

Submersible Jet Aerator:

BER

Air-inlet Bore:

25 - 50mm

Motor Output / Pole:

0.75 - 5.5kW / 2-4-pole



The BER-series is a submersible self-aspirating jet aerator suitable for pre-aeration and prevention of bacterial spoilage combined a submersible pump with a venturi-jet based diffuser. The liquid flow generated by the submerged pump causes negative pressure to form around the nozzle, whereby drawing in air from above the water's surface. With this jet injector mechanism, the aspirated air mixes with water and is ejected through the diffuser, simultaneously agitating and aerating the ponded water. The mixed air-water is ejected powerfully in one direction, which effectively agitates the water across a wide area.

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 tank. The guide rail type will be formed by a combination of the pump and the TOS-Ejector set.

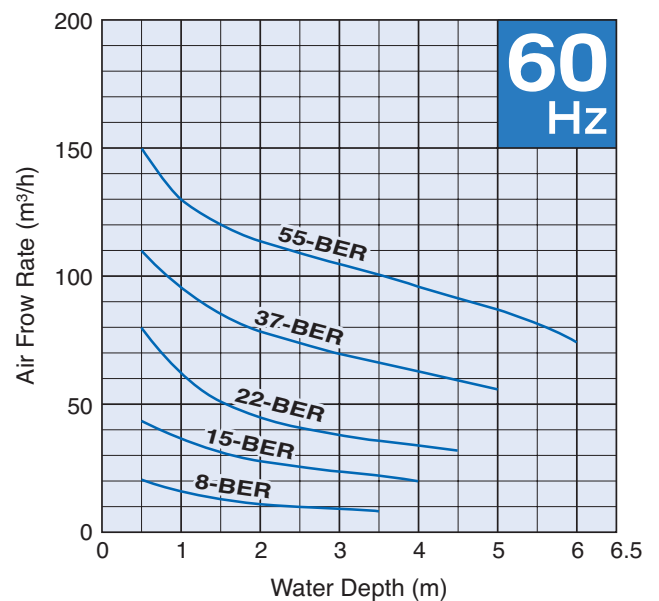
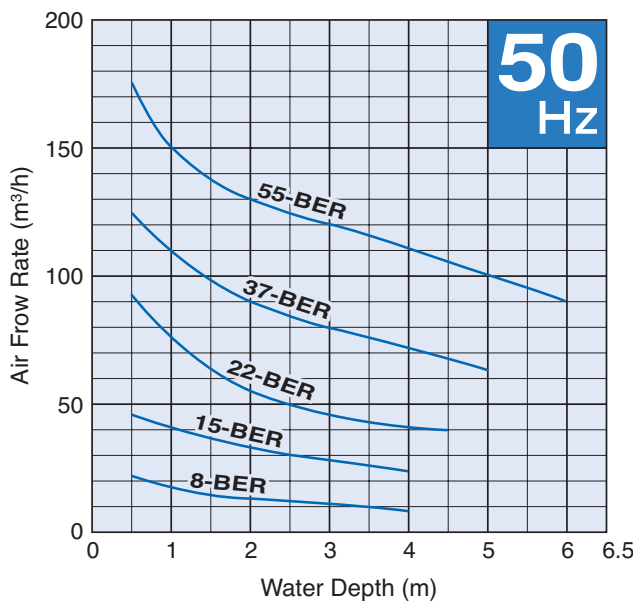
Selection Table

Model	Air-inlet Bore mm	Motor Output kW	Phase	Pole	Max. Water Depth 50/60Hz m	Optional Accessories for Types of Installation	
						Free Standing	Guide Rail Fitting
						Ejector Set	TOS-Ejector Set
8-BER	25	0.75	3-phase	2	4/3.5	EJECTOR 8	TOS-EJECTOR 8
15-BER	32	1.5	3-phase	2	4	EJECTOR 15	TOS-EJECTOR 15
22-BER	50	2.2	3-phase	4	4.5	EJECTOR 22/37	TOS-EJECTOR 22/37
37-BER	50	3.7	3-phase	4	5	EJECTOR 22/37	TOS-EJECTOR 22/37
55-BER	50	5.5	3-phase	4	6	EJECTOR 55	TOS-EJECTOR 55

- Every model is supplied without the ejector set. Select the accessory for the desired type of installation.
- Max. water depth is the load limit of the motor. The load placed on the motor increase the deeper the submersible aerator is installed, therefore if the aerator is operated below the max. water depth, the overload will trip the motor protection device and stop the aerator from running continuously.

