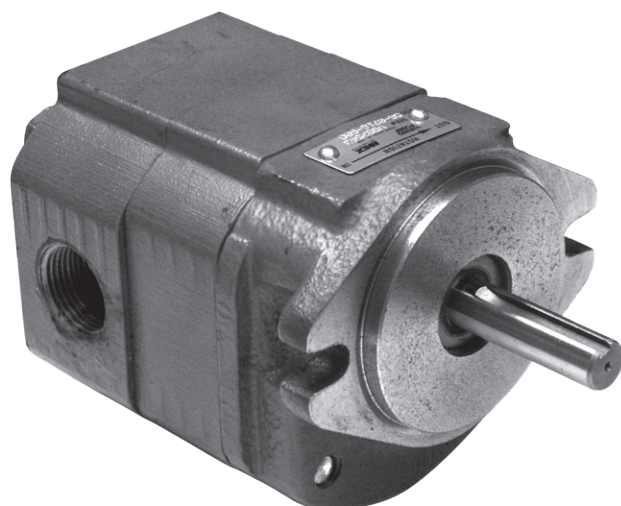


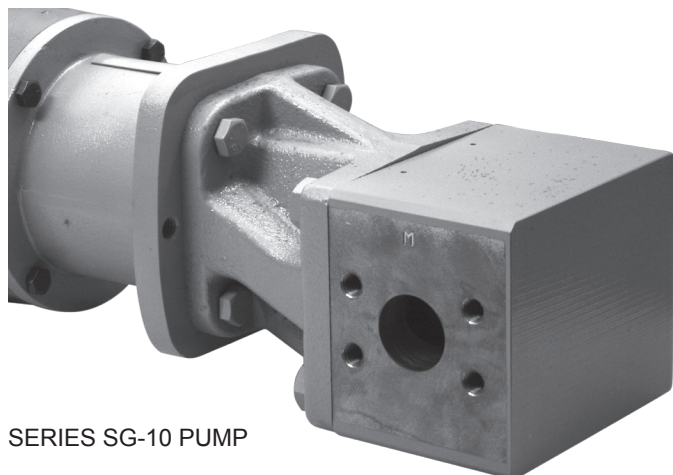
VIKING SG SERIES SINGLE PUMPS (WITH SHAFT SEAL)



SERIES SG-04/-05 PUMP



SERIES SG-07 PUMP



SERIES SG-10 PUMP

OPERATING RANGE:

SG Pumps (Cast Iron, Lip or Mechanical Sealed)		
Displacements	No.	29
Flow Range	GPM	0.06 to 190
	M ³ /Hr	0.011 to 43
Pressure Range	PSI	to 500 Continuous, 2,500 Intermittent
	Bar	to 34 Continuous, 170 Intermittent
Temperature Range	°F	-40° to 450°
	°C	-40° to 230°
Viscosity Range	SSU	28 to 1,000,000
	cSt	0.1 to 250,000

SGN Pumps (Ductile Iron, Lip or Mechanical Sealed)		
Displacements	No.	17
Flow Range	GPM	0.7 to 32
	M ³ /Hr	0.16 to 7.2
Pressure Range	PSI	to 500 Continuous, 2,500 Intermittent
	Bar	to 34 Continuous, 170 Intermittent
Temperature Range	°F	-40° to 450°
	°C	-40° to 230°
Viscosity Range	SSU	28 to 1,000,000
	cSt	0.1 to 250,000

TYPICAL APPLICATIONS:

- Fuels & Fuel Oils
- Lubricants
- Chemical Metering
- Solvents
- Alcohol
- Cooking Oils
- Paints, Inks & Coatings
- Polyurethanes
- Heat Transfer Fluids

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SERIES SG-04, -05, -07, -10, -14 (Cast Iron)
SGN-05, -07 (Ductile Iron)



VIKING SG SERIES SINGLE PUMPS (WITH SHAFT SEAL)

SERIES DESCRIPTION

Viking SG is an extensive series of precision, industrial-duty external gear pumps that develop higher pressures than other Viking pumps, yet offer a similarly broad range of options to handle a diverse range of liquids and applications.

With 29 different displacements in five frame sizes to 190 GPM (43 M³/Hr), most applications can be closely matched to a pump operating at motor speeds, without the need for a reducer or gear motor.

These pumps were designed for greatest reliability, with standard features like spur-type gears (instead of helical gears, which thrust into pump casing and bracket) and rolling element anti-friction bearings

(instead of bushings, which wear every time a pump is stopped and the hydrodynamic film is lost).

Unwanted leaks are prevented by using the best sealing technology available, including single or duplex lip seals, single mechanical component seals, single or double mechanical cartridge seals with seal plans (SG-10 & -14 only), or sealless mag drive (sec. 341.3).

Installation is simple, with brackets to close couple to NEMA or IEC motors, or foot mount for speed-reduced applications. Piping is easy, with straight-through, 180° ports with the industry's broadest variety of threaded ports and flange options.

MODEL NUMBER KEY

SGN - 40518 - G 0 V U - B

Spur Gear Principle

Material of Construction:
Blank = Cast Iron
N = Ductile Iron
(-05,-07)

Seal Type:
Blank = Lipseal
4 = Mechanical Seal

Frame Size

Pump Size

Design Series:
G = Standard

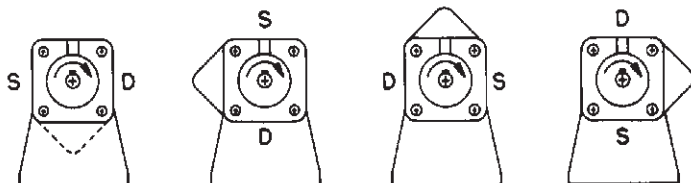
Shaft Rotation:
(Viewed from shaft end)
0 = Clockwise (standard)
1 = Counter-Clockwise
2 = Bi-Rotational
(-04,-05,-07) Not available with relief valve

Bracket:
Blank = -04,-05,-07
M = Metric Pilot (ISO) Bracket (-10,-14)
U = SAE Pilot Bracket (-10,-14)

Relief Valve:
V = With Valve (standard, single pumps only)
O = Without Valve

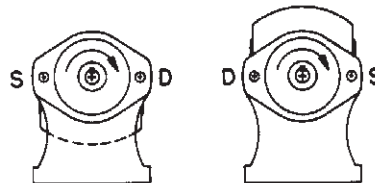
Drive Equipment:
B = Foot-Bracket Mounted
D = Base Mounted Direct Drive
M = Face Mounted Motor Drive
M4 = Four-Bolt Motor Drive (-04,-05)

Series SG-04, -05, -10 and -14 — 90° Positioning, “B” or “M” Drive



Pump can be mounted in any of four 90° positions, giving the option of horizontal or vertical porting. Arrow shows direction of motor rotation as clockwise, looking from shaft end. Ports are not on shaft centerline, so inverting will result in different port locations.

Series SG-07 — 180° Positioning, “B” Drive



Clockwise pump can be mounted in either of two positions to obtain suction on right or left hand side. Offers 90° positioning with “M” drive. Ports are not on shaft centerline, so inverting will result in different port locations.

VIKING SG SERIES SINGLE PUMPS (WITH SHAFT SEAL)

PUMP CONSTRUCTION AND FEATURES

NEMA and IEC motor brackets for all sizes and motors prevent misalignment. Optional foot mount shaft heights match Viking reducer shaft heights.

Outboard bearing optional with lip seal, standard with mechanical seal.

Sealing options include single lip seal, duplex lip seals with grease barrier, or single mechanical seal (all SG sizes). In addition, SG-10 and -14 offers pinned mechanical seal for high viscosity, and cartridge style single or double mechanical seals. For sealless Viking Mag Drive, see catalog section 341.3.

Two section pump (casing and bracket) on SG-10 & -14 reduces runout to keep shaft aligned for long seal life. Three section pump (casing, bracket and head) on SG-04, -05 & -07 allows for more precise machining for closest clearances on low flows.

Antifriction needle bearings with high load carrying capacity standard for forgiving operation. Sleeve bearing options include carbon graphite for thin liquids, high temperature carbon, and silicon carbide for abrasives.

Hardened steel gears and shafts minimize wear. Spur-type gears minimize axial thrust for long seal life.

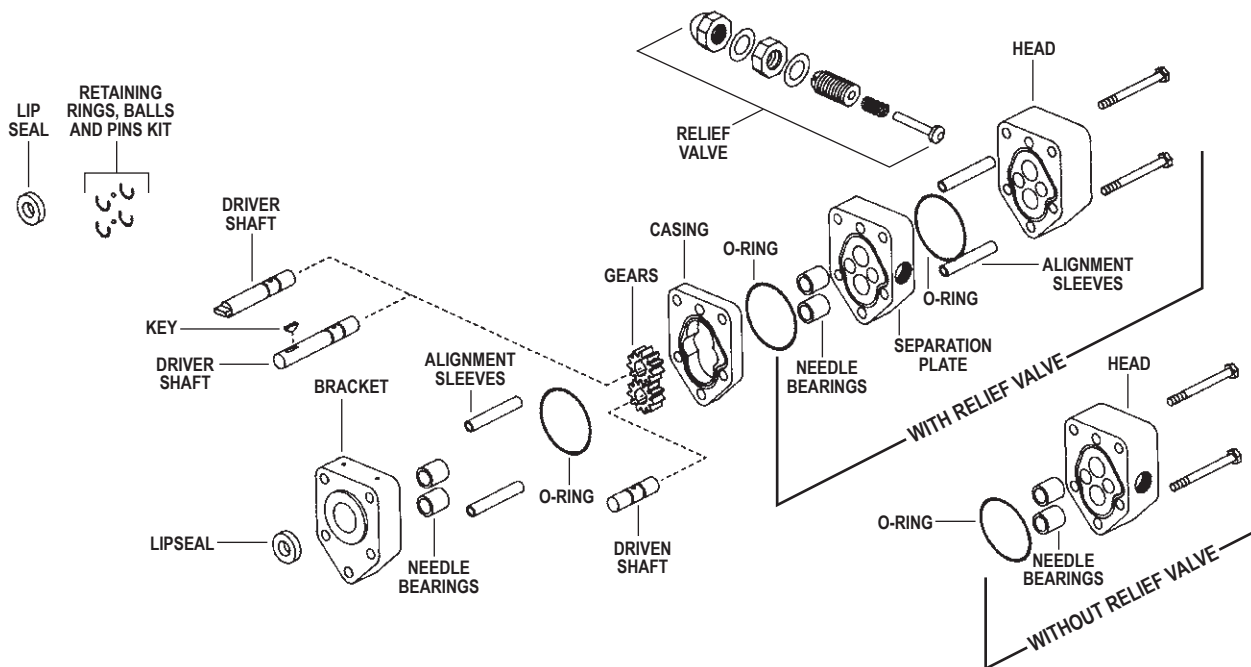
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SERIES SG-04, -05, -07, -10, -14 (Cast Iron)
SGN-05, -07 (Ductile Iron)

