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VIKING PUMP® PRODUCT LINE

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"If passion drives you, let reason hold the reins."

—Benjamin Franklin

BR

VIKING PUMP – MOTOR SPEED PRODUCT LINE

VIKING PUMP®

PRODUCT CATALOG



**GLOBAL LEADER IN POSITIVE
DISPLACEMENT PUMPING SOLUTIONS**



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CAST IRON PUMPS



FEATURES & BENEFITS

- The most compact gear pump series available to fit tight space constraints
- Vertical mounting options to further reduce the unit footprint
- High speed operation for the most economical pump option for thin to moderate viscosity applications

TYPICAL APPLICATIONS

- Refined Fuels
- Lube Oils
- Rotating Equipment Lubrication
- Mobile Pump Carts
- Glycols
- Pipeline Sampling
- Isocyanates

PERFORMANCE

INTERNAL GEAR MODELS					SPECIFICATIONS				
Motor Mount		Foot Mount		Bracket Mount	Performance			Standard Ports	
Lip Seal	Mechanical Seal	Mechanical Seal	Mechanical Seal	Mag Drive	Max Speed, RPM	GPM	m³/h	Size, Inches	Type
G75	G475	G4195	G495	—	1750	8	1.8	1	NPT
GG75	GG475	GG4195	GG495	GG895	1750	10	2	1	NPT
H75	H475	H4195	H495	—	1750	15	3	1.5	NPT
HJ75	HJ475	HJ4195	HJ495	HJ895	1750	20	5	1.5	NPT
HL75	HL475	HL4195	HL495	HL895	1750	30	7	1.5	NPT
—	—	AS4195	AS495	AS895	1750	55	12	2.5	NPT
—	—	AK4195	AK495	AK895	1750	85	19	2.5	NPT
—	—	AL4195	AL495	AL895	1750	115	26	3	NPT
—	—	KE4195*	—	—	1750	150	34	4	Flange
—	—	KKE4195*	—	—	1750	205	47	4	Flange
—	—	LQE4195*	—	—	1150	235	53	4	Flange
—	—	LSE4195*	—	—	1150	350	80	4	Flange
—	—	Q4195	—	—	750	460	104	6	Flange
—	—	QS4195	—	—	640	580	132	6	Flange

* KE, KKE, LQE and LSE sizes have a foot mount and flange for M-Drive Bracket.

NOTE: Refer to the catalog section of a particular product series for specific performance details.

PORTING

- Opposite (180°)
- NPT
- Flanged
(ANSI/ASME or DIN Compatible)
- High Pressure Flanges
(ANSI 250# or DIN PN25)

SEALING

- Lip Seal
- Behind the Rotor Seal
- Balanced Seal
- Sealless Mag Drive

MOUNTING

- Motor Mount
- Foot Mount
- Vertical Mount

DRIVES



Refer to "Appendix A" on page 42 for more information on drives.

Refer to "Appendix B" on page 43 for more information on seals and porting.

CAPACITY to 580 GPM (132 m³/h)	PRESSURE to 250 PSI (17 BAR)	VISCOSITY to 25,000 SSU (to 5,500 cSt)	TEMPERATURE -40°F to +350°F (-40°C to +180°C)
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"You may delay, but time will not."

—Benjamin Franklin

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SERIES DESCRIPTION, RELATED PRODUCTS & OPERATING RANGE

SERIES DESCRIPTION

Viking's Motor Speed Product Line internal gear pumps represent a technological advance in the science of flow. Through new techniques of feeding the rotor and idler, Viking has achieved what was once considered impossible – high flow rates operating at motor speeds. The largest size (QS) operates at reduced speeds, but still faster than other pumps of similar displacement. Higher speeds mean greater value, with the ability to move more fluid with a smaller pump. It also enables close-coupling to a motor or gearmotor, which eliminates shaft misalignment and results in longer seal and bearing life by preventing wear due to misalignment.

RELATED PRODUCTS

Steel Externals, 493/4193 Series: Catalog Section 1341

Stainless Steel, 4197 Series: Catalog Section 1741



OPERATING RANGE

SERIES	NOMINAL FLOW		MAXIMUM PRESSURE		TEMPERATURE RANGE		VISCOSITY RANGE*	
	GPM	m³/h	PSI	Bar	°F	°C	SSU	cSt
495	8 - 115	1.8 - 26	250	17	-40 to +300	-40 to +150	28 to 15,000	1 to 3,300
4195	8 - 580	1.8 - 132	250	17	-40 to +300	-40 to +150	28 to 15,000	1 to 3,300

* 25,000 SSU (5,500 cSt) for KE-LSE & QS, 7,500 SSU (1,700 cSt) for Q

“Be at war with your vices, at peace with your neighbors, and let every new year find you a better man.”

