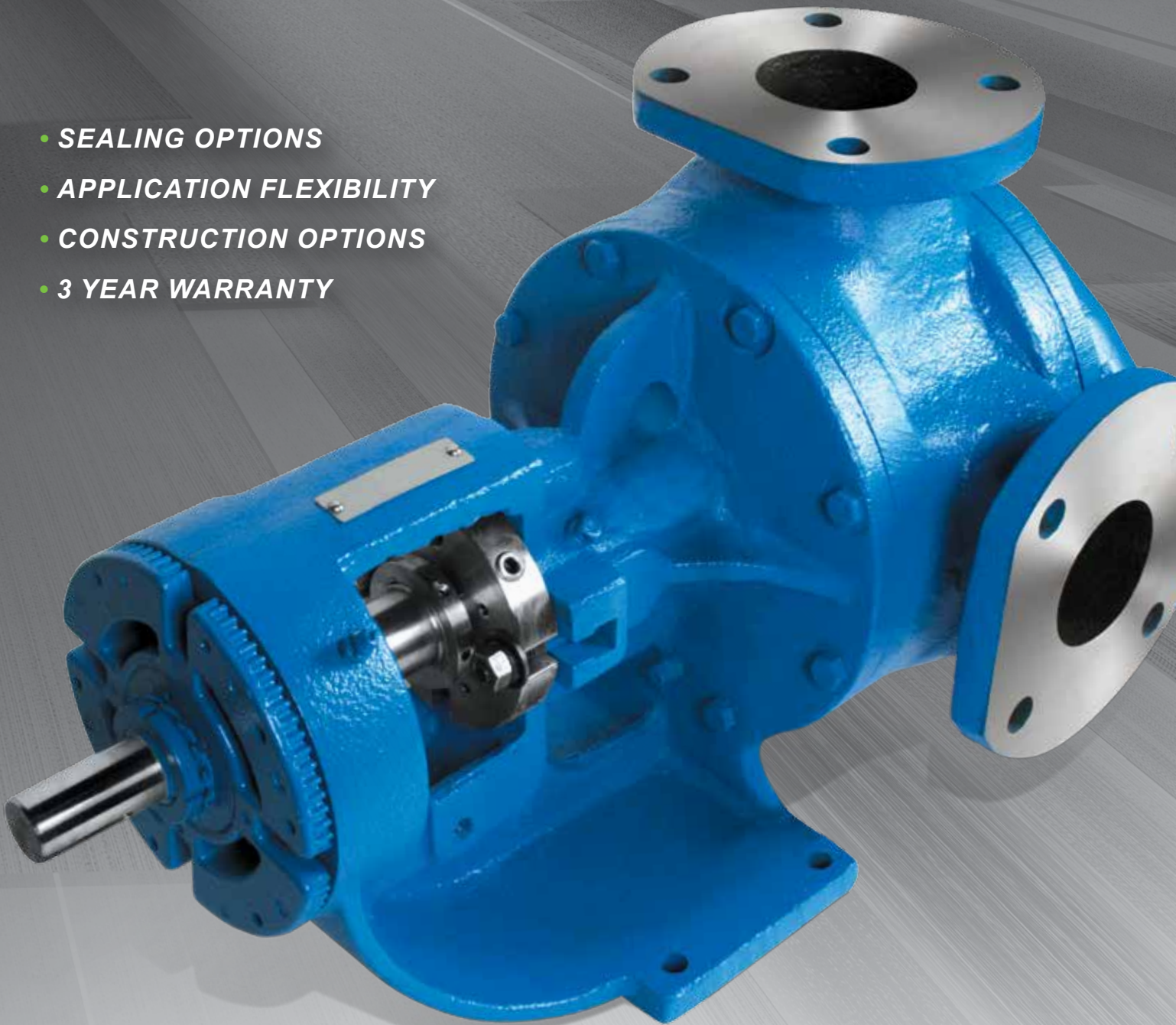


INTERNAL GEAR PUMP UNIVERSAL SEAL SERIES

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



Capacity
to 1,600 GPM (363 m³/h)



Pressure
to 200 PSI (14 BAR)



Viscosity
28 to 2,000,000 SSU (1 to 440,000 cSt)



