

VIKING MOTOR SPEED INTERNAL GEAR PUMPS

SERIES 495 & 4195



**MOTOR
SPEED**
SMALLER. FASTER. EASIER.

Section	144
Page	144.1
Issue	M

Series Description

Viking's Motor Speed series 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.

Because the pump's maximum viscosity at motor speeds is 2,500 SSU (560 cSt), it is considered a "thin liquid" pump, for transfer of light oils, refined fuels and chemicals. It has the ability to handle thicker liquids at reduced speeds, though, to 25,000 SSU (5,500 cSt), providing versatility of application where temperatures or chemical reactions may increase viscosity.

Operating Range:

Nominal Flow	GPM	8 to 580
	m ³ /h	1.8 to 132
Pressure Range	PSI	To 250 (150 for KE-QS)
	Bar	To 17 (10 for KE-QS)
Temp. Range	°F	-40 to 350 (0 to 225 for KE-QS)
	°C	-40 to 180 (-15 to 110 for KE-QS)
Viscosity Range	SSU	28 to 15,000 (25,000 for KE-LSE, QS) (7,500 for Q)
	cSt	0.1 to to 3,300 (5,500 for KE-LSE, QS) (1,650 for Q)

Nominal Flow Rates:

Pump Size	GPM	m ³ /h	RPM
G	8	1.8	1750
GG	10	2.3	1750
H	15	3.4	1750
HJ	20	4.5	1750
HL	30	6.8	1750
AS	55	12	1750
AK	85	20	1750
AL	115	26	1750
KE	150	34	1750
KKE	205	47	1750
LQE	235	53	1150
LSE	350	80	1150
Q	460	104	750
QS	580	132	640



Section	144
Page	144.2
Issue	M



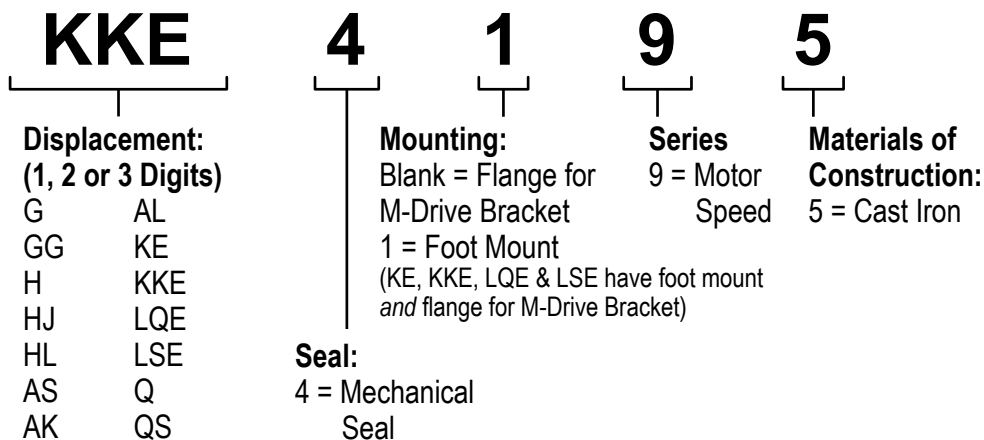
VIKING MOTOR SPEED INTERNAL GEAR PUMPS

SERIES 495 & 4195

Key Features and 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-A sizes) or 150 PSI / 10 BAR (K-Q 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 Viton® 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
- 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 on low NPSHa applications

Model Number Key:



Viton® is a registered trademark of E.I. du Pont de Nemours and Company.

