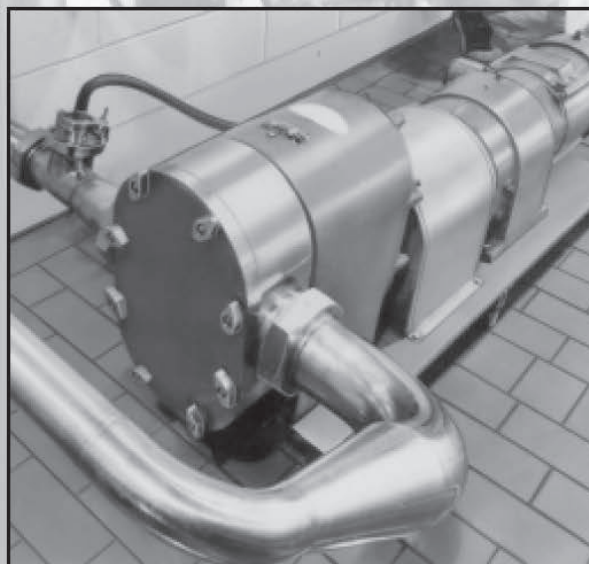


Catalog PR-89



Tri-Clover® PR Series Positive Rotary Pump

PR - The Pump that was designed with the Processor in mind

The Tri-Clover PR line was designed to overcome many of the traditionally troublesome operating and maintenance difficulties which our customers have experienced with conventional positive displacement pumps.

Meeting these requirements, combined with precision fabrication and strict adherence to sanitary standards, have accorded the PR pump prompt and widespread acceptance - wherever product is processed, hygienically, in volume. All PRE/PRED pumps are designed to be in compliance with 3A and other regulatory standards.

Four reasons why progressive processors specify Tri-Clover Model PR Pumps:

- Low product loss to leakage - Static O-ring sealing action.
- Low maintenance characteristics:

- Fluid Head** - Positive alignment
Static O-ring sealing and precision rotors
- Gear Casing** - Balanced load
Two compartment lubrication
Precision machined gears, bearings, and shafts

- + Less downtime - PR can be disassembled and assembled faster than any other positive rotary pump you can buy.
- + Selectivity - Choose from a variety of types and models to fill specific pumping requirements.

Take a look at the pumps that were designed with you in mind - then use this catalog to select the model for your operating requirements. The design features described below make PR the low maintenance, easy to law with pump for application. (Series PR illustrated - features also apply to PRE and PRED).

LUBRICATION...

separate oil lubrication for timing gears. Dual compartment gear/bearing housing design assures that any condensates or contaminants present are flushed through bearings and sealed off from timing gear housing.

Gear Housing
Bearing Housing

SHAFT ASSEMBLY...

easily interchanged in field. Spline is involuted to present maximum contact between shaft and rotor profiles; and is located, in relation to timing gears and keyways, so that rotors are fully interchangeable. Two large teeth, [A] locate rotor for proper timing and fast assembly. *Tri-Arc Rings* [E], positively locate to shaft to assemble and timing gears, eliminating troublesome shimming. Precision machining permits full interchange of top and bottom shaft assemblies, in field, with minimum of time and effort.

GEARS...

and shafts are factory pretinned and designed so that either one or both gears can be removed and replaced in the field without removal of shaft or bearings. Each gear and shaft assembly is assembled with two woodruff keys for rigidity and long service life.

LOCATING RING...

is pressed into frame bearing bores to promote rigidity and accurate alignment of pump casing so that proper clearance within fluid head will prolong wear life and operating efficiency. Wide locating area of ring permits innumerable assemblies and disassemblies of pump without ring replacement - and the need to realign pump head. Short (3/16" (4.8mm) or less) engagement of ring to casing permits easy take-down and assembly - without cooling, bending, or hammering.

Design eliminates need for threads or hubs...
No hard-to-clean recesses in product zone.

ROTORS*

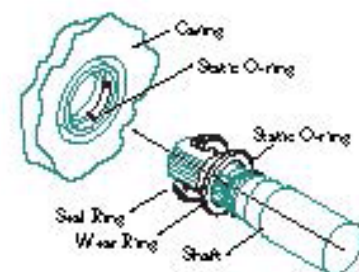
available two- or four-lobe polymer composition rotors serve most product or flow requirements. Polymer rotor is recommended for abrasive products. Wear is compensated for by increased RPM. See Page 15 for temperature data requirements.

* (Model PR3 available with six-lobe polymer composition rotor only).



A complete range of sizes and seal styles to match your pumping requirements

PR Series



PR Seal Assembly

Leak-tight sealing action ... with static o-rings and seal. All o-rings contact non-rotating surfaces. Static o-ring design of rotary seal reduces friction to minimize wear and leakage and increase seal life. Sealing members consist of stainless steel seal rings with carbon-bonded insert, SS wear ring broached to match shaft spline to assure positive drive, and static o-rings to seal off any pumpage. Sealing action takes place between carbon insert of seal ring, held stationary in pump casing, and face of positively driven wear ring. Equally good seal life is assured under either high pressure or vacuum operations.

A water flush attachment, which can be installed in the field, is available for pumping service requiring it.

The construction features outlined on page 2 add up to rigid, efficient and maintenance-free service when you put PR on the line. Unlike many positive pumps, the design of PR acknowledges your need for periodic teardown and reassembly.

The PR Series is recommended for most transfer operations where temperatures do not exceed 200°F (93°C) and where products are nonabrasive or non-toxic.

Leak-tight sealing action ... with static o-rings and seal. All o-rings contact non-rotating surfaces. Static o-ring design of rotary seal reduces friction to minimize wear and leakage and increase seal life. Sealing members consist of stainless steel seal rings with carbon-bonded insert, SS wear ring broached to match

PRE/PRED Series

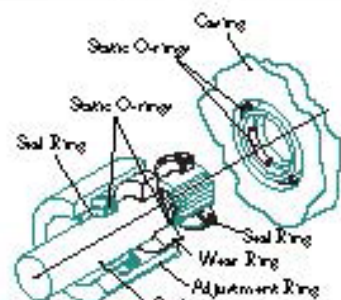
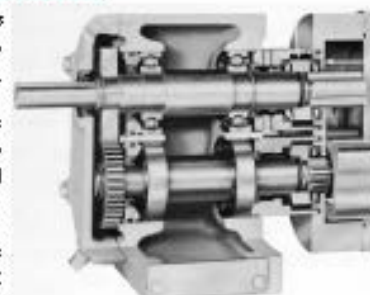
This line of PR pumps was introduced to provide optimum pumping performance on hot, tacky or viscous products. It provides a high degree of leakage detection and leakage safeguard capability. The same static o-ring seal principle as the PR Series (described at left) is used. Two series are available:

PRE Series—Single Seal. Ideal for use where visual leak detection is important.

PRED Series—Double Seal. For use where water flush is desirable, i.e., on evaporator operations, liquid sugar, tacky products such as corn syrup. Additional protection for applications:

- requiring compatible solvent or water flush
- requiring pressurized seal chamber. (Seal can be maintained at pressures above pump head pressure).
- with product hot to tend to build up between seal faces, latex, PSA, etc.

These Series have a seal chamber to permit use of solvents or water for seal lubrication. On double seal pumps, chamber may be pressurized or non-pressurized, depending upon application.



PRE Seal Assembly

(PRE seal assembly does not include second seal shown in green)

Specifications

Pump Series PR/PRE/PRED	3	10	25	60	125	300
Maximum GPM (@ 20 PSI)	2.8	12	28	60	120	300
Pump Displacement (gallons/100 REV)	0.5	2.1	8.0	17.5	30.0	63.0
Intake & Discharge Port Size (inches)	1	1½	1½ & 3	2 & 3	2½ & 3	4 & 6

Drive Units

PR pumps are designed so that mounting holes, ports, shaft heights and shaft diameters permit interchangeability with other positive pumps of U.S. manufacturers. A variety of motors and drive units are available for constant and variable speed flow rates, including:

- Gearhead drive
- Mechanical variable speed
- V-Belt drive
- Hydraulic drive
- AC variable speed with constant speed gear drive



Standard
Inlet



Rectangular
Inlet

(Models 25 and 125 only)
(Use only four lobe rotors)

Special Mountings

Side Mounted Pumps are recommended for handling viscous products. Side mounting allows the product to enter the pumping chamber by gravity flow from the outlet of tanks, vats or hoppers, thus eliminating all restrictions on the inlet side of the pump. Can be equipped with constant speed or variable speed drives. Available with standard inlet or with rectangular type inlet as shown.

AC Adjustable Frequency Motor Controls

This drive system capability is highly cost efficient in terms of initial cost, potential energy savings, and its ability to provide pumping control that can reduce error, boost production, and increase raw material yield. An AC controller in your system can accept a signal from computer, PC controller, or pressure/flow sensing instrument. Tri-Clover offers a variety of AC controllers, from ½ HP and up, for our positive pumps.



Application Data

Viscosity Affects Pump Efficiency

Rotary pumps are capable of transferring materials having viscosities as high as 1,000,000 SSU. However, it is necessary to apply correction factors to the performance curves in order to obtain the correct pump and motor size for use with viscous materials. These correction factors may be obtained from the curves shown here. Their use can best be explained by a sample pump selection:

Pump Requirements

- 25 GPM at 20 PSI with material having a viscosity of 50,000 SSU.