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

VIKING PUMP
A Unit of IDEX Corporation

FEATURES & BENEFITS

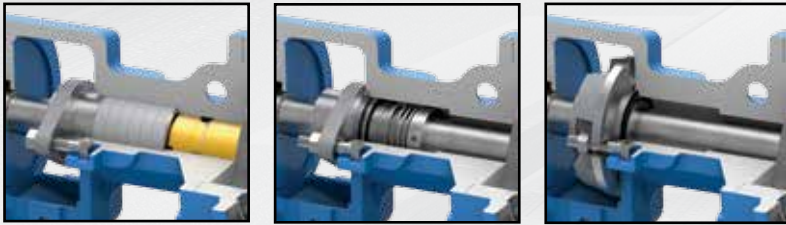
- **Materials of Construction Options:** Cast iron, ductile iron, steel, stainless steel. Allows broad temperature range and chemical compatibility.
- **Bi-Directional Design:** Reversible direction of flow eliminates cost of second pump, piping and valving for loading/unloading or line stripping.
- **Gentle Fluid Handling:** Low-shear, non-pulsating flow for shear-sensitive liquids.
- **Three Year Warranty:** For quality assurance.



Packing

Component Seal

Cartridge Seal



Large diameter threaded bearing housing allows easy removal of cartridge seals without removing the pump

Seal chamber accepts packing and a variety of component and cartridge style seals, in both single and double mechanical seal configurations, as well as cartridge triple lip seals

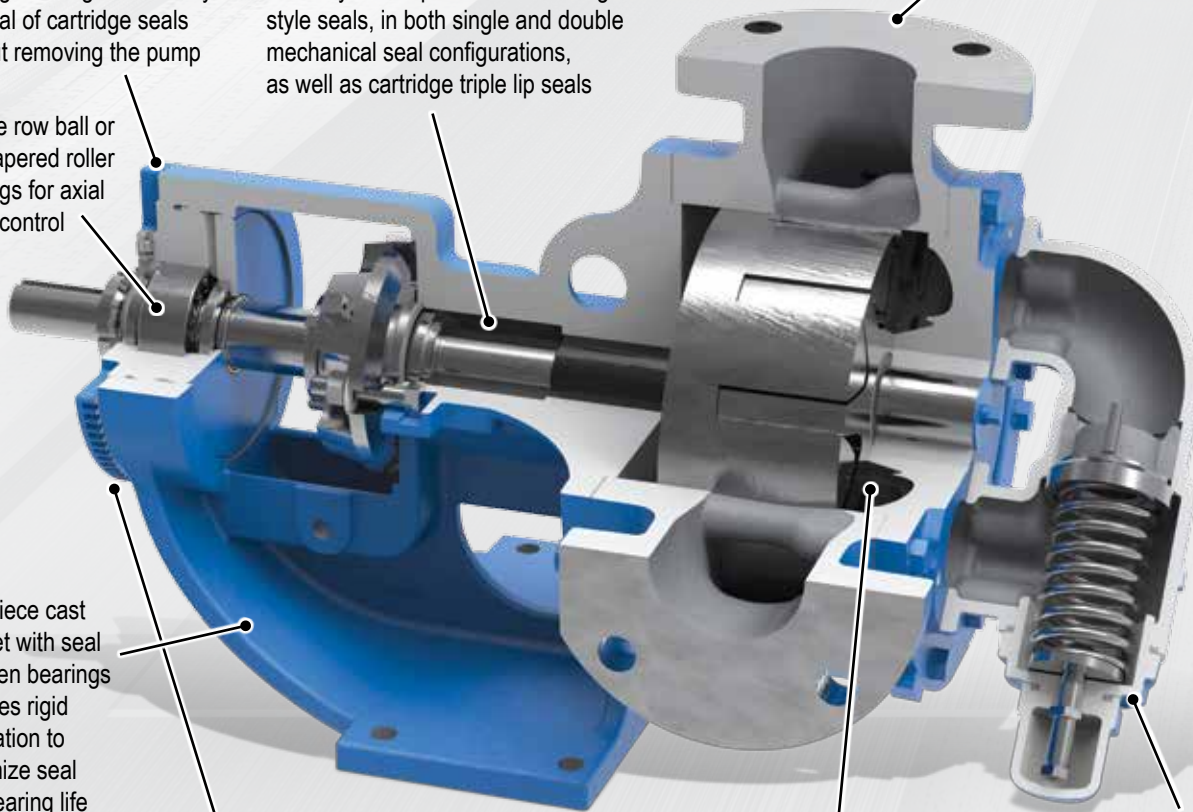
Multiple port sizes, types, and ratings are available

Double row ball or dual tapered roller bearings for axial thrust control

One-piece cast bracket with seal between bearings provides rigid foundation to maximize seal and bearing life

