TSURUMI PUMP
For The **Earth**, For All The **People**

TSURUMI AVANT

SERIES MB

SUBMERSIBLE PUMPS

TSURUMI AVANT

TSURUMI AVANT is a brand of submersible pumps and wastewater treatment equipment developed with an eye on the future by TSURUMI, a leading company in the field of submersible pumps for 100 years. TSURUMI created it to deliver the maximum in customer satisfaction, by pooling years of know-how garnered with submersible pumps and wastewater treatment equipment into a series of premium grade products. This includes completely revamping everything from the materials used for components to the product lineup itself. The premier brand is being released under the name of TSURUMI AVANT.

MB-series

Motors
from 0.37 to 1.5 kW operating at 50 Hz and 60 Hz
single-phase and three-phase

Hydraulics
- vortex **(MBU)**
- high head **(MBS)**

Operations
manual or automatic

The MB-series of the TSURUMI AVANT brand is developed for heavy-duty performance and low-maintenance operation. These pumps can be used for various applications to drain and transfer rainwater, wastewater, sewage, ground water or ponded water in residential, industrial, and construction sites.
Compact in size, the MB-series pumps are built to run stably and reliably with EN-GJL-250 cast iron body and impeller, AISI 431 stainless steel shaft and dual inside mechanical seals with silicon carbide faces in the oil chamber.
The MB-series comes in a wide array of models outfitted with either a Vortex or High Head impeller, single- or three-phase motor and drive outputs ranging from 0.37 - 1.5 kW. Users can also select an automatic model equipped with a simple float switch that prevents dry-running operation and reduces power consumption.

Characteristics

- Ergonomic “Techno-polymer” lifting and carrying handle with excellent mechanical strength and corrosion resistance. Clip float switch adjustment.
- Innovative cable gland system with double O-rings to ensure maximum tightness.
- Dry motor with thermal protections. Single-phase models with internal capacitor. Three-phase models with motor protection relay (option).
- Oil sump which guarantees longer mechanical seal lifetime, and is easily accessible to simplify maintenance procedures.
- Double silicon carbide mechanical seals (2SiC) in oil chamber, and a V-ring in direct contact with the liquid for better sealing.
- Air release valve which allows the air to be vented and ensure reliable pump priming even after long periods out of use.
- Simple construction with a minimal number of nuts, bolts and other parts to facilitate maintenance.

MBU

Vortex

- Cast iron vortex impeller
- Full free passage

- Sewage
- Soiled wastewaters with solids
- Lifting stations in civil and residential plants

Range characteristics

Power supply	1-phase, 3-phase
Frequency	50 Hz, 60 Hz
Power	0.37 - 1.5 kW
Poles	2
Insulation	F
Discharge bore	2″ threaded
Free passage	max 50 mm
Max flow rate	756 l/min
Max head	15.3 m

MBS

High Head

- Cast iron multi-channel open impeller
- High manometric head

- Mainly clean liquids, or liquids with small solids or sand
- Slightly sandy seepage waters
- Ideal for fountains and water features

Range characteristics

Power supply	1-phase, 3-phase
Frequency	50 Hz, 60 Hz
Power	0.74 - 1.5 kW
Poles	2
Insulation	F
Discharge bore	1½″ threaded
Free passage	max 6 mm
Max flow rate	450 l/min
Max head	26.6 m

