

LIQUID-SPECIFIC PRODUCT LINE: CAST IRON ABRASIVE LIQUID PUMPS

4624B Series™, 4624C Series™

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RELATED PRODUCTS

Cast Iron, 4124C Series™: Catalog Section 2401

Cast Iron, 4224C Series™: Catalog Section 2402

SERIES DESCRIPTION

The 4624B Series™ & 4624C Series™ internal gear pumps have been fitted constructed with hardened parts in key wear areas making them a reliable pumping solution in abrasive applications. These pumps are a great choice for liquids with concentrations of small but hard particles, such as paints, inks and pigments; filled polyols and resins; and waste oils.

4624B Series™

Our smallest abrasive liquid pumps, available in sizes F & FH. Small, but mighty, these pumps offer a maximum flow rate of 1.5 GPM and include all of the hardened features of the larger sized 4624C sister series.

4624C Series™

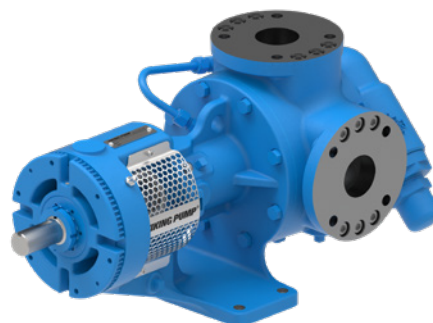
The 4624C Series features the U-Plus™ bracket. They can be paired with the ProPort™ Casing, which offers a variety port sizes and ratings. The ProPort™ Casing is available in both 90 degree and opposite port configurations. This series includes Viking's sizes H through QS, with flow rates up to 182 GPM.

The 4624C Series™ replaced the old H through QS sized 4624B Series™ pumps. They are dimensionally interchangeable with their legacy equivalents.

Jacketing is available by ordering a 4224C Series™ pump with the same abrasive features included in the 4624C Series™. Please reference Catalog Section 2402.



K4624B with Integral Port Casing



K4624B with ProPort™ Casing

OPERATING RANGE

SERIES	NOMINAL FLOW		MAXIMUM PRESSURE		TEMPERATURE RANGE		VISCOSITY RANGE*	
	GPM	m³h	PSI	Bar	°F	°C	SSU	cSt
4624B Series™	.75-1.5	.17-.34	100	7	0 to +250	-15 to +120	38 to 25,000	3.5 to 5,500
4624C Series™	5-182	1.1-41	150	10	0 to +300	-15 to +150	38 to 250,000	3.5 to 55,000

