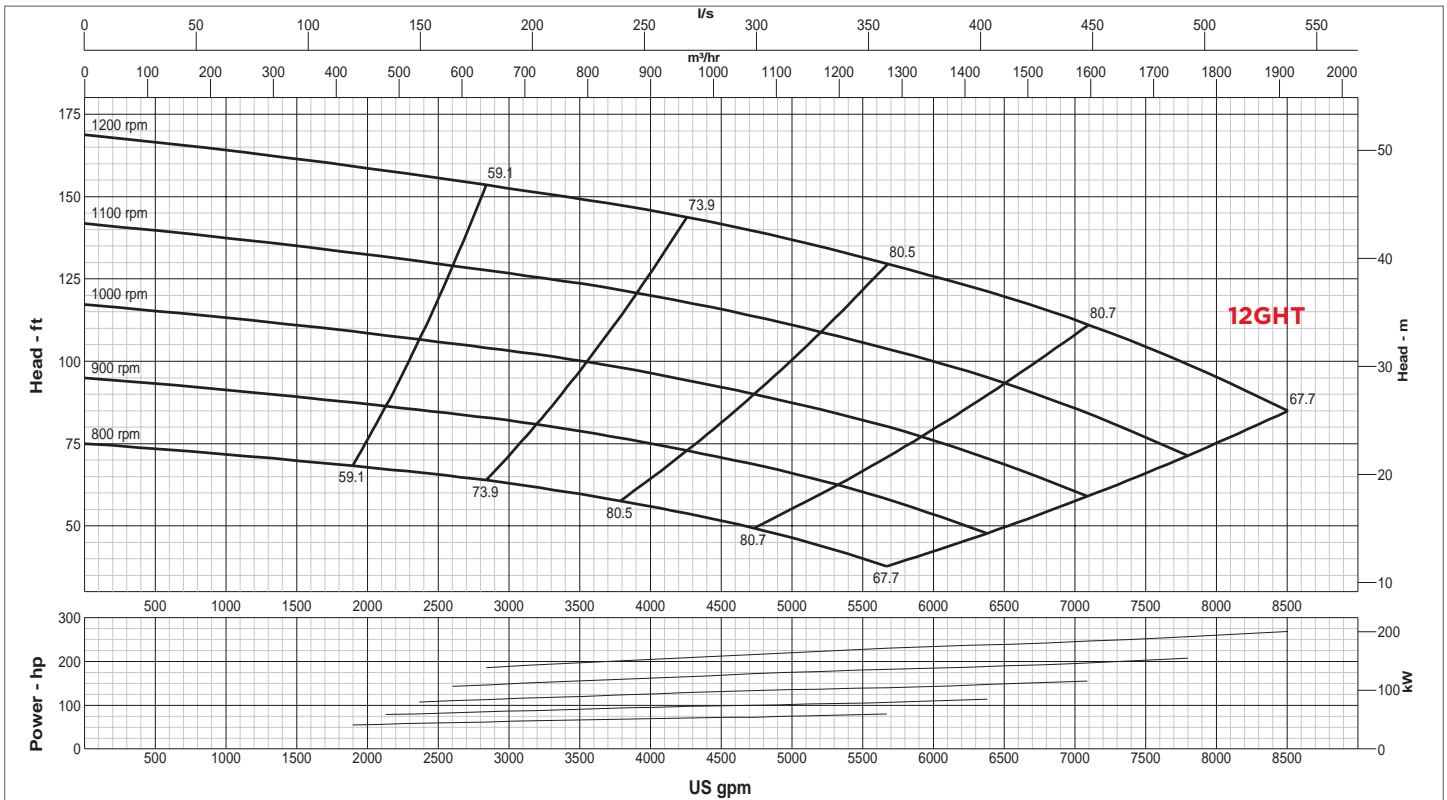
Hose racks, accessory containers and other custom features available as required

Wide range of suction and discharge fittings including Global Pump's own "QD" Quick Disconnect fittings and accessories