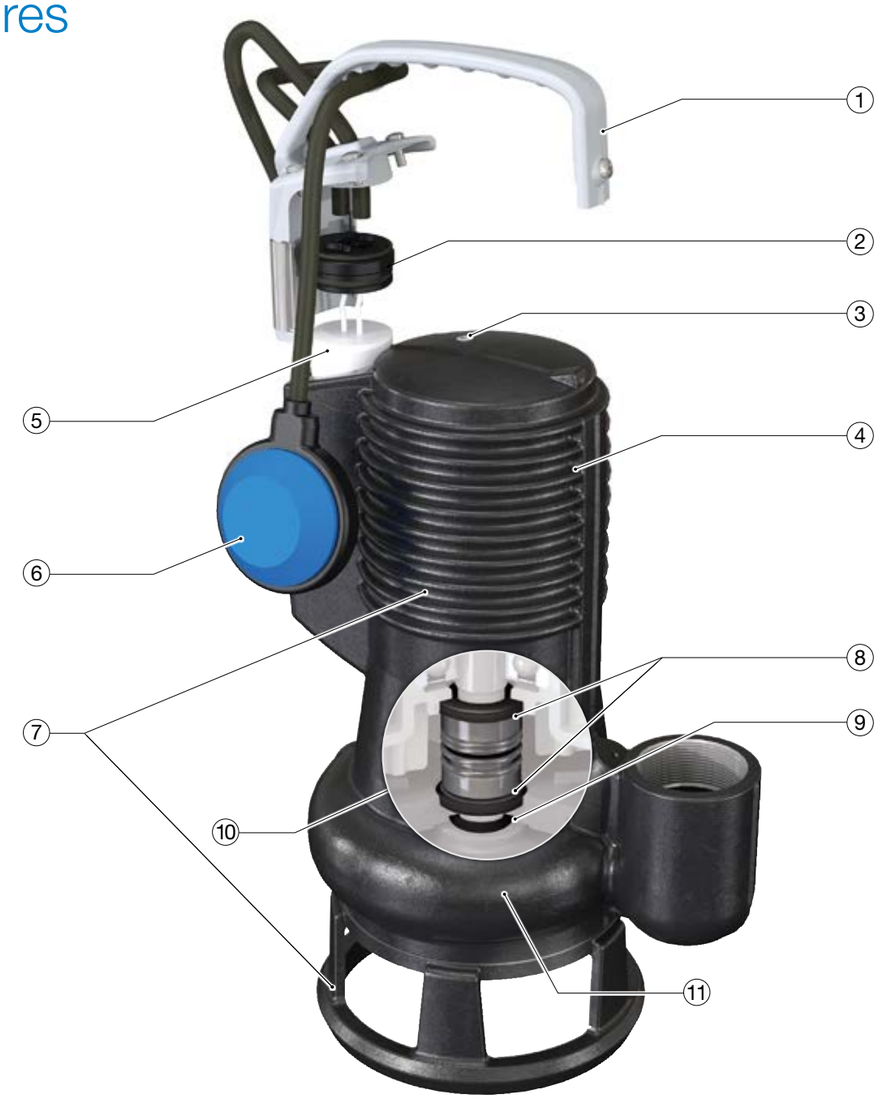
Construction materials

Case	Cast iron EN-GJL-250
Stand	Ductile cast iron EN-GLS-600
Impeller	Cast iron EN-GJL-250
Nuts and bolts	Stainless steel - Class A2-70
Standard gasket	Rubber - NBR
Shaft	Stainless steel - AISI 431
Paint type	Ecological bicomponent epoxy (medium thickness 120 µm)

Operating specifications

Max operating temperature	40°C [90°C max 3 min]
pH of treated fluid	6 - 14
Viscosity of treated fluid	1 mm^2/s
Max immersion depth	20 m
Density of treated fluid	1 kg/dm^3
Max acoustic pressure	<70 dB
Max starts per hour	30

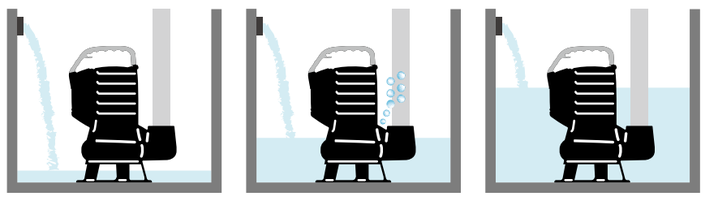
Features



Highlight

AIR RELEASE VALVE [MBU]

The air release valve vents air that accumulates inside the pump after the pit empties, effectively preventing air locks and ensuring reliable pump priming even after long periods of disuse.



* MBS-series design does not require the air release valve.

① 

HANDLE

Ergonomic handle made of “Techno-polymer” and styled for optimal grip. Shaped to take a shackle to hold the pump steady during handling.

② 

CABLE GLAND

Innovative cable gland system with cable holder system and double O-rings to ensure maximum tightness. Simpler extraction for maintenance.

③ 

PRESSURISED TESTING

Stud bolt for closing the motor compartment for the pressurised testing, performed on every pump unit.

