e-SH - 60 Hz

316 STAINLESS STEEL END SUCTION CENTRIFUGAL PUMPS EQUIPPED WITH NEMA PREMIUM EFFICIENT MOTORS
# e-SH Series

Goulds Water Technology

## CONTENTS

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Introduction</td>
<td>3</td>
</tr>
<tr>
<td>Applications and Benefits</td>
<td>4</td>
</tr>
<tr>
<td>Performance Coverage at 60 Hz, 2-poles and 4-poles</td>
<td>5</td>
</tr>
<tr>
<td>Product Numbering Systems</td>
<td>6</td>
</tr>
<tr>
<td>Performance Curves at 60 Hz, 2-poles</td>
<td>7</td>
</tr>
<tr>
<td>Performance Curves at 60 Hz, 4-poles</td>
<td>21</td>
</tr>
<tr>
<td>Standard Impeller Trims</td>
<td>35</td>
</tr>
<tr>
<td>Pump Cross-Section and Main Components</td>
<td>36</td>
</tr>
<tr>
<td>Materials of Construction</td>
<td>36</td>
</tr>
<tr>
<td>Motor Sizing</td>
<td>37</td>
</tr>
<tr>
<td>Close Coupled S-Group Dimensions and Weights</td>
<td>39</td>
</tr>
<tr>
<td>Close Coupled M-Group Dimensions and Weights</td>
<td>40</td>
</tr>
<tr>
<td>Frame Mounted S-Group Dimensions and Weights</td>
<td>41</td>
</tr>
<tr>
<td>S-Group Engineering Data</td>
<td>42</td>
</tr>
<tr>
<td>Frame Mounted M-Group Dimensions and Weights</td>
<td>43</td>
</tr>
<tr>
<td>M-Group Engineering Data</td>
<td>44</td>
</tr>
<tr>
<td>Nameplate</td>
<td>45</td>
</tr>
<tr>
<td>Technical Appendix</td>
<td>46</td>
</tr>
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</table>
GENERAL INTRODUCTION

The new and improved Goulds Water Technology e-SH Series is a high performance stainless steel centrifugal end-suction pump. The e-SH is fully made in AISI 316 stainless steel which makes it suitable for handling water as well as non-aggressive or moderately aggressive fluids. The pumps are equipped with interchangeable John Crane Type 21 mechanical seals, NEMA motors in single and three phase, and have a back pull-out design (impeller, bracket and motor can be extracted without disconnecting the pump body from the piping). The e-SH series pumps are available in the following configurations:

- **Close-coupled**: compact design that saves space and simplifies maintenance.
- **Frame mounted**: flexible-coupled with cast iron power frame (grease lubricated ball bearing assembly).
- **Bare shaft pump**: version without driver suitable to be coupled with a standard electric motor.

Pumps assembled at the factory are certified to the NSF/ANSI 61 Drinking Water System Components Standard.

HYDRAULIC SPECIFICATIONS

- **Maximum flow**: up to 1140 gpm
- **Maximum head**: up to 464 ft TDH
- **Hydraulic performance compliant with ANSI/HI 14.6 Grade 2B**
- **Maximum temperature**: up to 250 °F
- **Maximum working pressure**: 230 psi
- **Suction and Discharge Flanges**: mate with ANSI class 150 flanges.
- **Enclosed impeller and replaceable wear ring**: for high efficiency and maximum wear life.
- **Connection dimensions according to EN 733 (except for ESH 25 models)**

MOTOR SPECIFICATIONS

**Close Coupled**

- NEMA standard JM shaft open drip-proof, totally enclosed and explosion-proof enclosures, 60 Hz, 1750 or 3500 RPM.
- Single phase ODP (115/230V) 1750 RPM, 1-5 HP.
- Three phase ODP, TEFC, Explosion proof (208-230/460V).
  - 3500 RPM, 2-100 HP
  - 1750 RPM, 1-25 HP

Overload protection must be provided. Contactor with overload for single phase or starter with heaters for three phase ordered separately.

**Frame Mounted**

- NEMA standard T-frame open drip-proof, totally enclosed and explosion-proof (three phase only) enclosures, 60Hz, 1750 or 3500 RPM.
- Single phase (115/230V) 1750 RPM, 1-5 HP
- Three phase (208-230/460V)
  - 3500 RPM, 3-125 HP
  - 1750 RPM, 1-25 HP

Overload protection must be provided. Contactor with overload for single phase or starter with heaters for three phase ordered separately.

**Optional**: Rigid carbon steel bedplate, sheet metal coupling guard designed to OSHA specifications and T.B. Woods type “SC” spacer couplings.
**APPLICATIONS**

The e-SH is suitable for a wide range of non-aggressive to mildly aggressive fluids in commercial building, industrial & diverse OEM applications.