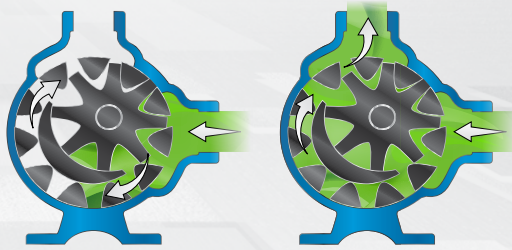
Rotor end clearance can be easily adjusted by rotating the threaded bearing housing to compensate for wear, higher temperatures or higher viscosities

Internal relief valve standard on non-jacketed pumps; jacketed relief valves optional

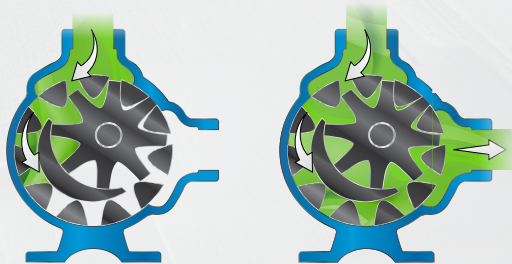


MARKETS & APPLICATIONS

Internal Gear Pump Principle:



*Clockwise Rotation
(viewed from shaft end)*



*Counter-Clockwise Rotation
(viewed from shaft end)*

Chemicals:

- Plastics / Resins / Rubbers
- Petrochemicals
- Adhesives & Sealants
- Isocyanates & Polyols
- Paints & Inks
- Soaps & Detergents
- Synthetic Dyes & Pigments
- Biodiesel & Ethanol
- Solvents
- Acids & Bases

Petroleum:

- Crude Oil
- Asphalt (Bitumen) & Pitch
- Lube Oil & Grease
- Refined Fuels

Food Processing:

- Edible Oils
- Chocolate & Confectionery
- Sugars & Sweeteners

Machinery:

- Rotating Equipment Lube
- Oil Filtration & Cooling
- Boiler / Burner Fueling
- Heat Transfer Fluids

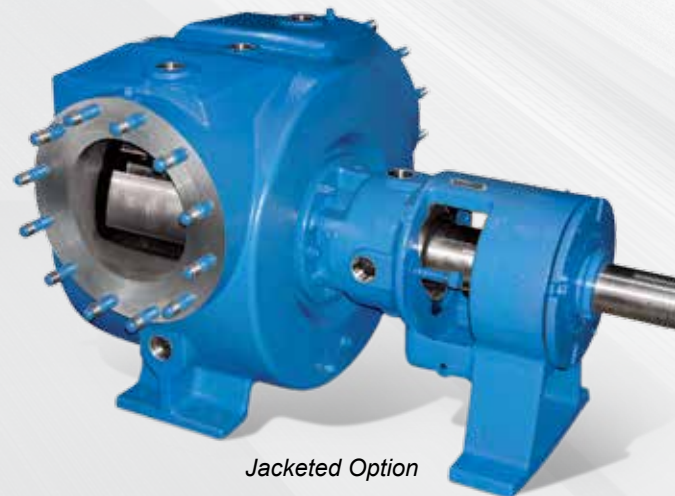
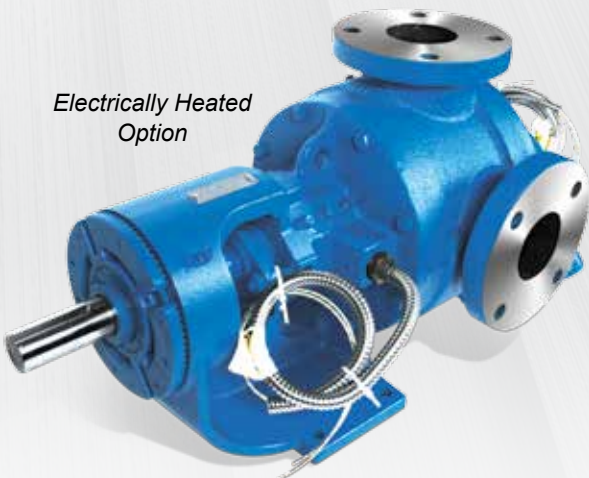
Other:

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

Jacketing Options:

- Large jacketing areas allow rapid heating and cooling capabilities for faster startup
- Jacketing options available for all critical areas of pump including bracket, casing, flanges, head and relief valve
- Standard jacketed pumps feature jacketed head and bracket, making them ideal for applications like asphalt or 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

*Electrically Heated
Option*



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 provides accurate control to minimize overshoot