—Benjamin Franklin



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FEATURES, BENEFITS & STANDARD MATERIALS OF CONSTRUCTION

FEATURES & BENEFITS

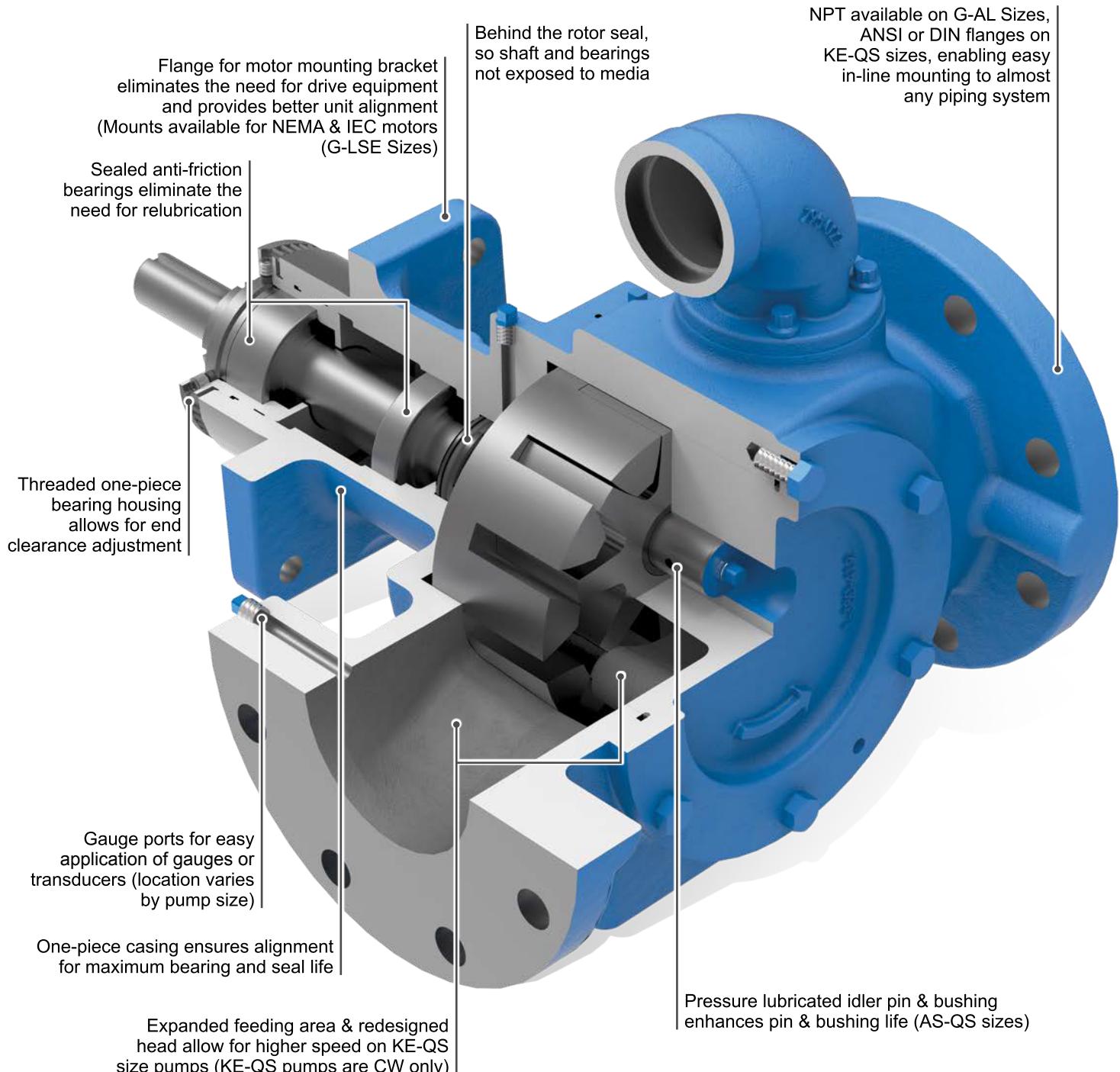
- Direct drive with no gear reducer (with 60 Hz 4 pole motor to 205 GPM / 47 m³/h, 6 pole motor to 350 GPM / 80 m³/h, 8 pole motor to 460 GPM / 104 m³/h)
 - » Reduces cost of installation
 - » Eliminates one shaft alignment
 - » Eliminates one set of couplings and coupling guard
 - » Reduces footprint
 - » Eliminates gearbox lubrication and maintenance
- Close-couple to C-face motor or gearmotor at flows to 350 GPM / 80 m³/h
 - » Eliminates all shaft misalignment and coupling guards
 - » Keeps shafts aligned for longer seal and bearing life
 - » Simplifies mounting on skid frame without extra baseplate
 - » Enables vertical mounting for smallest footprint (up to 350 GPM / 80 m³/h)
- Heavy duty design with sealed-for-life bearings
 - » No relubrication required
 - » Thrust control enables pressures to 250 PSI / 17 BAR (G-AL sizes) or 150 PSI / 10 BAR (KE-QS sizes)
 - » Enables end clearance adjustment for viscosity or to compensate for wear over time
- Gauge ports standard on all sizes.
 - » Allows easy application of gauges or transducers
- Behind-the-rotor mechanical seals with FKM elastomers and Carbon/SiC faces as standard
 - » Eliminates bracket bushing, enables use of antifriction bearing external to liquid
 - » Heavy duty seal provides broad application, long life
 - » Casing weep hole between seal and forward bearing enables detection of seal leakage, prevents intrusion into sealed bearing
- KE-QS sizes are available with ANSI or DIN flanges. No piping adaptors required to conform to local standards
- Opposite porting enables easy in-line mounting to almost any piping system
- Pressure lubricated idler pin lubricates the idler pin/bushing interface to extend life on thin liquids (AS-QS Sizes)
- Static O-ring seals ensure maximum sealing capability on thin liquids (flat gaskets furnished on relief valve only on G-HL sizes)
- Hardened steel idler on KE-QS sizes provides maximum service life and helps protect against cavitation wear on low NPSHa applications

STANDARD MATERIALS OF CONSTRUCTION

Component	Standard Material
Bracket / Casing	Cast Iron, ASTM A48, Class 35B
Head	Cast Iron, ASTM A48, Class 35B
Rotor Shaft	Steel, ASTM A108, Grade 1045
Rotor	Cast Iron, ASTM A48, Class 35B (G, GG, H, HJ, KE, LQE, Q) Ductile Iron, ASTM A536 Grade 60-40-18 (HL, AS, AK, AL, KKE, LSE, QS)
Idler	Powdered Metal MPIF 35, FN-0208-45 (G, GG) Powdered Metal MPIF 35, FC-0208-50 (H, HJ, HL) Ductile Iron, ASTM A536 Grade 60-40-18 (AS, AK, AL) Hardened Steel, ASTM A148, Grade 80-50 (KE, KKE, LQE, Q, QS) Hardened Steel, ASTM A148, Grade 80-40 (LSE)
Idler Pin	Hardened Steel, ASTM A108, Grade 1045
Idler Bushing	Carbon Graphite
Pressure Relief Valve	Cast Iron, ASTM A48, Class 35B
Mechanical Seal Faces	Carbon vs. Ni-Resist (G-AL), Carbon vs. Silicon Carbide (KE-QS)
Elastomers	FKM
Antifriction Bearings	Steel with Buna Seals

CUTAWAY VIEW & PUMP FEATURES

CUTAWAY VIEW & PUMP FEATURES



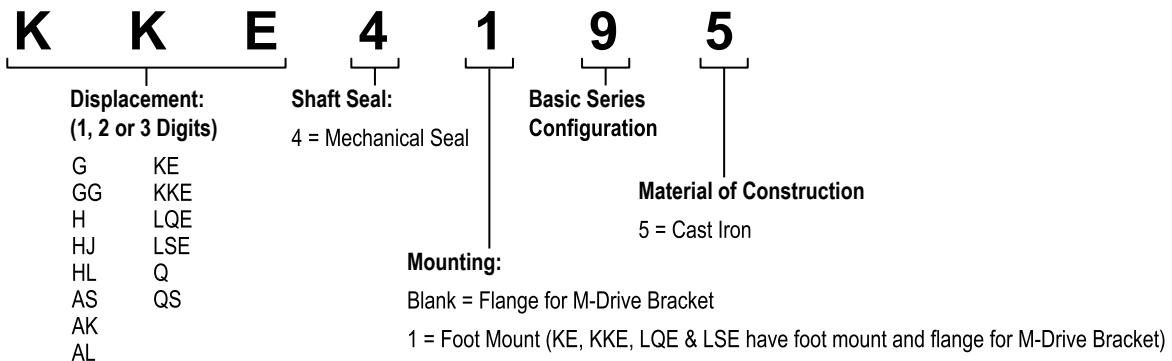
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MODEL NUMBER KEY & SPECIFICATIONS

MODEL NUMBER KEY



SPECIFICATIONS

Model Number	① Standard Ports		Nominal Pump Rating (100 SSU & below)						③ Maximum Differential Pressure		⑤ Maximum Hydrostatic Pressure		Maximum Temperature		Approx. Shipping Weight with Valve	
	Port Size	Port Type	60 Hz			50 Hz			PSIG	BAR	PSIG	BAR	°F	°C	Lbs.	Kg.
			GPM	m³/h	RPM	GPM	m³/h	RPM								
G4195 ② G495	1 in.	NPT	8	1.8	1750	7	1.5	1450	250	17	400	27	300	150	20	9
GG4195 ② GG495	1 in.	NPT	10	2.3	1750	8	1.9	1450	250	17	400	27	300	150	20	9
H4195 ② H495	1½ in.	NPT	15	3.4	1750	12	2.8	1450	250	17	400	27	300	150	44	20
HJ4195 ② HJ495	1½ in.	NPT	20	4.5	1750	17	3.8	1450	250	17	400	27	300	150	44	20
HL4195 ② HL495	1½ in.	NPT	30	6.8	1750	25	5.6	1450	250	17	400	27	300	150	44	20
AS4195 ② AS495	2½ in.	NPT	55	12	1750	45	10	1450	250	17	400	27	300	150	85	39
AK4195 ② AK495	2½ in.	NPT	85	19	1750	70	16	1450	250	17	400	27	300	150	85	39
AL4195 ② AL495	3 in.	NPT	115	26	1750	95	22	1450	250	17	400	27	300	150	86	39
④ KE4195	4 in. (100 mm)	① Flange	150	34	1750	125	28	1450	150	10	300	20	300	150	132	60
④ KKE4195	4 in. (100 mm)	① Flange	205	47	1750	170	39	1450	150	10	300	20	300	150	133	60
④ LQE4195	4 in. (100 mm)	① Flange	235	53	1150	195	44	960	150	10	300	20	300	150	220	100
④ LSE4195	4 in. (100 mm)	① Flange	350	80	1150	290	67	960	150	10	300	20	300	150	222	101
④ Q4195	6 in. (150 mm)	① Flange	460	104	750	460	104	750	150	10	300	20	300	150	443	201
④ QS4195	6 in. (150 mm)	① Flange	580	132	640	580	132	640	150	10	300	20	300	150	450	204

① Flange ports are suitable for use with Class 125 ANSI (inch) or DIN PN-16 (mm) cast iron companion flanges or flanged fittings. Optional Class 250 or DIN PN-25/40.

