

SUBMERSIBLE MOTOR

AGITATORS

AGITATORS WITH DIRECT DRIVE

HRS, CHRIS series





WE GET THINGS MOVING

FOR 75 YEARS – IN 60 COUNTRIES

The success story of HOMA Pumpenfabrik GmbH began 75 years ago in 1946, when Hans Hoffmann set up a workshop to repair electric motors. This modest enterprise has developed over the years into a medium sized, globally active, industrial company.

HOMA is still privately owned and is now managed by the third generation of the family – Hans Hoffmann & Hans Joachim Rabe. The company's production site and head office are located in Neunkirchen-Seelscheid near Cologne, in Germany. HOMA aggregates are sold through a global network of around 60 sales offices and distributors. As a result, pump systems from HOMA can be found in the Louvre in Paris, at Hong Kong International Airport and on the Palm Islands off the coast of Dubai.

INDIVIDUAL SUPPORT – CUSTOMISED SOLUTIONS

Thanks to close proximity to our customers, we are able to respond flexibly to customer requirements and offer highly customised solutions as a reliable partner. In development and manufacture, HOMA makes use of the latest 3D systems, fully automatic

machining centres and a computer-controlled pump test bench for final inspection. Our processes are underpinned by a comprehensive, ISO 9001 certified quality management system. State of the art technology, technical expertise and decades of experience ensure the superior quality of our products.

ONE BRAND – MANY APPLICATIONS

The comprehensive HOMA product range covers numerous areas of application. We manufacture pumps, disposal units and agitators with motors for various rotational speeds, voltages and frequencies, as well as hydraulics for a wide range of applications. We focus primarily on drainage and waste water systems, specialising in particularly powerful and economical submersible motor units. This makes HOMA aggregates the first choice wherever water needs to be set or kept in motion.



The reliable HOMA submersible motor agitators were developed for a wide range of applications in municipal and industrial wastewater treatment and disposal.



In addition to our regular product range, we realise project-specific solutions on request. If you have a corresponding requirement, please contact us.

HIGH EFFICIENCY

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.