UNIVERSAL SEAL CONSTRUCTION

Component		Cast Iron Pumps	Steel Externals Pumps	Stainless Steel Pumps
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	Stainless Steel, ASTM A 743, Grade CF8M Case Hardened
	Steel Fitted	④ Steel, ASTM A148, Grade 80-40	④ 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	Carbon Graphite
	Mechanical Seal	Carbon Graphite	Carbon Graphite	
Bracket Bushing	Packed	Bronze, ASTM B584 (B505), Alloy C93700	Bronze, ASTM B584 (B505), Alloy C93700	Carbon Graphite
	Mechanical Seal	Carbon Graphite	Carbon Graphite	
⑤ Internal Pressure Relief Valve		Cast Iron, ASTM A48, Class 35B	Steel, ASTM A216, Grade WCB	Stainless Steel, ASTM A 743, Grade CF8M

① AK, AL, KK, LS, QS, N and RS sizes have ductile iron rotor, ASTM A536 Grade 60-40-18.

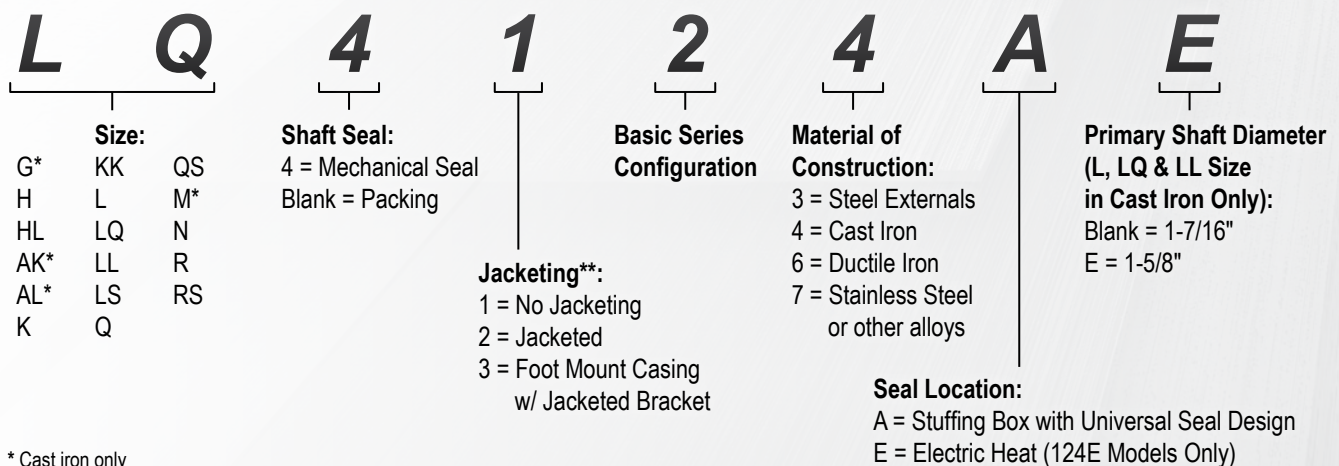
② Steel fitted Q and QS sizes have steel idler.

③ H and HL sizes have powdered metal idler, MPIF Std 35 FC-0208-50.

④ Material specification for HL steel rotor is AISI 8620, LS steel rotor is ASTM A148 80-50.

⑤ RS relief valve not available.

Model Number Key:



* Cast iron 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, casing 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