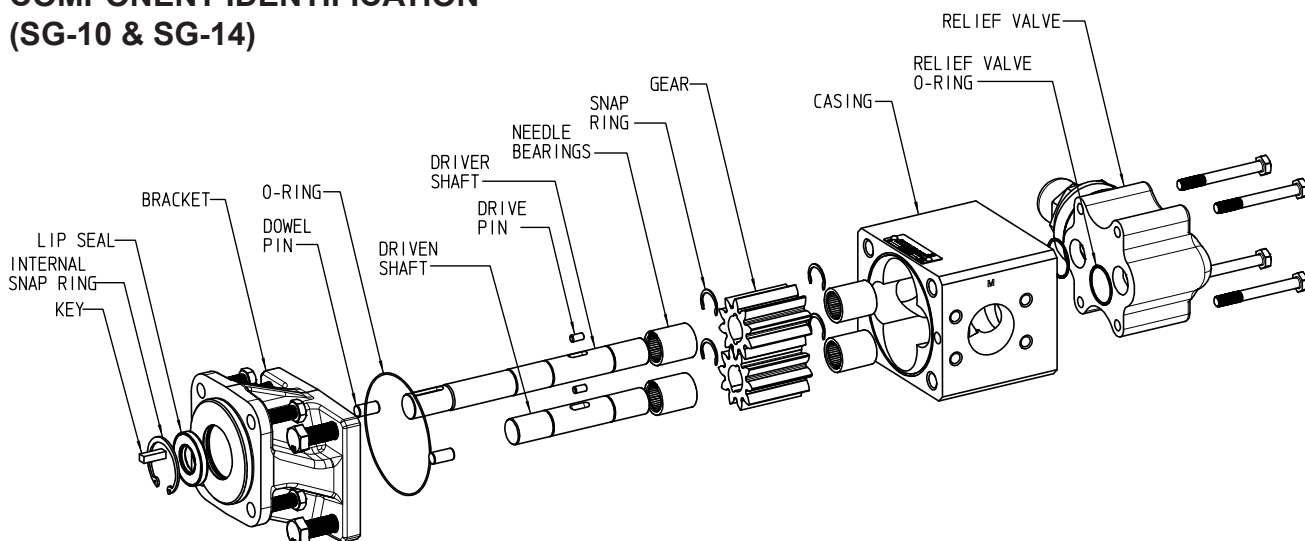


VIKING SG SERIES SINGLE PUMPS (WITH SHAFT SEAL)

COMPONENT IDENTIFICATION (SG-04, SG-05 & SG-07)



COMPONENT IDENTIFICATION (SG-10 & SG-14)





SERIES SG-04, -05, -07, -10, -14 (Cast Iron)
SGN-05, -07 (Ductile Iron)

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VIKING SG SERIES SINGLE PUMPS (WITH SHAFT SEAL)

MATERIALS OF CONSTRUCTION - ALL SERIES

Component	Standard - SG-04, -05, -07	Standard - SGN-05, -07	Standard - SG-10, -14	Options
Bracket	Cast Iron ASTM A823	Ductile Iron ASTM A536	Cast Iron ASTM A48	Surface Hardening (Vitek)
Casing	Cast Iron ASTM A823	Ductile Iron ASTM A536	Cast Iron ASTM A823	Surface Hardening (Vitek)
Head, Separation Plate	Cast Iron ASTM A823	Ductile Iron ASTM A536	— — —	Surface Hardening (Vitek)
Relief Valve Body	Cast Iron ASTM A823	Ductile Iron ASTM A536	Cast Iron ASTM A48	— — —
Relief Valve Poppet	Hardened Steel	Hardened Steel	Ductile Iron ASTM A536	— — —
Relief Valve Spring	Steel ASTM A229	Steel ASTM A229	Chrome Silicon Spring Steel ASTM A401	— — —
Gears	Heat Treated Steel	Heat Treated Steel	Heat Treated Steel	PPS (composite), -07 only
Shafts	Heat Treated Steel ASTM A322	Heat Treated Steel ASTM A322	Heat Treated Steel ASTM A322	— — —
Anti-Friction Needle Bearings ①	Bearing Steel	Bearing Steel	Bearing Steel	— — —
Journal Bearings	— — —	— — —	— — —	Carbon Graphite ②, High Temp Carbon Graphite, Silicon Carbide ③
Outboard Ball Bearing ④	— — —	— — —	— — —	Bearing Steel
O-Rings	Buna-N	Buna-N	Buna-N	Neoprene, Viton®, PTFE-Encapsulated, Kalrez®
Lip Seals	Buna-N	Buna-N	Buna-N	Neoprene, Viton®, PTFE
Component Mechanical Seals ⑤	Carbon/Ni-Resist	Carbon/Ni-Resist	Carbon / Silicon Carbide	Carbon / Silicon Carbide, Silicon Carbide/Silicon Carbide
Cartridge Mechanical Seals	— — —	— — —	Cartridge seals are developed to order. Options include ISC (Flowserve) single or double seals in O-ring or metal bellows design, or John Crane single or double seals in rubber bellows, O-ring or metal bellows design. Other brands may be possible.	
"B" Drive Foot Bracket	Cast Iron ASTM A48	Cast Iron ASTM A48	Cast Iron ASTM A48	— — —
"M" Drive Motor Bracket	Cast Iron ASTM A48	Cast Iron ASTM A48	Aluminum	— — —

① Needle bearings standard with lip seals.

② Carbon graphite journal bearings standard with mechanical seals.

③ Tungsten-carbide coated shafts recommended with silicon carbide journal bearings.

④ Standard with mechanical seal (SG-10,-14 only), optional with lip seal on all sizes.

⑤ Standard SG-10 & -14 seal Crane T2100 cup-type, 28-3,000 SSU (1-660 cSt). Pinned seat seal option from 28-15,000 SSU (1-3,300 cSt).

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SERIES SG-04, -05, -07, -10, -14 (Cast Iron)
SGN-05, -07 (Ductile Iron)



VIKING SG SERIES SINGLE PUMPS (WITH SHAFT SEAL)

SPECIFICATIONS

② Max. Recommended Temperature with Standard Construction: 225°F (107°C)

Pump Model ③				Port Size	⑥ Nominal Capacity at 50 Hz Motor Speeds		⑥ Nominal Capacity at 60 Hz Motor Speeds		④ Maximum Continuous Pressure		④ Maximum Intermittent Pressure		② Maximum Recommended Temperature		Approximate Shipping Weight (Pump Only)	
					1450 RPM		1750 RPM		BAR	PSI	BAR	PSI	Deg. C	Deg. F	kg.	lb.
Lip Seal		Mech. Seal ①		Inch	LPM	GPM	LPM	GPM								
SG-0417	—	SG-40417	—	3/8 ⑦	0.19	0.05	0.23	0.06	34	500	52	750	230	450	2.7	6
SG-0418	—	SG-40418	—	3/8 ⑦	0.44	0.12	0.53	0.14	34	500	86	1250	230	450	2.7	6
SG-0425	—	SG-40425	—	3/8 ⑦	0.56	0.15	0.68	0.18	34	500	103	1500	230	450	2.7	6
SG-0435	—	SG-40435	—	3/8 ⑦	0.85	0.22	1.02	0.27	34	500	121	1750	230	450	2.7	6
SG-0450	—	SG-40450	—	3/8 ⑦	1.13	0.30	1.36	0.36	34	500	138	2000	230	450	3.2	7
SG-0470	—	SG-40470	—	3/8 ⑦	1.57	0.41	1.89	0.50	34	500	103	1500	230	450	3.2	7
⑤ SG-0518	SGN-0518	SG-40518	SGN-40518	1/2 ⑦	2.2	0.58	2.6	0.7	34	500	103	1500	230	450	2.7	6
⑤ SG-0525	SGN-0525	SG-40525	SGN-40525	1/2 ⑦	3.1	0.83	3.8	1.0	34	500	170	2500	230	450	2.7	6
⑤ SG-0535	SGN-0535	SG-40535	SGN-40535	1/2 ⑦	4.4	1.16	5.3	1.4	34	500	170	2500	230	450	2.7	6
⑤ SG-0550	SGN-0550	SG-40550	SGN-40550	1/2 ⑦	6.3	1.66	7.6	2.0	34	500	170	2500	230	450	3.2	7
⑤ SG-0570	SGN-0570	SG-40570	SGN-40570	1/2 ⑦	8.8	2.32	10.6	2.8	34	500	124	1800	230	450	3.2	7
⑤ SG-0510	SGN-0510	SG-40510	SGN-40510	1/2 ⑦	12.5	3.31	15.1	4.0	34	500	86	1250	230	450	3.6	8
⑤ SG-0514	SGN-0514	SG-40514	SGN-40514	3/4 ⑦	17.6	4.64	21.2	5.6	34	500	62	900	230	450	4.1	9
⑤ SG-0519	SGN-0519	SG-40519	SGN-40519	3/4 ⑦	23.8	6.30	28.8	7.6	14	200	28	400	230	450	4.5	10
⑤ SG-0528	SGN-0528	SG-40528	SGN-40528	3/4 ⑦	35.1	9.28	42.4	11.2	7	100	14	200	230	450	5	11
SG-0729	SGN-0729	SG-40729	SGN-40729	1 ⑦	8.8	2.3	10.6	2.8	34	500	170	2500	230	450	6.4	14
SG-0741	SGN-0741	SG-40741	SGN-40741	1 ⑦	12.5	3.3	15.1	4.0	34	500	170	2500	230	450	6.8	15
SG-0758	SGN-0758	SG-40758	SGN-40758	1 ⑦	17.6	4.6	21.2	5.6	34	500	170	2500	230	450	7.7	17
SG-0782	SGN-0782	SG-40782	SGN-40782	1 ⑦	25.1	6.6	30.3	8.0	34	500	155	2250	230	450	8.2	18
SG-0711	SGN-0711	SG-40711	SGN-40711	1 ⑦	35.1	9.3	42.4	11.2	34	500	110	1600	230	450	8.6	19
SG-0716	SGN-0716	SG-40716	SGN-40716	1 ⑦	50.0	13.0	61.0	16.0	34	500	76	1100	230	450	9.1	20
SG-0722	SGN-0722	SG-40722	SGN-40722	1 1/2 x 1 1/4 ⑦	69.0	18.0	83.0	22.0	34	500	110	1600	230	450	18.6	41
SG-0732	SGN-0732	SG-40732	SGN-40732	1 1/2 x 1 1/4 ⑦	100.0	26.0	121.0	32.0	34	500	76	1100	230	450	19.5	43
SG-1009	—	SG-41009	—	1 ⑧	50.0	13.0	61.0	16.0	34	500	170	2500	230	450	20.5	45
SG-1013	—	SG-41013	—	1 1/2 ⑧	78.0	21.0	95.0	25.0	34	500	130	1900	230	450	22.1	49
SG-1026	—	SG-41026	—	2 ⑧	157.0	41.0	189.0	50.0	34	500	68	1000	230	450	24.5	54
SG-1420	—	SG-41420	—	2 ⑧	220.0	58.0	265.0	70.0	34	500	75	1100	230	450	59.1	130
SG-1436	—	SG-41436	—	3 ⑧	392.0	104.0	473.0	125.0	20	290	40	580	230	450	71.5	158
SG-1456	—	SG-41456	—	4 ⑧	597.0	158.0	719.0	190.0	13	190	26	380	230	450	85.8	189

① Carbon graphite bushings are standard when mechanical (face type) shaft seal option is specified. Needle bearings standard with lip seals.

