

50 Hz



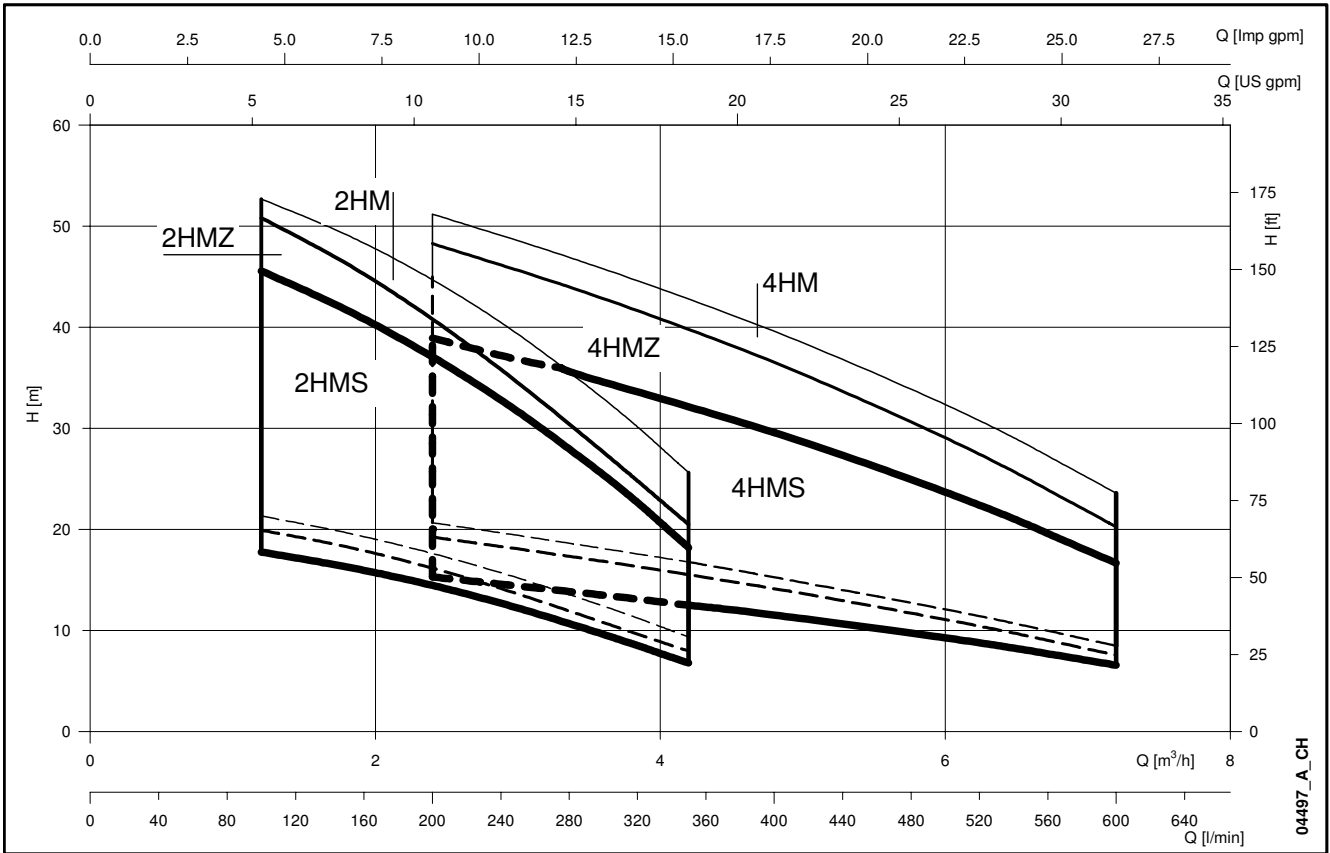
HM - HMZ - HMS Series

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

Cod. 191003891 Rev.B Ed.01/2012

 **LOWARA**
a xylem brand

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



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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 (DIN 1.4404) for HMS version.



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

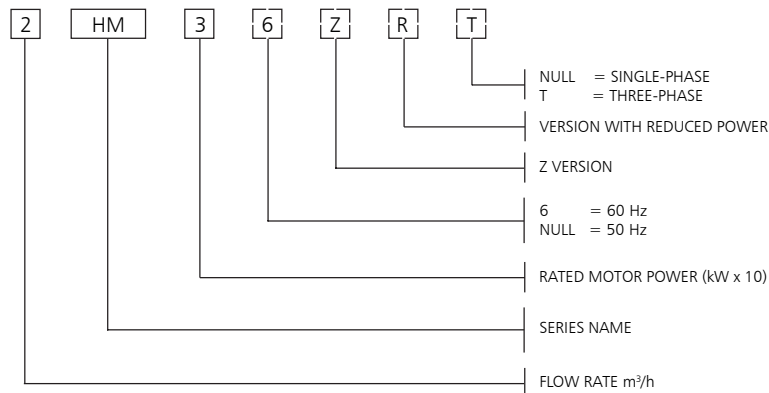
SPECIFICATIONS PUMP

- **Delivery:**
2HM-4HM: up to 120 l/min (7,2 m³/h).
2HMS-4HMS: up to 120 l/min (7,2 m³/h).
- **Head:**
2HM-4HM: up to 60,7 m.
2HMS-4HMS: up to 51,2 m.
- Maximum operating **pressure:** 8 bar (PN 8).
- Continuous duty.
- **Temperature** of pumped liquid:
-10°C to +60°C for HM-HMZ.
-10°C to +110°C for HMS.

MOTOR

- Asynchronous, squirrel cage rotor, close construction, external ventilation.
- **Protection class:** IP55.
- Class 155 (F) **Insulation.**
- Performances to EN 60034-1 specifications.
- **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.

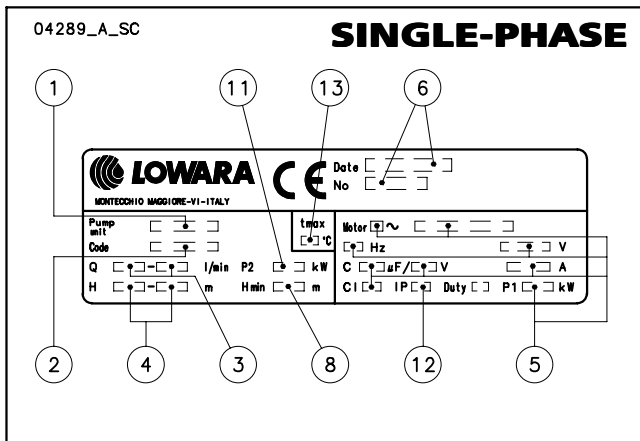
HM-HMZ-HMS SERIES IDENTIFICATION CODE



EXAMPLE : 2HM3T

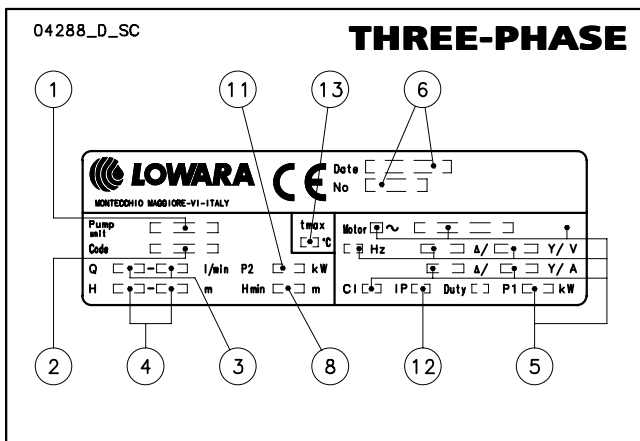
HM electric pump series, flow rate 2 m³/h
 rated motor power 0,3 kW, 50 Hz, three-phase.

