

VIKING HEAVY DUTY MOTOR SPEED PUMP

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SERIES 4076, 4176,
Sizes HLE, ATE, ALE, KE, KKE, LQE

| Viking 4076/4176 (standard pump) | | | |
|----------------------------------|--------------------|----------------------------|------------|
| ①② Flow Range | GPM | To 200 GPM | |
| | M ³ /Hr | To 45.6 M ³ /Hr | |
| ① Pressure Range | KLE ALE | PSI | To 250 PSI |
| | | BAR | To 17 BAR |
| | KE LQE | PSI | To 175 PSI |
| | | BAR | To 12 BAR |
| ① Temperature Range | °F | -40 to +300 | |
| | °C | -40 to +150 | |
| ① Viscosity Range | SSU | 28 SSU to 100,000 SSU | |
| | cPs | .1 cPs to 22,000 cSt | |

Major Design Features

- Six sizes available each with three mounting options; flange mount, motor bracket mount or with a bolt on foot for a base mount.
- Designed to run with 50Hz synchronous motor speeds while providing high capacity.
- Enlarged porting and loading groove provides improved suction performance and reduced NPSHr.
- Optimized gear geometry delivers high-speed performance with improved noise levels.
- Metric design includes DIN flanges, DIN seal chamber, IEC motor mount, metric fasteners and shaft extension.
- DIN seal chamber accepts a wide range of seal options.
- Rotor shaft is designed to resist deflection and wear seen at higher speeds.
- Circulation line from the port to the mechanical seal provides liquid to the seal faces to extend seal life.
- Bearing housing assembly allows for adjustment of running clearances to compensate for slip and wear, extending the service life of the pump. Also provides additional shaft support in high pressure applications, and provides a method of shaft support other than the motor bearing.
- Ductile iron externals for thermal shock applications is an affordable alternative to steel.



LQE4176 (WITH BOLT ON FOOT)



LQE4076 WITH FOOT BRACKET AND IEC MOTOR

① Values shown represent minimums or maximums. Some special construction or consideration may be required before a cataloged pump can be applied to an application involving maximum pressure or minimum or maximum temperature and/or viscosity.

② Nominal capacities based on handling thin liquids at low pressures.

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**SERIES 4076, 4176,
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CONSTRUCTION – SPECIFICATIONS

| Standard | Casing and Head ① ⑤ | Foot Plate ② | Rotor ③ | Idler ④ | Rotor Shaft and Idler Pin | Bushings | | Mechanical Seal ⑥ | Relief Valve ⑦ | Elastomers |
|----------|--|--|--|------------------------------------|-------------------------------|-----------------|-----------------|------------------------------------|--|------------|
| | | | | | | Idler | Casing | | | |
| | Ductile Iron ASTM A536 Grade 60-40-18 | Ductile Iron ASTM A536 Grade 60-40-18 | Ductile Iron ASTM A536 Grade 60-40-18 | Cast Iron ASTM A48-64 Class 35B | Steel ASTM A108 Grade 1045 | Carbon Graphite | Carbon Graphite | Buna N / silicon carbide vs carbon | Ductile Iron ASTM A536 Grade 60-40-18 | Buna N |
| Options | | | Steel ASTM A148 Grade 80-40 | | | | | Viton / silicon carbide vs carbon | | Viton® |

① Clockwise (CW) rotation standard. Counterclockwise (CCW) rotation must be specified.

② Used on 4176 models only.

③ KE and LQE models have cast iron rotor as standard.

④ ATE and ALE models have ductile iron idler.

⑤ Ductile iron jacketed head plate available as an option for all sizes.

⑥ Standard mechanical seal can be used for temperatures from -40° F to +400° F (-40° to +205° C) and viscosities to 3500 SSU (750 cSt). Pin style seal is recommended above 3500 SSU with a maximum of viscosity of 10,000 SSU (25,00 cSt). For applications with viscosities above 3,500 SSU refer to Technical Reference document TR 300 or contact factory for seal recommendations.

