

## Vertical multi-stage pumps

-  Clean water
-  Domestic use
-  Civil use
-  Industrial use



### PERFORMANCE RANGE

- Flow rate up to **180 l/min** (10.8 m<sup>3</sup>/h)
- Head up to **112 m**

### APPLICATION LIMITS

- Manometric suction lift up to **7 m**
- Liquid temperature between **-10 °C** and **+40 °C**
- Ambient temperature up to **+40 °C**
- Max. working pressure **11 bar**
- Continuous service **S1**

### CONSTRUCTION AND SAFETY STANDARDS

EN 60335-1  
IEC 60335-1  
CEI 61-150

EN 60034-1  
IEC 60034-1  
CEI 2-3



EU REGULATION N. 547/2012

### CERTIFICATIONS

Company with management system certified DNV  
ISO 9001: QUALITY  
ISO 14001: ENVIRONMENT AND SAFETY



### INSTALLATION AND USE

Suitable for use with clean water and with liquids that are not chemically aggressive towards the materials from which the pump is made. The high performance and adaptability to a wide range of applications make them an ideal choice in domestic, civil and industrial applications, in particular for the distribution of water in combination with pressure tanks and for boosting pressure in the network. The pump should be installed in an enclosed environment or sheltered from inclement weather.

### PATENTS - TRADE MARKS - MODELS

- Patent Pending n. PCT/IB2014/063126

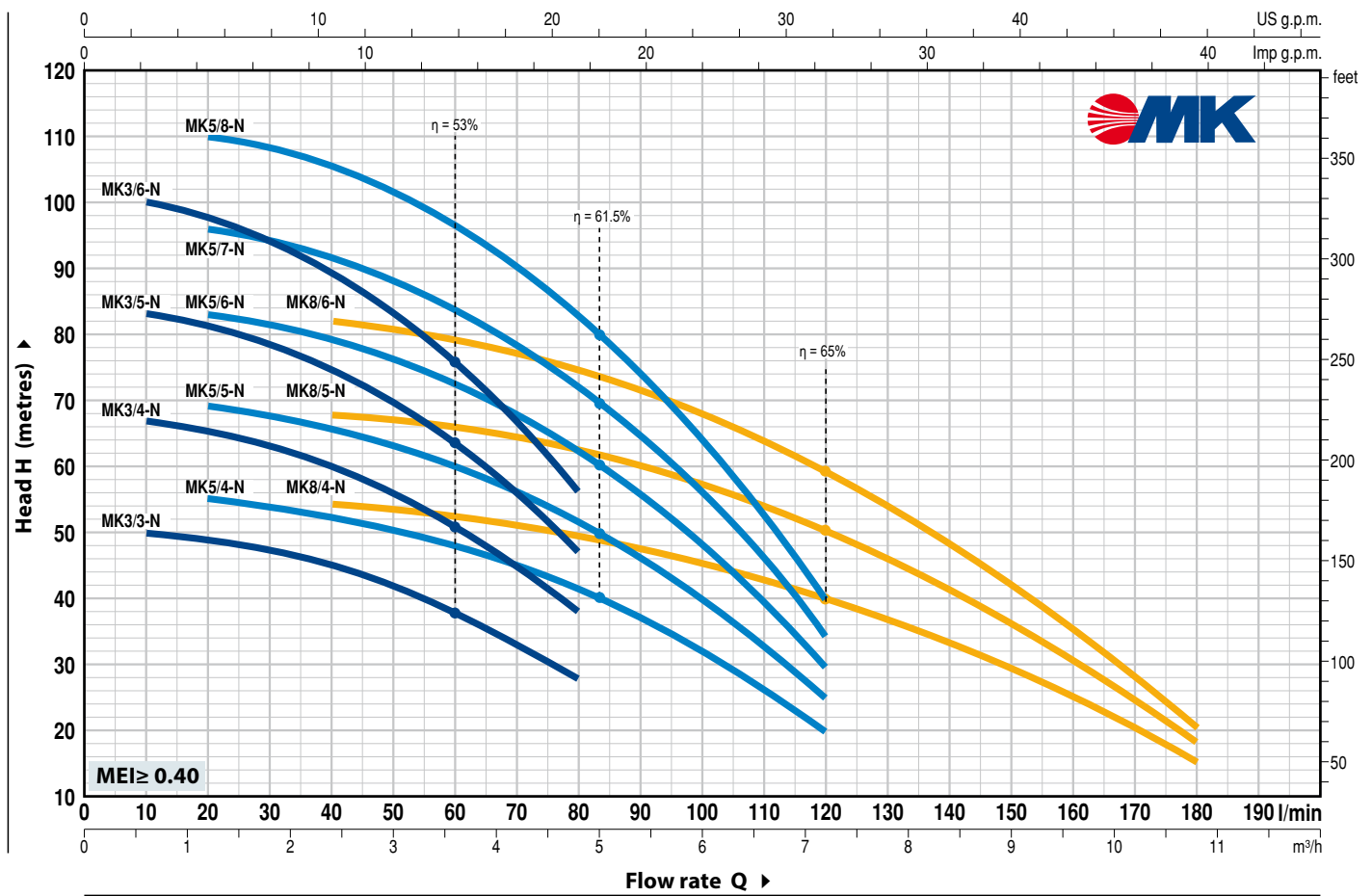
### OPTIONS AVAILABLE ON REQUEST

- Other voltages or 60 Hz frequency
- Supply of threaded flanges ISO 228/1 (1" - 1¼" - 1½") suction and delivery ports



### CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz n= 2900 rpm HS= 0 m



MODEL		POWER (P <sub>2</sub> )		▲	Q	H metres													
Single-phase	Three-phase	kW	HP			0	0.6	1.2	2.4	3.6	4.8	6.0	7.2	8.4	9.6	10.8			
					l/min	0	10	20	40	60	80	100	120	140	160	180			
