| Item | Product Code/Number | Description | Pricing Adjustment to Base Bid |
|---|---|---|---|
| 1 | PP44S10L71-D2.9-GL2 MPC-10 -S | **Credit - Downgrade to Trailer Mounted, Engine Driven, 4" Pump**<br>Pump Specifications<br>- Pump Model: 44S10<br>- Pump Type: Pioneer Prime<br>- Volute discharge orientation: Top Horizontal (TH)<br>- Impeller Trim: 10"<br>- Seal Type: Run Dry Mechanical Seal<br>- Bearing Frame: Horizontal (Bare Shaft) - Oil Lube<br>- Materials of Construction: 71 - "Ductile Iron w/ CA6Nm Impeller"<br>- Paint Color: Pioneer Green Standard<br>Package Specifications<br>- Platform: GL2<br>- Fuel Capacity: 75 US Gallons<br>- Package Type: Open DOT Trailer w/ Electric Breaks<br>- Engine Make/Model/HP/Tier: Deutz / D2.9L4A / 36 HP / FT4<br>- Control Panel: Murphy MPC-10 L1 (Standard) | -$2,330.00 |
| 2 | PP88S12L71-TCD3.6 UP3 | **Upgrade to Trailer Mounted, Engine Driven, 8" Pump**<br>Pump Specifications<br>- Pump Model: 88S12<br>- Pump Type: Pioneer Prime<br>- Volute discharge orientation: Top Horizontal (TH)<br>- Impeller Trim: 12.25"<br>- Seal Type: Run Dry Mechanical Seal<br>- Bearing Frame: Horizontal (Bare Shaft) - Oil Lube<br>- Materials of Construction: 71 - "Ductile Iron w/ CA6Nm Impeller"<br>- Paint Color: Pioneer Green Standard<br>Package Specifications<br>- Platform: UP3<br>- Fuel Capacity: 135 US Gallons<br>- Package Type: Open DOT Trailer w/ Electric Brakes<br>- Engine Make/Model/HP/Tier: Deutz / TCD3.6 / 111 HP / FT4<br>- Control Panel: Murphy MPC-10 L1 (Standard) | $25,450.00 |

| Item | Product Code/Number | Description | Pricing Adjustment to Base Bid |
|---|---|---|---|
| 3 | PP108S17L71-1706J | **Upgrade to Trailer Mounted, Engine Driven, 10” Pump**<br>Pump Specifications<br>- Pump Model: 108S17<br>- Pump Type: Pioneer Prime<br>- Volute discharge orientation: Top Horizontal (TH)<br>- Impeller Trim: FLANGED TO 10" 17.25"<br>- Seal Type: Run Dry Mechanical Seal<br>- Bearing Frame: Horizontal (Bare Shaft) - Oil Lube<br>- Materials of Construction: 71 - "Ductile Iron w/ CA6Nm Impeller"<br>- Paint Color: Pioneer Green Standard<br>Package Specifications<br>- Platform: GL3-XL<br>- Fuel Capacity: 210 US Gallons<br>- Package Type: Open DOT Trailer w/ Electric Brakes<br>- Engine Make/Model/HP/Tier: Perkins / 1706J-E93TA / 335 HP / FT4<br>- Control Panel: Murphy MPC-10 L1 (Standard) | $90,020.00 |
| 4 | PP1212S17L71-1206F-GL3 | **Upgrade to Trailer Mounted, Engine Driven, 12” Pump**<br>Pump Specifications<br>- Pump Model: 1212S17<br>- Pump Type: Pioneer Prime<br>- Volute discharge orientation: Top Horizontal (TH)<br>- Impeller Trim: 16" @ 16 DEGREES<br>- Seal Type: Run Dry Mechanical Seal<br>- Bearing Frame: Horizontal (Bare Shaft) - Oil Lube<br>- Materials of Construction: 71 - "Ductile Iron w/ CA6Nm Impeller"<br>- Paint Color: Pioneer Green Standard<br>Package Specifications<br>- Platform: GL3<br>- Fuel Capacity: 175 US Gallons<br>- Package Type: Open DOT Trailer w/ Electric Brakes<br>- Engine Make/Model/HP/Tier: Perkins / 1206F-E70TTA-242 / 242 HP / FT4<br>- Control Panel: Murphy MPC-10 L1 (Standard) | $67,740.00 |
| 5 | SAPP44S10L71-D2.9-GL2 MPC-10 -S | **Upgrade to sound attenuated enclosure for Trailer Mounted, Engine Driven, 4” Pump Option** | $10,200.00 |
| 6 | SAPP66S12L71 | **Upgrade to sound attenuated enclosure for Trailer Mounted, Engine Driven, 6” Pump Option** | $12,920.00 |
| 7 | SAPP88S12L71-TCD3.6 UP3 | **Upgrade to sound attenuated enclosure for Trailer Mounted, Engine Driven, 8” Pump Option** | $13,600.00 |
| 8 | SAPP108S17L71-1706J | **Upgrade to sound attenuated enclosure for Trailer Mounted, Engine Driven, 10” Pump Option** | $15,530.00 |
| 9 | SAPP1212S17L71-1206F-GL3 | **Upgrade to sound attenuated enclosure for Trailer Mounted, Engine Driven, 12” Pump Option** | $21,590.00 |

| Item | Product Code/Number | Description | Pricing Adjustment to Base Bid |
|---|---|---|---|
| 10 | PP44S10L71-HO-40-4 BCG 10" TEFC PIO GRN | **Credit - Downgrade from trailer mounted, engine driven to skid mounted, electric motor for 4" Pump Option**<br>Pump Specifications<br>- Pump Model: 44S10<br>- Pump Type: Pioneer Prime<br>- Volute discharge orientation: Top Horizontal (TH)<br>- Impeller Trim: 10"<br>- Seal Type: Run Dry Mechanical Seal<br>- Bearing Frame: Horizontal (Bare Shaft) - Oil Lube<br>- Materials of Construction: 71 - "Ductile Iron w/ CA6Nm Impeller"<br>- Paint Color: Pioneer Green Standard<br>Package Specifications<br>- Base Type: Base/Coupling/Guard<br>- Motor Mfr / Model No.: Non-Specific ("Z") -<br>- Speed: 60 Hz/4 Pole - 1800 RPM<br>- Frame Size/HP: 324T/40 HP<br>- Volts/Phase/Hz: 460V/ 60HZ / 3PH<br>- Efficiency Type: Premium Efficiency<br>- Enclosure Type: TEFC<br>- Motor Drive: No Drive | -$19,040.00 |
| 11 | PP66S12L71-HO-60-4 BCG, TEFC T11.0 | **Credit - Downgrade from trailer mounted, engine driven to skid mounted, electric motor for 6" Pump Option**<br>Pump Specifications<br>- Pump Model: 66S12<br>- Pump Type: Pioneer Prime<br>- Volute discharge orientation: Top Horizontal (TH)<br>- Impeller Trim: 11"<br>- Seal Type: Run Dry Mechanical Seal<br>- Bearing Frame: Horizontal (Bare Shaft) - Oil Lube<br>- Materials of Construction: 71 - "Ductile Iron w/ CA6Nm Impeller"<br>- Paint Color: Pioneer Green Standard<br>Package Specifications<br>- Base Type: Base/Coupling/Guard<br>- Motor Mfr / Model No.: Non-Specific ("Z") -<br>- Speed: 60 Hz/4 Pole - 1800 RPM<br>- Frame Size/HP: 364T/60 HP<br>- Volts/Phase/Hz: 460V/ 60HZ / 3PH<br>- Efficiency Type: Premium Efficiency<br>- Enclosure Type: TEFC<br>- Motor Drive: No Drive | -$15,010.00 |

| Item | Product Code/Number | Description | Pricing Adjustment to Base Bid |
|---|---|---|---|
| 12 | PP88S12L71-HO-100-4 BCG 12" TEFC PIO GRN | **Credit - Downgrade from trailer mounted, engine driven to skid mounted, electric motor for 8" Pump Option**<br>Pump Specifications<br>- Pump Model: 88S12<br>- Pump Type: Pioneer Prime<br>- Volute discharge orientation: Top Horizontal (TH)<br>- Impeller Trim: 12"<br>- Seal Type: Run Dry Mechanical Seal<br>- Bearing Frame: Horizontal (Bare Shaft) - Oil Lube<br>- Materials of Construction: 71 - "Ductile Iron w/ CA6Nm Impeller"<br>- Paint Color: Pioneer Green Standard<br>Package Specifications<br>- Base Type: Base/Coupling/Guard<br>- Motor Mfr / Model No.: Non-Specific ("Z") -<br>- Speed: 60 Hz/4 Pole - 1800 RPM<br>- Frame Size/HP: 405T/100 HP<br>- Volts/Phase/Hz: 460V/ 60HZ / 3PH<br>- Efficiency Type: Premium Efficiency<br>- Enclosure Type: TEFC<br>- Motor Drive: No Drive | -$3,040.00 |
| 13 | PP108S17L71-HO-400-4 BCG 17.25 FLNG 10" | **Upgrade from trailer mounted, engine driven to skid mounted, electric motor for 10" Pump Option**<br>Pump Specifications<br>- Pump Model: 108S17<br>- Pump Type: Pioneer Prime<br>- Volute discharge orientation: Top Horizontal (TH)<br>- Impeller Trim: FLANGED TO 10" 17.25"<br>- Seal Type: Run Dry Mechanical Seal<br>- Bearing Frame: Horizontal (Bare Shaft) - Oil Lube<br>- Materials of Construction: 71 - "Ductile Iron w/ CA6Nm Impeller"<br>- Paint Color: Pioneer Green Standard<br>Package Specifications<br>- Base Type: Base/Coupling/Guard<br>- Motor Mfr / Model No.: Non-Specific ("Z") -<br>- Speed: 60 Hz/4 Pole - 1800 RPM<br>- Frame Size/HP: 449T/400 HP<br>- Volts/Phase/Hz: 460V/ 60HZ / 3PH<br>- Efficiency Type: Premium Efficiency<br>- Enclosure Type: TEFC<br>- Motor Drive: No Drive | $29,210.00 |

| Item | Product Code/Number | Description | Pricing Adjustment to Base Bid |
|---|---|---|---|
| 14 | PP1212S17L71-HO-400-4 BCG 17.25" TEFC GR | **Upgrade from trailer mounted, engine driven to skid mounted, electric motor for 12” Pump Option**<br>Pump Specifications<br>- Pump Model: 1212S17<br>- Pump Type: Pioneer Prime<br>- Volute discharge orientation: Top Horizontal (TH)<br>- Impeller Trim: 17.25"<br>- Seal Type: Run Dry Mechanical Seal<br>- Bearing Frame: Horizontal (Bare Shaft) - Oil Lube<br>- Materials of Construction: 71 - "Ductile Iron w/ CA6Nm Impeller"<br>- Paint Color: Pioneer Green Standard<br>Package Specifications<br>- Base Type: Base/Coupling/Guard<br>- Motor Mfr / Model No.: Non-Specific ("Z") -<br>- Speed: 60 Hz/4 Pole - 1800 RPM<br>- Frame Size/HP: 449T/400 HP<br>- Volts/Phase/Hz: 460V/ 60HZ / 3PH<br>- Efficiency Type: Premium Efficiency<br>- Enclosure Type: TEFC<br>- Motor Drive: No Drive | $82,840.00 |
| 15 | GL2 PLATFORM | **Credit- Downgrade to skid base (Delete Trailer) for 4” Pump Option** | -$1,760.00 |
| 16 | GL2 PLATFORM | **Credit- Downgrade to skid base (Delete Trailer) for 6” Pump Option** | -$1,760.00 |
| 17 | UP3 PLATFORM | **Credit- Downgrade to skid base (Delete Trailer) for 8” Pump Option** | -$3,150.00 |
| 18 | GL3 XL PLATFORM | **Credit- Downgrade to skid base (Delete Trailer) for 10” Pump Option** | -$6,300.00 |
| 19 | GL3 PLATFORM | **Credit- Downgrade to skid base (Delete Trailer) for 12” Pump Option** | -$6,300.00 |
| 20 | CIER3R-CENP040-P4-3 | **Add VFD to skid mounted, electric motor 4” Pump Option** | $5,770.00 |
| 21 | CIER3R-CENP060-P4-3 | **Add VFD to skid mounted, electric motor 6” Pump Option** | $8,220.00 |
| 22 | CIER3R-CENP100-P4-3 | **Add VFD to skid mounted, electric motor 8” Pump Option** | $11,620.00 |
| 23 | 341C3R/CNP350GLX-J-02 | **Add VFD to skid mounted, electric motor 10” Pump Option** | $31,760.00 |
| 24 | 341C3R/CNP350GLX-J-02 | **Add VFD to skid mounted, electric motor 12” Pump Option** | $31,760.00 |
| 25 | DEL CP-4 | **Credit - Delete Control Panel from 4" Pump Package** | -$2,680.00 |

| Item | Product Code/Number | Description | Pricing Adjustment to Base Bid |
|---|---|---|---|
| 26 | DEL CP-6 | **Credit - Delete Control Panel from 6" Pump Package** | -$2,830.00 |
| 27 | DEL CP-8 | **Credit - Delete Control Panel from 8" Pump Package** | -$4,590.00 |
| 28 | DEL CP-10 | **Credit - Delete Control Panel from 10" Pump Package** | -$6,370.00 |
| 29 | DEL CP-12 | **Credit - Delete Control Panel from 12" Pump Package** | -$6,370.00 |
| 30 | STR | **Credit - Change to site trailer** | -$520.00 |
| 31 | Add - SBC | **Optional Equipment – Solar Battery Charger** | $370.00 |
| 32 | Add - BC | **Optional Equipment – 12 Volt Trickle Battery Charger** | $260.00 |
| 33 | Add - ST | **Optional Equipment – Spare Tire** | $620.00 |
| 34 | Add - TS | **Optional Equipment – Tool/Storage Box** | $590.00 |
| 35 | Add - HS | **Optional Equipment – Hose Storage** | $2,080.00 |
| 36 | Add - WL | **Optional Equipment – Work Lights** | $430.00 |
| 37 | N/A | **Included – Stainless Steel Hardware** | $0.00 |
| 38 | N/A | **Included – Stainless Steel Muffler** | $0.00 |
| 39 | N/A | **Included – Brakes** | $0.00 |
| 40 | N/A | **Included - 2-Year Warranty** | $0.00 |

PIONEER PUMP

# GREENLINE

**Pioneer Prime Diesel-Driven Centrifugal Pump**

# PP44S10L71-D2.9L-GL2

## PUMP SPECIFICATIONS

| | |
|---|---|
| Size | 4" x 4" (100 x 100 mm) |
| Max Flow | 1,600 gpm (370 $m^3$/h) |
| Max Head | 150 feet (50 meters) |
| Solids Size | 3" (76 mm) |

## ENGINE SPECIFICATIONS

| | |
|---|---|
| Engine Type | Deutz D2.9L, 4-Cylinder Diesel, Final Tier 4 |
| Displacement | 177 cu. in. (2.9 l) |
| Fuel Burn Rate (gph) | 1.95 gph (full load) |
| Continuous HP | 36 HP @ 1800 rpm |
| Safety Shut Down Switches | Low oil pressure, high temperature, and v-belt failure |
| Instrument Panel | Oil pressure gauge, ampmeter, hourmeter, and tachometer |

## ULTRAPRIME™ PRIMING SYSTEM

| | |
|---|---|
| Priming System | Mech. driven diaphragm-style vacuum pump |
| Air Removal Capability | 50 cfm |
| Priming Chamber | Positive sealing air separation PosiValve™ w/SS float ball & linkage |
| Discharge Check Valve | Swing style; ductile iron w/nitrile disc |
| Run Dry System | Oil-lubricated mech. seal allows pump to run completely dry w/o damage |

## FEATURES

- Indefinite run-dry capability
- Extreme flow technology
- Environmentally safe priming system with patented PosiValve™
- Auto-start controls
- Electric trailer brakes optional

## SPECIFICATIONS

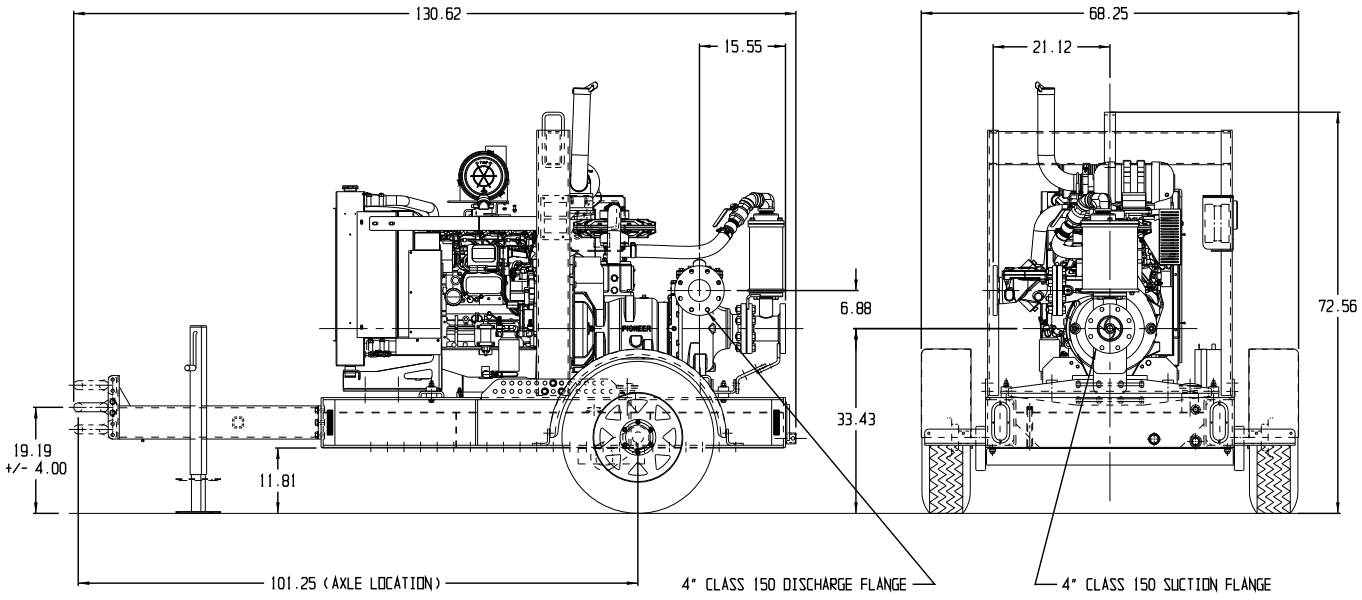
| | |
|---|---|
| Fuel Capacity | 75 gallons |
| Control Panel | Murphy MPC-10 |
| Dimensions (L x W x H) | 131 x 70 x 73 |
| Runtime (hours) | 38.5 hours |
| Other Specifications | Vibration isolated, lifting bail, leak-proof diesel cap, analog fuel gauge, tank clean-out, drip pan drain |
| SAE | SAE engine-mount bracket options available |