⑦ All relief valves are set at 100 PSI (7 bar) unless otherwise ordered. If a Viking over-pressure relief valve is not used, the pumping system should include some form of over-pressure protection, e.g. a valve in the discharge line, torque limiting device, or rupture discs.

Dimensions for Unmounted Pumps – See Pages 710.4

SPECIFICATIONS - UNMOUNTED PUMPS

| Model Number | ⑧ Port Size (DIN) | ⑨ Nominal Pump Capacity | | | | | Maximum Hydrostatic Pressure | | ⑩ Maximum Recommended Discharge Pressure, 25 cSt Liquid | | Maximum Temperature | |
|--------------------|-------------------|-------------------------|------------|-----|--------------------|------|------------------------------|-----|---|-----|---------------------|---------|
| | | Theoretical | | GPM | M ³ /Hr | RPM | PSI | BAR | PSI | BAR | Deg. F. | Deg. C. |
| | | Gal/Rev | Litres/Rev | | | | | | | | | |
| HLE4076 HLE4176 | 40 | 0.02 | 0.07 | 26 | 5.9 | 1450 | 300 | 32 | 250 | 17 | 300 | 150 |
| ATE4076 ATE4176 | 65 | 0.04 | 0.15 | 54 | 12.1 | 1450 | 300 | 32 | 250 | 17 | 300 | 150 |
| ALE4076 ALE4176 | 65 | 0.07 | 0.26 | 94 | 21.4 | 1450 | 300 | 32 | 250 | 17 | 300 | 150 |
| KE4076 KE4176 | 80 | 0.09 | 0.35 | 126 | 28.8 | 1450 | 300 | 32 | 175 | 12 | 300 | 150 |
| KKE4076 KKE4176 | 80 | 0.13 | 0.46 | 170 | 38.4 | 1450 | 300 | 32 | 175 | 12 | 300 | 150 |
| LQE4076 LQE4176 | 100 | 0.22 | 0.82 | 200 | 45.6 | 970 | 300 | 32 | 175 | 12 | 300 | 150 |

⑧ Pumps standard with DIN ports.

⑨ Nominal rating based on handling thin liquids. Capacities rounded to the nearest whole number.

⑩ For maximum recommended discharge pressures at rated speeds or when handling other viscosities and/or speeds, see performance curves. If suction pressure exceeds 3 BAR, consult factory.