RATING PLATE

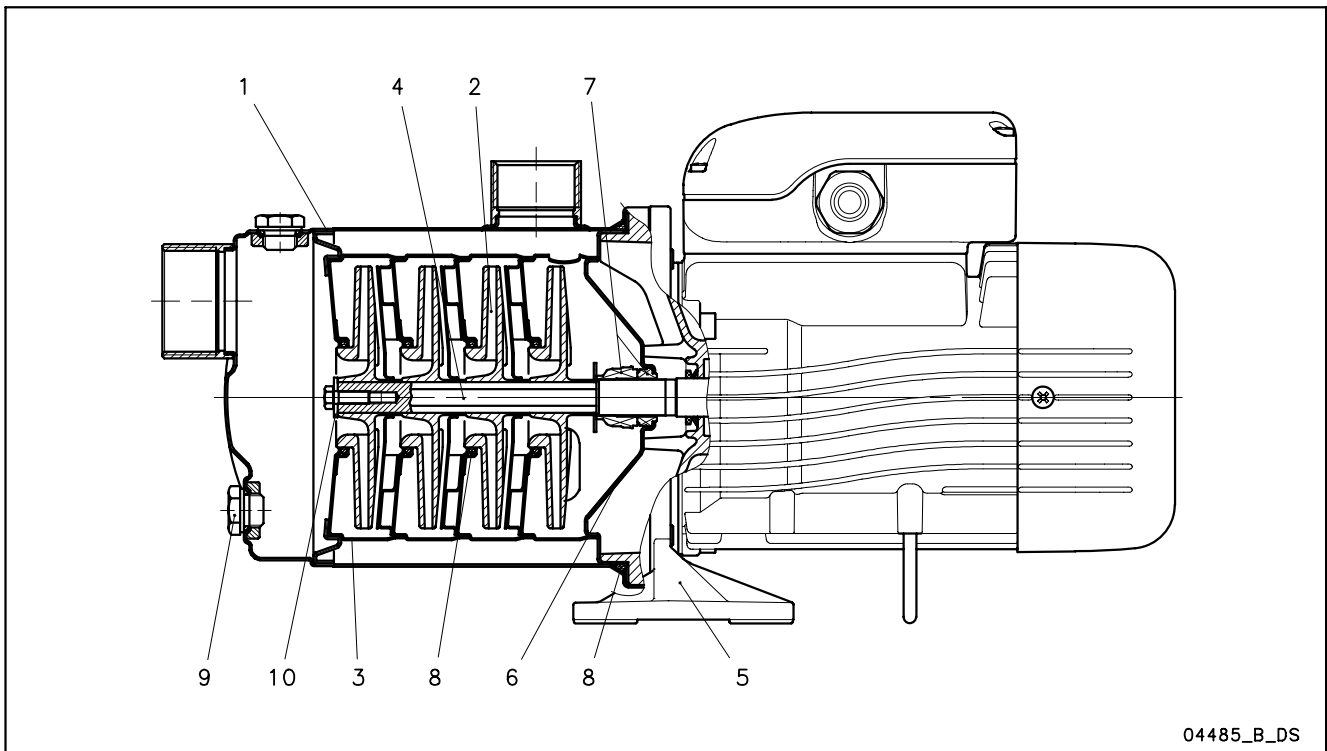


LEGEND

- 1 - Electric pump type
- 2 - Code
- 3 - Delivery range
- 4 - Head range
- 5 - Motor characteristics
- 6 - Date of manufacturing and serial number
- 8 - Minimum head
- 11 - Rated power
- 12 - Electric pump protection class
- 13 - Maximum temperature of pumped liquid



HM-HMZ SERIES LIST OF MODELS AND TABLE OF MATERIALS



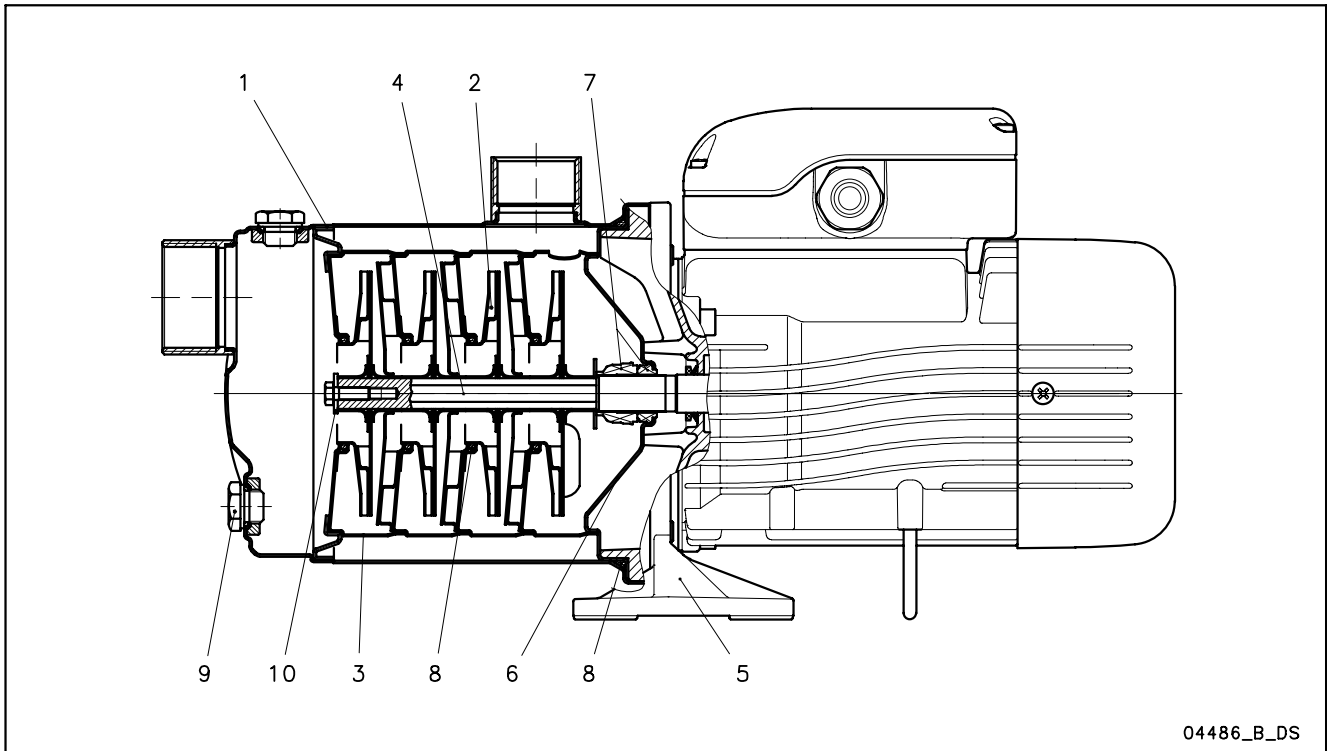
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HM-HMZ SERIES TABLE OF MATERIALS

REF. N.	NAME	MATERIAL	REFERENCE STANDARDS	
			EUROPE	USA
1	Pump body	Stainless steel	EN 10088-1-X5CrNi18-10 (1.4301)	AISI 304
2	Impeller	Noryl®		
3	Diffuser	Stainless steel	EN 10088-1-X5CrNi18-10 (1.4301)	AISI 304
4	Shaft extension	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 (standard version)		
8	Elastomers	EPDM		
9	Fill / drain plugs	Nickel-plated brass	EN 12164-CuZn39Pb3 (CW614N)	-
10	Bolts and screws	Stainless steel	EN 10088-1-X5CrNi18-10 (1.4301)	AISI 304

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HMS SERIES LIST OF MODELS AND TABLE OF MATERIALS



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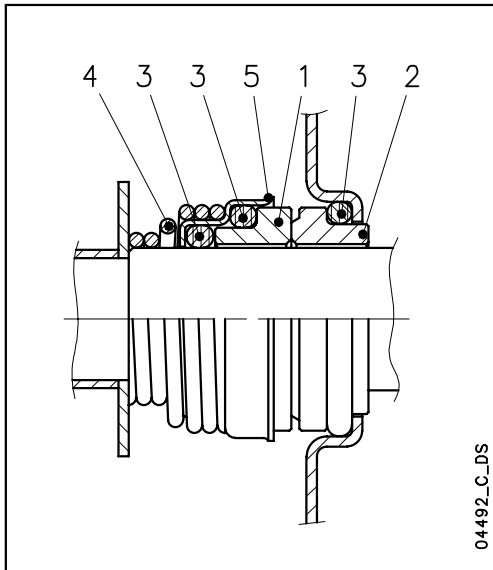
HMS SERIES TABLE OF MATERIALS

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 extension	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 (standard version)		
8	Elastomers	EPDM		
9	Fill / drain plugs	Stainless steel	EN 10088-1-X5CrNiMo17-12-2 (1.4401)	AISI 316
10	Bolts and screws	Stainless steel	EN 10088-1-X5CrNiMo17-12-2 (1.4401)	AISI 316

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HM-HMZ-HMS, MECHANICAL SEAL, ACCORDING TO EN 12756

Mechanical seal with mounting dimensions according to EN12756 (ex DIN 24960) and ISO 3069.