② Standard Buna-N seals (O-Rings and shaft lip seals) can be used from -40°F to +225°F (-40°C to +107°C). With optional sealing elements of PTFE or Kalrez®, temperatures up to +450°F (+230°C) are possible. Extra clearances may be required. Contact factory for recommendations.

③ See model numbering code, page 341.1.2.

④ For maximum recommended discharge pressures when handling other viscosities and/or operating at other speeds, visit www.vikingpump.com/pumpselector.

⑤ UL 343 rating (-X) for fuel oil is available on this pump.

⑥ Nominal capacity based on 100 SSU (22 cSt) liquid at 100 PSI (7 BAR)

⑦ NPT standard. Consult factory for other port size or type options such as BSP, SAE O-Ring or other.

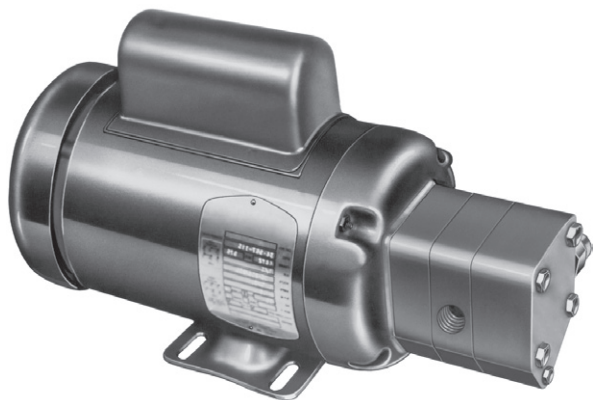
⑧ SAE J518 Code 61 flange with metric threaded fastener holes standard. Consult factory for other port sizes or type options such as NPT, BSP, SAE O-Ring or other.

NOTE: Adapter from SAE J518 Code 61 flange or tapped port to ANSI or DIN flange available from Viking. Contact factory with desired flange face and length for quote.

Metric conversions are based on US measurements.

VIKING SG SERIES SINGLE PUMPS (WITH SHAFT SEAL)

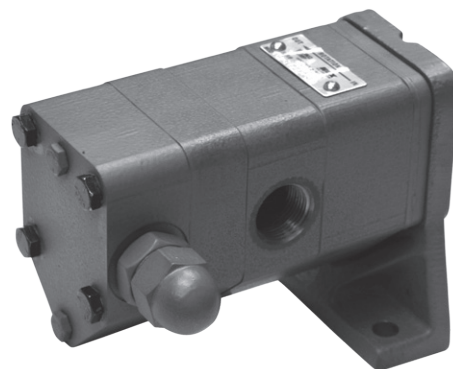
DRIVE OPTIONS



FOUR-BOLT MOTOR MOUNTED UNITS (“M4” DRIVE)

Available with either Series SG-04 or SG-05 integral pump and motor units. It helps reduce onsite assembly costs and provides maximum compactness where space is at a premium.

*Dimensions for Four-Bolt Motor Mounted Units (“M4” Drive) —
See Page 341.1.15.*



FOOT-BRACKET MOUNTED PUMPS (“B” DRIVE)

Series SG-04, -05, -07, -10 and -14 external gear single pumps are available mounted to a foot-bracket that is machined by Viking for an accurate fit with the pump. “B” Drive required for cartridge seals on SG-10 and -14. Outboard bearing required for side loads.

*Dimensions for Foot-Bracket Mounted Pumps (“B” Drive)—
See Page 341.1.16-17.*

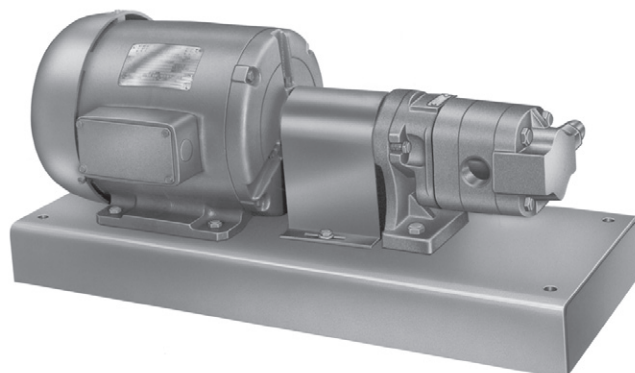


MOTOR MOUNTED UNITS (“M” DRIVE)

Series SG-04, -05, -07, -10 and -14 external gear single pumps, in combination with the NEMA “C” flange or “IEC” bracket and flexible coupling, provide an easily assembled compact pumping unit. This mounting arrangement eliminates the need for on-site coupling alignment that is normally required with a base mounted unit.

*Dimensions for NEMA C-Flange Motor Mounted Units (“M” Drive) —
See Page 341.1.11-12.*

*Dimensions for IEC Motor Mounted Units (“M” Drive) —
See Page 341.1.13-14.*



BASE MOUNTED UNITS (“D” DRIVE)

Series SG-04, -05, -07, -10 and -14 external gear single pumps mounted to a Viking rectangular, formed steel base provides you with a solid mounting for the drive equipment and the foot-bracket mounted pump.

NOTE: This mounting arrangement requires on-site coupling alignment.

*Dimensions for Base Mounted Units (“D” Drive) —
See Page 341.1.18.*

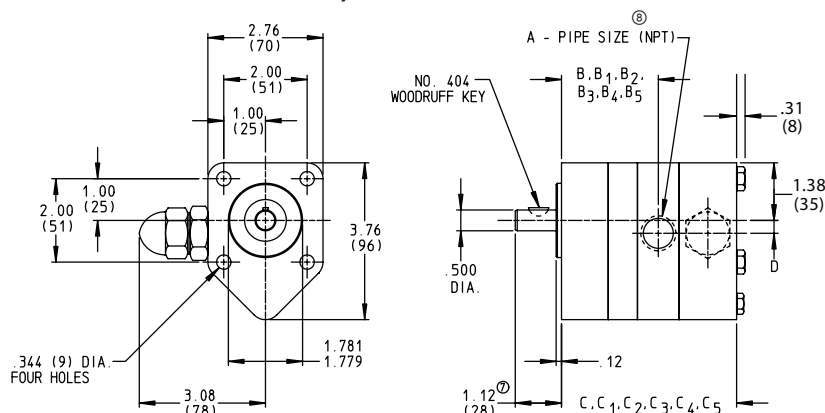
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SERIES SG-04, -05, -07, -10, -14 (Cast Iron)
SGN-05, -07 (Ductile Iron)



VIKING SG SERIES SINGLE PUMPS (WITH SHAFT SEAL)

DIMENSIONS – SERIES SG-04, SG-05, SGN-05 UNMOUNTED SINGLE PUMPS (LIP AND MECHANICAL SEAL)



For NEMA "M" Drives, see page 341.1.11
 For IEC "M" Drives, see page 341.1.13
 For "M4" Drives, see page 341.1.15
 For "B" Drives, see page 341.1.16
 For "D" Drives, see page 341.1.18

NOTE: Dimensions in inches (millimeters)

MODEL NO.		A		B	① B ₁	② B ₂	③ B ₃	④ B ₄	⑤ B ₅	C	① C ₁	② C ₂	③ C ₃	④ C ₄	⑤ C ₅	D
LIP SEAL	MECH. SEAL															
SG-0417	SG-40417	3/8	in	1.80	2.68	2.18	1.99	2.87	2.37	3.68	4.56	4.06	2.68	3.56	3.06	0.31
			mm	46	68	55	51	73	60	93	116	103	68	90	78	8
SG-0418	SG-40418	3/8	in	1.80	2.68	2.18	1.99	2.87	2.37	3.68	4.56	4.06	2.68	3.56	3.06	0.31
			mm	46	68	55	51	73	60	93	116	103	68	90	78	8
SG-0425	SG-40425	3/8	in	1.87	2.75	2.25	2.06	2.94	2.44	3.75	4.63	4.13	2.75	3.63	3.13	0.31
			mm	47	70	57	52	75	62	95	118	105	70	92	80	8
SG-0435	SG-40435	3/8	in	1.97	2.85	2.35	2.16	3.04	2.54	3.85	4.73	4.23	2.85	3.73	3.23	0.31
			mm	47	70	57	52	75	62	95	118	105	70	92	80	8
SG-0450	SG-40450	3/8	in	2.12	3.00	2.50	2.31	3.19	2.69	4.00	4.88	4.38	3.00	3.88	3.38	0.31
			mm	54	76	64	58	81	68	102	124	111	76	99	86	8
SG-0470	SG-40470	3/8	in	2.32	3.20	2.70	2.51	3.39	2.89	4.20	5.08	4.58	3.20	4.08	3.58	0.31
			mm	59	81	69	64	86	73	107	129	116	81	104	91	8
SG-0518 SGN-0518	SG-40518 SGN-40518	1/2	in	1.80	2.68	2.18	1.99	2.87	2.37	3.68	4.56	4.06	2.68	3.56	3.06	0.31
			mm	46	68	55	51	73	60	93	116	103	68	90	78	8
SG-0525 SGN-0525	SG-40525 SGN-40525	1/2	in	1.87	2.75	2.25	2.06	2.94	2.44	3.75	4.63	4.13	2.75	3.63	3.13	0.31
			mm	47	70	57	52	75	62	95	118	105	70	92	80	8
SG-0535 SGN-0535	SG-40535 SGN-40535	1/2	in	1.97	2.85	2.35	2.16	3.04	2.54	3.85	4.73	4.23	2.85	3.73	3.23	0.31
			mm	50	72	60	55	77	65	98	120	107	72	95	82	8
SG-0550 SGN-0550	SG-40550 SGN-40550	1/2	in	2.12	3.00	2.50	2.31	3.19	2.69	4.00	4.88	4.38	3.00	3.88	3.38	0.31
			mm	54	76	64	58	81	68	102	124	111	76	99	86	8
SG-0570 SGN-0570	SG-40570 SGN-40570	1/2	in	2.32	3.20	2.70	2.51	3.39	2.89	4.20	5.08	4.58	3.20	4.08	3.58	0.31
			mm	59	81	69	64	86	73	107	129	116	81	104	91	8
⑥ SG-0510 SGN-0510	⑥ SG-40510 SGN-40510	1/2	in	1.62	2.50	2.00	1.62	2.50	2.00	4.50	5.38	4.88	3.50	4.38	3.88	0.31
			mm	41	64	51	41	64	51	114	137	124	89	111	99	8
⑥ SG-0514 SGN-0514	⑥ SG-40514 SGN-40514	3/4	in	1.82	2.70	2.20	1.82	2.70	2.20	4.90	5.78	5.28	3.90	4.78	4.28	0.19
			mm	46	69	56	46	69	56	124	147	134	99	121	109	5
⑥ SG-0519 SGN-0519	⑥ SG-40519 SGN-40519	3/4	in	2.07	2.95	2.45	2.07	2.95	2.45	5.40	6.28	5.78	4.40	5.28	4.78	0.19
			mm	53	75	62	53	75	62	137	160	147	112	134	121	5
⑥ SG-0528 SGN-0528	⑥ SG-40528 SGN-40528	3/4	in	1.82	2.70	2.20	1.82	2.70	2.20	6.30	7.18	6.68	5.30	6.18	5.68	0.19
			mm	46	69	56	46	69	56	160	182	170	135	157	144	5

