



Submersible Sewage Pumps
Channel Impeller

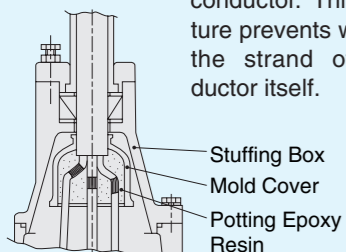
B



Tsurumi B-series, the basic sewage pumps with channel foreign matter-related trouble. Years of know-how are built

Cable Entry

Every cable has an anti-wicking block at the cable entry section on the pump. This mechanism is such that a part of each conductor is stripped back and the part is sealed by molded rubber or epoxy potting which has flowed in between each strand of the conductor. This unique feature prevents wicking along the strand of the conductor itself.



Motor

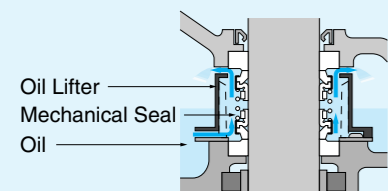
The motor is a dry-type, squirrel-cage induction motor, housed in a watertight casing, and conforms to insulation classes B, E or F. In each of these insulation classes, all standard pumps can be used in ambient temperatures up to 40°C.

Mechanical Seal

The mechanical seal with two seal faces containing silicon carbide (SiC) is equipped with the oil chamber. The advantages of the seal are two-fold, it eliminates spring failure caused by corrosion, abrasion or fouling which prevents the seal faces from closing properly, and prevents loss of cooling to the lower seal faces during run-dry conditions which causes the lower seal faces to fail.

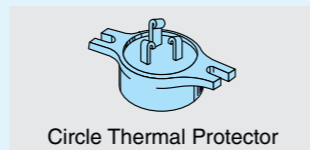
Oil Lifter (Patented)

The Oil Lifter was developed as a lubricating device for the mechanical seal. Utilizing the centrifugal force of the shaft seal, the Oil Lifter 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. This amazingly simple device is not only reliably lubricates and cools down, but also retains the stable shaft seal effect and extends the inspection term.

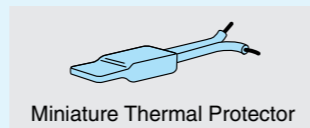


Motor Protector

Each pump up to 7.5kW as standard has a built in auto-cut, self-resetting Circle Thermal Protector (CTP). Integrated in the motor housing, the CTP directly cuts the motor circuit if excessive heat builds up or an overcurrent caused by an electrical or mechanical failure occurs.



A Miniature Thermal Protector (MTP) is embedded in each winding of the motor. These MTPs are connected in series, and their wires are led out of the motor. Should the winding temperature rise to the actuating temperature, the bimetal strip opens to cause the control panel to shut the power supply.



Shaft

The high-tensile stainless steel shaft used on all pumps is designed to have adequate strength for the transmission of the full load. It is supported by C3 type, high-quality, deep-groove ball bearings.

Impeller

The impeller is semi-open or shrouded type with one or two vanes. It has a wide channel extending from inlet to exit, which allows the pump to pass the solid matters from inflow to discharge with minimal blockage.



Leakage Sensor

A stainless steel, electrode type leakage sensor is standardized for large pumps of 22kW or over (excluding some models). It senses water incursion into the oil chamber and brings the pump to a halt with the help of a control panel.



MODEL NUMBER DESIGNATION

| | | | | | | |
|----------------------|---|------------------------------|---|--|---|-------------------------------|
| 100 | B | A | 6 | 3.7 | S | H |
| Discharge bore in mm | | Name of the series | | Operation sub code | | Sub code for pumping head |
| | | | | None : None automatic operation A : Automatic operation W : Auto-alternation operation | | H : High head L : Low head |
| | | | | Phase | | |
| | | | | None : Three-phase S : Single-phase | | |
| | | Number of poles of the motor | | Rated motor output in kW | | |

impeller that minimize clogging, winding, and other into very part of the pumps for highly reliable operation.

GUIDE RAIL FITTING SYSTEM

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

Pump models used in combination with the guide rail fitting system can be identified by the prefix "TOS or TO" and "TS". Refer to standard specifications for availability and model numbers.

TOS and TO

The TOS/TO is the standard guide rail fitting system made of cast-iron and is compatible with cast-iron pumps.



TS

This compact guide rail fitting system is ideal for installing in prefabricated lift stations. Its discharge flange is compatible with major flange standards including ANSI 150lb, BS PN10 and DIN PN10.



DRY PIT MODEL

The advantage of dry pit model is that it will not be damaged by flooding, as it is constructed with a submersible pump.

Tsurumi can provide the dry pit model as option for the whole range of B-series pumps.

The water jacket covers whole part of the motor. It efficiently cools the motor for continuous operations.



AUTO-ALTERNATION MODEL

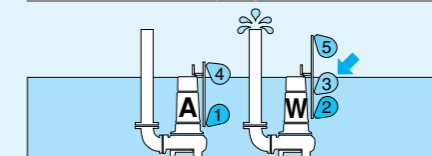
The auto-alternation model is used along with an automatic model. The combinational use of these two pumps enables each pump to operate alternately without control panel.

The auto-alternation model has three floats and can be identified by the suffix "W". Refer to standard specifications for availability and model numbers. It is available in the same output range of the automatic pumps.

How the Auto-alternation Model Works

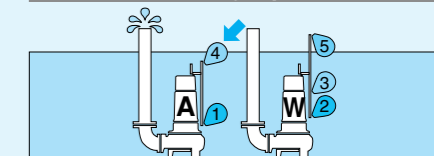
● Operation is enabled by merely connecting the power supply.

Primary Operation

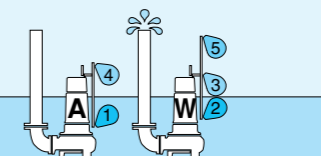


1 Float 3 operates, and pump W starts to discharge water.

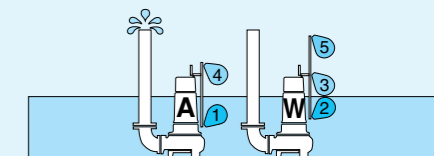
Secondary Operation



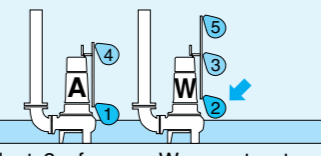
1 Start float 4 of pump A operates to start water discharge.



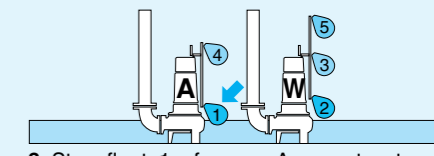
2 Water is discharged (water level falls).



2 Water is discharged (water level falls).



3 Stop float 2 of pump W operates to end water discharge. At this time, alternation start float 3 of pump W rests for one discharge operation.



3 Stop float 1 of pump A operates to end water discharge. At the same time, start float 3 of pump W becomes ready for operation.

- * Primary operation and secondary operation are repeated alternately.
- * Both primary and secondary operations are performed simultaneously when water has risen to an abnormal level.

AUTOMATIC MODEL

The automatic model has an integral control circuit and two float switches that operate at a low voltage. It operates automatically in response to the change in water levels. As it has a Circle Thermal Protector (CTP) integrated into the motor to protect the motor from overload or overheating, it is not required to provide an extra motor protection circuit in the starter panel.

This model can be identified by the suffix "A". Refer to the standard specifications for availability and model numbers.



B-series is the Basic of Submersible Sewage Pumps using for all the society fundamentals. Durable and High Quality Products can be used for various kinds of field.



B-series pumps are working in many sewage treatment plants throughout Japan because of their excellent reputations. As durable motor is tough enough against frequent ON/OFF, automatic unattended operation by central control is available.



As it is silent during operation owing to its underwater operation, B-series pumps are often used at the basement of buildings in the city area.

Even if the condition is very severe, sewage pumps are required to have high and steady performance. Tsurumi B-series pumps can give a solution for this problem.



While in overseas, Tsurumi has a lot of sales records with B-series pumps, too. Several inventions adopted by the idea seeking better handling produces ease of maintenance and repair for users comparing to other manufacturers. Because of this, Tsurumi pumps have good reputation as the most intimate pump in the world.



In the shipyard, B-series pumps, which are operated by fully-automatic control, work for level control and dry up. For sea water, sacrificial anodes are applied.



Enough absorption can not be expected in the city center where the ground is covered by concrete. Occasional flood occurs often when a local heavy rain comes. In such case, large capacity B-series pumps play an active role.



