

Series:	PN	Discharge Bore:	40 - 80mm	Motor Output / Pole:	0.25 - 3.7kW / 2-pole
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The PN-series is a submersible portable semi-vortex pump designed for handling wastewater and liquid carrying small solid matters. It is made of resin and 304 stainless steel and excellent in corrosion-resistance. The semi-vortex pump design with moderate solids passage provides efficient performance for versatile applications. Liquid paraffin is used for the lubricating oil, which widens the application of the pump to decorative waterfalls, fishponds, aquaculture, etc.

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. Tsurumi “TOK” type resin-made guide rail fitting system can be used with every PN-series.

Automatic & Auto-Alternation Model

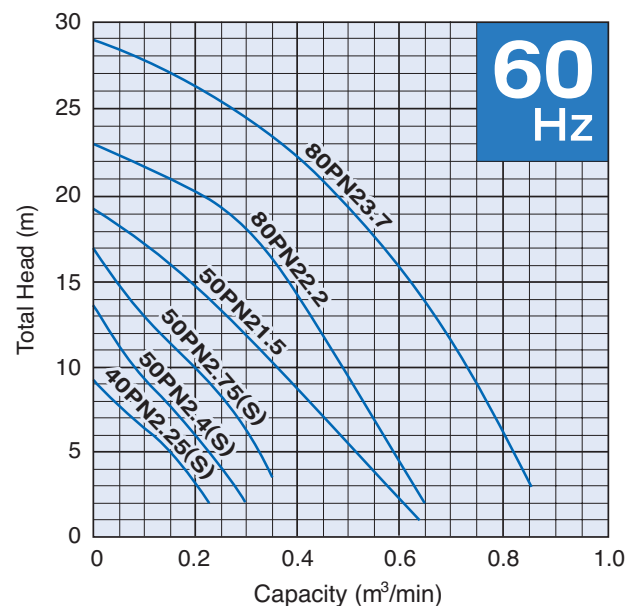
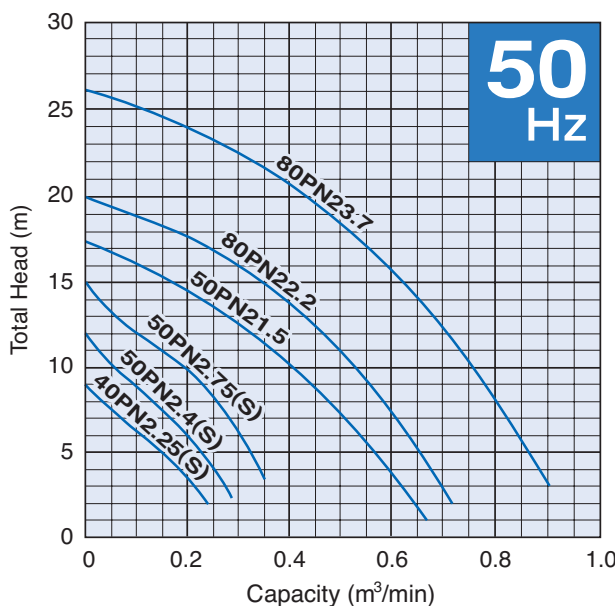
Automatic models and auto-alternation models are available in every motor output. These models have an integral control circuitry and float switches. Auto-alternation operation can be achieved by the combinatorial use of the automatic model and the auto-alternation model without the need of a simple power panel.

Selection Table

Model			Discharge Bore mm	Motor Output kW	Phase	Pole	Optional Accessories for Guide Rail Fitting System
Standard	Automatic	Auto-Alternation					
40PN2.25S	40PNA2.25S	40PNW2.25S	40	0.25	1-phase	2	TOK4-P
40PN2.25	40PNA2.25	40PNW2.25	40	0.25	3-phase	2	TOK4-P
50PN2.4S	50PNA2.4S	50PNW2.4S	50	0.4	1-phase	2	TOK4-P
50PN2.4	50PNA2.4	50PNW2.4	50	0.4	3-phase	2	TOK4-P
50PN2.75S	50PNA2.75S	—	50	0.75	1-phase	2	TOK4-P
50PN2.75	50PNA2.75	50PNW2.75	50	0.75	3-phase	2	TOK4-P
50PN2.15	50PNA2.15	50PNW2.15	50	1.5	3-phase	2	TOK2-65
80PN2.2	80PNA2.2	80PNW2.2	80	2.2	3-phase	2	TOK2-65T
80PN2.3.7	80PNA2.3.7	80PNW2.3.7	80	3.7	3-phase	2	TOK2-65T

Performance Curves

Standard, Automatic and Auto-Alternation models have the identical performance.



