



**Vertical In-line Pump  
& Series 800  
Vertical In-line Pump  
Series XRI Universal**



**840SC**



**880RI**



**XRI**



**880**

[www.flofab.com](http://www.flofab.com)

001-cat-2016-800x

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## HISTORY

Flo Fab was established in 1981 by Denis Gauvreau who created and developed the products line and constantly being perfected by Marc Gauvreau, as well as by a team of professional engineers and designers. It's a combination of existing designs from several renowned products and the innovative ideas of a new generation professionals.

Through the years, Flo Fab has acquired several companies and service entities including : AQUA-PROFAB (ASME Tanks manufacturer), MÉNARD, LÉONARD ÉLECTRIQUE, PMA. , Furthermore Flo Fab purchased equipment, fabrication designs and patterns from IDEALCO, a manufacturer of shell and tube type heat exchangers.

The after sales services, sales, engineering, R&D, production, quality control, accounting and administration departments of all the above companies share the same location.

In December 2014, Marc Gauvreau, son of the founder, acquired all shares of The company. Flo Fab and is constantly investing in new state of the art innovations new product like the XRI series and Prefab Skid for Hydronic Heating 8 cooling system, pumping systems. This has allowed Flo Fab to retain competent and experienced staff of professionals with varied and specialized abilities that constantly work on improving our existing products and add new engineered solutions that exceeding customer's expectations .

Flo Fab has grown quite rapidly and now proudly offers of a wide range of products available directly from one manufacturer. This includes pumps & pump packages, tanks, heat exchangers & hydronic accessories. This allows each project stakeholders to enjoy economical savings, peace of mind, best value for their investment and optimized total cost of ownership.





## ● Product Specifications

FLO FAB In-Line pumps series 840SC, 880, 880RI and XRI are specifically designed for heating, air conditioning and industrial applications.

Suction and discharge nozzles are located 180 Deg apart on the same centerline for mounting directly in a pipeline. This eliminates critical pipe alignment for assembly and minimum pipe strain. The need for costly foundation is eliminated which guarantees minimum space requirements. The motor and bracket assembly can be removed from the casing without disturbing the piping, on some of the above series. The impeller, mechanical seal, bronze shaft sleeve and wearings are therefore accessible for easy maintenance. Mechanical seals and bronze wearings are supplied as standard on all series pumps. A built-in purge system assures proper flushing and venting of seals. Standard NEMA frame motors with JM, TC, TD or HP shafts on all models and specially designed for mechanical seal applications. Controlled tolerances and adequate bearings assure long life. Quick disconnect feature simplifies maintenance and saves time. Remove a few bolts from the motor bracket and the motor, bracket and all moving parts can be lifted free of the pump housing. Inspection or maintenance can be performed without disturbing the pump casing or the pipe flanges. The entire unit are built according to the quality control specifications of Flo Fab.

### Features

- Completely Assembled
- For Heating, Air conditioning and Industrial Applications.

**For other informations see page 4**

### In General

The FLO FAB vertical in-line pumps have been developed to give long lasting service with minimum required repairs. The units provides for applications where space is at a minimum and where an economically price rugged unit is required.

### Testing

Pumps are completely tested and data reports are recorded.

### Efficiency

FLO FAB pumps are of high efficiency and have non-overloading characteristics.

### Pump

Vertical in-line bronze fitted pump with closed coupled flanged cast iron casing, leak-proof mechanical shaft seal, large diameter corrosion resistant steel motor shaft, and bronze casing wearing. The mechanical seal permits handling temperatures up to 250oF. The pump is provided with an axial flow impeller enclosed within a cast bronze construction. The entire rotating assembly can be removed without disturbing the piping on some series. Pump motors are built accordingly to the quality control specifications of FLO FAB.

### Motor

Totally enclosed motor is standard. Explosion-proof and open-drip proof motors are available in NEMA standard construction. Motor bearings are sealed and factory greased for extra long trouble-free operation. Single phase fractional Hp motors include built-in thermal overload protection. Motors are available at 1150, 1750 and 3450 RPM. Motor can also be inverter duty type for variable speed applications.



## ● Product Information

Automatic Purge System Liquid flows from high pressure side of impeller across the seal face to the low pressure side of the eye of the impeller. Assures proper lubrication, venting and self cleaning.

Casing Close grained cast iron, heavy section volute type, containing both suction and discharge gauge connections. Casing is machined to register for perfect alignment with coverplate.  
\*\*\* Casings are all hydrostatically tested prior to shipment \*\*\*

Flanges Standard 125 pounds ANSI Flanges with pressure gauge tappings.

Shaft Sleeve Bronze with short length minimizing deflection under load conditions.

Impeller One piece enclosed type, bronze, cast iron or stainless steel, high efficiency, precision balanced and accurately bored. The impeller is fastened to the shaft by a key, washers, and stainless steel cap screws.

Full servicing Easy and quick removal to service the impeller and seal.(on series 880RI)

Wear Ring On all models, bronze, easily removable, to protect casing and/or impeller against wear.

Manual Vent Plug to insure positive lubrication at start-up.

Mechanical Seal John Crane suitable for particular service specified. Carbon rotating face, and ceramic seal up to **(see on next page)** . A Flushing connection can be supplied on request.

Drain Plug is provided for complete draining and flushing of the pump.

Motor Quiet Nema JM, TC, TD or TEFC standard or Open-Drip Proof available on most pump models. Can be rotated at 90° intervals for convenient junction box location.

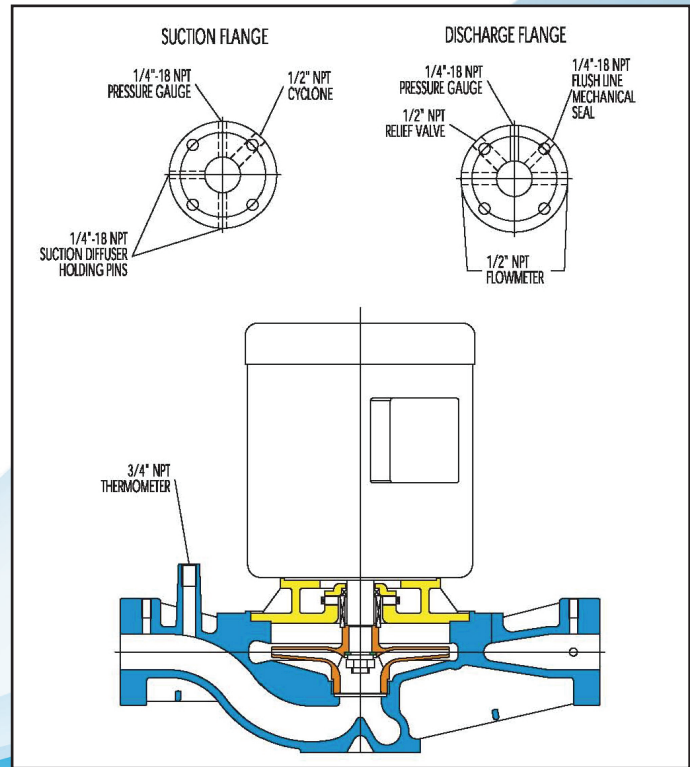
Speeds 3450, 1750 and 1150 RPM

Motor Bracket closed grained cast iron, heavy section, machined to register for perfect alignment.