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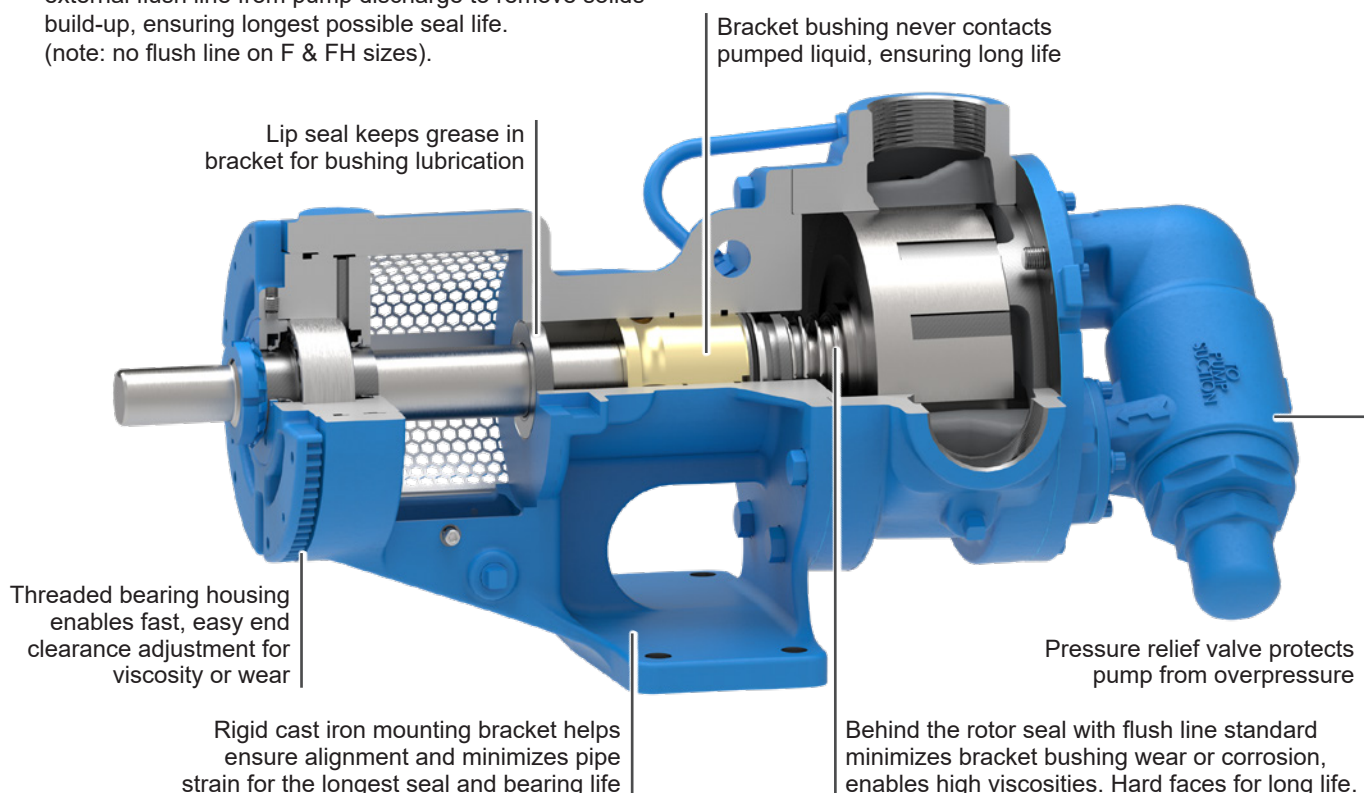
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FEATURES & BENEFITS

• Optional ProPort™ Casing (4624C Series™):

- » Adaptable port design offers a variety of port sizes and types, enabling flexibility when connecting pumps to piping
- » H-Q sizes available with optional opposite porting
- » Casing drain allows the pump to be drained without removing the head
- » Optional O-ring joint seals for high pressure or difficult to seal applications
- » Internal circulation promotes flow behind the rotor
- U-Plus™ Bracket comes standard with stainless steel window guards that offer protection from rotating parts (4624C Series™ only).
- Footed one-piece iron bracket provides rigid mounting to help maintain alignment, which extends seal and bearing life
- The grease-filled bracket helps to prevent air and moisture from reaching the seal faces, which helps limit crystallization of some air or water-reactive liquids.
- Ultra-hard tungsten carbide idler pin and tungsten carbide idler bushing minimize wear in this key area, since a constant supply of abrasive material is flowing through the pumping elements.
- Behind-the-rotor pinned-seat mechanical seal with hard silicon carbide vs. silicon carbide seal faces, featuring external flush line from pump discharge to remove solids build-up, ensuring longest possible seal life.
(note: no flush line on F & FH sizes).

- The grease-lubricated bracket bushing is not contacted by the pumped liquid, for long life. The pump is re-greasable, with a lip seal at the stuffing box to retain grease and a relief fitting to prevent over-greasing.
- Limiting pressure ratings helps extend pump life on abrasives, by increasing film thickness between rotating parts and reduces the loads or forces within the pump.
- Limited speeds help ensure longest life by reducing fluid velocity, which reduces abrasion.
- All pumped liquid is contained in the casing area, which enables superior flushing to clean the casing.
- Positive Displacement Internal Gear pumping principle handles a broad range of viscosities with constant flow rate.
- Footed cast iron bracket provides rigid mounting to help maintain alignment, which extends seal and bearing life.
- Axial rotor thrust is controlled by double row ball or tapered roller bearings mounted in the rotatable bearing housing, which enables fast, easy end clearance adjustment.
- Can use direct drive, gear reducer or gearmotor drive, or belt-drive.
- Pressure relief valve is standard.