SPECIFICATIONS	Model	40PN2.25S	
		PN-series	
		0.25kW, 1-phase	

<p>Type of Pump Submersible semi-vortex pump made of 304 stainless steel and resin suitable for pumping wastewater and storm water</p> <p>Type of Fluid Wastewater and water carrying small solid matters</p> <p>Temperature: 0 to 40°C</p> <p>Discharge Bore & Connection 40mm, Threaded Oval Flange</p> <p>Motor Output 0.25kW</p> <p>Power Supply Single-phase</p> <p>Starting Method Capacitor Run</p> <p>Motor Continuous-duty rated, dry-type induction motor</p> <p>Insulation Class: E Degree of Protection: IP68</p> <p>No. of Poles & Speed (Synchronous Speed) 2-pole, 3000/3600min⁻¹ (50/60Hz)</p> <p>Power Supply Voltages & Rated Currents</p> <table border="0"> <tr> <td>50Hz</td> <td>60Hz</td> </tr> <tr> <td>220V – 2.6A</td> <td>110V – 4.4A</td> </tr> <tr> <td>230V – 2.5A</td> <td>220V – 2.4A</td> </tr> <tr> <td>240V – 2.5A</td> <td></td> </tr> </table> <p>Power Cable Sheath: PVC Standard Length: 5m 100 to 240V supply: 1 × 3 × 1.25mm², O.D. 10.1mm</p> <p>Dry Weight (excluding cable) Standard Model: 7.1kg Auto & Auto-Alternation Model: 7.8kg</p>	50Hz	60Hz	220V – 2.6A	110V – 4.4A	230V – 2.5A	220V – 2.4A	240V – 2.5A		<p>Impeller Vortex impeller designed for “high-gap structure”, made of glass-fiber reinforced PPO</p> <p>Solids Passage 50Hz – φ10mm 60Hz – φ10mm</p> <p>Cable Entry with Anti-Wicking Block 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>Bearing Permanently lubricated, deep-groove, double-shielded C3 ball bearings</p> <p>Shaft 304 stainless steel</p> <p>Shaft Seal (Mechanical Seal) 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>OIL LIFTER 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 & Volume Liquid Paraffin (ISO VG32), 240ml</p> <p>Motor Protection Device A miniature thermal protector is embedded in winding of the motor. Directly cuts the motor circuit if excessive heat builds up in the motor.</p>
50Hz	60Hz								
220V – 2.6A	110V – 4.4A								
230V – 2.5A	220V – 2.4A								
240V – 2.5A									

Optional Accessories

TOK Set (Guide Rail Fitting Type)

- Duckfoot Bend
- Guide Support
- Guide Hook
- Lifting Chain 4m (with Shackles)

SPECIFICATIONS	Model	40PN2.25	
		PN-series 0.25kW, 3-phase	

<p>Type of Pump Submersible semi-vortex pump made of 304 stainless steel and resin suitable for pumping wastewater and storm water</p> <p>Type of Fluid Wastewater and water carrying small solid matters</p> <p>Temperature: 0 to 40°C</p> <p>Discharge Bore & Connection 40mm, Threaded Oval Flange</p> <p>Motor Output 0.25kW</p> <p>Power Supply Three-phase</p> <p>Starting Method Direct on Line</p> <p>Motor Continuous-duty rated, dry-type induction motor</p> <p>Insulation Class: E Degree of Protection: IP68</p> <p>No. of Poles & Speed (Synchronous Speed) 2-pole, 3000/3600min⁻¹ (50/60Hz)</p> <p>Power Supply Voltages & Rated Currents</p> <table border="0"> <tr> <td>50Hz</td> <td>60Hz</td> </tr> <tr> <td>380V – 0.9A</td> <td>220V – 1.6A</td> </tr> <tr> <td>400V – 0.9A</td> <td>380V – 0.9A</td> </tr> <tr> <td>415V – 1.0A</td> <td>440V – 0.8A</td> </tr> </table> <p>Power Cable Sheath: PVC Standard Length: 6m 200 to 600V supply: 1 × 4 × 1.25mm², O.D. 11.1mm</p> <p>Dry Weight (excluding cable) Standard Model: 6.1kg Auto & Auto-Alternation Model: 6.8kg</p>	50Hz	60Hz	380V – 0.9A	220V – 1.6A	400V – 0.9A	380V – 0.9A	415V – 1.0A	440V – 0.8A	<p>Impeller Vortex impeller designed for “high-gap structure”, made of glass-fiber reinforced PPO</p> <p>Solids Passage 50Hz – ϕ10mm 60Hz – ϕ10mm</p> <p>Cable Entry with Anti-Wicking Block 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>Bearing Permanently lubricated, deep-groove, double-shielded C3 ball bearings</p> <p>Shaft 304 stainless steel</p> <p>Shaft Seal (Mechanical Seal) 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>OIL LIFTER 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 & Volume Liquid Paraffin (ISO VG32), 240ml</p> <p>Motor Protection Device 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 – 0.9A	220V – 1.6A								
400V – 0.9A	380V – 0.9A								
415V – 1.0A	440V – 0.8A								

Optional Accessories

TOK Set (Guide Rail Fitting Type)

- Duckfoot Bend
- Guide Support
- Guide Hook
- Lifting Chain 4m (with Shackles)