- Water intake
- Water transfer and circulation
- Pressure boosting
- Process cooling and heating
- Fluid transfer and transport
- Produced water transfer and boosting
- Boiler feed booster

**PUMPED FLUIDS**

- Groundwater
- Potable water
- Process water
- Gray/used water
- Heat transfer fluids
- Produced water

**BENEFITS**

The GWT model e-SH provides the following benefits:

**Reliability:** the high quality production, the robust construction and operation, the easily interchangeable mechanical seals, and wear rings guarantee a continuous operation without faults and a shorter down time for maintenance.

**Total cost of ownership:** the best hydraulic and electric efficiency and the easy and quick maintenance reduce the operation and maintenance costs and save energy.

**Expert support:** Since the proper selection and configuration of the e-SH pump is critical to long-term efficiency and dependability, give us a call. We are continuously working with our customers to help them in selecting the right pump for their specific application. Intellitronic X, our user-friendly online selection tool is also available to help you configure your pump. We'll assemble your pump and get it on its way. Intellitronic X is available at [www.gouldsintellitronic.com](http://www.gouldsintellitronic.com).
**e-SH SERIES**

**PRODUCT NUMBERING SYSTEM**

<table>
<thead>
<tr>
<th>0</th>
<th>1</th>
<th>S</th>
<th>H</th>
<th>0</th>
<th>6</th>
<th>A</th>
<th>S</th>
<th>0</th>
<th>5</th>
<th>T</th>
<th>3</th>
<th>B</th>
<th>4</th>
<th>3</th>
</tr>
</thead>
</table>

- **Discharge size [2 characters]**
  - [01] = 1"
  - [15] = 1.5"
  - [02] = 2"
  - [25] = 2.5"
  - [03] = 3"

- **Pump type [2 characters]**
  - e[SH] = Highly efficient stainless steel end suction pumps

- **Impeller max diameter [2 characters]**
  - [06] = 6"
  - [08] = 8"
  - [10] = 10"

- **Impeller trim used [1 character]**
  - See performance curves for options

- **Coupling [1 character]**
  - [ ] = Close Coupled
  - [S] = Spacer Coupling

- **Motor power [2 characters]**
  - [0H] = 0.5HP
  - [15] = 15HP
  - [0Y] = 0.75HP
  - [20] = 20HP
  - [01] = 1HP
  - [25] = 25HP
  - [1H] = 1.5HP
  - [30] = 30HP
  - [02] = 2HP
  - [40] = 40HP
  - [03] = 3HP
  - [50] = 50HP
  - [05] = 5HP
  - [60] = 60HP
  - [7H] = 7.5HP
  - [75] = 75HP
  - [10] = 10HP
  - [12] = 100HP

- **Discharge orientation [1 character]**
  - [1] = 12 o'clock (standard)
  - [3] = 3 o'clock
  - [6] = 6 o'clock
  - [9] = 9 o'clock

- **Motor enclosure [1 character]**
  - [T] = TEPE
  - [E] = TEFC
  - [D] = DPPE
  - [P] = ODP
  - [Q] = XPPE
  - [Z] = XP
  - [W] = WDPE
  - [Y] = WD

- **Motor phase and speed [1 character]**
  - [1] = 60Hz/1 phase/2-poles
  - [2] = 60Hz/1 phase/4-poles
  - [3] = 60Hz/3 phase/2-poles
  - [4] = 60Hz/3 phase/4 poles
  - [A] = 50Hz/1 phase/2-poles
  - [B] = 50Hz/1 phase/4-poles
  - [C] = 50Hz/3 phase/2-poles
  - [D] = 50Hz/3 phase/4-poles

- **Mechanical seal and o-ring materials [1 character]**
  - [2] = Carbon/SiC/FKM
  - [4] = Carbon/SiC/EPR
  - [W] = SiC/SiC/FKM
  - [X] = Other

- **Motor voltage [1 character]**
  - [A] = 115/208-230V
  - [B] = 115/230V
  - [C] = 230V
  - [D] = 208-230V
  - [E] = 208-230/460V
  - [F] = 230/460V
  - [G] = 460V
  - [H] = 575V
  - [U] = 190/380-415V
  - [3] = 190/380
  - [9] = Other

**NOTE:** For bareshaft pump, replace characters 8-13 by ”FRM2” for 7/8” Imp. Bore or “FRM3” for 1¼” Imp. Bore
For frame mounted pump, replace characters 9-13 by “FRM2” for 7/8” Imp. Bore or “FRM3” for 1¼” Imp. Bore

**EXAMPLES**

**Close Coupled Pump**

01SH06A0ST3B43

Series e-SH, 1”x2”x6”, used with impeller trim “A”, 5HP motor, TEPE enclosure, 60 Hz / 3 phase / 2-poles, 115/230V, with mechanical seal C/SiC/EPR, discharge oriented at 3 o’clock.

