

**50 Hz**



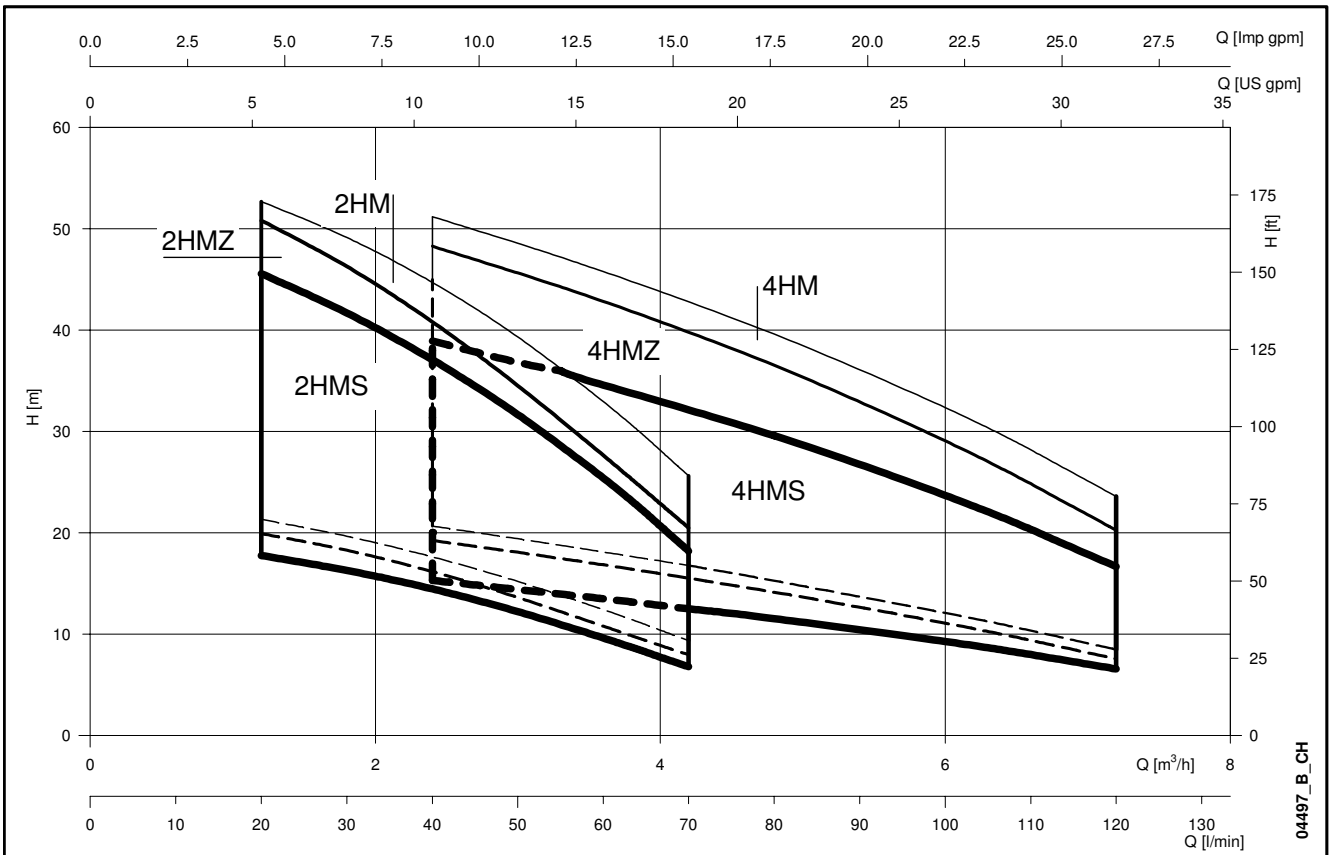
# HM - HMZ - HMS Series

THREADED HORIZONTAL MULTISTAGE CENTRIFUGAL ELECTRIC PUMPS  
EQUIPPED WITH IE2/IE3 MOTORS COMPLYING WITH REGULATION (EC) no. 640/2009

Cod. 191003891 Rev.E Ed.08/2012

 **LOWARA**  
a xylem brand

**HM - HMZ - HMS SERIES  
HYDRAULIC PERFORMANCE RANGE AT 50 Hz**



## Threaded horizontal multistage centrifugal electric pumps

### HM-HMZ-HMS Series

#### MARKET SECTORS

INDUSTRIAL, CIVIL, AGRICULTURAL.

