

# SUBMERSIBLE MOTOR AGITATORS

AGITATORS – FLOW GENERATORS – RECIRCULATION PUMPS

HRS, CHR, HRL, HRZ series



**HOMA**  
P U M P T E C H N O L O G Y





## WE GET THINGS MOVING

### A BROAD SPECTRUM

Submersible motor agitators from HOMA are used for a variety of purposes, including homogenisation, suspension, generation of horizontal flows or flushing deposits out of fluids. Areas of application include public and industrial waste water treatment and disposal, industrial process engineering and agriculture, to name but a few.

The robust construction of HOMA submersible motor agitators ensures flawless operation, even under the most difficult conditions. The flow and agitation properties of the propeller and drive have been optimised to ensure the best thrust performance with high efficiency and excellent mixing.

Sturdy, flexible and easy to handle installation devices allow straightforward fitting and removal, as well as optimum, individual positioning of the units to suit the relevant application.

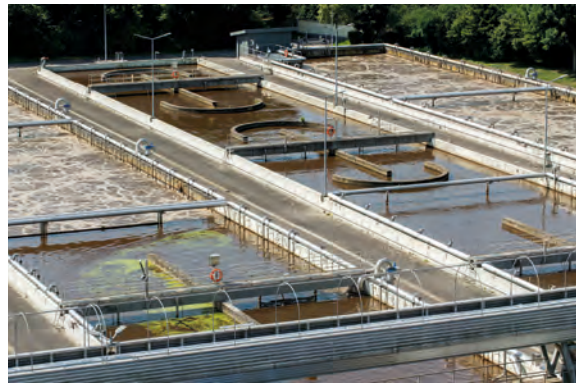
### AGITATORS

Stringy solids in the medium represent a particular challenge, as they can become entwined in the area of the propeller, which can severely impair the performance of the agitator. A new propeller design for the HRS/CHRS series was therefore produced at the HOMA development centre: the efficiency optimised propeller shape minimises weak flow zones at the propeller blades to reliably prevent clogging.

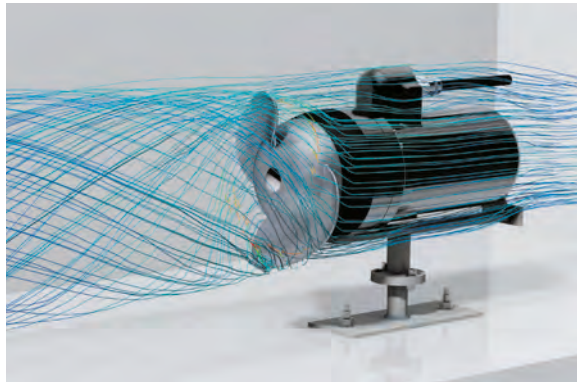
#### Possible application areas:

- Sludge homogenisation
- Storm water holding tanks
- Dissolving sedimentation or floating layers, including in pump sumps
- Mixing of chemicals
- Fish farming
- Cooling basins
- Ice removal





Reliable HOMA submersible motor agitators have been developed for a wide range of applications in sewage treatment plants.



All propellers were developed and optimised with the aid of CFD simulations.

## HIGH EFFICIENCY

### FLOW GENERATORS

The aeration and mixing of activated sludge are the most energy consuming processes of a sewage treatment plant by some margin. HOMA offers the ideal solution, in the form of its energy efficient and slow running large propeller agitators. The flow and agitation properties of the propeller and drive have been optimised to ensure high efficiency and excellent mixing with minimum flow losses. Reliable HOMA flow generators thus ensure careful and optimum mixing of fluids in sewage treatment plants.

#### Possible application areas:

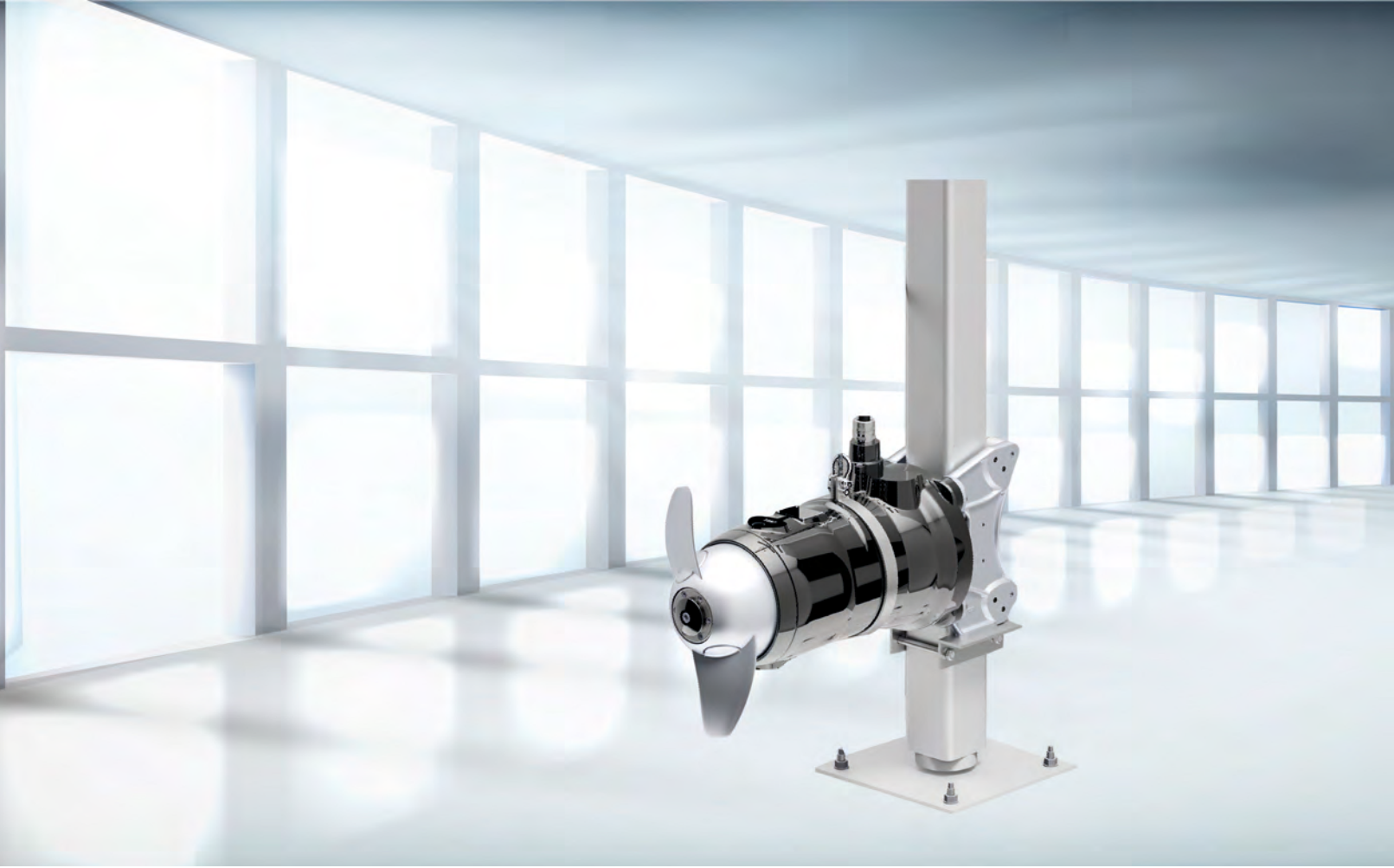
- Nitrification
- Denitrification
- Phosphate elimination
- For use in flocculation tanks, buffer tanks, oxidation trenches
- Cooling basins
- Fish farming

### RECIRCULATION PUMPS

Recirculation pumps are used for pumping and recycling activated sludge in sewage treatment plants. All components are therefore made from high grade materials and every part is tested for reliability and durability before assembly. Due to their performance characteristics – high pump rates at low delivery heads – all recirculation pumps are ideally suited to waste water treatment.