② 495 models require motor mount bracket, do not have mounting foot. KE, KKE, LQE, LSE 4195 models have both mounting flange for motor bracket and a mounting foot.

③ If suction pressures exceed 100 PSI (7 BAR), consult factory.

④ These sizes can only operate in one direction (clockwise only).

⑤ Maximum hydrostatic pressure for standard pump construction. Rating is dependent on seal, gaskets and ports.

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BR MOUNTING OPTIONS

MOUNTING OPTIONS

Flange Motor Mount Units (M-Drive)

Pump and motor mounted to a flange mounting bracket with coupling.

Sizes: G - AL495 & KE-LSE4195

See chart below for pump sizes and flange mounting brackets available by motor frame.



① Pump Model Number - Mounting Flange for Motor Bracket	M-Drive Brackets Available			
	NEMA Motor	Footed?	IEC B-14 Motor	Footed?
G495	56C, 143/5TC, 182/4TC	No ③	80, 90	No ③
GG495	56C, 143/5TC, 182/4TC	No ③	80, 90	No
H495	56C, 143/5TC, 182/4TC, 213/5TC	No ③	90, 100/112, 132	Yes
HJ495	56C, 143/5TC, 182/4TC, 213/5TC	No ③	90, 100/112, 132	Yes
HL495	56C, 143/5TC, 182/4TC, 213/5TC	No ③	90, 100/112, 132	Yes
AS495	182/4TC, 213/5TC , 254/6TC, 284/6TC	Yes	132, 160	Yes
AK495	182/4TC, 213/5TC , 254/6TC, 284/6TC	Yes	132, 160	Yes
AL495	182/4TC, 213/5TC , 254/6TC, 284/6TC	Yes	132, 160	Yes
① KE4195	213/5TC, 254/6TC, 284/6TC	Yes	132, 160	Yes
① KKE4195	213/5TC, 254/6TC, 284/6TC	Yes	132, 160	Yes
① LQE4195	324/6TC	Yes	160/180 ②	Yes
① LSE4195	324/6TC	Yes	160/180 ②	Yes

① 495 models require a motor mount bracket, they do not have a mounting foot.

KE, KKE, LQE, LSE 4195 models have both mounting flange for motor bracket and a mounting foot.

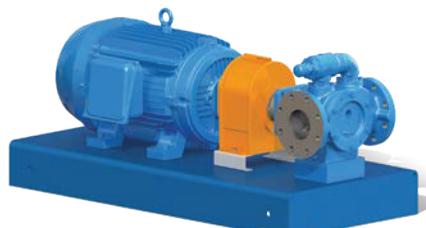
② Only available as B5.

③ Requires footed motor.

Direct Drive (D-Drive)

Pump and motor mounted on a base with coupling and coupling guard.

Sizes: G - LSE4195



Reducer Drive (R-Drive)

Pump, Viking C-reducer and motor mounted on a base with couplings and coupling guards.

Sizes: Q & QS4195



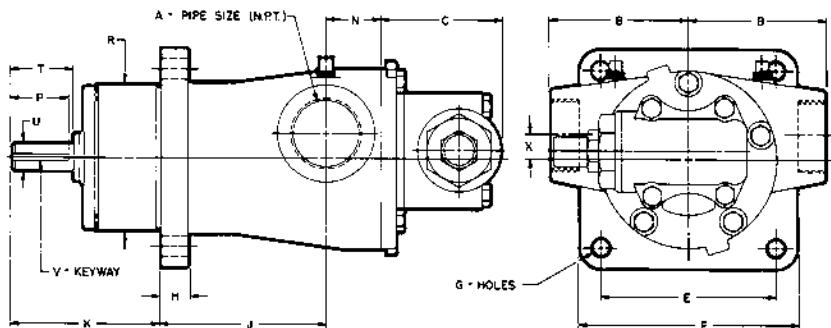
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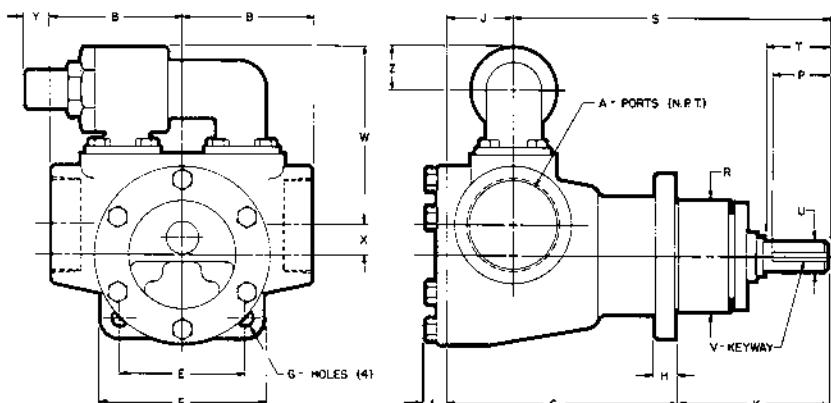
DIMENSIONS — G, GG, H, HJ, HL, AS, AK, AL SIZES (495)

DIMENSIONS — G, GG, H, HJ, HL SIZES (495)



Model Number	A (in)	B	C	E	F	G	H	J	K	N	P	R	T	U (in)	V (in)	X	
G495 GG495	1	in	2.75	2.66	3.00	4.00	0.41	0.50	3.44	2.81	1.12	0.94	2.88	1.12	0.50	FLAT	0.62
		mm	70	67	76	102	10	13	87	71	29	24	73	29			16
H495 HJ495 HL495	1½	in	3.75	3.28	4.75	5.88	0.56	0.75	4.50	4.00	1.50	1.50	3.88	1.62	0.75	.19 x .09	0.62
		mm	95	83	121	149	14	19	114	102	38	38	98	41			16

DIMENSIONS — AS, AK, AL SIZES (495)



Model Number	A (in)	B	C	E	F	G	H	J	K	L	P	R	S	T	U (in)	V (in)	W	X	Y	Z	
AS495 AK495	2½	in	5.00	8.38	4.75	6.25	0.56	0.75	2.00	5.75	0.75	2.25	4.25	12.12	2.50	1.00	.25 x .12	7.00	1.12	1.00	1.72
		mm	127	213	121	159	14	19	51	146	22	57	108	308	64			178	29	25	40
AL495	3	in	5.00	8.88	4.75	6.25	0.56	0.75	2.50	5.75	0.75	2.25	4.25	12.12	2.50	1.00	.25 x .12	7.00	1.12	1.00	1.72
		mm	127	225	121	159	14	19	64	146	22	57	108	308	64			178	29	25	40