**Bareshaft Pump**

01SH06A0FRM24

Bare pump, series e-SH, 1”x2”x6”, used with impeller trim “A”, that will use an S-frame, with mechanical seal C/SiC/EPR.

**Frame Mounted Pump with Motor (e-SHF)**

01SH06A0FRM243 - “motor catalog number”

Frame mounted pump with motor, series e-SH, 1”x2”x6”, used with impeller trim “A”, spacer coupling, with mechanical seal C/SiC/EPR, discharge oriented at 3 o’clock

**Frame Mounted Pump w/o Motor**

01SH06A0AFRM24 - “base plate catalog number”

Frame mounted pump, series e-SH, 1”x2”x6”, used with impeller trim “A”, spacer coupling, with mechanical seal C/SiC/EPR.
PERFORMANCE CURVES AT 60 HZ, 2-POLES

<table>
<thead>
<tr>
<th>e-SH 1x2-6 (01SH06)</th>
<th>3500 rpm</th>
<th>ANSI/HI 14.6 - Grade 2B</th>
</tr>
</thead>
</table>

Energy Efficiency Ratings (Frame Mounted):
Pump & Motor: PECL = 0.99, ERCL = 1
Pump, Motor & Drive: PEVL = 0.52, ERVL = 48
Energy Efficiency Ratings (Frame Mounted):
Pump & Motor: PEI, = 0.91, ER, = 9
Pump, Motor & Drive: PEI,V = 0.46, ER,V = 54
E-SH Series
Goulds Water Technology

Energy Efficiency Ratings (Frame Mounted):
Pump & Motor: $PE_{CL} = 0.94$, $ER_{CL} = 6$
Pump, Motor & Drive: $PE_{VL} = 0.47$, $ER_{VL} = 53$
Energy Efficiency Ratings (Frame Mounted):
Pump & Motor: $\text{PEI}_{CL} = 0.96$, $\text{ER}_{CL} = 4$
Pump, Motor & Drive: $\text{PEI}_{VL} = 0.49$, $\text{ER}_{VL} = 51$
e-SH 1 1/2x2 1/2-8 (15SH08) 3500 rpm ANSI/HI 14.6 - Grade 2B

Energy Efficiency Ratings (Frame Mounted):
Pump & Motor: PE_{ICL} = 0.95, ER_{ICL} = 5
Pump, Motor & Drive: PE_{ICL} = 0.48, ER_{ICL} = 52
e-SH 1 1/2x2 1/2-10 (15SH10) 3500 rpm ANSI/HI 14.6 - Grade 2B

Energy Efficiency Ratings (Frame Mounted):
Pump & Motor: PEI_{CL} = 0.98, ER_{CL} = 2
Pump, Motor & Drive: PEI_{VL} = 0.49, ER_{VL} = 51
Energy Efficiency Ratings (Frame Mounted):
Pump & Motor: $\text{PEI}_{\text{CL}} = 0.99$, $\text{ER}_{\text{CL}} = 1$
Pump, Motor & Drive: $\text{PEI}_{\text{VL}} = 0.49$, $\text{ER}_{\text{VL}} = 51$
e-SH Series
Goulds Water Technology

Energy Efficiency Ratings (Frame Mounted):
Pump & Motor: $P_{E_{CL}} = 0.97$, $E_{R_{CL}} = 3$
Pump, Motor & Drive: $P_{E_{VL}} = 0.48$, $E_{R_{VL}} = 52$
Energy Efficiency Ratings (Frame Mounted):
Pump & Motor: $PEI_{CL} = 0.96$, $ER_{CL} = 4$
Pump, Motor & Drive: $PEI_{VL} = 0.48$, $ER_{VL} = 52$
e-SH 2.5x3-8 (25SH08) 3500 rpm ANSI/HI 14.6 - Grade 2B

Energy Efficiency Ratings (Frame Mounted):
Pump & Motor: PEI_{CL} = 0.95, ER_{CL} = 5
Pump, Motor & Drive: PEI_{VL} = 0.48, ER_{VL} = 52
Energy Efficiency Ratings (Frame Mounted):
Pump & Motor: $PEI_{CL} = 0.97$, $ER_{CL} = 3$
Pump, Motor & Drive: $PEI_{VL} = 0.49$, $ER_{VL} = 51$
e-SH 3x4-10 (03SH10) 3500 rpm ANSI/HI 14.6 - Grade 2B

Energy Efficiency Ratings (Frame Mounted):
Pump & Motor: $\text{PE}_{\text{Lz}} = 0.96$, $\text{ER}_{\text{Lz}} = 4$
Pump, Motor & Drive: $\text{PE}_{\text{Lz}} = 0.49$, $\text{ER}_{\text{Lz}} = 51$

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## PERFORMANCE CURVES AT 60 HZ, 4-POLES

