

Series:

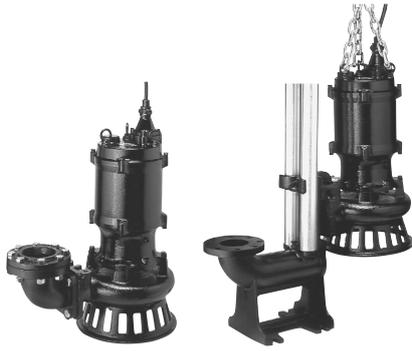
**SF**

Discharge Bore:

**50·80mm**

Motor Output / Pole:

**0.75 - 11kW / 2-pole**



The SF-series is a submersible high-head drainage pump designed for handling wastewater and liquid carrying ignorable size of solids. A semi-open, multi-vane impeller driven by a 2-pole motor enables the pump to work for pumping from a deep underground or to a distant place.

**Guide Rail Fitting System**

The guide rail fitting system connects the pump to and from the piping easily just by lowering or hoisting the pump, allowing easy maintenance and inspection without the need to enter the sump. The applicable guide rail fitting set varies according to the model.

**Selection Table**

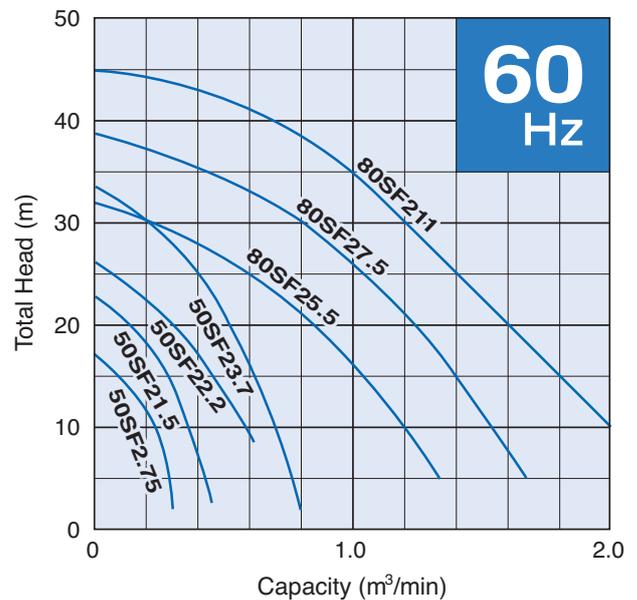
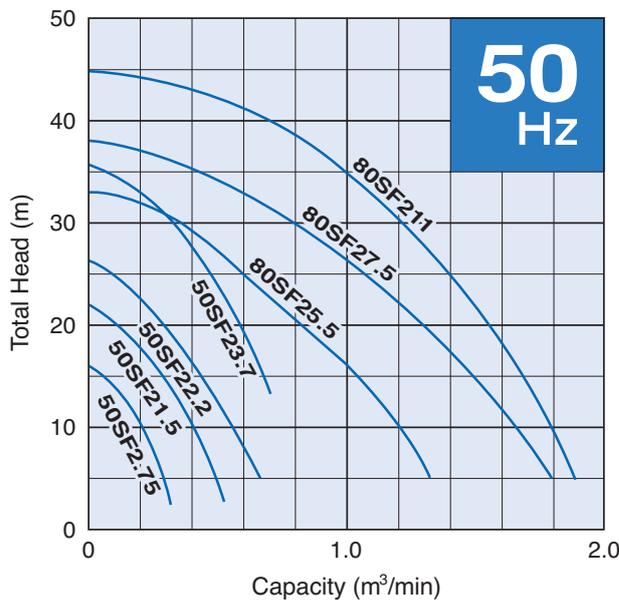
Model	Discharge Bore mm	Motor Output kW	Phase	Pole	Optional Accessories for Types of Installation		
					Free Standing	Guide Rail Fitting	
					Bend Set	“TOK” Set	“TOS” Set
50SF2.75	50	0.75	3-phase	2	—	TOK4-A	—
50SF21.5	50	1.5	3-phase	2	BEND 50 (oval)	—	TOS3-50
50SF22.2	50	2.2	3-phase	2	BEND 50-50F	—	TOSH-50
50SF23.7	50	3.7	3-phase	2	BEND 50-50F	—	TOSH-50

- Model 50SF2.75 is a free standing type. Use TOK4-A for the guide rail fitting type.
- 1.5 to 3.7kW models are supplied without the discharge bend. Select the accessory for the desired type of installation.

Model	Discharge Bore mm	Motor Output kW	Phase	Pole	Types of Installation	
					Free Standing	Guide Rail Fitting
80SF25.5	80	5.5	3-phase	2	80SF25.5	TOS80SF25.5
80SF27.5	80	7.5	3-phase	2	80SF27.5	TOS80SF27.5
80SF211	80	11	3-phase	2	80SF211	TOS80SF211

- Every above model is supplied either in the form of free standing type (complete with bend and stand) or in the form of guide rail fitting type (complete with prefix “TOS”).