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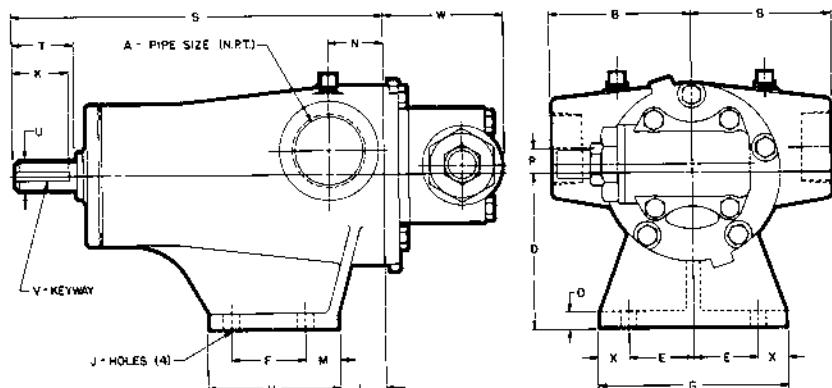
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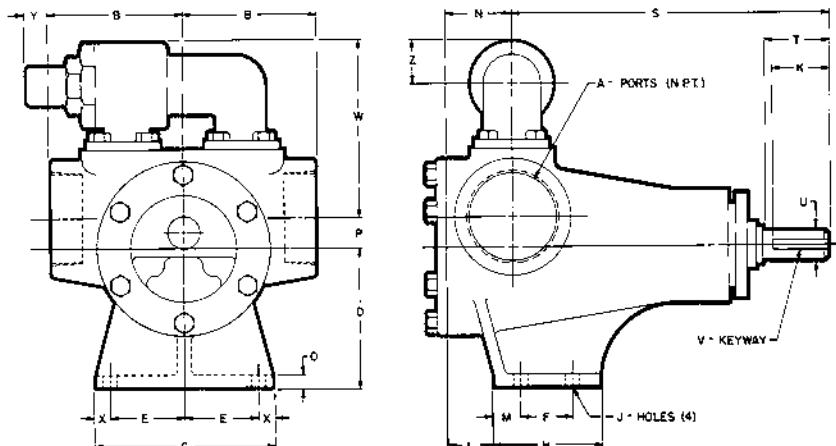
DIMENSIONS — G, GG, H, HJ, HL, AS, AK, AL SIZES (4195)

DIMENSIONS — G, GG, H, HJ, HL SIZES (4195)



Model Number	A (in)		B	D	E	F	G	H	J	K	L	M	N	O	P	S	T	U (in)	V (in)	W	X
G495 GG495	1	in	2.75	2.75	1.62	1.31	4.00	2.44	0.34	0.94	0.03	0.66	1.12	0.31	0.62	7.31	1.12	0.50	FLAT	2.66	0.38
		mm	70	70	41	33	102	62	9	24	1	17	29	8	16	186	29			67	10
H495 HJ495 HL495	1½	in	3.75	4.12	1.75	2.00	5.00	3.50	0.41	1.50	1.25	0.88	1.50	0.44	0.62	10.00	1.62	0.75	.19 x .09	3.28	0.75
		mm	95	105	44	51	127	89	10	38	32	22	38	11	16	254	41			83	19

DIMENSIONS — AS, AK, AL SIZES (4195)



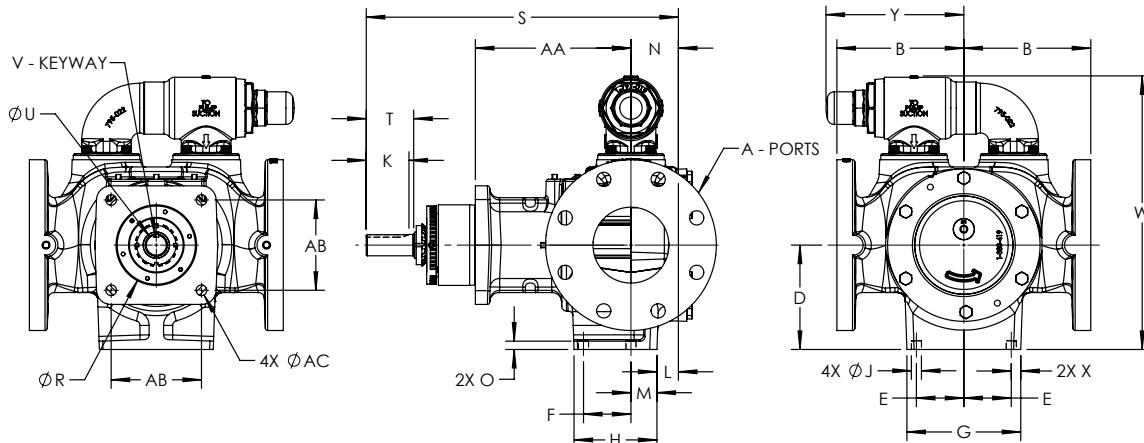
Model Number	A (in)		B	D	E	F	G	H	J	K	L	M	N	O	P	S	T	U (in)	V (in)	W	X	Y	Z
AS4195 AK4195	2½	in	5.00	5.25	2.88	2.00	6.75	4.00	0.41	2.25	1.25	1.00	2.00	0.44	1.12	12.12	2.50	1.00	.25 x .12	7.00	0.50	1.00	1.72
		mm	127	133	73	51	171	102	10	57	32	25	51	11	29	308	60			178	13	25	40
AL4195	3	in	5.00	5.25	2.88	2.00	6.75	4.00	0.41	2.25	1.75	1.00	2.50	0.44	1.12	12.12	2.50	1.00	.25 x .12	7.00	0.50	1.00	1.72
		mm	127	133	73	51	171	102	10	57	44	25	64	11	29	308	60			178	13	25	40

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



DIMENSIONS – KE, KKE, LQE, LSE, Q, QS SIZES (4195)

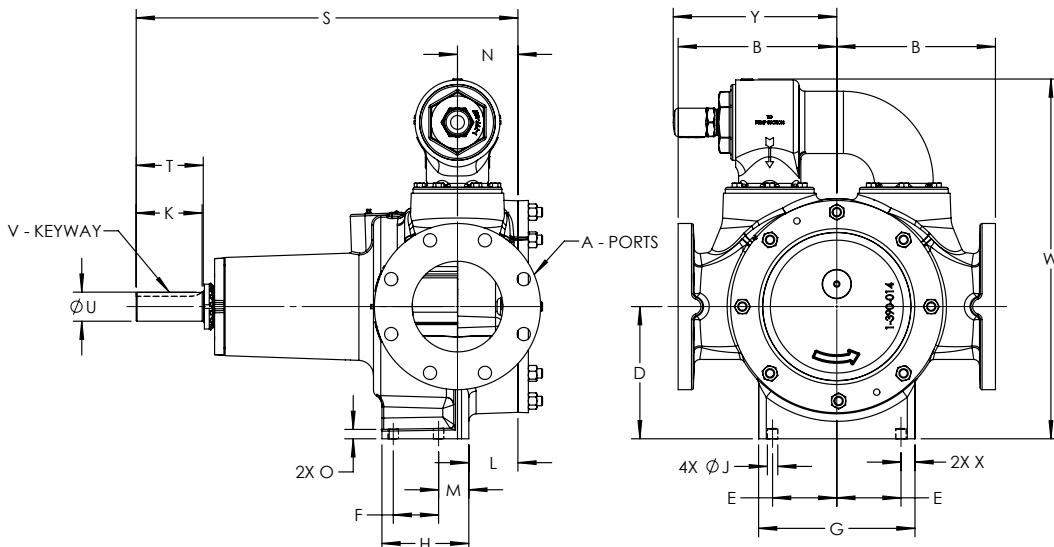
DIMENSIONS – KE, KKE, LQE, LSE SIZES (4195)



