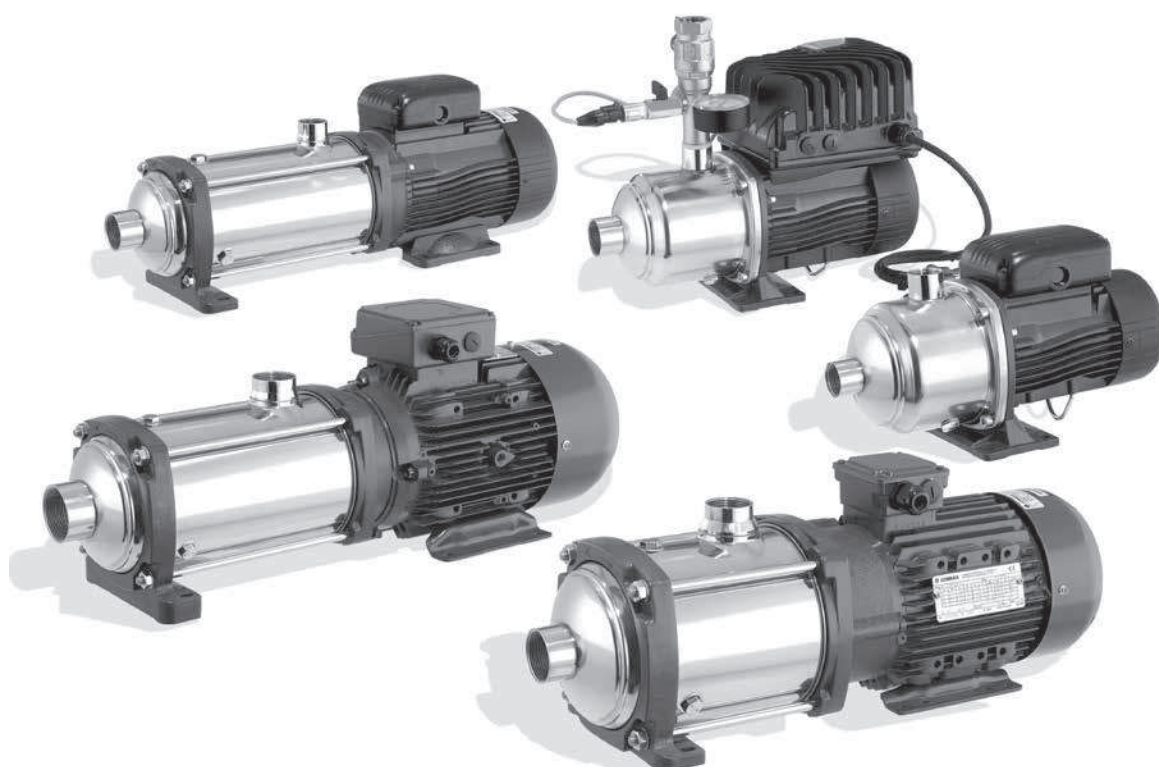


50 Hz



HM..P - HM..S - HM..N e-HM™ Series

THREADED HORIZONTAL MULTISTAGE CENTRIFUGAL ELECTRIC PUMPS
EQUIPPED WITH IE3 MOTORS

ErP 2009/125/EC

Cod. 191003921 Rev. B Ed.11/2013

 **LOWARA**
a xylem brand

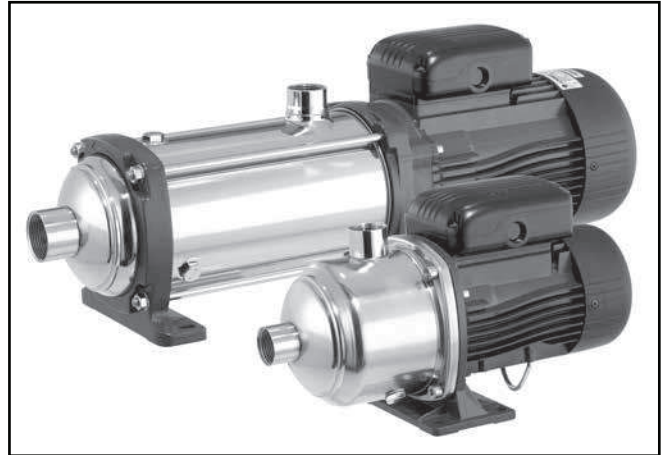
e-HM™ SERIES

GENERAL INTRODUCTION

Our customers are central to our business.