## MATERIALS OF CONSTRUCTION

| **Material** | **Standard Construction** |
|---|---|
| Impeller | CA6NM SS |
| Shaft | 17-4 PH |
| Wear Ring | Gray Iron |
| Suction Cover | Ductile Iron |
| Volute | Ductile Iron |
| Brac-Plate/Bracket | Ductile Iron |
| Mechanical Seal | Tungsten vs. Silicon Carbide |

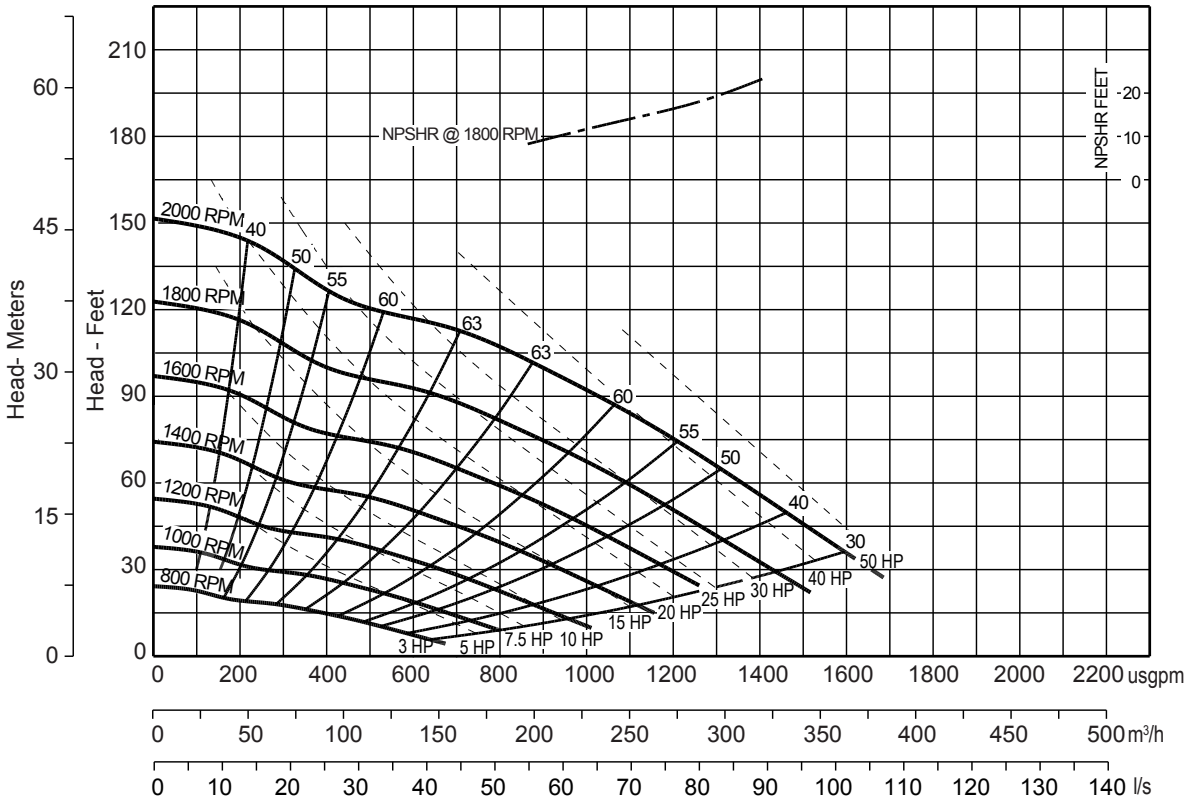
Franklin Electric

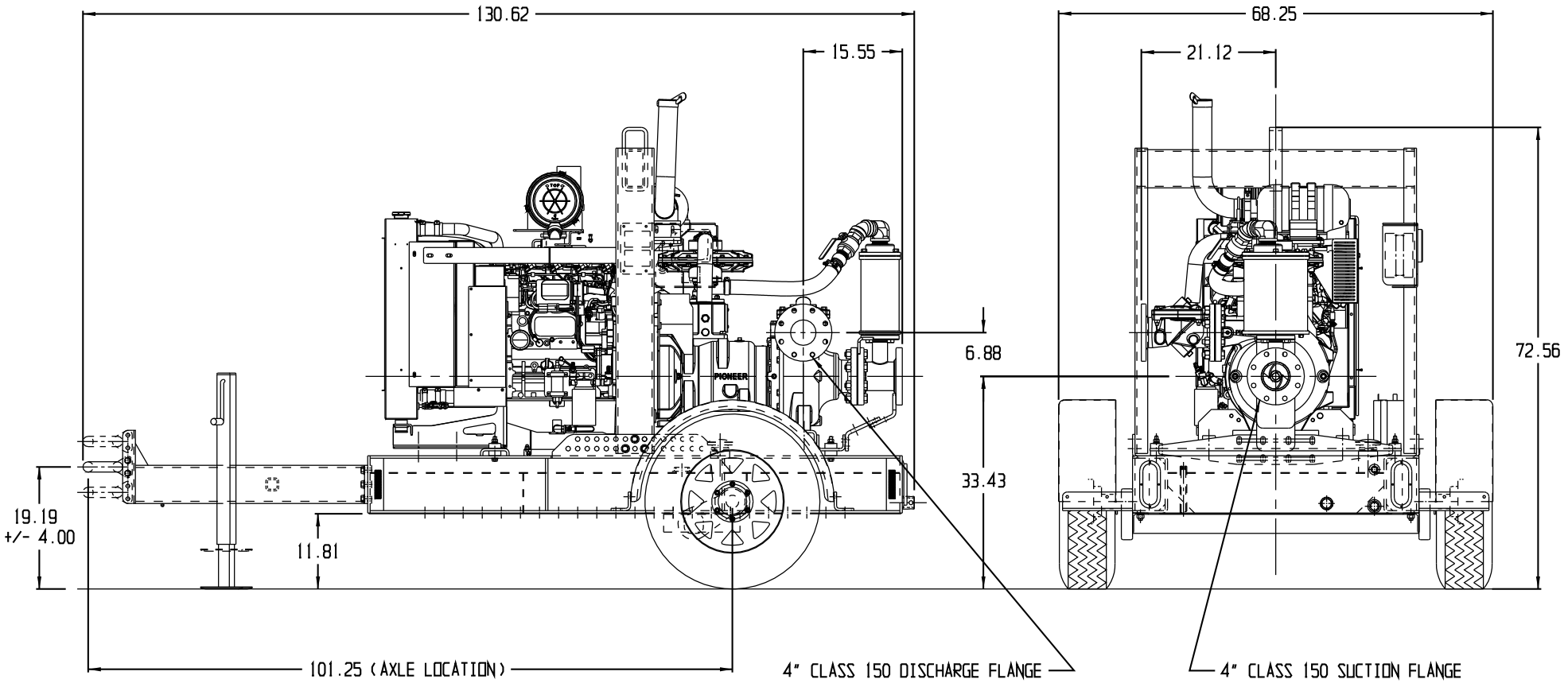
## MECHANICAL DIMENSIONS




## PERFORMANCE CURVE

Model: PP44S10 Impeller Dia: 10" Solids Size: 3" Curve #07903HQ

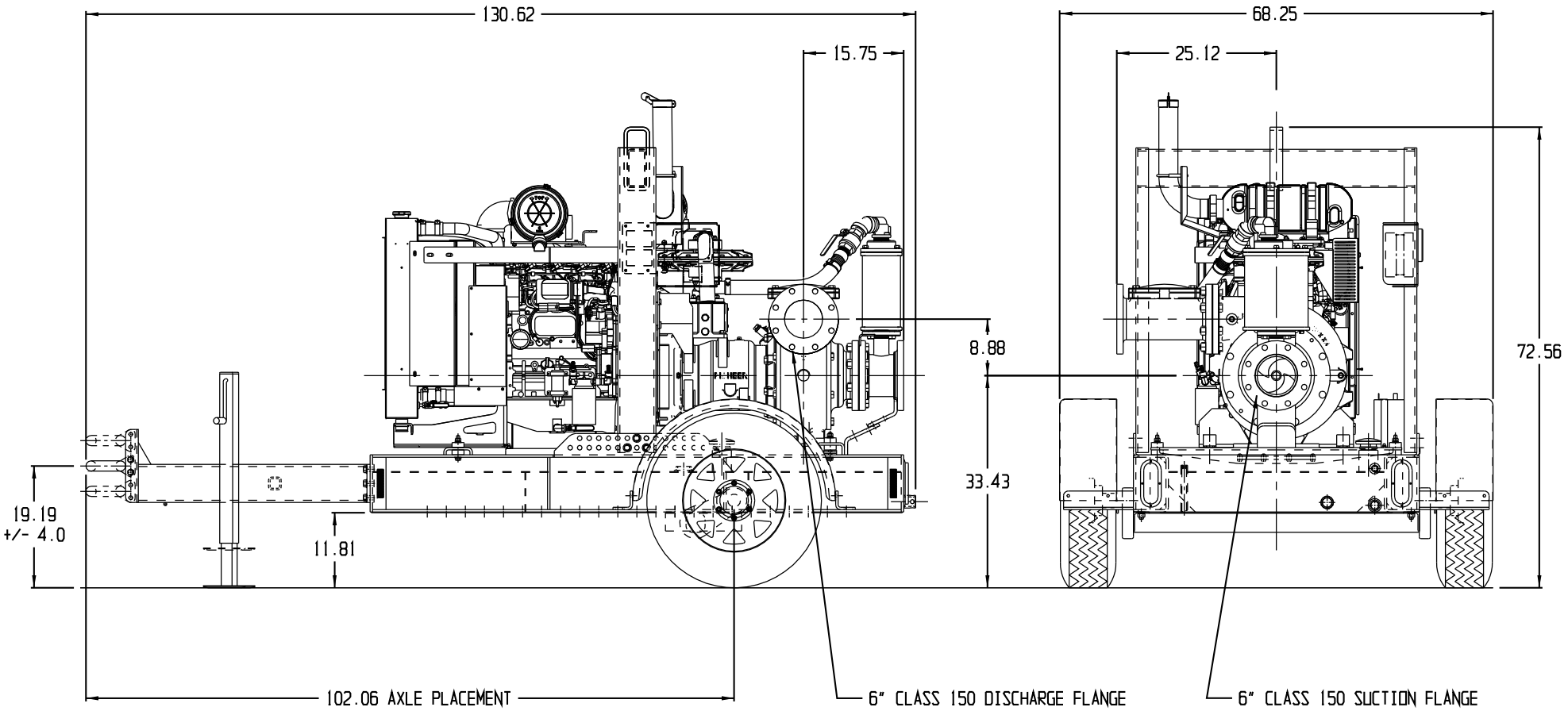





PIONEERPUMP
PERFORMANCE THROUGH INNOVATION™

# MODEL: PP44S10-D2.9L4-GL2 TRAILER

DWG NO. 17528A
REVISION: 000
DRAWN BY: MG
DATE: 05/05/2017




PIONEERPUMP
PERFORMANCE THROUGH INNOVATION™

# MODEL: PP66S12-TD2.9L4-GL2 TRAILER

DWG NO. 17521A
REVISION: 000
DRAWN BY: MG
DATE: 05/03/2017

PIONEER PUMP

# GL SERIES

**Pioneer Prime Diesel-Driven Centrifugal Pump**

# PP66S12L71-TD2.9-GL2

The Pioneer Pump® GL Series pump packages move large volumes of water in nearly any rugged industrial, municipal, agricultural, mining, dewatering, or rental application. The patented, environmentally safe vac-assist priming system with PosiValve™ evacuates air faster to accelerate and simplify priming, while efficient tank sizes provide up to 30 hours of runtime at full load. Engineered for modularity, the GL Series is available in skid or trailer configurations with a variety of build options to fit each application, and is fully Tier IV ready with the flexibility to offer multiple engine options.

## PUMP SPECIFICATIONS

| | |
|---|---|
| Size | 6" x 6" (150 x 150 mm) |
| Max Flow | 3,200 gpm (730 $m^3$/h) |
| Max Head | 130 feet (40 meters) |
| Solids Size | 3" (76 mm) |

## ENGINE SPECIFICATIONS

| | |
|---|---|
| Engine Type | Deutz TD2.9L, 4-Cylinder Diesel, Final Tier 4 |
| Displacement | 177 cu. in. (2.9 l) |
| Fuel Consumption | 3.67 gph (13.9 l/h) @ 1800 rpm (full load) |
| Continuous HP | 58 HP @ 1800 rpm |
| Safety Features | Low oil press., high temp., v-belt failure |
| Instrument Panel | Oil pressure gauge, ampmeter, hourmeter, tachometer |

## PRIME VAC-ASSIST PRIMING SYSTEM

| | |
|---|---|
| Priming System | Mechanically driven vacuum pump |
| Air Removal Cap. | 50 cfm |
| Priming Chamber | Air separation PosiValve™ w/SS components |
| Discharge Check Valve | Ductile iron body; swing flex nitrile rubber flapper |
| Run Dry System | Oil reservoir for mechanical seal; indefinite run-dry capability |

## FEATURES

- Indefinite run-dry capability
- Extreme flow technology
- Environmentally safe priming system with patented PosiValve™
- Auto-start controls

## SPECIFICATIONS

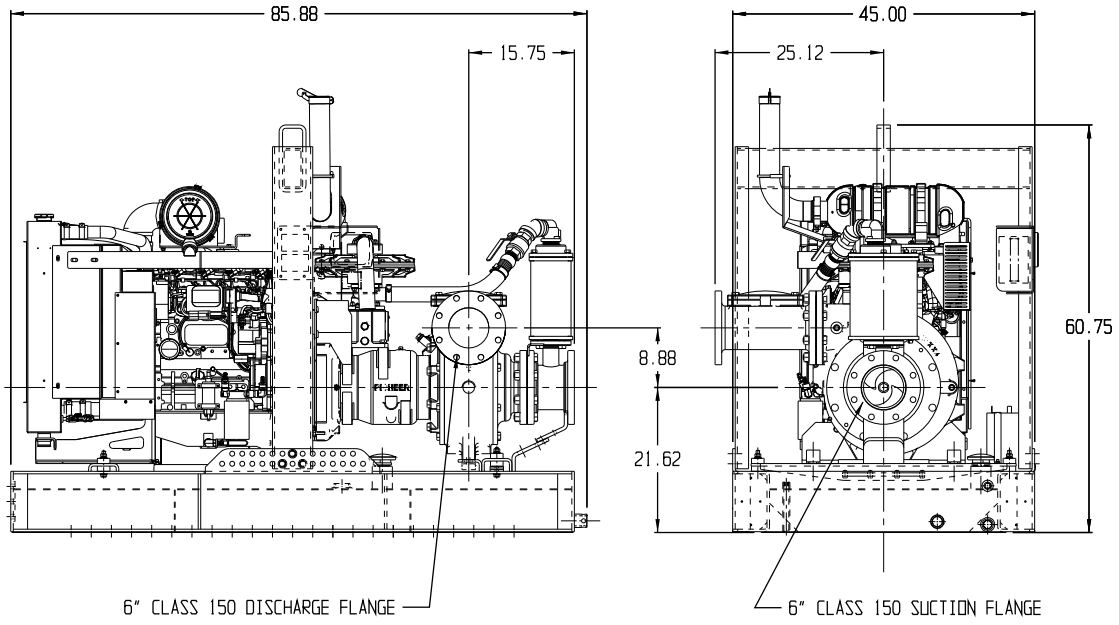
| | |
|---|---|
| Control Panel | Murphy MPC-10 |
| Dimensions (L x W x H) | 86 x 45 x 61 in. |
| Fuel Capacity | 75 U.S. gallons |
| Fuel Usage | 3.67 gph |
| Runtime | 20.4 hours (full load @ 1800 rpm) |
| Other Specifications | Vibration isolated, lifting bail, leak-proof diesel cap, analog fuel gauge, tank clean-out, drip pan drain |

## MATERIALS OF CONSTRUCTION

| **Material** | **Standard Construction** |
|---|---|
| Impeller | CA6NM SS |
| Shaft | 17-4 PH |
| Wear Ring | Gray Iron |
| Suction Cover | Ductile Iron |
| Volute | Ductile Iron |
| Brac-Plate/Bracket | Ductile Iron |
| Mechanical Seal | Tungsten vs. Silicon Carbide |
| O-rings | FKM |