Model Number		A*	B	D	E	F	G	H	J	K	L	M	N	O	R	S	T	U (in)	V (in)	W	X	Y	AA	AB	AC
KE4195	in	4	6.69	5.50	2.50	2.50	6.00	4.37	0.53	2.25	1.13	1.37	2.50	0.44	4.25	16.45	2.50	1.13	.25 X .12	14.42	0.50	7.26	8.20	4.76	0.56
	mm	100	170	140	64	64	152	111	14	57	29	35	64	11	108	418	64			366	13	184	208	121	14
KKE4195	in	4	8.50	7.00	3.00	2.75	7.24	5.00	0.53	3.25	1.50	1.25	2.75	0.51	5.25	19.03	3.50	1.44	.38 X .19	19.88	0.62	9.66	9.88	4.76	0.56
	mm	100	216	178	76	70	184	127	14	83	38	32	70	13	133	483	89			505	16	245	251	121	14

* Inch dimensions for Class 125 ANSI flanged ports, mm dimensions for DIN PN-16 flanged ports.

DIMENSIONS – Q, QS SIZES (4195)



Model Number		A*	B	D	E	F	G	H	J	K	L	M	N	O	S	T	U (in)	V (in)	W	X	Y
Q4195	in	6	10.50	8.75	4.25	3.00	10.35	5.75	0.69	4.36	3.25	2.00	4.00	0.62	25.26	4.44	1.94	.50 X .25	7.00	1.00	1.72
	mm	150	267	222	108	76	263	146	18	111	83	51	102	16	642	113			178	25	40

* Inch dimensions for Class 125 ANSI flanged ports, mm dimensions for DIN PN-16 flanged ports.

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

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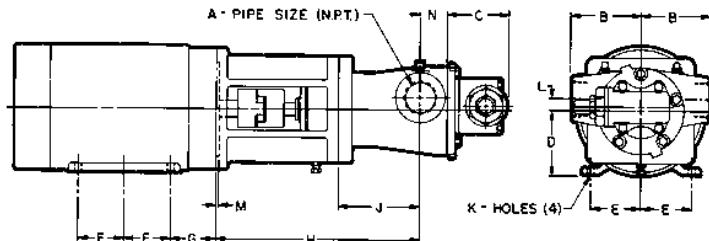
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DIMENSIONS — G, GG, H, HJ, HL SIZES — M DRIVE (495) H, HJ, HL SIZES — IEC FRAME M DRIVE (495)

DIMENSIONS — G, GG, H, HJ, HL SIZES — M DRIVE (495)



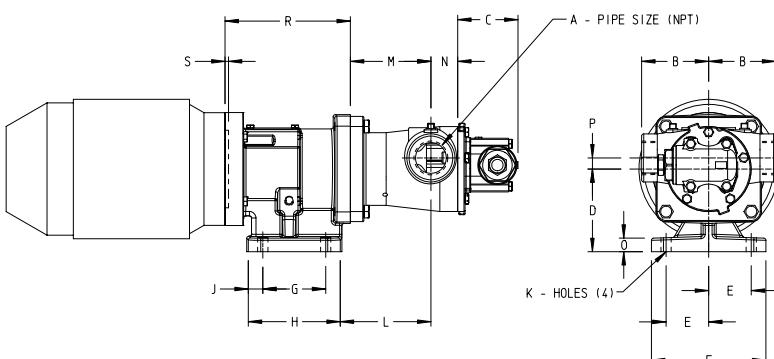
NOTE: Jaw type coupling with straight jaws recommended to facilitate assembly of motor and pump to bracket.

COUPLING IS GUARDED WITH PLATES OVER SIDE OPENINGS ON MOUNTING BRACKET.

MODEL	A	B	C	J	L	M	N	MOTOR FRAME	D	E	F	G	H	K	
G495 GG495	in	2.75	2.66	3.44	.62	.19	1.12	NEMA 56C	3.50	2.44	1.50	2.56	8.88	.34	
	mm	70	67	87	16	5	29		89	62	38	65	225	9	
	in	2.75	2.66	3.44	.62	.19	1.12	NEMA 143TC	3.50	2.75	2.00	2.88	8.88	.34	
	mm	70	67	87	16	5	29	143TC	89	70	51	73	225	9	
	in	2.75	2.66	3.44	.62	.19	1.12	NEMA 145TC	3.50	2.75	2.50	2.88	8.88	.34	
	mm	70	67	87	16	5	29	145TC	89	70	64	73	225	9	
	in	2.75	2.66	3.44	.62	.19	1.12	NEMA 182TC	4.50	3.75	2.25	3.38	9.56	.41	
	mm	70	67	87	16	5	29	182TC	144	95	57	86	243	10	
	in	2.75	2.66	3.44	.62	.19	1.12	NEMA 184TC	4.50	3.75	2.75	3.38	9.56	.41	
	mm	70	67	87	16	5	29	184TC	114	95	70	86	243	10	
G495 GG495	in	2.75	2.66	3.44	0.62	0.19	1.12	IEC	3.15	2.46	1.97	1.97	8.36	.39	
	mm	69.9	67.6	87.4	15.7	4.8	28.4		80	80.0	62.5	50.0	50.0	212.3	10.0
	in	2.75	2.66	3.44	0.62	0.19	1.12	IEC	3.54	2.76	1.97	2.21	8.71	.39	
	mm	69.9	67.6	87.4	15.7	4.8	28.4		90	90.0	70.0	50.0	56.0	221.2	10.0

MODEL	A	B	C	J	L	M	N	MOTOR FRAME	D	E	F	G	H	K
H495 HJ495 HL495	in	3.75	3.28	4.50	.62	.19	1.50	NEMA 56C	3.50	2.44	1.50	2.56	11.12	.34
	mm	95	83	114	16	5	38		89	62	38	65	283	9
	in	3.75	3.28	4.50	.62	.19	1.50	NEMA 143TC	3.50	2.75	2.00	2.88	11.12	.34
	mm	95	83	114	16	5	38	143TC	89	70	51	73	283	9
	in	3.75	3.28	4.50	.62	.19	1.50	NEMA 145TC	3.50	2.75	2.50	2.88	11.12	.34
	mm	95	83	114	16	5	38	145TC	89	70	64	73	283	9
	in	3.75	3.28	4.50	.62	.19	1.50	NEMA 182TC	4.50	3.75	2.25	3.38	11.81	.41
	mm	95	83	114	16	5	38	182TC	144	95	57	86	300	10
	in	3.75	3.28	4.50	.62	.19	1.50	NEMA 184TC	4.50	3.75	2.75	3.38	11.81	.41
	mm	95	83	114	16	5	38	184TC	114	95	70	86	300	10

DIMENSIONS — H, HJ, HL SIZES — IEC FRAME M DRIVE (495)



Brackets are designed for IEC motors with B14 mounting face.

NOTE: Jaw type coupling with straight jaws recommended to facilitate assembly of motor and pump to bracket.

COUPLING IS GUARDED WITH PLATES OVER SIDE OPENINGS ON MOUNTING BRACKET.

