

# SPUR GEAR PRODUCT LINE: CAST IRON PUMPS

SERIES SG-04, SG-05, SG-07, SG-10, SG-14

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## SERIES DESCRIPTION

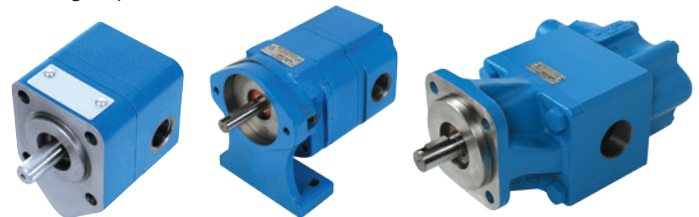
Viking SG is an extensive series of precision, industrial-duty external gear pumps that develop higher pressures than other Viking pumps, yet offer a similarly broad range of options to handle a diverse range of liquids and applications.

With 26 different displacements in five frame sizes to 190 GPM (719 LPM), 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, and single or double mechanical cartridge seals with seal plans (SG-10 & SG-14 only).

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.



SG-0535

SG-0741 with  
Footed B Drive Bracket

SG-1013

## RELATED PRODUCTS

Cast Iron, Mag Drive Pumps: Catalog Section 1453

## OPERATING RANGE

| SERIES | NOMINAL FLOW |             | MAXIMUM PRESSURE* |     | TEMPERATURE RANGE |             | VISCOSITY RANGE |              |
|--------|--------------|-------------|-------------------|-----|-------------------|-------------|-----------------|--------------|
|        | GPM          | LPM         | PSI               | Bar | °F                | °C          | SSU             | cSt          |
| SG-04  | 0.06 - 0.50  | 0.23 - 1.89 | 500               | 34  | -40 to +450       | -40 to +230 | 28 to 1,000,000 | 1 to 250,000 |
| SG-05  | 0.7 - 11.2   | 2.6 - 42.4  | 500               | 34  | -40 to +450       | -40 to +230 | 28 to 1,000,000 | 1 to 250,000 |
| SG-07  | 2.8 - 32     | 10.6 - 121  | 500               | 34  | -40 to +450       | -40 to +230 | 28 to 1,000,000 | 1 to 250,000 |
| SG-10  | 25 - 50      | 95 - 189    | 500               | 34  | -40 to +450       | -40 to +230 | 28 to 1,000,000 | 1 to 250,000 |
| SG-14  | 70 - 190     | 265 - 719   | 500               | 34  | -40 to +450       | -40 to +230 | 28 to 1,000,000 | 1 to 250,000 |

\* to 500 PSI (34 Bar) Continuous, to 2,500 PSI (170 Bar) Intermittent Pressure

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**SPUR GEAR PRODUCT LINE:  
CAST IRON PUMPS**  
SERIES SG-04, SG-05, SG-07, SG-10, SG-14

**FEATURES & BENEFITS**

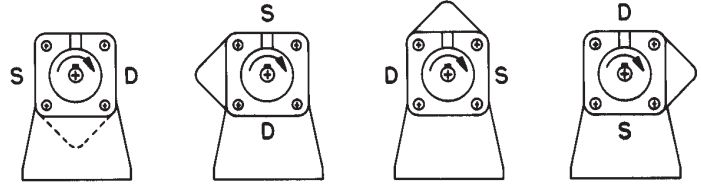
- Needle bearings provide high pressure capabilities, sleeve bearing options available
- Close-coupled motor mount or foot bracket options to match space or motor requirements

**TYPICAL APPLICATIONS**

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

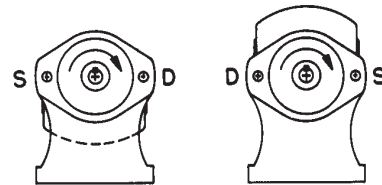
**PORT LOCATION OPTIONS**

**Series SG-04, SG-05, SG-10 and SG-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**



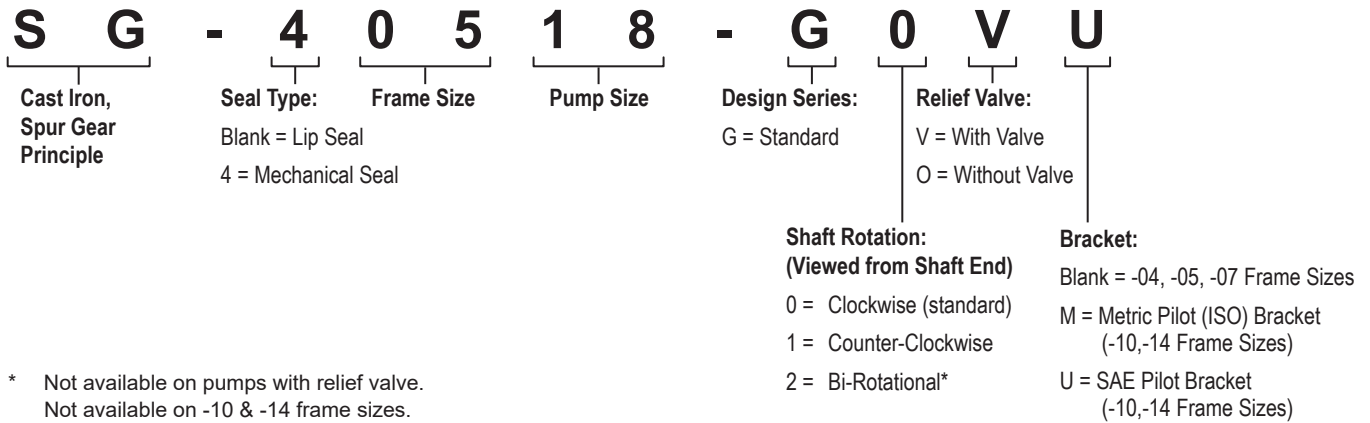
Clockwise pump can be mounted in either of two positions to obtain suction on right or left hand side. Offers 90° positioning with “M” drive. Ports are not on shaft centerline, so inverting will result in different port locations.

# SPUR GEAR PRODUCT LINE: CAST IRON PUMPS

SERIES SG-04, SG-05, SG-07, SG-10, SG-14

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## MODEL NUMBER KEY



## STANDARD MATERIALS OF CONSTRUCTION

| Component                             | SG-04, -05, -07               | SG-10, -14  |
|---------------------------------------|-------------------------------|---|
| Bracket                               | Cast Iron, ASTM A823          | Cast Iron, ASTM A48   |
| Casing                                | Cast Iron, ASTM A823          | Ductile Iron, ASTM A536   |
| Head, Separation Plate                | Cast Iron, ASTM A823          | Ductile Iron, ASTM A536   |
| Relief Valve Body                     | Cast Iron, ASTM A823          | Cast Iron, ASTM A48   |
| Relief Valve Poppet                   | Hardened Steel                | Ductile Iron, ASTM A536   |
| Relief Valve Spring                   | Steel, ASTM A229              | Chrome Silicon Spring Steel, ASTM A401  |
| Gears                                 | Heat Treated Steel            | Heat Treated Steel  |
| Shafts                                | Heat Treated Steel, ASTM A322 | Heat Treated Steel, ASTM A322   |
| Anti-Friction Needle Bearings ①       | Bearing Steel                 | Bearing Steel   |
| Journal Bearings                      | —                             | —   |
| O-Rings                               | FKM                           | Buna-N  |
| Lip Seals                             | FKM                           | Buna-N  |
| Component Mechanical Seals            | Carbon / Ni-Resist            | Carbon / Silicon Carbide  |
| Cartridge Mechanical Seals (Optional) | —                             | 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   |
| "M" Drive Motor Bracket               | Cast Iron, ASTM A48           | Aluminum  |

① Needle bearings standard with lip seals.

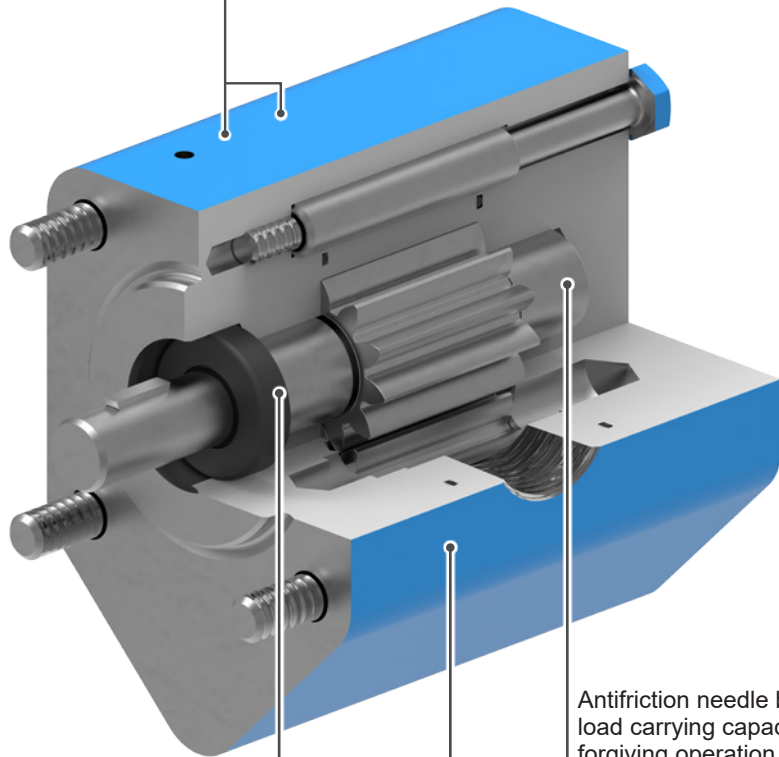
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## SPUR GEAR PRODUCT LINE: CAST IRON PUMPS

SERIES SG-04, SG-05, SG-07, SG-10, SG-14

### CUTAWAY VIEW & PUMP FEATURES

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.



