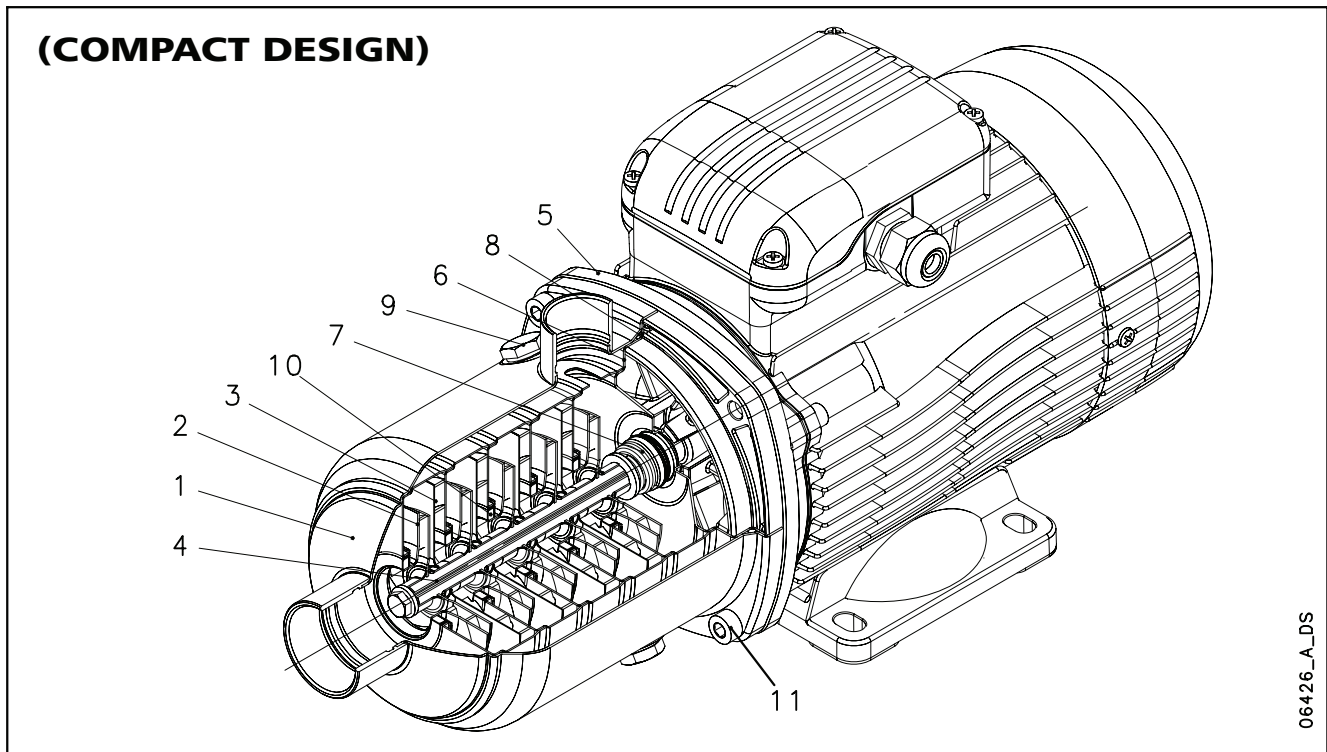


## 1, 3, 5 HM..S - HM..N SERIES

### ELECTRIC PUMP CROSS SECTION AND MAIN COMPONENTS



#### TABLE OF MATERIALS HM..S SERIES

REF. N.	NAME	MATERIAL	REFERENCE STANDARDS	
			EUROPE	USA
1	Pump body	Stainless steel	EN 10088-1-X5CrNi18-10 (1.4301)	AISI 304
2	Impeller	Stainless steel	EN 10088-1-X5CrNi18-10 (1.4301)	AISI 304
3	Diffuser	Stainless steel	EN 10088-1-X5CrNi18-10 (1.4301)	AISI 304
4	Shaft	Stainless steel	EN 10088-1-X5CrNiMo17-12-2 (1.4401)	AISI 316
5	Adapter	Aluminium	EN 1706-AC-AISI11Cu2 (Fe) (AC46100)	-
6	Seal housing	Stainless steel	EN 10088-1-X5CrNi18-10 (1.4301)	AISI 304
7	Mechanical seal	Ceramic / Carbon / EPDM		
8	Elastomers	EPDM		
9	Fill / drain plugs	Stainless steel	EN 10088-1-X5CrNiMo17-12-2 (1.4401)	AISI 316
10	Wear ring	Technopolymer (PPS)		
11	Bolts and screws	Stainless steel	EN 10088-1-X5CrNi18-10 (1.4301)	AISI 304