Many years of collaboration with them across the different markets and all over the world has taught us that the Building Services market requires specific pump design to meet the challenge of the energy saving and the industrial segments need customized and reliable compact pumps to ensure top performance of the systems and continuous quality of the production.

Therefore we have developed a wide range of horizontal multistage pumps, the e-HM™, to give an appropriate and dedicated solution to special applications and installations in the industry and in the building services market.



Pump design

The e-HM™ is a non-self-priming, end-suction horizontal multistage, high pressure centrifugal pump, with axial threaded inlet and radial threaded outlet. The pumps are close-coupled design and are equipped with non-standard Lowara motors. The e-HM™ is equipped with mechanical seal.

The e-HM™ are highly modular pumps that are fitted with an innovative hydraulic design that secures high efficiency performances and an increased Mean Time Between Failure.

The e-HM™ are available in two different configurations:

- "Compact" design for sizes 1HM, 3HM and 5HM up to 6 stages
- "Sleeve" design for sizes 1HM, 3HM and 5HM from 7 stages and above; any model of 10HM, 15HM and 22HM.

The "Compact" design is made of one single piece fabricated stainless steel pump body directly connected to the motor flange. The "Compact" has only one O-ring for the sealing of the casing that clearly reduces the leakages possibilities.

The "Sleeve" design is made of an external stainless steel TIG welded sleeve and of separate suction casing kept together with the mean of an aluminum casted pump bracket and of stainless steel tie rods screwed in the motor flange.

The e-HM™ is available in three different materials combination:

- HM..P: stainless steel pump body (EN 1.4301/ AISI 304) with Noryl™ impeller for sizes 1HM, 3HM, 5HM and 10HM up to 6 stages.
- HM..S: full stainless steel (EN 1.4301/ AISI 304) – any models.
- HM..N: full stainless steel (EN 1.4401/ AISI 316) – any models.

Motor

The e-HM™ are equipped with surface motors designed and manufactured in accordance with EN standards.

The e-HM™ series can be equipped as well with variable speed drivers such as the Teknospeed and the Hydrovar™.

Range declination

The e-HM™ are available as:

- Fix speed Electric pump.
- Variable speed system with Teknospeed driver embedded.

SERIE e-HM™

APPLICATIONS, BENEFITS – BUILDING SERVICES

The e-HM™ series and the different available configurations have been designed to cover a wide range of applications in the residential and small commercial building services from the water supply to pressure boosting as well as heating and cooling applications.

Applications

The e-HM™ series could be installed both in single private-own house and in small/medium residential buildings.

The e-HM™ series will be as well your preferred choice for water supply and pressure boosting in small block offices and shops. The e-HM™ series could be finally installed as well for small/medium irrigation installation.

Benefits

Payback: Installing the e-HM™ series guarantee a very short payback period as the premium efficiency makes the e-HM™ the lowest energy consuming fixed speed pump on the market.

Combined with Teknospeed makes the pump paying for itself in very quickly. (43% of reduced operating cost per year).

Reliability: The e-HM™ series secures as well reliable operations over time thanks to its robust and innovative design. This could be increased with the installation of the Teknospeed: variable speed operation reduces mechanical stress on the pump components and water hammering during stopping.

Comfort: The e-HM™ series guarantee as well an increased user comfort thanks to very silent operation. The combination of the e-HM™ series with the Teknospeed will secure constant pressures at any points of water in your building and constant temperatures even when other taps are opened!



For the installers, the e-HM™ series are easy to install and the best choice for the end user in term of energy savings. The combination of the e-HM™ with the Teknospeed is the guarantee of quick and easy installation as the system is supplier with cable, plug and pressure transmitter. Only small vessels are required.

Features

- Compact design with best-in class performances.
- Wide range of performances with 6 sizes and flow up to 29 m³/h.
- Nominal pressure up to 10 bar with Noryl™ impellers and 16 bar with stainless steel impellers.
- Versatile design of the smaller sizes (up to 5HM).
 - Compact version with Noryl™ impellers for restricted space installation.
 - High efficiency version with stainless steel impellers when energy saving is a must.
- Robust and silent design of the larger sizes (from 10HM to 22HM) due the sleeve configuration.
- IE3 Lowara motors: high performances and silent operations.
- Stainless steel material for pump body and main components in contact with the pumped liquid.
- "Essential O-ring design" that highly reduces the sealing weaknesses (1 O-Ring for Compact, 2 for Sleeve).

e-HM™ SERIES APPLICATIONS, BENEFITS – INDUSTRY

The e-HM™ series and the different available configurations and standard options have been designed to cover a wide range of applications in industry from washing and cleaning machines, to cooling and heating applications, thru water treatment and filtration processes.