④

PAINT

Pumps of the Tsurumi Avant brand feature a higher grade of external coating. MB-series pumps are coated with an 120 µm film of ecological bicomponent epoxy, particularly strong against corrosion.

⑤

CAPACITOR

Models with a single-phase motor have an internal capacitor. Since high temperatures due to heat exposure are the biggest cause of capacitor damage, the capacitor is installed inside a cast iron housing at the lowest point possible within the motor. A metal contact inside the housing releases heat to keep the motor cool even during operation in shallow water. These design details greatly extend the service-life of the capacitor.

⑥

ADJUSTABLE FLOAT SWITCH

Float switch stroke adjustment system for modification of start-stop levels.

⑦ 

CASE and STAND

The EN-GJL-250 cast iron construction is durable enough to stand up to maintenance requiring removal and replacement of the motor.
The EN-GLS-600 ductile cast iron used for base stand is resistant to impact force and can withstand the impacts of dropping.

⑧ 

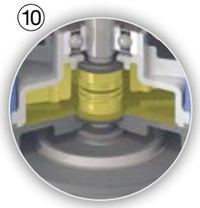
MECHANICAL SEALS

Double silicon carbide (2SiC) mechanical seals in oil chamber.

⑨ 

V-RING

The V-Ring in direct contact with the liquid protects the mechanical seals from solid matters to keep them in good working condition.

⑩ 

OIL CHAMBER

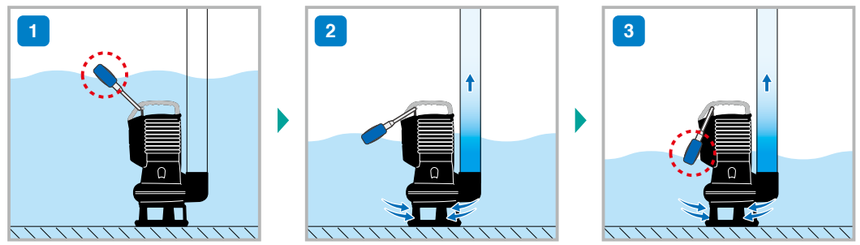
Guarantees longer mechanical seal lifetime and is easily accessible to simplify maintenance procedures.

⑪ 

FREE PASSAGE [MBU]

Full free passage allowing the expulsion of solids up to 50 mm and preventing fouling of the impeller.

Automatic Operation



MBU -Vortex-

80% or more free passage against discharge bore

Automatic

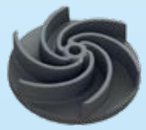
Hydraulics

- Cast iron vortex impeller
- Full free passage

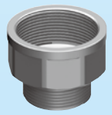
Suitable for

- Sewage
- Soiled wastewaters with solids
- Lifting stations in civil and residential plants