Air Flow Rate – Water Depth Curves

(The air flow rates are expressed at the standard condition, i.e. temperature of 20°C, 1 atm and may vary by up to approximately 5%)



SPECIFICATIONS	Model	8-BER	
		BER-series	
		0.75kW, 3-phase	

<p>Type of Equipment Submersible self-aspirating jet aerator suitable for pre-aeration and mixing in sewage and wastewater treatment</p> <p>Type of Fluid Sewage and wastewater</p> <p>Temperature: 0 to 40°C</p> <p>Air-inlet Bore 25mm</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: F or 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 – 1.9A</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>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) Free Standing Type: 28kg Guide Rail Fitting Type: 23kg</p>	50Hz	60Hz	380V – 1.9A	220V – 3.5A	400V – 1.9A	380V – 1.9A	415V – 2.0A	440V – 1.7A	<p>Impeller Semi-open single-channel impeller for solid-handling design, dynamically balanced</p> <p>Solids Passage 50Hz – ϕ20mm 60Hz – ϕ20mm</p> <p>Diffuser Structure Steel + Nylon Coated</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 420 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 Seal (Lip Seal) Used as a “Dust Seal”; it protects the mechanical seal from abrasive particles.</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 Turbine Oil (ISO VG32), 440ml</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 – 1.9A	220V – 3.5A								
400V – 1.9A	380V – 1.9A								
415V – 2.0A	440V – 1.7A								

Optional Accessories

Ejector Set (Free Standing Type)

- Silencer & Valve Set
- Lifting Chain 5m (with Shackles)
- Suction Casing
- Threaded Oval Flange
- Diffuser
- Diffuser Base

TOS-Ejector Set (Guide Rail Fitting Type)

- Silencer & Valve Set
- Lifting Chain 5m (with Shackles)
- Guide Support
- Guide Hook
- Suction Casing
- Threaded Oval Flange
- Diffuser

External Leakage Sensor (Electrode)

SPECIFICATIONS	Model	15-BER	
		BER-series	
		1.5kW, 3-phase	

<p>Type of Equipment Submersible self-aspirating jet aerator suitable for pre-aeration and mixing in sewage and wastewater treatment</p> <p>Type of Fluid Sewage and wastewater</p> <p>Temperature: 0 to 40°C</p> <p>Air-inlet Bore 32mm</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: F 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 – 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>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) Free Standing Type: 43kg Guide Rail Fitting Type: 34kg</p>	50Hz	60Hz	380V – 3.5A	220V – 6.0A	400V – 3.5A	380V – 3.4A	415V – 3.5A	440V – 3.2A	<p>Impeller Semi-open single-channel impeller for solid-handling design, dynamically balanced</p> <p>Solids Passage 50Hz – ϕ20mm 60Hz – ϕ20mm</p> <p>Diffuser Structure Steel + Nylon Coated</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 420 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 Seal (Lip Seal) Used as a “Dust Seal”; it protects the mechanical seal from abrasive particles.</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 Turbine Oil (ISO VG32), 900ml</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 – 3.5A	220V – 6.0A								
400V – 3.5A	380V – 3.4A								
415V – 3.5A	440V – 3.2A								

Optional Accessories

- Ejector Set** (Free Standing Type)
- Silencer & Valve Set
 - Lifting Chain 5m (with Shackles)
 - Suction Casing
 - Threaded Oval Flange
 - Diffuser
 - Diffuser Base

- TOS-Ejector Set** (Guide Rail Fitting Type)
- Silencer & Valve Set
 - Lifting Chain 5m (with Shackles)
 - Guide Support
 - Guide Hook
 - Suction Casing
 - Threaded Oval Flange
 - Diffuser

External Leakage Sensor (Electrode)