MK <sub>m</sub> 3/3-N	MK 3/3-N	0.75	1	IE2	H metres	52	50	49	45	38	28								
MK <sub>m</sub> 3/4-N	MK 3/4-N	1.1	1.5			69.5	67	65.5	60	50.5	38								
MK <sub>m</sub> 3/5-N	MK 3/5-N	1.1	1.5			87	83	82	75	63.5	47								
MK <sub>m</sub> 3/6-N	MK 3/6-N	1.5	2	IE3		104	100	98	90	76	56								
MK <sub>m</sub> 5/4-N	MK 5/4-N	1.1	1.5	IE2		56	-	55	52.5	48	41.5	32	20						
MK <sub>m</sub> 5/5-N	MK 5/5-N	1.1	1.5			70	-	69	66	60	51.5	40	25						
MK <sub>m</sub> 5/6-N	MK 5/6-N	1.5	2	IE3		84	-	83	79	72	62	48	30						
MK <sub>m</sub> 5/7-N	MK 5/7-N	1.8	2.5			98	-	96	92.5	84	72.5	56	34						
MK <sub>m</sub> 5/8-N	MK 5/8-N	2.2	3			112	-	110	105.5	96	82.5	64	40						
MK <sub>m</sub> 8/4-N	MK 8/4-N	1.5	2	IE3		56	-	-	54	52	50	46	39	31.5	24	15			
MK <sub>m</sub> 8/5-N	MK 8/5-N	1.8	2.5			70	-	-	67.5	66	63	58	50	40	30	18			
MK <sub>m</sub> 8/6-N	MK 8/6-N	2.2	3			86	-	-	82	78	74	68	58	46.5	35	20			

Q = Flow rate H = Total manometric head HS = Suction height

Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.

▲ Performance class of the three-phase motor (IEC-60034-30)

## POS. COMPONENT CONSTRUCTION CHARACTERISTICS

1	<b>SUCTION BODY</b>	Cast iron with an Epoxy Electro Coating complete with threaded suction port ISO 228/1				
2	<b>EXTERNAL SLEEVE</b>	Stainless steel AISI 304				
3	<b>DELIVERY BODY</b>	Cast iron with an Epoxy Electro Coating complete with threaded delivery port ISO 228/1				
4	<b>IMPELLERS AND DIFFUSERS</b>	Noryl FE1520PW				
5	<b>DIAPHRAGMS</b>	Stainless steel AISI 304				
6	<b>MOTOR SHAFT</b>	Stainless steel EN 10088-3 - 1.4104				
7	<b>MECHANICAL SEAL</b>	<i>Seal Model</i>	<i>Shaft Diameter</i>	<i>Stationary ring</i>	<i>Rotational ring</i>	<i>Elastomer</i>
		<b>FN-18</b>	<b>Ø 18 mm</b>	Graphite	Ceramic	NBR
8	<b>BEARINGS</b>	<b>6304 ZZ / 6204 ZZ</b>				

