

# INTERNAL GEAR PUMP UNIVERSAL SEAL

- SEALING OPTIONS
- APPLICATION FLEXIBILITY
- CONSTRUCTION OPTIONS
- 3 YEAR WARRANTY



**Capacity**  
to 1,600 GPM (363 M<sup>3</sup>/Hr)



**Viscosity**  
28 to 2,000,000 SSU (1 to 440,000 cSt)  
*With special construction*



**Pressure**  
to 200 PSI (14 BAR)



**Temperature**  
-120°F to +800°F (-85°C to +430°C)  
*With special construction*

**VIKING PUMP**  
A Unit of IDEX Corporation



# VIKING PUMP

## Industry & Application Experts

- Application experience spanning more than 100 years
- Viking invented the internal gear pump
- Reliability, quality and performance
- Global service & support

GLOBAL  
**LEADER**  
IN POSITIVE DISPLACEMENT  
**PUMPING**  
SOLUTIONS



## Back Pullout Seal Design:

- Enables Easy Seal Maintenance-in-place or conversion to other seal types, including:



Packing



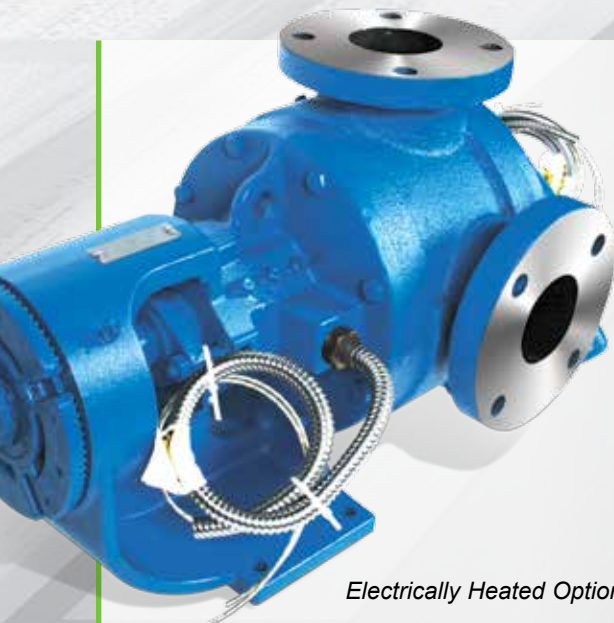
Component Mechanical Seal



Cartridge Mechanical Seal

- Another option is behind-the-rotor mechanical seals, which keep pumpage out of the bracket

## MARKETS & APPLICATIONS



Electrically Heated Option

## Jacketing Options:

- Large jacketing areas allow rapid heating and cooling capabilities for faster startup
- Jacketing options available for all critical areas of pump include bracket, casing, flanges, head and relief valve
- Standard jacketed pumps feature jacketed head and bracket making them ideal for applications like asphalt and chocolate
- Fully-jacketed pumps add jacketed casing and flange areas, providing uniform temperature control for critical processes such as ABS, epoxy, and PET resins
- Allows a variety of heating or cooling media including hot oil, steam and water



Jacketed Option

## Electric Heat Options:

- Heat cartridges in the bracket or casing and head enable melting asphalt and other materials before startup
- Closed-loop PID controller for accurate control that minimizes overshoot

### Chemicals:

- Plastics / Resins / Rubbers
- Petrochemicals
- Isocyanates for Polyurethane Foam
- Paints & Inks
- Personal Care Products
- Soaps & Cleaning Compounds
- Ethyl Alcohol Manufacturing
- Synthetic Dyes & Pigments

### Petroleum:

- Crude Oil
- Asphalt (Bitumen)
- Lubricating Oil & Grease Manufacturing
- Roofing Products
- Refined Fuels

### Food Processing:

- Grain & Oilseed
- Chocolate & Confectionery
- Animal Food
- Sugars & Sweeteners

### Machinery:

- Engine & Turbine Lube
- Commercial Cooking Oil Filtration
- Pump & Compressor Lube
- Construction / Mining / Equipment Lube
- Machine Tools

### Other:

- Pulp / Paper Converting
- Mining
- Heating Equipment
- Metals Processing
- Textile Manufacturing
- Water / Wastewater Treatment





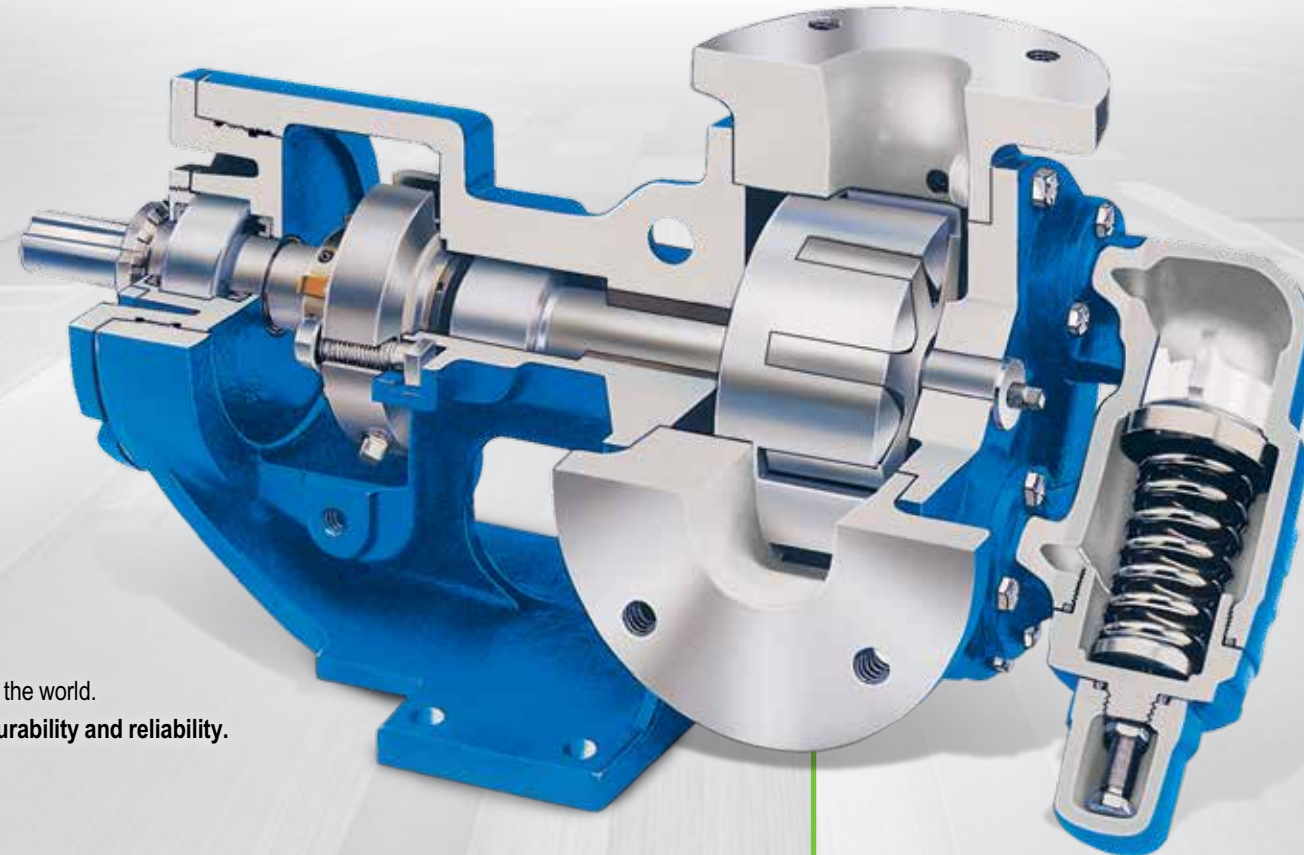
# UNIVERSAL SEAL FEATURES & BENEFITS

## ADVANCED DURABILITY

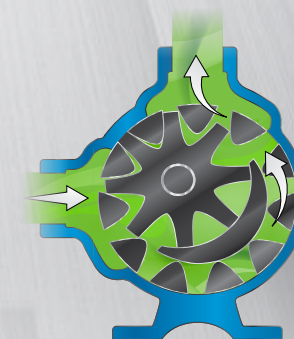
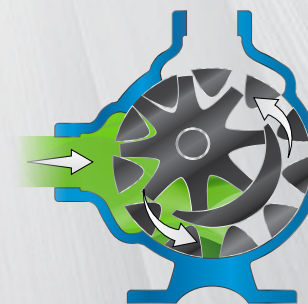
- **Solid, One-Piece Bracket**  
Solid, one-piece cast bracket and base minimize shaft reflection.  
**Provides longer seal life to keep pumps running.**
- **Heavy Duty Bearings and Bushings**  
Proven, rugged pump design equipped with heavy-duty bearings and bushings.  
**Provides enhanced shaft support extending pump and seal life.**
- **3 Year Warranty**  
Best in class warranty that covers workmanship and materials.  
**For greater peace of mind.**
- **Proven Design**  
Pump has only two moving parts proven in thousands of tough applications around the world.  
**Simple design minimizes service requirements while providing unmatched durability and reliability.**

## EASY INSTALLATION

- **Seal Maintenance**  
Enlarged bearing housing and drive end access to seal allows quick, easy replacement without removing pump or rotor.  
**Minimizes downtime and simplifies access, shortening service time.**
- **Rotatable Casing**  
Universal Seal pumps are equipped with casings that can be positioned to meet common piping configurations.  
**Shortens and simplifies installation.**
- **Drive Options**  
Multiple drive options are available including direct, reducer, belt drive, and variable speed drive.  
**Drive configurations provide easy solutions to match customer requirements for quick, easy installation.**
- **Multiple Port Configurations**  
Multiple port sizes, types and ratings are available including threaded, raised, and flat-face flanged (125, 150, 250, & 300 Class ANSI and DIN compatible). **Porting configurations provide easy solutions to match customer requirements for quick, easy installation.**



## Internal Gear Pump Principle:



NOTE: Direction of flow is reversible.