1 BAR = 14.5 PSI = 0.1 MPa = 100 kPa = 10⁵ Pa.

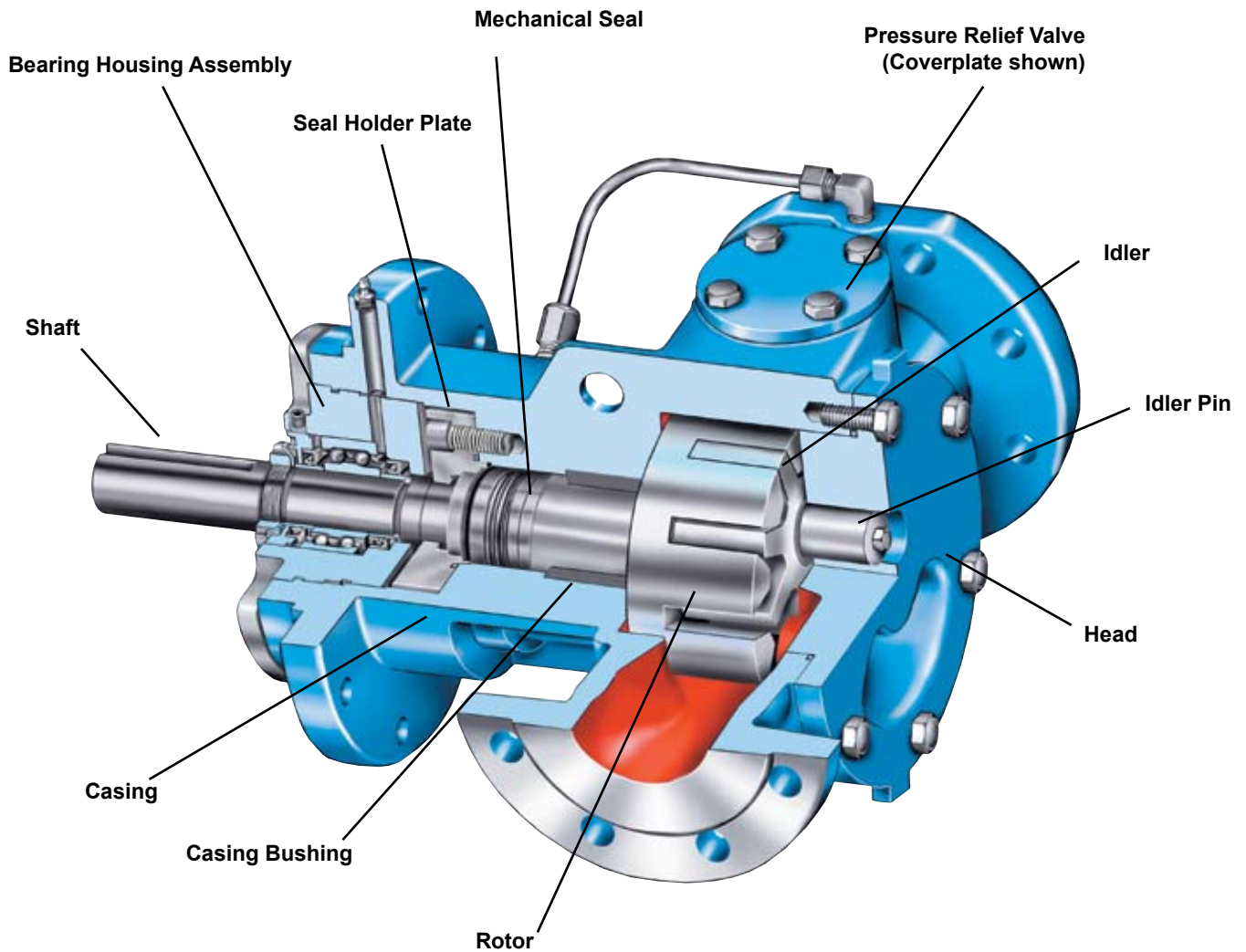
Viton® - is a registered trademark of DuPont Performance Elastomers.

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PARTS IDENTIFICATION



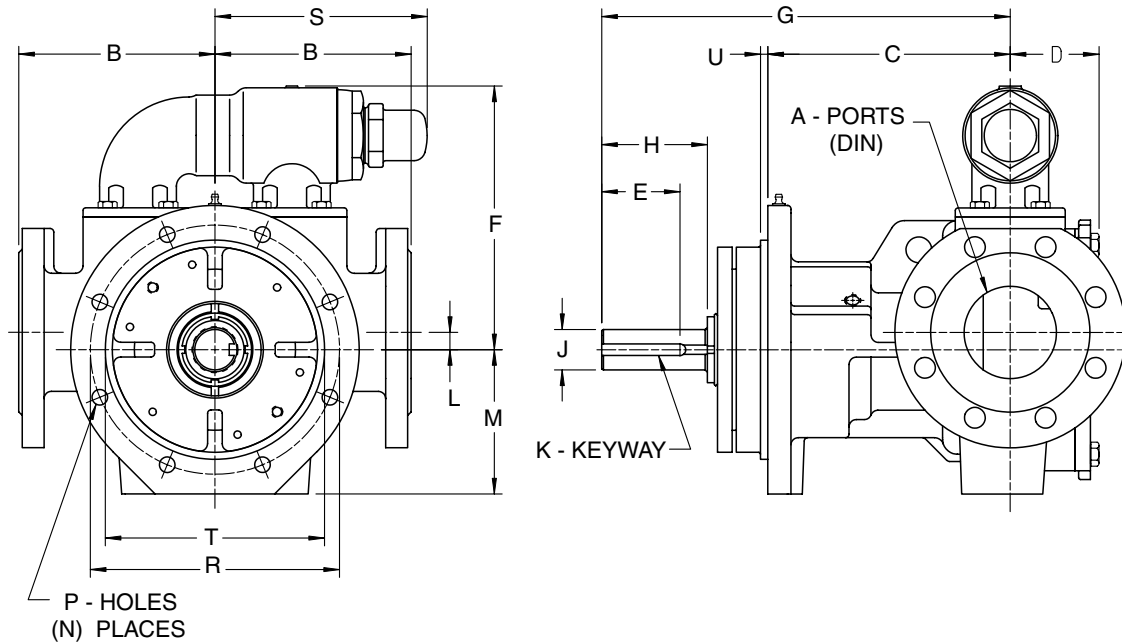
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VIKING HEAVY DUTY MOTOR SPEED PUMP

