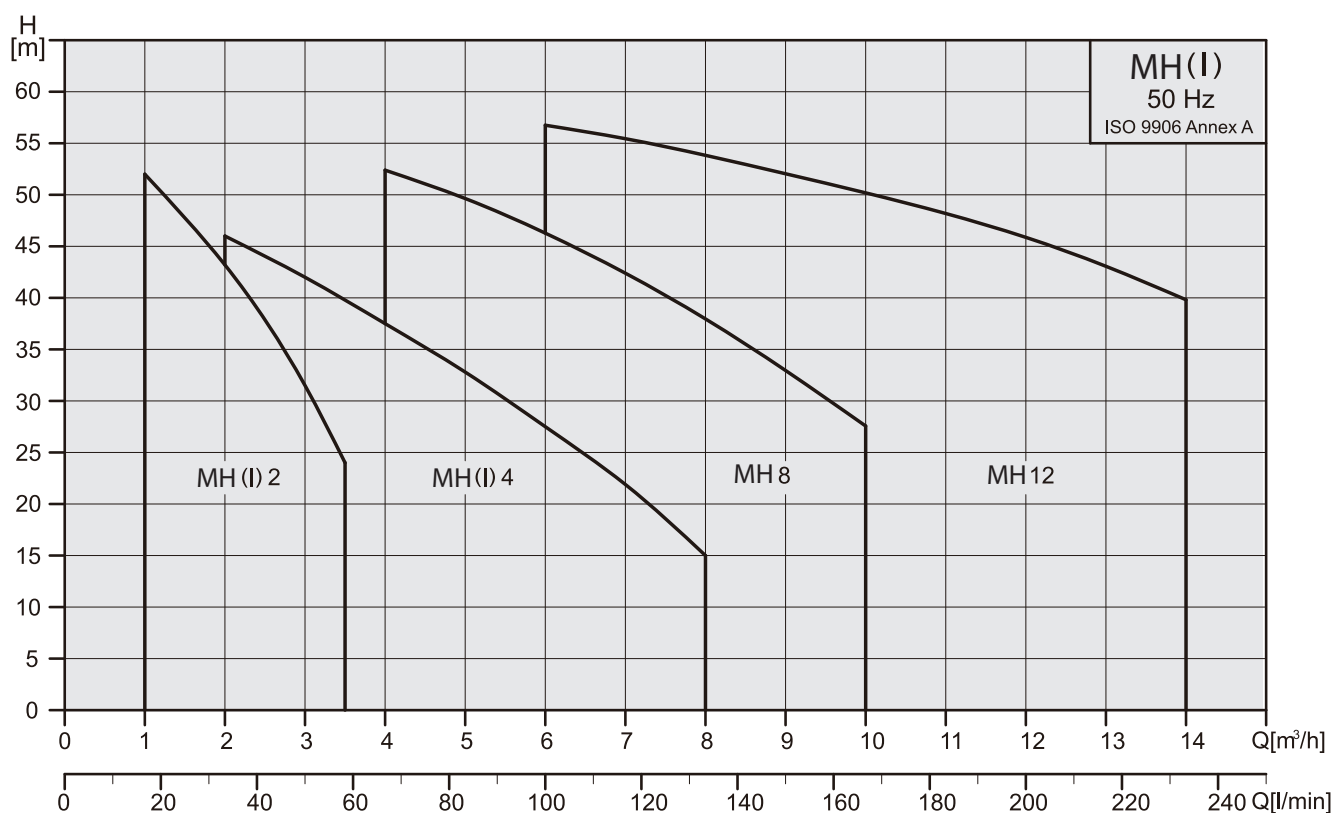


**Horizontal Multistage Centrifugal Pump**

## General data MH, MHI

### Performance range, 50Hz



## Applications

- \*Domestic
- \*Liquid transfer and circulation of liquids within light industry and farming
- \*Pressure boosting
- \*Air-conditioning systems
- \*Cooling systems or cooling machine
- \*Specialized OEM equipment

## Pump

The MH and MHI series are non-self priming, horizontal multistage centrifugal pumps. Pump is coupled with motor at the same shaft and mounted on a base-plate. The friendly design makes the pump suitable for installation in the small domestic or industrial water supply systems. The pump is fitted with a mechanical seal and through-going pump-motor shaft.

**MH:** The discharge and suction chamber are made of cast iron. The other parts of pump in contact with the liquid are made of stainless steel.

**MHI:** All parts of pump in contact with the liquid are made of stainless steel.  
EPDM or Viton O-rings are available as standard.

## Pipe connections:

Connections	MH, MHI 2	MH, MHI 4	MH 8	MH 12
Suction port	Rp 1	Rp 1 1/4	Rp 1 1/2	Rp 1 1/2
Discharge port	Rp 1	Rp 1	Rp 1 1/4	Rp 1 1/2
Drain hole, priming hole	Rc 3/8	Rc 3/8	Rp 1/2	Rp 1/2

## Motor

The pump is fitted with a totally enclosed, fan-cooled, squirrel-cage motor.

Rated speed: 2850rpm(50Hz)

Enclosure class: IP 54

Insulation class: F

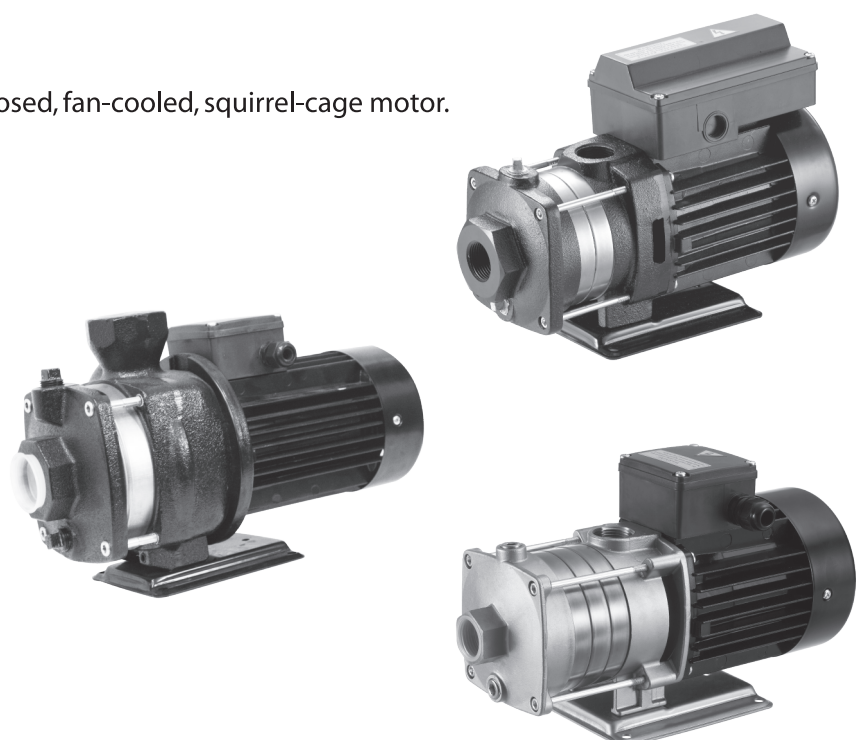
Standard voltages:

50HZ 1Ø

0.5HP~3.0HP 220-240V

50HZ 3Ø

0.5HP~4.0HP 220-240V/380-415V



## Operating conditions

Liquid: Clean liquid without solid particles.