# ● Product Details

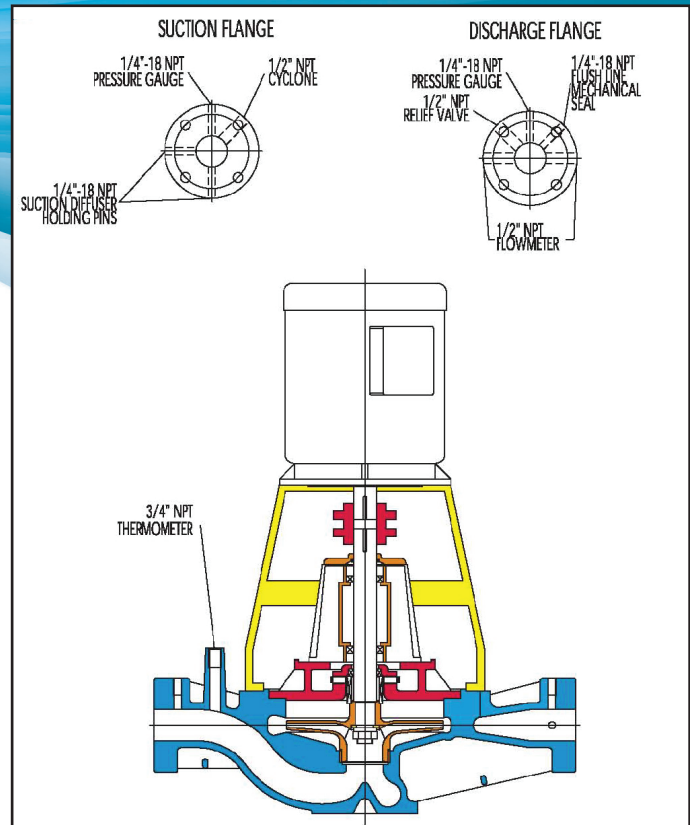
## 880 JM large motor shaft directly assembled to the pump and to the motor bracket

<b>TYPE</b>	Compact In-Line Centrifugal
<b>CAPACITIES</b>	up to 3000 USGPM (680 m <sup>3</sup> /hr)
<b>HEAD</b>	up to 650 ft. (198 m)
<b>PRESSURE</b>	up to 250 PSI (1724 kpa)
<b>HORSEPOWER</b>	up to 200 HP (149kW)
<b>DRIVES</b>	JM Electric Motors
<b>APPLICATIONS</b>	Water / Glycol
<b>TEMPERATURE</b>	up to 300°F (149 °C)
<b>MATERIAL OF CONSTRUCTION</b>	Cast Iron, Bronze Fitted as Standard, Other Materials Also Available



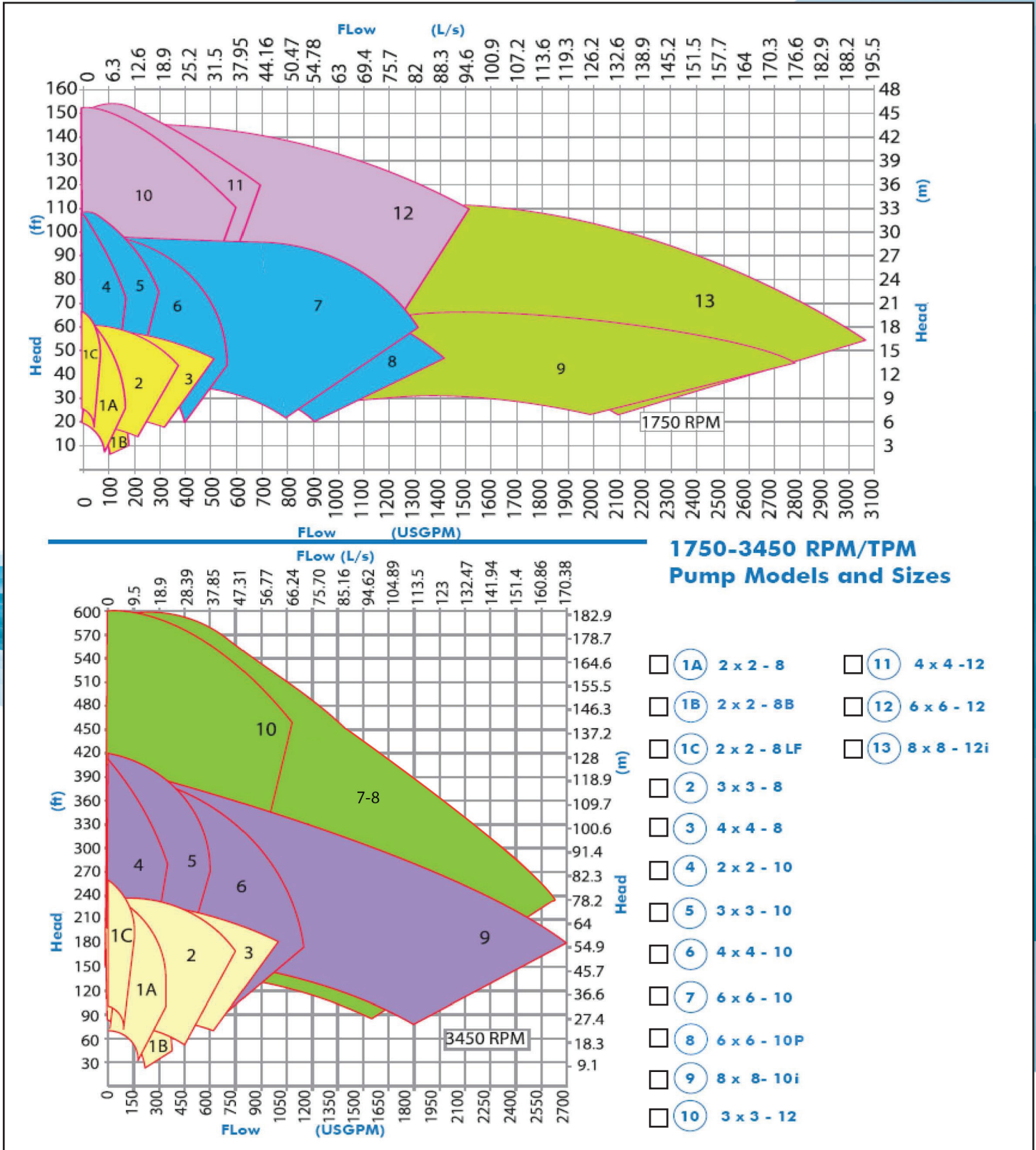
## 880RI TC large motor shaft coupled to the pump and to the motor bracket

<b>TYPE</b>	Vertical In-Line Centrifugal Split Coupling
<b>CAPACITIES</b>	Up to 3000 USGPM (680 m <sup>3</sup> /hr)
<b>HEAD</b>	up to 650 ft. (198 m)
<b>PRESSURE</b>	up to 250 PSI (1724 kpa)
<b>HORSEPOWER</b>	up to 200 HP (149kW)
<b>DRIVES</b>	TC Electric Motors
<b>APPLICATIONS</b>	Water / Glycol
<b>TEMPERATURE</b>	up to 300°F (149 °C)
<b>MATERIAL OF CONSTRUCTION</b>	Cast Iron, Bronze Fitted as Standard, Other Materials Also Available