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.

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.

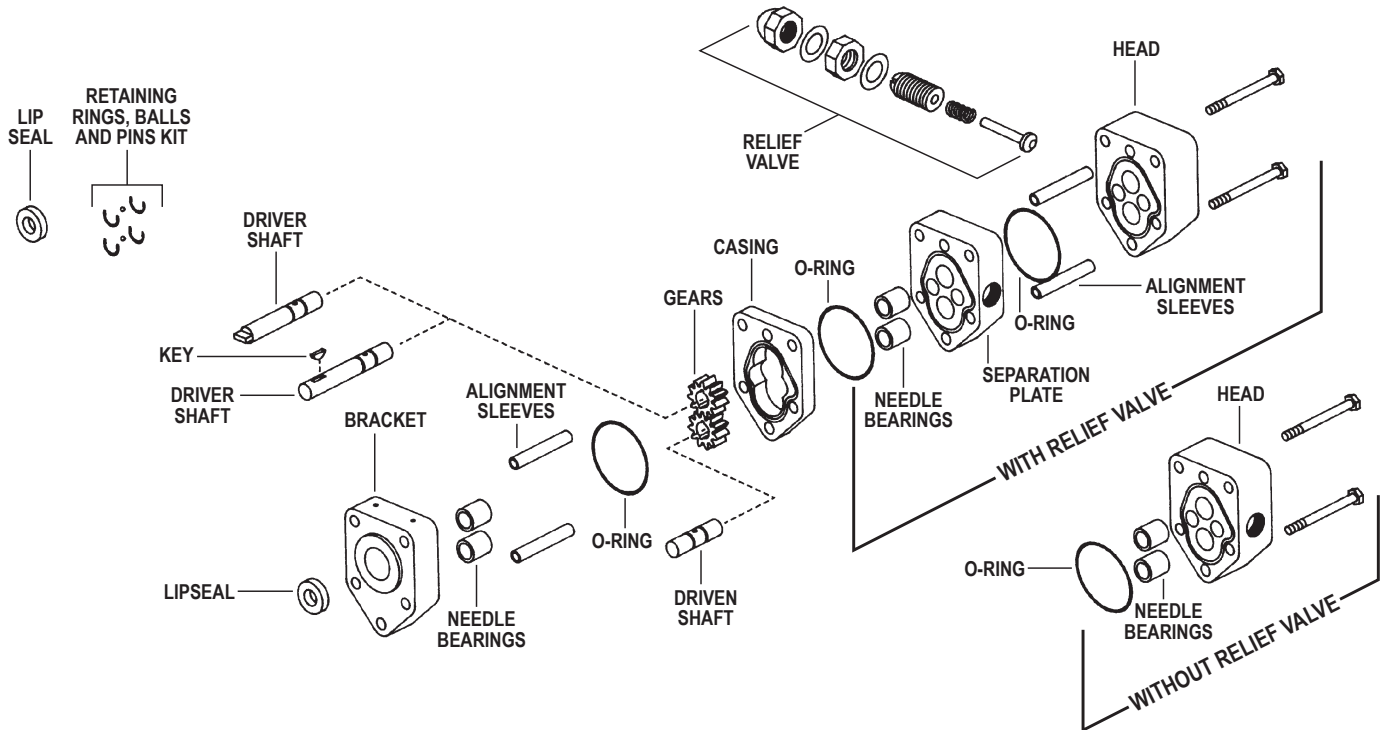
Hardened steel gears and shafts minimize wear. Spur-type gears minimize axial thrust for long seal life.

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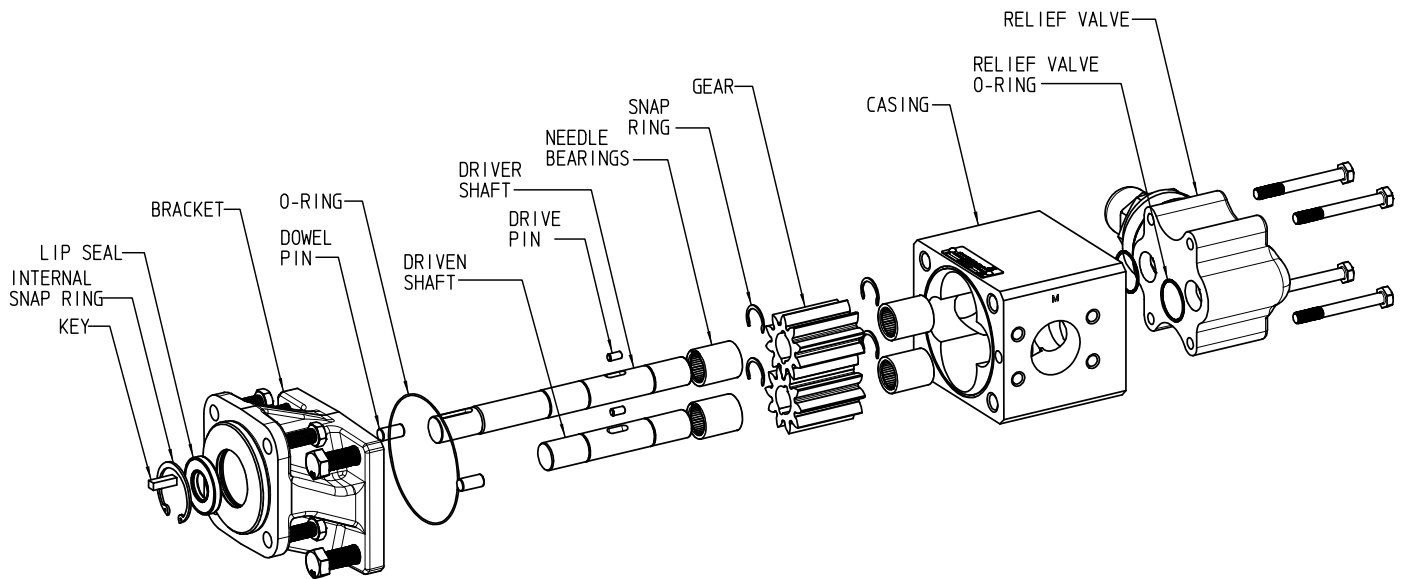
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## COMPONENT IDENTIFICATION (SG-04, SG-05 & SG-07)



## COMPONENT IDENTIFICATION (SG-10 & SG-14)



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**SPUR GEAR PRODUCT LINE:  
CAST IRON PUMPS**  
SERIES SG-04, SG-05, SG-07, SG-10, SG-14