Liquid temperature range: 0°C ~ +90°C.

Maximum ambient temperature: +50°C.

The maximum operating pressure depends on the temperature of the pumped liquid, see table:

Max. operating pressure	10 kg/cm <sup>2</sup>	6 kg/cm <sup>2</sup>
MH (I)2, MH(I)4	0°C to + 40°C	+41°C to + 90°C
MH 8, MH12	0°C to + 55°C	+56°C to + 90°C

Min. inlet pressure: According to the NPSH curve + a safety margin of 0.5m.

Max. inlet pressure: Limited by the max. operating pressure.

## Model

Example	MH(I)	4	-	30	-	CQBE
	Pump type	Nominal flow rate [m <sup>3</sup> /h]		Number of stages x 10		Mechanical Seals

## Mechanical seals

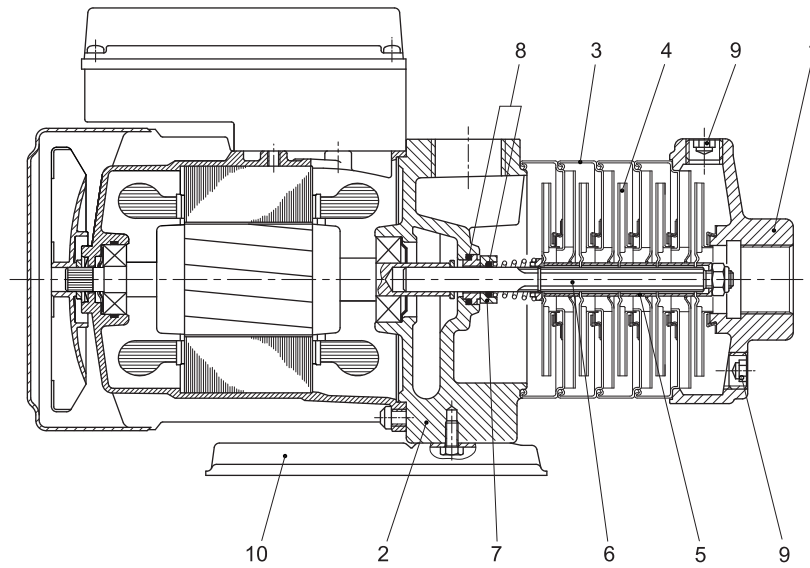
List of Materials	
Q : Silicon carbide	E : EPDM
U : Tungsten carbide	V : Viton
B : Carbon	C : Seal Type
H : Seal Type	

Mechanical Seals	MH, MHI 2/4	MH 8,12
CQB	●	●
CQQ	Optional	Optional
HUU	Optional	Optional
O-rings		
E	●	●
V	Optional	Optional

