



Tri-Clover PR Series Positive Rotary Pump

Product Data / Specifications



PR Pump

Overview

Application

The Tri-Clover® PR range of positive displacement rotary lobe pumps has been designed for a wide range of applications where stainless steel product wetted components are essential to maintain hygienic processing standards. The PRE and PRED versions conform to the 3-A Sanitary Standard for Centrifugal and Rotary Positive Displacement Pumps, with all wetted contact materials being FDA compliant. The PR range is ideally suited to applications requiring daily takedown and reassembly. For example, pump duties in the fine chemical and food industries, where cleanability and corrosion resistance are paramount.

The wide range of frames, rotors, seals and porting connections provide a high degree of flexibility that enables the processor to match a specific pump to a specific application.

Working Principle

The Tri-Clover PR is a conventional, positive displacement rotary lobe pump that operates without internal contact of the rotors or rotorcase. The rotors are driven by a simple gear train in the pump gearcase which accommodates accurate synchronization of the multi-lobe rotors. The rotors “counter-rotate” within the pumphead carrying product through the pump, as cavities are formed between the dwell of the rotor and the interior of the rotorcase. All Tri-Clover PR pumps can operate bi-directionally (clockwise and counter-clockwise) without modification.

Standard Design

The pump gearbox on all Tri-Clover PR models is constructed of high quality, gray cast iron for maximum strength and rigidity. The exterior of the gearbox is protected by a quality, FDA-compliant, epoxy paint system to protect it against natural and corrosive environments. Heavy duty roller bearing arrangements provide maximum strength for the main and auxiliary shafts, thereby reducing axial loads ensuring no rotor contact. All metallic product-wetted components are AISI 316L Stainless Steel. Surface finish is 32 Ra standard.



Rotors

The standard supply of rotors is Buna N elastomer. Rotor clearance is affected by temperature. The PR series of pumps is available with “cold” rotors for operating conditions up to 140°F or “hot” rotors for pumping applications between 140°F and 180°F.

PR Pump

Overview

Normally supplied as a four lobe pump, the PR is available with bi-lobe rotors for applications requiring especially gentle pumping treatment or for handling larger particles. For certain applications, metal rotors are available.

UC2= 2 Lobe Cold (up to 140° F)
UH2= 2 Lobe Hot (140°F to 180°F)
UC4= 4 Lobe Cold (up to 140°F)
UH4= 4 Lobe Hot (140°F to 180°F)
UHH2= 2 Lobe Hot Hot (180°F to 200°F)
UHH4= 4 Lobe Hot Hot (180°F to 200°F)
TC12= 2 Lobe Metal
TC 14= 4 Lobe Metal
TC 14= 4 Lobe Metal

The PR 3 is available with 6 lobe rotors only.
UC6= 6 Lobe Hot (up to 140°F)

Elastomer Options

- Buna N standard

The following pump casing rotor elastomers are available as options:

- EPDM optional
- Fluoroelastomer optional
- TC1 optional

Pump Options

Connection types:

- Tri-Clamp standard
- bevel seat option
- flanged connections option

Drive Shaft:

- top shaft standard
 - lower shaft option
- (left hand standard for side mount, right hand option)

Relief cover:

PR pumps can be fitted or retrofitted with a relief valve. The relief valve is designed to protect the pump from damage that can occur through over-pressurization. The relief pressure for the valve can be easily set in the field. Mechanical or pneumatic versions available. Pressure settings either 15-50 psi or 50-100 psi.

Drive Units:

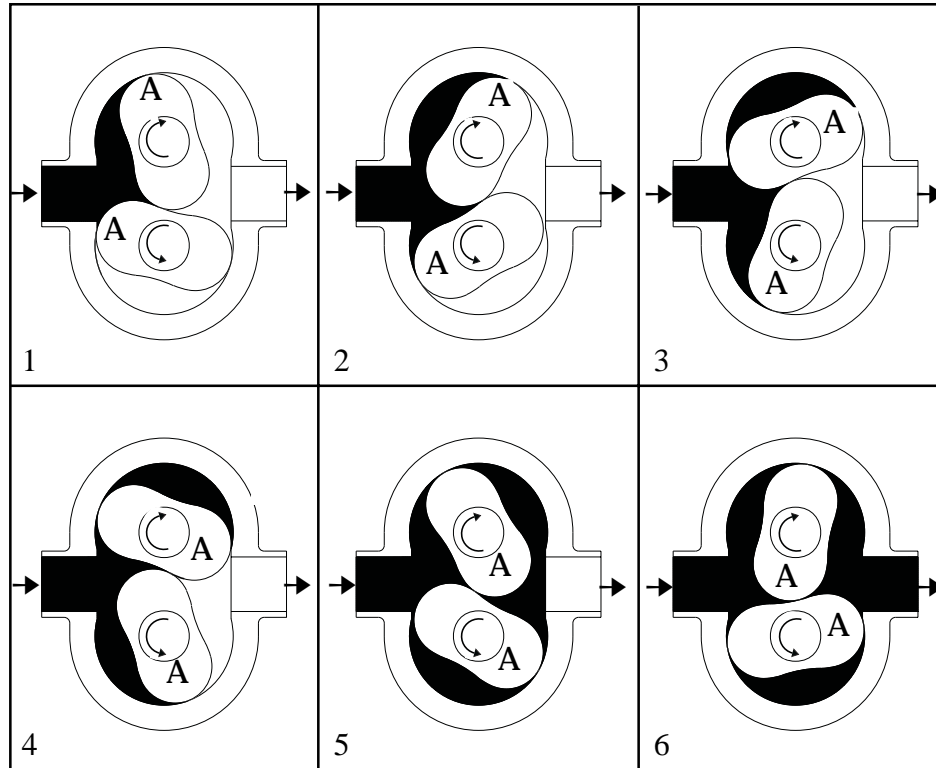
Standard and extended shaft pumps may be supplied for coupling to a variety of drive units mounted on a stainless steel base plate.

