

# Commercial Products

• PUMPS • CONTROLS • PRESSURE BOOSTING

BRGLCAR R2

 **GOULDS**  
WATER TECHNOLOGY  
a xylem brand

### Proven Performance Through The Power Of Experience.

Goulds Water Technology combines over 155 years of pump experience with the most modern design and manufacturing systems—deep drawn metal fabrication, laser cutting, laser welding, precision casting, and worldwide design systems—plus a total commitment to quality based on full performance testing of every pump we make.

Whether you need stainless steel, bronze, or cast iron, multi-stage verticals or horizontals, end suction centrifugals or submersibles, there’s a Goulds Water Technology design that’s proven itself through years of dependable service. For booster service, liquid

transfer, spray systems, water circulation, dewatering, light chemical and industrial applications, there’s a pump that’s done long time duty. Horizontal and vertical multi-stage capacities from 5 gpm to 350 gpm. Submersible capacities from 5 gpm to 500 gpm. And end suction centrifugal capacities from 4 gpm to 5000 gpm. Goulds Water Technology—a brand offering the power of experience to more than 100 nations of the world. In addition to the standard pump designs shown here, we offer specialized O.E.M. pumps designed to meet the specifications of your particular needs.

#### TABLE OF CONTENTS

##### End Suction, Stainless Steel:

|                 |   |
|-----------------|---|
| NPE .....       | 3 |
| NPO .....       | 3 |
| MCS .....       | 3 |
| SSH .....       | 4 |
| ICS/ICS-F ..... | 4 |
| 3657/3757 ..... | 4 |
| LB .....        | 5 |

##### End Suction, Cast Iron:

|                           |   |
|---------------------------|---|
| 3642/3742 .....           | 5 |
| MCC .....                 | 5 |
| 3656LH/3756LH .....       | 5 |
| 3656/3756 S-Group .....   | 6 |
| 3656/3756 M&L-Group ..... | 6 |

##### Self Priming, Clear Liquids:

|                     |   |
|---------------------|---|
| PrimeLine SP .....  | 7 |
| GT IRRI-GATOR ..... | 8 |
| PrimeLine .....     | 8 |
| 2AUW, 3AUW .....    | 9 |

##### High Pressure, Stainless Steel:

|            |    |
|------------|----|
| e-SV ..... | 9  |
| LC .....   | 10 |
| HMS .....  | 10 |

##### High Pressure, Cast Iron:

|           |    |
|-----------|----|
| GB .....  | 10 |
| HSC ..... | 10 |

##### Vertically Immersed:

|           |    |
|-----------|----|
| NPV ..... | 11 |
|-----------|----|

##### Multi-Stage:

|            |    |
|------------|----|
| MPVN ..... | 12 |
| SMVT ..... | 13 |

##### Variable Speed Control:

|                                |    |
|--------------------------------|----|
| Hydrovar and Aquavar CPC ..... | 14 |
| Aquavar ABII .....             | 14 |

##### Packaged Pump Systems:

|                 |    |
|-----------------|----|
| AquaForce ..... | 15 |
|-----------------|----|

##### Controls:

|                       |    |
|-----------------------|----|
| Hydrovar .....        | 16 |
| Aquavar CPC .....     | 17 |
| Aquavar S-Drive ..... | 18 |
| Aquavar ABII .....    | 19 |

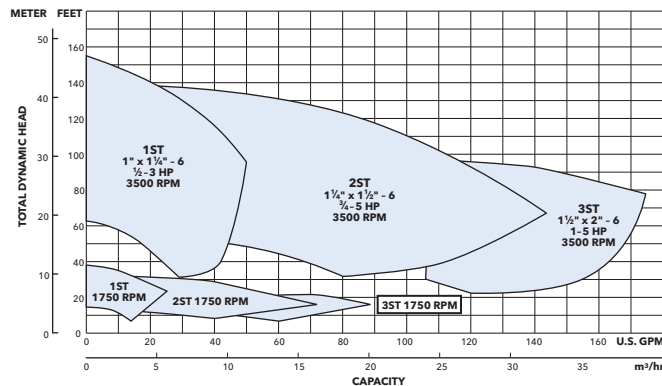
### End Suction - Stainless Steel

#### A full range of end suction centrifugal pumps.

- Cast iron, bronze, investment cast 316 stainless steel and 304 stainless steel pump-end materials of construction.
- 1 x 1¼-5 through 8 x 10-13 sizes.
- Close coupled, frame mounted or engine drive configuration.
- Capacities to 4500 US-GPM (1000 m<sup>3</sup>/hr.).
- Heads to 500 ft. TDH (152 m).
- Working pressure to 250 PSI.
- Temperatures to 250° F. (120° C.).
- ANSI Flanged and NPT Connections.
- Motors 1 & 3 phase. 50 or 60 hertz ODP, TEFC or explosion proof enclosures 3500 & 1750 RPM.
- Standard John Crane mechanical seals with high temperature and chemical duty options.

