

## SPECIFICATIONS

### **6 INCH SOUND ATTENUATED, DRY PRIME**

#### **Premier Pump Model 6x6CS2-VP-4045TF280-130-SA**

#### **Vacuum Assisted, Engine Driven, Heavy Duty Solids Handling Pump**

#### **Pump Specifications:**

- Pump size: 6"X 6" AISI 150# flanges standard
- Suction Cover: ASTM A48 class 30 gray iron
- Wear Ring: ASTM A48 class 30 gray iron
- Volute Casing: ASTM A48 class 30 gray iron
- Volute Cleanout: Handhole type, ASTM A48 class 30 gray iron
- Backplate: ASTM A48 class 30 gray iron
- Bracket: ASTM A48 class 30 gray iron
- Mechanical Seal: Tungsten vs. Silicon Carbide seal faces, Viton elastomers, 300 series stainless steel hardware & spring, seal system designed for dry running
- Impeller: Enclosed type, two port, non clog, w/3 inch spherical solids handling capability. ASTM A48 class 30 gray iron
- Bearing Housing: ASTM A48 class 30 gray iron
- Pump-end Bearing: Single row ball – 6313-C3
- Drive-end Bearing: Single row ball – 6313-C3
- Shaft: 1144 Stressproof steel (Other metals available including: 17-4 PH corrosion resistant)
- Lip Seals: CR type, single lip: Bearings, SAE cover - Buna-N, Seal gland – Viton
- Midland 1300 series compressor. Lubricated by engine oil and cooled by engine water
- Separator Spool: Standard steel
- Air/Water chamber: Chamber designed to separate air and water before entering the pump case
- Venturi: Constructed of non-corrosive bronze
- Discharge check valve: Swing type, cast iron w/Buna-N disc (Viton optional)

**Optional Equipment and Materials:** Stainless Steel, CD4MCU & Ductile Iron

#### **Engine Specification:**

- Model: John Deere model 4045TF280
- 80 intermittent horsepower @ 2400 RPM
- Four cylinder, four cycle, water cooled diesel engine
- Governor: Mechanical
- Lubrication: Force Feed
- Air Cleaner: Filter element
- Fuel Tank: 130 US gallons
- Run time: Full load (1800 RPM) > 30 hours
- Starter: 12 volt electric



**Standard engine features:** Safety shutdown switches for low oil pressure and high temperature. Instrument panel with temperature and oil pressure gauge, ampmeter, hourmeter and tachometer. Muffler with rain cap. Engine to pump coupling: SAE3 housing with 10" rubber disc drive.

**Standard Skid:** Heavy duty fabricated steel frame. Integral fuel tank, lifting bale, lockable fuel tank, and one 1½" clean-out/drain plug

**Standard Trailer:** Heavy duty fabricated steel frame, integral fuel tank, fenders, lifting bail, lockable fuel cap, 6000# Anti-torsional axle, two (2) front adjustable leveling jacks and two (2) rear adjustable leveling jacks, one 1½" clean-out plug, fuel gauge, adjustable height tongue with easy conversion from ball hitch to Lunette eye

**Trailer Options:** DOT light package, work lights, special tires & wheels, dual axles, diamond plate fenders, surge brakes, lockable enclosed instrument panel, lockable enclosed engine housing, storage box, hose rack and more

**Enclosure:** The entire unit, including the pump and engine shall be fully enclosed in a lockable enclosure made of steel panels. A 14 gauge solid steel outer shell containing acoustical fill encapsulated in a moisture barrier shall be furnished. The enclosure shall provide access to the working parts of the engine, pump and controls without having to remove the access panels for inspection, cleaning and servicing of the aforementioned equipment. All access panels shall be hinged for easy opening and closing, and shall be lockable. Unit capable of sound levels as low as 70 Dba at 23 feet.