Applications

The e-HM™ series could be installed either in machines where compactness and high performances are a must or within industrial processes where the user looks for a reliable modular design with a restricted vertical footprint.

The e-HM™ series offers as well a wide range of standard options to fit every single requirement coming from the industry. The different material and configuration available allow e-HM™ series working with a wide range of liquid temperature starting -30°C to +120°C.

Benefits

Reliability: The e-HM™ series have been design to withstand heavy duty applications in Industry. For instance, e-HM™ balanced impeller helps decreasing the axial thrust withstand by the motor bearing extending its life time; pump body thickness has been increased by 20% to support heavy duty operation.

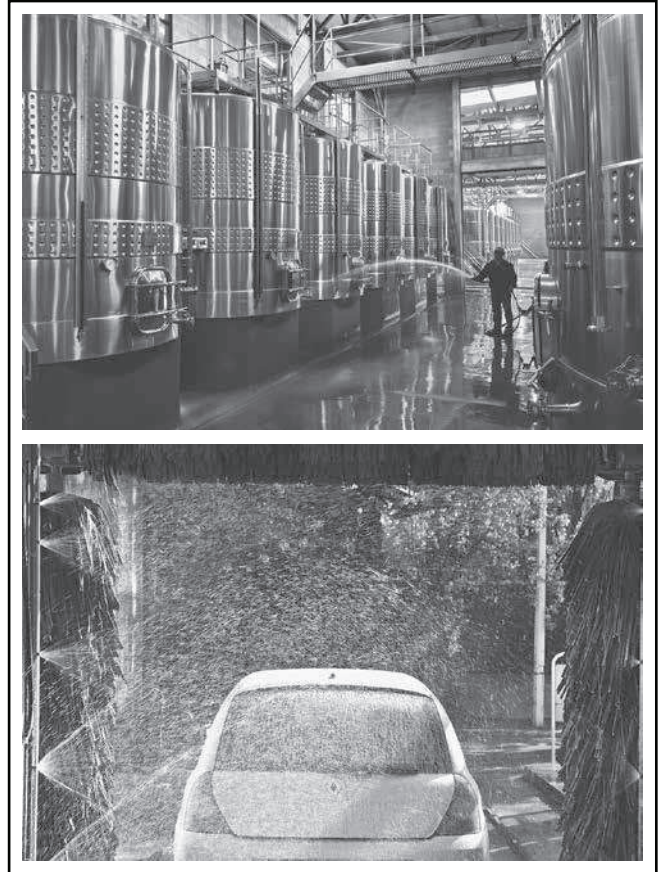
Versatility: The e-HM™ series have been designed to be modular, offering two different mechanical configurations (Very compact or highly efficient design) and multiple material executions (from Noryl™ impeller and AISI 304 pump body to full AISI 316 execution) and surface treatment (electropolishing and passivation). Multiple standard options make e-HM™ fitting in many different applications.

Performances: The e-HM™ series provide best-in class efficiency up to 72% that means 30% energy saving in average compare to similar pump design from the market. The e-HM™ series will be clearly your preferred choice to meet any efficiency requirements or simply to save money in your installation and processes.

A global platform: the e-HM™ series are assembled in different factories across the world to make e-HM™ always closer to our customers. Beyond our commitment to reduce the carbon footprint of e-HM™, this global platform secure that the same design is available everywhere with the same quality processes.

Features

- Wide range of performances with 6 sizes, flow up to 29 m³/h, pressure up to 159 meters.
- Nominal pressure up to 10 bar with Noryl™ impellers and 16 bar with stainless steel impellers
- More than 85% of the range has the same suction height (90mm) for easy installation or system upgrade.
- Wide range of temperatures for pumped liquid: -30°C to +120°C (with stainless steel impellers).
- Wide range of voltages for worldwide applications.
- Availability of UL (cURus) motor version for North American market (230/460V 60 Hz with 9 pins control box.
- "Essential O-ring design" that highly reduces the sealing weaknesses (1 O-Ring for Compact, 2 for Sleeve).
- IE3 Lowara motors: high performances and silent operations.