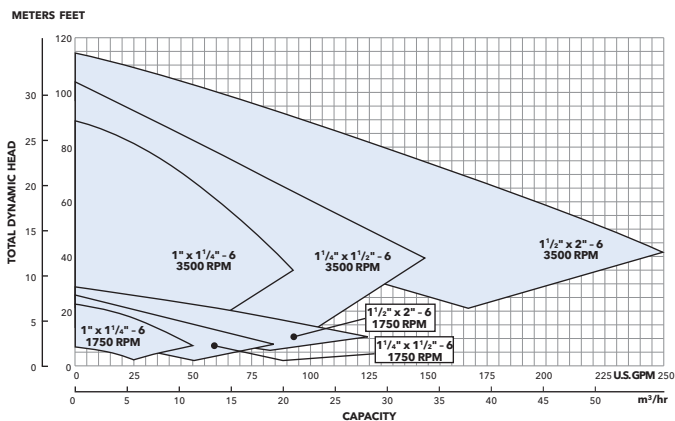
#### NPE

316L Stainless Steel Enclosed Impeller



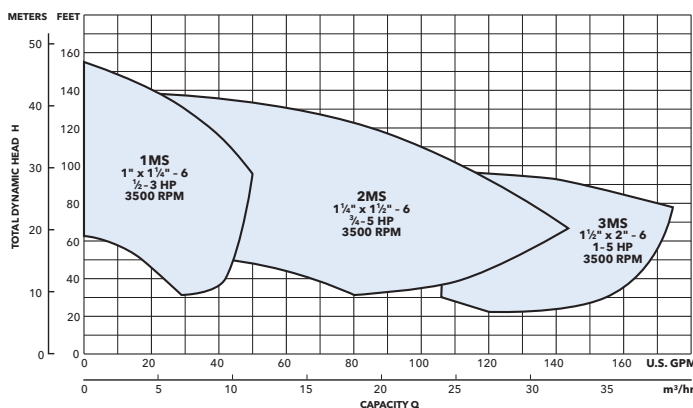
#### NPO

316L Stainless Steel Open Impeller



#### MCS

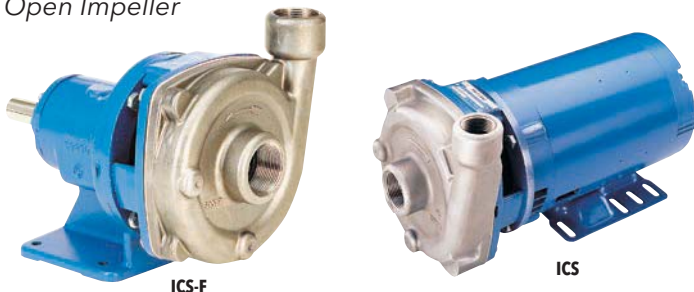
304L Stainless Steel Enclosed Impeller



### End Suction - Stainless Steel

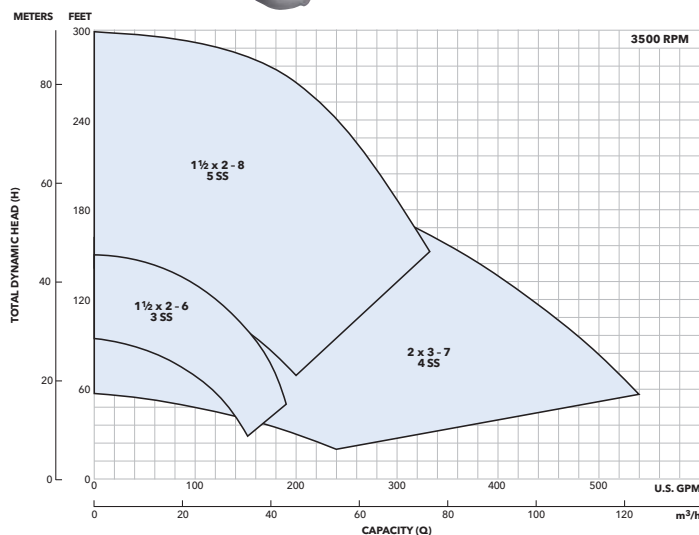
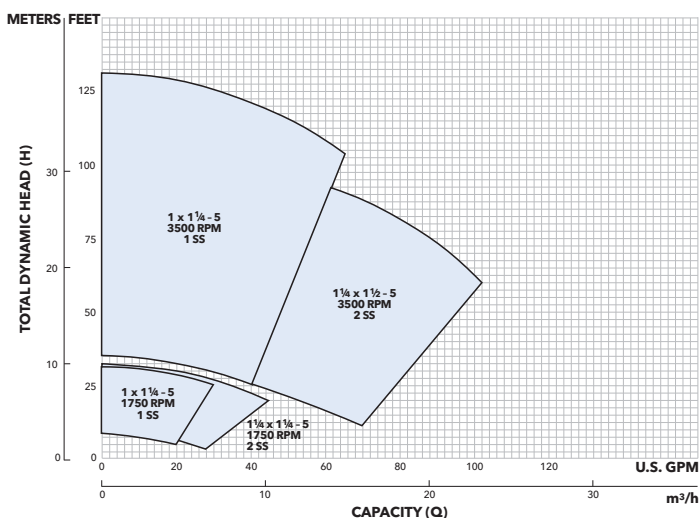
#### ICS/ICS-F

Investment Cast 316 Stainless Steel  
Open Impeller



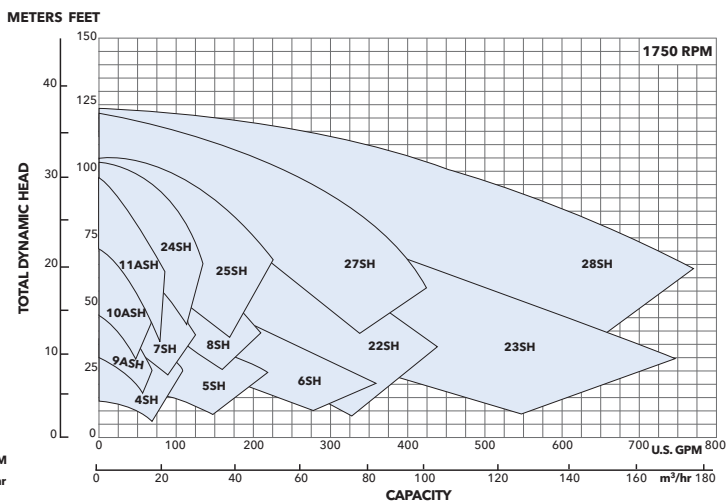
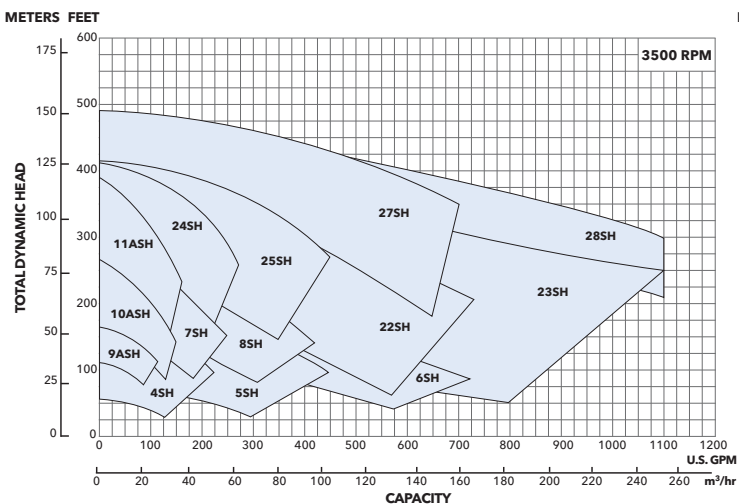
#### 3657/3757

Investment Cast 316 Stainless Steel  
Steel Enclosed Impeller



#### SSH

316L Stainless Steel Enclosed Impeller



### End Suction - Stainless Steel and Cast Iron

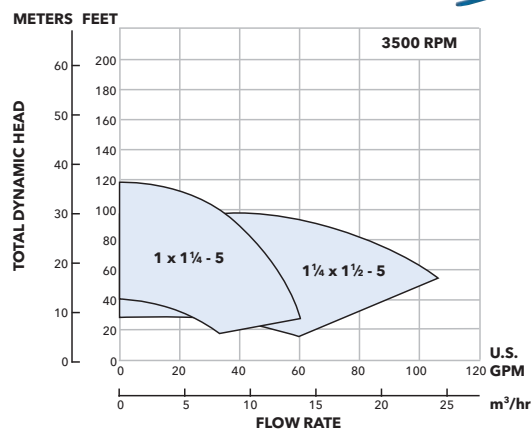
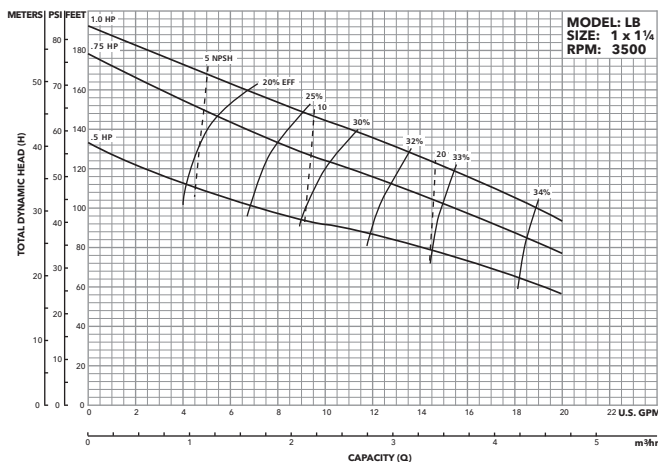
#### LB

304 Stainless Steel  
Enclosed Impeller



#### 3642/3742 Cast Iron

Enclosed Impeller, Iron,  
Bronze or Bronze Fitted,  
Cast Iron Pump



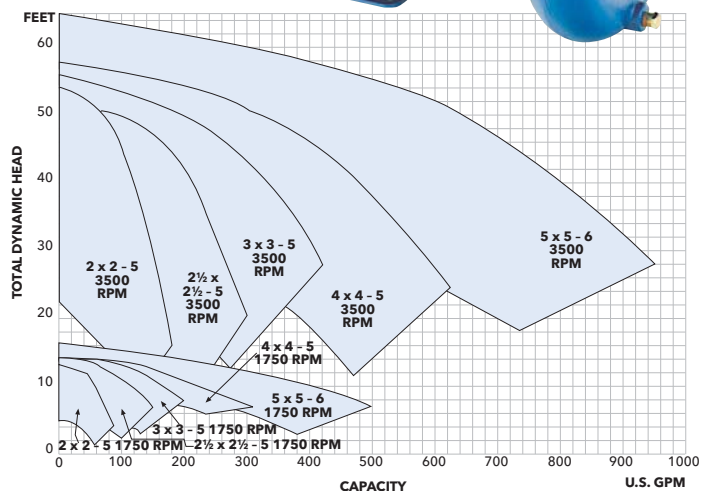
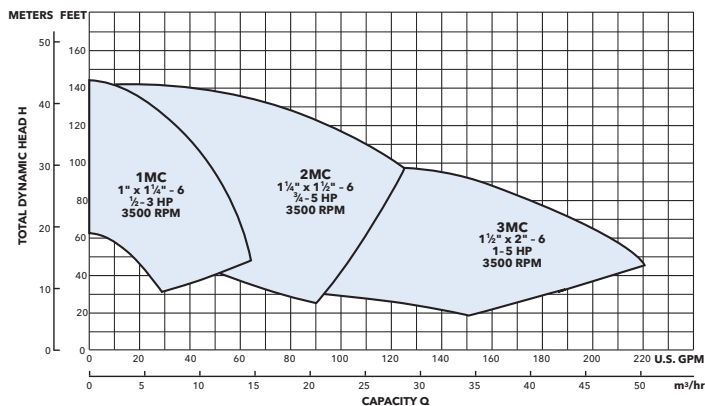
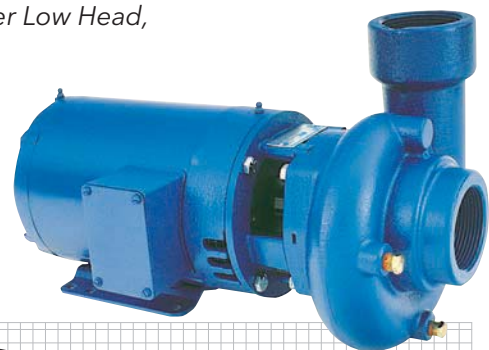
#### MCC