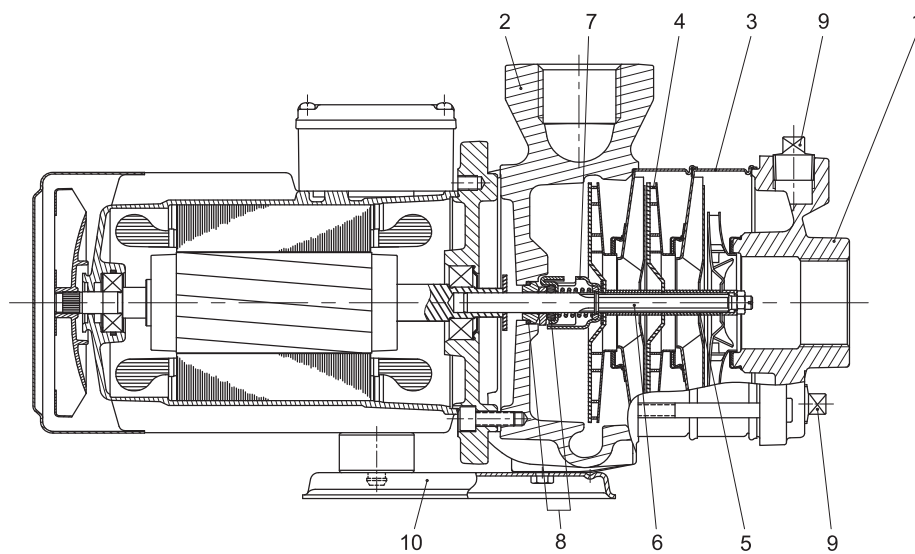
● Standard

## Material construction

### MH (I) 2,4



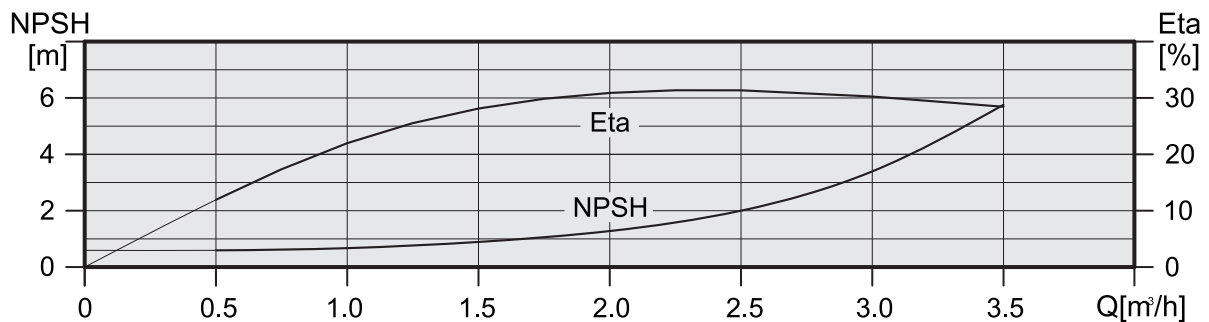
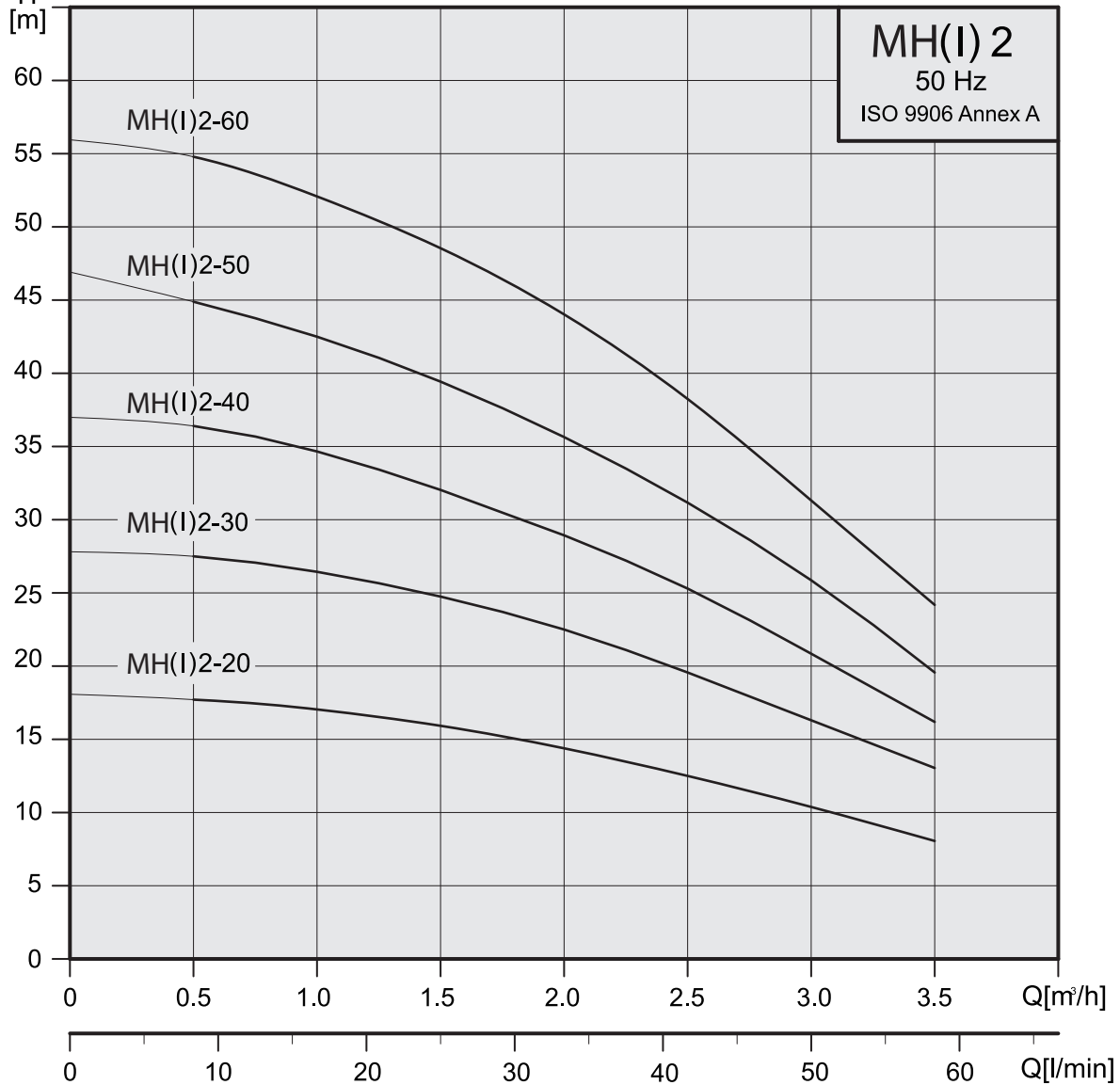
### MH 8,12



## Materials

Pos.	Description	Materials	
		MH	MHI
1	Suction chamber	Cast iron	SS304
2	Pump head	Cast iron	SS304
3	Intermediate chamber	SS304	SS304
4	Impeller	SS304	SS304
5	Spacing pipe	SS304	SS304
6	Shaft	SS431	SS431
7	Mechanical seal	Silicon carbide / Carbon	Silicon carbide / Carbon
8	O-ring	EPDM	EPDM
9	Drain and priming plug	Steel	SS304
10	Base plate	Steel	SS304

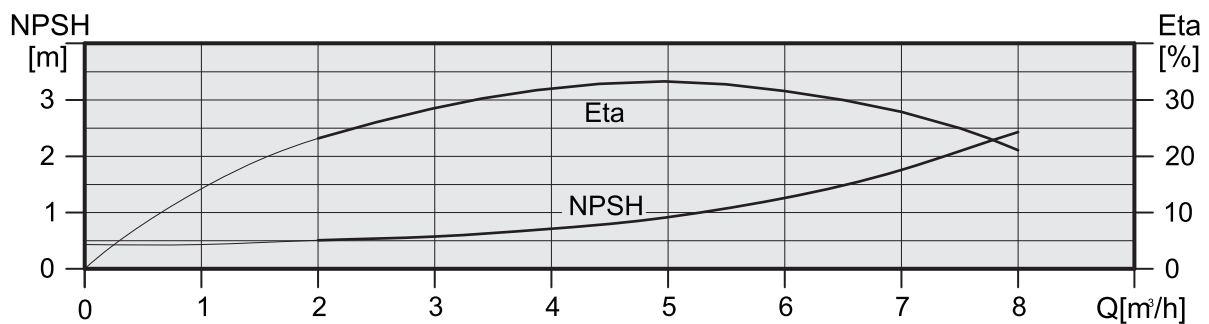
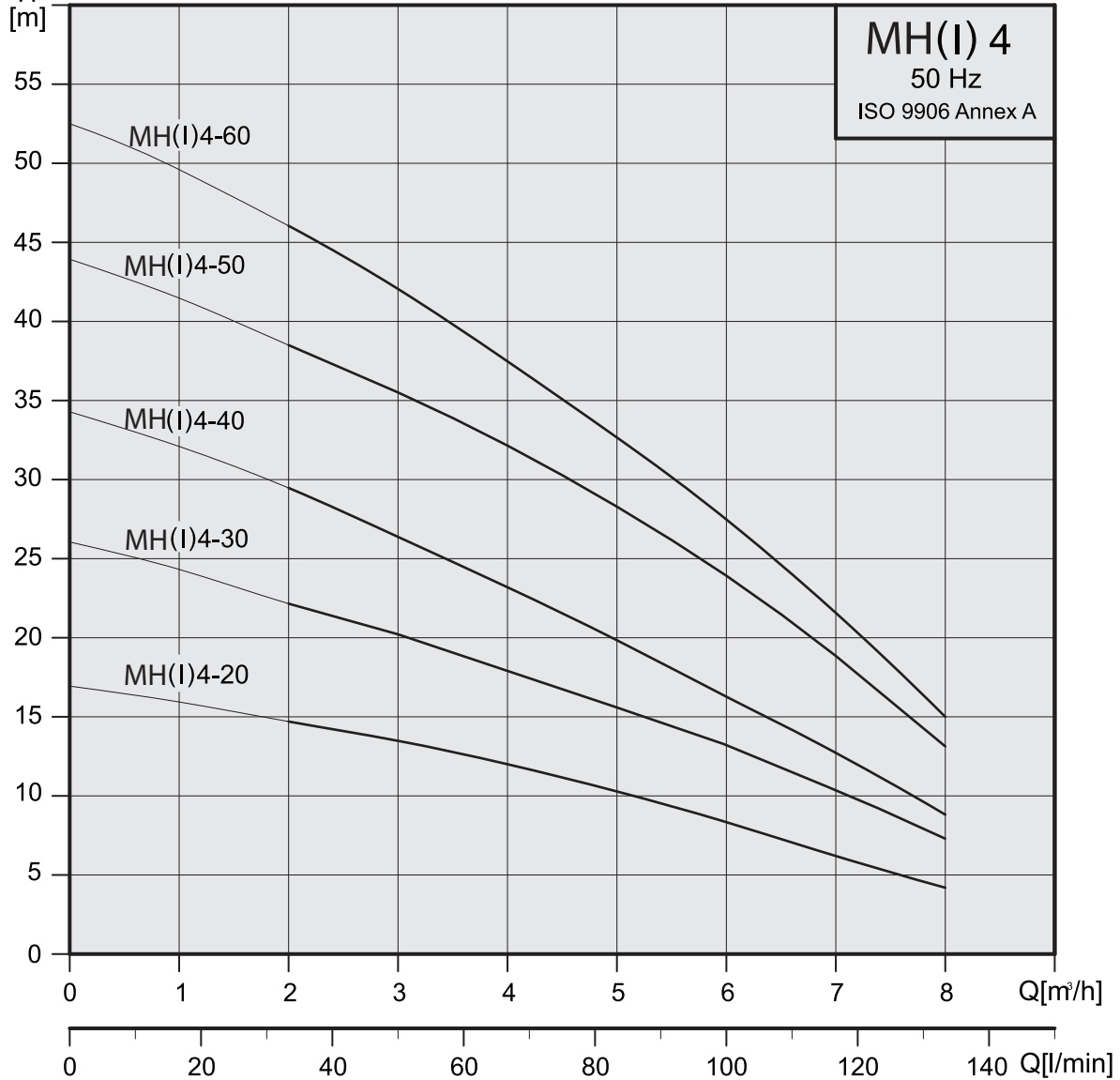
## Performance curves 50Hz



