

PRODUCT HANDBOOK



rainforrent.com
800 742 7246

PUMPS • TANKS • PIPE • FILTRATION • SPILLGUARDS

Serving Industry



Water is fundamental to our existence, flowing throughout our daily lives. It can be an asset or a liability. Customers trust Rain for Rent because they want the peace of mind to know that their liquids are being managed safely so they can focus on their core business.



Agriculture



Construction



Government



Mining



Oil & Gas



Refineries



Pipelines



Environmental



Power



Manufacturing



Pump, Tank and Filtration Handbook

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SUBMERSIBLE & AOD PUMPS

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CLEAN WATER AG PUMPS

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SA - Available in Sound Attenuated

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Pump Features



High Quality Materials –

Stainless steel internal wearing parts standard on most models

Optional Materials Available –

Suitable for high and low pH and abrasive applications

Continuous Automatic Prime –

Even on high-suction lift applications

Zero Adjustment On Priming System –

Commercial compressors and venturi priming

Dry Running –

Oil lubricated mechanical seal

Solids Handling –

Impellers handling up to 5" diameter solids

Solids Handling Check Valve –

Swing-style check valve with easy access to clear obstructions

Side Discharge Volute –

Easy pipe connection

Chassis –

Galvanized skid or trailer

Single Point Lifting Bail –

To position pump in confined spaces

24-Hour Running Fuel Capacity –

Integral fuel tank (on most models)

Proven Design –

Simple, reliable, rugged

Proven Power Units –

Perkins, John Deere and Caterpillar diesel engines

Sound Attenuated –

Most PowerPrime™ Pumps can be built in sound attenuated configuration

SOUND ATTENUATED PUMP FEATURES

- Heavy-gauge steel panels
- Large hinged doors for easy access to engine and pump
- Sound reduction as low as 72 dB(A) at 7 meters
- Available in 3"– 12"

Special Builds Available –

Call PowerPrime™ Pumps for details 800 647 7246, powerprime.com

Specialty Pumps

PUMP MODEL	XH100	XH150	XHH125
SUCTION FLANGE	6" 152 mm	8" 203 mm	6" 152 mm
DISCHARGE FLANGE	4" 102 mm	6" 152 mm	6" 127 mm
MAX HEAD, FT (PSI)	605' (262) 184 m	605' (262) 184 m	950 (411) 290 m
MAX FLOW, GPM	1,250 79 l/sec	2,350 148 l/sec	1,600 101 l/sec
MAX SOLIDS DIA., IN.	7/8" 22 mm	1-3/4" 44 mm	5/8" 16 mm
FUEL CONSUMPTION, GPH*	11.1 42 l/hr	19.1 72 l/hr	13.9 53 l/hr
FUEL CAPACITY**	200 Gal. 757 liters	260 Gal. 984 liters	370 Gal. 1,401 liters
DRY WEIGHT/WET WEIGHT	9,800/11,300	10,800/14,340	13,040/15,686

Clear Water/Agriculture

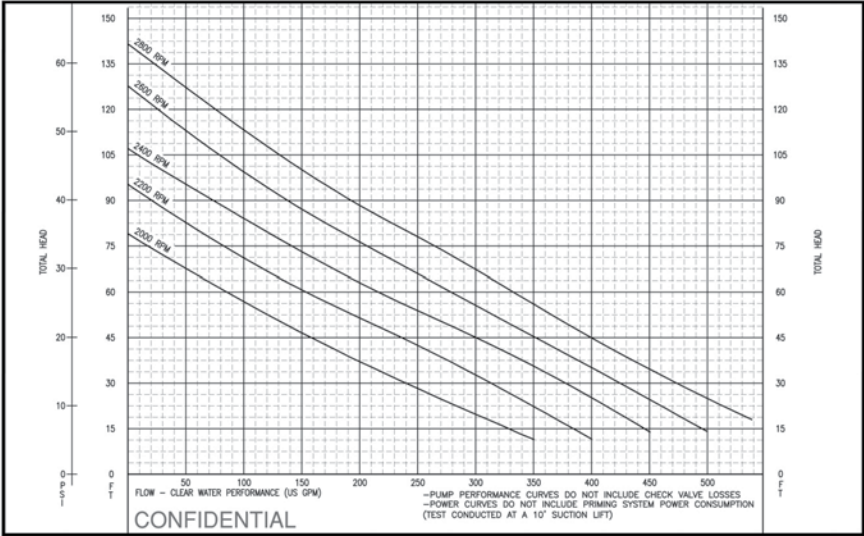
PUMP MODEL	3HA	4HH	3RB
SUCTION FLANGE	6" 152 mm	6" 152 mm	5" 127 mm
DISCHARGE FLANGE	3" 76 mm	4" 102 mm	3" 76 mm
MAX HEAD, FT (PSI)	475' (205) 145 m	420' (182) 128 m	260' (113) 79 m
MAX FLOW, GPM	1,100 69 l/sec	1,600 101 l/sec	800 50 l/sec
MAX SOLIDS DIA., IN.	0.5" 13 mm	0.42" 10 mm	0.5" 13 mm
FUEL CONSUMPTION, GPH*	7 26 l/hr	8.1 31 l/hr	2.5 9.5 l/hr
FUEL CAPACITY**	250 Gal. 946 liters	250 Gal. 946 liters	120 Gal. 454 liters
DRY WEIGHT/WET WEIGHT	4,800/6,588	4,960/6,748	3,000/3,858

PUMP MODEL	4RB	5RB	6RB
SUCTION FLANGE	6" 152 mm	8" 203 mm	10" 254 mm
DISCHARGE FLANGE	4" 102 mm	5" 127 mm	6" 152 mm
MAX HEAD, FT (PSI)	250' (108) 76 m	370' (160) 113 m	300' (130) 91 m
MAX FLOW, GPM	1,600 101 l/sec	3,000 189 l/sec	4,500 284 l/sec
MAX SOLIDS DIA., IN.	0.84" 21 mm	1" 25 mm	1.31" 33 mm
FUEL CONSUMPTION, GPH*	4.1 16 l/hr	9.5 36 l/hr	12.8 48 l/hr
FUEL CAPACITY**	120 Gal. 454 liters	190 Gal. 719 liters	250 Gal. 946 liters
DRY WEIGHT/WET WEIGHT	4,750/5,608	4,660/6,019	6,460/7,819

DV80



Fuel tank: 25 Gallon *95 liters*



Fuel consumption: 0.96 GPH @ 2,800 RPM *4 liters per hour*

DV80

SIZE 3" x 3" 76 x 76 mm

■ 500 GPM MAX 32 l/sec

■ 138 FT HEAD MAX 42 m head

FEATURES

- Solids handling capabilities to 1-1/4" 32 mm diameter maximum
- Continuous self-priming
- Runs dry unattended
- Suction lift up to 28 ft. 8.5 m

TECHNICAL

- Flex coupled to various diesel engines
- 12 volt, electric start with control panel
- Skid or trailer-mounted with lifting bracket
- 24-hour minimum capacity fuel tank
- Belt driven compressor fitted to operate the air-ejector priming system

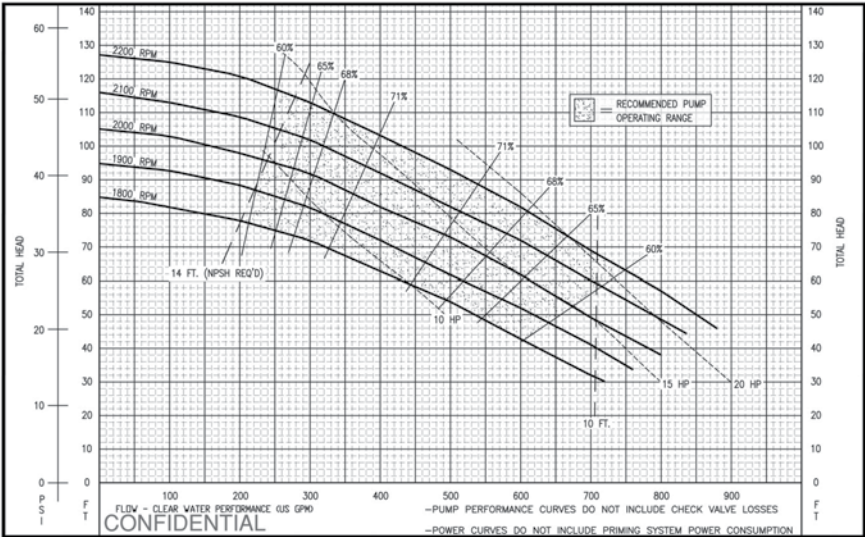
MATERIAL SPECIFICATIONS

- Standard Build
 - Cast iron wet end, with open impellers
 - Replaceable wear plates
- Mechanical Seal
 - Solid silicon carbide mating face.
 - Oil bath lubrication for dry running
- Suction/discharge flanges 3" ANSI 150# FF

DV80c



Fuel tank: 40 or 60 Gallon *151 or 227 liters*



Fuel consumption: 0.96 GPH @ 2,800 RPM *4 liters per hour*

DV80c

SIZE 4" x 3" *102 x 76 mm*

■ 880 GPM MAX *56 l/sec*

■ 125 FT HEAD MAX *38 m head*

FEATURES

- Solids handling capabilities to 3" *76 mm* diameter maximum
- Continuous self-priming
- Runs dry unattended
- Suction lift up to 28 ft. *8.5 m*

TECHNICAL

- Flex coupled to various diesel engines
- 12 volt, electric start with control panel
- Skid or trailer-mounted with lifting bracket
- 24-hour minimum capacity fuel tank
- Belt driven compressor fitted to operate the air-ejector priming system
- Electric drive option - general purpose

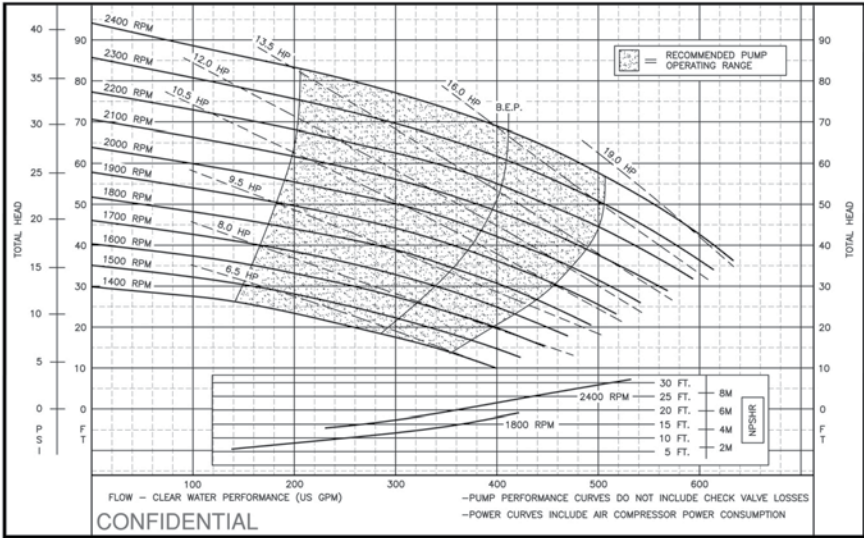
MATERIAL SPECIFICATIONS

- Standard Build
 - Cast iron wet end, with open impellers
 - Replaceable wear plates
- Mechanical Seal
 - Solid silicon carbide mating face.
 - Oil bath lubrication for dry running
- Suction/discharge flanges ANSI 150# FF

DV80m



Fuel tank: 40 or 60 Gallon 151 or 227 liters



Fuel consumption: 0.92 GPH @ 2,200 RPM 3 liters per hour

DV80m

SIZE 3" x 3" *76 x 76 mm*

■ 630 GPM MAX *40 l/sec*

■ 94 FT HEAD MAX *29 m head*

FEATURES

- Solids-handling capabilities to 1-1/2" *38 mm* diameter maximum
- Continuous self-priming
- Runs dry unattended
- Suction lift up to 28 ft. *8.5 m*
- Auto-start capable control panel
- Stainless steel, CD4MCu and chrome pump options

TECHNICAL

- SAE-mounted
- Flex coupled to various diesel engines
- 12 volt, electric start with control panel
- Skid or trailer-mounted with optional lifting bail
- 24-hour minimum capacity fuel tank
- Compressor/venturi automatic priming system

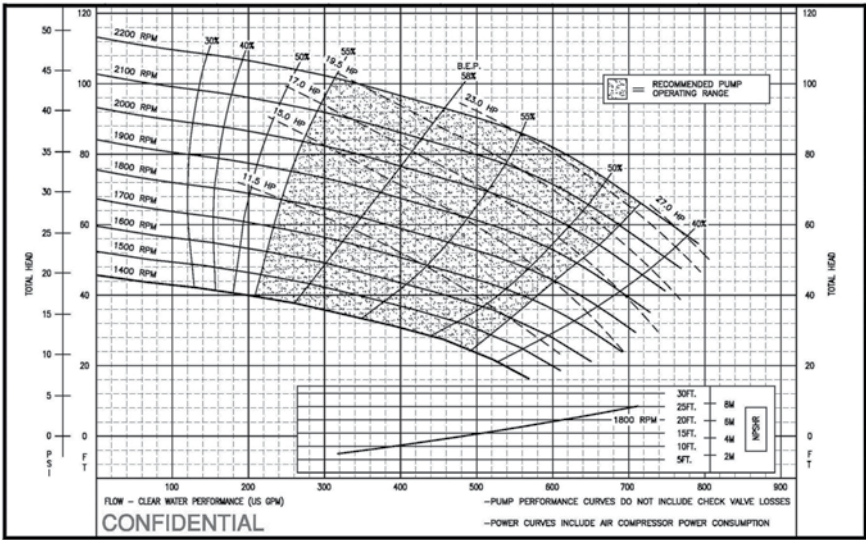
MATERIAL SPECIFICATIONS

- Standard Build
 - Cast iron volute
 - Cast iron 2 vane non-clog impellers
 - Replaceable wear rings
- Pump Shaft
 - SAE 1144 stress proof metal
- Mechanical Seal
 - Tungsten carbide vs. silicon carbide mating faces
 - Oil-bath lubrication for dry running
- Suction/discharge flanges ANSI 150# FF

DV100



Fuel tank: 40 or 60 Gallon *151 or 227 liters*



Fuel consumption: 1.2 GPH @ 2,200 RPM *5 liters per hour*



DV100

SIZE 4" x 4" 102 x 102 mm

■ 790 GPM MAX 50 l/sec

■ 115 FT HEAD MAX 35 m head

FEATURES

- Solids-handling capabilities to 1-3/4" 44 mm diameter maximum
- Continuous self-priming
- Runs dry unattended
- Suction lift up to 28 ft. 8.5 m
- Auto-start capable control panel
- Stainless steel, CD4MCu and chrome pump options

TECHNICAL

- SAE-mounted
- Flex coupled to various diesel engines
- 12 volt, electric start with control panel
- Skid or trailer-mounted with optional lifting bail
- 24-hour minimum capacity fuel tank
- Compressor fitted to operate the air-ejector priming system
- Electric drive option - general purpose
- Sound attenuated option

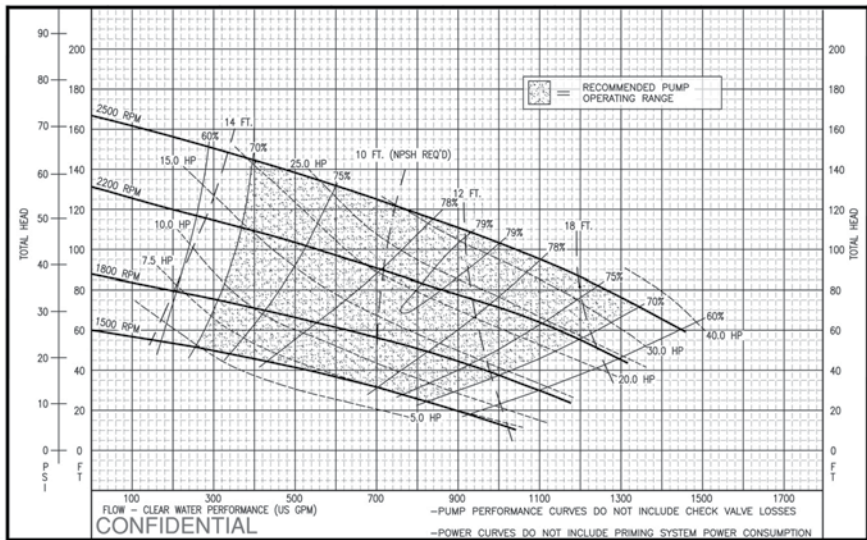
MATERIAL SPECIFICATIONS

- Standard Build
 - 316 stainless steel or chromium steel open impellers
 - Replaceable wear rings
- Pump Shaft
 - 431 stainless steel
 - All other components spheroidal graphite iron
- Mechanical Seal
 - Solid silicon carbide mating faces
 - Oil-bath lubrication for dry running
- Suction/discharge flanges ANSI 150# FF

DV100c



Fuel tank: 40 or 60 Gallon *151 or 227 liters*



Fuel consumption: 1.9 GPH @ 2,500 RPM *7 liters per hour*



DV100c

SIZE 6" x 4" *152 x 102 mm*

■ 1,450 GPM MAX *91 l/sec*

■ 165 FT HEAD MAX *50 m head*

FEATURES

- Solids-handling capabilities to 3" *76 mm* diameter maximum
- Continuous self-priming
- Runs dry unattended
- Suction lift up to 28 ft. *8.5 m*
- Auto-start capable control panel
- Stainless steel, CD4MCu and chrome pump options

TECHNICAL

- SAE-mounted
- Flex coupled to various diesel engines
- 12 volt, electric start with control panel
- Skid or trailer-mounted with optional lifting bail
- 24-hour minimum capacity fuel tank
- Compressor/venturi automatic priming system
- Electric drive option - general purpose
- Sound attenuated option

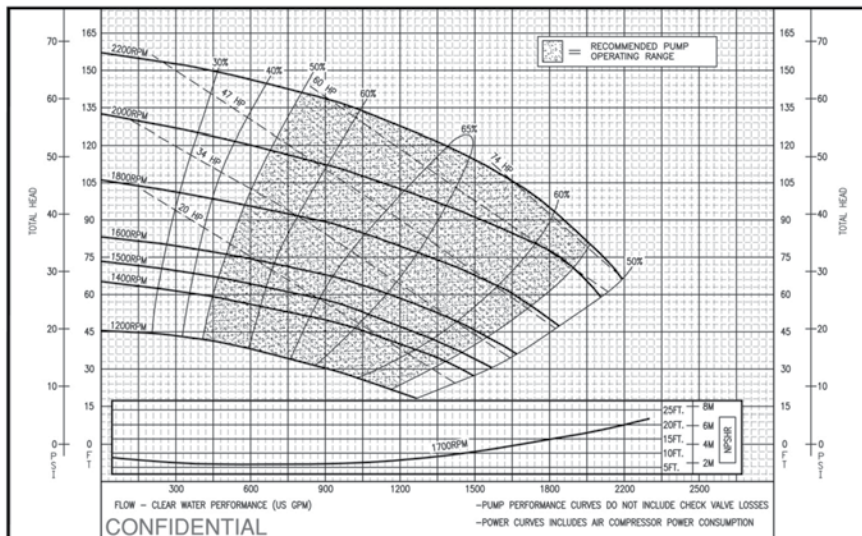
MATERIAL SPECIFICATIONS

- Standard Build
 - Cast iron volute
 - Cast iron 2 vane non-clog impellers
 - Replaceable wear rings
- Pump Shaft
 - SAE 1144 Stress proof metal
- Mechanical Seal
 - Tungsten carbide vs. silicon carbide mating faces
 - Oil-bath lubrication for dry running
- Suction/discharge flanges ANSI 150# FF

DV150



Fuel tank: 120 Gallon *454 liters*



Fuel consumption: 4.2 GPH @ 2,200 RPM *16 liters per hour*



DV150

SIZE 6" x 6" 152 x 152 mm

■ 2,200 GPM MAX 139 l/sec

■ 157 FT HEAD MAX 48 m head

FEATURES

- Solids-handling capabilities to 3" 76 mm diameter maximum
- Continuous self-priming
- Runs dry unattended
- Suction lift up to 28 ft. 8.5 m
- Auto-start capable control panel
- Stainless steel, CD4MCu and chrome pump options

TECHNICAL

- SAE-mounted
- Flex coupled to various diesel engines
- 12 volt, electric start with control panel
- Skid or trailer-mounted with optional lifting bail
- 24-hour minimum capacity fuel tank
- Compressor fitted to operate the air-ejector priming system
- Electric drive option - general purpose
- Sound attenuated option