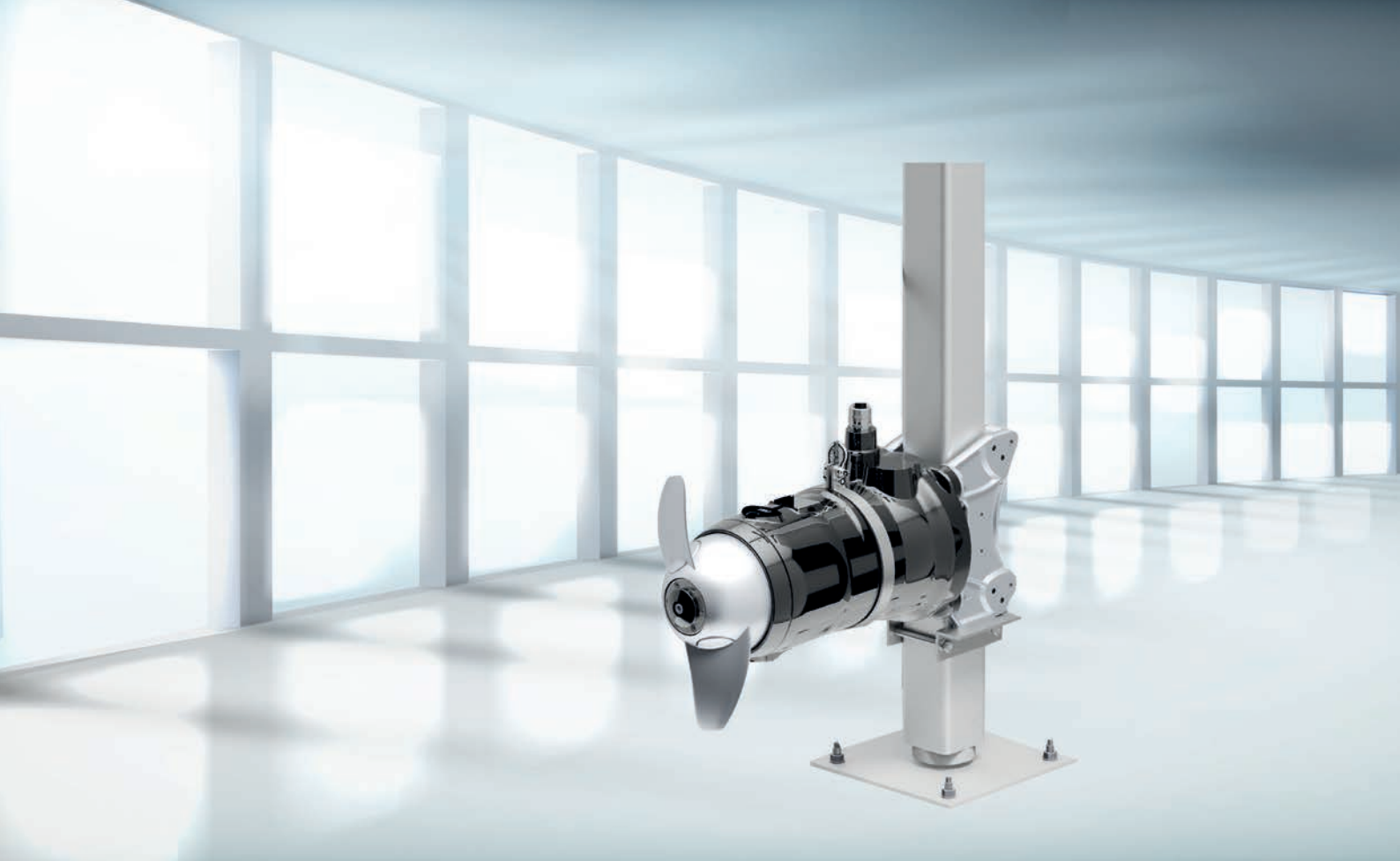
Sturdy, flexible and easy to handle installation devices allow straightforward fitting and removal, as well as optimum, individual positioning of the units to suit the relevant application.

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



(C)HRS AGITATORS WITH DIRECT DRIVE

COMPACT VERSATILITY

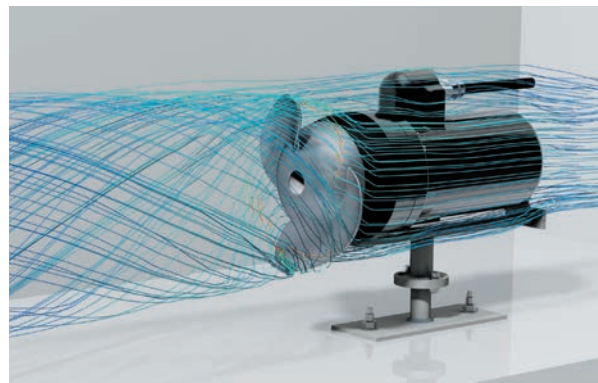
The compact agitators from the HRS and CHRS series have a robust design and are optimised for efficiency to ensure trouble-free operation, even under the most challenging conditions.