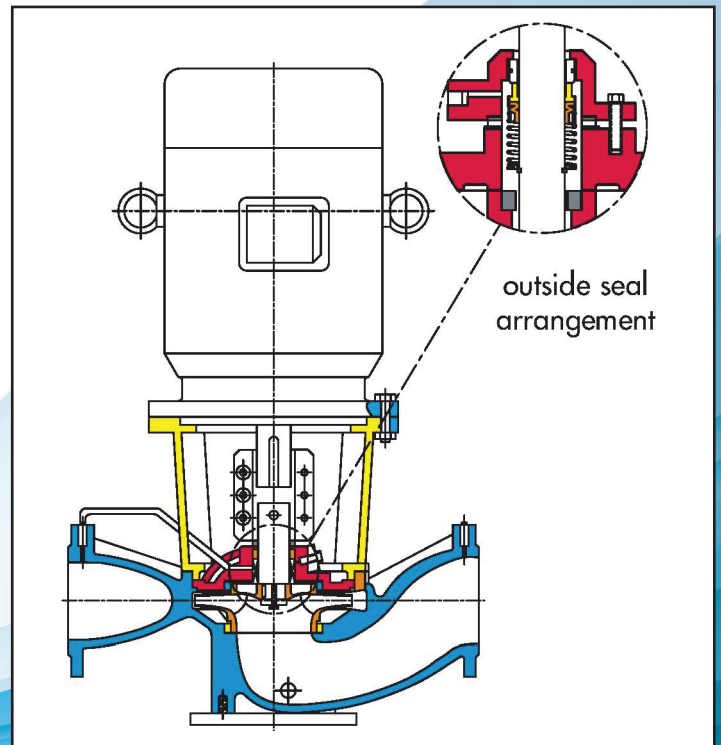
# ● Performance Curves 880/880RI



# ● Product Details

## 840SC

A closed grained cast iron split coupling is furnished and machined for perfect alignment of the HP motor and pump stub shaft coupling is easily dismantled for removal and replacement of the mechanical shaft seal without removing the pump or the motor from the installation. Sizes 12" and large are double suction design.



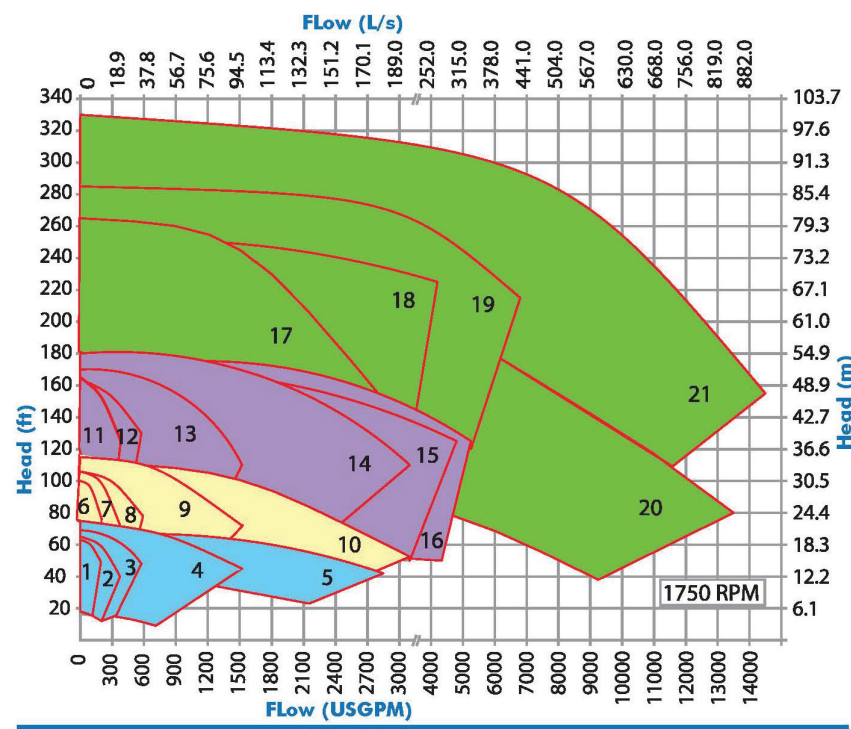
TYPE	Vertical In-Line Centrifugal Split Coupling
CAPACITIES	454 to 8000 USGPM 1816 m <sup>3</sup> /hr
HEAD	up to 410 ft. (125 m)
PRESSURE	up to 600 PSI (4136 kpa)
HORSEPOWER	up to 400 HP (298 kW)
DRIVES	TC Electric Motors
APPLICATIONS	Water / Glycol
TEMPERATURE	up to 300°F (149°C)
MATERIAL OF CONSTRUCTION	Cast Iron, Bronze Fitted as Standard, Other Materials Also Available



# ● Performance Curves

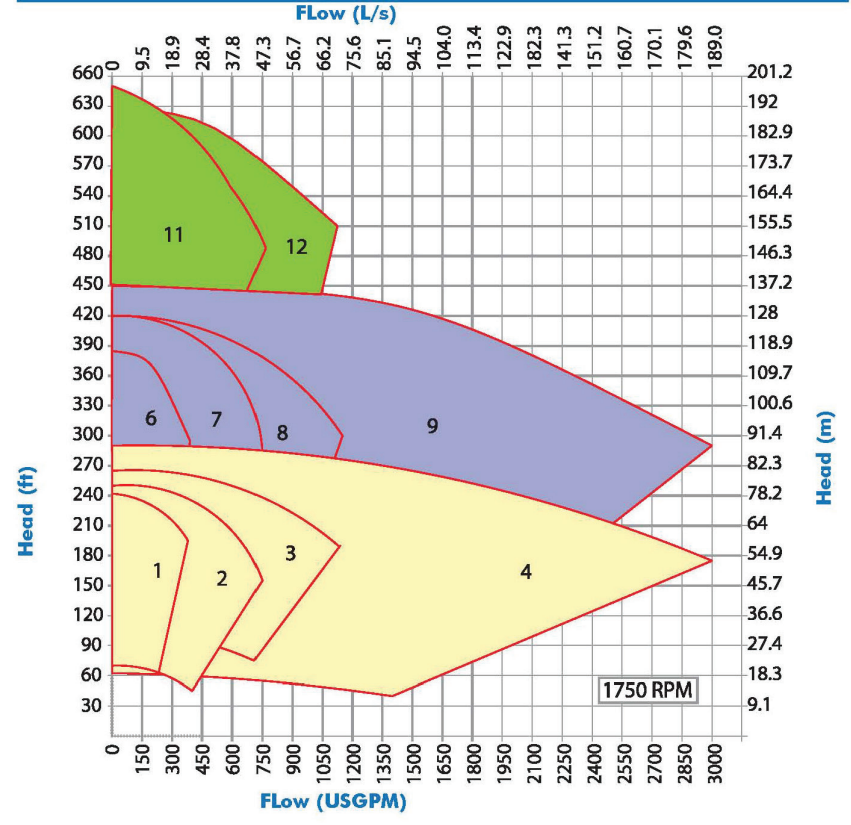
## 840SC

SUBMITTAL DATA SHEET  
 ISSUE DATE: MAY 2008  
 REVISION DATE: MAY 2008



### 1750 - 3450 RPM/TPM Pump Models and Sizes

- 1  2 x 2 - 8
- 2  3 x 3 - 8
- 3  4 x 4 - 8
- 4  6 x 6 - 8
- 5  8 x 8 - 8
- 6  2 x 2 - 10
- 7  3 x 3 - 10
- 8  4 x 4 - 10
- 9  6 x 6 - 10
- 10  8 x 8 - 10
- 11  3 x 3 - 12
- 12  4 x 4 - 12
- 13  6 x 6 - 12
- 14  8 x 8 - 12
- 15  10 x 10 - 12
- 16  12 x 12 - 12
- 17  8 x 8 - 16
- 18  10 x 10 - 16
- 19  12 x 12 - 16
- 20  16 x 16 - 15
- 21  16 x 16 - 19





# General Data

## ● Disassembly Diagram



When assembled



Take off the intermediate coupling



Take out the rotor components



Repair the wearing parts when pump is disassembled, ready to be repaired or serviced

## ● Product Introduction

Flo Fab introduces a Universal Single-Stage Single-Suction pump and is the latest generation with an original structure and more advanced technologies than any other pump manufacturer. This series of pumps were developed on the basis of efficient energy-saving. The pumps have a Single-Suction impeller for lower flow requirement. They have passed the National Pump Product Inspection Center. The pumps comprehensive performance meets the advance level of international requirements.