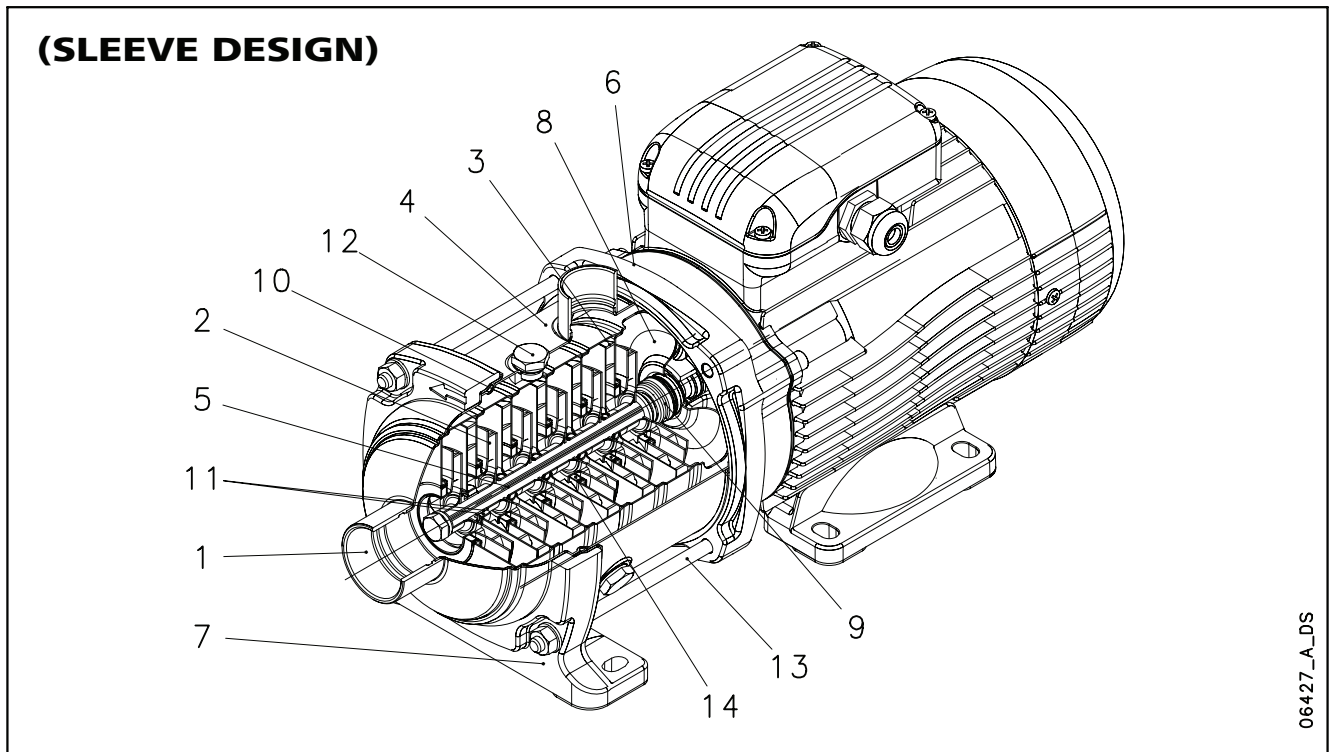
1-3-5hm-cp-s-en\_a\_tm

#### TABLE OF MATERIALS HM..N SERIES

REF. N.	NAME	MATERIAL	REFERENCE STANDARDS	
			EUROPE	USA
1	Pump body	Stainless steel	EN 10088-1-X2CrNiMo17-12-2 (1.4404)	AISI 316L
2	Impeller	Stainless steel	EN 10088-1-X2CrNiMo17-12-2 (1.4404)	AISI 316L
3	Diffuser	Stainless steel	EN 10088-1-X2CrNiMo17-12-2 (1.4404)	AISI 316L
4	Shaft	Stainless steel	EN 10088-1-X5CrNiMo17-12-2 (1.4401)	AISI 316
5	Adapter	Aluminium	EN 1706-AC-AISI11Cu2 (Fe) (AC46100)	-
6	Seal housing	Stainless steel	EN 10088-1-X2CrNiMo17-12-2 (1.4404)	AISI 316L
7	Mechanical seal	Ceramic / Carbon / EPDM		
8	Elastomers	EPDM		
9	Fill / drain plugs	Stainless steel	EN 10088-1-X5CrNiMo17-12-2 (1.4401)	AISI 316
10	Wear ring	Technopolymer (PPS)		
11	Bolts and screws	Stainless steel	EN 10088-1-X5CrNi18-10 (1.4301)	AISI 304