Vortex impeller



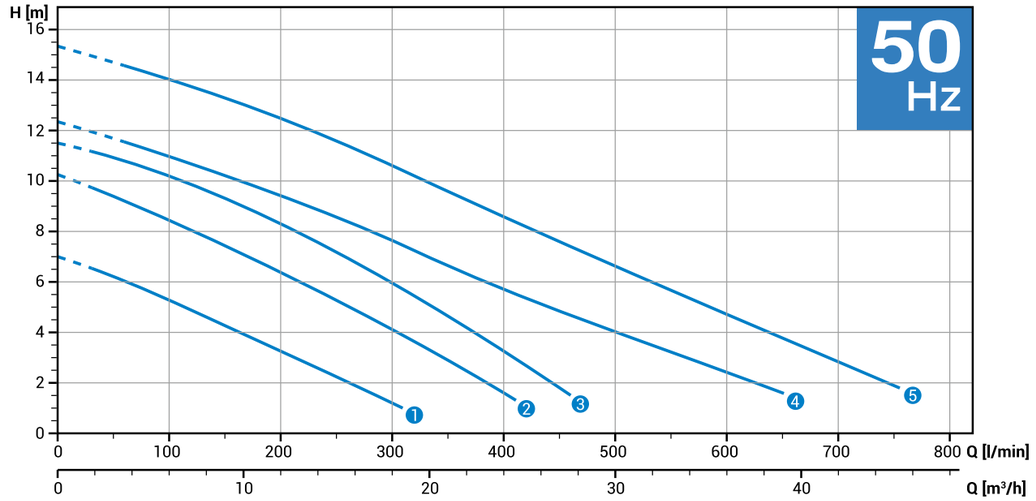
Adapter for 0.37-0.74 kW

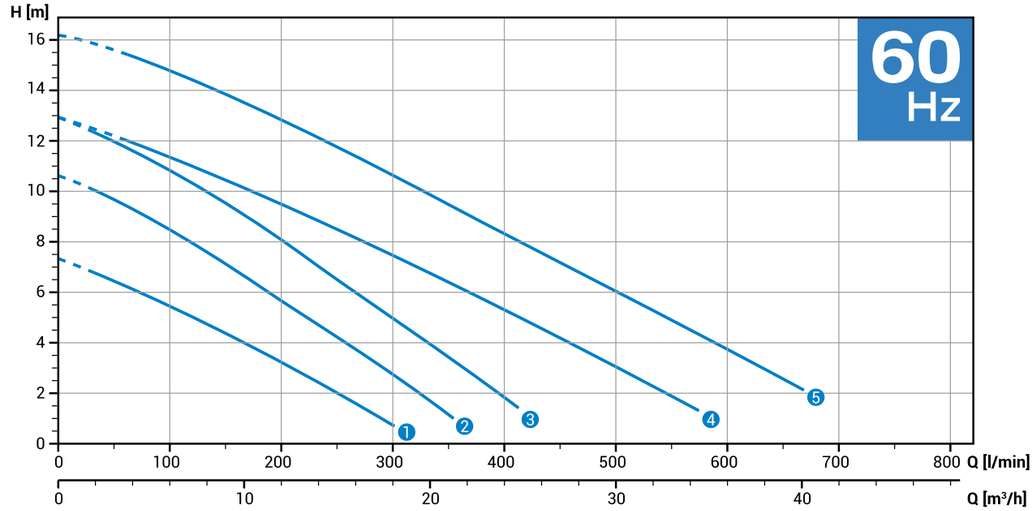


Curve No.	Model		Discharge Bore	Motor Output	Phase	Starting Method	Free Passage	Dry Weight*2	Cable Length
	Standard	Automatic	inch	kW			mm	kg	m
①	**MBU 50/2/G50V S**	**MBU 50/2/G50V SA**	2(1½)*1	0.37	Single	Capacitor Run	40	13	10
	MBU 50/2/G50V T	**MBU 50/2/G50V TA**		0.37	Three	D.O.L.	40	13	10
②	**MBU 75/2/G50V S**	**MBU 75/2/G50V SA**		0.55	Single	Capacitor Run	40	15	10
	MBU 75/2/G50V T	**MBU 75/2/G50V TA**		0.55	Three	D.O.L.	40	15	10
③	**MBU 100/2/G50V S**	**MBU 100/2/G50V SA**		0.74	Single	Capacitor Run	40	15.5	10
	MBU 100/2/G50V T	**MBU 100/2/G50V TA**		0.74	Three	D.O.L.	40	15.5	10
④	**MBU 150/2/G50V S**	**MBU 150/2/G50V SA**	2	1.1	Single	Capacitor Run	50	23	10
	MBU 150/2/G50V T	**MBU 150/2/G50V TA**		1.1	Three	D.O.L.	50	23	10
⑤	**MBU 200/2/G50V S**	**MBU 200/2/G50V SA**		1.5	Single	Capacitor Run	50	24	10
	MBU 200/2/G50V T	**MBU 200/2/G50V TA**		1.5	Three	D.O.L.	50	24	10

*1 Pumps up to 0.74 kW supplied with 1½″ - 2″ threaded discharge adapter
*2 Weights excluding cable

Performance Curves





Model Number Designation

MBU 50/2 / G 50 V 5 S A
① ② (A) (B) (C) ③ ④ ⑤ ⑥

① Series
② Power (HPx100) / motor poles
③ Delivery rate
(A) TYPE (GAS thread/Flanged)
(B) DIAMETER (mm)
(C) POSITION
V = Vertical
④ Power supply voltage frequency
5 = 50Hz
6 = 60Hz
⑤ Motor phases
S = Single-phase
T = Three-phase
⑥ Operation
A = Automatic
None = None automatic