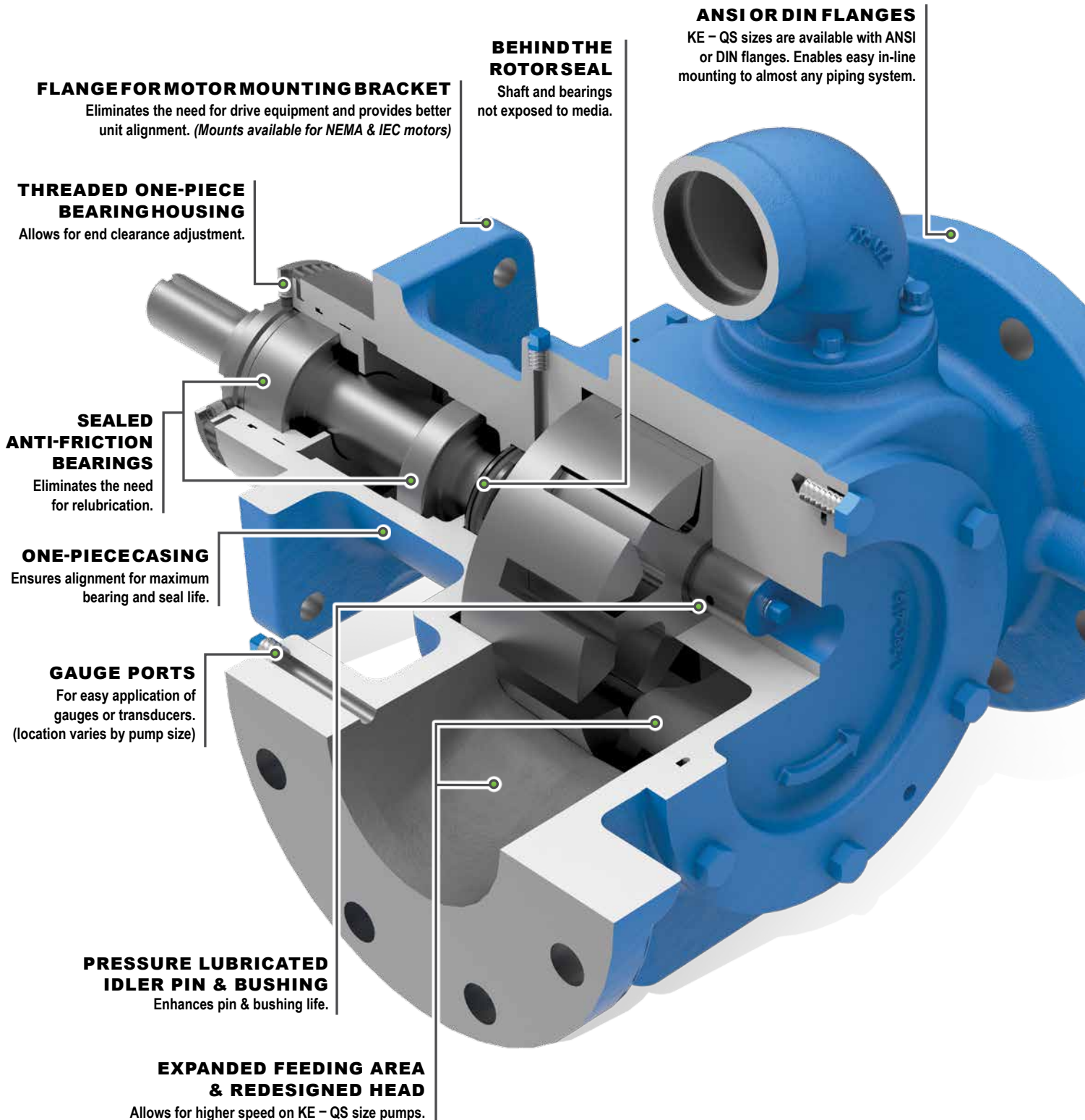
VIKING MOTOR SPEED INTERNAL GEAR PUMPS

SERIES 495 & 4195



**MOTOR
SPEED**
SMALLER. FASTER. EASIER.

Section	144
Page	144.3
Issue	M



FLANGE FOR MOTOR MOUNTING BRACKET

Eliminates the need for drive equipment and provides better unit alignment. (Mounts available for NEMA & IEC motors)

BEHIND THE ROTOR SEAL

Shaft and bearings not exposed to media.

ANSI OR DIN FLANGES

KE - QS sizes are available with ANSI or DIN flanges. Enables easy in-line mounting to almost any piping system.

THREADED ONE-PIECE BEARING HOUSING

Allows for end clearance adjustment.

SEALED ANTI-FRICTION BEARINGS

Eliminates the need for relubrication.

ONE-PIECE CASING

Ensures alignment for maximum bearing and seal life.

GAUGE PORTS

For easy application of gauges or transducers. (location varies by pump size)

PRESSURE LUBRICATED IDLER PIN & BUSHING

Enhances pin & bushing life.

EXPANDED FEEDING AREA & REDESIGNED HEAD

Allows for higher speed on KE - QS size pumps.

Section	144
Page	144.4
Issue	M



VIKING MOTOR SPEED INTERNAL GEAR PUMPS

SERIES 495 & 4195

Materials of Construction

Component	Standard Material
Bracket/Casing	Cast Iron, ASTM A48, Class 35B
Head	Cast Iron, ASTM A48, Class 35B
Pressure Relief Valve	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, FC-0208-50 (G, GG) Powdered Metal MPIF 35, FC-0208-45 (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
Mechanical Seal Faces	Carbon vs. Silicon Carbide
Elastomers	Viton®
Antifriction bearings	Steel with Buna Seals

Viton® is a registered trademark of E.I. du Pont de Nemours and Company.

Specifications

Footed Model	Footless Model ①	NPT Ports IN	Flange Ports ③		Nominal Pump Rating (100 SSU and Below)						Maximum Differential Pressure ④		Maximum Hydrostatic Pressure		Maximum Temperature		Approximate Shipping Weight	
			Class 125 ② IN	DIN PN-16 mm	60 Hz			50 Hz			PSI	Bar	PSI	Bar	°F	°C	Lbs	Kg.
					RPM	GPM	m³/h	RPM	GPM	m³/h								
G4195	G495	1	--	--	1750	8	1.8	1450	7	1.5	250	17	400	27	350	180	20	9
GG4195	GG495	1	--	--	1750	10	2.3	1450	8	1.9	250	17	400	27	350	180	20	9
H4195	H495	1.5	--	--	1750	15	3.4	1450	12	2.8	250	17	400	27	350	180	44	20
HJ4195	HJ495	1.5	--	--	1750	20	4.5	1450	17	3.8	250	17	400	27	350	180	44	20
HL4195	HL495	1.5	--	--	1750	30	6.8	1450	25	5.6	250	17	400	27	350	180	44	20
AS4195	AS495	2.5	--	--	1750	55	12	1450	45	10	250	17	400	27	350	180	85	39
AK4195	AK495	2.5	--	--	1750	85	19	1450	70	16	250	17	400	27	350	180	85	39
AL4195	AL495	3	--	--	1750	115	26	1450	95	22	250	17	400	27	350	180	86	39
KE4195⑤	①	--	4	100	1750	150	34	1450	125	28	150	10	300	20	225	110	132	60
KKE4195⑤	①	--	4	100	1750	205	47	1450	170	39	150	10	300	20	225	110	133	60
LQE4195⑤	①	--	4	100	1150	235	53	960	195	44	150	10	300	20	225	110	220	100
LSE4195⑤	①	--	4	100	1150	350	80	960	290	67	150	10	300	20	225	110	222	101
Q4195	--	--	6	150	750	460	104	750	460	104	150	10	300	20	225	110	443	201
QS4195	--	--	6	150	640	580	132	640	580	132	150	10	300	20	225	110	450	204

① 495 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.

② Flange ports are suitable for use with Class 125 ANSI cast iron companion flanges or flanged fittings.

③ Optional Class 250 or DIN PN-25/40.

④ If suction pressures exceed 100 PSI (7 BAR), consult factory.

⑤ These sizes can only operate in one direction (clockwise only).

NOTE: Steel rotor recommended on sizes GG, HJ & Q above 7,500 SSU / 1,600 cSt viscosity.

NOTE: Nominal flow rates taken at 100 SSU and 25 PSI.