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

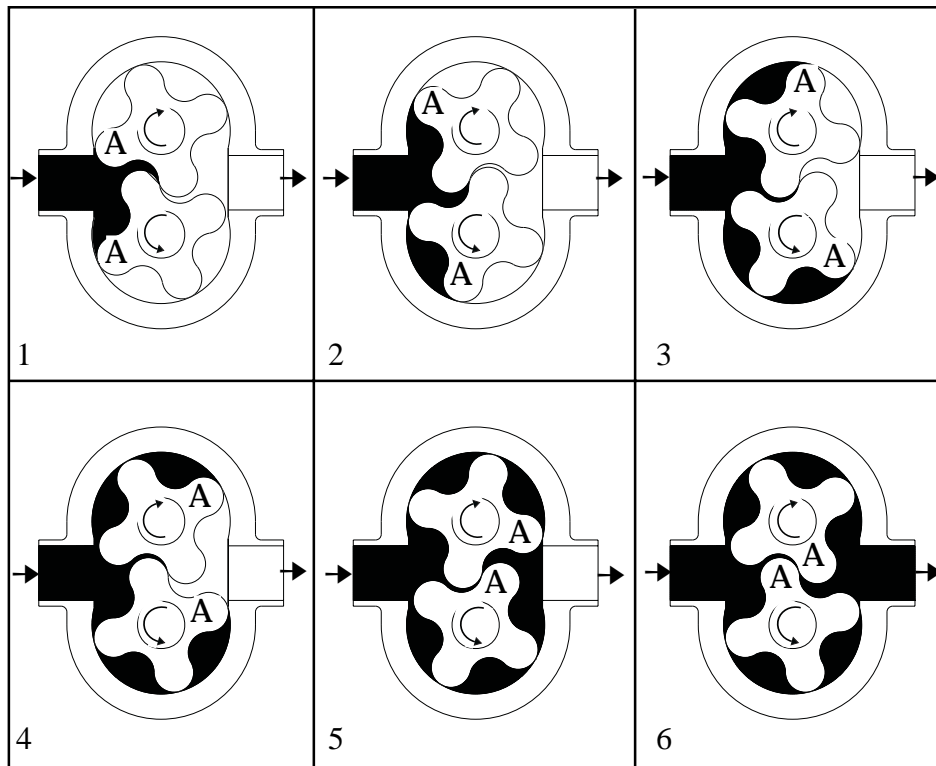
PR Pump

Working Principle Cyclogram

Bi-Lobe Version



Four-Lobe Version



PR Pump

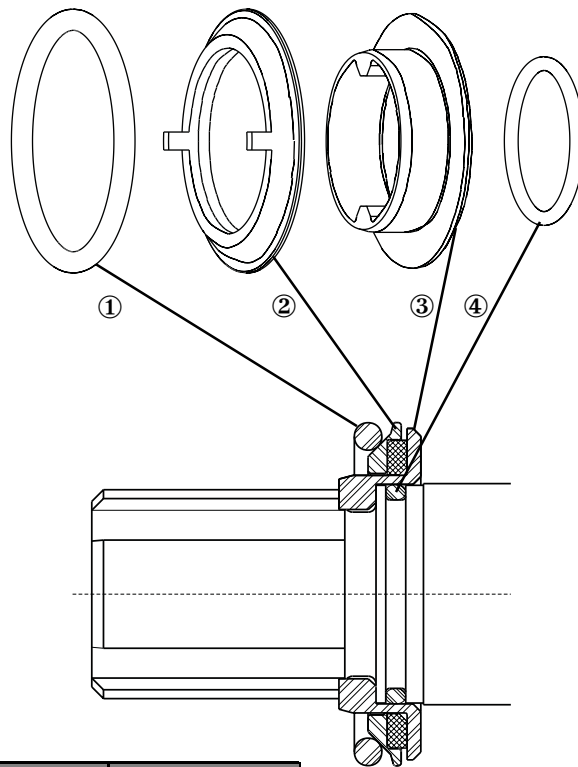
Seal Options

Shaft Seal Options

PR Series Static O ring seal

The PR Series pump is recommended for applications requiring periodic takedown and reassembly where temperatures do not exceed 200°F (93°C) and where products are nonabrasive or non-tacky. Leak-tight sealing action incorporating static o-ring seals. 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 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 rim. 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.



Item	Code	Description
1	80-4B	Casing o-ring
2	80-2	Seal ring
3	80-1	Wear ring
4	80-3A	Shaft o-ring