Enclosed Impeller  
Iron Casing  
Stainless-Fitted



#### 3656LH/3756LH

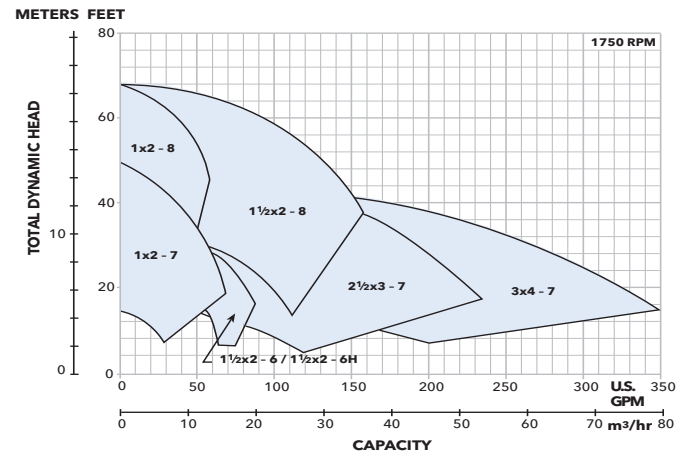
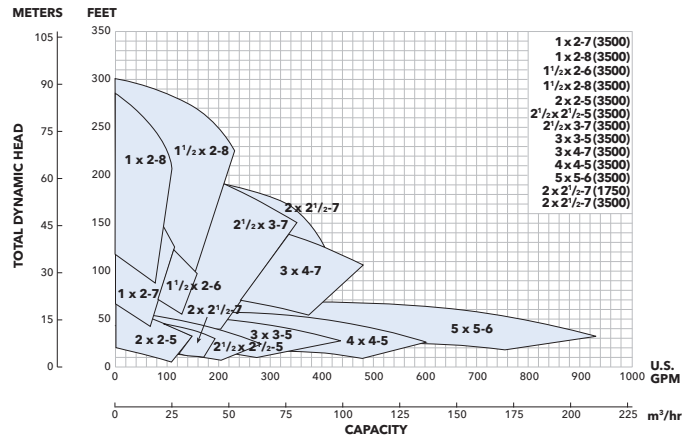
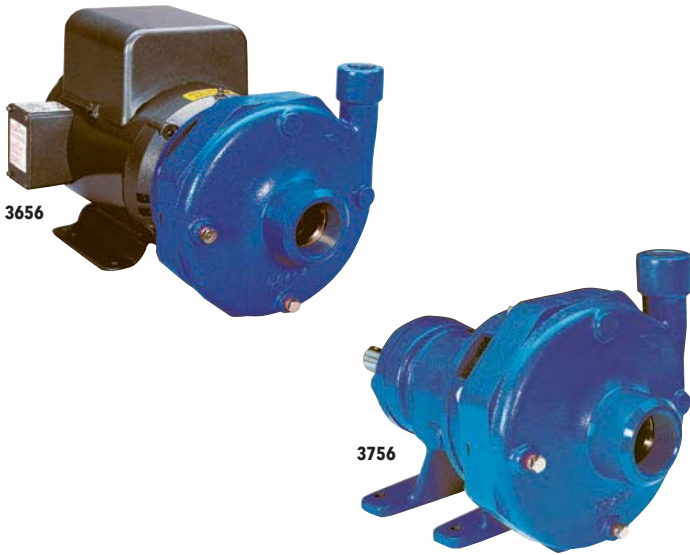
Enclosed Impeller Low Head,  
Bronze Fitted



### End Suction - Cast Iron

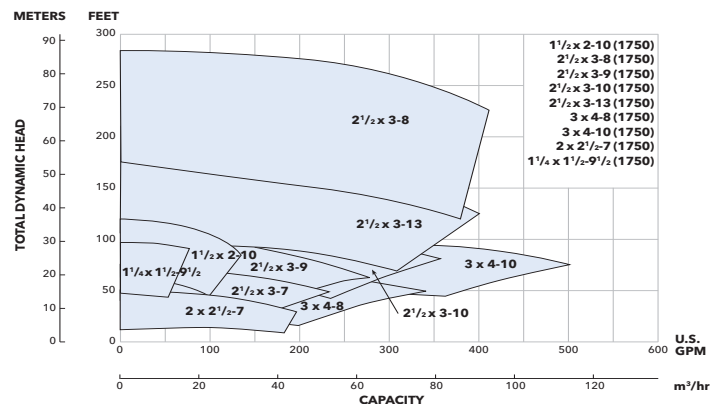
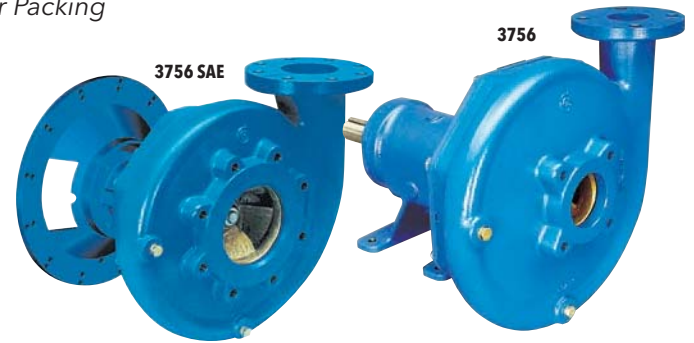
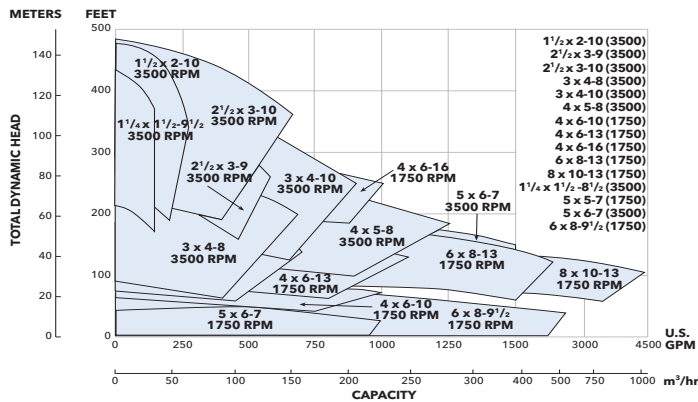
#### 3656/3756 S-GROUP