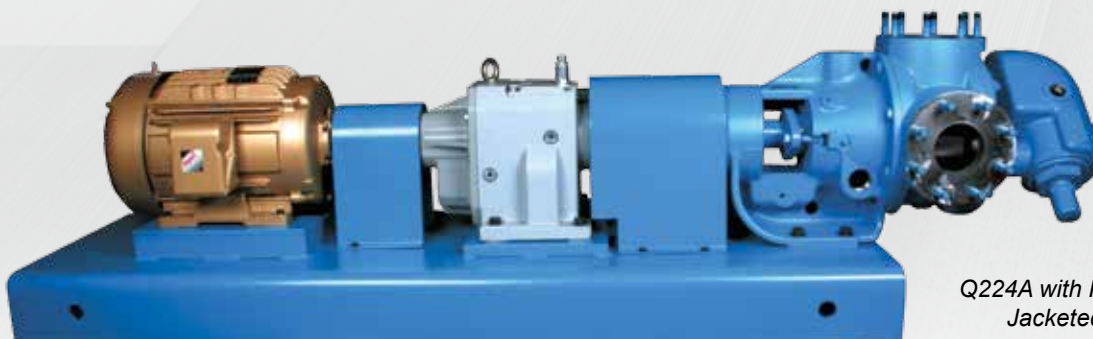
	Model Number		Standard Port Size	Nominal Capacity at Maximum Speed	Maximum Speed	Maximum Hydrostatic Pressure	Maximum Discharge Pressure for 100 SSU / 22 cSt Liquid at Rated Speed	Maximum Recommended Temp. for Standard Pump °F (°C)		Steel Fitted Recommended Above	Approximate Shipping Weight with Valve
	Packed	Stuffing Box Seal	Inches	GPM (m³/h)	RPM	PSI (BAR)	PSI (BAR)	Packed	Mech. Seal	SSU (cSt)	Pounds (KG)
STEEL EXTERNALS	H123A	H4123A	1.5	15 (2.8)	1750	400 (28)	200 (14)	450 (232)	225 (107)	25,000 (5,500)	43 (20)
	HL123A	HL4123A	1.5	30 (5.6)	1750	400 (28)	200 (14)	450 (232)	225 (107)	7,500 (1,650)	45 (20)
	K123A	K4123A	2	75 (17)	780	400 (28)	200 (14)	450 (232)	225 (107)	25,000 (5,500)	120 (54)
	KK123A	KK4123A	2	100 (23)	780	400 (28)	200 (14)	450 (232)	225 (107)	25,000 (5,500)	125 (57)
	LQ123A	LQ4123A	2.5	135 (31)	640	400 (28)	200 (14)	450 (232)	225 (107)	25,000 (5,500)	185 (84)
	LL123A	LL4123A	3	140 (32)	520	400 (28)	200 (14)	450 (232)	225 (107)	2,500 (550)	195 (89)
	LS123A	LS4123A	3	200 (45)	640	400 (28)	150 (10)	450 (232)	225 (107)	75,000 (16,500)	200 (91)
	Q123A	Q4123A	4	300 (68)	520	400 (28)	150 (10)	450 (232)	225 (107)	7,500 (1,650)	450 (204)
	QS123A	QS4123A	6	500 (114)	520	400 (28)	150 (10)	450 (232)	225 (107)	75,000 (16,500)	550 (250)
	N323A	N4323A	6	600 (136)	350	400 (28)	150 (10)	450 (232)	225 (107)	75,000 (16,500)	810 (367)
	R323A	R4323A	8	1,100 (250)	280	400 (28)	150 (10)	450 (232)	225 (107)	25,000 (5,500)	1,435 (651)
	RS323A	RS4323A	10	1,600 (364)	280	400 (28)	125 (9)	450 (232)	225 (107)	75,000 (16,500)	2,500 (1,134)
CAST IRON	G124A	G4124A	① 1	8 (1.8)	1750	400 (28)	200 (14)	450 (232)	225 (107)	7,500 (1,650)	25 (11)
	H124A	H4124A	① 1.5	15 (2.8)	1750	400 (28)	200 (14)	450 (232)	225 (107)	25,000 (5,500)	38 (17)
	HL124A	HL4124A	① 1.5	30 (5.6)	1750	400 (28)	200 (14)	450 (232)	225 (107)	7,500 (1,650)	40 (18)
	AK124A	AK4124A	① 2	67 (15)	1450	400 (28)	200 (14)	450 (232)	225 (107)	25,000 (5,500)	82 (37)
	AL124A	AL4124A	① 2	90 (20)	1450	400 (28)	200 (14)	450 (232)	225 (107)	25,000 (5,500)	85 (39)
	K124A	K4124A	① 2	75 (17)	780	400 (28)	200 (14)	450 (232)	225 (107)	25,000 (5,500)	105 (48)
	KK124A	KK4124A	① 2	100 (23)	780	400 (28)	200 (14)	450 (232)	225 (107)	25,000 (5,500)	110 (50)
	L124A/AE	L4124A/AE	① 2	135 (31)	640	400 (28)	200 (14)	450 (232)	225 (107)	25,000 (5,500)	155 (70)
	LQ124A/AE	LQ4124A/AE	② 2.5	135 (31)	640	400 (28)	200 (14)	450 (232)	225 (107)	25,000 (5,500)	175 (80)
	LL124A/AE	LL4124A/AE	② 3	140 (32)	520	400 (28)	200 (14)	450 (232)	225 (107)	2,500 (550)	185 (84)