Referring to the curves, we find the following correction factors –

- Percent of maximum rated speed = 22%
- Horsepower multiplying factor = 1.62

Applying the 22% speed correction factor to the maximum speed shown on the pump performance curves results in the

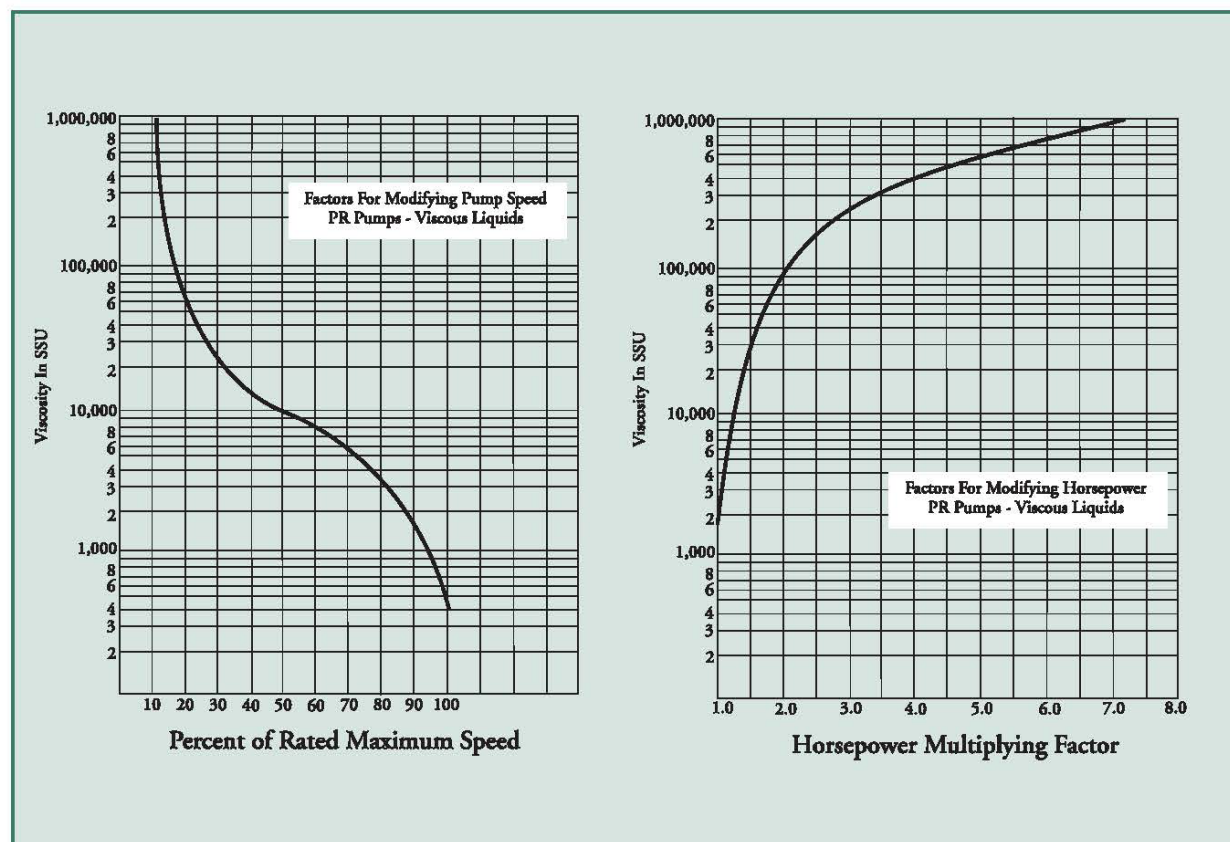
following maximum pump speeds with 50,000 SSU product:

- Models 3 and 10: 600 RPM from curve X $.22 = 132$ RPM
- Models 26, 60, 125 and 300: 500 RPM from curve X $.22 = 110$ RPM

Therefore, with 50,000 SSU product, if a Model 3 or 10 pump is used, the speed of the pump must be 110 RPM or less.

25 GPM will require at least a Model 25 pump. Reviewing the performance curves to find a pump that will deliver 25 GPM at 20 PSI with 110 RPM or less, we find that a Model 125 pump is required. It will operate at 105 RPM and requires a .9 HP motor for water or milk.

Applying the 1.62 horsepower factor to the .9 HP we find the HP requirement is 1.3 HP. It will be necessary to use a 1½ HP motor. Therefore, for 25 GPM at 20 PSI with 50,000 SSU product a Model 125 operating at 105 RPM with a 1½ HP motor is required.



Specifications – How to use pump capacity curve graphs

This graph illustrates revolutions per minute and the horsepower required for capacities against various head pressures. It is predicated upon liquids of the viscosity and specific gravity of water and milk. The horsepower ratings shown are actual brake horsepower.

Capacity curve graphs for the PR/PRE3, 10, 25, 60, 125 and 300 are shown on the following pages. The graph below is primarily for instructional purposes.

HORSEPOWER... to find the required horsepower to handle 35,000 pounds at

80 pounds head pressure –

- Locate 35,000 pounds in the Pounds Per Hour Column. Follow this point on the graph until it intersects the horsepower curve for 80 PSI. Then follow a vertical line to the Horsepower Per Pound Delivered Column shown across the *top* of the graph. The horsepower required – 5 HP.

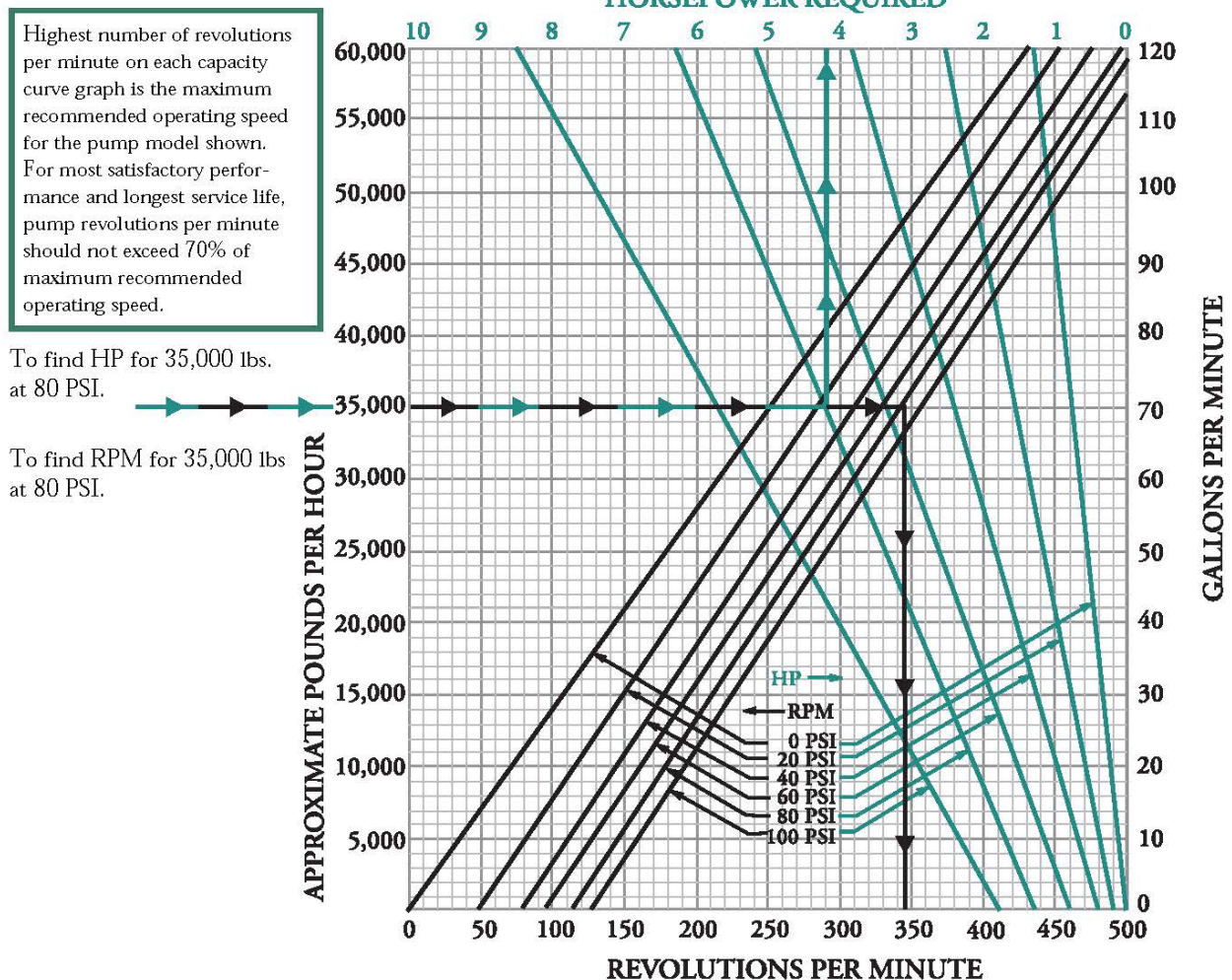
REVOLUTIONS PER MINUTE... to find the revolutions per minute for 35,000 pounds at 80 pounds head pressure –

- Locate 35,000 pounds on the Pounds

Per Hour Column. Follow this point of the graph until it intersects the RPM curve for 80 PSI. Then follow a vertical line to the Revolutions Per Minute Column shown across the *bottom* of the graph. The revolutions per minute required – 345 RPM.

If capacities are based on gallons per minute, use column shown on the right side of the graph.

All Curves are typical performance curves, not Certified, and should be applied for guideline purposes only.



This graph is predicated upon liquids of the viscosity and specific gravity of water and milk at 100°F (34°F). The horsepower ratings are actual brake horsepower. This graph applies to polymer coated rotors only.