VIKING MOTOR SPEED INTERNAL GEAR PUMPS

SERIES 495 & 4195



**MOTOR
SPEED**
SMALLER. FASTER. EASIER.

Section	144
Page	144.5
Issue	M

Mounting Options

Flange Motor Mount Units (M-Drive)

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



Footed M-Drive Bracket

Sizes: G - LSE4195

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

Pump Model Number - Mounting Flange for Motor Bracket ①	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 ③
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
KE4195①	213/5TC, 254/6TC, 284/6TC	Yes	132, 160	Yes
KKE4195①	213/5TC, 254/6TC, 284/6TC	Yes	132, 160	Yes
LQE4195①	324/6TC	Yes	160, 180 ②	Yes
LSE4195①	324/6TC	Yes	160, 180 ②	Yes

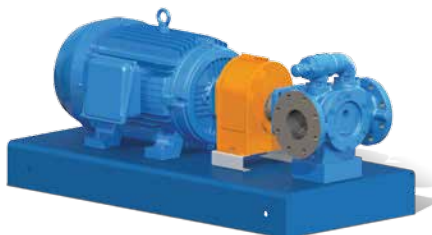
① 495 models require a motor mount bracket, they do not have a mounting foot.
KE, KKE, LQE, LSE 4195 models have both mounting flange for motor bracket and a mounting foot.

② 160, 180 only available as B5.

③ Requires footed motor.

Direct Drive (D-Drive)

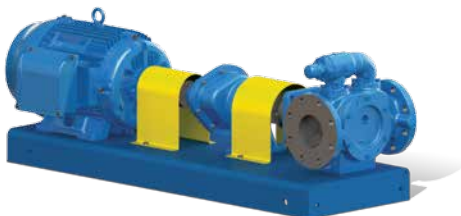
Pump and motor mounted on a base with coupling and coupling guard.



Sizes: G - Q4195

Reducer Drive (R-Drive)

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



Sizes: Q & QS4195

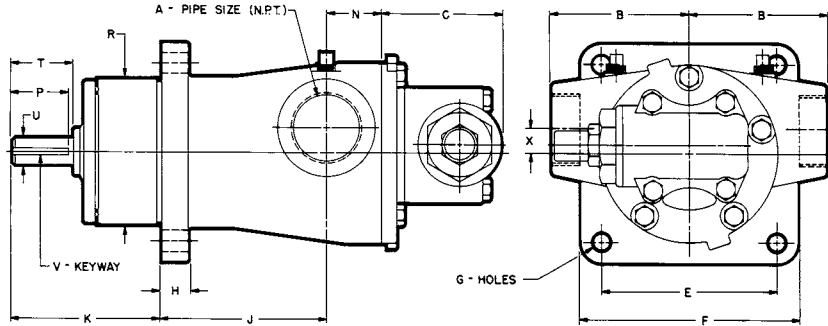
Section	144
Page	144.6
Issue	M



VIKING MOTOR SPEED INTERNAL GEAR PUMPS

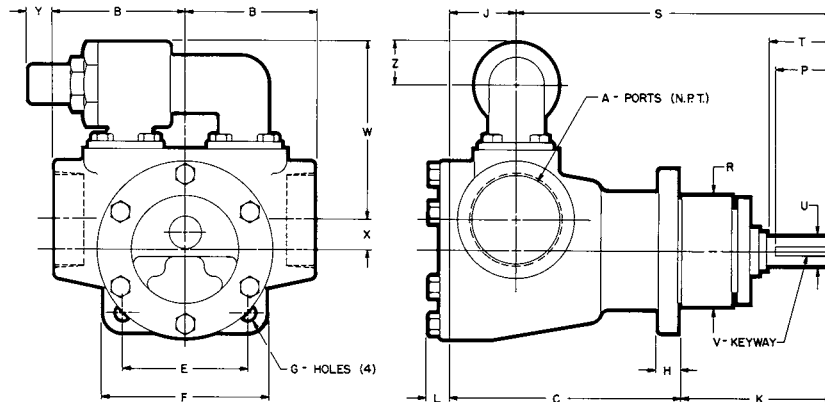
SERIES 495 & 4195

Dimensions G - GG - H - HJ - HL 495 (Unmounted Pumps)



MODEL		A	B	C	E	F	G	H	J	K	N	P	R	T	U	V	X
G495 GG495	in	1	2.75	2.66	3.00	4.00	.41	.50	3.44	2.81	1.12	.94	2.875 2.873	1.12	.500	FLAT	.62
	mm		70	67	76	102	10	13	87	71	29	24	73	29	12.70		16
H495 HJ495 HL495	in	1½	3.75	3.28	4.75	5.88	.56	.75	4.50	4.00	1.50	1.50	3.875 3.873	1.62	.750	.19 x .09	.62
	mm		95	83	121	149	14	19	114	102	38	38	98	41	19.05		4.76 x 2.38

Dimensions AS - AK - AL 495 (Unmounted Pumps)



MODEL		A	B	C	E	F	G	H	J	K	L	P	R	S	T	U	V	W	X	Y	Z
AS495 AK495	in	2½	5	8.38	4.75	6.25	0.56	0.75	2	5.75	0.75	2.25	4.25 4.248	12.12	2.5	1	.25 x .12	7	1.12	1	1.72
	mm		127	213	121	159	14	19	51	146	22	57	108	308	64	25.4	6.35 x 3.18	178	29	25	40
AL495	in	3	5	8.88	4.75	6.25	0.56	0.75	2.5	5.75	0.75	2.25	4.25 4.248	12.12	2.5	1	.25 x .12	7	1.12	1	1.72
	mm		127	225	121	159	14	19	64	146	22	57	108	308	64	25.4	6.35 x 3.18	178	29	25	40