SPECIFICATIONS	Model	50PN2.4S	
		PN-series 0.4kW, 1-phase	

<p>Type of Pump Submersible semi-vortex pump made of 304 stainless steel and resin suitable for pumping wastewater and storm water</p> <p>Type of Fluid Wastewater and water carrying small solid matters</p> <p>Temperature: 0 to 40°C</p> <p>Discharge Bore & Connection 50mm, Threaded Oval Flange</p> <p>Motor Output 0.4kW</p> <p>Power Supply Single-phase</p> <p>Starting Method Capacitor Run</p> <p>Motor Continuous-duty rated, dry-type induction motor</p> <p>Insulation Class: E Degree of Protection: IP68</p> <p>No. of Poles & Speed (Synchronous Speed) 2-pole, 3000/3600min⁻¹ (50/60Hz)</p> <p>Power Supply Voltages & Rated Currents</p> <table border="0"> <tr> <td>50Hz</td> <td>60Hz</td> </tr> <tr> <td>220V – 3.2A</td> <td>110V – 5.7A</td> </tr> <tr> <td>230V – 3.1A</td> <td>220V – 2.9A</td> </tr> <tr> <td>240V – 3.0A</td> <td></td> </tr> </table> <p>Power Cable Sheath: PVC Standard Length: 5m 100 to 240V supply: 1 × 3 × 1.25mm², O.D. 10.1mm</p> <p>Dry Weight (excluding cable) Standard Model: 7.1kg Auto & Auto-Alternation Model: 7.8kg</p>	50Hz	60Hz	220V – 3.2A	110V – 5.7A	230V – 3.1A	220V – 2.9A	240V – 3.0A		<p>Impeller Vortex impeller designed for “high-gap structure”, made of glass-fiber reinforced PPO</p> <p>Solids Passage 50Hz – φ10mm 60Hz – φ10mm</p> <p>Cable Entry with Anti-Wicking Block 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>Bearing Permanently lubricated, deep-groove, double-shielded C3 ball bearings</p> <p>Shaft 304 stainless steel</p> <p>Shaft Seal (Mechanical Seal) 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>OIL LIFTER 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 & Volume Liquid Paraffin (ISO VG32), 240ml</p> <p>Motor Protection Device A miniature thermal protector is embedded in winding of the motor. Directly cuts the motor circuit if excessive heat builds up in the motor.</p>
50Hz	60Hz								
220V – 3.2A	110V – 5.7A								
230V – 3.1A	220V – 2.9A								
240V – 3.0A									

Optional Accessories

TOK Set (Guide Rail Fitting Type)

- Duckfoot Bend
- Guide Support
- Guide Hook
- Lifting Chain 4m (with Shackles)

SPECIFICATIONS	Model	50PN2.4	
		PN-series 0.4kW, 3-phase	

<p>Type of Pump Submersible semi-vortex pump made of 304 stainless steel and resin suitable for pumping wastewater and storm water</p> <p>Type of Fluid Wastewater and water carrying small solid matters</p> <p>Temperature: 0 to 40°C</p> <p>Discharge Bore & Connection 50mm, Threaded Oval Flange</p> <p>Motor Output 0.4kW</p> <p>Power Supply Three-phase</p> <p>Starting Method Direct on Line</p> <p>Motor Continuous-duty rated, dry-type induction motor</p> <p>Insulation Class: E Degree of Protection: IP68</p> <p>No. of Poles & Speed (Synchronous Speed) 2-pole, 3000/3600min⁻¹ (50/60Hz)</p> <p>Power Supply Voltages & Rated Currents</p> <table border="0"> <tr> <td>50Hz</td> <td>60Hz</td> </tr> <tr> <td>380V – 1.2 A</td> <td>220V – 2.0A</td> </tr> <tr> <td>400V – 1.2 A</td> <td>380V – 1.1A</td> </tr> <tr> <td>415V – 1.25A</td> <td>440V – 1.0A</td> </tr> </table> <p>Power Cable Sheath: PVC Standard Length: 6m 200 to 600V supply: 1 × 4 × 1.25mm², O.D. 11.1mm</p> <p>Dry Weight (excluding cable) Standard Model: 7kg Auto & Auto-Alternation Model: 7.7kg</p>	50Hz	60Hz	380V – 1.2 A	220V – 2.0A	400V – 1.2 A	380V – 1.1A	415V – 1.25A	440V – 1.0A	<p>Impeller Vortex impeller designed for “high-gap structure”, made of glass-fiber reinforced PPO</p> <p>Solids Passage 50Hz – φ10mm 60Hz – φ10mm</p> <p>Cable Entry with Anti-Wicking Block 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>Bearing Permanently lubricated, deep-groove, double-shielded C3 ball bearings</p> <p>Shaft 304 stainless steel</p> <p>Shaft Seal (Mechanical Seal) 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>OIL LIFTER 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 & Volume Liquid Paraffin (ISO VG32), 240ml</p> <p>Motor Protection Device 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 – 1.2 A	220V – 2.0A								
400V – 1.2 A	380V – 1.1A								
415V – 1.25A	440V – 1.0A								

Optional Accessories

TOK Set (Guide Rail Fitting Type)

- Duckfoot Bend
- Guide Support
- Guide Hook
- Lifting Chain 4m (with Shackles)