Specifications subject to change without notice

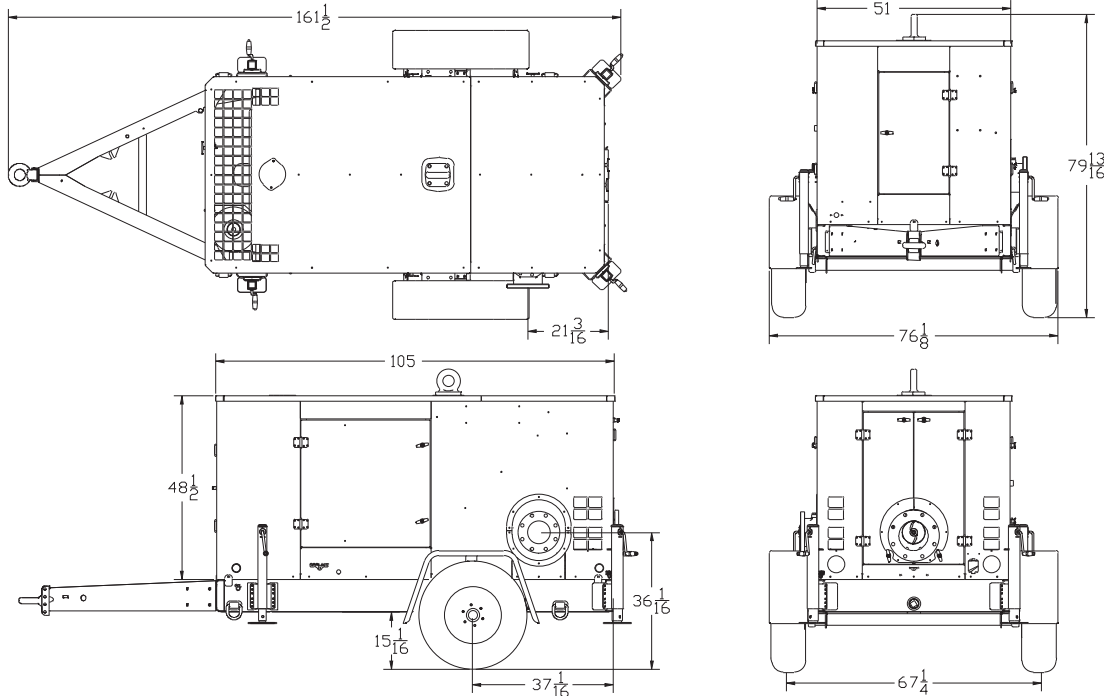
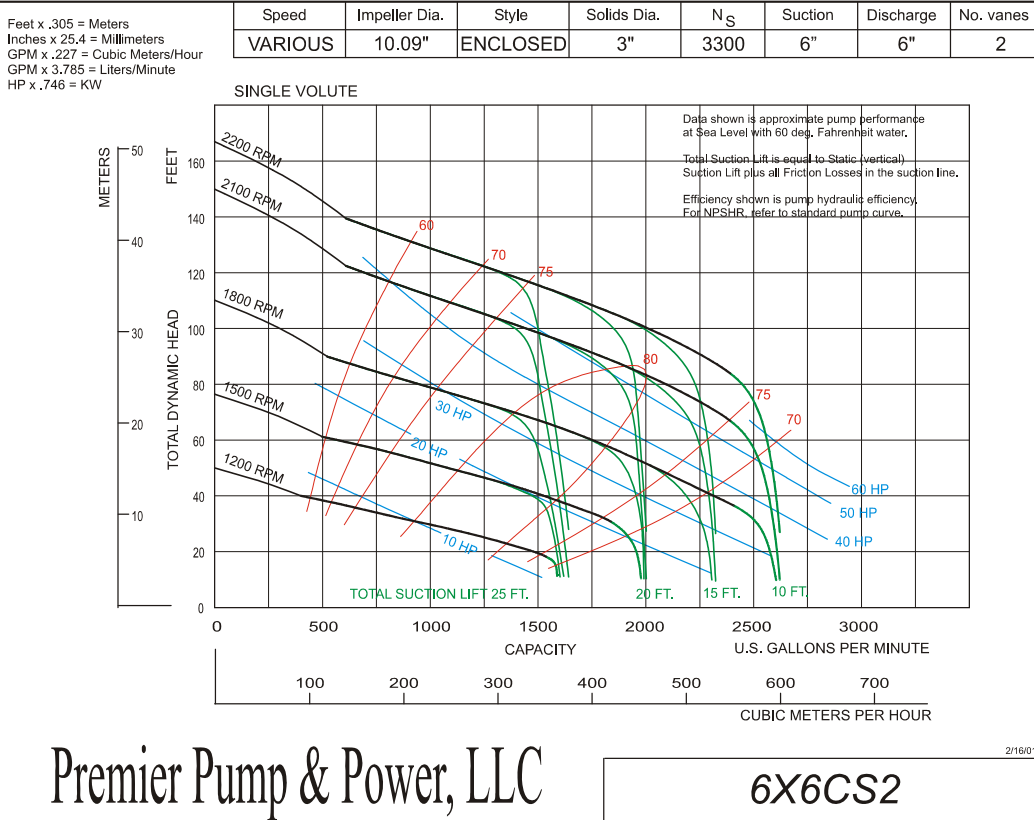
**Premier Pump and Power, LLC • PO Box 6423 • Vancouver, WA 98668 • Phone 360.574.4519 • Fax 772.679.5989**