## SPECIFICATIONS

| ③ Model Number |              | Port Size | ⑥ Nominal Capacity at 50 Hz Motor Speeds (1450 RPM) |      | ⑥ Nominal Capacity at 60 Hz Motor Speeds (1750 RPM) |      | ④ Maximum Continuous Pressure |      | ④ Maximum Intermittent Pressure |      | ② Maximum Recommended Temperature for Standard Pump |     | Approximate Shipping Weight (Pump Only) |      |
|----------------|--------------|-----------|---|------|---|------|-------------------------------|------|---------------------------------|------|---|-----|---|------|
|                |              |           | Inches  | GPM  | LPM   | GPM  | LPM                           | PSIG | BAR                             | PSIG | BAR   | °F  | °C                                      | Lbs. |
| Lip Seal       | ① Mech. Seal |           |   |      |   |      |                               |      |                                 |      |   |     |   |      |
| SG-0417        | SG-40417     | ¾ ⑦       | 0.05  | 0.19 | 0.06  | 0.23 | 500                           | 34   | 750                             | 52   | 350   | 175 | 6                                       | 2.7  |
| SG-0418        | SG-40418     | ¾ ⑦       | 0.12  | 0.44 | 0.14  | 0.53 | 500                           | 34   | 1250                            | 86   | 350   | 175 | 6                                       | 2.7  |
| SG-0425        | SG-40425     | ¾ ⑦       | 0.15  | 0.56 | 0.18  | 0.68 | 500                           | 34   | 1500                            | 103  | 350   | 175 | 6                                       | 2.7  |
| SG-0470        | SG-40470     | ¾ ⑦       | 0.41  | 1.57 | 0.5   | 1.89 | 500                           | 34   | 1500                            | 103  | 350   | 175 | 7                                       | 3.2  |
| ⑤ SG-0518      | SG-40518     | ½ ⑦       | 0.58  | 2.2  | 0.7   | 2.6  | 500                           | 34   | 1500                            | 103  | 350   | 175 | 6                                       | 2.7  |
| ⑤ SG-0525      | SG-40525     | ½ ⑦       | 0.83  | 3.1  | 1   | 3.8  | 500                           | 34   | 2500                            | 170  | 350   | 175 | 6                                       | 2.7  |
| ⑤ SG-0535      | SG-40535     | ½ ⑦       | 1.16  | 4.4  | 1.4   | 5.3  | 500                           | 34   | 2500                            | 170  | 350   | 175 | 6                                       | 2.7  |
| ⑤ SG-0550      | SG-40550     | ½ ⑦       | 1.66  | 6.3  | 2   | 7.6  | 500                           | 34   | 2500                            | 170  | 350   | 175 | 7                                       | 3.2  |
| ⑤ SG-0570      | SG-40570     | ½ ⑦       | 2.32  | 8.8  | 2.8   | 10.6 | 500                           | 34   | 1800                            | 124  | 350   | 175 | 7                                       | 3.2  |
| ⑤ SG-0510      | SG-40510     | ½ ⑦       | 3.31  | 12.5 | 4   | 15.1 | 500                           | 34   | 1250                            | 86   | 350   | 175 | 8                                       | 3.6  |
| ⑤ SG-0514      | SG-40514     | ¾ ⑦       | 4.64  | 17.6 | 5.6   | 21.2 | 500                           | 34   | 900                             | 62   | 350   | 175 | 9                                       | 4.1  |
| ⑤ SG-0519      | SG-40519     | ¾ ⑦       | 6.3   | 23.8 | 7.6   | 28.8 | 200                           | 14   | 400                             | 28   | 350   | 175 | 10                                      | 4.5  |
| ⑤ SG-0528      | SG-40528     | ¾ ⑦       | 9.28  | 35.1 | 11.2  | 42.4 | 100                           | 7    | 200                             | 14   | 350   | 175 | 11                                      | 5    |
| SG-0729        | SG-40729     | 1 ⑦       | 2.3   | 8.8  | 2.8   | 10.6 | 500                           | 34   | 2500                            | 170  | 350   | 175 | 14                                      | 6.4  |
| SG-0741        | SG-40741     | 1 ⑦       | 3.3   | 12.5 | 4   | 15.1 | 500                           | 34   | 2500                            | 170  | 350   | 175 | 15                                      | 6.8  |
| SG-0758        | SG-40758     | 1 ⑦       | 4.6   | 17.6 | 5.6   | 21.2 | 500                           | 34   | 2500                            | 170  | 350   | 175 | 17                                      | 7.7  |
| SG-0782        | SG-40782     | 1 ⑦       | 6.6   | 25.1 | 8   | 30.3 | 500                           | 34   | 2250                            | 155  | 350   | 175 | 18                                      | 8.2  |
| SG-0711        | SG-40711     | 1 ⑦       | 9.3   | 35.1 | 11.2  | 42.4 | 500                           | 34   | 1600                            | 110  | 350   | 175 | 19                                      | 8.6  |
| SG-0716        | SG-40716     | 1 ⑦       | 13  | 50   | 16  | 61   | 500                           | 34   | 1100                            | 76   | 350   | 175 | 20                                      | 9.1  |
| SG-0722        | SG-40722     | 1½ x 1¼ ⑦ | 18  | 69   | 22  | 83   | 500                           | 34   | 1600                            | 110  | 350   | 175 | 41                                      | 18.6 |
| SG-0732        | SG-40732     | 1½ x 1¼ ⑦ | 26  | 100  | 32  | 121  | 500                           | 34   | 1100                            | 76   | 350   | 175 | 43                                      | 19.5 |
| SG-1013        | SG-41013     | 1½ ⑧      | 21  | 78   | 25  | 95   | 500                           | 34   | 1900                            | 130  | 225   | 105 | 49                                      | 22.1 |
| SG-1026        | SG-41026     | 2 ⑧       | 41  | 157  | 50  | 189  | 500                           | 34   | 1000                            | 68   | 225   | 105 | 54                                      | 24.5 |
| SG-1420        | SG-41420     | 2 ⑧       | 58  | 220  | 70  | 265  | 500                           | 34   | 1100                            | 75   | 225   | 105 | 130                                     | 59.1 |
| SG-1436        | SG-41436     | 3 ⑧       | 104   | 392  | 125   | 473  | 290                           | 20   | 580                             | 40   | 225   | 105 | 158                                     | 71.5 |
| SG-1456        | SG-41456     | 4 ⑧       | 158   | 597  | 190   | 719  | 190                           | 13   | 380                             | 26   | 225   | 105 | 189                                     | 85.8 |

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

② With optional sealing elements of PTFE or FFKM, 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 the Viking Pump Curve Generator at [www.vikingpump.com](http://www.vikingpump.com).

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.

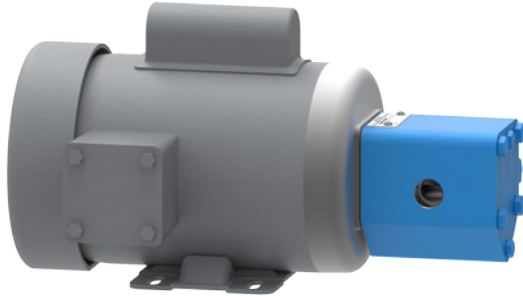
Contact factory with desired flange face and length for quote.

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## MOUNTING OPTIONS

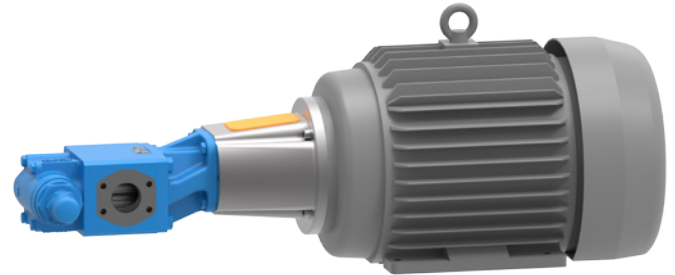


### Four-Bolt Motor Mounted Units (M4 Drive)

Pump mounted directly to tang drive motor.

It helps reduce onsite assembly costs and provides maximum compactness where space is at a premium.

**Series: SG-04, SG-05**

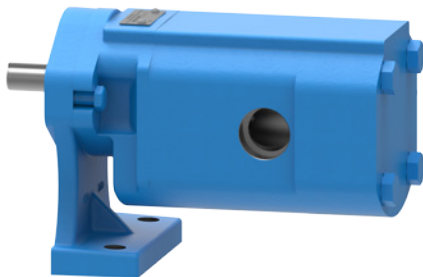


### Motor Mounted Units (M Drive)

Pump and motor (NEMA or IEC) mounted to a flange mounting bracket with coupling.

This mounting arrangement eliminates the need for on-site coupling alignment that is normally required with a base mounted unit.

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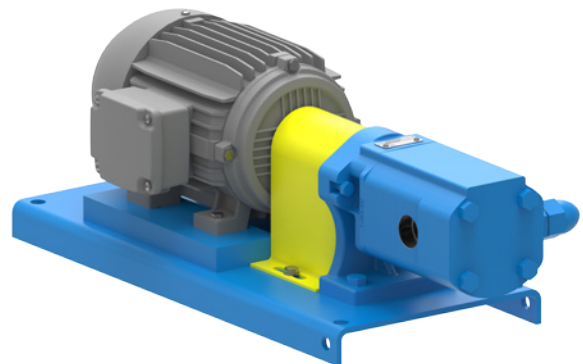


### Foot Bracket Mounted Pumps (B Drive)

Pump is mounted to a foot bracket.

Foot bracket is machined by Viking for an accurate fit with the pump. B Drive is required for cartridge seals on SG-10 and SG-14. Outboard bearing required for side loads.

**Series: SG-04, SG-05, SG-07, SG-10, SG-14**



### Base Mounted Direct Drive (D Drive)

Pump is direct connected to a on a base with coupling and coupling guard.

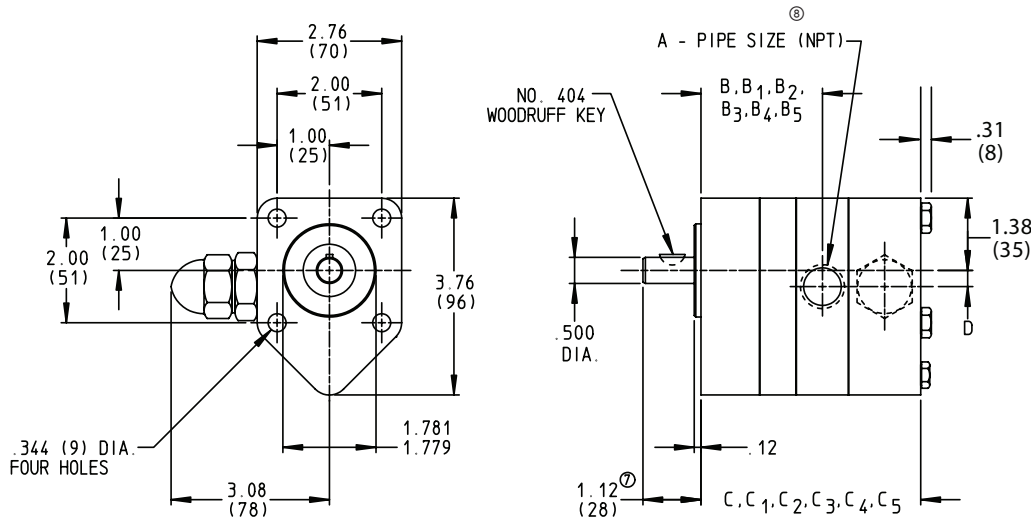
Rectangular, formed steel base provides a solid mounting for the drive equipment and the foot bracket mounted pump