#### APPLICATIONS

- Pumping of water for domestic (HM) and industrial use (HMS). Special version (HMZ) particularly suitable for critical application in suction.
- Small irrigation systems. The HMS series pump can handle water (containing additives) having moderate chemical aggressiveness, but free of suspended solids.
- Composition of pressure booster units for various purposes.
- Pumping of liquids compatible with AISI 316L stainless steel (1.4404) for HMS version.



- Liquid end made entirely of stainless steel for HMS**
- Silent operation**
- High performance and reliability**
- Standard supplied IE2/IE3 motors are compliant with Regulation (EC) no. 640/2009.**

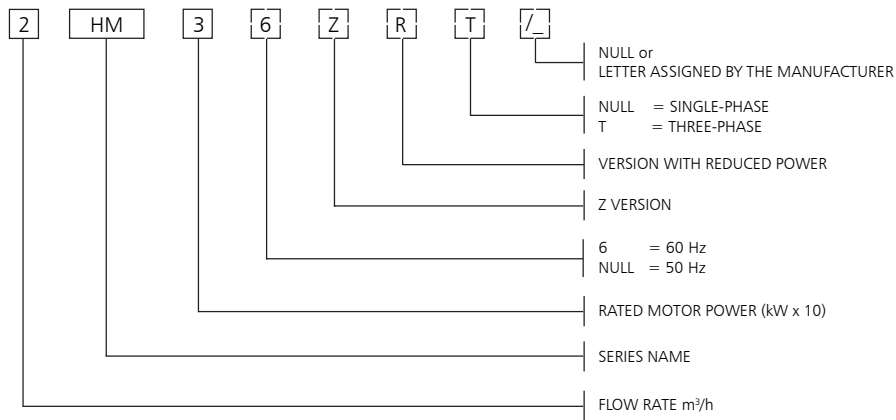
#### SPECIFICATIONS PUMP

- **Delivery:**  
2HM-4HM: up to 120 l/min (7,2 m<sup>3</sup>/h).  
2HMS-4HMS: up to 120 l/min (7,2 m<sup>3</sup>/h).
- **Head:**  
2HM-4HM: up to 60,7 m.  
2HMS-4HMS: up to 51,2 m.
- **Maximum operating pressure:**  
800 kPa (8 bar, PN 8).
- **Continuous duty.**
- **Temperature of pumped liquid:**  
HM-HMZ: -10°C to +60°C.  
HMS: -10°C to +90°C for household use (EN 60335-1).  
-10°C to +110°C for industrial/commercial use.

#### MOTOR

- Asynchronous, squirrel cage rotor, close construction, external ventilation.
- **Protection class:**  
IP55 (motor), IPX5 (electric pump).
- **Class 155 (F) Insulation.**
- According to EN 60034-1.
- **Standard voltage:**
  - **Single-phase** versions:  
220-240 V 50 Hz, 2 poles, with automatic reset overload protection.
  - **Three-phase** versions:  
220-240/380-415 V 50 Hz, 2 poles, the overload protection must be provided and installed by the user.