#### Possible application areas:

- Pumping activated sludge from nitrification to denitrification
- Fish farming
- Leisure parks (water slides)
- Natural bathing ponds



## (C)HRS AGITATORS WITH DIRECT DRIVE

### COMPACT VERSATILITY

The compact agitators from the HRS and CHRS series have a robust design and are optimised for efficiency to ensure trouble-free operation, even under the most challenging conditions.

### Universal units – for a broad range of applications

- Flow optimised, compact design
- Self-cleaning propeller with high efficiency
- Suitable for tanks of any shape
- Sturdy, compact and user friendly installation system with drain device

### Possible application areas:

- Sludge homogenisation
- Storm water holding tanks
- Dissolving sedimentation or floating layers, including in pump sumps
- Mixing of chemicals
- Fish farming
- Flow generation
- Cooling basins
- Ice removal



CHRS: Stainless steel motor housing and elastomers made from Viton make usage possible even in aggressive chemical media.

# KEY TO DESIGNATIONS

Series	Propeller power in freshwater	Motor pole number	Propeller diameter	Number of propeller blades	Model code	Monitoring	Explosion-proof motor	Nominal size of motor mount
<b>(C)HRS</b>	<b>14/</b>	<b>6-</b>	<b>250-</b>	<b>2</b>	<b>03/04</b>	<b>(C)</b>	<b>(Ex)</b>	<b>M60</b>
C = stainless steel version	( kW x 10 )	4-pole 6-pole 8-pole 12-pole	(in mm)			C = oil chamber monitoring probe T = Pt100 temperature sensor M = PTC sensor		M60 M80 M100