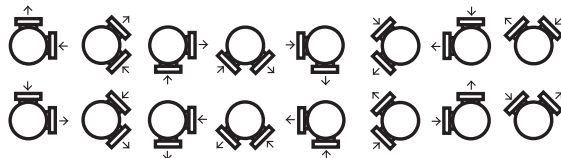
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PORT LOCATION OPTIONS

90° port options:

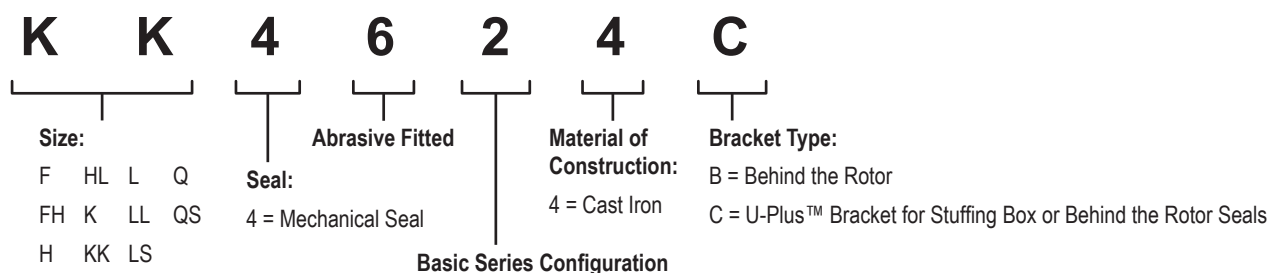


Opposite port options:



NOTE: See page 2461.5 for a complete list of port options for ProPort™ casing by size (4624C Series™ only).

MODEL NUMBER KEY



STANDARD MATERIALS OF CONSTRUCTION

Component	Standard Material	
Casing	Standard	Cast Iron, ASTM A48, Class 35B
	Optional ProPort™ Casing	Cast Iron, ASTM A48, Class 35B
Bolt-on Ports	Cast Iron, ASTM A48, Class 35B	
Head	Cast Iron, ASTM A48, Class 35B	
Bracket	Cast Iron, ASTM A48, Class 35B	
Pressure Relief Valve	Cast Iron, ASTM A48, Class 35B	
Idler	Standard	① Cast Iron, ASTM A48, Class 35B
	Steel Fitted	② Cast Iron, ASTM A48, Class 35B
Rotor	Standard	③ Cast Iron, ASTM A48, Class 35B
	Steel Fitted	Steel, ASTM A216, Grade WCB
Rotor Shaft	ASTM A434 Type 4140 Grade BC or equivalent	
Idler Pin	④ Tungsten Carbide	
Idler Bushing	④ Tungsten Carbide	
Bracket Bushing (no product contact)	Bronze, ASTM B584 (B505), Alloy C93700	
Standard Mechanical Seal	Silicon Carbide vs. Silicon Carbide Faces	
Seal Elastomers	FKM Standard, FFKM Optional	

① H & HL sizes have a powdered metal idler, MPlF 35, FC-0208-45.

② Q & QS sizes have a steel idler when steel rotor is used.

③ KK, LS & QS sizes have ductile iron rotor.

④ Tungsten carbide idler pins for all sizes except Q & QS, which have a tungsten carbide sleeve over a steel pin.

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SPECIFICATIONS (U.S. UNITS)

Model Number	Port Size	① Port Type	Nominal Pump Rating (100 SSU & below)		Maximum Hydrostatic Pressure	② Maximum Discharge Pressure at Nominal Rated Speeds (PSIG)			③ Maximum Recommended Temperature for Standard Pump	Steel Fitted Recommended Above	Approximate Shipping Weight with Valve
	Inches		GPM	RPM	PSIG	38-100 SSU	100-750 SSU	>750 SSU	°F	SSU	Pounds
F4624B	0.5	NPT	0.75	870	400	50	100	100	250	-	5
FH4624B	0.5	NPT	1.5	870	400	50	100	100	250	-	6
H4624C	1.5	NPT	5	640	400	50	100	150	300	25,000	39
HL4624C	1.5	NPT	10	640	400	50	100	150	300	7,500	39
K4624C	2	NPT	25	280	400	50	100	150	300	25,000	108
KK4624C	2	NPT	35	280	400	50	100	150	300	75,000	108
L4624C	2	NPT	50	230	400	50	100	150	300	25,000	171
LL4624C	3	Flange	65	230	300	50	100	150	300	2,500	196
LS4624C	3	Flange	72	230	300	50	100	150	300	75,000	225
Q4624C	3	Flange	110	190	250	50	100	125	300	7,500	451
QS4624C	6	Flange	182	190	250	50	100	125	300	75,000	495