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

VIKING MOTOR SPEED INTERNAL GEAR PUMPS

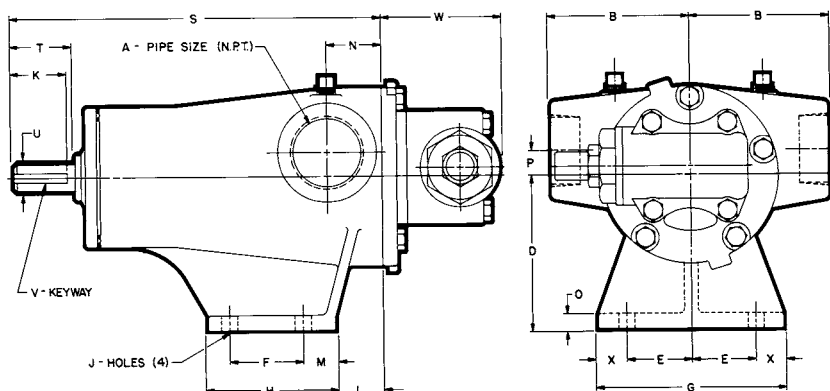
SERIES 495 & 4195



**MOTOR
SPEED**
SMALLER. FASTER. EASIER.

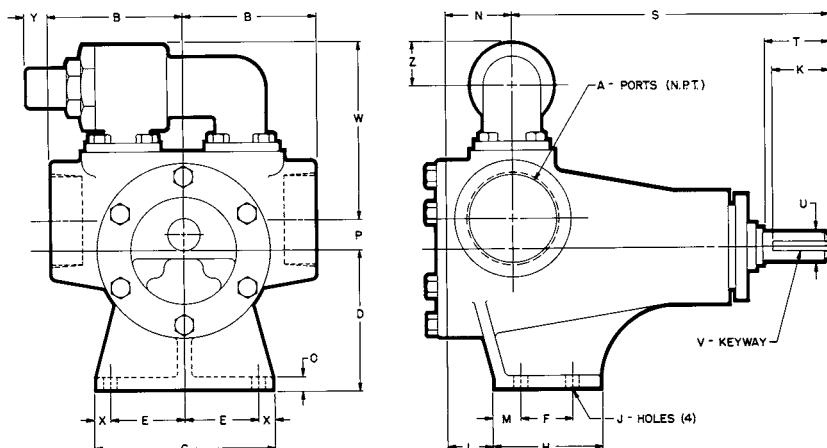
Section	144
Page	144.7
Issue	M

Dimensions G - GG - H - HJ - HL 4195 (Unmounted Pumps)



MODEL		A	B	D	E	F	G	H	J	K	L	M	N	O	P	S	T	U	V	W	X
G4195	in	1	2.75	2.75	1.62	1.31	4.00	2.44	.34	.94	.03	.66	1.12	.31	.62	7.31	1.12	.500	FLAT	2.66	.38
GG4195	mm		70	70	41	33	102	62	9	24	1	17	29	8	16	186	29	12.70		67	10
H4195	in	1½	3.75	4.12	1.75	2.00	5.00	3.50	.41	1.50	1.25	.88	1.50	.44	.62	10.00	1.62	.750	.19 x .09	3.28	.75
HJ4195 HL4195	mm		95	105	44	51	127	89	10	38	32	22	38	11	16	254	41	19.05		4.76 x 2.38	83

Dimensions AS - AK - AL 4195 (Unmounted Pumps)



MODEL		A	B	D	E	F	G	H	J	K	L	M	N	O	P	S	T	U	V	W	X	Y	Z
AS4195	in	2½	5.00	5.25	2.88	2.00	6.75	4.00	.41	2.25	1.25	1.00	2.00	.44	1.12	12.12	2.50	1.000	.25 x .12	7.00	.50	1.00	1.72
	mm		127	133	73	51	171	102	10	57	32	25	51	11	29	308	60	25.40		6.35 x 3.18	178	13	25
AK4195	in	2½	5.00	5.25	2.88	2.00	6.75	4.00	.41	2.25	1.25	1.00	2.00	.44	1.12	12.12	2.50	1.000	.25 x .12	7.00	.50	1.00	1.72
	mm		127	133	73	51	171	102	10	57	32	25	51	11	29	308	60	25.40		6.35 x 3.18	178	13	25
AL4195	in	3	5.00	5.25	2.88	2.00	6.75	4.00	.41	2.25	1.75	1.00	2.50	.44	1.12	12.12	2.50	1.000	.25 x .12	7.00	.50	1.00	1.72
	mm		127	133	73	51	171	102	10	57	44	25	64	11	29	308	60	25.40		6.35 x 3.18	178	13	25