This pump has the best efficiency and stable performance with balance axial and radial forces. Compared with other types of pumps, it has noticeable higher cavitation performance and its efficiency is 2-5% higher. The great feature of these pumps is being able to service the pump parts without removing the pump casing and the electric motor from the system. This will save time and money to the owner.



<b>TYPE</b>	Universal 10 positions Vertical / Horizontal Centrifugal Pump with removable Impeller
<b>CAPACITIES</b>	up to 15850 USGPM 3600 m <sup>3</sup> /hr
<b>HEAD</b>	up to 655ft (200m)
<b>PRESSURE</b>	up to 600 PSI (4136kpa)
<b>HORSEPOWER</b>	up to 1000HP (746kW)
<b>DRIVES</b>	TC Electric Motors
<b>APPLICATIONS</b>	Water / Glycol
<b>TEMPERATURE</b>	up to 300°F (149°C)
<b>MATERIAL OF CONSTRUCTION</b>	Cast Iron, Bronze Fitted as Standard, Other Ma- terials Also Available



## ● Product Information

### **MAIN PURPOSE**

Application is for cold and cooling water circulation in refrigeration systems, hot water circulation in heating, high-rise refrigeration, air-conditioning water circulation, industrial and city water supply.

### **WORKING CONDITIONS**

Parameters range Pump Series XRI : flow Q=4 to 3,600 m<sup>3</sup>h (18 usgpm to 15,850 usgpm)

Pump XRI Head: H=6 to 255 meters (20 to 836 feet)

Voltage and speeds: 230/460/480/575 volts 60 HZ 3 phase 1150/1750/3500 rpm

Other voltage and speeds : 200/380/400 volts 50 HZ 3 phase 980/1450/2900 rpm

Pump size for series XRI: 40 mm to 600 mm (1.5 x 1.5 to 24 x 24)

Maximum working temperature: See previous page

Maximum working pressure: See previous page

### **STRUCTURE SPECIFICATIONS**

The XRI pump whose suction and discharge are both on the same horizontal line and also vertical to the axial lead. For the structural design, the pump can be serviced without removing the motor and the pump casing from the system. The rotor assembly is combined and can be taken out one by one just by removing the coupling, thus this operation is done very quickly.

The pump shaft adopts an independent bearing support to ensure the pump and motor power.

The pump shaft has roller bearings while the bottom has a sliding bearing lubricated by the medium.

XRI Impeller: it's a single-stage single-suction impeller with balance axial and radial forces and automatically extends the bearings.

Bearings: Sealed type precision bearings

Mechanical seal: Long life is selected for the correct medium.

## ● **Product Characteristics**

**1.** This type of pump has noticeable energy savings. The pump hydraulic performance is provided with an optimum design, whose efficiency is 2-4% higher than that of other type of centrifugal pumps.

**2.** This pump has a bold and break-through product design. It also has a separate bearing support assembly for stable and reliable operation thus solving the shortcomings of the original inline type pumps caused by the shaft extension shaft supported by the motor bearings, such as big vibrations and a high failure rate

**3.** The impeller and the pump casing is most advantageous with modern hydraulic model with a unique axial force equilibrator to remove the axial and radial forces of the vertical pump, improve the operation stability and extend the service life of the bearings and the mechanical seal.

**4.** It is easy and inexpensive to replace the pump shaft: the pump's shaft is separated from the motor. If the pump shaft needs to be replaced for being worn out or corrosive, it's only necessary to replace a small section of it, which means very low cost to the owner.

**5.** The inline pump and horizontal related motor is standard in the industry and is accessible everywhere.

**6.** Replacement parts are usually, wearing, impeller, mechanical seal, and bearings in which you will not need to lift heavy pump parts to have these replaced.

**7.** Compared to a horizontal single stage double-suction split case pump this has two major advantages :

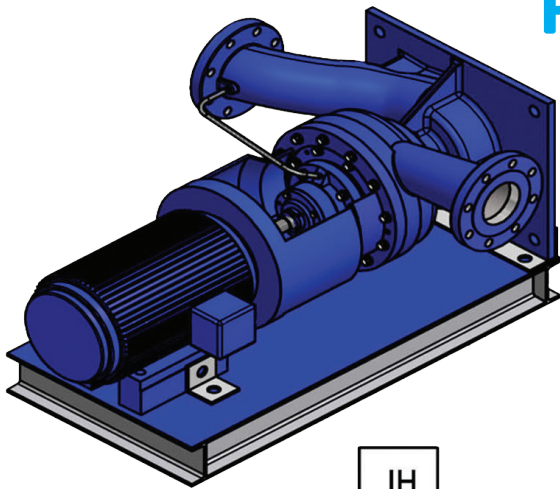
**7.a** Vertical inline pumps have a vertical structure which is space-effective so the pump room will have more space available, effective saving the fixed investment.

**7.b** Vertical inline pumps has a structure integrating pump and motor, so it doesn't need working procedures of installation and debugging like centering and alignment like horizontal end suction pumps when it arrives on the jobsite, and the high concentricity precision between the pump and motor contributes to the pump's stable and low-noise operation.

**7.c** These XRI pumps are available in many different configurations just by rotating the suction casing

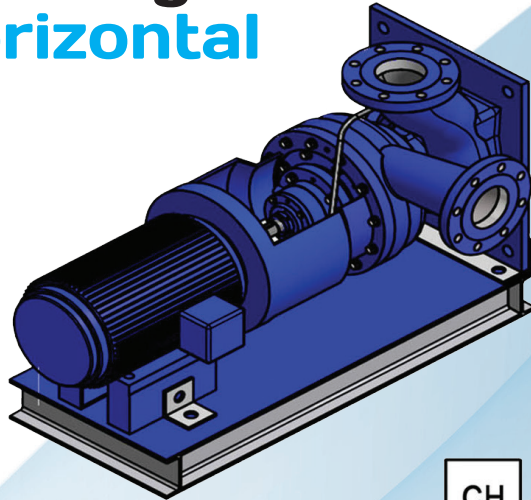
1. Vertical Inline (side suction side discharge)
2. Horizontal end suction (end suction top discharge)
3. Horizontal end suction (top suction top discharge)
4. Horizontal end suction (side suction top discharge)

