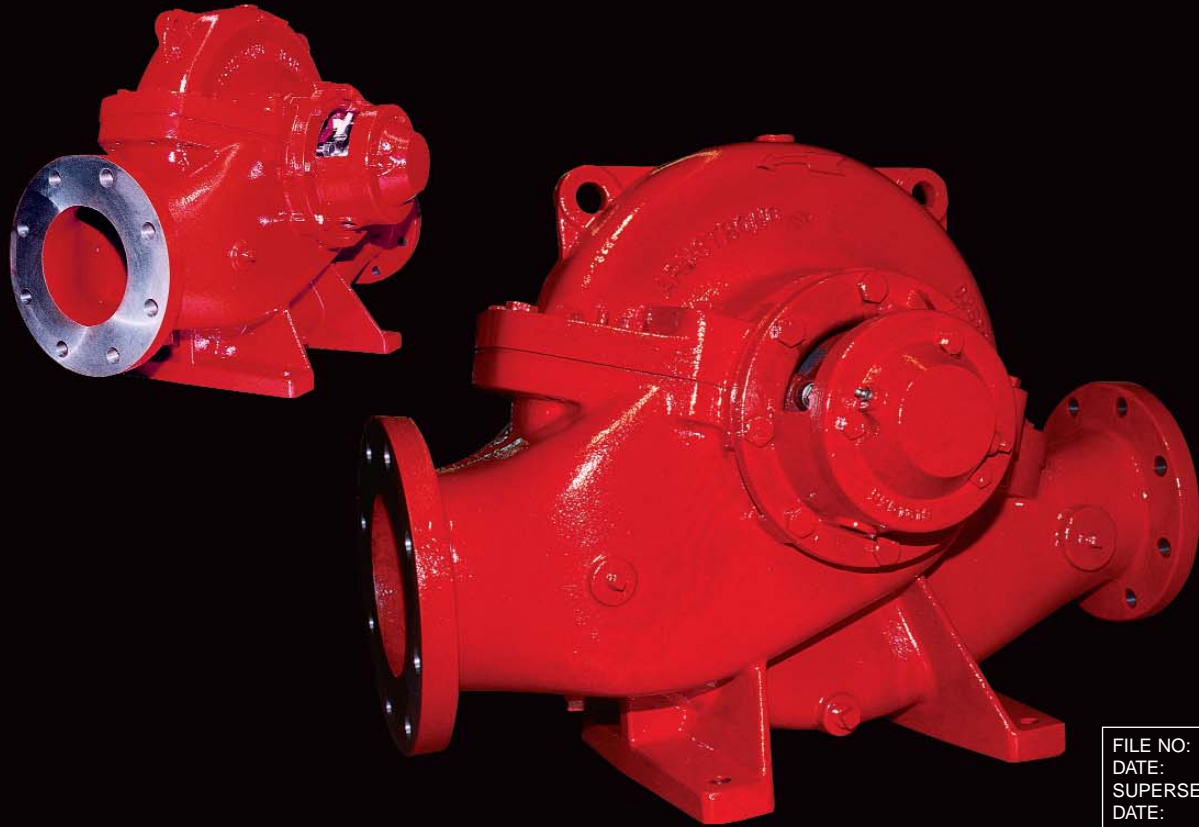


# ARMSTRONG

Series 4600



FILE NO:	46.10
DATE:	June 1, 2004
SUPERSEDES:	46.10
DATE:	Aug. 1, 1997

*Horizontal Split Case Pump*

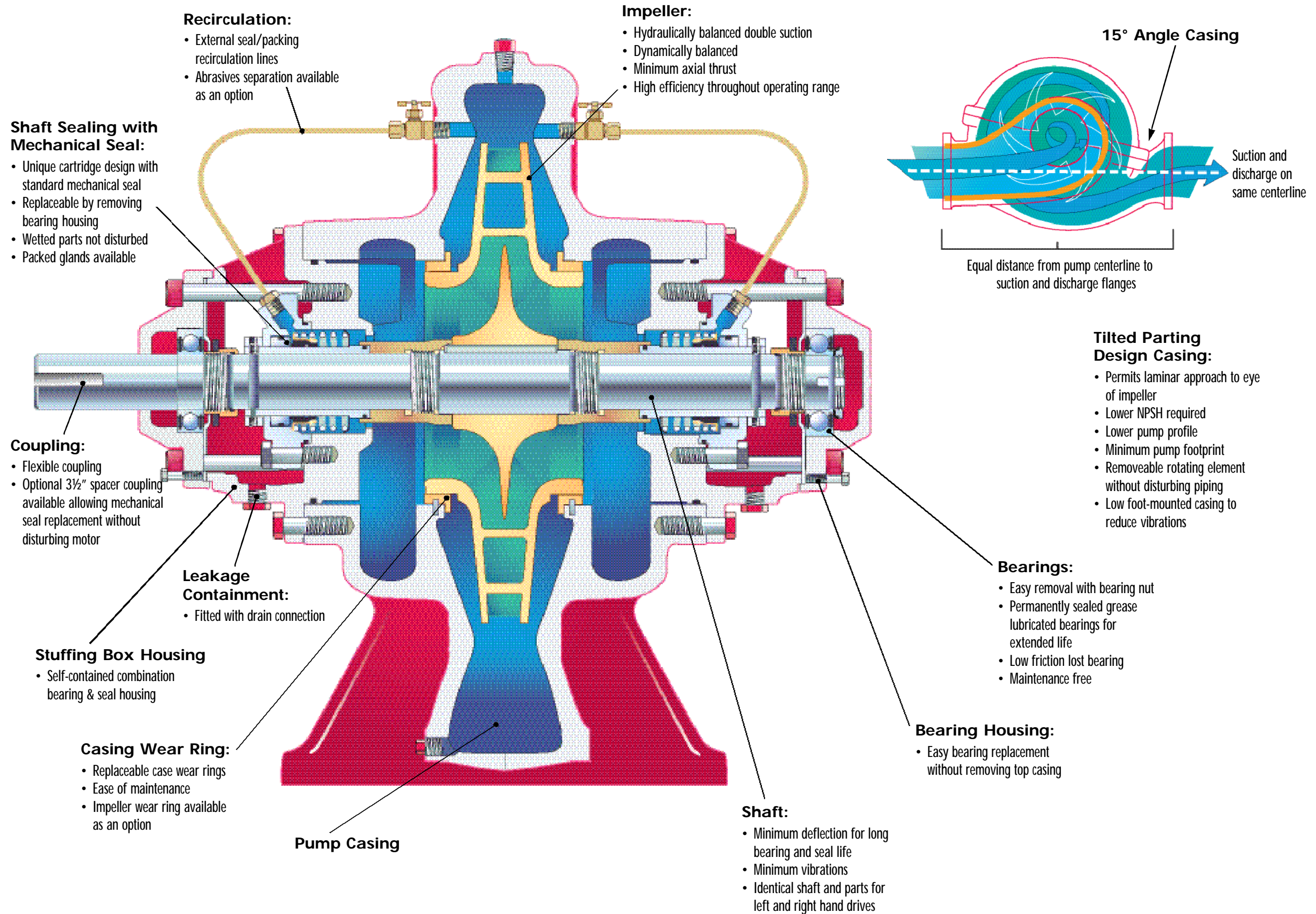
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# Series 4600 - Horizontal Split Case

**Armstrong takes you back to the future** with the Series 4600 Horizontal Split Case (HSC) Pump for HVAC and industrial applications.

The Series 4600, drawing on over 100 years of pump design expertise and leadership, is the state of the art in Horizontal Split Case pumps. It meets or exceeds the requirements of its intended market applications.

The family of pumps capitalize on the "Tilted Parting" concept to minimize turbulence at the eye of the impeller by its straight laminar approach, thus maximizing efficiency. This also results in the lowest profile and minimum floor space of any HSC pump on the market today. The family was designed with commonality of parts, low installation cost, and ease of maintenance objectives.