SPECIFICATIONS	Model	22-BER									
		BER-series 2.2kW, 3-phase									
<p>Type of Equipment Submersible self-aspirating jet aerator suitable for pre-aeration and mixing in sewage and wastewater treatment</p> <p>Type of Fluid Sewage and wastewater</p> <p>Temperature: 0 to 40°C</p> <p>Air-inlet Bore 50mm</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: F Degree of Protection: IP68</p> <p>No. of Poles & Speed (Synchronous Speed) 4-pole, 1500/1800min⁻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 – 8.8A</td> </tr> <tr> <td>400V – 5.0A</td> <td>380V – 4.9A</td> </tr> <tr> <td>415V – 5.0A</td> <td>440V – 4.4A</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) Free Standing Type: 73kg Guide Rail Fitting Type: 73kg</p>	50Hz	60Hz	380V – 5.1A	220V – 8.8A	400V – 5.0A	380V – 4.9A	415V – 5.0A	440V – 4.4A		<p>Impeller Semi-open single-channel impeller for solid-handling design, dynamically balanced</p> <p>Solids Passage 50Hz – ϕ35mm 60Hz – ϕ35mm</p> <p>Diffuser Structure Steel + Nylon Coated</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 420 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 Seal (Lip Seal) Used as a “Dust Seal”; it protects the mechanical seal from abrasive particles.</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 Turbine Oil (ISO VG32), 1350ml</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 – 8.8A										
400V – 5.0A	380V – 4.9A										
415V – 5.0A	440V – 4.4A										
<p>Optional Accessories</p> <table border="0"> <tr> <td> <p>Ejector Set (Free Standing Type)</p> <ul style="list-style-type: none"> • Silencer & Valve Set • Lifting Chain 5m (with Shackles) • Suction Casing • Threaded Oval Flange • Diffuser • Diffuser Base </td> <td> <p>TOS-Ejector Set (Guide Rail Fitting Type)</p> <ul style="list-style-type: none"> • Silencer & Valve Set • Lifting Chain 5m (with Shackles) • Guide Support • Guide Hook • Suction Casing • Threaded Oval Flange • Diffuser </td> </tr> <tr> <td colspan="2" style="text-align: right;"> <p>External Leakage Sensor (Electrode)</p> </td> </tr> </table>				<p>Ejector Set (Free Standing Type)</p> <ul style="list-style-type: none"> • Silencer & Valve Set • Lifting Chain 5m (with Shackles) • Suction Casing • Threaded Oval Flange • Diffuser • Diffuser Base 	<p>TOS-Ejector Set (Guide Rail Fitting Type)</p> <ul style="list-style-type: none"> • Silencer & Valve Set • Lifting Chain 5m (with Shackles) • Guide Support • Guide Hook • Suction Casing • Threaded Oval Flange • Diffuser 	<p>External Leakage Sensor (Electrode)</p>					
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<p>External Leakage Sensor (Electrode)</p>											
<p>TSURUMI MANUFACTURING CO., LTD.</p>											

SPECIFICATIONS	Model	37-BER	BER-series
			3.7kW, 3-phase

<p>Type of Equipment Submersible self-aspirating jet aerator suitable for pre-aeration and mixing in sewage and wastewater treatment</p> <p>Type of Fluid Sewage and wastewater</p> <p>Temperature: 0 to 40°C</p> <p>Air-inlet Bore 50mm</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: F Degree of Protection: IP68</p> <p>No. of Poles & Speed (Synchronous Speed) 4-pole, 1500/1800min⁻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 – 8.2A</td> <td>220V – 14.2A</td> </tr> <tr> <td>400V – 7.9A</td> <td>380V – 8.0A</td> </tr> <tr> <td>415V – 7.7A</td> <td>440V – 7.1A</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) Free Standing Type: 87kg Guide Rail Fitting Type: 87kg</p>	50Hz	60Hz	380V – 8.2A	220V – 14.2A	400V – 7.9A	380V – 8.0A	415V – 7.7A	440V – 7.1A	<p>Impeller Semi-open single-channel impeller for solid-handling design, dynamically balanced</p> <p>Solids Passage 50Hz – ϕ35mm 60Hz – ϕ35mm</p> <p>Diffuser Structure Steel + Nylon Coated</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 420 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 Seal (Lip Seal) Used as a “Dust Seal”; it protects the mechanical seal from abrasive particles.</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 Turbine Oil (ISO VG32), 1350ml</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 – 8.2A	220V – 14.2A								
400V – 7.9A	380V – 8.0A								
415V – 7.7A	440V – 7.1A								