Model 3

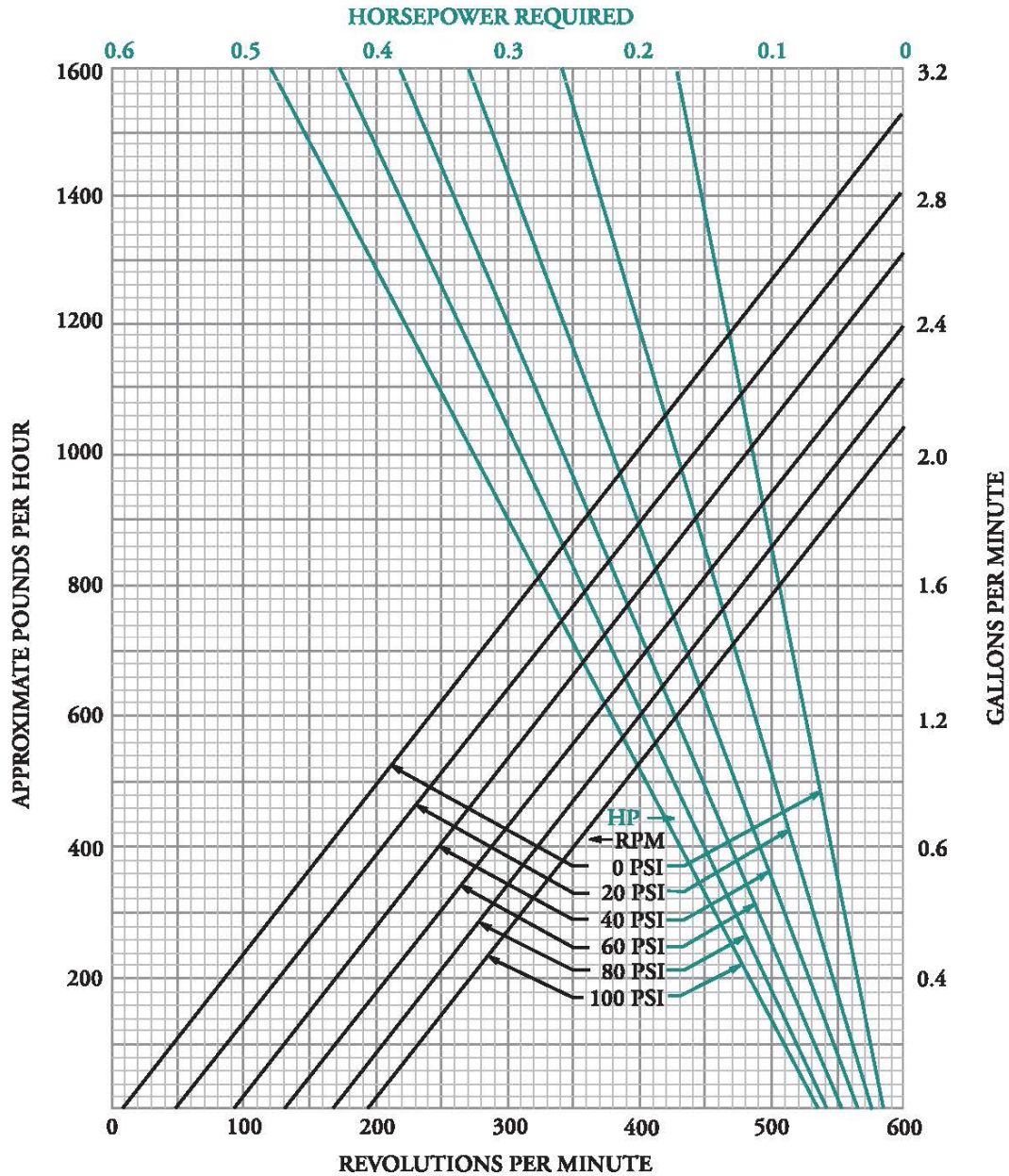
Maximum GPM 2.8
(at 20 PSI)

Pump Displacement 0.5
(gallons at 100 RPM)

Intake & Discharge 1
Port Size (inches)



All Curves are typical performance curves, not Certified,
and should be applied for guideline purposes only.



*This graph is predicated upon liquids of the viscosity and specific gravity of water and milk at 100°F (34°F).
The horsepower ratings are actual brake horsepower. This graph applies to polymer coated rotors only.*



Model 10

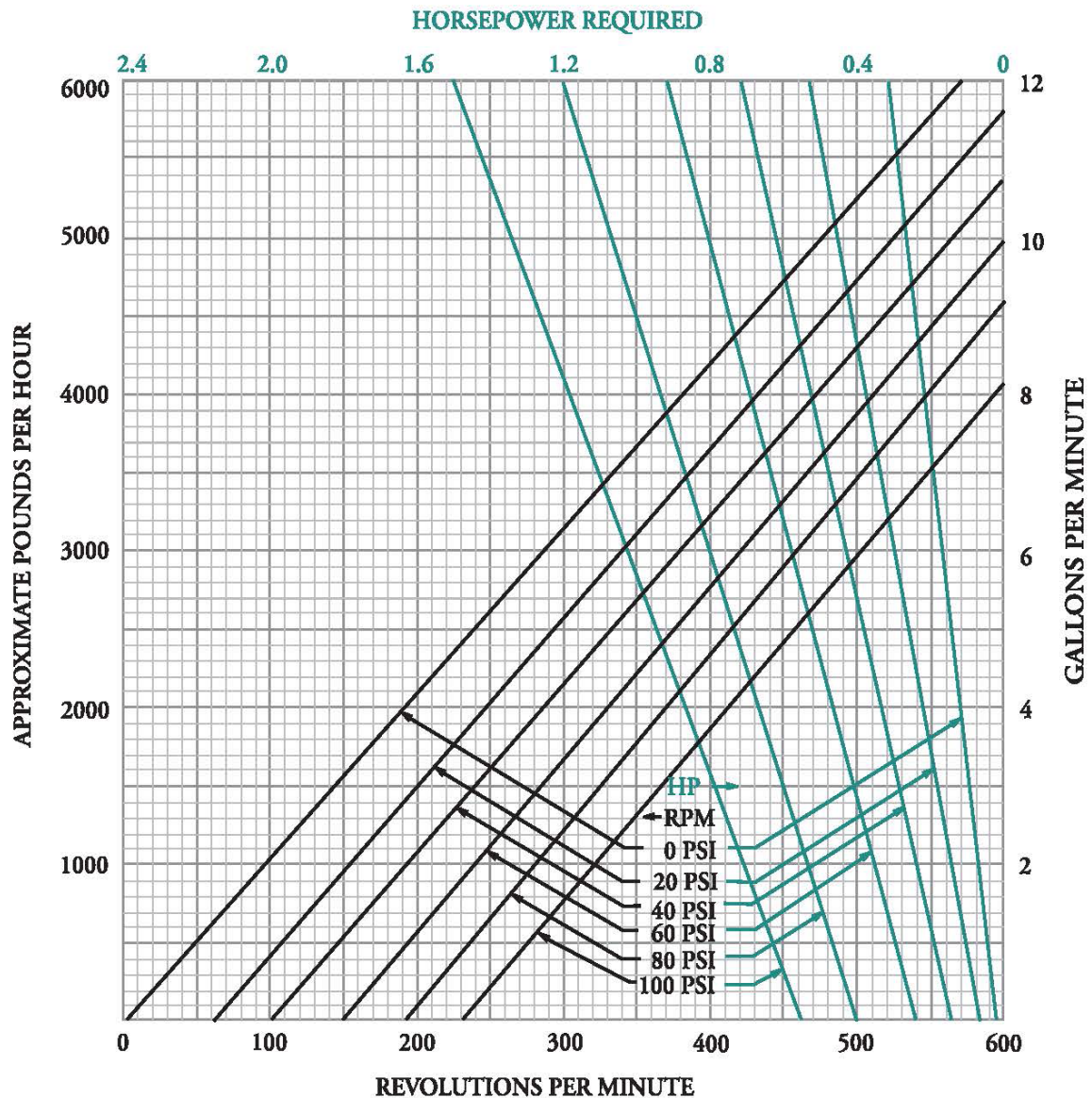
Maximum GPM 12
(at 20 PSI)

Pump Displacement 2.1
(gallons at 100 RPM)

Intake & Discharge 1½
Port Size (inches)



All Curves are typical performance curves, not Certified,
and should be applied for guideline purposes only.