LIST OF MATERIALS

POSITION 1 - 2	POSITION 3	POSITION 4 - 5
B : Resin impregnated carbon	P : NBR	F : AISI 304
C : Special resin impregnated carbon	E : EPDM	G : AISI 316
Q ₁ : Silicon carbide	V : FPM	
U ₃ : Tungsten carbide		
V : Ceramic		

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MECHANICAL SEAL TYPES

TYPE	POSITION					TEMPERATURE (°C)
	1 ROTATING ASSEMBLY	2 FIXED ASSEMBLY	3 ELASTOMERS	4 SPRINGS	5 OTHER COMPONENTS	
STANDARD MECHANICAL SEAL						
V B E G G	V	B	E	G	G	-10 +85
OTHER TYPES OF MECHANICAL SEAL						
VCEGG	V	C	E	G	G	-10 +110
Q ₁ Q ₁ EGG	Q ₁	Q ₁	E	G	G	-10 +110
U ₃ CEGG	U ₃	C	E	G	G	-10 +110
U ₃ U ₃ EGG	U ₃	U ₃	E	G	G	-10 +110
VBVGG	V	B	V	G	G	-10 +110
VCVGG	V	C	V	G	G	-10 +110
Q ₁ Q ₁ VGG	Q ₁	Q ₁	V	G	G	-10 +110
U ₃ CVGG	U ₃	C	V	G	G	-10 +110
U ₃ U ₃ VGG	U ₃	U ₃	V	G	G	-10 +110

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COMPATIBILITY CHART FOR MATERIALS IN CONTACT WITH MOST COMMONLY USED LIQUIDS

LIQUID	CONCENTRATION (%)	TEMPERAT. MIN/MAX (°C)	SPECIF. WEIGHT (Kg/dm ³)	1, 3, 5, 10, 15, 22 SV		33, 46, 66, 92, 125 SV		RECOMMEND. SEAL	ELASTOM.
				VERSION Standard	VERSION N	VERSION Standard	VERSION N		
Acetic acid	80	-10 +70	1,05	•	•		•	Q ₁ BEGG	E
Alkaline degreaser	5	80		•	•	•	•	Q ₁ Q ₁ VGG	V
Aluminium sulfate	30	-5 +50	2,71		•		•	Q ₁ Q ₁ EGG	E
Ammonia in water	25	-20 +50	0,99	•	•		•	Q ₁ BEGG	E
Ammonium sulfate	10	-10 +60	1,77		•		•	Q ₁ Q ₁ EGG	E
Benzoic acid	70	0 +70	1,31	•	•		•	Q ₁ BVGG	V
Boric acid	saturated	-10 +90	1,43	•	•		•	Q ₁ Q ₁ VGG	V
Butyl alcohol	100	-5 +80	0,81	•	•	•	•	Q ₁ BVGG	V
Caustic soda	25	0 +70	2,13	•	•	•	•	Q ₁ Q ₁ EGG	E
Chloroform	100	-10 +30	1,48	•	•	•	•	Q ₁ BVGG	V
Citric acid	5	-10 +70	1,54	•	•		•	Q ₁ BEGG	E
Cleaning products	10	-5 +100		•	•	•	•	Q ₁ Q ₁ VGG	V
Copper sulfate	20	0 +30	2,28		•		•	Q ₁ Q ₁ VGG	V
Cutting fluid	100	-5 +110	0,90	•	•	•	•	Q ₁ BVGG	V
Deionised, demineralised water	100	-25 +110	1	•	•	•	•	Q ₁ BEGG	E
Denatured alcohol	100	-5 +70	0,81	•	•	•	•	Q ₁ BEGG	E
Diathermic oil	100	-5 +110	0,90	•	•	•	•	Q ₁ BVGG	V
Emulsion oil and water	any	-5 +90		•	•	•	•	Q ₁ BVGG	V
Ethyl alcohol	100	-5 +40	0,81	•	•	•	•	Q ₁ BEGG	E
Ethylene glycol	30	-30 +120			•		•	Q ₁ BEGG	E
Formaldehyde	100	0 +30	1,13	•	•	•	•	Q ₁ Q ₁ TGG	T
Formic acid	5	-15 +25	1,22	•	•		•	Q ₁ BEGG	E
Glycerine	100	+20 +90	1,26	•	•	•	•	Q ₁ BEGG	E
Hydraulic oil	100	-5 +110		•	•	•	•	Q ₁ BVGG	V
Hydrochloric acid	2	-5 +25	1,20		•		•	Q ₁ Q ₁ VGG	V
Hydroxide sodium	25	0 +70		•	•	•	•	Q ₁ Q ₁ EGG	E
Iron sulfate	10	-5 +30	2,09		•		•	Q ₁ BEGG	E
Methyl alcohol	100	-5 +40	0,79	•	•	•	•	Q ₁ BEGG	E
Mineral oil	100	-5 +110	0,94	•	•	•	•	Q ₁ BVGG	V
Nitric acid	50	-5 +30	1,48	•	•		•	Q ₁ Q ₁ VGG	V
Perchloroethylene	100	-10 +30	1,60	•	•	•	•	Q ₁ BVGG	V
Phosphates-polyphosphates	10	-5 +90			•		•	Q ₁ Q ₁ VGG	V
Phosphoric acid	10	-5 +30	1,33		•		•	Q ₁ BEGG	E
Propyl alcohol (Propanol)	100	-5 +80	0,80	•	•	•	•	Q ₁ BEGG	E
Propylene glycol	30	-30 +120		•	•	•	•	Q ₁ BEGG	E
Sodium bicarbonate (Baking soda)	saturated				•		•	Q ₁ BEGG	E
Sodium hypochlorite	1	-10 +25			•		•	Q ₁ Q ₁ VGG	V
Sodium nitrate	saturated	-10 +80	2,25	•	•	•	•	Q ₁ BEGG	E
Sodium sulfate	15	-10 +40	2,60	•	•	•	•	Q ₁ Q ₁ EGG	E
Sulphuric acid	2	-10 +25	1,84		•		•	Q ₁ BVGG	V
Tannic acid	20	0 +50			•		•	Q ₁ BEGG	E
Tartaric acid	50	-10 +25	1,76	•	•		•	Q ₁ Q ₁ VGG	V
Trichloroethylene	100	-10 +40	1,46	•	•	•	•	Q ₁ BVGG	V
Uric acid	80	-10 +80	1,89	•	•		•	Q ₁ BEGG	E
Vegetable oil	100	-5 +110	0,95	•	•	•	•	Q ₁ BEGG	E
Water	100	-5 +120		•	•	•	•	Q ₁ BEGG	E
Water condensate	100	-5 +100	1	•	•	•	•	Q ₁ BEGG	E
Water detergents, mineral oils mixture	10	-5 +80		•	•	•	•	Q ₁ Q ₁ VGG	V

tab-comp-sv-en_b_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.