SPECIFICATIONS	Model	50PN2.75S							
		PN-series							
		0.75kW, 1-phase							
<p>Type of Pump Submersible semi-vortex pump made of 304 stainless steel and resin suitable for pumping wastewater and storm water</p> <p>Type of Fluid Wastewater and water carrying small solid matters</p> <p>Temperature: 0 to 40°C</p> <p>Discharge Bore & Connection 50mm, Threaded Oval Flange</p> <p>Motor Output 0.75kW</p> <p>Power Supply Single-phase</p> <p>Starting Method Capacitor Run</p> <p>Motor Continuous-duty rated, dry-type induction motor</p> <p>Insulation Class: E Degree of Protection: IP68</p> <p>No. of Poles & Speed (Synchronous Speed) 2-pole, 3000/3600min⁻¹ (50/60Hz)</p> <p>Power Supply Voltages & Rated Currents</p> <table border="0"> <tr> <td>50Hz</td> <td>60Hz</td> </tr> <tr> <td>220V – 5.5A</td> <td>110V – 9.0A</td> </tr> <tr> <td>230V – 5.4A</td> <td>220V – 5.0A</td> </tr> <tr> <td>240V – 5.3A</td> <td></td> </tr> </table> <p>Power Cable Sheath: PVC Standard Length: 5m 200 to 240V supply: 1 × 3 × 1.25mm², O.D. 10.1mm 100 to 120V supply: 1 × 3 × 2.0mm², O.D. 10.9mm</p> <p>Dry Weight (excluding cable) Standard Model: 8.9kg Automatic Model: 9.4kg</p>	50Hz	60Hz	220V – 5.5A	110V – 9.0A	230V – 5.4A	220V – 5.0A	240V – 5.3A		<p>Impeller Vortex impeller designed for “high-gap structure”, made of glass-fiber reinforced PPO</p> <p>Solids Passage 50Hz – φ10mm 60Hz – φ10mm</p> <p>Cable Entry with Anti-Wicking Block 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>Bearing Permanently lubricated, deep-groove, double-shielded C3 ball bearings</p> <p>Shaft 304 stainless steel</p> <p>Shaft Seal (Mechanical Seal) 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>OIL LIFTER 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 & Volume Liquid Paraffin (ISO VG32), 240ml</p> <p>Motor Protection Device 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								
220V – 5.5A	110V – 9.0A								
230V – 5.4A	220V – 5.0A								
240V – 5.3A									
<p>Optional Accessories</p> <p>TOK Set (Guide Rail Fitting Type)</p> <ul style="list-style-type: none"> • Duckfoot Bend • Guide Support • Guide Hook • Lifting Chain 4m (with Shackles) 									
TSURUMI MANUFACTURING CO., LTD.									

SPECIFICATIONS	Model	50PN2.75	
		PN-series 0.75kW, 3-phase	

<p>Type of Pump Submersible semi-vortex pump made of 304 stainless steel and resin suitable for pumping wastewater and storm water</p> <p>Type of Fluid Wastewater and water carrying small solid matters</p> <p>Temperature: 0 to 40°C</p> <p>Discharge Bore & Connection 50mm, Threaded Oval Flange</p> <p>Motor Output 0.75kW</p> <p>Power Supply Three-phase</p> <p>Starting Method Direct on Line</p> <p>Motor Continuous-duty rated, dry-type induction motor</p> <p>Insulation Class: E Degree of Protection: IP68</p> <p>No. of Poles & Speed (Synchronous Speed) 2-pole, 3000/3600min⁻¹ (50/60Hz)</p> <p>Power Supply Voltages & Rated Currents</p> <table border="0"> <tr> <td>50Hz</td> <td>60Hz</td> </tr> <tr> <td>380V – 2.0A</td> <td>220V – 3.2A</td> </tr> <tr> <td>400V – 1.9A</td> <td>380V – 1.8A</td> </tr> <tr> <td>415V – 1.9A</td> <td>440V – 1.6A</td> </tr> </table> <p>Power Cable Sheath: PVC Standard Length: 6m 200 to 600V supply: 1 × 4 × 1.25mm², O.D. 11.1mm</p> <p>Dry Weight (excluding cable) Standard Model: 8.3kg Auto & Auto-Alternation Model: 9kg</p>	50Hz	60Hz	380V – 2.0A	220V – 3.2A	400V – 1.9A	380V – 1.8A	415V – 1.9A	440V – 1.6A	<p>Impeller Vortex impeller designed for “high-gap structure”, made of glass-fiber reinforced PPO</p> <p>Solids Passage 50Hz – φ10mm 60Hz – φ10mm</p> <p>Cable Entry with Anti-Wicking Block 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>Bearing Permanently lubricated, deep-groove, double-shielded C3 ball bearings</p> <p>Shaft 304 stainless steel</p> <p>Shaft Seal (Mechanical Seal) 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>OIL LIFTER 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 & Volume Liquid Paraffin (ISO VG32), 240ml</p> <p>Motor Protection Device 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 – 2.0A	220V – 3.2A								
400V – 1.9A	380V – 1.8A								
415V – 1.9A	440V – 1.6A								

Optional Accessories

TOK Set (Guide Rail Fitting Type)

- Duckfoot Bend
- Guide Support
- Guide Hook
- Lifting Chain 4m (with Shackles)