SPECIFICATIONS	
Connections	12" (300 mm) ANSI Flanges
Max Pump Speed	1,200 rpm
Max Flow	8,880 gpm (1,999 m ³ /h)
Max Head	169' (51.5 m)
Max Static Priming Lift	28' (8.5 m)
Temperature Limit	160° F (70° C)
Solids Handling Capability	4" (101.6 mm)
Max Casing Pressure	125 psig (862 kPa)
Fuel Cell	325 gallons (1,230 liters)
Dry Weight	10,350 lbs

PUMP MATERIAL	
Casing	Cast Iron (CD4MCu is an option)
Impeller	Cast Iron (CD4MCu is an option)
Bearing Housing	Cast Iron
Bearing Lubrication	Grease
Shaft	Stainless Steel
Seal	Silicon Carbide on Silicon Carbide
Chassis/Fuel Cell	Steel
Non-Return Valve	Nitrile Fitted Cast Iron



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GLOBAL CONTROL BOX



ADVANCED PUMP CONTROL

A wide range of operating modes for both manual and auto operation to match the pumping requirements of the application.

DESCRIPTION
GENERAL
<ul style="list-style-type: none"> • Full Display • Fault Code Reader and Alarm Log • Service Alerts • Fuel Level Available • Alarm Horn • Monitor Suction & Discharge Pressure
AUTO START OPERATION MODES
<ul style="list-style-type: none"> • FLOATS (Single and Dual Float) • PRESSURE (Start, Stop and Maintain Pressure) • LEVEL (Start, Stop and Maintain Level) • INTEGRATED SCHEDULER (Run Days/Times)
AUTO THROTTLE OPERATION
<ul style="list-style-type: none"> • Warm Up Speed & Period • Prime Speed & Period • Operating Speed • Cool Down Speed & Period • Pressure and Level Maintain
FAILSAFE FLOAT BACKUP
<ul style="list-style-type: none"> • Float backup available in case of pressure or level transducer failure

PUMP CONTROL TECHNOLOGY

Controls, Incorporated brings its advanced engine control technology and reputation for durability to provide advanced pump control with simple and intuitive operation for Global Pump.

DURABILITY

The water tight IP67 rated display and control module is mounted in a NEMA 4X rated panel providing a two layer construction for maximum protection.

EASY-TO-READ DISPLAY

An advanced OLED display provides superior visibility in all lighting conditions while providing an extended temperature down to -40°C/-40°F.



Suction and discharge pressure monitoring is also available.

AUTO START OPERATION

A variety of auto start and auto throttle modes are available, providing a wide range of pump control options.

Auto Start/Stop

- Floats, Level, Pressure, Real-Time Clock Scheduler

Auto Throttle

- Warm Up, Prime, Operating and Cool Down Speeds
- Auto Throttle to Maintain Level or Pressure

Failsafe Float Backup

- Float backup for pressure and level applications

THROTTLE CONTROL

Minimum speed, maximum speed and rate of acceleration are selectable to assure the pump always operates in the correct speed range.