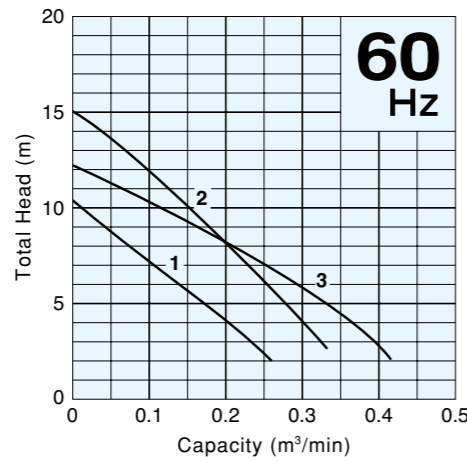
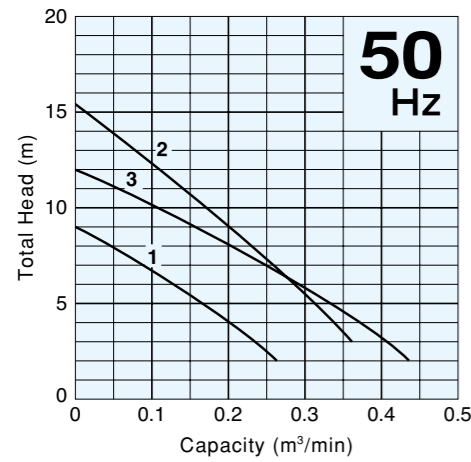
B-series pumps being used for a temporary installation during rainy season. It is used to pump up water of branch river to the main stream when the water level of main stream becomes higher than that of the branch river.



Because of its robust construction, B-series pumps are sometimes used for dewatering in construction site. Compact shape allows high portability comparing against the horizontal pump which requires a firm installation foundation work. In such case, some pump parts are changed its material into harder materials.

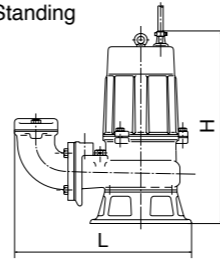
Discharge Bore
50mm

Performance Curves

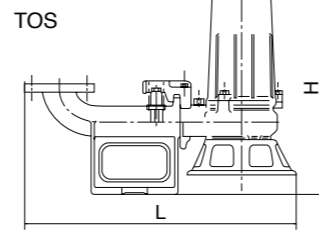


Dimensions

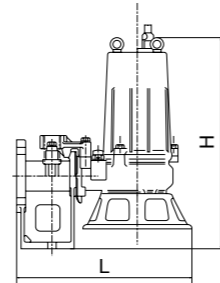
Free Standing



Guide Rail Fitting



TS



Standard Specifications 50mm

| Curve No. | Discharge Bore mm | Standard Model | | | Automatic Model | | | Auto-Alternation Model | | | Motor Output kW | Phase | Speed (S.S.) 50Hz/60Hz min ⁻¹ | Starting Method | Solids Passage 50Hz/60Hz mm | Cable Length m | Cable Code | Dimensions L×H mm | | | | | | Dry Weight * ³ kg | | | |
|-----------|-------------------|----------------|--------------------|------------|-----------------|--------------------|-------------|------------------------|--------------------|-------------|-----------------|--------|--|-----------------|-----------------------------|----------------|---------------------|-------------------|---------|---------|------------------------------------|---------|---------|------------------------------|--------------------|------------------------------------|--------------------|
| | | Free Standing | Guide Rail Fitting | | Free Standing | Guide Rail Fitting | | Free Standing | Guide Rail Fitting | | | | | | | | | Standard Model | | | Automatic & Auto-Alternation Model | | | Standard Model | | Automatic & Auto-Alternation Model | |
| | | | TOS | TS | | TOS | TS | | TOS | TS | | | | | | | | Free Standing | TOS | TS | Free Standing | TOS | TS | Free Standing | Guide Rail Fitting | Free Standing | Guide Rail Fitting |
| 1 | 50 | 50B2.4S | TOS50B2.4S | TS50B2.4S | — | — | — | — | — | — | 0.4 | Single | 3000/3600 | Capacitor | 35×22/35×18 | 5 | a | 340×453 | 556×511 | 333×511 | — | — | — | 25 | 24 | — | — |
| 1 | 50 | 50B2.4 | TOS50B2.4 | TS50B2.4 | — | — | — | — | — | — | 0.4 | Three | 3000/3600 | D.O.L. | 35×22/35×18 | 6 | A | 340×420 | 556×477 | 333×477 | — | — | — | 23 | 22 | — | — |
| 2 | 50 | 50B2.75S | TOS50B2.75S | TS50B2.75S | 50BA2.75S | TOS50BA2.75S | TS50BA2.75S | — | — | — | 0.75 | Single | 3000/3600 | Capacitor | 21×25 | 5 | a(b ^{*1}) | 405×523 | 621×566 | 398×566 | 405×580 | 621×623 | 398×623 | 32 | 30 | 34 | 32 |
| 2 | 50 | 50B2.75H | TOS50B2.75H | TS50B2.75H | 50BA2.75H | TOS50BA2.75H | TS50BA2.75H | 50BW2.75H | TOS50BW2.75H | TS50BW2.75H | 0.75 | Three | 3000/3600 | D.O.L. | 21×25 | 6 | A | 405×415 | 621×458 | 398×458 | 433×496 | 623×539 | 400×539 | 24 | 23 | 25 | 24 |
| 3 | 50 | 50B2.75 | TOS50B2.75 | TS50B2.75 | 50BA2.75 | TOS50BA2.75 | TS50BA2.75 | 50BW2.75 | TOS50BW2.75 | TS50BW2.75 | 0.75 | Three | 3000/3600 | D.O.L. | 45×20/51×23 | 6 | A | 405×439 | 621×479 | 398×479 | 433×520 | 623×560 | 400×560 | 25 | 24 | 26 | 25 |

Standard Specifications 80 · 100mm

| Curve No. | Discharge Bore mm | Standard Model | | | Automatic Model | | | Auto-Alternation Model | | | Motor Output kW | Phase | Speed (S.S.) 50Hz/60Hz min ⁻¹ | Starting Method | Solids Passage 50Hz/60Hz mm | Cable Length m | Cable Code | Dimensions L×H mm | | | | | | Dry Weight * ³ kg | | | |
|-----------|-------------------|----------------|--------------------|-------------|-----------------|--------------------|-------------|------------------------|--------------------|-------------|-----------------|-------|--|-----------------|-----------------------------|----------------|---------------------|-------------------|---------|---------|------------------------------------|---------|---------|------------------------------|--------------------|------------------------------------|--------------------|
| | | Free Standing | Guide Rail Fitting | | Free Standing | Guide Rail Fitting | | Free Standing | Guide Rail Fitting | | | | | | | | | Standard Model | | | Automatic & Auto-Alternation Model | | | Standard Model | | Automatic & Auto-Alternation Model | |
| | | | TOS | TS | | TOS | TS | | TOS | TS | | | | | | | | Free Standing | TOS | TS | Free Standing | TOS | TS | Free Standing | Guide Rail Fitting | Free Standing | Guide Rail Fitting |
| 1 | 80 | 80B21.5 | TOS80B21.5 | TS80B21.5 | 80BA21.5 | TOS80BA21.5 | TS80BA21.5 | 80BW21.5 | TOS80BW21.5 | TS80BW21.5 | 1.5 | Three | 3000/3600 | D.O.L. | 49×41/49×35 | 6 | A | 446×536 | 668×586 | 515×586 | 485×630 | 707×680 | 554×680 | 36 | 34 | 40 | 38 |
| 2 | 100 | 100B42.2 | TOS100B42.2 | TS100B42.2 | 100BA42.2 | TOS100BA42.2 | TS100BA42.2 | 100BW42.2 | TOS100BW42.2 | TS100BW42.2 | 2.2 | Three | 1500/1800 | D.O.L. | 47×53/47×46 | 6 | A(B ^{*2}) | 596×642 | 754×656 | 599×631 | 602×733 | 760×748 | 605×748 | 68 | 64 | 78 | 74 |
| 3 | 100 | 100B43.7 | TOS100B43.7 | TS100B43.7 | 100BA43.7 | TOS100BA43.7 | TS100BA43.7 | 100BW43.7 | TOS100BW43.7 | TS100BW43.7 | 3.7 | Three | 1500/1800 | D.O.L. | 81×53/81×47 | 6 | B(C ^{*2}) | 602×716 | 760×725 | 605×700 | 602×863 | 760×873 | 605×874 | 84 | 80 | 94 | 90 |
| 4 | 100 | 100B43.7H | TOS100B43.7H | TS100B43.7H | — | — | — | — | — | — | 3.7 | Three | 1500/1800 | D.O.L. | 35×62/35×55 | 6 | B(C ^{*2}) | 603×692 | 761×706 | 606×681 | — | — | — | 82 | 78 | — | — |
| 5 | 100 | 100B45.5 | TOS100B45.5 | TS100B45.5 | — | — | — | — | — | — | 5.5 | Three | 1500/1800 | D.O.L. | 40×51/40×43 | 8 | D | 687×908 | 905×906 | 709×906 | — | — | — | 147 | 140 | — | — |
| 6 | 100 | 100B47.5 | TOS100B47.5 | TS100B47.5 | — | — | — | — | — | — | 7.5 | Three | 1500/1800 | D.O.L. | 40×61/40×54 | 8 | E | 687×929 | 905×927 | 709×927 | — | — | — | 169 | 162 | — | — |