**SERIES 4076, 4176,
Sizes HLE, ATE, ALE, KE, KKE, LQE**

*Dimensions given are for guidance only and should not be used for installation purposes.
Certified dimensions will be supplied on request.*

DIMENSIONS – HLE4076 - LQE4076 PUMP ONLY



All dimensions are in millimeters.

| MODEL NUMBER | A | B | C | D | E | F | G | H | J | K | L | M | N | P | R | S | T | U | Pump Weight Kg (lb) |
|----------------------------|--------------------------|-----|-----|----|----|-----|-----|----|----|---------|----|-----|---|------|-------------|-----|-----|---|---------------------|
| HLE4076 | DIN 40 PN 16/25/40 | 105 | 175 | 58 | 41 | 141 | 275 | 52 | 19 | 6 X 3.5 | 0 | 70 | 4 | 13.5 | 145 | 89 | 110 | 3 | 23 (51) |
| ATE4076 ALE4076 | DIN 65 PN 25/40 | 150 | 200 | 82 | 46 | 207 | 302 | 57 | 25 | 8 X 4 | | 85 | | 154 | 45 (100) | | | | |
| KE4076 KKE4076 | DIN 80 PN 16/25/40 | 170 | 210 | 97 | 68 | 228 | 354 | 92 | 35 | 10 X 5 | 15 | 125 | 8 | 13.5 | 216 | 184 | 190 | 6 | 65 (145) |
| LQE4076 | DIN 100 PN 25/40 | 185 | 235 | 85 | | 253 | 379 | | | | 0 | | | | | | | | 86 (190) |

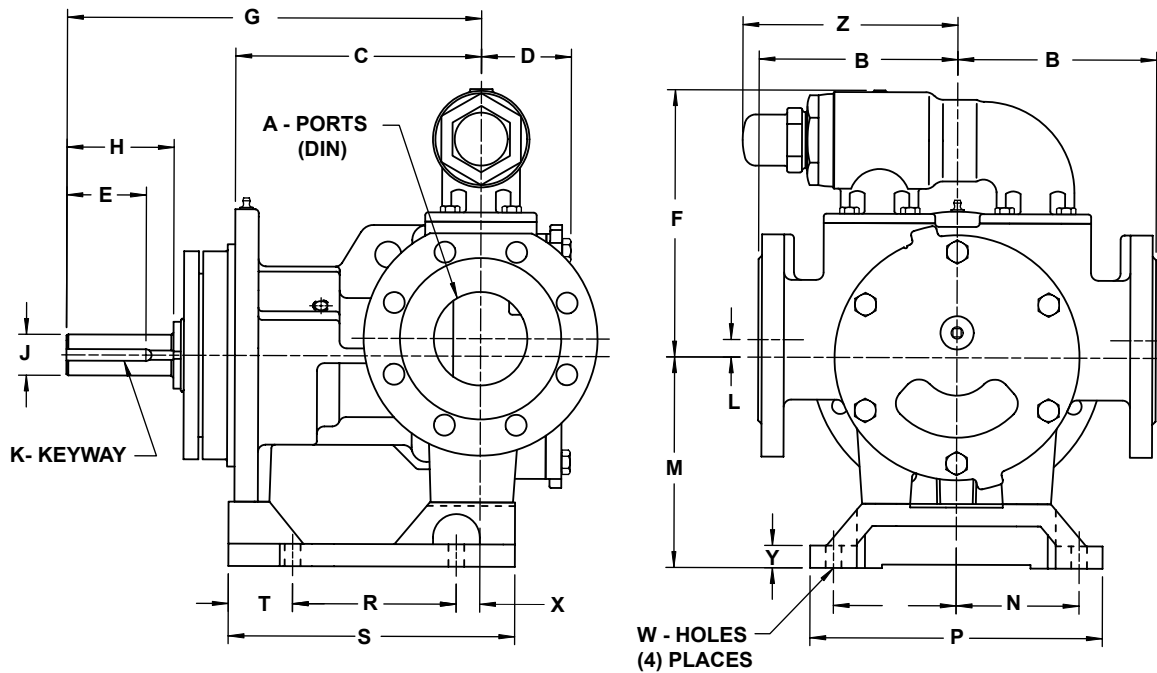
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SERIES 4076, 4176,
Sizes HLE, ATE, ALE, KE, KKE, LQE

