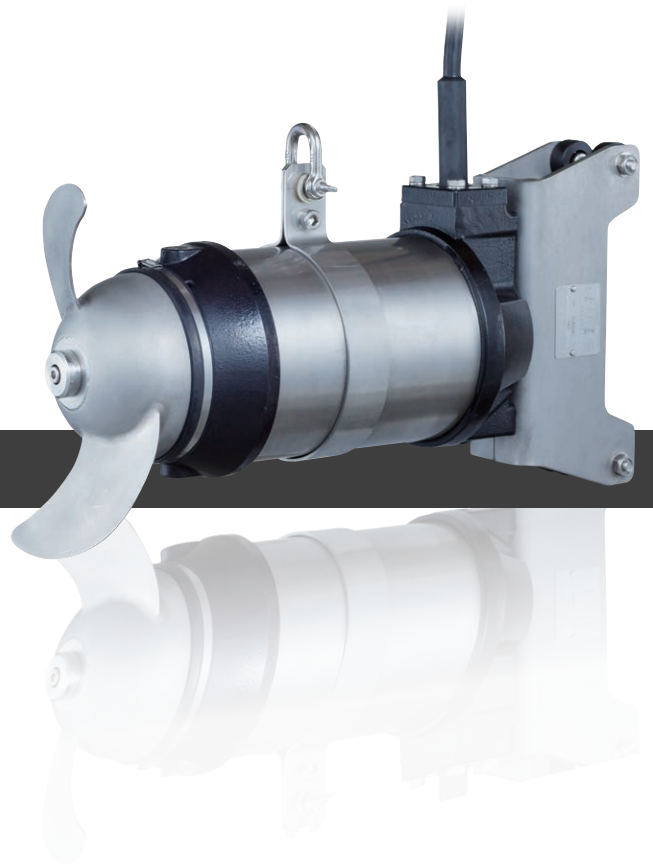


SERIES
MR

SUBMERSIBLE MIXERS



Submersible Mixers

- The highly-efficient shape of the propeller, which is directly connected with the submersible motor, provides a powerful jet of water.
- The oil chamber incorporates an electrode type leakage sensor to detect for water intrusion into the chamber. (1.5kW and above)
- Tsurumi submersible mixers are available in wide variations. Lineups include models without a guide ring to improve the mixing effect while increasing water flow, models with a guide ring that provides an excellent flow regulating effect, and low-water level models that are applicable with a minimum operating water level of 500mm. The cast iron type or stainless steel casting type can be selected according to field applications.
- The mixers can be used for either aerobic/aeration treatment that mixes water and air, or anaerobic treatment that does not mix air into the water.
- When used in combination with lifting device (optional), the mixer can be easily inspected and serviced without entering the tank.

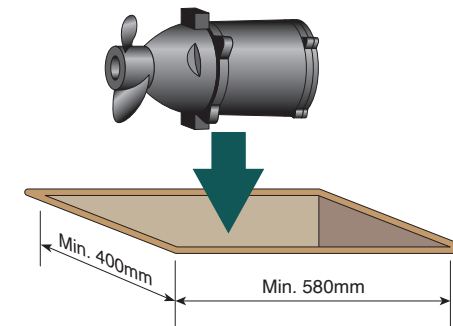
Applications

- For industrial wastewater treatment and tap water/sewage treatment
- For environmental conservation in ponds and rivers
- For artificial water flow in amusement facilities
- For mixing, stirring, dissolving, density equalization and aeration



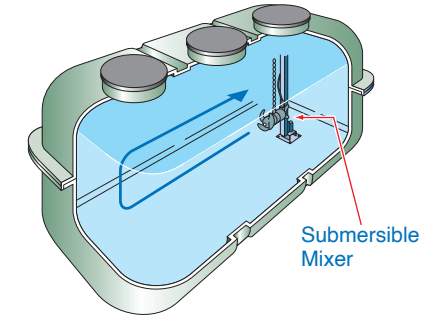
Tsurumi submersible mixers are available in wide variations that can be selected according to application.

Compact Design



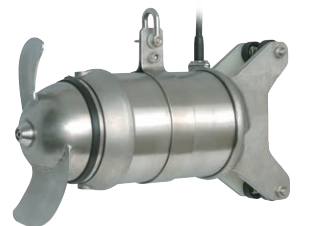
The compact type MR-series (0.75kW and below) is easy to handle and can be smoothly inserted through narrow openings (400 x 580mm) for installation in small treatment tanks.

Septic Tank/Johkasou of Factory Production Type



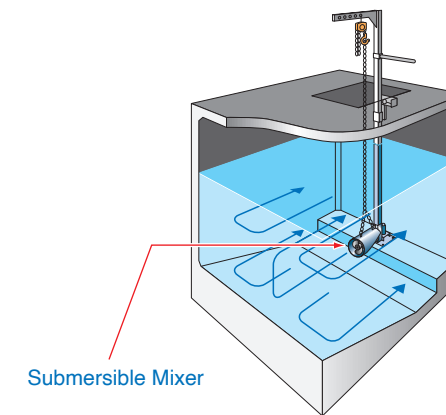
The MR-series is effective in equalizing water quality while preventing the sedimentation of solids. Also, when used in combination with an air diffuser, the MR-series effectively improves aerobic/aeration treatment efficiency and anaerobic mixing, as with an aerator.