## APPLICATION FLEXIBILITY

- **Sealing Flexibility**  
Seal chamber accommodates virtually all sealing types and manufacturers.  
**Seal selection permits easy seal change based on application requirements.**
- **Jacketing Options**  
Jacketing options available for all critical areas of pump including bracket, seal, casing, flanges, head, and relief valve with a variety of jacket connection types and locations. **A variety of media allows rapid heating and cooling capabilities, providing faster startup and uniform temperature control.**
- **Materials of Construction**  
Wide array of iron, steel and alloy materials allow broad chemical and temperature compatibility on lubricating and non-lubricating liquids to match your application need.  
**Custom configured pumps lengthen life of pump for lower total cost of ownership.**
- **End Clearance Adjustment**  
Threaded housing mounted thrust bearing allows easy clearance adjustment to compensate for wear or handle different viscosities and temperatures.  
**Single point adjustment maintains and maximizes pump efficiency, extending life.**
- **Bi-directional Pump Design**  
Bi-directional pumping design eliminates cost of second pump, piping, and valving needed for loading, unloading, or line stripping. **Provides application flexibility and reduces system costs.**

## LOWER COST OF OWNERSHIP

- **Optimized Efficiency**  
Proven, optimized gear and pump geometry maximizes overall efficiency.  
**Reduces energy consumption, providing a lower total cost of ownership.**
- **Gentle Fluid Handling**  
Low-shear, non-pulsating pumping for a wide range of applications.  
**Protects final product integrity.**
- **Parts Commonality**  
Better design with fewer parts reduces maintenance and commonality of many parts between frame sizes reduces parts stocking needs. **Parts commonality provides better parts availability and a lower cost of ownership.**
- **Internal Gear Pumping Principle**  
Uses less energy than centrifugal pumps over most of its performance envelope.  
**Allows smaller motors for lower cost of ownership.**



# MATERIALS OF CONSTRUCTION

Component	Cast Iron	Steel Externals	Stainless Steel
Casing	Cast Iron, ASTM A48, Class 35B	Steel, ASTM A216, Grade WCB	Stainless Steel, ASTM A 743, Grade CF8M
Head	Cast Iron, ASTM A48, Class 35B	Steel, ASTM A216, Grade WCB	Stainless Steel, ASTM A 743, Grade CF8M Case Hardened
Head Plate for Jacketed Models	Cast Iron, ASTM A48, Class 35B	Steel, ASTM A216, Grade WCB	Cast Iron, ASTM A48, Class 35B
Bracket	Cast Iron, ASTM A48, Class 35B	Steel, ASTM A216, Grade WCB	Stainless Steel, ASTM A 743, Grade CF8M
Idler	②③ Cast Iron, ASTM A48, Class 35B	②③ Cast Iron, ASTM A48, Class 35B	Stainless Steel, ASTM A 743, Grade CF8M Case Hardened
Rotor	Standard	① Cast Iron, ASTM A48, Class 35B	① Cast Iron, ASTM A48, Class 35B
	Steel Fitted	⑤ Steel, ASTM A148, Grade 80-40	⑤ Steel, ASTM A148, Grade 80-40
Rotor Shaft	Steel, ASTM A108, Grade 1045	Steel, ASTM A108, Grade 1045	Stainless Steel, ASTM A276 Type XM-19 or 316 condition B
Idler Pin	Hardened Steel, ASTM A108, Grade 1045	Hardened Steel, ASTM A108, Grade 1045	Hard Coated Stainless Steel, ASTM A276 Type 316, Colmonoy # 6 coated
Idler Bushing	Packed	Bronze, ASTM B584 (B505), Alloy C93700	Bronze, ASTM B584 (B505), Alloy C93700
	Mech. Seal	Carbon Graphite	Carbon Graphite
Bracket Bushing	Packed	Bronze, ASTM B584 (B505), Alloy C93700	Bronze, ASTM B584 (B505), Alloy C93700
	Mech. Seal	④ Carbon Graphite	Carbon Graphite
⑥ Internal Pressure Relief Valve	Cast Iron, ASTM A48, Class 35B	Steel, ASTM A216, Grade WCB	Stainless Steel, ASTM A 743, Grade CF8M

- ① KK, LS, QS and N sizes have ductile iron rotor, ASTM A536 Grade 60-40-18.
  - ② Steel fitted Q and QS sizes have steel idler.
  - ③ H and HL sizes have powdered metal idler, MPIF Std 35 FC-0208-50.
  - ④ H-LL 4124B (Behind-the-Rotor) pumps have bronze bracket bushing with Buna N seal, carbon graphite for Viton® or PTFE seals.
  - ⑤ Material specification for HL steel rotor is AISI 8620, LS steel rotor is ASTM A148 80-50.
  - ⑥ RS relief valve not available. Contact factory for jacketing options.
- Viton® is a registered trademark of DuPont Performance Elastomers.

## Model Number Key:

<b>L</b>	<b>Q</b>	<b>4</b>	<b>1</b>	<b>2</b>	<b>4</b>	<b>A</b>	<b>E</b>
<b>Size:</b>	<b>Shaft Seal:</b>	<b>Basic Series Configuration</b>	<b>Material of Construction:</b>	<b>Primary Shaft Diameter (LQ Size in Cast Iron Only):</b>			
H LS HL Q K QS KK N L R LQ RS LL	4 = Mechanical Seal 8 = Mag Drive (See Form 635) Blank = Packing		3 = Steel Externals 4 = Cast Iron 6 = Ductile Iron 7 = Stainless Steel or other alloys	Blank = 1-7/16" E = 1-5/8" (See dimension drawings for shaft diameter at coupling)			
	<b>Jacketing*:</b>		<b>Seal Location:</b>				
	1 = No Jacketing 2 = Jacketed 3 = Foot Mount Casing w/ Jacketed Bracket		A = Stuffing Box with Universal Seal Design B = Behind-the-Rotor (H-LL Sizes in Cast Iron Only) E = Electric Heat (124E Models Only)				

\* NOTE: Only the N through RS sizes are foot mount with jacketed bracket (3). The N size is standard with a jacketed bracket, non-jacketed head and non-jacketed relief valve.

A jacketed relief valve option (with non-jacketed head) is available. The R size is standard with a jacketed bracket, jacketed head and non-jacketed relief valve.

The RS size is standard with a jacketed bracket and jacketed head, but is provided less valve as standard because a full bypass relief valve for the RS is not available.

An R size relief valve is available as an option for the RS pump, providing pressure relief to 1,100 GPM, but this does not provide full bypass protection. Contact factory for details.