### Electrical data, 2850 min<sup>-1</sup>

pump type	1 x 220-240 V		3 x 220-240 Δ/380-415 Y V	
	P <sub>1</sub> [W]	I <sub>1/1</sub> [A]	P <sub>1</sub> [W]	I <sub>1/1</sub> [A]
MH/MHI 2-20	380	1.7-2.0	430	2.2-2.6 / 1.3-1.5
MH/MHI 2-30	470	2.1-2.2	530	2.2-2.5 / 1.3-1.45
MH/MHI 2-40	620	2.7-2.8	660	2.4-2.8 / 1.4-1.6
MH/MHI 2-50	720	3.2-3.1	770	2.5-2.9 / 1.45-1.7
MH/MHI 2-60	830	3.7-3.6	860	2.9-3.3 / 1.7-1.9

## Performance curves 50Hz

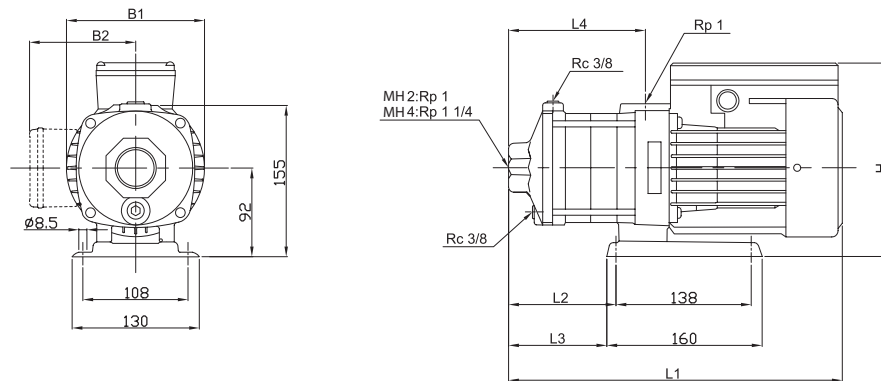


### Electrical data, 2850 min<sup>-1</sup>

pump type	1 x 220-240 V		3 x 220-240 Δ/380-415 Y V	
	P <sub>1</sub> [W]	I <sub>1/n</sub> [A]	P <sub>1</sub> [W]	I <sub>1/n</sub> [A]
MH/MHI 4-20	560	2.6-2.5	610	2.4-2.9 / 1.4-1.7
MH/MHI 4-30	770	3.6-3.5	790	2.5-2.9 / 1.5-1.7
MH/MHI 4-40	960	4.4-4.1	1010	3.1-3.3 / 1.8-1.9
MH/MHI 4-50	1160	5.3-5.0	1240	4.2-4.5 / 2.4-2.6
MH/MHI 4-60	1430	6.7-6.4	1460	5.1-5.5 / 2.9-3.2

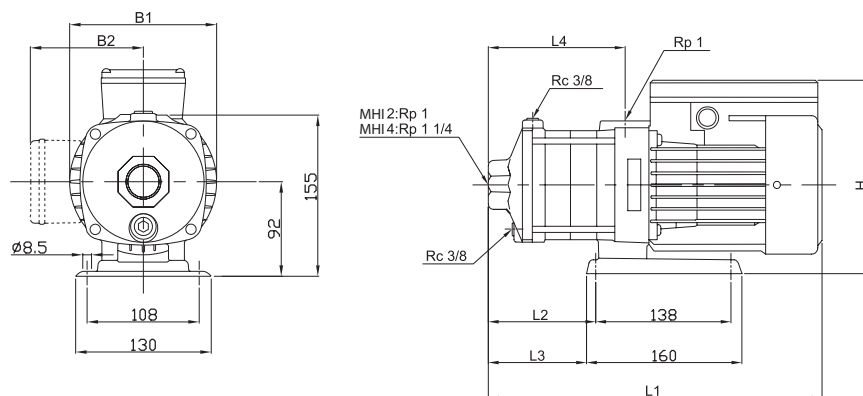
## Dimensions and weights 50 Hz

### MH-2, MH-4



pump type	mm									Kg	
	L1	L2	L3	L4	B1	B2		H		1phase	3phase
						1phase	3phase	1phase	3phase		
MH 2-20	309	75	63	101	141	127	115	228	207	10.3	10.0
MH 2-30	327	93	81	119	141	127	115	228	207	10.5	10.3
MH 2-40	345	111	99	137	141	127	115	228	207	10.8	10.5
MH 2-50	363	129	117	155	141	127	115	228	207	11.6	11.2
MH 2-60	381	147	135	173	141	127	115	228	207	11.8	11.5
MH 4-20	318	84	72	110	141	127	115	228	207	10.4	10.1
MH 4-30	344	111	99	137	141	127	115	228	207	10.8	10.5
MH 4-40	372	138	126	164	141	127	115	228	207	11.6	11.2
MH 4-50	438	165	153	191	141	127	115	228	207	13.4	13.1
MH 4-60	465	192	180	218	141	127	115	228	207	14.8	14.5