MODEL	A (in)	B	C	M	N	P	MOTOR FRAME	D	E	F	G	H	J	K	L	O	R	S
H495	in	3.75	3.28	4.50	1.50	0.62	IEC 90	4.62	2.38	6.40	3.52	5.14	0.81	0.57	4.92	0.75	6.61	0.19
		95	83	114	38	16		117	61	163	89	131	21	15	125	19	168	5
HJ495	1 1/2	3.75	3.28	4.50	1.50	0.62	IEC 100/112	4.62	2.38	6.40	3.52	5.14	0.81	0.57	4.98	0.75	7.01	0.19
		95	83	114	38	16		117	61	163	89	131	21	15	129	19	178	5
HL495	in	3.75	3.28	4.50	1.50	0.62	IEC 132	5.32	2.95	7.48	4.50	6.09	0.80	0.57	5.11	0.75	8.16	0.25
		95	83	114	38	16		135	75	190	114	155	20	15	130	19	207	6

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



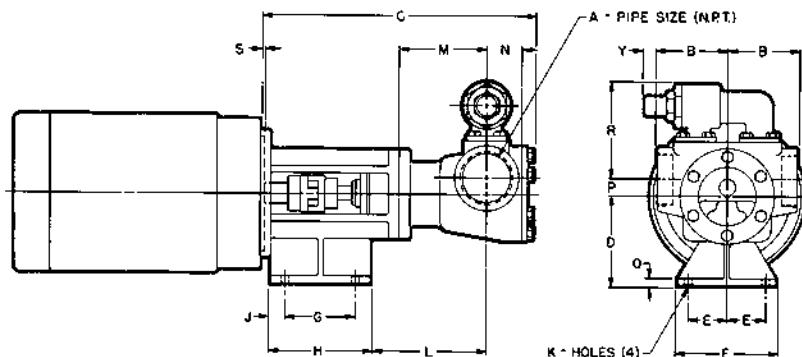
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DIMENSIONS — AS, AK, AL SIZES — M DRIVE (495)

DIMENSIONS — AS, AK, AL SIZES — M DRIVE (495)



Model Number	Motor Frame	A (in)		B	C	D	E	F	G	H	J	K	L	M	N	O	P	R	S	Y
AS495 AK495	NEMA ①	2½	In	5.00	① 19.06	6.25	2.75	7.00	5.00	7.00	1.00	0.56	① 8.44	6.38	2.00	0.50	1.12	7.00	0.19	1.00
			mm	127	① 484	159	70	178	127	178	25	14	① 214	162	51	13	29	178	5	25
	IEC 132	2½	In	5.00	18.16	6.25	2.75	7.00	5.00	7.24	1.12	0.56	7.75	6.38	2.00	0.50	1.12	7.12	0.25	6.00
			mm	127	461	159	70	178	127	184	28	14	197	162	51	13	28	181	6	152
	IEC 160	2½	In	5.00	19.58	6.50	2.75	7.50	6.00	8.26	1.13	0.56	7.75	6.38	2.00	0.62	1.12	7.12	0.25	6.00
			mm	127	497	165	70	191	152	210	29	14	197	162	51	16	28	181	6	152
AL495	NEMA ①	3	In	5.00	① 19.56	6.25	2.75	7.00	5.00	7.00	1.00	0.56	① 8.44	6.38	2.50	0.50	1.12	7.00	0.19	1.00
			mm	127	① 497	159	70	178	127	178	25	14	① 214	162	64	13	29	178	5	25
	IEC 132	3	In	5.00	18.66	6.25	2.75	7.00	5.00	7.24	1.12	0.56	7.75	6.38	2.50	0.50	1.12	7.12	0.25	6.00
			mm	127	20	159	70	178	127	184	28	14	197	162	64	13	28	181	6	152
	IEC 160	3	In	5.00	20.08	6.50	2.75	7.50	6.00	8.26	1.13	0.56	7.75	6.38	2.50	0.62	1.12	7.12	0.25	6.00
			mm	127	510	165	70	191	152	210	29	14	197	162	64	16	28	181	6	152

① Dimensions are correct for 182TC through 215TC motors. For 254TC/256TC motors, add .88" to the dimensions shown.

NOTE: Jaw type coupling with straight jaws recommended to facilitate assembly of motor and pump to bracket.

COUPLING IS GUARDED WITH PLATES OVER SIDE OPENINGS ON MOUNTING BRACKET.

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

“Half a truth is often a great lie.”

—Benjamin Franklin

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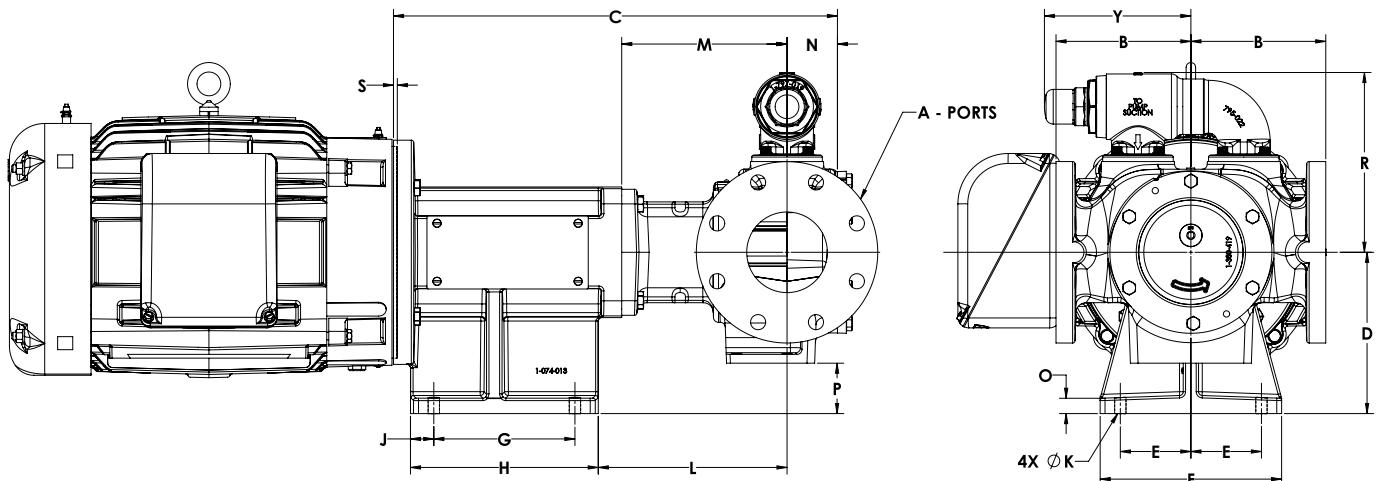
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DIMENSIONS — KE, KKE, LQE, LSE SIZES — PUMP, M DRIVE, MOTOR (4195)

DIMENSIONS — KE, KKE, LQE, LSE SIZES — PUMP, M DRIVE, MOTOR (4195)