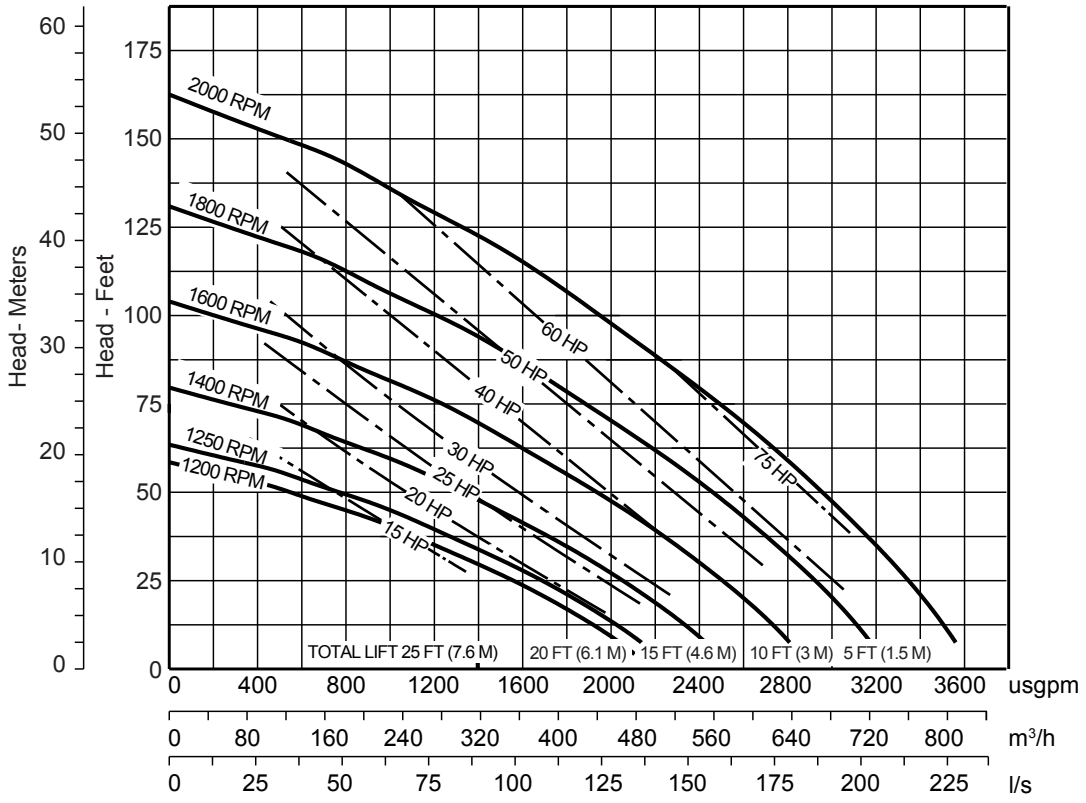
Franklin Electric

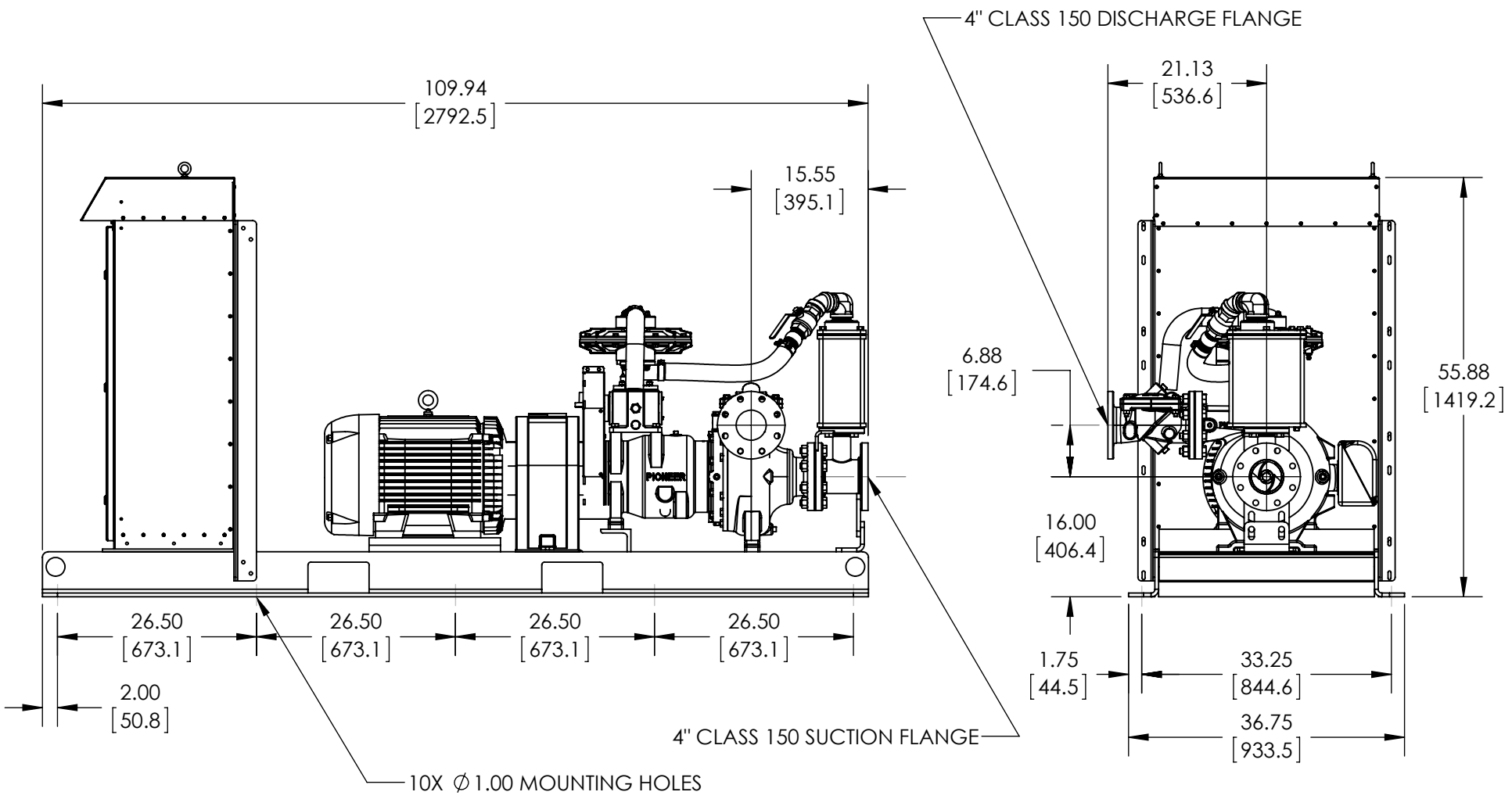
## MECHANICAL DIMENSIONS




## PERFORMANCE CURVE

Model: PP66S12 | Impeller Dia: 11" | Solids Size: 3" | Curve #A928HQ






DIMENSIONS ARE IN INCHES AND [MILLIMETERES]. UNLESS OTHERWISE SPECIFIED, TOLERANCES ARE ±0.125 [3.2]

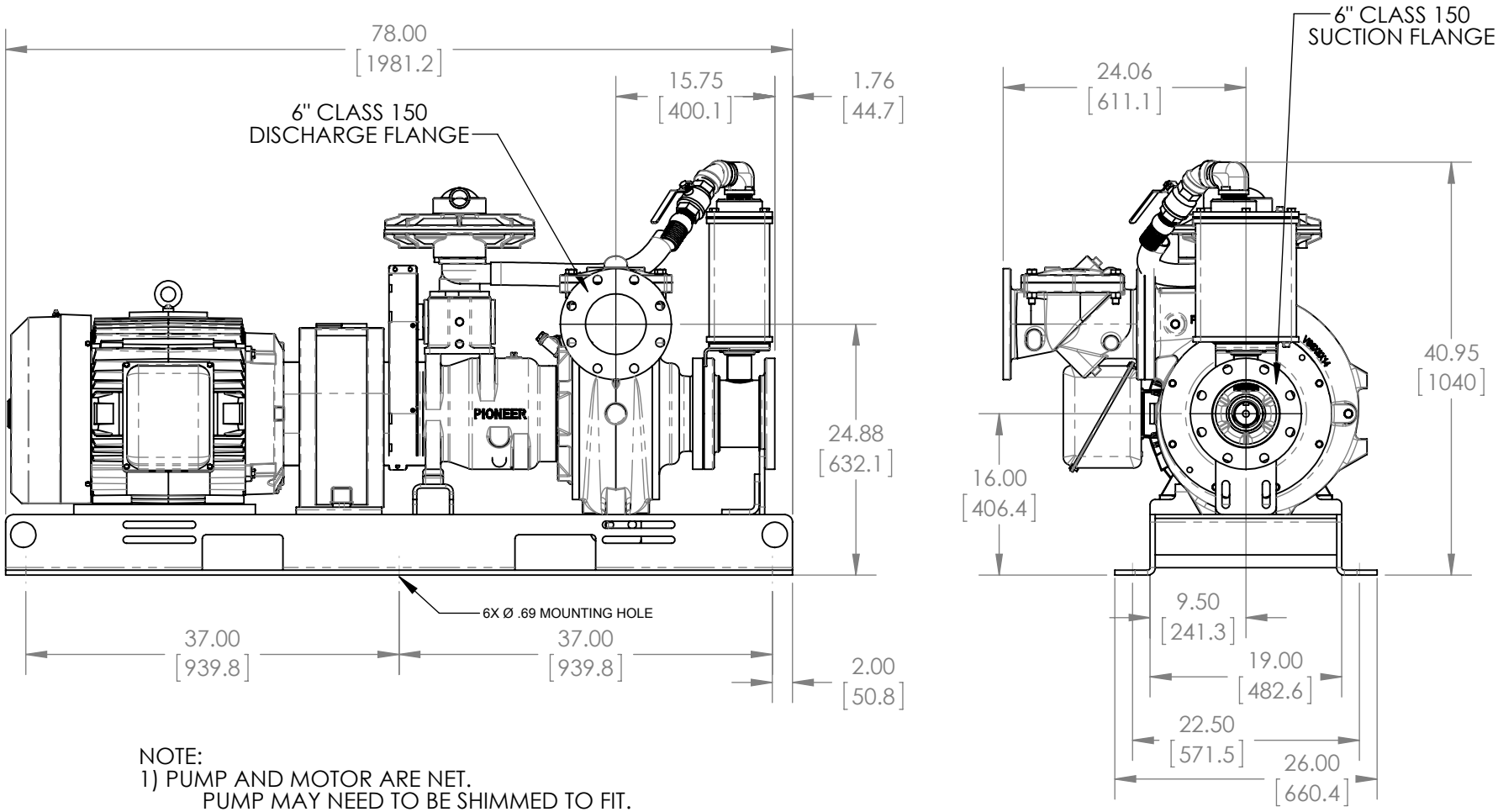


PIONEER PUMP
PERFORMANCE THROUGH INNOVATION™

TITLE:
DIM PAGE, PP44S10L71-HO-50-4 BCG 326T THD W/VFD

| | | | | | |
|---|---|---|---|---|---|
| WEIGHT: | NAME | DATE | SIZE | DWG. NO. | REV. |
| DRAWN BY | DC | 7/7/2017 | A | 17741A | -.000 |
| CHECKED BY | EW | 7/10/2017 | SCALE: 1:24 | DO NOT SCALE DRAWING | SHEET 1 OF 1 |

5 4 3 2 1




NOTE:
1) PUMP AND MOTOR ARE NET.
PUMP MAY NEED TO BE SHIMMED TO FIT.

DIMENSIONS ARE IN INCHES AND [MILLIMETERES]. UNLESS OTHERWISE SPECIFIED, TOLERANCES ARE ±0.125 [3.2]

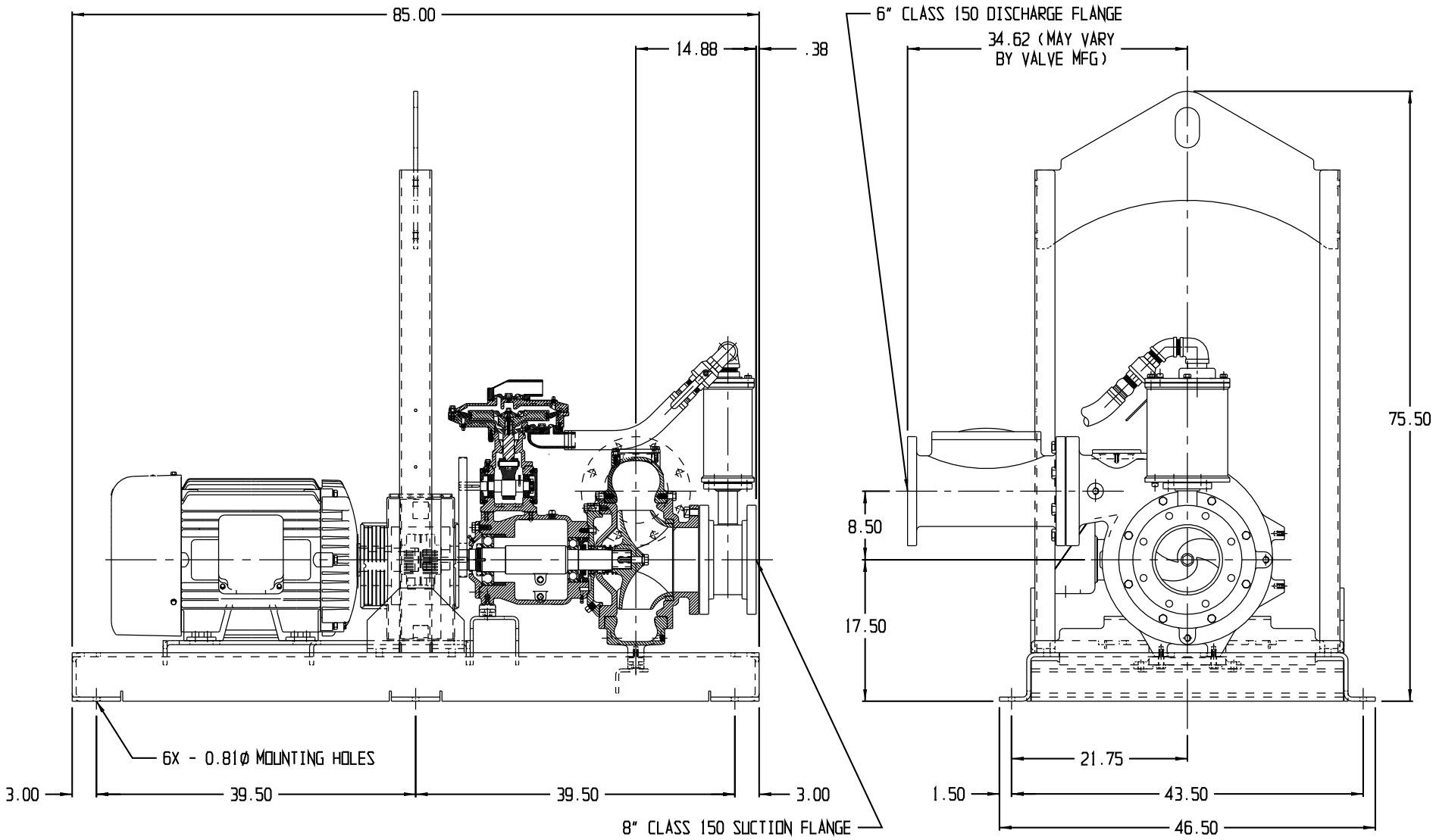
TITLE:
DIM. PAGE PP66S12L71-HO BCG, 364T



PIONEER PUMP
PERFORMANCE THROUGH INNOVATION™

| | NAME | DATE | SIZE | DWG. NO. | REV. |
|---|---|---|---|---|---|
| WEIGHT: | | | A | 19308A | -.000 |
| DRAWN BY | JLE | 11/19/18 | | | |
| CHECKED BY | PPC | 11/19/18 | SCALE: 1:16 | DO NOT SCALE DRAWING | SHEET 1 OF 1 |

5 4 3 2 1

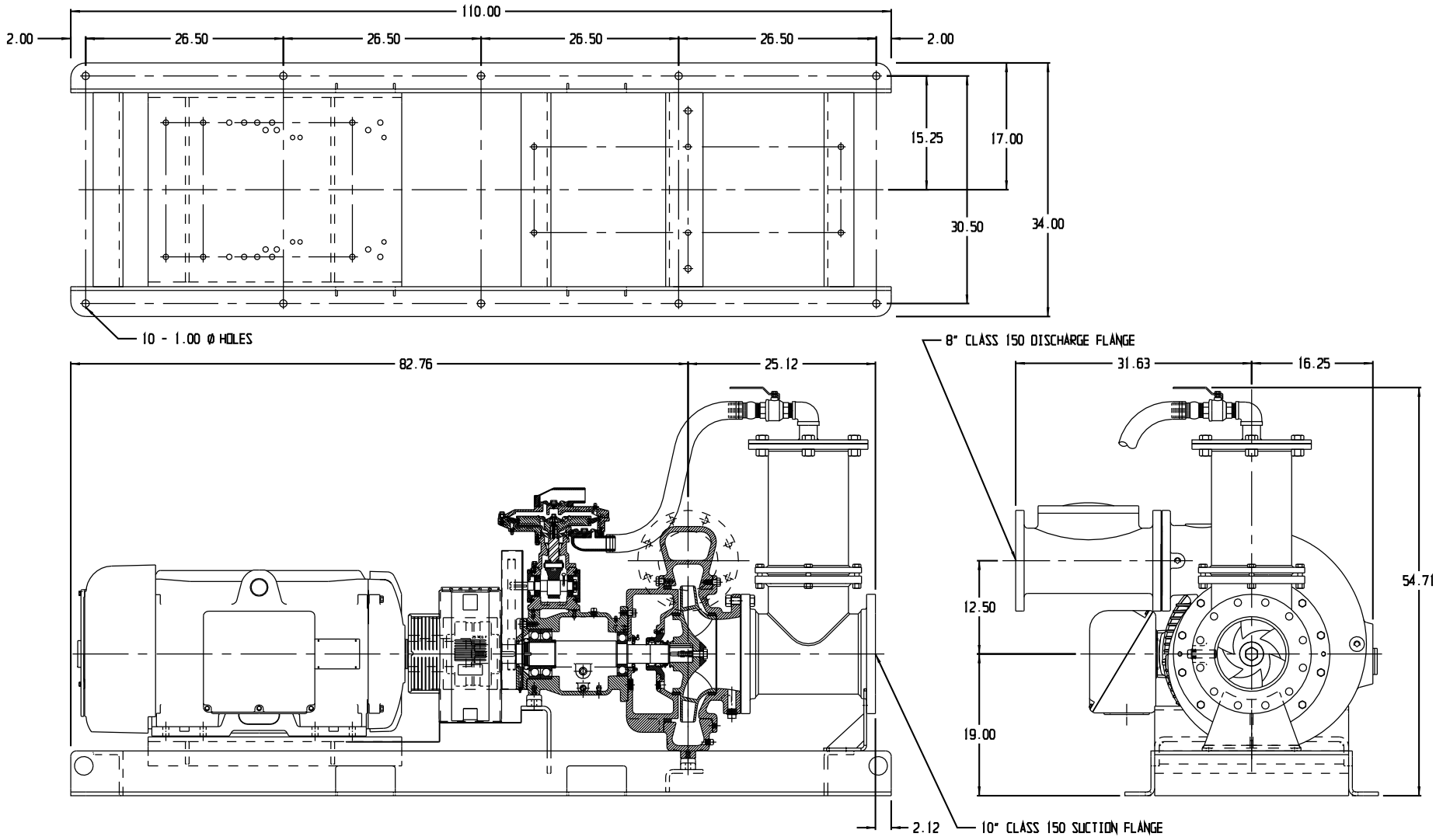



PIONEERPUMP
PERFORMANCE THROUGH INNOVATION™

MODEL: PP88S12-BH8.5-404/5T FRAME BCG

REFERENCE:

DWG NO. 15238A
REVISION: 000
DRAWN BY: JAW
DATE: 04/23/2015

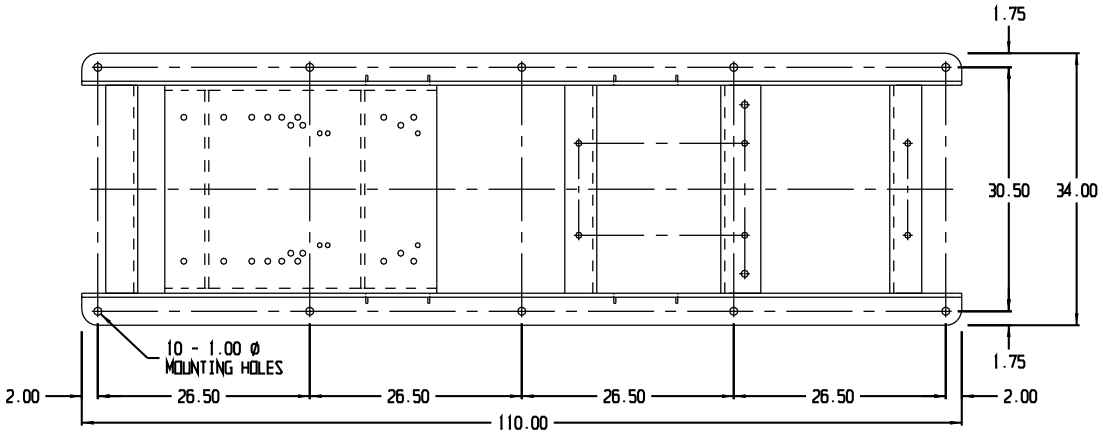


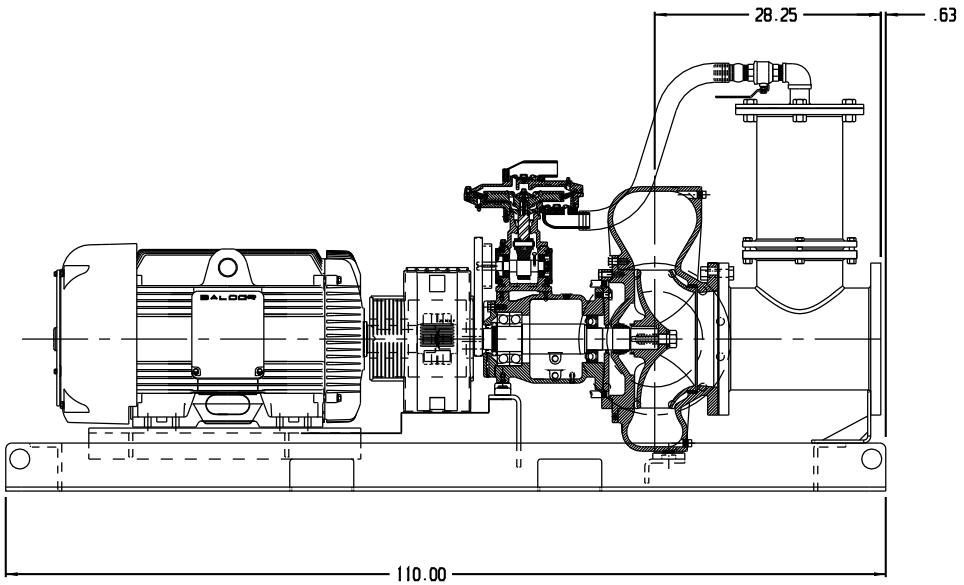

PIONEERPUMP
PERFORMANCE THROUGH INNOVATION™

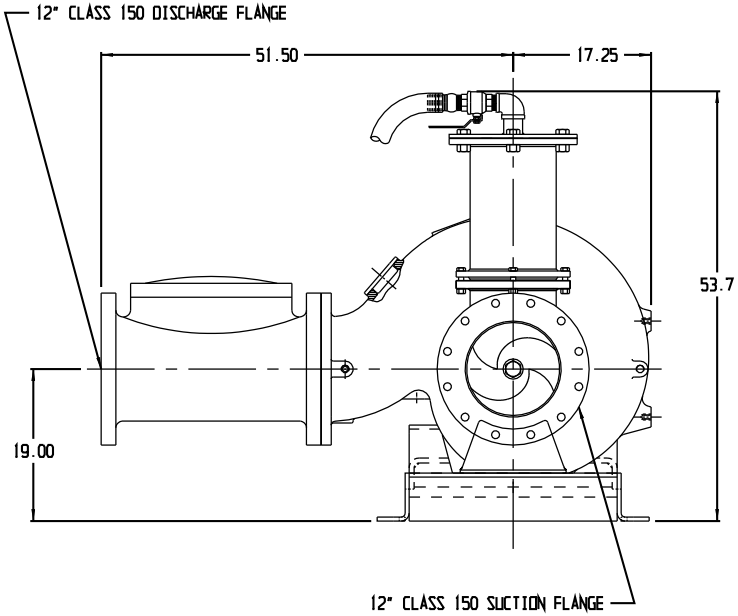
MODEL: PP108C18-BH12.5-447/9T, BCG, THD

REFERENCE:

DWG NO. 08495A
REVISION: 002
DRAWN BY: JAW
DATE: 09/26/2012



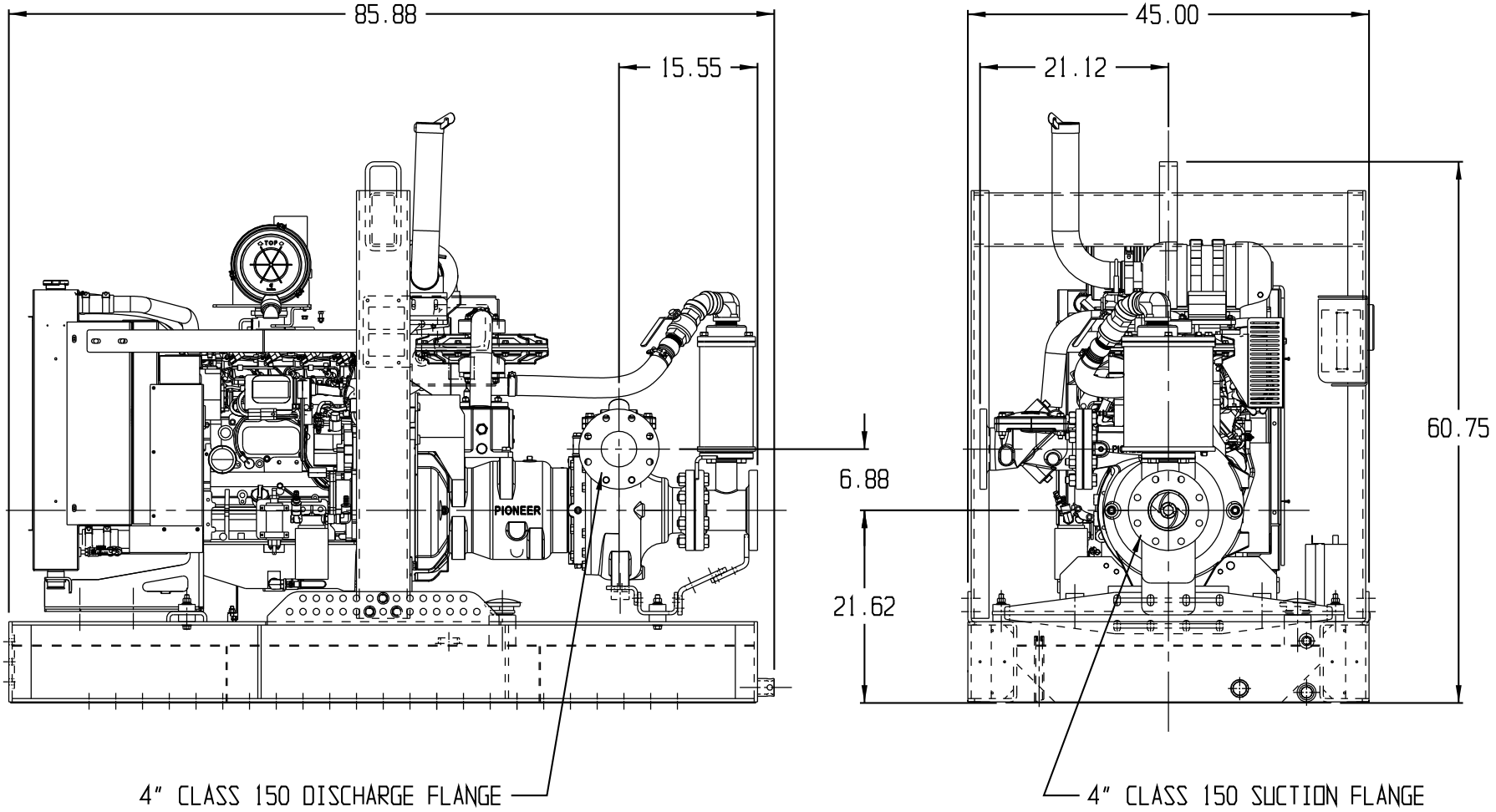




PIONEERPUMP
PERFORMANCE THROUGH INNOVATION™

MODEL: PP1212S17-BH12.5-447T, BCG

REFERENCE:

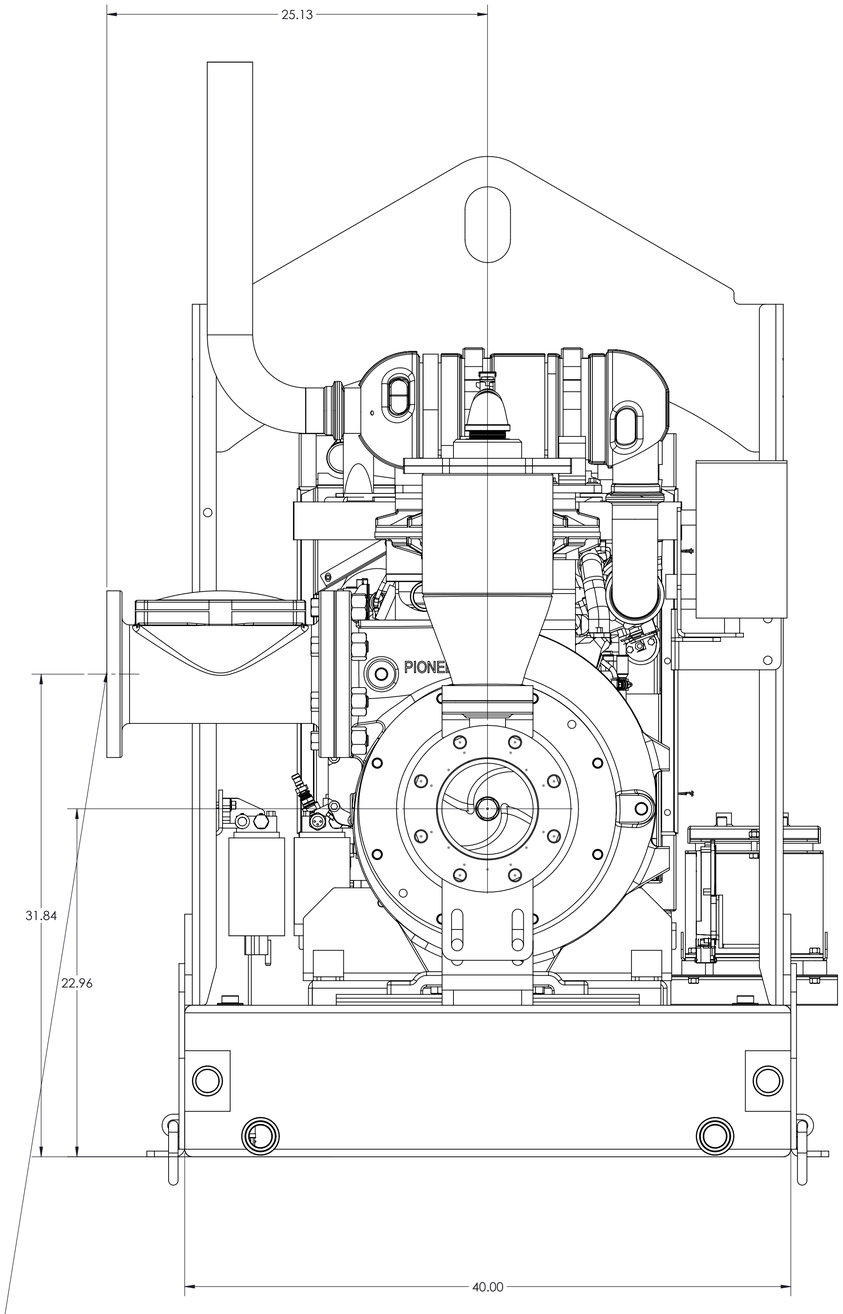
DWG NO. 10468A
REVISION: 001
DRAWN BY: JAW
DATE: 07/09/2014

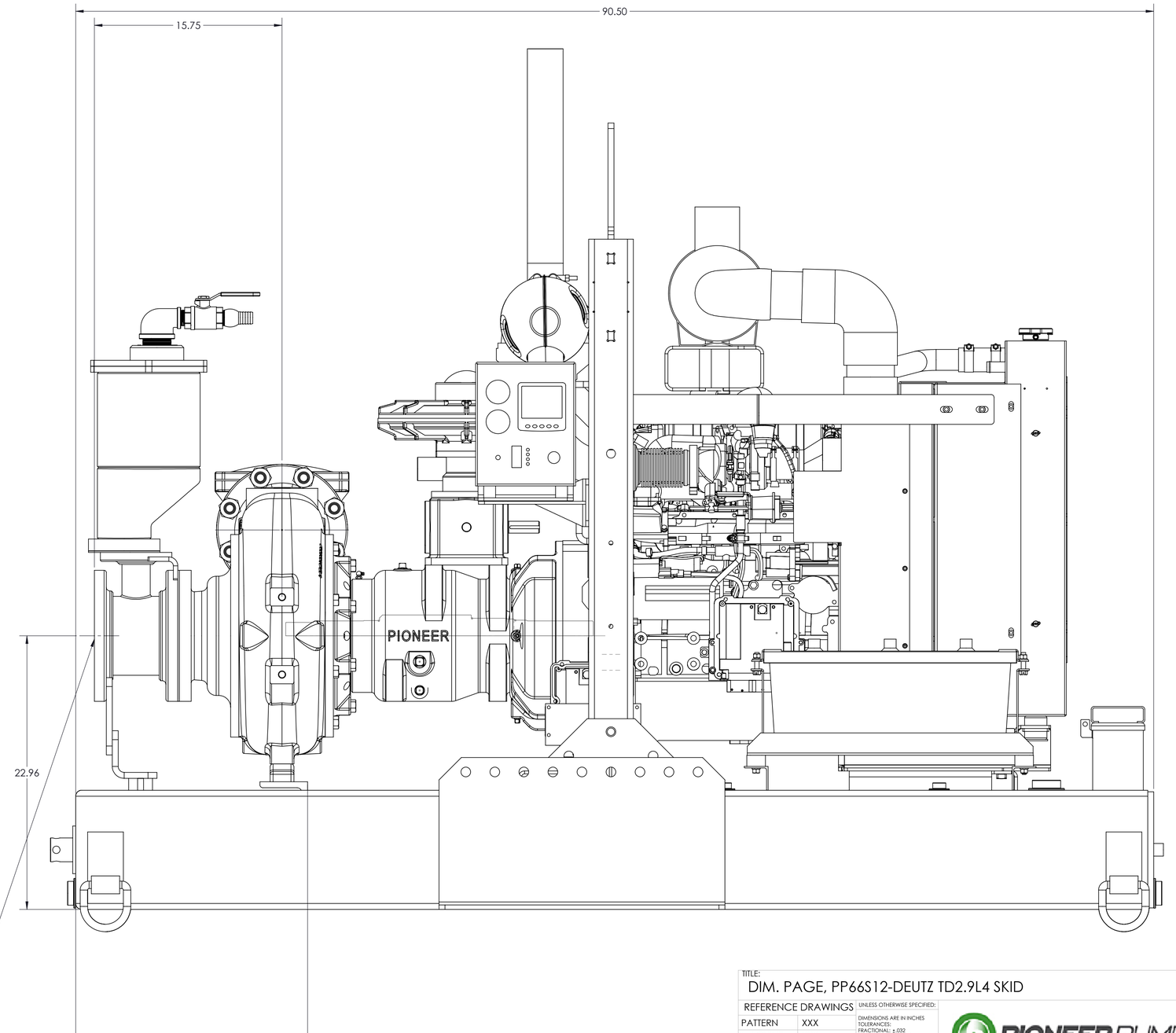



PIONEERPUMP
PERFORMANCE THROUGH INNOVATION™

MODEL: PP44S10-D2.9L4-GL2 SKID

DWG NO. 17529A
REVISION: 000
DRAWN BY: MG
DATE: 05/05/2017




TITLE:
# DIM. PAGE, PP66S12-DEUTZ TD2.9L4 SKID

| REFERENCE DRAWINGS | |
|---|---|
| PATTERN | XXX |
| MACHINE | XXX |
| HYDRAULIC | XXX |
| PATTERN NO. | XXX |
| MATERIAL | |
| FINISH | |

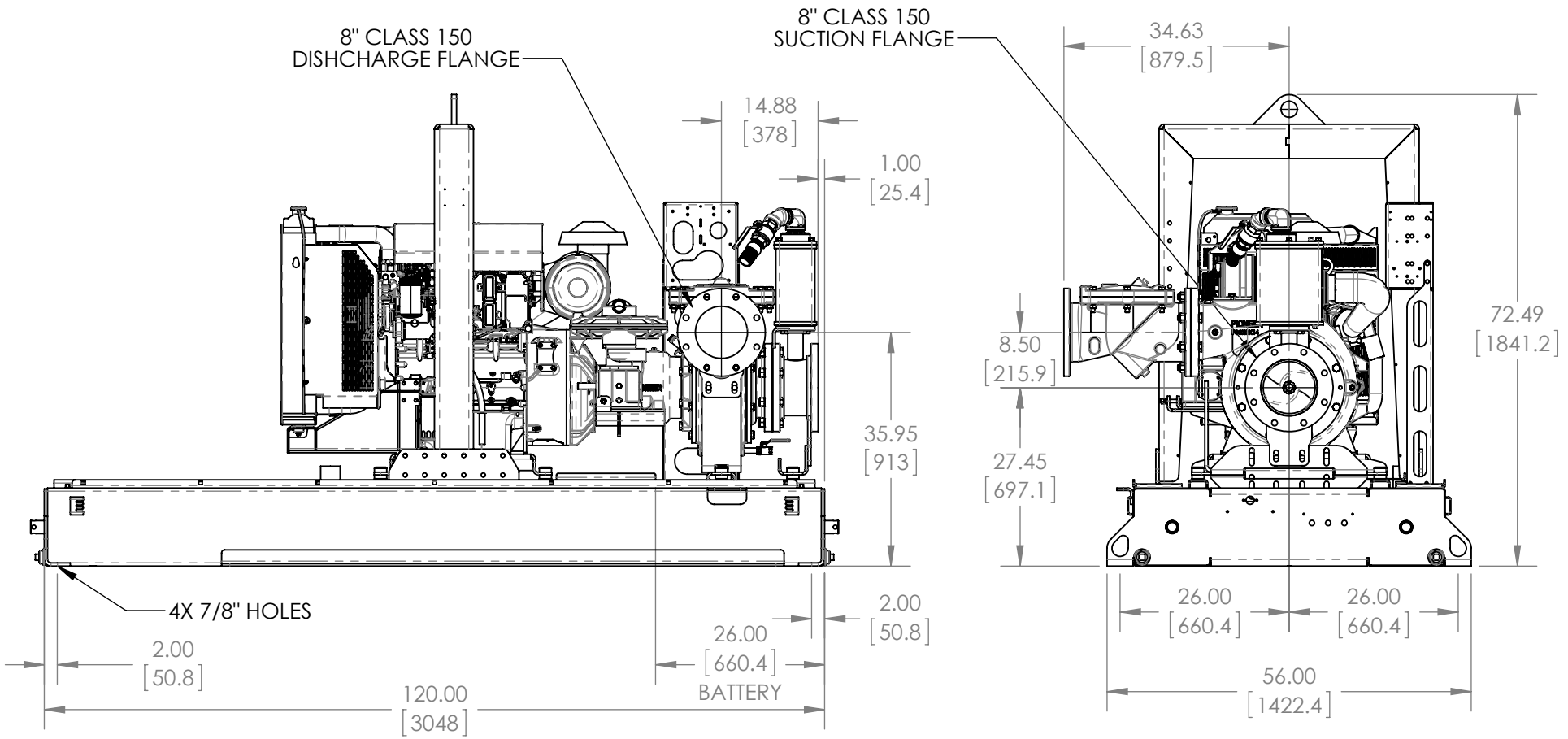
UNLESS OTHERWISE SPECIFIED:

DIMENSIONS ARE IN INCHES
TOLERANCES:
FRACTIONAL: ± .032
ANGULAR: MACH ± 1°
ONE PLACE DECIMAL: ± .030
TWO PLACE DECIMAL: ± .010
THREE PLACE DECIMAL: ± .003
INTERPRET GEOMETRIC TOLERANCING PER: ASME Y14.5
BREAK ALL CORNERS 0.015 x 45° UNLESS SPECIFICALLY DIMENSIONED OTHERWISE

DO NOT SCALE DRAWING

PIONEER PUMP
PERFORMANCE THROUGH INNOVATION™

| | NAME | DATE | SIZE | DWG. NO. | REV. |
|---|---|---|---|---|---|
| DRAWN BY | DMG | 10/30/2014 | D | 14707A | -.000 |
| CHECKED BY | XXX | xx-xx-xx | SCALE: 1:5 | WEIGHT: | SHEET 1 OF 1 |




DIMENSIONS ARE IN INCHES AND [MILLIMETERES]. UNLESS OTHERWISE SPECIFIED, TOLERANCES ARE ±0.125 [3.2]

TITLE:
DIM. PAGE PPSK88S12-1104D-E44TA UP3 FUEL SKID



PIONEER PUMP
PERFORMANCE THROUGH INNOVATION™

| | | | | | |
|---|---|---|---|---|---|
| WEIGHT: | NAME | DATE | SIZE | DWG. NO. | REV. |
| DRAWN BY | JLE | 5/8/18 | A | 18869A | -.000 |
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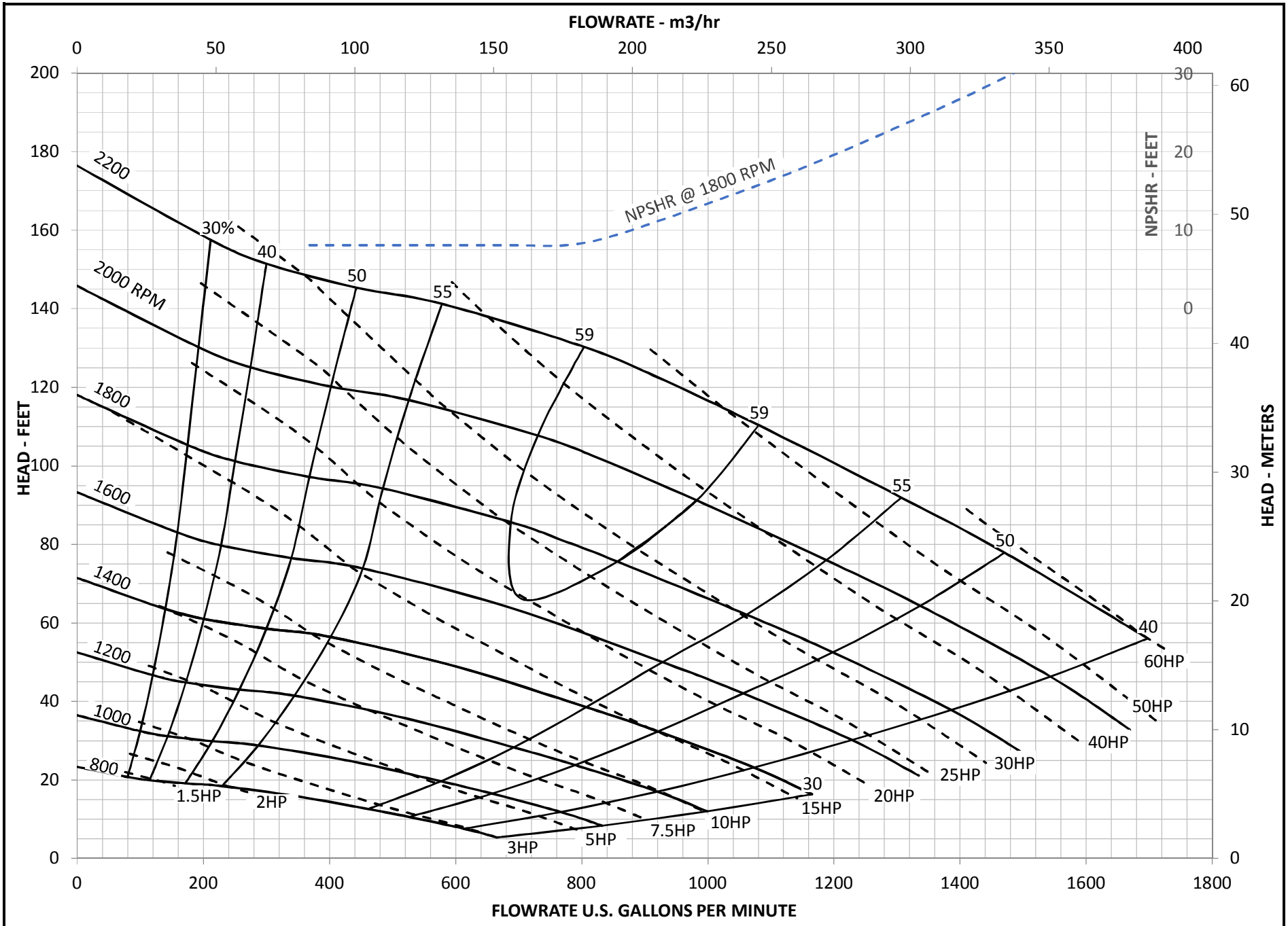
5 4 3 2 1




| | | | |
|---|---|---|---|
| MODEL: | PP44S10 | | SPECIFIC GRAVITY 1.0 |
| SIZE: | 4" x 4" | 100mm x 100mm | DRWG NO. PP44S10-VS-10 |
| IMPELLER DIAMETER: | 10.00" | 254 mm | REVISION 000 |
| SOLIDS HANDLING SIZE: | 3.0" | 75 mm | DATE 3 Apr 2017 |

PIONEER PUMP
PERFORMANCE THROUGH INNOVATION™

PIONEER PUMP
PERFORMANCE THROUGH INNOVATION™

Pioneer Prime

# PP44S10L71

*Typical Pump Configuration*

## Performance

### Pioneer Prime series - vacuum assisted, end suction centrifugal pump

Bare shaft, frame mounted, fully automatic dry priming, vacuum assisted, run dry, heavy duty solids handling pump

| | |
|---|---|
| Size | 4" x 4"<br>100 x 100 mm |
| Flow, Max | 1,700 USgpm<br>390 $m^3/h$<br>110 l/s |
| Head, Max | 150 feet<br>50 meters |
| Flow at BEP | 800 USgpm<br>180 $m^3/h$<br>50 l/s |
| Efficiency at BEP | 63% |
| Solids Handling, Max | 3.0"<br>76 mm |
| Operating Speed, Max | 2000 rpm |
| Suction Connection | 4" (100 mm)<br>150 ANSI Flanges |
| Delivery Connection | 4" (100 mm)<br>150 ANSI Flanges |
| Bearing Lubrication | Oil STD<br>Grease optional |
| Fasteners | Imperial |

## Applications

| | |
|---|---|
| Construction | Waste Water |
| Industrial | Power Generation |
| Mining | Environmental |

PosiValve™ Patent #6,783,730

### High flow, solids handling heavy duty pump

The PP44S10 is a high flow, ruggedized pump designed to operate over a broad range of performance while delivering outstanding suction lift. The rugged construction and modular design provide proven reliability and flexibility in the most demanding applications.

## UltraPrime™ Priming System

| | |
|---|---|
| Priming System | Mechanically Driven Diaphragm Style Vacuum Pump |
| Air Removal Capability | 50 CFM |
| Priming Chamber | Single chamber with positive sealing air separation PosiValve™ with stainless steel float ball & linkage. |
| Discharge Check Valve | Swing Style - ductile iron with Buna-n Disc |

## Other Specifications

| | |
|---|---|
| Mechanical Seal | Single seal w/ tungsten carbide vs. silicon carbide seal faces, Viton® elastomers, 300 series stainless steel hardware and spring, designed for indefinite dry running |
| Pump End Bearing | Single Row Ball |
| Drive End Bearing | Single Row Ball |
| Shaft | 17-4 PH Stainless Steel |

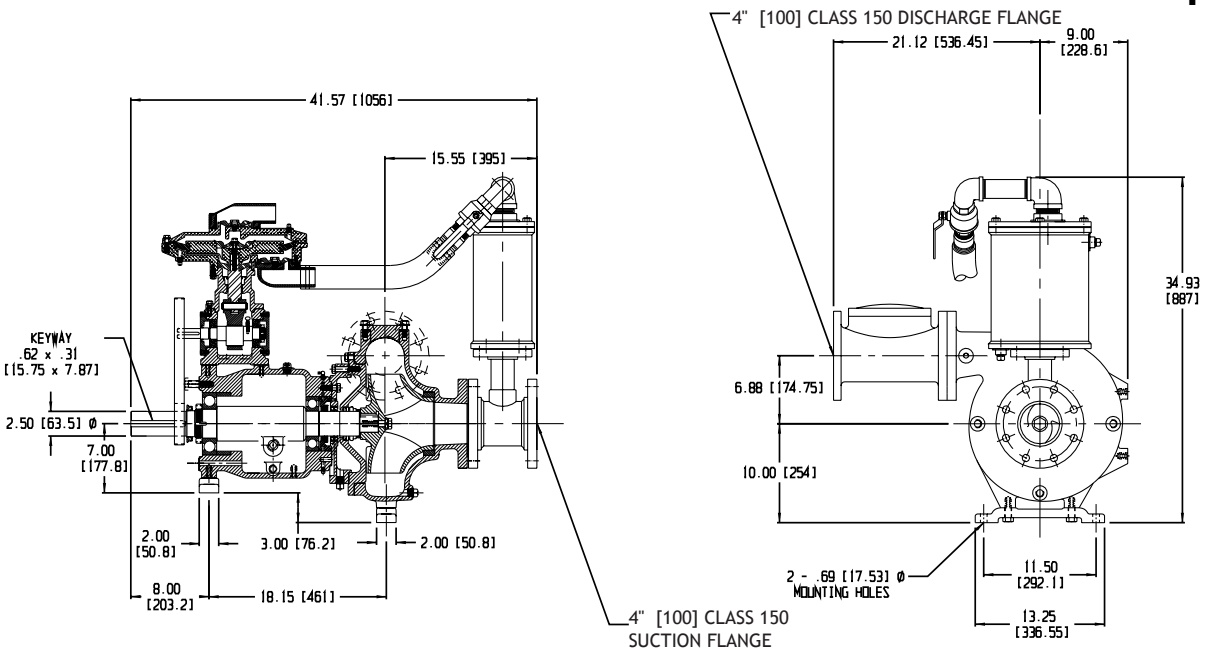
## Construction Materials

| | Standard Construction | CD4MCu Stainless Steel |
|---|---|---|
| Impeller | CA6NM SS | CD4MCu |
| Volute | Ductile Iron ASTM A536 65-45-12 | CD4MCu |
| Wear Ring | ASTM A48 Class 40 Gray Iron | 316 SS |
| Suction Cover | Ductile Iron ASTM A536 65-45-12 | CD4MCu |
| Bracket | Ductile Iron ASTM A536 65-45-12 | CD4MCu |
| Backplate | Ductile Iron ASTM A536 65-45-12 | CD4MCu |

## Mechanical Dimensions

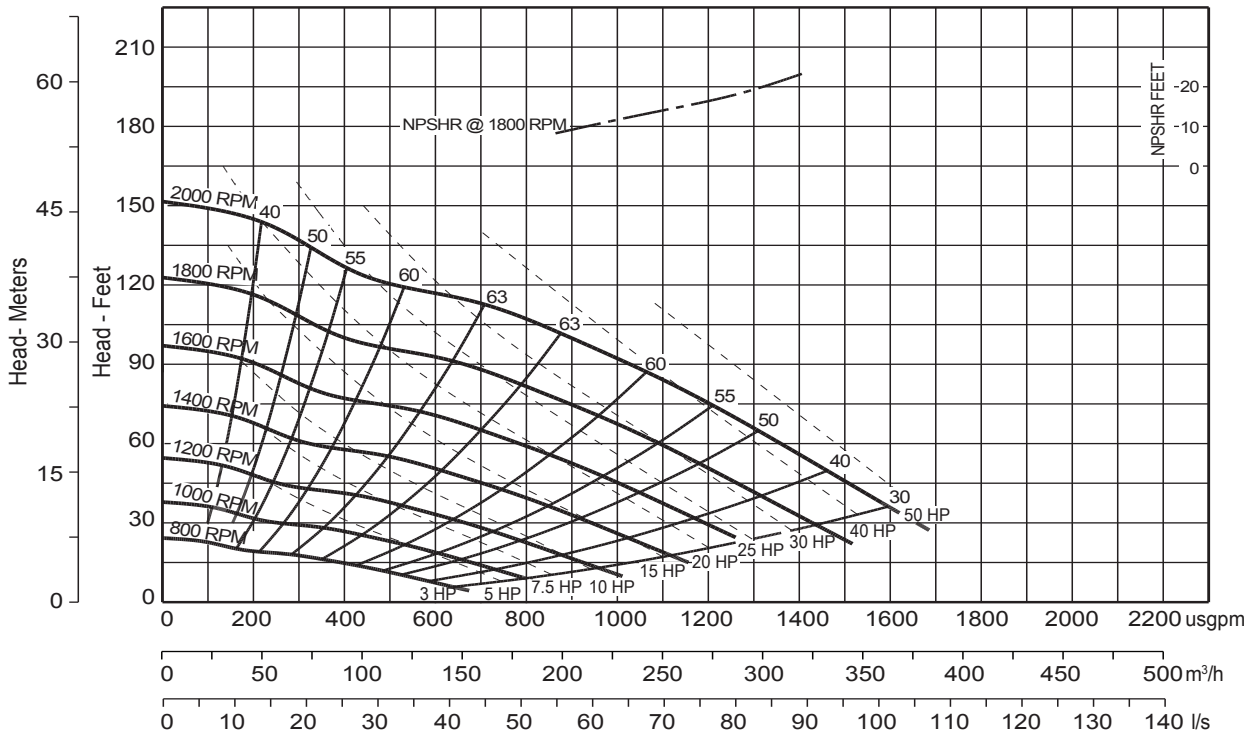
*Typical Pump Configuration*

**PP44S10**

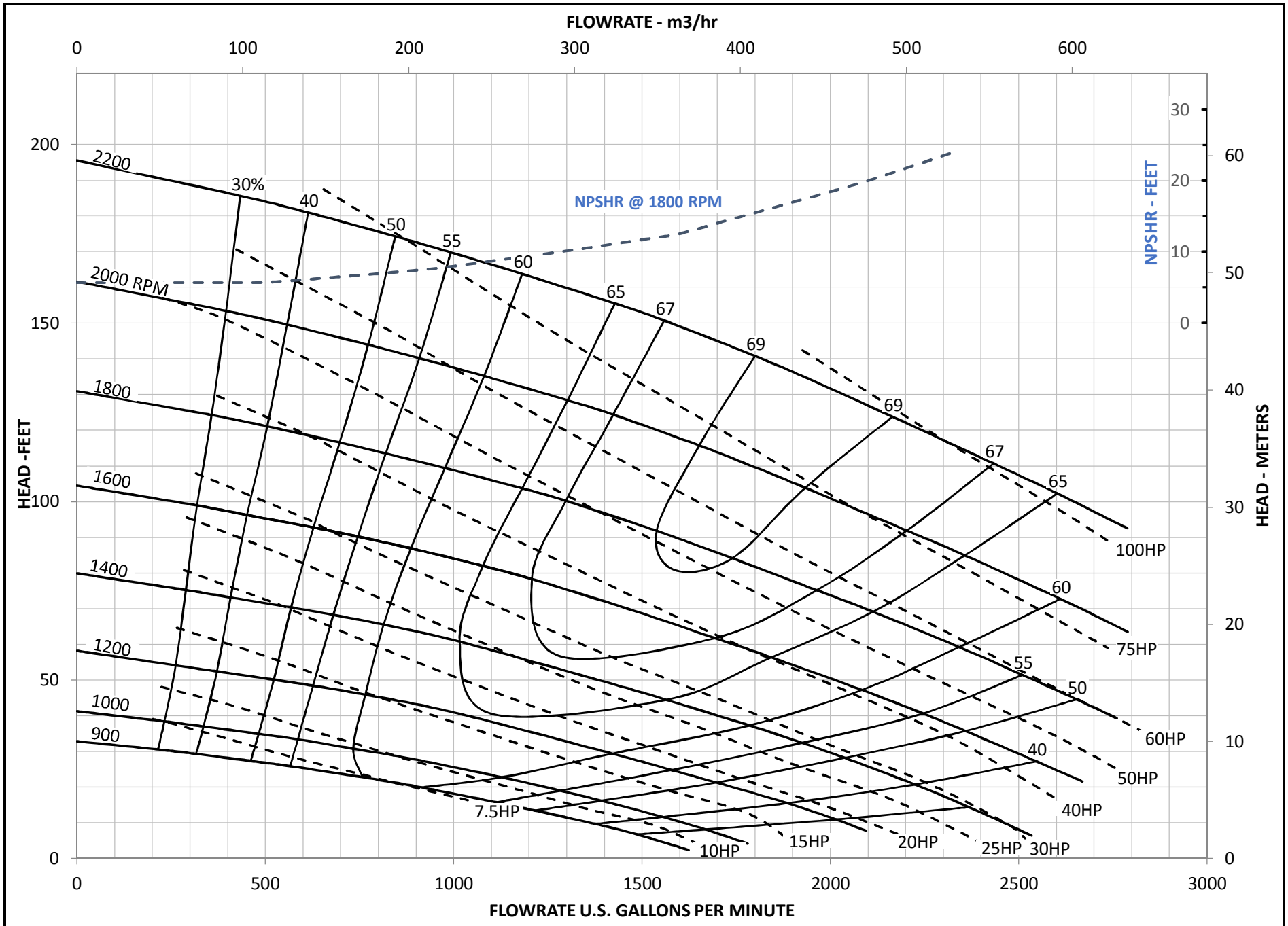



## Performance Curve

| Model: PP44S10 | Impeller Dia: 10" | Speed: Variable | Solids Size: 3.0" | Curve #07903HQ |
|---|---|---|---|---|