**Series: SG-04, SG-05, SG-07, SG-10, SG-14**

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**SPUR GEAR PRODUCT LINE:  
CAST IRON PUMPS**  
SERIES SG-04, SG-05, SG-07, SG-10, SG-14

**DIMENSIONS – SG-04 & SG-05 SERIES (UNMOUNTED)**



| Model Number |                 | A<br>(in) | B       | ① B1 | ② B2 | ③ B3 | ④ B4 | ⑤ B5 | C    | ① C1 | ② C2 | ③ C3 | ④ C4 | ⑤ C5 | D    |
|--------------|-----------------|-----------|---------|------|------|------|------|------|------|------|------|------|------|------|------|
| Lip Seal     | Mechanical Seal |           |         |      |      |      |      |      |      |      |      |      |      |      |      |
| SG-0417      | SG-40417        | 3/8       | in 1.8  | 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 1.8  | 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-0470      | SG-40470        | 3/8       | in 2.32 | 3.2  | 2.7  | 2.51 | 3.39 | 2.89 | 4.2  | 5.08 | 4.58 | 3.2  | 4.08 | 3.58 | 0.31 |
|              |                 | mm 59     | 81      | 69   | 64   | 86   | 73   | 107  | 129  | 116  | 81   | 104  | 91   | 8    |      |
| SG-0518      | SG-40518        | 1/2       | in 1.8  | 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      | SG-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      | SG-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      | SG-40550        | 1/2       | in 2.12 | 3    | 2.5  | 2.31 | 3.19 | 2.69 | 4    | 4.88 | 4.38 | 3    | 3.88 | 3.38 | 0.31 |
|              |                 | mm 54     | 76      | 64   | 58   | 81   | 68   | 102  | 124  | 111  | 76   | 99   | 86   | 8    |      |
| SG-0570      | SG-40570        | 1/2       | in 2.32 | 3.2  | 2.7  | 2.51 | 3.39 | 2.89 | 4.2  | 5.08 | 4.58 | 3.2  | 4.08 | 3.58 | 0.31 |
|              |                 | mm 59     | 81      | 69   | 64   | 86   | 73   | 107  | 129  | 116  | 81   | 104  | 91   | 8    |      |
| Ⓞ SG-0510    | Ⓞ SG-40510      | 1/2       | in 1.62 | 2.5  | 2    | 1.62 | 2.5  | 2    | 4.5  | 5.38 | 4.88 | 3.5  | 4.38 | 3.88 | 0.31 |
|              |                 |           | mm 41   | 64   | 51   | 41   | 64   | 51   | 114  | 137  | 124  | 89   | 111  | 99   | 8    |
| Ⓞ SG-0514    | Ⓞ SG-40514      | 3/4       | in 1.82 | 2.7  | 2.2  | 1.82 | 2.7  | 2.2  | 4.9  | 5.78 | 5.28 | 3.9  | 4.78 | 4.28 | 0.19 |
|              |                 | mm 46     | 69      | 56   | 46   | 69   | 56   | 124  | 147  | 134  | 99   | 121  | 109  | 5    |      |
| Ⓞ SG-0519    | Ⓞ SG-40519      | 3/4       | in 2.07 | 2.95 | 2.45 | 2.07 | 2.95 | 2.45 | 5.4  | 6.28 | 5.78 | 4.4  | 5.28 | 4.78 | 0.19 |
|              |                 | mm 53     | 75      | 62   | 53   | 75   | 62   | 137  | 160  | 147  | 112  | 134  | 121  | 5    |      |
| Ⓞ SG-0528    | Ⓞ SG-40528      | 3/4       | in 1.82 | 2.7  | 2.2  | 1.82 | 2.7  | 2.2  | 6.3  | 7.18 | 6.68 | 5.3  | 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.

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

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

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

**NOTE:** Bracket Pilot USA 4F17 4-Bolt

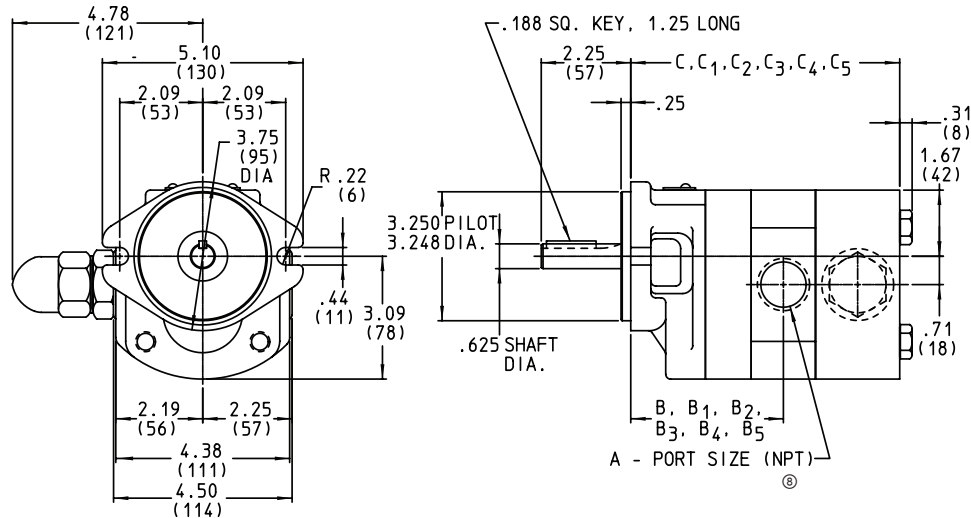
These dimensions are average and not for construction purposes. Certified prints on request.

# SPUR GEAR PRODUCT LINE: CAST IRON PUMPS

SERIES SG-04, SG-05, SG-07, SG-10, SG-14

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## DIMENSIONS – SG-07 & SG-05 SERIES (UNMOUNTED)



| Model Number | A (in)    |    | B    | ① B1 | ② B2 | ③ B3 | ④ B4 | ⑤ B5 | C     | ① C1  | ② C2 | ③ C3  | ④ C4 | ⑤ C5 |
|--------------|-----------|----|------|------|------|------|------|------|-------|-------|------|-------|------|------|
| SG-0741      | ⑥ 1       | in | 3.10 | 4.72 | 3.29 | 4.91 | 3.54 | 5.16 | 6.03  | 7.65  | 4.41 | 6.03  | 6.91 | 8.53 |
|              |           | mm | 79   | 120  | 84   | 125  | 90   | 131  | 153   | 194   | 112  | 153   | 176  | 217  |
| SG-0758      | ⑥ 1       | in | 3.27 | 4.89 | 3.46 | 5.08 | 3.71 | 5.33 | 6.20  | 7.82  | 4.58 | 6.20  | 7.08 | 8.70 |
|              |           | mm | 83   | 124  | 88   | 129  | 94   | 135  | 157   | 199   | 116  | 157   | 180  | 221  |
| SG-0782      | ⑥ 1       | in | 3.51 | 5.13 | 3.70 | 5.32 | 3.95 | 5.57 | 6.44  | 8.06  | 4.82 | 6.44  | 7.32 | 8.94 |
|              |           | mm | 89   | 130  | 94   | 135  | 100  | 141  | 164   | 205   | 122  | 164   | 186  | 227  |
| SG-0711      | ⑥ 1       | in | 3.84 | 5.46 | 4.03 | 5.65 | 4.28 | 5.90 | 6.77  | 8.39  | 5.15 | 6.77  | 7.65 | 9.27 |
|              |           | mm | 98   | 139  | 102  | 144  | 109  | 150  | 172   | 213   | 131  | 172   | 194  | 235  |
| SG-0716      | ⑥ 1       | in | 4.34 | 5.96 | 4.53 | 6.15 | 4.78 | 6.40 | 7.27  | 8.89  | 5.65 | 7.27  | 8.15 | 9.77 |
|              |           | mm | 110  | 151  | 115  | 156  | 121  | 163  | 185   | 226   | 144  | 185   | 207  | 248  |
| SG-0722      | ⑦ 1½ x 1¼ | in | 4.28 | 5.90 | 4.28 | 5.90 | —    | —    | 10.42 | 12.04 | 8.80 | 10.42 | —    | —    |
|              |           | mm | 109  | 150  | 109  | 150  | —    | —    | 265   | 306   | 224  | 265   | —    | —    |
| SG-0732      | ⑦ 1½ x 1¼ | in | 4.78 | 6.40 | 4.78 | 6.40 | —    | —    | 11.42 | 13.04 | 9.80 | 11.42 | —    | —    |
|              |           | mm | 121  | 163  | 121  | 163  | —    | —    | 290   | 331   | 249  | 290   | —    | —    |

- ① These dimensions apply when the mechanical shaft seal option is selected.
- ② These dimensions apply when the relief valve is deleted.
- ③ These dimensions apply when the relief valve is deleted and the mechanical shaft seal option is selected.
- ④ These dimensions apply when the oversize port option (1½" NPT suction, 1¼" NPT discharge) is selected, with or without the relief valve.
- ⑤ These dimensions apply when the oversize port option (1½" NPT suction, 1¼" NPT discharge) and the mechanical seal option are both selected, with or without the relief valve.
- ⑥ Standard ports for these size pumps are 1" NPT. Oversize ports are available (1½" NPT suction, 1¼" NPT discharge) as an option on clockwise rotation pumps only. See footnotes 4 and 5 for appropriate dimensions.
- ⑦ Standard ports for these size pumps are 1½" NPT suction, 1¼" NPT discharge. These pumps are only available in clockwise rotation.
- ⑧ Standard ports NPT. Optional threads include BSP and SAE O-ring J1453.