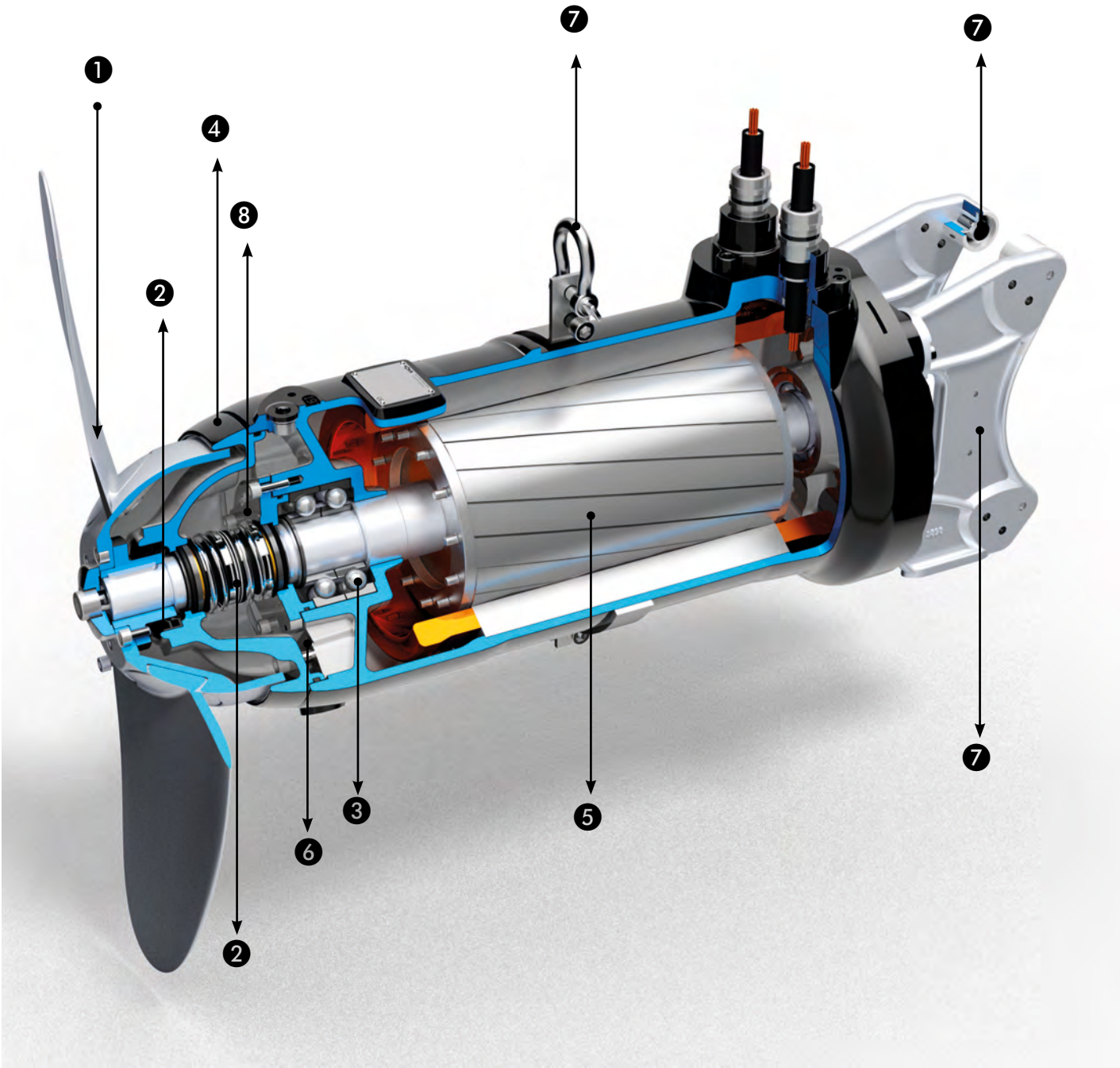
## TECHNICAL DATA

Model	Voltage (50 Hz)	Motor input P <sub>1</sub> (kW)	Motor input P <sub>2</sub> (kW)	Nominal current (A)	Rotational speed Motor/propeller (rpm)	Thrust (N)	Propeller ø (mm)	Weight (kg)
<b>HRS</b>								
HRS 07/4-230-203 (C) / (Ex)	400 V / 3 Ph	1.7	1.2	3.3	1300 / 1300	125	230	34.4
HRS 11/4-230-203 (C) / (Ex)	400 V / 3 Ph	1.7	1.2	3.3	1300 / 1300	230	231	34.4
HRS 14/6-250-203 (C) / (Ex)	400 V / 3 Ph	3.1	2.1	5.7	900 / 900	320	254	41.5
HRS 16/6-260-203 (C) / (Ex)	400 V / 3 Ph	3.1	2.1	5.7	900 / 900	373	257	41.5
HRS 18/4-230-203 (C) / (Ex)	400 V / 3 Ph	3.4	2.6	6.2	1350 / 1350	384	233	42.0
HRS 25/4-240-203 (C) / (Ex)	400 V / 3 Ph	3.4	2.6	6.2	1350 / 1350	447	243	42.0
HRS 32/4-250-203 (C)	400 V / 3 Ph	4.3	3.4	7.6	1400 / 1400	657	254	46.5
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HRS 20/8-400-204/C-M60 (Ex)*	400 V / 3 Ph	3.0	2.4	5.7	700 / 700	625	400	165.0
HRS 20/8-400-204/C-M80 (Ex)*	400 V / 3 Ph	3.0	2.4	5.7	700 / 700	625	400	165.0
HRS 20/8-400-204/C-M100 (Ex)*	400 V / 3 Ph	3.0	2.4	5.7	700 / 700	625	400	165.0
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HRS 30/8-400-204/C-M60 (Ex)*	400 V / 3 Ph	5.0	4.1	10.5	700 / 700	875	400	165.0
HRS 30/8-400-204/C-M80 (Ex)*	400 V / 3 Ph	5.0	4.1	10.5	700 / 700	875	400	165.0
HRS 30/8-400-204/C-M100 (Ex)*	400 V / 3 Ph	5.0	4.1	10.5	700 / 700	875	400	165.0
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HRS 37/8-500-204/C-M80 (Ex)*	400 V / 3 Ph	6.6	5.3	12.4	700 / 700	1405	500	165.0
HRS 37/8-500-204/C-M100 (Ex)*	400 V / 3 Ph	6.6	5.3	12.4	700 / 700	1405	500	165.0
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HRS 43/8-500-204/C-M80 (Ex)*	400 V / 3 Ph	6.6	5.3	12.4	700 / 700	1650	500	165.0
HRS 43/8-500-204/C-M100 (Ex)*	400 V / 3 Ph	6.6	5.3	12.4	700 / 700	1650	500	165.0
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HRS 53/12-700-204/C-M80 (Ex)*	400 V / 3 Ph	7.5	6.0	16.0	470 / 470	2375	700	197.5
HRS 53/12-700-204/C-M100 (Ex)*	400 V / 3 Ph	7.5	6.0	16.0	470 / 470	2375	700	197.5
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HRS 68/12-700-204/C-M80 (Ex)*	400 V / 3 Ph	11.0	8.8	23.1	470 / 470	2760	700	197.5
HRS 68/12-700-204/C-M100 (Ex)*	400 V / 3 Ph	11.0	8.8	23.1	470 / 470	2760	700	197.5
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HRS 78/12-700-204/C-M80 (Ex)*	400 V / 3 Ph	11.0	8.8	23.1	470 / 470	3000	700	197.5
HRS 78/12-700-204/C-M100 (Ex)*	400 V / 3 Ph	11.0	8.8	23.1	470 / 470	3000	700	197.5
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<b>CHRS</b>								
CHRS 07/4-230-203 (C) / (Ex)	400 V / 3 Ph	1.7	1.2	3.3	1300 / 1300	125	230	36.1
CHRS 11/4-230-203 (C) / (Ex)	400 V / 3 Ph	1.7	1.2	3.3	1300 / 1300	230	231	36.1
CHRS 14/6-250-203 (C) / (Ex)	400 V / 3 Ph	3.1	2.1	5.7	900 / 900	320	254	43.5
CHRS 16/6-260-203 (C) / (Ex)	400 V / 3 Ph	3.1	2.1	5.7	900 / 900	373	257	43.5
CHRS 18/4-230-203 (C) / (Ex)	400 V / 3 Ph	3.4	2.6	6.2	1350 / 1350	384	233	44.1
CHRS 25/4-240-203 (C) / (Ex)	400 V / 3 Ph	3.4	2.6	6.2	1350 / 1350	447	243	44.1
CHRS 32/4-250-203 (C)	400 V / 3 Ph	4.3	3.4	7.6	1400 / 1400	657	254	49.0
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<b>HRG</b> (agitators with gearbox – more information on request)								
HRG 150/4-204 (C) / (Ex)	400 V / 3 Ph	16.7	15.0	30.6	1450 / 351	2859	720	221
HRG 185/4-204 (C) / (Ex)	400 V / 3 Ph	21.0	18.5	38.6	1450 / 354	3725	780	228

\*Explosion-proof version available from Q2/2018



# DESIGN – WELL THOUGHT OUT AT EVERY STAGE



# SUPERIOR MATERIAL QUALITY – LOWER SUSCEPTIBILITY TO FAILURE

Quality is a measurable value – fully floodable pump blocks from HOMA impress through their generous sizing of all important components, with outstanding material quality and solid mechanical workmanship.

## 1 PROPELLER

Flow optimised propeller made from investment cast stainless steel; welded.

## 2 SHAFT SEAL

The shaft seal with two mechanical seals (back to back) made from corrosion-resistant SiC/SiC, combined with two additional radial shaft sealing rings, which run on the carbon coated propeller hub, guarantee optimum protection against the ingress of media and solids.

## 3 MOTOR SHAFT BEARINGS

Robust, maintenance-free, permanently lubricated deep groove ball bearings/double row angular contact ball bearings.

## 4 DEFLECTOR RING (CAST ON)

The deflector ring reliably prevents solids from settling. The 8- and 12-pole agitators come as standard with a deflector ring (metallic) cast onto the oil barrier chamber housing. The 4- and 6-pole agitators have a plastic deflector ring between the propeller and motor housing.

## 5 MOTOR

Encapsulated submersible motor, sealed against pressurised water, with 4-, 6-, 8- or 12-pole winding. Winding in insulation class "H" and protection rating IP 68. Cable inlet sealed against pressurised water. Thermal sensor in the winding for temperature monitoring. Motor with surface cooling in immersion operation.

## EXPLOSION PROTECTION

All motors are also available as explosion-proof versions in accordance with Directive 2014/34/EU for equipment group II, category 2G, gas group IIB and temperature class T4(T3).

## 6 SEAL MONITORING

8- and 12-pole agitators come with seal monitoring in the oil barrier chamber as standard. This is possible for the 4- and 6-pole agitators on request.

## 7 INSTALLATION

Installation system with drain device for individual positioning of the unit. The motor mounts for the 8- and 12-pole agitators are manufactured using the stainless steel investment casting process. The plastic guide rolls have solid metal cores.

## 8 OIL CHAMBER

The upstream oil barrier chamber acts as a moisture barrier on the medium side.

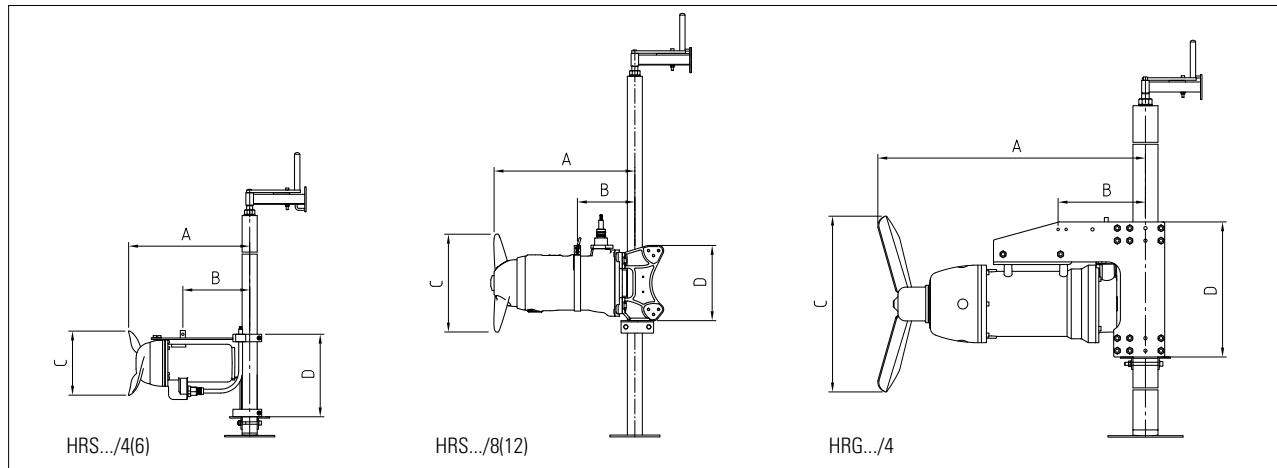
## 9 OTHER SEALS

Flange connections with O-rings.