SPECIFICATIONS	Model	50PN21.5	
		PN-series 1.5kW, 3-phase	

<p>Type of Pump Submersible semi-vortex pump made of 304 stainless steel and resin suitable for pumping wastewater and storm water</p> <p>Type of Fluid Wastewater and water carrying small solid matters</p> <p>Temperature: 0 to 40°C</p> <p>Discharge Bore & Connection 50mm, Threaded Oval Flange</p> <p>Motor Output 1.5kW</p> <p>Power Supply Three-phase</p> <p>Starting Method Direct on Line</p> <p>Motor Continuous-duty rated, dry-type induction motor</p> <p>Insulation Class: E Degree of Protection: IP68</p> <p>No. of Poles & Speed (Synchronous Speed) 2-pole, 3000/3600min⁻¹ (50/60Hz)</p> <p>Power Supply Voltages & Rated Currents</p> <table border="0"> <tr> <td>50Hz</td> <td>60Hz</td> </tr> <tr> <td>380V – 4.1A</td> <td>220V – 6.6A</td> </tr> <tr> <td>400V – 4.0A</td> <td>380V – 3.9A</td> </tr> <tr> <td>415V – 4.0A</td> <td>440V – 3.6A</td> </tr> </table> <p>Power Cable Sheath: PVC Standard Length: 6m 200 to 600V supply: 1 × 4 × 1.25mm², O.D. 11.1mm</p> <p>Dry Weight (excluding cable) Standard Model: 15.9kg Auto & Auto-Alternation Model: 16.8kg</p>	50Hz	60Hz	380V – 4.1A	220V – 6.6A	400V – 4.0A	380V – 3.9A	415V – 4.0A	440V – 3.6A	<p>Impeller Vortex impeller designed for “high-gap structure”, made of glass-fiber reinforced PPO</p> <p>Solids Passage 50Hz – ϕ20mm 60Hz – ϕ20mm</p> <p>Cable Entry with Anti-Wicking Block 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>Bearing Permanently lubricated, deep-groove, double-shielded C3 ball bearings</p> <p>Shaft 304 stainless steel</p> <p>Shaft Seal (Mechanical Seal) 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>OIL LIFTER 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 & Volume Liquid Paraffin (ISO VG32), 500ml</p> <p>Motor Protection Device 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 – 4.1A	220V – 6.6A								
400V – 4.0A	380V – 3.9A								
415V – 4.0A	440V – 3.6A								

Optional Accessories

TOK Set (Guide Rail Fitting Type)

- Duckfoot Bend
- Guide Support
- Guide Hook
- Lifting Chain 5m (with Shackles)

SPECIFICATIONS	Model	80PN22.2							
		PN-series 2.2kW, 3-phase							
<p>Type of Pump Submersible semi-vortex pump made of 304 stainless steel and resin suitable for pumping wastewater and storm water</p> <p>Type of Fluid Wastewater and water carrying small solid matters</p> <p>Temperature: 0 to 40°C</p> <p>Discharge Bore & Connection 80mm, Threaded Oval Flange</p> <p>Motor Output 2.2kW</p> <p>Power Supply Three-phase</p> <p>Starting Method Direct on Line</p> <p>Motor Continuous-duty rated, dry-type induction motor</p> <p>Insulation Class: E Degree of Protection: IP68</p> <p>No. of Poles & Speed (Synchronous Speed) 2-pole, 3000/3600min⁻¹ (50/60Hz)</p> <p>Power Supply Voltages & Rated Currents</p> <table border="0"> <tr> <td>50Hz</td> <td>60Hz</td> </tr> <tr> <td>380V – 5.1A</td> <td>220V – 8.5A</td> </tr> <tr> <td>400V – 5.1A</td> <td>380V – 4.9A</td> </tr> <tr> <td>415V – 5.1A</td> <td>440V – 4.3A</td> </tr> </table> <p>Power Cable Sheath: PVC Standard Length: 6m 380 to 600V supply: 1 × 4 × 1.25mm², O.D. 11.1mm 200 to 240V supply: 1 × 4 × 2.0mm², O.D. 11.8mm</p> <p>Dry Weight (excluding cable) Standard Model: 22kg Auto & Auto-Alternation Model: 23kg</p>	50Hz	60Hz	380V – 5.1A	220V – 8.5A	400V – 5.1A	380V – 4.9A	415V – 5.1A	440V – 4.3A	<p>Impeller Vortex impeller designed for “high-gap structure”, made of glass-fiber reinforced PA+ABS</p> <p>Solids Passage 50Hz – ϕ20mm 60Hz – ϕ20mm</p> <p>Cable Entry with Anti-Wicking Block 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>Bearing Permanently lubricated, deep-groove, double-shielded C3 ball bearings</p> <p>Shaft 304 stainless steel</p> <p>Shaft Seal (Mechanical Seal) 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>OIL LIFTER 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 & Volume Liquid Paraffin (ISO VG32), 680ml</p> <p>Motor Protection Device 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 – 5.1A	220V – 8.5A								
400V – 5.1A	380V – 4.9A								
415V – 5.1A	440V – 4.3A								
<p>Optional Accessories</p> <p>TOK Set (Guide Rail Fitting Type)</p> <ul style="list-style-type: none"> • Duckfoot Bend • Guide Support • Guide Hook • Lifting Chain 5m (with Shackles) 									
TSURUMI MANUFACTURING CO., LTD.									