① These dimensions apply when the mechanical shaft seal option is selected.

② These dimensions apply when the overhung load option (outboard bearing) is selected.

③ These dimensions apply when the relief valve is deleted.

④ These dimensions apply when the relief valve is deleted and the mechanical shaft seal option is selected.

⑤ These dimensions apply when the relief valve is deleted and the overhung load option (outboard bearing) is selected.

⑥ These models have the ports in the casing. Others ported in separation plate.

⑦ When the overhung load option (outboard bearing) is selected the pump shaft extension becomes 1.62" (41mm).

⑧ Standard ports NPT. Optional threads include BSP and SAE O-ring J1453.

NOTE: Bracket Pilot USA4F17

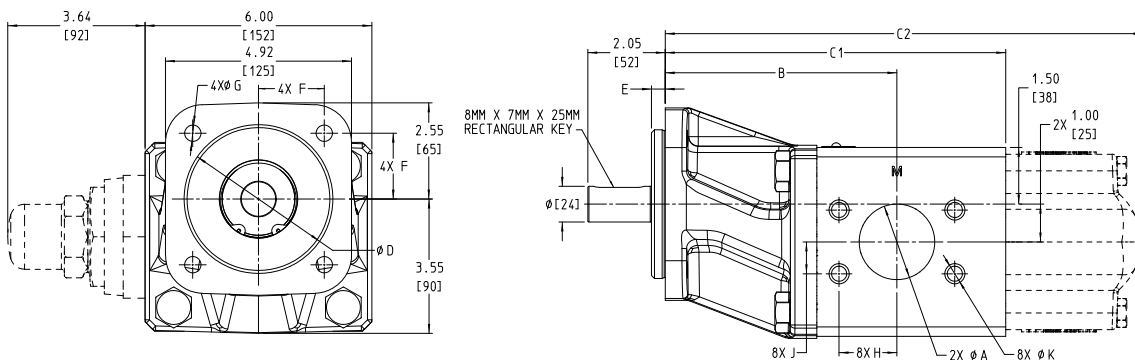
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SERIES SG-04, -05, -07, -10, -14 (Cast Iron)
SGN-05, -07 (Ductile Iron)



VIKING SG SERIES SINGLE PUMPS (WITH SHAFT SEAL)

DIMENSIONS – SERIES SG-10 UNMOUNTED SINGLE PUMPS (LIP AND MECHANICAL SEAL)



For NEMA "M" Drives,
see page 341.1.12

For IEC "M" Drives,
see page 341.1.14

For "B" Drives,
see page 341.1.17

NOTE: Dimensions in inches (millimeters)

MODEL NO.	④		A ③	B	C1	C2	D	E	F	G	H	J	K
SG-1009 ①	U	in	1.00	5.35	7.42	10.99	4.00	0.37	1.77	0.56	0.52	1.03	M10 X 1.50 X 15
SG-1009 ②	M	mm	25	136	188	279	100	9.2	44.2	11	13	26	M10 X 1.50 X 15
SG-1013 ①	U	in	1.50	5.91	8.04	11.61	4.00	0.37	1.77	0.56	1.38	0.70	M12 X 1.75 X 19.5
SG-1013 ②	M	mm	38	150	204	295	100	9.2	44.2	11	35	18	M12 X 1.75 X 19.5
SG-1026 ①	U	in	2.00	6.13	9.01	12.58	4.00	0.37	1.77	0.56	1.53	0.84	M12 X 1.75 X 19.5
SG-1026 ②	M	mm	51	156	229	320	100	9.2	44.2	11	39	21	M12 X 1.75 X 19.5

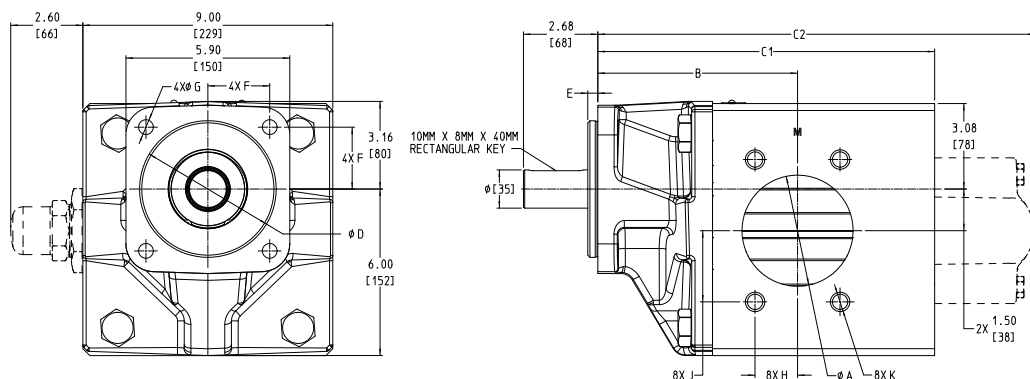
① Bracket pilot to SAE-B 4-bolt standard for NEMA M-drive or foot bracket

② Bracket pilot to 100 mm ISO 3019-2 DIN 4x standard for IEC M-drive or foot bracket

③ Standard ports SAE J518 code 61 flange. Optional tapped ports on same centerline include NPT or BSP (up to 2") or SAE O-Ring J1453 (up to 2")

④ Bracket pilot (digit 12 in Model Number Key page 341.1.2)

DIMENSIONS – SERIES SG-14 UNMOUNTED SINGLE PUMPS (LIP AND MECHANICAL SEAL)



For NEMA "M" Drives,
see page 341.1.12

For IEC "M" Drives,
see page 341.1.14

For "B" Drives,
see page 341.1.17

NOTE: Dimensions in inches (millimeters)

MODEL NO.	④		A ③	B	C1	C2	D	E	F	G	H	J	K
SG-1420 ①	U	in	2.00	6.10	8.53	12.16	5.00	0.49	2.25	0.56	0.84	1.53	M12 X 1.75 X 19.5
SG-1420 ②	M	mm	51	155	217	309	125	9.2	56.6	13.5	21	39	M12 X 1.75 X 19.5
SG-1436 ①	U	in	3.00	6.80	10.13	13.76	5.00	0.49	2.25	0.56	1.22	2.09	M16 X 2.00 X 28.5
SG-1436 ②	M	mm	76	173	257	350	125	9.2	56.6	13.5	31	53	M16 X 2.00 X 28.5
SG-1456 ①	U	in	4.00	7.19	12.13	15.76	5.00	0.49	2.25	0.56	1.53	2.56	M16 X 2.00 X 28.5
SG-1456 ②	M	mm	102	183	308	400	125	9.2	56.6	13.5	39	65	M16 X 2.00 X 28.5

① Bracket pilot SAE-C 4-bolt standard for NEMA M-drive or foot bracket

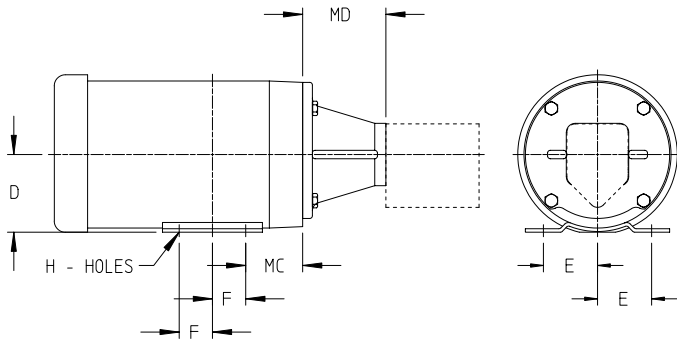
② Bracket pilot 125 mm ISO 3019-2 DIN 4x standard for IEC M-drive or foot bracket

③ Standard ports SAE J518 code 61 flange. Optional tapped ports on same centerline include NPT or BSP (up to 4") or SAE O-Ring J1453 (up to 2")

④ Bracket pilot (digit 12 in Model Number Key page 341.1.2)

VIKING SG SERIES SINGLE PUMPS (WITH SHAFT SEAL)

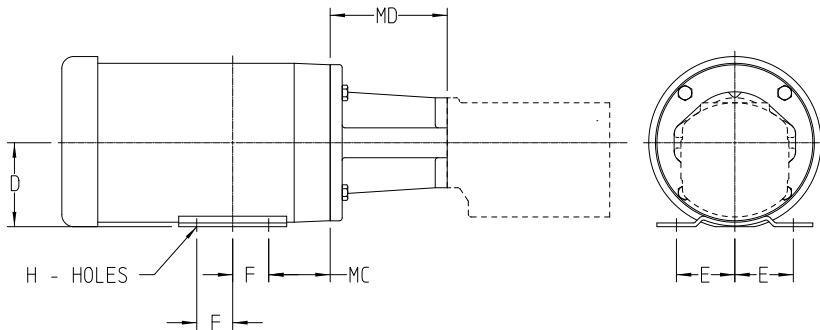
DIMENSIONS – SERIES SG-04, SG-05, SGN-05 C-FLANGE MOTOR MOUNT (“M” DRIVE) – NEMA



① Drive equipment weight listed is for a typical TEFC motor, mounting bracket and couplings. (If a more accurate motor shipping weight is required, consult factory with complete motor specifications.) For total unit shipping weight, add the drive equipment shipping weight to the pump shipping weight shown on the pump specification chart.

