

SUBMERSIBLE MIXERS
FLOW GENERATORS
RECIRCULATION PUMPS



HR
CHR
HRZ



A wide Spectrum

A wide Spectrum

HOMA submersible mixers are used for various applications in homogenisation, suspension of solids, horizontal flow generation or other mixing and flushing duties.

Areas of application are municipal and industrial wastewater treatment, industrial processing, agriculture, storm water tanks and many others.

The robust design of **HOMA** submersible mixers guarantees long-life trouble-free operation even under most demanding conditions.

The hydraulically optimized design of all propellers, transmission and motor drive results in outstanding efficiencies and excellent mixing performance with minimum flow losses.

A solid, flexible and easy handling installation system allows an optimum and individual positioning of the mixer combined with easy installation and maintenance.



Competence in Detail

1 Transmission

Long lifetime planetary transmission in big-volume oil chamber with inspection screw.

2 Motor

Pressure tight sealed motor, IP 68 protection, with thermal sensors embedded in the motor winding for motor temperature monitoring. Optional explosion proof according to ATEX Ex II 2GExd.

3 Galvanic separation

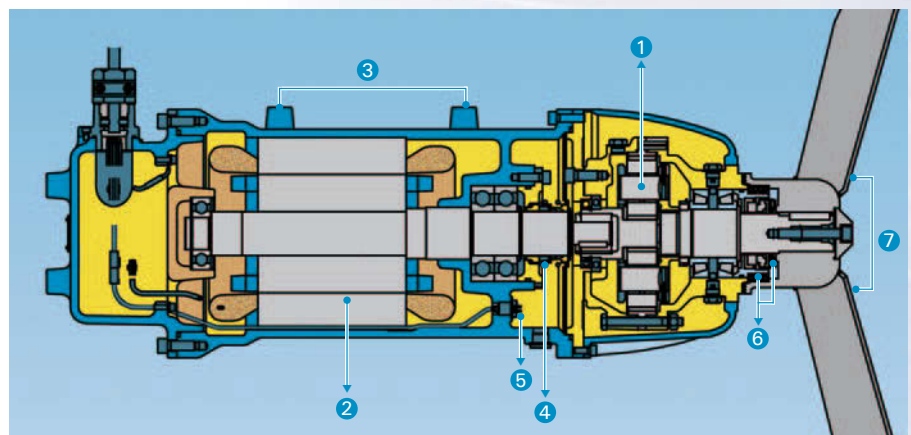
Galvanic separation of motor housing and motor bracket prevents galvanic-corrosion.

4 Shaft seals motor housing

Lip seal protection with mechanical seal.

5 Moisture sensor

Moisture probe in oil chamber with electrode device



6 Propeller shaft seals

Two-level sealing system for optimum protection:

- 2 lip seals in the propeller hub rotate
- Silicon carbide mechanical seal on propeller shaft provides optimal protection against seeping fluid

7 Propeller

Hydraulically optimized self-cleaning propeller

Ranges and Applications

Compact Design Mixers

HRS/CHRS – with direct Motor Drive
HRG – with Transmission Drive

Multipurpose units for various applications.

- Streamlined compact design
- Self cleaning, high efficiency propeller
- Ideal for installation in any tank design
- Solid, compact and easy-handling installation and lifting system

Main applications are:

- Mixing, agitating, dissolving
- Sludge homogenisation
- Stormwater tanks
- Suspension of sediments or swimming covers also in pump pits
- Mixing of chemicals and high viscosity liquids
- Fishfarming
- Flow generation
- Cooling basins



Flow Generators

HRM/HRL

HOMA flow generators for a reliable and economic operation in waste water treatment.