SPECIFICATIONS	Model	80PN23.7							
		PN-series 3.7kW, 3-phase							
<p>Type of Pump Submersible semi-vortex pump made of 304 stainless steel and resin suitable for pumping wastewater and storm water</p> <p>Type of Fluid Wastewater and water carrying small solid matters</p> <p>Temperature: 0 to 40°C</p> <p>Discharge Bore & Connection 80mm, Threaded Oval Flange</p> <p>Motor Output 3.7kW</p> <p>Power Supply Three-phase</p> <p>Starting Method Direct on Line</p> <p>Motor Continuous-duty rated, dry-type induction motor</p> <p>Insulation Class: E Degree of Protection: IP68</p> <p>No. of Poles & Speed (Synchronous Speed) 2-pole, 3000/3600min⁻¹ (50/60Hz)</p> <p>Power Supply Voltages & Rated Currents</p> <table border="0"> <tr> <td>50Hz</td> <td>60Hz</td> </tr> <tr> <td>380V – 7.9A</td> <td>220V – 13.4A</td> </tr> <tr> <td>400V – 7.5A</td> <td>380V – 7.8A</td> </tr> <tr> <td>415V – 7.5A</td> <td>440V – 6.7A</td> </tr> </table> <p>Power Cable Sheath: PVC Standard Length: 6m 380 to 600V supply: 1 × 4 × 2.0mm², O.D. 11.8mm 200 to 240V supply: 1 × 4 × 3.5mm², O.D. 13.9mm</p> <p>Dry Weight (excluding cable) Standard Model: 27kg Auto & Auto-Alternation Model: 28kg</p>	50Hz	60Hz	380V – 7.9A	220V – 13.4A	400V – 7.5A	380V – 7.8A	415V – 7.5A	440V – 6.7A	<p>Impeller Vortex impeller designed for “high-gap structure”, made of glass-fiber reinforced PA+ABS</p> <p>Solids Passage 50Hz – ϕ20mm 60Hz – ϕ20mm</p> <p>Cable Entry with Anti-Wicking Block 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>Bearing Permanently lubricated, deep-groove, double-shielded C3 ball bearings</p> <p>Shaft 304 stainless steel</p> <p>Shaft Seal (Mechanical Seal) 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>OIL LIFTER 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 & Volume Liquid Paraffin (ISO VG32), 680ml</p> <p>Motor Protection Device 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 – 7.9A	220V – 13.4A								
400V – 7.5A	380V – 7.8A								
415V – 7.5A	440V – 6.7A								
<p>Optional Accessories</p> <p>TOK Set (Guide Rail Fitting Type)</p> <ul style="list-style-type: none"> • Duckfoot Bend • Guide Support • Guide Hook • Lifting Chain 5m (with Shackles) 									
TSURUMI MANUFACTURING CO., LTD.									

DIMENSIONS

Model **40PN(A/W)2.25S to 50PN(A/W)2.75**

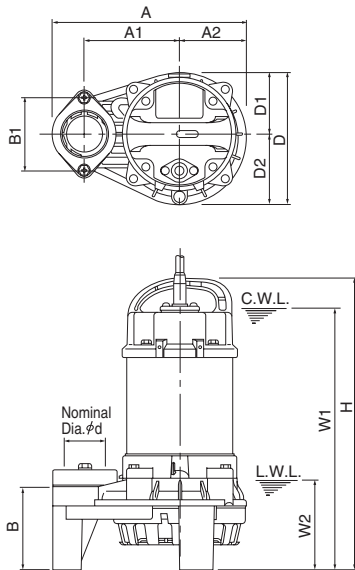
PN-series

40·50mm

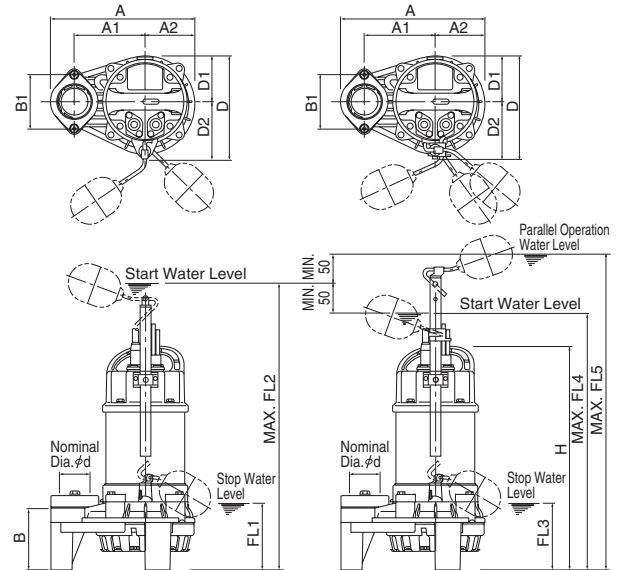
Free Standing Type

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

Standard Model



Auto & Auto-Alternation Model



Standard Model

Unit: mm

Model	d	A	A1	A2	B	B1	D	D1	D2	W1	W2	H
40PN2.25S	40	236	115	81	102	90	162	76	86	325	110	360
40PN2.25	40	236	115	81	102	90	162	76	86	310	110	349
50PN2.4S	50	236	115	81	102	90	162	76	86	325	110	360
50PN2.4	50	236	115	81	102	90	162	76	86	325	110	360
50PN2.75S	50	236	115	81	102	90	162	76	86	345	110	380
50PN2.75	50	236	115	81	102	90	162	76	86	335	110	374