Without/With Guide Ring Type



MR-series

Denitrifying Wastewater Treatment



Submersible Mixer

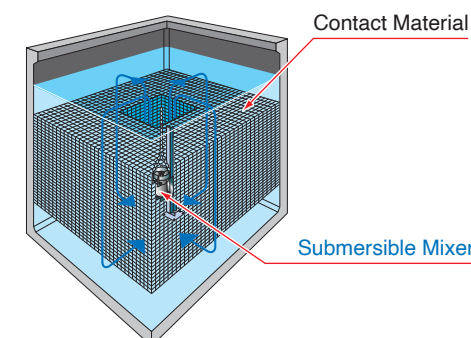
The MR/MRL-series are effective towards preventing the sedimentation of solids and equalizing water quality in flow rate regulating tanks and intermediate flow rate regulating tanks that do not need air (oxygen).

Low Water Level Type



MRL-series

Contact Tank



Contact Material

Submersible Mixer

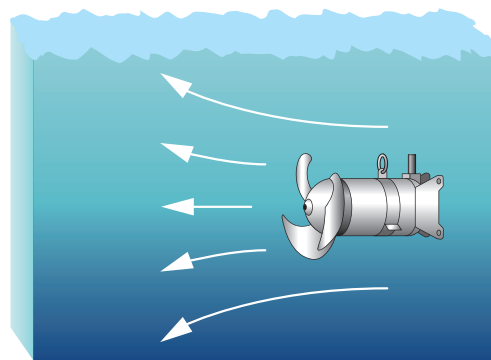
The MRT-series is used to generate a circulating flow in denitrifying contact tanks, etc. The simple structure of the MRT-series is suitable for small-scale treatment facilities where maintenance/inspection space is limited.

Vertical Top-discharge Type



MRT-series

Without Guide Ring Type

MR300-series
Stainless Steel Casting TypeMR300-series
Cast Iron TypeMR650-series
Stainless Steel Casting TypeMR650-series
Cast Iron Type

Without Guide Ring type improves the mixing effect while increasing water flow.

Model Selection 50Hz

Model	Motor Output kW	Pole	Propeller Rotation Speed min ⁻¹	Flow Rate m ³ /min	Fresh Water Mixing Output kW	Reaction Force N	Dry Weight kg	Propeller Nominal Dia. mm
MR21NF250	0.25	4	1420	2.0	0.12	50	24	155
MR21NF400	0.4	4	1420	2.8	0.17	80	24	185
MR21NF750	0.75	4	1410	3.6	0.35	130	24	190
MR2521EC/CR	0.75	6	942	5.0	0.62	170	28	270
MR31NF/NR1.5	1.5	6	910	7.5	1.0	195	36	300
MR32NF/NR1.5	1.5	6	910	7.8	1.1	210	36	300
MR33NF/NR1.5	1.5	6	910	9.8	1.2	295	36	300
MR31NF/NR2.8	2.8	6	915	10.9	2.1	395	46	300
MR32NF/NR2.8	2.8	6	915	11.8	2.3	420	46	300
MR33NF/NR2.8	2.8	6	915	13.0	2.5	500	46	300
MR41NF/NR3.0	3	8	730	11.6	2.5	330	112/122	400
MR42NF/NR3.0	3	8	730	13.0	2.6	465	112/122	400
MR43NF/NR3.0	3	8	730	15.0	2.7	570	112/122	400
MR41NF/NR4.0	4	8	710	17.4	3.4	610	112/122	400
MR42NF/NR4.0	4	8	710	19.0	3.6	660	112/122	400
MR61NF/NR5.0	5	12	483	27.0	3.7	900	144/150	600
MR62NF/NR5.0	5	12	483	32.0	4.1	1200	144/150	600
MR63NF/NR5.0	5	12	483	38.0	4.7	1500	144/150	600
MR61NF/NR7.5	7.5	12	483	32.0	5.6	1200	164/170	600
MR62NF/NR7.5	7.5	12	483	38.0	6.1	1500	164/170	600
MR63NF/NR7.5	7.5	12	483	42.0	6.7	1800	164/170	600

* TOMR type lifting device is also available. For details, contact your dealer.

* Weights of MR400/650-series is shown in NF (cast iron)/NR (stainless steel casting) type.