HM..P SERIES

HYDRAULIC PERFORMANCE TABLE AT 50 Hz, 2 POLES

PUMP TYPE HM..P	VERSION	MOTOR		ELECTRIC PUMP			Q = DELIVERY							
		P _N kW	TYPE	* P ₁ kW	* I		l/min 0	11,7	16,0	21,0	26,0	31,0	36,0	40,0
					220-240 V	380-415 V	m ³ /h 0	0,7	1,0	1,3	1,6	1,9	2,2	2,4
					A	A	H = TOTAL HEAD IN METRES OF COLUMN OF WATER							
1HM03	1 ~	0,50	SM63HM../1055	0,56	2,62	-	33,6	30,3	28,8	26,7	24,3	21,5	18,5	15,9
1HM04		0,50	SM63HM../1055	0,65	2,90	-	44,0	39,3	37,2	34,4	31,1	27,4	23,3	19,9
1HM05		0,50	SM63HM../1055	0,74	3,22	-	54,0	47,8	45,1	41,4	37,2	32,4	27,3	23,1
1HM06		0,75	SM71HM../1075	0,94	4,33	-	67,1	60,1	57,0	52,8	48,0	42,4	36,3	31,1
1HM02	3 ~	0,30	SM63HM../303	0,36	1,89	1,09	22,5	20,2	19,2	17,9	16,2	14,4	12,4	10,6
1HM03		0,30	SM63HM../303	0,47	1,94	1,12	32,8	29,2	27,5	25,4	22,9	20,1	17,1	14,5
1HM04		0,40	SM63HM../304	0,58	2,34	1,35	44,1	39,3	37,2	34,3	31,0	27,3	23,2	19,8
1HM05		0,50	SM63HM../305	0,69	2,64	1,52	54,4	48,1	45,4	41,7	37,5	32,9	27,8	23,5
1HM06		0,75	SM80HM../307 E3	0,84	2,80	1,62	69,3	63,0	60,1	56,1	51,4	45,9	39,8	34,5

PUMP TYPE HM..P	VERSION	MOTOR		ELECTRIC PUMP			Q = DELIVERY							
		P _N kW	TYPE	* P ₁ kW	* I		l/min 0	20,0	28,0	36,0	44,0	52,0	60,0	70,0
					220-240 V	380-415 V	m³/h 0	1,2	1,7	2,2	2,6	3,1	3,6	4,2
					A	A								
H = TOTAL HEAD IN METRES OF COLUMN OF WATER														
3HM02	1 ~	0,50	SM63HM../1055	0,53	2,55	-	23,6	21,5	20,4	18,9	17,1	15,1	12,9	9,9
3HM03		0,50	SM63HM../1055	0,65	2,90	-	34,8	31,2	29,3	27,0	24,3	21,2	17,9	13,4
3HM04		0,50	SM63HM../1055	0,77	3,34	-	45,5	40,3	37,5	34,2	30,3	26,2	21,8	15,9
3HM05		0,75	SM71HM../1075	1,01	4,56	-	58,4	52,5	49,4	45,5	40,9	35,8	30,3	22,8
3HM06		0,95	SM71HM../1095	1,20	5,29	-	70,2	63,0	59,2	54,4	48,9	42,8	36,2	27,2
3HM02	3 ~	0,30	SM63HM../303	0,44	1,92	1,11	23,2	20,9	19,6	18,1	16,2	14,2	12,0	9,0
3HM03		0,40	SM63HM../304	0,58	2,34	1,35	34,9	31,3	29,3	26,9	24,2	21,1	17,8	13,4
3HM04		0,50	SM63HM../305	0,72	2,68	1,55	45,8	40,6	37,8	34,5	30,7	26,7	22,3	16,3
3HM05		0,75	SM80HM../307 E3	0,92	2,96	1,71	60,2	55,1	52,3	48,7	44,2	39,2	33,7	26,2
3HM06		1,1	SM80HM../311 E3	1,10	3,75	2,17	72,7	66,8	63,6	59,3	54,1	48,1	41,5	32,5