*This graph is predicated upon liquids of the viscosity and specific gravity of water and milk at 100°F (34°F).
The horsepower ratings are actual brake horsepower. This graph applies to polymer coated rotors only.*

Model 25

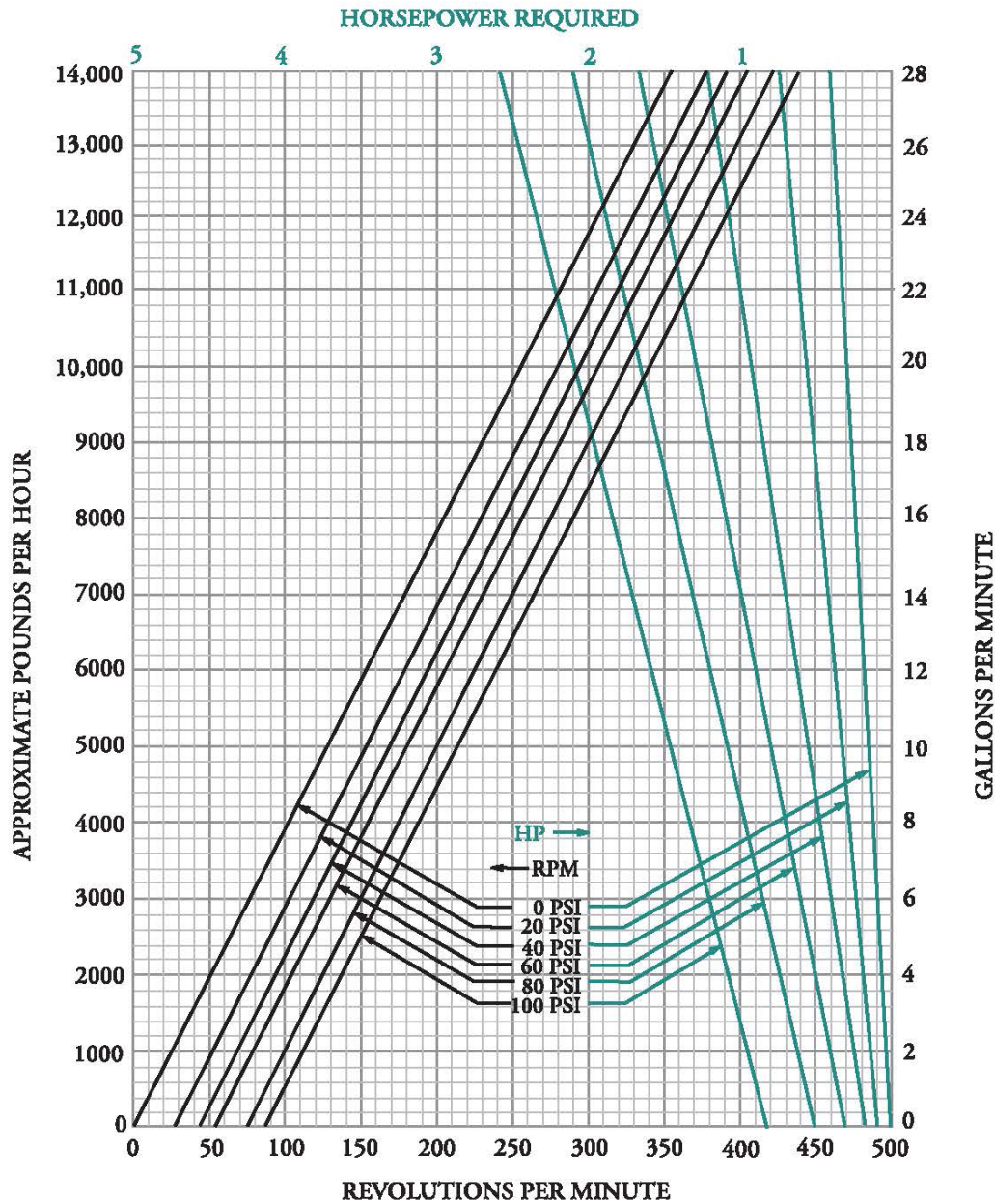
Maximum GPM 28
(at 20 PSI)

Pump Displacement 8.0
(gallons at 100 RPM)

Intake & Discharge 1½ & 3
Port Size (inches)



All Curves are typical performance curves, not Certified,
and should be applied for guideline purposes only.



*This graph is predicated upon liquids of the viscosity and specific gravity of water and milk at 100°F (34°F).
The horsepower ratings are actual brake horsepower. This graph applies to polymer coated rotors only.*

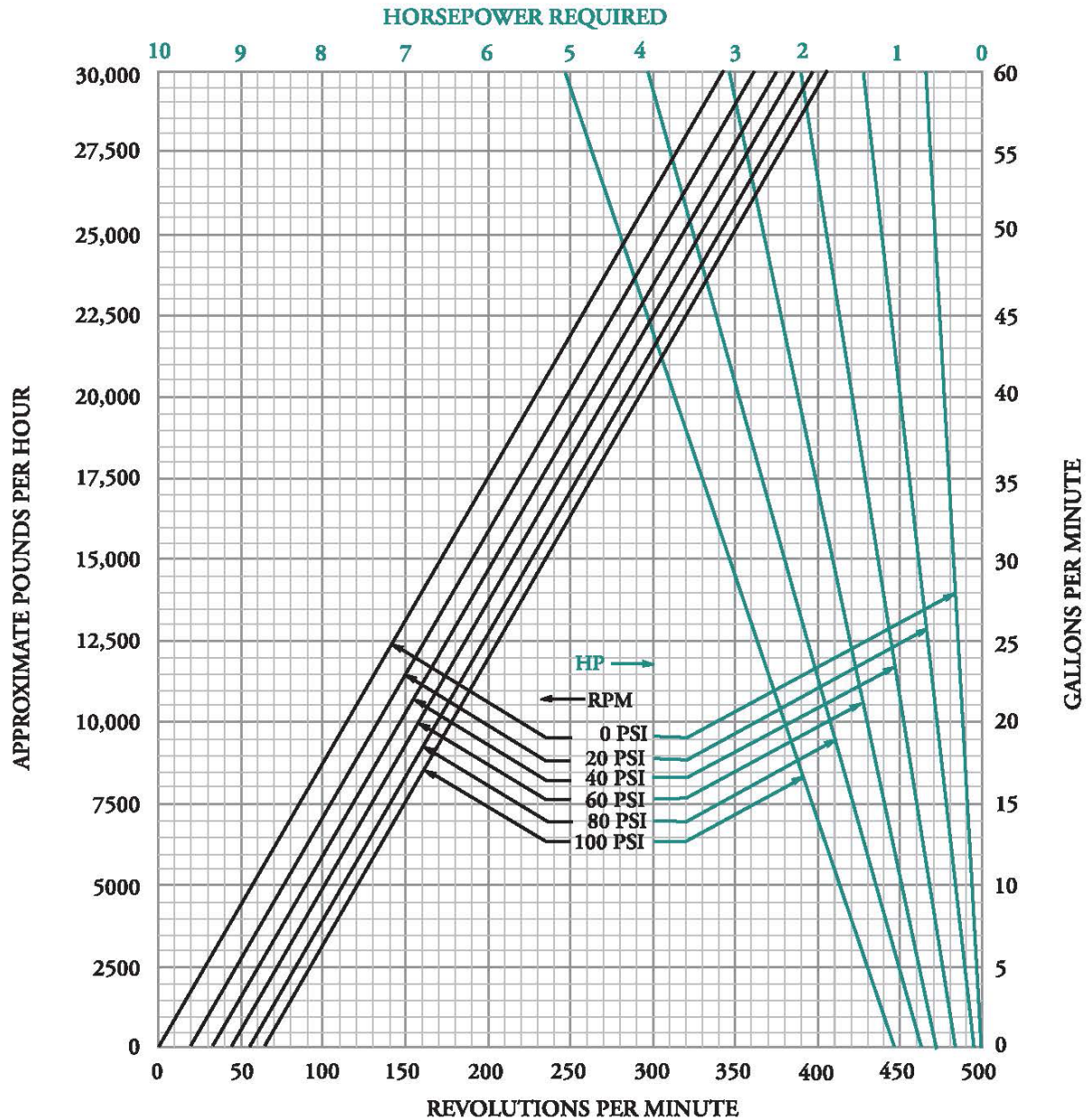


Model 60

Maximum GPM 60
(at 20 PSI)
Pump Displacement 17.5
(gallons at 100 RPM)
Intake & Discharge 2 & 3
Port Size (inches)



All Curves are typical performance curves, not Certified,
and should be applied for guideline purposes only.



*This graph is predicated upon liquids of the viscosity and specific gravity of water and milk at 100°F (34°F).
The horsepower ratings are actual brake horsepower. This graph applies to polymer coated rotors only.*