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DIMENSIONS – HLE4176 - LQE4176 PUMP ONLY



All dimensions are in millimeters.

| MODEL NUMBER | A | B | C | D | E | F | G | H | J | K | L | M | N | P | R | S | T | W | X | Y | Z | Pump Weight Kg (lb) |
|--------------------|--------------------------|-----|-----|----|----|-----|-----|----|----|---------|----|-----|-----|-----|-----|-----|----|------|----|-----|-------------|---------------------------|
| HLE 4176 | DIN 40 PN 16/25/40 | 105 | 175 | 58 | 41 | 141 | 275 | 52 | 19 | 6 X 3.5 | 0 | 112 | 65 | 160 | 110 | 211 | 65 | 11 | 0 | 13 | 89 | 27 (60) |
| ATE4176 ALE4176 | DIN 65 PN 25/40 | 150 | 200 | 82 | 46 | 207 | 302 | 57 | 25 | 8 X 4 | 0 | 132 | 85 | 203 | 110 | 70 | 70 | 20 | 20 | 154 | 50 (110) | |
| KE4176 KKE4176 | DIN 80 PN 16/25/40 | 170 | 210 | 97 | 68 | 228 | 354 | 92 | 35 | 10 X 5 | 15 | 180 | 105 | 250 | 140 | 245 | 55 | 13.5 | 20 | 19 | 184 | 75 (165) |
| LQE4176 | DIN 100 PN 25/40 | 185 | 235 | 85 | 88 | 253 | 379 | 92 | 35 | 10 X 5 | 0 | 180 | 105 | 250 | 140 | 245 | 55 | 13.5 | 45 | 19 | 184 | 96 (210) |