# 4600 Series Special Features

## Cartridge Mechanical Seal

### Cartridge style mechanical seal.

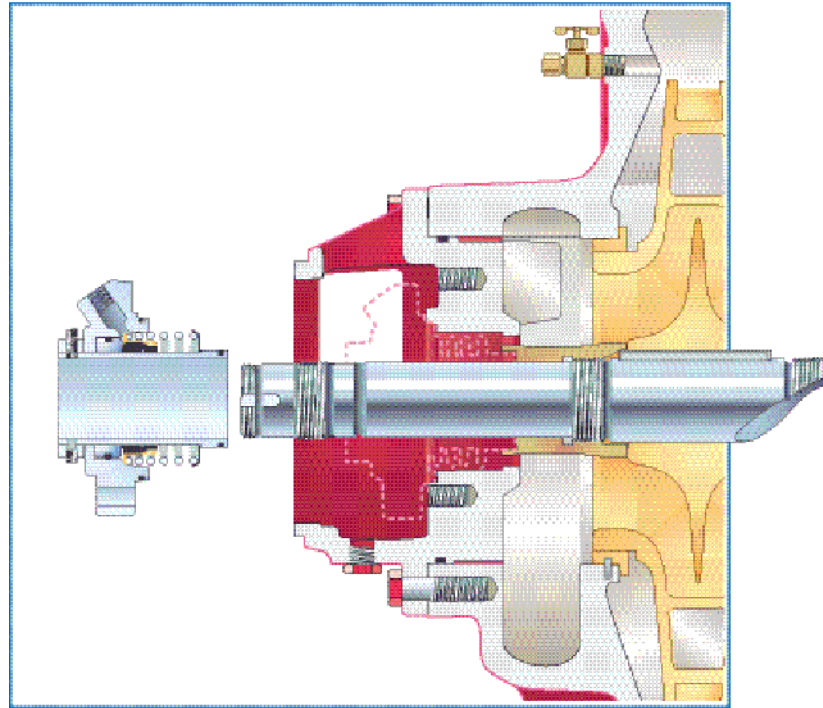
Mechanical seal and seal plate are mounted on the shaft sleeve, as a single, cartridge style, assembly.

### Service with ease.

The one piece cartridge assembly is easily removed for service. The replacement assembly may be installed, just as easily, with no special seal adjustments necessary. Standard mechanical seal is an industry standard design, that is readily available at local seal supply houses.

### Greater temperature and pressure parameters.

Various types of mechanical seals and packed glands, are available to extend the standard pressure and temperature parameters.



## Service of Bearings

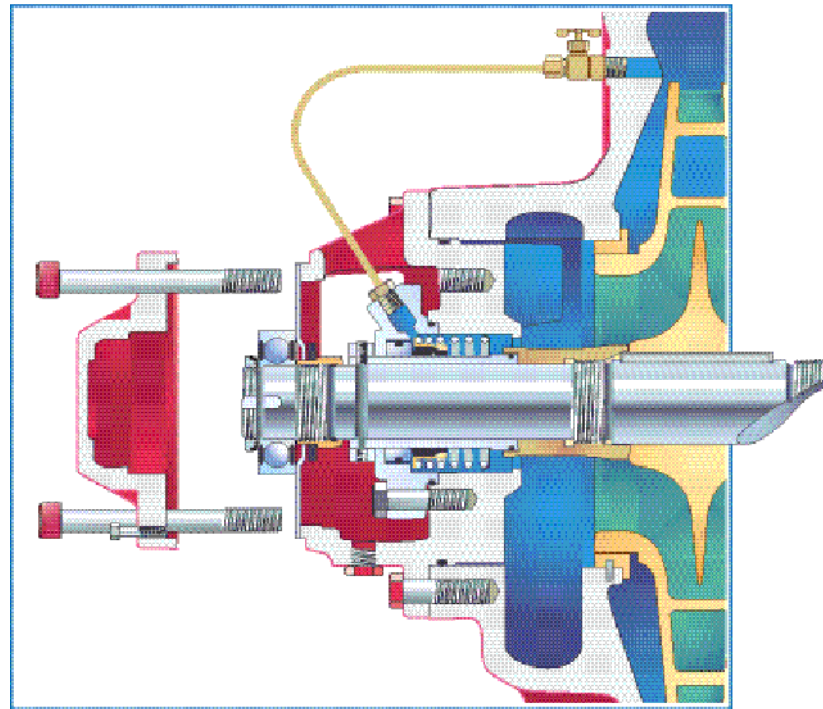
### Bearings may be removed without disturbing top cover.

Remove the bearing cover to expose the bearing for service.

### Service with ease.

All bearings contain a removal nut on the impeller side of the bearing. Bearing removal is easy. Simply lock the shaft and rotate the removal nut, until the bearing is free.

### No special tools or adjustments are necessary.

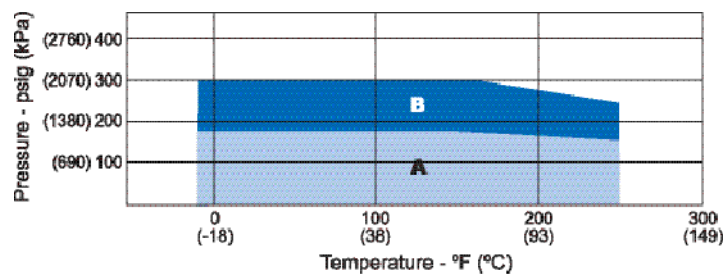


## Materials of Construction

Parts	Standard Material
Casing	Cast Iron – class 30
Impeller	Bronze – alloy 844
Wear ring	Bronze – alloy 936
Shaft	Carbon steel – C1045
Shaft sleeve	Stainless steel – 304
Mechanical seal	Ceramic / Carbon Stainless steel / EPDM
Bearings	Grease lubricated