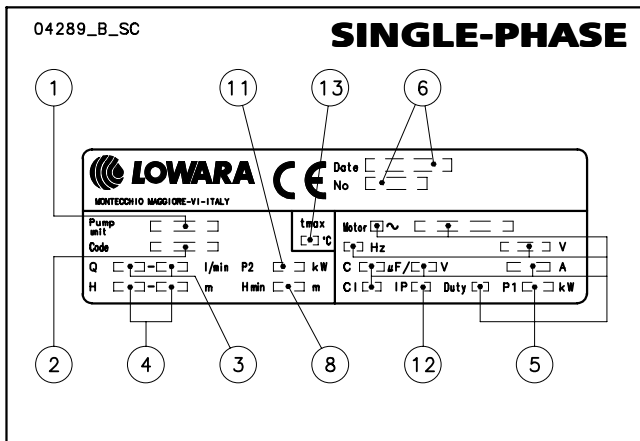
## HM-HMZ-HMS SERIES IDENTIFICATION CODE



EXAMPLE : 2HM3T

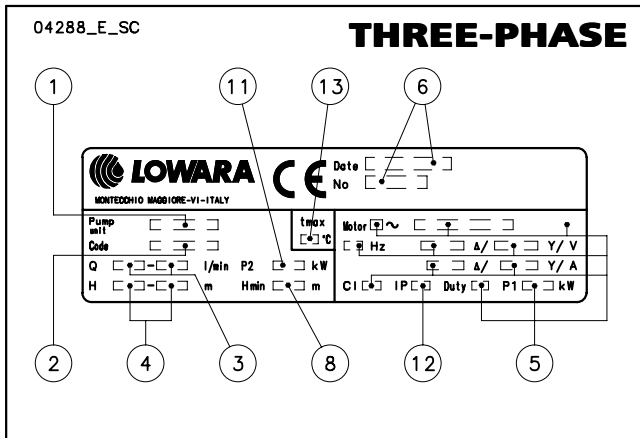
HM electric pump series, flow rate 2 m<sup>3</sup>/h  
rated motor power 0,3 kW, 50 Hz, three-phase.

## RATING PLATE



## LEGEND

- 1 - Electric pump type
- 2 - Code
- 3 - Delivery range
- 4 - Head range
- 5 - Electrical data
- 6 - Serial number (date + sequential number)
- 8 - Minimum head
- 11 - Rated power
- 12 - Electric pump protection class
- 13 - Maximum temperature of pumped liquid



## HM SERIES HYDRAULIC PERFORMANCE TABLE AT 50 Hz, 2 POLES

PUMP TYPE	RATED POWER		Q = DELIVERY									
			l/min	0	20	30	40	50	60	70	80	100
	kw	HP	m <sup>3</sup> /h	0	1,2	1,8	2,4	3	3,6	4,2	4,8	6
H = TOTAL HEAD METRES COLUMN OF WATER												
2HM3(T)	0,3	0,4	23,8	21,4	19,7	17,6	15,2	12,5	9,4			
2HM4(T)	0,45	0,6	35,4	32	29,5	26,5	23	19	14,5			
2HM5(T)	0,55	0,75	45,4	41,1	38,0	34,2	30,0	25,1	19,6			
2HM7(T)	0,75	1	57,9	52,7	49,2	44,7	39,4	32,3	25,6			
4HM4(T)	0,45	0,6	25,1			20,7	19,4	18,1	16,8	15	12,1	8,5
4HM5(T)	0,55	0,75	35,2			29,0	27,1	25,3	23,3	21,4	17,2	12,3
4HM7(T)	0,75	1	48,1			40,2	38,2	36,1	33,8	31,2	25,1	17,6
4HM9(T)	0,9	1,2	60,7			51,2	48,6	45,9	42,9	39,7	32,4	23,6

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## HM SERIES ELECTRICAL DATA AT 50 Hz, 2 POLES