SPECIFICATIONS (METRIC UNITS)

Model Number	Port Size	① Port Type	Nominal Pump Rating (100 SSU & below)		Maximum Hydrostatic Pressure	② Maximum Discharge Pressure at Nominal Rated Speeds (PSIG)			③ Maximum Recommended Temperature for Standard Pump	Steel Fitted Recommended Above	Approximate Shipping Weight with Valve
	Inches		m³/h	RPM	BAR	1-20 cSt	20-180 cSt	>180 cSt	°C	cSt	KG
F4624B	0.5	NPT	0.17	870	28	3.5	7	7	120	-	2.3
FH4624B	0.5	NPT	0.34	870	28	3.5	7	7	120	-	2.7
H4624C	1.5	NPT	1.1	640	28	3.5	7	10	150	5,500	18
HL4624C	1.5	NPT	2.2	640	28	3.5	7	10	150	1,650	18
K4624C	2	NPT	5.6	280	28	3.5	7	10	150	5,500	49
KK4624C	2	NPT	8	280	28	3.5	7	10	150	16,500	49
L4624C	2	NPT	11	230	28	3.5	7	10	150	5,500	78
LL4624C	3	Flange	15	230	21	3.5	7	10	150	550	89
LS4624C	3	Flange	16	230	21	3.5	7	10	150	16,500	102
Q4624C	3	Flange	25	190	17	3.5	7	8.5	150	1,650	205
QS4624C	6	Flange	41	190	17	3.5	7	8.5	150	16,500	225

① Flange ports are suitable for use with Class 125 ANSI cast iron companion flanges or flanged fittings. F & FH ports are upright (both on top), H-Q ports are at 90°, QS ports are at 180° (opposite). H-Q sizes available with optional opposite port casing.

② If suction pressure exceeds 50 PSIG, consult factory. Higher pressures possible with factory approval based on application details.

③ Extra clearances are required above 225°F / 107°C. Higher temperatures can be handled with special construction. Consult factory.

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PORT OPTIONS FOR PROPORT™ CASING (4624C SERIES™ ONLY)

Port Options	Pump Sizes								
	H	HL	K	KK	L	LL	LS	Q	QS
1.5" NPT	✓ **	✓ **							
2" NPT			✓	✓	✓				
1.5" Class 125 ①	✓	✓							
1.5" Class 250 ②	✓	✓							
2" Class 125 ①	✓	✓	✓	✓					
2" Class 250 ②	✓	✓	✓	✓					
2.5" Class 125 ①					✓				
2.5" Class 250 ②					✓				
3" Class 125 ①			✓	✓	✓	✓	✓		
3" Class 250 ②			✓	✓	✓	✓	✓		
4" Class 125 ①			✓	✓	✓	✓	✓	✓ ③	
4" Class 250 ②					✓	✓	✓	✓ ③	
6" Class 125 ①								✓ ④	✓
6" Class 250 ②								✓ ④	✓
DIN 32 PN16 *	✓	✓							
DIN 40 PN16 *	✓	✓							
DIN 50 PN16 *	✓	✓	✓	✓					
DIN 65 PN16 *			✓	✓	✓	✓			
DIN 80 PN16 *			✓	✓	✓	✓	✓		
DIN 100 PN16 *					✓	✓	✓	✓	✓
DIN 150 PN16 *								✓	✓

✓ = Available Port Option

① = Ports are suitable for use with Class 125 cast iron and Class 150 steel or stainless steel companion flanges or flanged fittings.