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JOHN DEERE

### ENGINE PERFORMANCE CURVE

Rating: Gross Power

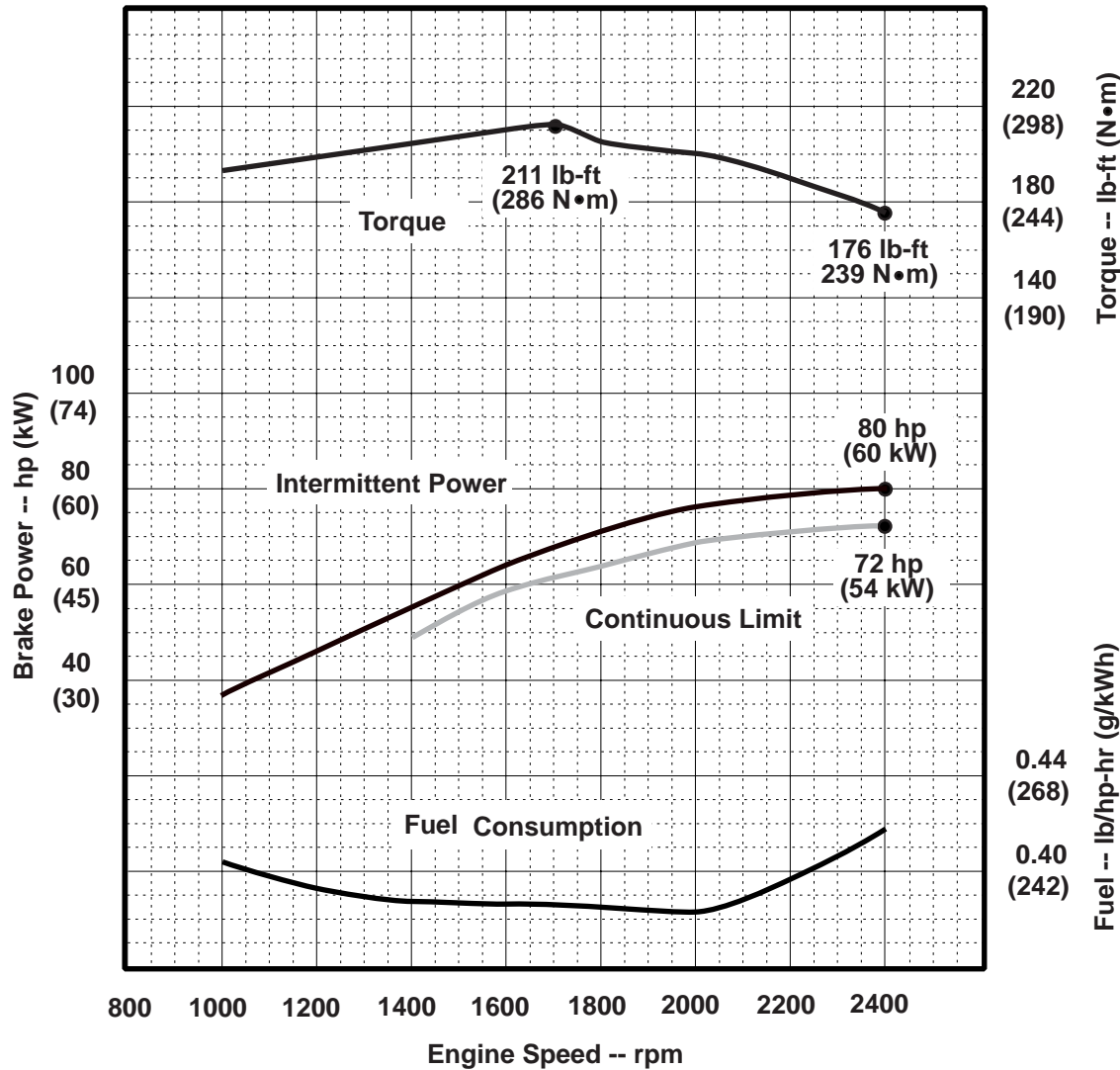
Application: Industrial  
Intermittent / Continuous