● **Series XRI**  
**Various Configurations**  
**Horizontal**



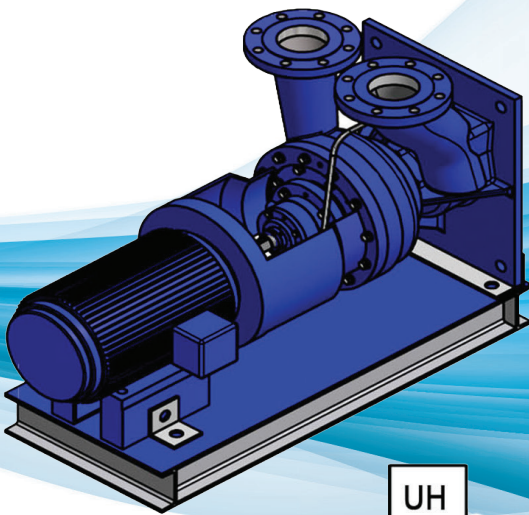
IH

INLINE HORIZONTAL



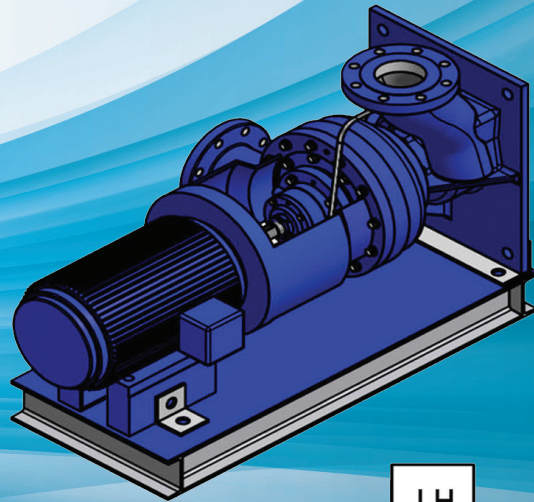
CH

CROSSED HORIZONTAL



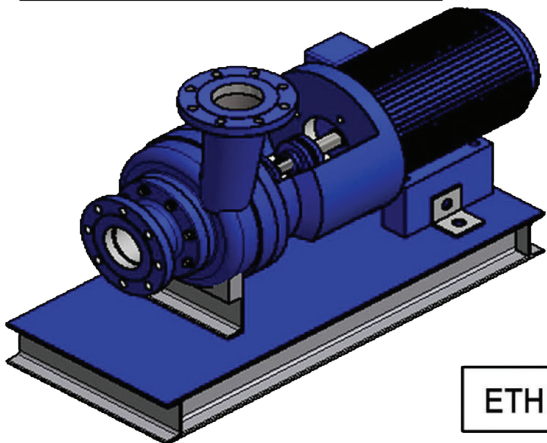
UH

U-SHAPED HORIZONTAL



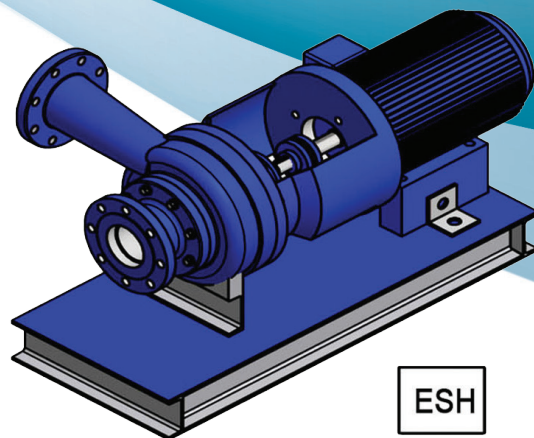
LH

L-SHAPED HORIZONTAL



ETH

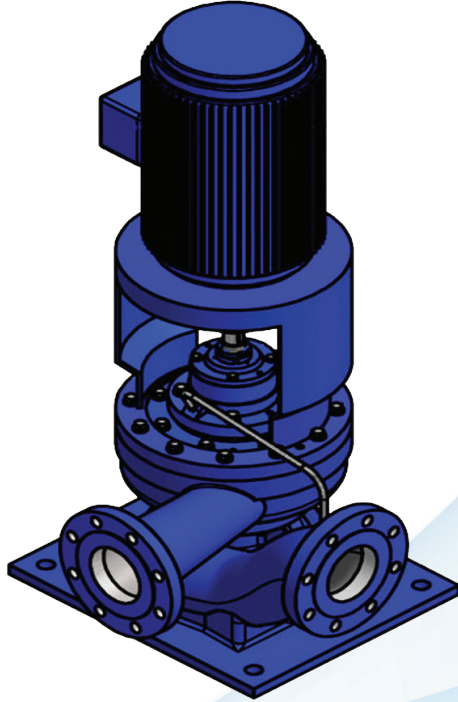
END SUCTION TOP HORIZONTAL



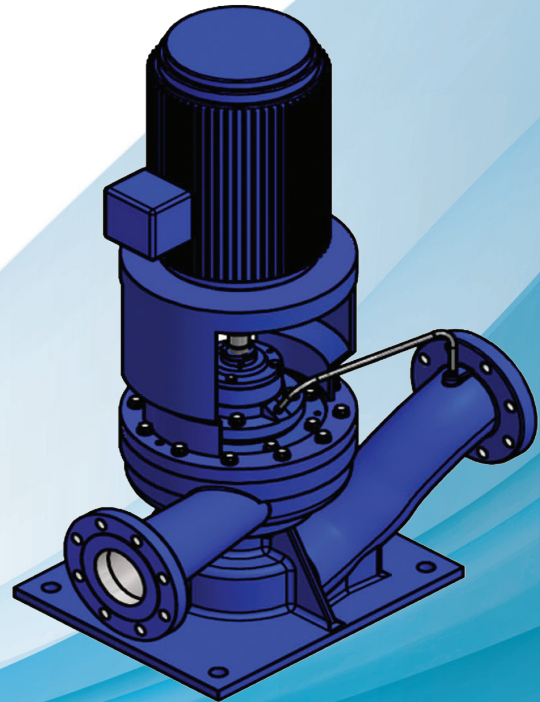
ESH

END SUCTION HORIZONTAL

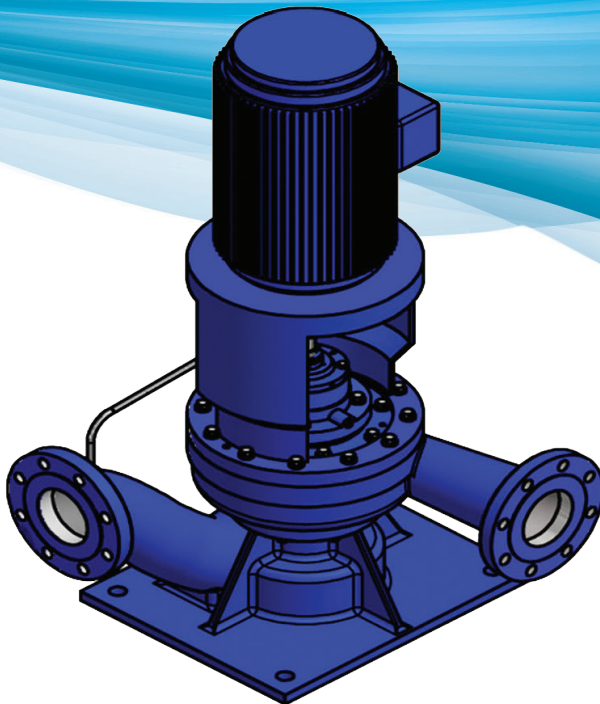
- **Series XRI Various Configurations**  
**Vertical**