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	120
	kW	HP	m ³ /h	0	1,2	1,8	2,4	3	3,6	4,2	4,8	6	7,2
			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	

hm-2p50-en_b_th

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/307HE	1,10	3,39	1,96
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/311HE	1,20	3,77	2,18
4HM9	SM71HM/1095	1,45	6,49	25	4HM9T	SM80HM/311HE	1,38	4,20	2,43

*Maximum value in specified range.

hm-2p50-en_c_te

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	120
	kW	HP	m ³ /h	0	1,2	1,8	2,4	3	3,6	4,2	4,8	6	7,2
			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	

hmz-2p50-en_b_th

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/307HE	1,10	3,39	1,96
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/311HE	1,20	3,77	2,18
4HM9Z	SM71HM/1095	1,45	6,49	25	4HM9ZT	SM80HM/311HE	1,38	4,20	2,43

*Maximum value in specified range.

hmz-2p50-en_b_te

HMS 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 ³ /h	0	1,2	1,8	2,4	3	3,6	4,2	4,8	6
H = TOTAL HEAD METRES COLUMN OF WATER												
2HMS3(T)	0,3	0,4	20,5	17,8	16,2	14,4	12,3	9,8	6,9			
2HMS4R(T)	0,45	0,6	30,2	26,7	24,3	21,4	18,1	14,4	10,3			
2HMS4(T)	0,45	0,6	41,1	35,6	32,4	28,7	24,6	19,8	14,4			
2HMS7(T)	0,75	1	51,2	45,6	41,7	37,1	31,7	25,4	18,2			
4HMS3(T)	0,3	0,4	19,1			15,3	14,4	13,5	12,6	11,6	9,3	6,6
4HMS4(T)	0,45	0,6	27,8			22,8	21,5	20,1	18,6	17,0	13,5	9,5
4HMS5(T)	0,55	0,75	37,2			30,6	28,9	27,0	25,1	23,0	18,2	12,7
4HMS7(T)	0,75	1	46,7			38,9	36,8	34,6	32,2	29,6	23,7	16,7

hms-2p50-en_a_th

HMS SERIES ELECTRICAL DATA AT 50 Hz, 2 POLES

PUMP TYPE	MOTOR TYPE	INPUT POWER*	INPUT CURRENT*	CAPACITOR	PUMP TYPE	MOTOR TYPE	INPUT POWER*	INPUT CURRENT*	CORRENTE ASSORB.*
		kW	220-240 V A	μF / 450 V			3 ~	kW	220-240 V A
2HMS3	SM63HM/1035	0,47	2,25	10	2HMS3T	SM63HM/303	0,42	1,77	1,02
2HMS4R	SM63HM/1045	0,61	2,75	14	2HMS4RT	SM63HM/304	0,61	2,51	1,45
2HMS4	SM63HM/1055	0,73	3,28	16	2HMS4T	SM63HM/305	0,73	2,79	1,61
2HMS7	SM71HM/1075	1,00	4,61	20	2HMS7T	SM80HM/307HE	0,96	3,04	1,76
4HMS3	SM63HM/1035	0,51	2,35	10	4HMS3T	SM63HM/303	0,48	1,80	1,04
4HMS4	SM63HM/1045	0,68	2,99	14	4HMS4T	SM63HM/304	0,69	2,58	1,49
4HMS5	SM71HM/1055	0,81	3,54	16	4HMS5T	SM80HM/305	0,82	2,89	1,67
4HMS7	SM71HM/1075	1,13	5,08	20	4HMS7T	SM80HM/307HE	1,09	3,37	1,95

*Maximum value in specified range.

hms-2p50-en_b_te

MOTORS FOR HM-HMZ-HMS SERIES

Standard supplied IE2 three-phase surface motors $\geq 0,75$ kW are compliant with Regulation (EC) no. 640/2009 and IEC 60034-30.

Electrical performances according to EN 60034-1.

Insulation class 155 (F). IP55 protection. Condensate drain plugs on standard version.

Cooling by fan according to EN 60034-6.

Cable gland metric size according to EN 50262.

Standard voltage:

- **Single-phase** version: 220-240 V 50 Hz (incorporated automatic-reset overload protection).
- **Three-phase** version: 220-240/380-415 V 50 Hz (overload protection to be provided by the user).

SINGLE-PHASE MOTORS AT 50 Hz, 2 POLES

P _N kW	MOTOR TYPE	IEC SIZE	Construction Design	INPUT CURRENT I _n (A)		CAPACITOR		DATA FOR 230 V 50 Hz VOLTAGE					
				220-240 V	μF	V	min ⁻¹	I _s / I _n	η %	cosφ	T _n Nm	T _s /T _n	T _m /T _n
0,3	SM63HM/1035	63	SPECIAL	2,22-2,23	10	450	2745	2,69	61,7	0,97	1,04	0,64	1,62
0,4	SM63HM/1045	63		2,79-2,85	14	450	2745	2,64	65,1	0,96	1,39	0,68	1,63
0,5	SM63HM/1055	63		3,46-3,30	16	450	2705	2,90	66,9	0,98	1,76	0,56	1,61
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

hm-motm-2p50-en_a_te

THREE-PHASE MOTORS AT 50 Hz, 2 POLES

P _N kW	Efficiency η _N %																		IE	Year of manufacture	
	Δ 220 V			Δ 230 V			Δ 240 V			Δ 380 V			Δ 400 V			Δ 415 V					
	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			
0,3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	By June 2011
0,4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
0,5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
0,75	77,4	77,4	74,0	77,4	77,4	74,0	77,4	77,4	74,0	77,4	77,4	74,0	77,4	77,4	74,0	77,4	77,4	74,0	74,0	2	
1,1	80,1	80,1	78,9	80,1	80,1	78,9	80,1	80,1	78,9	80,1	80,1	78,9	80,1	80,1	78,9	80,1	80,1	78,9	78,9	2	

P _N kW	Manufacturer		IEC SIZE	Construction Design	N. of Poles	f _n Hz	Data for 400 V / 50 Hz Voltage				
	Lowara srl Unipersonale Reg. No. 341820260 Montecchio Maggiore Vicenza - Italia						cosφ	I _s / I _N	T _N Nm	T _s /T _N	T _m /T _N
	Model										
0,3	SM63HM/303		63	SPECIAL	2	50	0,72	4,05	1,05	3,29	2,63
0,4	SM63HM/304		63				0,66	4,32	1,38	4,14	3,13
0,5	SM63HM/305		63				0,71	4,41	1,73	3,70	2,62
0,75	SM80HM/307 HE		80				0,79	8,70	2,47	4,71	4,09
1,1	SM80HM/311 HE		80				0,82	8,98	3,63	4,62	4,00

P _N kW	Voltage U _N V											n _N min ⁻¹	See note.	Operating conditions **		
	Δ			Y			Δ			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					
0,3	1,65	1,70	1,78	0,95	0,98	1,03	-	-	-	-	-	2680 ÷ 2745	≤ 1000	-15 / 40	No	
0,4	2,20	2,34	2,51	1,27	1,35	1,45	-	-	-	-	-	2740 ÷ 2790				
0,5	2,53	2,63	2,81	1,46	1,52	1,62	-	-	-	-	-	2715 ÷ 2770				
0,75	3,10	3,05	3,03	1,79	1,76	1,75	1,78	1,76	1,74	1,03	1,01	2885 ÷ 2905				
1,1	4,17	4,09	4,07	2,41	2,36	2,35	2,40	2,36	2,34	1,39	1,36	2880 ÷ 2900				

Note: Observe the regulations and codes locally in force regarding sorted waste disposal.

hm-ie2-mott-2p50-en_a_te

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

AVAILABLE VOLTAGES MOTORS FOR HM-HMZ-HMS SERIES

P _N kW	IEC SIZE	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
0,3	63	s	-	-	s	-	o	-	-
0,4	63	s	o	o	s	-	o	-	-
0,5	63	s	-	-	s	-	o	-	-
0,75	71	s	o	o	s	o	o	o	o
0,95	71	s	o	o	s	o	o	o	o