- Self cleaning, vibration free 2- or 3-blade propeller with high efficiency for high flow performance at low speed for low energy cost
- High performance propeller drive by robust planetary transmission

- Individual positioning in all tank designs for optimum flow generation by robust and easy-handling installation and lifting system

Main applications are:

- Nitrification
- Denitrification
- Phosphate-elimination
- Mixing, agitating
- Cooling basins
- Fishfarming



Recirculation Pumps

HRZ

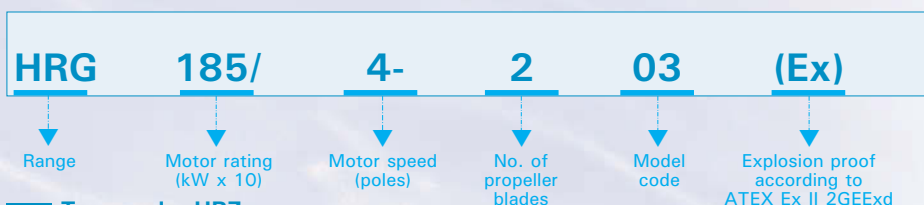
- For pump applications with high flow rate at low delivery height up to dry solids content of steel max. 1.5%
- Ideal fluidic propeller blade form

Main applications are:

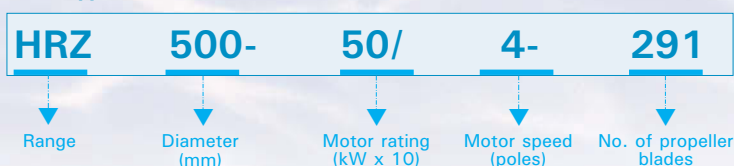
- Deliver return-sludge from nitrification to denitrification
- Fishfarming
- Amusement parks (log flume)
- Natural pools



Type code: HRS, CHRS, HRG, HRM, HRL



Type code: HRZ



Flow Generators

HRM/HRL

Design

- **Propeller:**
2- or 3-blade propeller, self cleaning design
- **Shaft seal:**
Two level sealing system with 2 lip seals with grease filling in the propeller hub and additional mechanical seal.
Gearbox with inspection screw forms oil chamber for mechanical seal lubrication and moisture probe. Sealing of gearbox from motor chamber by 2 lip seals.
- **Transmission:**
Planetary transmission in oil chamber
- **Propeller shaft bearing:**
2 roller bearings in oil chamber
- **Motor shaft bearing:**
2 grooved ball bearings, permanent lubrication
- **Motor:**
Pressure tight sealed submersible motor, IP68 protection, insulation class F = 155 °C, pressure tight cable gland, thermal sensors for temperature control embedded in motor winding. Galvanic separation from motor bracket. Optional explosion proof according to ATEX Ex II 2GEEExd.
- **Seal condition monitoring probe:**
Electrode in oil chamber
- **Installation:**
Installation and lifting device for individual mixer positioning, resting on vibration absorbers