PUMP TYPE HM..P	VERSION	MOTOR		ELECTRIC PUMP			Q = DELIVERY							
		P _N kW	TYPE	* P ₁ kW	* I		l/min 0	40,0	53,0	66,0	79,0	92,0	105	120
					220-240 V	380-415 V	m ³ /h 0	2,4	3,2	4,0	4,7	5,5	6,3	7,2
					A	A	H = TOTAL HEAD IN METRES OF COLUMN OF WATER							
5HM02	1 ~	0,50	SM63HM../1055	0,62	2,79	-	23,8	20,1	18,7	17,2	15,5	13,4	10,7	7,0
5HM03		0,50	SM63HM../1055	0,78	3,38	-	35,0	28,6	26,3	23,8	21,1	17,8	13,8	8,3
5HM04		0,75	SM71HM../1075	1,07	4,79	-	47,6	39,7	36,8	33,7	30,2	25,9	20,6	13,2
5HM05		0,95	SM71HM../1095	1,31	5,69	-	59,4	49,3	45,6	41,7	37,3	31,9	25,2	16,0
5HM06		1,1	SM80HM../1115	1,53	6,84	-	72,0	60,4	56,1	51,5	46,2	39,8	31,9	20,8
5HM02	3 ~	0,40	SM63HM../304	0,54	2,30	1,33	23,9	20,1	18,7	17,2	15,4	13,3	10,6	6,9
5HM03		0,50	SM63HM../305	0,74	2,70	1,56	35,2	28,8	26,5	24,2	21,5	18,2	14,2	8,6
5HM04		1,1	SM80HM../311 E3	1,01	3,60	2,08	49,3	42,9	40,4	37,7	34,5	30,4	25,2	17,8
5HM05		1,1	SM80HM../311 E3	1,24	4,01	2,32	61,4	53,1	49,9	46,4	42,3	37,2	30,6	21,3
5HM06		1,5	SM80HM../315 E3	1,47	4,95	2,86	73,8	64,0	60,2	56,1	51,2	45,0	37,3	26,1