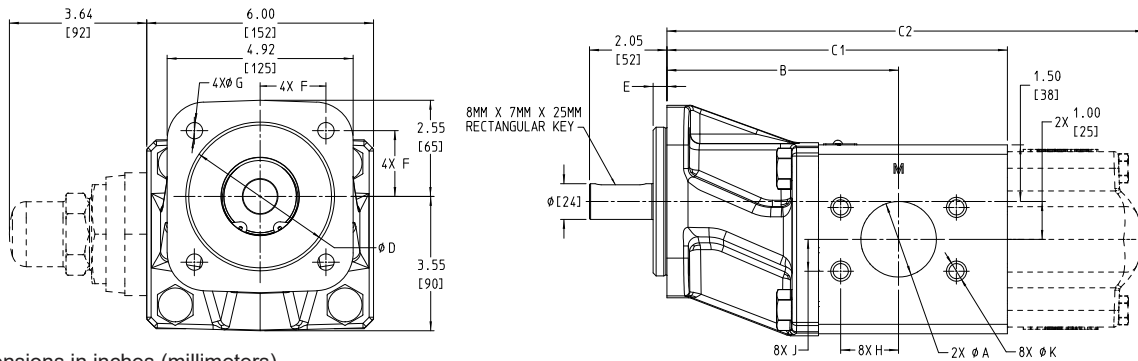
NOTE: SG-07 bracket to SAE-A 2-bolt standard for NEMA or IEC M-drive

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

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**SPUR GEAR PRODUCT LINE:  
CAST IRON PUMPS**  
SERIES SG-04, SG-05, SG-07, SG-10, SG-14

**DIMENSIONS – SG-10 SERIES (UNMOUNTED)**

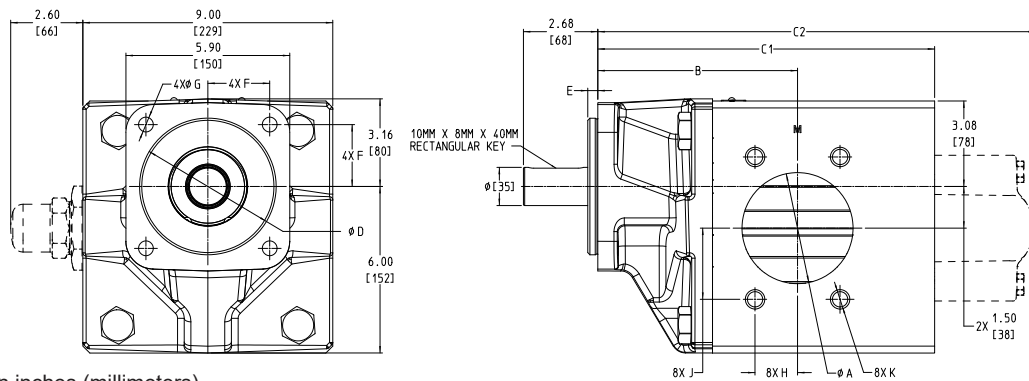


NOTE: Dimensions in inches (millimeters)

| Model Number |   |    | A ③  | B    | C1   | C2    | D    | E    | F    | G    | H    | J    | K                 |
|--------------|---|----|------|------|------|-------|------|------|------|------|------|------|-------------------|
| 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    | 44   | 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    | 44   | 11   | 39   | 21   | M12 X 1.75 X 19.5 |

- ① Bracket pilot SAE-B 4-bolt standard for NEMA M-drive or foot bracket
- ② Bracket pilot 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 SAE B 4-Bolt or 100 mm ISO 3019-2

**DIMENSIONS – SG-10 SERIES (UNMOUNTED)**



NOTE: Dimensions in inches (millimeters)

| Model Number |   |    | 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    | 57   | 14   | 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    | 57   | 14   | 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    | 57   | 14   | 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 SAE C 4-Bolt or 125 mm ISO 3019-2

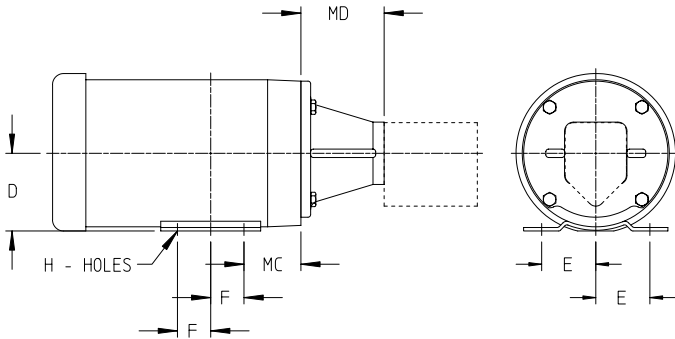
These dimensions are average and not for construction purposes. Certified prints on request.

**SPUR GEAR PRODUCT LINE:  
CAST IRON PUMPS**

SERIES SG-04, SG-05, SG-07, SG-10, SG-14

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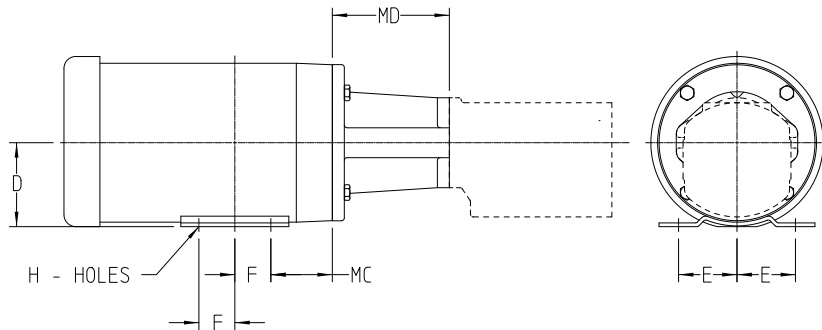
**DIMENSIONS – SG-04 & SG-05 SERIES NEMA C-FLANGE (M DRIVE)**



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           | Approximate Drive ① Equipment 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 – SG-07 SERIES NEMA C-FLANGE (M DRIVE)**



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.

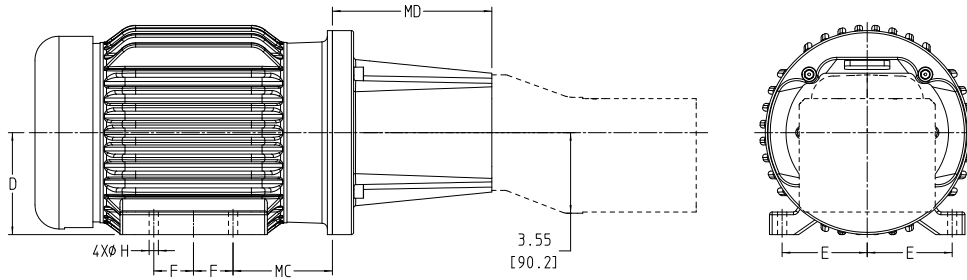
| Motor Frame Size |         | D            | E            | F            | H              | MC           | MD           | Approximate Drive ① Equipment Shipping Weight In Pounds (KG) |
|------------------|---------|--------------|--------------|--------------|----------------|--------------|--------------|--|
| 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)   |

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

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**SPUR GEAR PRODUCT LINE:  
CAST IRON PUMPS**  
SERIES SG-04, SG-05, SG-07, SG-10, SG-14

**DIMENSIONS – SG-10 SERIES NEMA (M DRIVE)**



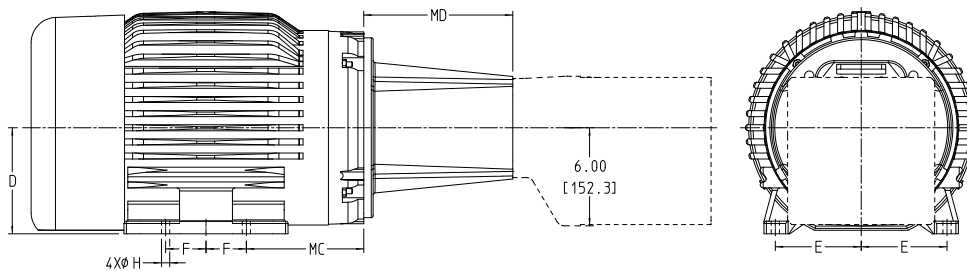
| Motor Frame Size |         | D             | E            | F            | H          | MC           | MD           | Approximate Drive ① Equipment Shipping Weight In Pounds (KG) |
|------------------|---------|---------------|--------------|--------------|------------|--------------|--------------|--|
| 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)  |

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

**DIMENSIONS – SG-14 SERIES NEMA (M DRIVE)**



| Motor Frame Size |         | D              | E            | F            | H          | MC           | MD           | Approximate Drive ① Equipment 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)  |

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.