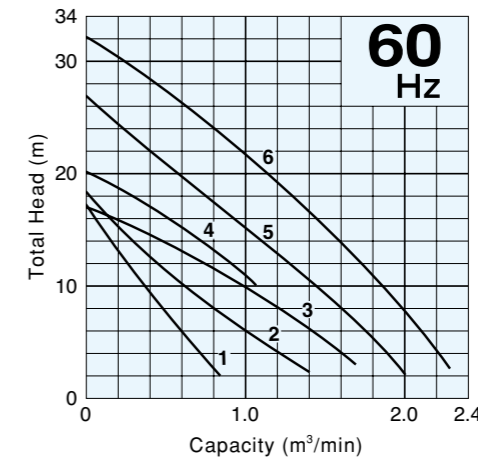
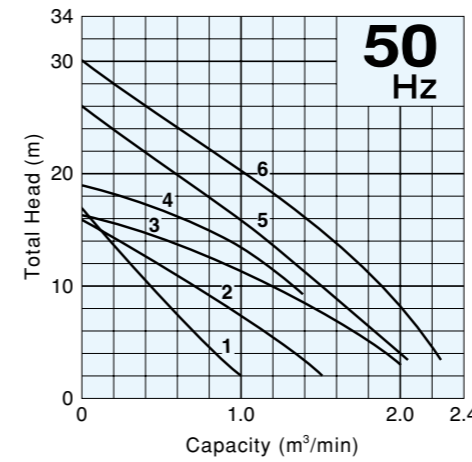
*¹ 100~120V *² 200~240V

*³ All weights excluding cable

Weights of guide rail fitting model excluding duckfoot bend

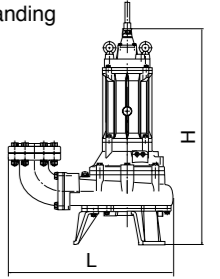
Discharge Bore
80 · 100mm

Performance Curves

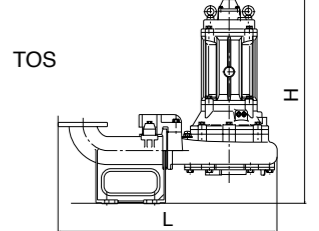


Dimensions

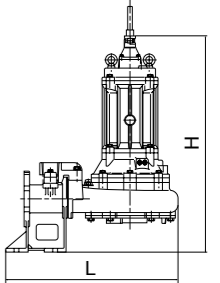
Free Standing



Guide Rail Fitting



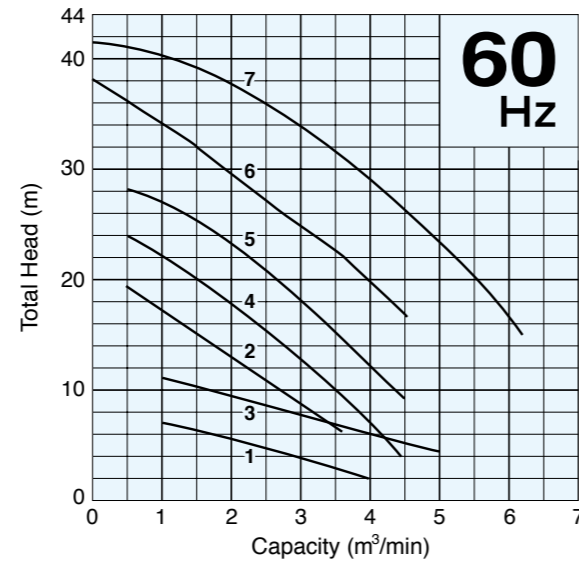
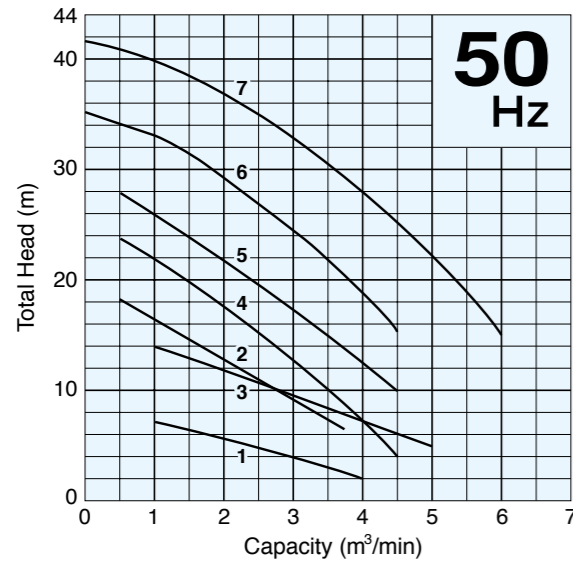
TS



Discharge Bore

150mm

Performance Curves



Standard Specifications

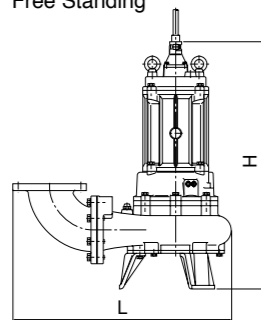
| Curve No. | Discharge Bore mm | Model | | Motor Output kW | Phase | Speed (S.S.) 50Hz/60Hz min ⁻¹ | Starting Method | Solids Passage 50Hz/60Hz mm* ¹ | Cable Length m | Cable Code | Dimensions L×H mm | | Dry Weight * ² kg | |
|-----------|-------------------|---------------|--------------------|-----------------|-------|--|-----------------|---|----------------|------------|-------------------|--------------------|------------------------------|--------------------|
| | | Free Standing | Guide Rail Fitting | | | | | | | | Free Standing | Guide Rail Fitting | Free Standing | Guide Rail Fitting |
| 1 | 150 | 150B63.7 | TOS150B63.7 | 3.7 | Three | 1000/1200 | D.O.L. | 70/55 | 6 | D | 838×903 | 1023×926 | 188 | 158 |
| 2 | 150 | 150B47.5H | TOS150B47.5H | 7.5 | Three | 1500/1800 | D.O.L. | 75/70 | 8 | E | 834×952 | 1028×976 | 210 | 180 |
| 3 | 150 | 150B47.5L | TOS150B47.5L | 7.5 | Three | 1500/1800 | D.O.L. | 60/50 | 8 | E | 871×1085 | 1065×1030 | 200 | 175 |
| 4 | 150 | 150B411 | TOS150B411 | 11 | Three | 1500/1800 | Star-Delta | 75 | 8 | F | 895×1098 | 1089×1052 | 250 | 220 |
| 5 | 150 | 150B415 | TOS150B415 | 15 | Three | 1500/1800 | Star-Delta | 75 | 8 | G | 895×1168 | 1089×1122 | 270 | 240 |
| 6 | 150 | 150B422 | TOS150B422 | 22 | Three | 1500/1800 | Star-Delta | 75 | 10 | P | 898×1222 | 1092×1181 | 327 | 298 |
| 7 | 150 | 150B437 | TO150B437 | 37 | Three | 1500/1800 | Star-Delta | 40×72/ 40×50 | 10 | Q | 1085×1548 | 1306×1380 | 640 | 540 |

*¹ The solids passage from No.1 to No.6 is described by the sphere diameter that can pass through the impeller.