Note: Losses from priming system not shown




PIONEER PUMP
PERFORMANCE THROUGH INNOVATION™

| | | | |
|---|---|---|---|
| MODEL: | PP66S12 | | SPECIFIC GRAVITY 1.0 |
| SIZE: | 6" x 6" | 150mm x 150mm | DRWG NO. PP66S12-VS-11 |
| IMPELLER DIAM: | 11.00" | 279mm | REVISION 000 |
| SOLIDS HANDLING SIZE: | 3" | 75mm | DATE 7 June, 2017 |

PIONEER PUMP
PERFORMANCE THROUGH INNOVATION™

Pioneer Prime

# PP66S12L71

*Typical Pump Configuration*

## Performance

### Pioneer Prime series - vacuum assisted, end suction centrifugal pump

Bare shaft, frame mounted, fully automatic dry priming, vacuum assisted, run dry, heavy duty solids handling pump

| | |
|---|---|
| Size | 6" x 6"<br>150 x 150 mm |
| Flow, Max | 3,700 USgpm<br>840 $m^3/h$<br>230 l/s |
| Head, Max | 270 feet<br>80 meters |
| Flow at BEP | 2,200 USgpm<br>510 $m^3/h$<br>140 l/s |
| Efficiency at BEP | 81% |
| Solids Handling, Max | 3.0"<br>76 mm |
| Operating Speed, Max | 2200 rpm |
| Suction Connection | 6" (150 mm)<br>150 ANSI Flanges |
| Delivery Connection | 6" (150 mm)<br>150 ANSI Flanges |
| Bearing Lubrication | Oil STD<br>Grease optional |
| Fasteners | Imperial |

## Applications

| | |
|---|---|
| Construction | Waste Water |
| Industrial | Power Generation |
| Mining | Environmental |

PosiValve™ Patent #6,783,730

### High flow, solids handling heavy duty pump

The PP66S12 is a high flow, ruggedized pump designed to operate over a broad range of performance while delivering outstanding suction lift. The rugged construction and modular design provide proven reliability and flexibility in the most demanding applications.

## UltraPrime™ Priming System

| | |
|---|---|
| Priming System | Mechanically Driven Diaphragm Style Vacuum Pump |
| Air Removal Capability | 50 CFM |
| Priming Chamber | Single chamber with positive sealing air separation PosiValve™ with stainless steel float ball & linkage. |
| Discharge Check Valve | Swing Style - ductile iron with Buna-n Disc |

## Other Specifications

| | |
|---|---|
| Mechanical Seal | Single seal w/ tungsten carbide vs. silicon carbide seal faces, Viton® elastomers, 300 series stainless steel hardware and spring, designed for indefinite dry running |
| Pump End Bearing | Single Row Ball |
| Drive End Bearing | Single Row Ball |
| Shaft | 17-4 PH Stainless Steel |

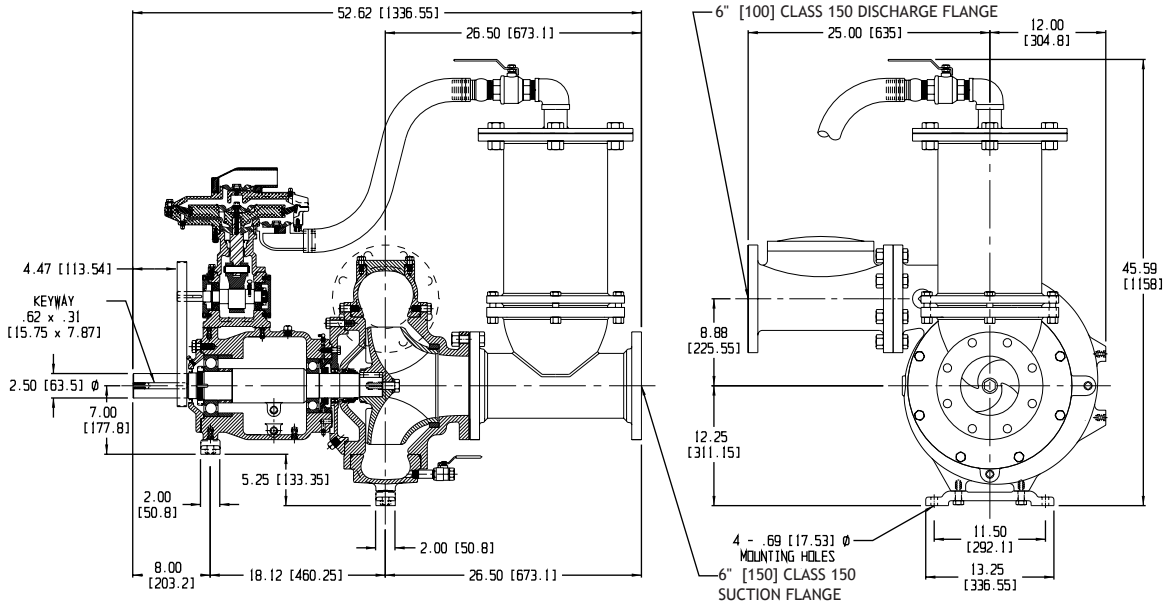
## Construction Materials

| | Standard Construction | CD4MCu Stainless Steel |
|---|---|---|
| Impeller | CA6NM SS | CD4MCu |
| Volute | Ductile Iron ASTM A536 65-45-12 | CD4MCu |
| Wear Ring | ASTM A48 Class 40 Gray Iron | 316 SS |
| Suction Cover | Ductile Iron ASTM A536 65-45-12 | CD4MCu |
| Bracket | Ductile Iron ASTM A536 65-45-12 | CD4MCu |
| Backplate | Ductile Iron ASTM A536 65-45-12 | CD4MCu |

# Mechanical Dimensions

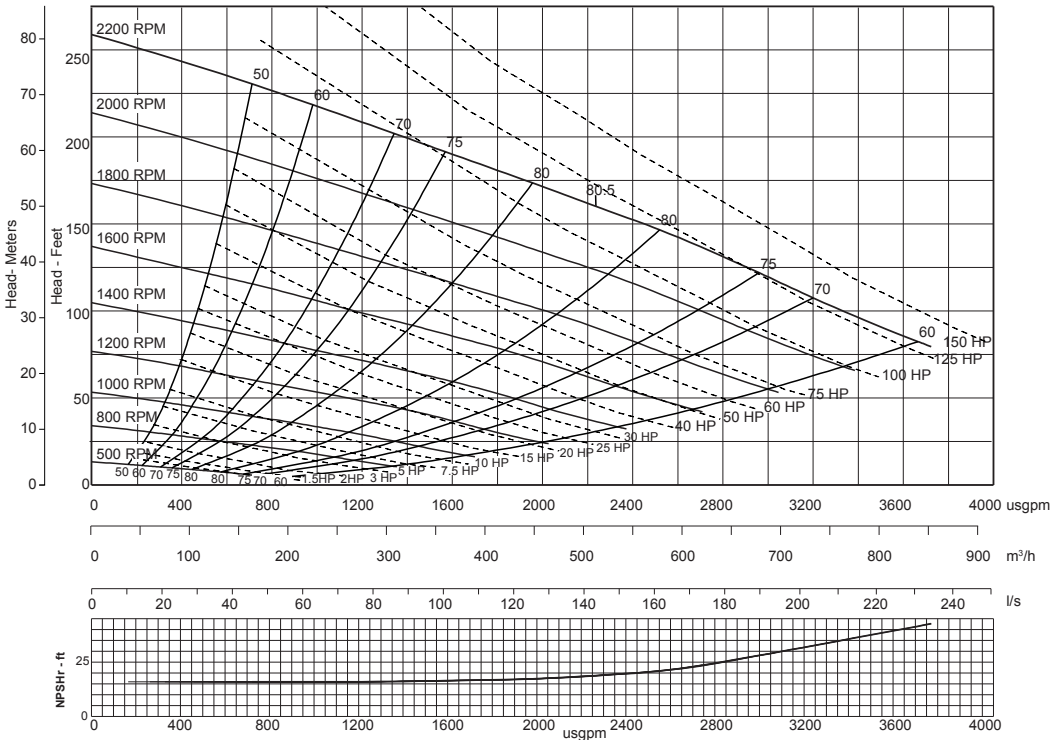
*Typical Pump Configuration*

**PP66S12**

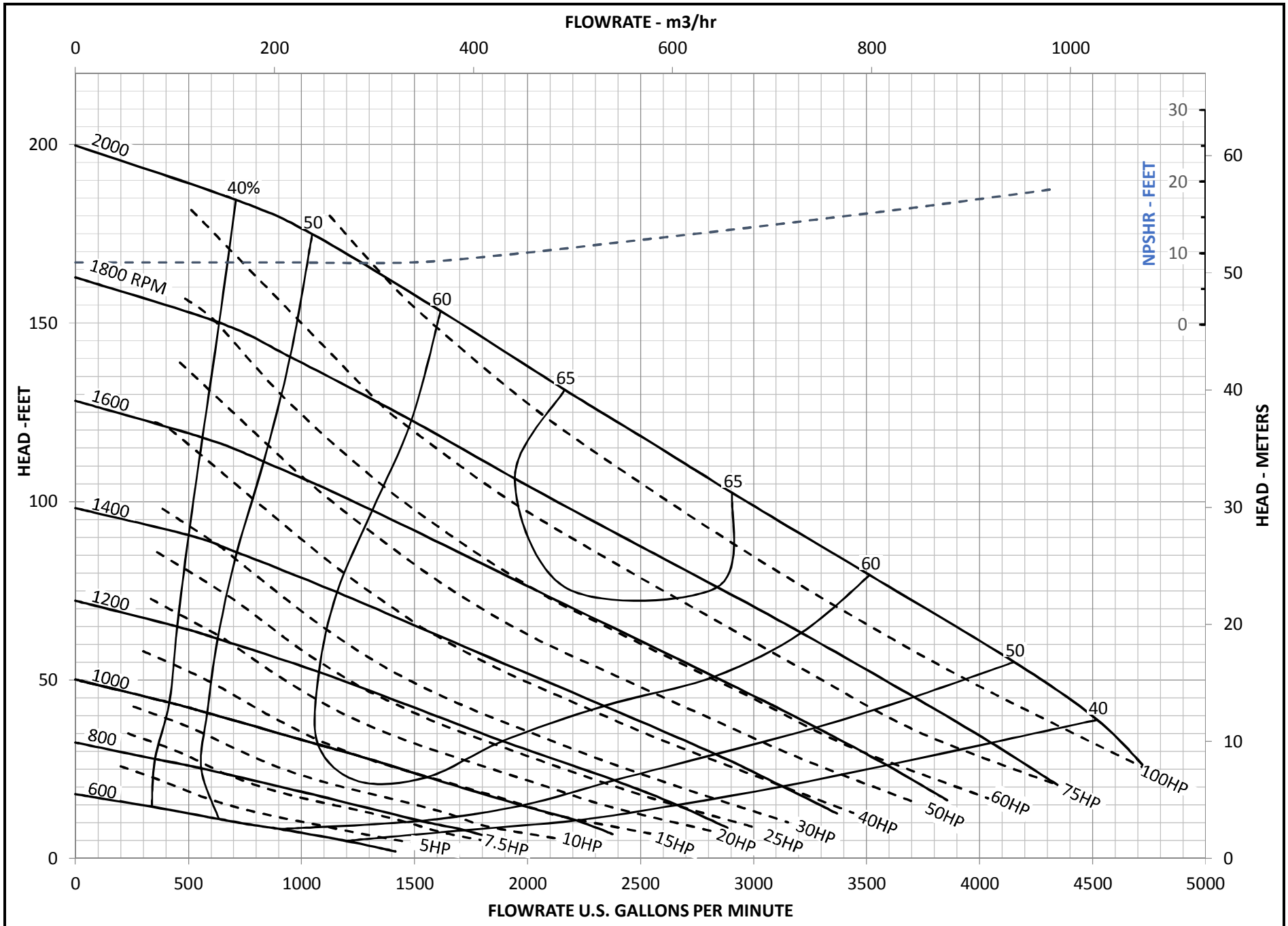



# Performance Curve

| Model: PP66S12 | Impeller Dia: 12” | Speed: Variable | Solids Size: 3.0” | Curve #A5856HQ |
|---|---|---|---|---|




Note: Losses from priming system not shown




| | | | |
|---|---|---|---|
| MODEL: | PP88S12 | | SPECIFIC GRAVITY 1.0 |
| SIZE: | 8" x 8" | 200mm x 200mm | DRWG NO. A5895HQ |
| TRIM | 12.25" | 311mm | REVISION 001 |
| SOLIDS HANDLING SIZE: | 3.0" | 75 mm | DATE 30 Jun 2017 |

PIONEER PUMP
PERFORMANCE THROUGH INNOVATION™

PIONEER PUMP
PERFORMANCE THROUGH INNOVATION™

Pioneer Prime

# PP88S12L71

*Typical Pump Configuration*

## Performance

### Pioneer Prime series - vacuum assisted, end suction centrifugal pump

Bare shaft, frame mounted, fully automatic dry priming, vacuum assisted, run dry, heavy duty solids handling pump

| | |
|---|---|
| Size | 8" x 8"<br>200 x 200 mm |
| Flow, Max | 4,500 USgpm<br>1040 $m^3/h$<br>280 l/s |
| Head, Max | 200 feet<br>60 meters |
| Flow at BEP | 2,600 USgpm<br>600 $m^3/h$<br>160 l/s |
| Efficiency at BEP | 70% |
| Solids Handling, Max | 3.0"<br>76 mm |
| Operating Speed, Max | 2000 rpm |
| Suction Connection | 8" (200 mm)<br>150 ANSI Flanges |
| Delivery Connection | 8" (200 mm)<br>150 ANSI Flanges |
| Bearing Lubrication | Oil STD<br>Grease optional |
| Fasteners | Imperial |

## Applications

| | |
|---|---|
| Construction | Waste Water |
| Industrial | Power Generation |
| Mining | Environmental |

PosiValve™ Patent #6,783,730

### High flow, solids handling heavy duty pump

The PP88S12 is a high flow, ruggedized pump designed to operate over a broad range of performance while delivering outstanding suction lift. The rugged construction and modular design provide proven reliability and flexibility in the most demanding applications.

## UltraPrime™ Priming System

| | |
|---|---|
| Priming System | Mechanically Driven Diaphragm Style Vacuum Pump |
| Air Removal Capability | 50 CFM |
| Priming Chamber | Single chamber with positive sealing air separation PosiValve™ with stainless steel float ball & linkage. |
| Discharge Check Valve | Swing Style - ductile iron with Buna-n Disc |

## Other Specifications

| | |
|---|---|
| Mechanical Seal | Single seal w/ tungsten carbide vs. silicon carbide seal faces, Viton® elastomers, 300 series stainless steel hardware and spring, designed for indefinite dry running |
| Pump End Bearing | Single Row Ball |
| Drive End Bearing | Single Row Ball |
| Shaft | 17-4 PH Stainless Steel |

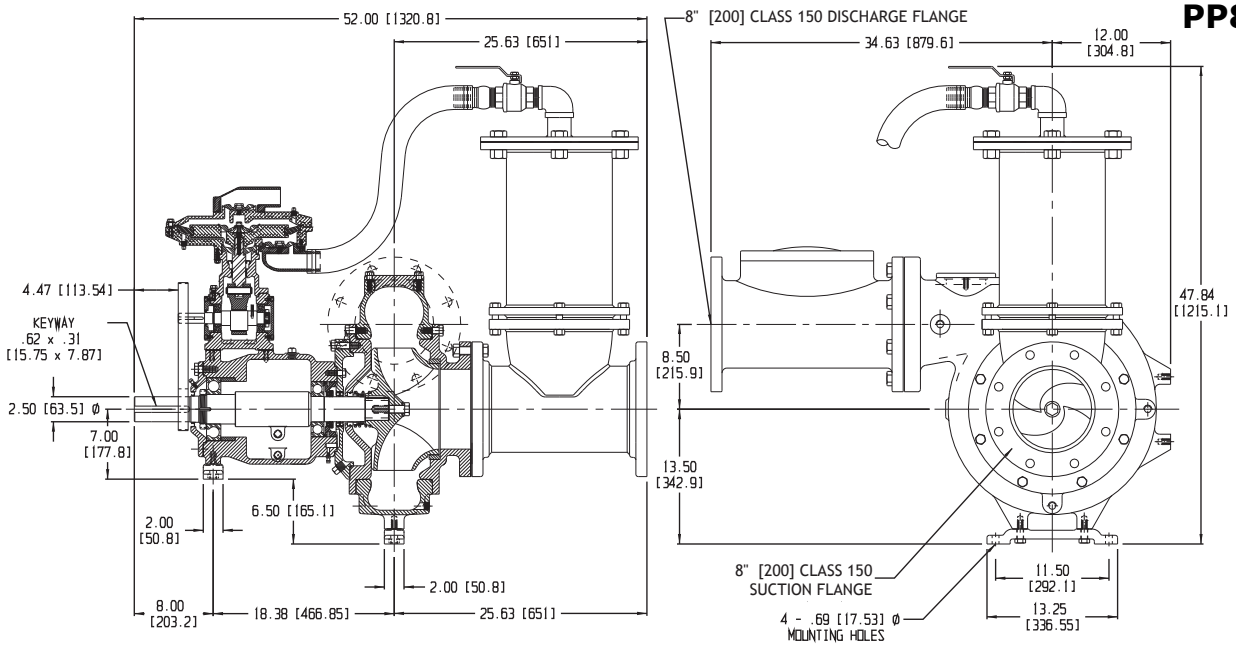
## Construction Materials

| | Standard Construction | CD4MCu Stainless Steel |
|---|---|---|
| Impeller | CA6NM SS | CD4MCu |
| Volute | Ductile Iron ASTM A536 65-45-12 | CD4MCu |
| Wear Ring | ASTM A48 Class 40 Gray Iron | 316 SS |
| Suction Cover | Ductile Iron ASTM A536 65-45-12 | CD4MCu |
| Bracket | Ductile Iron ASTM A536 65-45-12 | CD4MCu |
| Backplate | Ductile Iron ASTM A536 65-45-12 | CD4MCu |