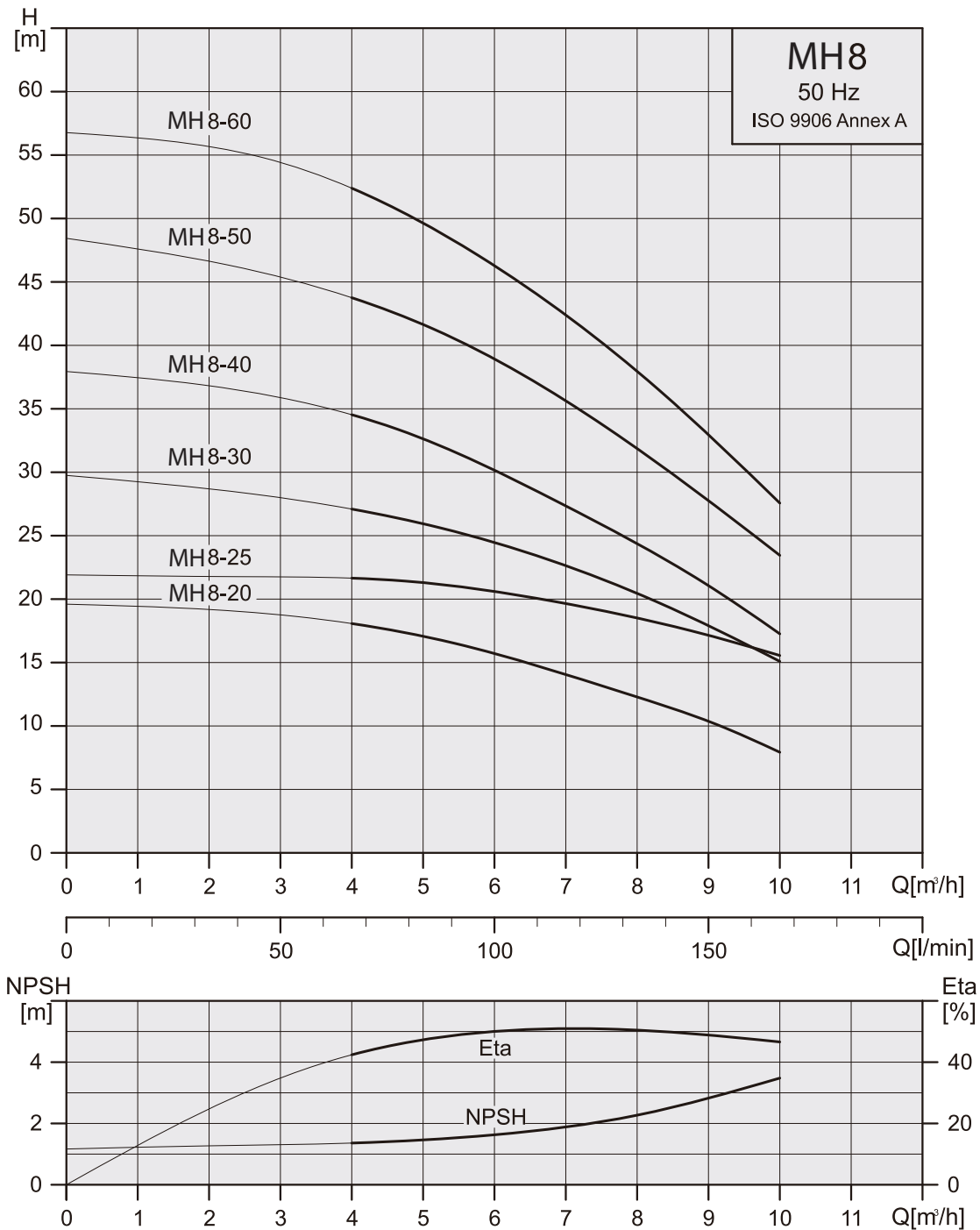
### MHI-2, MHI-4



pump type	mm									Kg	
	L1	L2	L3	L4	B1	B2		H		1phase	3phase
						1phase	3phase	1phase	3phase		
MHI 2-20	309	75	63	101	141	127	115	228	207	9.1	8.8
MHI 2-30	327	93	81	119	141	127	115	228	207	9.4	9.1
MHI 2-40	345	111	99	137	141	127	115	228	207	9.6	9.4
MHI 2-50	363	129	117	155	141	127	115	228	207	10.4	10.1
MHI 2-60	381	147	135	173	141	127	115	228	207	10.7	10.3
MHI 4-20	318	84	72	110	141	127	115	228	207	9.2	9.0
MHI 4-30	344	111	99	137	141	127	115	228	207	9.6	9.3
MHI 4-40	372	138	126	164	141	127	115	228	207	10.4	10.1
MHI 4-50	438	165	153	191	141	127	115	228	207	11.3	12.0
MHI 4-60	465	192	180	218	141	127	115	228	207	13.6	13.4