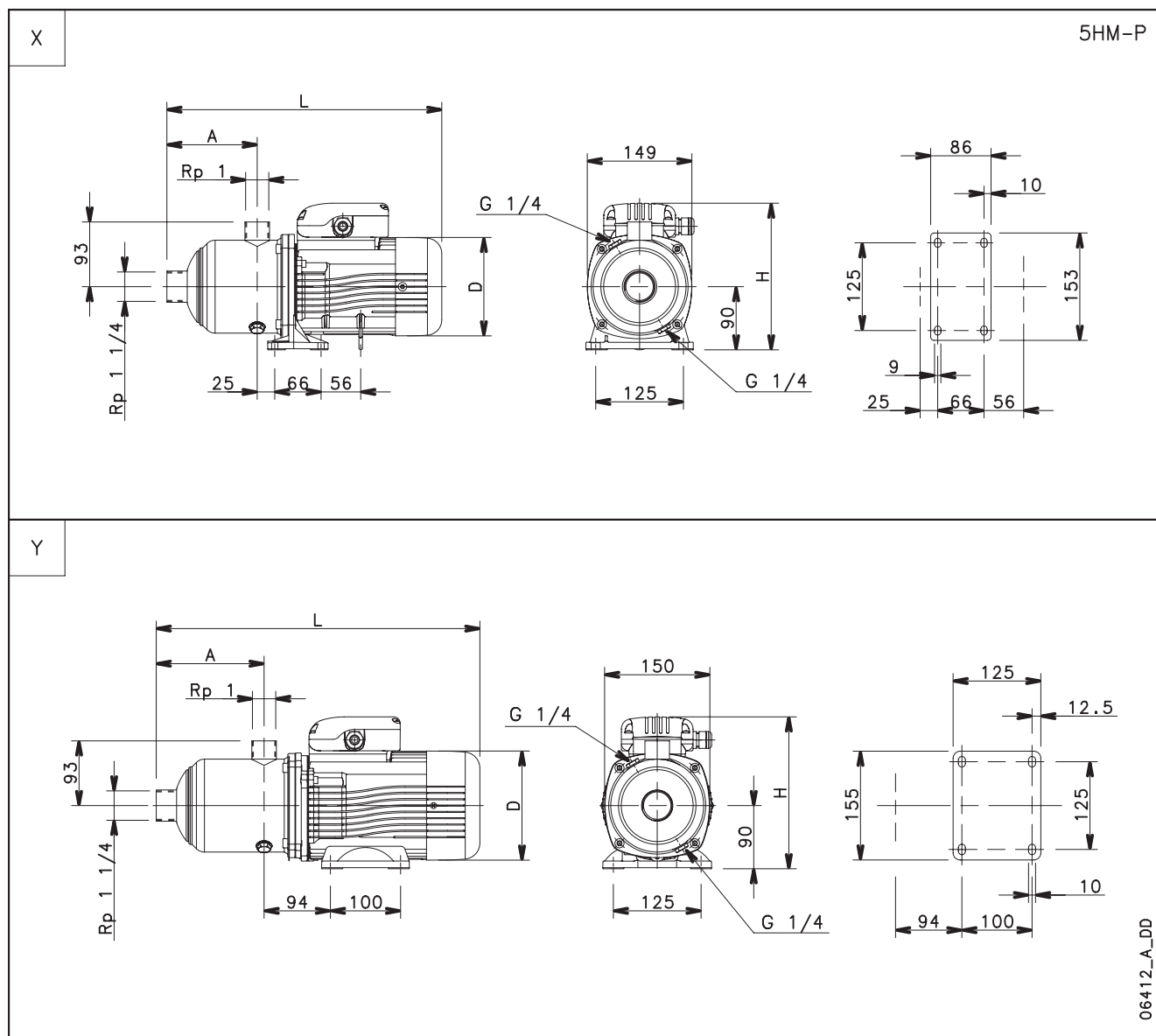
PUMP TYPE HM..P	VERSION	MOTOR		ELECTRIC PUMP			Q = DELIVERY							
		P _N kW	TYPE	* P ₁ kW	* I		l/min 0	83,3	108	133	158	183	208	233
					220-240 V	380-415 V	m³/h 0	5,0	6,5	8,0	9,5	11,0	12,5	14,0
					A	A	H = TOTAL HEAD IN METRES OF COLUMN OF WATER							
10HM02	1 ~	1,1	SM80HM../1115	1,33	6,06	-	30,6	26,9	25,2	23,4	21,4	19,1	16,2	12,6
10HM03		1,5	SM80HM../1155	1,88	8,29	-	45,6	39,7	37,2	34,7	31,9	28,4	24,0	18,8
10HM04		2,2	PLM90HM../1225	2,40	10,8	-	60,6	54,4	51,3	48,1	44,5	40,2	34,9	28,5
10HM05		2,2	PLM90HM../1225	2,87	12,8	-	75,3	66,7	62,7	58,5	53,8	48,3	41,5	33,5
10HM02	3 ~	1,1	SM80HM../311 E3	1,23	4,00	2,31	31,1	27,8	26,3	24,6	22,7	20,4	17,5	14,1
10HM03		1,5	SM80HM../315 E3	1,75	5,50	3,17	46,2	40,9	38,6	36,2	33,4	30,1	25,8	20,6
10HM04		2,2	PLM90HM../322 E3	2,35	7,58	4,38	61,2	55,7	52,7	49,6	46,2	42,0	36,7	30,3
10HM05		3	PLM90HM../330 E3	2,94	10,1	5,83	76,6	69,8	66,2	62,3	58,0	52,8	46,2	38,2
10HM06		3	PLM90HM../330 E3	3,47	11,2	6,45	91,7	83,0	78,5	73,8	68,5	62,2	54,3	44,6

Hydraulic performances in compliance with ISO 9906:2012 - Grade 3B (ex ISO 9906:1999 - Annex A)

1-10hm-p-2p50-en_b_th

* Maximum value in specified range: P₁ = input power; I = input current.