# NON-JACKETED PUMP SPECIFICATIONS

Model Number			Standard Port Size	Nominal Capacity at Maximum Speed	Maximum Speed	Maximum Hydrostatic Pressure	① Maximum Discharge Pressure for 100 SSU / 22 cSt Liquid at Rated Speed	② Maximum Recommended Temp. for Standard Pump °F (°C)		Steel Fitted Recommended Above	Approximate Shipping Weight with Valve
Packed	Stuffing Box Seal	Behind the Rotor Seal						Packed	Mech Seal		
			Inches	GPM (M <sup>3</sup> /Hr)	RPM	PSI (BAR)	PSI (BAR)				
H124A	H4124A	H4124B	③ 1.5	15 (2.8)	1750	400 (28)	200 (14)	450 (232)	225 (107)	25,000 (5,500)	38 (17)
H123A	H4123A	N/A	⑤ 1.5	15 (2.8)	1750	400 (28)	200 (14)	450 (232)	225 (107)	25,000 (5,500)	43 (20)
H127A	H4127A	N/A	⑤ 1.5	10 (1.9)	1150	400 (28)	100 (7)	375 (191)	375 (191)	N/A	48 (22)
HL124A	HL4124A	HL4124B	③ 1.5	30 (5.6)	1750	400 (28)	200 (14)	450 (232)	225 (107)	7,500 (1,650)	40 (18)
HL123A	HL4123A	N/A	⑤ 1.5	30 (5.6)	1750	400 (28)	200 (14)	450 (232)	225 (107)	7,500 (1,650)	45 (20)
HL127A	HL4127A	N/A	⑤ 1.5	20 (3.7)	1150	400 (28)	100 (7)	375 (191)	375 (191)	N/A	50 (23)
K124A	K4124A	K4124B	③ 2	75 (17)	780	400 (28)	200 (14)	450 (232)	225 (107)	25,000 (5,500)	105 (48)
K123A	K4123A	N/A	⑤ 2	75 (17)	780	400 (28)	200 (14)	450 (232)	225 (107)	25,000 (5,500)	120 (54)
K127A	K4127A	N/A	⑤ 2	45 (10)	520	400 (28)	100 (7)	350 (177)	350 (177)	N/A	125 (57)
KK124A	KK4124A	KK4124B	③ 2	100 (23)	780	400 (28)	200 (14)	450 (232)	225 (107)	25,000 (5,500)	110 (50)
KK123A	KK4123A	N/A	⑤ 2	100 (23)	780	400 (28)	200 (14)	450 (232)	225 (107)	25,000 (5,500)	125 (57)
KK127A	KK4127A	N/A	⑤ 2	65 (15)	520	400 (28)	100 (7)	350 (177)	350 (177)	N/A	130 (59)
L124A/AE	L4124A/AE	L4124B	③ 2	135 (31)	640	400 (28)	200 (14)	450 (232)	225 (107)	25,000 (5,500)	155 (70)
LQ124A/AE	LQ4124A/AE	LQ4124B	④ 2.5	135 (31)	640	400 (28)	200 (14)	450 (232)	225 (107)	25,000 (5,500)	175 (80)
LQ123A	LQ4123A	N/A	⑤ 2.5	135 (31)	640	400 (28)	200 (14)	450 (232)	225 (107)	25,000 (5,500)	185 (84)
LQ127A	LQ4127A	N/A	⑤ 2.5	90 (20)	420	400 (28)	100 (7)	350 (177)	350 (177)	N/A	205 (93)
LL124A/AE	LL4124A/AE	LL4124B	④ 3	140 (32)	520	400 (28)	200 (14)	450 (232)	225 (107)	2,500 (550)	185 (84)
LL123A	LL4123A	N/A	⑤ 3	140 (32)	520	400 (28)	200 (14)	450 (232)	225 (107)	2,500 (550)	195 (89)
LL127A	LL4127A	N/A	⑤ 3	110 (25)	420	400 (28)	100 (7)	350 (177)	350 (177)	N/A	240 (109)
LS124A	LS4124A	N/A	④ 3	200 (45)	640	400 (28)	150 (10)	450 (232)	225 (107)	75,000 (16,500)	190 (86)
LS123A	LS4123A	N/A	⑤ 3	200 (45)	640	400 (28)	150 (10)	450 (232)	225 (107)	75,000 (16,500)	200 (91)
LS127A	LS4127A	N/A	⑤ 3	160 (36)	520	400 (28)	100 (7)	325 (163)	325 (163)	N/A	220 (100)
Q124A	Q4124A	N/A	④ 4	300 (68)	520	400 (28)	150 (10)	450 (232)	225 (107)	7,500 (1,650)	440 (200)
Q123A	Q4123A	N/A	⑤ 4	300 (68)	520	400 (28)	150 (10)	450 (232)	225 (107)	7,500 (1,650)	450 (204)
Q127A	Q4127A	N/A	⑤ 4	200 (45)	350	400 (28)	100 (7)	250 (121)	250 (121)	N/A	460 (209)
QS124A	QS4124A	N/A	④ 6	500 (114)	520	400 (28)	150 (10)	450 (232)	225 (107)	75,000 (16,500)	540 (245)
QS123A	QS4123A	N/A	⑤ 6	500 (114)	520	400 (28)	150 (10)	450 (232)	225 (107)	75,000 (16,500)	550 (250)
QS127A	QS4127A	N/A	⑤ 6	320 (73)	350	400 (28)	100 (7)	250 (121)	250 (121)	N/A	560 (254)
N324A	N4324A	N/A	④ 6	600 (136)	350	400 (28)	150 (10)	450 (232)	225 (107)	75,000 (16,500)	810 (367)
N323A	N4323A	N/A	⑤ 6	600 (136)	350	400 (28)	150 (10)	450 (232)	225 (107)	75,000 (16,500)	810 (367)
N327A	N4327A	N/A	⑤ 6	600 (136)	350	400 (28)	125 (9)	175 (79)	175 (79)	N/A	810 (367)
R324A	R4324A	N/A	④ 8	1,100 (250)	280	400 (28)	150 (10)	450 (232)	225 (107)	25,000 (5,500)	1,435 (651)
R323A	R4323A	N/A	⑤ 8	1,100 (250)	280	400 (28)	150 (10)	450 (232)	225 (107)	25,000 (5,500)	1,435 (651)
R327A	R4327A	N/A	⑤ 8	1,100 (250)	280	400 (28)	125 (9)	175 (79)	175 (79)	N/A	1,435 (651)
RS324A	RS4324A	N/A	④ 10	1,600 (364)	280	400 (28)	125 (9)	450 (232)	225 (107)	75,000 (16,500)	2,000 (907)
RS323A	RS4323A	N/A	⑤ 10	1,600 (364)	280	400 (28)	125 (9)	450 (232)	225 (107)	75,000 (16,500)	2,500 (1,134)
RS327A	RS4327A	N/A	⑤ 10	1,600 (364)	280	400 (28)	100 (7)	175 (79)	175 (79)	N/A	2,500 (1,134)

- ① For maximum recommended discharge pressures when handling other viscosities and/or other speeds, see performance curves. If suction pressure exceeds 50 PSIG (3.5 BAR), consult factory. Higher pressure possible with factory approval based on application details.
- ② Extra clearances are required above 225°F (107°C). Higher temperatures can be handled with special construction, consult factory.
- ③ Ports are tapped for standard (NPT) pipe. Other thread standards available.
- ④ Ports are suitable for use with Class 125 ANSI Cast Iron companion flanges or flanged fittings.
- ⑤ Ports are suitable for Class 150 ANSI Steel or Stainless Steel companion flanges or flanged fittings.