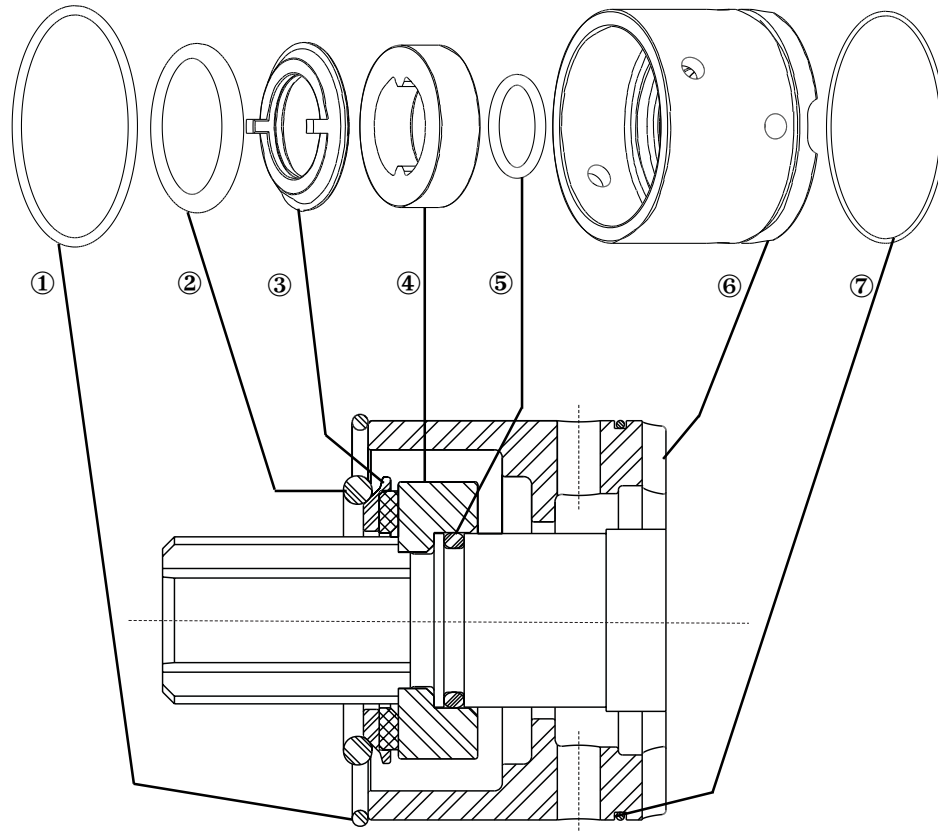
PR Pump

Seal Options

PRE Series Single Seal

The single seal PRE series is ideal for applications where visual leak detection is important (as required by 3A). This seal provides a high degree of leakage safeguard

capability. Using the static o-ring seal technology used for the PR Series, The PRE requires PRED or water flush for hot, tacky or viscous products.



Item	Code	Description
1	80-5	O-ring
2	80-4B	Casing o-ring
3	80-2	Seal ring
4	80-1	Wear ring
5	80-3A	Shaft o-ring
6	35	Alignment locating ring
7	35A	Alignment locating ring o-ring

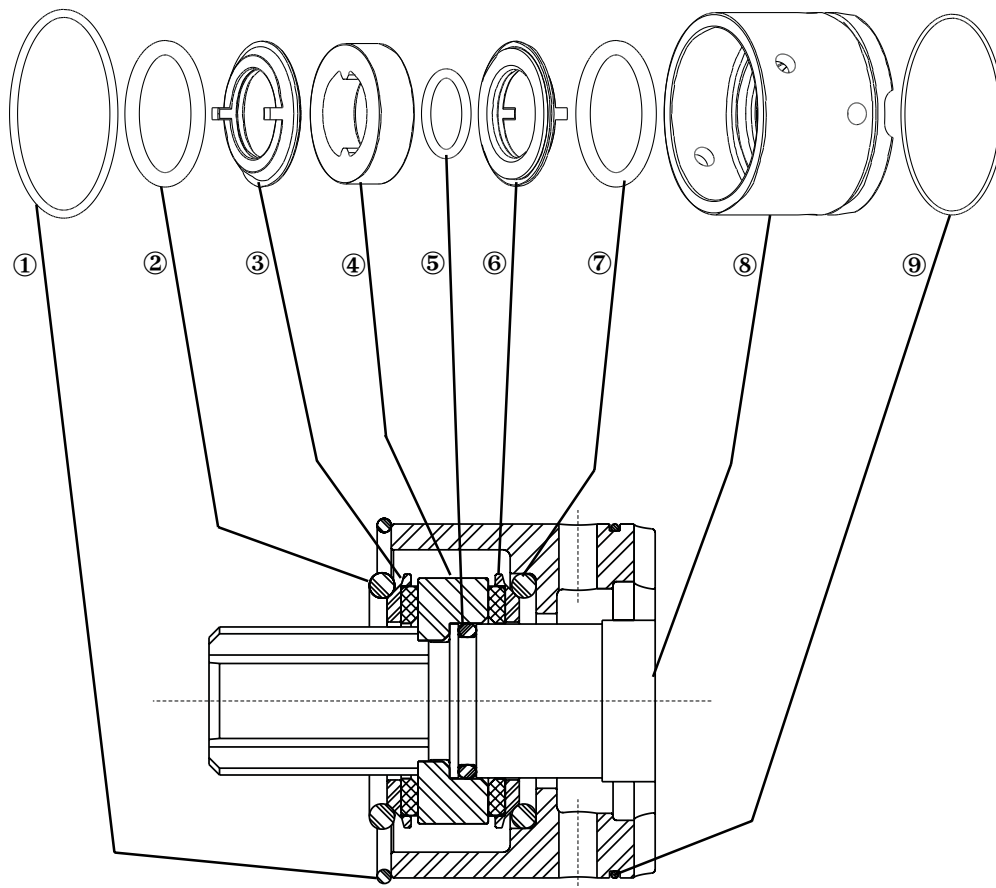
PR Pump

Seal Options

PRED Series Double Seal

The PRED series also provides visual leak detection (as required in 3A) but with an added feature of water flush. This seal provides that added feature of water or solvent flush (pressurized or nonpressurized) with a high degree of leakage safeguard

capability. Using the static o-ring seal technology used for the PR series, the PRED is ideal for applications such as evaporator operations, liquid sugar or tacky or viscous products such as corn syrup.