PUMP TYPE	MOTOR TYPE	INPUT POWER*	INPUT CURRENT* 220-240 V	CAPACITOR μF / 450 V	PUMP TYPE	MOTOR TYPE	INPUT POWER*	INPUT CURRENT* 220-240 V	INPUT CURRENT* 380-415 V
		kw	A				kw	A	A
2HM3	SM63HM/1035	0,51	2,34	10	2HM3T	SM63HM/303	0,47	1,80	1,04
2HM4	SM63HM/1045	0,66	2,92	14	2HM4T	SM63HM/304	0,67	2,56	1,48
2HM5	SM63HM/1055	0,85	3,72	16	2HM5T	SM63HM/305	0,87	2,94	1,70
2HM7	SM71HM/1075	1,13	5,09	20	2HM7T	SM80HM/307PE	1,04	3,22	1,86
4HM4	SM63HM/1045	0,62	2,77	14	4HM4T	SM63HM/304	0,62	2,51	1,45
4HM5	SM63HM/1055	0,86	3,76	16	4HM5T	SM63HM/305	0,88	2,96	1,71
4HM7	SM71HM/1095	1,29	5,74	25	4HM7T	SM80HM/311PE	1,16	3,88	2,24
4HM9	SM71HM/1095	1,45	6,49	25	4HM9T	SM80HM/311PE	1,34	4,23	2,44

\*Maximum value in specified range.

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## HMZ SERIES HYDRAULIC PERFORMANCE TABLE AT 50 Hz, 2 POLES

PUMP TYPE	RATED POWER		Q = DELIVERY									
			l/min	0	20	30	40	50	60	70	80	100
	kw	HP	m <sup>3</sup> /h	0	1,2	1,8	2,4	3	3,6	4,2	4,8	6
H = TOTAL HEAD METRES COLUMN OF WATER												
2HM3Z(T)	0,3	0,4	22,2	20	18,2	16,1	13,7	10,9	7,9			
2HM4Z(T)	0,45	0,6	34	30	27,3	24,2	20,7	16,7	12,2			
2HM5Z(T)	0,55	0,75	45,5	40	36,3	32,1	27,3	22,1	16,5			
2HM7Z(T)	0,75	1	57	50,8	46,2	40,8	34,6	27,8	20,5			
4HM4Z(T)	0,45	0,6	23,6			19,3	18,1	16,9	15,6	14,2	11,1	7,6
4HM5Z(T)	0,55	0,75	35			28,6	26,9	25	23,1	21	16,6	11,5
4HM7Z(T)	0,75	1	47,5			39,9	37,8	35,6	33,2	30,5	24,4	16,9
4HM9Z(T)	0,9	1,2	58,4			48,3	45,6	42,8	39,8	36,5	29,1	20,3