<table>
<thead>
<tr>
<th>e-SH 1x2-6 (01SH06)</th>
<th>1750 rpm</th>
<th>ANSI/HI 14.6 - Grade 2B</th>
</tr>
</thead>
</table>

![Graph showing performance curves at 60 Hz, 4-POLES](image-url)
Energy Efficiency Ratings (Frame Mounted):
Pump & Motor: $\text{PEI}_{\text{CL}} = 0.91, \text{ER}_{\text{CL}} = 9$
Pump, Motor & Drive: $\text{PEI}_{\text{VL}} = 0.49, \text{ER}_{\text{VL}} = 51$
Energy Efficiency Ratings (Frame Mounted):
Pump & Motor: $\text{PEI}_{CL} = 0.94$, $\text{ER}_{CL} = 6$
Pump, Motor & Drive: $\text{PEI}_{VL} = 0.48$, $\text{ER}_{VL} = 52$
Energy Efficiency Ratings (Frame Mounted):

Pump & Motor: PE_{CL} = 0.96, ER_{CL} = 4

Pump, Motor & Drive: PE_{VL} = 0.54, ER_{VL} = 46
Energy Efficiency Ratings (Frame Mounted):
Pump & Motor: $PE_{ICL} = 0.92$, $ER_{ICL} = 8$
Pump, Motor & Drive: $PE_{VL} = 0.48$, $ER_{VL} = 52$
e-SH 1 1/2x2 1/2-10 (15SH10) 1750 rpm ANSI/HI 14.6 - Grade 2B

Energy Efficiency Ratings (Frame Mounted):
- Pump & Motor: $PE_{CL} = 0.98$, $ER_{CL} = 2$
- Pump, Motor & Drive: $PE_{VL} = 0.51$, $ER_{VL} = 49$

NPSh [ft]

Pr [HP]

PAGE 26
### e-SH 2x2 1/2-8 (02SH08)  
1750 rpm  
ANSI/HI 14.6 - Grade 2B

<table>
<thead>
<tr>
<th>Q [l/s]</th>
<th>H [m]</th>
</tr>
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<tbody>
<tr>
<td>0</td>
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</tr>
<tr>
<td>1</td>
<td>20</td>
</tr>
<tr>
<td>2</td>
<td>40</td>
</tr>
<tr>
<td>3</td>
<td>60</td>
</tr>
<tr>
<td>4</td>
<td>80</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Q [m³/h]</th>
<th>H [ft]</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0</td>
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<tr>
<td>1</td>
<td>20</td>
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<td>2</td>
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</tr>
<tr>
<td>3</td>
<td>60</td>
</tr>
<tr>
<td>4</td>
<td>80</td>
</tr>
</tbody>
</table>

**Energy Efficiency Ratings (Frame Mounted):**

- **Pump & Motor:** PEI<sub(CL)</sub> = 0.99, ER<sub(CL)</sub> = 1
- **Pump, Motor & Drive:** PEI<sub(VL)</sub> = 0.52, ER<sub(VL)</sub> = 48

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**PAGE 28**

**Goulds Water Technology**
Energy Efficiency Ratings (Frame Mounted):

Pump & Motor: $PE_{CL} = 0.97$, $ER_{CL} = 3$

Pump, Motor & Drive: $PE_{VL} = 0.48$, $ER_{VL} = 52$
e-SH Series

Goulds Water Technology

Energy Efficiency Ratings (Frame Mounted):
Pump & Motor: \( \text{PEI}_{CL} = 0.96, \text{ER}_{CL} = 4 \)
Pump, Motor & Drive: \( \text{PEI}_{VL} = 0.52, \text{ER}_{VL} = 48 \)

PAGE 30
e-SH 2.5x3-8 (25SH08) 1750 rpm ANSI/HI 14.6 - Grade 2B

Energy Efficiency Ratings (Frame Mounted):
- Pump & Motor: PEI<sub>CL</sub> = 0.97, ER<sub>CL</sub> = 3
- Pump, Motor & Drive: PEI<sub>VL</sub> = 0.49, ER<sub>VL</sub> = 51

Goulds Water Technology
e-SH Series

Goulds Water Technology

<table>
<thead>
<tr>
<th>e-SH 2 1/2x3-10 (25SH10)</th>
<th>1750 rpm</th>
<th>ANSI/HI 14.6 - Grade 2B</th>
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Energy Efficiency Ratings (Frame Mounted):
Pump & Motor: \( PE_{IL} = 0.97, ER_{CL} = 3 \)
Pump, Motor & Drive: \( PE_{VL} = 0.49, ER_{VL} = 51 \)
### Energy Efficiency Ratings (Frame Mounted):