	LS124A	LS4124A	② 3	200 (45)	640	400 (28)	150 (10)	450 (232)	225 (107)	75,000 (16,500)	190 (86)
	Q124A	Q4124A	② 4	300 (68)	520	400 (28)	150 (10)	450 (232)	225 (107)	7,500 (1,650)	440 (200)
	QS-124A	QS4124A	② 6	500 (114)	520	400 (28)	150 (10)	450 (232)	225 (107)	75,000 (16,500)	540 (245)
	M124A	M4124A	② 4	420 (95)	420	400 (28)	200 (14)	450 (232)	225 (107)	25,000 (5,500)	600 (272)
	N324A	N4324A	② 6	600 (136)	350	400 (28)	150 (10)	450 (232)	225 (107)	75,000 (16,500)	810 (367)
	R324A	R4324A	② 8	1,100 (250)	280	400 (28)	150 (10)	450 (232)	225 (107)	25,000 (5,500)	1,435 (651)
RS324A	RS4324A	② 10	1,600 (364)	280	400 (28)	125 (9)	450 (232)	225 (107)	75,000 (16,500)	2,000 (907)	
DUCTILE IRON	H126A	H4126A	① 1.5	15 (2.8)	1750	400 (28)	200 (14)	450 (232)	225 (107)	25,000 (5,500)	38 (17)
	HL126A	HL4126A	① 1.5	30 (5.6)	1750	400 (28)	200 (14)	450 (232)	225 (107)	7,500 (1,650)	40 (18)
	K126A	K4126A	① 2	75 (17)	780	400 (28)	200 (14)	450 (232)	225 (107)	25,000 (5,500)	105 (48)
	KK126A	KK4126A	① 2	100 (23)	780	400 (28)	200 (14)	450 (232)	225 (107)	25,000 (5,500)	110 (50)
	L126A	L4126A	① 2	135 (31)	640	400 (28)	200 (14)	450 (232)	225 (107)	25,000 (5,500)	155 (70)
	LQ126A	LQ4126A	2.5	135 (31)	640	400 (28)	200 (14)	450 (232)	225 (107)	25,000 (5,500)	175 (80)
	LL126A	LL4126A	3	140 (32)	520	400 (28)	200 (14)	450 (232)	225 (107)	2,500 (550)	185 (84)
	LS126A	LS4126A	3	200 (45)	640	400 (28)	150 (10)	450 (232)	225 (107)	75,000 (16,500)	190 (86)
	Q126A	Q4126A	4	300 (68)	520	400 (28)	150 (10)	450 (232)	225 (107)	7,500 (1,650)	440 (200)
	QS126A	QS4126A	6	500 (114)	520	400 (28)	150 (10)	450 (232)	225 (107)	75,000 (16,500)	540 (245)
STAINLESS STEEL	H127A	H4127A	1.5	10 (1.9)	1150	400 (28)	100 (7)	375 (191)	375 (191)	N/A	48 (22)
	HL127A	HL4127A	1.5	20 (3.7)	1150	400 (28)	100 (7)	375 (191)	375 (191)	N/A	50 (23)
	K127A	K4127A	2	45 (10)	520	400 (28)	100 (7)	350 (177)	350 (177)	N/A	125 (57)
	KK127A	KK4127A	2	65 (15)	520	400 (28)	100 (7)	350 (177)	350 (177)	N/A	130 (59)
	LQ127A	LQ4127A	2.5	90 (20)	420	400 (28)	100 (7)	350 (177)	350 (177)	N/A	205 (93)
	LL127A	LL4127A	3	110 (25)	420	400 (28)	100 (7)	350 (177)	350 (177)	N/A	240 (109)
	LS127A	LS4127A	3	160 (36)	520	400 (28)	100 (7)	325 (163)	325 (163)	N/A	220 (100)
	Q127A	Q4127A	4	200 (45)	350	400 (28)	100 (7)	250 (121)	250 (121)	N/A	460 (209)
	QS127A	QS4127A	6	320 (73)	350	400 (28)	100 (7)	250 (121)	250 (121)	N/A	560 (254)
	N327A	N4327A	6	600 (136)	350	400 (28)	125 (9)	175 (79)	175 (79)	N/A	810 (367)
	R327A	R4327A	8	1,100 (250)	280	400 (28)	125 (9)	175 (79)	175 (79)	N/A	1,435 (651)
	RS327A	RS4327A	10	1,600 (364)	280	400 (28)	100 (7)	175 (79)	175 (79)	N/A	2,500 (1,134)