Model Selection 60Hz

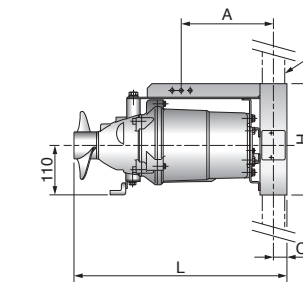
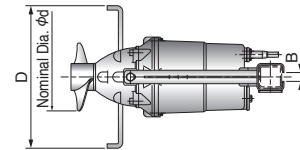
Model	Motor Output kW	Pole	Propeller Rotation Speed min ⁻¹	Flow Rate m ³ /min	Fresh Water Mixing Output kW	Reaction Force N	Dry Weight kg	Propeller Nominal Dia. mm
MR21NF250	0.25	4	1700	1.4	0.08	40	24	145
MR21NF400	0.4	4	1700	1.8	0.13	60	24	155
MR21NF750	0.75	4	1690	3.2	0.28	110	24	185
MR2521EC/CR	0.75	6	1126	4.4	0.68	160	28	240
MR31NF/NR1.5	1.5	6	1085	9.3	1.2	260	36	300
MR32NF/NR1.5	1.5	6	1085	9.6	1.3	285	36	300
MR31NF/NR2.8	2.8	6	1090	11.9	2.1	430	46	300
MR32NF/NR2.8	2.8	6	1090	13.1	2.5	535	46	300
MR41NF/NR3.0	3	8	870	14.1	2.5	485	112/122	400
MR42NF/NR3.0	3	8	870	16.4	2.8	665	112/122	400
MR41NF/NR4.0	4	8	840	18.6	3.8	795	112/122	400
MR61NF/NR5.0	5	12	578	25.0	3.7	800	144/150	600
MR62NF/NR5.0	5	12	578	32.0	4.6	1300	144/150	600
MR61NF/NR7.5	7.5	12	577	32.0	5.4	1300	164/170	600
MR62NF/NR7.5	7.5	12	577	40.0	6.4	1700	164/170	600

* TOMR type lifting device is also available. For details, contact your dealer.

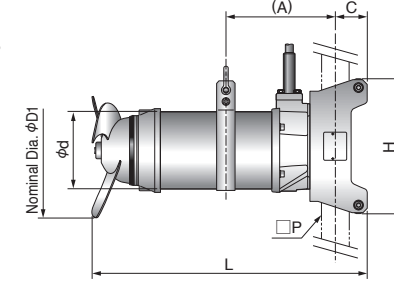
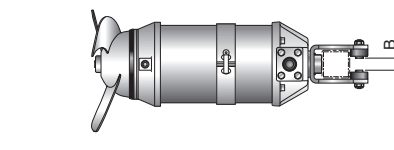
* Weights of MR400/650-series is shown in NF (cast iron)/NR (stainless steel casting) type.

Dimensions

MR200-series



MR250/300/400/650-series



50Hz

Model	D	D1	d	L	H	A	B	C	P
MR21NF250	317	—	155	473	247	205	20	30	50
MR21NF400	317	—	185	473	247	205	20	30	50
MR21NF750	317	—	190	473	247	205	20	30	50
MR2521EC/CR	—	270	165	470	258	177	21	67	50
MR31NF/NR1.5	—	300	168	556	294	210	26	70	60
MR32NF/NR1.5	—	300	168	557	294	210	26	70	60
MR33NF/NR1.5	—	300	168	560	294	210	26	70	60
MR31NF/NR2.8	—	300	168	600	294	240	26	70	60
MR32NF/NR2.8	—	300	168	608	294	240	26	70	60
MR33NF/NR2.8	—	300	168	608	294	240	26	70	60
MR41NF/NR3.0	—	400	—	668	300	285	26	70	60
MR42NF/NR3.0	—	400	—	668	300	285	26	70	60
MR43NF/NR3.0	—	400	—	668	300	285	26	70	60
MR41NF/NR4.0	—	400	—	668	300	285	26	70	60
MR42NF/NR4.0	—	400	—	686	300	285	26	70	60
MR61NF/NR5.0	—	600	—	795	380	300	45	98	100
MR62NF/NR5.0	—	600	—	800	380	300	45	98	100
MR63NF/NR5.0	—	600	—	805	380	300	45	98	100
MR61NF/NR7.5	—	600	—	800	380	290	45	98	100
MR62NF/NR7.5	—	600	—	805	380	290	45	98	100
MR63NF/NR7.5	—	600	—	815	380	290	45	98	100

* Dimension "A" is a reference value.