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



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

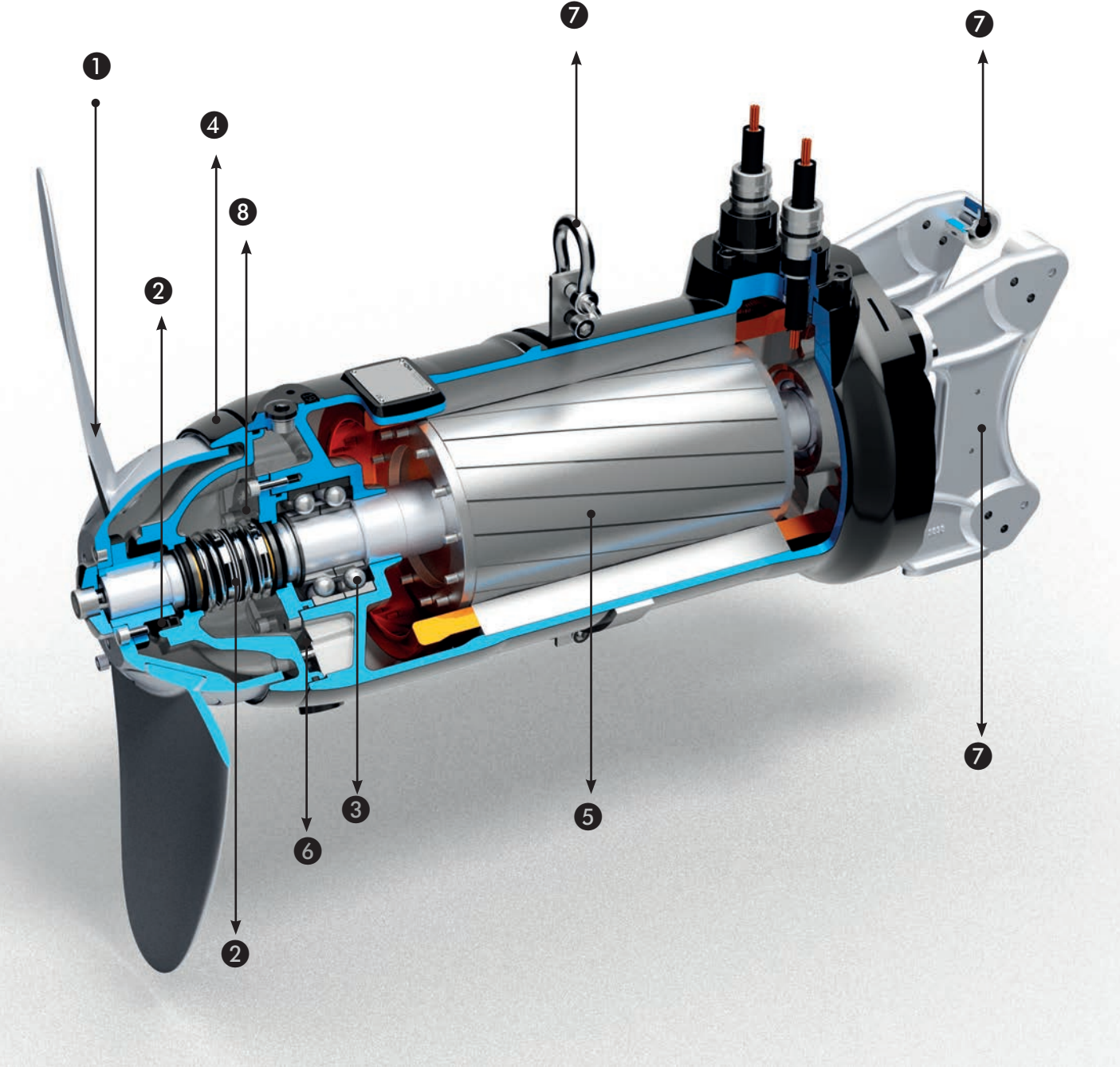
KEY TO DESIGNATIONS

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
(C)HRS	14/	6-	250-	2	03/04	(C)	(Ex)	M60
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 ₁ (kW)	Motor input P ₂ (kW)	Nominal current (A)	Rotational speed Motor/propeller (rpm)	Thrust (N)	Propeller ø (mm)	Weight (kg)
HRS								
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	2,3	1,6	5,6	900 / 900	320	254	41,5
HRS 16/6-260-203 (C) / (EX)	400 V / 3 Ph	2,3	1,6	5,6	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
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
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
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
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
HRS 53/12-700-204/C-M80 EX	400 V / 3 Ph	9,5	7,5	21,8	470 / 470	2375	720	197,5
HRS 53/12-700-204/C-M100 EX	400 V / 3 Ph	9,5	7,5	21,8	470 / 470	2375	720	197,5
HRS 68/12-700-204/C-M80 EX	400 V / 3 Ph	13,0	10,0	26,3	470 / 470	2760	720	197,5
HRS 68/12-700-204/C-M100 EX	400 V / 3 Ph	13,0	10,0	26,3	470 / 470	2760	720	197,5
HRS 78/12-700-204/C-M80 EX	400 V / 3 Ph	13,0	10,0	26,3	470 / 470	3000	720	197,5
HRS 78/12-700-204/C-M100 EX	400 V / 3 Ph	13,0	10,0	26,3	470 / 470	3000	720	197,5
Complete units (Ex version) with tilt-adjustable motor console								