**Performance Curves**



SPECIFICATIONS	Model	50SF2.75	
		SF-series	
		0.75kW, 3-phase	

<p><b>Type of Pump</b> Submersible cast iron high-head pump suitable for pumping wastewater and storm water</p> <p><b>Type of Fluid</b> Wastewater and water carrying small solid matters</p> <p>Temperature: 0 to 40°C</p> <p><b>Discharge Bore &amp; Connection</b> 50mm, Threaded Oval Flange</p> <p><b>Motor Output</b> 0.75kW</p> <p><b>Power Supply</b> Three-phase</p> <p><b>Starting Method</b> Direct on Line</p> <p><b>Motor</b> Continuous-duty rated, dry-type induction motor</p> <p>Insulation Class: E (available in F on special request) Degree of Protection: IP68</p> <p>No. of Poles &amp; Speed (Synchronous Speed) 2-pole, 3000/3600min<sup>-1</sup> (50/60Hz)</p> <p>Power Supply Voltages &amp; Rated Currents</p> <table border="0"> <tr> <td>50Hz</td> <td>60Hz</td> </tr> <tr> <td>380V – 1.9A</td> <td>220V – 3.5A</td> </tr> <tr> <td>400V – 1.9A</td> <td>380V – 1.9A</td> </tr> <tr> <td>415V – 2.0A</td> <td>440V – 1.7A</td> </tr> </table> <p><b>Power Cable</b> Sheath: PVC Standard Length: 6m 200 to 600V supply: 1 × 4 × 1.25mm<sup>2</sup>, O.D. 11.1mm</p> <p><b>Dry Weight</b> (excluding cable) 20kg</p>	50Hz	60Hz	380V – 1.9A	220V – 3.5A	400V – 1.9A	380V – 1.9A	415V – 2.0A	440V – 1.7A	<p><b>Impeller</b> Semi-open multi-vane impeller made of cast iron, dynamically balanced</p> <p>Solids Passage 50Hz – ϕ11mm 60Hz – ϕ10mm</p> <p><b>Cable Entry with Anti-Wicking Block</b> Watertight cable entry with strain-relief device. The anti-wicking block prevents water incursion due to capillary action should the power cable be damaged or the end submerged.</p> <p><b>Bearing</b> Permanently lubricated, deep-groove, double-shielded C3 ball bearings</p> <p><b>Shaft</b> 420 stainless steel</p> <p><b>Shaft Seal (Mechanical Seal)</b> Furnished with a double-face mechanical seal located in oil chamber. Both upper and lower seal faces always run in a clean environment.</p> <p>Upper Seal Face: Ceramic + Carbon Lower Seal Face: SiC + Ceramic</p> <p><b>Oil Seal (Lip Seal)</b> Used as a “Dust Seal”, it protects the mechanical seal from abrasive particles.</p> <p><b>OIL LIFTER</b> Equipped in oil chamber. It forcibly supplies lubricating oil to the mechanical seal and continues to supply the oil to the upper seal faces even if lubricant falls below the rated volume.</p> <p>Type of Lubricating Oil &amp; Volume Turbine Oil (ISO VG32), 460ml</p> <p><b>Motor Protection Device</b> A circle thermal protector built in the motor housing. Directly cuts the motor circuit if excessive heat builds up or an overcurrent condition occurs in the motor.</p>
50Hz	60Hz								
380V – 1.9A	220V – 3.5A								
400V – 1.9A	380V – 1.9A								
415V – 2.0A	440V – 1.7A								