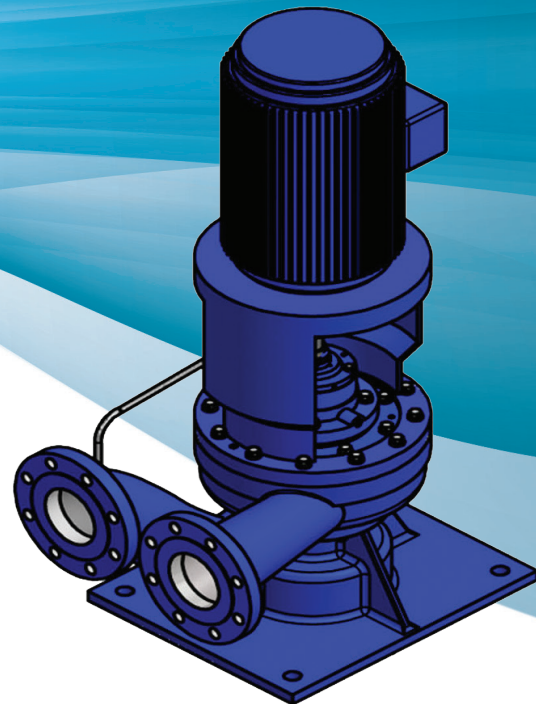
CROSSED VERTICAL



INLINE VERTICAL



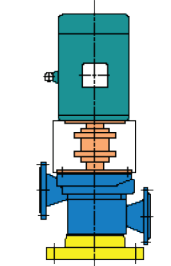
L-SHAPED VERTICAL



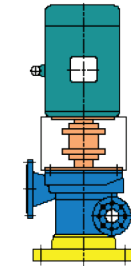
U-SHAPED VERTICAL

**Series 6000**

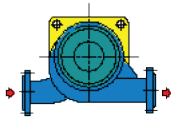
**Series 6000 Vertical 4 Positions**



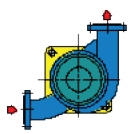
L1



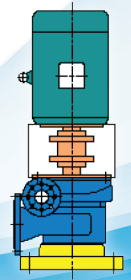
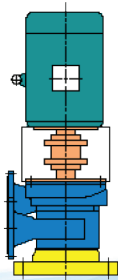
L2



L3



L4



**Completely Assembled**

**Application:**

Air Conditioning and circulating pump

**Head:**

Up to 920 ft

**Flow:**

Up to 6500 USGPM

**Max. Working Pressure:**

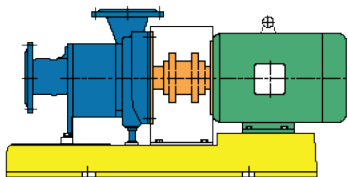
231 PSI

**Max. Working Temperature:**

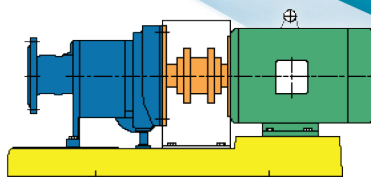
266°F

**Cast Iron, Bronze Fitted as Standard. Other materials available on request.**

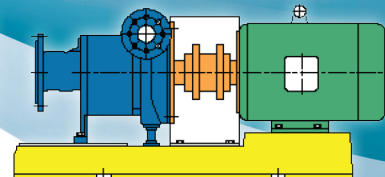
**Series 6000 Horizontal 12 Positions**



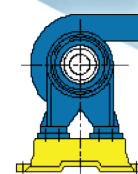
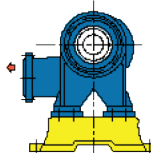
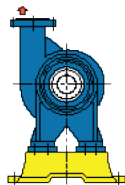
M1



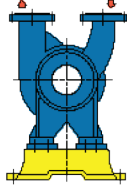
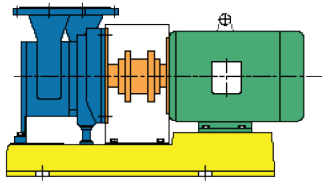
M2



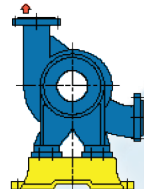
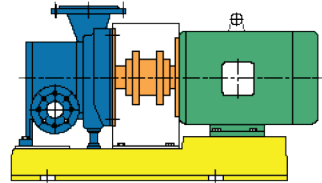
M3



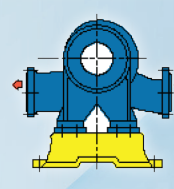
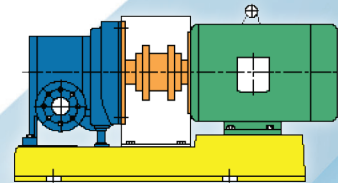
**Series 6000 Horizontal 12 Positions**



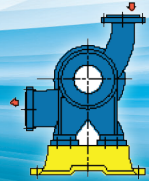
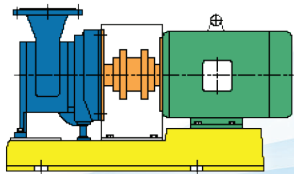
**W1**



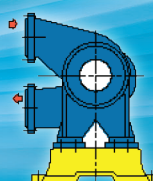
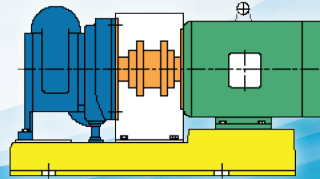
**W2**



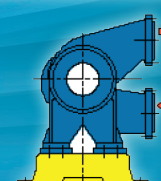
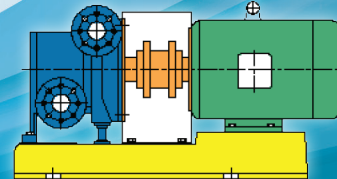
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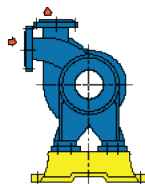
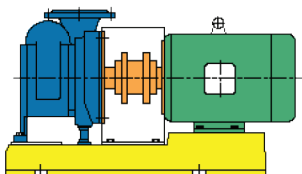
**W4**



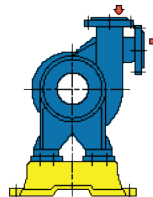
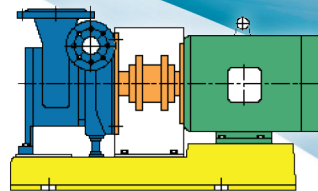
**W5**



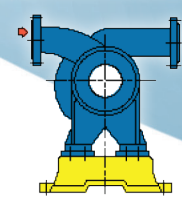
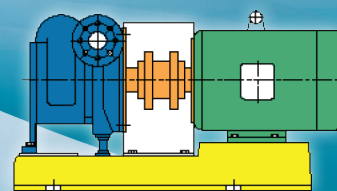
**W6**