1-3-5hm-cp-n-en\_a\_tm

## 1, 3, 5, 10, 15, 22 HM..S - HM..N SERIES ELECTRIC PUMP CROSS SECTION AND MAIN COMPONENTS



### TABLE OF MATERIALS HM..S SERIES

REF. N.	NAME	MATERIAL	REFERENCE STANDARDS	
			EUROPE	USA
1	Head	Stainless steel	EN 10088-1-X5CrNi18-10 (1.4301)	AISI 304
2	Impeller	Stainless steel	EN 10088-1-X5CrNi18-10 (1.4301)	AISI 304
3	Diffuser	Stainless steel	EN 10088-1-X5CrNi18-10 (1.4301)	AISI 304
4	Outer sleeve	Stainless steel	EN 10088-1-X5CrNi18-10 (1.4301)	AISI 304
5	Shaft	Stainless steel	EN 10088-1-X5CrNiMo17-12-2 (1.4401)	AISI 316
6	Adapter	Aluminium	EN 1706-AC-AISI11Cu2 (Fe) (AC46100)	-
7	Ring with foot	Aluminium	EN 1706-AC-AISI11Cu2 (Fe) (AC46100)	-
8	Seal housing	Stainless steel	EN 10088-1-X5CrNi18-10 (1.4301)	AISI 304
9	Mechanical seal	Ceramic / Carbon / EPDM (PN10) - Silicon Carbide/Carbon/EPDM (PN16)		
10	Elastomers	EPDM		
11	Shaft sleeve and bushing	Tungsten carbide		
12	Fill / drain plugs	Stainless steel	EN 10088-1-X5CrNiMo17-12-2 (1.4401)	AISI 316
13	Tie rods	Stainless steel	EN 10088-1-X17CrNi16-2 (1.4057)	AISI 431
14	Wear ring	Technopolymer (PPS)		