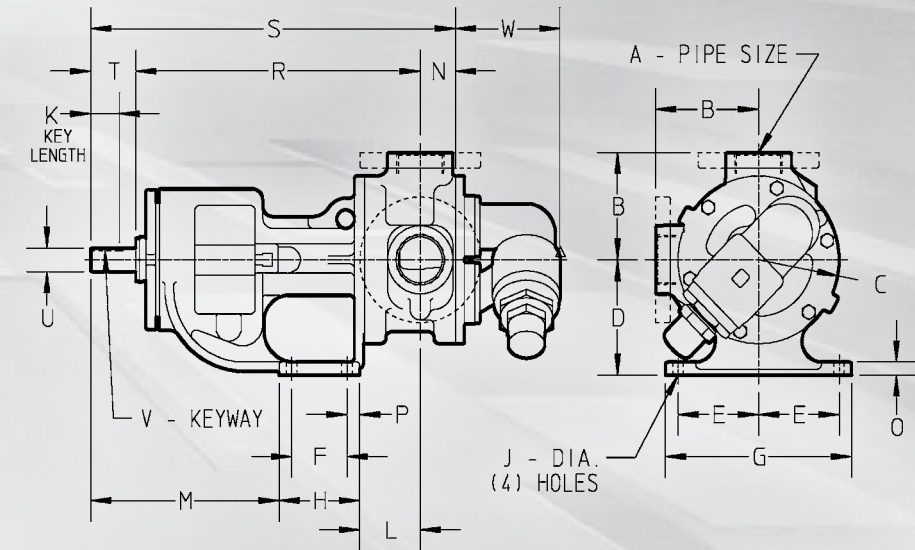
# JACKETED PUMP SPECIFICATIONS

Model Number			Standard Port Size	Nominal Capacity at Maximum Speed	Maximum Speed	Maximum Hydrostatic Pressure	① Maximum Discharge Pressure for 100 SSU / 22 cSt Liquid at Rated Speed		② Maximum Recommended Temp. for Standard Pump °F (°C)		Steel Fitted Recommended Above	Approximate Shipping Weight with Valve
Packed	Stuffing Box Seal	Behind the Rotor Seal					PSI (BAR)	PSI (BAR)	Packed	Mech Seal		
			Inches	GPM (M <sup>3</sup> /Hr)	RPM	PSI (BAR)	PSI (BAR)					
H224A	H4224A	H4224B	③ 1 1/2	15 (3.4)	1750	400 (28)	200 (14)	450 (232)	450 (232)	25,000 (5,500)	42 (19)	
H223A	H4223A	N/A	⑤ 1 1/2	15 (3.4)	1750	400 (28)	200 (14)	450 (232)	450 (232)	25,000 (5,500)	42 (19)	
H227A	H4227A	N/A	⑤ 1 1/2	10 (2.3)	1150	400 (28)	150 (10)	375 (191)	375 (191)	N/A	47 (21)	
HL224A	HL4224A	HL4224B	③ 1 1/2	30 (6.8)	1750	400 (28)	200 (14)	450 (232)	450 (232)	7,500 (1,650)	45 (20)	
HL223A	HL4223A	N/A	⑤ 1 1/2	30 (6.8)	1750	400 (28)	200 (14)	450 (232)	450 (232)	7,500 (1,650)	45 (20)	
HL227A	HL4227A	N/A	⑤ 1 1/2	20 (4.5)	1150	400 (28)	150 (10)	375 (191)	375 (191)	N/A	52 (24)	
K224A	K4224A	K4224B	③ 2	80 (18)	780	400 (28)	200 (14)	450 (232)	450 (232)	25,000 (5,500)	120 (54)	
K223A	K4223A	N/A	⑤ 2	80 (18)	780	400 (28)	200 (14)	450 (232)	450 (232)	25,000 (5,500)	120 (54)	
K227A	K4227A	N/A	⑤ 2	50 (11)	520	400 (28)	150 (10)	350 (177)	350 (177)	N/A	125 (57)	
KK224A	KK4224A	KK4224B	③ 2	100 (23)	780	400 (28)	200 (14)	450 (232)	450 (232)	25,000 (5,500)	125 (57)	
KK223A	KK4223A	N/A	⑤ 2	100 (23)	780	400 (28)	200 (14)	450 (232)	450 (232)	25,000 (5,500)	125 (57)	
KK227A	KK4227A	N/A	⑤ 2	65 (15)	520	400 (28)	150 (10)	350 (177)	350 (177)	N/A	130 (59)	
L224A/AE	L4224A/AE	L4224B	③ 2	135 (31)	640	400 (28)	200 (14)	450 (232)	450 (232)	25,000 (5,500)	175 (79)	
LQ224A/AE	LQ4224A/AE	LQ4224B	④ 2 1/2	135 (31)	640	400 (28)	200 (14)	450 (232)	450 (232)	25,000 (5,500)	190 (86)	
LQ223A	LQ4223A	N/A	⑤ 2 1/2	135 (31)	640	400 (28)	200 (14)	450 (232)	450 (232)	25,000 (5,500)	190 (86)	
LQ227A	LQ4227A	N/A	⑤ 2 1/2	90 (20)	420	400 (28)	150 (10)	350 (177)	350 (177)	N/A	210 (95)	
LL224A/AE	LL4224A/AE	LL4224B	④ 3	140 (32)	520	400 (28)	200 (14)	450 (232)	450 (232)	2,500 (550)	200 (91)	
LL223A	LL4223A	N/A	⑤ 3	140 (32)	520	400 (28)	200 (14)	450 (232)	450 (232)	2,500 (550)	210 (95)	
LL227A	LL4227A	N/A	⑤ 3	110 (25)	420	400 (28)	150 (10)	350 (177)	350 (177)	N/A	255 (116)	
LS224A	LS4224A	N/A	④ 3	200 (45)	640	400 (28)	200 (14)	450 (232)	450 (232)	75,000 (16,500)	210 (95)	
LS223A	LS4223A	N/A	⑤ 3	200 (45)	640	400 (28)	200 (14)	450 (232)	450 (232)	75,000 (16,500)	210 (95)	
LS227A	LS4227A	N/A	⑤ 3	160 (36)	520	400 (28)	125 (9)	325 (163)	325 (163)	N/A	230 (104)	
Q224A	Q4224A	N/A	④ 4	300 (68)	520	400 (28)	200 (14)	450 (232)	450 (232)	7,500 (1,650)	480 (218)	
Q223A	Q4223A	N/A	⑤ 4	300 (68)	520	400 (28)	200 (14)	450 (232)	450 (232)	7,500 (1,650)	490 (222)	
Q227A	Q4227A	N/A	⑤ 4	200 (45)	350	400 (28)	125 (9)	250 (121)	250 (121)	N/A	500 (227)	
QS224A	QS4224A	N/A	④ 6	500 (114)	520	400 (28)	200 (14)	450 (232)	450 (232)	75,000 (16,500)	580 (265)	
QS223A	QS4223A	N/A	⑤ 6	500 (114)	520	400 (28)	200 (14)	450 (232)	450 (232)	75,000 (16,500)	590 (268)	
QS227A	QS4227A	N/A	⑤ 6	320 (73)	350	400 (28)	125 (9)	250 (121)	250 (121)	N/A	600 (272)	
N324A	N4324A	N/A	④ 6	600 (136)	350	400 (28)	200 (14)	225 (107)	225 (107)	75,000 (16,500)	810 (367)	
N323A	N4323A	N/A	⑤ 6	600 (136)	350	400 (28)	200 (14)	225 (107)	225 (107)	75,000 (16,500)	810 (367)	
N327A	N4327A	N/A	⑤ 6	600 (136)	350	400 (28)	200 (14)	175 (79)	175 (79)	N/A	810 (367)	
R324A	R4324A	N/A	④ 8	1,100 (250)	280	400 (28)	200 (14)	225 (107)	225 (107)	25,000 (5,500)	1,435 (651)	
R323A	R4323A	N/A	⑤ 8	1,100 (250)	280	400 (28)	200 (14)	225 (107)	225 (107)	25,000 (5,500)	1,435 (651)	
R327A	R4327A	N/A	⑤ 8	1,100 (250)	280	400 (28)	175 (12)	175 (79)	175 (79)	N/A	1,435 (651)	
RS324A	RS4324A	N/A	④ 10	1,600 (364)	280	400 (28)	125 (9)	225 (107)	225 (107)	75,000 (16,500)	2,000 (907)	
RS323A	RS4323A	N/A	⑤ 10	1,600 (364)	280	400 (28)	125 (9)	225 (107)	225 (107)	75,000 (16,500)	2,500 (1,134)	
RS327A	RS4327A	N/A	⑤ 10	1,600 (364)	280	400 (28)	125 (9)	175 (79)	175 (79)	N/A	2,500 (1,134)	

- ① For maximum recommended discharge pressures when handling other viscosities and/or other speeds, see performance curves. If suction pressure exceeds 50 PSIG (3.5 BAR), consult factory. Higher pressure possible with factory approval based on application details.
- ② Extra clearances are required above 225°F (107°C). Higher temperatures can be handled with special construction, consult factory.
- ③ Ports are tapped for standard (NPT) pipe. Other thread standards available.
- ④ Ports are suitable for use with Class 125 ANSI Cast Iron companion flanges or flanged fittings.
- ⑤ Ports are suitable for Class 150 ANSI Steel or Stainless Steel companion flanges or flanged fittings.