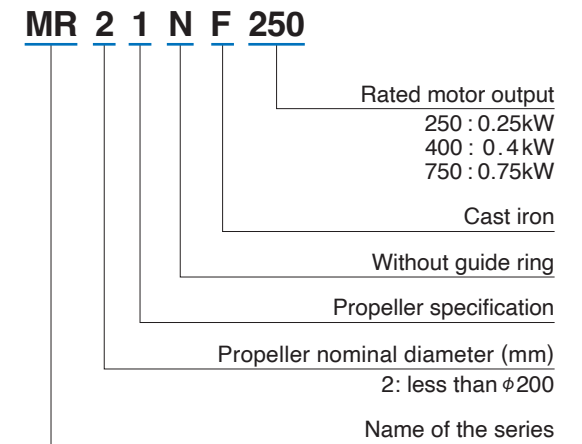
60Hz

Model	D	D1	d	L	H	A	B	C	P
MR21NF250	317	—	145	473	247	205	20	30	50
MR21NF400	317	—	155	473	247	205	20	30	50
MR21NF750	317	—	185	473	247	205	20	30	50
MR2521EC/CR	—	240	165	470	258	177	21	67	50
MR31NF/NR1.5	—	300	168	556	294	210	26	70	60
MR32NF/NR1.5	—	300	168	557	294	210	26	70	60
MR31NF/NR2.8	—	300	168	600	294	240	26	70	60
MR32NF/NR2.8	—	300	168	600	294	240	26	70	60
MR41NF/NR3.0	—	400	—	668	300	285	26	70	60
MR42NF/NR3.0	—	400	—	668	300	285	26	70	60
MR41NF/NR4.0	—	400	—	668	300	285	26	70	60
MR61NF/NR5.0	—	600	—	790	380	300	45	98	100
MR62NF/NR5.0	—	600	—	795	380	300	45	98	100
MR61NF/NR7.5	—	600	—	795	380	290	45	98	100
MR62NF/NR7.5	—	600	—	800	380	290	45	98	100

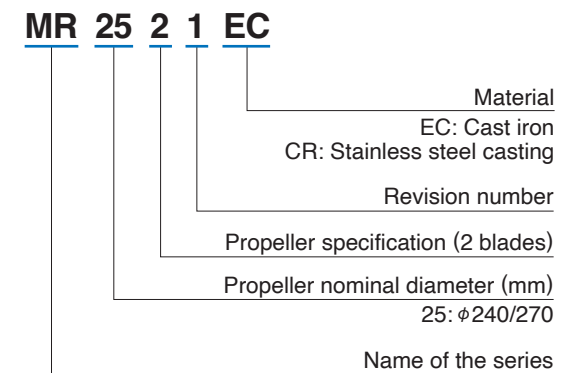
* Dimension "A" is a reference value.

Model Number Designation

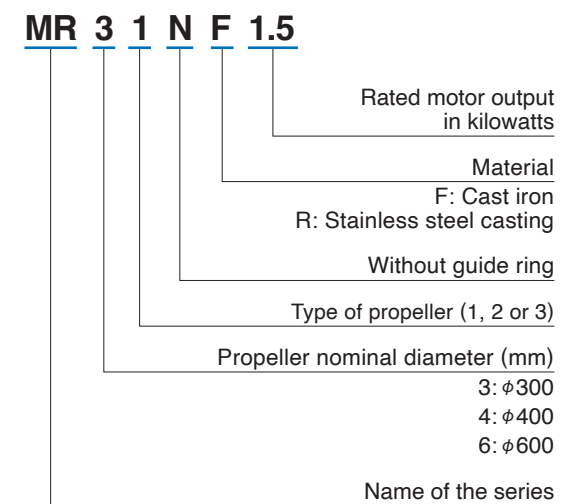
MR200-series



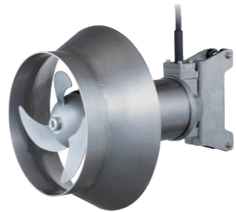
MR250-series



MR300/400/650-series



With Guide Ring Type



MR300-series
Stainless Steel Casting Type



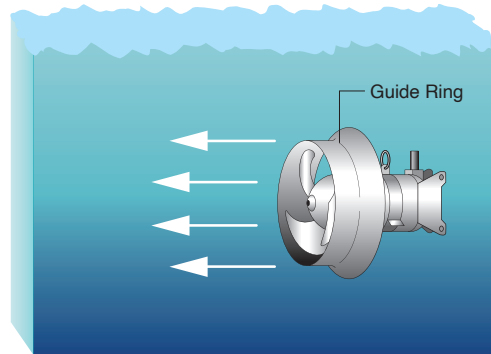
MR300-series
Cast Iron Type



MR650-series
Stainless Steel Casting Type



MR650-series
Cast Iron Type



With Guide Ring type provides an excellent flow regulating effect.