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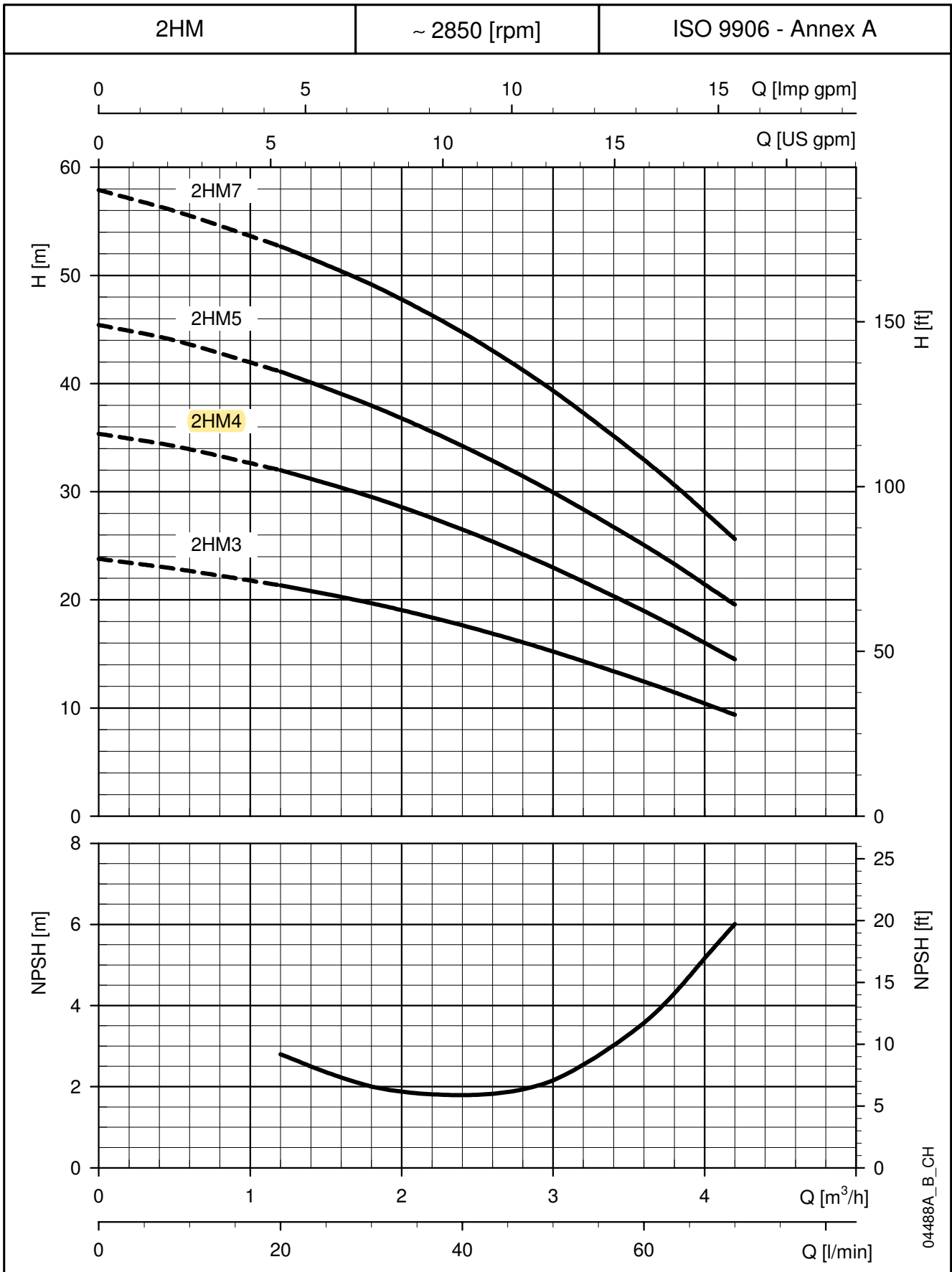
## HMZ SERIES ELECTRICAL DATA AT 50 Hz, 2 POLES

PUMP TYPE	MOTOR TYPE	INPUT POWER*	INPUT CURRENT* 220-240 V	CAPACITOR μF / 450 V	PUMP TYPE	MOTOR TYPE	INPUT POWER*	INPUT CURRENT* 220-240 V	INPUT CURRENT* 380-415 V
		kw	A				kw	A	A
2HM3Z	SM63HM/1035	0,51	2,34	10	2HM3ZT	SM63HM/303	0,47	1,80	1,04
2HM4Z	SM63HM/1045	0,66	2,92	14	2HM4ZT	SM63HM/304	0,67	2,56	1,48
2HM5Z	SM63HM/1055	0,85	3,72	16	2HM5ZT	SM63HM/305	0,87	2,94	1,70
2HM7Z	SM71HM/1075	1,13	5,09	20	2HM7ZT	SM80HM/307PE	1,04	3,22	1,86
4HM4Z	SM63HM/1045	0,62	2,77	14	4HM4ZT	SM63HM/304	0,62	2,51	1,45
4HM5Z	SM63HM/1055	0,86	3,76	16	4HM5ZT	SM63HM/305	0,88	2,96	1,71
4HM7Z	SM71HM/1095	1,29	5,74	25	4HM7ZT	SM80HM/311PE	1,16	3,88	2,24
4HM9Z	SM71HM/1095	1,45	6,49	25	4HM9ZT	SM80HM/311PE	1,34	4,23	2,44

\*Maximum value in specified range.