## MATERIALS

	HRS	CHRS
Propeller	Stainless steel 1.4436	Stainless steel 1.4436
Mechanical seal	SiC / SiC	SiC / SiC
Motor/propeller shaft	Stainless steel 1.4104	Stainless steel 1.4462
Motor housing	Grey cast iron EN-GJL-250	Stainless steel 1.4436
Mechanical connecting parts	Stainless steel	Stainless steel
Other seals	NBR	Viton
Motor mount	Stainless steel 1.4436	Stainless steel 1.4571

# CONSTRUCTION DIMENSIONS



## DIMENSIONS IN MM

Model	A	B	C	D
<b>HRS</b>				
HRS07/4-203 (C) / (Ex)	451	232	230	330
HRS11/4-203 (C) / (Ex)	451	232	231	330
HRS14/6-203 (C) / (Ex)	521	267	254	330
HRS16/6-203 (C) / (Ex)	521	267	257	330
HRS18/4-203 (C) / (Ex)	521	267	233	330
HRS25/4-203 (C) / (Ex)	521	267	243	330
HRS32/4-203 (C)	548	235	254	360
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HRS20/8-400-204/C-M60	575	230	400	300
HRS20/8-400-204/C-M80	585	240	400	300
HRS20/8-400-204/C-M100	595	250	400	300
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HRS30/8-400-204/C-M60	575	230	400	300
HRS30/8-400-204/C-M80	585	240	400	300
HRS30/8-400-204/C-M100	595	250	400	300
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HRS37/8-500-204/C-M80	585	240	500	300
HRS37/8-500-204/C-M100	595	250	500	300
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HRS43/8-500-204/C-M80	585	240	500	300
HRS43/8-500-204/C-M100	595	250	500	300
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HRS53/12-700-204/C-M80	785	355	700	300
HRS53/12-700-204/C-M100	795	355	700	300
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HRS68/12-700-204/C-M80	785	355	700	300
HRS68/12-700-204/C-M100	795	355	700	300
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HRS78/12-700-204/C-M80	785	355	700	300
HRS78/12-700-204/C-M100	795	355	700	300

Model	A	B	C	D
<b>CHRS</b>				
CHRS07/4-203 (C) / (Ex)	478	237	230	330
CHRS11/4-203 (C) / (Ex)	478	237	231	330
CHRS14/6-203 (C) / (Ex)	540	268	254	330
CHRS16/6-203 (C) / (Ex)	540	268	257	330
CHRS18/4-203 (C) / (Ex)	540	268	233	330
CHRS25/4-203 (C) / (Ex)	540	268	243	330
CHRS32/4-203 (C)	569	355	254	360
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<b>HRG</b>				
HRG150/4-204	1070	530	720	540
HRG185/4-204	1070	530	780	540







## HRL FLOW GENERATORS

### The source of increased movement

Flow generators from the HRL series are deployed where fluids need to be set in motion.

### For reliable and economic operation in waste water treatment

- Self-cleaning, particularly smooth running propellers up to 2.50 m in diameter, with very good efficiency for high thrust at low rotational speeds and low energy consumption
- Performance optimised design of the drive with spur gear (two-stage, helical gearing)
- Individual siting options in tanks of any shape with optimum inflow thanks to robust, user friendly installation system with drain device

### Possible application areas:

- Nitrification
- Denitrification
- Phosphate elimination
- For use in flocculation tanks, buffer tanks, oxidation trenches
- Cooling basins
- Fish farming

# KEY TO DESIGNATIONS

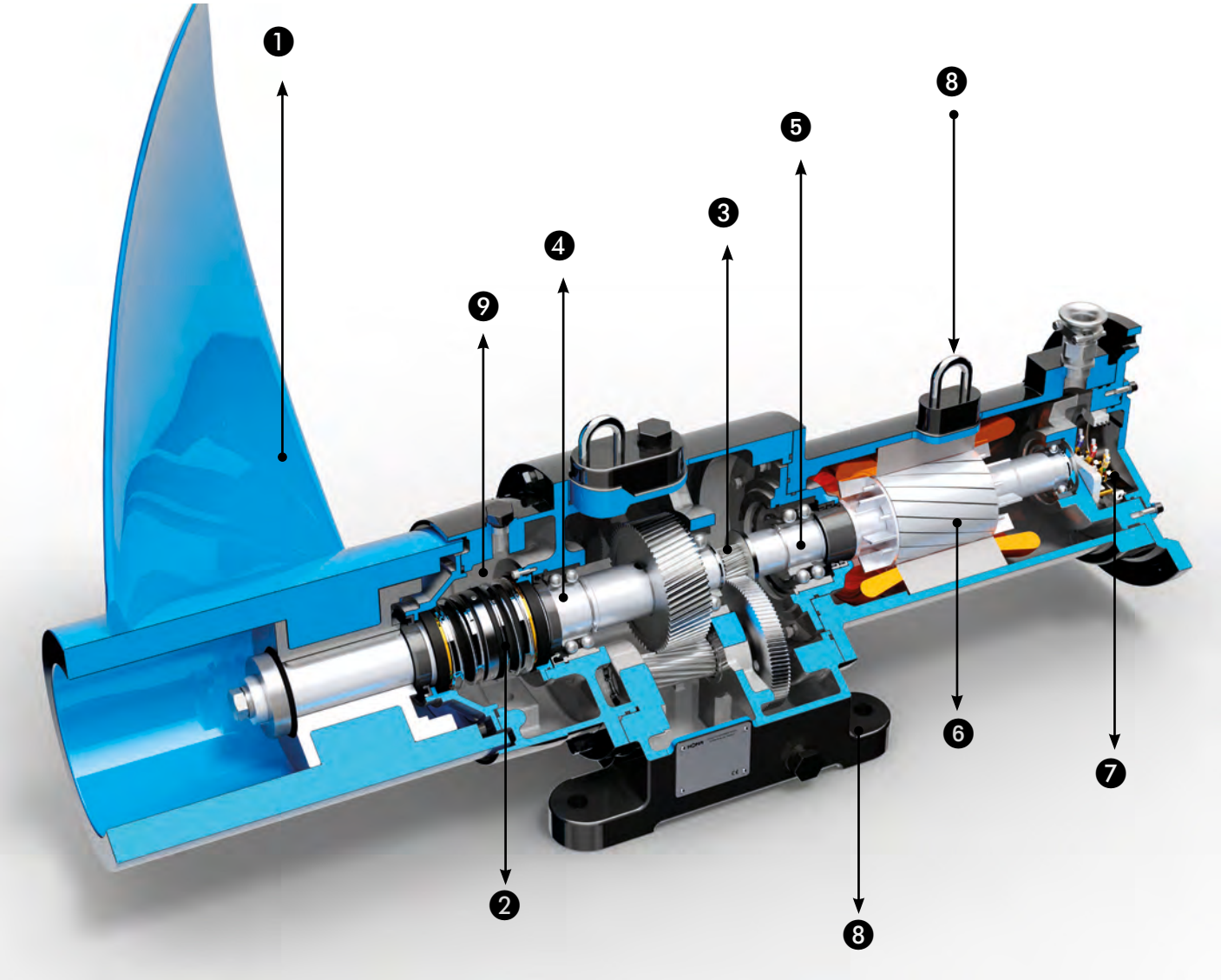
Series	Propeller power in freshwater	Motor pole number	Propeller diameter	Number of propeller blades	Model code	Monitoring	Nominal size of motor mount
<b>HRL</b>	<b>15/</b>	<b>6-</b>	<b>1200-</b>	<b>2</b>	<b>04/</b>	<b>(C)</b>	<b>M80</b>
	( kW x 10 )	4-pole 6-pole	900 mm 1200 mm 1500 mm 1700 mm 2000 mm 2200 mm 2500 mm			C = oil chamber monitoring probe T = Pt100 temperature sensor M = PTC sensor	M60 M80 M100