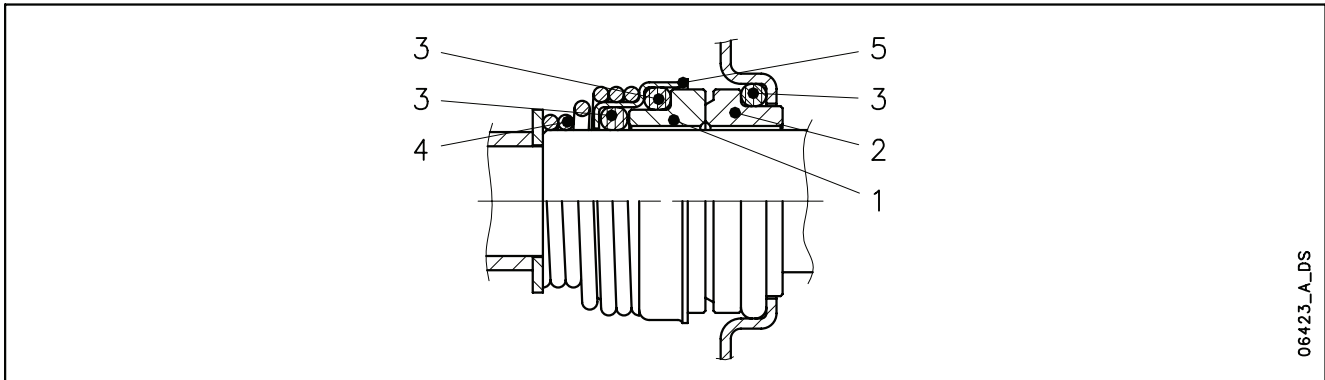
### TABLE OF MATERIALS HM..N SERIES

1-22hm-cm-s\_a\_tm

REF. N.	NAME	MATERIAL	REFERENCE STANDARDS	
			EUROPE	USA
1	Head	Stainless steel	EN 10088-1-X2CrNiMo17-12-2 (1.4404)	AISI 316L
2	Impeller	Stainless steel	EN 10088-1-X2CrNiMo17-12-2 (1.4404)	AISI 316L
3	Diffuser and upper spacer	Stainless steel	EN 10088-1-X2CrNiMo17-12-2 (1.4404)	AISI 316L
4	Outer sleeve	Stainless steel	EN 10088-1-X2CrNiMo17-12-2 (1.4404)	AISI 316L
5	Shaft	Stainless steel	EN 10088-1-X5CrNiMo17-12-2 (1.4401)	AISI 316
6	Adapter	Aluminium	EN 1706-AC-AISI11Cu2 (Fe) (AC46100)	-
7	Ring with foot	Aluminium	EN 1706-AC-AISI11Cu2 (Fe) (AC46100)	-
8	Seal housing	Stainless steel	EN 10088-1-X2CrNiMo17-12-2 (1.4404)	AISI 316L
9	Mechanical seal	Ceramic / Carbon / EPDM (PN10) - Silicon Carbide/Carbon/EPDM (PN16)		
10	Elastomers	EPDM		
11	Shaft sleeve and bushing	Tungsten carbide		
12	Fill / drain plugs	Stainless steel	EN 10088-1-X5CrNiMo17-12-2 (1.4401)	AISI 316
13	Tie rods	Stainless steel	EN 10088-1-X17CrNi16-2 (1.4057)	AISI 431
14	Wear ring	Technopolymer (PPS)		

1-22hm-cam-n-en\_a\_tm

## e-HM™ SERIES MECHANICAL SEALS



06423\_A\_DS

### LIST OF MATERIALS ACCORDING TO EN 12756

POSITION 1 - 2	POSITION 3	POSITION 4 - 5
V : Aluminium oxide (Ceramic)	E : EPDM	G : AISI 316
Q <sub>1</sub> : Silicon Carbide	V : FPM	
B : Carbon, resin-impregnated	K : FFPM (Kalrez®)	