## Mechanical Dimensions

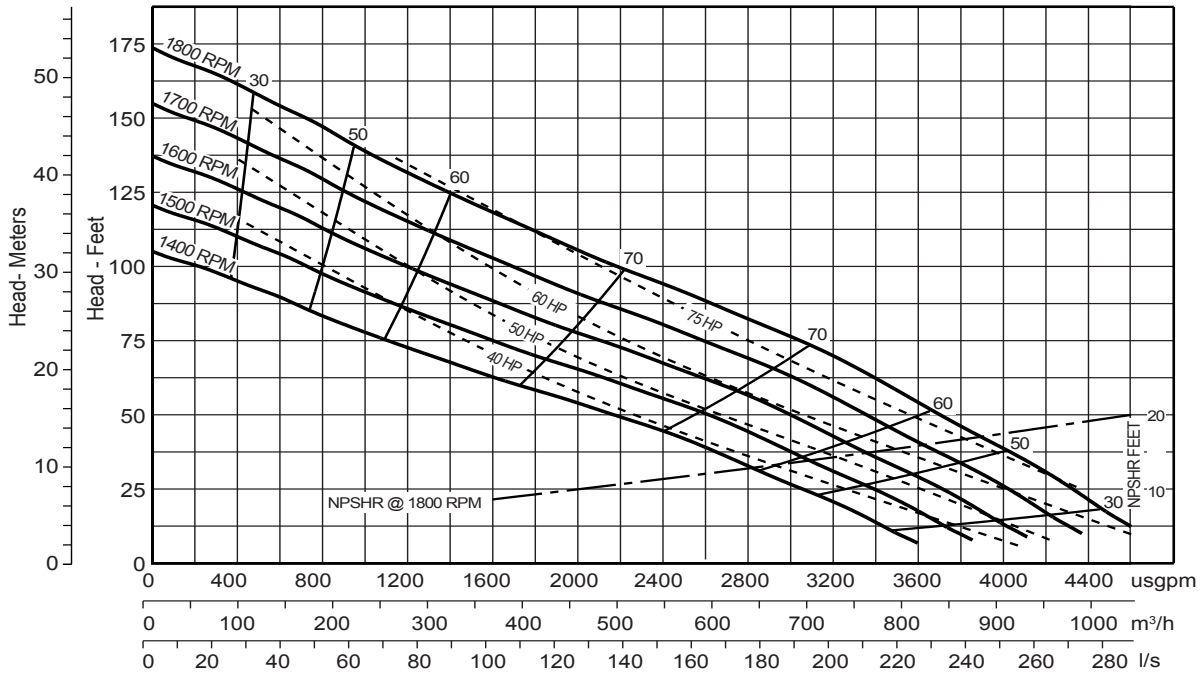
*Typical Pump Configuration*

**PP88S12**

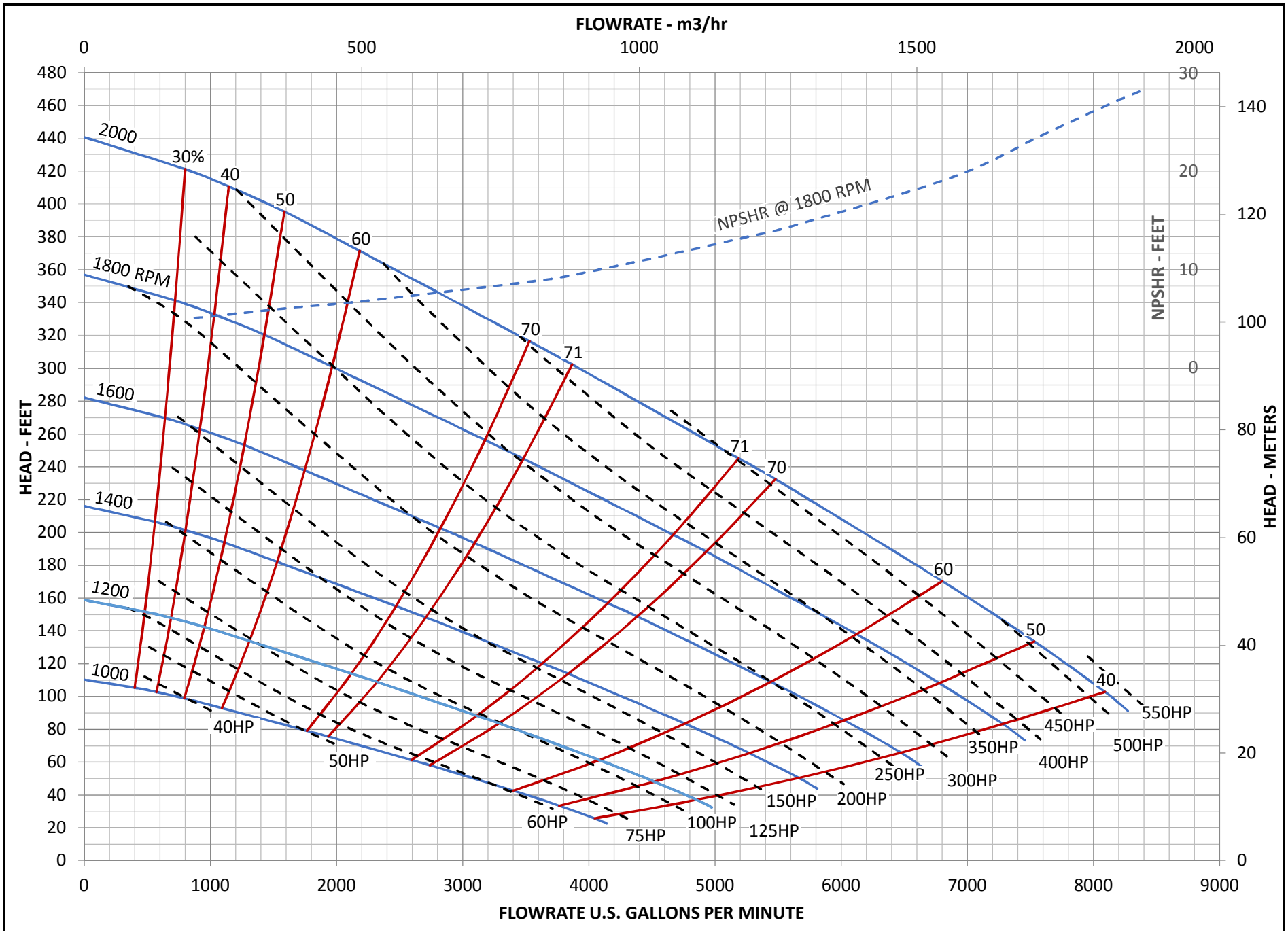



## Performance Curve

| Model: PP88S12 | Impeller Dia: 12.25” | Speed: Variable | Solids Size: 3.0” | Curve #A4631HQ |
|---|---|---|---|---|

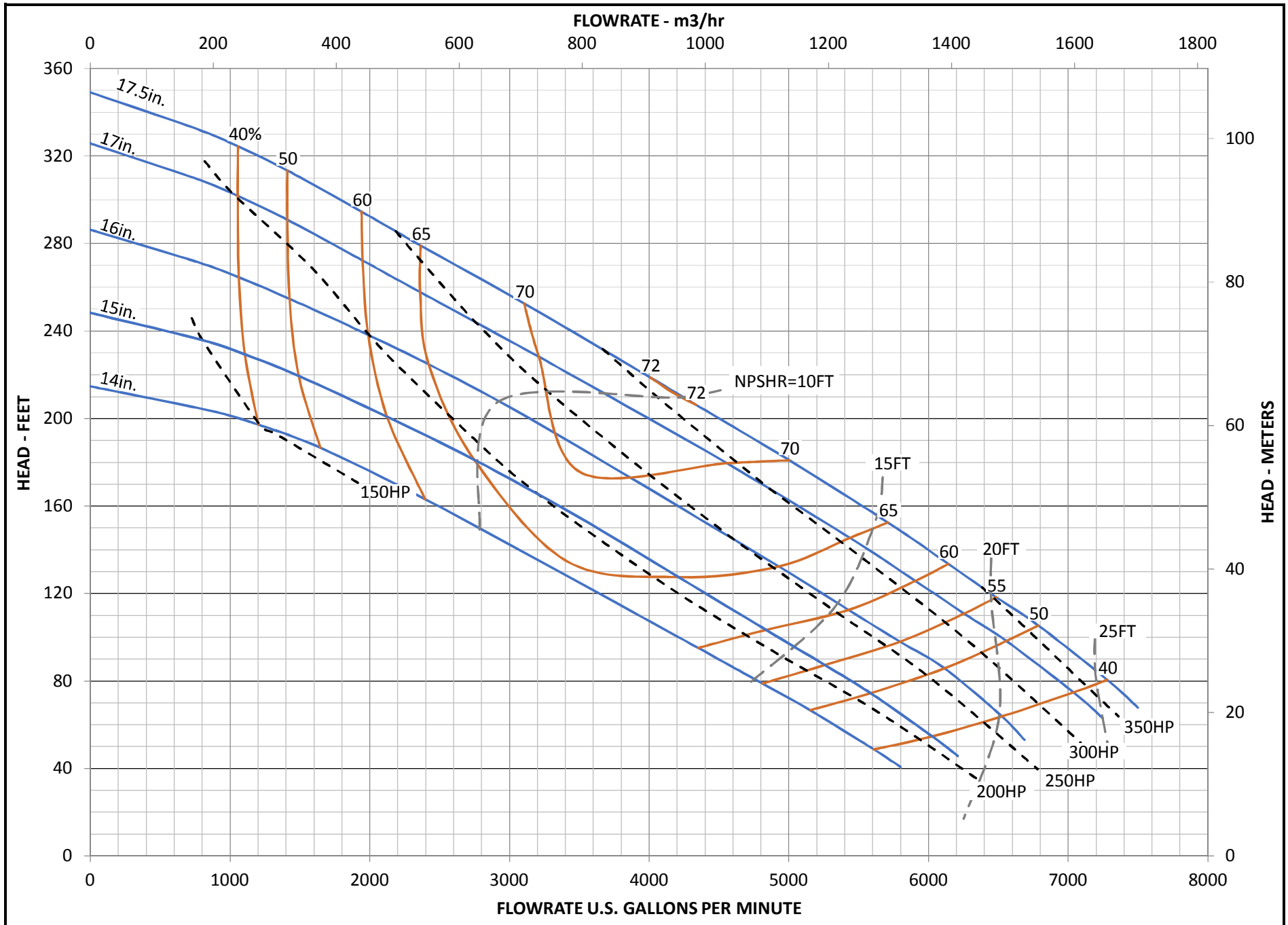



Note: Losses from priming system not shown




PIONEER PUMP
PERFORMANCE THROUGH INNOVATION™

| | | | |
|---|---|---|---|
| MODEL: PP108S17 | SUCTION SIZE: 10" | TEST# 163 | IMPELLER: 11204300 |
| | DISCHARGE SIZE: 8" | TEST DATE: 5/26/10 | **CURVE: P108S-17.5** |
| IMPELLER DIA: 17.5" | SOLIDS DIA: 3.5" | SPECIFIC GRAVITY 1.00 | REVISION 000 |
| | | | DATE 2/25/2017 |




| | | | | |
|---|---|---|---|---|
| PIONEER PUMP<br>PERFORMANCE THROUGH INNOVATION™ | MODEL: PP108S17 | SUCTION SIZE: 10"<br>DISCHARGE SIZE: 8" | TEST# 163<br>TEST DATE: 5/26/10 | IMPELLER: 11204300<br>**CURVE: PP108S-VT-1780** |
| | SPEED: 1780 RPM | SOLIDS DIA: 3.5" | SPECIFIC GRAVITY 1.00 | REVISION 000<br>DATE 2/25/2017 |

PIONEER PUMP
PERFORMANCE THROUGH INNOVATION™

Pioneer Prime

# PP108S17L71

*Typical Pump Configuration*

## Performance

### Pioneer Prime series - vacuum assisted, end suction centrifugal pump

Bare shaft, frame mounted, fully automatic dry priming, vacuum assisted, run dry, heavy duty solids handling pump

| | |
|---|---|
| Size | 10" x 8"<br>250 x 200 mm |
| Flow, Max | 7,600 USgpm<br>1750 $m^3/h$<br>480 l/s |
| Head, Max | 450 feet<br>140 meters |
| Flow at BEP | 4,600 USgpm<br>1060 $m^3/h$<br>290 l/s |
| Efficiency at BEP | 80% |
| Solids Handling, Max | 3.5"<br>89 mm |
| Operating Speed, Max | 2000 rpm |
| Suction Connection | 10" (250 mm)<br>150 ANSI Flanges |
| Delivery Connection | 8" (200 mm)<br>150 ANSI Flanges |
| Bearing Lubrication | Oil STD<br>Grease optional |
| Fasteners | Imperial |

## Applications

| | |
|---|---|
| Dirty water | Raw water pumps |
| Sewage bypass | Flood pumps |
| Silt returns | Mine dewatering |
| Cooling pumps | |

PosiValve™ Patent #6,783,730

### High pressure, high flow, heavy duty solids handling pump

Designed to run over a broad range of performance while delivering outstanding suction lift, the PP108S17 is the solid choice. The rugged construction and modular design provide proven reliability and flexibility in the most demanding applications.

## UltraPrime™ Priming System

| | |
|---|---|
| Priming System | Mechanically Driven Diaphragm Style Vacuum Pump |
| Air Removal Capability | 50 CFM |
| Priming Chamber | Single chamber with positive sealing air separation PosiValve™ with stainless steel float ball & linkage. |
| Discharge Check Valve | Swing Style - ductile iron with Buna-n Disc |

## Other Specifications

| | |
|---|---|
| Mechanical Seal | Single seal w/ tungsten carbide vs. silicon carbide seal faces, Viton® elastomers, 300 series stainless steel hardware and spring, designed for indefinite dry running |
| Pump End Bearing | Single Row Ball |
| Drive End Bearing | Double Row Angular Contact |
| Shaft | 17-4 PH Stainless Steel |

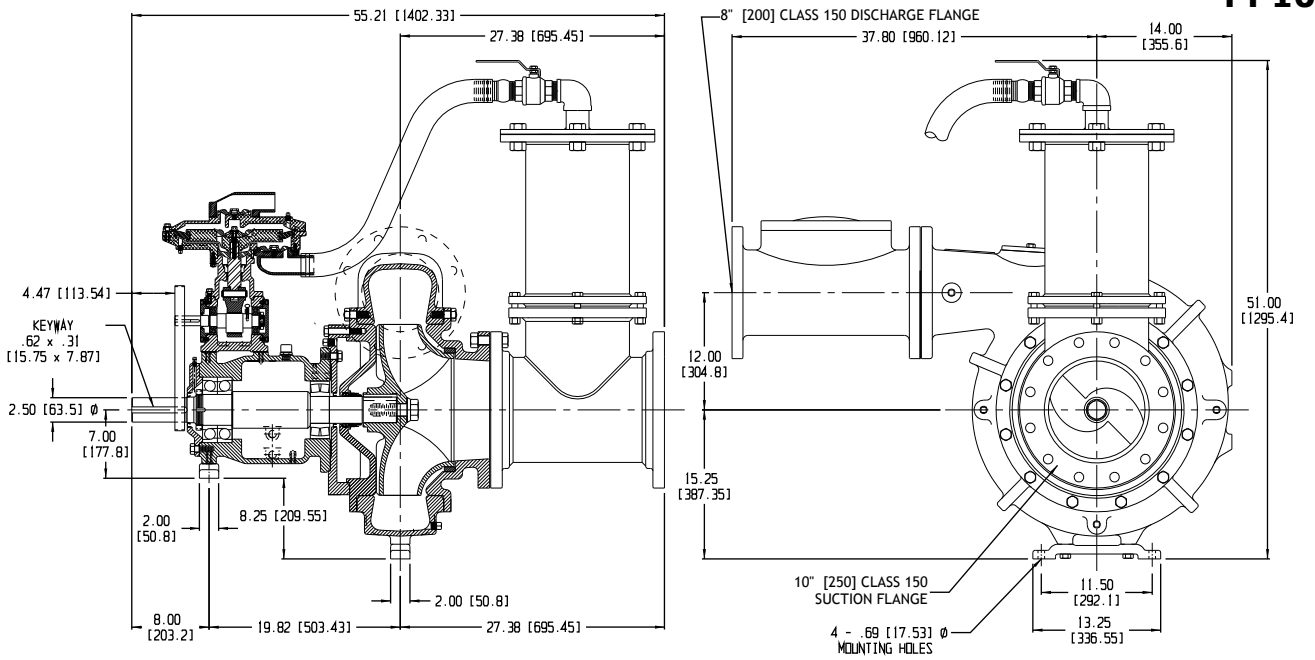
## Construction Materials

| | Standard Construction | CD4MCu Stainless Steel |
|---|---|---|
| Impeller | CA6NM SS | CD4MCu |
| Volute | Ductile Iron ASTM A536 65-45-12 | CD4MCu |
| Wear Ring | ASTM A48 Class 40 Gray Iron | 316 SS |
| Suction Cover | Ductile Iron ASTM A536 65-45-12 | CD4MCu |
| Bracket | Ductile Iron ASTM A536 65-45-12 | CD4MCu |
| Backplate | Ductile Iron ASTM A536 65-45-12 | CD4MCu |