# TECHNICAL DATA

Model	Voltage (50 Hz)	Motor input P <sub>1</sub> (kW)	Motor input P <sub>2</sub> (kW)	Nominal current (A)	Rotational speed Motor/propeller (rpm)	Thrust (N)	Weight of agitator (kg)	Weight incl. motor mount (kg)
HRL 14/6-900-204/C (M80)	400 V / 3 Ph	2.0	1.5	3.9	945 / 129	900	130	145
HRL 18/6-900-204/C (M80)	400 V / 3 Ph	2.3	1.8	4.5	925 / 136	990	130	145
HRL 22/4-900-204/C (M80)	400 V / 3 Ph	2.7	2.2	4.8	1425 / 149	1200	143	158
HRL 30/4-900-204/C (M80)	400 V / 3 Ph	3.6	3.0	6.5	1415 / 167	1500	145	160
HRL 41/4-900-204/C (M80)	400 V / 3 Ph	5.0	4.0	9.2	1415 / 184	1830	147	162
HRL 46/4-900-204/C (M100)	400 V / 3 Ph	6.4	5.5	11.0	1450 / 196	1990	196	219
HRL 64/4-900-204/C (M100)	400 V / 3 Ph	8.6	7.5	14.6	1450 / 215	2480	228	251
HRL 79/4-900-204/C (M100)	400 V / 3 Ph	10.5	9.2	18.5	1455 / 229	2840	233	256
HRL 95/4-900-204/C (M100)	400 V / 3 Ph	12.6	11.0	22.0	1450 / 246	3230	238	261
HRL 15/6-1200-204/C (M80)	400 V / 3 Ph	2.0	1.5	3.9	945 / 66	880	135	150
HRL 18/6-1200-204/C (M80)	400 V / 3 Ph	2.3	1.8	4.5	925 / 68	930	135	150
HRL 20/4-1200-204/C (M80)	400 V / 3 Ph	2.7	2.2	4.8	1425 / 73	1070	147	162
HRL 29/4-1200-204/C (M80)	400 V / 3 Ph	3.6	3.0	6.5	1415 / 83	1400	149	164
HRL 37/4-1200-204/C (M100)	400 V / 3 Ph	5.0	4.0	9.2	1415 / 90	1620	186	204
HRL 52/4-1200-204/C (M100)	400 V / 3 Ph	6.4	5.5	11.0	1450 / 100	2040	215	238
HRL 68/4-1200-204/C (M100)	400 V / 3 Ph	8.6	7.5	14.6	1450 / 110	2440	233	256
HRL 82/4-1200-204/C (M100)	400 V / 3 Ph	10.5	9.2	18.5	1455 / 117	2760	240	263
HRL 18/6-1500-204/C (M100)	400 V / 3 Ph	2.3	1.8	4.5	925 / 59	1320	195	213
HRL 21/4-1500-204/C (M100)	400 V / 3 Ph	2.7	2.2	4.8	1425 / 63	1650	200	216
HRL 26/4-1500-204/C (M100)	400 V / 3 Ph	3.6	3.0	6.5	1415 / 68	1920	211	229
HRL 37/4-1500-204/C (M100)	400 V / 3 Ph	5.0	4.0	9.2	1415 / 76	2470	210	228
HRL 50/4-1500-204/C (M60)	400 V / 3 Ph	6.4	5.5	11.0	1450 / 85	2970	228	248
HRL 65/4-1500-204/C (M60)	400 V / 3 Ph	8.6	7.5	14.6	1450 / 92	3330	238	258
HRL 83/4-1500-204/C (M60)	400 V / 3 Ph	10.5	9.2	18.5	1455 / 101	4150	245	265
HRL 17/6-1700-204/C (M60)	400 V / 3 Ph	2.3	1.8	4.5	925 / 46	1370	205	221
HRL 20/6-1700-204/C (M60)	400 V / 3 Ph	2.9	2.2	5.9	925 / 51	1620	211	227
HRL 26/4-1700-204/C (M60)	400 V / 3 Ph	3.6	3.0	6.5	1415 / 55	1970	215	231
HRL 39/4-1700-204/C (M60)	400 V / 3 Ph	5.0	4.0	9.2	1415 / 63	2580	223	239
HRL 53/4-1700-204/C (M60)	400 V / 3 Ph	6.4	5.5	11.0	1450 / 70	3321	235	255
HRL 68/4-1700-204/C (M60)	400 V / 3 Ph	8.6	7.5	14.6	1450 / 76	3750	288	309
HRL 80/4-1700-204/C (M60)	400 V / 3 Ph	10.5	9.2	18.5	1455 / 80	4380	295	316
HRL 27/6-2000-204/C (M60)	400 V / 3 Ph	3.7	3.0	6.8	950 / 37	1930	255	275
HRL 34/6-2000-204/C (M60)	400 V / 3 Ph	4.8	4.0	8.6	950 / 40	2260	265	285
HRL 49/6-2000-204/C (M60)	400 V / 3 Ph	6.5	5.5	11.8	950 / 45	2860	278	299
HRL 67/6-2000-204/C (M60)	400 V / 3 Ph	8.9	7.5	16.2	950 / 50	3530	285	306
HRL 22/6-2200-204/C (M60)	400 V / 3 Ph	2.9	2.2	5.9	925 / 34	2190	245	261
HRL 30/6-2200-204/C (M60)	400 V / 3 Ph	3.7	3.0	6.8	950 / 37	2680	263	284
HRL 37/6-2200-204/C (M60)	400 V / 3 Ph	4.8	4.0	8.6	950 / 40	3060	290	311
HRL 52/6-2200-204/C (M60)	400 V / 3 Ph	6.5	5.5	11.8	950 / 45	3870	298	319
HRL 72/6-2200-204/C (M60)	400 V / 3 Ph	8.9	7.5	16.2	950 / 50	4780	305	326
HRL 29/6-2500-204/C (M60)	400 V / 3 Ph	3.7	3.0	6.8	950 / 36	3090	300	321
HRL 40/6-2500-204/C (M60)	400 V / 3 Ph	4.8	4.0	8.6	950 / 40	3890	309	330
HRL 49/6-2500-204/C (M60)	400 V / 3 Ph	6.5	5.5	11.8	950 / 43	4410	316	337
HRL 63/6-2500-204/C (M60)	400 V / 3 Ph	8.9	7.5	16.2	950 / 47	5270	322	343



# DESIGN – WELL THOUGHT OUT AT EVERY STAGE



# SUPERIOR MATERIAL QUALITY – LOWER SUSCEPTIBILITY TO FAILURE

Quality is a measurable value – fully floodable pump blocks from HOMA impress through their generous sizing of all important components, with outstanding material quality and solid mechanical workmanship.

## 1 PROPELLER

One-piece, self-cleaning propeller made from glass fibre reinforced plastic with stainless steel hub.

## 2 SHAFT SEAL

The shaft seal with mechanical seals made from corrosion-resistant SiC/SiC, combined with an additional radial shaft sealing ring in the propeller hub, guarantee optimum protection against the ingress of media and solids. Sealing between the gearbox housing and oil barrier chamber, and between the gearbox housing and stator chamber, is provided by one or two radial shaft sealing rings.

## 3 GEARBOX

Direct flange mounted, efficiency optimised, smooth running spur gear (two-stage, helical gearing) with long service life in large oil chamber.

## 4 PROPELLER SHAFT BEARINGS

Robust, maintenance-free, oil lubricated angular contact ball bearings/deep groove ball bearings/spherical roller bearings.

## 5 MOTOR SHAFT BEARINGS

Robust, maintenance-free, permanently lubricated deep groove ball bearings/double row angular contact ball bearings.

## 6 MOTOR

Encapsulated submersible motor, sealed against pressurised water, with 4- or 6-pole winding. Winding in insulation class "F" and protection rating IP 68. Cable inlet sealed against pressurised water. Thermal sensor in the winding for temperature monitoring. Motor with surface cooling in immersion operation.

## 7 SEAL MONITORING

Seal monitoring in the stator chamber and cable connection compartment as standard.

## 8 INSTALLATION

Installation system with drain device for individual positioning of the unit.

## 9 OIL CHAMBER

The oil barrier chamber upstream of the gearbox acts as a moisture barrier on the medium side. Deflector ring cast onto the oil barrier chamber housing.