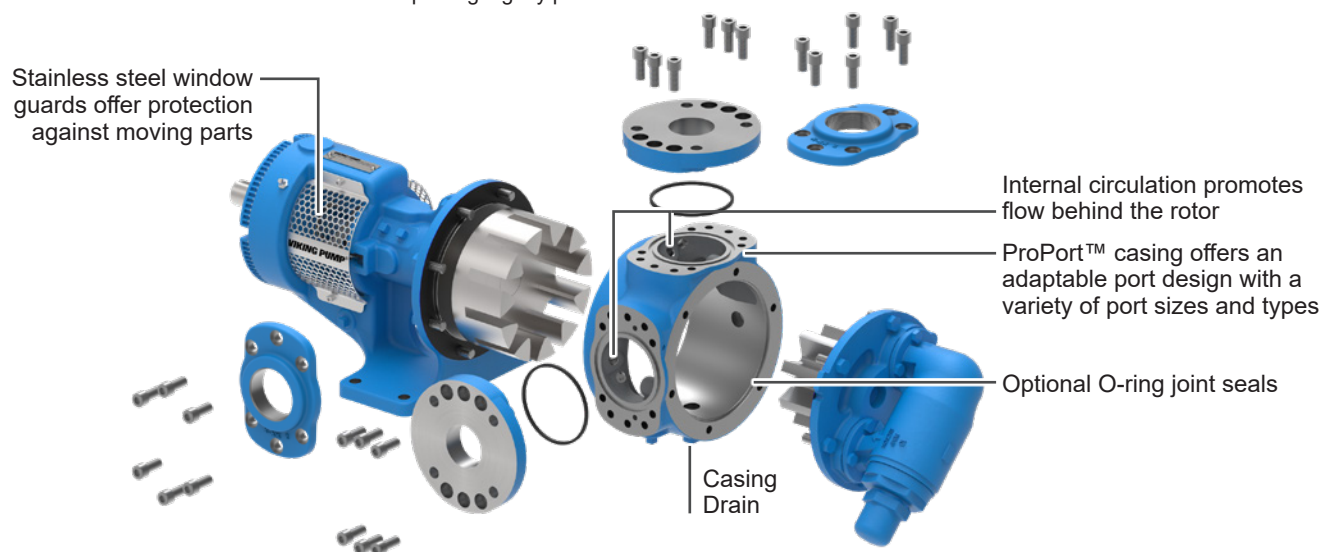
② = Ports are suitable for use with Class 250 cast iron and Class 300 steel or stainless steel companion flanges or flanged fittings.

③ = Not suitable for use with opposite port Q casing.

④ = Not suitable for use with 90° Q casing.

* Ports are suitable for use with DIN PN16 cast iron companion flanges or flanged fittings

** Please note dimensional difference when replacing legacy product.



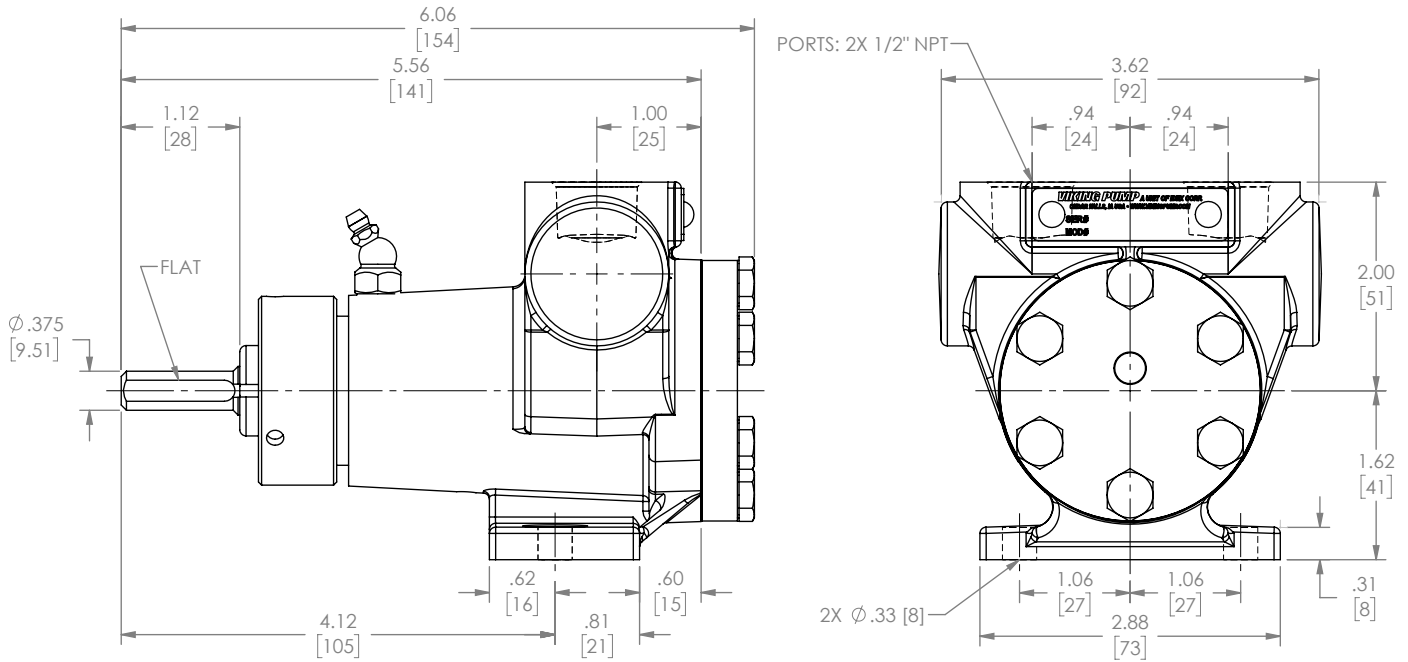
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DIMENSIONS – F, FH SIZES (4624B SERIES™)