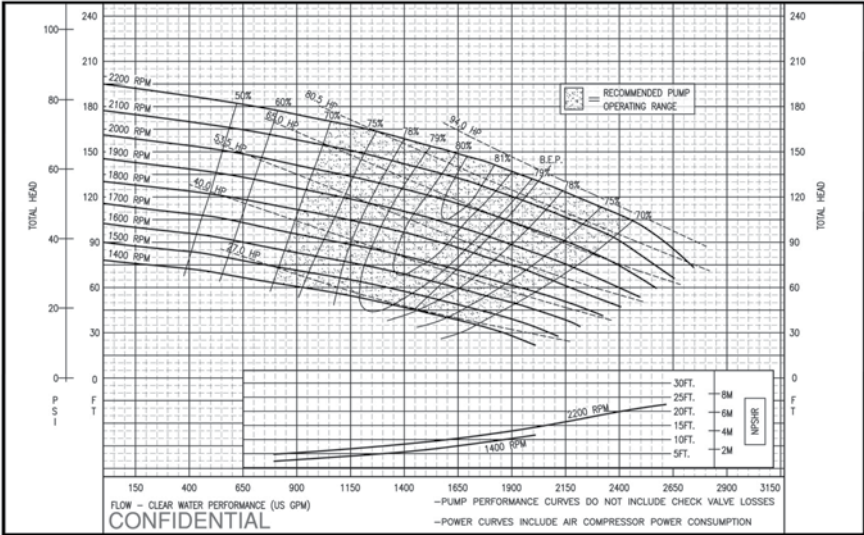
MATERIAL SPECIFICATIONS

- Standard Build
 - 316 stainless steel or chromium steel open impellers
 - Replaceable wear rings
- Pump Shaft
 - 431 stainless steel
 - All other components spheroidal graphite iron
- Mechanical Seal
 - Solid silicon carbide mating faces
 - Oil-bath lubrication for dry running
- Suction/discharge flanges ANSI 150# FF

DV150i



Fuel tank: 120 Gallon *454 liters*



Fuel consumption: 4.7 GPH @ 2,200 RPM *18 liters per hour*



DV150i

SIZE 6" x 6" 152 x 152 mm

■ 2,750 GPM MAX 173 l/sec

■ 195 FT HEAD MAX 59 m head

FEATURES

- Solids-handling capabilities to 3" 76 mm diameter maximum
- Continuous self-priming
- Runs dry unattended
- Suction lift up to 28 ft. 8.5 m
- Auto-start capable control panel
- Stainless steel, CD4MCu and chrome pump options

TECHNICAL

- SAE-mounted
- Flex coupled to various diesel engines
- 12 volt, electric start with control panel
- Skid or trailer-mounted with optional lifting bail
- 24-hour minimum capacity fuel tank
- Compressor/venturi automatic priming system
- Electric drive option - general purpose/explosion proof
- Sound attenuated option

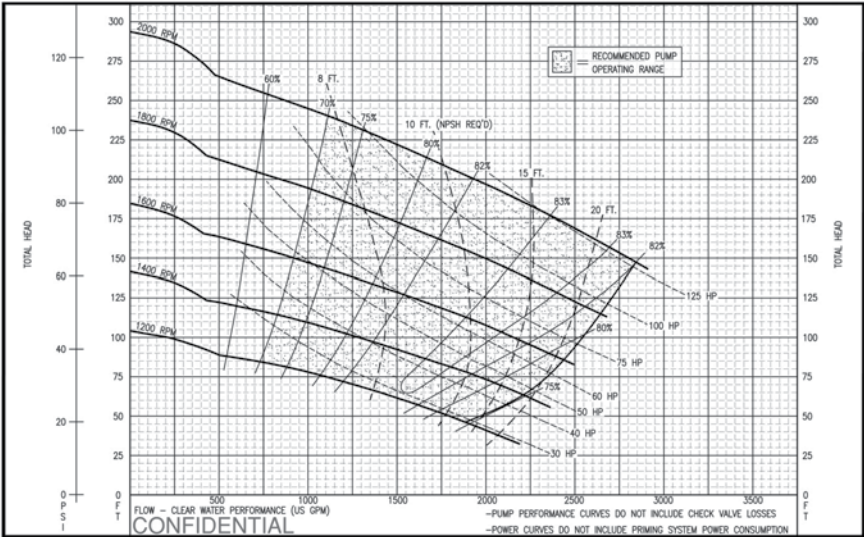
MATERIAL SPECIFICATIONS

- Standard Build
 - Spheroidal graphite cast iron volute
 - Stainless steel or chromium steel open impellers
 - Replaceable wear plates
- Pump Shaft
 - 431 stainless steel
- Mechanical Seal
 - Solid silicon carbide mating faces
 - Oil-bath lubrication for dry running
- Suction/discharge flanges ANSI 150# FF

DV175c



Fuel tank: 120 Gallon 454 liters



Fuel consumption: 6.8 GPH @ 2,000 RPM 26 liters per hour

DV175c

SIZE 8" x 6" *203 x 152 mm*

■ 2,900 GPM MAX *183 l/sec*

■ 295 FT HEAD MAX *90 m head*

FEATURES

- Solids-handling capabilities to 3" *76 mm* diameter maximum
- Continuous self-priming
- Runs dry unattended
- Suction lift up to 28 ft. *8.5 m*
- Auto-start capable control panel
- Stainless steel, CD4MCu and chrome pump options

TECHNICAL

- SAE-mounted
- Flex coupled to various diesel engines
- 12 volt, electric start with control panel
- Skid or trailer-mounted with optional lifting bail
- 24-hour minimum capacity fuel tank
- Compressor/venturi automatic priming system

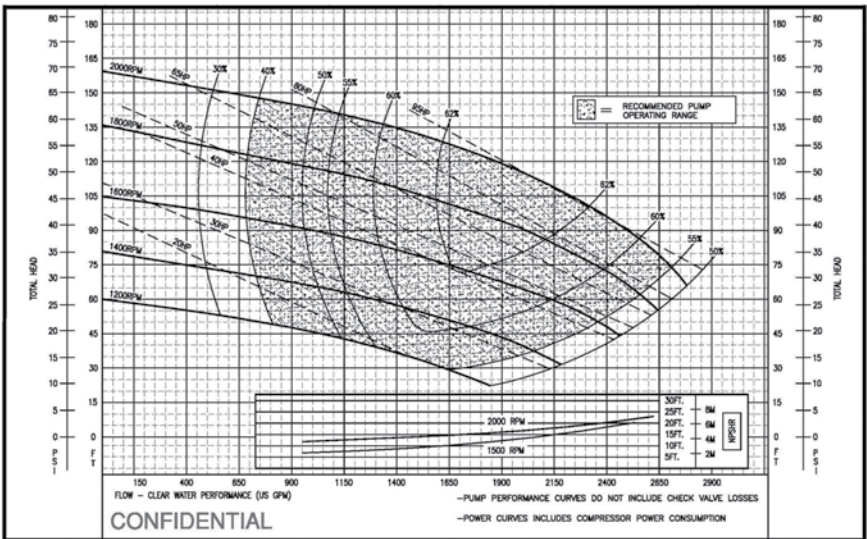
MATERIAL SPECIFICATIONS

- Standard Build
 - Cast iron volute
 - Cast iron 2 vane non-clog impellers
 - Replaceable wear rings
- Pump Shaft
 - SAE 1144 stress proof metal
- Mechanical Seal
 - Tungsten carbide vs. silicon carbide mating faces
 - Oil-bath lubrication for dry running
- Suction/discharge flanges ANSI 150# FF

DV200



Fuel tank: 120 Gallon *454 liters*



Fuel consumption: 4.6 GPH @ 2,000 RPM *17 liters per hour*



DV200

SIZE 8" x 8" 203 x 203 mm

■ 2,775 GPM MAX 175 l/sec

■ 155 FT HEAD MAX 47 m head

FEATURES

- Solids-handling capabilities to 3" 76 mm diameter maximum
- Continuous self-priming
- Runs dry unattended
- Suction lift up to 28 ft. 8.5 m
- Auto-start capable control panel
- Stainless steel, CD4MCu and chrome pump options

TECHNICAL

- SAE-mounted
- Flex coupled to various diesel engines
- 12 volt, electric start with control panel
- Skid or trailer-mounted with optional lifting bail
- 24-hour minimum capacity fuel tank
- Compressor fitted to operate the air-ejector priming system
- Electric drive option - general purpose
- Sound attenuated option

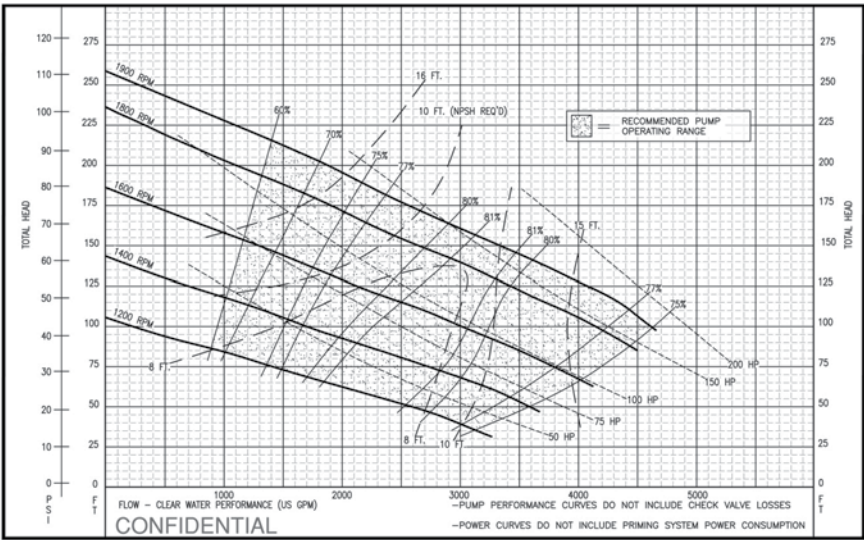
MATERIAL SPECIFICATIONS

- Standard Build
 - 316 stainless steel or chromium steel open impellers
 - Replaceable wear rings
- Pump Shaft
 - 431 stainless steel
 - All other components spheroidal graphite iron
- Mechanical Seal
 - Solid silicon carbide mating faces
 - Oil-bath lubrication for dry running
- Suction/discharge flanges ANSI 150# FF

DV200c



Fuel tank: 190 Gallon *719 liters*



Fuel consumption: 7.0 GPH @ 1,800 RPM *26 liters per hour*



DV200c

SIZE 12" x 8" 305 x 203 mm

■ 4,600 GPM MAX 290 l/sec

■ 260 FT HEAD MAX 79 m head

FEATURES

- Solids-handling capabilities to 3-3/8" 86 mm diameter maximum
- Continuous self-priming
- Runs dry unattended
- Suction lift up to 28 ft. 8.5 m
- Auto-start capable control panel
- Stainless steel, CD4MCu and chrome pump options

TECHNICAL

- SAE-mounted
- Flex coupled to various diesel engines
- 12 volt, electric start with control panel
- Skid or trailer-mounted with optional lifting bail
- 24-hour minimum capacity fuel tank
- Compressor/venturi automatic priming system
- Electric drive option - general purpose
- Sound attenuated option

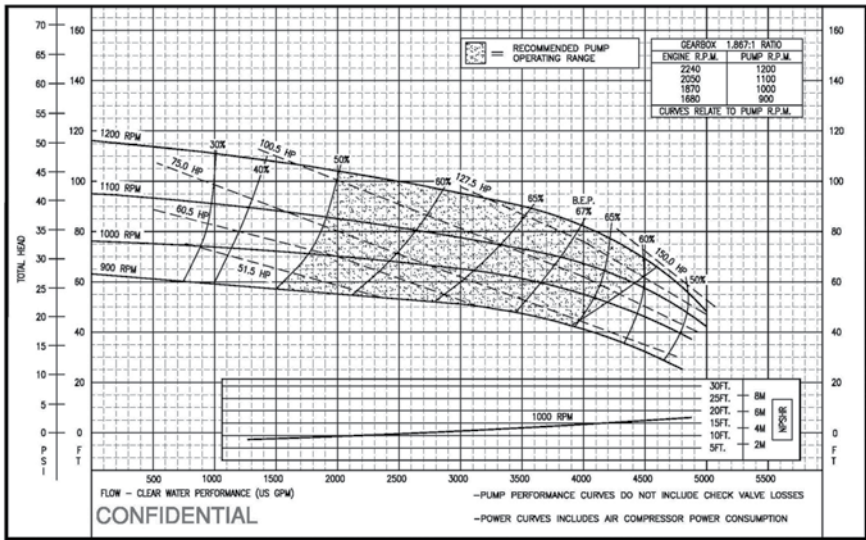
MATERIAL SPECIFICATIONS

- Standard Build
 - Cast iron volute
 - Cast iron 2 vane non-clog impellers
 - Replaceable wear rings
- Pump Shaft
 - SAE 1144 stress proof metal
- Mechanical Seal
 - Tungsten carbide vs. silicon carbide mating faces
 - Oil-bath lubrication for dry running
- Suction/discharge flanges ANSI 150# FF

DV300



Fuel tank: 250 Gallon *946 liters*



Fuel consumption: 6.6 GPH @ 2,200 RPM *25 liters per hour*



DV300

SIZE 12" x 10" 305 x 254 mm

■ 5,000 GPM MAX 315 l/sec

■ 115 FT HEAD MAX 35 m head

FEATURES

- Solids-handling capabilities to 3-3/8" 86 mm diameter maximum
- Continuous self-priming
- Runs dry unattended
- Suction lift up to 28 ft. 8.5 m
- Auto-start capable control panel
- Stainless steel, CD4MCu and chrome pump options

TECHNICAL

- Pedestal-mounted
- Flex coupled to various diesel engines
- 12 volt, electric start with control panel
- Skid or trailer-mounted with optional lifting bail
- 24-hour minimum capacity fuel tank
- Compressor fitted to operate the air-ejector priming system
- Electric drive option - general purpose
- Sound attenuated option

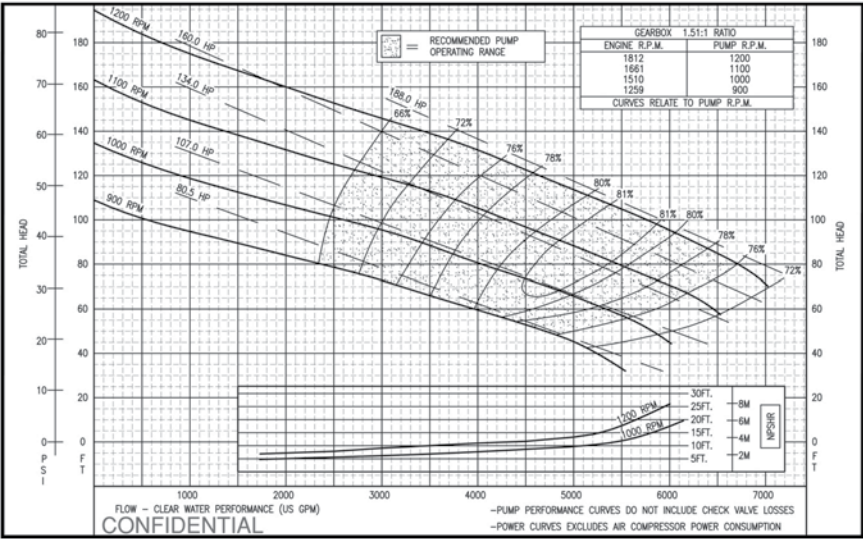
MATERIAL SPECIFICATIONS

- Standard Build
 - 316 stainless steel or chromium steel open impellers
 - Replaceable wear rings
- Pump Shaft
 - 431 stainless steel
 - All other components spheroidal graphite iron
- Mechanical Seal
 - Solid silicon carbide mating faces
 - Oil-bath lubrication for dry running
- Suction/discharge flanges ANSI 150# FF

DV300i



Fuel tank: 250 Gallon *946 liters*



Fuel consumption: 8.9 GPH @ 1,800 RPM *34 liters per hour*



DV300i

SIZE 12" x 12" 305 x 305 mm

■ 6,900 GPM MAX 435 l/sec

■ 197 FT HEAD MAX 60 m head

FEATURES

- Solids-handling capabilities to 3-1/2" 89 mm diameter maximum
- Continuous self-priming
- Runs dry unattended
- Suction lift up to 28 ft. 8.5 m
- Auto-start capable control panel
- Stainless steel, CD4MCu and chrome pump options

TECHNICAL

- Pedestal-mounted
- Flex coupled to various diesel engines
- 12 volt, electric start with control panel
- Skid-mounted with optional lifting bail
- 24-hour minimum capacity fuel tank
- Compressor/venturi automatic priming system
- Electric drive option - general purpose
- Sound attenuated option

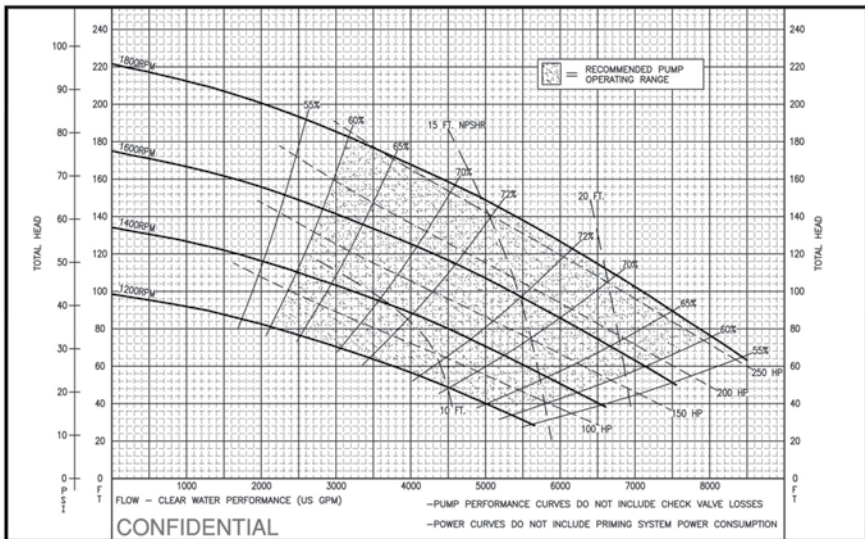
MATERIAL SPECIFICATIONS

- Standard Build
 - Ductile iron volute
 - Stainless steel or chromium steel open impellers
 - Replaceable wear plates
- Pump Shaft
 - 431 stainless steel
- Mechanical Seal
 - Solid silicon carbide mating faces
 - Oil-bath lubrication for dry running
- Suction/discharge flanges ANSI 150# FF

DV325c



Standard Sound Attenuated Pump
Fuel tank: 340 Gallon *1,287 liters*



Fuel consumption: 12.5 GPH @ 1,800 RPM *47 liters per hour*



DV325c

SIZE 14" x 12" 356 x 305 mm

■ 8,500 GPM MAX 536 l/sec

■ 220 FT HEAD MAX 67 m head

FEATURES

- Solids-handling capabilities to 4-3/4" 121 mm diameter maximum
- Continuous self-priming
- Runs dry unattended
- Suction lift up to 28 ft. 8.5 m
- Auto-start capable control panel
- Stainless steel, CD4MCu and chrome pump options

TECHNICAL

- SAE-mounted
- Flex coupled to various diesel engines
- 12 volt, electric start with control panel
- Skid mounted with optional lifting bail
- 24-hour minimum capacity fuel tank
- Compressor fitted to operate the air-ejector priming system
- Electric drive option - general purpose
- Sound attenuated standard

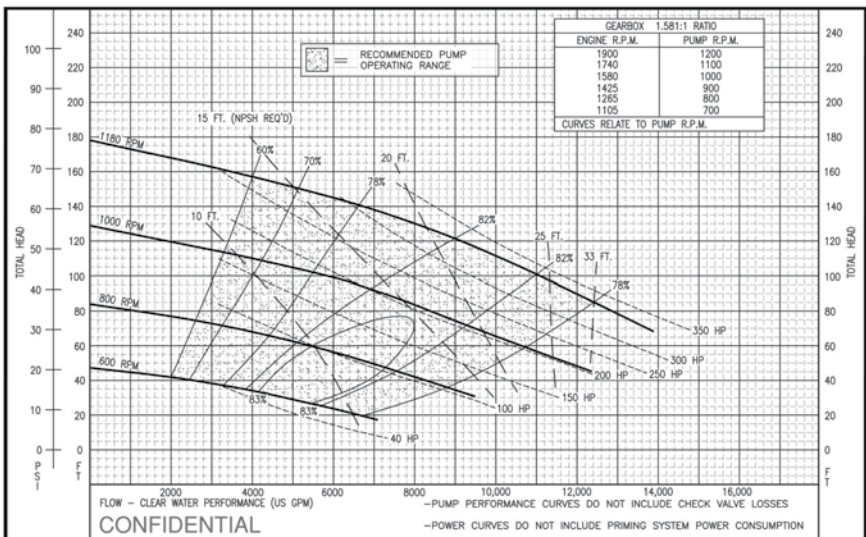
MATERIAL SPECIFICATIONS

- Standard Build
 - Cast iron volute
 - Cast iron 2 vane non-clog impellers
 - Replaceable wear rings
- Pump Shaft
 - SAE 1144 stress proof metal
- Mechanical Seal
 - Tungsten carbide vs. silicon carbide mating faces
 - Oil-bath lubrication for dry running
- Suction/discharge flanges ANSI 150# FF