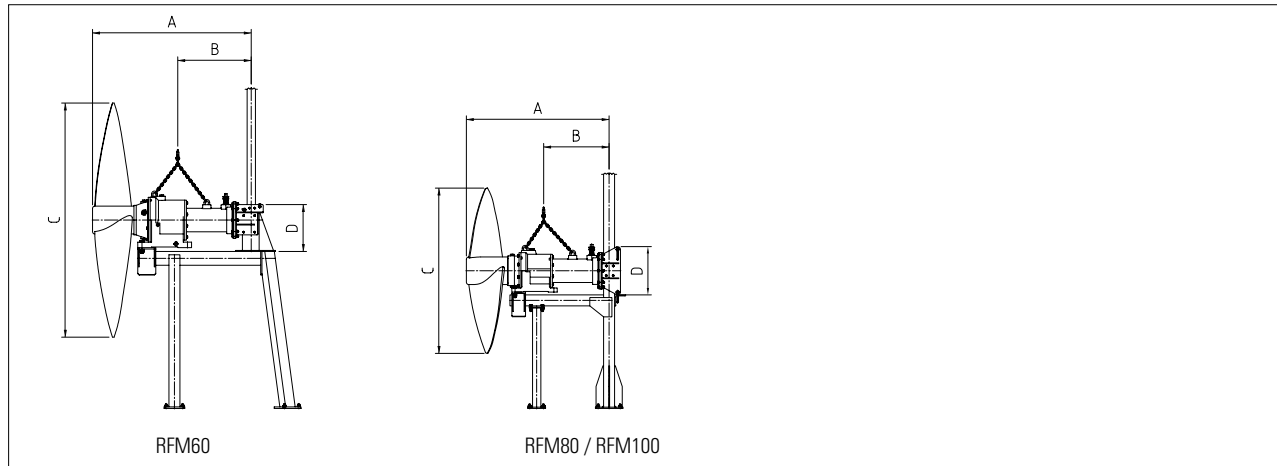
## 10 OTHER SEALS

Flange connections sealed with O-rings and additional surface sealant.

## MATERIALS

Propeller	Plastic, glass fibre reinforced
Gearbox housing	Grey cast iron EN-GJL-200
Mechanical seal	Silicon carbide/silicon carbide
Motor/propeller shaft	Stainless steel 1.4057
Motor housing	Grey cast iron EN-GJL-200
Mechanical connecting parts	Stainless steel
Other seals	NBR
Installation system	Stainless steel 1.4301
Motor bearing housing	Grey cast iron EN-GJL-200