MBS -High Head-

Highest head available amongst Tsurumi pumps with 0.74 - 1.5 kW single/three-phase motors

Hydraulics

- Cast iron multi-channel open impeller
- High manometric head

Suitable for

- Mainly clean liquids, or liquids with small solids or sand
- Slightly sandy seepage waters
- Ideal for fountains and water features

Multi-channel open impeller

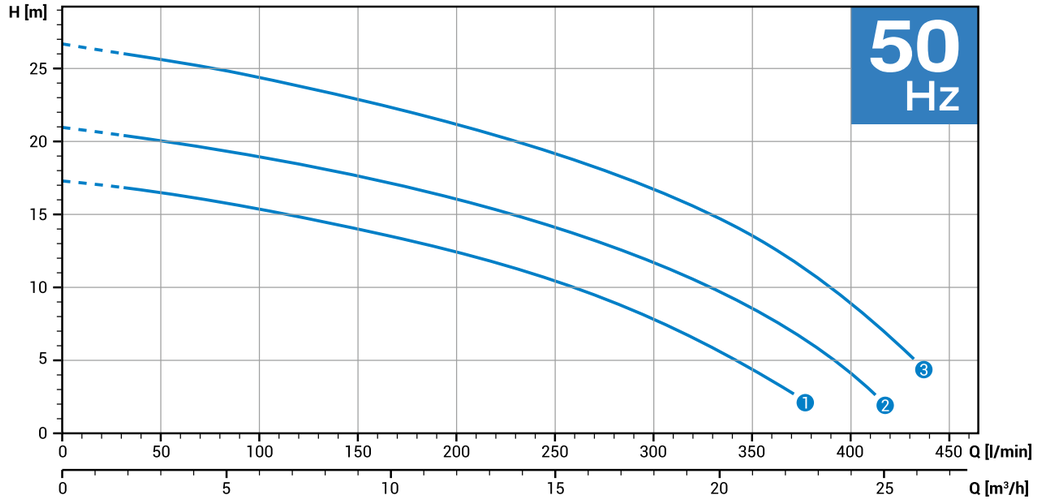
90° bend

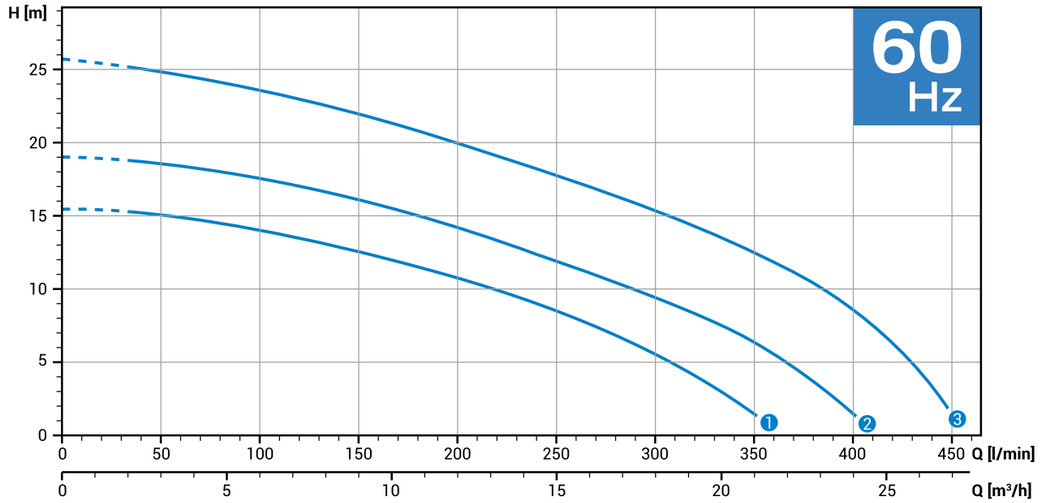
Curve No.	Model		Discharge Bore	Motor Output	Phase	Starting Method	Free Passage	Dry Weight*2	Cable Length
	Standard	Automatic	inch	kW			mm	kg	m
①	**MBS 100/2/G40V S**	**MBS 100/2/G40V SA**	1½*1	0.74	Single	Capacitor Run	6	19	10
	MBS 100/2/G40V T	**MBS 100/2/G40V TA**		0.74	Three	D.O.L.	6	19	10
②	**MBS 150/2/G40V S**	**MBS 150/2/G40V SA**		1.1	Single	Capacitor Run	6	24	10
	MBS 150/2/G40V T	**MBS 150/2/G40V TA**		1.1	Three	D.O.L.	6	24	10
③	**MBS 200/2/G40V S**	**MBS 200/2/G40V SA**		1.5	Single	Capacitor Run	6	26	10
	MBS 200/2/G40V T	**MBS 200/2/G40V TA**		1.5	Three	D.O.L.	6	26	10