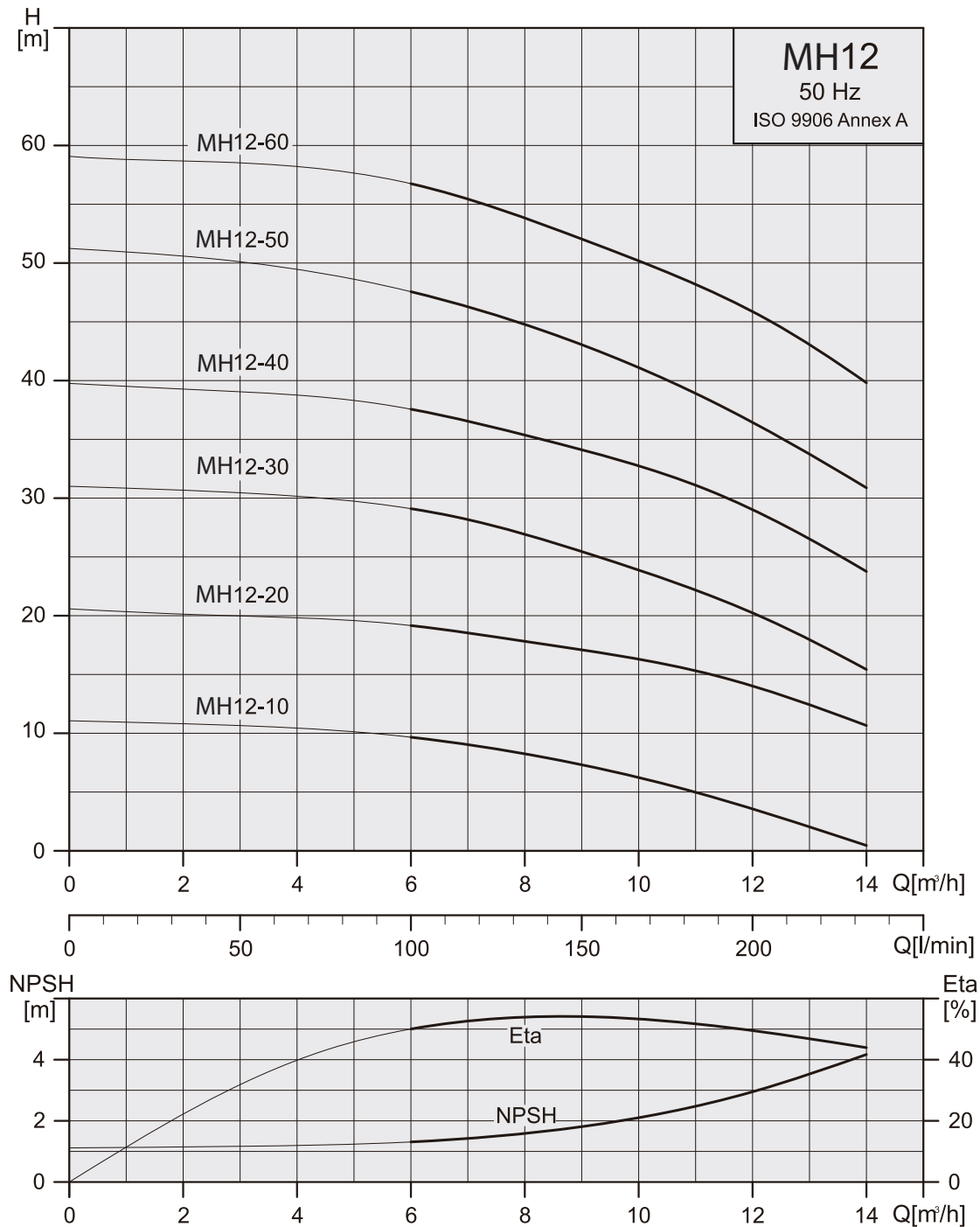
## Performance curves 50Hz



## Electrical data, 2850min<sup>-1</sup>

pump type	1x220-240 V		3x220-240/380-415 V	
	P <sub>1</sub> [W]	I <sub>1/n</sub> [A]	P <sub>1</sub> [W]	I <sub>1/n</sub> [A]
MH8-20	595	3.3-3.2	810	2.9-3.3 / 1.7-1.9
MH8-25	-	-	1060	3.5-3.8 / 2.0-2.2
MH8-30	1130	5.2-5.0	1260	4.3-4.8 / 2.5-2.8
MH8-40	1390	6.3-6.1	1520	5.7-6.3 / 3.3-3.7
MH8-50	1940	8.2-8.1	1860	5.7-6.3 / 3.4-3.7
MH8-60	2090	9.0-8.8	2110	6.5-7.0 / 3.8-4.1

## Performance curves 50Hz



## Electrical data, 2850min<sup>-1</sup>

pump type	1x220-240 V		3x220-240/380-415 V	
	P <sub>1</sub> [W]	I <sub>1/1</sub> [A]	P <sub>1</sub> [W]	I <sub>1/1</sub> [A]
MH12-10	-	-	590	2.8-3.1 / 1.6-1.8
MH12-20	1160	5.3-5.1	1170	3.8-4.0 / 2.2-2.3
MH12-30	1680	7.8-7.4	1690	5.7-6.5 / 3.3-3.8
MH12-40	2400	11.0-10.6	2350	7.3-7.6 / 4.2-4.4
MH12-50	2910	12.7-12.2	2820	8.8-9.0 / 5.1-5.2
MH12-60	-	-	3320	10.6-11.4 / 6.1-6.6