Item	Code	Description
1	80-5	O-ring
2	80-4B	Casing o-ring
3	80-2	Seal ring
4	80-1	Wear ring
5	80-3A	Shaft o-ring

Item	Code	Description
6	80-2	Seal ring
7	80-4B	Casing o-ring
8	35	Alignment locating ring
9	35A	Alignment locating ring o-ring

PR Pump

Seal Flush Arrangements

Seal Flush Details & Connection Specifications

Many seal arrangements rely on the circulation of a flushing fluid around the seal area. This is done for one or more of the following reasons:

- To carry away product or unwanted residue.
- To cool the seal area.
- To provide a product barrier.

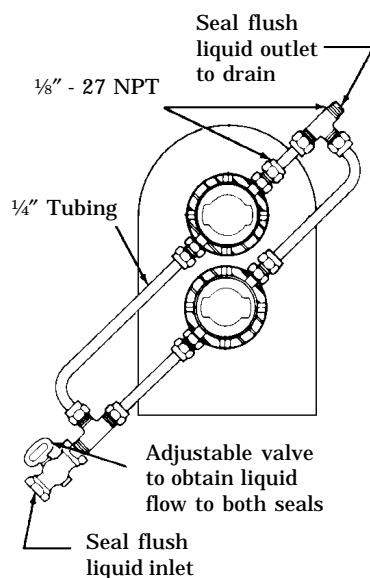
It is therefore important that:

- The flush is correctly connected.
- A suitable flushing fluid is used.
- The fluid is supplied at the correct pressure and flow rate.
- The flush is turned on prior to starting the pump.

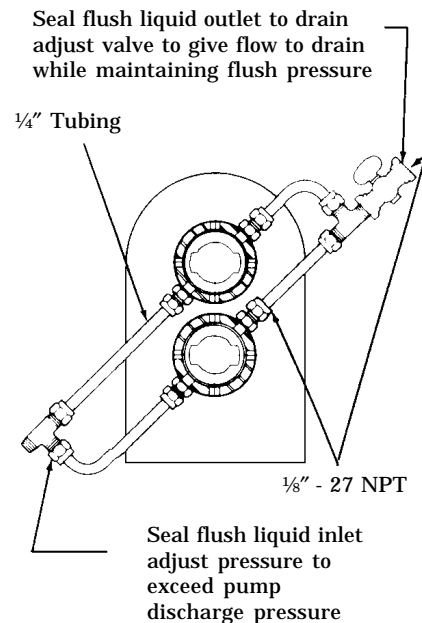
Install flush seal as shown below. Use pressurized flush with products that tend to build between seal faces; latex, PVA, etc. Use atmospheric flush to prevent the flush media from entering the product.

Recommended Seal Flush Flow Rate is approximately 3 gallons per hour. For elevated temperature applications, flow rate must be sufficient to maintain seal temperature of 175° F or less.

SEAL FLUSH PIPING
PRED PUMPS WITH
ATMOSPHERIC FLUSH



SEAL FLUSH PIPING
PRED PUMPS WITH
PRESSURIZED FLUSH



PR Pump

Standards

Compliance with International Standards

The PR range of pumps is designed to meet both existing and emerging sanitary standards as driven by increasing concern over hygienic standards in the marketplace. The PR range of pumps fully comply with the following standards and regulations:

- 3A standards applicable only to PRE and PRED
- FDA Material requirements



Tri-Clover pumps identified with this symbol on the following pages are accepted as meeting the 3A sanitary standards by the appropriate committees of the International Association of Milk, Food and Environmental Sanitarians; U.S. Public Health and Service and Dairy Industry Committee.

Lubrication

The bearings should be greased after every 100 operating hours, using a high quality grease such as Mobil Temp #1. Greases containing vegetable or animal bases should not be used because they can develop harmful acids. Also avoid using greases containing graphite, rosin, talc and other impurities. The timing gears are lubricated with SAE 20 oil.

PR Pump

Features and Benefits

n 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.

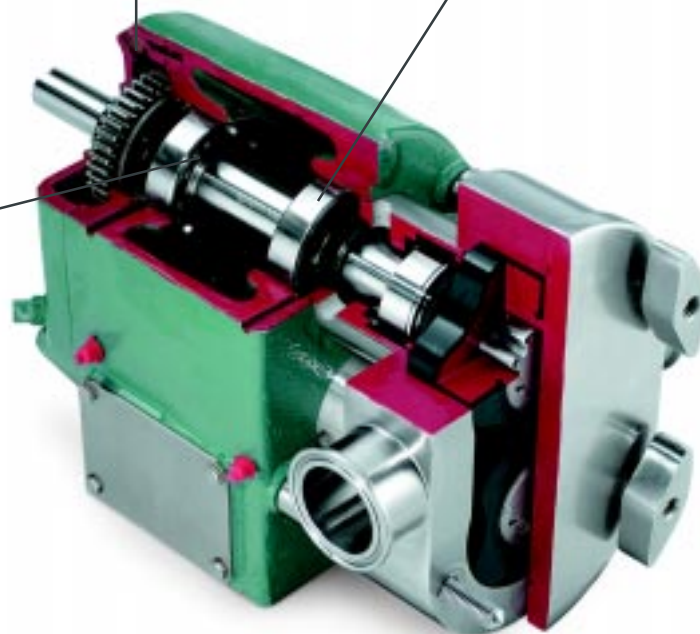
← Gear Housing → Bearing Housing

n 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 ($\frac{3}{16}$ " (4.8mm) or less) engagement of ring to casing permits easy takedown and assembly - *without cocking, binding, or hammering.*

n 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 locate rotor for proper timing and fast assembly. Tru-Arc Rings, positively locate complete shaft assemblies and timing gears, eliminating troublesome shimmming. Precision machining permits full interchange of top and bottom shaft assemblies, in field, with minimum of time and effort.