### 9 CAPACITOR

Pump	Capacitance	
	(230 V or 240 V)	(110 V)
Single-phase		
<b>MKm 3/3-N</b>	<b>25</b> µF - 450 VL	<b>60</b> µF - 250 VL
<b>MKm 3/4-N</b>	<b>25</b> µF - 450 VL	<b>60</b> µF - 250 VL
<b>MKm 3/5-N</b>	<b>25</b> µF - 450 VL	<b>60</b> µF - 250 VL
<b>MKm 3/6-N</b>	<b>31.5</b> µF - 450 VL	<b>60</b> µF - 250 VL
<b>MKm 5/4-N</b>	<b>25</b> µF - 450 VL	<b>60</b> µF - 250 VL
<b>MKm 5/5-N</b>	<b>25</b> µF - 450 VL	<b>60</b> µF - 250 VL
<b>MKm 5/6-N</b>	<b>31.5</b> µF - 450 VL	<b>60</b> µF - 250 VL
<b>MKm 5/7-N</b>	<b>45</b> µF - 450 VL	-
<b>MKm 5/8-N</b>	<b>50</b> µF - 450 VL	-
<b>MKm 8/4-N</b>	<b>31.5</b> µF - 450 VL	<b>60</b> µF - 250 VL
<b>MKm 8/5-N</b>	<b>45</b> µF - 450 VL	-
<b>MKm 8/6-N</b>	<b>50</b> µF - 450 VL	-

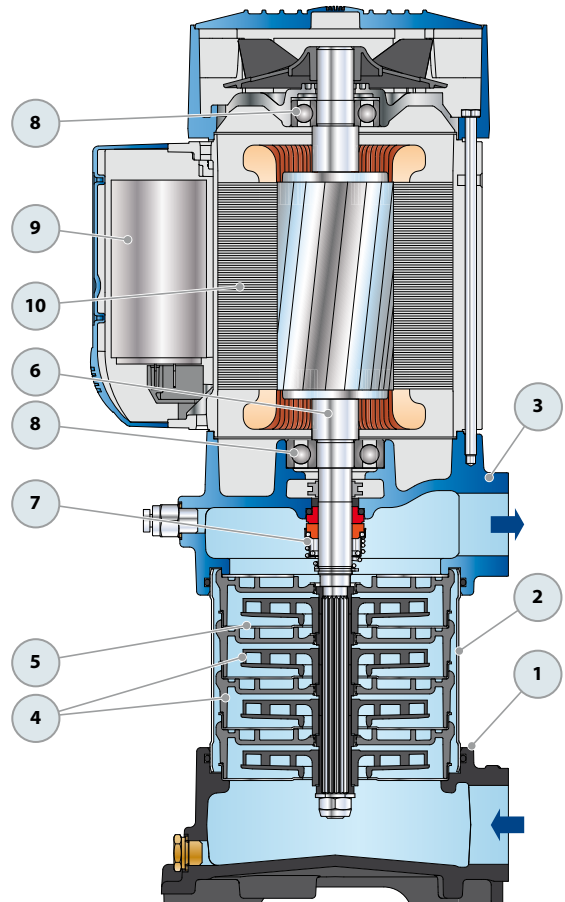
### 10 ELECTRIC MOTOR

**MKm:** single-phase 230 V - 50 Hz  
with thermal overload protector incorporated into the winding up to P<sub>2</sub>=1.5 kW