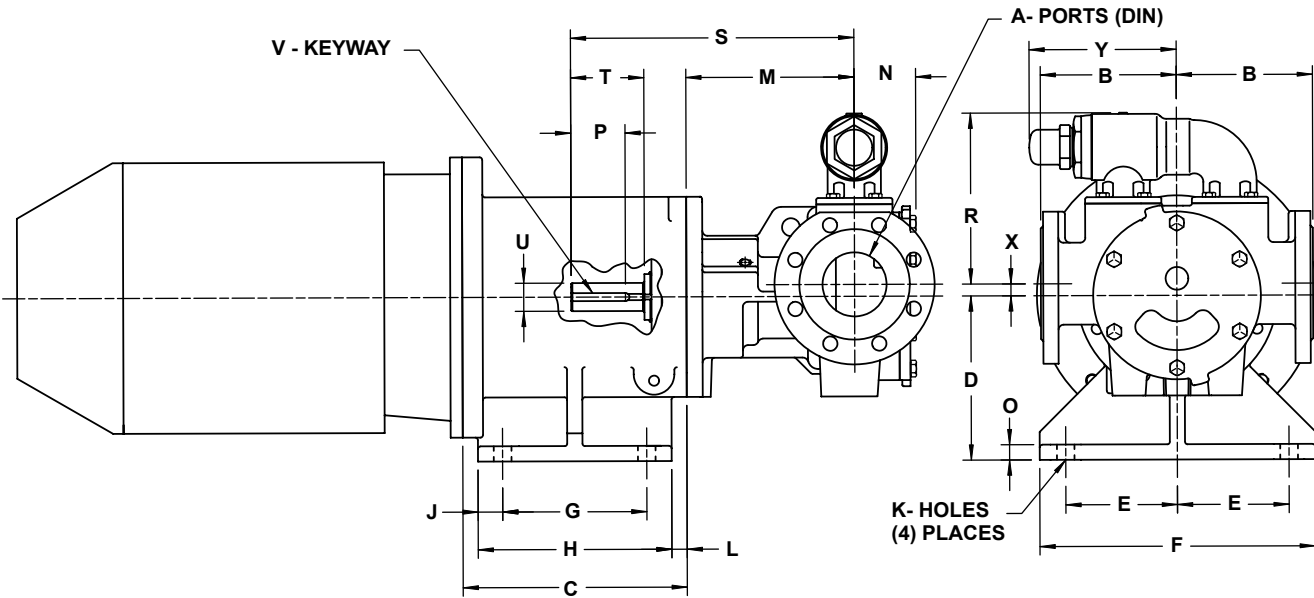
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DIMENSIONS- BRACKET MOUNT SIZES HLE, ATE, AND ALE



All dimensions are in millimeters.

| MODEL NUMBER. | A | B | M | N | P | R | S | T | U | V | X | Y | MOTOR FRAME | C | D | E | F | G | H | J | K | L | O | Bracket Weight kg (lb) |
|--|--------------------------|-----|-----|----|----|-----|-----|----|----|---------|---|-----|-------------|-----|-----|----|-----|-----|-----|----|------|----|----|------------------------|
| HLE4076M HLE4176M | DIN 40 PN 16/25/40 | 105 | 175 | 58 | 41 | 141 | 275 | 52 | 19 | 6 X 3.5 | 0 | 89 | 80 (85) | 155 | 125 | 75 | 190 | 100 | 140 | 27 | 14.5 | 8 | 19 | 14 (31) |
| | | | | | | | | | | | | | 90 (85) | 165 | 125 | 75 | 190 | 100 | 140 | 33 | 14.5 | 13 | 19 | 15 (33) |
| | | | | | | | | | | | | | 100 (B5) | 185 | 145 | 75 | 190 | 120 | 169 | 33 | 14.5 | 8 | 19 | 18 (40) |
| ATE4076M ATE4176M ALE4076M ALE4176M | DIN 65 PN 25/40 | 150 | 175 | 82 | 46 | 207 | 302 | 57 | 25 | 8 X 4 | 0 | 154 | 112 (B5) | 205 | 140 | 75 | 190 | 130 | 180 | 38 | 14.5 | 13 | 19 | 18 (40) |
| | | | | | | | | | | | | | 132 (B14) | 240 | 165 | 75 | 190 | 175 | 224 | 33 | 14.5 | 8 | 19 | 23 (52) |
| | | | | | | | | | | | | | 160 (B14) | 240 | 165 | 75 | 190 | 175 | 224 | 33 | 14.5 | 8 | 19 | 23 (52) |

Metric shaft couplings and key required.