**Pump & Motor:**
- PEI<sub>CL</sub> = 0.98, ER<sub>CL</sub> = 2

**Pump, Motor & Drive:**
- PEI<sub>V</sub> = 0.48, ER<sub>V</sub> = 52
e-SH Series

Goulds Water Technology

### e-SH 3x4-10 (03SH10)

1750 rpm

ANSI/HI 14.6 - Grade 2B

<table>
<thead>
<tr>
<th>Q [l/s]</th>
<th>Q [m³/h]</th>
</tr>
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<tbody>
<tr>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>5</td>
<td>17.28</td>
</tr>
<tr>
<td>10</td>
<td>34.57</td>
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<tr>
<td>15</td>
<td>51.85</td>
</tr>
<tr>
<td>20</td>
<td>69.13</td>
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<tr>
<td>25</td>
<td>86.41</td>
</tr>
<tr>
<td>30</td>
<td>103.69</td>
</tr>
<tr>
<td>35</td>
<td>120.98</td>
</tr>
<tr>
<td>40</td>
<td>138.27</td>
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<tr>
<td>45</td>
<td>155.56</td>
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<table>
<thead>
<tr>
<th>H [ft]</th>
<th>Q [US gpm]</th>
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</thead>
<tbody>
<tr>
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<td>0</td>
</tr>
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<td>10</td>
<td>45</td>
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<td>225</td>
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<td>270</td>
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<td>315</td>
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<td>360</td>
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<tr>
<td>90</td>
<td>405</td>
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<tr>
<td>100</td>
<td>450</td>
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<table>
<thead>
<tr>
<th>NPSH [ft]</th>
<th>Q [US gpm]</th>
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<td>90</td>
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<tr>
<td>100</td>
<td>450</td>
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<table>
<thead>
<tr>
<th>P [HP]</th>
<th>Q [US gpm]</th>
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<tbody>
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<td>90</td>
<td>405</td>
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<td>100</td>
<td>450</td>
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</table>

Energy Efficiency Ratings (Frame Mounted):

- Pump & Motor: PEI<sub>Cl</sub> = 0.98, ER<sub>Cl</sub> = 2
- Pump, Motor & Drive: PEI<sub>VL</sub> = 0.48, ER<sub>VL</sub> = 52
### e-SH SERIES

#### STANDARD IMPELLER TRIMS

#### e-SH S-Group

<table>
<thead>
<tr>
<th>Impeller Code</th>
<th>Pump Size</th>
<th>Diameter (in)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1x2-6</td>
<td>1x2-6</td>
</tr>
<tr>
<td>01SH06</td>
<td>1⅜/32</td>
<td>6⅜/16</td>
</tr>
<tr>
<td>1½x2½-6</td>
<td>1⅜/32</td>
<td>6⅜/16</td>
</tr>
<tr>
<td>15SH06</td>
<td>2⅔/32</td>
<td>7⅔/16</td>
</tr>
<tr>
<td>2x2½-6</td>
<td>2⅔/32</td>
<td>7⅔/16</td>
</tr>
<tr>
<td>02SH06</td>
<td>3⅔/16</td>
<td>8⅔/16</td>
</tr>
<tr>
<td>2½x3-6</td>
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<td>8⅔/16</td>
</tr>
<tr>
<td>25SH06</td>
<td>4⅓/16</td>
<td>9⅓/16</td>
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<td>1ⅸx2-8</td>
<td>4⅓/16</td>
<td>9⅓/16</td>
</tr>
<tr>
<td>15SH08</td>
<td>5¼/16</td>
<td>10⅛/16</td>
</tr>
<tr>
<td>2⅛x3-8</td>
<td>5¼/16</td>
<td>10⅛/16</td>
</tr>
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#### eSH M-Group (140JM, 180JM & 210JM)

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#### Diameter (in)

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- B: 6⅜/16
- C: 6⅜/16
- D: 6⅜/16
- E: 6⅜/16
- F: 6⅜/16
- G: 6⅜/16
- H: 6⅜/16
# PUMP CROSS-SECTION AND MAIN COMPONENTS

## MATERIALS OF CONSTRUCTION

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## MOTOR SIZING

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Goulds Water Technology
MOTOR SIZING (cont.)

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*SF=1.25 for motors with HP<1
Motor Frame Selections

**DISCHARGE**

**SUCTION**

DC

MAX.

G

H-(4) HOLES

3

\(\frac{3}{8}\)

– 19 BSP

NOTE:

1. Pumps shipped in vertical discharge as standard. For other orientations, remove casing bolts, rotate discharge to desired position, and tighten \(\frac{3}{8}\) – 16 bolts to 20 ft./lbs., \(\frac{7}{16}\) – 14 bolts to 20 ft./lbs.