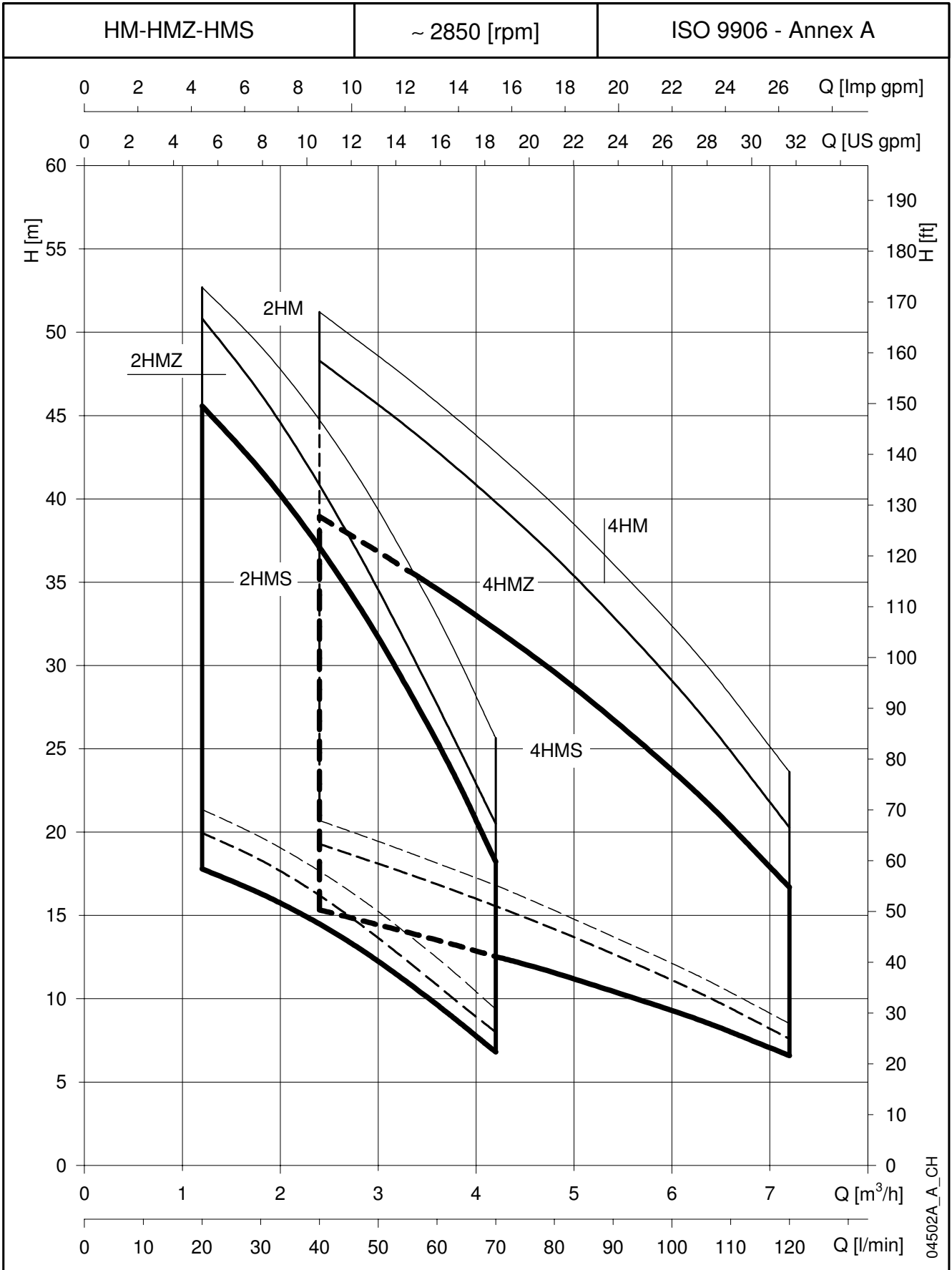
s = Standard voltage o = Optional voltage

P _N kW	THREE-PHASE - 2 POLES																		
	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
0,3	s	o	o	o	o	o	o	s	o	o	o	o	o	o	o	o	o	o	o
0,4	s	o	o	o	o	o	o	s	o	o	o	o	o	o	o	o	o	o	o
0,5	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