DV350c



Fuel tank: 100 Gallon *379 liters*



Fuel consumption: 17.0 GPH @ 1,900 RPM *64 liters per hour*

DV350c

SIZE 14" x 14" 356 x 356 mm

■ 13,500 GPM MAX 852 l/sec

■ 180 FT HEAD MAX 55 m head

FEATURES

- Solids-handling capabilities to 4-1/4" 108 mm diameter maximum
- Continuous self-priming
- Runs dry unattended
- Suction lift up to 28 ft. 8.5 m
- Auto-start capable control panel

TECHNICAL

- Pedestal-mounted
- Diesel-fueled, 12-volt, electric-start engine
- Skid-mounted with lifting bail
- 100 gallon capacity fuel tank with auxiliary fuel tank connections
- 60 CFM vacuum pump priming system

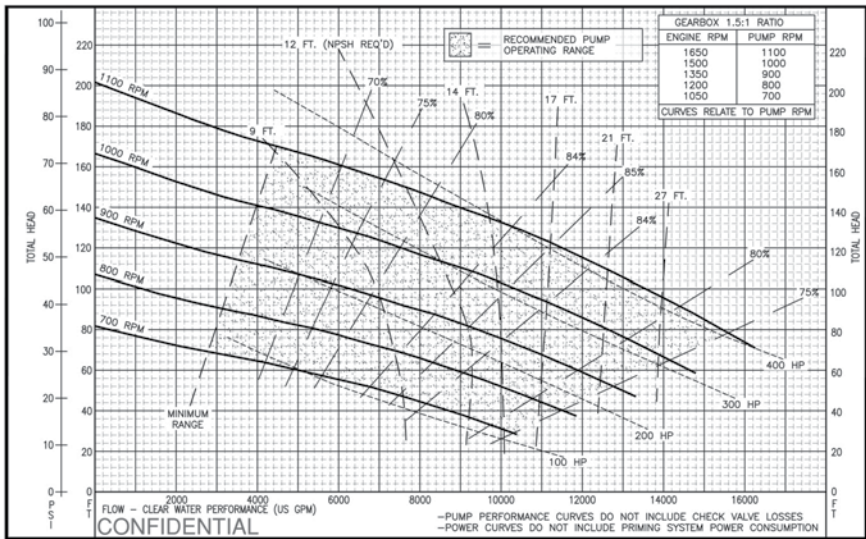
MATERIAL SPECIFICATIONS

- Standard Build
 - Cast iron 3 vane non-clog impellers
 - Replaceable wear rings
- Pump Shaft
 - 17-4PH stainless steel
- Mechanical Seal
 - Tungsten carbide vs. silicon carbide mating faces
 - Oil-bath lubrication for dry running
- Suction/discharge flanges ANSI 150# FF

DV400c



Fuel tank: 100 Gallon *379 liters*



Fuel consumption: 19.6 GPH @ 1,740 RPM-John Deere 6135H *74 liters per hour*

DV400c

SIZE 18" x 16" *457 x 406 mm*

■ 16,000 GPM MAX *1,009 l/sec*

■ 200 FT HEAD MAX *61 m head*

FEATURES

- Solids-handling capabilities to 4-1/2" *114 mm* diameter maximum
- Continuous self-priming
- Runs dry unattended
- Suction lift up to 28 ft. *8.5 m*
- Auto-start capable control panel

TECHNICAL

- Pedestal-mounted
- Diesel-fueled, 12 volt, electric-start engine
- Skid-mounted with lifting bail
- 100 gallon fuel tank with auxiliary fuel tank connections
- 60 CFM vacuum pump priming system
- Electric drive option - general purpose

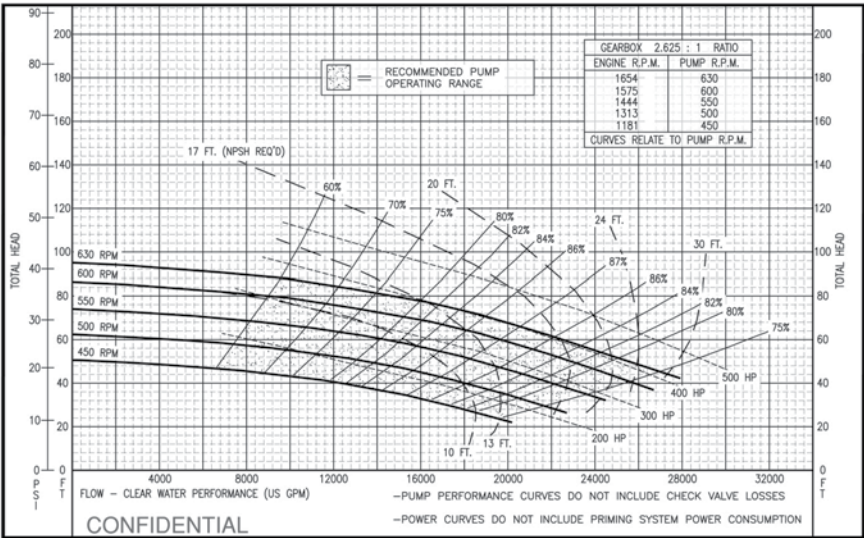
MATERIAL SPECIFICATIONS

- Standard Build
 - Cast iron 3 vane non-clog impellers
 - Replaceable wear rings
- Pump Shaft
 - High-strength, stress-proof alloy steel
- Mechanical Seal
 - Tungsten carbide vs. silicon carbide mating faces
 - Oil-bath lubrication for dry running
- Suction/discharge flanges ANSI 150# FF

DV600c



Fuel tank: 400 Gallon *1,514 liters*



Fuel consumption: 19.9 GPH @ 1,650 RPM *75 liters per hour*

DV600c

SIZE 30" x 24" *762 x 610 mm*

■ 28,000 GPM MAX *1,767 l/sec*

■ 96 FT HEAD MAX *29 m head*

FEATURES

- Solids-handling capabilities to 5-1/4" *133 mm* diameter maximum
- Continuous self-priming
- Runs dry unattended
- Suction lift up to 28 ft. *8.5 m*
- Auto-start capable control panel

TECHNICAL

- Diesel-fueled, 12 volt, electric-start engine
- Skid-mounted with lifting eyes
- 400 gallon fuel tank with auxiliary fuel tank connections
- 60 CFM vacuum pump priming system

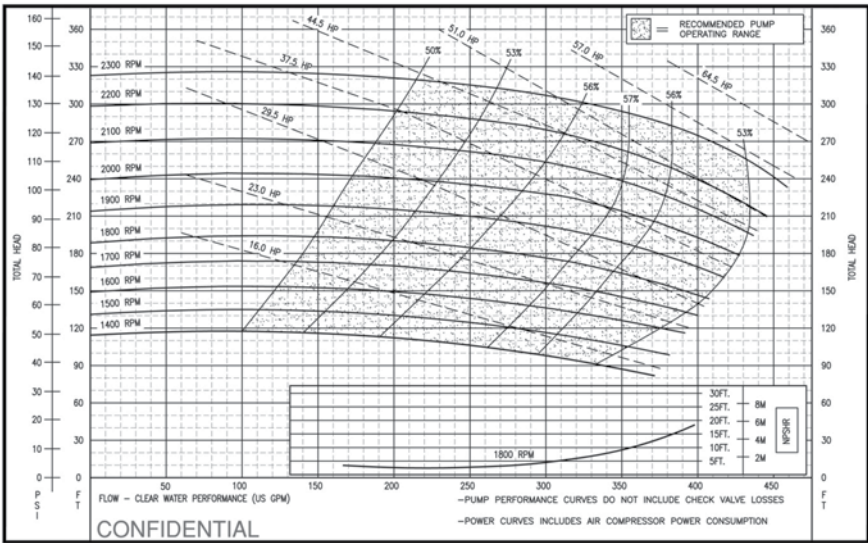
MATERIAL SPECIFICATIONS

- Standard Build
 - Cast iron 3 vane non-clog impellers
 - Replaceable wear rings
- Pump Shaft
 - High-strength, stress-proof alloy steel
- Mechanical Seal
 - Tungsten carbide vs. silicon carbide mating faces
 - Oil-bath lubrication for dry running
- Suction/discharge flanges ANSI 150# FF

HH80



Fuel tank: 120 Gallon *454 liters*



Fuel consumption: 2.9 GPH @ 2,900 RPM *11 liters per hour*



HH80

SIZE 3" x 3" 76 x 76 mm

■ 450 GPM MAX 28 l/sec

■ 320 FT HEAD MAX 98 m head

FEATURES

- Solids-handling capabilities to 1" 25 mm diameter maximum
- Continuous self-priming
- Runs dry unattended
- Suction lift up to 28 ft. 8.5 m
- Auto-start capable control panel
- Stainless steel, CD4MCu and chrome pump options

TECHNICAL

- SAE-mounted
- Flex coupled to various diesel engines
- 12 volt, electric start with control panel
- Skid or trailer-mounted with lifting bail
- 24-hour minimum capacity fuel tank
- Compressor/venturi automatic priming system
- Electric drive option - general purpose
- Sound attenuated option

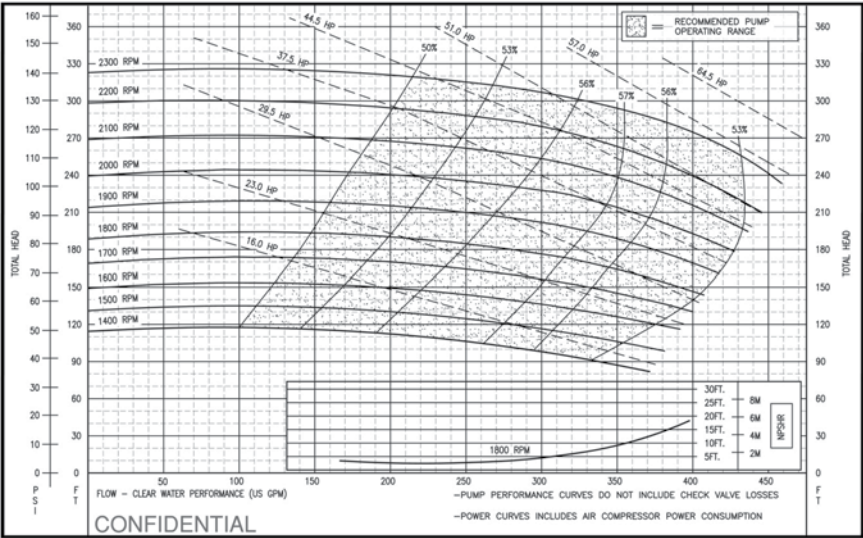
MATERIAL SPECIFICATIONS

- Standard Build
 - Ductile iron volute
 - Stainless steel open impellers
 - Replaceable wear plates
- Pump Shaft
 - 431 stainless steel
- Mechanical Seal
 - Solid silicon carbide mating faces
 - Oil-bath lubrication for dry running
- Suction/discharge flanges ANSI 150# FF

HH80c



Fuel tank: 120 Gallon *454 liters*



Fuel consumption: 2.3 GPH @ 2,200 RPM *9 liters per hour*



HH80c

SIZE 3" x 3" 76 x 76 mm

■ 450 GPM MAX 28 l/sec

■ 360 FT HEAD MAX 110 m head

FEATURES

- Solids-handling capabilities to 2/5" 10 mm diameter maximum
- Continuous self-priming
- Runs dry unattended
- Suction lift up to 28 ft. 8.5 m
- Auto-start capable control panel
- Stainless steel, CD4MCu and chrome pump options

TECHNICAL

- SAE-mounted
- Flex coupled to various diesel engines
- 12 volt, electric start with control panel
- Skid or trailer-mounted with lifting bail
- 24-hour minimum capacity fuel tank
- Compressor/venturi automatic priming system
- Electric drive option - general purpose
- Sound attenuated option

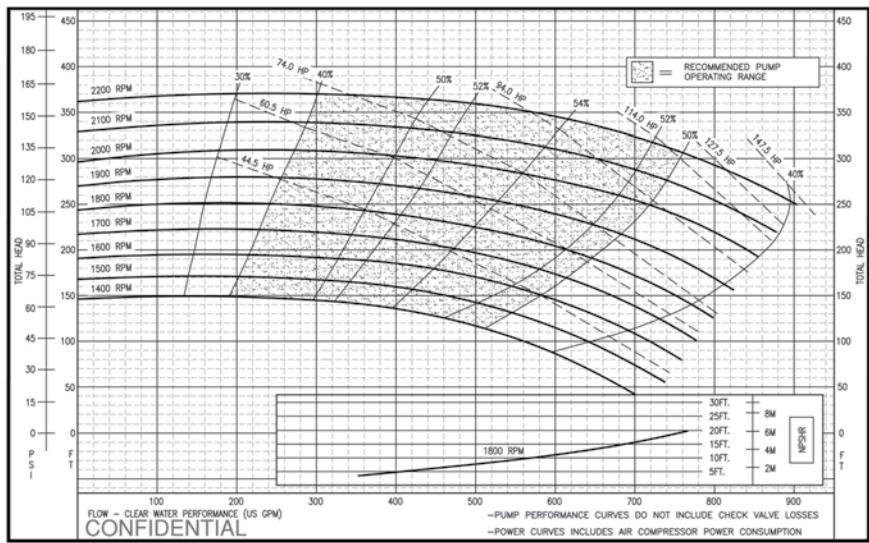
MATERIAL SPECIFICATIONS

- Standard Build
 - Ductile iron volute
 - Stainless steel open impellers
 - Replaceable wear plates
- Pump Shaft
 - 431 stainless steel
- Mechanical Seal
 - Solid silicon carbide mating faces
 - Oil-bath lubrication for dry running
- Suction/discharge flanges ANSI 150# FF

HH125



Fuel tank: 120 Gallon *454 liters*



Fuel consumption: 5.4 GPH @ 2,200 RPM *20 liters per hour*



HH125

SIZE 6" x 4" 152 x 102 mm

■ 900 GPM MAX 57 l/sec

■ 370 FT HEAD MAX 113 m head

FEATURES

- Solids-handling capabilities to 1-1/4" 32 mm diameter maximum
- Runs dry unattended
- Suction lift up to 28 ft. 8.5 m
- Auto-start capable control panel
- Stainless steel, CD4MCu and chrome pump options

TECHNICAL

- Pedestal-mounted
- Flex coupled to various diesel engines
- 12 volt, electric start with control panel
- Skid or trailer-mounted with lifting bail
- 24-hour minimum capacity fuel tank
- Compressor fitted to operate the air-ejector priming system
- Sound attenuated option

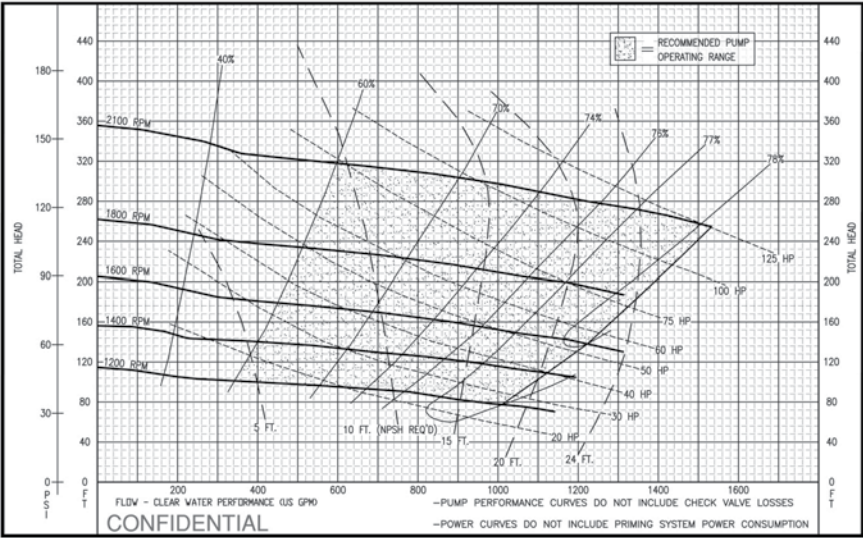
MATERIAL SPECIFICATIONS

- Standard Build
 - 316 stainless steel or chromium steel open impellers
 - Replaceable wear rings
- Pump Shaft
 - 431 stainless steel
 - All other components spheroidal graphite iron
- Mechanical Seal
 - Solid silicon carbide mating faces
 - Oil-bath lubrication for dry running
- Suction/discharge flanges ANSI 150# FF

HH125c



Fuel tank: 190 Gallon *719 liters*



Fuel consumption: 6.7 GPH @ 2,100 RPM *25 liters per hour*



HH125c

SIZE 6" x 4" *152 x 102 mm*

■ 1,525 GPM MAX *96 l/sec*

■ 355 FT HEAD MAX *108 m head*

FEATURES

- Solids-handling capabilities to 3" *76 mm* diameter maximum
- Runs dry unattended
- Suction lift up to 28 ft. *8.5 m*
- Auto-start capable control panel
- Stainless steel, CD4MCu and chrome pump options

TECHNICAL

- SAE-mounted
- Flex coupled to various diesel engines
- 12 volt, electric start with control panel
- Skid or trailer-mounted with optional lifting bail
- 24-hour minimum capacity fuel tank
- Compressor/venturi automatic priming system
- Electric drive option - general purpose
- Sound attenuated option

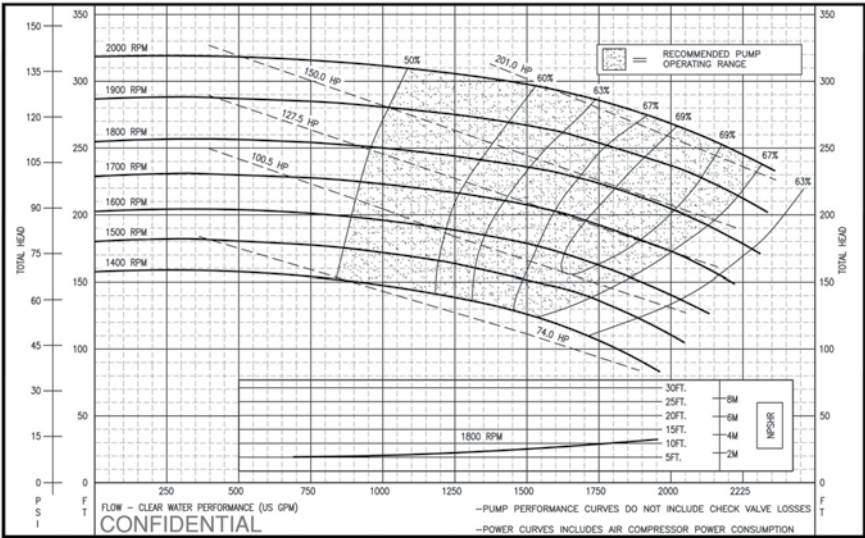
MATERIAL SPECIFICATIONS

- Standard Build
 - ASTM A48 CLASS 30 gray iron volute enclosed 2 vane non-clog impeller and replaceable wear rings
- Pump Shaft
 - SAE 1144 stress proof steel
- Mechanical Seal
 - Tungsten carbide vs. silicon carbide mating faces
 - Oil-bath lubrication for dry running
- Suction/discharge flanges ANSI 150# FF

HH150



Fuel tank: 250 Gallon *946 liters*



Fuel consumption: 10.3 GPH @ 2,000 RPM *39 liters per hour*



HH150

SIZE 8" x 6" 203 x 152 mm

■ 2,300 GPM MAX 145 l/s

■ 319 FT HEAD MAX 97 m head

FEATURES

- Solids-handling capabilities to 1-1/2" 38 mm diameter maximum
- Continuous self-priming
- Runs dry unattended
- Suction lift up to 28 ft. 8.5 m
- Auto-start capable control panel
- Stainless steel, CD4MCu pump options

TECHNICAL

- Pedestal-mounted
- Flex coupled to various diesel engines
- 12 volt, electric start with control panel
- Skid or trailer-mounted with optional lifting bail
- 24-hour minimum capacity fuel tank
- Compressor/venturi automatic priming system
- Electric drive option - general purpose
- Sound attenuated option