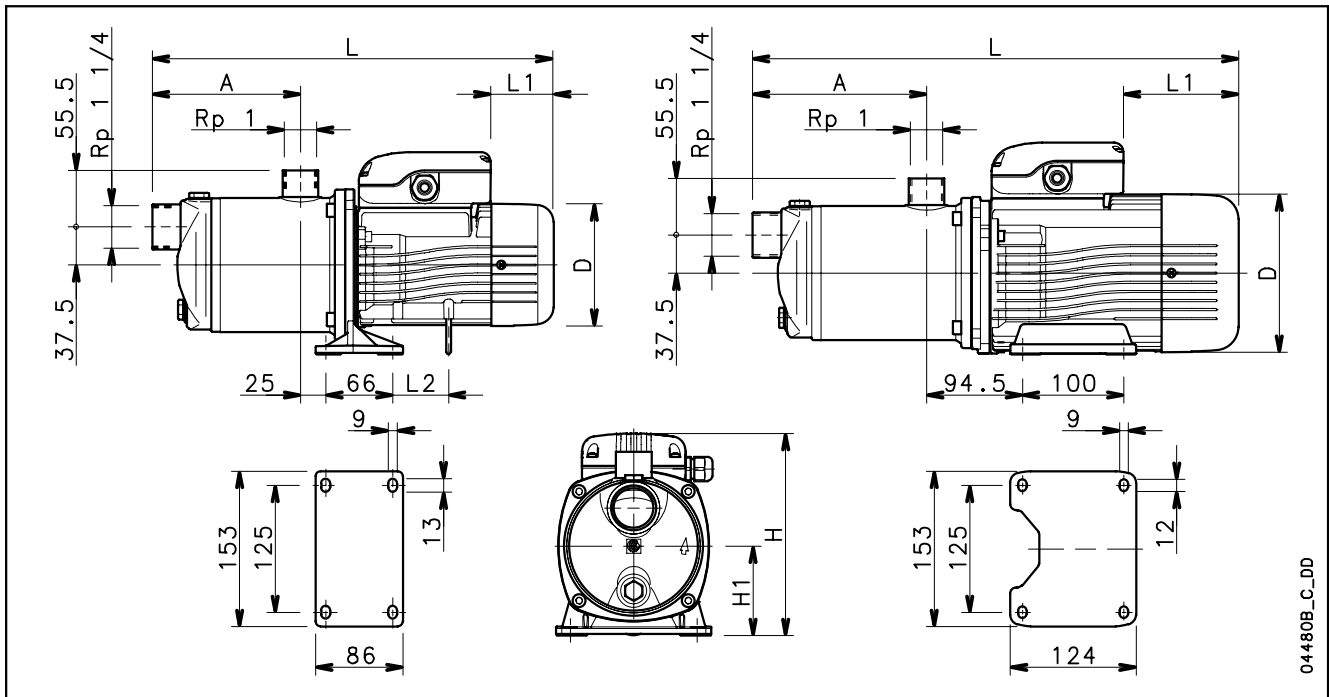
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**2HM SERIES  
OPERATING CHARACTERISTICS AT 50 Hz, 2 POLES**



These performances are valid for liquids with density  $\rho = 1.0 \text{ Kg/dm}^3$  and kinematic viscosity  $\nu = 1 \text{ mm}^2/\text{sec}$ .