2. ALL dimensions in inches.

3. Motor dimensions may vary with motor manufacturer.


**Dimensions Determined by JM Motor Frame**

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<td>4½</td>
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**Motor Frame Selections**

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<th>Motor Frame</th>
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<td>3500 RPM</td>
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<td>1 PH</td>
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<tr>
<td></td>
<td>1 PH</td>
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<td>ODP*</td>
<td>TEFC*</td>
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<td>143JM</td>
<td>-</td>
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<td>145JM</td>
<td>2</td>
</tr>
<tr>
<td>182JM</td>
<td>3</td>
</tr>
<tr>
<td>184JM</td>
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<tr>
<td>213JM</td>
<td>7½</td>
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<td>215JM</td>
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<td>254TCZ</td>
<td>-</td>
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<tr>
<td>256TCZ</td>
<td>-</td>
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</tbody>
</table>

* Premium efficiency where required by Department of Energy regulations.
** Frame size for 208-230/460 Voltage TEPE motor.
**e-SH CLOSE COUPLED M-GROUP - DIMENSIONS AND WEIGHTS**

(All dimensions in inches and weights in lbs. Do not use for construction purposes.)

---

**Dimensions “L” Determined by Pump and Motor**

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<thead>
<tr>
<th>Pump</th>
<th>Pump Size</th>
<th>Suction</th>
<th>Discharge</th>
<th>CP Max.</th>
<th>DC Max.</th>
<th>DD</th>
<th>X</th>
<th>Y</th>
<th>Wt. (lbs.)</th>
<th>Motor Frame Size</th>
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<tbody>
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<td>1½ x 2½-10</td>
<td>2½</td>
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<td>9½/16</td>
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<td>2½</td>
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<td>6/8</td>
<td>9½/16</td>
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<td>5</td>
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*For use with ANSI class 150 mating flanges.

**Holes:**
- 4¼ holes
- 4½ holes
- 5 holes

**Notes:**
1. Pumps shipped in vertical discharge as standard. For other orientations, remove casing bolts, rotate discharge to desired position, and tighten 3/8 - 16 bolts to 20 ft./lbs., 7/16 - 14 bolts to 20 ft./lbs., ½ - 13 bolts to 40 ft./lbs.
2. Motor dimensions may vary with motor manufacturer.

---

**Dimensions Determined by JM Motor Frame**

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<th>B</th>
<th>D</th>
<th>E</th>
<th>F</th>
<th>G</th>
<th>H Dia.</th>
<th>P Max.</th>
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<td>1½</td>
<td>½</td>
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<td>4½</td>
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<td>1½</td>
<td>½</td>
<td>8½/16</td>
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<td>4½</td>
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<td>10½/16</td>
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<td>11½</td>
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<td>4½</td>
<td>½</td>
<td>½</td>
<td>13½</td>
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<td>½</td>
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364TCZ and 365TCZ frames are built with 326JM shaft extensions. Dimensions may vary with manufacturer.

---

**Motor Frame Selections**

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<th>Motor Horsepower</th>
<th>Wt. Max.</th>
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*Premium efficiency where required by Department of Energy regulations.

---

364TCZ and 365TCZ frames are built with 326JM shaft extensions.
## e-SH FRAME MOUNTED S-GROUP - DIMENSIONS AND WEIGHTS

### Dimensions and Weights - Bare Pump Only

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<th>Pump</th>
<th>Pump Size</th>
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<th>DC Max.</th>
<th>DD</th>
<th>CP Max.</th>
<th>L</th>
<th>X</th>
<th>Y</th>
<th>Z</th>
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<td>7½</td>
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<td>25SH06</td>
<td>2½ x 3 - 6</td>
<td>3</td>
<td>5½</td>
<td>5</td>
<td>7½</td>
<td>7½</td>
<td>4</td>
<td></td>
<td></td>
<td>59</td>
</tr>
</tbody>
</table>

* For use with ANSI class 150 mating flanges.

### NOTE:

1. Pumps will be shipped with top vertical discharge as standard. For other orientations, remove casing bolts, rotate discharge to desired position, and tighten ¾ – 16 bolts to 20 ft./lbf., 7/16 – 14 bolts to 20 ft./lbf.
2. ALL dimensions in inches.
e-SH S-GROUP ENGINEERING DATA

Channel Steel Bedplate, Clockwise Rotation Viewed from Drive End

NOTES:
1. All pumps shipped in vertical discharge position. May be rotated in 90° increments. Tighten 3/8 – 16 casing bolts to 20 ft./lbs. torque.
2. Dimensions in inches.
3. Motor dimensions may vary with motor manufacturer.
4. Not to be used for construction purposes.

Available Motor and Bedplate Dimensions and Weights

Dimensions and weights vary with manufacturers. Dimensions in inches and weights in lbs.