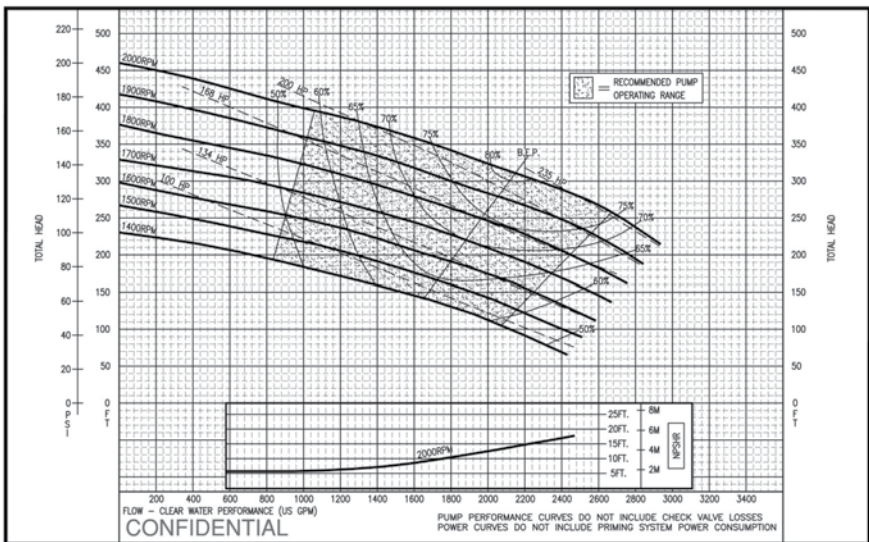
MATERIAL SPECIFICATIONS

- Standard Build
 - Ductile iron volute
 - Stainless steel open impellers
 - Replaceable wear plates
- Pump Shaft
 - 431 stainless steel
- Mechanical Seal
 - Solid silicon carbide mating faces
 - Oil-bath lubrication for dry running
- Suction/discharge flanges ANSI 150# FF

HH160i



Fuel tank: 250 Gallon *946 liters*



HH160i

SIZE 8" x 6" *203 x 152 mm*

■ 2,800 GPM MAX *177 l/s*

■ 460 FT HEAD MAX *140 m head*

FEATURES

- Solids-handling capabilities to 1-1/2" *38 mm* diameter maximum
- Continuous self-priming
- Runs dry unattended
- Suction lift up to 28 ft. *8.5 m*
- Auto-start capable control panel
- Stainless steel, CD4MCu pump options

TECHNICAL

- Pedestal-mounted
- Flex coupled to various diesel engines
- 12 volt, electric start with control panel
- Skid or trailer-mounted with optional lifting bail
- 24-hour minimum capacity fuel tank
- Compressor/venturi automatic priming system
- Electric drive option - general purpose

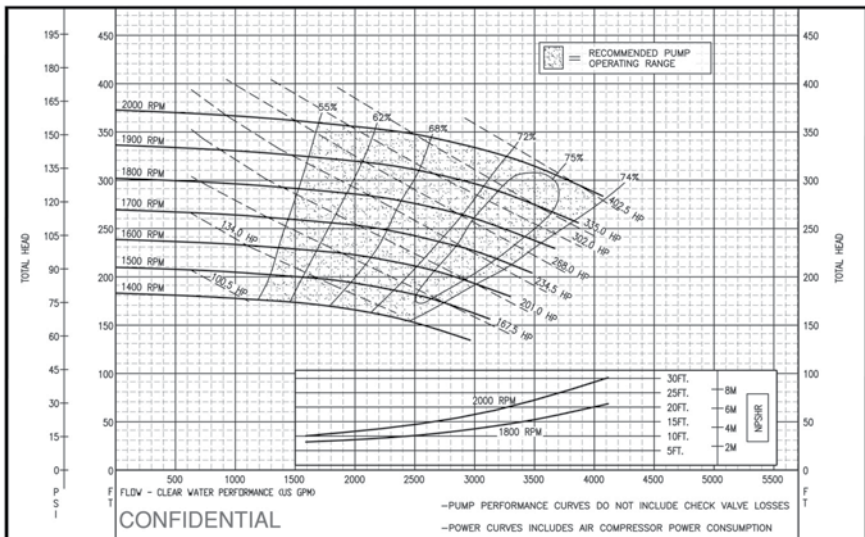
MATERIAL SPECIFICATIONS

- Standard Build
 - Ductile iron volute
 - Stainless steel open impellers
 - Replaceable wear plates
- Pump Shaft
 - 431 stainless steel
- Mechanical Seal
 - Solid silicon carbide mating faces
 - Oil-bath lubrication for dry running
- Suction/discharge flanges ANSI 150# FF

HH200i



Fuel tank: 370 Gallon **1,401 liters**



Fuel consumption: 18.6 GPH @ 2,000 RPM **70 liters per hour**

HH200i

SIZE 8" x 8" 203 x 203 mm

■ 4,100 GPM MAX 259 l/sec

■ 370 FT HEAD MAX 113 m head

FEATURES

- Solids-handling capabilities to 2-1/5" 56 mm diameter maximum
- Continuous self-priming
- Runs dry unattended
- Suction lift up to 28 ft. 8.5 m
- Auto-start capable control panel
- Stainless steel - CD4MCu pump options

TECHNICAL

- Pedestal-mounted
- Flex coupled to various diesel engines
- 12 volt, electric start with control panel
- Skid-mounted with optional lifting bail
- 16-hour minimum capacity fuel tank
- Compressor/venturi automatic priming system

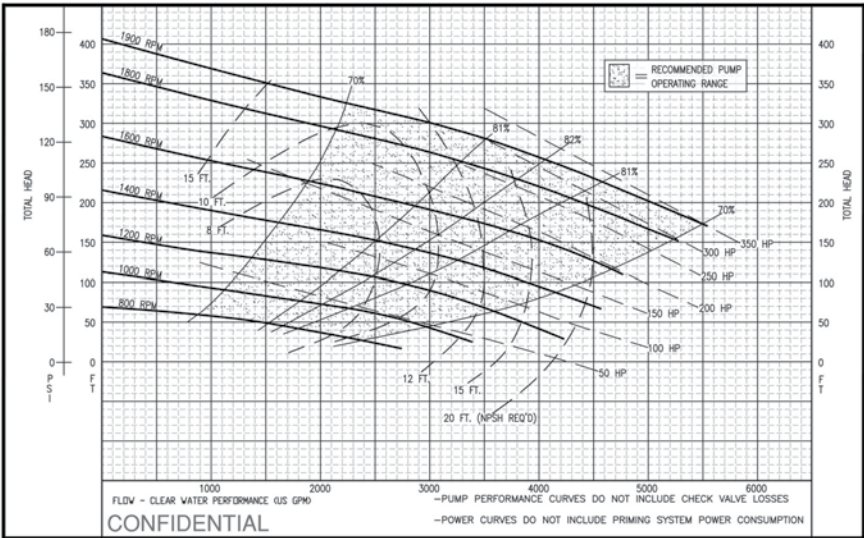
MATERIAL SPECIFICATIONS

- Standard Build
 - Cast iron volute
 - Stainless steel open impellers
 - Replaceable wear plates
- Pump Shaft
 - 431 stainless steel
- Mechanical Seal
 - Solid silicon carbide mating faces
 - Oil-bath lubrication for dry running
- Suction/discharge flanges ANSI 150# FF

HH225c



Fuel tank: 250 Gallon *946 liters*



Fuel consumption: 15.4 GPH @ 1,900 RPM *58 liters per hour*

HH225c

SIZE 12" x 8" *305 x 203 mm*

■ 5,400 GPM MAX *341 l/sec*

■ 405 FT HEAD MAX *123 m head*

FEATURES

- Solids-handling capabilities to 3-3/8" *86 mm* diameter maximum
- Continuous self-priming
- Runs dry unattended
- Suction lift up to 28 ft. *8.5 m*
- Auto-start capable control panel
- Stainless steel, CD4MCu and chrome pump options

TECHNICAL

- SAE-mounted
- Flex coupled to various diesel engines
- 12 volt, electric start with control panel
- Skid or trailer-mounted with lifting bail
- 16-hour minimum capacity fuel tank
- Compressor fitted to operate the air-ejector priming system
- Electric drive option - general purpose

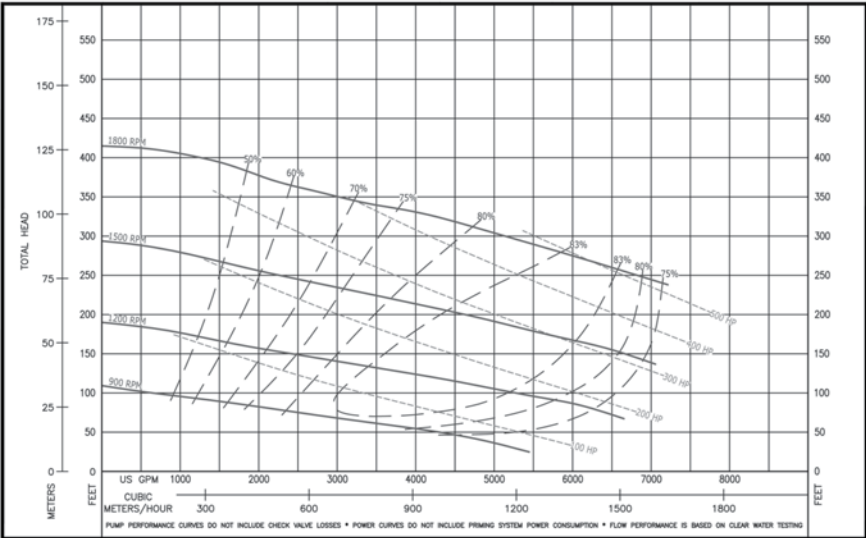
MATERIAL SPECIFICATIONS

- Standard Build
 - Cast iron volute
 - Cast iron 2 vane non-clog impellers
 - Replaceable wear rings
- Pump Shaft
 - SAE 1144 stress proof steel
- Mechanical Seal
 - Tungsten carbide vs. solid silicon carbide mating faces
 - Oil-bath lubrication for dry running
- Suction/discharge flanges ANSI 150# FF

HH300c



Fuel tank: 300 Gallon *1,249 liters*



Fuel consumption: 29 GPH @ 1,800 RPM *110 liters per hour*

HH300c

SIZE 12" x 10" 305 x 254 mm

■ 6,800 GPM MAX 429 l/sec

■ 415 FT HEAD MAX 126 m head

FEATURES

- Solids-handling capabilities to 4" 102 mm diameter maximum
- Continuous self-priming
- Runs dry unattended
- Suction lift up to 28 ft. 8.5 m
- Auto-start capable control panel
- Stainless steel, CD4MCu and chrome pump options

TECHNICAL

- SAE-mounted
- Flex coupled to various diesel engines
- 12 volt, electric start with control panel
- Skid-mounted with lifting bail
- 16-hour minimum capacity fuel tank
- Compressor fitted to operate the air-ejector priming system
- Electric drive option - general purpose

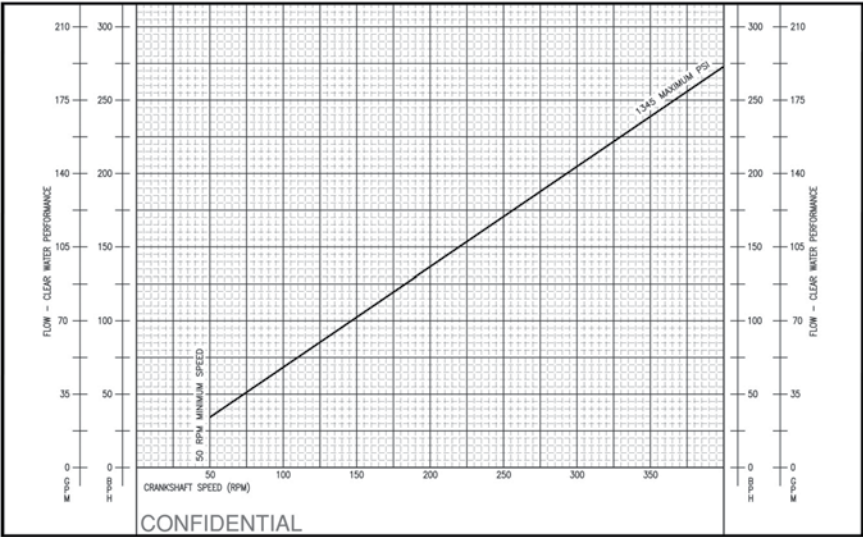
MATERIAL SPECIFICATIONS

- Standard Build
 - Cast iron volute
 - Cast iron 2 vane non-clog impellers
 - Replaceable wear rings
- Pump Shaft
 - SAE 1144 stress proof steel
- Mechanical Seal
 - Tungsten carbide vs. solid silicon carbide mating faces
 - Oil-bath lubrication for dry running
- Suction/discharge flanges ANSI 150# FF

HP165m



Fuel tank: 60 Gallon *227 liters*



Fuel consumption: 8.5 GPH @ 2,000 RPM *32 liters per hour*

HP165m

SIZE 4" x 2" 102 x 51 mm

■ 186 GPM MAX 12 l/sec

■ 1345 PSI with 2-1/2" Plungers 63.5 mm

■ 2100 PSI with 2" Plungers 51 mm

FEATURES

- Specialized positive displacement plunger pump
- Skid-mounted
- Designed for low volume, high head applications
- Ideal for hydrostatic testing and hydroblasting applications

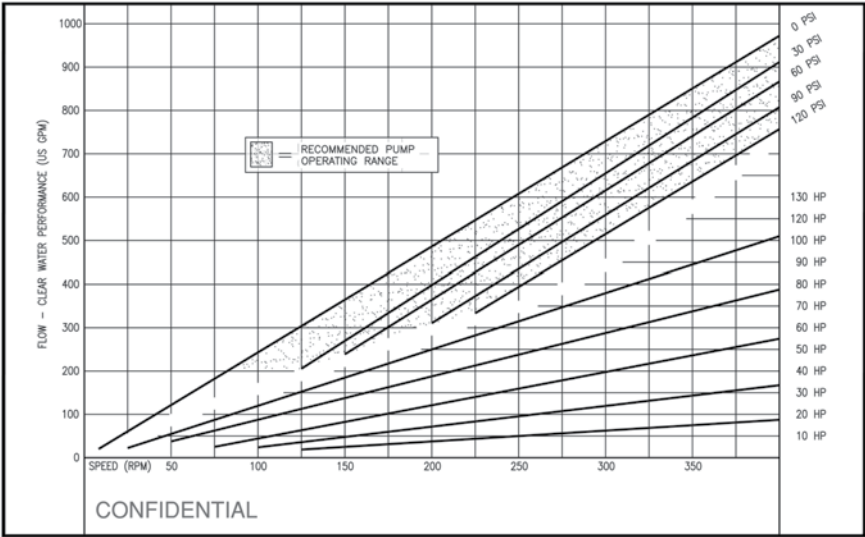
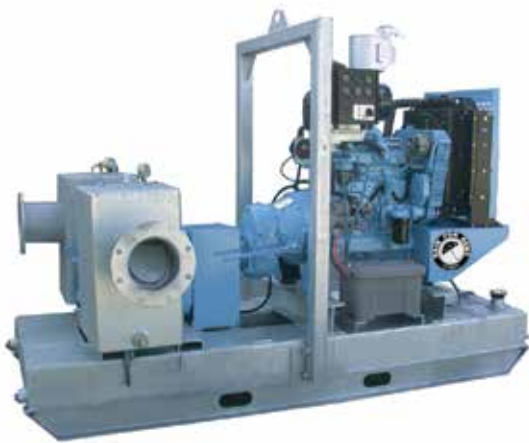
TECHNICAL

- Pedestal-mounted
- John Deere 6090 diesel engine
- Eaton 5 speed transmission
- 1630Q-4M quintuplex plunger pump with tungsten carbide plungers and Kevlar packing and slow speed lubricator pump system
- Pump packing lubricator assembly with stainless steel supply lines
- 15 gallon lube supply tank
- Low engine crankcase level shutdown switch
- Flow meter with digital read out.

MATERIAL SPECIFICATIONS

- Standard Build
 - 316 stainless steel
- Hard-co plungers
- Cast nickel, aluminum, bronze liquid end body
- 4" suction flange ANSI 300# RF
- 2" discharge flange 1500#

RL200



Fuel consumption: 2.7 GPH @ 1,800 RPM 10 liters per hour



RL200

SIZE 8" x 8" 203 x 203 mm

■ 975 GPM MAX 62 l/sec

■ 277 FT HEAD MAX 84 m head

FEATURES

- Positive displacement rotary lobe
- Solids-handling capabilities to 2-7/10" 69 mm diameter
- Positive displacement pump
- Easy maintenance through quick release covers
- Rotors and tips can be replaced in 1/2 hour on the jobsite
- Self-priming
- Pulsation free
- Suction lift to 28' 8.5 m

TECHNICAL

- Flex coupled to various diesel engines
- 12 volt, electric start engine
- Gear reducer assembly with flexible coupling and manual clutch
- Skid-mounted with lifting bail
- 24-hour minimum capacity fuel tank
- Vacuum and pressure gauges
- Vacuum relief valve
- Discharge flapper check valve
- Electric drive option - general purpose

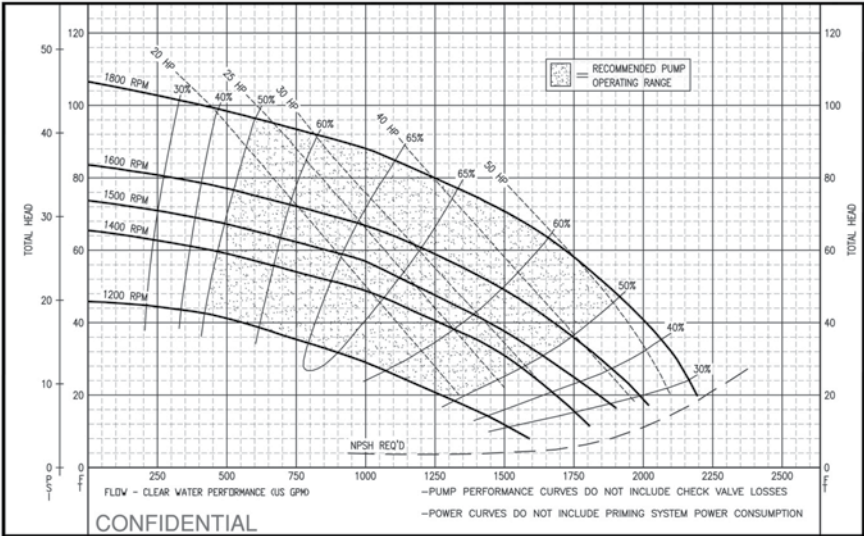
MATERIAL SPECIFICATIONS

- Standard Build
 - Cast iron pump body and replaceable lobes
 - Standard stainless steel wear liner
 - Stainless steel and bronze available
- Pump Shaft
 - Oil-wetted shafts not in contact with the pumped medium
- Mechanical Seal
 - Solid silicon carbide mating faces
 - Oil-bath lubrication
- Suction/discharge flanges ANSI 150# pattern

VP150



Fuel tank: 120 Gallon *454 liters*



Fuel consumption: 3.3 GPH @ 1,800 RPM *12 liters per hour*

VP150

SIZE 6" x 6" 152 x 152 mm

■ 2,200 GPM MAX 139 l/sec

■ 107 FT HEAD MAX 33 m head

FEATURES

- Solids handling capabilities to 2-1/2" 64 mm diameter maximum
- Continuous self priming
- Runs dry unattended
- Suction lift to 28 ft 8.5 m
- Stainless steel, CD4MCu and chrome pump options

TECHNICAL

- SAE mounted
- Flex coupled to various diesel engines
- Skid or trailer-mounted with lifting bail
- 24-hour minimum capacity fuel tank
- 12 volt, electric start
- Priming tank is fitted with float gear for air/water separation
- Oil/water coalescer is fitted for oil recovery in the lubrication reservoir

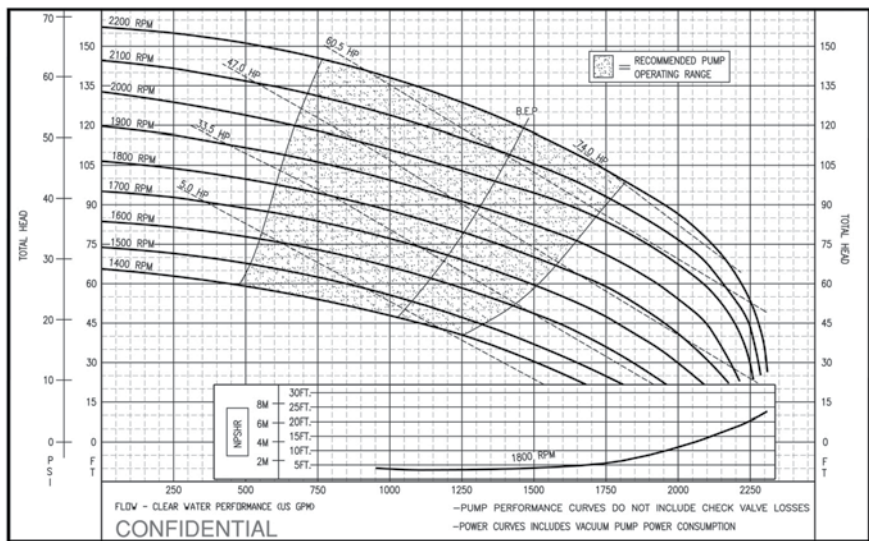
MATERIAL SPECIFICATIONS

- Standard build
 - 316 stainless steel open impellers
 - Replaceable wear plates
- Pump shaft
 - 431 stainless steel
 - All other components spheroidal graphite iron
- The mechanical seal
 - Solid silicon carbide mating faces
 - Oil-bath lubrication flanges
- Suction/discharge flanges are ANSI 150# FF.