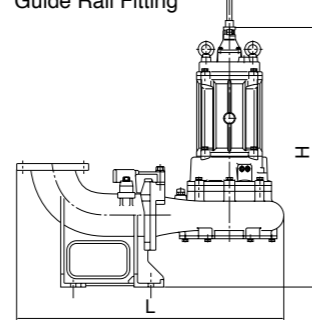
*² All weights excluding cable
Weights of guide rail fitting model excluding duckfoot bend

Dimensions

Free Standing



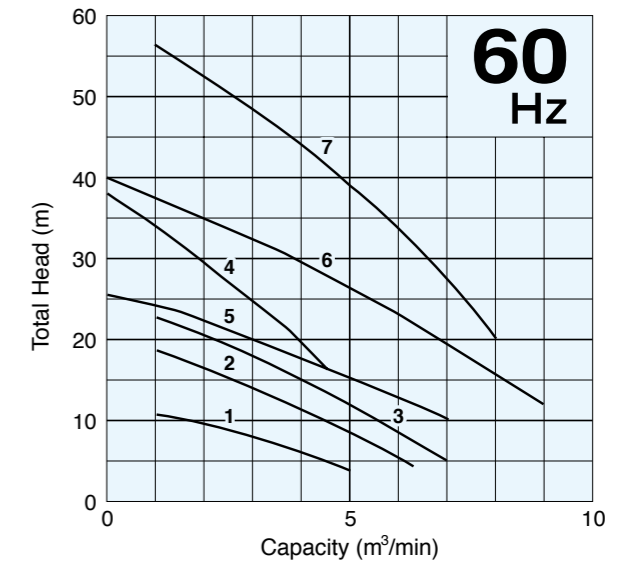
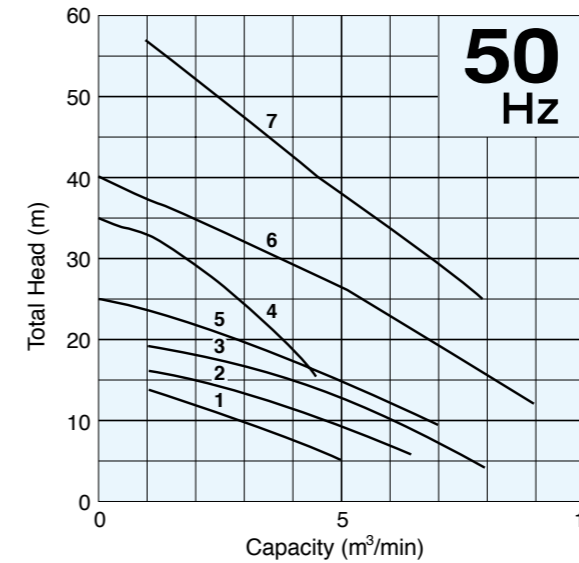
Guide Rail Fitting



Discharge Bore

200mm

Performance Curves



Standard Specifications

| Curve No. | Discharge Bore mm | Model | | Motor Output kW | Phase | Speed (S.S.) 50Hz/60Hz min ⁻¹ | Starting Method | Solids Passage 50Hz/60Hz mm* ¹ | Cable Length m | Cable Code | Dimensions L×H mm | | Dry Weight * ³ kg | |
|-----------|-------------------|---------------|--------------------|-----------------|-------|--|-----------------|---|----------------|---------------------|-------------------|--------------------|------------------------------|--------------------|
| | | Free Standing | Guide Rail Fitting | | | | | | | | Free Standing | Guide Rail Fitting | Free Standing | Guide Rail Fitting |
| 1 | 200 | 200B47.5 | TO200B47.5 | 7.5 | Three | 1500/1800 | D.O.L. | 80×60/ 100×50 | 8 | E | 926×1085 | 1265×1050 | 207 | 212 |
| 2 | 200 | 200B411 | TO200B411 | 11 | Three | 1500/1800 | Star-Delta | 68×60/ 65×58 | 8 | F | 926×1131 | 1263×1096 | 258 | 263 |
| 3 | 200 | 200B415 | TO200B415 | 15 | Three | 1500/1800 | Star-Delta | 70×60/ 69×60 | 8 | G | 971×1196 | 1234×1161 | 300 | 285 |
| 4 | 200 | 200B422H | TOS200B422H | 22 | Three | 1500/1800 | Star-Delta | 75 | 10 | P | 953×1222 | 1117×1181 | 332 | 298 |
| 5 | 200 | 200B422 | TOS200B422 | 22 | Three | 1500/1800 | Star-Delta | 75 | 10 | P | 953×1222 | 1117×1181 | 323 | 289 |
| 6 | 200 | 200B437 | TO200B437 | 37 | Three | 1500/1800 | Star-Delta | 40×77 | 10 | J(Q* ²) | 1190×1571 | 1428×1458 | 670 | 565 |
| 7 | 200 | 200B455 | TO200B455 | 55 | Three | 1500/1800 | Star-Delta | 40×110/ 45×90 | 10 | K | 1188×1698 | 1497×1612 | 1060 | 1020 |

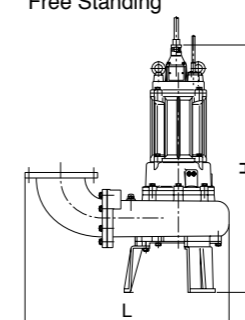
*¹ The solids passage of No.4 and No.5 is described by the sphere diameter that can pass through the impeller.

*² 200~240V

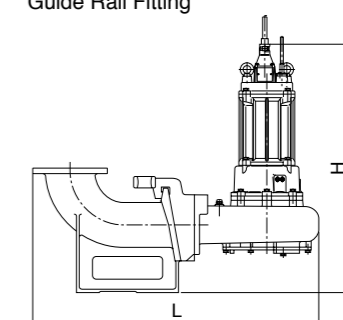
*³ All weights excluding cable
Weights of guide rail fitting model excluding duckfoot bend