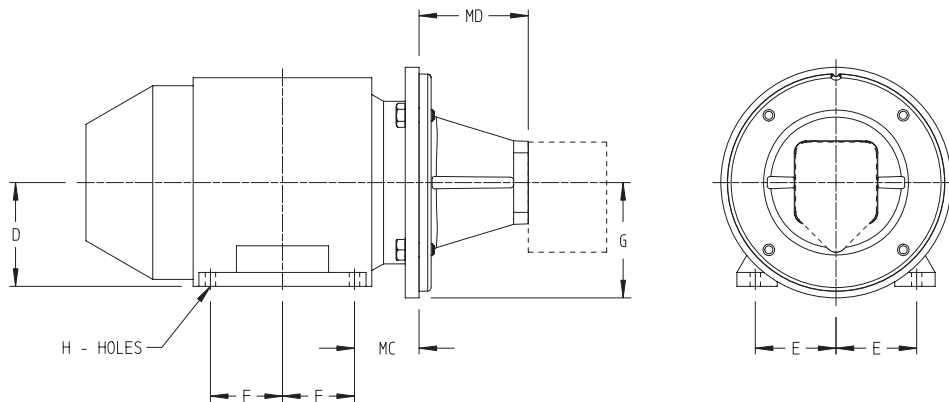
These dimensions are average and not for construction purposes. Certified prints on request.

# SPUR GEAR PRODUCT LINE: CAST IRON PUMPS

SERIES SG-04, SG-05, SG-07, SG-10, SG-14

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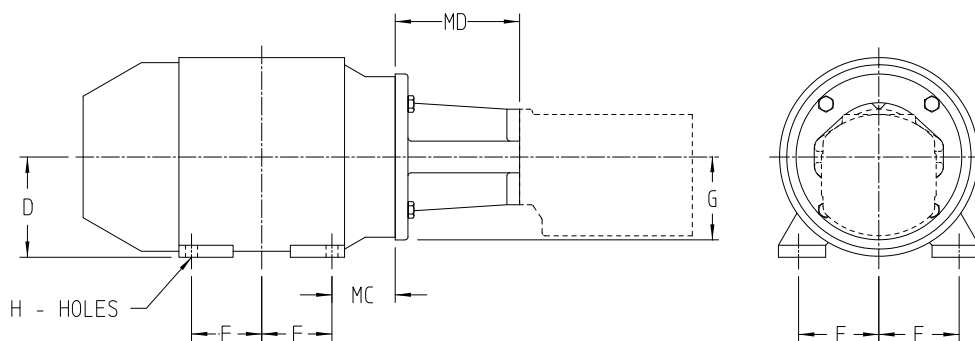
## DIMENSIONS – SG-04 & SG-05 SERIES IEC FRAME (M DRIVE)



| Motor Frame Size     |         | D         | E           | F                              | G          | H         | MC        | MD          | Approximate Drive ① Equipment Shipping Weight In Pounds (KG) |
|----------------------|---------|-----------|-------------|--------------------------------|------------|-----------|-----------|-------------|--|
| IEC 80<br>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<br>B35 FLANGE | in (mm) | 3.54 (90) | 2.76 (70)   | S 1.97 (50) /<br>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 – SG-07 SERIES IEC FRAME (M DRIVE)



| Motor Frame Size     |         | D          | E         | F                              | G          | H         | MC        | MD           | Approximate Drive ① Equipment Shipping Weight In Pounds (KG) |
|----------------------|---------|------------|-----------|--------------------------------|------------|-----------|-----------|--------------|--|
| IEC 90<br>B35 FLANGE | in (mm) | 3.54 (90)  | 2.76 (70) | S 1.97 (50) /<br>L 2.46 (62.5) | 3.94 (100) | 0.39 (10) | 2.20 (56) | 5.13 (130.3) | 68 (31)  |
| IEC 100<br>B14 FACE  | in (mm) | 3.94 (100) | 3.15 (80) | S 2.20 (56) /<br>L 2.76 (70)   | —          | 0.47 (12) | 2.48 (63) | 5.26 (133.6) | 114 (52)   |
| IEC 112<br>B14 FACE  | in (mm) | 4.41 (112) | 3.74 (95) | S 2.24 (57) /<br>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.

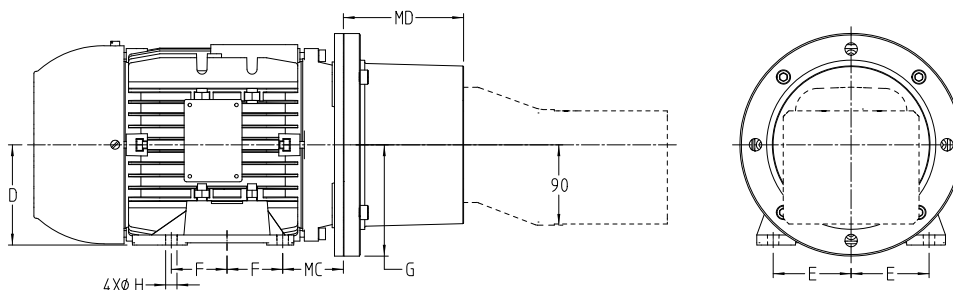
These dimensions are average and not for construction purposes. Certified prints on request.

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## SPUR GEAR PRODUCT LINE: CAST IRON PUMPS

SERIES SG-04, SG-05, SG-07, SG-10, SG-14

### DIMENSIONS – SG-10 SERIES IEC B35 FRAME (M DRIVE)



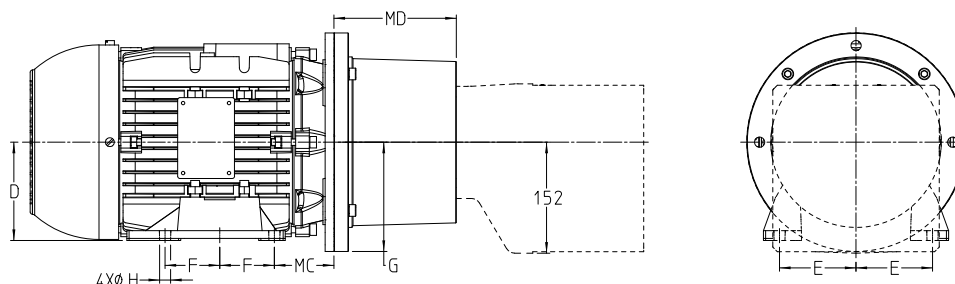
| Motor Frame Size |         | D          | E            | F            | G          | H         | MC         | BELLHOUSING PN ② | MD         | Approximate Drive ① Equipment Shipping Weight In Pounds (KG) |
|------------------|---------|------------|--------------|--------------|------------|-----------|------------|------------------|------------|--|
| 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.

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

### DIMENSIONS – SG-14 SERIES IEC B35 FRAME (M DRIVE)



| Motor Frame Size |         | D          | E            | F            | G          | H         | MC         | BELLHOUSING PN ② | MD         | Approximate 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.

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

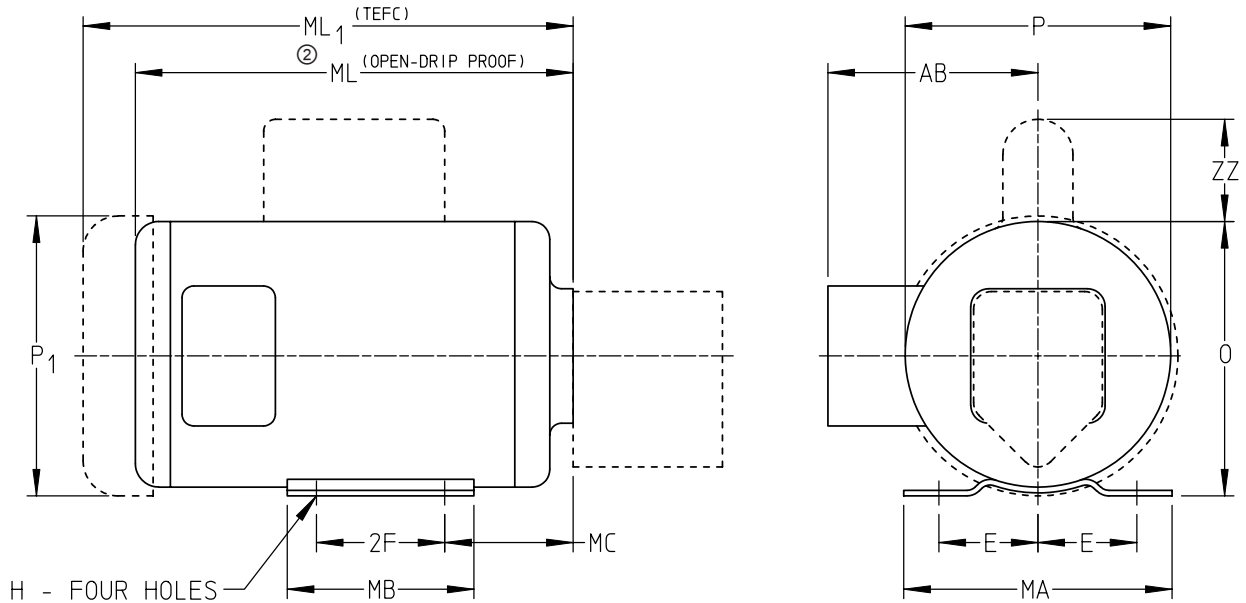
These dimensions are average and not for construction purposes. Certified prints on request.