*1 DN32/PN6 flange on the pump casing with 1½″ threaded discharge bore
All the pumps supplied with 90° bend with 1½″ threaded discharge

*2 Weights excluding cable

Performance Curves





Model Number Designation

MBS 100/2 / G 40 V 5 S A

① ② (A) (B) (C) ③ ④ ⑤ ⑥

① Series

② Power (HPx100) / motor poles

③ Delivery rate

(A) TYPE (GAS thread/Flanged)

(B) DIAMETER (mm)

(C) POSITION

V = Vertical

④ Power supply voltage frequency

5 = 50Hz

6 = 60Hz

⑤ Motor phases

S = Single-phase

T = Three-phase

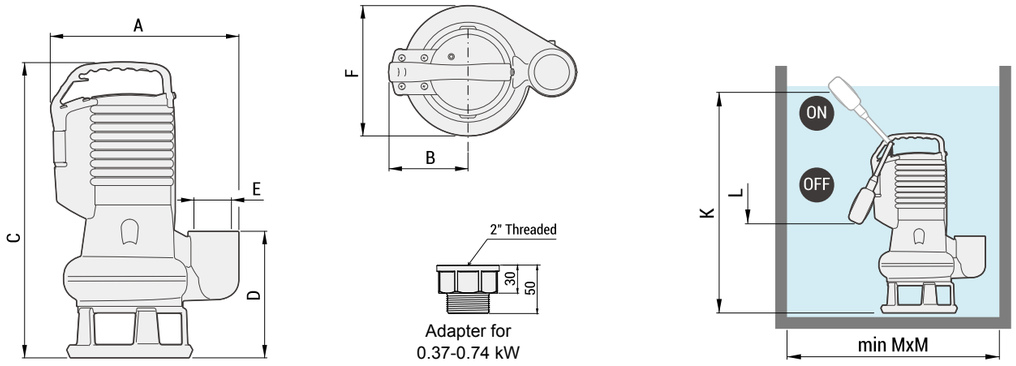
⑥ Operation

A = Automatic

None = None automatic

Dimensions

MBU -Vortex-



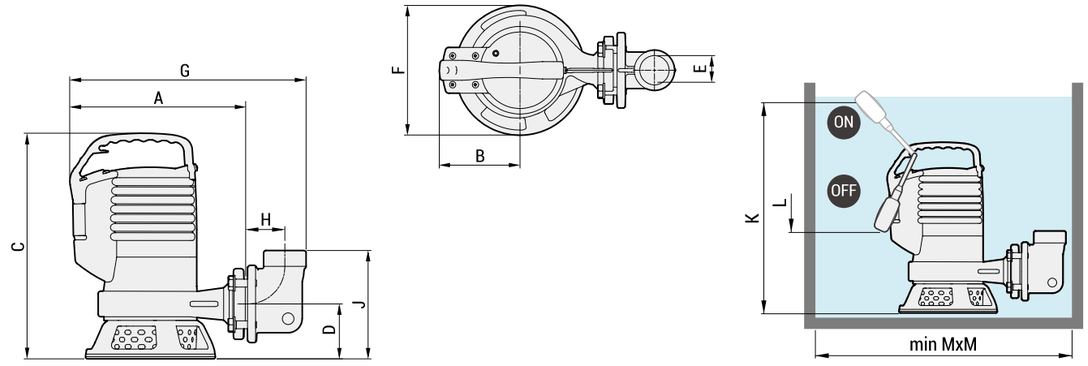
Unit: mm unless otherwise specified

Model	A	B	C	D	E inch	F	Automatic		
							K	L	M*2
MBU 50/2/G50V S[T]	263	113	341	141	1½*1	189	—	—	—
MBU 50/2/G50V SA[TA]	263	113	341	141	1½*1	189	420	210	300
MBU 75/2/G50V S[T]	263	113	368	141	1½*1	189	—	—	—
MBU 75/2/G50V SA[TA]	263	113	368	141	1½*1	189	450	240	300
MBU 100/2/G50V S[T]	263	113	368	141	1½*1	189	—	—	—
MBU 100/2/G50V SA[TA]	263	113	368	141	1½*1	189	450	240	300
MBU 150/2/G50V S[T]	293	123	458	195	2	203	—	—	—
MBU 150/2/G50V SA[TA]	293	123	458	195	2	203	525	335	400
MBU 200/2/G50V S[T]	293	123	458	195	2	203	—	—	—
MBU 200/2/G50V SA[TA]	293	123	458	195	2	203	525	335	400

*1 Pumps up to 0.74 kW supplied with 1½″ - 2″ threaded discharge adapter

*2 Minimum dimensions. Suggested dimensions 500 mm x 500 mm.

MBS -High Head-



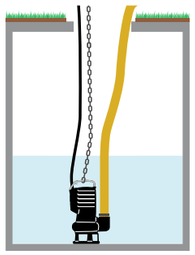
Unit: mm unless otherwise specified

Model	A	B	C	D	E inch	F	G	H	J	Automatic		
										K	L	M*2
MBS 100/2/G40V S[T]	268	123	345	84	1½*1	198	360	13	166	—	—	—
MBS 100/2/G40V SA[TA]	268	123	345	84	1½*1	198	360	13	166	450	240	530
MBS 150/2/G40V S[T]	285	123	392	87	1½*1	207	377	13	168	—	—	—
MBS 150/2/G40V SA[TA]	285	123	392	87	1½*1	207	377	13	168	495	285	530
MBS 200/2/G40V S[T]	285	123	392	87	1½*1	207	377	13	168	—	—	—