Enclosed Impeller Iron, Bronze or  
Bronze Fitted Mechanical Seal or Packing



### 3656/3756 M & L-GROUP

Enclosed Impeller Cast Iron or Bronze Fitted Mechanical Seal or Packing



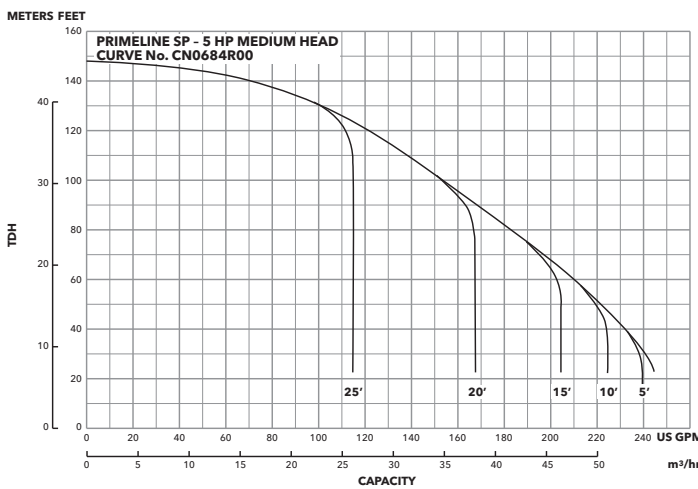
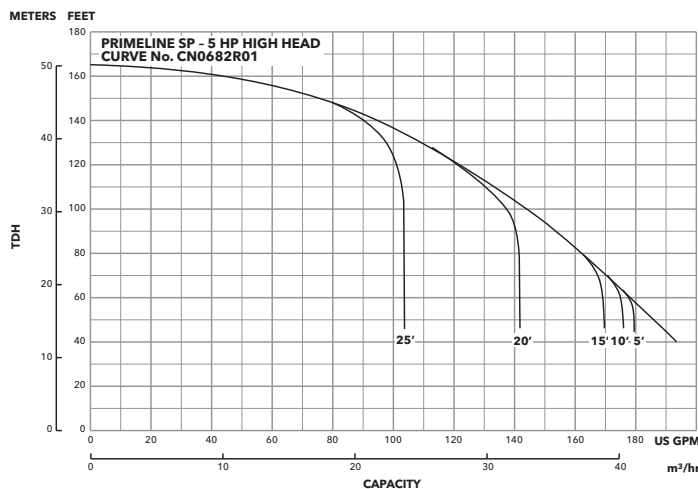
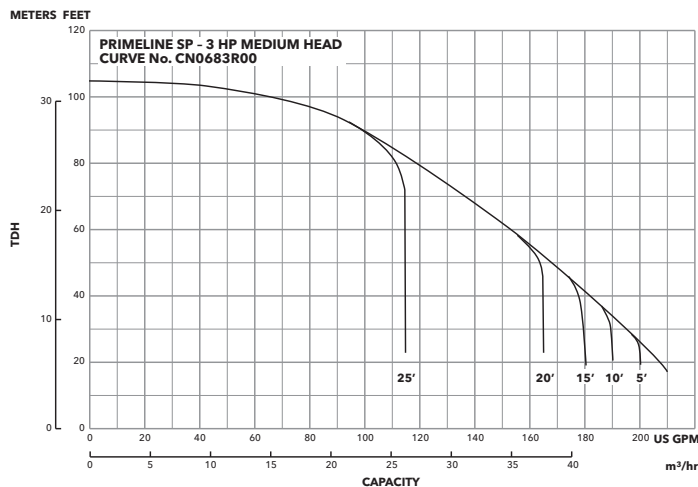
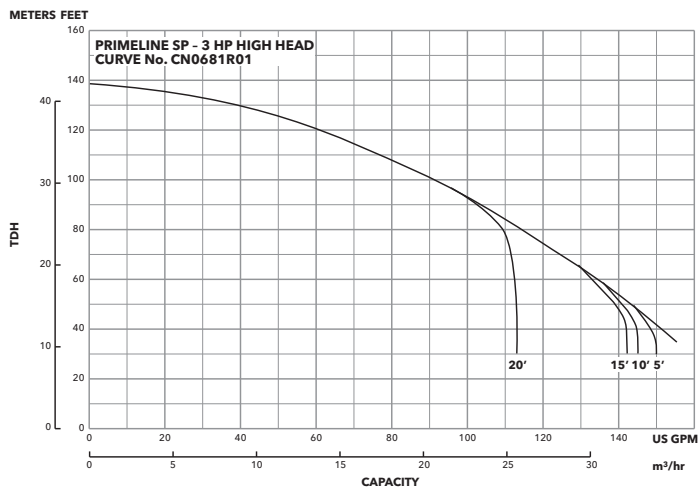
3656 Close Coupled

# Self Priming - Clear Liquids

### General information on Self-Priming pumps.

- General water handling in applications where the liquid level is below the pump.
- Models are available with electric motor, or bearing frame depending on installation requirements.
- Ideal for irrigation, emergency cellar draining and farm water supply.

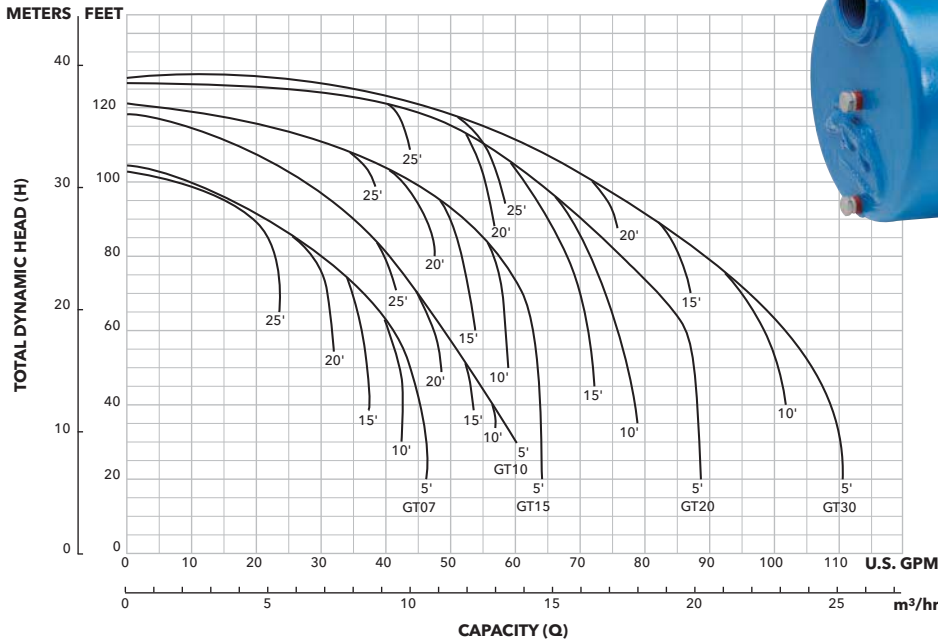
### PRIMELINE SP<sup>®</sup> Enclosed Impeller, Bronze Fitted



# Self Priming - Clear Liquids

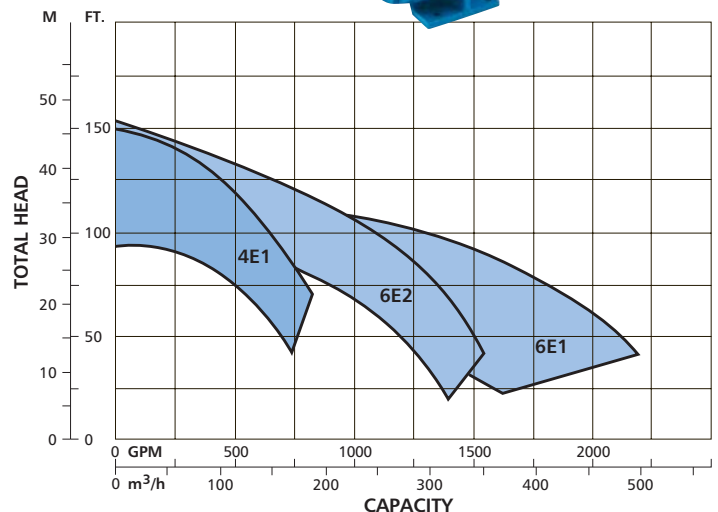
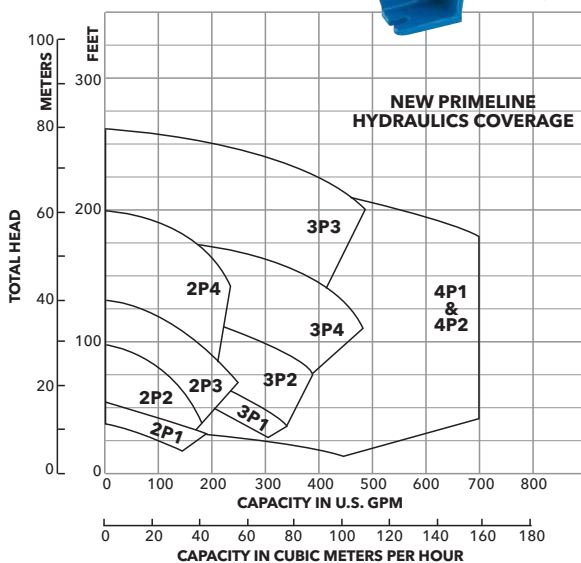
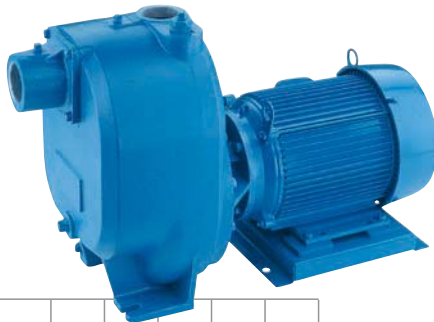
## GT - IRRIGATOR®

Enclosed Impeller Irrigation Duty



## PRIMELINE®

Self-Priming  
Centrifugal Pumps



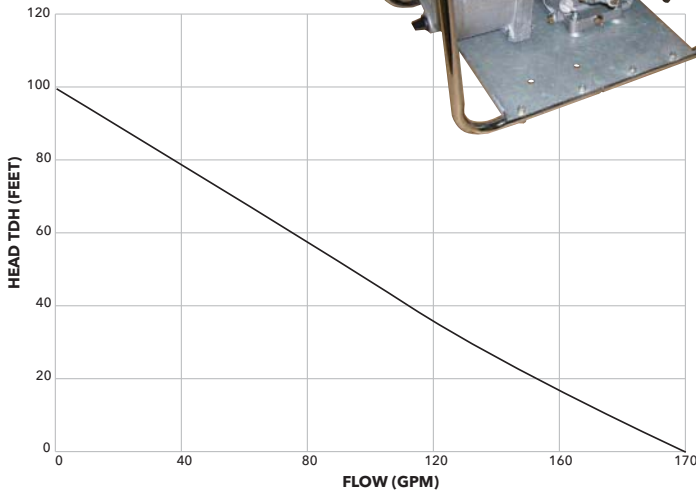
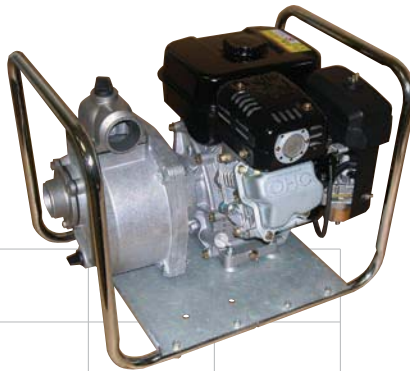