MOTOR FRAME SIZE		D	E	F	H	MC	MD	APPROX. DRIVE ^① EQUIP. SHIPPING WEIGHT IN POUNDS (KG)
56C	in (mm)	3.50 (88.9)	2.44 (62.0)	1.50 (38.1)	.34 (8.6) SLOT	2.56 (65.0)	3.75 (95.3)	34 (15)
143TC	in (mm)	3.50 (88.9)	2.75 (69.9)	2.00 (50.8)	.34 (8.6)	2.88 (73.2)	3.75 (95.3)	52 (24)
145TC	in (mm)	3.50 (88.9)	2.75 (69.9)	2.50 (63.5)	.34 (8.6)	2.88 (73.2)	3.75 (95.3)	57 (26)
182TC	in (mm)	4.50 (114.3)	3.75 (95.3)	2.25 (57.15)	.41 (10.4)	3.62 (92.0)	4.25 (108.0)	83 (38)
184TC	in (mm)	4.50 (114.3)	3.75 (95.3)	2.75 (69.9)	.41 (10.4)	3.62 (92.0)	4.25 (108.0)	88 (40)

DIMENSIONS – SERIES SG-07, SGN-07 – C-FLANGE MOTOR MOUNT (“M” DRIVE) – NEMA



① Drive equipment weight listed is for a typical TEFC motor, mounting bracket and couplings. (If a more accurate motor shipping weight is required, consult factory with complete motor specifications.) For total unit shipping weight, add the drive equipment shipping weight to the pump shipping weight shown on the pump specification chart.

MOTOR FRAME SIZE		D	E	F	H	MC	MD	APPROX. DRIVE ^① EQUIP. SHIPPING WEIGHT IN POUNDS (KG)
56C	in (mm)	3.50 (88.9)	2.44 (62.0)	1.50 (38.1)	.34 (8.6) SLOT	2.56 (65.0)	4.88 (124.0)	41 (19)
143TC	in (mm)	3.50 (88.9)	2.75 (69.9)	2.00 (50.8)	.34 (8.6)	2.88 (73.2)	4.88 (124.0)	60 (27)
145TC	in (mm)	3.50 (88.9)	2.75 (69.9)	2.50 (63.5)	.34 (8.6)	2.88 (73.2)	4.88 (124.0)	70 (32)
182TC	in (mm)	4.50 (114.3)	3.75 (95.3)	2.25 (57.15)	.41 (10.4)	3.62 (92.0)	5.59 (142.0)	108 (49)
184TC	in (mm)	4.50 (114.3)	3.75 (95.3)	2.75 (69.9)	.41 (10.4)	3.62 (92.0)	5.59 (142.0)	123 (56)
213TC	in (mm)	5.25 (133.4)	4.25 (108.0)	2.75 (69.9)	.41 (10.4)	4.50 (114.3)	6.26 (159.0)	161 (73)
215TC	in (mm)	5.25 (133.4)	4.25 (108.0)	3.50 (88.9)	.41 (10.4)	4.50 (114.3)	6.26 (159.0)	195 (88)

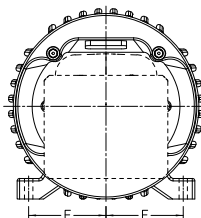
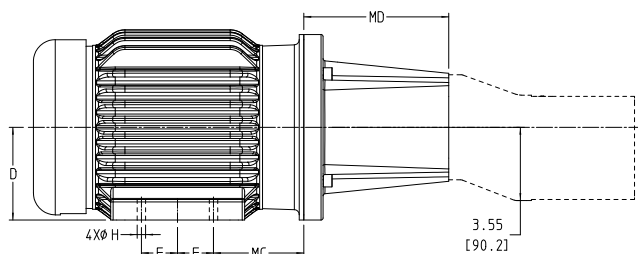
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SERIES SG-04, -05, -07, -10, -14 (Cast Iron)
SGN-05, -07 (Ductile Iron)



VIKING SG SERIES SINGLE PUMPS (WITH SHAFT SEAL)

DIMENSIONS – SERIES SG-10 MOTOR MOUNT (“M” DRIVE) – NEMA



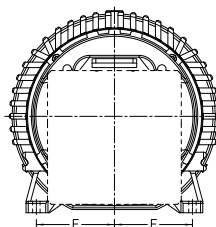
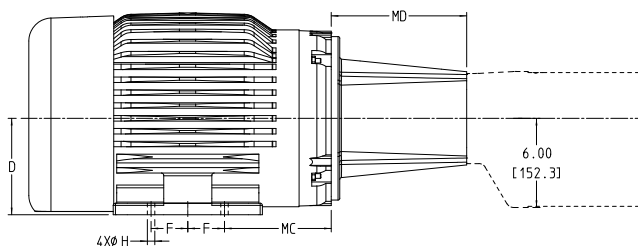
① Drive equipment weight listed is for a typical TEFC motor, mounting bracket and couplings. (If a more accurate motor shipping weight is required, consult factory with complete motor specifications.) For total unit shipping weight, add the drive equipment shipping weight to the pump shipping weight shown on the pump specification chart.

② Pump extends below motor feet. Motor must be blocked up.

NOTE: Cartridge seals may not be used with M-Drives

MOTOR FRAME		D	E	F	H	MC	MD	APPROX. DRIVE ① EQUIP. SHIPPING WEIGHT IN POUNDS (KG)
56C	in (mm)	3.50 (88.9) ②	2.44 (62.0)	1.50 (38.1)	.34 (8.6)	2.56 (65.0)	5.06 (128.5)	49 (22.1)
143TC	in (mm)	3.50 (88.9) ②	2.75 (69.9)	2.00 (50.8)	.34 (8.6)	2.88 (73.2)	5.06 (128.5)	65 (29.7)
145TC	in (mm)	3.50 (88.9) ②	2.75 (69.9)	2.50 (63.5)	.34 (8.6)	2.88 (73.2)	5.06 (128.5)	74 (33.5)
182TC	in (mm)	4.50 (114.3)	3.75 (95.3)	2.25 (57.2)	.41 (10.4)	3.38 (85.9)	5.69 (144.5)	151 (68.6)
184TC	in (mm)	4.50 (114.3)	3.75 (95.3)	2.75 (69.9)	.41 (10.4)	3.38 (85.9)	5.69 (144.5)	159 (71.9)
213TC	in (mm)	5.25 (133.4)	4.25 (108.0)	2.75 (69.9)	.41 (10.4)	4.25 (108.0)	6.63 (168.4)	190 (86.1)
215TC	in (mm)	5.25 (133.4)	4.25 (108.0)	3.50 (88.9)	.41 (10.4)	4.25 (108.0)	6.63 (168.4)	257 (116.6)
254TC	in (mm)	6.25 (158.8)	5.00 (127.0)	4.13 (104.9)	.53 (13.5)	4.75 (120.7)	7.04 (178.8)	284 (128.9)
256TC	in (mm)	6.25 (158.8)	5.00 (127.0)	5.00 (127.0)	.53 (13.5)	4.75 (120.7)	7.04 (178.8)	328 (149.0)
284TC	in (mm)	7.00 (177.8)	5.50 (139.7)	4.75 (120.7)	.53 (13.5)	4.75 (120.7)	8.11 (206.0)	432 (195.8)
286TC	in (mm)	7.00 (177.8)	5.50 (139.7)	5.50 (139.7)	.53 (13.5)	4.75 (120.7)	8.11 (206.0)	485 (220.1)

DIMENSIONS – SERIES SG-14 MOTOR MOUNT (“M” DRIVE) – NEMA



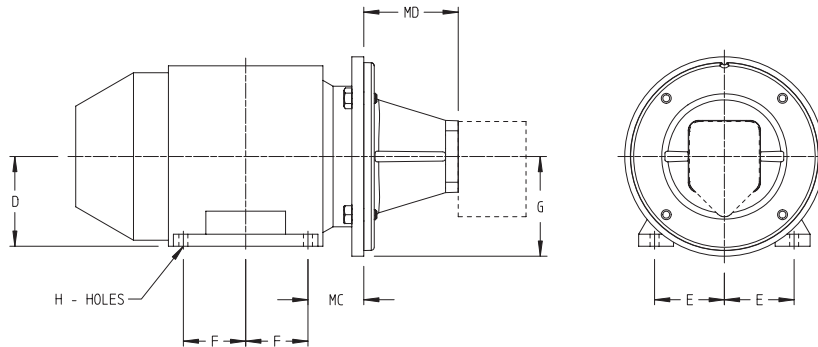
① Drive equipment weight listed is for a typical TEFC motor, mounting bracket and couplings. (If a more accurate motor shipping weight is required, consult factory with complete motor specifications.) For total unit shipping weight, add the drive equipment shipping weight to the pump shipping weight shown on the pump specification chart.

② Pump extends below motor feet. Motor must be blocked up.

MOTOR FRAME		D	E	F	H	MC	MD	APPROX. DRIVE ① EQUIP. SHIPPING WEIGHT IN POUNDS (KG)
213TC	in (mm)	5.25 (133.4) ②	4.25 (108.0)	2.75 (69.9)	.41 (10.4)	4.50 (114.3)	7.63 (193.8)	190 (86.1)
215TC	in (mm)	5.25 (133.4) ②	4.25 (108.0)	3.50 (88.9)	.41 (10.4)	4.50 (114.3)	7.63 (193.8)	257 (116.5)
254TC	in (mm)	6.25 (158.8)	5.00 (127.0)	4.13 (104.9)	.53 (13.5)	4.75 (120.7)	7.63 (193.8)	284 (128.9)
256TC	in (mm)	6.25 (158.8)	5.00 (127.0)	5.00 (127.0)	.53 (13.5)	4.75 (120.7)	7.63 (193.8)	328 (149.0)
284TC	in (mm)	7.00 (177.8)	5.50 (139.7)	4.75 (120.7)	.53 (13.5)	4.75 (120.7)	9.12 (231.6)	432 (195.8)
286TC	in (mm)	7.00 (177.8)	5.50 (139.7)	5.50 (139.7)	.53 (13.5)	4.75 (120.7)	9.12 (231.6)	485 (220.1)
324TC	in (mm)	8.00 (203.2)	6.25 (158.8)	5.25 (133.4)	.53 (13.5)	5.25 (133.4)	9.13 (231.6)	680 (308.5)

VIKING SG SERIES SINGLE PUMPS (WITH SHAFT SEAL)

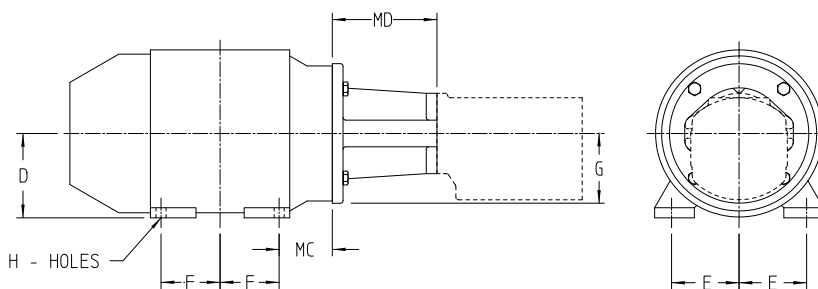
DIMENSIONS – SERIES SG-04, SG-05, SGN-05 – MOTOR MOUNT – (“M” DRIVE) – IEC FRAME



MOTOR FRAME		D	E	F	G	H	MC	MD	APPROX. DRIVE ① EQUIP. SHIPPING WEIGHT IN POUNDS (KG)
IEC 80 B35 FLANGE	in (mm)	3.15 (80)	2.46 (62.5)	1.97 (50)	3.94 (100)	0.39 (10)	1.97 (50)	3.73 (94.7)	46 (21)
IEC 90 B35 FLANGE	in (mm)	3.54 (90)	2.76 (70)	S 1.97 (50) / L 2.46 (62.5)	3.94 (100)	0.39 (10)	2.20 (56)	3.73 (94.7)	64 (29)

① Motor shipping weight listed is for a typical IEC motor.
 (If a more accurate motor shipping weight is required, consult factory with complete motor specifications.)
 For total unit shipping weight, add the electric motor shipping weight to the pump shipping weight shown on the pump specification chart.