* "HP" Dimensions at motor end only.
** "HD" Dimension for 254T/256T motor frame on 1 x 2-10 only is 11"; A ¾" motor shim and a 1¾" bearing frame shim are required.
*** Premium efficiency where required by Department of Energy regulations.
### Dimensions and Weights - Bare Pump Only

<table>
<thead>
<tr>
<th>Pump</th>
<th>Pump Size</th>
<th>Suction*</th>
<th>Discharge*</th>
<th>CP</th>
<th>DC Max.</th>
<th>DD</th>
<th>L</th>
<th>X</th>
<th>Y</th>
<th>Weight (lbs.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>15SH10</td>
<td>1½ x 2¹/₂-10</td>
<td>2½</td>
<td>1½</td>
<td>23</td>
<td>6⅛</td>
<td>6⅛</td>
<td>10¼</td>
<td>8⅞</td>
<td>4</td>
<td>125</td>
</tr>
<tr>
<td>02SH10</td>
<td>2 x 2⅓-10</td>
<td>3</td>
<td>2½</td>
<td></td>
<td>6⅛</td>
<td>5⅛</td>
<td></td>
<td></td>
<td></td>
<td>125</td>
</tr>
<tr>
<td>25SH08</td>
<td>2⅓ x 3-8</td>
<td>3</td>
<td>2½</td>
<td></td>
<td>6⅛</td>
<td>6⅛</td>
<td></td>
<td></td>
<td></td>
<td>134</td>
</tr>
<tr>
<td>25SH10</td>
<td>2½ x 3-10</td>
<td>3</td>
<td>2½</td>
<td></td>
<td>6⅛</td>
<td>6⅛</td>
<td></td>
<td></td>
<td></td>
<td>136</td>
</tr>
<tr>
<td>03SH08</td>
<td>3 x 4-8</td>
<td>4</td>
<td>3</td>
<td>24</td>
<td>7⅛</td>
<td>7⅛</td>
<td>11¼</td>
<td>11½</td>
<td>5</td>
<td>148</td>
</tr>
<tr>
<td>03SH10</td>
<td>3 x 4-10</td>
<td>3</td>
<td>3</td>
<td></td>
<td>7⅛</td>
<td>7⅛</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* For use with ANSI class 150 mating flanges.

### NOTES:
1. Pumps will be shipped with top vertical discharge as standard. For other orientations, remove casing bolts, rotate discharge to desired position, replace and tighten ⅜-16 bolts to 20 ft./lbs., ½ - 13 bolts to 40 ft./lbs.

2. Motor dimensions may vary with motor manufacturer.

e-SH M-GROUP ENGINEERING DATA

Channel Steel Bedplate, Clockwise Rotation Viewed from Drive End

Dimensions and Weights - Determined by Pump

<table>
<thead>
<tr>
<th>Pump</th>
<th>Pump Size</th>
<th>Suction*</th>
<th>Discharge*</th>
<th>CP</th>
<th>DC Max.</th>
<th>DD</th>
<th>L</th>
<th>X</th>
<th>Y</th>
<th>Weight (lbs.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>15SH10</td>
<td>1½ x 2½-10</td>
<td>2½</td>
<td>1½</td>
<td>23</td>
<td>6½</td>
<td>6</td>
<td>10½</td>
<td>4</td>
<td>6</td>
<td>125</td>
</tr>
<tr>
<td>02SH10</td>
<td>2 x 2½-10</td>
<td>3</td>
<td>2½</td>
<td>23</td>
<td>6½</td>
<td>5</td>
<td>9½</td>
<td>5</td>
<td>7</td>
<td>125</td>
</tr>
<tr>
<td>25SH08</td>
<td>2½ x 3-8</td>
<td>4</td>
<td>3</td>
<td>24</td>
<td>7½</td>
<td>7</td>
<td>11½</td>
<td>5</td>
<td>11⁄8</td>
<td>136</td>
</tr>
<tr>
<td>25SH10</td>
<td>2½ x 3-10</td>
<td>4</td>
<td>3</td>
<td>24</td>
<td>7½</td>
<td>7</td>
<td>11½</td>
<td>5</td>
<td>11⁄8</td>
<td>148</td>
</tr>
</tbody>
</table>