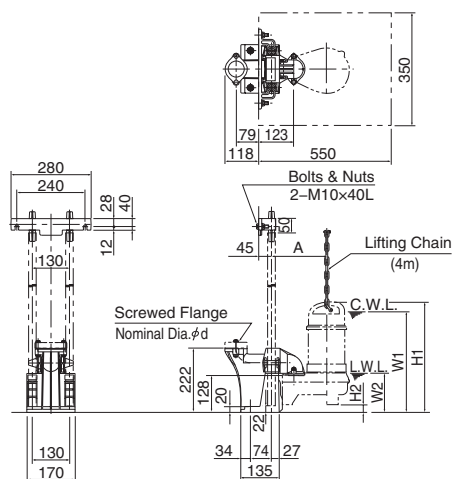
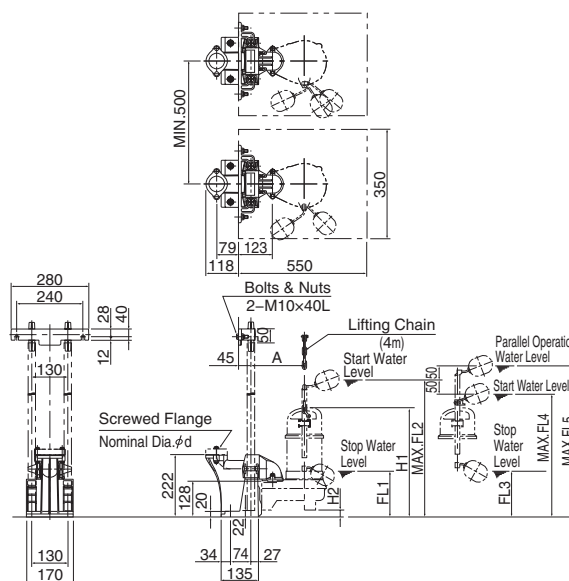
Auto & Auto-Alternation Model

Unit: mm

Model	d	A	A1	A2	B	B1	D	D1	D2	H	FL1	FL2	FL3	FL4	FL5
40PNA2.25S	40	236	115	81	102	90	173	76	97	374	115	607	—	—	—
40PNA2.25	40	236	115	81	102	90	173	76	97	363	115	596	—	—	—
50PNA2.4S	50	236	115	81	102	90	173	76	97	374	115	607	—	—	—
50PNA2.4	50	236	115	81	102	90	173	76	97	374	115	607	—	—	—
50PNA2.75S	50	236	115	81	102	90	173	76	97	394	115	627	—	—	—
50PNA2.75	50	236	115	81	102	90	173	76	97	388	115	621	—	—	—
40PNW2.25S	40	236	115	81	102	90	173	76	97	374	—	—	115	557	657
40PNW2.25	40	236	115	81	102	90	173	76	97	363	—	—	115	546	646
50PNW2.4S	50	236	115	81	102	90	173	76	97	374	—	—	115	557	657
50PNW2.4	50	236	115	81	102	90	173	76	97	374	—	—	115	557	657
50PNW2.75	50	236	115	81	102	90	173	76	97	388	—	—	115	571	671

DIMENSIONS
Model 40PN(A/W)2.25S to 50PN(A/W)2.75
PN-series
40·50mm
Guide Rail Fitting Type: TOK Set

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

Standard Model

Auto & Auto-Alternation Model

Standard Model

Unit: mm

Model	d	A	W1	W2	H1	H2
40PN2.25S	40	193	351	136	386	26
40PN2.25	40	193	336	136	375	26
50PN2.4S	50	193	351	136	386	26
50PN2.4	50	193	351	136	386	26
50PN2.75S	50	193	371	136	406	26
50PN2.75	50	193	361	136	400	26

Auto & Auto-Alternation Model

Unit: mm

Model	d	A	H1	H2	FL1	FL2	FL3	FL4	FL5
40PNA2.25S	40	193	400	26	141	633	—	—	—
40PNA2.25	40	193	389	26	141	622	—	—	—
50PNA2.4S	50	193	400	26	141	633	—	—	—
50PNA2.4	50	193	400	26	141	633	—	—	—
50PNA2.75S	50	193	420	26	141	653	—	—	—
50PNA2.75	50	193	414	26	141	647	—	—	—
40PNW2.25S	40	193	400	26	—	—	141	583	683
40PNW2.25	40	193	389	26	—	—	141	572	672
50PNW2.4S	50	193	400	26	—	—	141	583	683
50PNW2.4	50	193	400	26	—	—	141	583	683
50PNW2.75	50	193	414	26	—	—	141	597	697