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

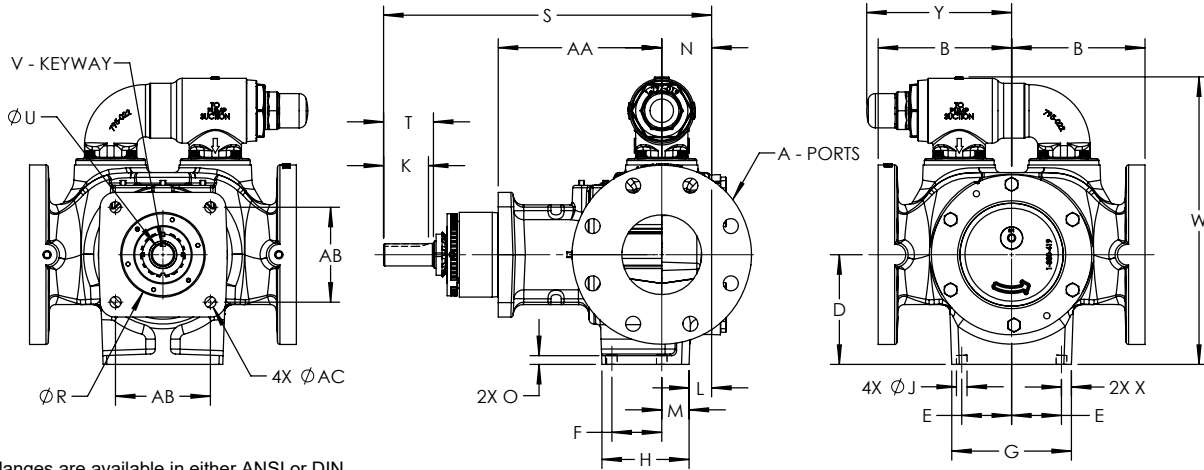
Section	144
Page	144.8
Issue	M



VIKING MOTOR SPEED INTERNAL GEAR PUMPS

SERIES 495 & 4195

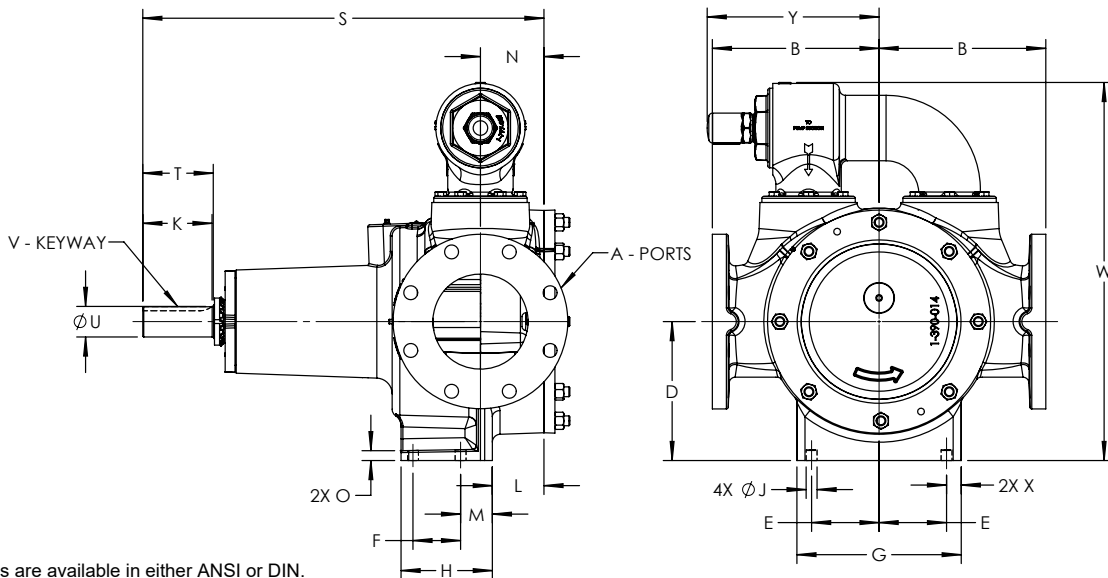
Dimensions KE - KKE - LQE - LSE 4195 (Unmounted Pumps)



NOTE: Flanges are available in either ANSI or DIN.

MODEL		A	B	D	E	F	G	H	J	K	L	M	N	O	R	S	T	U	V	W	X	Y	AA	AB	AC
KE4195 KKE4195	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	4.250 4.248	16.45	2.50	1.125	.25 X .12	14.42	0.50	7.26	8.20	4.76	0.56
	mm	101.6	169.9	139.7	63.5	63.5	152.4	111.0	13.5	57.2	28.7	34.8	63.5	11.2	107.95 107.90	417.8	63.5	28.58	6.35 X 3.18	366.3	12.7	184.4	208.3	120.9	14.2
LQE4195 LSE4195	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	5.250 5.248	19.03	3.50	1.437	.38 X .19	19.88	0.62	9.66	9.88	4.76	0.56
	mm	101.6	215.9	177.8	76.2	69.9	183.9	127.0	13.5	82.6	38.1	31.8	69.9	13.0	133.35 133.30	483.4	88.9	36.5	9.65 X 4.83	505.0	15.7	245.4	251.0	120.9	14.2

Dimensions Q - QS 4195 (Unmounted Pumps)



NOTE: Flanges are available in either ANSI or DIN.

MODEL		A	B	D	E	F	G	H	J	K	L	M	N	O	S	T	U	V	W	X	Y
Q4195 QS4195	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	1.937	.50	23.81	0.92	10.83
	mm	152.4	266.7	222.3	108.0	76.2	262.9	146.1	17.5	110.7	82.6	50.8	101.6	15.7	641.6	112.8	49.20	X .25	604.8	23.4	275.1

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

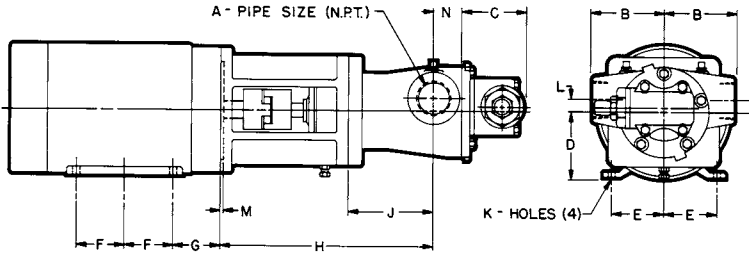
VIKING MOTOR SPEED INTERNAL GEAR PUMPS

SERIES 495 & 4195



Section	144
Page	144.9
Issue	M

Dimensions G - GG - H - HJ - HL 495 (M Drive)

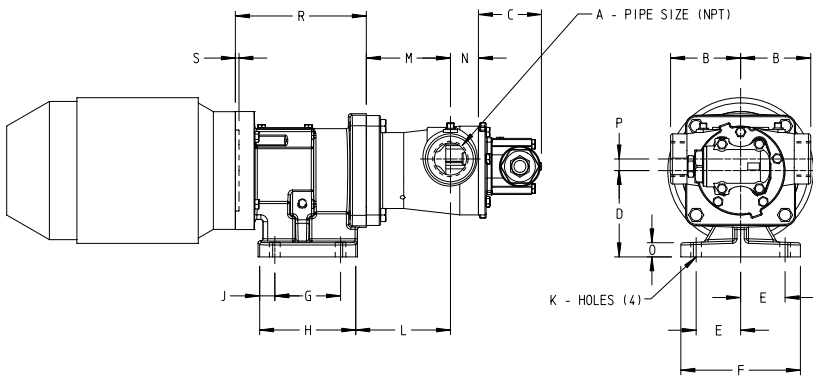


NOTE: Jaw type coupling with straight jaws recommended to facilitate assembly of motor and pump to bracket.