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

n GEARS . . .

and shafts are factory pretimed 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.

n 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.

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

PR Pump

Pump Performance Overview

PR Series Standard Configuration

Model	Port Size	Max Flowrate	Max Pressure
PR 3	1"	2.8	100
PR 10	1 ½"	12	100
PR 25	1 ½"	28	100
PR 25	3"	28	100
PR 60	2"	60	100
PR 60	3"	60	100
PR 125	2 ½"	120	100
PR 125	3"	120	100
PR 300	4"	300	100
PR 300	6"	300	100

PR Side Mounted

Model	Port Size	Max Flowrate	Max Pressure
PR 10	1 ½"	12	100
PR 25	1 ½"	28	100
PR 60	3"	60	100
PR 125	2 ½"	120	100
PR 300	4"	300	100

Notes: 1.) Maximum flowrate in GPM measured at 20 psi
 2.) Maximum pressure in psi
 3.) Maximum flowrate and maximum pressure do not necessarily occur simultaneously.

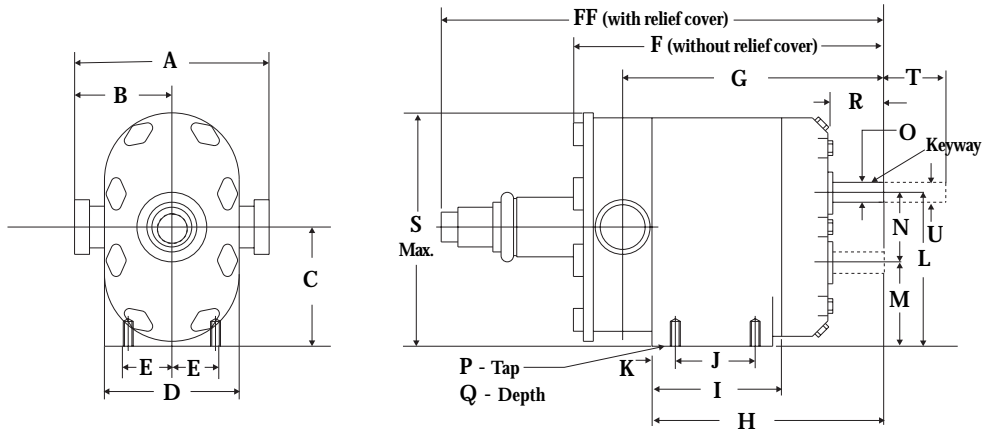
Side Mounted Pumps with Rectangular Inlet

Model	Intake	Discharge	Max Flowrate	Max Pressure
PRS 25	Rectangular	1 ½"	28	100
PRS 125	Rectangular	3"	120	100

Performance overview information above indicates performance range only and is not intended for the purpose of specifying pumps. See Performance Curves (PR-PC-00) for pump selection information.

PR Pump

Dimensions PR Series Pump



PR Pump

Dimensions

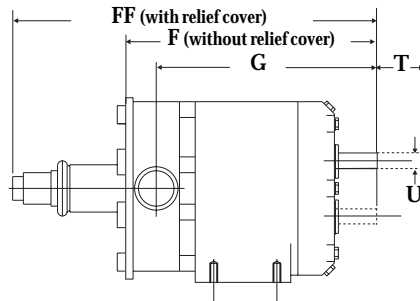
PR Series Pump

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 ¹ / 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 ¹ / 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 ³ / 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 ¹¹ / 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 ¹¹ / 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 ¹ / ₄ -20	M6 x 1 6H	5 ⁵ / ₈	15.9	1 ¹¹ / ₁₆	43.0	5 ⁷ / ₈	149.2	—	—	—	—	1 ¹ / ₈ x 1 ¹ / ₁₆	3.2 x 1.6		
PR10	1 ¹ / ₂ "	3 ³ / ₈ -16	M10 x 1.5 6H	1 ¹ / ₂	12.7	1 ²⁹ / ₃₂	48.4	7 ³¹ / ₃₂	202.4	—	—	—	—	3 ¹ / ₁₆ x 3 ³ / ₃₂	4.8 x 2.4		
PR25	1 ¹ / ₂ "	3 ³ / ₈ -16	M10 x 1.5 6H	5 ⁵ / ₈	15.9	2 ¹¹ / ₃₂	69.5	10 ¹³ / ₃₂	264.3	2	50.8	1 ¹⁵ / ₁₆	23.8	1 ¹ / ₄ x 1 ¹ / ₈	6.4 x 3.2		
PR25	3"	3 ³ / ₈ -16	M10 x 1.5 6H	5 ⁵ / ₈	15.9	2 ¹¹ / ₃₂	69.5	10 ¹³ / ₃₂	264.3	2	50.8	1 ¹⁵ / ₁₆	23.8	1 ¹ / ₄ x 1 ¹ / ₈	6.4 x 3.2		
PR60	2"	1 ¹ / ₂ -13	M14 x 2 6H	3 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 ¹ / ₄ x 1 ¹ / ₈	6.4 x 3.2		
PR60	3"	1 ¹ / ₂ -13	M14 x 2 6H	3 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 ¹ / ₄ x 1 ¹ / ₈	6.4 x 3.2		
PR125	2 ¹ / ₂ "	1 ¹ / ₂ -13	M14 x 2 6H	3 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 ¹ / ₄ x 1 ¹ / ₈	6.4 x 3.2		
PR125	3"	1 ¹ / ₂ -13	M14 x 2 6H	3 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 ¹ / ₄ x 1 ¹ / ₈	6.4 x 3.2		
PR300	4"	1 ¹ / ₂ -13	M14 x 2 6H	3 ³ / ₄	19.0	3	76.2	17 ⁷ / ₈	454.0	3	76.2	1 ³ / ₄	44.5	1 ¹ / ₂ x 1 ¹ / ₄	12.7 x 6.4		
PR300	6"	1 ¹ / ₂ -13	M14 x 2 6H	3 ³ / ₄	19.0	3	76.2	17 ⁷ / ₈	454.0	3	76.2	1 ³ / ₄	44.5	1 ¹ / ₂ x 1 ¹ / ₄	12.7 x 6.4		