MBS 200/2/G40V SA[TA]	285	123	392	87	1½*1	207	377	13	168	495	285	530

*1 DN32/PN6 flange on the pump casing with 1½″ threaded discharge bore
All the pumps supplied with 90° bend with 1½″ threaded discharge

*2 Minimum dimensions. Suggested dimensions 600 mm x 600 mm.

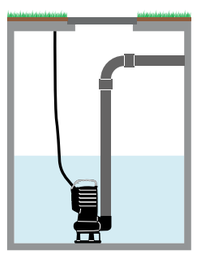
Installations



FREE

Free Installation

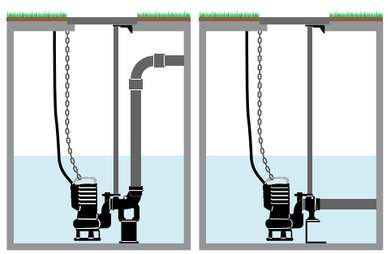
The electric pump, standing on its feet or base, is connected to the delivery flexible pipe using a joint fixed to the discharge.
This installation allows to move easily the electrical pump.



FIXED

Fixed Installation

The electric pump, standing on its feet or base, is connected to the delivery pipe, which is screwed to the discharge if threaded, or fixed to a bend if the port is flanged. The pump-hose connection may be threaded or flanged, depending on the pump fitting.



WITH BASE COUPLING FOOT

Installation with Base Coupling Foot

For submerged installation, available for electric pumps with flanged or threaded horizontal discharge. The coupling device is fixed to the bottom of the tank and the pump is lowered in with the aid of two guide pipes fitted earlier, until the connection to the foot is completed. The delivery pipe is fixed to the coupling device discharge. This device makes routine checks, any maintenance work or replacement of the pump extremely easy, with no need to empty the tank. A specific kit also allowing pumps with vertical discharge to be installed with the base coupling foot is available.

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For The **Earth**, For All The **People**

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We reserve the right to change the specifications and designs without prior notice. The OO series and model OO are indicated with our series/model codes in this catalog.

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