① NPT ports. ② Flanged ports. Note: Higher pressures possible with reduced speeds and factory approval. Higher temperatures available with special construction.

JACKETED PUMP SPECIFICATIONS

	Model Number		Standard Port Size	Nominal Capacity at Maximum Speed	Maximum Speed	Maximum Hydrostatic Pressure	Maximum Discharge Pressure for 100 SSU / 22 cSt Liquid at Rated Speed	Maximum Recommended Temp. for Standard Pump °F (°C)		Steel Fitted Recommended Above	Approximate Shipping Weight with Valve
	Packed	Stuffing Box Seal	Inches	GPM (m³/h)	RPM	PSI (BAR)	PSI (BAR)	Packed	Mech. Seal	SSU (cSt)	Pounds (KG)
STEEL EXTERNALS	H223A	H4223A	1 ½	15 (3.4)	1750	400 (28)	200 (14)	450 (232)	450 (232)	25,000 (5,500)	42 (19)
	HL223A	HL4223A	1 ½	30 (6.8)	1750	400 (28)	200 (14)	450 (232)	450 (232)	7,500 (1,650)	45 (20)
	K223A	K4223A	2	80 (18)	780	400 (28)	200 (14)	450 (232)	450 (232)	25,000 (5,500)	120 (54)
	KK223A	KK4223A	2	100 (23)	780	400 (28)	200 (14)	450 (232)	450 (232)	25,000 (5,500)	125 (57)
	LQ223A	LQ4223A	2 ½	135 (31)	640	400 (28)	200 (14)	450 (232)	450 (232)	25,000 (5,500)	190 (86)
	LL223A	LL4223A	3	140 (32)	520	400 (28)	200 (14)	450 (232)	450 (232)	2,500 (550)	210 (95)
	LS223A	LS4223A	3	200 (45)	640	400 (28)	200 (14)	450 (232)	450 (232)	75,000 (16,500)	210 (95)
	Q223A	Q4223A	4	300 (68)	520	400 (28)	200 (14)	450 (232)	450 (232)	7,500 (1,650)	490 (222)
	QS223A	QS4223A	6	500 (114)	520	400 (28)	200 (14)	450 (232)	450 (232)	75,000 (16,500)	590 (268)
	N323A	N4323A	6	600 (136)	350	400 (28)	200 (14)	225 (107)	225 (107)	75,000 (16,500)	810 (367)
	R323A	R4323A	8	1,100 (250)	280	400 (28)	200 (14)	225 (107)	225 (107)	25,000 (5,500)	1,435 (651)
	RS323A	RS4323A	10	1,600 (364)	280	400 (28)	125 (9)	225 (107)	225 (107)	75,000 (16,500)	2,500 (1,134)
	CAST IRON	H224A	H4224A	① 1 ½	15 (3.4)	1750	400 (28)	200 (14)	450 (232)	450 (232)	25,000 (5,500)
HL224A		HL4224A	① 1 ½	30 (6.8)	1750	400 (28)	200 (14)	450 (232)	450 (232)	7,500 (1,650)	45 (20)
K224A		K4224A	① 2	80 (18)	780	400 (28)	200 (14)	450 (232)	450 (232)	25,000 (5,500)	120 (54)
KK224A		KK4224A	① 2	100 (23)	780	400 (28)	200 (14)	450 (232)	450 (232)	25,000 (5,500)	125 (57)
L224A/AE		L4224A/AE	① 2	135 (31)	640	400 (28)	200 (14)	450 (232)	450 (232)	25,000 (5,500)	175 (79)
LQ224A/AE		LQ4224A/AE	② 2 ½	135 (31)	640	400 (28)	200 (14)	450 (232)	450 (232)	25,000 (5,500)	190 (86)
LL224A/AE		LL4224A/AE	② 3	140 (32)	520	400 (28)	200 (14)	450 (232)	450 (232)	2,500 (550)	200 (91)
LS224A		LS4224A	② 3	200 (45)	640	400 (28)	200 (14)	450 (232)	450 (232)	75,000 (16,500)	210 (95)
Q224A		Q4224A	② 4	300 (68)	520	400 (28)	200 (14)	450 (232)	450 (232)	7,500 (1,650)	480 (218)
QS224A		QS4224A	② 6	500 (114)	520	400 (28)	200 (14)	450 (232)	450 (232)	75,000 (16,500)	580 (265)
M224A		M4224A	② 4	420 (95)	420	400 (28)	200 (14)	450 (232)	225 (107)	25,000 (5,500)	600 (272)
N324A		N4324A	② 6	600 (136)	350	400 (28)	200 (14)	225 (107)	225 (107)	75,000 (16,500)	810 (367)
R324A		R4324A	② 8	1,100 (250)	280	400 (28)	200 (14)	225 (107)	225 (107)	25,000 (5,500)	1,435 (651)
RS324A	RS4324A	② 10	1,600 (364)	280	400 (28)	125 (9)	225 (107)	225 (107)	75,000 (16,500)	2,000 (907)	
STAINLESS STEEL	H227A	H4227A	1 ½	10 (2.3)	1150	400 (28)	150 (10)	375 (191)	375 (191)	N/A	47 (21)
	HL227A	HL4227A	1 ½	20 (4.5)	1150	400 (28)	150 (10)	375 (191)	375 (191)	N/A	52 (24)
	K227A	K4227A	2	50 (11)	520	400 (28)	150 (10)	350 (177)	350 (177)	N/A	125 (57)
	KK227A	KK4227A	2	65 (15)	520	400 (28)	150 (10)	350 (177)	350 (177)	N/A	130 (59)
	LQ227A	LQ4227A	2 ½	90 (20)	420	400 (28)	150 (10)	350 (177)	350 (177)	N/A	210 (95)
	LL227A	LL4227A	3	110 (25)	420	400 (28)	150 (10)	350 (177)	350 (177)	N/A	255 (116)
	LS227A	LS4227A	3	160 (36)	520	400 (28)	125 (9)	325 (163)	325 (163)	N/A	230 (104)
	Q227A	Q4227A	4	200 (45)	350	400 (28)	125 (9)	250 (121)	250 (121)	N/A	500 (227)
	QS227A	QS4227A	6	320 (73)	350	400 (28)	125 (9)	250 (121)	250 (121)	N/A	600 (272)
	N327A	N4327A	6	600 (136)	350	400 (28)	200 (14)	175 (79)	175 (79)	N/A	810 (367)
	R327A	R4327A	8	1,100 (250)	280	400 (28)	175 (12)	175 (79)	175 (79)	N/A	1,435 (651)
	RS327A	RS4327A	10	1,600 (364)	280	400 (28)	125 (9)	175 (79)	175 (79)	N/A	2,500 (1,134)