VMX150



Fuel tank: 120 Gallon *454 liters*



Fuel consumption: 3.2 GPH @ 2,000 RPM *12 liters per hour*

VMX150

SIZE 6" x 6" 152 x 152 mm

■ 2,300 GPM MAX 145 l/sec

■ 157 FT HEAD MAX 48 m head

FEATURES

- Solids-handling capabilities to 3" 76 mm diameter
- Continuous self-priming
- Runs dry unattended
- Suction lift to 28 ft. 8.5 m
- Auto-start capable control panel
- Stainless steel, CD4MCu and chrome pump options

TECHNICAL

- SAE-mounted
- Flex coupled to various diesel engines
- 12 volt, electric start with control panel
- Skid or trailer-mounted with lifting bail
- 24-hour minimum capacity fuel tank
- Priming tank fitted with float gear for air/water separation
- Oil/water coalescer fitted for oil recovery in the lubrication reservoir

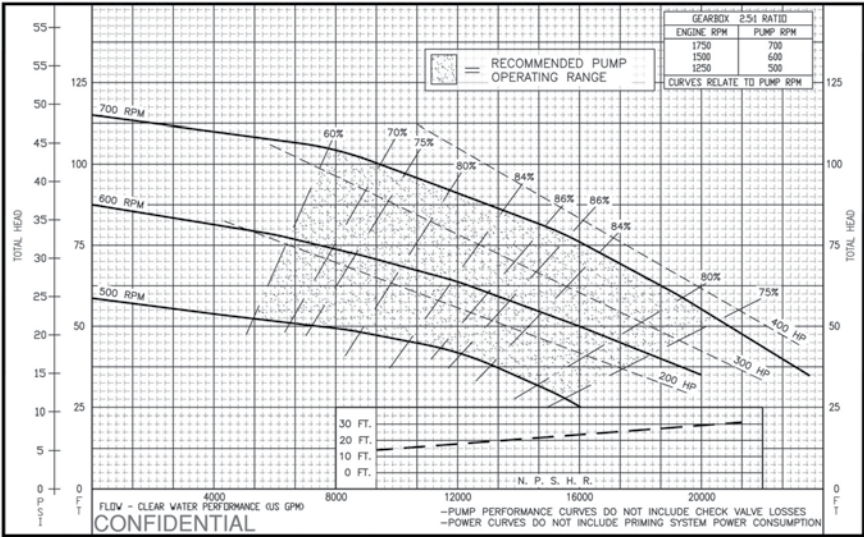
MATERIAL SPECIFICATIONS

- Standard Build
 - 316 stainless steel or chromium steel open impellers
 - Replaceable wear rings
- Pump Shaft
 - 431 stainless steel
 - All other components spheroidal graphite iron
- Mechanical Seal
 - Solid silicon carbide mating faces
 - Oil-bath lubrication for dry running
- Suction/discharge flanges ANSI 150# FF

VP500



Fuel tank: Nurse Tank Required



Fuel consumption: 14.0 GPH @ 2,000 RPM *53 liters per hour*

VP500

SIZE 24" x 20" 610 x 508 mm

■ 22,000 GPM MAX 1,388 l/sec

■ 120 FT HEAD MAX 37 m head

FEATURES

- Solids-handling capabilities to 5" 127 mm diameter maximum
- Continuous self-priming
- Runs dry unattended
- Suction lift to 28 ft. 8.5 m
- Auto-start capable control panel

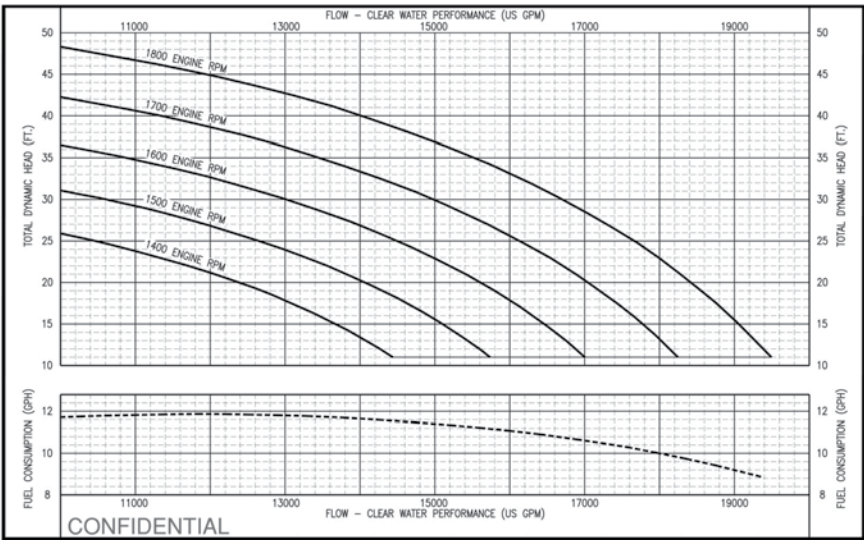
TECHNICAL

- Trailer-mounted
- Flex coupled to various diesel engines
- 12 or 24 volt, electric start with control panel
- Priming tank fitted with float gear for air/water separation
- Oil/water coalescer fitted for oil recovery into the lubrication reservoir

MATERIAL SPECIFICATIONS

- Standard Build
 - Iron construction
 - Fully-shrouded impeller
- Mechanical Seal
 - Tungsten vs. carbide mating faces
 - Oil-bath lubrication for dry running
- Suction/discharge flanges ANSI 150# FF

HD600



Fuel consumption: 11.0 GPH @ 1,800 RPM *42 liters per hour*



HD600

SIZE 30"x 24" *762 x 610 mm*

■ 19,000 GPM MAX *1,199 l/sec*

■ 47 FT HEAD MAX *14 m head*

FEATURES

- Solids-handling capabilities
- Submergence depth to 40' *12.2 m* with standard hoses
- Auto-start capable control panel
- Stainless steel, CD4MCu and chrome pump options

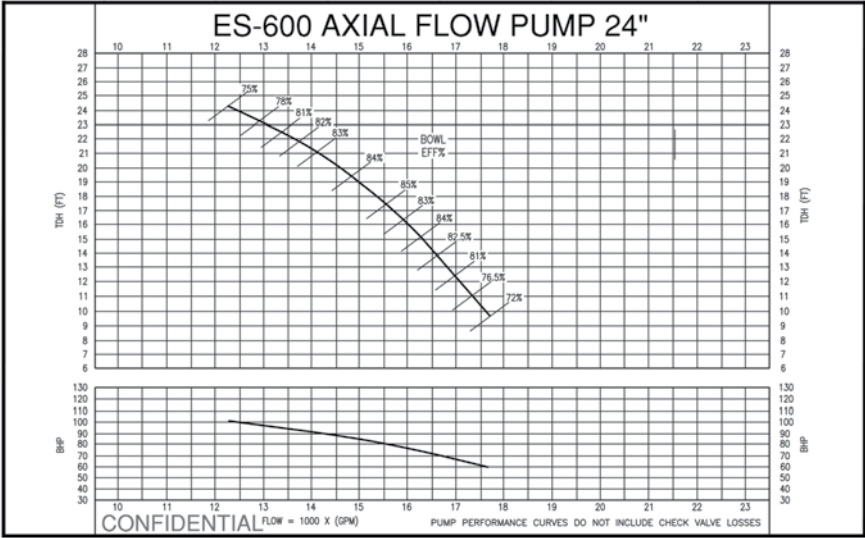
TECHNICAL

- Hydraulic power pack driven by various diesel engines
- 12 volt, electric start with control panel
- Quick disconnect hydraulic hose set
- Skid-mounted power with optional lifting bail
- 24-hour minimum capacity fuel tank
- Hydraulic fluid reservoir and hose storage racks

MATERIAL SPECIFICATIONS

- Standard Build
 - ASTM A242 steel pump bowl and steel suction bell
- Pump propeller and shaft
 - 304 stainless steel
- ASTM A242 steel hydraulic motor
- Galvanized steel power unit skid with lifting bail

ES600





ES600

SIZE 24" *610 mm*

■ 17,500 GPM MAX *1,104 l/sec*

■ 24 FT HEAD MAX *7 m head*

FEATURES

- Environmentally-friendly, no hydraulic oil
- Solids-handling capabilities
- Submergence depth to 20' *6.01 m*
- Auto-start capable control panel

TECHNICAL

- Electric motor driven axial flow pump
- 100 HP, 880 RPM, 460V, 3 phase motor
- Motor is U.L. approved and CSA listed

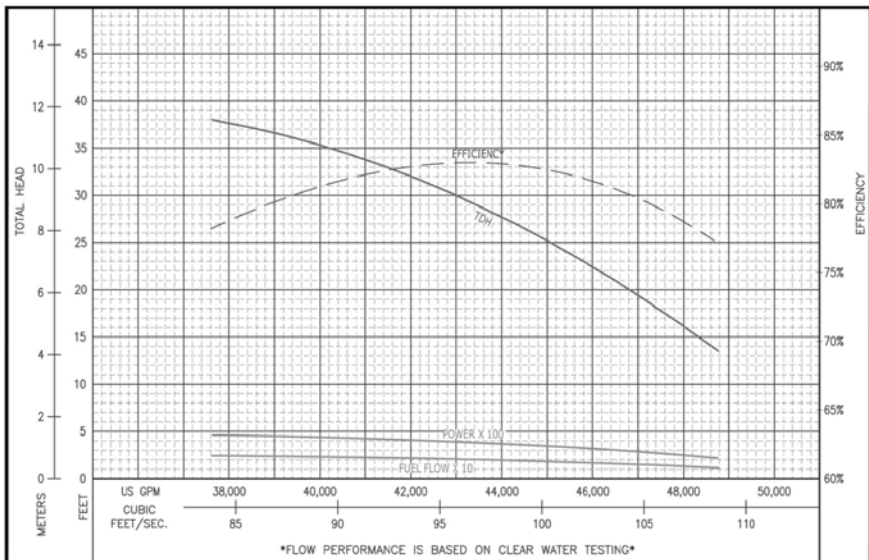
MATERIAL SPECIFICATIONS

- Standard Build
 - ASTM A242 steel pump bowl and steel suction bell
- Pump propeller and shaft
 - 316 stainless steel
- Galvanized steel starter panel skid with lifting eye

FP900



Fuel tank: 132 Gallon *500 liters*



Fuel consumption: 24 GPH @ 1,900 RPM *91 liters per hour*



FP900

SIZE 36" *914 mm*

■ 48,500 GPM MAX *3,060 l/sec*

■ 35 FT HEAD MAX *11 m head*

STANDARD FEATURES

- Self-contained floating pump station
- Frame is compatible with standard intermodal high cube container (ISO 20), with a three part epoxy coating and polyethylene finish for harsh environments.
- One piece fiberglass tank filled with low density polyethylene foam for floatation
- Equipped with sacrificial anodes to prevent galvanic corrosion
- Engine compartment and on-deck working lights
- Collapsible handrail
- Fuel efficient, direct drive
- Keel cooled engine and transmission
- Water intake from bottom, sides and one end, protected by a metal grid

TECHNICAL

- External control panel on deck
- ZF marine transmission
- 132-gallon capacity fuel tank w/provisions to easily connect to an external fuel tank
- Flexible coupling between the pump and discharge pipe
- Emissions – certified engines
 - John Deere, Tier 3

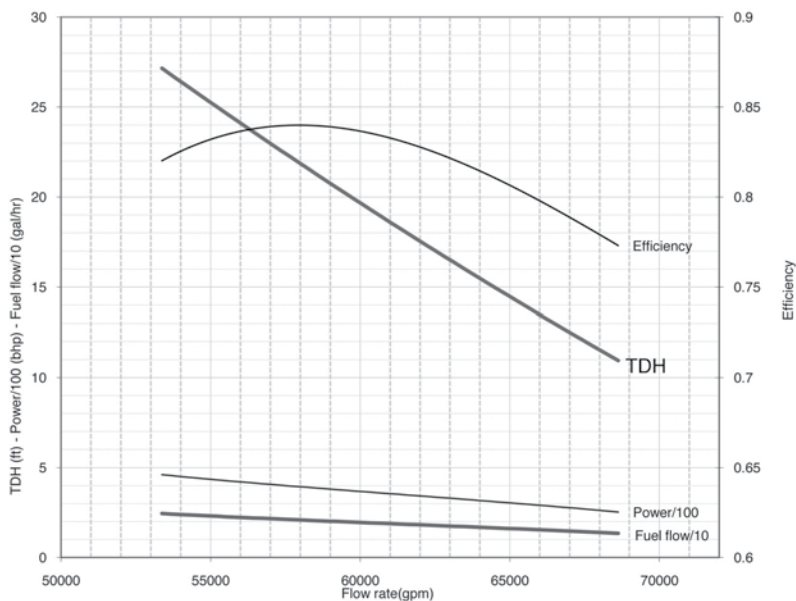
MATERIAL SPECIFICATIONS

- Pump Body – ASTM 131 marine grade steel
- Impeller – cast 304 stainless steel
- Shaft – 304 stainless steel

FP1050



Fuel tank: 132 Gallon *500 liters*



Fuel consumption: 20 GPH @ 1,800 RPM *76 liters per hour*



FP1050

SIZE 42" *1,067 mm*

■ 68,500 GPM MAX *4,322 l/sec*

■ 27 FT HEAD MAX *8 m head*

STANDARD FEATURES

- Self-contained floating pump station
- Frame is compatible with standard intermodal high cube container (ISO 20), with a three part epoxy coating and polyethylene finish for harsh environments.
- One piece fiberglass tank filled with low density polyethylene foam for floatation
- Equipped with sacrificial anodes to prevent galvanic corrosion
- Engine compartment and on-deck working lights
- Collapsible handrail
- Fuel efficient, direct drive
- Keel cooled engine and transmission
- Water intake from bottom, sides and one end, protected by a metal grid

TECHNICAL

- External control panel on deck
- ZF marine transmission
- 132-gallon capacity fuel tank w/provisions to easily connect to an external fuel tank
- Flexible coupling between the pump and discharge pipe
- Emissions – certified engines
 - John Deere, Tier 3

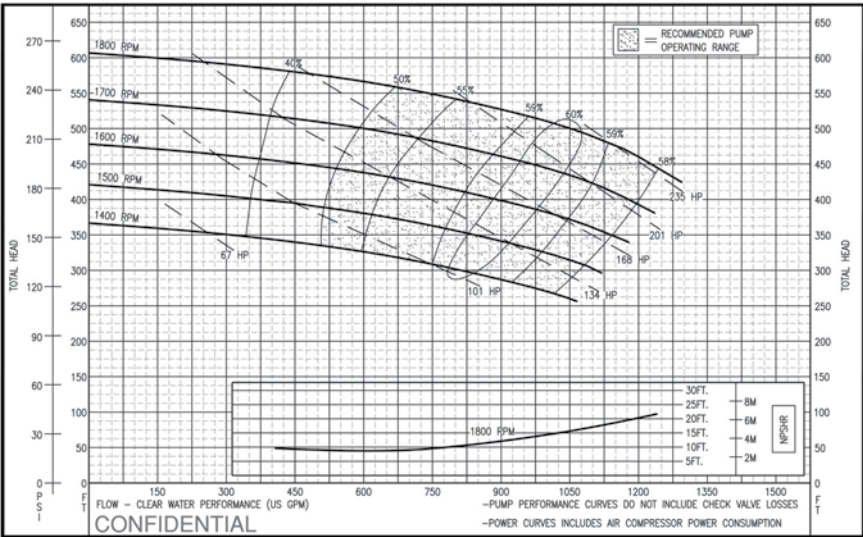
MATERIAL SPECIFICATIONS

- Pump Body – ASTM 131 marine grade steel
- Impeller – cast 304 stainless steel
- Shaft – 304 stainless steel

XH100



Fuel tank: 200 Gallon *757 liters*



Fuel consumption: 11.1 GPH @ 1,800 RPM *42 liters per hour*

XH100

SIZE 6" x 4" *152 x 102 mm*

■ 1,250 GPM MAX *79 l/sec*

■ 605 FT HEAD MAX *184 m head*

FEATURES

- Solids-handling capabilities to 7/8" *22 mm* diameter maximum
- Continuous self-priming
- Runs dry unattended
- Suction lift to 28 ft. *8.5 m*
- Stainless steel, CD4MCu pump options

TECHNICAL

- Pedestal-mounted
- Flex coupled to various diesel engines
- Skid-mounted with lifting bail, push bar
- 18-hour run time, 200 gallon fuel tank
- 12 volt, electric start with control panel
- Compressor/venturi automatic priming system

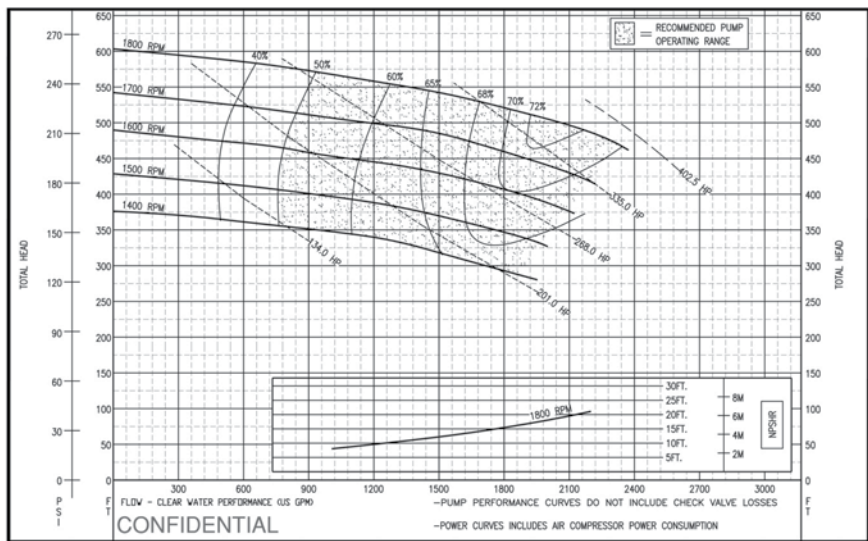
MATERIAL SPECIFICATIONS

- Standard Build
 - 316 stainless steel volute
 - 5 vane open impeller
 - Replaceable wear plates
- Pump Shaft
 - 431 stainless steel
- Mechanical Seal
 - Solid silicon carbide mating faces
 - Oil-bath lubrication for dry running
- Suction flange ANSI 150#
 - Discharge flange ANSI 300# FF

XH150



Fuel tank: 260 Gallon *984 liters*



Fuel consumption: 19.1 GPH @ 1,800 RPM *72 liters per hour*

XH150

SIZE 8" x 6" *203 x 152 mm*

■ 2,350 GPM MAX *148 l/sec*

■ 605 FT HEAD MAX *184 m head*

FEATURES

- Solids-handling capabilities to 1-3/4" *44 mm* diameter maximum
- Continuous self-priming
- Runs dry unattended
- Suction lift to 28 ft. *8.5 m*
- Stainless steel, CD4MCu pump options

TECHNICAL

- Pedestal-mounted
- Flex coupled to various diesel engines
- Skid-mounted with lifting bail, push bar
- 13-hour 260 gallon fuel tank (overnight)
- 12 volt, electric start with control panel
- Compressor/venturi automatic priming system

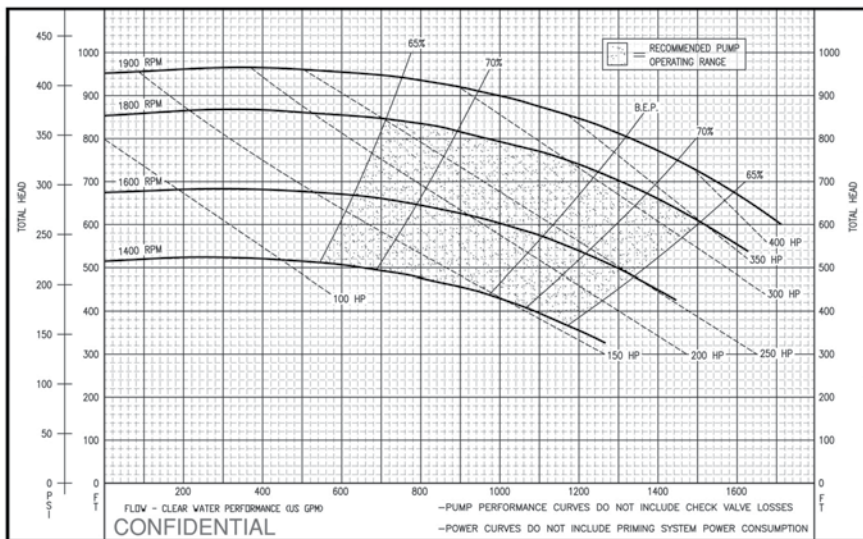
MATERIAL SPECIFICATIONS

- Standard Build
 - Ductile iron volute
 - Stainless steel or chromium steel open impellers
 - Replaceable wear plates
- Pump Shaft
 - 431 stainless steel
- Mechanical Seal
 - Solid silicon carbide mating faces
 - Oil-bath lubrication for dry running
- Suction flange ANSI 150# FF
 - Discharge flange ANSI 300# FF