DIMENSIONS – SERIES SG-07, SGN-07 – MOTOR MOUNT (“M” DRIVE) – IEC FRAME



MOTOR FRAME		D	E	F	G	H	MC	MD	APPROX. DRIVE ① EQUIP. SHIPPING WEIGHT IN POUNDS (KG)
IEC 90 B35 FLANGE	in (mm)	3.54 (90)	2.76 (70)	S 1.97 (50) / L 2.46 (62.5)	3.94 (100)	0.39 (10)	2.20 (56)	5.13 (130.3)	68 (31)
IEC 100 B14 FACE	in (mm)	3.94 (100)	3.15 (80)	S 2.20 (56) / L 2.76 (70)	---	0.47 (12)	2.48 (63)	5.26 (133.6)	114 (52)
IEC 112 B14 FACE	in (mm)	4.41 (112)	3.74 (95)	S 2.24 (57) / L 2.76 (70)	---	0.47 (12)	2.76 (70)	5.26 (133.6)	129 (59)

① Motor shipping weight listed is for a typical IEC motor.
 (If a more accurate motor shipping weight is required, consult factory with complete motor specifications.)
 For total unit shipping weight, add the electric motor shipping weight to the pump shipping weight shown on the pump specification chart.

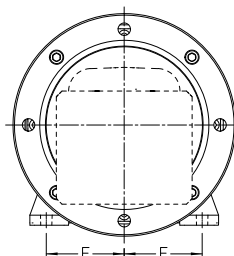
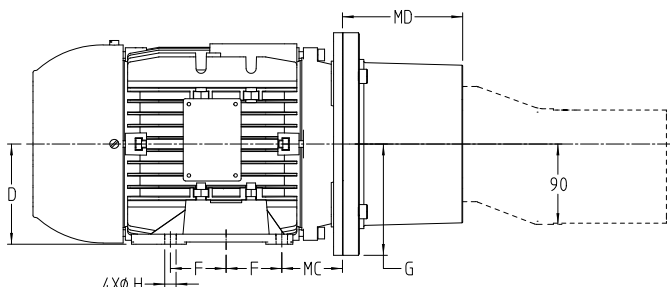
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SERIES SG-04, -05, -07, -10, -14 (Cast Iron)
SGN-05, -07 (Ductile Iron)



VIKING SG SERIES SINGLE PUMPS (WITH SHAFT SEAL)

DIMENSIONS – SG-10 – MOTOR MOUNT (“M” DRIVE) – IEC B35 FRAME



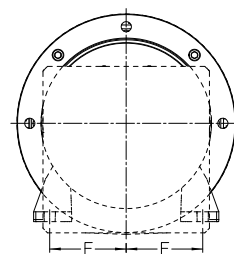
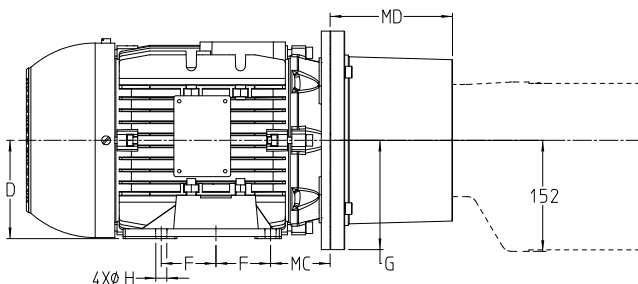
NOTE: Cartridge seals may not be used with M-Drives

MOTOR FRAME SIZE		D	E	F	G	H	MC	BELLHOUSING PN ②	MD	APPROX. DRIVE ① EQUIPMENT SHIPPING WEIGHT IN POUNDS (KG)
90	in (mm)	3.54 (90)	2.76 (70)	2.46 (62.5)	3.94 (100)	0.39 (10)	2.20 (56)	2-085-054-720-00	4.88 (124)	63 (28.8)
100L	in (mm)	3.94 (100)	3.15 (80)	2.76 (70)	3.94 (100)	0.47 (12)	2.48 (63)	2-085-050-720-00	5.31 (135)	89 (40.5)
112M	in (mm)	4.41 (112)	3.74 (95)	2.76 (70)	4.92 (125)	0.47 (12)	2.76 (70)	2-085-050-720-00	5.31 (135)	110 (49.9)
132S/M	in (mm)	5.20 (132)	4.25 (108)	2.76 (70)	5.91 (150)	0.47 (12)	3.50 (89)	2-085-051-720-00	5.31 (135)	179 (81.3)
160L	in (mm)	6.30 (160)	5.00 (127)	4.13 (105)	6.89 (175)	0.59 (15)	4.25 (108)	2-085-052-720-00	7.40 (188)	331 (150.3)
180L	in (mm)	7.09 (180)	5.49 (139.5)	4.74 (120.5)	6.89 (175)	0.59 (15)	4.76 (121)	2-085-052-720-00	7.40 (188)	496 (225.1)
200M	in (mm)	7.87 (200)	6.26 (159)	5.26 (133.5)	7.87 (200)	0.71 (18)	5.24 (133)	2-085-053-720-00	8.03 (204)	668 (303.3)

① Drive equipment weight listed is for a typical TEFC motor, mounting bracket and couplings. (If a more accurate motor shipping weight is required, consult factory with complete motor specifications.) For total unit shipping weight, add the drive equipment shipping weight to the pump shipping weight shown on the pump specification chart.

② Viking offers several bellhousing styles, and these dimensions only pertain to the bellhousing part numbers listed. If using a different part number, dimensions may vary.

DIMENSIONS – SG-14 – MOTOR MOUNT (“M” DRIVE) – IEC B35 FRAME



NOTE: Cartridge seals may not be used with M-Drives

MOTOR FRAME SIZE		D	E	F	G	H	MC	BELLHOUSING PN ②	MD	APPROX. DRIVE ① EQUIPMENT SHIPPING WEIGHT IN POUNDS (KG)
132	in (mm)	5.20 (132)	4.25 (108)	2.76 (70)	5.91 (150)	0.47 (12)	3.50 (89)	2-085-041-720-00	6.61 (168)	179 (81.3)
160	in (mm)	6.30 (160)	5.00 (127)	4.13 (105)	6.89 (175)	0.59 (15)	4.25 (108)	2-085-048-720-00	8.03 (204)	331 (150.3)
180	in (mm)	7.09 (180)	5.49 (139.5)	4.74 (120.5)	6.89 (175)	0.59 (15)	4.76 (121)	2-085-048-720-00	8.03 (204)	496 (225.1)
200	in (mm)	7.87 (200)	6.26 (159)	5.26 (133.5)	7.87 (200)	0.71 (18)	5.24 (133)	2-085-040-720-00	8.03 (204)	668 (303.3)
225	in (mm)	8.86 (225)	7.01 (178)	5.63 (143)	8.86 (225)	0.71 (18)	5.87 (149)	2-085-049-720-00	9.21 (234)	793 (359.9)

① Drive equipment weight listed is for a typical TEFC motor, mounting bracket and couplings. (If a more accurate motor shipping weight is required, consult factory with complete motor specifications.) For total unit shipping weight, add the drive equipment shipping weight to the pump shipping weight shown on the pump specification chart.

② Viking offers several bellhousing styles, and these dimensions only pertain to the bellhousing part numbers listed. If using a different part number, dimensions may vary.

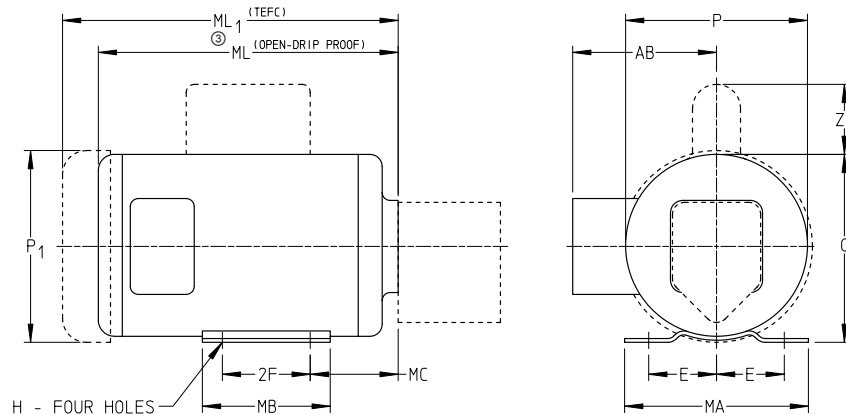


SERIES SG-04, -05, -07, -10, -14 (Cast Iron)
SGN-05, -07 (Ductile Iron)

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VIKING SG SERIES SINGLE PUMPS (WITH SHAFT SEAL)

DIMENSIONS – SERIES SG-04, SG-05, SGN-05 FOUR-BOLT MOTOR MOUNT (“M4” DRIVE)



CLOSE-COUPLED MOTOR FRAME	② APPROX. DRIVE EQUIPMENT SHIPPING WEIGHT POUNDS (KG)	AB	D	E	2F	H	MA	MB	MC	ENCL.	O	P	P ₁	ZZ
48 "M4" Drive	25 (11.1)	4.50 (114)	3.00 (76)	2.12 (54)	2.75 (70)	.34 (9) SLOT	5.75 (146)	4.00 (102)	2.75 (70)	ODP	5.88 (149)	5.69 (145)	---	2.19 (56)
										TEFC	5.88 (149)	---	6.12 (155)	2.25 (57)
56 "M4" Drive	29 (12.9)	5.25 (133)	3.50 (89)	2.44 (62)	3.00 (76)	.34 (9) SLOT	6.50 (165)	4.50 (114)	2.62 (66)	ODP	6.88 (175)	6.62 (168)	---	2.25 (57)
										TEFC	6.88 (175)	---	7.19 (183)	

① Motor shipping weight listed is for a typical TEFC motor.