① NPT ports. ② Flanged ports. Note: Higher pressures possible with reduced speeds and factory approval. Higher temperatures available with special construction.



Q224A with P Drive & Optional Jacketed Relief Valve

TYPICAL PRODUCT CONFIGURATION

NOTE: Models shown are not necessarily the standard configuration.



G (G4124A Shown)



H & HL (H4124A Shown)



AK & AL (AK4124A Shown)



K & KK (K123 Shown)



L (L124A Shown)



LQ (LQ4124A Shown)



LL (LL4126A Shown)



LS (LS124A Shown)



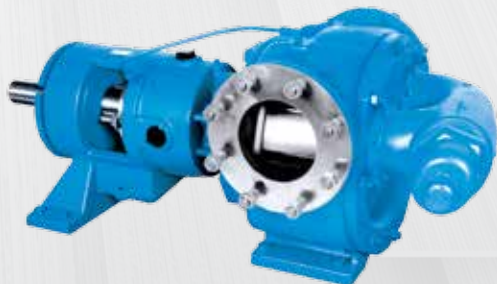
Q (Q124A Shown)



QS (QS4124A Shown)



M (M4124A Shown)



N (N4324A Shown)



R (R324A Shown)



RS (RS4327A Shown)

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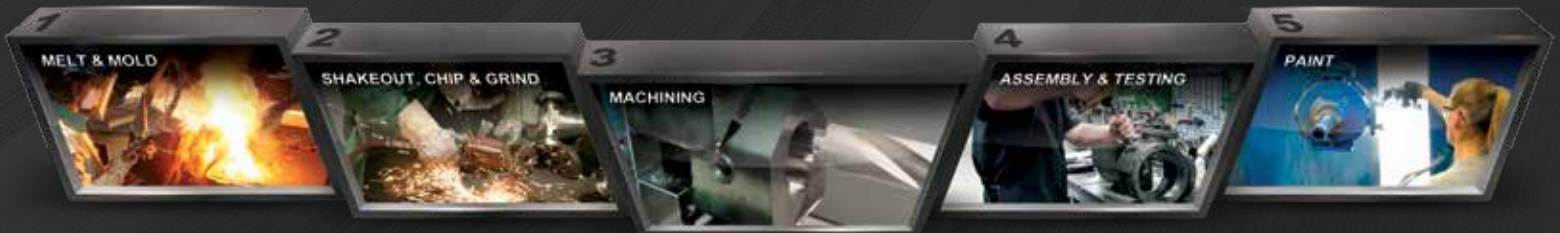
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