XHH125



Fuel tank: 370 Gallon *1,401 liters*



Fuel consumption: 13.9 GPH @ 1,800 RPM *53 liters per hour*

XHH125

SIZE 6" x 5" *152 x 127 mm*

■ 1,600 GPM MAX *101 l/sec*

■ 950 FT HEAD MAX *290 m head*

FEATURES

- Solids-handling capabilities to 5/8" *16 mm* diameter maximum
- 3 stage
- Horizontally split case pump
- Equipped with 6" *152 mm* globe valve for throttling
- Stainless steel, pump options

TECHNICAL

- Pedestal-mounted
- Flex coupled to various diesel engines
- Skid-mounted with lifting bail
- 12-hour, 370 gallon fuel tank
- 12 volt, electric start with control panel

MATERIAL SPECIFICATIONS

- Standard Build -
 - Bronze impellers
 - Cast iron replaceable wear plates
- Pump Shaft
 - Stainless steel, all other components bronze
- Mechanical Seal
 - Solid silicon carbide/carbon mating faces
 - Oil-bath lubrication for dry running
- Suction flange ANSI 150# FF
 - Discharge flange ANSI 300# FF

Electric Pump Power Requirements



Rain for Rent Electric Pump Power Requirements						
	HP Motor	Voltage	Full Load Amps	kVA Running	kVA Starting	kVA W/SS
DV100e	20	230/460	25	19.8	138	41
DV100ce	20	230/460	48/24	19.1	139	42
XP	20	230/460	50/25	19.8	124	37
DV150e	50	230/460	116/58	45.5	318	95
DV150ie	50	230/460	116/58	46.4	314	94
XP	50	230/460	120/60	46.6	311	93
DV200e	75	460	87	69.1	484	145
DV200ce	150	460	169	135.8	829	249
XP	150	460	167	133.9	939	282
DV300e	150	460	180	144.0	1008	302
DV300ie	200	460	235	187.6	1119	336
DV325ce	300	460	344	273.8	1916	575
DV400ce - 200hp	200	460	248	196.3	1374	412
HH80e - 50hp	50	460	60	46.6	326	98
HH125e	75	460	87	69.1	484	145
HH125ce	75	230/460	171/85.9	68.2	432	130
XP	75	230/460	173/86.3	68.8	478	143
HH150e	150	460	170	133.9	842	253
HH225ce	300	460	336	270.9	1704	511
HH325e	500	460	573	456.3	3194	958
RL200e	40	230/460	92/46	36.7	269	81

XP=Explosion Proof

All other pumps NEMA 4, general purpose electric units

Genset Requirements for Electric Powered Pumps



GenSets			Model	Max Starting kVA
	Pump without Soft Start	Pump with Soft Start		
DV100e	DCA-70	DCA-25	DCA-10	17
DV100ce	DCA-70	DCA-25	DCA-15	25
XP	DCA-60	DCA-25	DCA-25	60
DV150e	DCA-150	DCA-60	DCA-45	80
DV150ie	DCA-150	DCA-60	DCA-70	145
XP	DCA-150	DCA-60	DCA-85	180
DV200e	DCA-300	DCA-85	DCA-100	190
DV200ce	DCA-600	DCA-125	DCA-125	290
XP	DCA-600	DCA-180	DCA-150	380
DV300e	DCA-600	DCA-150	DCA-180	390
DV300ie	DCA-600	DCA-150	DCA-220	500
DV325ce	-	DCA-400	DCA-300	600
DV400ce - 200hp	-	DCA-220	DCA-600	1300
HH80e - 50hp	DCA-150	DCA-60		
HH125e	DCA-300	DCA-85		
HH125ce	DCA-220	DCA-70		
XP	DCA-300	DCA-85		
HH150e	DCA-600	DCA-125		
HH225ce	-	DCA-300		
HH325e	-	DCA-600		
RL200e	DCA-125	DCA-60		

SS denotes Soft Start panel. Generator size for VFD controlled pump will be the same as the kVA w/SS, but you must add the kVA of the AC system.

Generator sizing is for MQ generators using 30% Voltage Dip.

If customer requests a different voltage dip, present either the kVA with or without a Soft Start to a generator company so that they can size accordingly.

These values considered motors with their corresponding efficiencies, power factors, and starting amps - Check FLA match your motor.

If multiple pumps are being used, sum up the kVA starting (with or without SS) and the kVA running of all other pumps (pumps started in stages).

If different size pumps are being used, give the generator company the starting and running kVA (with or without SS).

Hydraulic Submersible Pumps



Hydraulic Submersible Pump	Type	Size	Solids Handling	Flow
S4T	Trash	4" 102 mm	3" 76 mm	850 GPM 53.6 l/sec
S6T	Trash	6" 153 mm	5" 127 mm	1600 GPM 101 l/sec
S6TDI	Trash	6" 153 mm	5" 127 mm	1600 GPM 101 l/sec
S4CSL	Sand/Slurry	4" 102 mm	1.5" 36 mm	740 GPM 46.7 l/sec
S4THL	Vortex Flow	4" 102 mm	3" 76 mm	1000 GPM 63.1 l/sec
S6200	High Performance	8" 203 mm	3" 76 mm	3500 GPM 221 l/sec
S6300	High Performance	12" 305 mm	5" 127 mm	8500 GPM 536.3 l/sec

Hydraulic Submersible Pump	Head	Diameter	Body Type	Impeller
S4T	110' 33.5 m	19.5" 500 mm	Ductile Iron	Ductile Iron
S6T	110' 33.5 m	25" 635 mm	Aluminum	Stainless Steel
S6TDI	110' 33.5 m	25" 635 mm	Ductile Iron	Stainless Steel
S4CSL	100' 30.5 m	16.25" 413 mm	Hardened Ductile Iron	High Chrome Alloy
S4THL	215' 65.5 m	25.5" 648 mm	Aluminum	Stainless Steel
S6200	220' 67.1 m	28.5" 724 mm	Ductile Iron	Ductile Iron
S6300	110' 35.5 m	39.5" 1,003 mm	Ductile Iron	Ductile Iron



HYDRAULIC SUBMERSIBLE PUMPS

SIZE 4" – 12" *102 – 305 mm*

■ UP TO 8,500 GPM MAX *536 l/sec*

■ UP TO 220 FT HEAD MAX *67 m head*

HYDRAULIC SUBMERSIBLE PUMPS

- Variable speed hydraulic drive provides a wide range of performance
- Oil lubricated seals
- Can be bolted directly into a pipeline or used as a booster pump
- Safe hydraulic drive can be used where electric power is hazardous or impractical

TRASH PUMPS

- Fully recessed vortex impeller
- Will pass 3-1/2" to 5" *89 mm to 127 mm* semi-solids
- Dependable gear type hydraulic motor

HIGH PERFORMANCE SOLIDS HANDLING PUMP

- Balanced high efficiency two vane closed channel impeller
- Will pass 4-5" *102 mm to 127 mm* semi-solids
- High efficiency balanced vane hydraulic motor

SAND/SLURRY PUMP

- Hardened alloy wear parts
- Built-in agitator for stirring up solids

SUBMERSIBLE PUMPS

SIZE 3" - 12" *76 x 305 mm*

FLOWS UP TO 4,500 GPM

284 l/sec

UP TO 350 FT HEAD

107 m head



FEATURES

- Various electrical configurations
- Run dry capability
- Mechanical seals
- Wide selection of sizes
- Temperature guard to protect against overheating

TECHNICAL - DEWATERING PUMPS

Standard Build

- Hardened cast iron impeller
- Aluminum castings
- Wear plate/diffuser with abrasion resistant, poly-lined parts
- Galvanized strainer
- Furnished with 50' *15 m* power cord
- Thermal overloads with motor

Connectors (All connectors furnished by Rain for Rent)

- 3" through 6" *76 to 152 mm* pumps equipped with male Camlock connections
- 8" thru 12" *203 to 305 mm* equipped with Victaulic connections

TECHNICAL - TRASH / NON-CLOG PUMPS

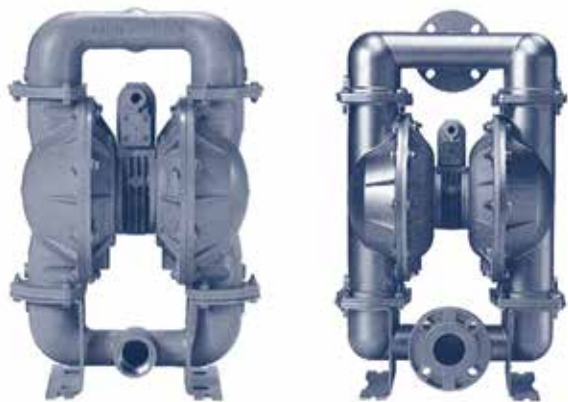
Standard Build

- Solids-handling capabilities to 5" *127 mm*
- Cast iron construction with steel base
- Cast iron discharge elbow
- Motors are FM explosion-proof rated for Class 1 Div. 1 environments
- 50' power cord
- Thermal overloads within motor

Connectors (All connectors furnished by Rain for Rent)

- 3" through 6" *76 to 152 mm* pumps equipped with male Camlock connections
- 8" *203 mm* pumps equipped with Victaulic connections

Diaphragm Pump



Size	Body Material	Elastomer	Flow	Solids Handling
2" 51 mm	Aluminum	Buna, Teflon, Neoprene, Viton	0-155 GPM 0-9.8 l/sec	0.25" 6.35 mm
2" 51 mm	Poly	Buna, Teflon, Viton	0-155 GPM 0-9.8 l/sec	0.71" 18 mm
2" 51 mm	Stainless	Teflon	0-155 GPM 0-9.8 l/sec	0.25" 6.35 mm
3" 76.2 mm	Aluminum	Buna, Teflon, Neoprene, Viton	0-255 GPM 0-16 l/sec	0.375" 9.5 mm
3" 76.2 mm	Poly	Teflon	0-238 GPM 0-15 l/sec	0.71" 18 mm
3" 76.2 mm	Stainless	Viton, Teflon	0-230 GPM 0-14.5 l/sec	0.75" 19 mm
4" 102 mm	Cast Iron	Buna	0-260 GPM 0-16.4 l/sec	3" 76.2 mm



AIR-OPERATED DIAPHRAGM PUMPS

SIZE 2" - 4" *51 x 102 mm*

■ FLOWS TO 260 GPM *16 l/sec*

■ UP TO 210 FT HEAD *64 m head*

AVAILABLE IN:

- POLY
- STAINLESS
- ALUMINUM

FEATURES

- **Explosion Proof:** No motors, no control panels, no batteries, no alternators, no wires. Pumps are inherently safe.
- **Runs dry** without damage to pump and is self priming
- **Versatility:** Can be used as a submersible, self primer or flooded suction.
- **Portability:** Easily moved from one application to another without cranes, rigging, additional manpower, and costly scheduling.
- **Pump Range:** Pump light end hydrocarbons, heavy slurries and dry powder.
- **Solids Handling:** Easily and efficiently handles solids 1/4" to 3" *6 mm to 76 mm*.
- **Seal-less:** No packing, no mechanical seals.
- Varies flow and discharge pressure up to 125 psi with a simple adjustment of the air supply.
- One pump can be used for numerous applications.
- Passes even large, shear-sensitive solids without degradation or heat buildup.
- Operates "on-demand systems" without expensive pressure relief and bypass accessories.

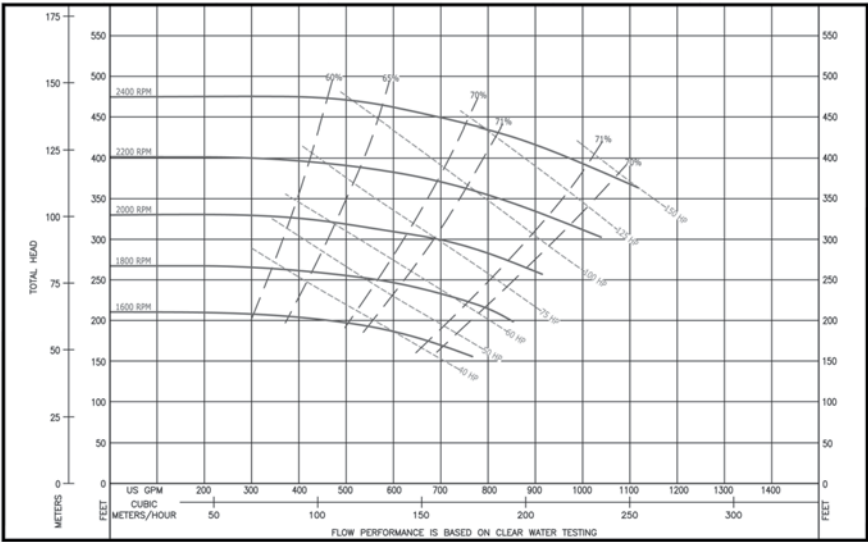
Notes:



3HA



Fuel tank: 250 Gallon *946 liters*



Fuel consumption: 7 GPH @ 1,800 RPM *26 liters per hour*



3HA

SIZE 6" x 3" *152 x 76 mm*

■ 1,100 GPM MAX *69 l/sec*

■ 475 FT HEAD MAX *145 m head*

FEATURES

- Solids-handling capabilities to 1/2" *13 mm* diameter maximum
- External hydraulic balance line
- Double volute system
- Versatile flow and pressure range
- Low NPSHR
- Low maintenance
- High performance
- Automatic Shutdown when pump runs dry

PACKAGES

- Trailer-mounted
- Direct coupled to engine
- Electric or diesel power

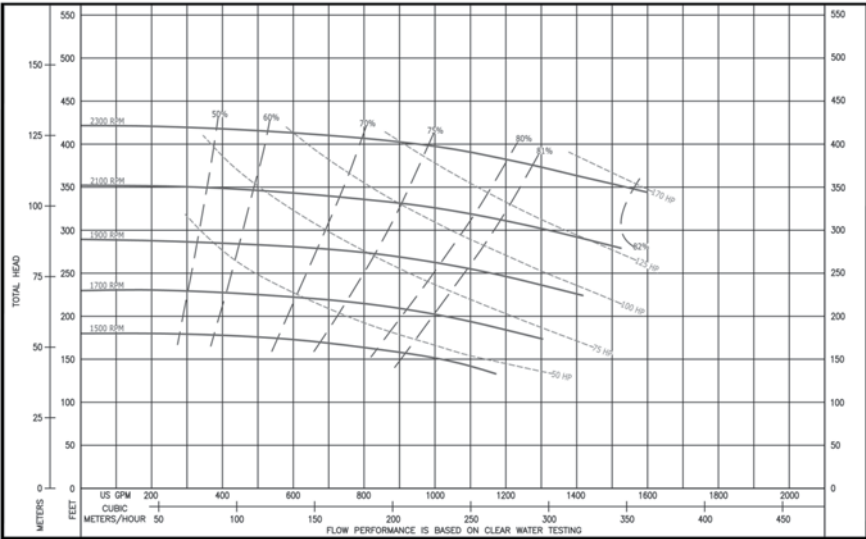
MATERIAL SPECIFICATIONS

- Standard Build
 - Cast iron volute
 - Bronze SAE 40, closed type impeller
 - Bronze SAE 660, replaceable wear rings
- Pump Shaft
 - Stress proof steel SAE 1144 with replaceable bronze shaft sleeve
- Mechanical Seal
 - Packing type, graphited acrylic

4HH



Fuel tank: 250 Gallon *946 liters*



Fuel consumption: 8.1 GPH @ 1,800 RPM *31 liters per hour*

4HH

SIZE 6" x 4" *152 x 102 mm*

■ 1,600 GPM MAX *101 l/sec*

■ 420 FT HEAD MAX *128 m head*

FEATURES

- Solids-handling capabilities to 13/32" *10 mm* diameter maximum
- External hydraulic balance line
- Double volute system
- Versatile flow and pressure range
- Low NPSHR
- Low maintenance
- High performance
- Automatic Shutdown when pump runs dry

PACKAGES

- Trailer-mounted
- Direct coupled to engine
- Electric or diesel power

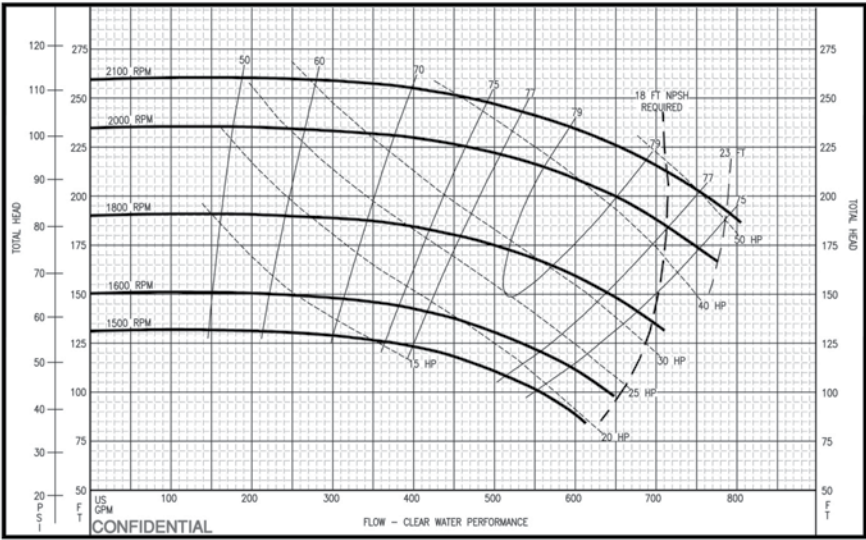
MATERIAL SPECIFICATIONS

- Standard Build
 - Cast iron volute
 - Bronze SAE 40, closed type impeller
 - Bronze SAE 660, replaceable wear rings
- Pump Shaft
 - Stress proof steel SAE 1144 with replaceable bronze shaft sleeve
- Mechanical Seal
 - Packing type, graphited acrylic

3RB



Fuel tank: 120 Gallon 454 liters



Fuel consumption: 2.5 GPH @ 1,800 RPM 9.5 liters per hour

3RB

SIZE 5" x 3" *125 x 76 mm*

■ 800 GPM MAX *50 l/sec*

■ 260 FT HEAD MAX *79 m head*

FEATURES

- Solids-handling capabilities to 1/2" *13 mm* diameter maximum
- External hydraulic balance line
- Double volute system
- Versatile flow and pressure range
- Low NPSHR
- Low maintenance
- High performance
- Automatic Shutdown when pump runs dry

PACKAGES

- Trailer-mounted
- Direct coupled to engine
- Electric or diesel power

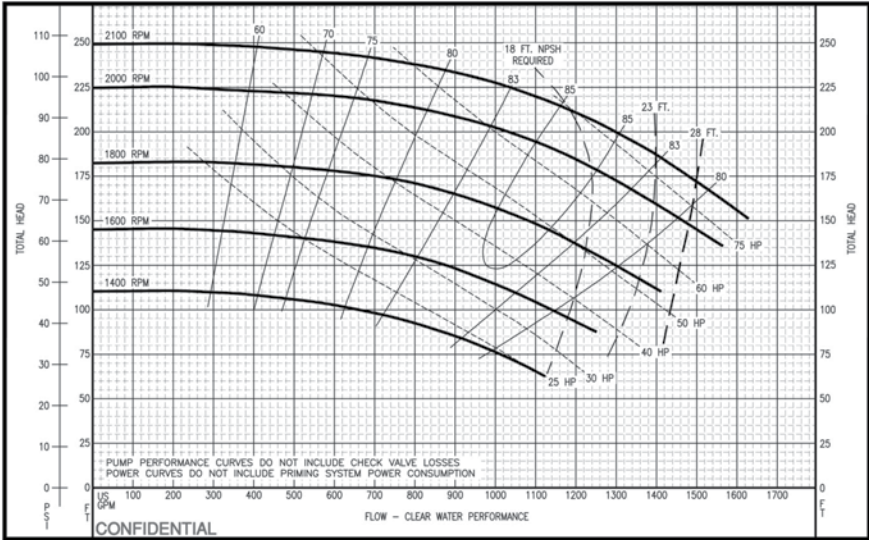
MATERIAL SPECIFICATIONS

- Standard Build
 - Cast iron volute
 - Bronze SAE 40, closed type impeller
 - Bronze SAE 660, replaceable wear rings
- Pump Shaft
 - Stress proof steel SAE 1144 with replaceable bronze shaft sleeve
- Mechanical Seal
 - Packing type, graphited acrylic