Dimensions

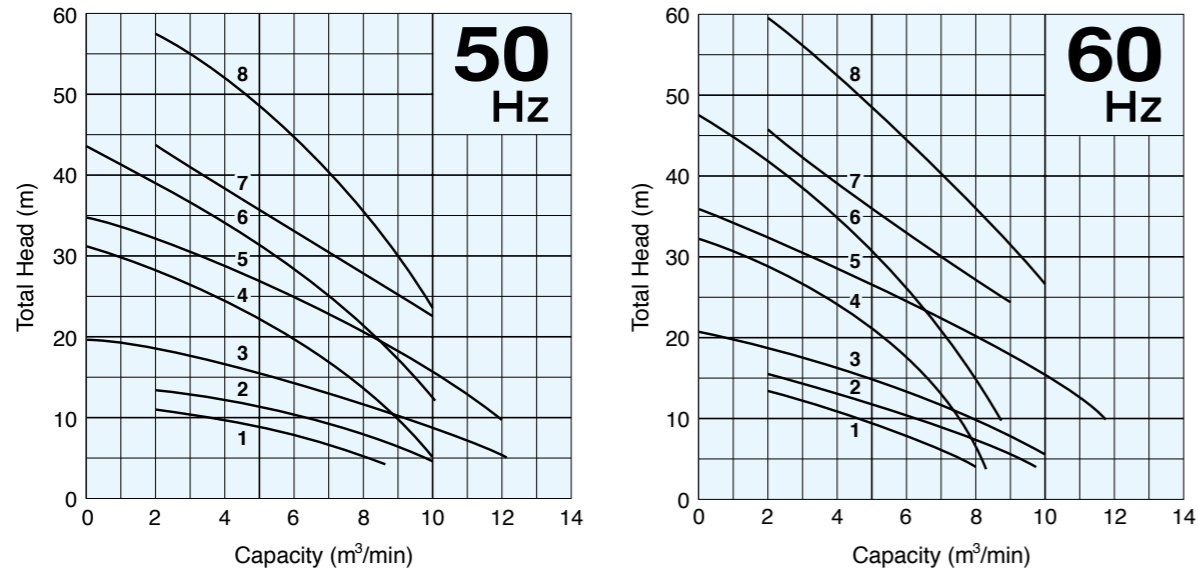
Free Standing



Guide Rail Fitting



Performance Curves



Standard Specifications

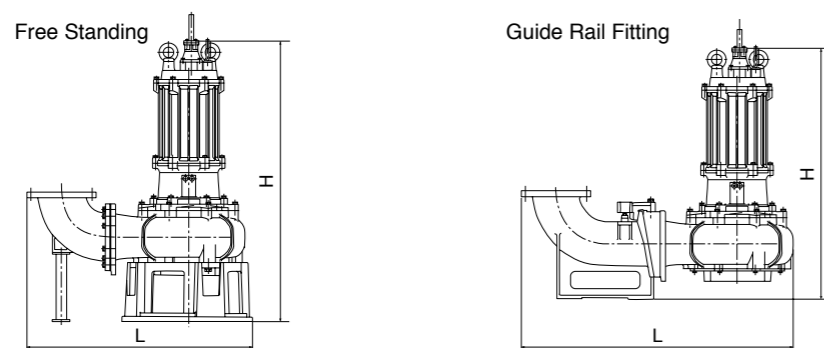
| Curve No. | Discharge Bore mm | Model | | Motor Output kW | Phase | Speed (S.S.) 50Hz/60Hz min ⁻¹ | Starting Method | Solids Passage 50Hz/60Hz mm *1 | Cable Length m | Cable Code | Dimensions L×H mm | | Dry Weight *3 kg | |
|-----------|-------------------|---------------|--------------------|-----------------|-------|--|-----------------|--------------------------------|----------------|------------|-------------------|--------------------|------------------|--------------------|
| | | Free Standing | Guide Rail Fitting | | | | | | | | Free Standing | Guide Rail Fitting | Free Standing | Guide Rail Fitting |
| 1 | 250 | 250B611 | TO250B611 | 11 | Three | 1000/1200 | Star-Delta | 80×68/80×58 | 8 | M(N*2) | 1203×1211 | 1513×1165 | 430 | 390 |
| 2 | 250 | 250B415 | TO250B415 | 15 | Three | 1500/1800 | Star-Delta | 73/64 | 8 | G | 1146×1228 | 1451×1194 | 420 | 380 |
| 3 | 250 | 250B622 | TO250B622 | 22 | Three | 1000/1200 | Star-Delta | 90×90/96×76 | 10 | J | 1313×1565 | 1586×1504 | 665 | 560 |
| 4 | 250 | 250B430 | TO250B430 | 30 | Three | 1500/1800 | Star-Delta | 75×80/76×76 | 10 | J | 1295×1512 | 1566×1445 | 645 | 525 |
| 5 | 250 | 250B437 | TO250B437 | 37 | Three | 1500/1800 | Star-Delta | 63×80/65×76 | 10 | Q | 1295×1575 | 1566×1508 | 725 | 600 |
| 6 | 250 | 250B445 | TO250B445 | 45 | Three | 1500/1800 | Star-Delta | 45×70/45×68 | 10 | J | 1313×1537 | 1578×1478 | 695 | 595 |
| 7 | 250 | 250B455 | TO250B455 | 55 | Three | 1500/1800 | Star-Delta | 45×70/45×68 | 10 | K | 1293×1698 | 1586×1635 | 1100 | 1040 |
| 8 | 250 | 250B475 | TO250B475 | 75 | Three | 1500/1800 | Star-Delta | 35×75/35×78 | 10 | K | 1293×1698 | 1586×1635 | 1150 | 1090 |

*1 The solids passage of No.2 is described by the sphere diameter that can pass through the impeller.

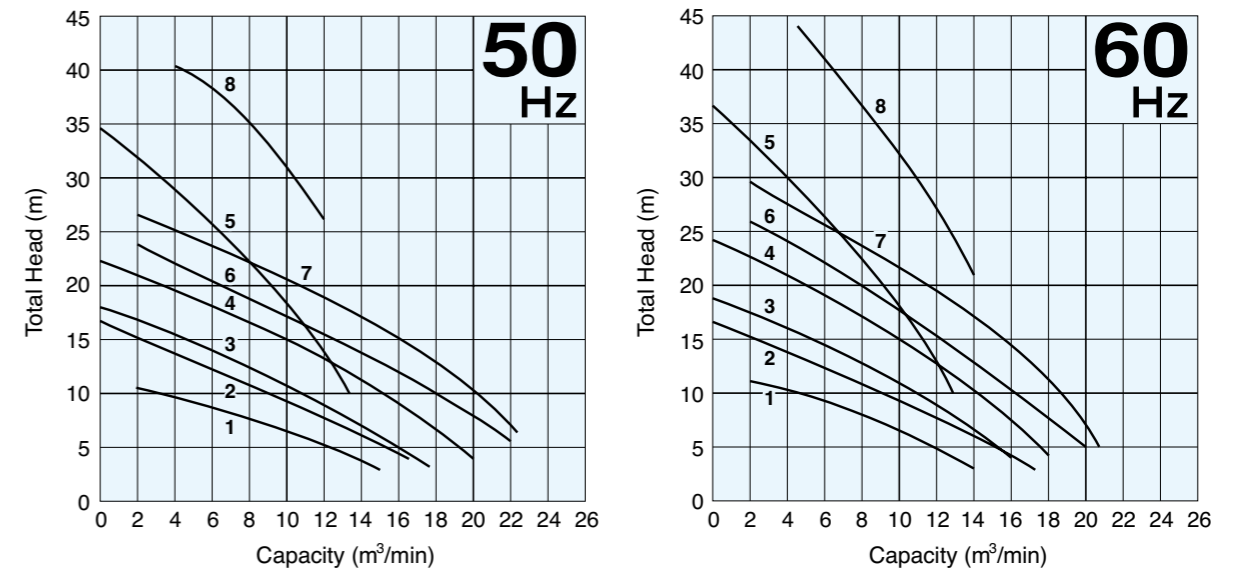
*2 200~240V

*3 All weights excluding cable
Weights of guide rail fitting model excluding duckfoot bend

Dimensions



Performance Curves



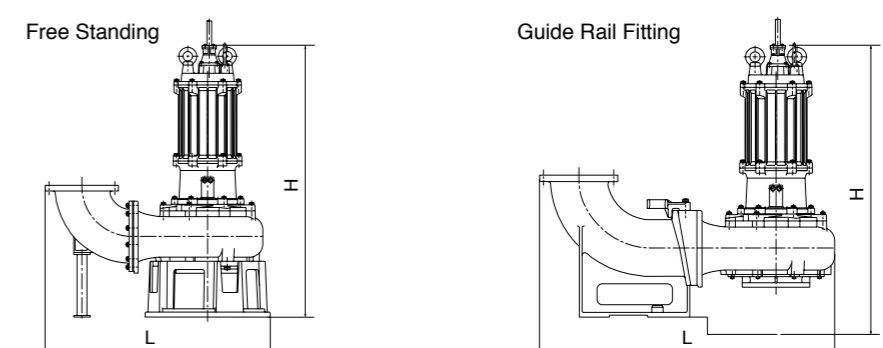
Standard Specifications

| Curve No. | Discharge Bore mm | Model | | Motor Output kW | Phase | Speed (S.S.) 50Hz/60Hz min ⁻¹ | Starting Method | Solids Passage 50Hz/60Hz mm | Cable Length m | Cable Code | Dimensions L×H mm | | Dry Weight *2 kg | |
|-----------|-------------------|---------------|--------------------|-----------------|-------|--|-----------------|-----------------------------|----------------|------------|-------------------|--------------------|------------------|--------------------|
| | | Free Standing | Guide Rail Fitting | | | | | | | | Free Standing | Guide Rail Fitting | Free Standing | Guide Rail Fitting |
| 1 | 300 | 300B615 | TO300B615 | 15 | Three | 1000/1200 | Star-Delta | 140×90/140×60 | 8 | N(O*1) | 1302×1314 | 1666×1274 | 550 | 520 |
| 2 | 300 | 300B622 | TO300B622 | 22 | Three | 1000/1200 | Star-Delta | 140×76/127×76 | 10 | J | 1366×1574 | 1685×1577 | 720 | 615 |
| 3 | 300 | 300B630 | TO300B630 | 30 | Three | 1000/1200 | Star-Delta | 130×115/140×76 | 10 | Q | 1366×1637 | 1685×1640 | 765 | 635 |
| 4 | 300 | 300B637 | TO300B637 | 37 | Three | 1000/1200 | Star-Delta | 140×100/140×65 | 10 | Q | 1366×1644 | 1685×1647 | 785 | 660 |
| 5 | 300 | 300B445 | TO300B445 | 45 | Three | 1500/1800 | Star-Delta | 60×90/70×76 | 10 | J | 1348×1586 | 1667×1567 | 785 | 655 |
| 6 | 300 | 300B645 | TO300B645 | 45 | Three | 1000/1200 | Star-Delta | 130×85/134×76 | 10 | K | 1414×1788 | 1778×1721 | 1300 | 1230 |
| 7 | 300 | 300B655 | TO300B655 | 55 | Three | 1000/1200 | Star-Delta | 105×90/110×90 | 10 | K | 1414×1833 | 1778×1766 | 1550 | 1500 |
| 8 | 300 | 300B475 | TO300B475 | 75 | Three | 1500/1800 | Star-Delta | 60×80/65×90 | 10 | K | 1436×1698 | 1795×1663 | 1150 | 1100 |