(If a more accurate motor shipping weight is required, consult factory with complete motor specifications.)

For total unit shipping weight, add the electric motor shipping weight to the pump shipping weight shown on the pump specification chart.

② Drive equipment weight listed is for a typical TEFC motor, mounting bracket and couplings. (If a more accurate motor shipping weight is required, consult factory with complete motor specifications.) For total unit shipping weight, add the drive equipment shipping weight to the pump shipping weight shown on the pump specification chart.

③ ML and ML₁ length dependent on motor horsepower.

NOTE: Dimensions in inches (millimeters)

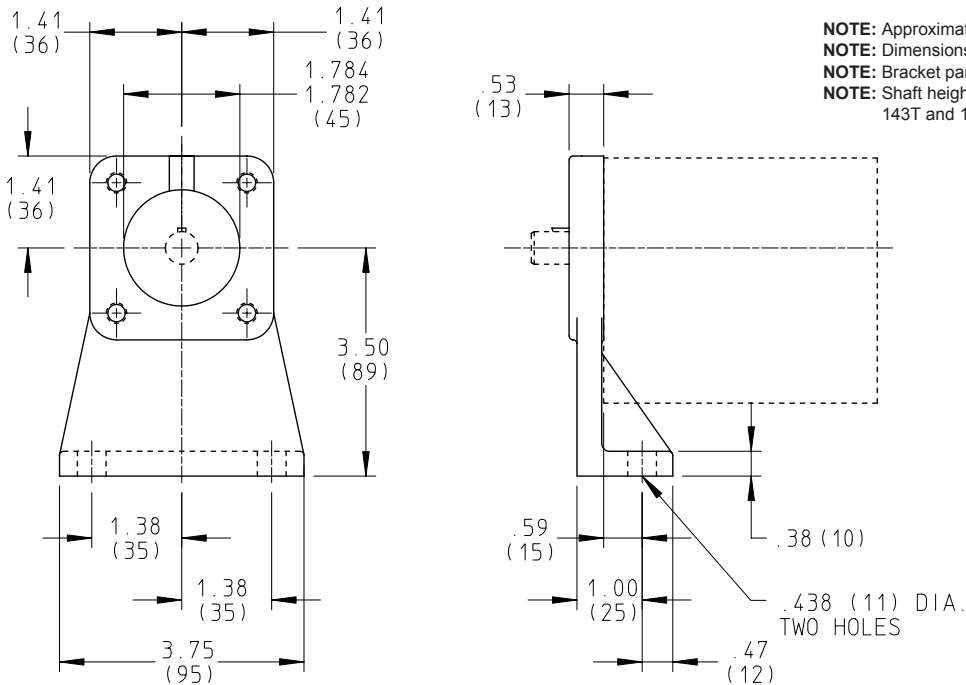
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SERIES SG-04, -05, -07, -10, -14 (Cast Iron)
SGN-05, -07 (Ductile Iron)

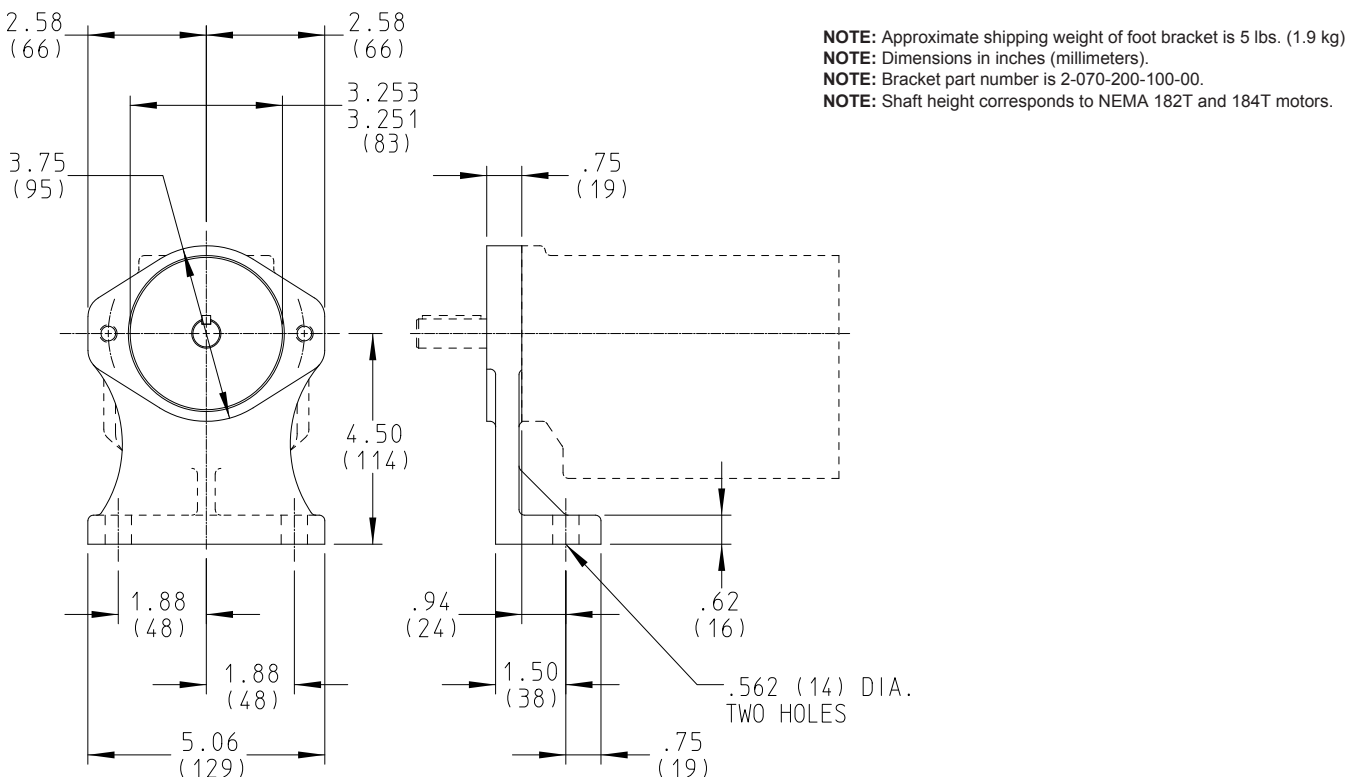


VIKING SG SERIES SINGLE PUMPS (WITH SHAFT SEAL)

DIMENSIONS – SERIES SG-04, SG-05, SGN-05 FOOT BRACKET MOUNT (“B” DRIVE)

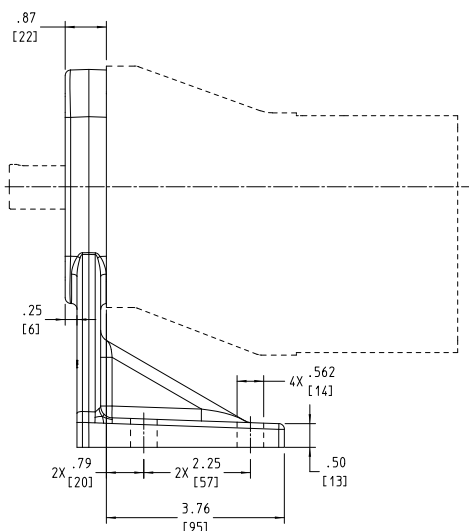
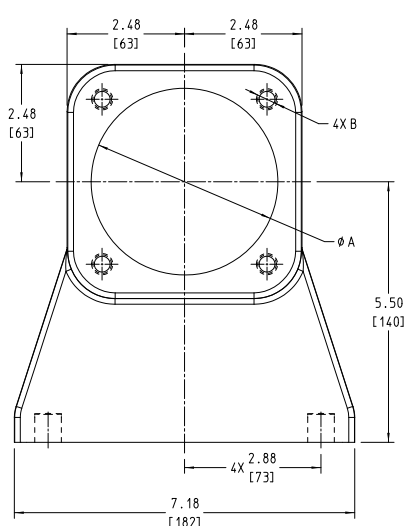


DIMENSIONS – SERIES SG-07, SGN-07 – FOOT BRACKET MOUNT (“B” DRIVE)



VIKING SG SERIES SINGLE PUMPS (WITH SHAFT SEAL)

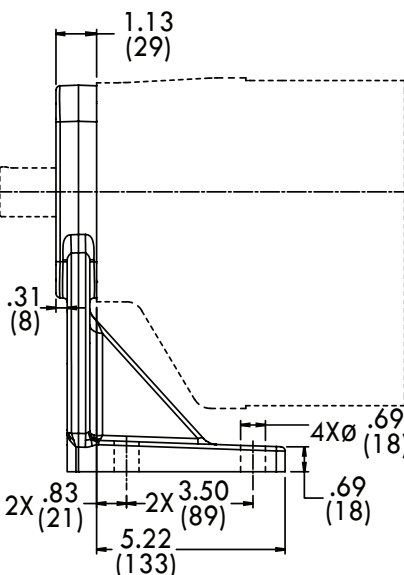
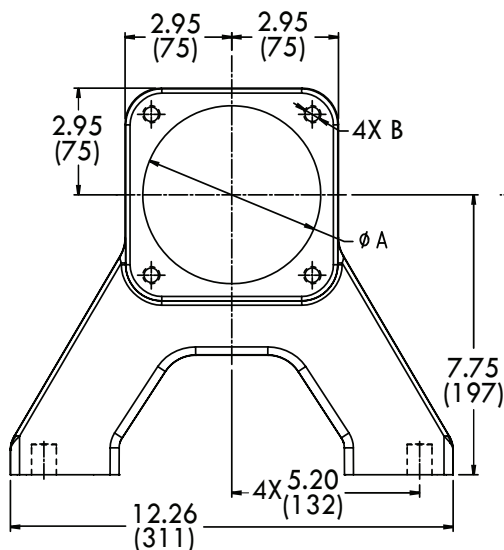
DIMENSIONS – SERIES SG-10 FOOT BRACKET MOUNT (“B” DRIVE)



NOTE: Approximate shipping weight is 11 lbs (4.8 Kg)
NOTE: Dimensions in inches (millimeters).
NOTE: Shaft height corresponds to Viking's "B" reducer.