1-22hm\_ten-mec-en\_a\_tm

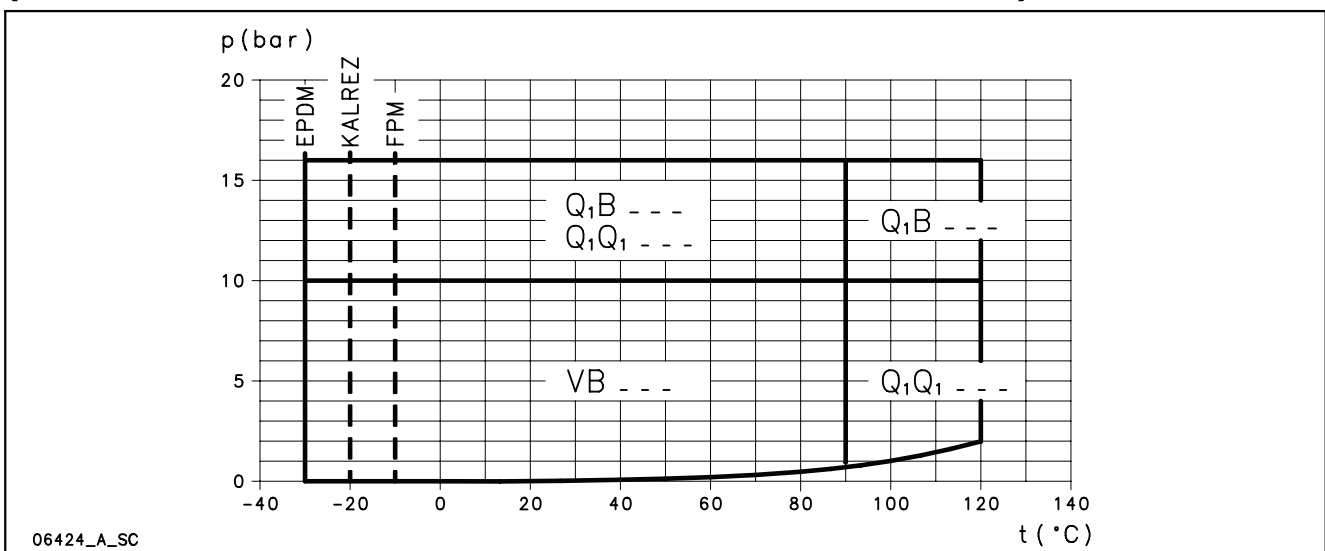
### TYPE OF SEAL

TYPE	POSITION					*TEMPERATURE (°C)	OPERATING PRESSURE
	1 ROTATING PART	2 STATIONARY PART	3 ELASTOMERS	4 SPRINGS	5 OTHER COMPONENTS		
<b>STANDARD MECHANICAL SEAL</b>							
VBEGG	V	B	E	G	G	-30 + 90	PN10
Q <sub>1</sub> BEGG	Q <sub>1</sub>	B	E	G	G	-30 + 120	PN16
<b>OTHER TYPES OF AVAILABLE MECHANICAL SEAL</b>							
Q <sub>1</sub> Q <sub>1</sub> EGG	Q <sub>1</sub>	Q <sub>1</sub>	E	G	G	-30 + 120	PN10
Q <sub>1</sub> Q <sub>1</sub> EGG	Q <sub>1</sub>	Q <sub>1</sub>	E	G	G	-30 + 90	PN16
VBVGG	V	B	V	G	G	-10 + 90	PN10
Q <sub>1</sub> VBVGG	Q <sub>1</sub>	B	V	G	G	-10 + 120	PN16
Q <sub>1</sub> Q <sub>1</sub> VGG	Q <sub>1</sub>	Q <sub>1</sub>	V	G	G	-10 + 120	PN10
Q <sub>1</sub> Q <sub>1</sub> VGG	Q <sub>1</sub>	Q <sub>1</sub>	V	G	G	-10 + 90	PN16
Q <sub>1</sub> BKGG	Q <sub>1</sub>	B	K	G	G	-20 + 120	PN16
Q <sub>1</sub> Q <sub>1</sub> KGG	Q <sub>1</sub>	Q <sub>1</sub>	K	G	G	-20 + 120	PN10
Q <sub>1</sub> Q <sub>1</sub> KGG	Q <sub>1</sub>	Q <sub>1</sub>	K	G	G	-20 + 90	PN16

\* For single-phase versions limit the temperature to +60°C.

1-22hm\_tipi-ten-mec-en\_a\_tc

### PRESSURE/TEMPERATURE APPLICATION LIMITS FOR COMPLETE PUMP (APPLICABLE WITH ANY OF THE SEALS LISTED ABOVE)



## COMPATIBILITY CHART FOR MATERIALS IN CONTACT WITH MOST COMMONLY USED LIQUIDS

LIQUID	CONCENTRATION (%)	TEMPERATURE MIN/MAX (°C)	SPECIF. WEIGHT (Kg/dm <sup>3</sup> )	VERSIONS			RECOMMEND. SEAL	ELASTOM.
				HM..P	HM..S	HM..N		
Acetic acid	80	-10 +70	1,05	•	•	•	Q1BEGG	E
Alkaline degreaser	5	80			•	•	Q1BVGG	V
Aluminium sulfate	30	-5 +50	2,71			•	Q1Q1VGG	V
Ammonia in water	25	-20 +50	0,99	•	•	•	Q1BEGG	E
Ammonium sulfate	10	-10 +60	1,77	•		•	Q1Q1VGG	V
Benzoic acid	70	0 +70	1,31		•	•	Q1BKGG	K
Boric acid	saturated	-10 +90	1,43	•	•	•	Q1BEGG	E
Butyl alcohol	100	-5 +80	0,81	•	•	•	Q1Q1KGG	K
Caustic soda	25	0 +70	2,13	•	•	•	Q1BVGG	V
Chloroform	100	-10 +30	1,48	•	•	•	Q1BEGG	E
Citric acid	5	-10 +70	1,54		•	•	Q1Q1VGG	V
Cleaning products	10	-5 +100			•	•	Q1BEGG	E
Copper sulfate	20	0 +30	2,28	•		•	Q1BEGG	E
Cutting fluid	100	-5 +110	0,90	•	•	•	Q1BEGG	E
Deionised, demineralised water	100	-25 +110	1	•	•	•	Q1BEGG	E
Denatured alcohol	100	-5 +70	0,81	•	•	•	Q1BEGG	E
Diathermic oil	100	-5 +110	0,90	•	•	•	Q1BEGG	E
Emulsion oil and water	any	-5 +90		•	•	•	Q1BEGG	E
Ethyl alcohol	100	-5 +40	0,81	•	•	•	Q1BEGG	E
Ethylene glycol	30	-30 +120		•		•	Q1BEGG	E
Formaldehyde	100	0 +30	1,13	•	•	•	Q1BEGG	E
Formic acid	5	-15 +25	1,22		•	•	Q1BVGG	V
Glycerine	100	+20 +90	1,26	•	•	•	Q1BEGG	E
Hydraulic oil	100	-5 +110			•	•	Q1Q1VGG	V
Hydrochloric acid	2	-5 +25	1,20			•	Q1BVGG	V
Hydroxide sodium	25	0 +70			•	•	Q1Q1KGG	K
Iron sulfate	10	-5 +30	2,09	•		•	Q1Q1VGG	V
Methyl alcohol	100	-5 +40	0,79	•	•	•	Q1BEGG	E
Mineral oil	100	-5 +110	0,94	•	•	•	Q1BEGG	E
Nitric acid	50	-5 +30	1,48		•	•	Q1BVGG	V
Perchloroethylene	100	-10 +30	1,60	•	•	•	Q1Q1EGG	E
Phosphates-polyphosphates	10	-5 +90		•		•	Q1Q1VGG	V
Phosphoric acid	10	-5 +30	1,33			•	Q1Q1VGG	V
Propyl alcohol (Propanol)	100	-5 +80	0,80		•	•	Q1BEGG	E
Propylene glycol	30	-30 +120			•	•	Q1BVGG	V
Sodium bicarbonate (Baking soda)	saturated					•	Q1BVGG	V
Sodium hypochlorite	1	-10 +25				•	Q1BVGG	V
Sodium nitrate	saturated	-10 +80	2,25		•	•	Q1BVGG	V
Sodium sulfate	15	-10 +40	2,60		•	•	Q1BVGG	V
Sulphuric acid	2	-10 +25	1,84			•	Q1BKGG	K
Tannic acid	20	0 +50				•	Q1Q1VGG	V
Tartaric acid	50	-10 +25	1,76		•	•	Q1Q1EGG	E
Trichloroethylene	100	-10 +40	1,46	•	•	•	Q1Q1EGG	E
Uric acid	80	-10 +80	1,89	•	•	•	Q1Q1EGG	E
Vegetable oil	100	-5 +110	0,95	•	•	•	Q1Q1EGG	E
Water	100	-5 +120		•	•	•	Q1Q1VGG	V
Water condensate	100	-5 +100	1	•	•	•	Q1Q1EGG	E
Water detergents, mineral oils mixture	10	-5 +80			•	•	Q1BKGG	K