<p><b>Optional Accessories</b></p> <p><b>TOK Set</b> (Guide Rail Fitting Type)</p> <ul style="list-style-type: none"> <li>• Duckfoot Bend</li> <li>• Guide Support</li> <li>• Guide Hook</li> <li>• Lifting Chain 4m (with Shackles)</li> </ul> <p><b>External Leakage Sensor</b> (Electrode)</p>	<p><b>Special Specifications</b></p> <p><b>High Temperature Liquids Version (60°C)</b></p>
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SPECIFICATIONS	Model	50SF21.5							
		SF-series 1.5kW, 3-phase							
<p><b>Type of Pump</b> Submersible cast iron high-head pump suitable for pumping wastewater and storm water</p> <p><b>Type of Fluid</b> Wastewater and water carrying small solid matters</p> <p>Temperature: 0 to 40°C</p> <p><b>Discharge Bore</b> 50mm</p> <p><b>Motor Output</b> 1.5kW</p> <p><b>Power Supply</b> Three-phase</p> <p><b>Starting Method</b> Direct on Line</p> <p><b>Motor</b> Continuous-duty rated, dry-type induction motor</p> <p>Insulation Class: F Degree of Protection: IP68</p> <p>No. of Poles &amp; Speed (Synchronous Speed) 2-pole, 3000/3600min<sup>-1</sup> (50/60Hz)</p> <p>Power Supply Voltages &amp; Rated Currents</p> <table border="0"> <tr> <td>50Hz</td> <td>60Hz</td> </tr> <tr> <td>380V – 3.5A</td> <td>220V – 6.0A</td> </tr> <tr> <td>400V – 3.5A</td> <td>380V – 3.4A</td> </tr> <tr> <td>415V – 3.5A</td> <td>440V – 3.2A</td> </tr> </table> <p><b>Power Cable</b> Sheath: PVC Standard Length: 6m 200 to 600V supply: 1 × 4 × 1.25mm<sup>2</sup>, O.D. 11.1mm</p> <p><b>Dry Weight</b> (excluding cable) Free Standing Type: 33kg Guide Rail Fitting Type: 32kg</p>	50Hz	60Hz	380V – 3.5A	220V – 6.0A	400V – 3.5A	380V – 3.4A	415V – 3.5A	440V – 3.2A	<p><b>Impeller</b> Semi-open multi-vane impeller made of cast iron, dynamically balanced</p> <p>Solids Passage 50Hz – φ11mm 60Hz – φ10mm</p> <p><b>Cable Entry with Anti-Wicking Block</b> Watertight cable entry with strain-relief device. The anti-wicking block prevents water incursion due to capillary action should the power cable be damaged or the end submerged.</p> <p><b>Bearing</b> Permanently lubricated, deep-groove, double-shielded C3 ball bearings</p> <p><b>Shaft</b> 420 stainless steel</p> <p><b>Shaft Seal (Mechanical Seal)</b> Furnished with a double-face mechanical seal located in oil chamber. Both upper and lower seal faces always run in a clean environment.</p> <p>Upper Seal Face: Ceramic + Carbon Lower Seal Face: SiC + SiC</p> <p><b>Oil Seal (Lip Seal)</b> Used as a “Dust Seal”, it protects the mechanical seal from abrasive particles.</p> <p><b>OIL LIFTER</b> Equipped in oil chamber. It forcibly supplies lubricating oil to the mechanical seal and continues to supply the oil to the upper seal faces even if lubricant falls below the rated volume.</p> <p>Type of Lubricating Oil &amp; Volume Turbine Oil (ISO VG32), 910ml</p> <p><b>Motor Protection Device</b> A circle thermal protector built in the motor housing. Directly cuts the motor circuit if excessive heat builds up or an overcurrent condition occurs in the motor.</p>
50Hz	60Hz								
380V – 3.5A	220V – 6.0A								
400V – 3.5A	380V – 3.4A								
415V – 3.5A	440V – 3.2A								
<p><b>Optional Accessories</b></p> <p><b>Bend Set</b> (Free Standing Type)</p> <ul style="list-style-type: none"> <li>• Discharge Bend</li> <li>• Threaded Oval Flange</li> </ul> <p><b>TOS Set</b> (Guide Rail Fitting Type)</p> <ul style="list-style-type: none"> <li>• Duckfoot Bend</li> <li>• Guide Support</li> <li>• Guide Hook</li> <li>• Lifting Chain 5m (with Shackles)</li> <li>• Threaded JIS 10kg/cm<sup>2</sup> Flange</li> </ul> <p><b>External Leakage Sensor</b> (Electrode)</p> <p><b>Special Specifications</b></p> <p><b>High Temperature Liquids Version (60-80°C)</b></p>									
<b>TSURUMI MANUFACTURING CO., LTD.</b>									