Materials

Propeller:
HRL: epoxy resin reinforced with cast iron
HRM: Polyamide-GF

Gearbox housing:
Cast iron GG 25/EN-GJL-250

Mechanical seal:
Silicon carbide/Silicon carbide

Motor- / Propeller shaft:
1.5715

Motorhousing:
Cast iron GG 25/EN-GJL-250

Bolts / Nuts:
Stainless steel 1.4306

Elastomeres:
NBR

Motor bracket / Installation- and lifting system:
Stainless steel 1.4301

Vibration absorbers:
EPDM

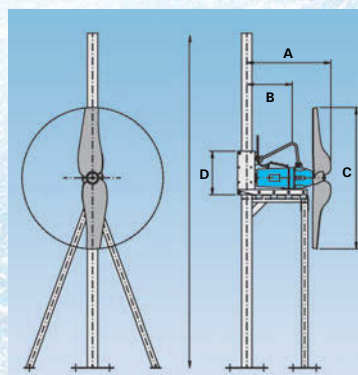
Technical Data

Type	Voltage (50 Hz)	Motor power		Nominal current (A)	Speed motor / propeller (rpm)	No. of propeller blades	Axial force (N)	Flow (m³/h)	Weight (kg)
		P ₁ (kW)	P ₂ (kW)						
HRM 15/4-202 (C)/(Ex)	400 V/3 Ph	2.1	1.5	4.2	1400/76	2	998	5874	113
HRM 22/4-202 (C)/(Ex)	400 V/3 Ph	2.9	2.2	6.0	1400/77	2	1344	6782	117
HRM 30/4-202 (C)/(Ex)	400 V/3 Ph	3.7	3.0	7.3	1410/93	2	1651	7546	134
HRM 40/4-202 (C)/(Ex)	400 V/3 Ph	4.9	4.0	9.2	1410/92	2	2073	8453	148
HRL 13/4-201	400 V/3 Ph	1.8	1.3	6.4	1440/30.2	2	844	7461	190
HRL 15/6-201	400 V/3 Ph	2.1	1.5	7.1	950/23.2	2	1016	10470	200
HRL 18/4-201	400 V/3 Ph	2.4	1.8	6.9	1420/34.6	2	1166	8770	190
HRL 22/6-201	400 V/3 Ph	2.9	2.2	7.7	950/25.8	2	1411	12265	200
HRL 24/4-201	400 V/3 Ph	3.1	2.4	9.8	1450/39.3	2	1539	10075	198
HRL 30/4-301	400 V/3 Ph	3.8	3.0	10.2	1450/34.1	3	2229	15556	233
HRL 37/4-201	400 V/3 Ph	4.6	3.7	10.8	1410/46.6	2	2237	12147	198
HRL 40/4-301	400 V/3 Ph	5.0	4.0	11.1	1450/34.1	3	2822	17500	233

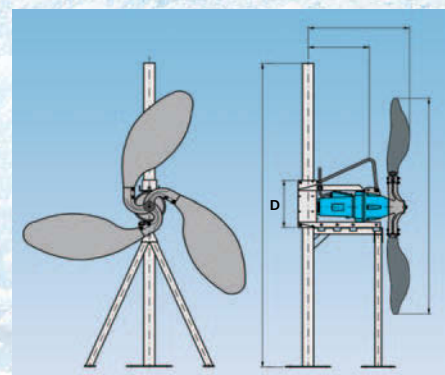
Installation and Dimensions (in mm)

Type	A	B	C	D
HRM 15/4-202 (C)/(Ex)	868	338	1340	500
HRM 22/4-202 (C)/(Ex)	868	338	1340	500
HRM 30/4-202 (C)/(Ex)	868	338	1340	500
HRM 40/4-202 (C)/(Ex)	868	338	1340	500
HRL 13/4-201	897	540	1800	450
HRL 15/6-201	897	540	2300	450
HRL 18/4-201	897	540	1800	450
HRL 22/6-201	897	540	2300	450
HRL 24/4-201	897	540	1800	450
HRL 30/4-301	897	540	2300	450
HRL 37/4-201	897	540	1800	450
HRL 40/4-301	897	540	2300	450

HRM 15... - HRM 40...



HRL 13... - HRL 40...





HOMA Product Range

- › Submersible waste water pumps
- › Deep-well submersible pumps
- › Submersible sewage pumps
- › Submersible grinder pumps with cutter system
- › Waste water disposal units
- › Sewage disposal units
- › Packaged pump stations
- › Mixers and flow generators
- › Injector systems for tank cleaning
- › Garden pumps and domestic booster units
- › Control boxes



Worldwide Presence

HOMA pumps are installed in more than 60 countries around the world – in countless projects of various kinds. They comply to all international safety and quality standards and are certified by many institutions and organisations responsible for national waste water treatment standards. To maintain and further develop this high quality level is our main target.



Network of Sales and Service Partners

HOMA provides a worldwide network of agents and distributors supporting our customer with excellent sales and service assistance in planning, specification and selection, including a computer software program available on CD-ROM or from the WorldWide-Web.

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