*Intake and discharge

PR Pump

Dimensions PR Series Pump



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

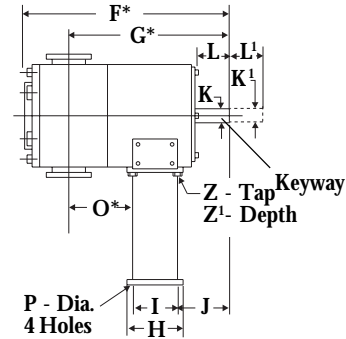
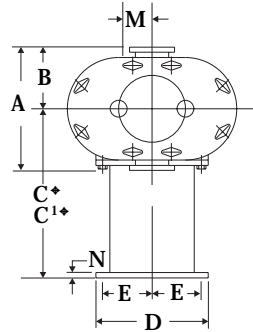
Series PRE / Series PRED

Model	Port Size*	F		FF		G		T		U	
		in	mm	in	mm	in	mm	in	mm	in	mm
PRE3 / PRED3	1"	9 ³ / 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.

PR Pump

Dimensions



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

Side Mounted Pumps

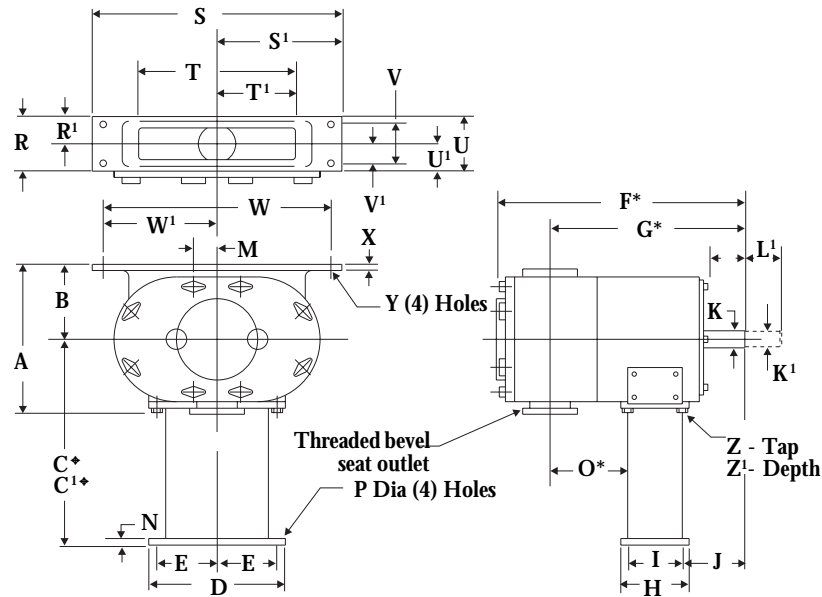
Models PR/PRE/ PRED	Port Size**	A		B		C*		C1*		D		E		F*		G*	
		in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
10	1 1/2"	6 ²³ / ₃₂	170.7	3 ²³ / ₆₄	85.3	8 ¹ / ₈	206.4	8 ¹ / ₈	206.4	4 ³ / ₄	120.7	1 ¹⁵ / ₁₆	49.2	10 ¹³ / ₃₂	264.3	8 ⁹ / ₁₆	217.5
25	1 1/2"	8 ³ / ₈	212.7	4 ³ / ₁₆	106.4	6 ³ / ₃₂	154.8	8 ³¹ / ₃₂	227.8	5 1/2	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	14 ¹ / ₄	362.0	8	203.2	3 ¹ / ₂	89.0	15 ¹ / ₄	387.4	12 ⁹ / ₁₆	319.1
125	2 1/2"	10 ⁵ / ₈	270.0	5 ⁵ / ₁₆	135.0	9 ¹⁹ / ₃₂	243.7	14 ¹ / ₄	362.0	8	203.2	3 ¹ / ₂	89.0	16 ³ / ₈	416.0	13 ¹ / ₈	333.4
300	4"	13 ¹ / ₈	333.4	6 ⁹ / ₁₆	166.7	19 ¹ / ₄	489.0	19 ¹ / ₄	489.0	9	228.6	3 ³ / ₄	95.3	20 ³ / ₄	527.1	17 ¹ / ₈	435.0
Models PR/PRE/ PRED	Port Size**	H		I		J		K		K ¹		L		L ¹		M	
		in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
10	1 1/2"	3 ¹ / ₈	79.4	2 ⁵ / ₁₆	58.7	3 ⁴⁹ / ₆₄	95.6	3 ³ / ₄	19.0	—	—	1 ¹⁵ / ₁₆	49.2	—	—	1 ⁹ / ₃₂	32.5
25	1 1/2"	3 1/2	89.0	2 ⁹ / ₁₆	65.1	5 ¹ / ₈	130.2	1	25.4	—	—	2 ⁵ / ₁₆	58.7	—	—	1 ⁴³ / ₆₄	42.5
60	2"	5 1/4	133.4	4 ¹ / ₈	104.8	5 ³ / ₁₆	131.8	1 1/4	31.8	1 ³ / ₁₆	30.2	2 ¹⁷ / ₃₂	64.3	2 ¹⁷ / ₃₂	64.3	2 1/4	57.2
125	2 1/2"	5 1/4	133.4	4 ¹ / ₈	104.8	5 ³ / ₁₆	131.8	1 1/4	31.8	1 ³ / ₁₆	30.2	2 ¹⁷ / ₃₂	64.3	2 ¹⁷ / ₃₂	64.3	2 1/4	57.2
300	4"	8 ³ / ₄	222.3	7 1/4	184.2	6 ⁷ / ₈	174.6	1 ⁷ / ₈	47.6	1 ³ / ₄	44.5	3	76.2	3	76.2	3	76.2
Models PR/PRE/ PRED	Port Size**	N		O*		P		R		Z		Z ¹		Keyway			
		in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm		
10	1 1/2"	3 ³ / ₈	9.5	2 ³¹ / ₆₄	63.1	7 ⁷ / ₁₆	11.1	2 ³ / ₈	60.3	3 ³ / ₈ -16	M10 x 1.5 6H	5 ⁵ / ₈	15.9	3 ³ / ₁₆ x 3 ³ / ₃₂	4.8 x 2.4		
25	1 1/2"	3 ³ / ₈	9.5	2 ²¹ / ₃₂	67.5	7 ⁷ / ₁₆	11.1	3 ⁷ / ₃₂	81.8	3 ³ / ₈ -16	M10 x 1.5 6H	5 ⁵ / ₈	15.9	1 ¹ / ₄ x 1 ¹ / ₈	6.4 x 3.2		
60	2"	1 1/2	12.7	3 ¹ / ₄	82.6	9 ⁹ / ₁₆	14.3	4 ³ / ₃₂	104.0	1 ¹ / ₂ -13	M14 x 2 6H	3 ³ / ₄	19.0	1 ¹ / ₄ x 1 ¹ / ₈	6.4 x 3.2		
125	2 1/2"	1 1/2	12.7	3 ¹³ / ₁₆	96.8	9 ⁹ / ₁₆	14.3	4 ³ / ₃₂	104.0	1 ¹ / ₂ -13	M14 x 2 6H	3 ³ / ₄	19.0	1 ¹ / ₄ x 1 ¹ / ₈	6.4 x 3.2		
300	4"	9 ⁹ / ₁₆	14.3	3	76.2	9 ⁹ / ₁₆	14.3	5 ¹ / ₄	133.4	1 ¹ / ₂ -13	M14 x 2 6H	3 ³ / ₄	19.0	1 ¹ / ₂ x 1 ¹ / ₄	12.7 x 6.4		