Optional Accessories

Ejector Set (Free Standing Type)

- Silencer & Valve Set
- Lifting Chain 5m (with Shackles)
- Suction Casing
- Threaded Oval Flange
- Diffuser
- Diffuser Base

TOS-Ejector Set (Guide Rail Fitting Type)

- Silencer & Valve Set
- Lifting Chain 5m (with Shackles)
- Guide Support
- Guide Hook
- Suction Casing
- Threaded Oval Flange
- Diffuser

External Leakage Sensor (Electrode)

SPECIFICATIONS	Model	55-BER	
		BER-series	
		5.5kW, 3-phase	

<p>Type of Equipment Submersible self-aspirating jet aerator suitable for pre-aeration and mixing in sewage and wastewater treatment</p> <p>Type of Fluid Sewage and wastewater</p> <p>Temperature: 0 to 40°C</p> <p>Air-inlet Bore 50mm</p> <p>Motor Output 5.5kW</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: F Degree of Protection: IP68</p> <p>No. of Poles & Speed (Synchronous Speed) 4-pole, 1500/1800min⁻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 – 12.4A</td> <td>220V – 21.4A</td> </tr> <tr> <td>400V – 12.1A</td> <td>380V – 12.1A</td> </tr> <tr> <td>415V – 12.0A</td> <td>440V – 10.7A</td> </tr> </table> <p>Power Cable Sheath: Chloroprene rubber Standard Length: 8m 200 to 600V supply: 1 × 4 × 3.5mm², O.D. 14.1mm</p> <p>Dry Weight (excluding cable) Free Standing Type: 142kg Guide Rail Fitting Type: 126kg</p>	50Hz	60Hz	380V – 12.4A	220V – 21.4A	400V – 12.1A	380V – 12.1A	415V – 12.0A	440V – 10.7A	<p>Impeller Semi-open single-channel impeller for solid-handling design, dynamically balanced</p> <p>Solids Passage 50Hz – ϕ35mm 60Hz – ϕ35mm</p> <p>Diffuser Structure Steel + Nylon Coated</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 420 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 Seal (Lip Seal) Used as a “Dust Seal”; it protects the mechanical seal from abrasive particles.</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 Turbine Oil (ISO VG32), 4200ml</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 – 12.4A	220V – 21.4A								
400V – 12.1A	380V – 12.1A								
415V – 12.0A	440V – 10.7A								

Optional Accessories

- Ejector Set** (Free Standing Type)
- Silencer & Valve Set
 - Lifting Chain 5m (with Shackles)
 - Suction Casing
 - Threaded Oval Flange
 - Diffuser
 - Diffuser Base

- TOS-Ejector Set** (Guide Rail Fitting Type)
- Silencer & Valve Set
 - Lifting Chain 5m (with Shackles)
 - Guide Support
 - Guide Hook
 - Suction Casing
 - Threaded Oval Flange
 - Diffuser

External Leakage Sensor (Electrode)