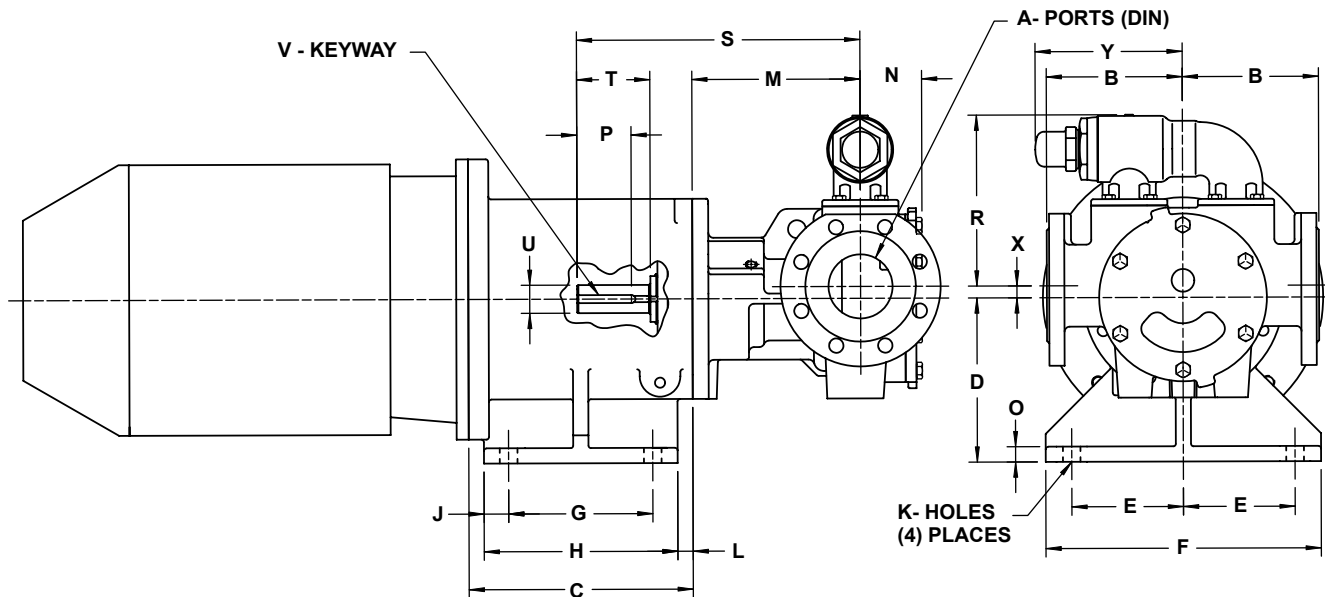
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SERIES 4076, 4176,
Sizes HLE, ATE, ALE, KE, KKE, LQE

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DIMENSIONS- BRACKET MOUNT SIZES KE,KKE, AND LQE



All dimensions are in millimeters.

| MODEL NUMBER | A | B | M | N | P | R | S | T | U | V | X | Y | MOTOR FRAME | C | D | E | F | G | H | J | K | L | O | Bracket Weight kg (lb) | | | | | | | | | | |
|----------------------|--------------------------|-----|-----|----|----|-----|-----|----|----|--------|----|-----|-------------|-----|-----|-----|-----|-----|-----|----|------|----|----|------------------------|--|--|--|--|--|--|--|--|--|--|
| KE4076M KKE4176M | DIN 80 PN 16/25/40 | 170 | 210 | 97 | 68 | 228 | 354 | 92 | 35 | 10 X 5 | 15 | 184 | 100 (B5) | 230 | 170 | 90 | 229 | 150 | 202 | 26 | 19 | 14 | 19 | 45 (100) | | | | | | | | | | |
| | | | | | | | | | | | | | 112 (B5) | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | 132 (B5) | 250 | 180 | 95 | 255 | 180 | 222 | 21 | 19 | 9 | 19 | 50 (112) | | | | | | | | | | |
| LQE4076M LQE4176M | DIN 100 PN 25/40 | 185 | 235 | 85 | | 253 | 379 | | | | 0 | | 160 (B5) | 205 | 140 | 75 | 190 | 130 | 180 | 38 | 14.5 | 13 | 19 | 60 (133) | | | | | | | | | | |
| | | | | | | | | | | | | | 180 (B5) | 280 | 205 | 139 | 344 | 180 | 224 | 31 | 22 | 19 | 19 | | | | | | | | | | | |