FAULT CODES

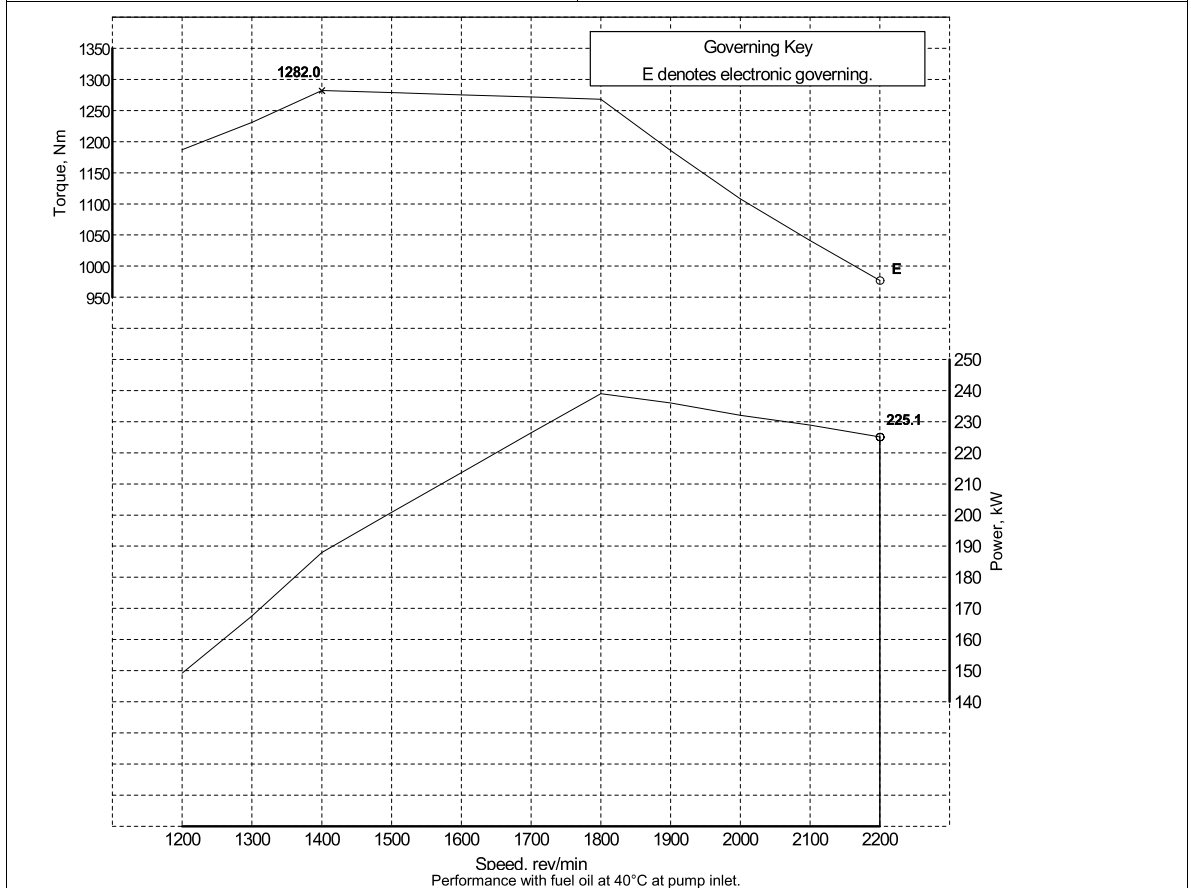
Engine alarm codes are displayed along with easy-to-read messages and corresponding yellow or red lamp illumination.

COMMUNICATIONS

Panel communications for simple integration with external devices, SCADA, remote monitoring and telemetry systems.

T4890- C7.1 (TTA), AN422, 225 kW, power bulge curve

 Caterpillar Inc. ©2017 Commercial in Confidence, proprietary information of Caterpillar Inc.	Engine Model: C7.1	Curve: T 4890 Issue: 1 Date:	Sheet 1
	Development Target - May be Subject to Change		
Rating Standards: Production Tolerance On Power Output: +3%, -3% Total Barometric Pressure (kPa): 100 Vapour Pressure (kPa): 1 Air Inlet Temperature (°C): 25	ISO 14396: 2002	Fuel Types: Fuel Specification: USA FED Off Highway EPA Part 1065.703 ULSD Density (kg/l @ 15°C): 0.840 - 0.865 Viscosity (mm²/s @ 40°C): 2.0 - 3.2 Sulphur Content (% mass): 0.0007 - 0.0015 Cetane No: 40 - 50	Europe Off Highway EU 2004/26/EC Stage 3B/4 0.833 - 0.837 2.3 - 3.3 0.001 max