Optional material is available

## Pressure/Temperature Chart



**Legend:** A Cast Iron Casing - ANSI 125# flanges  
B Cast Iron Casing - ANSI 250# flanges

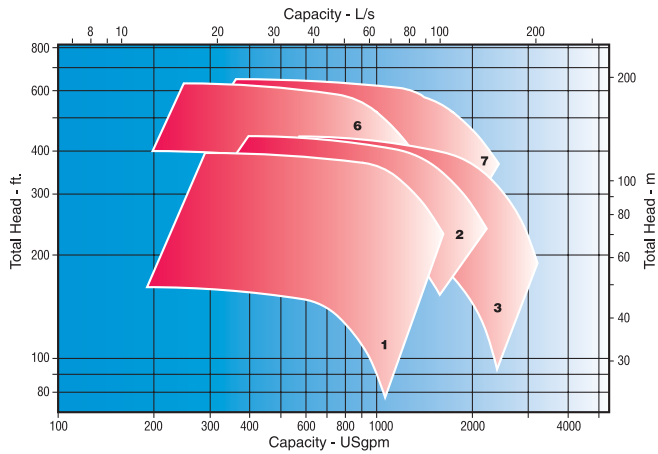
Contact factory with higher temperature or pressure requirements



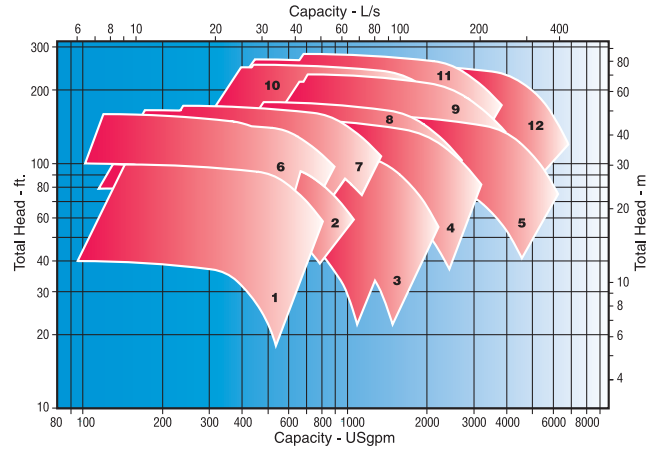
# Composite Performance Curves

## 60 Hertz

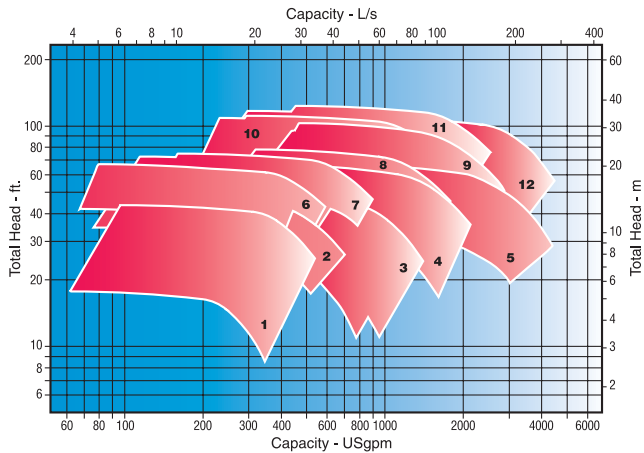
### 3600 rpm



### 1800 rpm



### 1200 rpm

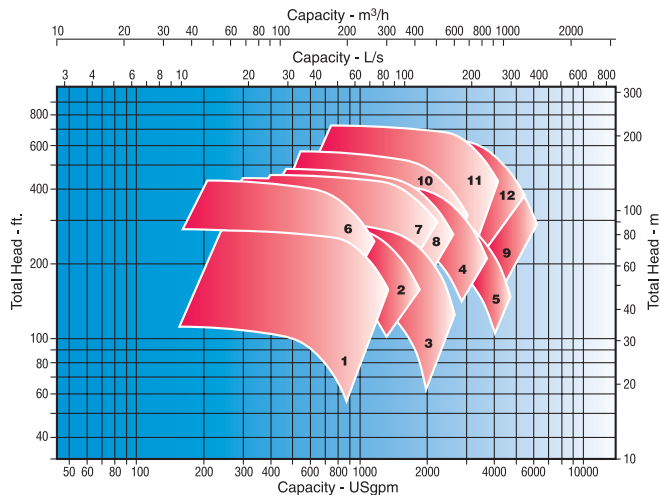


### Pump Size Reference Chart

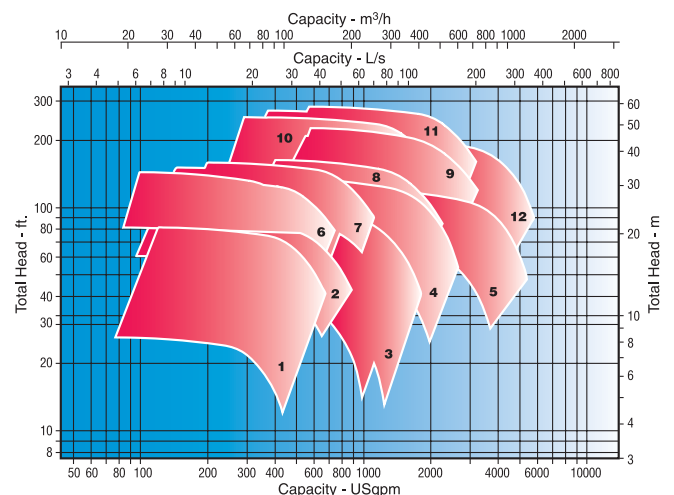
No.	Pump
1	5 x 4 x 10
2	6 x 5 x 10
3	8 x 6 x 10
4	10 x 8 x 11
5	12 x 10 x 12.5
6	5 x 4 x 12
7	6 x 5 x 12
8	8 x 6 x 12.5
9	10 x 8 x 14
10	6 x 5 x 15
11	8 x 6 x 15
12	12 x 10 x 15

## 50 Hertz

### 3000 rpm



### 1500 rpm



# TYPICAL SPECIFICATION

## Pumps – Horizontal Split Case, Centrifugal

Provide Armstrong Horizontal Split Case pumps, single stage, double suction type, with pump characteristics which provide rising heads to shut off.

Refer to pump schedules for pump flows, heads, motor speed, enclosure, efficiency and power requirements.

Pumps shall be Armstrong Series 4600 Horizontal Split Case type, each with flexible type coupling and OSHA guard and mounted, with motor, on a fabricated steel baseplate.

## Pump Construction

**Pump Casing** – Cast iron, axially split, with 15° angle tilted parting to allow for lower NPSH requirements and to minimize pump dimensions.

Suction and discharge connections, located in the lower casing, shall be flanged and of sizes indicated in the schedule and shall be drilled and tapped for gauge connections.

Suction and discharge connections shall be on the same elevation.

The top of the casing and the rotating assembly shall be removable without disturbing the piping connections.