* For use with ANSI class 150 mating flanges

Available Motor and Bedplate Dimensions and Weights

<table>
<thead>
<tr>
<th>Motor Frame</th>
<th>HP @ 3500 RPM</th>
<th>HP @ 1750 RPM - T-Frame Only</th>
<th>AB Max.</th>
<th>C_ref</th>
<th>P Max.</th>
<th>Wt. Max.</th>
<th>Bedplate Data</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>3 PH</td>
<td>1 PH</td>
<td>3 PH</td>
<td>ODP</td>
<td>TEFC</td>
<td>ODP</td>
<td>TEFC</td>
</tr>
<tr>
<td>184T</td>
<td>3 or 5</td>
<td>3</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>18½</td>
<td>7½</td>
</tr>
<tr>
<td>213T</td>
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<td>5</td>
<td>5</td>
<td>18½</td>
<td>7½</td>
<td>95</td>
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<tr>
<td>215T</td>
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<td>10</td>
<td>15</td>
<td>15</td>
<td>15</td>
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<td>15</td>
</tr>
<tr>
<td>254T</td>
<td>20</td>
<td>15</td>
<td>15</td>
<td>15</td>
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<tr>
<td>256T</td>
<td>25</td>
<td>20</td>
<td>20</td>
<td>20</td>
<td>20</td>
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<td>20</td>
</tr>
<tr>
<td>286TS/T</td>
<td>40</td>
<td>30</td>
<td>30</td>
<td>30</td>
<td>30</td>
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<td>30</td>
</tr>
<tr>
<td>324TS/T</td>
<td>50</td>
<td>40</td>
<td>40</td>
<td>40</td>
<td>40</td>
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<td>40</td>
</tr>
<tr>
<td>326TS/T</td>
<td>60</td>
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<td>50</td>
<td>50</td>
<td>50</td>
<td>50</td>
<td>50</td>
</tr>
<tr>
<td>364TS/T</td>
<td>75</td>
<td>60</td>
<td>60</td>
<td>60</td>
<td>60</td>
<td>60</td>
<td>60</td>
</tr>
<tr>
<td>365TS/T</td>
<td>100</td>
<td>75</td>
<td>75</td>
<td>75</td>
<td>75</td>
<td>75</td>
<td>75</td>
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<td>405TS/T</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
</tr>
</tbody>
</table>

Dimensions and weights vary with manufacturers. Dimensions in inches and weights in lbs.

NOTE:
1. Pumps will be shipped with top vertical discharge as standard. For other orientations, remove casing bolts, rotate discharge to desired position and tighten ¾ - 16 bolts to 20 ft./lbs., ½ – 13 bolts to 40 ft./lbs.
2. ALL dimensions in inches.
**MECHANICAL SEALS**

**List of Materials**

<table>
<thead>
<tr>
<th>Materials</th>
<th>Part No.</th>
<th>180-210 Frames</th>
<th>250-360 Frames</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rotary Ring</td>
<td>Stationary Ring</td>
<td>Elastomers</td>
<td>Metal Parts</td>
</tr>
<tr>
<td>Carbon</td>
<td>Sil-Carb</td>
<td>FKM</td>
<td>316SS</td>
</tr>
<tr>
<td></td>
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<td>EPR</td>
<td></td>
</tr>
<tr>
<td>Sil-Carb</td>
<td></td>
<td>FKM</td>
<td></td>
</tr>
</tbody>
</table>

*Note:* for limits and recommendations of each combination of materials, contact factory.
TECHNICAL APPENDIX

NOZZLE LOADING

When the applied loads do not attain the maximum values allowed, one of these loads may exceed the normal limit, provided the following supplementary conditions are satisfied:

- any component of a force or of a moment shall be limited to 1.4 times the maximum allowable value;
- the actual forces and moments acting on each flange meet the condition:

\[
\left( \frac{\Sigma |F_{x,y,z}|}{\Sigma |F_{\text{max}}|} \right)^2 + \left( \frac{\Sigma |M_{x,y,z}|}{\Sigma |M_{\text{max}}|} \right)^2 \leq 2
\]

<table>
<thead>
<tr>
<th>Size</th>
<th>Suction</th>
<th>Discharge</th>
</tr>
</thead>
<tbody>
<tr>
<td>01SH06</td>
<td>2&quot;</td>
<td>93</td>
</tr>
<tr>
<td>01SH08</td>
<td>2.5&quot;</td>
<td>117</td>
</tr>
<tr>
<td>01SH10</td>
<td>15SH06</td>
<td>2.5&quot;</td>
</tr>
<tr>
<td></td>
<td>15SH08</td>
<td>2.5&quot;</td>
</tr>
<tr>
<td>02SH06</td>
<td>3&quot;</td>
<td>141</td>
</tr>
<tr>
<td>02SH08</td>
<td>3&quot;</td>
<td>141</td>
</tr>
<tr>
<td>02SH10</td>
<td>3&quot;</td>
<td>141</td>
</tr>
<tr>
<td>03SH08</td>
<td>4&quot;</td>
<td>188</td>
</tr>
<tr>
<td>03SH10</td>
<td>4&quot;</td>
<td>188</td>
</tr>
</tbody>
</table>
1) The tissue in plants that brings water upward from the roots;  
2) a leading global water technology company.

We’re a global team unified in a common purpose: creating advanced technology solutions to the world’s water challenges. Developing new technologies that will improve the way water is used, conserved, and re-used in the future is central to our work. Our products and services move, treat, analyze, monitor and return water to the environment, in public utility, industrial, residential and commercial building services settings. Xylem also provides a leading portfolio of smart metering, network technologies and advanced analytics solutions for water, electric and gas utilities. In more than 150 countries, we have strong, long-standing relationships with customers who know us for our powerful combination of leading product brands and applications expertise with a strong focus on developing comprehensive, sustainable solutions.

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