Model 125

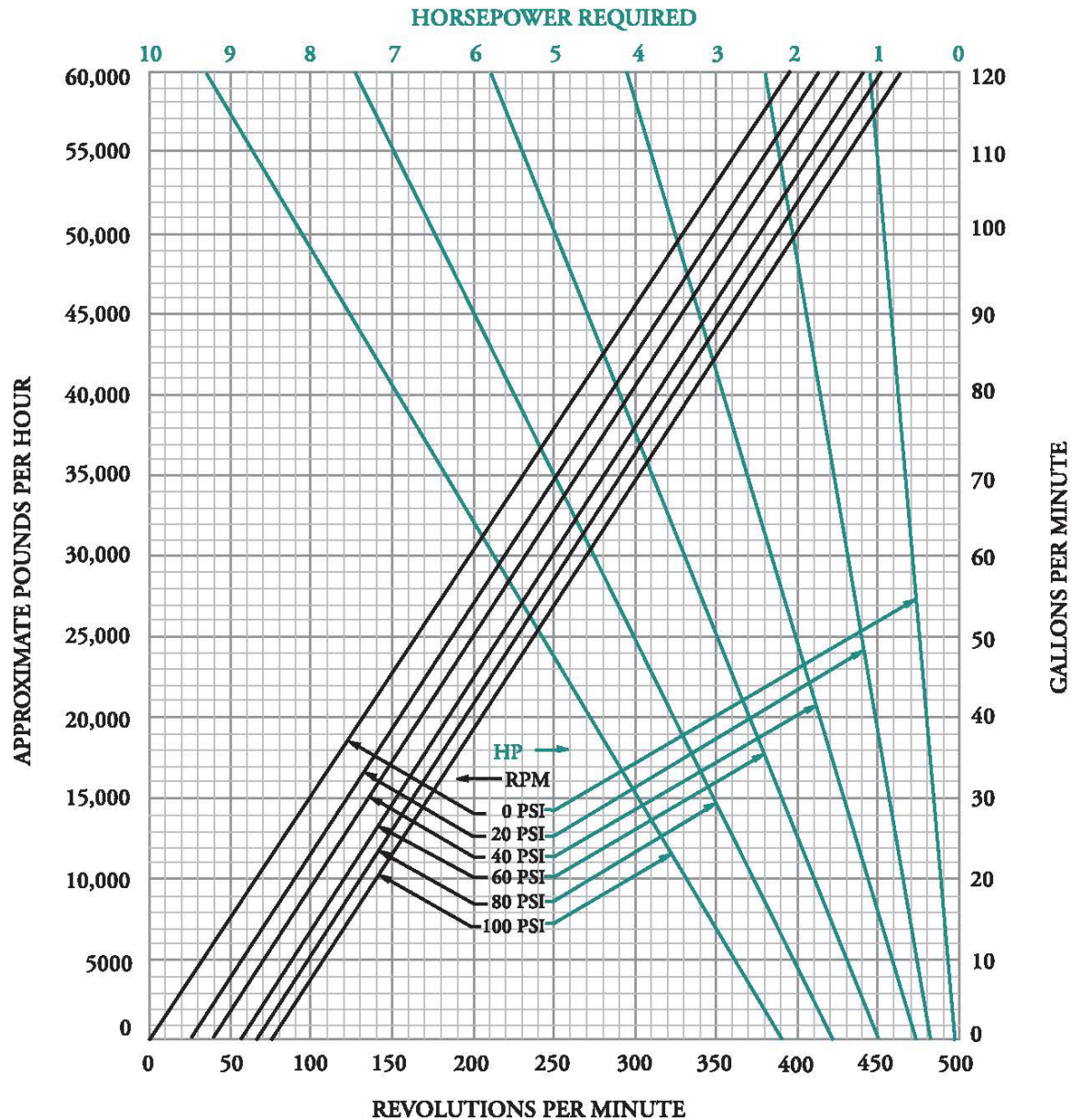
Maximum GPM 120
(at 20 PSI)

Pump Displacement 30.0
(gallons at 100 RPM)

Intake & Discharge 2½ & 3
Port Size (inches)



All Curves are typical performance curves, not Certified,
and should be applied for guideline purposes only.



*This graph is predicated upon liquids of the viscosity and specific gravity of water and milk at 100°F (34°F).
The horsepower ratings are actual brake horsepower. This graph applies to polymer coated rotors only.*

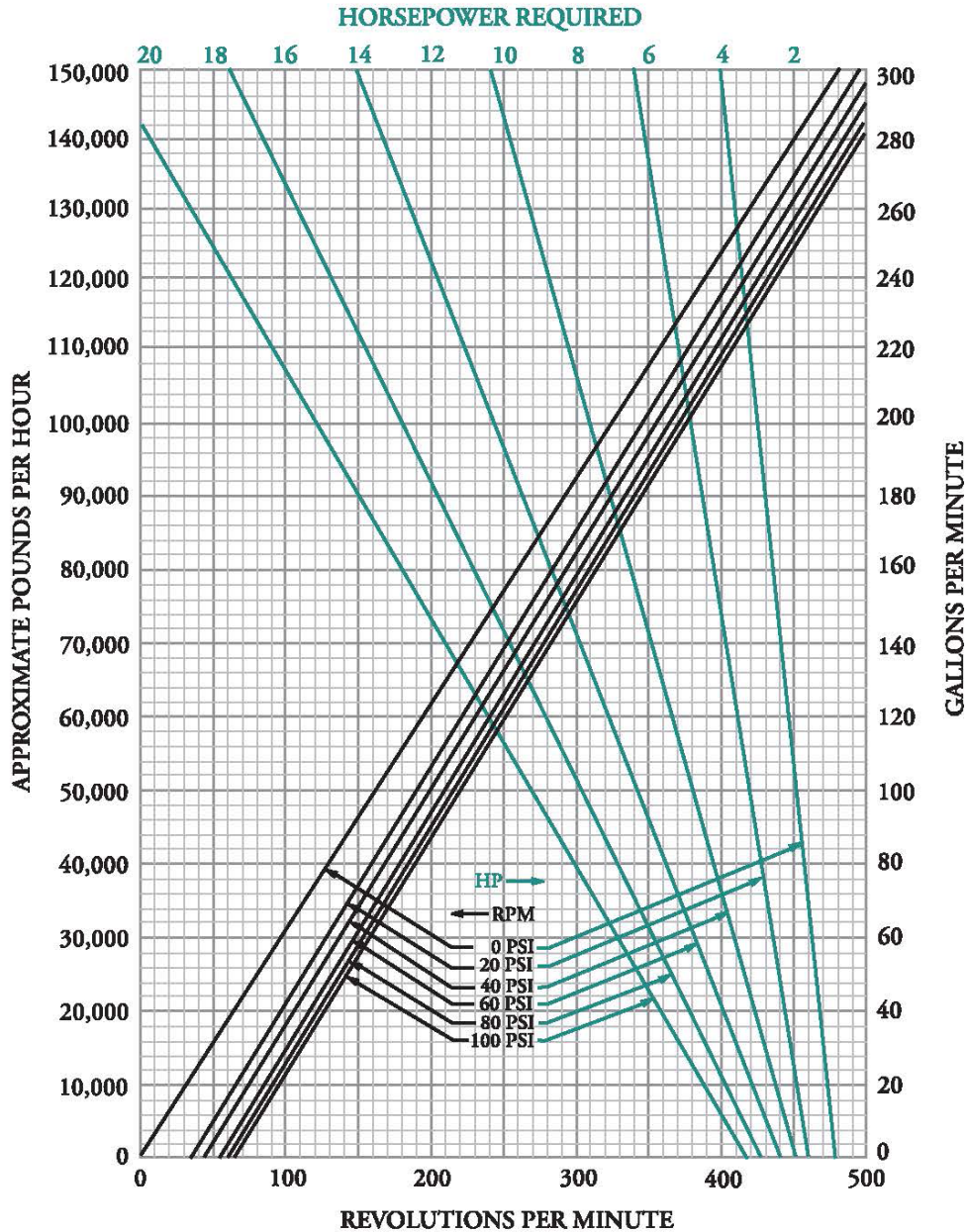


Model 300

Maximum GPM 300
(at 20 PSI)
Pump Displacement 63.0
(gallons at 100 RPM)
Intake & Discharge 4 & 6
Port Size (inches)



All Curves are typical performance curves, not Certified,
and should be applied for guideline purposes only.

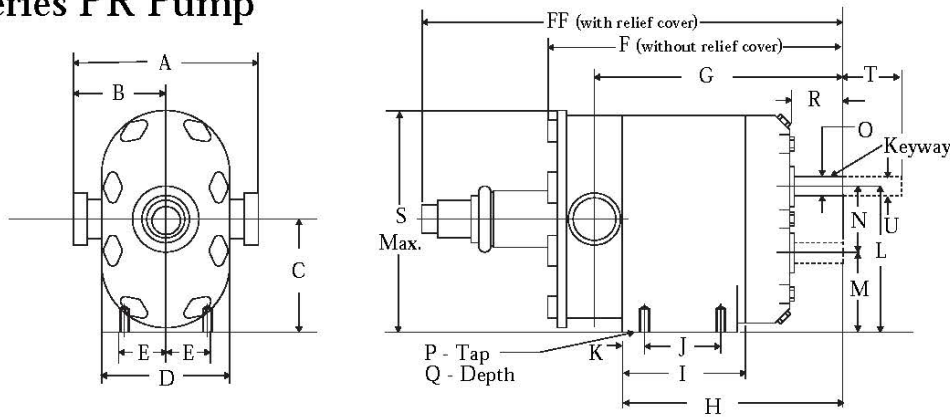


*This graph is predicated upon liquids of the viscosity and specific gravity of water and milk at 100°F (34°F).
The horsepower ratings are actual brake horsepower. This graph applies to polymer coated rotors only.*