# H-Q SIZE NON-JACKETED DIMENSIONS

NOTE: All Materials of Construction



NOTE: Dimensions "N" through "W" on next page

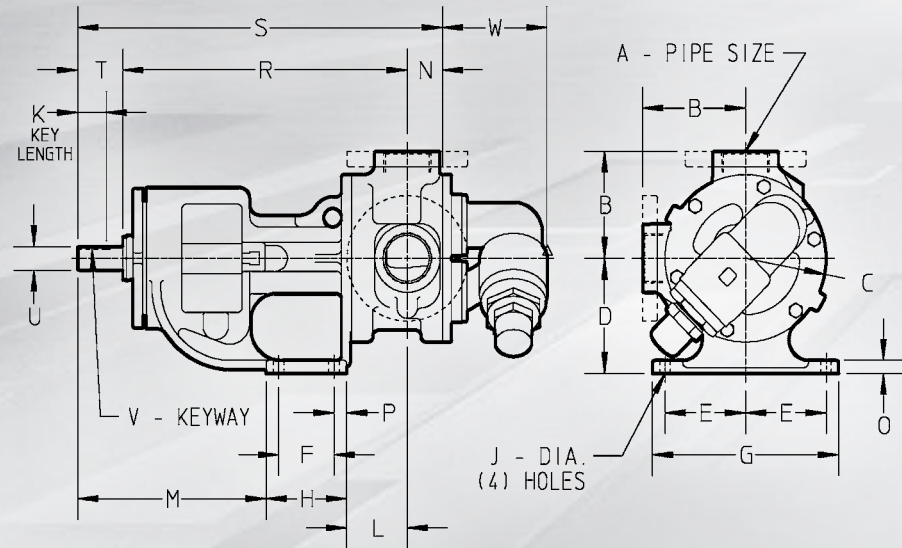
Model Number			A (in)	B	C	D	E	F	G	H	J	K	L	M	
Packed	Stuffing Box Seal	Behind the Rotor Seal													
H124A	H4124A	H4124B	① 1.5	in	3.00	4.75	3.50	2.75	2.25	6.75	3.50	0.47	0.99	3.38	5.19
HL124A	HL4124A	HL4124B		mm	76.2	120.6	88.9	69.8	57.1	171.4	88.9	11.9	25.1	85.8	131.8
H123A	H4123A	N/A	③ 1.5	in	4.00	4.75	3.50	2.75	2.25	6.75	3.50	0.47	0.99	3.38	5.19
HL123A	HL4123A			mm	101.6	120.6	88.9	69.8	57.1	171.4	88.9	11.9	25.1	85.8	131.8
H127A	H4127A	N/A	① 2	in	5.12	8.00	5.50	4.00	2.75	9.25	4.00	0.53	1.42	3.00	9.38
HL127A	HL4127A	KK4124B		mm	130.0	203.2	139.7	101.6	69.8	234.9	101.6	13.5	36.1	76.2	238.3
K124A	K4124A	KK4124A	③ 2	in	5.25	8.00	5.50	4.00	2.75	9.25	4.00	0.53	1.42	3.00	9.38
KK124A	KK4124A	N/A		mm	133.3	203.2	139.7	101.6	69.8	234.9	101.6	13.5	36.1	76.2	238.3
K123A	K4123A	N/A	③ 2	in	5.25	8.00	5.50	4.00	2.75	9.25	4.00	0.53	1.42	3.00	9.38
KK123A	KK4123A			mm	133.3	203.2	139.7	101.6	69.8	234.9	101.6	13.5	36.1	76.2	238.3
K127A	K4127A	N/A	③ 2	in	5.25	8.00	5.50	4.00	2.75	9.25	4.00	0.53	1.42	3.00	9.38
KK127A	KK4127A			mm	133.3	203.2	139.7	101.6	69.8	234.9	101.6	13.5	36.1	76.2	238.3
L124A/AE	L4124A/AE	L4124B	① 2	in	6.50	10.25	7.00	4.38	4.00	10.00	5.38	0.53	④ 1.42	3.38	9.12
HL124A/AE	HL4124A/AE	HL4124B		mm	165.1	260.3	177.8	111.3	101.6	254.0	136.7	13.5	④ 36.1	85.9	231.6
LQ124A/AE	LQ4124A/AE	LQ4124B	② 2.5	in	7.19	10.25	7.00	4.38	4.00	10.00	5.38	0.53	④ 1.42	3.38	9.12
HLQ124A/AE	HLQ4124A/AE	HLQ4124B		mm	182.6	260.3	177.8	111.3	101.6	254.0	136.7	13.5	④ 36.1	85.9	231.6
LQ123A	LQ4123A	N/A	③ 2.5	in	7.19	10.25	7.00	4.38	4.00	10.00	5.38	0.53	1.42	3.38	9.12
HLQ123A	HLQ4123A			mm	182.6	260.3	177.8	111.3	101.6	254.0	136.7	13.5	36.1	85.9	231.6
LL124A/AE	LL4124A/AE	LL4124B	② 3	in	7.19	10.25	7.00	4.38	4.00	10.00	5.38	0.53	④ 1.42	3.38	9.12
HL124A/AE	HL4124A/AE	HL4124B		mm	182.6	260.3	177.8	111.3	101.6	254.0	136.7	13.5	④ 36.1	85.9	231.6
LL123A	LL4123A	N/A	③ 3	in	7.19	10.25	7.00	4.38	4.00	10.00	5.38	0.53	1.42	3.38	9.12
HL123A	HL4123A			mm	182.6	260.3	177.8	111.3	101.6	254.0	136.7	13.5	36.1	85.9	231.6
LS124A	LS4124A	N/A	② 3	in	7.19	10.25	7.00	4.38	4.00	10.00	5.38	0.53	2.55	4.75	9.12
HL124A/AE	HL4124A/AE	HL4124B		mm	182.6	260.3	177.8	111.3	101.6	254.0	136.7	13.5	64.8	120.6	231.6
Q124A	Q4124A	N/A	② 4	in	8.25	14.00	8.75	4.12	4.00	10.00	6.00	0.69	3.58	6.62	11.12
Q123A	Q4123A			mm	209.5	355.6	222.2	104.6	101.6	254.0	152.4	17.5	90.9	168.1	282.4
Q127A	Q4127A		③ 4	mm	209.5	355.6	222.2	104.6	101.6	254.0	152.4	17.5	90.9	168.1	282.4

- ① Ports are tapped for standard (NPT) pipe. Other thread standards available.
- ② Ports are suitable for use with Class 125 ANSI Cast Iron (Cast Iron pumps) or Class 150 ANSI Steel companion flanges or flanged fittings (Ductile Iron pumps).
- ③ Ports are suitable for Class 150 ANSI Steel or Stainless Steel companion flanges or flanged fittings.
- ④ "K" dimension for Cast Iron L, LQ and LL sizes is for "A" models. "K" dimension for L, LQ and LL size 124AE, 4124AE and 4124B pumps is 1.30" (33.0 mm).



# H-Q SIZE NON-JACKETED DIMENSIONS

NOTE: All Materials of Construction



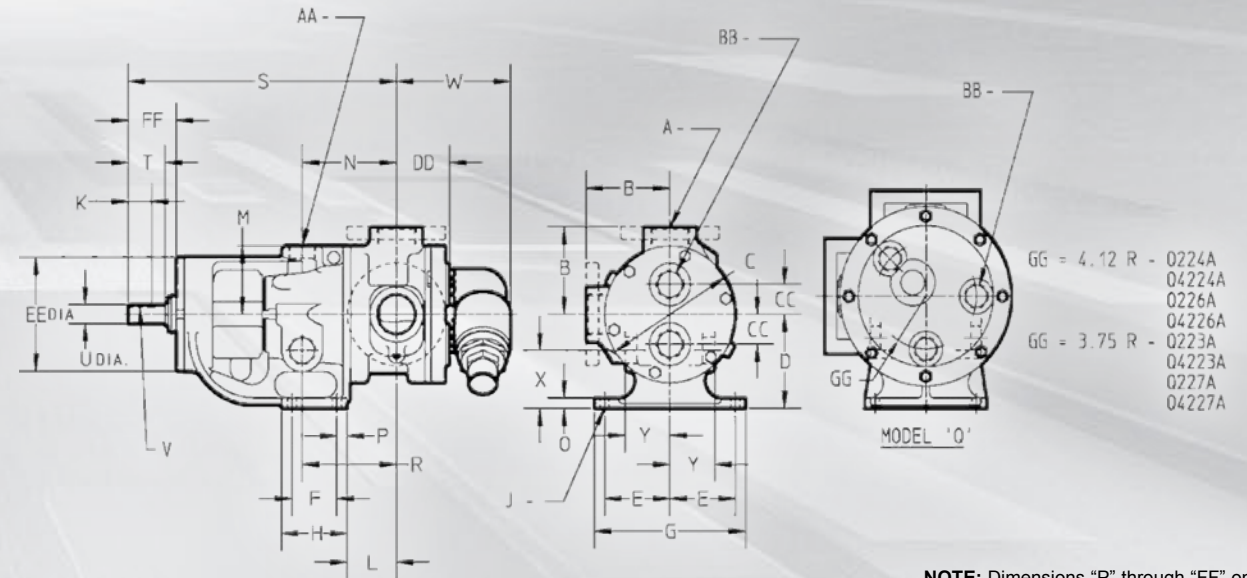
NOTE: Dimensions "A" through "M" on previous page

Model Number												
Packed	Stuffing Box Seal	Behind the Rotor Seal		N	O	P	R	S	T	U	V	W
H124A HL124A	H4124A HL4124A	H4124B HL4124B	in	1.19	0.56	0.62	10.44	13.25	1.62	0.75	.19 x .09	2.85
			mm	30.2	14.2	15.7	265.2	336.5	41.1	19.0	4.83 x 2.29	72.4
H123A HL123A H127A HL127A	H4123A HL4123A H4127A HL4127A	N/A	in	1.19	0.56	0.62	10.44	13.25	1.62	0.75	.19 x .09	2.85
			mm	30.2	14	15.7	265.2	336.5	41.1	19.0	4.83 x 2.29	72.4
K124A KK124A	K4124A KK4124A	K4124B KK4124B	in	1.75	0.62	0.62	14.12	18.12	2.25	1.12	.25 x .12	5.25
			mm	44.4	15.7	15.7	358.6	460.2	57.1	28.4	6.35 x 3.05	133.3
K123A KK123A K127A KK127A	K4123A KK4123A K4127A KK4127A	N/A	in	1.75	0.62	0.62	14.12	18.12	2.25	1.12	.25 x .12	5.25
			mm	44.4	15.7	15.7	358.6	460.2	57.1	28.4	6.35 x 3.05	133.3
L124A/AE LQ124A/AE	L4124A/AE LQ4124A/AE	L4124B LQ4124B	in	1.75	0.62	0.62	15.62	19.62	⑤ 2.25	⑥ 1.12	⑦ .25 x .12	5.43
			mm	44.4	15.7	15.7	396.7	498.3	⑤ 57.1	⑥ 28.7	⑦ 6.35 x 3.05	137.9
LQ124A/AE	LQ4124A/AE	LQ4124B	in	1.75	0.62	0.62	15.62	19.62	⑤ 2.25	⑥ 1.12	⑦ .25 x .12	5.43
			mm	44.4	15.7	15.7	396.7	498.3	⑤ 57.1	⑥ 28.7	⑦ 6.35 x 3.05	137.9
LQ123A LQ127A	LQ4123A LQ4127A	N/A	in	1.75	0.62	0.62	15.62	19.62	2.25	1.12	.25 x .12	5.43
			mm	44.4	15.7	15.7	396.7	498.3	57.1	28.7	6.35 x 3.05	137.9
LL124A/AE	LL4124A/AE	LL4124B	in	2.25	0.62	0.62	15.62	20.12	⑤ 2.25	⑥ 1.12	⑦ .25 x .12	5.43
			mm	57.1	15.7	15.7	396.7	511.0	⑤ 57.1	⑥ 28.7	⑦ 6.35 x 3.05	137.9
LL123A LL127A	LL4123A LL4127A	N/A	in	2.25	0.62	0.62	15.62	20.12	2.25	1.12	.25 x .12	5.43
			mm	57.1	15.7	15.7	396.7	511.0	57.1	28.7	6.35 x 3.05	137.9
LS124A LS123A LS127A	LS4124A LS4123A LS4127A	N/A	in	2.44	0.62	0.62	15.75	21.69	3.50	1.44	.38 x .19	5.43
			mm	62.0	15.7	15.7	400.0	550.9	88.9	36.6	9.65 x 4.83	137.9
Q124A Q123A Q127A	Q4124A Q4123A Q4127A	N/A	in	3.00	0.75	1.00	19.25	26.75	4.50	1.94	.50 x .25	8.25
			mm	76.2	19.0	25.4	488.9	679.4	114.3	49.3	12.70 x 6.35	209.5