**W7**



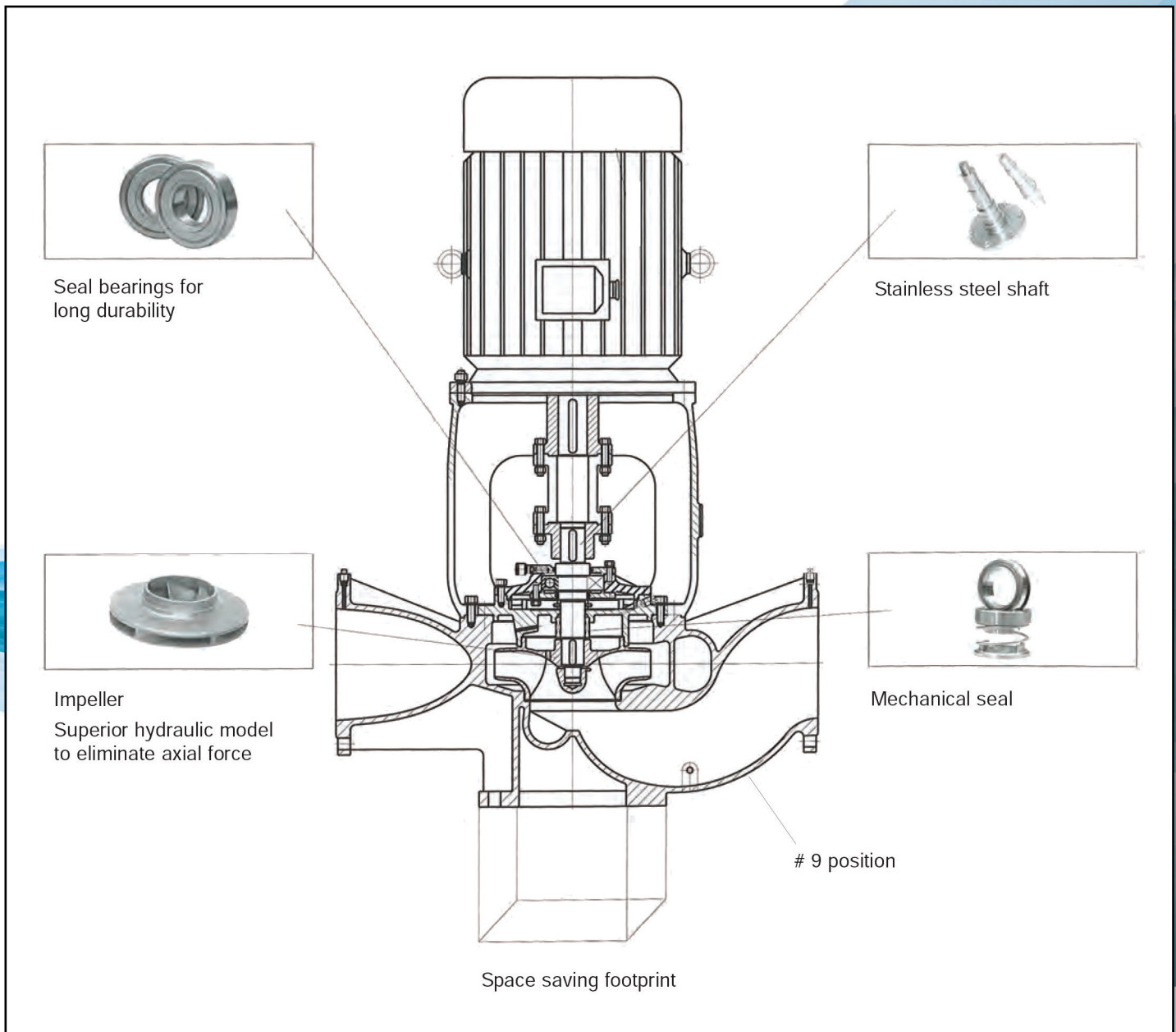
**W8**



**W9**

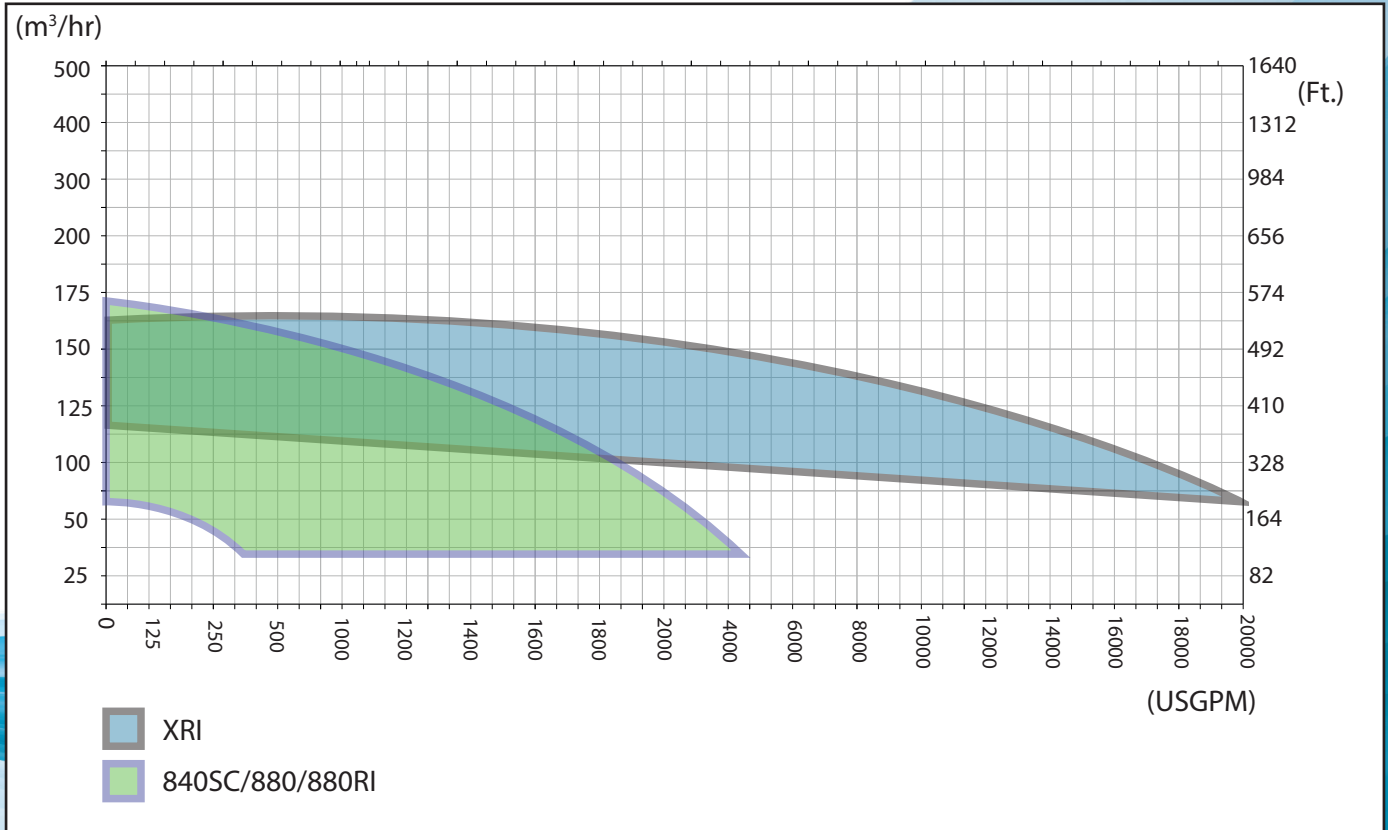


# ● Technical Characteristics for Serie XRI **Single Suction Assembly**

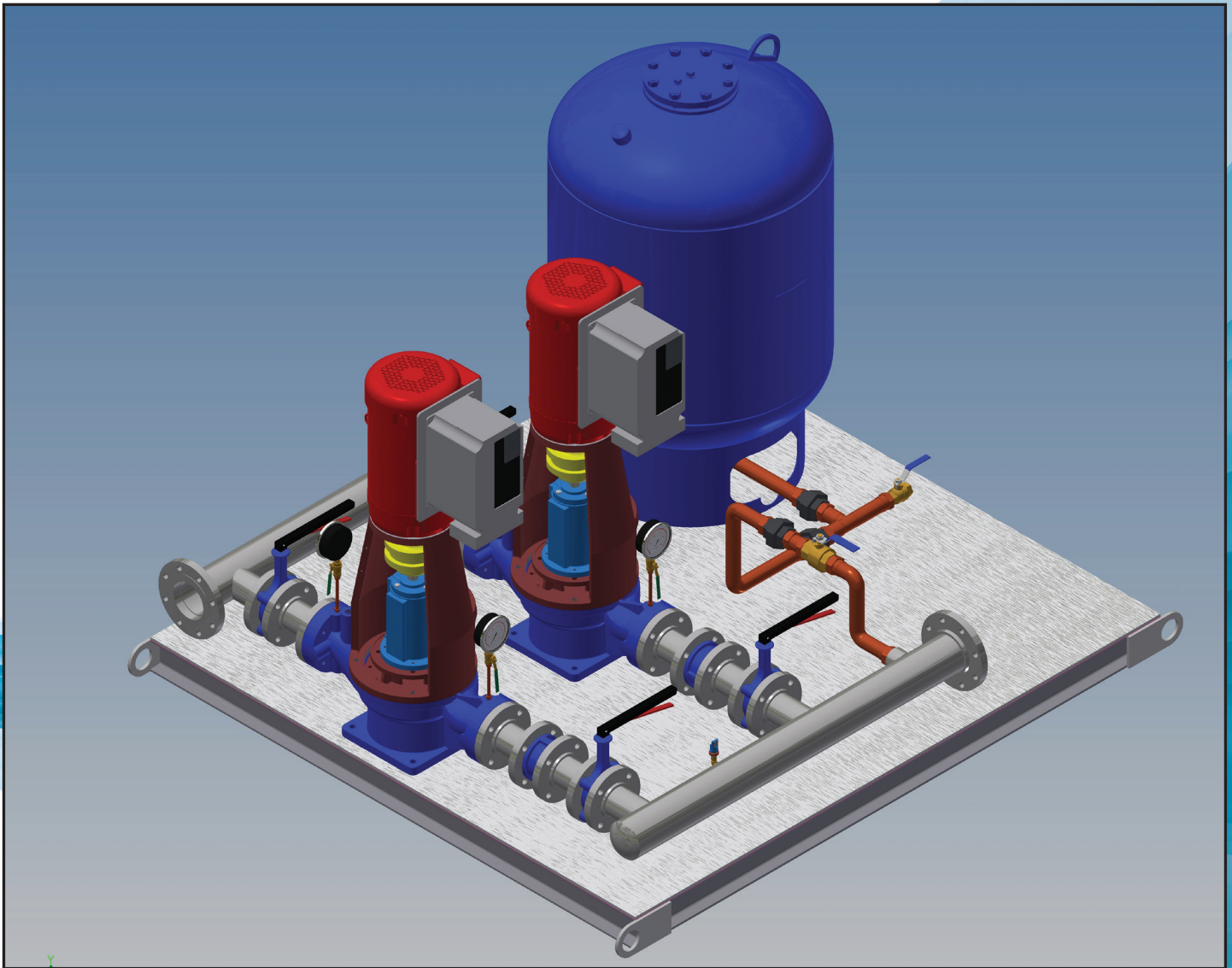




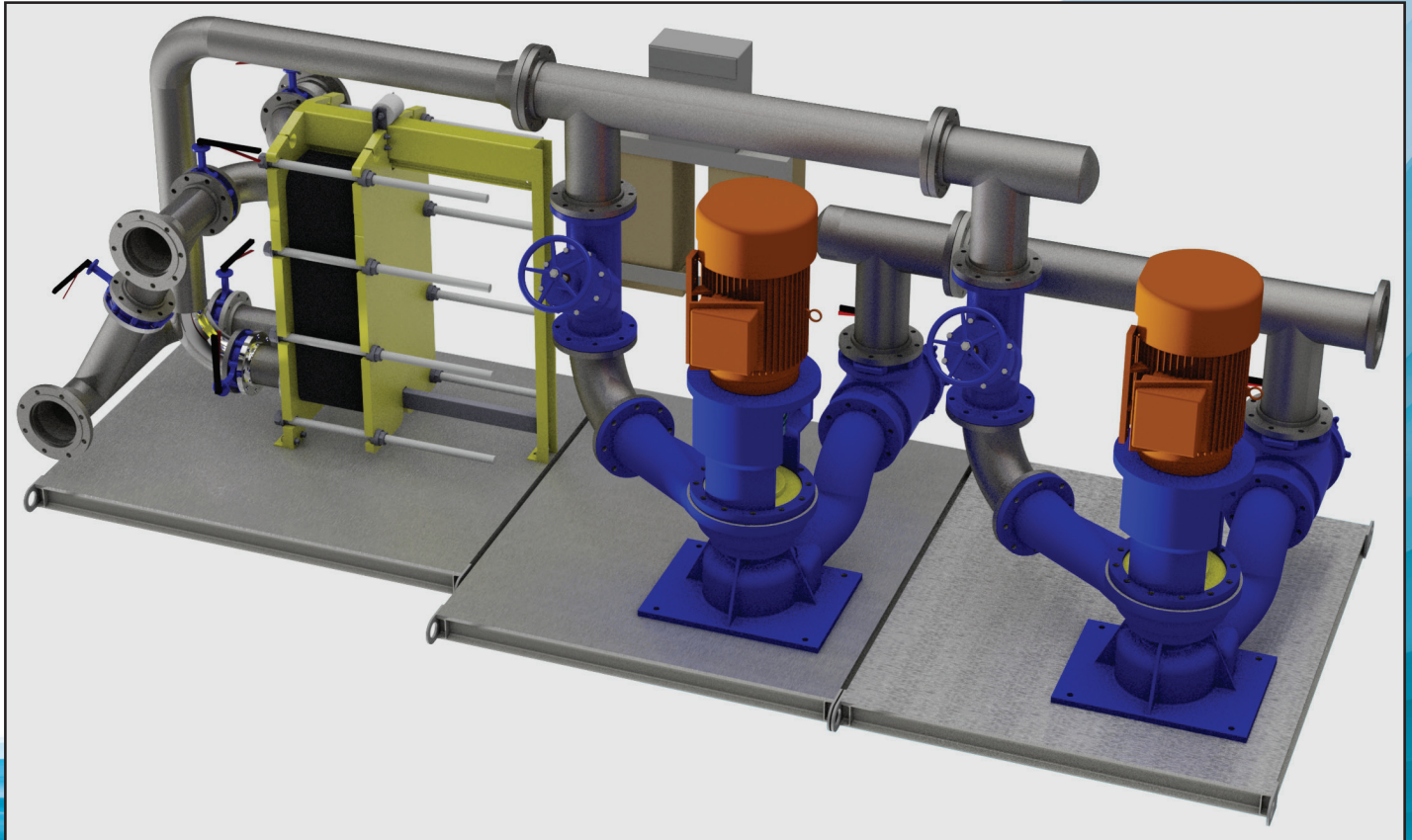
# ● Comparison between curves



# ● Package It !