Dimensions

Series PR Pump



Model	Port Size*	A		B		C		D		E		F		FF		G	
		in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
PR3	1"	4 ⁷ / ₈	123.8	2 ⁷ / ₁₆	62.0	3	76.2	3 ³ / ₈	85.7	1 ³ / ₃₂	27.8	8 ³ / ₁₆	208.0	11 ¹ / ₂	292.1	6 ⁷ / ₈	174.6
PR10	1 ¹ / ₂ "	6 ²³ / ₃₂	170.7	3 ²³ / ₆₄	85.3	4 ⁷ / ₃₂	107.2	4 ¹¹ / ₁₆	119.1	1 ¹⁵ / ₁₆	49.2	10 ³ / ₃₂	264.3	14 ⁷ / ₈	377.8	8 ⁹ / ₁₆	217.5
PR25	1 ¹ / ₂ "	8 ³ / ₈	212.7	4 ³ / ₁₆	106.4	5 ⁷ / ₃₂	132.5	6 ³ / ₈	162.0	2 ⁵ / ₁₆	58.7	12 ⁵ / ₁₆	312.7	16 ¹ / ₄	412.8	10 ¹¹ / ₃₂	262.7
PR25	3"	12 ¹ / ₂	317.5	6 ¹ / ₄	158.8	5 ⁷ / ₃₂	132.5	6 ³ / ₈	162.0	2 ⁵ / ₁₆	58.7	12 ⁵ / ₁₆	312.7	16 ¹ / ₄	412.8	10 ¹¹ / ₃₂	262.7
PR60	2"	10 ⁵ / ₈	270.0	5 ⁵ / ₁₆	135.0	7 ⁵ / ₁₆	185.7	8 ³ / ₁₆	208.0	3 ¹ / ₂	89.0	15 ¹ / ₄	387.4	21 ¹⁵ / ₁₆	557.2	12 ⁹ / ₁₆	319.1
PR60	3"	11 ¹³ / ₁₆	300.0	5 ²⁹ / ₃₂	150.0	7 ⁵ / ₁₆	185.7	8 ³ / ₁₆	208.0	3 ¹ / ₂	89.0	15 ¹ / ₄	387.4	21 ¹⁵ / ₁₆	557.2	12 ⁹ / ₁₆	319.1
PR125	2 ¹ / ₂ "	10 ⁵ / ₈	270.0	5 ⁵ / ₁₆	135.0	7 ⁵ / ₁₆	185.7	8 ³ / ₁₆	208.0	3 ¹ / ₂	89.0	16 ³ / ₈	416.0	23 ³ / ₁₆	585.8	13 ¹ / ₈	333.4
PR125	3"	10 ⁵ / ₈	270.0	5 ⁵ / ₁₆	135.0	7 ⁵ / ₁₆	185.7	8 ³ / ₁₆	208.0	3 ¹ / ₂	89.0	16 ³ / ₈	416.0	23 ³ / ₁₆	585.8	13 ¹ / ₈	333.4
PR300	4"	13 ¹ / ₈	333.4	6 ⁹ / ₁₆	166.7	9 ³ / ₈	238.1	10 ³ / ₈	263.5	3 ³ / ₄	95.3	20 ³ / ₄	527.1	31 ³ / ₁₆	792.2	17 ¹ / ₈	435.0
PR300	6"	19 ¹ / ₈	485.8	9 ⁹ / ₁₆	243.0	9 ³ / ₈	238.1	10 ³ / ₈	263.5	3 ³ / ₄	95.3	20 ³ / ₄	527.1	31 ³ / ₁₆	792.2	17 ¹ / ₈	435.0
Model	Port Size*	H		I		J		K		L		M		N		O	
		in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
PR3	1"	6 ⁷ / ₃₂	158.0	3 ¹ / ₄	85.6	2	50.8	7 ¹ / ₁₆	11.1	3 ⁷ / ₈	98.4	2 ¹ / ₈	54.0	1 ³ / ₄	44.5	1 ¹ / ₂	12.7
PR10	1 ¹ / ₂ "	7 ⁹ / ₁₆	192.1	4	101.6	2 ⁵ / ₁₆	58.7	1 ⁵ / ₃₂	12.0	5 ¹ / ₂	139.7	2 ¹⁵ / ₁₆	74.6	2 ⁹ / ₁₆	65.1	3 ¹ / ₄	19.0
PR25	1 ¹ / ₂ "	9 ⁵ / ₁₆	236.5	5 ¹ / ₄	133.4	2 ⁹ / ₁₆	65.1	1 ¹ / ₂	38.0	6 ⁷ / ₈	174.6	3 ¹⁷ / ₃₂	89.7	3 ¹¹ / ₃₂	85.0	1	25.4
PR25	3"	9 ⁵ / ₁₆	236.5	5 ¹ / ₄	133.4	2 ⁹ / ₁₆	65.1	1 ¹ / ₂	38.0	6 ⁷ / ₈	174.6	3 ¹⁷ / ₃₂	89.7	3 ¹¹ / ₃₂	85.0	1	25.4
PR60	2"	11 ³ / ₁₆	284.2	6 ⁵ / ₃₂	156.4	4 ¹ / ₈	104.8	1 ³ / ₃₂	27.8	9 ⁹ / ₁₆	243.0	5 ¹ / ₁₆	128.6	4 ¹ / ₂	114.3	1 ¹ / ₄	31.8
PR60	3"	11 ³ / ₁₆	284.2	6 ⁵ / ₃₂	156.4	4 ¹ / ₈	104.8	1 ³ / ₃₂	27.8	9 ⁹ / ₁₆	243.0	5 ¹ / ₁₆	128.6	4 ¹ / ₂	114.3	1 ¹ / ₄	31.8
PR125	2 ¹ / ₂ "	11 ³ / ₁₆	284.2	6 ⁵ / ₃₂	156.4	4 ¹ / ₈	104.8	1 ³ / ₃₂	27.8	9 ⁹ / ₁₆	243.0	5 ¹ / ₁₆	128.6	4 ¹ / ₂	114.3	1 ¹ / ₄	31.8
PR125	3"	11 ³ / ₁₆	284.2	6 ⁵ / ₃₂	156.4	4 ¹ / ₈	104.8	1 ³ / ₃₂	27.8	9 ⁹ / ₁₆	243.0	5 ¹ / ₁₆	128.6	4 ¹ / ₂	114.3	1 ¹ / ₄	31.8
PR300	4"	14 ³ / ₄	374.7	8 ¹ / ₂	216.0	7 ¹ / ₄	184.2	1 ¹ / ₁₆	17.5	12 ³ / ₈	314.3	6 ³ / ₈	162.0	6	152.4	1 ⁷ / ₈	47.6
PR300	6"	14 ³ / ₄	374.7	8 ¹ / ₂	216.0	7 ¹ / ₄	184.2	1 ¹ / ₁₆	17.5	12 ³ / ₈	314.3	6 ³ / ₈	162.0	6	152.4	1 ⁷ / ₈	47.6
Model	Port Size*	P		Q		R		S		T		U		Keyway			
		in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm		
PR3	1"	1/4-20	M6 x 1.6H	5/8	15.9	1 ¹¹ / ₁₆	43.0	5 ⁷ / ₈	149.2	—	—	—	—	1/8 x 1/16	3.2 x 1.6		
PR10	1 ¹ / ₂ "	3/8-16	M10 x 1.5 6H	1/2	12.7	1 ²⁹ / ₃₂	48.4	7 ³¹ / ₃₂	202.4	—	—	—	—	3/16 x 3/32	4.8 x 2.4		
PR25	1 ¹ / ₂ "	3/8-16	M10 x 1.5 6H	5/8	15.9	2 ¹¹ / ₃₂	69.5	10 ¹³ / ₃₂	264.3	2	50.8	1 ⁵ / ₁₆	23.8	1/4 x 1/8	6.4 x 3.2		
PR25	3"	3/8-16	M10 x 1.5 6H	5/8	15.9	2 ¹¹ / ₃₂	69.5	10 ¹³ / ₃₂	264.3	2	50.8	1 ⁵ / ₁₆	23.8	1/4 x 1/8	6.4 x 3.2		
PR60	2"	1/2-13	M14 x 2 6H	3/4	19.0	2 ¹⁷ / ₃₂	64.3	13 ²⁵ / ₃₂	350.0	2 ¹ / ₂	63.5	1 ³ / ₁₆	30.2	1/4 x 1/8	6.4 x 3.2		
PR60	3"	1/2-13	M14 x 2 6H	3/4	19.0	2 ¹⁷ / ₃₂	64.3	13 ²⁵ / ₃₂	350.0	2 ¹ / ₂	63.5	1 ³ / ₁₆	30.2	1/4 x 1/8	6.4 x 3.2		
PR125	2 ¹ / ₂ "	1/2-13	M14 x 2 6H	3/4	19.0	2 ¹⁷ / ₃₂	64.3	13 ²⁵ / ₃₂	350.0	2 ¹ / ₂	63.5	1 ³ / ₁₆	30.2	1/4 x 1/8	6.4 x 3.2		
PR125	3"	1/2-13	M14 x 2 6H	3/4	19.0	2 ¹⁷ / ₃₂	64.3	13 ²⁵ / ₃₂	350.0	2 ¹ / ₂	63.5	1 ³ / ₁₆	30.2	1/4 x 1/8	6.4 x 3.2		
PR300	4"	1/2-13	M14 x 2 6H	3/4	19.0	3	76.2	17 ⁷ / ₈	454.0	3	76.2	1 ³ / ₄	44.5	1/2 x 1/4	12.7 x 6.4		
PR300	6"	1/2-13	M14 x 2 6H	3/4	19.0	3	76.2	17 ⁷ / ₈	454.0	3	76.2	1 ³ / ₄	44.5	1/2 x 1/4	12.7 x 6.4		

*Intake and discharge.



Series PRE

Series PRED

Dimensions shown in the table on previous page apply to the PR Series.

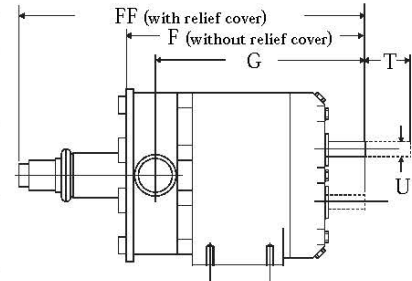
When ordering the PRE or PRED Series please also refer to the table below.