**SPUR GEAR PRODUCT LINE:  
CAST IRON PUMPS**

SERIES SG-04, SG-05, SG-07, SG-10, SG-14

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**DIMENSIONS – SG-04 & SG-05 SERIES 4-BOLT (M4 DRIVE)**



| Close-Coupled Motor Frame Size |         | AB            | D            | E            | 2F           | H                  | MA            | MB            | MC           | ENCL. | O             | P             | P <sub>1</sub> | ZZ           | Approximate Drive Equipment <sup>①</sup> Shipping Weight In Pounds (KG) |
|--------------------------------|---------|---------------|--------------|--------------|--------------|--------------------|---------------|---------------|--------------|-------|---------------|---------------|----------------|--------------|---|
| 48 M4 Drive                    | in (mm) | 4.50<br>(114) | 3.00<br>(76) | 2.12<br>(54) | 2.75<br>(70) | .34<br>(9)<br>SLOT | 5.75<br>(146) | 4.00<br>(102) | 2.75<br>(70) | ODP   | 5.88<br>(149) | 5.69<br>(145) | —              | 2.19<br>(56) | 25 (11.1)   |
|                                |         |               |              |              |              |                    |               |               |              | TEFC  | 5.88<br>(149) | —             | 6.12<br>(155)  | 2.25<br>(57) |   |
| 56 M4 Drive                    | in (mm) | 5.25<br>(113) | 3.50<br>(89) | 2.44<br>(62) | 3.00<br>(76) | .34<br>(9)<br>SLOT | 6.50<br>(165) | 4.50<br>(114) | 2.62<br>(66) | ODP   | 6.88<br>(175) | 6.62<br>(168) | —              | 2.25<br>(57) | 29 (12.9)   |
|                                |         |               |              |              |              |                    |               |               |              | TEFC  | 6.88<br>(175) | —             | 7.19<br>(183)  | 2.25<br>(57) |   |

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.

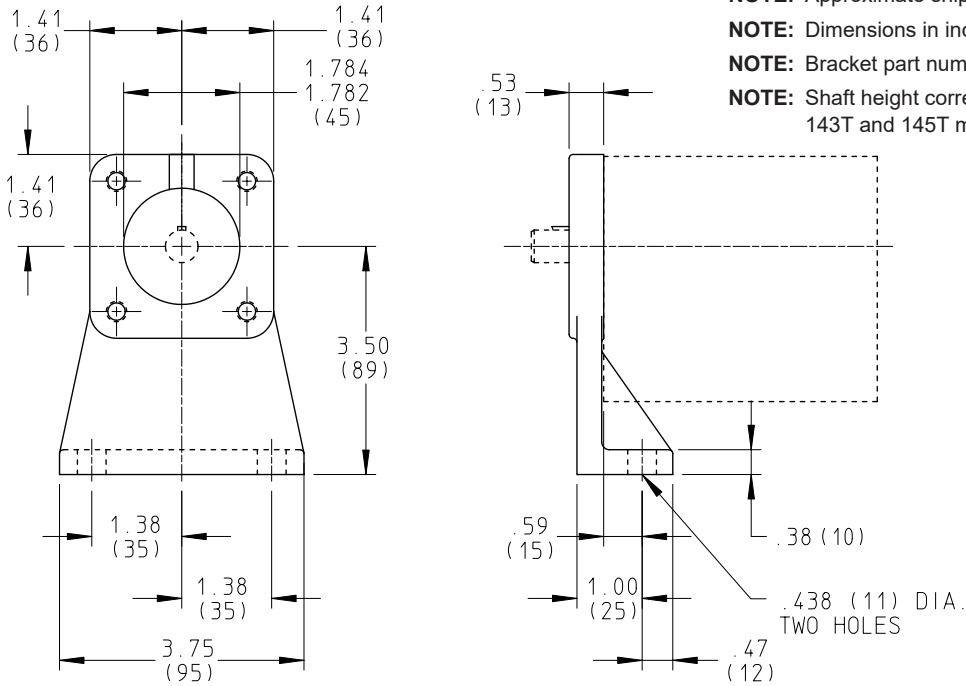
② ML and ML<sub>1</sub> length dependent on motor horsepower.

**NOTE:** Dimensions in inches (mm).

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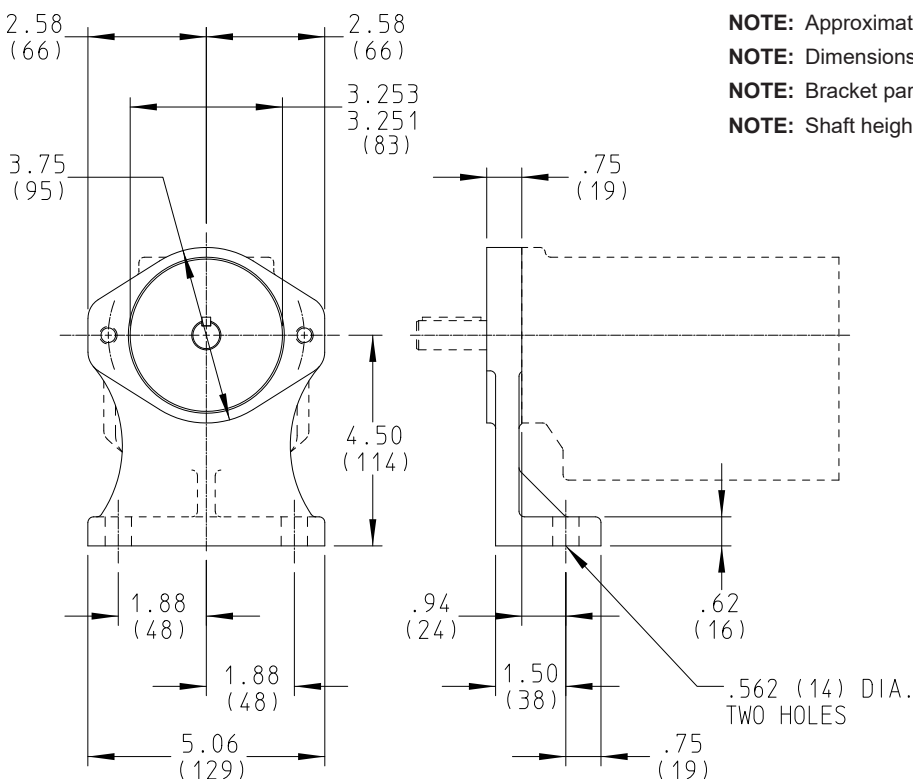
**SPUR GEAR PRODUCT LINE:  
CAST IRON PUMPS**  
SERIES SG-04, SG-05, SG-07, SG-10, SG-14

**DIMENSIONS – SG-04 & SG-05 SERIES (B DRIVE)**



- NOTE: Approximate shipping weight of foot bracket is 2¼ lbs. (0.9 kg)
- NOTE: Dimensions in inches (millimeters).
- NOTE: Bracket part number is 2-070-012-100-00
- NOTE: Shaft height corresponds to Viking's "A" reducer or NEMA 56, 143T and 145T motors.

**DIMENSIONS – SG-07 SERIES (B DRIVE)**



- NOTE: Approximate shipping weight of foot bracket is 5 lbs. (1.9 kg)
- NOTE: Dimensions in inches (millimeters).
- NOTE: Bracket part number is 2-070-200-100-00
- NOTE: Shaft height corresponds to NEMA 182T and 184T motors.

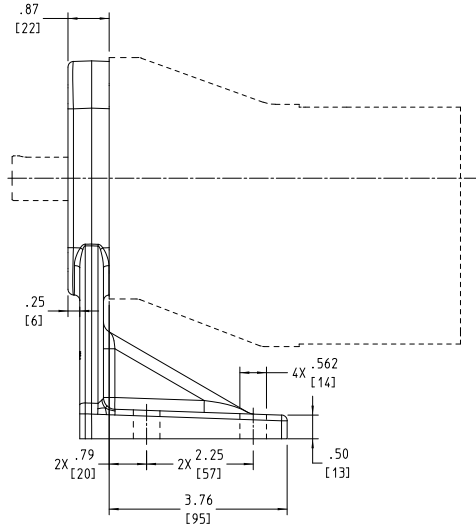
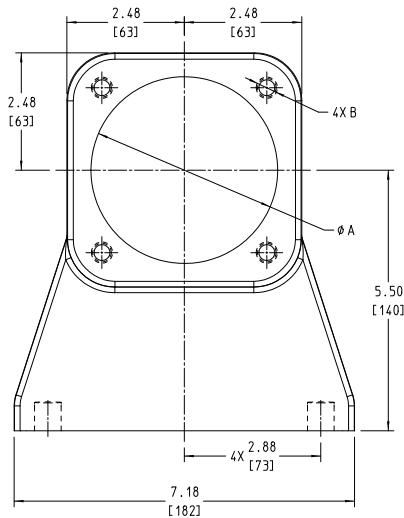
These dimensions are average and not for construction purposes. Certified prints on request.