DIMENSIONS

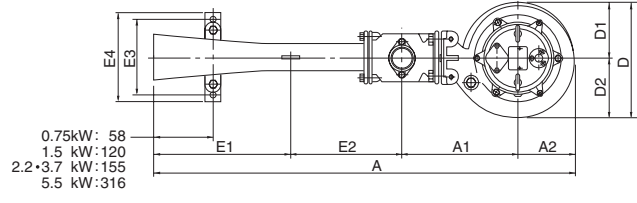
Model

8-BER to 55-BER

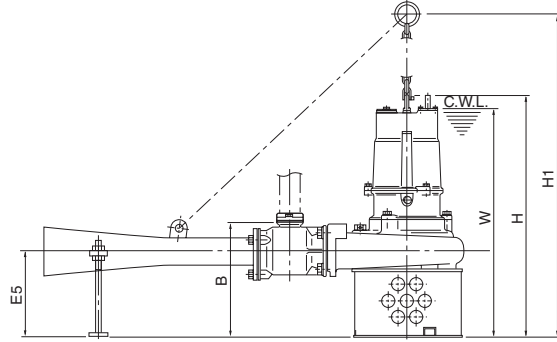
BER-series

25 - 50mm

Free Standing Type



C. W. L. : Continuous Running Water Level



Unit: mm

Model	A	A1	A2	B	D	D1	D2	W	H	H1	E1	E2	E3	E4	E5
8-BER	674	200	97	195	194	97	97	435	464	595	208	169	150	180	150
15-BER	895	244	114	225	222	111	111	490	562	—	270	267	150	180	159
22-BER	1158	317	154	312	316	150	166	665	705	1102	380	307	220	260	232
37-BER	1163	317	159	317	325	150	175	740	779	1147	380	307	220	260	237
55-BER	1415	360	194	341	391	188	203	820	942	1169	460	401	220	260	256

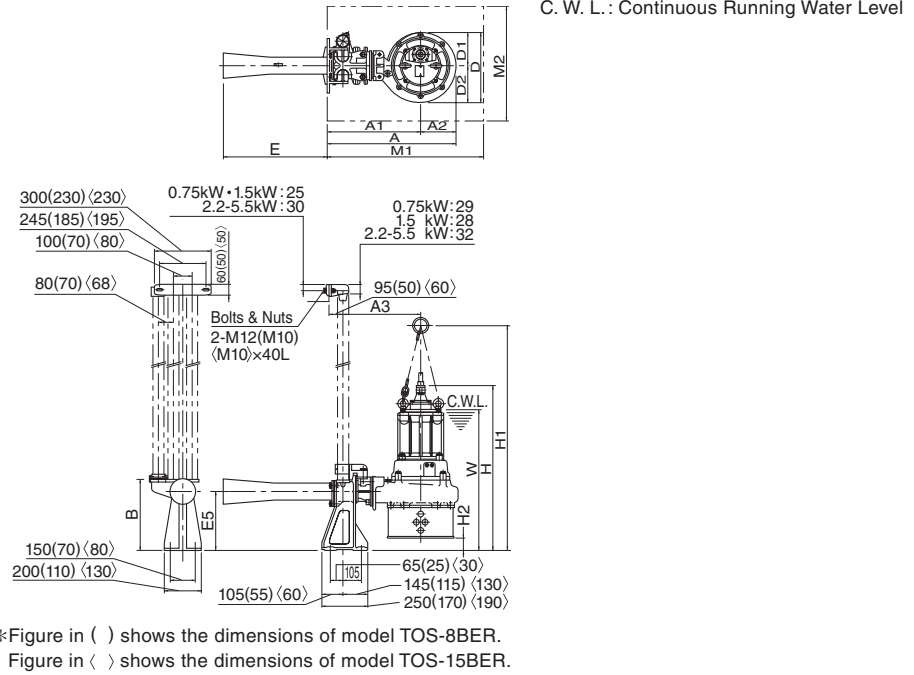
DIMENSIONS

Model TOS-8BER to TOS-55BER

BER-series

25 - 50mm

Guide Rail Fitting Type: TOS Set



Unit: mm

Model	A	A1	A2	A3	B	D	D1	D2	W	H	H1	H2	M1	M2	E	E5
TOS- 8BER	385	288	97	238	238	194	97	97	485	514	645	50	550	350	289	200
TOS-15BER	467	353	114	293	250	222	111	111	530	603	—	41	650	450	443	200
TOS-22BER	616	462	154	367	385	316	150	166	750	793	972	88	700	450	546	320
TOS-37BER	621	462	159	367	385	325	150	175	820	862	1048	83	700	450	546	320
TOS-55BER	711	517	194	422	385	391	188	203	885	1006	1368	65	750	500	711	320

Silencer & Valve Set

Unit: mm

Pipe Bore	A	B	C	G
φ25	147	91	150	Rc 1
φ32	180	116	208	Rc 1-1/4
φ50	230	154	285	Rc 2

Material of Silencer: PVC