*For PRE and PRED Series add 1 1/2" (38 mm) to dimensions F, G, and O for Models 10 through 125 and 1 3/4" (44.5 mm) for Model 300

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

PR Pump

Dimensions



Side Mounted Pumps with Rectangular Inlet

Pump Model	Intake	Discharge	A		B		R		R'		S		S'		T	
			in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
PRS25	RECT.	1 1/2	7 ³¹ / ₃₂	202.4	3 ²⁵ / ₃₂	96.0	1 1/2	38.0	3/4	19.0	8 1/2	216.0	4 1/4	108.0	4 1/2	114.3
PRS125	RECT.	3	10 ⁷ / ₁₆	265.1	5 1/8	130.2	2 5/8	66.7	1 5/16	33.3	15 1/4	387.4	7 5/8	193.7	9 1/4	235.0
Pump Model	Intake	Discharge	T'		U		U'		V		V'		W		W'	
			in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
PRS25	RECT.	1 1/2	2 1/4	57.2	2 1/2	63.5	1 1/4	31.8	1 1/2	38.0	3/4	19.0	7	177.8	3 1/2	89.0
PRS125	RECT.	3	4 3/8	117.5	4	101.6	2	50.8	3	76.2	1 1/2	38.0	14	355.6	7	177.8
Pump Model	Intake	Discharge	X		Y		Keyway									
			in	mm	in		mm		in	mm	in	mm	in	mm		
PRS25	RECT.	1 1/2	1/2	12.7	1/2 13NC - 2 TAP		M14 x 1.5 6H		1/4 x 1/8	6.4 x 3.2						
PRS125	RECT.	3	3/4	19.0	17/32 Drill Through		13.5 Drill Through		1/4 x 1/8	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.

PR Pump

Weights / Ordering

Weights

The weights given are for bareshaft pumps (no drive unit, motor or base plate) and unpacked. This information is approximate and provided for guidance only. Actual weight will depend upon pump specification (rotor type, seal configuration, drive unit and motor).

- PR 3 20-25 lbs.
- PR 10 45-50 lbs.
- PR 25 90-100 lbs.
- PR 60 185-220 lbs.
- PR 125 190-230 lbs.
- PR 300 419-430 lbs.

- Required flow rate (minimum, normal and maximum)
- Discharge pressure (closest to the pump outlet)
- System suction conditions
- Pumping temperature of product (minimum, normal and maximum)
- Cleaning temperature(s) (minimum, normal and maximum)
- Port connection requirements if other than Tri-Clamp
- Voltage and frequency of drive if required
- Any other options required

Dimensions

All dimensions stated are approximate and for guidance only. On application, where exact dimensions are required, request a certified print from Tri-Clover.

For pumps supplied with drive unit and baseplate, since dimensions vary according to the drive configuration, contact Tri-Clover for baseplate and drive unit dimensions.