### Self Priming - Solids

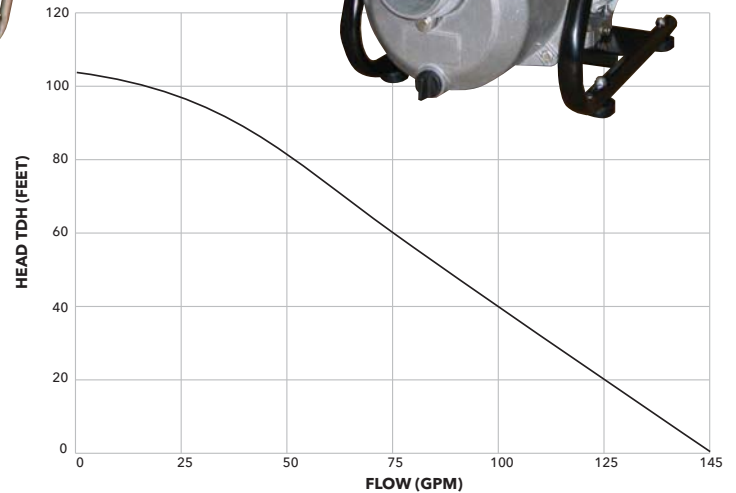
#### 2AUW, 3AUW

Portable Contractor Pumps

2AUW



3AUW

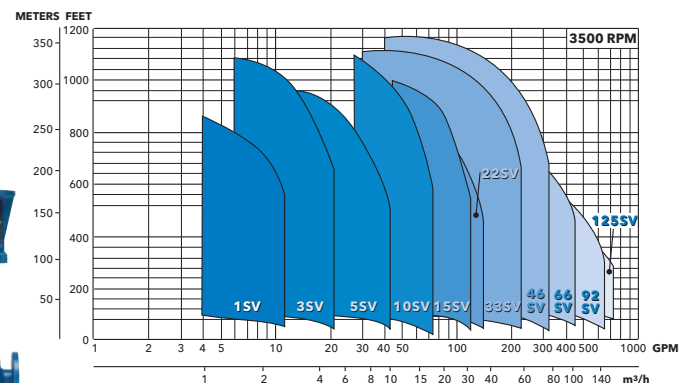
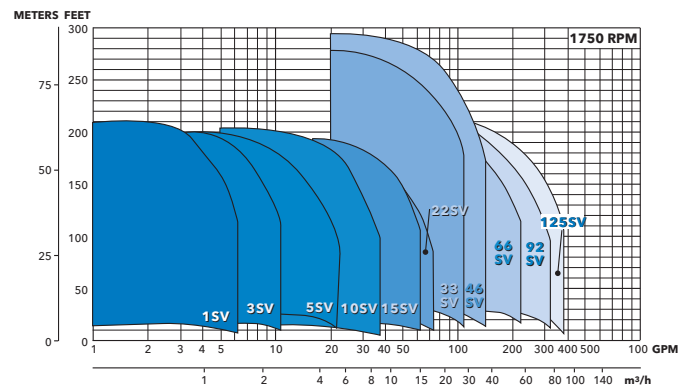


### High Pressure - Stainless Steel

#### General information on high pressure multi-stage pumps.

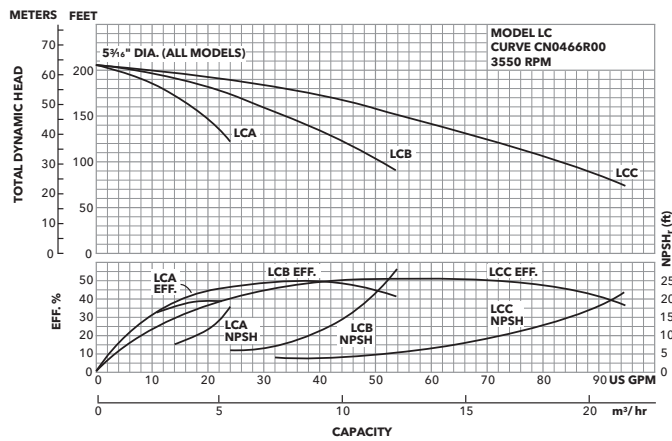
- Stainless steel or cast iron pumps for pressure boosting.
- Applications: potable water, boiler feed, filtration, RO and Pure Water
- Increased range coverage with new e-SV sizes
- Increased efficiency
- Improved serviceability - fast easy seal replacement without removing the motor
- Compatible with the Hydrovar or Aquavar CPC Variable Speed Pump Controllers
- Flows to 750 GPM, Heads to 1150'