PowerTech M™ 4.5 L Engine

Model: 4045TF280

80 hp @ 2400 rpm

60 kW @ 2400 rpm



Air Intake Restriction ..... 12 in.H<sub>2</sub>O (3 kPa)  
Exhaust Back Pressure ..... 30 in.H<sub>2</sub>O (7.5 kPa)

Gross power guaranteed within + or - 5% at SAE J1995 and ISO 3046 conditions:

- 77 °F (25 °C) air inlet temperature
- 29.31 in.Hg (99 kPa) barometer
- 104 °F (40 °C) fuel inlet temperature
- 0.853 fuel specific gravity @ 60 °F (15.5 °C)

Conversion factors:

- Power: kW = hp x 0.746
- Fuel: 1 gal = 7.1 lb, 1 L = 0.85 kg
- Torque: N•m = lb-ft x 1.356

All values are from currently available data and are subject to change without notice.

Notes:

Tier-3 Emission Certifications:

Certified by:

CARB; EPA; EU  
Ref: Engine Emission Label

*Vincent...*  
08-24-07

\* Revised Data

Curve: 4045TF28080\_2400..... Sheet 1 of 2  
August 2007

## General Data

Model .....4045TF280  
 Number of Cylinders ..... 4  
 Bore and Stroke--in. (mm)..... 4.20 x 5.00 (106 x 127)  
 Displacement--in.<sup>3</sup> (L) .....275 (4.5)  
 Compression Ratio ..... 19.0 : 1  
 Valves per Cylinder--Intake/Exhaust ..... 1 / 1  
 Firing Order ..... 1-3-4-2  
 Combustion System ..... Direct Injection  
 Engine Type ..... In-line, 4-Cycle  
 Aspiration ..... Turbocharged  
 Engine Crankcase Vent System ..... Open  
 Maximum Crankcase Pressure--in. H<sub>2</sub>O (kPa) .....2 (0.5)

## Physical Data

Length--in. (mm) .....33.9 (860)  
 Width--in. (mm) .....24.1 (612)  
 Height--in. (mm) .....39.1 (994)  
 Weight, dry--lb (kg) .....872 (396)  
 (Includes flywheel housing, flywheel & electrics)  
 Center of Gravity Location  
 From Rear Face of Block (X-axis)--in. (mm) .10.5 (267)  
 Right of Crankshaft (Y-axis)--in. (mm) .....0.5 (13)  
 Above Crankshaft (Z-axis)--in. (mm).....4.3 (109)  
 Max. Allow. Static Bending Moment at Rear  
 Face of Flywhl Hsg w/ 5-G Load--lb-ft (N•m) ...600 (814)  
 Thrust Bearing Load Limit (Forward)--lb (N) .....900 (4003)

## Air System

Maximum Allowable Temp Rise--Ambient Air to  
 Engine Inlet--°F (°C)..... 15 (8)  
 Maximum Air Intake Restriction  
 Dirty Air Cleaner--in. H<sub>2</sub>O (kPa) .....25 (6.25)  
 Clean Air Cleaner--in. H<sub>2</sub>O (kPa) ..... 12 (3)  
 Engine Air Flow--ft<sup>3</sup>/min (m<sup>3</sup>/min) [I].....233 (6.6)  
 [C] .....222 (6.3)  
 Intake Manifold Pressure--psi (kPa) [I].....10 (76)  
 [C] .....9 (68)  
 Recommended Intake Pipe Diameter--in. (mm).....3 (76.2)

## Engine Installation Criteria

### Cooling System

Engine Heat Rejection--BTU/min (kW) [I].....2277 (40)  
 [C].....2049 (36)  
 Coolant Flow--gal/min (L/min) ..... 52 (196)  
 Thermostat Start to Open--°F (°C)..... 180 (82)  
 Thermostat Fully Open--°F (°C).....201 (94)  
 Engine Coolant Capacity--qt (L) ..... 9 (8.5)  
 Recommended Pressure Cap--psi (kPa)..... 10 (69)  
 Maximum Top Tank Temp--°F (°C) .....221 (105)  
 Minimum Coolant Fill Rate--gal/min (L/min) ..... 3 (11)  
 Minimum Air-to-Boil Temperature--°F (°C)..... 117 (47)  
 Min. Pump Inlet Pressure--psi (kPa)..... 4.4 (30)