SPECIFICATIONS	Model	50SF22.2							
		SF-series 2.2kW, 3-phase							
<p><b>Type of Pump</b> Submersible cast iron high-head pump suitable for pumping wastewater and storm water</p> <p><b>Type of Fluid</b> Wastewater and water carrying small solid matters</p> <p>Temperature: 0 to 40°C</p> <p><b>Discharge Bore</b> 50mm</p> <p><b>Motor Output</b> 2.2kW</p> <p><b>Power Supply</b> Three-phase</p> <p><b>Starting Method</b> Direct on Line</p> <p><b>Motor</b> Continuous-duty rated, dry-type induction motor</p> <p>Insulation Class: F Degree of Protection: IP68</p> <p>No. of Poles &amp; Speed (Synchronous Speed) 2-pole, 3000/3600min<sup>-1</sup> (50/60Hz)</p> <p>Power Supply Voltages &amp; Rated Currents</p> <table border="0"> <tr> <td>50Hz</td> <td>60Hz</td> </tr> <tr> <td>380V – 5.0A</td> <td>220V – 9.0A</td> </tr> <tr> <td>400V – 4.9A</td> <td>380V – 5.0A</td> </tr> <tr> <td>415V – 4.8A</td> <td>440V – 4.5A</td> </tr> </table> <p><b>Power Cable</b> Sheath: PVC Standard Length: 6m 380 to 600V supply: 1 × 4 × 1.25mm<sup>2</sup>, O.D. 11.1mm 200 to 240V supply: 1 × 4 × 2.0mm<sup>2</sup>, O.D. 11.8mm</p> <p><b>Dry Weight</b> (excluding cable) Free Standing Type: 49kg Guide Rail Fitting Type: 48kg</p>	50Hz	60Hz	380V – 5.0A	220V – 9.0A	400V – 4.9A	380V – 5.0A	415V – 4.8A	440V – 4.5A	<p><b>Impeller</b> Semi-open multi-vane impeller made of cast iron, dynamically balanced</p> <p>Solids Passage 50Hz – <math>\phi</math>7.5mm 60Hz – <math>\phi</math>7.5mm</p> <p><b>Cable Entry with Anti-Wicking Block</b> Watertight cable entry with strain-relief device. The anti-wicking block prevents water incursion due to capillary action should the power cable be damaged or the end submerged.</p> <p><b>Bearing</b> Permanently lubricated, deep-groove, double-shielded C3 ball bearings</p> <p><b>Shaft</b> 420 stainless steel</p> <p><b>Shaft Seal (Mechanical Seal)</b> Furnished with a double-face mechanical seal located in oil chamber. Both upper and lower seal faces always run in a clean environment.</p> <p>Upper Seal Face: Ceramic + Carbon Lower Seal Face: SiC + SiC</p> <p><b>Oil Seal (Lip Seal)</b> Used as a “Dust Seal”, it protects the mechanical seal from abrasive particles.</p> <p><b>OIL LIFTER</b> Equipped in oil chamber. It forcibly supplies lubricating oil to the mechanical seal and continues to supply the oil to the upper seal faces even if lubricant falls below the rated volume.</p> <p>Type of Lubricating Oil &amp; Volume Turbine Oil (ISO VG32), 1040ml</p> <p><b>Motor Protection Device</b> A circle thermal protector built in the motor housing. Directly cuts the motor circuit if excessive heat builds up or an overcurrent condition occurs in the motor.</p>
50Hz	60Hz								
380V – 5.0A	220V – 9.0A								
400V – 4.9A	380V – 5.0A								
415V – 4.8A	440V – 4.5A								
<p><b>Optional Accessories</b></p> <p><b>Bend Set</b> (Free Standing Type)</p> <ul style="list-style-type: none"> <li>• Discharge Bend</li> <li>• Threaded JIS 10kg/cm<sup>2</sup> Flange</li> </ul> <p><b>TOS Set</b> (Guide Rail Fitting Type)</p> <ul style="list-style-type: none"> <li>• Duckfoot Bend</li> <li>• Guide Support</li> <li>• Guide Hook</li> <li>• Lifting Chain 5m (with Shackles)</li> <li>• Threaded JIS 10kg/cm<sup>2</sup> Flange</li> </ul>		<p><b>External Leakage Sensor</b> (Electrode)</p> <p><b>Special Specifications</b></p> <p><b>High Temperature Liquids Version (60-80°C)</b></p>							
<b>TSURUMI MANUFACTURING CO., LTD.</b>									

<b>SPECIFICATIONS</b>	Model	<b>50SF23.7</b>	<b>SF-series</b>
			<b>3.7kW, 3-phase</b>

<p><b>Type of Pump</b> Submersible cast iron high-head pump suitable for pumping wastewater and storm water</p> <p><b>Type of Fluid</b> Wastewater and water carrying small solid matters</p> <p>Temperature: 0 to 40°C</p> <p><b>Discharge Bore</b> 50mm</p> <p><b>Motor Output</b> 3.7kW</p> <p><b>Power Supply</b> Three-phase</p> <p><b>Starting Method</b> Direct on Line</p> <p><b>Motor</b> Continuous-duty rated, dry-type induction motor</p> <p>Insulation Class: F Degree of Protection: IP68</p> <p>No. of Poles &amp; Speed (Synchronous Speed) 2-pole, 3000/3600min<sup>-1</sup> (50/60Hz)</p> <p>Power Supply Voltages &amp; Rated Currents</p> <table border="0"> <tr> <td>50Hz</td> <td>60Hz</td> </tr> <tr> <td>380V – 8.0A</td> <td>220V – 13.8A</td> </tr> <tr> <td>400V – 7.7A</td> <td>380V – 7.9A</td> </tr> <tr> <td>415V – 7.5A</td> <td>440V – 6.9A</td> </tr> </table> <p><b>Power Cable</b> Sheath: PVC Standard Length: 6m 380 to 600V supply: 1 × 4 × 2.0mm<sup>2</sup>, O.D. 11.8mm 200 to 240V supply: 1 × 4 × 3.5mm<sup>2</sup>, O.D. 13.9mm</p> <p><b>Dry Weight</b> (excluding cable) Free Standing Type: 59kg Guide Rail Fitting Type: 58kg</p>	50Hz	60Hz	380V – 8.0A	220V – 13.8A	400V – 7.7A	380V – 7.9A	415V – 7.5A	440V – 6.9A	<p><b>Impeller</b> Semi-open multi-vane impeller made of cast iron, dynamically balanced</p> <p>Solids Passage 50Hz – <math>\phi</math>7.5mm 60Hz – <math>\phi</math>7.5mm</p> <p><b>Cable Entry with Anti-Wicking Block</b> Watertight cable entry with strain-relief device. The anti-wicking block prevents water incursion due to capillary action should the power cable be damaged or the end submerged.</p> <p><b>Bearing</b> Permanently lubricated, deep-groove, double-shielded C3 ball bearings</p> <p><b>Shaft</b> 420 stainless steel</p> <p><b>Shaft Seal (Mechanical Seal)</b> Furnished with a double-face mechanical seal located in oil chamber. Both upper and lower seal faces always run in a clean environment.</p> <p>Upper Seal Face: Ceramic + Carbon Lower Seal Face: SiC + SiC</p> <p><b>Oil Seal (Lip Seal)</b> Used as a “Dust Seal”, it protects the mechanical seal from abrasive particles.</p> <p><b>OIL LIFTER</b> Equipped in oil chamber. It forcibly supplies lubricating oil to the mechanical seal and continues to supply the oil to the upper seal faces even if lubricant falls below the rated volume.</p> <p>Type of Lubricating Oil &amp; Volume Turbine Oil (ISO VG32), 1350ml</p> <p><b>Motor Protection Device</b> A circle thermal protector built in the motor housing. Directly cuts the motor circuit if excessive heat builds up or an overcurrent condition occurs in the motor.</p>
50Hz	60Hz								
380V – 8.0A	220V – 13.8A								
400V – 7.7A	380V – 7.9A								
415V – 7.5A	440V – 6.9A								