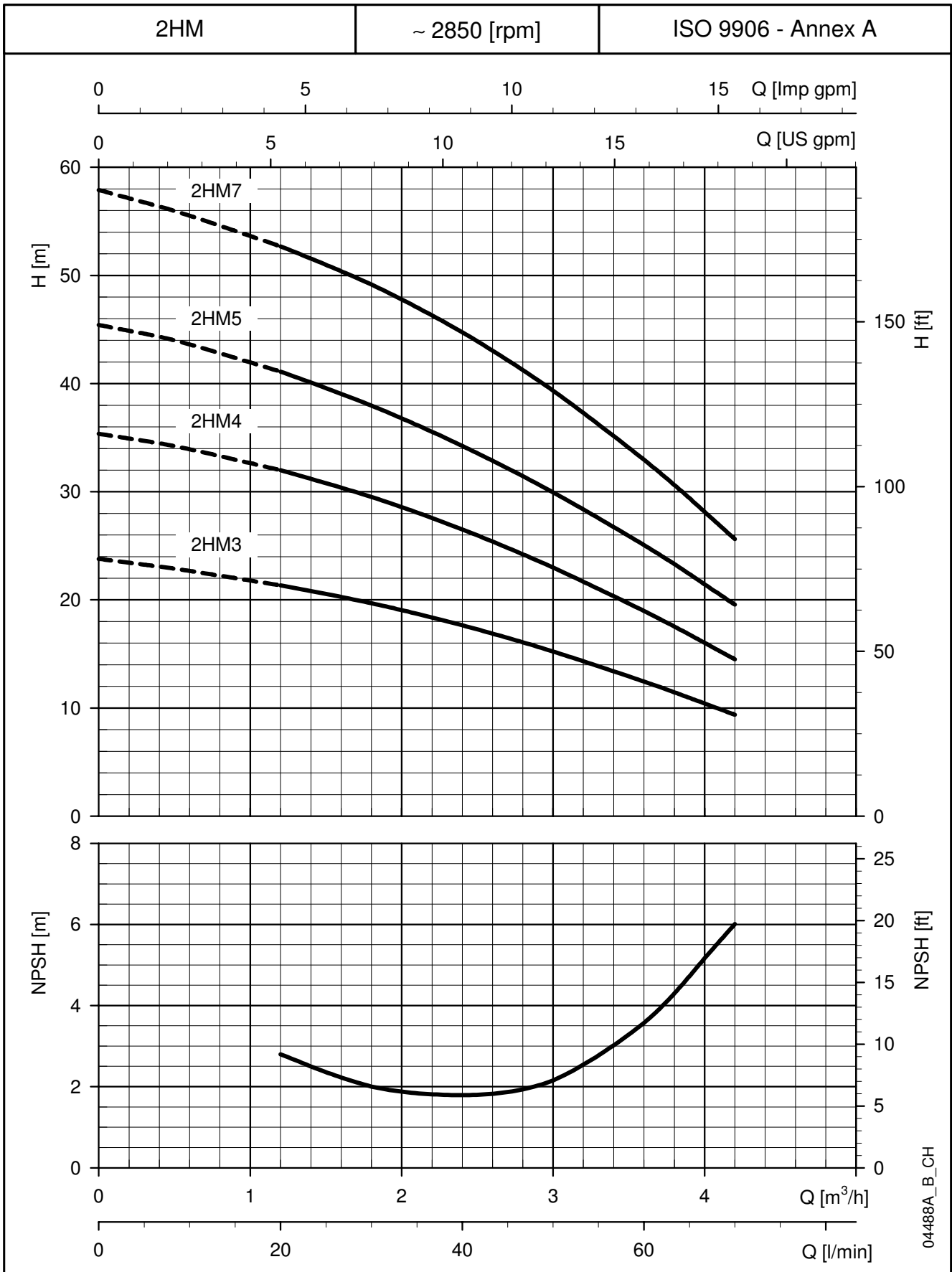
- = Not available

hm-volt-low-a-en_a_te

**HM-HMZ-HMS SERIES
HYDRAULIC PERFORMANCE RANGE AT 50 Hz, 2 POLES**

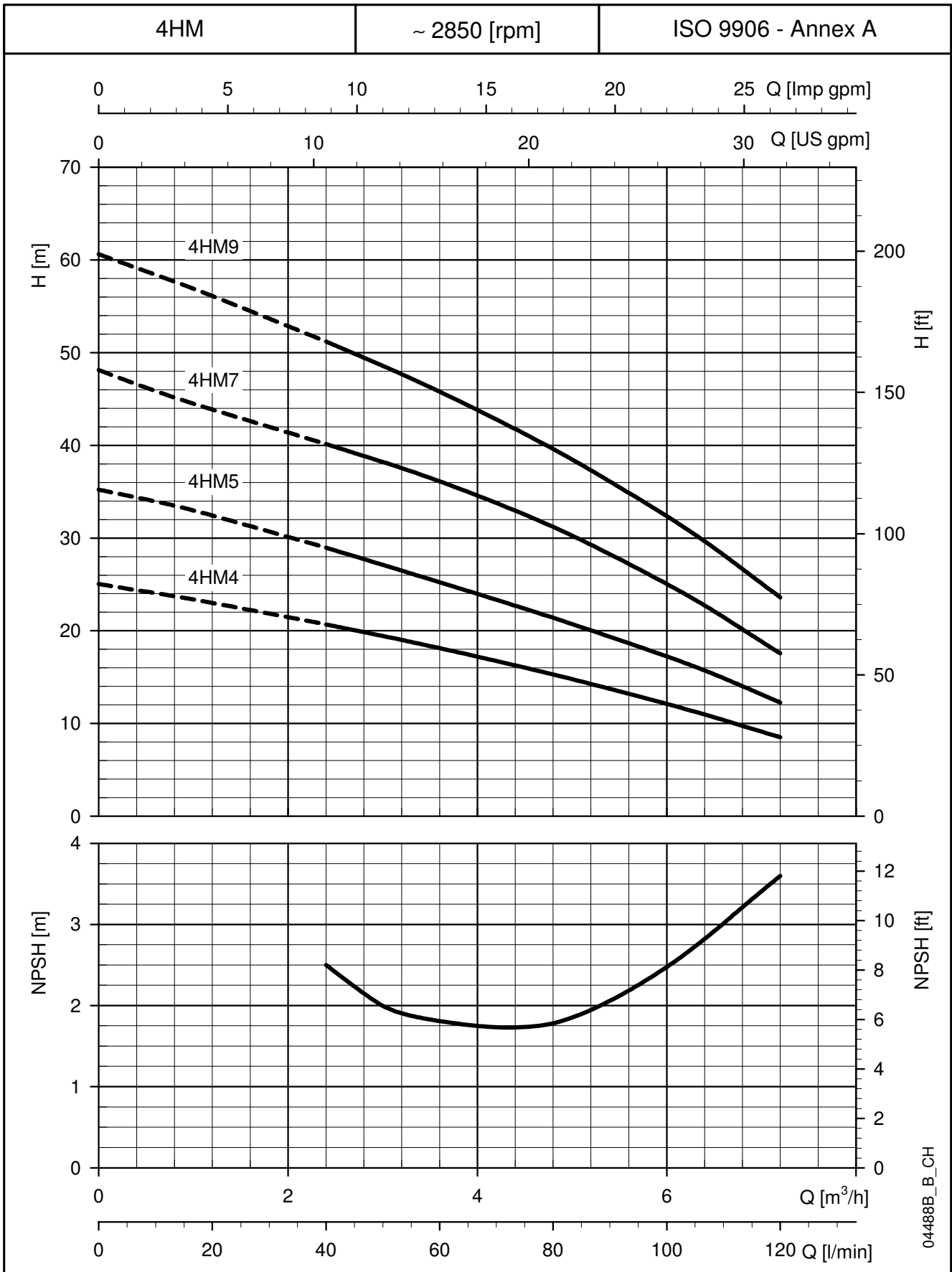


**2HM SERIES
OPERATING CHARACTERISTICS AT 50 Hz, 2 POLES**



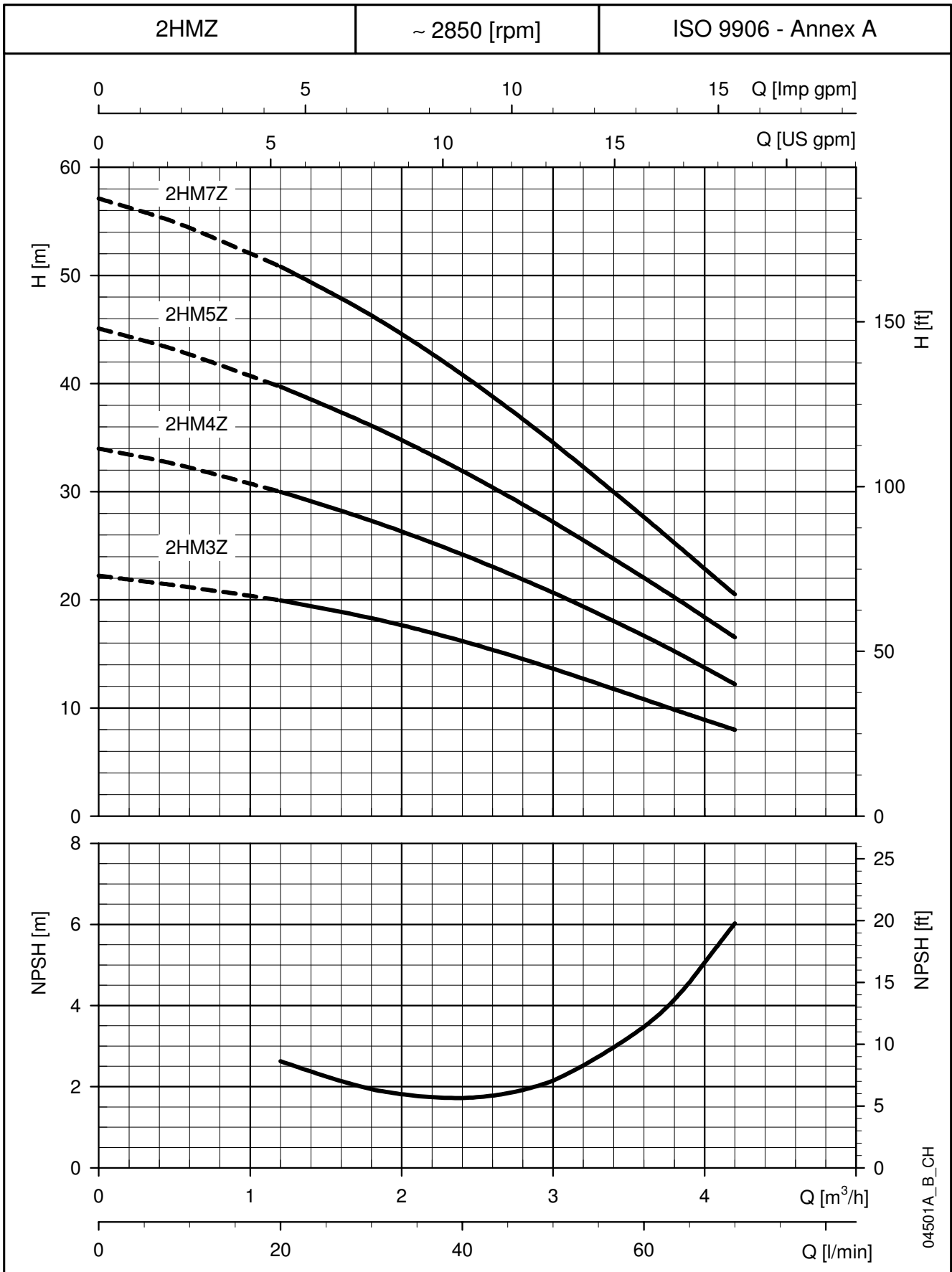
These performances are valid for liquids with density $\rho = 1.0 \text{ Kg/dm}^3$ and kinematic viscosity $\nu = 1 \text{ mm}^2/\text{sec}$.