**Wearing Rings** – The pump casing shall be fitted with replaceable bronze wearing rings.

**Impeller** – Bronze, double suction, fully enclosed type. Dynamically balanced.

**Shaft** – Carbon steel, designed for minimum deflection and vibration.

**Shaft Sleeves** – Shall be stainless steel and form components of the cartridge mechanical seals.

**Mechanical Seals** – Each seal chamber shall be fitted with a cartridge type mechanical seal.

The seal component shall be of stainless steel construction with carbon vs ceramic faces and EPDM secondary seal.

The mechanical seal, shaft sleeve and seal plate shall be easily removable as a single component.

Provide seal plates with factory installed flush lines.\*

**Bearings** – Supply dust tight deep groove ball bearings. With permanently sealed grease type lubrication.

Bearings shall be mounted in cartridge type housings, that are replaceable without opening the pump casing.

Bearings shall be removable by simply rotating the removal nut behind the bearing. No special tools or pullers are to be necessary.

## Motor

Motor Horsepower ratings shown on the schedule are minimum acceptable and have been sized for continuous operation without exceeding full load nameplate rating over the entire pump curve, exclusive of motor service factor.

## Mounting and Testing

Pumps shall be hydrostatically tested to 150% of the maximum pump working pressure.

The pump and motor shall be mounted and aligned at the pump manufacturer's factory on a common baseplate. Final alignment shall be made, on site, after the pump is installed and brought to operating temperature.

If supplied, the drip pan tapped connection shall be piped to the nearest drain.

### \*Seal flush line fittings, if required:

Supply in each flush line to the cartridge mechanical seal a 50 micron cartridge filter and sight flow indicator, to suit the working pressure encountered.

Filters shall be changed, by the installing contractor, after system flushing and on a regular basis until turned over to the owner.

### Alternately for pumps with differential pressures exceeding 30 psig (2 bars):

Supply in each flush line to the cartridge mechanical seal a cyclone type separator, with sight flow indicator.

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