**Optional Accessories**

- Bend Set** (Free Standing Type)
- Discharge Bend
  - Threaded JIS 10kg/cm<sup>2</sup> Flange

- TOS Set** (Guide Rail Fitting Type)
- Duckfoot Bend
  - Guide Support
  - Guide Hook
  - Lifting Chain 5m (with Shackles)
  - Threaded JIS 10kg/cm<sup>2</sup> Flange

**External Leakage Sensor** (Electrode)

**Special Specifications**

**High Temperature Liquids Version (60-80°C)**

SPECIFICATIONS	Model	80SF25.5	
		SF-series	
		5.5kW, 3-phase	

<p><b>Type of Pump</b> Submersible cast iron high-head pump suitable for pumping wastewater and storm water</p> <p><b>Type of Fluid</b> Wastewater and water carrying small solid matters</p> <p>Temperature: 0 to 40°C</p> <p><b>Discharge Bore &amp; Connection</b> 80mm, Threaded JIS 10kg/cm<sup>2</sup> Flange</p> <p><b>Motor Output</b> 5.5kW</p> <p><b>Power Supply</b> Three-phase</p> <p><b>Starting Method</b> Direct on Line (Star-Delta available on special request)</p> <p><b>Motor</b> Continuous-duty rated, dry-type induction motor</p> <p>Insulation Class: F Degree of Protection: IP68</p> <p>No. of Poles &amp; Speed (Synchronous Speed) 2-pole, 3000/3600min<sup>-1</sup> (50/60Hz)</p> <p>Power Supply Voltages &amp; Rated Currents</p> <table border="0"> <tr> <td>50Hz</td> <td>60Hz</td> </tr> <tr> <td>380V – 12.0A</td> <td>220V – 21.7A</td> </tr> <tr> <td>400V – 11.6A</td> <td>380V – 11.8A</td> </tr> <tr> <td>415V – 11.4A</td> <td>440V – 10.9A</td> </tr> </table> <p><b>Power Cable</b> Sheath: Chloroprene rubber Standard Length: 8m 200 to 600V supply: 1 × 4 × 3.5mm<sup>2</sup>, O.D. 14.1mm</p> <p><b>Dry Weight</b> (excluding cable) Free Standing Type: 120kg Guide Rail Fitting Type: 117kg</p>	50Hz	60Hz	380V – 12.0A	220V – 21.7A	400V – 11.6A	380V – 11.8A	415V – 11.4A	440V – 10.9A	<p><b>Impeller</b> Semi-open multi-vane impeller made of cast iron, dynamically balanced</p> <p>Solids Passage 50Hz – φ15mm 60Hz – φ19mm</p> <p><b>Cable Entry with Anti-Wicking Block</b> Watertight cable entry with strain-relief device. The anti-wicking block prevents water incursion due to capillary action should the power cable be damaged or the end submerged.</p> <p><b>Bearing</b> Permanently lubricated, deep-groove, double-shielded C3 ball bearings</p> <p><b>Shaft</b> 420 stainless steel</p> <p><b>Shaft Seal (Mechanical Seal)</b> Furnished with a double-face mechanical seal located in oil chamber. Both upper and lower seal faces always run in a clean environment.</p> <p>Upper Seal Face: Ceramic + Carbon Lower Seal Face: SiC + SiC</p> <p><b>Oil Seal (Lip Seal)</b> Used as a “Dust Seal”, it protects the mechanical seal from abrasive particles.</p> <p><b>Pressure Relief Port</b> Protects the mechanical seal against excessive pressure, and also protects the seal faces from abrasive particles by drawing the particles away.</p> <p><b>OIL LIFTER</b> Equipped in oil chamber. It forcibly supplies lubricating oil to the mechanical seal and continues to supply the oil to the upper seal faces even if lubricant falls below the rated volume.</p> <p>Type of Lubricating Oil &amp; Volume Turbine Oil (ISO VG32), 2100ml</p> <p><b>Motor Protection Device</b> A circle thermal protector built in the motor housing. Directly cuts the motor circuit if excessive heat builds up or an overcurrent condition occurs in the motor.</p>
50Hz	60Hz								
380V – 12.0A	220V – 21.7A								
400V – 11.6A	380V – 11.8A								
415V – 11.4A	440V – 10.9A								