⑤ "T" dimension shown for Cast Iron sizes L, LQ and LL is for "A" models. "T" dimension for L, LQ and LL size 124AE, 4124AE and 4124B pumps is 2.35" (59.7 mm).  
 ⑥ "U" dimension shown for Cast Iron sizes L, LQ and LL is for "A" models. "U" dimension for L, LQ and LL size 124AE, 4124AE and 4124B pumps is 1.44" (36.6 mm).  
 ⑦ "V" dimension shown for Cast Iron sizes L, LQ and LL is for "A" models. "V" dimension for L, LQ and LL size 124AE, 4124AE and 4124B pumps is 0.38 X 0.19" (9.65 X 4.83 mm).

# H-Q SIZE JACKETED DIMENSIONS

NOTE: All Materials of Construction



NOTE: Dimensions "P" through "FF" on next page

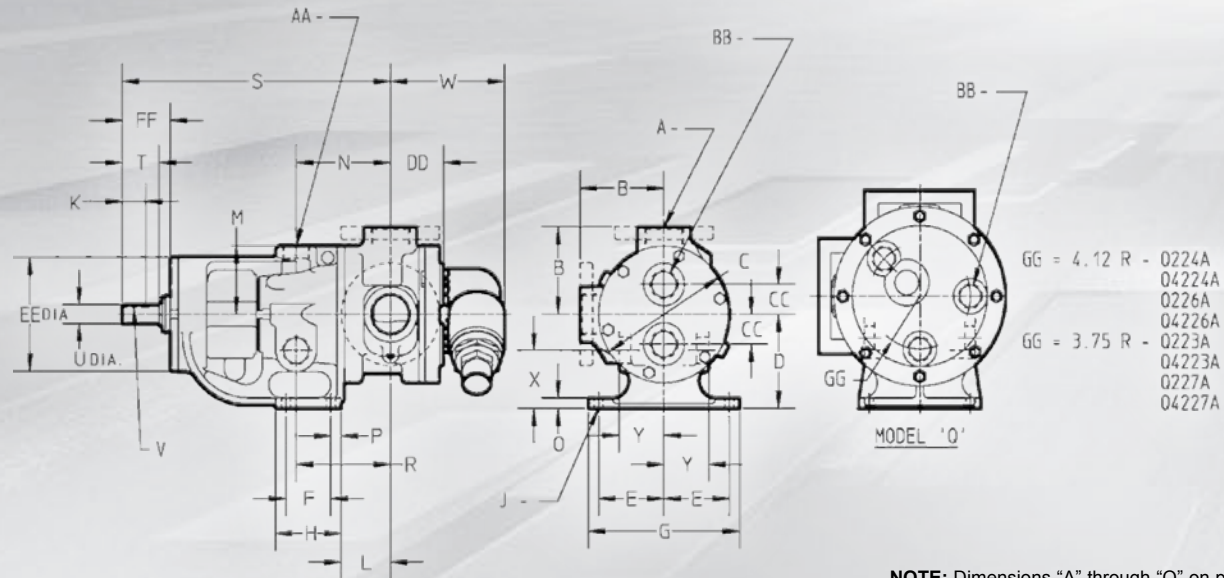
Model Number																				
Packed	Stuffing Box Seal	Behind the Rotor Seal	A (in)	B	C	D	E	F	G	H	J	K	L	M	N	O				
H224A HL224A	H4224A HL4224A	H4224B HL4224B	① 1.5	in	3.00	4.75	3.50	2.75	2.25	6.75	3.50	0.47	0.99	3.38	2.38	4.00	0.56			
				mm	76.2	120.6	88.9	69.8	57.1	171.4	88.9	11.9	25.1	85.8	60.5	101.6	14.2			
H223A HL223A H227A HL227A	H4223A HL4223A H4227A HL4227A	N/A	③ 1.5	in	4.00	4.75	3.50	2.75	2.25	6.75	3.50	0.47	0.99	3.38	2.38	4	0.56			
				mm	101.6	120.6	88.9	69.8	57.1	171.4	88.9	11.9	25.1	85.8	60.5	101.6	14.2			
K224A KK224A	K4224A KK4224A	K4224B KK4224B	① 2	in	5.12	8.00	5.50	4.00	2.75	9.25	4.00	0.53	1.42	3.00	4.00	5.75	0.62			
				mm	130	203.2	139.7	101.6	69.8	234.9	101.6	13.5	36.1	76.2	101.6	146	15.7			
K223A KK223A K227A KK227A	K4223A KK4223A K4227A KK4227A	N/A	③ 2	in	5.25	8.00	5.50	4.00	2.75	9.25	4.00	0.53	1.42	3.00	4.00	5.75	0.62			
				mm	133.3	203.2	139.7	101.6	69.8	234.9	101.6	13.5	36.1	76.2	101.6	146	15.7			
L224A/AE	L4224A/AE	L4224B	① 2	in	6.50	10.25	7.00	4.38	4.00	10.00	5.38	0.53	④ 1.42	3.38	5.12	6.56	0.62			
				mm	165.1	260.3	177.8	111.3	101.6	254.0	136.7	13.5	④ 36.1	85.9	130.0	166.6	15.7			
LQ224A/AE	LQ4224A/AE	LQ4224B	② 2.5	in	7.19	10.25	7.00	4.38	4.00	10.00	5.38	0.53	④ 1.42	3.38	5.12	6.56	0.62			
				mm	182.6	260.3	177.8	111.3	101.6	254.0	136.7	13.5	④ 36.1	85.9	130.0	166.6	15.7			
LQ223A LQ227A	LQ4223A LQ4227A	N/A	③ 2.5	in	7.19	10.25	7.00	4.38	4.00	10.00	5.38	0.53	1.42	3.38	5.12	6.56	0.62			
				mm	182.6	260.3	177.8	111.3	101.6	254.0	136.7	13.5	36.1	85.9	130.0	166.6	15.7			
LL224A/AE	LL4224A/AE	LL4224B	② 3	in	7.19	10.25	7.00	4.38	4.00	10.00	5.38	0.53	④ 1.42	3.38	5.12	6.56	0.62			
				mm	182.6	260.3	177.8	111.3	101.6	254.0	136.7	13.5	④ 36.1	85.9	130.0	166.6	15.7			
LL223A LL227A	LL4223A LL4227A	N/A	③ 3	in	7.19	10.25	7.00	4.38	4.00	10.00	5.38	0.53	1.42	3.38	5.12	6.56	0.62			
				mm	182.6	260.3	177.8	111.3	101.6	254.0	136.7	13.5	36.1	85.9	130.0	166.6	15.7			
LS224A LS223A LS227A	LS4224A LS4223A LS4227A	N/A	② 3	in	7.19	10.25	7.00	4.38	4.00	10.00	5.38	0.53	2.55	4.75	5.12	7.40	0.62			
			③ 3	mm	182.6	260.3	177.8	111.3	101.6	254.0	136.7	13.5	64.8	120.6	130.0	188.0	15.7			
Q224A Q223A Q227A	Q4224A Q4223A Q4227A	N/A	② 4	in	8.25	14.00	8.75	4.12	4.00	10.00	6.00	0.69	3.58	6.62	7.00	7.62	0.75			
			③ 4	mm	209.5	355.6	222.2	104.6	101.6	254.0	152.4	17.5	90.9	168.1	177.8	193.5	19.0			

① Ports tapped for standard (NPT) pipe. Other thread standards available.  
 ② Ports are suitable for use with Class 125 ANSI Cast Iron (Cast Iron pumps) or Class 150 ANSI Steel companion flanges or flanged fittings (Ductile Iron pumps).  
 ③ Ports are suitable for Class 150 ANSI Steel or Stainless Steel companion flanges or flanged fittings.  
 ④ "K" dimension for Cast Iron L, LQ and LL sizes is for "A" models. "K" dimension for L, LQ and LL size 224AE, 4224AE and 4224B pumps is 1.30" (33.0 mm).