4RB



Fuel tank: 120 Gallon *454 liters*



Fuel consumption: 4.1 GPH @ 1,800 RPM *16 liters per hour*

4RB

SIZE 6" x 4" *152 x 102 mm*

■ 1,600 GPM MAX *101 l/sec*

■ 250 FT HEAD MAX *76 m head*

FEATURES

- Solids-handling capabilities to 27/32" *21 mm* diameter maximum
- External hydraulic balance line
- Double volute system
- Versatile flow and pressure range
- Low NPSHR
- Low maintenance
- High performance
- Automatic Shutdown when pump runs dry

PACKAGES

- Trailer-mounted
- Direct coupled to engine
- Electric or diesel power

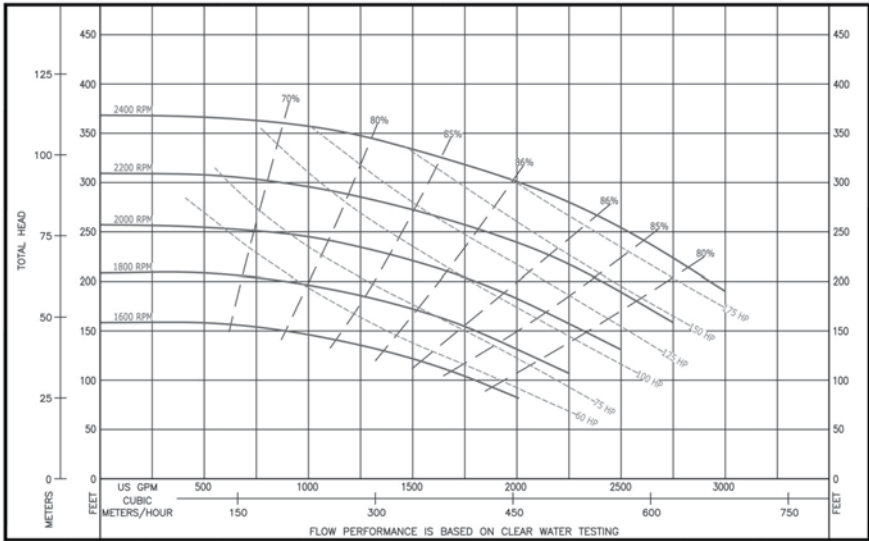
MATERIAL SPECIFICATIONS

- Standard Build
 - Cast iron volute
 - Bronze SAE 40, closed type impeller
 - Bronze SAE 660, replaceable wear rings
- Pump Shaft
 - Stress proof steel SAE 1144 with replaceable bronze shaft sleeve
- Mechanical Seal
 - Packing type, graphited acrylic

5RB



Fuel tank: 190 Gallon *719 liters*



Fuel consumption: 9.5 GPH @ 1,800 RPM *36 liters per hour*

5RB

SIZE 8" x 5" *203 x 125 mm*

■ 3,000 GPM MAX *189 l/sec*

■ 370 FT HEAD MAX *113 m head*

FEATURES

- Solids-handling capabilities to 1" *25 mm* diameter maximum
- External hydraulic balance line
- Double volute system
- Versatile flow and pressure range
- Low NPSHR
- Low maintenance
- High performance
- Automatic Shutdown when pump runs dry

PACKAGES

- Trailer-mounted
- Direct coupled to engine
- Electric or diesel power

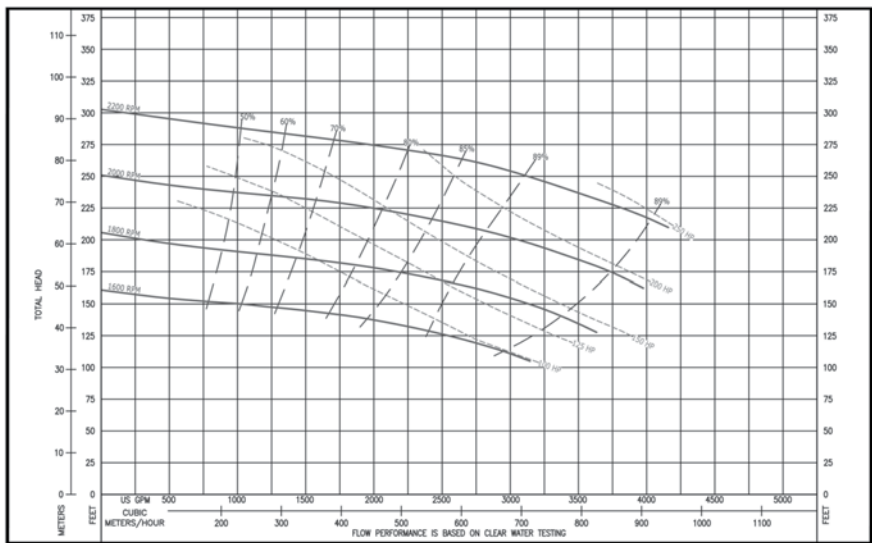
MATERIAL SPECIFICATIONS

- Standard Build
 - Cast iron volute
 - Bronze SAE 40, closed type impeller
 - Bronze SAE 660, replaceable wear rings
- Pump Shaft
 - Stress proof steel SAE 1144 with replaceable bronze shaft sleeve
- Mechanical Seal
 - Packing type, graphited acrylic

6RB



Fuel tank: 250 Gallon *946 liters*



Fuel consumption: 12.8 GPH @ 1,800 RPM *48 liters per hour*

6RB

SIZE 10" x 6" 254 x 152 mm

■ 4,500 GPM MAX 284 l/sec

■ 300 FT HEAD MAX 91 m head

FEATURES

- Solids-handling capabilities to 1-5/16" 33 mm diameter maximum
- External hydraulic balance line
- Double volute system
- Versatile flow and pressure range
- Low NPSHR
- Low maintenance
- High performance
- Automatic Shutdown when pump runs dry

PACKAGES

- Trailer-mounted
- Direct coupled to engine
- Electric or diesel power

MATERIAL SPECIFICATIONS

- Standard Build
 - Cast iron volute
 - Bronze SAE 40, closed type impeller
 - Bronze SAE 660, replaceable wear rings
- Pump Shaft
 - Stress proof steel SAE 1144 with replacable bronze shaft sleeve
- Mechanical Seal
 - Packing type, graphited acrylic

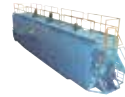
Tank and Box Specs

WORKSAFE™ Steel Tanks



	BI-LEVEL TANK	MANIFOLD TANK	FLIP TOP TANK
SIZE	21,000 Gallon	21,000 Gallon	18,100 Gallon
ACCESS HATCHES	4 - 22" hatches	4 - 22" hatches	3 - 22" hatches
FEATURES	Coated or Uncoated Steam Coils	Coated or Uncoated, Vapor Tight, Hammer Union Manifolds, Steam Coils	Coated or Uncoated
WEIGHT	26,000 lbs.	26,000 lbs.	27,000 lbs.
WIDTH	8'6"	8'6"	8'6"
LENGTH	43'	40'	43'
HEIGHT	11'9"	13'	10'6"

WORKSAFE™ Steel Tanks



	OPEN TOP TANK	WEIR TANK Open Top or Flip Top	MIXER TANK
SIZE	18,100 & 21,000 Gallon	18,100 Gallon	18,100 Gallon
ACCESS HATCHES	3 - 22" hatches	3 - 22" hatches	4 - 22" hatches
FEATURES	Coated or Uncoated	Coated or Uncoated	5hp or 10hp mixers
WEIGHT	27,000 lbs.	27,000 lbs.	31,000 lbs.
WIDTH	8'6"	8'6"	8'6"
43' long	43'	43'	43'
HEIGHT	10'6"	10'6"	11'9"

WORKSAFE™ Steel Tanks



	DOUBLE -WALL TANK	400- BARREL GAS BUSTER TANK	STAINLESS STEEL TANK
SIZE	400 Barrel	16,000 Gallon	21,000 Gallon
ACCESS HATCHES	2 - 22" hatch	3 - 22" hatches	4 -20" hatches
FEATURES	Increased Enviro Security Coated or Uncoated	Open-top Diffuser Tank	304 L Stainless
WEIGHT	35,000 lbs.	35,000 lbs.	26,000 lbs.
WIDTH	8'6"	8'6"	8'6"
LENGTH	46'3"	43'	45'
HEIGHT	9'11"	10'6"	11'

Tank Capacity Data



Multiply	By	To Obtain
Linear Feet .....	.00019	Miles
Linear Yards .....	.0006	Miles
Square Inches .....	.007	Square Feet
Square Feet .....	.111	Square Yards
Square Feet	183.346	Circular Inches
Square Yards .....	.0002076	Acres
Acres	4840.	Square Yards
Feet	1.5	Links
Links .....	.66	Feet
Links .....	.22	Yards
Circular Inches .....	.00546	Square Feet
Cylinder Inches .....	.0004546	Cubic Feet
Cyl. Inches of Water .....	.02842	Pounds Avoir.
Cylinder Feet .....	.02909	Cubic Yards
Cyl. Feet of Water	5.874	U.S. Gallons
Cylinder Feet of Water	49.01	Pounds Avoir.
Column of Water		
12 Inches High,		
1 Inch in Diameter .....	.34	Pounds
Cubic Inches .....	.00058	Cubic Feet
Cubic Inches .....	.004329	U.S. Gallons
Cubic Inches .....	.000466	U.S. Bushels
Cubic Inches of Water .....	.0361	Pounds Avoir.
Cubic Feet .....	.03704	Cubic Yards
Cubic Feet	2200.	Cyl. Inches
Cubic Feet	7.48	U.S. Gallons
Cubic Feet .....	.8036	U.S. Bushels
Cubic Feet of Water	62.4	Pounds Avoir.
U.S. Gallons .....	.13367	Cubic Feet
U.S. Gallons	231.	Cubic Inches
U.S. Bushels .....	.0461	Cubic Yards
U.S. Bushels	1.2446	Cubic Feet
U.S. Bushels	2150.42	Cubic Inches
Pounds Avoir. ....	.01	Cwt.
Pounds Avoir. ....	.0005	Tons
Cwt.	11.97	U.S. Gallons of Water
Cwt.	1.6	Cu. Ft. of Water
Tons	239.4	U.S. Gallons of Water
Tons	32.05	Cu. Ft. of Water

LakeTank™

Store up to 40,000 BBL of fluid in just one tank with Rain for Rent's LakeTank™. This tank reduces labor, heating costs, site footprint, transportation, and installation time on the jobsite. One LakeTank can be erected in one day with an additional day of site preparation needed.



Standard Features:

- Specially designed panel handling system for safe, rapid deployment
- Two OSHA compliant access/egress ladders
- One stairway observation platform
- Four 4" fill lines, Three 4" circulation lines
- One 12" low suction line for high volume pumping applications
- Heavy duty connecting plates and pins for safe reliable containment
- Six temporary panel supports to ensure safety during installation
- No easy access to the liner from outside the tank
- Standard liner is 36mil Reinforced Polyethylene
- Standard underlayment is 12mil Woven Coated Polyethylene

Benefits

- Transportation costs: Complete tank structure is delivered on three trucks
- Reduced labor costs during manifolding and operation
- Reduced heating costs
- Reduced site preparation costs (smaller footprint compared to 500bbl frac)

Size

- B-24, 24,000 BBL
- B-40, 40,000 BBL

Filters

BAG OR CARTRIDGE FILTERS 50 – 6,000 GPM

			
BF100 100 GPM 6 l/sec	BF200 200 GPM 13 l/sec	BF400 400 GPM 25 l/sec	BF1000 1,000 GPM 63 l/sec
			
BF2000 2,000 GPM 126 l/sec	BF4000 4,000 GPM 252 l/sec	BF6000 6,000 GPM 379 l/sec	
			
PF50 50 GPM 3 l/sec	PF200 200 GPM 13 l/sec	PF400 400 GPM 25 l/sec	PF1000 1,000 GPM 63 l/sec

MEDIA FILTERS 70 – 1,960 GPM

STAINLESS STEEL OR EPOXY COATED CARBON STEEL

		
18-2SSK 70 GPM 4 l/sec	24-3SSK 189 GPM 12 l/sec	36-3 SAND MEDIA SKIDS 425 GPM 27 l/sec



MEDIA FILTERS 70 – 1,960 GPM

STAINLESS STEEL OR EPOXY COATED CARBON STEEL



48-2 SAND MEDIA SKIDS

500 GPM 32 l/sec



48-4 SAND MEDIA SKIDS

1,000 GPM 63 l/sec



54-4 SAND MEDIA SKIDS

1,590 GPM 100 l/sec



60-4 SAND MEDIA SKIDS

1,960 GPM 124 l/sec

OIL/WATER SEPARATORS

STAINLESS STEEL



OWS100

100 GPM 6 l/sec



OWS200

200 GPM 13 l/sec

Filtration Solutions



- Help meet discharge requirements
- Pre-filtration
- Process water for re-use applications
- Remove hydrocarbons from water
- Remove settleable solids
- Pre-filter for GAC (Granulated Activated Carbon)
- Easy cleaning
- Cost-effective

Filter Media

Bag, Cartridge and Media Options



- Specialty cartridges available
- Cartridges to 0.1 micron absolute
 - Bag filters
 - 1 to 200 micron
 - Mesh
 - Screen
 - Specialty media
 - Various grades of sand
 - Green sand
 - Garnet



**Oil/Water
Coalescing Material**

**Filter Cartridges
0.5 mm to 10 mm**

Container Filtration Liners



**Polyethylene
Container Liners
for Roll-Off Boxes**

**Bladder Bags
for Roll-Off Boxes**

**Dewatering Liners
for Container Filters**

Filtration Solutions

Oil/Water Separators

- Aid in meeting discharge requirements
- Process water for reuse
- Use at refineries and other filtration sites
- Remove free and dispersed, non-emulsified oil
- Remove hydrocarbons from water
- Remove settleable solids
- Pre-filter for GAC (Granulated Activated Carbon)

Media Filters

- Remove metals and sediments from water
- Low maintenance
- Use for cooling tower clean-up, at construction sites, and on dredging projects
- High flux rate – GPM
- Stand alone or pre-filtration for bag or cartridge

Sediment Filters Bags & Cartridges

- Help meet discharge requirements
- Use on construction sites, refineries, and other dewatering applications
- Final filtration
- Pre-filtration for GAC or RO
- Process water for re-use
- Bag and cartridges for hydrocarbon removal from water
- Easy-cleaning
- Cost savings



Clean Water Act

Let us help you comply with Clean Water Act regulations by being environmentally proactive. You can save money by avoiding costly shutdowns and fines.

Construction Sites

Construction site discharge compliance in the Clean Water Act requires that groundwater from excavation projects and storm-water runoff meet discharge requirements to protect the receiving waters.

Refineries

Prevent overloading of treatment facilities during scheduled turn-arounds by removing hydrocarbons, metals and sediment from incoming waste streams.

Industrial plants

Filter process water prior to discharge or reuse for removal of sediment and chemicals. Remove the sediment and other contaminants from cooling towers to improve the system's efficiency.

Remediation Projects

Treat contaminated groundwater for sediment, hydrocarbon and metals on site to meet discharge requirements. Filtration removal of contaminants carried in storm water before runoff from a remediation site.

Hydroblasting

Remove hydrocarbons, paints, metals and sediment from wash water for reuse or discharge.

Settling Velocities

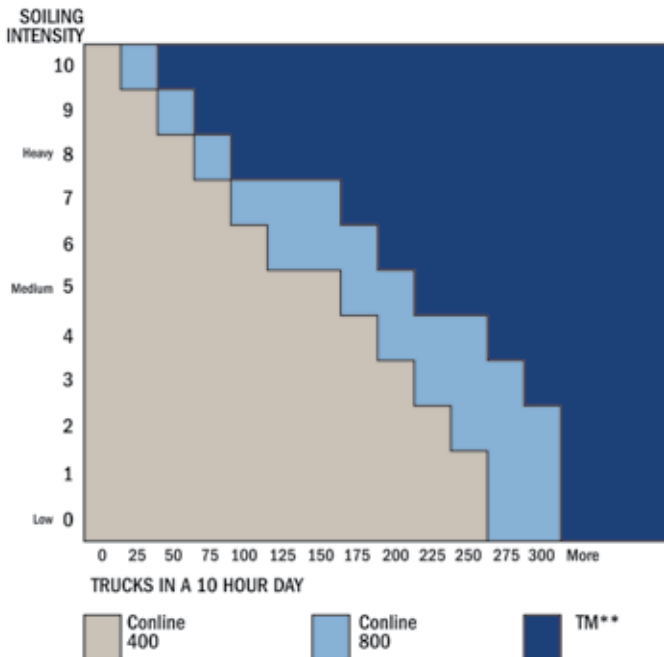
Diameter of Particle (mm)	Micron	Order of Size	Settling Velocity m/sec	Time Required to Settle 1 meter (3.28)
10	10,000	Gravel	60.0	0.016 Seconds
2	2,000	Coarse Sand	2.4	0.4 Seconds
1	1,000		0.60	1.7 Seconds
0.6	600		0.21	4.6 Seconds
0.3*	300		0.054	19.0 Seconds
0.2*	200		0.024	42.0 Seconds
0.15*	150	Fine Sand	0.013	75.0 Seconds
0.1	100		0.0060	168.0 Seconds
0.06	60		0.0021	7.8 Minutes
0.025	25	Silt	0.00012	2.2 Hours
0.015	15		4.5E-05	6.2 Hours
0.01	10		2.0E-05	14.0 Hours
0.005	5		5.0E-06	56.0 Hours
0.003	3		1.8E-06	155.0 Hours
0.0015	1.5	Clay	4.5E-07	26.0 Days
0.001	1		2.0E-07	58.0 Days
0.0001	0.1		2.0E-09	16.0 Years
0.00001	0.01	Colloidal Particles	2.0E-11	1600.0 Years

*Range of acceptable pore size (apparent opening size) for silt fence geotextiles.

Choosing the Right Conline Wheel Wash System



- Determine the stickiness of your jobsite's sediment. Our 1-10 soiling scale considers a 1 as beach sand and 10 as clay that sticks between the rear dual tires. See the soiling chart below for Conline capabilities.
- A system may be able to wash off sand and granular soils in just one tire revolution. Sticky clays may require a platform long enough for the tires to make three or more tire revolutions.
- If your jobsite sediment requires custom features, Moby Dick and Rain for Rent will work together to provide you a Tailor Made Wheel Wash system.
- Remember to plan and size the recycled water and solid separation systems proportionally to the traffic volume and soiling amounts on your jobsite.
- Let Rain for Rent help you design a system to incorporate space constraints of wheel wash and recycling/sludge settlement needs.
- Plan your haul roads and other traffic areas to minimize travel distances. Avoid dirt and mud before vehicles enter the wheel wash when possible.
- Use a flocculent to help increase the amount of sediment that drops out of suspension and water clarity. Clear water maximizes the wheel wash's cleaning ability.
- Consider using passive rumble strips or mud pads in addition to the active spray wheel wash Conline system.



Notes:





Exclusive Spillguard Features

Spillguard - The patented one-piece, heat-welded berm with permanently attached support legs, and reinforced seams.