# CONSTRUCTION DIMENSIONS

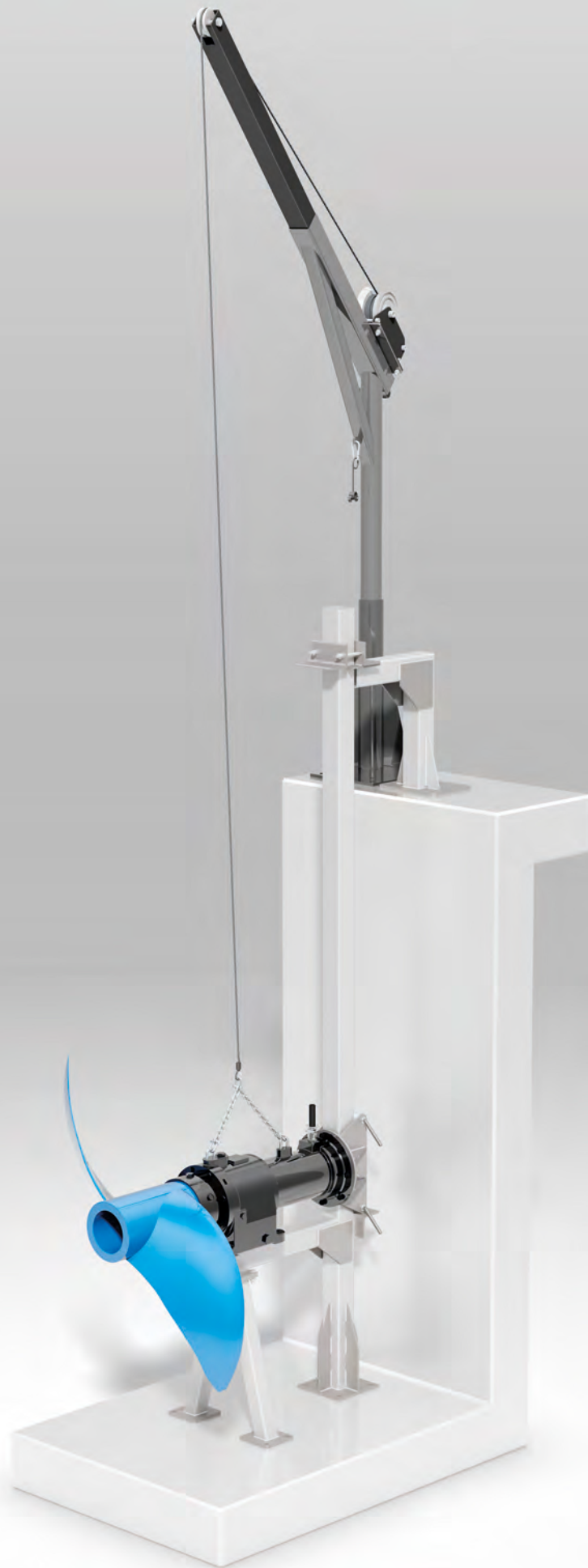


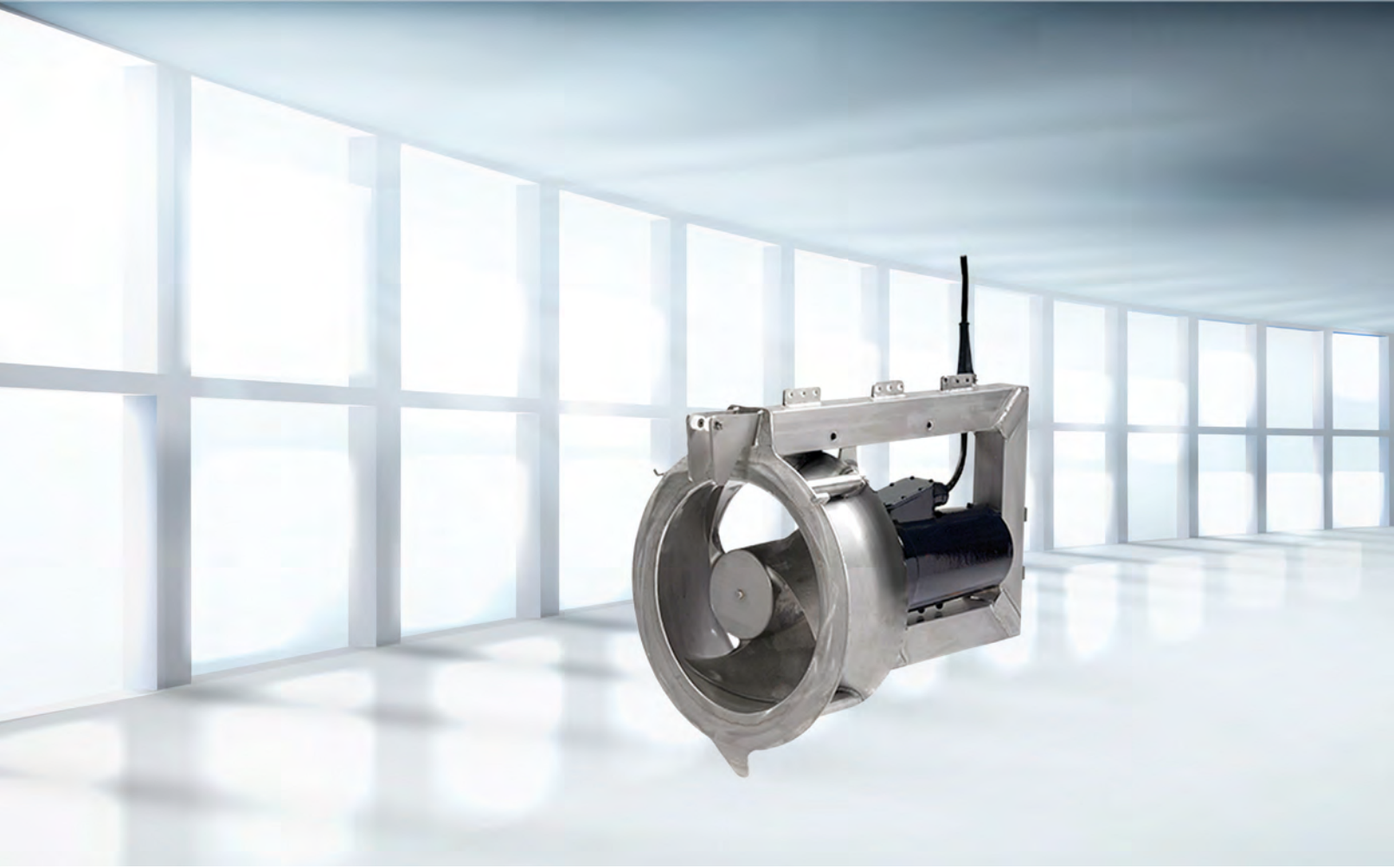
## DIMENSIONS IN MM

Model	A	B	C	D
HRL 14/6-900-204/C (M80)	960	476	900	350
HRL 18/6-900-204/C (M80)	960	476	900	350
HRL 22/4-900-204/C (M80)	960	476	900	350
HRL 30/4-900-204/C (M80)	960	476	900	350
HRL 41/4-900-204/C (M80)	960	476	900	350
HRL 46/4-900-204/C (M100)	1140	614	900	387
HRL 64/4-900-204/C (M100)	1140	614	900	387
HRL 79/4-900-204/C (M100)	1140	614	900	387
HRL 95/4-900-204/C (M100)	1140	614	900	387
HRL 15/6-1200-204/C (M80)	1010	476	1200	350
HRL 18/6-1200-204/C (M80)	1010	476	1200	350
HRL 20/4-1200-204/C (M80)	1010	476	1200	350
HRL 29/4-1200-204/C (M80)	1010	476	1200	350
HRL 37/4-1200-204/C (M100)	1120	538	1200	350
HRL 52/4-1200-204/C (M100)	1195	614	1200	387
HRL 68/4-1200-204/C (M100)	1195	614	1200	387
HRL 82/4-1200-204/C (M100)	1195	614	1200	387
HRL 18/6-1500-204/C (M100)	1255	538	1500	350
HRL 21/4-1500-204/C (M100)	1255	538	1500	350
HRL 26/4-1500-204/C (M100)	1255	538	1500	350
HRL 37/4-1500-204/C (M100)	1255	538	1500	350
HRL 50/4-1500-204/C (M60)	1255	614	1500	380
HRL 65/4-1500-204/C (M60)	1255	614	1500	380
HRL 83/4-1500-204/C (M60)	1255	614	1500	380

Model	A	B	C	D
HRL 17/6-1700-204/C (M60)	1090	534	1700	340
HRL 20/6-1700-204/C (M60)	1090	534	1700	340
HRL 26/4-1700-204/C (M60)	1090	534	1700	340
HRL 39/4-1700-204/C (M60)	1090	534	1700	340
HRL 53/4-1700-204/C (M60)	1170	614	1700	380
HRL 68/4-1700-204/C (M60)	1194	644	1700	420
HRL 80/4-1700-204/C (M60)	1194	644	1700	420
HRL 27/6-2000-204/C (M60)	1315	614	2000	380
HRL 34/6-2000-204/C (M60)	1315	614	2000	380
HRL 49/6-2000-204/C (M60)	1335	640	2000	420
HRL 67/6-2000-204/C (M60)	1335	640	2000	420
HRL 22/6-2200-204/C (M60)	1205	534	2200	340
HRL 30/6-2200-204/C (M60)	1305	640	2200	420
HRL 37/6-2200-204/C (M60)	1305	640	2200	420
HRL 52/6-2200-204/C (M60)	1305	640	2200	420
HRL 72/6-2200-204/C (M60)	1305	640	2200	420
HRL 29/6-2500-204/C (M60)	1305	640	2500	420
HRL 40/6-2500-204/C (M60)	1305	640	2500	420
HRL 49/6-2500-204/C (M60)	1305	640	2500	420
HRL 63/6-2500-204/C (M60)	1305	640	2500	420







## HRZ RECIRCULATION PUMPS

### Reliable recirculation

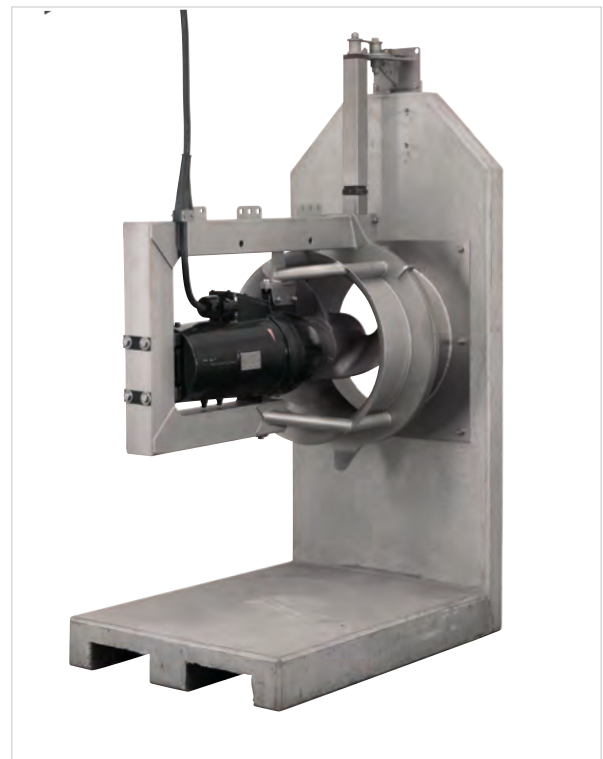
With their high level of reliability and enormous performance capacity, HRZ recirculation pumps will always keep your systems in motion.

### The ideal solution for waste water treatment and flooding protection

- For pump applications with a high flow rate and low delivery head, up to a maximum dry matter content of 1.5 %
- Flow optimised propeller blade design

### Possible application areas:

- Pumping activated sludge from nitrification to denitrification
- Fish farming
- Leisure parks (water slides)
- Natural bathing ponds



Example of a pump installation. Recirculation pumps are usually equipped with a hydraulic inlet part, which is mounted to the connecting flange.

## KEY TO DESIGNATIONS

Series	Diameter (mm)	Motor input	Motor pole number	Propeller rotational speed
<b>HRZ</b>	<b>300</b>	<b>08</b>	<b>/2</b>	<b>526</b>
	300 mm 500 mm 800 mm	( kW × 10 )	2 = 2-pole 4 = 4-pole	(rpm)