## Dimensions and weights 50 Hz

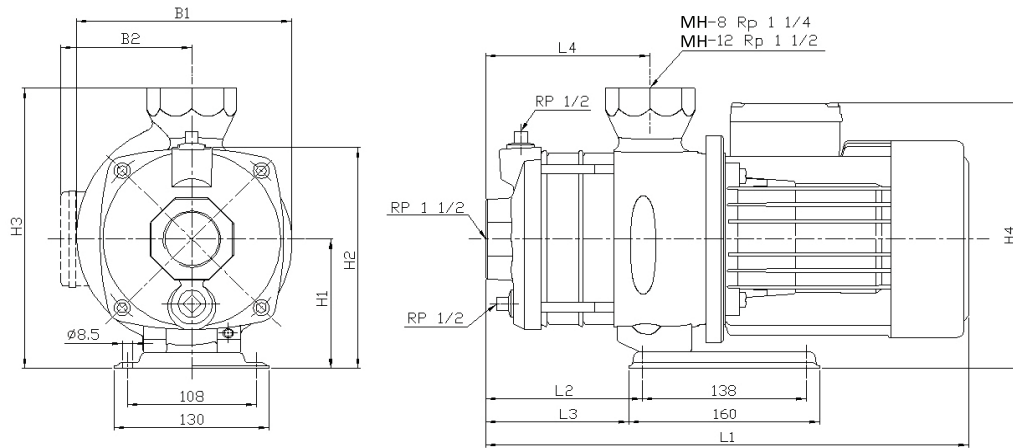


Fig. 1

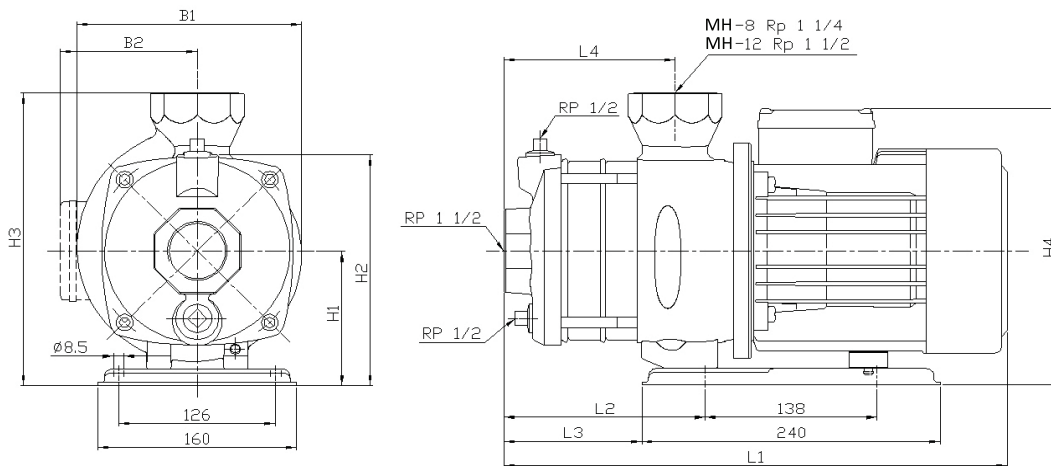


Fig. 2

### MH-8

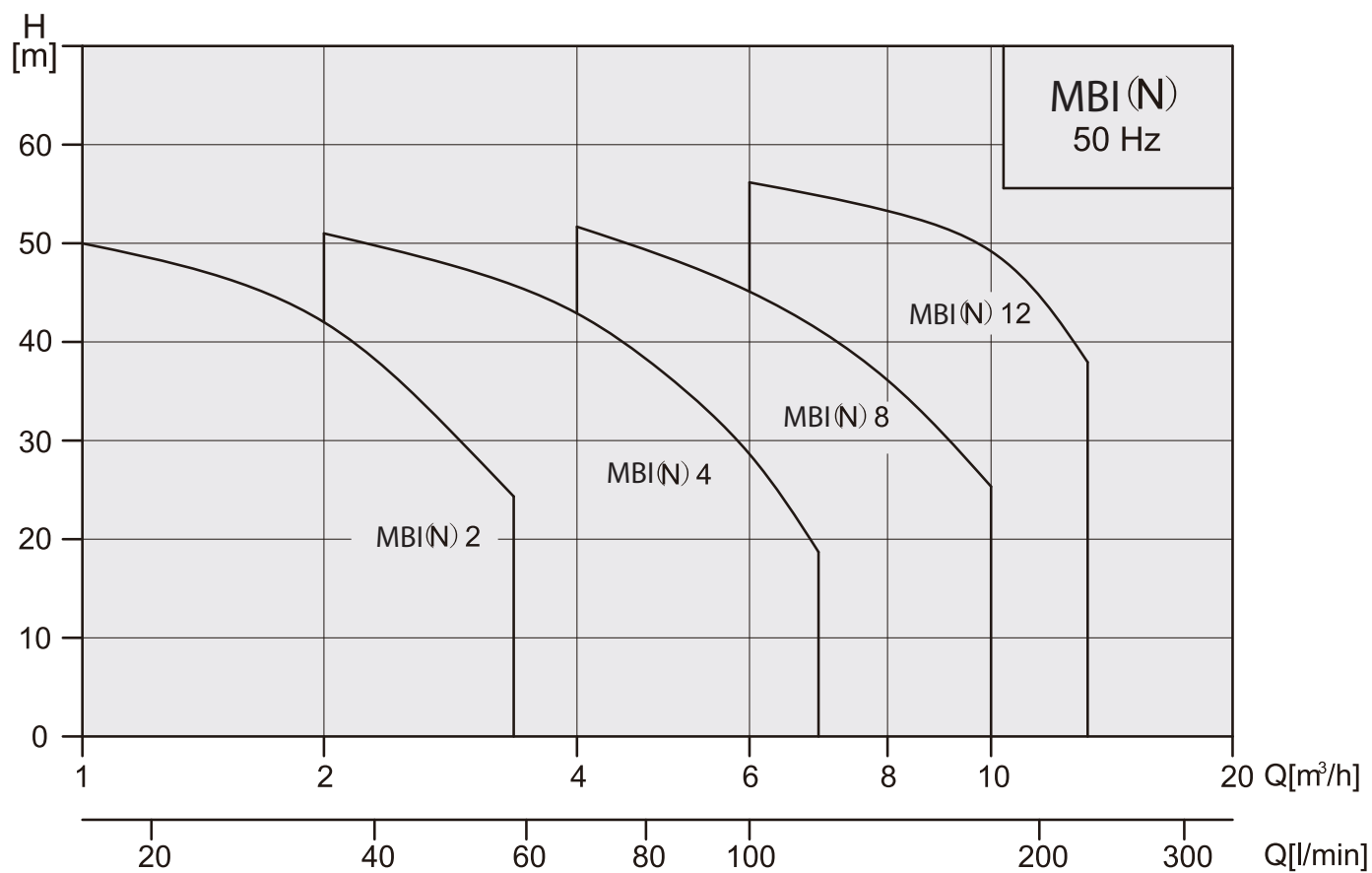
pump type	mm																Fig.		Kg	
	L1		L2		L3		L4	B1		B2		H1	H2	H3	H4					
	1phase	3phase	1phase	3phase	1phase	3phase		1phase	3phase	1phase	3phase				1phase	3phase	1phase	3phase		
MH 8-20	320	320	54	54	41	41	77	181	181	135	114	110	187	239	245	224	1	1	17.2	17
MH 8-25	-	390	-	84	-	71	107	-	181	-	114	110	187	239	-	224	-	1	-	19.1
MH 8-30	390	390	84	84	71	71	107	181	181	135	114	110	187	239	245	224	1	1	19.5	19.2
MH 8-40	390	390	84	84	71	71	107	181	181	135	114	110	187	239	245	224	1	1	20.7	20.5
MH 8-50	480	420	162	114	111	101	137	185	181	152	114	110	187	239	262	224	2	1	28.5	21.4
MH 8-60	480	480	162	162	111	111	137	185	185	152	139	110	187	239	262	249	2	2	28.7	27.6

### MH-12

pump type	mm																Fig.		Kg	
	L1		L2		L3		L4	B1		B2		H1	H2	H3	H4					
	1phase	3phase	1phase	3phase	1phase	3phase		1phase	3phase	1phase	3phase				1phase	3phase	1phase	3phase		
MH 12-10	-	320	-	54	-	41	77	-	181	-	114	110	187	239	-	224	-	1	-	17.9
MH 12-20	360	360	54	54	41	41	77	181	181	135	114	110	187	239	245	224	1	1	18.4	18.2
MH 12-30	390	390	84	84	71	71	107	181	181	135	114	110	187	239	245	224	1	1	20.6	20.4
MH 12-40	450	450	132	132	81	81	107	185	185	152	139	110	187	239	262	249	2	2	27.7	26.7
MH 12-50	480	480	162	162	111	111	137	185	185	152	139	110	187	239	262	249	2	2	29.8	29.9
MH 12-60	-	501	-	162	-	111	137	-	196	-	150	122	199	251	-	272	-	2	-	35.2

## General data MBI, MBN

### Performance range, 50Hz



## Applications

Water supply and pressure boosting  
 Air-conditioning  
 Water treatment  
 Heating and cooling in industrial processes  
 Industrial washing and dish-washing machines  
 softened water  
 Pressure boosting of process water  
 Fertilizer/dosing systems



## Pump

A horizontal, multistage centrifugal pump is made of stainless steel. The pump is a non-self priming type and fitted with a mechanical shaft seal.

Connection \ Pump	MBI(N) 2	MBI(N) 4	MBI(N) 8	MBI(N) 12
Suction port	Rp 1	Rp1 1/4	Rp1 1/2	Rp1 1/2
Discharge port	Rp 1	Rp1 1/4	Rp1 1/2	Rp1 1/2
Drain hole, priming hole	G 3/8	G 3/8	G 3/8	G 3/8

## Motor

Totally enclosed and fan-cooled standard motor.

Standard voltages: 50HZ 1Ø 0.5HP~3.0HP 220~240V 50HZ 3Ø 0.5HP~4.0HP 220~240V/380~415V

Insulation class: F

Enclosure class: IP54

## Operating conditions

Liquid temperature range: 0°C ~+110°C

Maximum ambient temperature: +40°C

Maximum operating pressure: 10 kg./cm<sup>2</sup>.

Maximum inlet pressure is limited by maximum operating pressure.

## Liquids to be pumped

These pumps are designed for pumping freely flowing non-corrosive, non-explosive, and non-flammable liquids. The liquids to be pumped must also be free of solid matter, sands, fibers, and similar materials.