All other dimensions are the same as the PR Series. See designations at right:

PRE = Single Seal
 PRED = Double Seal
 PRRE = Single Seal with Relief Cover
 PRRED = Double Seal with Relief Cover

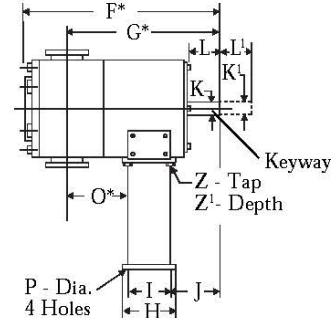
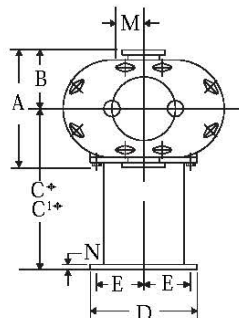
Model	Port Size*	F		FF		G		T		U	
		in	mm	in	mm	in	mm	in	mm	in	mm
PRE3 / PRED3	1"	9 ⁹ / ₁₆	233.4	12 ¹ / ₂	317.5	7 ⁷ / ₈	200.0	—	—	—	—
PRE10 / PRED10	1 ¹ / ₂ "	11 ²⁹ / ₃₂	302.4	16 ³ / ₈	416.0	10 ¹ / ₁₆	255.6	—	—	—	—
PRE25 / PRED25	1 ¹ / ₂ "	13 ¹³ / ₁₆	350.8	17 ³ / ₄	451.0	11 ²⁷ / ₃₂	300.8	2	50.8	1 ⁵ / ₁₆	23.8
PRE25 / PRED25	3"	13 ¹³ / ₁₆	350.8	17 ³ / ₄	451.0	11 ²⁷ / ₃₂	300.8	2	50.8	1 ⁵ / ₁₆	23.8
PRE60 / PRED60	2"	16 ³ / ₄	425.5	23 ⁷ / ₁₆	595.3	14 ¹ / ₁₆	357.2	2 ¹ / ₂	63.5	1 ³ / ₁₆	30.2
PRE60 / PRED60	3"	16 ³ / ₄	425.5	23 ⁷ / ₁₆	595.3	14 ¹ / ₁₆	357.2	2 ¹ / ₂	63.5	1 ³ / ₁₆	30.2
PRE125 / PRED125	2 ¹ / ₂ "	17 ⁷ / ₈	454.0	24 ⁹ / ₁₆	624.0	14 ⁵ / ₈	371.5	2 ¹ / ₂	63.5	1 ³ / ₁₆	30.2
PRE125 / PRED125	3"	17 ⁷ / ₈	454.0	24 ⁹ / ₁₆	624.0	14 ⁵ / ₈	371.5	2 ¹ / ₂	63.5	1 ³ / ₁₆	30.2
PRE300 / PRED300	4"	22 ¹ / ₂	571.5	32 ¹⁵ / ₁₆	836.6	18 ⁷ / ₈	479.4	3	76.2	1 ³ / ₄	44.5
PRE300 / PRED300	6"	22 ¹ / ₂	571.5	32 ¹⁵ / ₁₆	836.6	18 ⁷ / ₈	479.4	3	76.2	1 ³ / ₄	44.5

*Intake and discharge.



Side Mounted Pumps

Note: Drawings illustrate PR Series Pump. For PRE and PRED Series dimensions—see footnote.



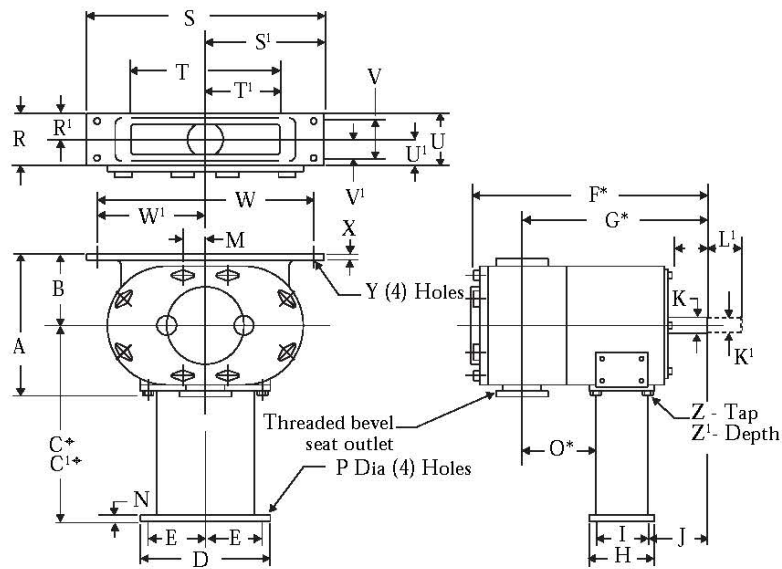
Models PR/PRE/ PRED	Port Size**	A		B		C*		C¹*		D		E		F*		G*	
		in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
10	1½"	6 ²³ / ₃₂	170.7	3 ²³ / ₆₄	85.3	8½	206.4	8½	206.4	4¾	120.7	1 ¹⁵ / ₁₆	49.2	10 ¹³ / ₃₂	264.3	8½	217.5
25	1½"	8¾	212.7	4 ³ / ₁₆	106.4	6 ³ / ₃₂	154.8	8 ³¹ / ₃₂	227.8	5½	139.7	2 ⁵ / ₁₆	58.7	12 ⁵ / ₁₆	312.0	10 ¹¹ / ₃₂	262.7
60	2"	10 ⁵ / ₈	270.0	5 ⁵ / ₁₆	135.0	9 ¹⁹ / ₃₂	243.7	14¼	362.0	8	203.2	3½	89.0	15¼	387.4	12 ⁹ / ₁₆	319.1
125	2½"	10 ⁵ / ₈	270.0	5 ⁵ / ₁₆	135.0	9 ¹⁹ / ₃₂	243.7	14¼	362.0	8	203.2	3½	89.0	16 ³ / ₈	416.0	13½	333.4
300	4"	13½	333.4	6 ⁹ / ₁₆	166.7	19¼	489.0	19¼	489.0	9	228.6	3¾	95.3	20¾	527.1	17½	435.0
Models PR/PRE/ PRED	Port Size**	H		I		J		K		K¹		L		L¹		M	
		in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
10	1½"	3½	79.4	2 ⁵ / ₁₆	58.7	3 ⁴⁹ / ₆₄	95.6	¾	19.0	—	—	1 ¹⁵ / ₁₆	49.2	—	—	1 ⁹ / ₃₂	32.5
25	1½"	3½	89.0	2 ⁹ / ₁₆	65.1	5½	130.2	1	25.4	—	—	2 ⁵ / ₁₆	58.7	—	—	1 ⁴³ / ₆₄	42.5
60	2"	5¼	133.4	4½	104.8	5 ³ / ₁₆	131.8	1¼	31.8	1 ³ / ₁₆	30.2	2 ¹⁷ / ₃₂	64.3	2 ¹⁷ / ₃₂	64.3	2¼	57.2
125	2½"	5¼	133.4	4½	104.8	5 ³ / ₁₆	131.8	1¼	31.8	1 ³ / ₁₆	30.2	2 ¹⁷ / ₃₂	64.3	2 ¹⁷ / ₃₂	64.3	2¼	57.2
300	4"	8¾	222.3	7¼	184.2	6 ⁷ / ₈	174.6	1 ⁷ / ₈	47.6	1¾	44.5	3	76.2	3	76.2	3	76.2
Models PR/PRE/ PRED	Port Size**	N		O*		P		R		Z		Z¹		Keyway			
		in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm		
10	1½"	¾	9.5	2 ³¹ / ₆₄	63.1	7 ¹ / ₁₆	11.1	2 ³ / ₈	60.3	¾-16	M10 x 1.5 6H	5 ⁵ / ₈	15.9	¾ ¹⁶ x ¾ ³²	4.8 x 2.4		
25	1½"	¾	9.5	2 ²¹ / ₃₂	67.5	7 ¹ / ₁₆	11.1	3 ⁷ / ₃₂	81.8	¾-16	M10 x 1.5 6H	5 ⁵ / ₈	15.9	¼ x ½	6.4 x 3.2		
60	2"	½	12.7	¾	82.6	9 ¹ / ₁₆	14.3	4 ³ / ₃₂	104.0	½-13	M14 x 2 6H	¾	19.0	¼ x ½	6.4 x 3.2		
125	2½"	½	12.7	3 ¹³ / ₁₆	96.8	9 ¹ / ₁₆	14.3	4 ³ / ₃₂	104.0	½-13	M14 x 2 6H	¾	19.0	¼ x ½	6.4 x 3.2		
300	4"	9 ¹ / ₁₆	14.3	3	76.2	9 ¹ / ₁₆	14.3	5¼	133.4	½-13	M14 x 2 6H	¾	19.0	½ x ¼	12.7 x 6.4		

*For PRE and PRED Series add 1¹/₂" (38 mm) to dimensions F, G, and O for Models 10 through 125 and 1³/₄" (44.5 mm) for Model 300