5HM..P SERIES DIMENSIONS AND WEIGHTS AT 50 HZ, 2 POLES

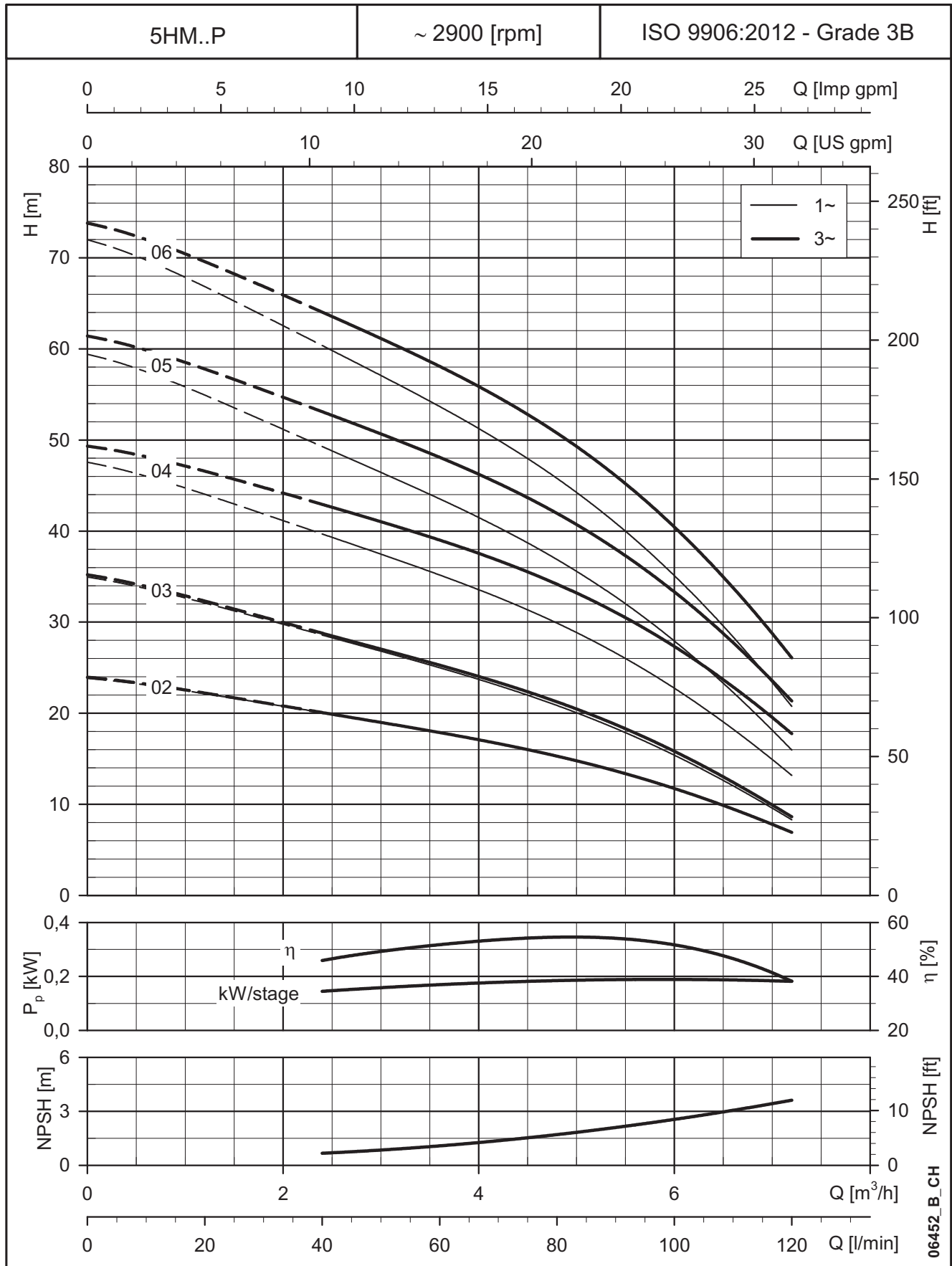


PUMP TYPE	VERSION	Ref.	MOTOR		DIMENSIONS (mm)				PN bar	WEIGHT kg
			kW	SIZE	A	D	H	L		
5HM02	SINGLE-PHASE	X	0,50	63	89	120	201	338	10	7
5HM03			0,50	63	89	120	201	338	10	7
5HM04			0,75	71	109	140	211	372	10	10
5HM05			0,95	71	129	140	220	392	10	11
5HM06		Y	1,1	80	149	155	227	457	10	14
5HM02	THREE-PHASE	X	0,40	63	89	120	201	338	10	6
5HM03			0,50	63	89	120	201	338	10	7
5HM04		Y	1,1	80	109	155	219	417	10	13
5HM05			1,1	80	129	155	219	437	10	14
5HM06			1,5	80	149	155	219	457	10	15

5hm-p-2p50-en_b_dd

5HM..P 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 $\nu = 1 \text{ mm}^2/\text{sec}$.