NOTE: Dimensions shown in inches, with millimeter equivalent shown in parentheses.



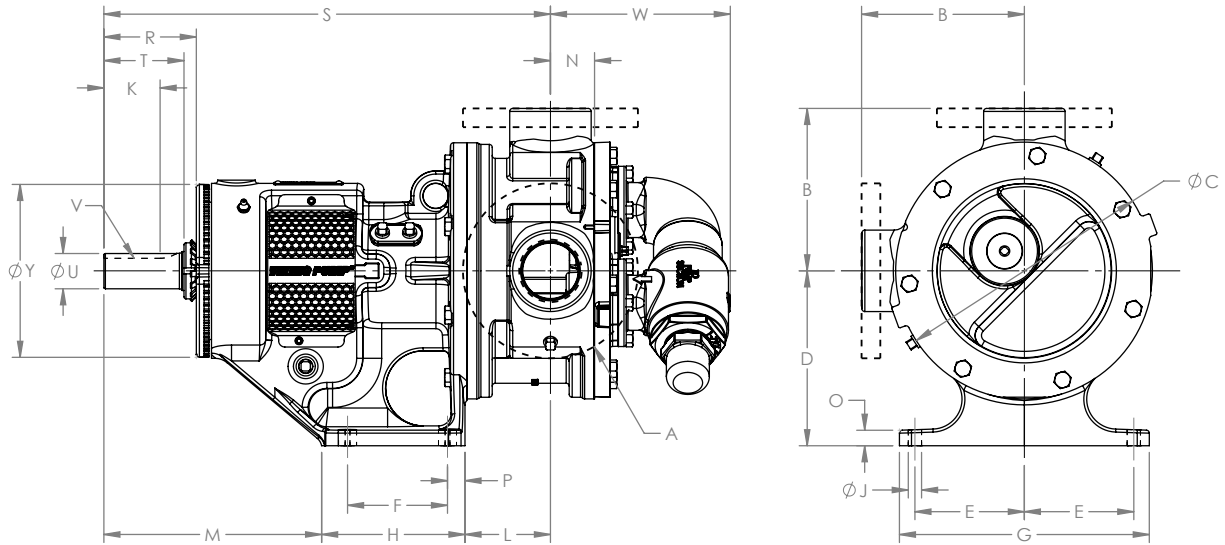
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DIMENSIONS – H, HL, K, KK, L, LL, LS, Q SIZES (4624C SERIES™)



Model Number	A (in)		B	C	D	E	F	G	H	J	K
H4624C HL4624C	① 1.5	in	3.00	4.75	3.50	2.75	2.25	6.75	3.50	0.47	0.99
		mm	76.2	120.6	88.9	69.8	57.1	171.4	88.9	11.9	25.1
K4624C KK4624C	① 2	in	5.12	8.00	5.50	4.00	2.75	9.25	4.00	0.53	1.42
		mm	130.0	203.2	139.7	101.6	69.8	234.9	101.6	13.5	36.1
L4624C	① 2	in	6.50	10.25	7.00	4.38	4.00	10.00	5.38	0.53	1.42
		mm	165.1	260.3	177.8	111.3	101.6	254.0	136.7	13.5	36.1
LL4624C	② 3	in	7.19	10.25	7.00	4.38	4.00	10.00	5.38	0.53	1.42
		mm	182.6	260.3	177.8	111.3	101.6	254.0	136.7	13.5	36.1
LS4624C	② 3	in	7.19	10.74	7.00	4.38	4.00	10.00	5.73	0.53	2.55
		mm	182.6	272.8	177.8	111.3	101.6	254.0	136.7	13.5	64.8
Q4624C	② 3	in	8.25	14.06	8.75	4.12	4.00	10.00	6.28	0.69	3.58
		mm	209.5	357.1	222.2	104.6	101.6	254.0	159.5	17.5	90.9