# SPUR GEAR PRODUCT LINE: CAST IRON PUMPS

SERIES SG-04, SG-05, SG-07, SG-10, SG-14

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## DIMENSIONS – SG-10 SERIES (B DRIVE)



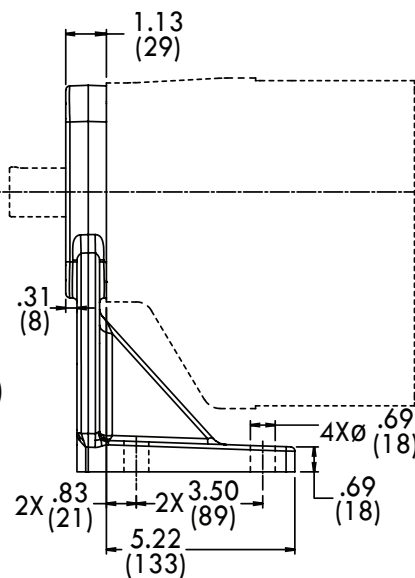
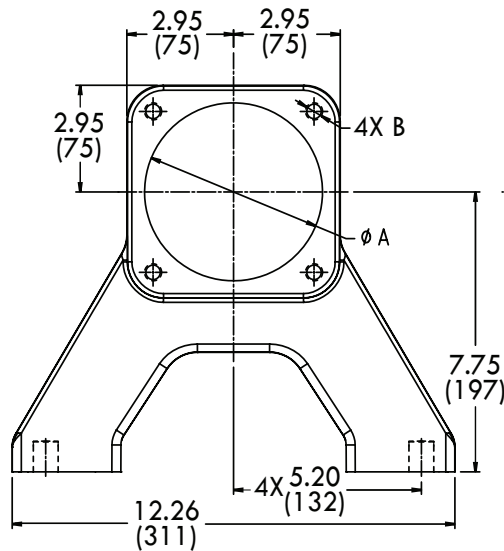
| For Use With  |    | A    | B         |
|---|----|------|-----------|
| PILOT: SAE B 4 BOLT<br>("U" BRACKET) P/N 2-070-301-100-00     | in | 4.00 | ½ - 13    |
| PILOT: ISO 100MM 4 BOLT<br>("M" BRACKET) P/N 2-070-300-100-00 | mm | 100  | M10 X 1.5 |

**NOTE:** Approximate shipping weight is 11 lbs. (4.8 kg)

**NOTE:** Dimensions in inches (millimeters).

**NOTE:** Shaft height corresponds to Viking's "B" reducer.

## DIMENSIONS – SG-14 SERIES (B DRIVE)



| For Use With  |    | A    | B          |
|---|----|------|------------|
| PILOT: SAE C 4 BOLT<br>("U" BRACKET) P/N 2-070-400-100-00     | in | 5.00 | ½ - 13     |
| PILOT: ISO 125MM 4 BOLT<br>("M" BRACKET) P/N 2-070-401-100-00 | mm | 125  | M12 X 1.75 |

**NOTE:** Approximate shipping weight is 19 lbs. (8.6 kg)

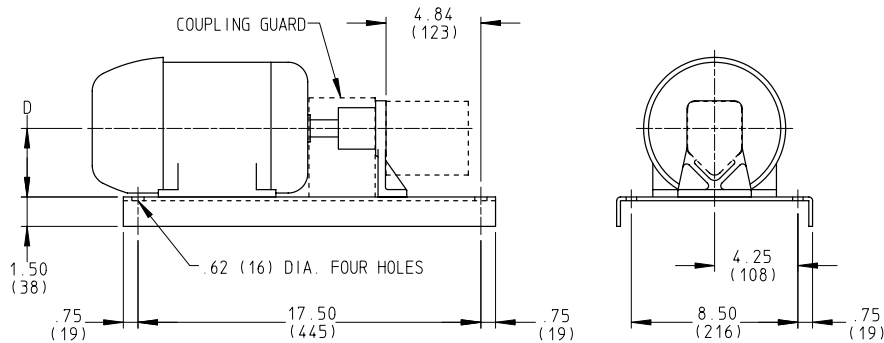
**NOTE:** Dimensions in inches (millimeters).

**NOTE:** Shaft height corresponds to Viking's "C" reducer.

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**SPUR GEAR PRODUCT LINE:  
CAST IRON PUMPS**  
SERIES SG-04, SG-05, SG-07, SG-10, SG-14

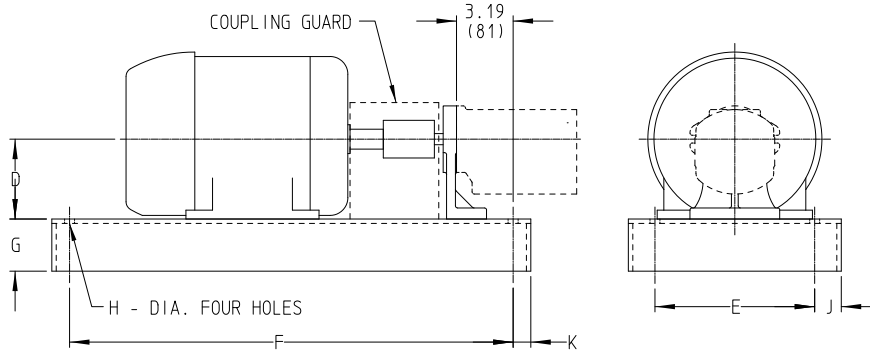
**DIMENSIONS – SG-04 & SG-05 SERIES (D DRIVE)**



| Motor Frame Size |         | D          | Approximate Motor ① Shipping Weight In Pounds (KG) | Approximate Drive ① Equipment Shipping Weight In Pounds (KG) |
|------------------|---------|------------|--|--|
| 56               | in (mm) | 3.50 (89)  | 31 (14)  | 17 (8)   |
| 143T             | in (mm) | 3.50 (89)  | 50 (23)  | 17 (8)   |
| 145T             | in (mm) | 3.50 (89)  | 60 (27)  | 17 (8)   |
| 182T             | in (mm) | 4.50 (114) | 95 (43)  | 20 (9)   |
| 184T             | in (mm) | 4.50 (114) | 110 (50)   | 20 (9)   |

- 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 – SG-07 SERIES (D DRIVE)**



| Motor Frame Size |         | D          | E          | F           | G          | H         | J         | K         | Approximate Motor ① Shipping Weight In Pounds (KG) | Approximate Drive ① Equipment Shipping Weight In Pounds (KG) |
|------------------|---------|------------|------------|-------------|------------|-----------|-----------|-----------|--|--|
| 56               | in (mm) | 4.50 (114) | 8.50 (216) | 20.50 (520) | 1.50 (190) | 0.50 (13) | 0.75 (19) | 0.75 (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)  | 0.56 (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)  | 0.56 (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.

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

# SPUR GEAR PRODUCT LINE: CAST IRON PUMPS

SERIES SG-04, SG-05, SG-07, SG-10, SG-14

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## NPSH REQUIRED

Printed performance curves are not available.

Performance curves can be electronically generated with the Viking Pump Curve Generator on [vikingpump.com](http://vikingpump.com).

NPSHR data is not available on the pump selector.

**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.

**$NPSH_R$  (At Pump Suction Port) – FEET OF LIQUID (Specific Gravity 1.0), Viscosities up to 750 SSU**

| PUMP SIZE         | PUMPS SPEED, RPM |     |     |      |      |      |      |      |
|-------------------|------------------|-----|-----|------|------|------|------|------|
|                   | 640              | 780 | 950 | 1150 | 1450 | 1750 | 2900 | 3450 |
| SG-04 (all sizes) | —                | —   | —   | —    | —    | 9.5  | 11.5 | 13   |
| SG-0518           | 3.2              | 3.2 | 3.2 | 3.2  | 3.2  | 3.2  | 5    | 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    | 4.3  | 6.6  | 8    |
| SG-0570           | 3.6              | 3.9 | 4.1 | 4.4  | 4.9  | 5.5  | 8.2  | 9.8  |
| SG-0510 ①         | 2.5              | 2.6 | 2.7 | 2.8  | 3.7  | 4.3  | 8.2  | 9.8  |
| SG-0514 ①         | 2.5              | 2.6 | 2.7 | 2.8  | 3.7  | 4.3  | 9    | 11.5 |
| SG-0519 ①         | 2.6              | 2.7 | 2.8 | 3.2  | 4    | 5    | 10.8 | 13.5 |
| SG-0528 ①         | 3                | 3.2 | 3.4 | 3.9  | 4.9  | 6.2  | 14   | 17.5 |
| SG-0729           | 3                | 3.1 | 3.1 | 3.2  | 3.8  | 4.8  | 11.1 | 15.6 |
| SG-0741           | 3                | 3.1 | 3.1 | 3.2  | 3.8  | 4.8  | 11.3 | 16   |
| SG-0758           | 3                | 3.1 | 3.1 | 3.2  | 3.8  | 4.8  | 11.8 | 16.6 |
| SG-0782           | 3                | 3.1 | 3.1 | 3.2  | 3.8  | 4.8  | 12.8 | 17.6 |
| SG-0711           | 3                | 3.1 | 3.1 | 3.2  | 3.8  | 5    | 15.2 | 20.6 |
| SG-0716           | 3                | 3.1 | 3.1 | 3.2  | 4.5  | 6.5  | 21   | 27.6 |
| SG-0722 ②         | 3                | 3.1 | 3.1 | 3.2  | 3.8  | 5    | —    | —    |
| SG-0732 ②         | 3                | 3.1 | 3.1 | 3.2  | 4.5  | 6.5  | —    | —    |
| SG-1013           | 5.6              | 6   | 6.6 | 7.5  | 9.2  | 11.5 | —    | —    |
| SG-1026           | 5.8              | 6.2 | 6.9 | 8    | 10.1 | 12.8 | —    | —    |
| SG-1420           | 6.9              | 7.4 | 8.2 | 9.4  | 11.8 | 15   | —    | —    |
| SG-1436           | 7                | 7.7 | 8.7 | 10.2 | 13.3 | 17.5 | —    | —    |
| SG-1456           | 7.2              | 8   | 9.3 | 11.2 | 15.3 | 20.9 | —    | —    |

① - Standard ports are in casing

② - 1½" tapped suction port standard

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