Model Selection 50Hz

Model	Motor Output kW	Pole	Propeller Rotation Speed min ⁻¹	Flow Rate m³/min	Fresh Water Mixing Output kW	Reaction Force N	Dry Weight kg	Propeller Nominal Dia. mm
MR31GF/GR1.5	1.5	6	910	7.3	0.9	185	46	300
MR32GF/GR1.5	1.5	6	910	7.7	1.0	200	46	300
MR33GF/GR1.5	1.5	6	910	9.6	1.2	285	46	300
MR31GF/GR2.8	2.8	6	915	10.7	2.1	385	56	300
MR32GF/GR2.8	2.8	6	915	11.5	2.2	410	56	300
MR33GF/GR2.8	2.8	6	915	12.7	2.4	490	56	300
MR41GF/GR3.0	3	8	730	11.3	2.4	235	125/135	400
MR42GF/GR3.0	3	8	730	12.6	2.5	375	125/135	400
MR43GF/GR3.0	3	8	730	14.4	2.6	435	125/135	400
MR41GF/GR4.0	4	8	710	16.6	3.2	475	125/135	400
MR42GF/GR4.0	4	8	710	18.1	3.3	540	125/135	400
MR61GF/GR5.0	5	12	483	27.0	3.8	900	154/160	600
MR62GF/GR5.0	5	12	483	32.0	4.1	1200	154/160	600
MR63GF/GR5.0	5	12	483	38.0	4.7	1500	154/160	600
MR61GF/GR7.5	7.5	12	483	32.0	5.5	1200	174/180	600
MR62GF/GR7.5	7.5	12	483	38.0	6.0	1500	174/180	600
MR63GF/GR7.5	7.5	12	483	42.0	6.4	1800	174/180	600

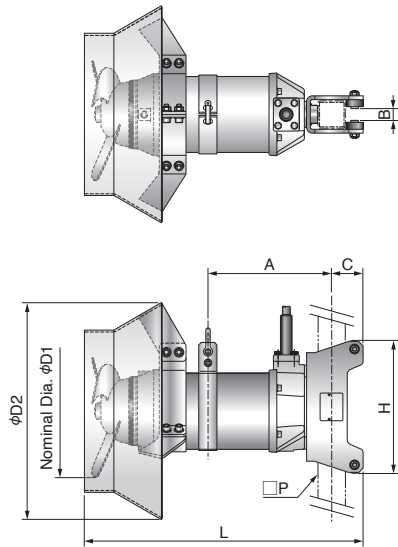
* TOMR type lifting device is also available. For details, contact your dealer.
* Weights of MR400/650-series is shown in GF (cast iron)/GR (stainless steel casting) type.

Model Selection 60Hz

Model	Motor Output kW	Pole	Propeller Rotation Speed min ⁻¹	Flow Rate m³/min	Fresh Water Mixing Output kW	Reaction Force N	Dry Weight kg	Propeller Nominal Dia. mm
MR31GF/GR1.5	1.5	6	1085	9.0	1.1	245	46	300
MR32GF/GR1.5	1.5	6	1085	9.4	1.2	275	46	300
MR31GF/GR2.8	2.8	6	1090	11.5	2.0	420	56	300
MR32GF/GR2.8	2.8	6	1090	12.6	2.3	525	56	300
MR41GF/GR3.0	3	8	870	13.4	2.4	345	125/135	400
MR42GF/GR3.0	3	8	870	15.6	2.7	530	125/135	400
MR41GF/GR4.0	4	8	840	17.7	3.4	630	125/135	400
MR61GF/GR5.0	5	12	578	25.0	3.6	800	154/160	600
MR62GF/GR5.0	5	12	578	32.0	4.5	1300	154/160	600
MR61GF/GR7.5	7.5	12	577	32.0	5.4	1300	174/180	600
MR62GF/GR7.5	7.5	12	577	40.0	6.4	1700	174/180	600

* TOMR type lifting device is also available. For details, contact your dealer.
* Weights of MR400/650-series is shown in GF (cast iron)/GR (stainless steel casting) type.

Dimensions



50Hz

Unit: mm								
Model	D1	D2	L	H	A	B	C	P
MR31GF/GR1.5	300	479	576	294	255	26	70	60
MR32GF/GR1.5	300	479	576	294	255	26	70	60
MR33GF/GR1.5	300	479	576	294	255	26	70	60
MR31GF/GR2.8	300	479	616	294	275	26	70	60
MR32GF/GR2.8	300	479	616	294	275	26	70	60
MR33GF/GR2.8	300	479	616	294	275	26	70	60
MR41GF/GR3.0	400	572	691	300	315	26	70	60
MR42GF/GR3.0	400	572	691	300	315	26	70	60
MR43GF/GR3.0	400	572	691	300	315	26	70	60
MR41GF/GR4.0	400	572	691	300	315	26	70	60
MR42GF/GR4.0	400	572	691	300	315	26	70	60
MR61GF/GR5.0	600	780	825	380	325	45	98	100
MR62GF/GR5.0	600	780	825	380	325	45	98	100
MR63GF/GR5.0	600	780	825	380	325	45	98	100
MR61GF/GR7.5	600	780	825	380	325/315	45	98	100
MR62GF/GR7.5	600	780	825	380	325/315	45	98	100
MR63GF/GR7.5	600	780	825	380	325/315	45	98	100

* Dimension "A" is a reference value.