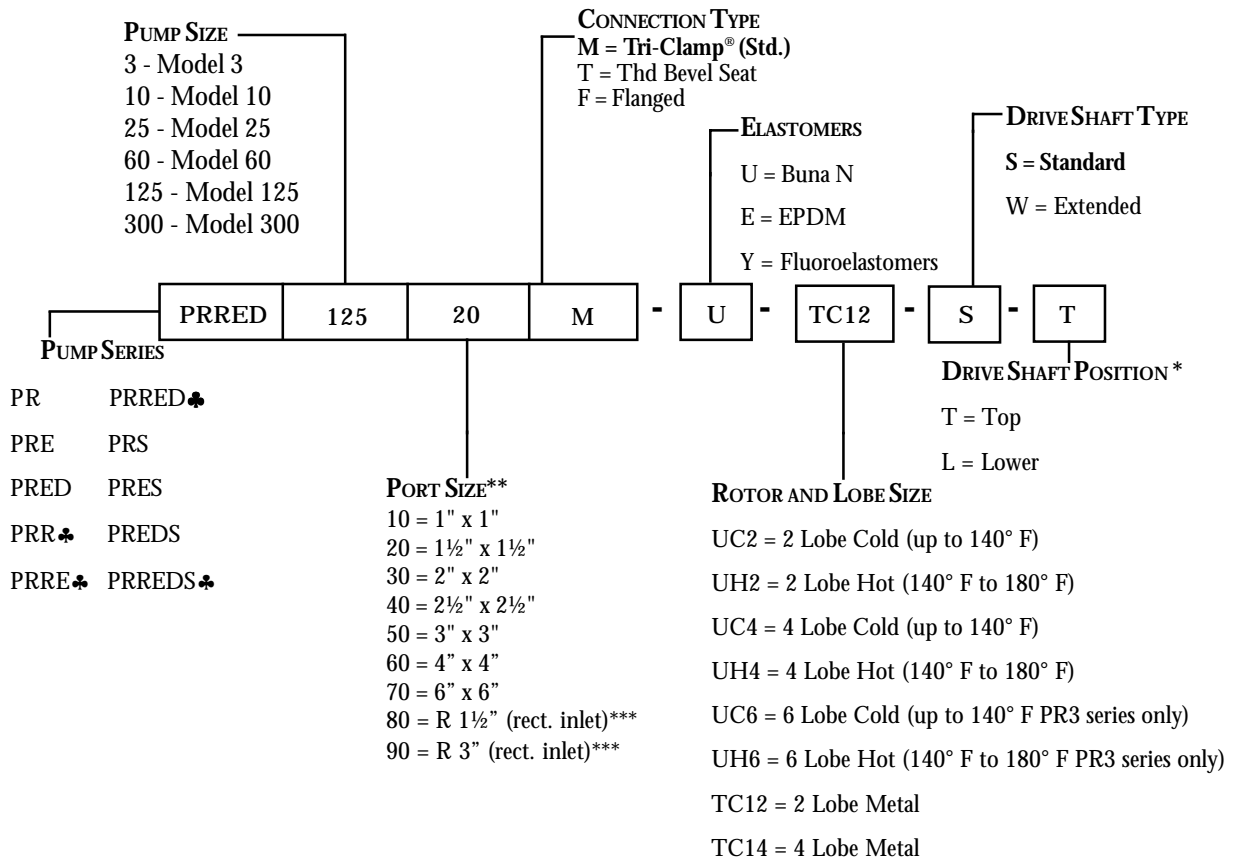
Ordering

The correct selection of a rotary lobe pump is dependent upon a number of important criteria related to the system and the product to be pumped. The following information will enable your Tri-Clover representative to complete the selection and provide a quotation on a shortest possible time:

- Product to be pumped
- Density of product
- Viscosity of product

PR Pump

Order Information



Notes:

** Refer to tables for port sizes available per model type.

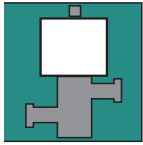
*** Available only on 25 and 125 pumps.

♣ Springs available from 15 to 50 PSI and 50 to 100 PSI relief pressures.

*** 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



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. 1/2" & 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 1/2"-6" (38.1-152.4mm) sizes.

Saunders Diaphragm—*Catalog SSV*

For sterile applications. 1/4"-6" (6.4-152.4mm) 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:

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



Pumps

C Series Centrifugal—*Catalog CSP*

5 sizes in capacities to 1150 GPM (261m³/hr). 1 1/2"-6" (38.1-152.4mm) inlet.

CL Series Centrifugal—*Catalog CLP*

10 sizes in capacities to 1300 GPM (454 m³/hr). 2 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 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*

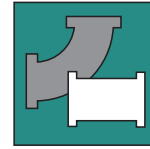
6 sizes to 300 GPM. (68 m³/hr). 1"-6" (25.4-152.4mm) inlet and outlet.

T Series Positive Rotary—*Bulletin TSR*

(TSR Standard Rotor Design)
12 sizes to 500 GPM/290 PSI.
(113m³/hr/20 BAR) 1"-6" (25.4-152.4mm) inlet and outlet.

TCIP Series Positive Rotary—*Catalog TCIP*

7 sizes to 500 GPM/215 psi.
(113 m³/hr/7 bar) 1"-6" (25.4-152.3mm) inlet and outlet.



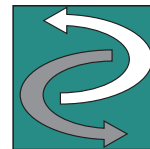
Fittings

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—1/2"-4" (12.7-101.6mm)



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.



Your Partners in Processing

For more information on Tri-Clover's complete line of products,
contact your Tri-Clover distributor.



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