## TECHNICAL DATA

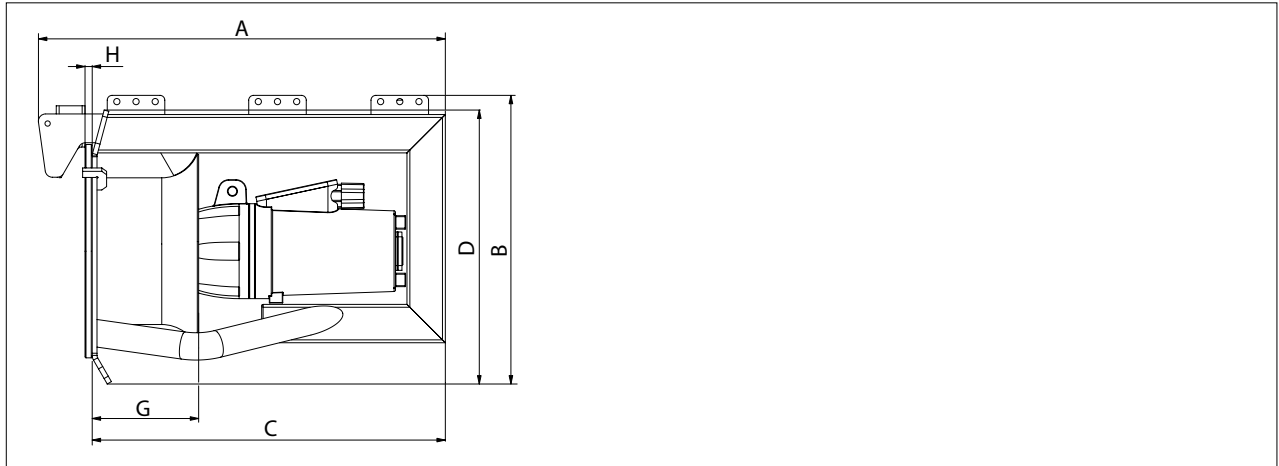
Model	Voltage (50 Hz)	Motor input P <sub>1</sub> (kW)	P <sub>2</sub> (kW)	Nominal current (A)	Rotational speed Propeller (rpm)	Number of propeller blades	Weight (kg)
HRZ 300-08/2-526	400 V / 3 Ph	0.9	0.8	2.0	526	3	109
HRZ 300-10/2-606	400 V / 3 Ph	1.2	1.0	2.3	606	3	109
HRZ 300-13/2-678	400 V / 3 Ph	1.5	1.3	2.7	678	3	109
HRZ 300-16/2-745	400 V / 3 Ph	1.9	1.6	3.2	745	3	109
HRZ 300-18/2-806	400 V / 3 Ph	2.1	1.8	3.6	806	3	109
HRZ 300-30/2-517	400 V / 3 Ph	3.4	3.0	5.8	517	3	112
HRZ 300-40/2-593	400 V / 3 Ph	4.5	4.0	7.5	593	3	112
HRZ 300-50/2-684	400 V / 3 Ph	5.8	5.0	9.5	684	3	112
HRZ 300-60/2-752	400 V / 3 Ph	7.0	6.0	14.0	752	3	120
HRZ 300-70/2-814	400 V / 3 Ph	8.1	7.0	15.4	814	3	120
HRZ 500-35/4-257	400 V / 3 Ph	4.0	3.5	7.0	257	3	150
HRZ 500-50/4-291	400 V / 3 Ph	5.6	5.0	12.5	291	3	240
HRZ 500-65/4-343	400 V / 3 Ph	7.2	6.5	14.0	343	3	240
HRZ 500-80/4-378	400 V / 3 Ph	8.7	8.0	19.5	378	3	256
HRZ 500-100/4-412	400 V / 3 Ph	10.9	10.0	22.0	412	3	256
HRZ 800-70/4-263	400 V / 3 Ph	7.7	7.0	14.2	263	3	334
HRZ 800-100/4-303	400 V / 3 Ph	10.9	10.0	22.0	303	3	350
HRZ 800-120/4-323	400 V / 3 Ph	13.1	12.0	28.0	323	3	430
HRZ 800-130/4-340	400 V / 3 Ph	14.3	13.0	26.0	340	3	350
HRZ 800-130/4-375	400 V / 3 Ph	14.3	16.0	26.0	375	3	350
HRZ 800-160/4-355	400 V / 3 Ph	17.3	13.0	33.0	355	3	430
HRZ 800-200/4-388	400 V / 3 Ph	21.7	20.0	40.0	388	3	430
HRZ 800-240/4-417	400 V / 3 Ph	26.2	24.0	47.0	417	3	430

## MATERIALS

Propeller	Stainless steel
Gearbox housing	Grey cast iron EN-GJL-250
Mechanical seal	Tungsten carbide/SiC-SiC
Motor housing	Grey cast iron EN-GJL-250
Other seals	NBR
Installation system	Stainless steel
Motor bearing housing	Grey cast iron EN-GJL-250



# CONSTRUCTION DIMENSIONS

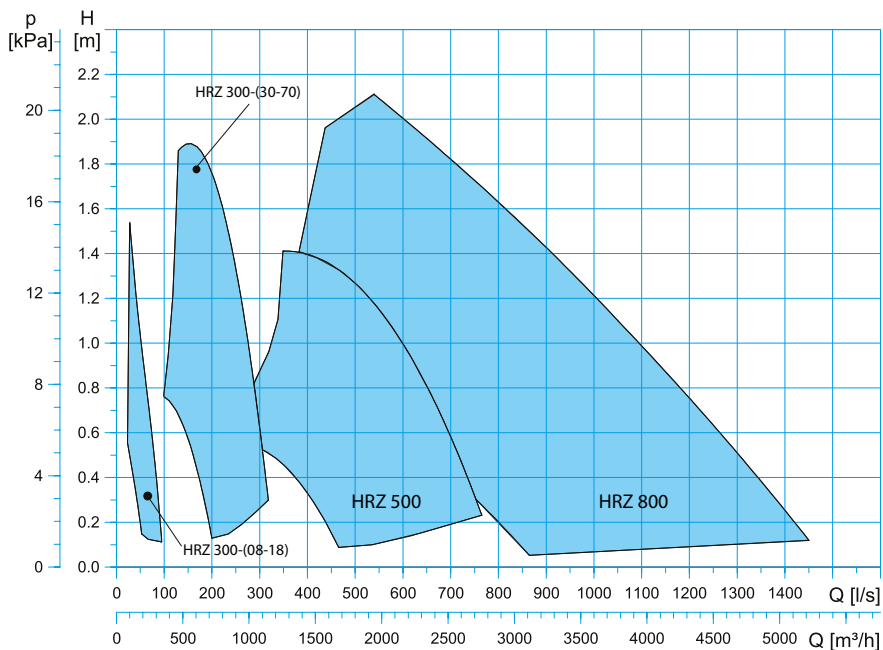


## DIMENSIONS IN MM

Model	A	B	C	D	G	H
HRZ 300-08/2-526	848	602	736	571	220	15
HRZ 300-10/2-606	848	602	736	571	220	15
HRZ 300-13/2-678	848	602	736	571	220	15
HRZ 300-16/2-745	848	602	736	571	220	15
HRZ 300-18/2-806	848	602	736	571	220	15
HRZ 300-30/2-517	848	602	736	571	220	15
HRZ 300-40/2-593	848	602	736	571	220	15
HRZ 300-50/2-684	848	602	736	571	220	15
HRZ 300-60/2-752	848	602	736	571	220	15
HRZ 300-70/2-814	848	602	736	574	220	15
HRZ 500-35/4-257	910	835	757	824	230	25
HRZ 500-50/4-291	1119	855	996	824	230	25
HRZ 500-65/4-343	1119	855	996	824	230	25
HRZ 500-80/4-378	1119	855	996	824	230	25
HRZ 500-100/4-412	1119	855	996	824	230	25

Model	A	B	C	D	G	H
HRZ 800-70/4-263	1129	1237	1006	1225	267	25
HRZ 800-100/4-303	1129	1237	1006	1225	267	25
HRZ 800-120/4-323	1181	1257	1058	1225	267	25
HRZ 800-130/4-340	1129	1237	1006	1225	267	25
HRZ 800-130/4-375	1129	1237	1006	1225	267	25
HRZ 800-160/4-355	1181	1257	1058	1225	267	25
HRZ 800-200/4-388	1181	1257	1058	1225	267	25
HRZ 800-240/4-417	1181	1257	1058	1225	267	25

# PERFORMANCE RANGE











## The HOMA product range

- Submersible drainage pumps
- Construction pumps
- Submersible fire pumps
- Submersible deep well pumps
- Submersible waste water pumps
- Submersible pumps with cutter systems
- Domestic waste water disposal units
- Waste water disposal units
- Pre-assembled pump stations
- Agitators and flow generators
- Tank cleaning systems
- Garden pumps and automatic domestic water systems
- Propeller pumps
- Pump control and automation systems



## In operation worldwide

HOMA pumps and systems are employed in over 100 countries worldwide – in a myriad of projects, large and small, including the Palm Islands in Dubai. They meet all international safety and production standards and are certified by the relevant state or private bodies for waste water disposal. It is one of our main objectives to maintain and extend this high standard at all times.



## Sales and service network

HOMA stays close to its customers through a comprehensive network of professional sales and service agencies. HOMA also makes selecting and designing pump systems as straightforward as possible through HOP.SEL, its specially developed software, available free of charge online or on CD-ROM.

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