**4HM SERIES
OPERATING CHARACTERISTICS AT 50 Hz, 2 POLES**



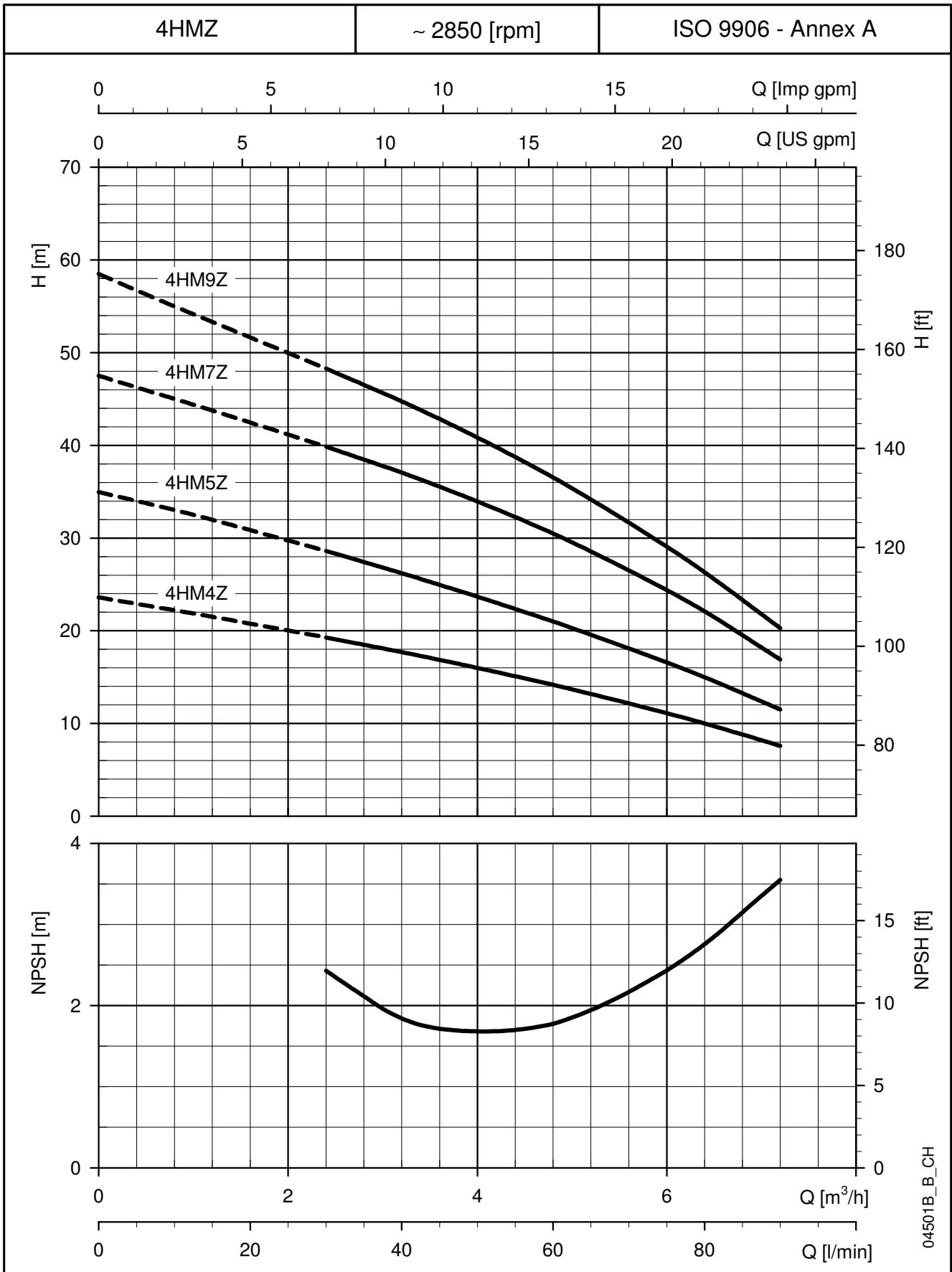
These performances are valid for liquids with density $\rho = 1.0 \text{ Kg/dm}^3$ and kinematic viscosity $\nu = 1 \text{ mm}^2/\text{sec}$.

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



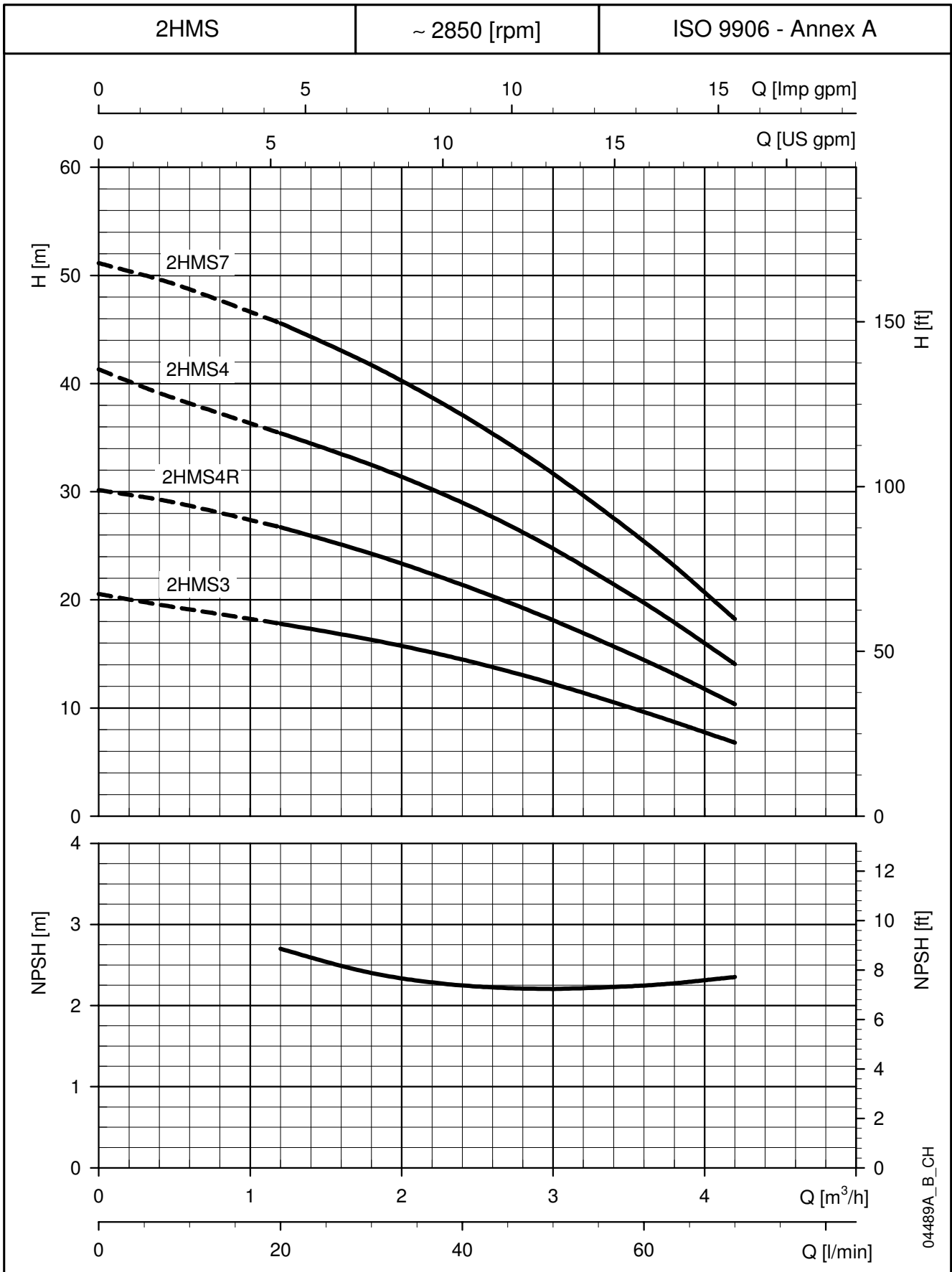
These performances are valid for liquids with density $\rho = 1.0 \text{ Kg/dm}^3$ and kinematic viscosity $\nu = 1 \text{ mm}^2/\text{sec}$.