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	
G495M GG495M	in	2.75	2.66	3.44	.62	.19	1.12	NEMA 56C	3.50	2.44	1.50	2.56	8.88	.34 SLOT	
		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		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		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		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		114	95	70	86	243	10
	G495M GG495M	in	2.75	2.66	3.44	0.62	0.19	1.12	IEC 80	3.15	2.46	1.97	1.97	4.38	0.39
			mm	69.9	67.6	87.4	15.7	4.8	28.4		80.0	62.5	50.0	50.0	111.3
in		2.75	2.66	3.44	0.62	0.19	1.12	IEC 90	3.54	2.76	1.97	2.21	8.71	0.39	
		mm	69.9	67.6	87.4	15.7	4.8	28.4		90.0	70.0	50.0	56.0	221.2	10.0
H495M HJ495M HL495M		in	3.75	3.28	4.50	.62	.19	1.50	NEMA 56C	3.50	2.44	1.50	2.56	11.12	.34 SLOT
			mm	95	83	114	16	5	38		89	62	38	65	283
		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		89	70	51	73	283
		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		89	70	64	73	283
		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		144	95	57	86	300
	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		114	95	70	86	300	10
	in	3.75	3.28	4.50	.62	.19	1.50	NEMA 213TC	5.25	4.25	2.75	4.25	12.56	.41	
		mm	95	83	114	16	5	38		133	108	70	108	319	10
in	3.75	3.28	4.50	.62	.19	1.50	NEMA 215TC	5.25	4.25	3.50	4.25	12.56	.41		
	mm	95	83	114	16	5	38		133	108	89	108	319	10	

Dimensions H - HJ - HL 495 IEC Frame (M Drive)



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	B	C	M	N	P	MOTOR FRAME	D	E	F	G	H	J	K	L	O	R	S
H495M	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
		mm	95.3	83.3	114.3	38.1		15.7		117.3	60.5	162.6	89.4	130.6	20.6	14.5	125.0	19.1
HJ495M	in	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
		mm	95.3	83.3	114.3	38.1		15.7		117.3	60.5	162.6	89.4	130.6	20.6	14.5	128.8	19.1
HL495M	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
		mm	95.3	83.3	114.3	38.1		15.7		135.1	74.9	190.0	114.3	154.7	20.3	14.5	129.8	19.1

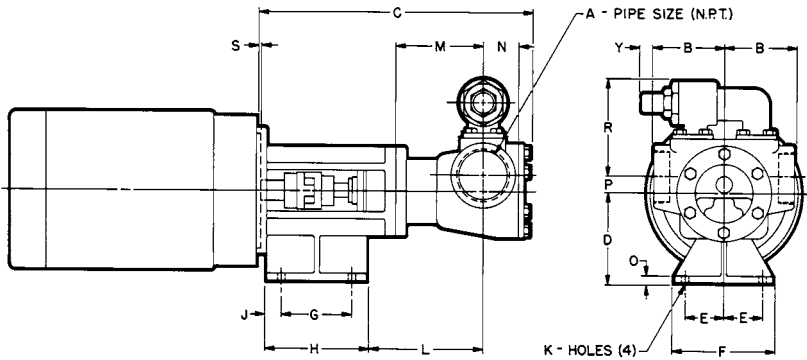
These dimensions are average and not for construction purposes. Certified prints on request.

Section	144
Page	144.10
Issue	M



**VIKING MOTOR SPEED
INTERNAL GEAR PUMPS**
SERIES 495 & 4195

Dimensions AS - AK - AL 495 (M Drive)



MODEL	MOTOR FRAME		A	B	C	D	E	F	G	H	J	K	L	M	N	O	P	R	S	Y
AS495M AK495M	NEMA ①	in	2.5	5.00	① 19.06	6.25	2.75	7.00	5.00	7.00	1.00	.56	① 8.44	6.38	2.00	.50	1.12	7.00	.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	in	2.5	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		127.0	461.3	158.8	69.9	177.8	127.0	183.9	28.4	14.2	196.9	162.1	50.8	12.7	28.4	180.8	6.4	152.4
	IEC 160	in	2.5	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		127.0	497.3	165.1	69.9	190.5	152.4	209.8	28.7	14.2	196.9	162.1	50.8	15.7	28.4	180.8	6.4	152.4
AL495M	NEMA ①	in	3	5.00	① 19.56	6.25	2.75	7.00	5.00	7.00	1.00	.56	① 8.44	6.38	2.50	.50	1.12	7.00	.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	in	3	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		127.0	20.1	158.8	69.9	177.8	127.0	183.9	28.4	14.2	196.9	162.1	63.5	12.7	28.4	180.8	6.4	152.4
	IEC 160	in	3	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		127.0	510.0	165.1	69.9	190.5	152.4	209.8	28.7	14.2	196.9	162.1	63.5	15.7	28.4	180.8	6.4	152.4

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.

VIKING MOTOR SPEED INTERNAL GEAR PUMPS

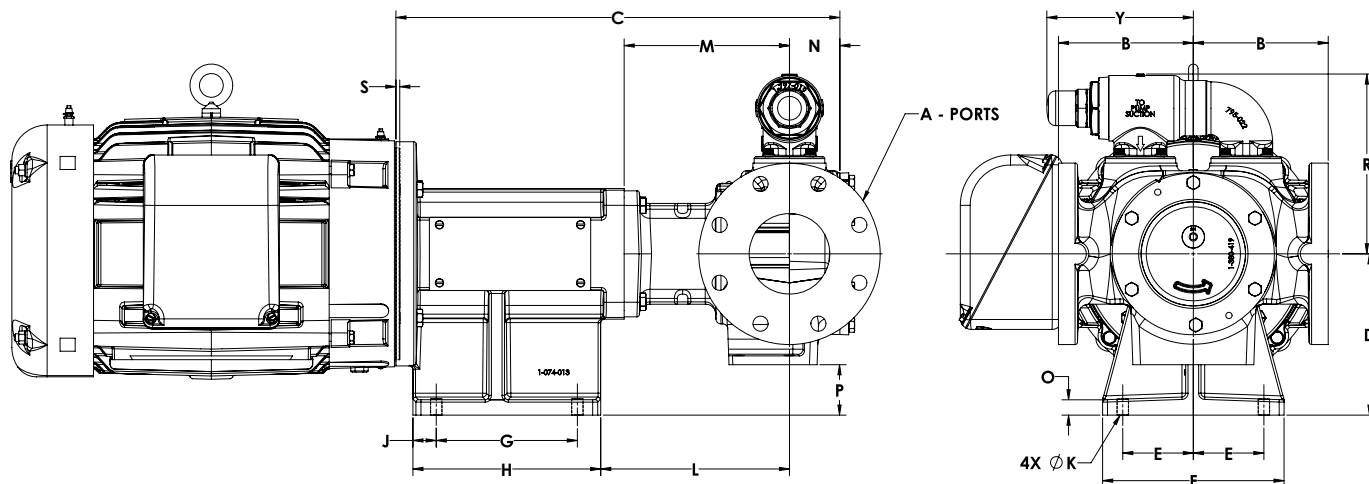
SERIES 495 & 4195



**MOTOR
SPEED**
SMALLER. FASTER. EASIER.

Section	144
Page	144.11
Issue	M

Dimensions KE - KKE - LQE - LSE 4195 (Pump, M Drive, Motor)