HRS 20/8-400-204/C-M100 EX tiltable	400 V / 3 Ph	3,0	2,4	5,7	700 / 700	625	400	167,0
HRS 30/8-400-204/C-M100 EX tiltable	400 V / 3 Ph	5,0	4,1	10,5	700 / 700	875	400	167,0
HRS 37/8-500-204/C-M100 EX tiltable	400 V / 3 Ph	6,6	5,3	12,4	700 / 700	1405	500	167,0
HRS 43/8-500-204/C-M100 EX tiltable	400 V / 3 Ph	6,6	5,3	12,4	700 / 700	1650	500	167,0
HRS 53/12-700-204/C-M100 EX tiltable	400 V / 3 Ph	9,5	7,5	21,8	470 / 470	2375	720	199,5
HRS 68/12-700-204/C-M100 EX tiltable	400 V / 3 Ph	13,0	10,0	26,3	470 / 470	2760	720	199,5
HRS 78/12-700-204/C-M100 EX tiltable	400 V / 3 Ph	13,0	10,0	26,3	470 / 470	3000	720	199,5
CHRS								
CHRS 07/4-230-203 (C) / (EX)	400 V / 3 Ph	1,7	1,2	3,5	1300 / 1300	125	230	36,1
CHRS 11/4-230-203 (C) / (EX)	400 V / 3 Ph	1,7	1,2	3,5	1300 / 1300	230	231	36,1
CHRS 14/6-250-203 (C)	400 V / 3 Ph	2,3	1,6	5,6	900 / 900	320	254	43,5
CHRS 16/6-260-203 (C)	400 V / 3 Ph	2,3	1,6	5,6	900 / 900	373	257	43,5
CHRS 18/4-230-203 (C) / (EX)	400 V / 3 Ph	3,2	2,4	6,5	1350 / 1350	384	233	44,1
CHRS 25/4-240-203 (C) / (EX)	400 V / 3 Ph	3,2	2,4	6,5	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
HRG (agitators with gearbox – more information on request)								
HRG 150/4-204 (C)	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

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

Selected 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. Optionally, some models are also available with tilt-adjustable motor console. Adaptation to other systems on request.