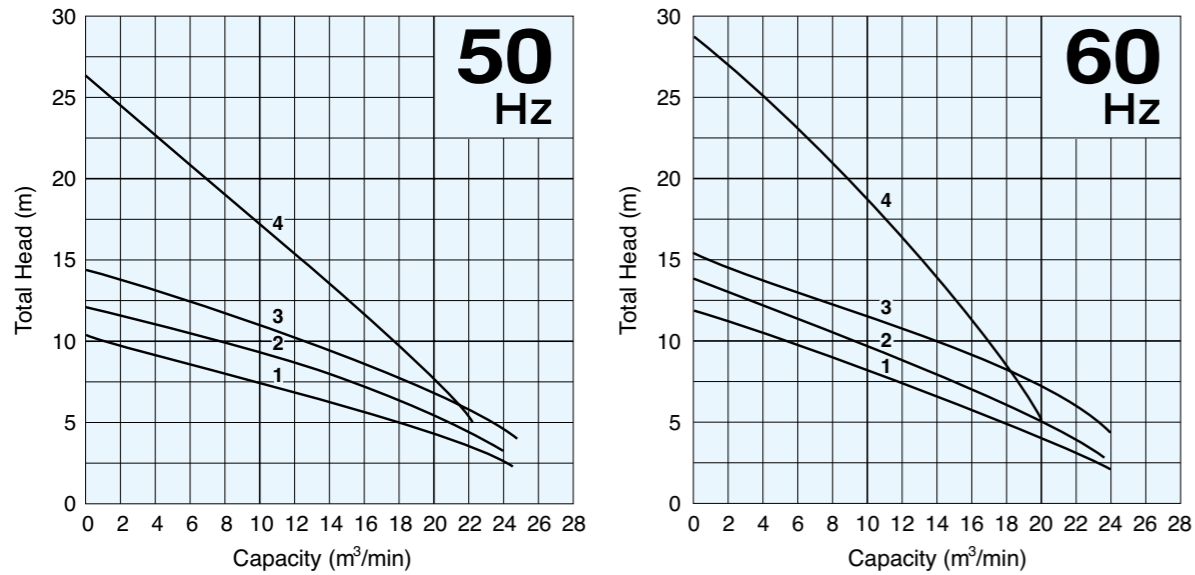
*1 200~240V

*2 All weights excluding cable
Weights of guide rail fitting model excluding duckfoot bend

Dimensions



■ Performance Curves

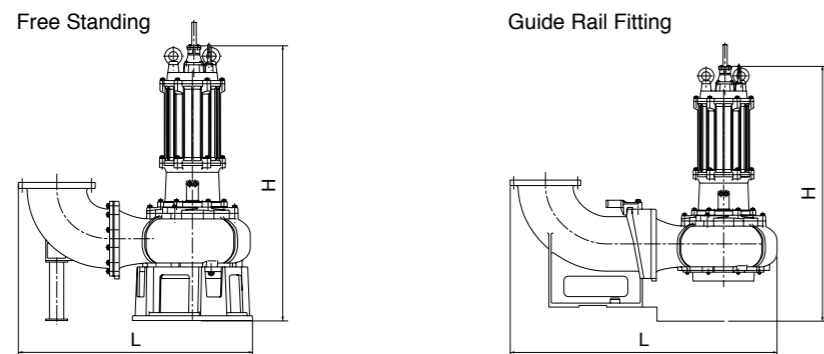


■ Standard Specifications

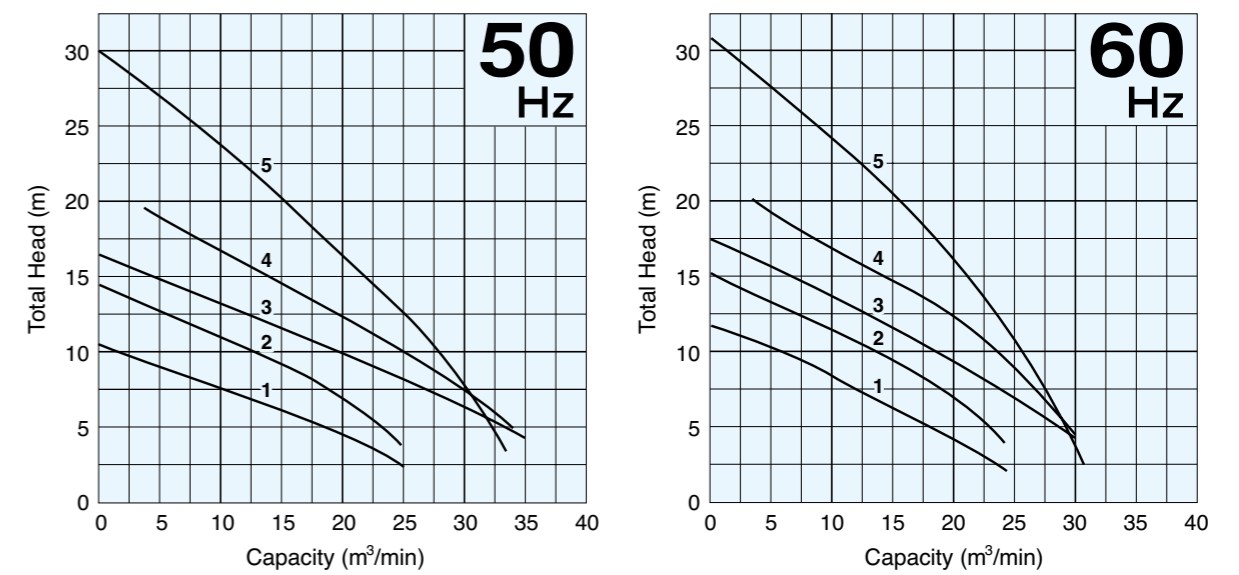
| Curve No. | Discharge Bore mm | Model | | Motor Output kW | Phase | Speed (S.S.) 50Hz/60Hz min ⁻¹ | Starting Method | Solids Passage 50Hz/60Hz mm | Cable Length m | Cable Code | Dimensions L×H mm | | Dry Weight *2 kg | |
|-----------|-------------------|---------------|--------------------|-----------------|-------|--|-----------------|-----------------------------|----------------|---------------------|-------------------|--------------------|------------------|--------------------|
| | | Free Standing | Guide Rail Fitting | | | | | | | | Free Standing | Guide Rail Fitting | Free Standing | Guide Rail Fitting |
| 1 | 350 | 350B822 | TO350B822 | 22 | Three | 750/900 | Star-Delta | 156×100/160×90 | 10 | J | 1488×1677 | 1845×1692 | 910 | 760 |
| 2 | 350 | 350B630 | TO350B630 | 30 | Three | 1000/1200 | Star-Delta | 190×95/200×70 | 10 | J(Q* ¹) | 1488×1677 | 1845×1692 | 870 | 720 |
| 3 | 350 | 350B637 | TO350B637 | 37 | Three | 1000/1200 | Star-Delta | 190×130/200×100 | 10 | J(Q* ¹) | 1488×1684 | 1845×1699 | 905 | 750 |
| 4 | 350 | 350B645 | TO350B645 | 45 | Three | 1000/1200 | Star-Delta | 130×90/140×78 | 10 | J | 1508×1788 | 1845×1811 | 1316 | 1161 |

*1 200~240V
*2 All weights excluding cable
Weights of guide rail fitting model excluding duckfoot bend