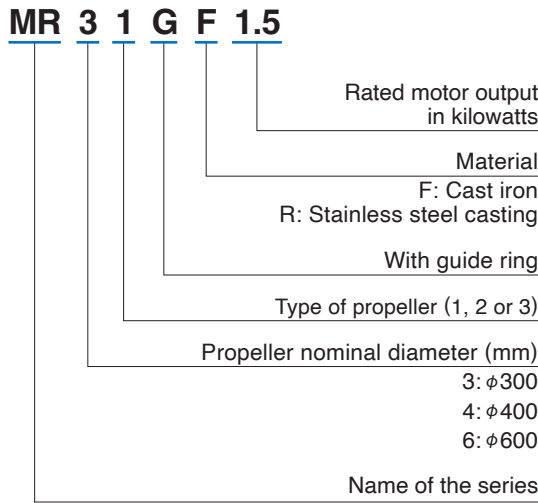
60Hz

Unit: mm								
Model	D1	D2	L	H	A	B	C	P
MR31GF/GR1.5	300	479	576	294	255	26	70	60
MR32GF/GR1.5	300	479	576	294	255	26	70	60
MR31GF/GR2.8	300	479	616	294	275	26	70	60
MR32GF/GR2.8	300	479	616	294	275	26	70	60
MR41GF/GR3.0	400	572	691	300	315	26	70	60
MR42GF/GR3.0	400	572	691	300	315	26	70	60
MR41GF/GR4.0	400	572	691	300	315	26	70	60
MR42GF/GR4.0	400	572	691	300	315	26	70	60
MR61GF/GR5.0	600	780	825	380	325	45	98	100
MR62GF/GR5.0	600	780	825	380	325	45	98	100
MR61GF/GR7.5	600	780	825	380	325/315	45	98	100
MR62GF/GR7.5	600	780	825	380	325/315	45	98	100

* Dimension "A" is a reference value.

Model Number Designation

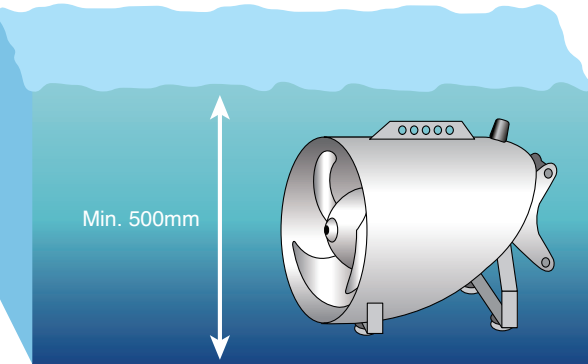
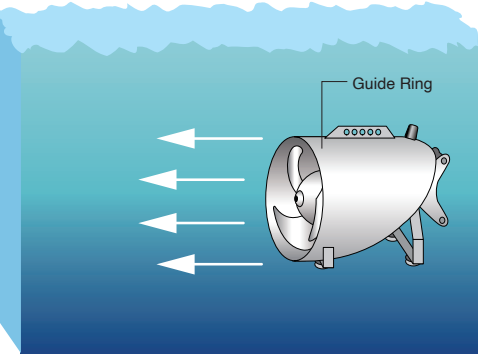
MR300/400/650-series



MRL (Low Water Level Type)



Cast Iron Type



Applicable with a minimum operating water level of 500mm.



The mixer body has rubber feet, enabling installation at the bottom of a tank.

Model Selection 50Hz

Model	Motor Output kW	Pole	Propeller Rotation Speed min ⁻¹	Flow Rate m ³ /min	Fresh Water Mixing Output kW	Reaction Force N	Dry Weight kg	Propeller Nominal Dia. mm
MRL21GF250	0.25	4	1420	1.91	0.09	45	27	155
MRL21GF400	0.4	4	1420	2.67	0.13	72	27	185
MRL21GF750	0.75	4	1410	3.44	0.27	117	27	190
MRL2541EC/CR	0.75	6	942	4.8	0.61	160	39	270
MRL31GF/GR1.5	1.5	6	910	6.2	0.9	120	50	300
MRL32GF/GR1.5	1.5	6	910	6.6	1.0	130	50	300
MRL33GF/GR1.5	1.5	6	910	8.1	1.2	185	50	300
MRL31GF/GR2.8	2.8	6	915	9.5	2.1	225	61	300
MRL32GF/GR2.8	2.8	6	915	10.2	2.2	265	61	300
MRL33GF/GR2.8	2.8	6	915	11.0	2.4	300	61	300

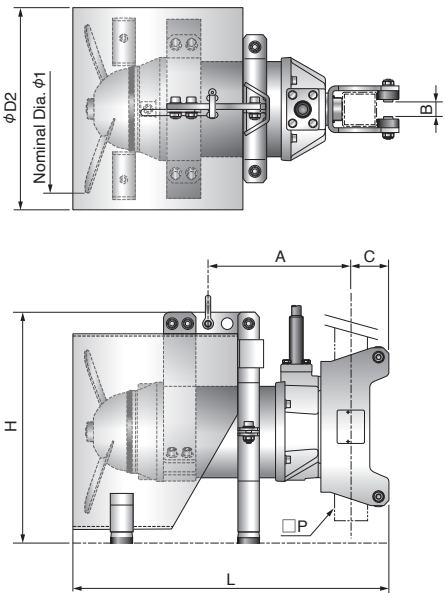
* TOMRL type lifting device is also available. For details, contact your dealer.