Model Number	Motor	A*	B	C	D	E	F	G	H	J	K	L	M	N	O	P	R	S	Y
KE4195 KKE4195	NEMA 213/215	4 in	6.69	20.51	6.25	2.75	7.00	5.00	7.24	1.12	0.56	10.14	8.20	2.50	0.50	0.75	8.92	0.19	7.26
	100 mm	169.9	521.0	158.8	69.9	177.8	127.0	183.9	28.4	14.2	257.6	208.3	63.5	12.7	19.1	226.6	4.8	184.4	
	NEMA 254/256	4 in	6.69	21.39	6.25	2.75	7.00	5.00	7.24	1.12	0.56	11.02	8.20	2.50	0.50	0.75	8.92	0.19	7.26
	100 mm	169.9	543.3	158.8	69.9	177.8	127.0	183.9	28.4	14.2	279.9	208.3	63.5	12.7	19.1	226.6	4.8	184.4	
	NEMA 284/286	4 in	6.69	22.02	8.00	3.50	9.00	7.00	9.31	1.16	0.56	9.36	8.20	2.50	0.76	2.50	8.92	0.19	7.26
	100 mm	169.9	559.3	203.2	88.9	228.6	177.8	236.5	29.5	14.2	237.7	208.3	63.5	19.3	63.5	226.6	4.8	184.4	
	IEC 132	4 in	6.69	18.08	6.25	2.75	7.00	5.00	7.24	1.12	0.56	9.58	8.20	2.50	0.50	0.75	8.92	0.25	7.26
	100 mm	169.9	459.2	158.8	69.9	177.8	127.0	183.9	28.4	14.2	243.3	208.3	63.5	12.7	19.1	226.6	6.4	184.4	
LQE4195 LSE4195	IEC 160	4 in	6.69	19.40	6.50	2.75	7.50	6.00	8.26	1.13	0.56	9.57	8.20	2.50	0.62	1.00	8.92	0.25	7.26
	100 mm	169.9	492.8	165.1	69.9	190.5	152.4	209.8	28.7	14.2	243.1	208.3	63.5	15.7	25.4	226.6	6.4	184.4	
	NEMA 324/326	4 in	8.50	25.3	8.25	3.88	10.00	7.25	9.85	1.30	0.88	10.71	9.88	2.75	0.75	1.25	12.88	0.19	9.66
	100 mm	215.9	642.6	209.6	98.6	254.0	184.2	250.2	33.0	22.4	272.0	251.0	69.9	19.1	31.8	327.2	4.8	243.7	
IEC 160	4 in	8.50	21.63	7.50	3.25	9.00	7.25	9.81	1.28	0.88	10.34	9.88	2.75	0.75	0.50	12.88	0.25	9.66	
	100 mm	215.9	549.4	190.5	82.6	228.6	184.2	249.2	32.5	22.4	262.6	251.0	69.9	19.1	12.7	327.2	6.4	243.7	
IEC 180	4 in	8.50	21.63	7.50	3.25	9.00	7.25	9.81	1.28	0.88	10.34	9.88	2.75	0.75	0.50	12.88	0.25	9.66	
	100 mm	215.9	549.4	190.5	82.6	228.6	184.2	249.2	32.5	22.4	262.6	251.0	69.9	19.1	12.7	327.2	6.4	243.7	

* Inch dimensions for Class 125 ANSI flanged ports, mm dimensions for DIN PN-16 flanged ports.

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

“It is easier to prevent bad habits than to break them.”

—Benjamin Franklin



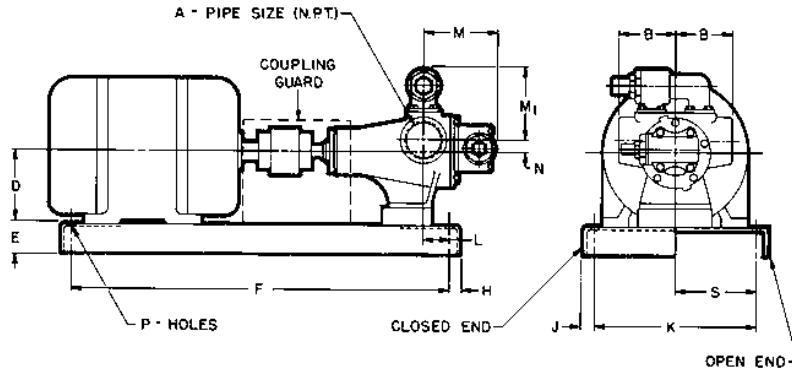
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DIMENSIONS — G, GG, H, HJ, HL, AS, AK, AL SIZES — D DRIVE (4195)

DIMENSIONS — G, GG, H, HJ, HL, AS, AK, AL SIZES — D DRIVE (4195)



Model	Motor	A (in)	B	D	E	F	H	J	K	L	M	M ₁	N	P	S		
G4195 GG4195	NEMA 56	1	in	2.75	3.50	1.50	20.50	0.75	0.75	8.50	0.38	3.81	—	0.63	0.63	4.25	
			mm	70	89	38	521	19	19	216	10	97		16	16	108	
	NEMA 143/145	1	in	2.75	3.50	1.50	20.50	0.75	0.75	8.50	0.38	3.81		0.63	0.63	4.25	
			mm	70	89	38	521	19	19	216	10	97		16	16	108	
	NEMA 182/184	1	in	2.75	4.50	1.50	20.50	0.75	0.75	8.50	0.38	3.81		0.63	0.63	4.25	
			mm	70	114	38	521	19	19	216	10	97		16	16	108	
	NEMA 213/215	1	in	2.75	5.25	2.94	29.00	1.00	1.50	9.00	1.90	3.81		0.63	0.63	4.50	
			mm	70	133	75	737	25	38	229	48	97		16	16	114	
H4195 HJ4195 HL4195	NEMA 56	1½	in	3.75	4.12	1.50	20.50	0.75	0.75	8.50	—	4.78	—	0.62	0.63	4.25	
			mm	95	105	38	521	19	19	216		121		16	16	108	
	NEMA 143/145	1½	in	3.75	4.12	1.50	20.50	0.75	0.75	8.50	—	4.78		0.62	0.63	4.25	
			mm	95	105	38	521	19	19	216		121		16	16	108	
	NEMA 182/184	1½	in	3.75	4.50	2.94	29.00	1.00	1.50	9.00	0.25	4.78		0.62	0.63	4.50	
			mm	95	114	75	737	25	38	229		6		16	16	114	
	NEMA 213/215	1½	in	3.75	5.25	2.94	29.00	1.00	1.50	9.00	0.25	4.78		0.62	0.63	4.50	
			mm	95	133	75	737	25	38	229		6		16	16	114	
	NEMA 254/256	1½	in	3.75	6.50	3.25	28.75	1.00	1.00	17.00	—	4.78		0.62	0.63	8.50	
			mm	95	165	83	730	25	25	432		121		16	16	216	
AS4195 AK4195 AL4195 *	NEMA 143/145T	2½	in	5.00	5.25	2.94	29.00	1.00	1.50	9.00	1.75	—	6.97	1.12	0.63	4.50	
			mm	127	133	75	737	25	38	229			177	28	16	114	
	NEMA 182/184	2½	in	5.00	5.25	2.94	29.00	1.00	1.50	9.00	—		6.97	1.12	0.63	4.50	
			mm	127	133	75	737	25	38	229			177	28	16	114	
	NEMA 213/215	2½	in	5.00	5.25	2.94	34.00	1.00	1.50	9.00	—		6.97	1.12	0.63	4.50	
			mm	127	133	75	864	25	38	229			177	28	16	114	
	NEMA 254/256	2½	in	5.00	6.25	4.00	39.00	1.38	1.38	16.00	3.75		6.97	1.12	0.63	8.00	
			mm	127	159	102	991	35	35	406			177	28	16	203	
	NEMA 284/286	2½	in	5.00	7.00	4.00	39.00	1.38	1.38	16.00	1.75		6.97	1.12	0.63	8.00	
			mm	127	178	102	991	35	35	406			177	28	16	203	

* 3" port on AL4195D.