■ Dimensions



■ Performance Curves

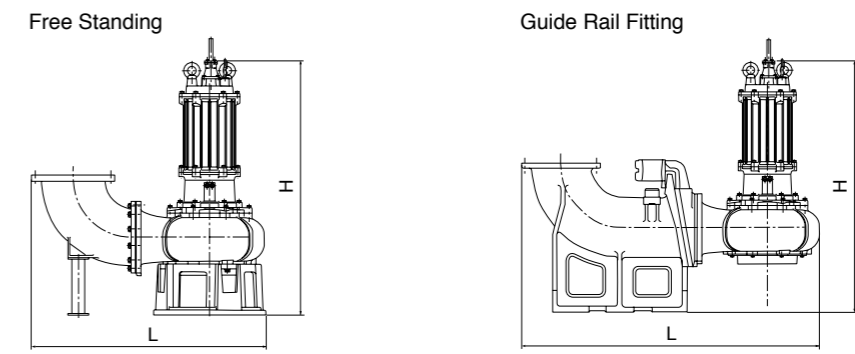


■ Standard Specifications

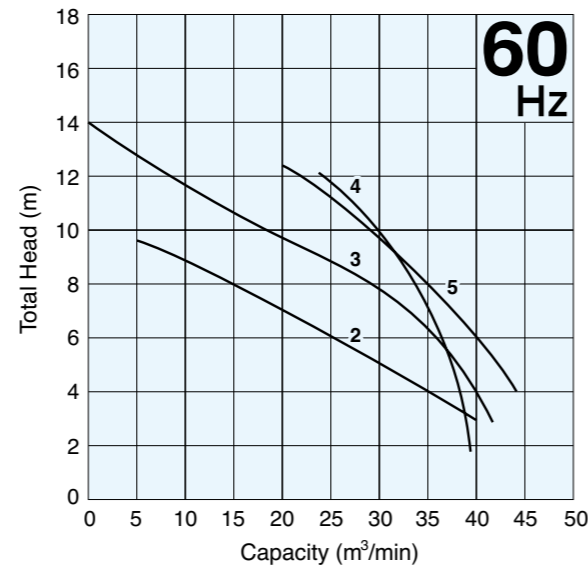
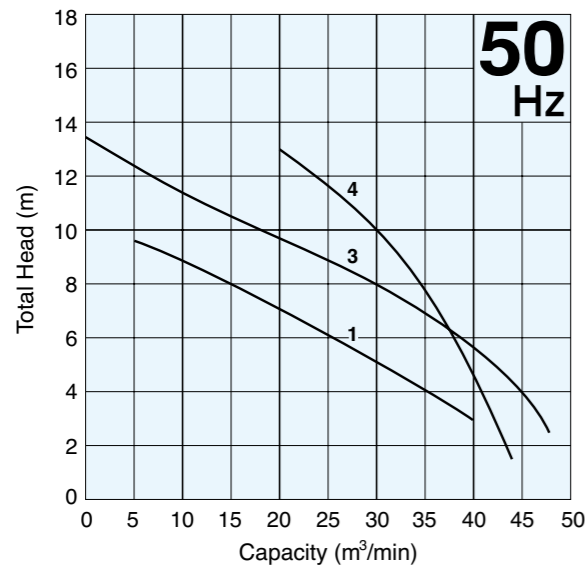
| Curve No. | Discharge Bore mm | Model | | Motor Output kW | Phase | Speed (S.S.) 50Hz/60Hz min ⁻¹ | Starting Method | Solids Passage 50Hz/60Hz mm | Cable Length m | Cable Code | Dimensions L×H mm | | Dry Weight *2 kg | |
|-----------|-------------------|---------------|--------------------|-----------------|-------|--|-----------------|-----------------------------|----------------|---------------------|-------------------|--------------------|------------------|--------------------|
| | | Free Standing | Guide Rail Fitting | | | | | | | | Free Standing | Guide Rail Fitting | Free Standing | Guide Rail Fitting |
| 1 | 400 | 400B822 | TO400B822 | 22 | Three | 750/900 | Star-Delta | 156×109/160×90 | 10 | J | 1583×1677 | 2122×1752 | 930 | 865 |
| 2 | 400 | 400B637 | TO400B637 | 37 | Three | 1000/1200 | Star-Delta | 190×130/200×100 | 10 | J(Q* ¹) | 1583×1684 | 2122×1759 | 925 | 855 |
| 3 | 400 | 400B645 | TO400B645 | 45 | Three | 1000/1200 | Star-Delta | 175×128/175×100 | 10 | J | 1633×1792 | 2130×1920 | 1416 | 1346 |
| 4 | 400 | 400B655 | TO400B655 | 55 | Three | 1000/1200 | Star-Delta | 145×110/175×100 | 10 | K | 1621×1878 | 2141×1956 | 1750 | 1700 |
| 5 | 400 | 400B675 | TO400B675 | 75 | Three | 1000/1200 | Star-Delta | 130×100/140×90 | 10 | K | 1616×1878 | 2136×1956 | 1850 | 1800 |

*1 200~240V
*2 All weights excluding cable
Weights of guide rail fitting model excluding duckfoot bend

■ Dimensions



Performance Curves

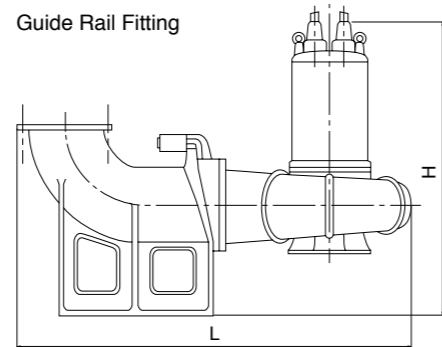
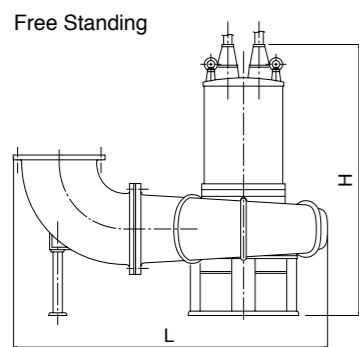


Standard Specifications

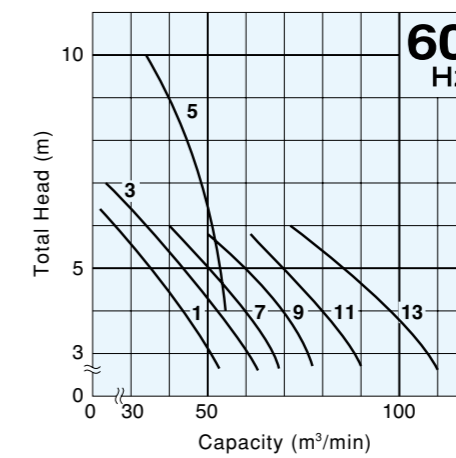
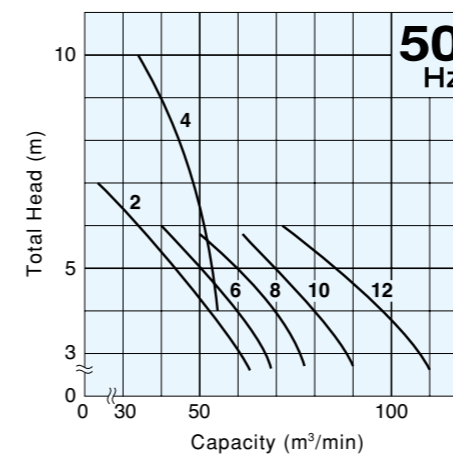
| Curve No. | Discharge Bore mm | Model | | Motor Output kW | Phase | Speed (S.S.) 50Hz/60Hz min ⁻¹ | Starting Method | Solids Passage 50Hz/60Hz mm | Cable Length m | Cable Code | Dimensions L×H mm | | Dry Weight* kg | | Frequency |
|-----------|-------------------|---------------|--------------------|-----------------|-------|--|-----------------|-----------------------------|----------------|------------|-------------------|--------------------|----------------|--------------------|-----------|
| | | Free Standing | Guide Rail Fitting | | | | | | | | Free Standing | Guide Rail Fitting | Free Standing | Guide Rail Fitting | |
| 1 | 500 | 500B1037 | TO500B1037 | 37 | Three | 600/— | Star-Delta | 225×100 | 10 | K | 2073×2081 | 2622×2183 | 2050 | 1950 | 50Hz only |
| 2 | 500 | 500B1237 | TO500B1237 | 37 | Three | —/600 | Star-Delta | 225×100 | 10 | K | 2073×2081 | 2622×2183 | 2050 | 1950 | 60Hz only |
| 3 | 500 | 500B855 | TO500B855 | 55 | Three | 750/900 | Star-Delta | 175×140/ 175×80 | 10 | K | 2111×2077 | 2660×2225 | 2150 | 2050 | 50Hz/60Hz |
| 4 | 500 | 500B675 | TO500B675 | 75 | Three | 1000/1200 | Star-Delta | 130×120/ 130×100 | 10 | K | 2263×1987 | 2812×2152 | 2150 | 2050 | 50Hz/60Hz |
| 5 | 500 | 500B875 | TO500B875 | 75 | Three | —/900 | Star-Delta | 190×80 | 10 | K | 2150×2694 | 2700×2644 | 2550 | 2450 | 60Hz only |

* All weights excluding cable
Weights of guide rail fitting model excluding duckfoot bend

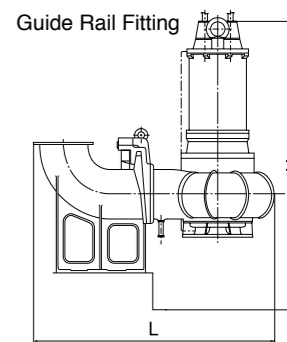
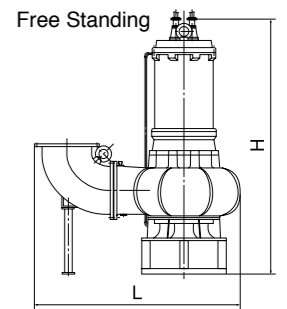
Dimensions