tab-comp-hm-en\_a\_tm

The above table indicates the compatibility of materials depending on the pumped liquid. Check the specific weight of the liquid or the viscosity as this could affect the power input of the motor and hydraulic performance. For further details, please contact the sales network.

## e-HM™ SERIES MOTORS

With the “Energy using Products” (EuP 2005/32/EC) and “Energy related Products” (ErP 2009/125/EC) directives, the European Commission has established requirements for promoting the use of products with low power consumption.

The various products considered include three-phase, 50 Hz surface motors, with power outputs ranging from 0,75 to 375 kW, also when integrated with other products, with characteristics as defined by the specific **Regulation (EC) n. 640/2009** implementing the requirements of the EuP and ErP Directives which also establish the following deadlines:

from	kW	minimum level of efficiency (IE)
16th June 2011	0,75 ÷ 375	IE2
1st January 2015	< 7,5	IE2
	7,5 ÷ 375	IE3 IE2 fitted with variable speed drive
1st January 2017	0,75 ÷ 375	IE3
		IE2 fitted with variable speed drive

- **Standard three-phase surface motors**  
≥ 0,75 kW supplied as IE3.
- Short-circuit squirrel-cage motor, enclosed construction with external ventilation (TEFC).
- IP55 protection degree.
- Insulation class 155 (F).
- Electrical performances according to EN 60034-1.
- IE efficiency according to EN 60034-30 (≥ 0,75 kW).
- Cable gland with metric according to EN 50262.
- **Single-phase** version:  
220-240 V 50 Hz  
Built-in automatic reset overload protection up to 2,2 kW. For higher powers the protection must be provided by the user.
- **Three-phase** version:  
220-240/380-415 V 50 Hz for power up to 3 kW.  
380-415/660-690 V 50 Hz for power above 3 kW.  
Overload protection to be provided by the user.

## SINGLE-PHASE MOTORS AT 50 Hz, 2-POLE

P <sub>N</sub> kW	MOTOR TYPE	IEC SIZE	Construction Design	INPUT CURRENT I <sub>n</sub> (A) 220-240 V	CAPACITOR		DATA FOR 230 V 50 Hz VOLTAGE						
					μF	V	min <sup>-1</sup>	I <sub>s</sub> / I <sub>n</sub>	η %	cosφ	T <sub>n</sub> Nm	T <sub>s</sub> /T <sub>n</sub>	T <sub>m</sub> /T <sub>n</sub>
0,50	SM63HM../1055	63	SPECIAL	3,46-3,30	16	450	2705	2,90	66,9	0,98	1,76	0,56	1,61
0,55	SM71HM../1055	71		3,76-3,99	16	450	2820	3,72	68,9	0,91	1,86	0,61	2,00
0,75	SM71HM../1075	71		4,90-4,85	20	450	2765	3,42	70,1	0,96	2,59	0,58	1,75
0,95	SM71HM../1095	71		6,25-5,89	25	450	2740	3,39	71,1	0,98	3,31	0,58	1,66
1,1	SM80HM../1115	80		6,88-6,65	30	450	2800	3,89	74,7	0,96	3,75	0,46	1,72
1,5	SM80HM../1155	80		9,21-8,58	40	450	2810	4,00	76,1	0,98	5,09	0,39	1,74
2,2	PLM90HM../1225	90		12,5-11,6	70	450	2825	4,47	82,4	0,97	7,43	0,53	1,87