<p><b>Optional Accessory</b></p> <p><b>External Leakage Sensor</b> (Electrode)</p>	<p><b>Special Specifications</b></p> <p><b>High Temperature Liquids Version (60-80°C)</b></p>
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SPECIFICATIONS	Model	80SF27.5	SF-series
			7.5kW, 3-phase

<p><b>Type of Pump</b> Submersible cast iron high-head pump suitable for pumping wastewater and storm water</p> <p><b>Type of Fluid</b> Wastewater and water carrying small solid matters</p> <p>Temperature: 0 to 40°C</p> <p><b>Discharge Bore &amp; Connection</b> 80mm, Threaded JIS 10kg/cm<sup>2</sup> Flange</p> <p><b>Motor Output</b> 7.5kW</p> <p><b>Power Supply</b> Three-phase</p> <p><b>Starting Method</b> Direct on Line (Star-Delta available on special request)</p> <p><b>Motor</b> Continuous-duty rated, dry-type induction motor</p> <p>Insulation Class: F Degree of Protection: IP68</p> <p>No. of Poles &amp; Speed (Synchronous Speed) 2-pole, 3000/3600min<sup>-1</sup> (50/60Hz)</p> <p>Power Supply Voltages &amp; Rated Currents</p> <table border="0"> <tr> <td>50Hz</td> <td>60Hz</td> </tr> <tr> <td>380V – 15.3A</td> <td>220V – 26.1A</td> </tr> <tr> <td>400V – 14.9A</td> <td>380V – 14.4A</td> </tr> <tr> <td>415V – 14.6A</td> <td>440V – 13.1A</td> </tr> </table> <p><b>Power Cable</b> Sheath: Chloroprene rubber Standard Length: 8m 200 to 600V supply: 1 × 4 × 5.5mm<sup>2</sup>, O.D. 16.8mm</p> <p><b>Dry Weight</b> (excluding cable) Free Standing Type: 126kg Guide Rail Fitting Type: 123kg</p>	50Hz	60Hz	380V – 15.3A	220V – 26.1A	400V – 14.9A	380V – 14.4A	415V – 14.6A	440V – 13.1A	<p><b>Impeller</b> Semi-open multi-vane impeller made of cast iron, dynamically balanced</p> <p>Solids Passage 50Hz – φ19mm 60Hz – φ21mm</p> <p><b>Cable Entry with Anti-Wicking Block</b> Watertight cable entry with strain-relief device. The anti-wicking block prevents water incursion due to capillary action should the power cable be damaged or the end submerged.</p> <p><b>Bearing</b> Permanently lubricated, deep-groove, double-shielded C3 ball bearings</p> <p><b>Shaft</b> 420 stainless steel</p> <p><b>Shaft Seal (Mechanical Seal)</b> Furnished with a double-face mechanical seal located in oil chamber. Both upper and lower seal faces always run in a clean environment.</p> <p>Upper Seal Face: Ceramic + Carbon Lower Seal Face: SiC + SiC</p> <p><b>Oil Seal (Lip Seal)</b> Used as a “Dust Seal”, it protects the mechanical seal from abrasive particles.</p> <p><b>Pressure Relief Port</b> Protects the mechanical seal against excessive pressure, and also protects the seal faces from abrasive particles by drawing the particles away.</p> <p><b>OIL LIFTER</b> Equipped in oil chamber. It forcibly supplies lubricating oil to the mechanical seal and continues to supply the oil to the upper seal faces even if lubricant falls below the rated volume.</p> <p>Type of Lubricating Oil &amp; Volume Turbine Oil (ISO VG32), 2100ml</p> <p><b>Motor Protection Device</b> A circle thermal protector built in the motor housing. Directly cuts the motor circuit if excessive heat builds up or an overcurrent condition occurs in the motor.</p>
50Hz	60Hz								
380V – 15.3A	220V – 26.1A								
400V – 14.9A	380V – 14.4A								
415V – 14.6A	440V – 13.1A								