Performance Curves



Dimensions



Standard Specifications

| Curve No. | Discharge Bore mm | Model | | Motor Output kW | Phase | Speed (S.S.) 50Hz/60Hz min ⁻¹ | Starting Method | Solids Passage mm | Cable Length m | Cable Code | Dimensions L×H mm | | Dry Weight* kg | | Frequency |
|-----------|-------------------|---------------|--------------------|-----------------|-------|--|-----------------|-------------------|----------------|------------|-------------------|--------------------|----------------|--------------------|-----------|
| | | Free Standing | Guide Rail Fitting | | | | | | | | Free Standing | Guide Rail Fitting | Free Standing | Guide Rail Fitting | |
| 1 | 600 | 600B1845 | TO600B1845 | 45 | Three | —/400 | Star-Delta | 280×90 | 10 | K | 2522×3100 | 3062×3100 | 5000 | 5200 | 60Hz only |
| 2 | 600 | 600B1255 | TO600B1255 | 55 | Three | 500/— | Star-Delta | 220×100 | 10 | K | 2522×3100 | 3062×3100 | 3150 | 3350 | 50Hz only |
| 3 | 600 | 600B1455 | TO600B1455 | 55 | Three | —/514 | Star-Delta | 220×100 | 10 | K | 2522×3100 | 3062×3100 | 3150 | 3350 | 60Hz only |
| 4 | 600 | 600B1085 | TO600B1085 | 85 | Three | 600/— | Star-Delta | 210×85 | 10 | K | 2468×3100 | 3008×3100 | 3100 | 3300 | 50Hz only |
| 5 | 600 | 600B1285 | TO600B1285 | 85 | Three | —/600 | Star-Delta | 210×85 | 10 | K | 2468×3100 | 3008×3100 | 3100 | 3300 | 60Hz only |
| 6 | 700 | 700B1265 | TO700B1265 | 65 | Three | 500/— | Star-Delta | 300×85 | 10 | K | 2840×3560 | 3440×3660 | 4000 | 4400 | 50Hz only |
| 7 | 700 | 700B1465 | TO700B1465 | 65 | Three | —/514 | Star-Delta | 300×85 | 10 | K | 2840×3560 | 3440×3660 | 4000 | 4400 | 60Hz only |
| 8 | 700 | 700B1275 | TO700B1275 | 75 | Three | 500/— | Star-Delta | 300×85 | 10 | K | 2840×3560 | 3440×3660 | 4200 | 4600 | 50Hz only |
| 9 | 700 | 700B1475 | TO700B1475 | 75 | Three | —/514 | Star-Delta | 300×85 | 10 | K | 2840×3560 | 3440×3660 | 4200 | 4600 | 60Hz only |
| 10 | 800 | 800B1290 | TO800B1290 | 90 | Three | 500/— | Star-Delta | 300×90 | 10 | L | 3053×3790 | 3623×3790 | 5600 | 5800 | 50Hz only |
| 11 | 800 | 800B1490 | TO800B1490 | 90 | Three | —/514 | Star-Delta | 300×90 | 10 | L | 3053×3790 | 3623×3790 | 5600 | 5800 | 60Hz only |
| 12 | 800 | 800B14110 | TO800B14110 | 110 | Three | 428/— | Star-Delta | 310×90 | 10 | L | 3053×3790 | 3623×3790 | 5800 | 6000 | 50Hz only |
| 13 | 800 | 800B16110 | TO800B16110 | 110 | Three | —/450 | Star-Delta | 310×90 | 10 | L | 3053×3790 | 3623×3790 | 5800 | 6000 | 60Hz only |

* All weights excluding cable
Weights of guide rail fitting model excluding duckfoot bend

CABTYRE CABLE CODE REFERENCE

Single-phase

| Code | No. of Cables | Cores × mm ² | Outer Dia. mm | Material |
|------|---------------|-------------------------|---------------|----------|
| a | 1 | 3 × 1.25 | 10.1 | PVC |
| b | 1 | 3 × 2.0 | 10.9 | |

| Code | No. of Cables | Cores × mm ² | Outer Dia. mm | Material |
|------|---------------|-------------------------|---------------|--------------------|
| D | 1 | 4 × 3.5 | 14.1 | Chloroprene Rubber |
| E | 1 | 4 × 5.5 | 16.8 | |
| F | 3 | 4 × 3.5 | 14.1 | |
| | | 3 × 3.5 | 12.9 | |
| G | 3 | 2 × 1.25 | 9.8 | |
| | | 4 × 5.5 | 16.8 | |
| | | 3 × 5.5 | 15.2 | |
| J | 3 | 2 × 1.25 | 9.8 | |
| | | 4 × 14 | 21.7 | |
| | | 3 × 14 | 19.7 | |
| K | 2 | 4 × 1.25 | 11.1 | PVC |
| | | 3 × 38 | 35.8 | Chloroprene Rubber |
| | | 1 × 22 | | |
| | | 3 × 2 | | |
| | | 3 × 38 | 35.9 | |

| Code | No. of Cables | Cores × mm ² | Outer Dia. mm | Material |
|------|---------------|-------------------------|---------------|--------------------|
| L | 2 | 3 × 60 | 45.7 | Chloroprene Rubber |
| | | 1 × 22 | | |
| | | 3 × 2 | | |
| M | 1 | 3 × 60 | 45.7 | |
| | | 7 × 3.5 | 21.3 | |
| N | 1 | 2 × 2 | 24.4 | |
| | | 7 × 5.5 | | |
| O | 1 | 2 × 2 | 25.6 | |
| | | 7 × 8 | | |
| P | 3 | 4 × 14 | 21.7 | Chloroprene Rubber |
| | | 3 × 14 | 19.7 | PVC |
| | | 2 × 1.25 | 9.6 | PVC |
| Q | 3 | 4 × 22 | 28.8 | Chloroprene Rubber |
| | | 3 × 22 | 26.1 | PVC |
| | | 4 × 1.25 | 11.1 | PVC |

Three-phase

| Code | No. of Cables | Cores × mm ² | Outer Dia. mm | Material |
|------|---------------|-------------------------|---------------|----------|
| A | 1 | 4 × 1.25 | 11.1 | PVC |
| B | 1 | 4 × 2.0 | 11.8 | |
| C | 1 | 4 × 3.5 | 13.9 | |

TSURUMI OPTIONS

SPECIAL VERSION WITH GALVANIC CORROSION PROTECTION

In seawater, a material's resistance to corrosion can be seen clearly. When metals with different potentials are brought into contact in seawater, only the metal of lower potential corrodes. As the difference in potential increases, the metal of lower potential corrodes faster. As an option, Tsurumi can supply pumps with parts made of higher electric potential metal as the sacrificial anode.

SPECIAL VERSION FOR HIGHER TEMPERATURE LIQUID

Standard pumps are designed for continuous running at the maximum ambient temperature of 40°C. In addition to these, Tsurumi can provide pumps for operation at higher liquid temperatures upon request. Refitting for operation at higher temperatures involves modification of not only the insulation of motor windings but also several components.

Two high-temperature operating models are available - the Rank 60 for operation in liquids up to 60°C and the Rank 90 for operation in liquids up to 90°C. Consult your dealer for more details. (These special versions are not available for some pump models.)

SPECIAL VERSION WITH NON-STANDARD MATERIALS

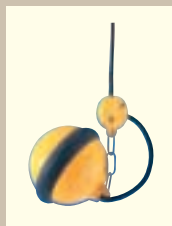
Tsurumi can also provide you with pumps with essential components such as the impeller, pump casing and the suction cover made of non-standard materials. Select from stainless steel, chromium iron and bronze to suit your specific requirements. Consult your dealer for more details.

SPECIAL ACCESSORIES

FLOAT SWITCHES

Tsurumi offers two types of float switches (liquid level sensors). A micro-switch is incorporated in both types.

Model MC-2 is a heavy-duty type float switch with a shock absorber. Having equipped with a high grade micro switch, the MC-2 assures trouble-free operation in the liquid containing much suspended solids and floating scum. Either of the two contacts, normally-open or normally-close, can be selected as required.



Model RF-5 is an economy type float which can detect upper/lower-limit water levels with single float. The snap on-off action ensures stable operation in clean or waste water containing suspended solids or oil and fat.



We reserve the right to change the specifications and designs for improvement without prior notice.

TSURUMI
MANUFACTURING CO., LTD.

Your Dealer