**Intake and Discharge C* is standard, C is alternate short rise pedestal.



Side Mounted Pumps with Rectangular Inlet



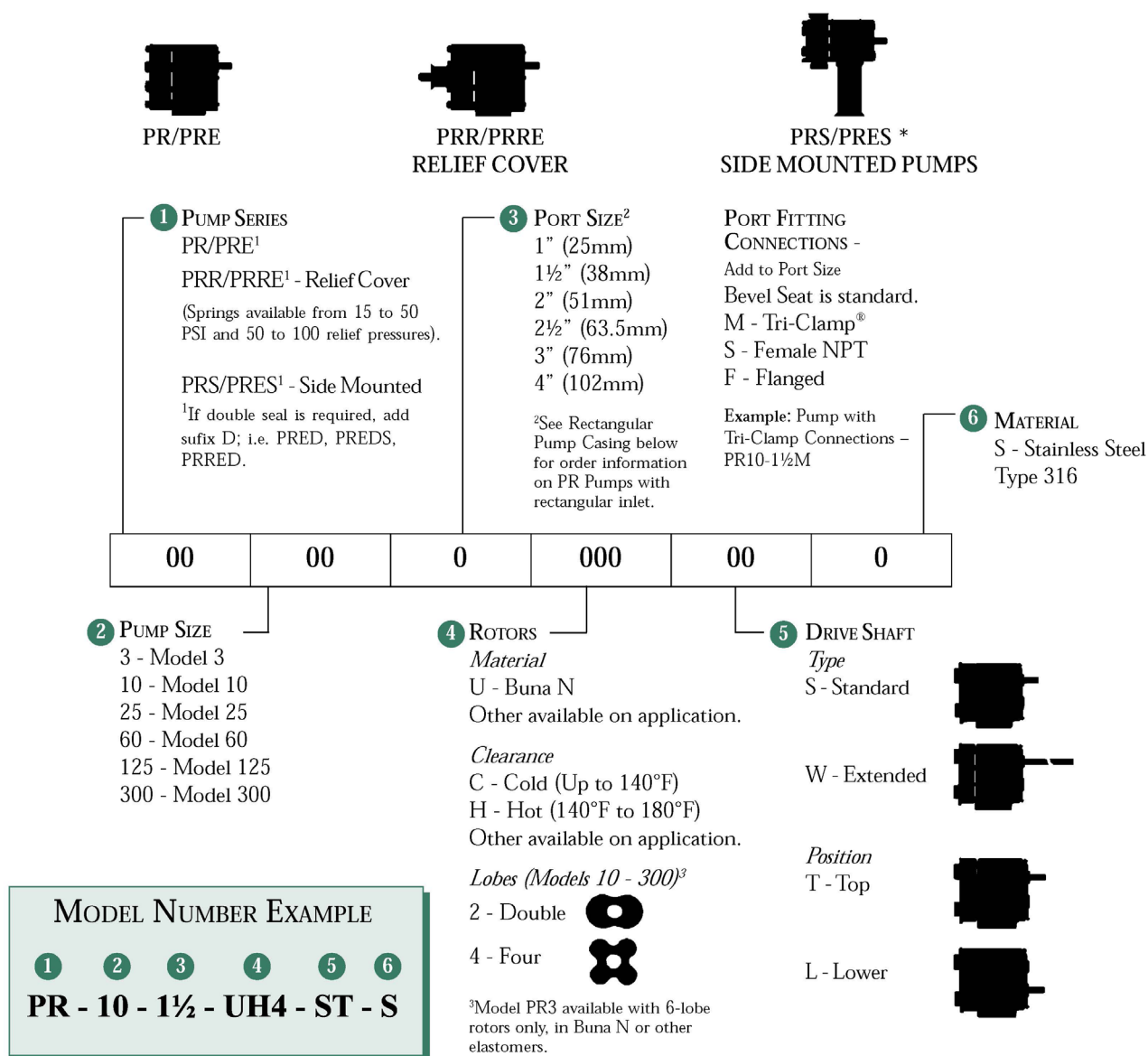
Pump Model	Intake	Discharge	A		B		R		R ¹		S		S ¹		T	
			in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
PRS25	RECT.	1½	7 ³¹ / ₃₂	202.4	3 ²⁵ / ₃₂	96.0	1½	38.0	¾	19.0	8½	216.0	4¼	108.0	4½	114.3
PRS125	RECT.	3	10 ⁷ / ₁₆	265.1	5½	130.2	2 ⁵ / ₈	66.7	1 ⁵ / ₁₆	33.3	15¼	387.4	7 ⁵ / ₈	193.7	9¼	235.0
Pump Model	Intake	Discharge	T ¹		U		U ¹		V		V ¹		W		W ¹	
			in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
PRS25	RECT.	1½	2¼	57.2	2½	63.5	1¼	31.8	1½	38.0	¾	19.0	7	177.8	3½	89.0
PRS125	RECT.	3	4 ⁵ / ₈	117.5	4	101.6	2	50.8	3	76.2	1½	38.0	14	355.6	7	177.8
Pump Model	Intake	Discharge	X		Y						Keyway					
			in	mm	in			mm			in		mm			
PRS25	RECT.	1½	½	12.7	½ 13NC - 2 TAP			M14 x 1.5 6H			¼ x ⅛		6.4 x 3.2			
PRS125	RECT.	3	¾	19.0	1 ⁷ / ₃₂ DRILL THROUGH			13.5 DRILL THROUGH			¼ x ⅛		6.4 x 3.2			

Note: for dimensions C, C', D, F, G, H, I, J, K, L, M, N, O, P, Z and Z' — see table on bottom of page 13. They are identical.

*C' is standard, C is alternate short rise pedestal.

Ordering Information

Each Tri-Clover PR pump is identified by a model number. An interpretation of how this coding system is used to identify the various types of PR pump heads available is shown below.



Rectangular Pump Casing (for side mounted pump)

Rectangular pump casing for side mounted pumps is available in sizes 25 and 125 with four lobe rotors only. A PR pump with a rectangular pump casing is indicated by a "R" after the model number.

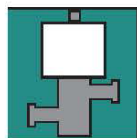
Example: PRS-25-R-1½-M-UH4-ST-S

Note: Dimension data on page 14.

*** Note:** On PRS/PRES Pumps,
T - Drive shaft on left side when facing the front of the pump
L - Drive shaft on right side when facing the front of the pump

Catalog product presentations, including cataloged dimensions, designs and specifications are representative of product availability at time of publication only. Actual geometry, dimensions, and designs are subject to design and manufacturing changes without notice.





Valves

Mix-Proof—*Catalog MPV*

Multiple actuator stem designs with full stroke capability.

Air-Actuated—*Catalog AV*

Many styles for automatic flow, and full CIP capability. Also available with optional control top housing. 1"-4" (25.4-101.6mm) sizes.

Fractional Sizes—*Bulletin FV*

Type 316L SS. $\frac{1}{2}$ " & $\frac{3}{4}$ " (12.7 and 19.0mm) sizes.

Ball—*Bulletin BV*

3-piece body with PTFE seats and packing. 1"-4" (25.4-101.6mm) sizes.

Butterfly—*Bulletin BFV*

Aluminum body. Adaptable to a variety of end connections. 1"-4" (25.4-101.6mm) sizes.

SS Butterfly—*Bulletin B51*

Stainless steel body. Tri-Clamp® end connections. Variety of seat materials. $1\frac{1}{2}$ "-6" (38.1-152.4mm) sizes.

Saunders Diaphragm—*Catalog SSV*

For sterile applications. $\frac{1}{4}$ "-4" (6.4-101.6mm) sizes.

Miscellaneous Valves—*Catalog MV*

Compressor, Plug, Relief, and Check Valves. 1"-4" (25.4-101.6mm) Tube OD.

Following are all registered trademarks of Tri-Clover, Inc.

Tri-Clover	Tri-Blender
Tri-Clamp	Super-Speed
Tri-Weld	Mainstream
Tri-Taper	Streamline

AL-6XN is a registered trademark of Allegheny Ludlum Corporation.



Pumps

C Series Centrifugal—*Catalog TF*

5 sizes in capabilities to 1150 GPM (261m³/hr). $1\frac{1}{2}$ "-6" (38.1-152.4mm) inlet.

CL Series Centrifugal—*Catalog CL*

11 sizes in capacities to 2000 GPM (454 m³/hr). $2\frac{1}{2}$ "-4" (63.5-101.6mm) inlet.

CL WFI (Water For Injection/

Pharmaceuticals)—*Bulletin CLWFI*

4 sizes in capacities to 700 GPM (159m³/hr). $1\frac{1}{2}$ "-4" (38.1-101.6mm) inlet.

EH Series Centrifugal (Low Shear)—

Bulletin EH

3 sizes in capacities to 1000 GPM (227 m³/hr). 3"-6" (76.2-152.4mm) inlet.

PR Series Positive Rotary—*Catalog PR*

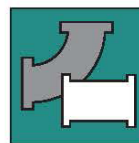
6 sizes to 300 GPM. (68 m³/hr). 1"-6" (25.4-152.4mm) inlet and outlet.

T Series Positive Rotary—*Bulletin TS*

(TSR Standard Rotor Design) 12 sizes to 500 GPM/290 PSI. (113m³/hr/20 BAR) 1"-6" (25.4-152.4mm) inlet and outlet. (TSK Ultra CIP) 5 sizes to 250 GPM/145 psi (56.5m³/hr/10 bar) 1"-3" (25.4-76.2mm) inlet and outlet.

Diaphragm Pumps—*Bulletin AOD*

5 sizes to 200 GPM/100 psi. (45m³/hr/7 bar) $\frac{1}{4}$ "-4" (6.4-101.6mm) inlet and outlet.



Fittings

Sanitary Fittings—*Catalog FTGS*

Tri-Clamp®, Tri-Weld®, and Bevel Seat for the food, beverage, and dairy industry—1"-4" (25.4-101.6mm)

Bio-Pharm Fittings—*Catalog PHARM*

Tri-Clamp® and Tri-Weld® mechanical and electropolished fittings for the bioprocessing industry— $\frac{1}{2}$ "-4" (12.7-101.6mm)

AL-6XN®—*Bulletin AL6-FTG*

Sanitary 1"-3" (25.4-76.2mm) Tube OD.



Automated Systems

Tri-Blender®—*Bulletin TB*

Blends up to 350 lb./min. (159 kg) dry powder with up to 150 GPM. (34 m³/hr).

CIP Systems—*Bulletin CIP*

Four standard models. Variations for hot sanitizing service.

Filters/Strainers—*Bulletin BFS*

Built to sanitary standards. Low pressure drop and extended service.

Bio-Pharm Systems—*Bulletin BP*

A range of products for Bio-Pharm applications.



Tri-Clover, Inc.



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