#### e-SV Vertical Multi-Stage Pumps

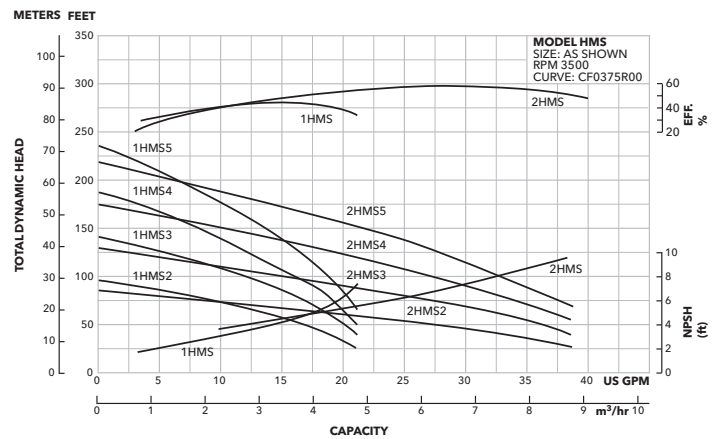


# High Pressure - Cast Iron / Stainless Steel

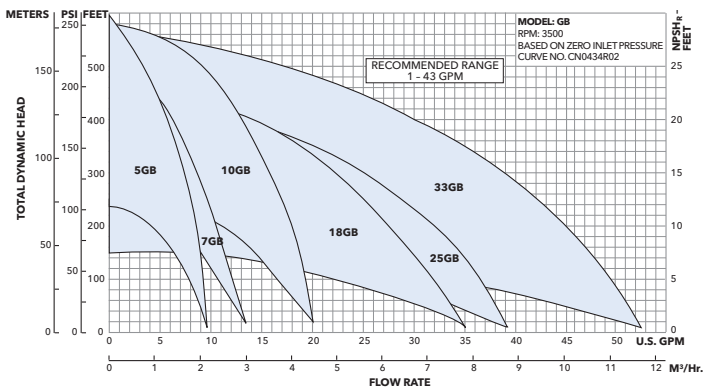
**LC**  
304 Stainless Steel



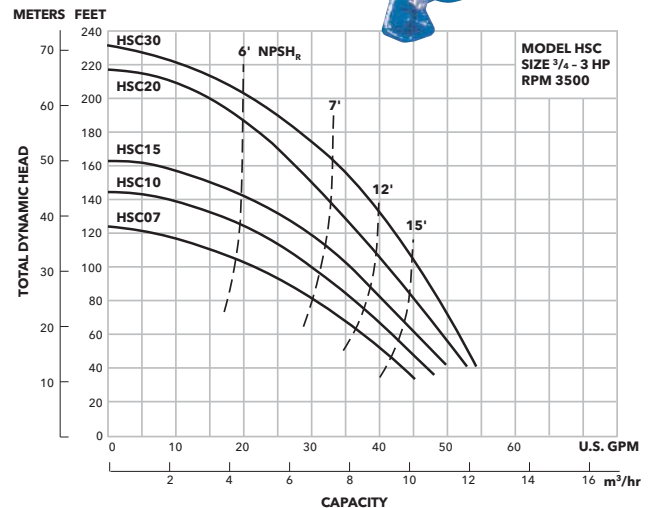
**HMS**  
316L Stainless Steel



**GB**  
Cast Iron or 304 Stainless Steel



**HSC**  
Cast Iron

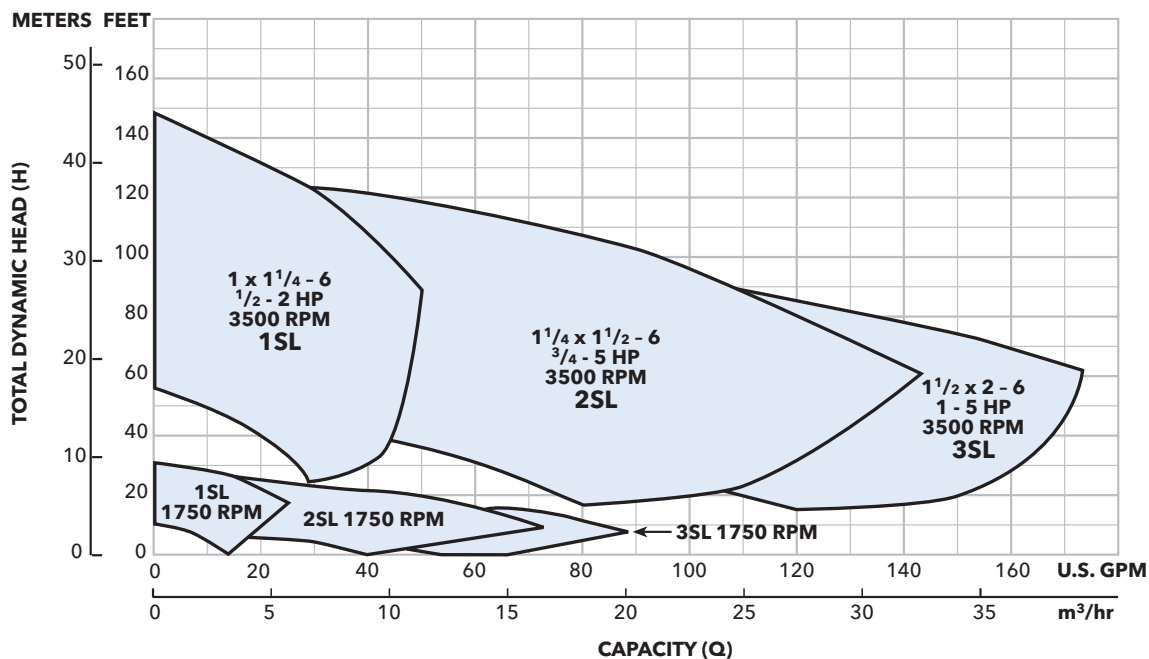


# Vertically Immersed - NPV

### General information on Vertical Immersed pumps.

- 304 and 316 stainless steel pumps for machine tool, wash system and tank mount applications.
- Pump head is immersed in pumped liquid. May be set at various depths depending on tank.
- Single stage and high pressure multistage versions are available.

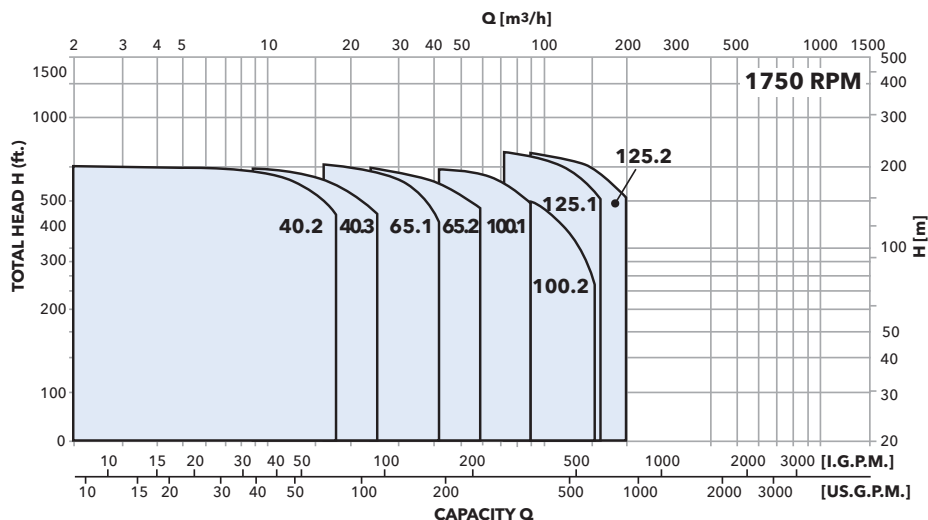
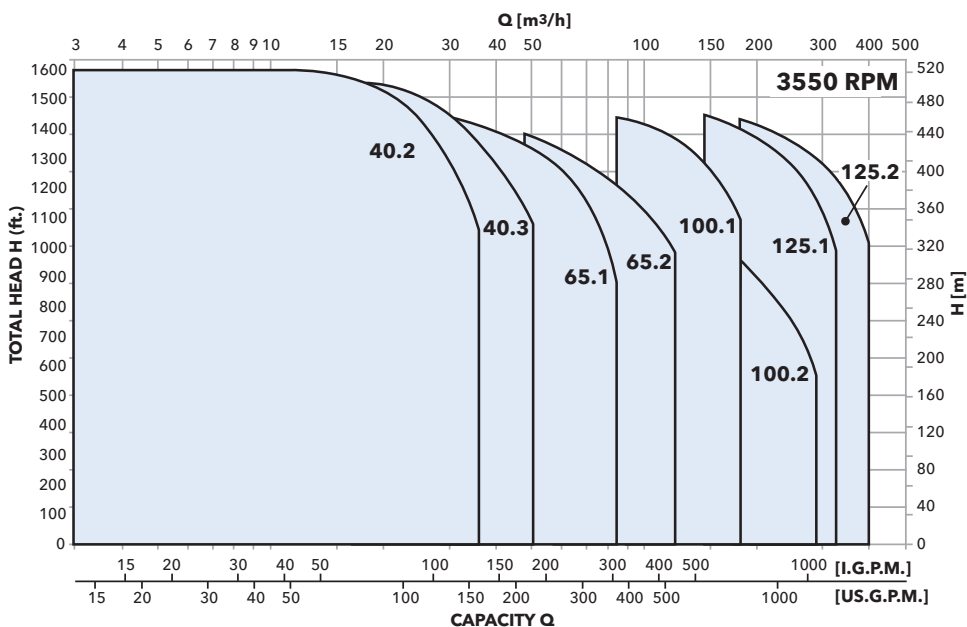
Vertically Immersed End-Suction Pump



### Vertical High Pressure - MPVN

- Rugged vertical segmented ring construction.
- Available in all iron, stainless fitted or all stainless for fluid compatibility.
- Recommended for a wide variety of industrial, commercial, municipal and building trades pressure boosting applications.

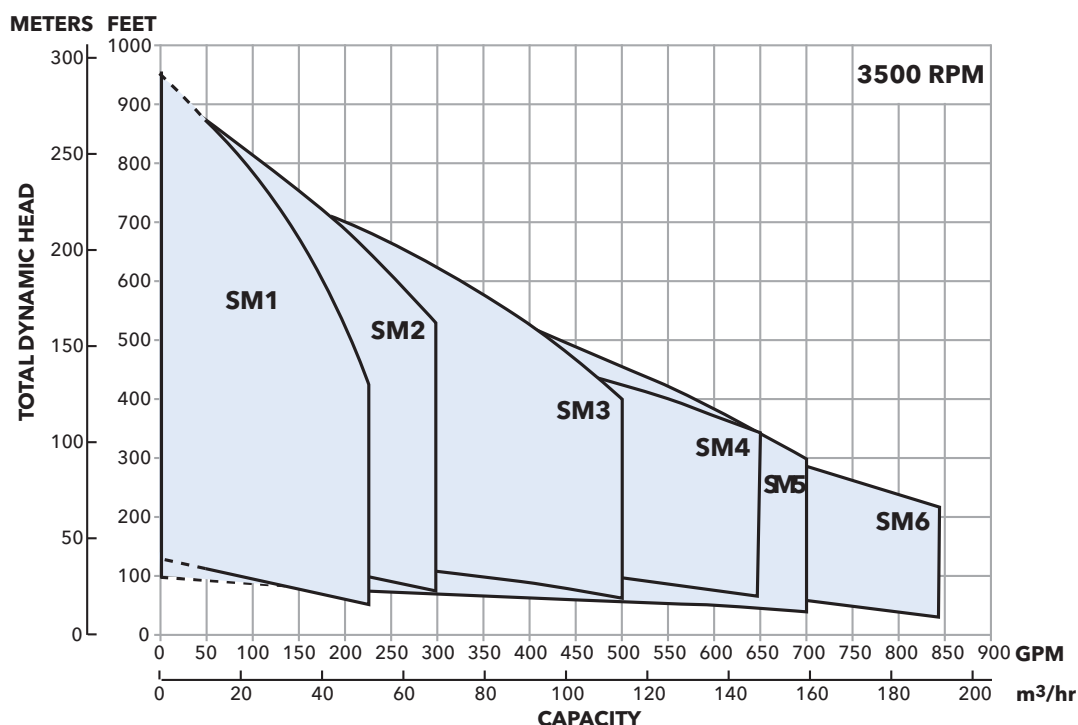
Vertical High Pressure Multi-Stage Pump



### Vertical High Pressure - SMVT

- Surface mounted, multi-stage vertical turbine pumps. Turbine hydraulics, in-line configuration.
- High efficiency, high pressure design.
- Heavy duty cast iron stainless steel fitted bowl assembly.
- Motor coupling is precision balanced for vibration-free operation.
- Ideal for limited space environments, packaging, and water booster applications.
- Flows from 50 to 850 GPM. TDH up to 880 feet.
- Pre-engineered product with construction options such as stainless steel flanged casing, 50Hz or Premium efficiency motors, and horizontal configurations.
- Unit can be serviced without disturbing system piping arrangement.
- Mechanical cartridge-type seal can be replaced without removing motor.