1-22hm-motm-2p50-en\_a\_te

## e-HM™ SERIES THREE-PHASE MOTORS AT 50 Hz, 2-POLE

P <sub>N</sub> kW	Efficiency $\eta_N$																		Year of manufacture			
	%																					
	$\Delta$ 220 V Y 380 V			$\Delta$ 230 V Y 400 V			$\Delta$ 240 V Y 415 V			$\Delta$ 380 V Y 660 V			$\Delta$ 400 V Y 690 V			$\Delta$ 415 V				IE		
	4/4	3/4	2/4	4/4	3/4	2/4	4/4	3/4	2/4	4/4	3/4	2/4	4/4	3/4	2/4	4/4	3/4	2/4				
0,30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	By June 2013
0,40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
0,50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
0,55	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
0,75	82,5	83,1	81,3	82,8	82,7	80,1	82,6	82,0	78,9	82,5	82,0	78,9	82,5	82,0	78,9	82,5	82,0	78,9	-	-	-	
1,1	84,0	84,7	83,4	84,4	84,5	82,5	84,3	84,0	81,4	84,0	84,0	81,4	84,0	84,0	81,4	84,0	84,0	81,4	-	-	-	
1,5	85,6	86,5	85,8	85,9	86,4	84,9	86,0	86,0	84,0	85,6	86,0	84,0	85,6	86,0	84,0	85,6	86,0	84,0	-	-	-	
2,2	86,5	87,4	86,8	86,4	86,9	85,7	86,6	86,7	85,0	86,4	86,7	85,0	86,4	86,7	85,0	86,4	86,7	85,0	-	-	-	
3	87,2	88,5	88,3	87,5	88,2	87,5	87,5	87,8	86,4	87,2	87,8	86,4	87,2	87,8	86,4	87,2	87,8	86,4	-	-	-	
4	88,7	89,4	88,1	88,7	89,4	88,1	88,7	89,4	88,1	88,7	89,6	89,3	89,0	89,6	88,7	89,3	89,4	88,1	-	-	-	
5,5	89,5	89,6	88,0	89,5	89,6	88,0	89,5	89,6	88,0	89,5	90,3	89,9	89,7	90,0	89,0	89,6	89,6	88,0	-	-	-	

P <sub>N</sub> kW	Manufacturer		IEC SIZE	Construction Design	N. of Poles	f <sub>N</sub> Hz	Data for 400 V / 50 Hz Voltage				
	Lowara srl Unipersonale Reg. No. 03471820260 Montecchio Maggiore Vicenza - Italia						cos $\phi$	I <sub>s</sub> / I <sub>N</sub>	T <sub>N</sub> Nm	T <sub>s</sub> /T <sub>N</sub>	T <sub>m</sub> /T <sub>N</sub>
	Model										
0,30	SM63HM../303		63	SPECIAL	2	50	0,72	4,05	1,05	3,29	2,63
0,40	SM63HM../304		63				0,66	4,32	1,38	4,14	3,13
0,50	SM63HM../305		63				0,71	4,41	1,73	3,70	2,62
0,55	SM71HM../305		71				0,74	5,97	1,85	3,74	3,56
0,75	SM80HM../307 E3		80				0,78	7,38	2,48	3,57	3,75
1,1	SM80HM../311 E3		80				0,79	8,31	3,63	3,95	3,95
1,5	SM80HM../315 E3		80				0,80	8,80	4,96	4,31	4,10
2,2	PLM90HM../322 E3		90				0,80	8,77	7,28	3,72	3,70
3	PLM90HM../330 E3		90				0,79	7,81	9,93	4,26	3,94
4	PLM100HM../340 E3		100				0,85	9,49	13,1	3,03	4,39
5,5	PLM112HM../355 E3		112				0,85	10,5	18,1	4,74	5,11