<p><b>Optional Accessory</b></p> <p><b>External Leakage Sensor</b> (Electrode)</p>	<p><b>Special Specifications</b></p> <p><b>High Temperature Liquids Version (60-80°C)</b></p>
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SPECIFICATIONS	Model	80SF211							
		SF-series							
		11kW, 3-phase							
<p><b>Type of Pump</b> Submersible cast iron high-head pump suitable for pumping wastewater and storm water</p> <p><b>Type of Fluid</b> Wastewater and water carrying small solid matters</p> <p>Temperature: 0 to 40°C</p> <p><b>Discharge Bore &amp; Connection</b> 80mm, Threaded JIS 10kg/cm<sup>2</sup> Flange</p> <p><b>Motor Output</b> 11kW</p> <p><b>Power Supply</b> Three-phase</p> <p><b>Starting Method</b> Star-Delta</p> <p><b>Motor</b> Continuous-duty rated, dry-type induction motor</p> <p>Insulation Class: F Degree of Protection: IP68</p> <p>No. of Poles &amp; Speed (Synchronous Speed) 2-pole, 3000/3600min<sup>-1</sup> (50/60Hz)</p> <p>Power Supply Voltages &amp; Rated Currents</p> <table border="0"> <tr> <td>50Hz</td> <td>60Hz</td> </tr> <tr> <td>380V – 23.6A</td> <td>220V – 39.7A</td> </tr> <tr> <td>400V – 23.0A</td> <td>380V – 22.1A</td> </tr> <tr> <td>415V – 22.8A</td> <td>440V – 19.9A</td> </tr> </table> <p><b>Power Cable</b> Standard Length: 8m 200 to 600V supply: 1 × 4 × 3.5mm<sup>2</sup>, O.D. 14.1mm, Chloroprene rubber 1 × 3 × 3.5mm<sup>2</sup>, O.D. 12.9mm, Chloroprene rubber 1 × 2 × 1.25mm<sup>2</sup>, O.D. 9.6mm, PVC</p> <p><b>Dry Weight</b> (excluding cable) Free Standing Type: 142kg Guide Rail Fitting Type: 139kg</p>	50Hz	60Hz	380V – 23.6A	220V – 39.7A	400V – 23.0A	380V – 22.1A	415V – 22.8A	440V – 19.9A	<p><b>Impeller</b> Semi-open multi-vane impeller made of cast iron, dynamically balanced</p> <p>Solids Passage 50Hz – <math>\phi</math>22mm 60Hz – <math>\phi</math>22mm</p> <p><b>Cable Entry with Anti-Wicking Block</b> Watertight cable entry with strain-relief device. The anti-wicking block prevents water incursion due to capillary action should the power cable be damaged or the end submerged.</p> <p><b>Bearing</b> Permanently lubricated, deep-groove, double-shielded C3 ball bearings</p> <p><b>Shaft</b> 420 stainless steel</p> <p><b>Shaft Seal (Mechanical Seal)</b> Furnished with a double-face mechanical seal located in oil chamber. Both upper and lower seal faces always run in a clean environment.</p> <p>Upper Seal Face: Ceramic + Carbon Lower Seal Face: SiC + SiC</p> <p><b>Oil Seal (Lip Seal)</b> Used as a “Dust Seal”, it protects the mechanical seal from abrasive particles.</p> <p><b>Pressure Relief Port</b> Protects the mechanical seal against excessive pressure, and also protects the seal faces from abrasive particles by drawing the particles away.</p> <p><b>OIL LIFTER</b> Equipped in oil chamber. It forcibly supplies lubricating oil to the mechanical seal and continues to supply the oil to the upper seal faces even if lubricant falls below the rated volume.</p> <p>Type of Lubricating Oil &amp; Volume Turbine Oil (ISO VG32), 2100ml</p> <p><b>Motor Protection Device</b> A miniature thermal protector is embedded in each winding of the motor. Should excessive heat builds up, the bimetal strip opens to cause the control panel to shut the power supply.</p>
50Hz	60Hz								
380V – 23.6A	220V – 39.7A								
400V – 23.0A	380V – 22.1A								
415V – 22.8A	440V – 19.9A								
<p><b>Optional Accessory</b></p> <p><b>External Leakage Sensor</b> (Electrode)</p>	<p><b>Special Specifications</b></p> <p><b>High Temperature Liquids Version (60-80°C)</b></p>								
<b>TSURUMI MANUFACTURING CO., LTD.</b>									