## Mechanical Dimensions

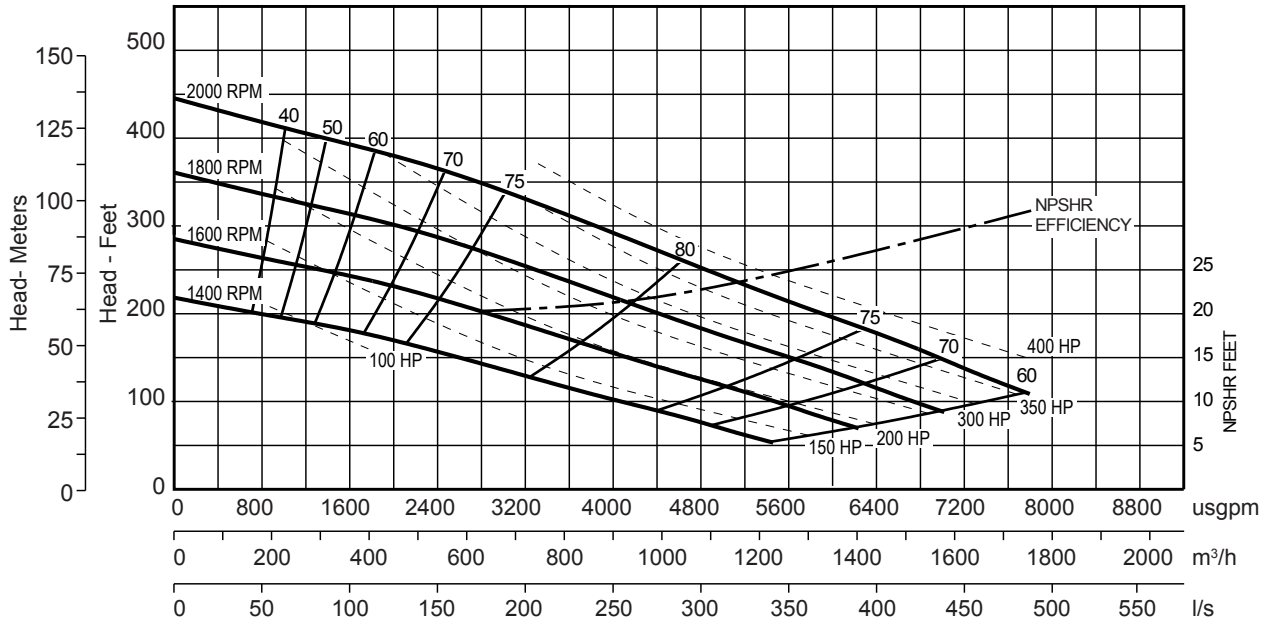
*Typical Pump Configuration*

**PP108S17**

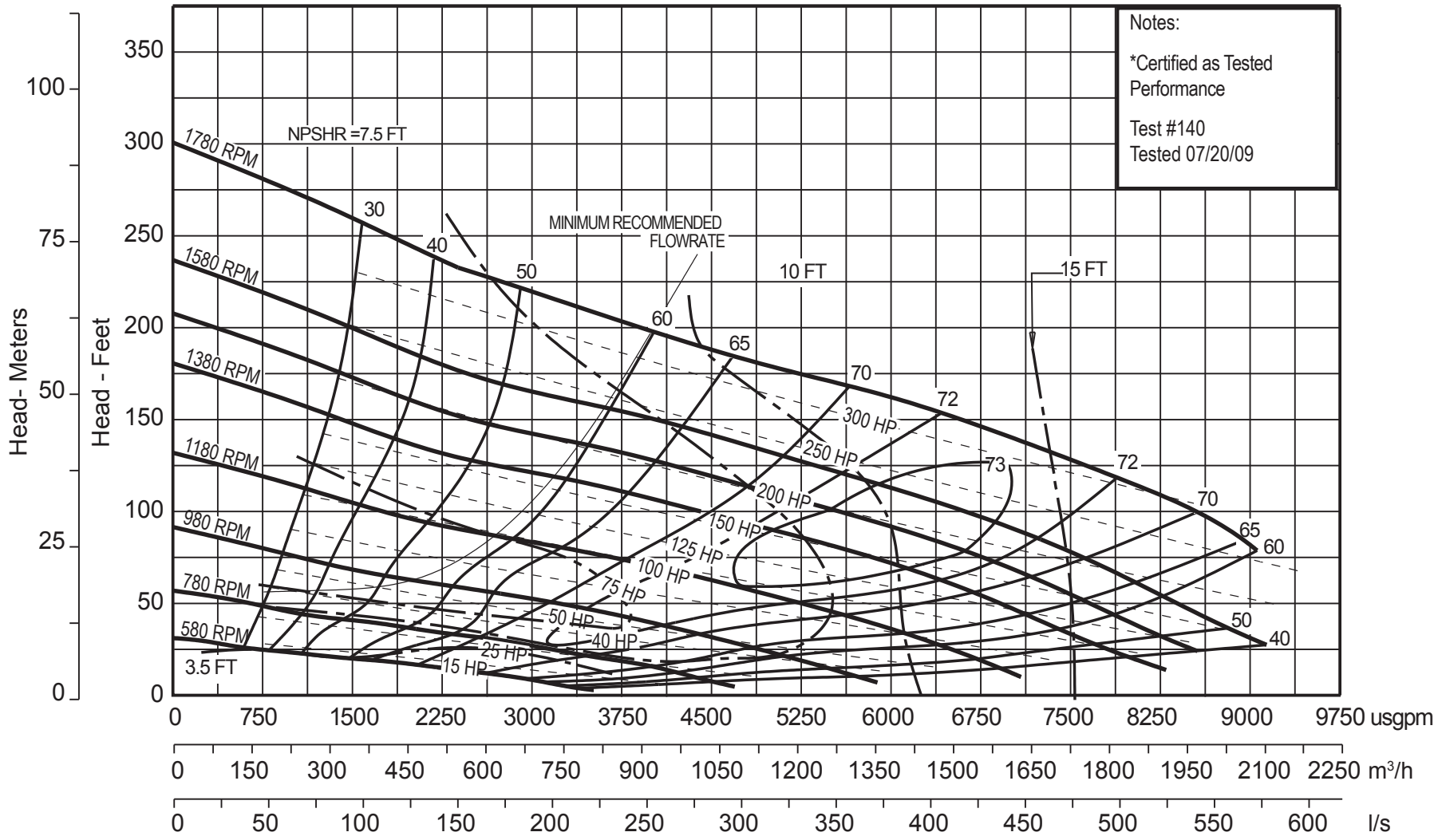



## Performance Curve

| Model: PP108S17 | Impeller Dia: 17.5” | Speed: Variable | Solids Size: 3.5” | Curve #07997HQ |
|---|---|---|---|---|




Note: Losses from priming system not shown

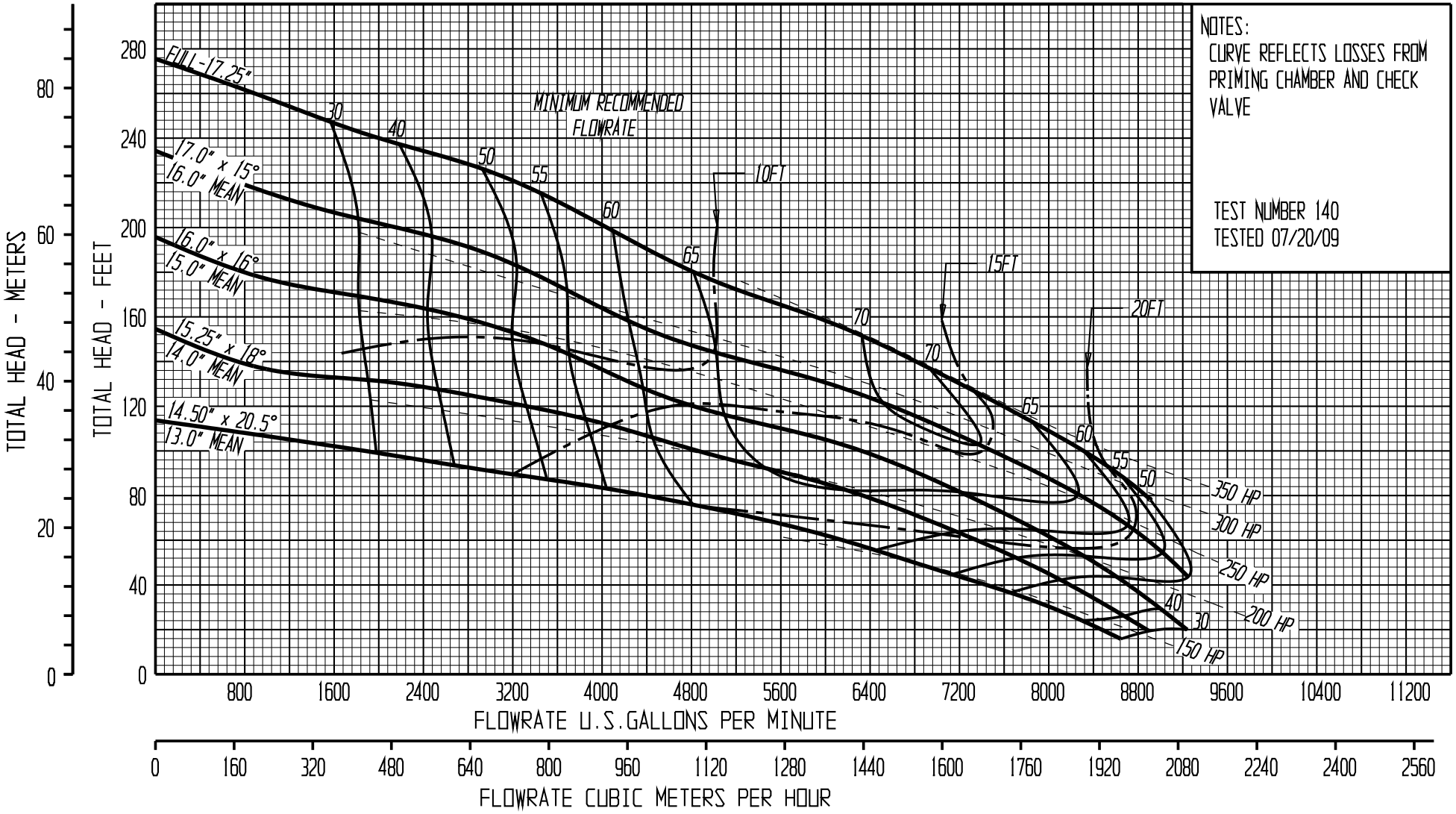



Note: Losses from priming system not shown

PIONEER PUMP
PERFORMANCE THROUGH INNOVATION™

| Model | PP1212S17 | |
|---|---|---|
| Size | 12” x 12” | 300 mm x 300 mm |
| Impeller Diameter | 17.25” | 438 mm |
| Solids Handling Size | 3.75” | 95 mm |

DWG No. 07815HQ
Revision 001
Drawn By DAP
Date 16 Sep 2010




PIONEERPUMP
PERFORMANCE THROUGH INNOVATION™

| | |
|---|---|
| MODEL: PP1212S17 | SPEED: 1780 RPM |
| SIZE: 12" x 12" | SOLIDS SIZE: 3.75" |

DWG NO. 08152HQ
REVISION: 001
DRAWN BY: DAP
DATE: 08/10/2010

PIONEER PUMP
PERFORMANCE THROUGH INNOVATION™

Pioneer Prime

# PP1212S17L71

*Typical Pump Configuration*

## Performance

### Pioneer Prime series - vacuum assisted, end suction centrifugal pump

Bare shaft, frame mounted, fully automatic dry priming, vacuum assisted, run dry, heavy duty solids handling pump

| | |
|---|---|
| Size | 12" x 12"<br>300 x 300 mm |
| Flow, Max | 9,000 USgpm<br>2070 $m^3/h$<br>570 l/s |
| Head, Max | 300 feet<br>90 meters |
| Flow at BEP | 7,100 USgpm<br>1630 $m^3/h$<br>450 l/s |
| Efficiency at BEP | 72% |
| Solids Handling, Max | 3.75"<br>95 mm |
| Operating Speed, Max | 1800 rpm |
| Suction Connection | 12" (300 mm)<br>150 ANSI Flanges |
| Delivery Connection | 12" (300 mm)<br>150 ANSI Flanges |
| Bearing Lubrication | Oil STD<br>Grease optional |
| Fasteners | Imperial |

## Applications

| | |
|---|---|
| Dirty water | Raw water pumps |
| Sewage bypass | Flood pumps |
| Silt returns | Mine dewatering |
| Cooling pumps | |

PosiValve™ Patent #6,783,730

### High pressure, high flow, heavy duty solids handling pump

Designed to run over a broad range of performance while delivering outstanding suction lift, the PP1212S17 is the solid choice. The rugged construction and modular design provide proven reliability and flexibility in the most demanding applications.

## UltraPrime™ Priming System

| | |
|---|---|
| Priming System | Mechanically Driven Diaphragm Style Vacuum Pump |
| Air Removal Capability | 50 CFM |
| Priming Chamber | Single chamber with positive sealing air separation PosiValve™ with stainless steel float ball & linkage. |
| Discharge Check Valve | Swing Style - ductile iron with Buna-n Disc |

## Other Specifications

| | |
|---|---|
| Mechanical Seal | Single seal w/ tungsten carbide vs. silicon carbide seal faces, Viton® elastomers, 300 series stainless steel hardware and spring, designed for indefinite dry running |
| Pump End Bearing | Roller Bearing |
| Drive End Bearing | Double Row Angular Contact |
| Shaft | 17-4 PH Stainless Steel |

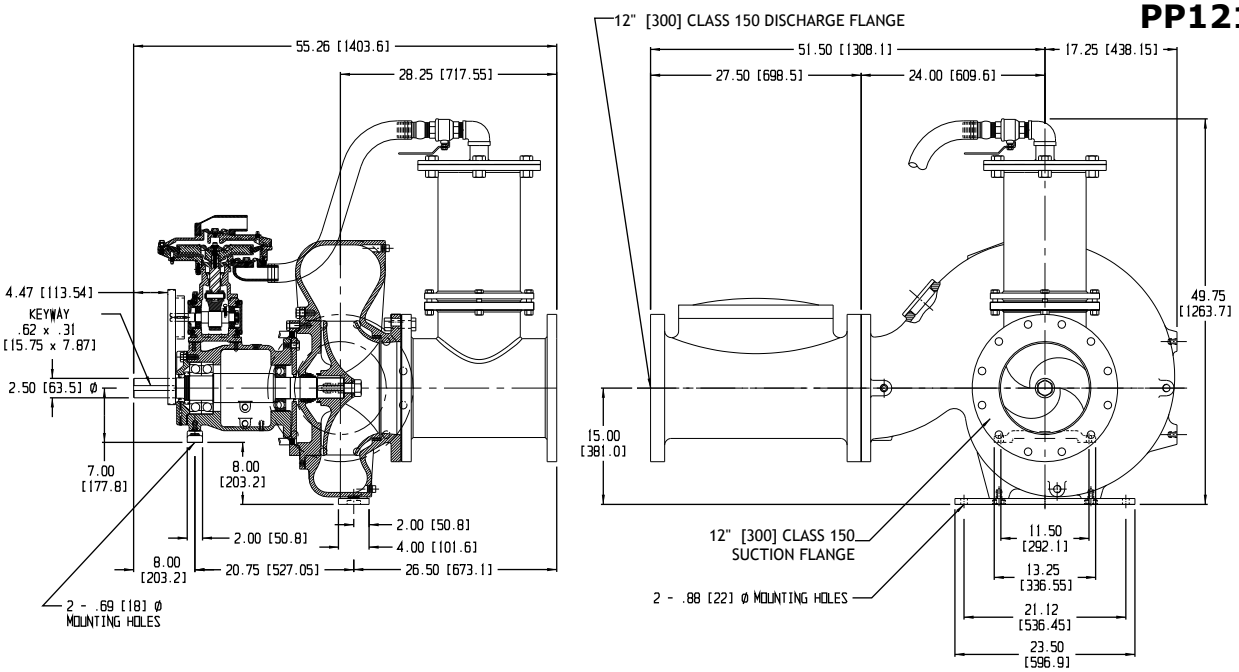
## Construction Materials

| | Standard Construction | CD4MCu Stainless Steel |
|---|---|---|
| Impeller | CA6NM SS | CD4MCu |
| Volute | Ductile Iron ASTM A536 65-45-12 | CD4MCu |
| Wear Ring | ASTM A48 Class 40 Gray Iron | 316 SS |
| Suction Cover | Ductile Iron ASTM A536 65-45-12 | CD4MCu |
| Bracket | Ductile Iron ASTM A536 65-45-12 | CD4MCu |
| Backplate | Ductile Iron ASTM A536 65-45-12 | CD4MCu |

## Mechanical Dimensions

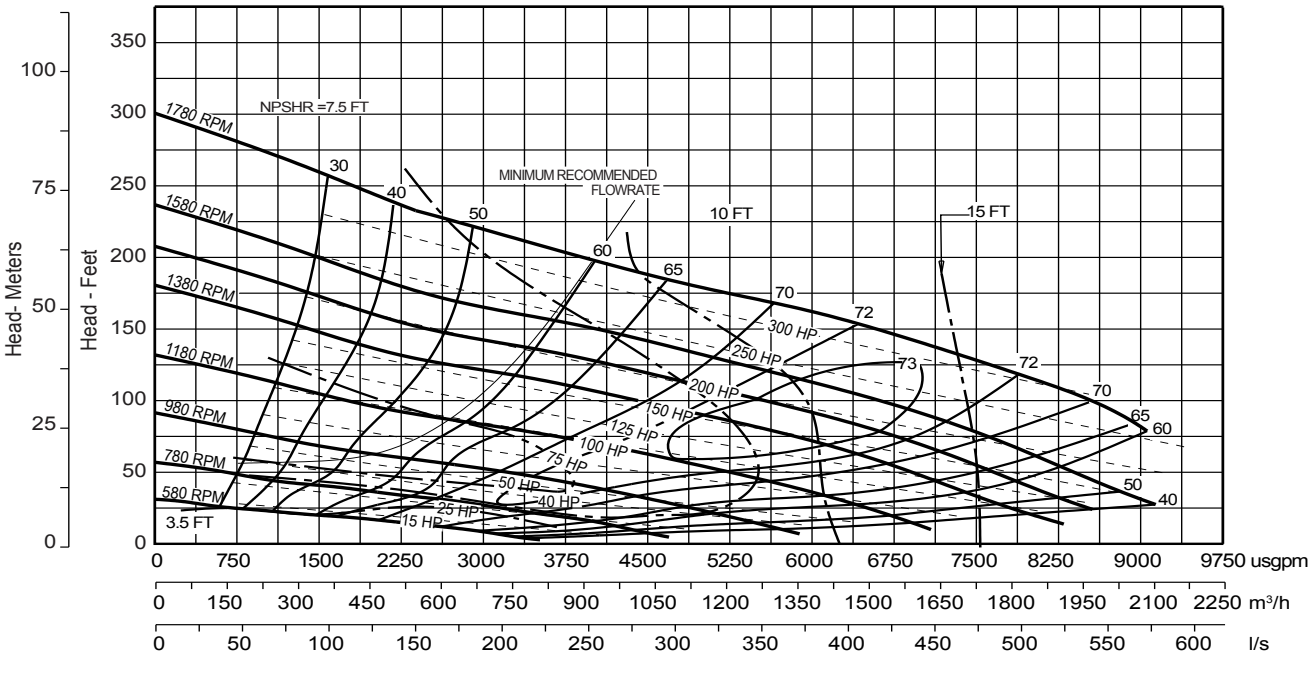
*Typical Pump Configuration*

**PP1212S17**




## Performance Curve

| Model: PP1212S17 | Impeller Dia: 17.25” | Speed: Variable | Solids Size: 3.75” | Curve #07815HQ |
|---|---|---|---|---|




Note: Losses from priming system not shown