**4HMZ SERIES
OPERATING CHARACTERISTICS AT 50 Hz, 2 POLES**



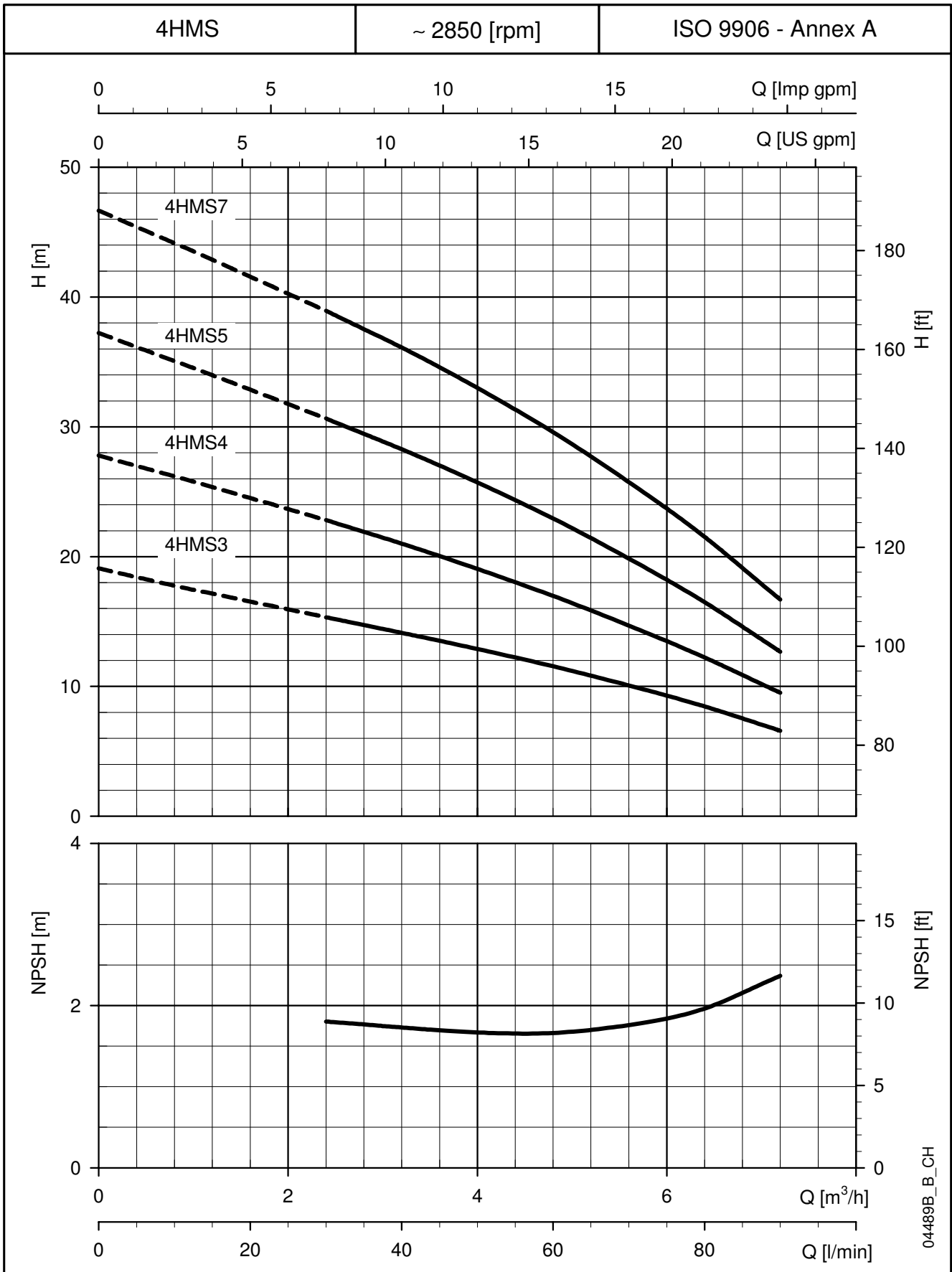
These performances are valid for liquids with density $\rho = 1.0 \text{ Kg/dm}^3$ and kinematic viscosity $\nu = 1 \text{ mm}^2/\text{sec}$.

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



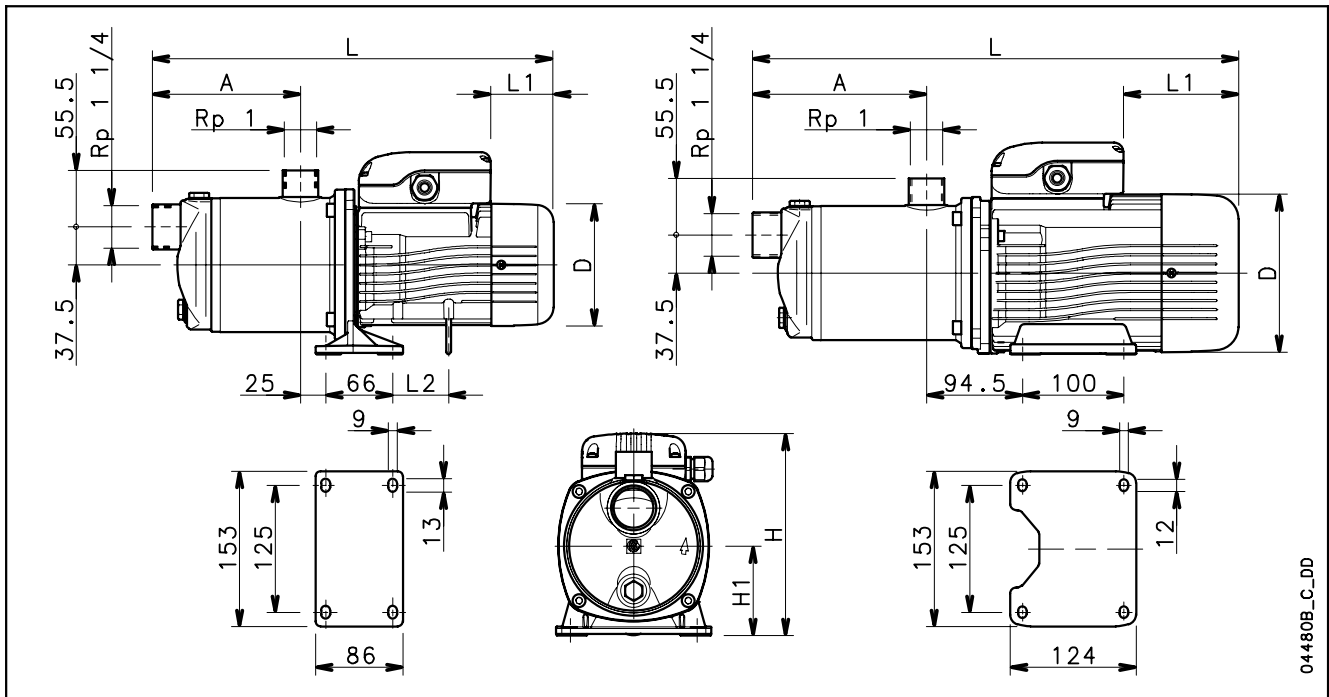
These performances are valid for liquids with density $\rho = 1.0 \text{ Kg/dm}^3$ and kinematic viscosity $\nu = 1 \text{ mm}^2/\text{sec}$.

**4HMS 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

POMP TYPE	DIMENSIONS (mm)								WEIGHT kg
	NUMBER OF STAGES	A	D	L	L1	L2	H	H1	
2HM3 - 2HM3Z	2	96	120	345	62	56	199	88	6,8
2HM4 - 2HM4Z	3	121	120	370	62	56	199	88	7,7
2HM5 - 2HM5Z	4	146	120	395	62	56	199	88	8,5
2HM7 - 2HM7Z	5	171	140	434	76	56	209	88	12
4HM4 - 4HM4Z	2	96	120	345	62	56	199	88	7,3
4HM5 - 4HM5Z	3	121	120	370	62	56	199	88	8,1
4HM7 - 4HM7Z	4	146	140	409	31	56	218	88	11,6
4HM9 - 4HM9Z	5	171	140	434	31	56	218	88	11,4
2HM3T - 2HM3ZT	2	96	120	345	62	56	199	88	6,6
2HM4T - 2HM4ZT	3	121	120	370	62	56	199	88	7,6
2HM5T - 2HM5ZT	4	146	120	395	62	56	199	88	8,3
2HM7T - 2HM7ZT	5	171	155	480	114	-	209	80	15
4HM4T - 4HM4ZT	2	96	120	345	62	56	199	88	7,2
4HM5T - 4HM5ZT	3	121	120	370	62	56	199	88	8
4HM7T - 4HM7ZT	4	146	155	455	114	-	209	80	14,5
4HM9T - 4HM9ZT	5	171	155	480	114	-	209	80	15
2HMS3	2	96	120	345	62	56	199	88	7
2HMS4R	3	121	120	370	62	56	199	88	7,6
2HMS4	4	146	120	395	62	56	199	88	8
2HMS7	5	171	140	434	76	56	209	88	12
4HMS3	2	96	120	345	62	56	199	88	7
4HMS4	3	121	120	370	62	56	199	88	7,8
4HMS5	4	146	120	395	62	56	199	88	8,7
4HMS7	5	171	140	434	76	56	209	88	10
2HMS3T	2	96	120	345	62	56	199	88	7
2HMS4RT	3	121	120	370	62	56	199	88	7,6
2HMS4T	4	146	120	395	62	56	199	88	8,2
2HMS7T	5	171	155	480	114	-	209	80	13
4HMS3T	2	96	120	345	62	56	199	88	6,8
4HMS4T	3	121	120	370	62	56	199	88	7,7
4HMS5T	4	146	120	395	62	56	199	88	8,5
4HMS7T	5	171	155	480	114	-	209	80	13,5

hm-hms-hmz-2p50-en_e_td