**DIMENSIONS**

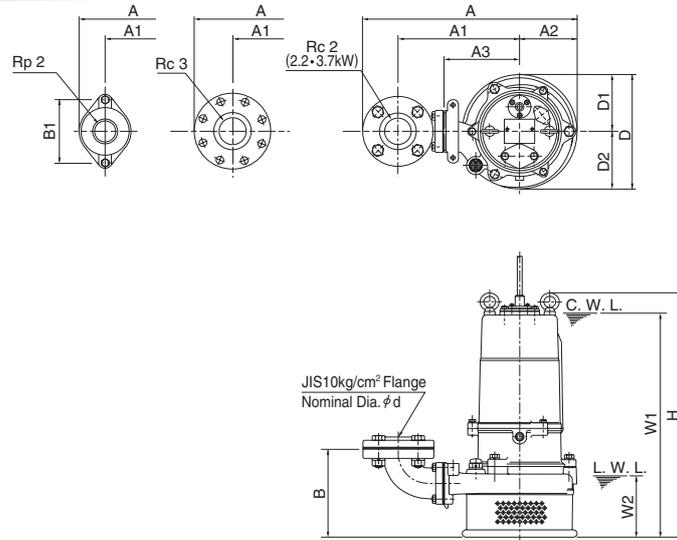
Model

**50SF2.75 to 80SF211**

**SF-series**

**50·80mm**

**Free Standing Type**

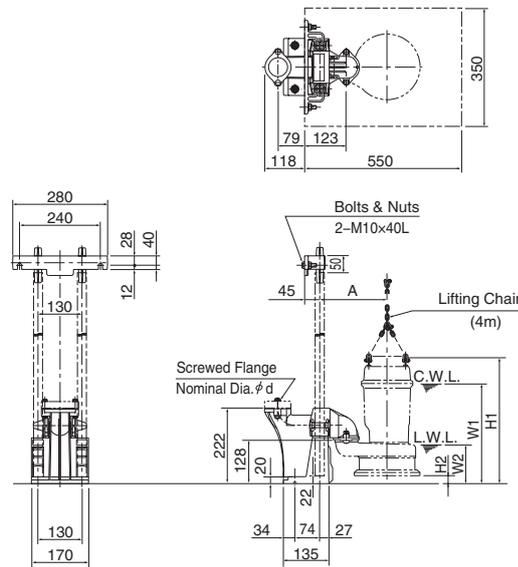


C. W. L. : Continuous Running Water Level  
L. W. L. : Lowest Running Water Level

Unit: mm

Model	d	A	A1	A2	A3	B	B1	D	D1	D2	W1	W2	H
50SF2.75	50	256	120	97	—	107	90	194	97	97	345	110	377
50SF21.5	50	421	253	114	165	191	140	222	111	111	420	150	494
50SF22.2	50	466	263	125	165	191	—	250	125	125	460	135	534
50SF23.7	50	466	263	125	165	191	—	250	125	125	490	135	537
80SF25.5	80	635	362	180	250	287	—	360	180	180	700	190	824
80SF27.5	80	635	362	180	250	287	—	360	180	180	700	190	824
80SF211	80	635	362	180	250	287	—	360	180	180	750	190	872

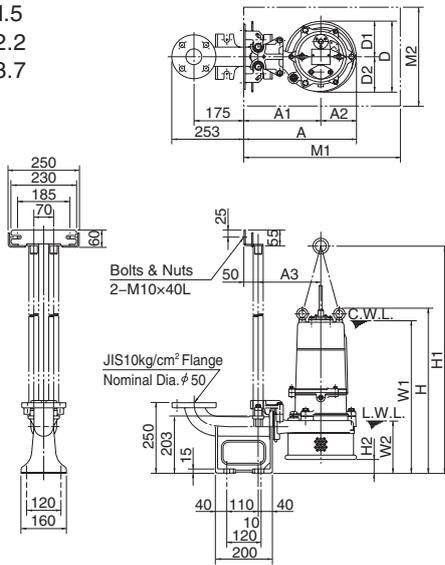
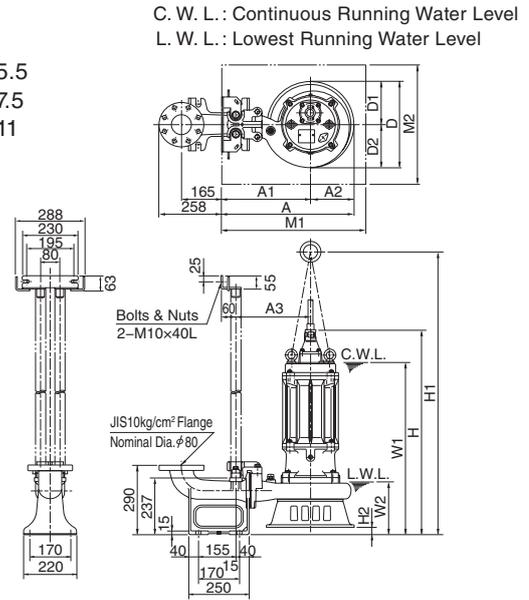
**Guide Rail Fitting Type: TOK Set**



Unit: mm

Model	d	A	W1	W2	H1	H2
50SF2.75	50	198	366	131	398	21

**DIMENSIONS**
**Model TOS50SF21.5 to TOS80SF211**
**SF-series**
**50·80mm**
**Guide Rail Fitting Type: TOS Set**

 TOS50SF21.5  
 TOS50SF22.2  
 TOS50SF23.7

 TOS80SF25.5  
 TOS80SF27.5  
 TOS80SF211

 C. W. L. : Continuous Running Water Level  
 L. W. L. : Lowest Running Water Level

Unit: mm

Model	A	A1	A2	A3	D	D1	D2	W1	W2	H	H1	H2	M1	M2
TOS50SF21.5	384	270	114	220	222	111	111	470	198	542	—	48	550	350
TOS50SF22.2	395	270	125	220	250	125	125	510	185	582	—	48	550	350
TOS50SF23.7	395	270	125	220	250	125	125	540	183	585	706	48	550	350
TOS80SF25.5	550	370	180	310	360	180	180	730	220	855	1217	31	600	500
TOS80SF27.5	550	370	180	310	360	180	180	730	220	855	1217	31	600	500
TOS80SF211	550	370	180	310	360	180	180	780	220	903	1269	31	600	500