Surface Mount Vertical Turbine



# Variable Speed Control

### General information on Variable Speed Control systems.

- Aquavar pump control for constant pressure, constant flow, or system curve performance.

Versions from 1 HP to 550 HP.

Pump or wall mounted.

Any three phase centrifugal pump motor (230/460 V).

Eliminate large pressure tanks, separate control panels, bypass lines, automatic valves, etc.

Up to four pumps can be linked for automatic alternation.

- Aquavar ABII constant pressure system provides constant water pressure for homes and commercial properties, up to 100 GPM systems.

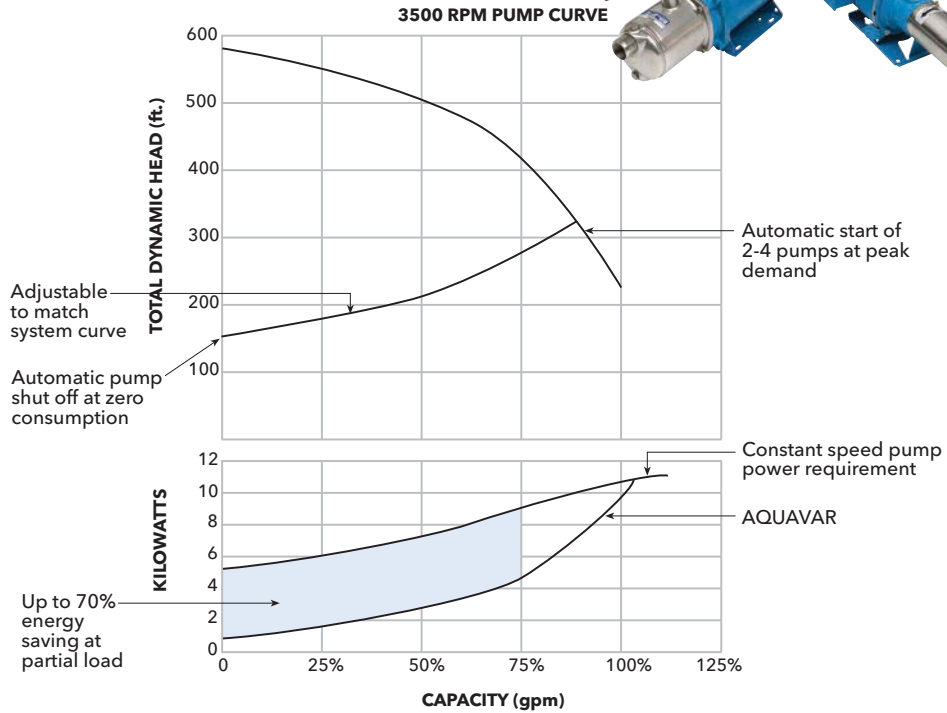
Automatically changes pump speed based on water demand.

Complete with all needed components for installation.

1 to 5 HP available.

## HYDROVAR® AND AQUAVAR® CPC

Centrifugal Pump Controller, PLC and Variable Frequency Drive



# Engineered Pump Stations - AquaForce™

## Features and Specifications

- All systems are cUL Listed.
- NSF61 approved for potable water.
- Maximum footprint, on most sizes, allow systems to fit through standard doorways.
- 200 - 230 Volt single phase, 200 - 230 Volt three phase, 460 Volt.
- Each system is fabricated with Goulds Water Technology stainless steel or cast iron centrifugal pumps with a variety of electrical and mechanical options to choose from.
- Standard "off the shelf" motors by Baldor or USEM Motors.
- Significant reduction in energy consumption over fixed speed systems.
- System protection from overvoltage, under-voltage, blocked suction, cavitation, NPSHa, phase loss, short circuit, transducer failure and motor overload.
- Liquid temperatures up to 212° F.
- Ambient temperatures up to 104° F.
- Maximum operating pressures up to 360 psi.
- Pump run-out protection.
- Dry running protection.
- Programmable lead/ lag alternation.
- Programmable system curve/ friction loss compensation.
- Programmable system pressure starting.
- Fault detection and alarms relay.
- Motor run relay.
- Programmable soft start.
- Stainless steel or optional carbon steel piping.
- Isolation valves.
- Optional suction / low pressure switch.
- Optional pressure relief valves and temperature relief valves.
- Optional lightning protection.
- Optional flexible discharge hose.

Engineered Pump Stations



# Variable Speed Control - Hydrovar®



Pump Mounted Variable Speed Controller



### Packaged Hydrovar

**NOTE:** Pressure Transducer, fused disconnect, complete wiring and conduit included.

### Available Configurations

| Horsepower Range | Electrical Requirement |
|------------------|------------------------|
| 2 and 3          | 1 phase, 230 V         |
| 3, 5, 7½, 10, 15 | 3 phase, 460 V         |

### Technical Data

**Single Phase Version:** 2 and 3 HP

**Motor Rating:** 3 phase, TEFC, 208 - 230 volt, 0 - 60 HZ, Class F insulation

**Power Supply:** single phase input, 220 - 240 volt, ±10%, 40 - 70 HZ

**Three Phase Version:** 3 HP to 15 HP

**Motor Requirements:** 3 phase, TEFC, 460 volt, ±10%, 0 - 60 HZ, Class F insulation

**Power Supply:** 3 phase, 380 - 460 volt, ±10%, 40 - 70 HZ

**Pressure Transducer:** 316 SS, 17-4 PH stainless steel, ¼" NPT connection, shielded two wire cable, operating temperature -13° F to 250° F, supply voltage 7- 35 Vdc, 4 - 20mA output. Accuracy is .5% of full scale, proof pressure is 4 x full scale.

**Display:** Two line, 16 characters per line, LCD display. Easy to read pump language, pump on, system pressure, fault codes and system conditions are displayed.

**Motor Speed:** Variable between 0 - 70 HZ , or maximum RPM at 60 HZ depending on speed rating of standard AC induction motor.



**Ambient Temperatures (operating):** 32 - 104° F (0 - 40° C)

**Humidity:** 50% relative at 104° F (non-condensing)

90% relative at 68° F (non-condensing)

**Inverter design:** IGBT, output frequency is a sinus valuated Pulse Width Modulated (PWM)

**Enclosure:** NEMA 4, IP 55. Avoid excessive dust, corrosives or salts.

**Safety Agency Listings:** Packaged Hydrovar -  ,  
Hydrovar only -  (UL Recognized Component)

**Protection:** Over/Under voltage, motor overload, short circuit, ground fault, motor overheat (with thermistor), programmable no/low flow shut-down, low suction pressure, pump run-out.

**Control:** Analog input control (4 - 20mA) two point control based on pressure, flow or differential pressure. Control up to 8 pumps in parallel.

**Terminals:** Dry relay contacts are available for pump run, pump error, low pressure switch, remote ON/OFF control, analog output 0 - 10 Vdc (system pressure) and full opened slave pump starter.

**Multi-Pumps:** RS485 communication SIO (local only) up to four pumps.

**Alternate Input:** Up to two transducers may be used with each controller. These may be pressure, flow, differential pressure, temperature or other 4 - 20mA signals.

### Hydrovar Variable Speed Pump Controller

The HYDROVAR Pump controller is a combination of a variable frequency motor drive (VFD) and a programmable logic controller (PLC) in one compact package. It mounts on the fan cover of the TEFC pump motor. Each controller is pre-programmed with patented pump specific software. Controllers are specifically designed to work with all configurations of centrifugal pumps, matching pump output to varying system conditions while protecting the pump, the motor and the pumping system.