Model Selection 60Hz

Model	Motor Output kW	Pole	Propeller Rotation Speed min ⁻¹	Flow Rate m ³ /min	Fresh Water Mixing Output kW	Reaction Force N	Dry Weight kg	Propeller Nominal Dia. mm
MRL21GF250	0.25	4	1700	1.32	0.06	37	27	145
MRL21GF400	0.4	4	1700	1.7	0.10	55	27	155
MRL21GF750	0.75	4	1690	3.02	0.22	101	27	185
MRL2541EC/CR	0.75	6	1126	4.2	0.67	150	39	240
MRL31GF/GR1.5	1.5	6	1085	7.7	1.1	160	50	300
MRL32GF/GR1.5	1.5	6	1085	8.0	1.2	180	50	300
MRL31GF/GR2.8	2.8	6	1090	10.4	2.0	275	61	300
MRL32GF/GR2.8	2.8	6	1090	11.3	2.3	310	61	300

* TOMRL type lifting device is also available. For details, contact your dealer.

Dimensions



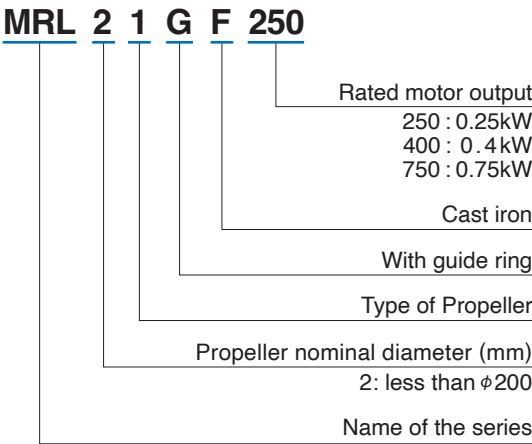
50/60Hz

Model	Unit: mm							
	D1	D2	L	H	A	B	C	P
MRL21GF250	155/145	289	498	294	230	20	30	50
MRL21GF400	185/155	289	498	294	230	20	30	50
MRL21GF750	190/185	289	498	294	230	20	30	50
MRL2541EC/CR	270/240	319	495	393	208	21	67	50
MRL31GF/GR1.5	300	355.6	576	421	260	26	70	60
MRL32GF/GR1.5	300	355.6	576	421	260	26	70	60
MRL33GF/GR1.5	300	355.6	576	421	260	26	70	60
MRL31GF/GR2.8	300	355.6	626	421	270	26	70	60
MRL32GF/GR2.8	300	355.6	626	421	270	26	70	60
MRL33GF/GR2.8	300	355.6	626	421	270	26	70	60

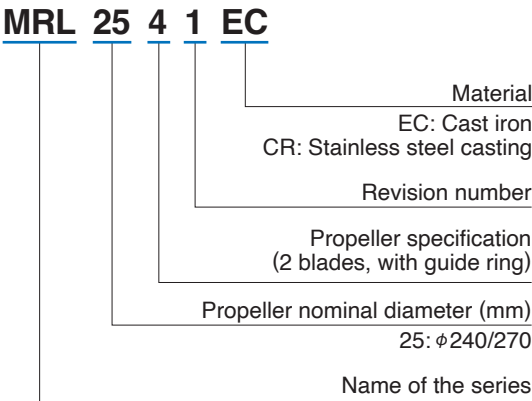
* Dimension "A" is a reference value.

Model Number Designation

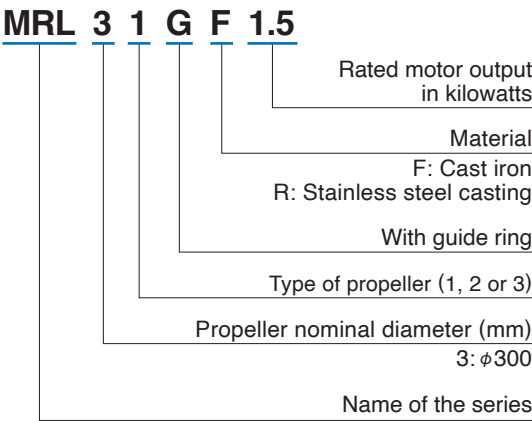
MRL200-series



MRL250-series



MRL300-series





B / BZ

Submersible Sewage Pumps / Channel Impeller

- Tsurumi basic sewage pumps, wide range lineup
- Wide solids passage of over 3 inches (76.2 mm) in diameter [BZ]
- Available in guide rail fitting system

Discharge Bore: 50 - 350 mm
Motor Output: 0.4 - 75 kW
Max. Head: 70 m
Max. Capacity: 18 m³/min