FOR USE WITH		A	B
PILOT: SAE B 4 BOLT ("U" BRACKET) P/N 2-070-301-100-00	in	4.00	1/2 - 13
PILOT: ISO 100MM 4 BOLT ("M" BRACKET) P/N 2-070-300-100-00	mm	100	M10 X 1.5

DIMENSIONS – SERIES SG-14 FOOT BRACKET MOUNT (“B” DRIVE)



NOTE: Approximate shipping weight is 19 lbs (8.6 Kg)
NOTE: Dimensions in inches (millimeters).
NOTE: Shaft height corresponds to Viking's "C" reducer.

FOR USE WITH		A	B
PILOT: SAE C 4 BOLT ("U" BRACKET) P/N 2-070-400-100-00	in	5.00	1/2 - 13
PILOT: ISO 125MM 4 BOLT ("M" BRACKET) P/N 2-070-401-100-00	mm	125	M12 X 1.75

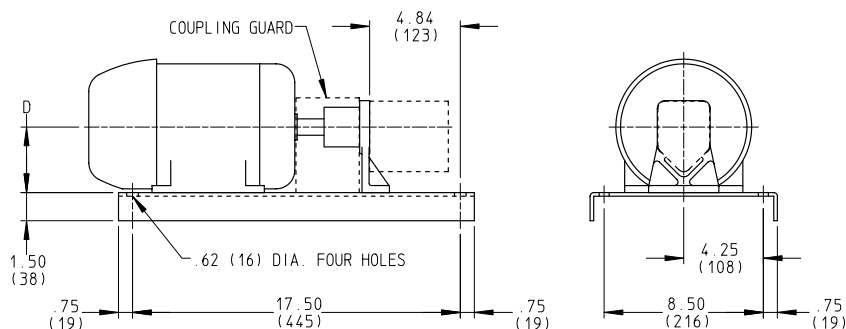
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SERIES SG-04, -05, -07, -10, -14 (Cast Iron)
SGN-05, -07 (Ductile Iron)



VIKING SG SERIES SINGLE PUMPS (WITH SHAFT SEAL)

DIMENSIONS – SERIES SG-04, SG-05, SGN-05 BASE-MOUNTED UNIT (“D” DRIVE)



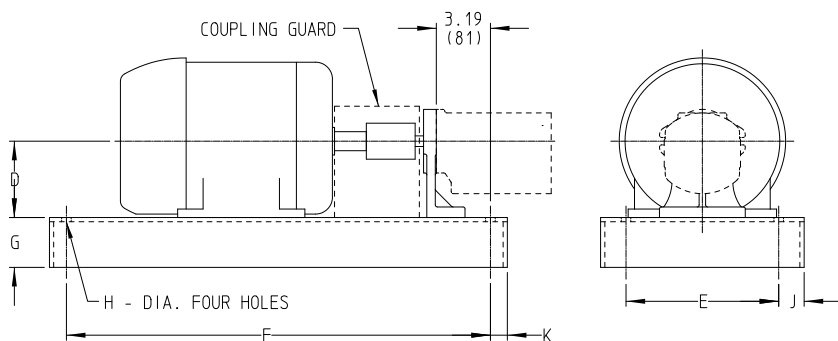
NOTE: Dimensions in inches (millimeters).

MOTOR FRAME SIZE		D	APPROX. MOTOR [Ⓢ] SHIPPING WEIGHT IN POUNDS (KG)	APPROX. DRIVE [Ⓢ] EQUIP. SHIPPING WEIGHT IN POUNDS (KG)
56	in	3.50	31 (14)	17 (8)
	mm	89		
143T	in	3.50	50 (23)	17 (8)
	mm	89		
145T	in	3.50	60 (27)	17 (8)
	mm	89		
182T	in	4.50	95 (43)	20 (9)
	mm	114		
184T	in	4.50	110 (50)	20 (9)
	mm	114		

① Motor shipping weight listed is for a typical TEFC motor. (If a more accurate motor shipping weight is required, consult factory with complete motor specifications.)

② Drive equipment shipping weight includes base, foot-bracket, coupling and coupling guard. For total unit shipping weight, add electric motor shipping weight, drive equipment shipping weight and the pump shipping weight shown on the pump specification chart.

DIMENSIONS – SERIES SG-07, SGN-07 BASE-MOUNTED UNIT (“D” DRIVE)



NOTE: Dimensions in inches (millimeters).

MOTOR FRAME SIZE		D	E	F	G	H	J	K	APPROX. MOTOR [Ⓢ] SHIPPING WEIGHT IN POUNDS (KG)	APPROX. DRIVE [Ⓢ] EQUIP. SHIPPING WEIGHT IN POUNDS (KG)
56	in (mm)	4.50 (114)	8.50 (216)	20.50 (520)	1.50 (190)	.50 (13)	.75 (19)	.75 (19)	31 (14)	38 (17)
143T									50 (23)	
145T									60 (27)	
182T	in (mm)	4.50 (114)	9.00 (229)	25.00 (635)	2.94 (75)	.56 (14)	1.50 (38)	1.00 (25)	95 (43)	49 (22)
184T									110 (50)	
213T	in (mm)	5.25 (133)	9.00 (229)	25.00 (635)	2.94 (75)	.56 (14)	1.50 (38)	1.00 (25)	145 (66)	56 (25)
215T									179 (81)	

① Motor shipping weight listed is for a typical TEFC motor. (If a more accurate motor shipping weight is required, consult factory with complete motor specifications.)

② Drive equipment shipping weight includes base, foot-bracket, coupling and coupling guard. For total unit shipping weight, add electric motor shipping weight, drive equipment shipping weight and the pump shipping weight shown on the pump specification chart.



SERIES SG-04, -05, -07, -10, -14 (Cast Iron)
SGN-05, -07 (Ductile Iron)

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VIKING SG SERIES SINGLE PUMPS (WITH SHAFT SEAL)

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/pumpselector for the general public.

For authorized distributors, this program can be found listed under the “Products” tab at www.idexconnect.com. Security passwords are required to access IDEXconnect.

INLET CONDITIONS: The performance curves show “Based on 10 (or 15) In.-Hg.” which is Viking’s standard test condition. This is **not** the maximum vacuum capability of the pump.

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 NPSH_R.

For a complete explanation of NPSH, see Viking Application Data Sheet, AD-19.

SG SERIES NET POSITIVE SUCTION HEAD REQUIRED (NPSH_R) ① FEET OF LIQUID (SP. GR. 1.0), VISCOSITIES - 38 SSU TO 750 SSU

Pump Size	Pump Speed (RPM)							
	640	780	950	1150	1450	1750	2900	3450
SG-04 (all sizes)	—	—	—	—	—	9.5	11.5	13.0
SG-0518	3.2	3.2	3.2	3.2	3.2	3.2	5.0	6.2
SG-0525	3.2	3.2	3.2	3.3	3.4	3.4	5.4	6.6
SG-0535	3.3	3.4	3.4	3.5	3.6	3.7	5.8	7.1
SG-0550	3.4	3.5	3.6	3.8	4.0	4.3	6.6	8.0
SG-0570	3.6	3.9	4.1	4.4	4.9	5.5	8.2	9.8
SG-0510 ②	2.5	2.6	2.7	2.8	3.7	4.3	8.2	9.8
SG-0514 ②	2.5	2.6	2.7	2.8	3.7	4.3	9.0	11.5
SG-0519 ②	2.6	2.7	2.8	3.2	4.0	5.0	10.8	13.5
SG-0528 ②	3.0	3.2	3.4	3.9	4.9	6.2	14.0	17.5
SG-0729	3.0	3.1	3.1	3.2	3.8	4.8	11.1	15.6
SG-0741	3.0	3.1	3.1	3.2	3.8	4.8	11.3	16.0
SG-0758	3.0	3.1	3.1	3.2	3.8	4.8	11.8	16.6
SG-0782	3.0	3.1	3.1	3.2	3.8	4.8	12.8	17.6
SG-0711	3.0	3.1	3.1	3.2	3.8	5.0	15.2	20.6
SG-0716	3.0	3.1	3.1	3.2	4.5	6.5	21.0	27.6
SG-0722 ③	3.0	3.1	3.1	3.2	3.8	5.0	N/A	N/A
SG-0732 ③	3.0	3.1	3.1	3.2	4.5	6.5	N/A	N/A
SG-1009	5.5	5.8	6.3	7.0	8.4	10.3	N/A	N/A
SG-1013	5.6	6.0	6.6	7.5	9.2	11.5	N/A	N/A
SG-1026	5.8	6.2	6.9	8.0	10.1	12.8	N/A	N/A
SG-1420	6.9	7.4	8.2	9.4	11.8	15.0	N/A	N/A
SG-1436	7.0	7.7	8.7	10.2	13.3	17.5	N/A	N/A
SG-1456	7.2	8.0	9.3	11.2	15.3	20.9	N/A	N/A

FOR VISCOSITIES ABOVE 750 SSU (NPSH_R data not available): The performance curves are based on 15 In.-Hg. While vacuums up to 20 In.-Hg. will not generally result in any loss of capacity, it is recommended that the suction line size and possibly the pump port size be increased to hold the expected vacuum to 15 In.-Hg. or less, when measured at the pump suction port. Vacuum above 20 In.-Hg. should be avoided. (Refer to “Engineering Data” Catalog Section 510 for information helpful in determining suction line size.)

THIN LIQUIDS: Carbon graphite bushings are recommended for 28 SSU and were used to develop the 28 SSU curve data. These curves should be used when applying the SG Series pumps to such liquids as alcohols, solvents, etc. The maximum drive speed of a pump with carbon graphite bushings is 1750 RPM. For speeds above 1750 RPM and with carbon graphite bushings, special bushing lubrication passageways must be machined. This results in a slightly lower capacity. Consult factory with application details.

MECHANICAL EFFICIENCY: The Mechanical Efficiency (expressed in percent) can be calculated by using the following formula:

$$\text{Mechanical Efficiency} = \frac{(\text{Differential Pressure, PSI}) (\text{Capacity, GPM}) (100)}{(\text{Horsepower, BHP}) (1715)}$$

METRIC CONVERSION: The following table has been compiled for conversion to metric values.

Vacuum		Pressure	
(Inches-Mercury) In.-Hg.	(Kilopascal) kPa*	(lbf/in. ²) PSI	(Kilopascal) kPa*
1	3.4	1	6.9
5	17	25	172
10	34	50	345
15	51	100	690
20	68	150	1034
25	85	200	1379
		250	1724
		500	3448

*1 kPa = 1 bar

1 m = 3.28 feet

1 foot = 0.305 m

① - At pump suction port

② - Standard ports are in casing

③ - 1-1/2" tapped suction port standard

N/A - Not Applicable - pump not rated for speeds listed.