# H-Q SIZE JACKETED DIMENSIONS

NOTE: All Materials of Construction



NOTE: Dimensions "A" through "O" on previous page

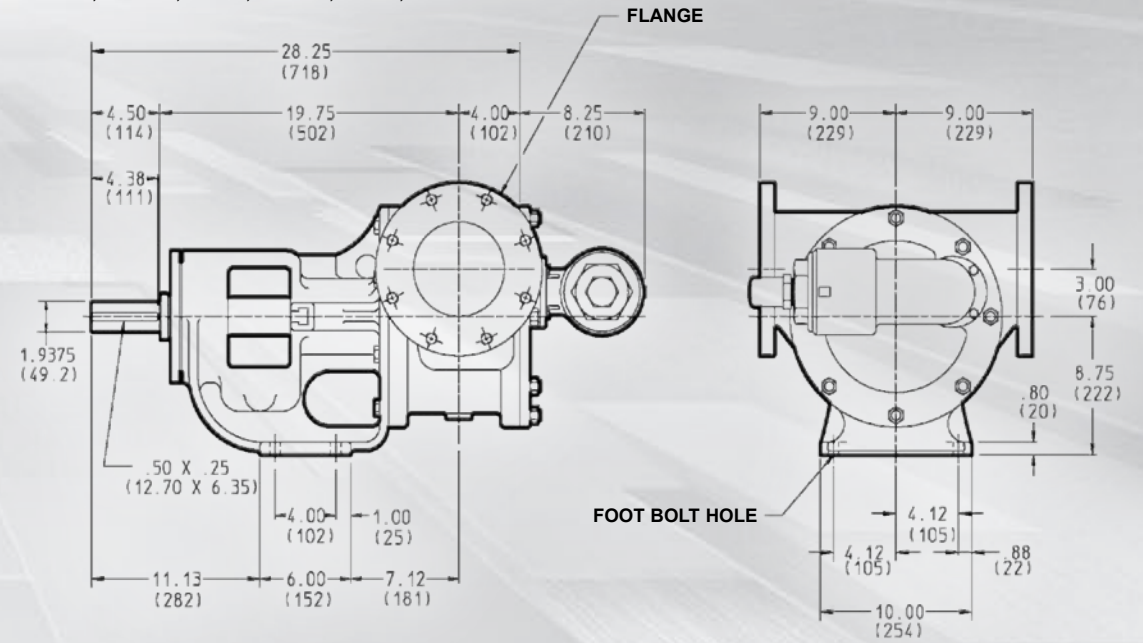
Model Number			P	R	S	T	U	V	W	X	Y	AA	BB	CC	DD	EE	FF	
Packed	Stuffing Box Seal	Behind the Rotor Seal																
H224A	H4224A	H4224B	in	0.62	4	12.06	1.62	0.75	.19 X .09	4.04	1.8	1.83	0.75	0.5	0.94	2.41	5.75	2.3
HL224A	HL4224A	HL4224B	mm	15.7	101.6	306.3	41.1	19	4.83 X 2.29	102.6	45.7	46.5	19	12.7	23.9	61.2	146	58.4
H223A	H4223A	N/A	in	0.62	4	12.06	1.62	0.75	.19 X .09	4.04	1.8	1.83	0.75	0.5	0.94	2.41	5.75	2.3
HL223A	HL4223A	N/A	mm	15.7	101.6	306.3	41.1	19	4.83 X .29	102.6	45.7	46.5	19	12.7	23.9	61.2	146	58.4
H227A	H4227A	N/A	in	0.62	5.75	16.38	2.25	1.12	.25 X .12	7	3.38	2.75	1.25	1.25	1.75	3.25	6.75	2.92
HL227A	HL4227A	N/A	mm	15.7	146	416	57.1	28.4	6.35 X 3.05	177.8	85.9	69.8	31.7	31.7	44.4	82.5	171.4	74.2
K224A	K4224A	K4224B	in	0.62	5.75	16.38	2.25	1.12	.25 X .12	7	3.38	2.75	1.25	1.25	1.75	3.25	6.75	2.92
KK224A	KK4224A	KK4224B	mm	15.7	146	416	57.1	28.4	6.35 X 3.05	177.8	85.9	69.8	31.7	31.7	44.4	82.5	171.4	74.2
K223A	K4223A	N/A	in	0.62	5.75	16.38	2.25	1.12	.25 X .12	7	3.38	2.75	1.25	1.25	1.75	3.25	6.75	2.92
KK223A	KK4223A	N/A	mm	15.7	146	416	57.1	28.4	6.35 X 3.05	177.8	85.9	69.8	31.7	31.7	44.4	82.5	171.4	74.2
K227A	K4227A	N/A	in	0.62	6.56	17.88	2.25	1.12	.25 X .12	7.18	4.62	3.25	1.25	1	3	3.81	6.75	2.93
KK227A	KK4227A	N/A	mm	15.7	166.6	454.2	57.1	28.4	6.35 X 3.05	182.4	117.3	82.5	31.7	25.4	76.2	96.8	171.4	74.4
L224A/AE	L4224A/AE	L4224B	in	0.62	6.56	17.88	2.25	1.12	.25 X .12	7.18	4.62	3.25	1.25	1	3	3.81	6.75	2.93
LQ224A/AE	LQ4224A/AE	LQ4224B	mm	15.7	166.6	454.2	57.1	28.4	6.35 X 3.05	182.4	117.3	82.5	31.7	25.4	76.2	96.8	171.4	74.4
LQ223A	LQ4223A	N/A	in	0.62	6.56	17.88	2.25	1.12	.25 X .12	7.18	4.62	3.25	1.25	1	3	3.81	6.75	2.93
LQ227A	LQ4227A	N/A	mm	15.7	166.6	454.2	57.1	28.4	6.35 X 3.05	182.4	117.3	82.5	31.7	25.4	76.2	96.8	171.4	74.4
LL224A/AE	LL4224A/AE	LL4224B	in	0.62	6.56	17.88	2.25	1.12	.25 X .12	7.18	4.62	3.25	1.25	1	3	4.31	6.75	2.93
LL223A	LL4223A	N/A	mm	15.7	166.6	454.2	57.1	28.4	6.35 X 3.05	182.4	117.3	82.5	31.7	25.4	76.2	109.5	171.4	74.4
LL227A	LL4227A	N/A	in	0.62	6.56	17.88	2.25	1.13	.25 X .12	7.18	4.62	3.25	1.25	1	3	4.31	6.75	2.93
LS224A	LS4224A	N/A	in	0.62	7	19.25	3.5	1.44	.38 X .19	7.72	4.4	3.3	1.25	1	3	4.5	7	4.03
LS223A	LS4223A	N/A	mm	15.7	177.8	488.9	88.9	36.58	9.65 X .83	196.1	111.8	83.8	31.7	25.4	76.2	114.3	177.8	102.4
LS227A	LS4227A	N/A	mm	15.7	177.8	488.9	88.9	36.58	9.65 X .83	196.1	111.8	83.8	31.7	25.4	76.2	114.3	177.8	102.4
Q224A	Q4224A	N/A	in	1	6.62	23.75	4.5	1.94	.50 X .25	11.25	5.5	4.5	1.5	1.25	---	4.57	8.38	5.35
Q223A	Q4223A	N/A	mm	25.4	168.1	603.2	114.3	49.3	12.70 X .35	285.7	139.7	114.3	38.1	31.7	---	116.1	212.8	135.9
Q227A	Q4227A	N/A	mm	25.4	168.1	603.2	114.3	49.3	12.70 X .35	285.7	139.7	114.3	38.1	31.7	---	116.1	212.8	135.9

- ⑤ Ports for steam or hot oil jacketing are inch standard NPT threads. Metric (mm) equivalents are for information only, and do not indicate a metric thread size.
- ⑥ "T" dimension show for Cast Iron sizes L, LQ and LL is for "A" models. Dimension for L, LQ and LL size 224AE, 4224AE and 4224B pumps is 2.35" (59.7 mm).
- ⑦ "U" dimension shown for Cast Iron sizes L, LQ and LL is for "A" models. "U" dimension for L, LQ and LL size 224AE, 4224AE and 4224B pumps is 1.44" (36.6 mm).
- ⑧ "V" dimension shown for Cast Iron sizes L, LQ and LL is for "A" models. "V" dimension for L, LQ and LL size 224AE, 4224AE and 4224B pumps is 0.38 X 0.19" (9.65 X 4.83 mm).
- ⑨ "BB" Dimension for Q223A and Q227A is 1" (25.4 mm).