■ Optional Spillguard Hose Bridge
U.S. PATENT #6,648,281



The Spillguard bridge prevents the sides of the Spillguard from collapsing under hoses or pipes

SolidGround™ Traction Mats

Heavy equipment mats prevent punctures and damage



- Withstands vehicle weights up to 60 tons
- 4' x 8' - recycled polyethylene
- Portable
- Durable

Additional applications:

- Temporary walkways, roadways and platforms
- Protects landscaping during construction



Notes:



Pump Installation and Troubleshooting

Not enough liquid being pumped out of discharge

- Incorrect engine speed or engine problems
- Incorrectly sized pump for task
- Viscous liquid
- Lifting water too high
- Blockage in suction or discharge piping
- Incorrect sizing of suction or discharge piping (leading to excessive friction losses)
- Vacuum leak in suction piping
- Insufficient submergence of suction pipe
- Excessive internal pump wear

Pump takes excessive power to drive

- Engine speed too high
- Internal obstruction in pump
- Viscous liquid
- Altitude is limiting diesel performance (5% per 1,000 ft)

Excessive pump vibration

- Engine speed too high
- Obstruction in pump casing/impeller
- Damaged impeller
- Cavitation due to excessive suction lift

Premature bearing failure

- Misalignment/excessive crush
- Improper piping support
- Bent pump shaft
- Missing/contaminated bearing lubrication

Oil coming forward into volute

- Mechanical seal damaged or worn – needs replacing

Pumpage in oil reservoir/passing out of rear lip seal

- Mechanical seal damaged or worn – needs replacing

Excessive milkiness in seal oil

- Mechanical seal damaged or worn – needs replacing
(PLEASE NOTE: minor contamination is normal)



Priming System Checks

Drain Valve and Plugs

- Ensure drain valve is closed and plugs are secure

Non - Return Valve

- Check discharge non-return valve for proper seating, obstructions or damage

Compressed Air Line

- Ensure hoses are free from kinks, crushing, and internal obstructions
- Check for carbon buildup by removal and internal visual inspection
- If internal restriction is suspected, blast with compressed air

Check Valve

- If the unit is fitted, check the internal spring for operation and check the body of the unit for carbon buildup

Compressor Air Filter(s)

- Standard checks are for canister and element damage and filter element cleanliness
- Damaged filter should be replaced
- Dirty filter can be cleaned with compressed air blasted from the inside out

Compressor Pressure Relief Valve (Pop - off)

- Pressure relief valve is set to release at 125 psi
- Check unit by pulling the ring with a light force to ensure the internal plunger is operating freely
- Replace malfunctioning or damaged units

Venturi Jet and Nozzle

- Incorrect jets or nozzles should be replaced
- Check internal wear on the jet as this will seriously affect priming performance
- "O-rings" should be checked for wear and damage

Separation Tank Cover/Ball Seat Fit

- Thread fit is a potential source of leakage and inability to hold prime

Separation Tank Cover Ball

- Damage to the 1" priming ball will adversely affect priming performance

*IF NONE OF THE ABOVE ARE FOUND TO BE THE CAUSE OF
THE PROBLEM, THEN THE COMPRESSOR SHOULD BE CHECKED.*



Priming System

Troubleshooting

Pressure relief valve lifts and discharges compressed air

- Wrong jet/nozzle installed in the priming system
- Carbon/debris in venturi jet
- Blockage in compressor discharge line
- Blocked/stuck check valve in compressor discharge line
- Check valve installed backwards
- Blockage/restriction in venturi discharge line
- Defective valve

Pump will not hold prime

- Defective 1" priming ball
- Air leak in pump volute assembly/non-return valve
- Non-return valve not seated due to obstruction or wear
- Gasket leak in assembly
- Venturi "O-rings" worn/missing

Pump draws low vacuum

- Excessive wear on venturi jet/nozzle
- Venturi "O-rings" worn/missing
- Carbon/debris in system - is pressure relief valve open?
- Blocked priming tee suction strainer
- Suction piping problem - external to pump
- Compressor problem

Compressor sounds irregular

- Broken/unseated/malfunctioning valve

Leaking oil below head

- Blown head gasket

Plugged air filter

- Clean/replace as required

Breaking timing belts

- Check belt tension

Low/oscillating oil pressure

- Bad oil pump

Heavy oil usage/discharge

- Worn rings and/or bores

Freezing Weather Pump Systems

During freezing weather conditions, precautions must be taken to prevent pump system failure and damage. The following recommendations should be considered when operating in freezing conditions.

1. During downtime, make sure the volute of the pump and suction line are drained. This can be done by opening the ball valve at the bottom of the volute. On pumps with the vacuum pump priming system, make sure the priming chamber is drained of all liquid.
2. Provide drainage in the discharge lines where any low spots will collect liquid during non-operation. This can be done by using quick disconnect hose in the low areas or putting a drain valve in a tee configuration in a low spot. Make sure line is re-plumbed if disconnected and drained.
3. If freezing has occurred in the volute of the pump, **DO NOT START ENGINE**. The pump volute must be thawed out before pumping can resume. **Do not use a high temperature heat source to thaw** as a high temperature difference can cause the volute to crack. Heat tracing and insulation, or a high watt light bulb just under the volute or check valve is recommended.
4. Heat tracing is a good preventive technique to keep pump system components from freezing. When heating tracing pipes, a minimum of two heat tapes must be used (one per side). Insulation must also be used in conjunction with the heat tape. Once insulation is wrapped around pipe, it should be fastened in place with Zip-Ties or equivalent. **Contact PowerPrime™ Pumps for availability of heat tracing equipment and insulation blankets for the model of pump in need of protection.**
5. It is a common misconception that a line during flow conditions will not freeze. This is not the case; at subfreezing temperatures, everything can freeze. Remember that the smaller the diameter of the pipe, the faster the line can freeze.
6. During freezing weather conditions, diesel fuel can become very viscous and gel like. Fuel conditioning with anti-gelling agents should be employed. Also, using cold weather diesel blend (D1) is suggested. Fuel cutting with lighter fuel oils such as kerosene is not recommended for fuel conditioning. An improper blend can cause engine damage.
Ether should NEVER be used to help start a diesel engine. Ether can cause damage to the engine and also void manufacturer's warranty.

Remember, it is ultimately the customer's responsibility to maintain equipment in any weather condition.



PUMP APPLICATION QUESTIONNAIRE

BRANCH: _____ BRANCH No. _____

DATE: _____ SALESPERSON: _____

Company Name: _____ Contact: _____

Address: _____

City: _____ TEL: _____

State: _____ Zip: _____ FAX: _____

Fluid to be Pumped:

Temperature - degrees F: _____ Vapor pressure @ pumping temperature: _____ pH value: _____

Viscosity @ pumping temperature: _____ SSU Abrasives: _____

Specific gravity @ 60 deg. _____ Specific gravity @ pumping temp. _____

Solids size: _____ Percent by volume: _____ Percent by weight: _____

Flow and suction conditions:

Gallons per minute: _____ Elevation @ jobsite: _____

Suction lift - vertical feet from lowest fluid level to centerline of pump: _____ feet

Length of suction hose: _____ Diameter of suction hose: _____

Other restrictions: _____

FLOODED SUCTION: Suction pressure: _____ Pipe size: _____ Pipe Length: _____

Suction head - vertical feet from lowest fluid above centerline of pump: _____ feet

Other restrictions: _____

Discharge requirements:

Pressure required at end of discharge pipe: _____

Vertical distance to highest fluid level in discharge pipe from centerline of pump: _____ feet

Length of discharge hose/pipe: _____ Diameter of discharge hose/pipe: _____

Other restrictions: _____

Driver specifications:

DIESEL ENGINE

ELECTRIC MOTOR

Manufacturer: _____

Horsepower: _____ RPM: _____

Rated (intermittent) HP @ RPM _____

Phase: _____ Cycles: _____

Continuous HP @ design RPM _____

Voltage: _____ Frame: _____

No. of cylinders: _____ Volts: _____

Enclosure: _____

Cooling type: _____

Extra safeties: _____

Will pump run dry / unattended? Y or N ☐

Noise level considerations? Describe if needed. _____

Air pollution considerations? Describe if needed. _____

Secondary containment? Describe if needed. _____

Accessories needed:

Suction / discharge connections:

Suction screen: ☐

Bauer: ☐

Camloc: ☐

Victaulic: ☐

Suction hose: ☐

Foot Valve: ☐

Strainer: ☐

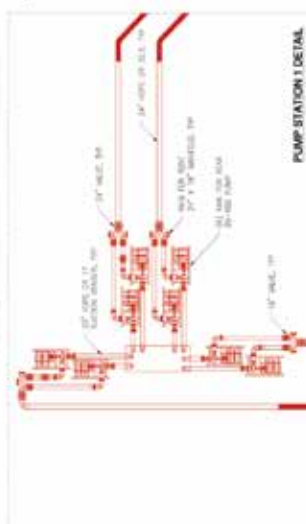
Air vents: ☐

Suction pipe: ☐

Flow Meter: ☐

Discharge pipe: ☐

Engineering Design Services



Total Dynamic Head Worksheet

STATIC SUCTION LIFT 1. _____

(Elevation difference between suction point & centerline of pump suction flange)

SUCTION PIPE

_____ = _____ ft.
_____ = _____ ft.
_____ = _____ ft.
_____ = _____ ft.
_____ = _____ ft.
_____ = _____ ft.
_____ = _____ ft.

PIPE FITTINGS

_____ = _____ ft.
_____ = _____ ft.
_____ = _____ ft.
_____ = _____ ft.
_____ = _____ ft.
_____ = _____ ft.
_____ = _____ ft.

TOTAL PIPING

(_____) TOTAL FT. SUCTION PIPING
x (_____) FRICTION LOSS

(REFER TO SLIDE RULE)
= _____ / 100 = **2.** _____

TOTAL DYNAMIC SUCTION HEAD = (1 + 2) A. _____

STATIC DISCHARGE HEAD 3. _____

(Elevation difference between discharge point & centerline of pump discharge flange)

DISCHARGE PIPE

_____ = _____ ft.
_____ = _____ ft.
_____ = _____ ft.
_____ = _____ ft.
_____ = _____ ft.
_____ = _____ ft.
_____ = _____ ft.

PIPE FITTINGS

_____ = _____ ft.
_____ = _____ ft.
_____ = _____ ft.
_____ = _____ ft.
_____ = _____ ft.
_____ = _____ ft.
_____ = _____ ft.

TOTAL PIPING

(_____) TOTAL FT. DISCHARGE PIPING
x (_____) TOTAL FRICTION LOSS

(REFER TO SLIDE RULE)
= _____ / 100 = **4.** _____

PSI = _____ x 2.31 = _____ FT HD 5.

TOTAL DYNAMIC

DISCHARGE HEAD = (3 + 4 + 5) B. _____

6. TOTAL DYNAMIC HEAD = (A+B) _____

Conversion Tables



Metric Conversion Table

To Convert From	To	Multiply By	To Convert From	To	Multiply By
-----------------	----	-------------	-----------------	----	-------------

Length			Length		
mm	inches	.03937	inches	mm	25.40
cm	inches	.3937	inches	cm	2.540
meters	inches	39.37	inches	meters	.0254
meters	feet	3.281	feet	meters	.3048
meters	yards	1.0936	feet	km	.0003048
km	feet	3280.8	yards	meters	.9144
km	yards	1093.6	yards	km	.0009144
km	miles	.6214	miles	km	1.609

Area			Area		
sq mm	sq inches	.00155	sq inches	sq mm	645.2
sq cm	sq inches	.155	sq inches	sq cm	6.452
sq meters	sq feet	10.764	sq feet	sq meters	.09290
sq meters	sq yds	1.196	sq yards	sq meters	.8361
sq km	sq miles	.3861	sq miles	sq km	2.590
hectares	acres	2.471	acres	hectares	.4047

Volume			Volume		
cu cm	cu inches	.06102	cu inches	cu mm	16.387
cu cm	fl ounces	.03381	cu inches	liters	.01639
cu meters	cu feet	35.314	cu feet	cu meters	.02832
cu meters	cu yards	1.308	cu feet	liters	28.317
cu meters	US gal	264.2	cu yards	cu meters	.7646
liters	cu inches	61.023	fl ounces	cu cm	29.57
liters	cu feet	.03531	US gal	cu meters	.003785
liters	US gal	.2642	US gal	liters	3.785

Weight			Weight		
grams	grains	15.432	grains	grams	.0648
grams	ounces†	.0353	ounces†	grams	28.350
kg	ounces†	35.27	ounces†	kg	.02835
kg	pounds†	2.2046	pounds†	kg	.4536
kg	US tons	.001102	pounds†	tonnes	.000454
kg	long tons	.000984	US tons	kg	907.2
tonnes	pounds†	2204.6	US tons	tonnes	.9072
tonnes	US tons	1.1023	long tons	kg	1016
tonnes	long tons	.9842	long tons	tonnes	1.0160



Metric Conversion Table

To Convert From	To	Multiply By	To Convert From	To	Multiply By
Unit weight			Unit weight		
gr/sq cm	lb/sq in	.01422	lb/ft	kg/m	1.4881
gr/cu cm	lb/cu in	.0361	lb/sq in	gr/sq cm	70.31
kg/sq cm	lb/sq in	14.22	lb/sq in	kg/sq cm	.07031
kg/cu cm	lb/cu ft	.0624	lb/cu in	gr/cu cm	27.68
kg/m	lb/ft	.6720	lb/cu ft	kg/cu m	16.018
Unit volume			Unit volume		
liters/min	US gpm	.2642	US gpm	liters/min	3.785
liters/min	cfm	.03531	US gpm	liters/hr	227.1
liters/hr	US gpm	.0044	US gpm	cu m/hr	.2271
cu m/min	cfm	35.314	cfm	liters/min	28.317
cu m/hr	cfm	.5886	cfm	cu m/min	.02832
cu m/hr	US gpm	4.4028	cfm	cu m/hr	1.6992
Power			Power		
watts	ft-lb/sec	.7376	ft-lb/sec	watts	1.356
watts	hp	.00134	hp	watts	745.7
kw	hp	1.3410	hp	kw	.7457
cheval-vap	hp	.9863	hp	cheval-vap	1.0139
Heat			Heat		
gr-cal	Btu	.003969	Btu	gr-cal	252
kg-cal	Btu	3.9693	Btu	kg-cal	.252
kg-cal/kg	Btu/lb	1.800	Btu/lb	kg-cal/kg	.5556
gr-cal/sq cm	Btu/sq ft	3.687	Btu/sq ft	gr-cal/sq cm	.2713
kg-cal/cu m	Btu/cu ft	.1124	Btu/cu ft	gr-cal/cu m	8.899
Work or energy			Work or energy		
joule	ft-lb	.7376	ft-lb	joule	1.356
meter-kg	ft-lb	7.2330	ft-lb	meter-kg	.1383
gr-cal	ft-lb	3.087	ft-lb	gr-cal	.3239
kg-cal	ft-lb	3087	ft-lb	kg-cal	.00324
hp-hr	ft-lb	1,980,000	ft-lb	hp-hr	5.05x10 ⁻⁷
kwhr	ft-lb	2,655,000	ft-lb	kwhr	3.766x10 ⁻⁷
Btu	ft-lb	778.0	ft-lb	Btu	.001285

Conversion Tables

English Conversion Table

To Convert From	To	Multiply By	To Convert From	To	Multiply By
Length			Volume		
inches	feet	.0833	cu inches	cu feet	.0005787
inches	yards	.0278	cu inches	cu yards	.00002143
feet	inches	12	cu inches	US gal	.004329
feet	yards	.333	cu feet	cu inches	1728
feet	miles	.0001894	cu feet	cu yards	.03704
yards	feet	3	cu feet	US gal	7.481
yards	miles	.0005682	cu yards	cu inches	46,656
			cu yards	cu feet	27

Area			Weight (Avoirdupois)		
sq inches	sq feet	.00694	grains	ounces	.002286
sq inches	sq yards	.000772	ounces	grains	437.5
sq feet	sq inches	144	ounces	pounds	.0625
sq feet	sq yards	.11111	pounds	ounces	16
sq yards	sq inches	1296	pounds	US tons	.0005
sq yards	sq feet	9	pounds	long tons	.000446
sq yards	acres	.000207	US tons	pounds	2,000
acres	sq feet	43,560	long tons	pounds	2,240
acres	sq yards	4840			

Circumference of Circle=3.1416 X dia=6.2832 X radius

Area of Circle=.7854 X (dia)²=3.1416 X (radius)²

Area of Sphere=3.1416 X (dia)²

Volume of Sphere=.5236 X (dia)³

1 lb per sq in is equivalent to .06804 atmospheres

Affinity Laws

The affinity laws express the mathematical relationship between the several variables involved in pump performance. They apply to all types of centrifugal and axial flow pumps. They are as follows:

1. With impeller diameter, D, held constant:

$$A. \frac{Q_1}{Q_2} = \frac{N_1}{N_2} \quad \text{Where } Q = \text{Capacity, GPM} \\ H = \text{Total Head, Feet}$$

$$B. \frac{H_1}{H_2} = \left(\frac{N_1}{N_2} \right)^2 \quad \text{BHP = Brake Horsepower} \\ N = \text{Pump Speed, RPM}$$

$$C. \frac{BHP_1}{BHP_2} = \left(\frac{N_1}{N_2} \right)^3$$



Useful Information

VOLUME

1 Imperial Gallon 1.2 US gal

1 Cubic Foot $\left\{ \begin{array}{l} 7.48 \text{ US gal} \\ 0.0283 \text{ cu meter} \end{array} \right.$

1 Litre 0.2642 US gal

1 Cubic Meter $\left\{ \begin{array}{l} 35.314 \text{ cu ft} \\ 264.2 \text{ US gal} \end{array} \right.$

1 Acre Foot $\left\{ \begin{array}{l} 43,560 \text{ cu ft} \\ 325,829 \text{ US gal} \end{array} \right.$

1 Acre Inch $\left\{ \begin{array}{l} 3,630 \text{ cu ft} \\ 27,154 \text{ US gal} \end{array} \right.$

LENGTH

1 Inch 2.54 centimeters

1 Meter $\left\{ \begin{array}{l} 3.28 \text{ feet} \\ 39.37 \text{ inches} \end{array} \right.$

1 Rod 16.5 feet

1 Mile 5280 ft. (1.61 kilometers)

WEIGHT

1 U.S. Gallon of Water 8.33 lb

1 Cubic Foot of Water 62.35 lb

1 Kilogram or Litre 2.2 lb

1 Imperial Gallon 10.0 lb

TO FIND CAPACITY OF A TANK OR A CISTERN:

$$\left(\begin{array}{l} \text{Diameter} \\ \text{of Tank} \\ \text{in Feet} \\ \text{Squared} \end{array} \right) \times .7854 \times$$

$$\left(\begin{array}{l} \text{Height} \\ \text{of Tank} \\ \text{in Feet} \end{array} \right) \times 7.48 \quad \text{Capacity in US Gallons}$$

HORSEPOWER

1 H.P. Equals ...
.746 kilowatts or 746 watts
33,000 ft lbs per minute
550 ft lbs per second

WATER HORSEPOWER

$$= \frac{\text{GPM} \times 8.33 \times \text{Head}}{33,000} = \frac{\text{GPM} \times \text{Head}}{3960}$$

GPM = Gallon per Minute

8.33 = Pounds of Water per Gallon

33,000 = Ft.-lb. per Minute in on HP

LABORATORY BHP

$$= \frac{\text{GPM} \times 8.33 \times \text{Head}}{3960 \times \text{Eff.}}$$

GPM = Gallon per Minute

Head = Laboratory Head (inc. column loss)

Eff. = Pump Only Efficiency

MOTOR INPUT HP

$$= \frac{\text{Laboratory BHP}}{\text{Motor Eff.}}$$

Total BHP from above

Motor Eff. from Manufacturer

UNIT EFFICIENCY

$$= \frac{\text{Water Horsepower}}{\text{Motor Input Horsepower}}$$

Water Horsepower from above

Input Horsepower from above

ELECTRIC POWER

AC = Alternating current power

DC = Direct current

E = Volts = Electrical pressure (similar to head)

I = Amperes = Electrical current (similar to rate of flow)

W = Watts = Electrical power (similar to head capacity)

KW = Kilowatts = 1000 watts

Apparent Power = Volts X amperes = Voltamperes

Apparent Power = EI

Useful Power W = EI X PF

Power factor = ratio of useful power to apparent power

$$\text{Power factor} = \text{PF} = \frac{W}{EI}$$

KW Hr. = Kilowatt hour

Single phase power W = 1.73 X I X PF

3 Phase Power W = 1.73 X I X PF

Where E = Average voltage between phases

I = Average current in each phase

Branches by State

Branches by State:	Phone:	Branches by State:	Phone:
Alabama		Michigan	
Mobile	251-452-2055	Brownstown	734-479-1892
Alaska		Minnesota	
Kenai	907-283-4487	Elk River	763-323-2085
Arizona		Montana	
Chandler	480-895-9225	Billings	406-259-7216
Tucson	520-574-0479	Nevada	
Yuma	928-726-8865	Las Vegas	702-632-0281
Arkansas		Reno	775-358-0875
Conway	501-328-5757	New Jersey	
California		Linden	908-474-5085
Bakersfield	661-399-1724	Monroeville	856-881-6162
Imperial	760-344-5850	New York	
Long Beach	562-595-7760	Avon	585-226-8280
Oakley	925-679-2803	North Carolina	
Riverside	951-653-2171	Charlotte	704-393-3345
Salinas	831-422-7813	North Dakota	
San Joaquin	559-693-4315	Dickinson	701-225-7117
Santa Paula	805-525-3306	Minot	701-420-9754
Stockton	209-466-5602	Ohio	
Woodland	530-662-1024	Strasburg	951-653-2171
Colorado		Oregon	
Cortez	970-565-7297	Portland	503-262-7246
Ft. Lupton	303-857-6246	Pennsylvania	
Rifle	970-625-4600	South Gibson	570-222-7040
Trinidad	719-845-0854	Texas	
Florida		Brownfield	806-637-1358
Lakeland	863-688-3332	Corpus Christi	361-241-2339
Georgia		Dallas	817-652-1079
Kennesaw	678-594-6601	Groves	409-962-3121
Idaho		La Porte	281-479-4500
Idaho Falls	208-522-4500	Kenedy	830-583-9744
Nampa	208-466-8929	San Antonio	210-648-4006
Paul	208-438-5065	Utah	
Illinois		Salt Lake	801-292-9996
Joliet	815-744-3947	Roosevelt	435-722-9770
Pontoon Beach (St. Louis Area)	618-931-0901	Virginia	
Louisiana		Petersburg	804-732-6914
Geismar	225-673-6553	Washington	
Bossier City	318-752-0951	Arlington	360-403-3091
Sulphur	337-882-6600	West Virginia	
Maryland		Triadelphia	304-547-0479
Baltimore	410-282-3880	Wyoming	
Massachusetts		Cheyenne	307-638-8508
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