# Variable Speed Control - Aquavar® CPC

## Introduction

The **Aquavar® CPC** (Centrifugal Pump Controller) from CentriPro incorporates the latest state-of-the-art Aquavar technology. The Aquavar CPC is a variable frequency drive and pump specific PLC in one compact unit, that will vary the speed of the motor to maintain a consistent pressure, flow, temperature or level. Here are just a few of the features and benefits of this innovative product:

- Start-up “wizards” expedite the programming process.
- Removable control panel/display.
- Fully backlit display with large text makes the control pad easy to read.
- Transducer assembly (0-300 psi) included for constant pressure.
- Protect the pump from cavitation, dead head and blocked suction.
- Protect the motor from short circuit, phase loss, overload, undervoltage, overvoltage.
- Input choke reduces harmonics and provides 3-5% impedance line reactor.
- EMC/RFI filters reduce drive noise emissions and interference.
- MODBUS® compatible. MODBUS is standard protocol with SCADA networks.
- Capable of controlling up to 3 fixed speed pumps, with one drive.
- Multipump control for up to 4 pumps, without additional PLC's or control panels.
- Auto lead/lag and switching control built in.

## Ratings and Enclosures

- NEMA 1 (indoor use) standard. Other enclosures available upon request.
- 1 - 200 HP (frame R1 - R6) wall mounted.  
250 - 550 HP (frame R7 and R8) floor mounted.
- Ambient temperature 5° F - 104° F. Higher temperatures can be achieved using optional enclosure upgrades and derating factor for up to 122° F.
- At altitudes from 0 to 3300 feet rated current is available, for every 328 feet above 3300 feet the current must be derated 1%. Maximum 6600 feet (consult factory above 6600 feet).
- Relative humidity lower than 95% without condensation.
- UL 508C compliant. UL, cUL, CE approved.

## Electrical Characteristics

### Input Power

- 3 phase 380 V to 480 V +10%/-15%
- Frequency 48 to 63 Hz
- 1 phase 208 V to 240 V +10%/-15%
- .98 power factor
- 3 phase 208 V to 240 V +10%/-15%

### Output Power

- 3 phase from 0 to  $V_{supply}$  (All motors must be 3 phase.)
- 0 to 60 Hz frequency

Wall Mounted Version



# Variable Speed Controls - Aquavar SPD™

## Aquavar SPD Features

- **Easy Set-up** → Pre-set for submersible or surface motor characteristics. Pre-wired and tested transducer. Touch button pressure setting. No complicated menus or electrical programming to cope with. Total set up time including wiring is less than 30 minutes.
- **NEMA 3R** → Outdoor rated enclosure eliminates the need for separate cover panels required by competitive standard NEMA 1 enclosures. Operating temperature -22° F to 122° F!
- **Dual Phase Input** → UL Listed for either three phase or single phase input (de-rated).
- **Filter Pack** → Aquavar SPD models with an "F" suffix come complete with output filter rated to 1000 feet of motor lead. It is ready to go without having to source and install components from other sources. Programming is also pre-set to 30 Hz minimum to protect motor bearing lubrication required by some motor manufacturers.
- **True Motor Match** → The Aquavar SPD is already rated for the higher amps typical of higher HP submersible pump start-up. There is no need to oversize the drive as with other units. A 10 HP Aquavar SPD will run a 10 HP submersible pump!
- **Transducer** → As with all Goulds drives, the pressure transducer is included with the drive so there is no need for separate sourcing and compatibility checks. The transducer is pre-wired and tested, with internal case grounding!
- **Full Diagnostics** → In addition to typical electrical protection and diagnostics, the Aquavar SPD has a full range of pump protection features such as bound pump or motor shut down, low water or loss of prime shut down. These added features require no added input devices.
- **Remote on/off** → Permits external control by timers (irrigation), float or pressure switches (tank draining) or manual control. Dry contact closure required.
- **Hand/Auto Option** → Allows the drive to be run at full speed without a pressure transducer for longer periods of time as in the case of new well development or system start up. Turning the control back to auto resumes the automatic pressure tracking and control.
- **Remote Monitoring** → External monitors may be connected to the drive for monitoring pump running speed (4-20 mA output based on speed), pump on, and system fault. The fault indicator can also be connected to devices like an auto-dialer. This enables control of pumps and drives in un-manned locations. The 4-20 mA output can be utilized for functions such as an external dosing system, chlorine injection.
- **Pressure Drop** → The reaction time of the drive to pressure drops can be adjusted from the typical 5 PSI drop to as much as 20 PSI. This allows for fewer starts.
- **Dual Set Point** → The Aquavar SPD has the capability to be programmed with two pressure set points. An external contact such as a timer can be used to change between them, so that a booster pump serving both a building and an irrigation system can do both jobs without manual resets.
- **No Water Restart** → The Aquavar SPD has the capability to adjust the time delay in between each "dry well" fault. Adjustable from 10 minutes to 2 hours between each restart. Ideal for low yielding wells.


Simplex Variable Speed Pump Controller



**Aquavar SPD** models with an "F" suffix are configured for submersible pumps. Models without the "F" suffix are configured for centrifugal pumps.

# Variable Speed Controls - Aquavar ABII

## 1151AB2, 1AB2 and 2AB2 Aquavar ABII Controller Features

- Input Power\* – 1151AB2 115V +/- 15%, 50/60Hz  
1AB2, 2AB2 230V +/- 15% 50/60Hz  
(controller only)
- Output Power – Up to 230V three phase (based on input voltage). Motor rated for 208-230V, ±10%.
- Maximum Output Current – 4.2 amps - 1151AB2 and 1AB2;  
6.9 amps - 2AB2
- Input Controls – Up and down buttons to set pressure.
- Signal Lights – Power on, pump running, inverter stopped, pump stopped, standby, faults/errors.
- Electrical Efficiency – Over 95%
- Protection Against – Short circuit, under voltage, overload, motor temperature, dead heading, run out, suction loss, sensor fault, bound pump, over voltage, static discharge.
- Ambient Temperature – 34° F to 104° F
- Maximum Humidity – 95% at 104° F, non-condensing
- Air Pollution – Avoid mounting in areas with excessive dust, acids, corrosives and salts.
- Approvals – 
- Controller Enclosure – NEMA 3R, IP 43 (Rain-tight)
- Mounting – Wall mount with mounting hardware.
- Cooling – Convection with heat sink.
- Transducer – 0.5 - 4.5 VDC with 5 VDC power supply, 100 psi range, 80-inch 3-core cable.
- Input Wire – 5 feet of 14 gauge cable. Cable is pre-wired to controller and junction box.
- Output Wire – 10 feet of 14 gauge cable. Cable is pre-wired to controller and pump motor (when provided).

\* Low input voltage may affect motor operation.

### Pressure Range

Nominal Range – Field adjustable from 20 - 85 psi, total system pressure.

**⚠ WARNING DO NOT SET REQUIRED SYSTEM PRESSURE ABOVE 85 PSI. SEVERE DAMAGE TO PLUMBING COULD RESULT.**

- Available as a complete booster system with several pump options. See BAQUABII bulletin. Model HMS shown.

Variable Speed  
Constant Pressure Systems



**1151AB2, 1AB2 and 2AB2**



**HMS Pump**

## Distributor Information

Xylem Inc. manufactures professional grade pumps, controls and accessories for commercial and residential sump, effluent and wastewater applications. Our nationwide distribution and U.S.-based manufacturing facilities can get you the products you need quickly. Backed by over 160 years in the pump business and the Goulds Water Technology customer support and service that is second to none.

Xylem Inc. is a global leader in the water technologies market. The Goulds Water Technology product portfolio includes submersible and line shaft turbine, 4" submersible, jet, wastewater and centrifugal pumps for residential, agriculture and irrigation, sewage and drainage, building services, commercial and light industrial use.

**For more information visit [www.gouldswatertechnology.com](http://www.gouldswatertechnology.com) or [www.centripro.com](http://www.centripro.com).**



Xylem Inc.  
2881 East Bayard Street Ext.  
Seneca Falls, NY 13148  
Phone: (800) 453-6777  
Fax: (888) 322-5877  
[www.gouldswatertechnology.com](http://www.gouldswatertechnology.com)

Goulds is a registered trademark of Goulds Pumps, Inc. and is used under license.  
CentriPro, Aquavar, Aquavar ABII, Aquavar SPD, AquaForce, CentriGuard,  
GT Irri-Gator and PrimeLine are trademarks of Xylem Inc. or one of its subsidiaries.  
Modbus Protocol is a registered trademark of Modicon Inc.

© 2012 Xylem Inc. BRGLCAR R2 December 2013