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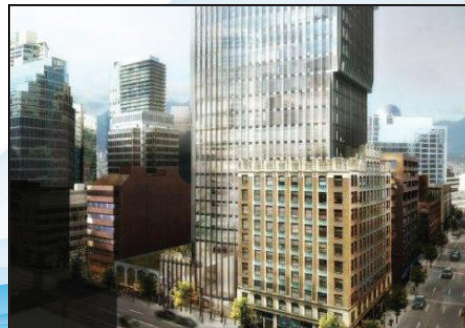
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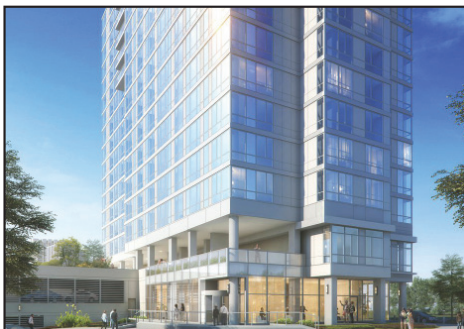
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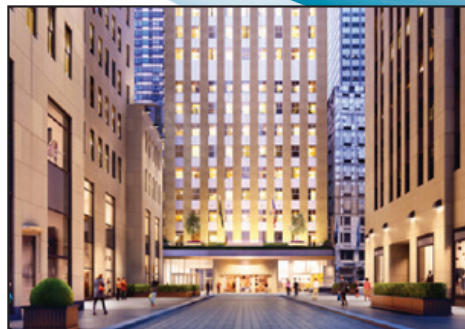
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