### Electrical System

**12 Volt 24 Volt**

Rec'md. Battery Capacity (CCA)--amp ..... 640 ..... 570  
 Max. Allow. Starting Circuit Resist.--Ohm 0.0012..... 0.002  
 Starter Rolling Current  
 At 32 °F ( 0 °C)--amp ..... 780 ..... 600  
 At -22 °F (-30 °C)--amp ..... 1000 ..... 700

### Exhaust System

Exhaust Flow--ft<sup>3</sup>/min (m<sup>3</sup>/min) [I] ..... 581 (16.4)  
 [C]..... 544 (15.4)  
 Exhaust Temperature--°F (°C) [I] ..... 934 (501)  
 [C]..... 892 (478)  
 Max. Allowable Back Pressure--in. H<sub>2</sub>O (kPa) ..... 30 (7.5)  
 Rec'd. Exhaust Pipe Diameter--in. (mm) ..... 4.0 (101.6)

### Fuel System

Fuel Injection Pump ..... Stanadyne DB4  
 Governor Regulation..... 7-10 %  
 Governor Type ..... Mechanical  
 Total Fuel Flow--lb/hr (kg/hr) [I] ..... 155 (70)  
 Fuel Consumption--lb/hr (kg/hr) [I]..... 34 (15.7)  
 [C] ..... 32 (14.3)  
 Maximum Fuel Transfer Pump Suction--ft (m) fuel... 3 (0.9)  
 Maximum Fuel Inlet Temp.--°F (°C) .....212 (100)  
 Fuel Filter Micron Size @ 98% Efficiency ..... 2

## Lubrication System

Oil Pressure at Rated Speed--psi (kPa) ..... 50 (345)  
 Oil Pressure at Low Idle--psi (kPa) ..... 15 (105)  
 In Pan Oil Temperature--°F (°C) ..... 244 (118)  
 Engine Angularity Limits any direction--degrees  
 Intermittent..... 45  
 Continuous..... 20

## Performance Data

Rated Power--hp (kW) [I]..... 80 (60)  
 [C] ..... 72 (54)  
 Rated Speed--rpm ..... 2400  
 Peak Torque--lb-ft (N•m) [I]..... 211 (286)  
 [C] ..... 190 (257)  
 Peak Torque Speed--rpm ..... 1700  
 Low Idle Speed--rpm ..... 850  
 BMEP--psi (kPa) [I] ..... 96 (663)  
 [C] ..... 87 (597)  
 Friction Power @ Rated Speed--hp (kW) ..... 28 (21)  
 Altitude Capability -- ft (m) ..... 10,000 (3050)  
 Ratio--Air : Fuel [I] ..... 28.7 : 1  
 [C] ..... 30.4 : 1  
 Smoke @ Rated Speed--Bosch No. [I]..... 1.0  
 [C] ..... 0.9  
 Noise--dB(A) @ 1 m [I] ..... NA  
 [C] ..... NA

| Engine Speed rpm | Contin. Limit hp(kW) | Intermit. Power hp(kW) | Intermit. Torque lb-ft(N•m) | BSFC lb/hp-hr (g/kWh) |
|------------------|----------------------|------------------------|-----------------------------|-----------------------|
| 2400             | 72 (54)              | 80 (60)                | 176 (239)                   | 0.429 (261)           |
| 2200             | 71 (53)              | 79 (59)                | 190 (258)                   | 0.406 (247)           |
| 2000             | 69 (51)              | 76 (57)                | 200 (271)                   | 0.400 (243)           |
| 1800             | 64 (48)              | 71 (53)                | 206 (279)                   | 0.398 (242)           |
| 1700             | 61 (46)              | 68 (51)                | 211 (286)                   | 0.395 (240)           |
| 1600             | 58 (43)              | 64 (48)                | 210 (285)                   | 0.391 (238)           |
| 1400             | 49 (37)              | 55 (41)                | 205 (278)                   | 0.387 (235)           |
| 1200             | -----                | 46 (34)                | 199 (270)                   | 0.395 (240)           |
| 1000             | -----                | 37 (27)                | 192 (260)                   | 0.401 (244)           |

All values at rated speed and power with standard options unless otherwise noted.

\* Revised Data  
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 August 2007