MODEL		MOTOR	A	B	C	D	E	F	G	H	J	K	L	M	N	O	P	R	S	Y
KE4195M KKE4195M	in	NEMA	4	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
	mm	213/215	100	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
	in	NEMA	4	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
	mm	254/256	100	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
	in	NEMA	4	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
	mm	284/286	100	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
	in	IEC	4	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
	mm	132	100	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
in	IEC	4	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	
mm	160	100	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	
LQE4195M LSE4195M	in	NEMA	4	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
	mm	324/326	100	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
	in	IEC	4	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
	mm	160	100	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
	in	IEC	4	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
	mm	180	100	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

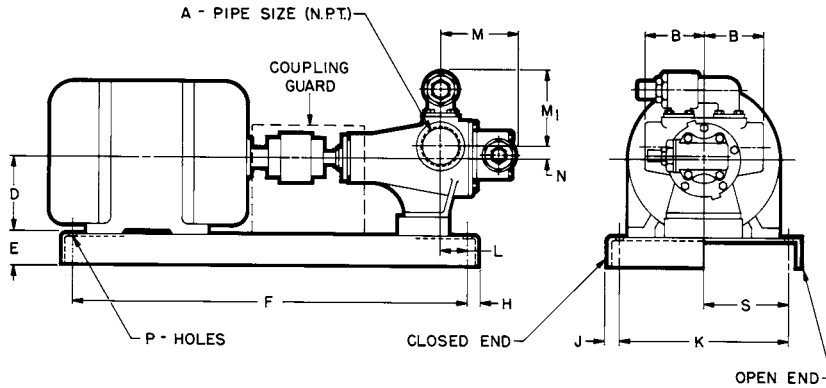
These dimensions are average and not for construction purposes. Certified prints on request.

Section	144
Page	144.12
Issue	M



**VIKING MOTOR SPEED
INTERNAL GEAR PUMPS**
SERIES 495 & 4195

Dimensions G - GG - H - HJ - HL - AS - AK - AL 4195 (D DRIVE)



MODEL	MOTOR		A	B	D	E	F	H	J	K	L	M	M ₁	N	P	S
G4195D GG4195D	NEMA 56	in	1	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	25.4	69.9	88.9	38.1	520.7	19.1	19.1	215.9	9.7	96.8		16	16	108.0
	NEMA 143/145	in	1	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	25.4	69.9	88.9	38.1	520.7	19.1	19.1	215.9	9.7	96.8		16	16	108.0
	NEMA 182/184	in	1	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	25.4	69.9	114.3	38.1	520.7	19.1	19.1	215.9	9.7	96.8		16	16	108.0
NEMA 213/215	in	1	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	25.4	69.9	133.4	74.7	736.6	25.4	38.1	228.6	48.3	96.8	16	16	114.3		
H4195D HJ4195D HL4195D	NEMA 56	in	1.5	3.75	4.12	1.50	20.50	0.75	0.75	8.50	-	4.78	-	0.62	0.63	4.25
		mm	38.1	95.3	104.6	38.1	520.7	19.1	19.1	215.9	-	121.4		15.7	16	108.0
	NEMA 143/145	in	1.5	3.75	4.12	1.50	20.50	0.75	0.75	8.50	-	4.78		0.62	0.63	4.25
		mm	38.1	95.3	104.6	38.1	520.7	19.1	19.1	215.9	-	121.4		15.7	16	108.0
	NEMA 182/184	in	1.5	3.75	4.12	2.94	29.00	1.00	1.50	9.00	0.25	4.78		0.62	0.63	4.50
		mm	38.1	95.3	104.6	74.7	736.6	25.4	38.1	228.6	6.4	121.4		15.7	16	114.3
	NEMA 213/215	in	1.5	3.75	4.12	2.94	29.00	1.00	1.50	9.00	0.25	4.78		0.62	0.63	4.50
		mm	38.1	95.3	104.6	74.7	736.6	25.4	38.1	228.6	6.4	121.4		15.7	16	114.3
	NEMA 254/256	in	1.5	3.75	4.12	3.25	28.75	1.00	1.00	17.00	-	4.78		0.62	0.63	8.50
		mm	38.1	95.3	104.6	82.6	730.3	25.4	25.4	431.8	-	121.4		15.7	16	215.9
AS4195D AK4195D AL4195D*	NEMA 143/145T	in	2.5	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	63.5	127	133.4	74.7	736.6	25.4	38.1	228.6	44.5	-	177	28.4	16	114.3
	NEMA 182/184	in	2.5	5.00	5.25	2.94	29.00	1.00	1.50	9.00	-	-	6.97	1.12	0.63	4.50
		mm	63.5	127	133.4	74.7	736.6	25.4	38.1	228.6	-	-	177	28.4	16	114.3
	NEMA 213/215	in	2.5	5.00	5.25	2.94	34.00	1.00	1.50	9.00	-	-	6.97	1.12	0.63	4.50
		mm	63.5	127	133.4	74.7	863.6	25.4	38.1	228.6	-	-	177	28.4	16	114.3
	NEMA 254/256	in	2.5	5.00	5.25	4.00	39.00	1.38	1.38	16.00	3.75	-	6.97	1.12	0.63	8.00
		mm	63.5	127	133.4	101.6	990.6	35.1	35.1	406.4	95.3	-	177	28.4	16	203.2
	NEMA 284/286	in	2.5	5.00	5.25	4.00	39.00	1.38	1.38	16.00	1.75	-	6.97	1.12	0.63	8.00
		mm	63.5	127	133.4	101.6	990.6	35.1	35.1	406.4	44.5	-	177	28.4	16	203.2

* 3" port on AL4195D.