8 OIL CHAMBER

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

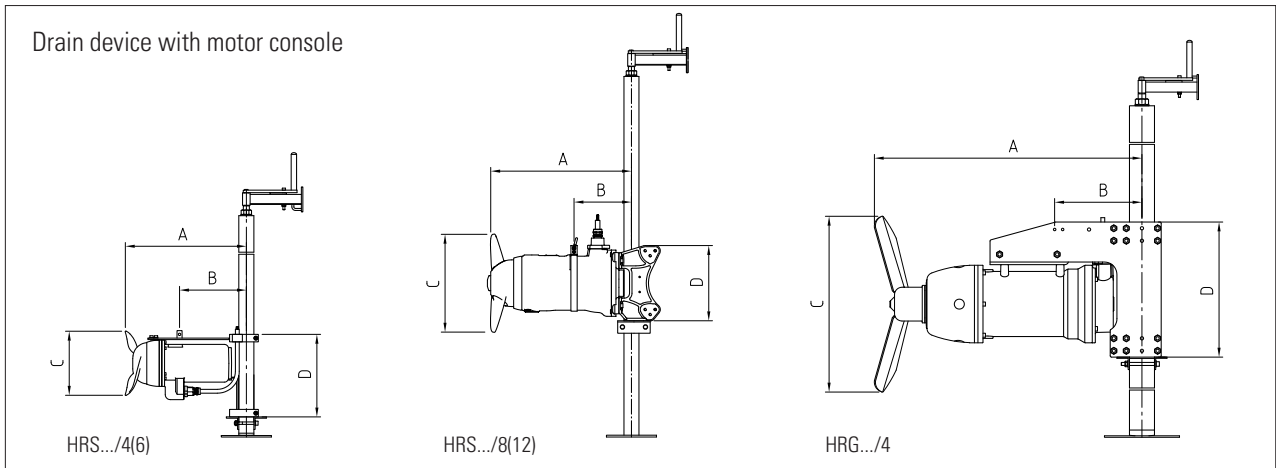
9 OTHER SEALS

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-GJL250	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



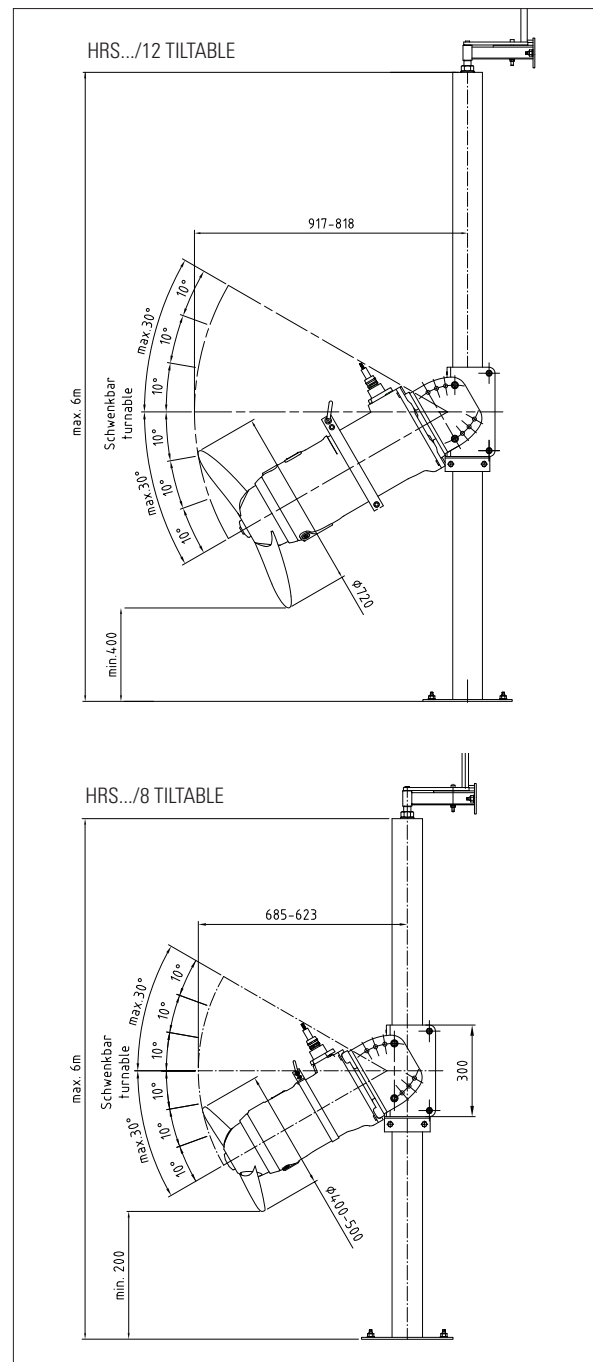
Adaptation to other systems on request.

Dimensions in mm

Typ	A	B	C	D
HRS				
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
CHRS				
CHRS07/4-203 (C) / (EX)	478	237	230	330
CHRS11/4-203 (C) / (EX)	478	237	231	330
CHRS14/6-203 (C)	540	268	254	330
CHRS16/6-203 (C)	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
HRG				
HRG150/4-204	1070	530	720	540
HRG185/4-204	1070	530	780	540

* Also available as complete unit with tilt-adjustable motor console

Drain device with tiltable motor console





NOTES





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
- ▶ 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 HOPSEL, its specially developed software, available free of charge online or on CD-ROM.

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