## HM-HMZ-HMS SERIES DIMENSIONS AND WEIGHTS AT 50 Hz, 2 POLES



04480B\_C\_DD

PUMP TYPE	NUMBER OF STAGES	DIMENSIONS (mm)							WEIGHT kg
		A	D	L	L1	L2	H	H1	
2HM3/A - 2HM3Z/A	2	96	120	345	62	56	199	88	6,8
<b>2HM4/A - 2HM4Z/A</b>	<b>3</b>	<b>121</b>	<b>120</b>	<b>370</b>	<b>62</b>	<b>56</b>	<b>199</b>	<b>88</b>	<b>7,7</b>
2HM5/A - 2HM5Z/A	4	146	120	395	62	56	199	88	8,5
2HM7/A - 2HM7Z/A	5	171	140	434	76	56	209	88	12
4HM4/A - 4HM4Z/A	2	96	120	345	62	56	199	88	7,3
4HM5/A - 4HM5Z/A	3	121	120	370	62	56	199	88	8,1
4HM7/A - 4HM7Z/A	4	146	140	409	31	56	218	88	11,6
4HM9/A - 4HM9Z/A	5	171	140	434	31	56	218	88	11,4
2HM3T/A - 2HM3ZT/A	2	96	120	345	62	56	199	88	6,6
2HM4T/A - 2HM4ZT/A	3	121	120	370	62	56	199	88	7,6
2HM5T/A - 2HM5ZT/A	4	146	120	395	62	56	199	88	8,3
2HM7T/D - 2HM7ZT/D	5	171	155	480	114	-	209	80	14
4HM4T/A - 4HM4ZT/A	2	96	120	345	62	56	199	88	7,2
4HM5T/A - 4HM5ZT/A	3	121	120	370	62	56	199	88	8
4HM7T/D - 4HM7ZT/D	4	146	155	455	114	-	209	80	13,5
4HM9T/D - 4HM9ZT/D	5	171	155	480	114	-	209	80	14
2HMS3/A	2	96	120	345	62	56	199	88	7
2HMS4R/A	3	121	120	370	62	56	199	88	7,6
2HMS4/A	4	146	120	395	62	56	199	88	8
2HMS7/A	5	171	140	434	76	56	209	88	12
4HMS3/A	2	96	120	345	62	56	199	88	7
4HMS4/A	3	121	120	370	62	56	199	88	7,8
4HMS5/A	4	146	120	395	62	56	199	88	8,7
4HMS7/A	5	171	140	434	76	56	209	88	10
2HMS3T/A	2	96	120	345	62	56	199	88	7
2HMS4RT/A	3	121	120	370	62	56	199	88	7,6
2HMS4T/A	4	146	120	395	62	56	199	88	8,2
2HMS7T/D	5	171	155	480	114	-	209	80	12
4HMS3T/A	2	96	120	345	62	56	199	88	6,8
4HMS4T/A	3	121	120	370	62	56	199	88	7,7
4HMS5T/A	4	146	120	395	62	56	199	88	8,5
4HMS7T/D	5	171	155	480	114	-	209	80	12,5

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# **TECHNICAL APPENDIX**



## **TYPICAL APPLICATIONS HM SERIES ELECTRIC PUMPS**

### ***Water Purification:***

Filtration  
De-ionized water  
Water treatment  
Commercial and residential pools

### ***Plastic Industry:***

Temperature Regulators  
Extrusion machines  
Manufacture of polymers  
Heat treatment

### ***Agricultural Residential Applications:***

Irrigation  
Greenhouses  
Humidifiers  
Water supply

### ***Heating, Ventilating & Air Conditioning:***

Air scrubbers  
Water re-circulation  
Cooling towers  
Cooling systems  
Temperature control  
Chillers  
Induction heating  
Heat exchangers  
Water heating

### ***Waste Management:***

Waste treatment  
Pollution control

### ***Machine Tool:***

Degreasing  
Parts washing  
Chemical treatment

### ***Graphics:***

Film washing  
Cooling processes

### ***Marine Sector:***

Water on board ships

### ***Computers:***

Circuit board washing  
Unit cooling

### ***Laundry:***

Commercial washers

### ***Food and Drink:***

Food processing  
Bottle washing  
Citrus processing  
Dishwashing  
Brewing  
Sanitary ware

### ***General Industry:***

Spray booths  
Light chemical transfer  
Booster systems

### ***Medical:***

Laser cooling  
Massage  
Medical chillers  
Sanitary equipment