C

Submersible Cutter Pumps / Cutter Impeller

- Incorporated cutting mechanism
- Impeller and suction cover of the "CR" type made of high-chromium cast iron
- Available in guide rail fitting system

Discharge Bore: 50 - 200 mm
Motor Output: 0.75 - 37 kW
Max. Head: 70 m
Max. Capacity: 7.1 m³/min

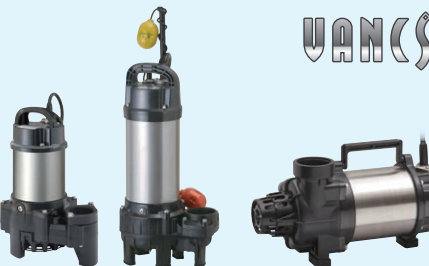


BN

Submersible Smashing Cutter Pumps

- Smashing cutter pumps incorporated crushing and shredding mechanism
- Innovative scissor-like mechanism combining original heart-shaped suction cover and unique impeller
- Prevents clogging of the pump by crushing and shredding solids more finely
- Available in guide rail fitting system

Discharge Bore: 100 mm Max. Head: 33 m
Motor Output: 1.5 - 15 kW Max. Capacity: 4 m³/min



PU / PN / PSF / TM / OM

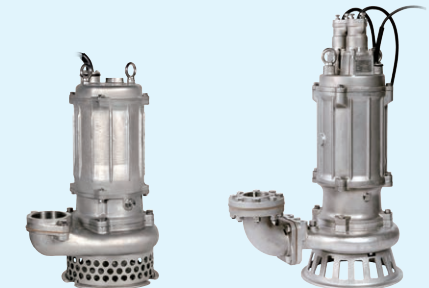
PLS



Submersible Resin Made Pumps

- "VANCS"; corrosion-resistant pumps made of special resin
- Fish friendly lubricating oil suitable for water feature, fish farm
- Wide variation; large solids type, high head type, horizontal type
- Available in seawater pumps made of titanium & special resin [TM]
- Available in automatic model and guide rail fitting system

Discharge Bore: 32 - 80 mm
Motor Output: 0.15 - 3.7kW
Max. Head: 34 m
Max. Capacity: 0.95 m³/min



SFQ

Submersible Stainless Steel Casting Pumps

- Corrosion-resistant pumps made of 316 stainless steel casting
- Suitable for acidic, chemical fluids of low pH value
- Available in guide rail fitting system

Discharge Bore: 50 - 80 mm
Motor Output: 0.4 - 11 kW
Max. Head: 44 m
Max. Capacity: 2.08 m³/min



TRN

BER

Submersible Aerators

- Self-aspirating aerators designed for aeration and mixing of wastewater
- High efficiency dissolution of oxygen by special impeller design, and multi directionally eject mixture of air and water from outlets [TRN]
- Eject mixture of air and water through the diffuser [BER]

Air-inlet Bore: 25 - 150 mm
Motor Output: 0.75 - 40 kW
Air Flow Rate: 7 - 528 m³/h



FSP

Floating Scum Skimmers

- Collection of floating scum in the wastewater treatment
- Water, air and scum are drawn simultaneously by jet-injector mechanism
- Keep suction mouth relative position with the water surface

Discharge Bore: 50 mm
Motor Output: 0.4 - 0.75 kW



MDQ / MDC

JD / XJD

Multi-disc Dehydrators

- Wide product lineup; treating capacity in a range of 3 to 427 kgDS/h
- Utilize both gravity filtration and screw displacement compression systems [MDQ / MDC]
- Utilize both gravity filtration and compression dehydration systems [JD / XJD]
- Major parts made of stainless steel

Treating Capacity: 3 - 427 kgDS/h
Total Motor Output: 0.6 - 3.5 kW

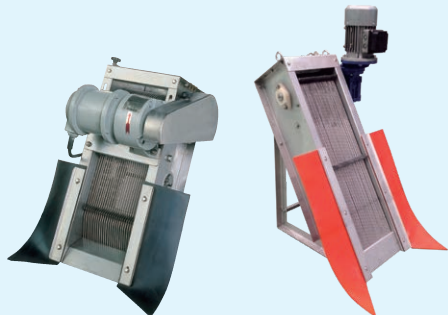


TSR

Rotary Air Blowers

- Precisely machined, well-balanced 3-lobe rotor reduces the pulsating noise and vibration.
- Double-sided oil chamber design effectively maintains lower temperatures during high-pressure and high-speed operations in comparison to traditional models.

Discharge Bore: 50 - 300 mm
Air Volume: 0.90 - 120.66 m³/min



KE / KS / KM / KW

Bar Screens

- Screening wastewater
- Available in front screen type or rear screen type
- Major parts made of stainless steel

Bar Spacing: 1 - 50 mm
Motor Output: 0.09 - 0.1 kW
Max. Capacity: 223 m³/h





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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