P <sub>N</sub> kW	Voltage U <sub>N</sub>											n <sub>N</sub> min <sup>-1</sup>	Observe the regulations and codes locally in force regarding sorted waste disposal.	Operating conditions **		
	$\Delta$						Y							Altitude Above Sea Level (m)	T. amb min/max °C	ATEX
	220 V	230 V	240 V	380 V	400 V	415 V	380 V	400 V	415 V	660 V	690 V					
	I <sub>N</sub> (A)															
0,30	1,65	1,70	1,78	0,95	0,98	1,03	-	-	-	-	-	2680 ÷ 2745	≤ 1000	-15 / 40	No	
0,40	2,20	2,34	2,51	1,27	1,35	1,45	-	-	-	-	-	2740 ÷ 2790				
0,50	2,53	2,63	2,81	1,46	1,52	1,62	-	-	-	-	-	2715 ÷ 2770				
0,55	2,56	2,56	2,62	1,48	1,48	1,51	-	-	-	-	-	2825 ÷ 2850				
0,75	2,96	2,94	2,96	1,71	1,70	1,71	1,70	1,69	1,70	0,98	0,98	2875 ÷ 2895				
1,1	4,19	4,14	4,16	2,42	2,39	2,40	2,41	2,38	2,38	1,39	1,37	2870 ÷ 2900				
1,5	5,56	5,49	5,51	3,21	3,17	3,18	3,21	3,18	3,19	1,85	1,84	2870 ÷ 2895				
2,2	7,97	7,90	7,98	4,60	4,56	4,61	4,57	4,54	4,57	2,64	2,62	2880 ÷ 2900				
3	11,0	11,0	11,2	6,35	6,33	6,44	6,29	6,27	6,34	3,63	3,62	2865 ÷ 2895				
4	13,6	13,5	13,3	7,85	7,77	7,70	7,75	7,66	7,60	4,47	4,42	2890 ÷ 2915				
5,5	18,1	17,9	18,1	10,4	10,4	10,4	10,6	10,5	10,7	6,10	6,05	2880 ÷ 2910				

\*\* Operating conditions to be referred to motor only. About electric pump, refer to limits in user's manual.

1-22hm-ie3-mott-2p50-en\_a\_te

**e-HM™ SERIES**  
**AVAILABLE VOLTAGES**

P <sub>N</sub> kW	SINGLE-PHASE							
	50 Hz				60 Hz			
	1 x 220-240	1 x 100	1 x 110-120	1 x 220-230	1 x 100	1 x 110-115	1 x 120-127	1 x 200-210
0,50	s	-	-	s	-	o	-	-
0,55	s	o	o	s	o	o	o	o
0,75	s	o	o	s	o	o	o	o
0,95	s	o	o	s	o	o	o	o
1,1	s	-	o	s	-	o	-	o
1,5	s	-	-	s	-	o	-	o
2,2	s	-	-	s	-	-	-	-

P <sub>N</sub> kW	THREE-PHASE																		
	50 Hz							60 Hz						50/60 Hz					
	3 x 220-230-240/380-400-415	3 x 380-400-415/660-690	3 x 200-208/346-360	3 x 255-265/440-460	3 x 290-300/500-525	3 x 440-460/-	3 x 500-525/-	3 x 220-230/380-400	3 x 255-265-277/440-460-480	3 x 380-400/660-690	3 x 440-460-480/-	3 x 110-115/190-200	3 x 200-208/346-360	3 x 330-346/575-600	3 x 575/-	3 x 230/400 50 Hz	3 x 265/460 60 Hz	3 x 400/690 50 Hz	3 x 460/- 60 Hz
0,30	s	o	o	o	o	o	o	s	o	o	o	o	o	o	o	o	o	o	o
0,40	s	o	o	o	o	o	o	s	o	o	o	o	o	o	o	o	o	o	o
0,50	s	o	o	o	o	o	o	s	o	o	o	o	o	o	o	o	o	o	o
0,55	s	o	o	o	o	o	o	s	o	o	o	o	o	o	o	o	o	o	o
0,75	s	o	o	o	o	o	o	s	o	o	o	o	o	o	o	o	o	o	o
1,1	s	o	o	o	o	o	o	s	o	o	o	o	o	o	o	o	o	o	o
1,5	s	o	o	o	o	o	o	s	o	o	o	o	o	o	o	o	o	o	o
2,2	s	o	o	o	o	o	o	s	o	o	o	o	o	o	o	o	o	o	o

s = Standard voltage    o = voltage upon request    - = Not available

hm-volt-low-a-en\_b\_te