# QS SIZE NON-JACKETED DIMENSIONS

NOTE: All Materials of Construction

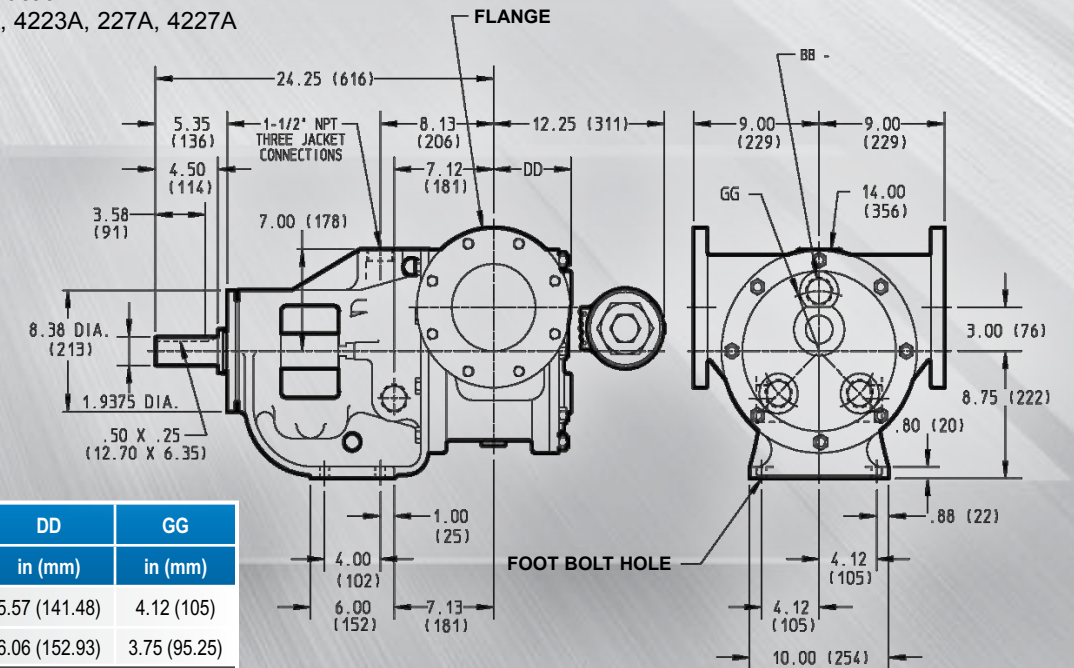
SERIES: 124A, 4124A, 123A, 4123A, 127A, 4127A



# QS SIZE JACKETED DIMENSIONS

NOTE: All Materials of Construction

SERIES: 224A, 4224A, 223A, 4223A, 227A, 4227A



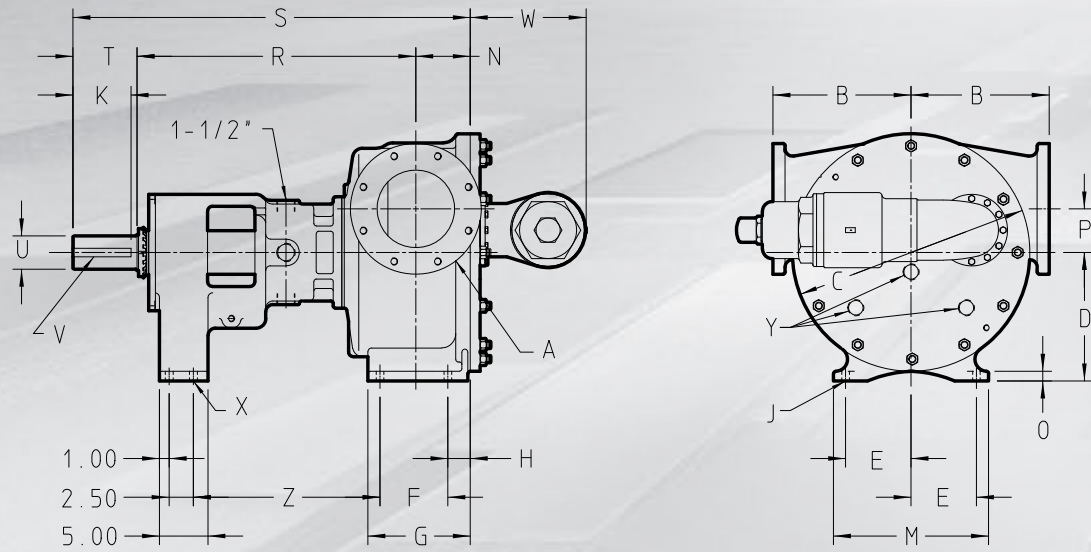
Model Number		BB*	DD	GG
Packed	Mechanical Seal	in (mm)	in (mm)	in (mm)
QS224A	QS4224A	1.25 (31.75)	5.57 (141.48)	4.12 (105)
QS223A	QS4223A	1 (25.4)	6.06 (152.93)	3.75 (95.25)
QS227A	QS4227A	1 (25.4)	6.06 (152.93)	3.75 (95.25)

\* Ports for steam or hot oil jacketing are inch standard NPT threads. Metric (mm) equivalents are for information only, and do not indicate a metric thread size.



# N, R & RS JACKETED DIMENSIONS

**NOTE:** All Materials of Construction  
**SERIES:** 324A, 4324A, 323A, 4323A, 327A, 4327A



Model Number		A (in)		B	C	D	E	F	G	H	J	K	M	N	O	P	R	S	T	U	V	W	X	Y	Z
Packed	Stuffing Box Seal																								
N324A	N4324A	⑥	in	9.75	17.25	9.50	5.00	6.25	8.69	1.62	0.69	4.50	12.00	4.50	1.00	3.00	26.00	36.50	6.00	2.44	.62 x .31	8.63	0.69	N/A	18.94
N323A	N4323A		mm	247.7	438.1	241.3	127.0	158.7	220.7	41.1	17.5	114.3	304.8	114.3	25.4	76.2	660.4	927.1	152.4	62.0	15.74 x 7.87	219.2	17.5	N/A	481.0
N327A	N4327A																								
R324A	R4324A	⑧	in	14.25	24.50	13.25	6.75	7.00	10.56	2.31	0.78	6.00	16.00	5.62	1.00	4.50	28.75	41.00	6.62	3.44	.88 x .44	12.00	0.69	1.25	19.25
R323A	R4323A		mm	361.9	622.3	336.5	171.4	177.8	268.2	58.7	19.8	152.4	406.4	142.7	25.4	114.3	730.2	1041	168.1	87.4	22.35 x 11.18	304.8	17.5	31.7	488.9
R327A	R4327A																								
RS324A	RS4324A	⑩	in	14.25	24.5	13.25	6.75	7.00	13.12	4.81	0.88	6.00	16.46	8.12	1.30	4.50	28.55	43.49	6.62	3.44	.88 x .44	12.00	0.88	1.25	19.25
RS323A	RS4323A		mm	361.9	622.30	336.5	171.4	177.8	333.24	122.17	22.35	152.4	418.08	206.24	33.02	114.3	725.17	1104.64	168.1	87.4	22.35 x 11.18	304.8	22.35	31.7	488.9
RS327A	RS4327A																								

**NOTE:** The N size is standard with a jacketed bracket and non-jacketed head and non-jacketed relief valve, while the "R" size is standard with a jacketed bracket, a jacketed head, and a non-jacketed relief valve. "RS" contact factory for jacketing options.

① Ports are suitable for use with Class 125 ANSI Cast Iron (324A/4324A) or Class 150 ANSI Steel or Stainless Steel companion flanges or flanged fittings (323A/4323A & 327A/4327A).

# TYPICAL PRODUCT CONFIGURATION

**NOTE:** Ports shown are not necessarily the standard configuration.



**H & HL** (H4124A shown)



**K & KK** (K123 shown)



**L** (L124A shown)



**LQ** (LQ4124A shown)



**LL** (LL4124A shown)



**LS** (LS124A shown)



**Q** (Q124A shown)



**QS** (QS4124A shown)



**N** (N4324A shown)



**R** (R324A shown)



**RS** (RS324A shown)



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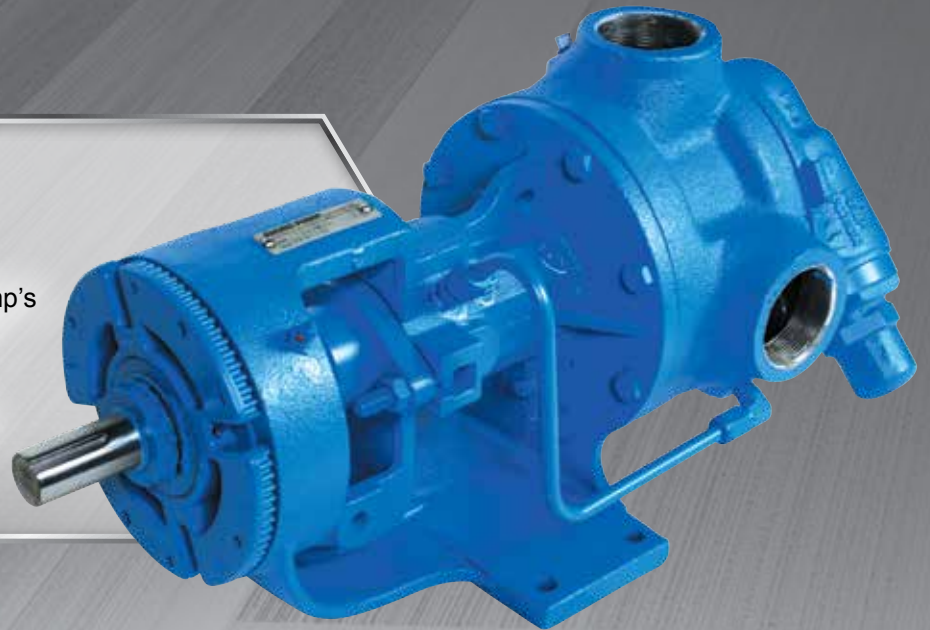


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