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

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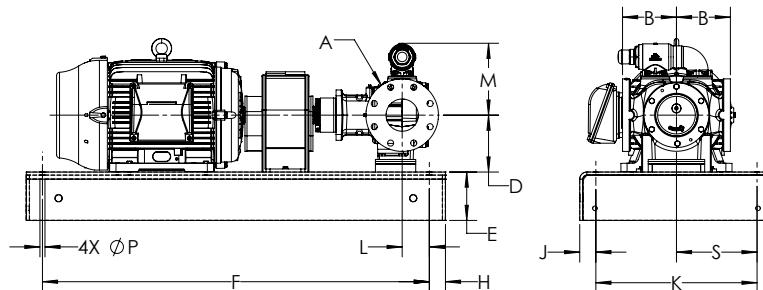
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DIMENSIONS — KE, KKE, LQE, LSE, Q SIZES — D DRIVE (4195) Q, QS SIZES — R DRIVE (4195)

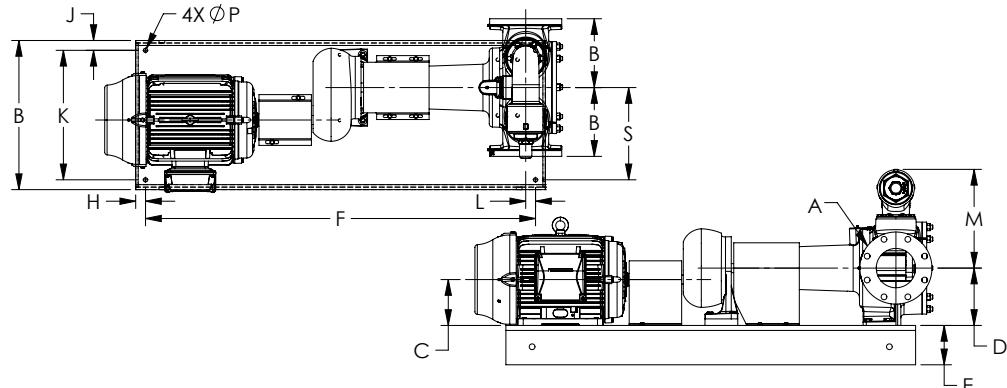
DIMENSIONS — KE, KKE, LQE, LSE, Q SIZES — D DRIVE (4195)



Model	Motor	A*	B	D	E	F	H	J	K	L	M	P	S
KE4195 KKE4195	NEMA 213/215 in	4	6.69	5.50	4.00	37.75	2.00	2.00	14.75	3.37	8.92	0.63	7.38
	NEMA 213/215 mm	100	169.9	139.7	101.6	958.9	50.8	50.8	374.7	85.6	226.6	16.0	187.3
	NEMA 254/256 in	4	6.69	6.25	6.00	48.00	2.00	2.00	20.00	3.37	8.92	0.63	10.00
	NEMA 254/256 mm	100	169.9	158.8	152.4	1219.2	50.8	50.8	508.0	85.6	226.6	16.0	254.0
	NEMA 284/286 in	4	6.69	7.00	6.00	48.00	2.00	2.00	20.00	3.37	8.92	0.63	10.00
	NEMA 284/286 mm	100	169.9	177.8	152.4	1219.2	50.8	50.8	508.0	85.6	226.6	16.0	254.0
	NEMA 284/286 in	4	6.69	7.31	6.00	48.00	2.00	2.00	20.00	3.25	12.88	0.63	10.00
	NEMA 284/286 mm	100	169.9	185.7	152.4	1219.2	50.8	50.8	508.0	82.6	327.2	15.9	254.0
LQE4195 LSE4195	NEMA 324/326 in	4	6.69	8.06	6.00	58.50	2.00	2.00	18.75	3.25	12.88	0.63	9.38
	NEMA 324/326 mm	100	169.9	204.7	152.4	1485.9	50.8	50.8	476.3	82.6	327.2	15.9	238.1
	NEMA 364/365 in	4	6.69	9.06	6.00	58.50	2.00	2.00	18.75	3.25	12.88	0.63	9.38
	NEMA 364/365 mm	100	169.9	230.1	152.4	1485.9	50.8	50.8	476.3	82.6	327.2	15.9	238.1
Q4195	IEC 280 in	6	10.50	11.37	6.00	68.00	2.00	2.00	32.00	1.00	15.06	0.88	16.00
	IEC 280 mm	150	266.7	288.8	152.4	1727.2	50.8	50.8	812.8	25.4	382.5	22.4	406.4

* Inch dimensions for Class 125 ANSI flanged ports, mm dimensions for DIN PN-16 flanged ports.

DIMENSIONS — Q, QS SIZES — R DRIVE (4195)



Model	Motor	A*	B	C	D	E	F	H	J	K	L	M	P	S
Q4195 QS4195	NEMA 254/256 in	6.00	10.50	6.25	8.75	6.00	59.50	1.50	1.50	19.75	1.50	15.06	0.63	14.07
	NEMA 254/256 mm	150	266.7	158.8	222.3	152.4	1511.3	38.1	38.1	501.7	38.1	382.5	15.9	357.4
	NEMA 284/286 in	6.00	10.50	7.00	8.75	6.00	59.50	1.50	1.50	19.75	1.50	15.06	0.63	14.07
	NEMA 284/286 mm	150	266.7	177.8	222.3	152.4	1511.3	38.1	38.1	501.7	38.1	382.5	15.9	357.4
	NEMA 324/326 in	6.00	10.50	8.00	8.75	6.00	68.00	2.00	2.00	20.00	1.00	15.06	0.63	14.81
	NEMA 324/326 mm	150	266.7	203.2	222.3	152.4	1727.2	50.8	50.8	508.0	25.4	382.5	15.9	376.2

* Inch dimensions for Class 125 ANSI flanged ports, mm dimensions for DIN PN-16 flanged ports.

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NPSH REQUIRED & EXPECTED NOMINAL SOUND LEVELS FOR MOTOR SPEED PUMPS

NPSH REQUIRED

Printed performance curves are not available.

Performance curves can be electronically generated with the Viking Pump Selector Program on vikingpump.com.

NPSHR data is not available on the pump selector.

Increasing the operating speed of positive displacement pumps increases the NPSH_R (Net Positive Suction Head – Required by pump) and sound levels. These are two factors that should be considered when selecting the correct pump for the application. Below are charts for the NPSH_R and sound levels of the Motor Speed Series pumps.

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						
	520	640	780	950	1150	1450	1750
G, GG	1.6	2.2	2.6	3.1	3.9	5.6	7.6
H, HJ, HL	2	2.8	3.4	4.5	6.2	9.5	13.5
AS, AK, AL	2.8	3.9	5.5	7.7	11.2	16.8	23.3
① KE, KKE	4.4	4.9	5.7	7	8.9	12.8	17.9
① LQE, LSE	7.3	9.3	10.9	13.1	16.1	—	—
① Q, QS	6.8	9	② 12.2	—	—	—	—

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

① These pumps utilize a directional design.

② Applies to Q pump only. QS pump max speed is 640 RPM.

EXPECTED NOMINAL SOUND LEVELS FOR MOTOR SPEED PUMPS

The sound pressure level, measured in dB(A), is a measurement of the deviation in the atmospheric pressure caused by a sound wave. The measurement is taken at a distance of approximately 1 meter from the sound source. The sound pressure levels are for the pump only using a 100 SSU liquid, at 100 PSI discharge pressure, at the speeds indicated. Background noise and ancillary equipment, such as drives and motors, in the operating environment will likely cause the actual sound pressure level to deviate from the information in the table below.

Local national laws and regulations on noise exposure in the workplace should be observed during operation.

PUMP SIZE	PUMPS SPEED, RPM						
	520	640	780	950	1150	1450	1750
G, GG	—	—	—	62	63	63	63
H, HJ, HL	—	—	—	68	70	75	80
AS, AK, AL	—	—	—	82	84	86	88
① KE, KKE	—	—	—	84	86	87	89
① LQE, LSE	—	88	89	91	93	—	—
① Q, QS	91	93	② 94	—	—	—	—

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

① These pumps utilize a directional design.

② Applies to Q pump only. QS pump max speed is 640 RPM.



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