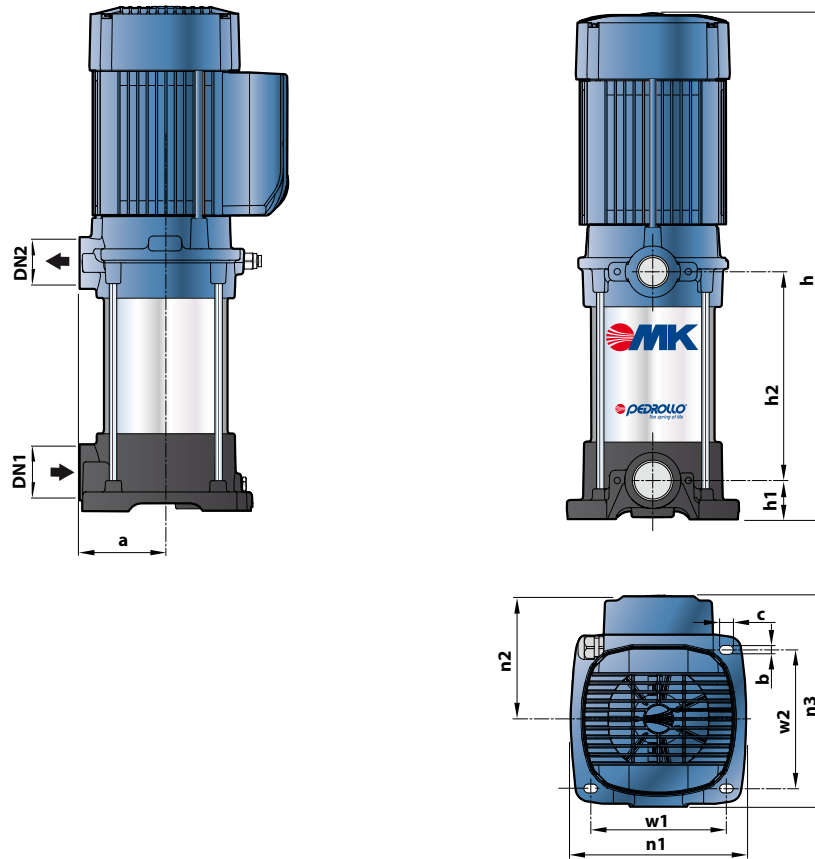
**MK:** three-phase 230/400 V - 50 Hz

➡ **The three-phase pumps are fitted with high performance motors up to P<sub>2</sub>=1.1 kW in class IE2 and from P<sub>2</sub>=1.5 kW in class IE3 (IEC 60034-30)**

- Insulation: class F
- Protection: IP X4



## DIMENSIONS AND WEIGHT



MODEL		PORTS		N. STAGES	DIMENSIONS mm										kg	
Single-phase	Three-phase	DN1	DN2		a	h	h1	h2	w1	w2	n1	n2	n3	b	c	1~
MKm 3/3-N	MK 3/3-N	1 1/4"	1"	3	93	450	132,5	143	146	185	130	223	9,5	14,5	19.1	19.2
MKm 3/4-N	MK 3/4-N			4		477	159,5								19.6	19.6
MKm 3/5-N	MK 3/5-N			5		504	186,5								20.0	20.1
MKm 3/6-N	MK 3/6-N			6		531	213,5								22.9	21.8
MKm 5/4-N	MK 5/4-N			4		477	159,5								19.5	19.6
MKm 5/5-N	MK 5/5-N			5		504	186,5								19.9	20.0
MKm 5/6-N	MK 5/6-N			6		531	213,5								22.8	21.7
MKm 5/7-N	MK 5/7-N			7		558	240,5								24.3	23.1
MKm 5/8-N	MK 5/8-N			8		585	267,5								24.8	23.6
MKm 8/4-N	MK 8/4-N			4		477	159,5								22.0	20.9
MKm 8/5-N	MK 8/5-N			5		504	186,5								23.6	22.4
MKm 8/6-N	MK 8/6-N			6		531	213,5								24.0	22.8

## ABSORPTION

MODEL	VOLTAGE		
	230 V	240 V	110 V
Single-phase	230 V	240 V	110 V
MKm 3/3-N	6.0 A	5.8 A	12.0 A
MKm 3/4-N	6.5 A	6.2 A	13.0 A
MKm 3/5-N	7.0 A	6.7 A	14.0 A
MKm 3/6-N	9.0 A	8.6 A	18.0 A
MKm 5/4-N	6.5 A	6.2 A	13.0 A
MKm 5/5-N	8.5 A	8.1 A	17.0 A
MKm 5/6-N	9.5 A	9.1 A	19.0 A
MKm 5/7-N	10.5 A	10.1 A	21.0 A
MKm 5/8-N	11.5 A	11.0 A	23.0 A
MKm 8/4-N	8.5 A	8.1 A	17.0 A
MKm 8/5-N	9.5 A	9.1 A	19.0 A
MKm 8/6-N	11.5 A	11.0 A	23.0 A

MODEL	VOLTAGE					
	230 V	400 V	690 V	240 V	415 V	720 V
Three-phase	230 V	400 V	690 V	240 V	415 V	720 V
MK 3/3-N	4.2 A	2.4 A	1.4 A	4.0 A	2.3 A	1.3 A
MK 3/4-N	4.8 A	2.8 A	1.6 A	4.6 A	2.7 A	1.5 A
MK 3/5-N	5.2 A	3.0 A	1.7 A	5.0 A	2.9 A	1.6 A
MK 3/6-N	5.5 A	3.2 A	1.8 A	5.3 A	3.1 A	1.7 A
MK 5/4-N	4.8 A	2.8 A	1.6 A	4.6 A	2.7 A	1.5 A
MK 5/5-N	5.2 A	3.0 A	1.7 A	5.0 A	2.9 A	1.6 A
MK 5/6-N	6.1 A	3.5 A	2.0 A	5.8 A	3.4 A	1.9 A
MK 5/7-N	7.8 A	4.5 A	2.6 A	7.5 A	4.3 A	2.5 A
MK 5/8-N	8.7 A	5.0 A	2.9 A	8.3 A	4.8 A	2.8 A
MK 8/4-N	5.2 A	3.0 A	1.7 A	5.0 A	2.9 A	1.6 A
MK 8/5-N	6.1 A	3.5 A	2.0 A	5.8 A	3.4 A	1.9 A
MK 8/6-N	8.7 A	5.0 A	2.9 A	8.3 A	4.8 A	2.8 A