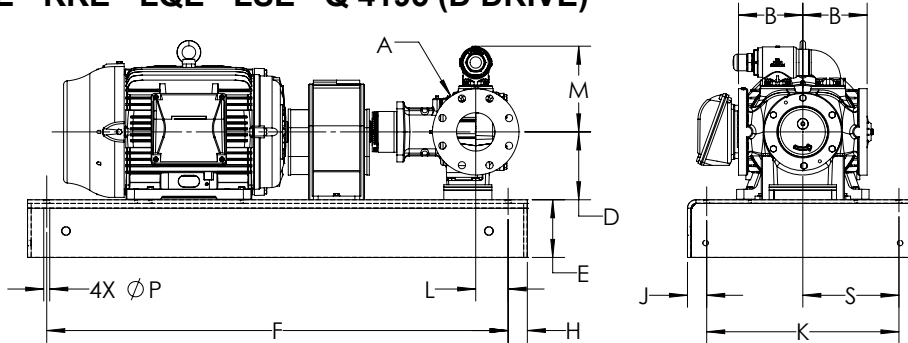
Section	144
Page	144.13
Issue	M



VIKING MOTOR SPEED INTERNAL GEAR PUMPS

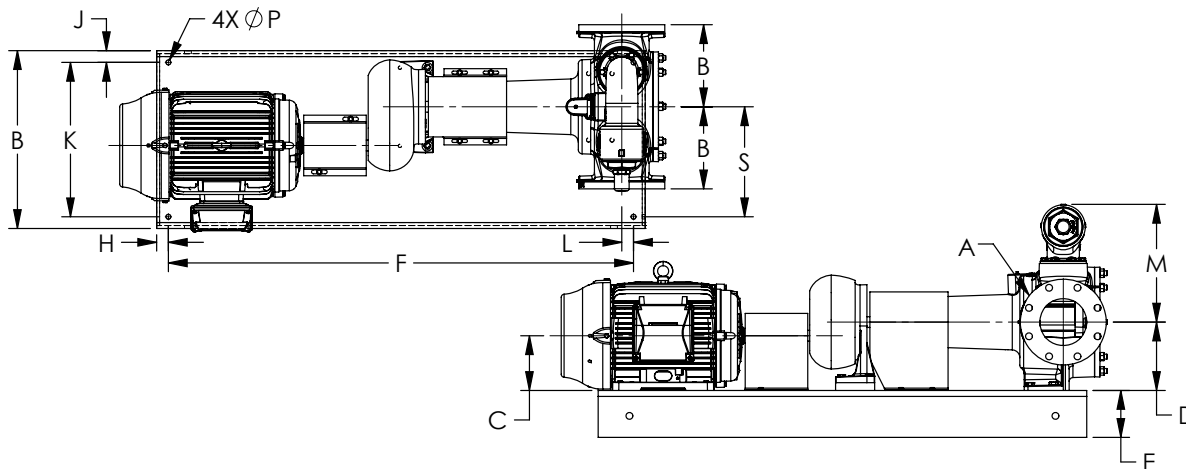
SERIES 495 & 4195

Dimensions KE - KKE - LQE - LSE - Q 4195 (D DRIVE)



MODEL	MOTOR		A	B	D	E	F	H	J	K	L	M	P	S
KE4195D KKE4195D	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
		mm	101.6	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
		mm	101.6	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
		mm	101.6	169.9	177.8	152.4	1219.2	50.8	50.8	508.0	85.6	226.6	16.0	254.0
LQE4195D LSE4195D	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
		mm	101.6	169.9	185.7	152.4	1219.2	50.8	50.8	508.0	82.6	327.2	15.9	254.0
	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
		mm	101.6	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
		mm	101.6	169.9	230.1	152.4	1485.9	50.8	50.8	476.3	82.6	327.2	15.9	238.1
Q4195D	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
		mm	152.4	266.7	288.8	152.4	1727.2	50.8	50.8	812.8	25.4	382.5	22.4	406.4

Dimensions Q - QS 4195 (R DRIVE)



MODEL	MOTOR		A	B	C	D	E	F	H	J	K	L	M	P	S
Q4195R QS4195R	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
		mm	152.4	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
		mm	152.4	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
		mm	152.4	266.7	203.2	222.3	152.4	1727.2	50.8	50.8	508.0	25.4	382.5	15.9	376.2

Section	144
Page	144.14
Issue	M



VIKING MOTOR SPEED INTERNAL GEAR PUMPS

SERIES 495 & 4195

Performance Curve Notes

Printed performance curves are not available.

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

NPSH_R 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_R - FEET OF LIQUID (SP. GR. 1.0)

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 NPSH_R. For a complete explanation of NPSH, refer to Viking Application Data Sheet, AD-19.

PUMP SIZE	NPSH _R AT SPEEDS INDICATED (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	2.0	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
KE, KKE ①	4.4	4.9	5.7	7.0	8.9	12.8	17.9
LQE, LSE ①	7.3	9.3	10.9	13.1	16.1	--	--
Q, QS ①	6.8	9.0	12.2 ②	--	--	--	--

Note: NPSH_R in feet of liquid (Sp. Gr. 1.0) and applies for viscosities through 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	SOUND LEVEL dB(A) AT SPEEDS INDICATED (RPM)						
	520	640	750	950	1150	1450	1750
G, GG	--	--	--	62	63	63	63
H, HJ, HL	--	--	--	68	70	75	80
AS, AK, AL	--	--	--	82	84	86	88
KE, KKE	--	--	--	84	86	87	89
LQE, LSE	--	88	89	91	93	--	--
Q, QS	91	93	94 ②	--	--	--	--

Note: Sound level readings taken in a lab environment at 100 SSU and 100 PSI.

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