DIMENSIONS

Model **50PN(A/W)21.5 to 80PN(A/W)23.7**

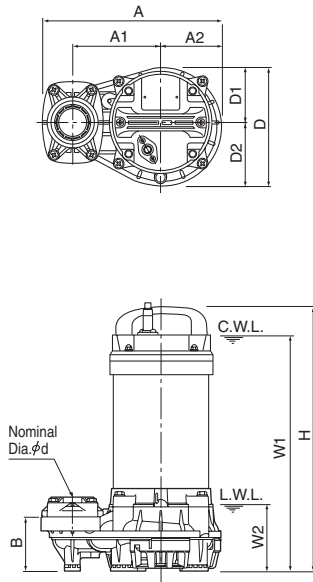
PN-series

50·80mm

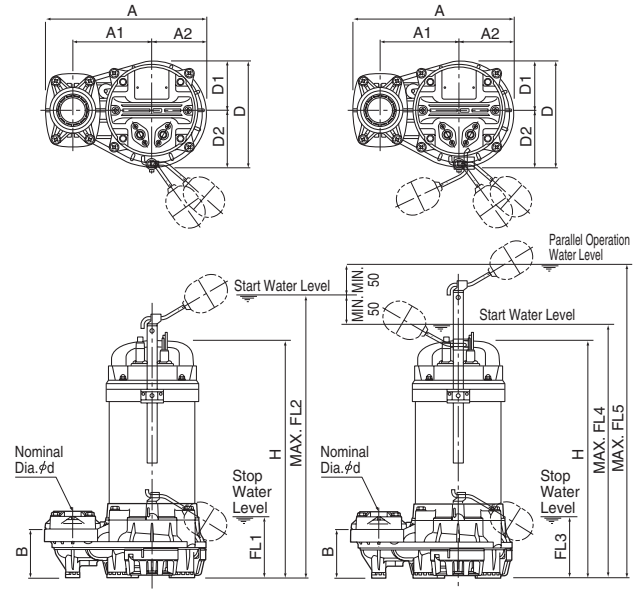
Free Standing Type

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

Standard Model



Auto & Auto-Alternation Model



Standard Model

Unit: mm

Model	d	A	A1	A2	B	D	D1	D2	W1	W2	H
50PN21.5	50	295	145	99	89	196	92	104	390	110	435
80PN22.2	80	311	155	105	110	212	104	108	500	130	559
80PN23.7	80	311	155	105	110	212	104	108	535	130	594

Auto & Auto-Alternation Model

Unit: mm

Model	d	A	A1	A2	B	D	D1	D2	H	FL1	FL2	FL3	FL4	FL5
50PNA21.5	50	295	145	99	89	206	92	114	435	138	623	—	—	—
80PNA22.2	80	311	155	105	110	221	104	117	559	152	767	—	—	—
80PNA23.7	80	311	155	105	110	221	104	117	594	152	802	—	—	—
50PNW21.5	50	295	145	99	89	206	92	114	435	—	—	138	573	673
80PNW22.2	80	311	155	105	110	221	117	104	559	—	—	152	717	817
80PNW23.7	80	311	155	105	110	221	117	104	594	—	—	152	752	852

DIMENSIONS

Model **50PN(A/W)21.5 to 80PN(A/W)23.7**

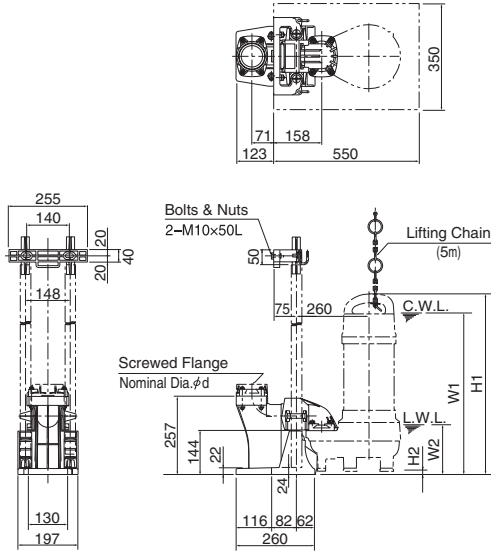
PN-series

50·80mm

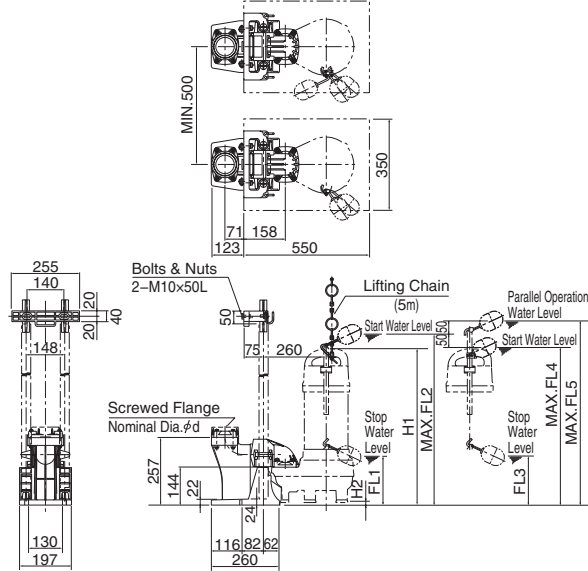
Guide Rail Fitting Type: TOK Set

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

Standard Model



Auto & Auto-Alternation Model



Standard Model

Unit: mm

Model	d	A	W1	W2	H1	H2
50PN21.5	50	238	445	165	490	55
80PN22.2	80	260	530	165	593	34
80PN23.7	80	260	565	165	628	34

Auto & Auto-Alternation Model

Unit: mm

Model	d	A	H1	H2	FL1	FL2	FL3	FL4	FL5
50PNA21.5	50	238	490	55	193	678	—	—	—
80PNA22.2	80	260	593	34	186	801	—	—	—
80PNA23.7	80	260	628	34	186	836	—	—	—
50PNW21.5	50	238	490	55	—	—	193	628	728
80PNW22.2	80	260	593	34	—	—	186	751	851
80PNW23.7	80	260	628	34	—	—	186	786	886