Notes: 1. For duty cycle refer to the C rating definition(s) in the Caterpillar Industrial Engine Ratings Guide (LECH3874). Auxiliaries fitted to engine: Alternator - off load. Fan - not fitted.	Exhaust Quality Standard Smoke: US EPA 40 CFR Part 1039.105. Emissions: US EPA 40 CFR Part 1039 Tier 4 Final CARB 13CCR Section 2423 Tier 4 Final EU NRM 97/68/EC Stage 5 JAPAN MOC/MLIT NONROAD STEP 4 FINAL	Certification Refs (Rated Speeds)
	Power Standard UN/ECE R120	Certification Refs (Rated Speeds)
Approved by: J.L. Soilleux (Program Manager) Date	Accepted by: T.W. Carill (Product Engineering Manager) Date	Issued by: ER&C UK (Legislation Engineer)

Rating Curves Data Sheet

Curve T 4890 Sheet 2

Note1: Unless otherwise specified, all stated data is for maximum rated speed and 100% load.

<p>General Data</p> <p>Engine Model: C7.1 Number Of Cylinders: 6 Bore (mm): 105.0 Stroke (mm): 135.0 Configuration: Vertical In Line Displacement (litres): 7.01 Aspiration: Turbocharged Compression Ratio: 16.5 : 1 Combustion Bowl: Re-entrant</p> <p>Fuel System</p> <p>Fuel Pump Model: Denso Injection Timing (°BTDC) - Static: - Dynamic (needle lift pick-up): Lift Pump Pressure (Out) (kPa): Fuel Pump Pressure (In) (kPa): Fuel Filter Max Particle Size (micron): 3.5 - 5 Fuel Return System Type: Return to Tank</p> <p>Lubrication System</p> <p>Lubricating Oil Specification: See Engine Specification Manual</p> <p>Exhaust System</p> <p>Exhaust Flow (kg/min): Exhaust Temperature (°C):</p> <p>Cold Start Capability</p> <p>Unaided Start Limit (°C): Aided Start Limit (°C): -25 Start Aid (Optional): Glowplugs Minimum Cranking Speed (rev/min) - unaided: 130 - aided: 100</p>	<p>Cooling System</p> <p>Heat Rejected @ Rated Speed (kW): Heat Rejected @ Peak Torque (kW): Coolant Flow (litres/min): Thermostat - Start To Open (°C): 82 Thermostat - Fully Open (°C): 94 Recommended Cap Pressure (kPa): 100 Max Top Tank Pressure (kPa): 100 * * See General Installation Manual</p> <p>Air System</p> <p>Engine Air Flow (kg/min): Induction Manifold Pressure (kPa):</p> <p>Charge Air Cooler System</p> <p>Charge Air Cooling System: Air-to-Air Max Total Pressure Drop inc Pipes (kPa): 10.0 Charge Air Cooler Heat Rejection (kW): Manifold Charge Air Temperature (°C): 55.0</p> <p>Turbocharger</p> <p>Turbocharger Type: Maximum Altitude (m): 1000</p> <p>Performance Data</p> <p>Friction Power @ Rated Speed (kW): Friction Power @ Peak Torque (kW): Torque @ 800 rev/min (Nm): Not applicable</p> <p>For further performance data see table below.</p>
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Performance Data			Rating Standard: ISO 14396: 2002		
Speed (rev/min)	Torque (Nm)	Power (kW)	Max Exhaust Back Pressure (kPa)	Max Inlet Restriction (kPa)	Governing Categories (key on sht 1)
2200	977	225.1	38.2	6.5	E
2100	1041	228.9			
2000	1108	232.1			
1900	1186	236.0			
1800	1268	239.0			
1700	1272	226.4			
1600	1275	213.6			
1500	1279	200.9			
1400	1282	188.0			
1300	1231	167.6			
1200	1187	149.2			

Further Notes:
 The exhaust pressure and inlet restriction values are appropriate for certification tests

Internal References

Curve Issue No: 1 DCP Number(s) TAN Number:
 Curve Issue Date : FIE EDR Number