Model Number		L	M	N	O	P	R	S	T	U	V	W
H4624C HL4624C	in	3.38	5.19	1.19	0.56	0.62	10.44	13.25	1.62	0.75	0.19 x 0.09	2.85
	mm	85.8	131.8	30.2	14.2	15.7	265.2	336.5	41.1	19.0	4.83 x 2.29	72.4
K4624C KK4624C	in	3.00	9.38	1.75	0.62	0.62	14.12	18.12	2.25	1.12	0.25 x 0.12	5.25
	mm	76.2	238.3	44.4	15.7	15.7	358.6	460.2	57.1	28.4	6.35 x 3.05	133.3
L4624C	in	3.38	9.12	1.75	0.62	0.62	15.62	19.62	2.35	1.44	0.38 X 0.19	5.43
	mm	85.9	231.6	44.4	15.7	15.7	396.7	498.3	59.7	36.6	9.65 x 4.83	137.9
LL4624C	in	3.38	9.12	2.25	0.62	0.62	15.62	20.12	2.35	1.44	0.38 X 0.19	5.43
	mm	85.9	231.6	57.1	15.7	15.7	396.7	511.0	59.7	36.6	9.65 x 4.83	137.9
LS4624C	in	4.59	8.91	2.44	0.62	0.79	15.75	21.69	3.50	1.44	0.38 x 0.19	5.26
	mm	116.6	226.3	62.0	15.7	20.1	400.0	550.9	88.9	36.6	9.65 x 4.83	133.6
Q4624C	in	6.53	10.94	3.00	0.80	1.11	19.25	26.75	3.58	1.94	0.50 x 0.25	8.25
	mm	165.9	277.9	76.2	20.3	28.2	488.9	679.4	90.9	49.3	12.70 x 6.35	209.5

① Ports are tapped for standard (NPT) pipe.

② Ports are suitable for use with Class 125 ANSI cast iron and Class 150 steel or stainless steel companion flanges or flanged fittings, see flange table on page 2461.5 for all available port options with ProPort™ casing.

These dimensions are average and not for construction purposes. Certified prints on request.

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NPSH REQUIRED

Printed performance curves are not available.

Performance curves can be electronically generated with the Viking Pump Curve Generator on vikingpump.com.

NPSHR data is not available on the curve generator.

NPSH (Net Positive Suction Head): The $NPSH_R$ (Net Positive Suction Head Required by the pump) is given in the table below and applies for viscosities through 750 SSU. $NPSH_A$ (Net Positive Suction Head – Available in the system) must be greater than the $NPSH_R$. For a complete explanation of NPSH, see Application Data Sheet AD-19.

FOR VISCOSITIES UP TO 750 SSU – See $NPSH_R$ table below.

$NPSH_R$ for high viscosities can be estimated using the following method:

1. Calculate line loss for a 1 foot long pipe of a diameter matching the pump inlet port size. Use your flow rate and max viscosity.
2. Convert this value into Feet of Liquid (S.G. 1.0)
3. Add this value to the $NPSH_R$ value in the chart below.

PUMP SIZE	PUMPS SPEED, RPM											
	84	100	125	155	190	230	280	420	520	640	780	870
F, FH	-	-	1.0	-	-	-	1.3	1.6	1.7	1.8	1.9	2.0
H, HL	-	-	1.3	-	-	-	1.8	2.1	2.4	2.8	-	-
K, KK	1.5	1.6	1.7	1.8	1.9	2.1	2.3	-	-	-	-	-
L, LL, LS	1.6	1.7	1.8	2.0	2.2	2.5	-	-	-	-	-	-
Q, QS	1.7	1.9	2.1	2.3	2.7	-	-	-	-	-	-	-

Note: $NPSH_R$ – FEET OF LIQUID (Specific Gravity 1.0), Viscosities up to 750 SSU