Most common non-highly corrosive watery liquids, oily liquids, hot and cold liquids can be pumped with these pumps.

The suitability of these pumps for pumping any particular liquid depends upon a number of factors, such as the ph value, contents of chemicals such as chlorides, oils, the temperature of the liquids, etc..

Please contact your distributor or the factory if there are any questions as to whether certain liquids are suitable for pumping with these pumps.

## Type key

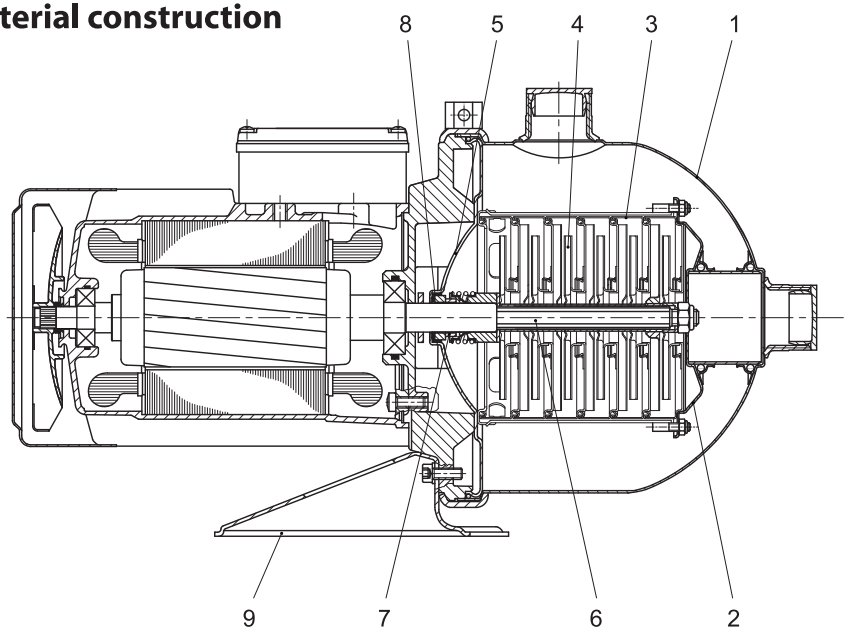
Example: MBI	4	-	30	-	HQBE
MBN	4	-	30	-	HQQE
Type	Nominal flow rate (m <sup>3</sup> /h)		Number of stages x 10		Mechanical Seals

## Mechanical seals

List of Materials		MBI 2/4	MBI 8/12	MBN 2/4	MBN 8/12
Q : Silicon carbide	E : EPDM	●	●	Optional	Optional
B : Carbon	V : Viton	Optional	Optional	●	●
H : Seal Type		<b>O-rings</b>			
		●	●	●	●
		Optional	Optional	Optional	Optional

● Standard

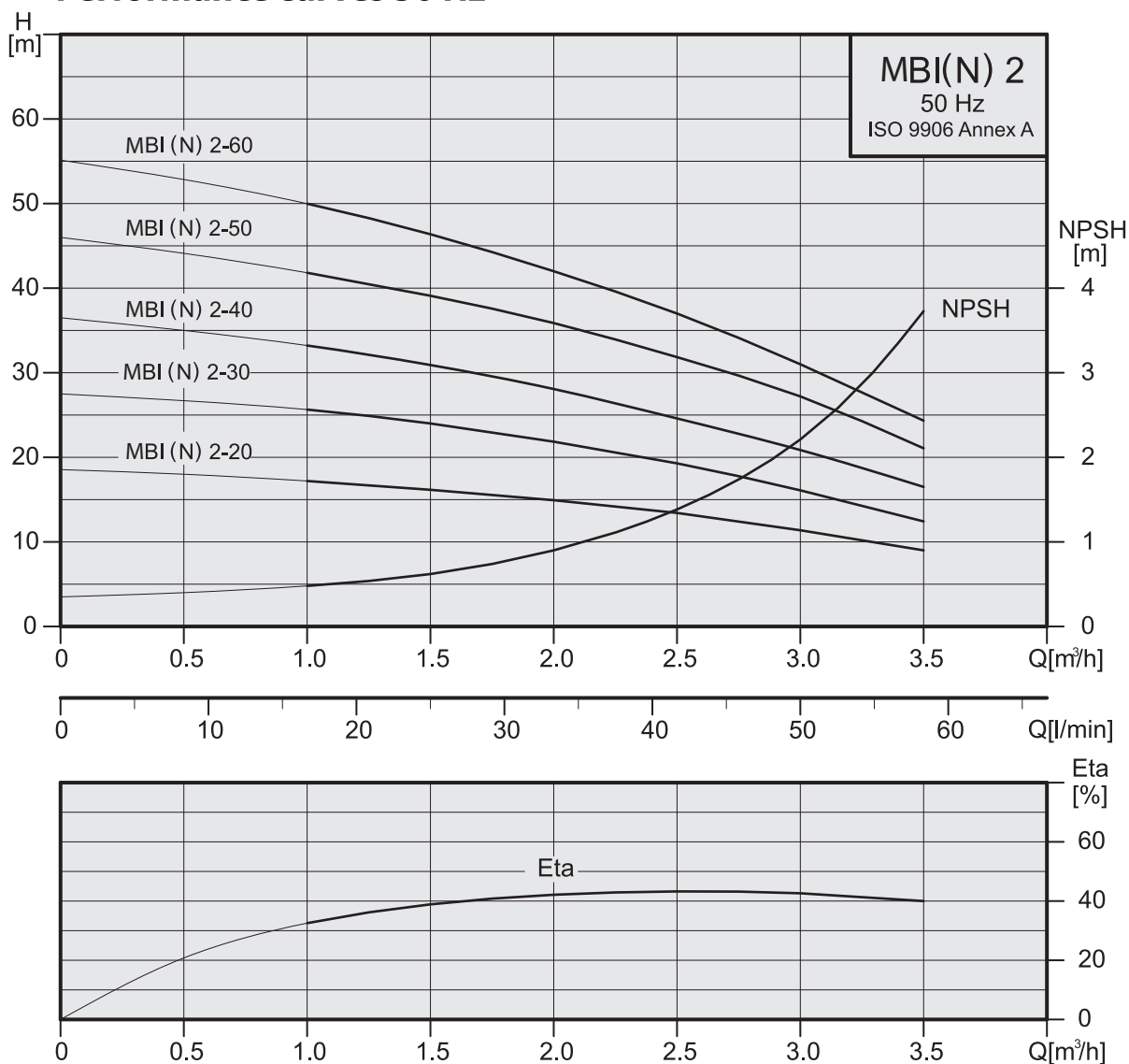
## Material construction



## Materials

		MBI	MBN
1	Pump casing	SS304	SS316
2	Suction inter-connector	SS304	SS316
3	Chamber	SS304	SS316
4	Impeller	SS304	SS316
5	Cover plate	SS304	SS316
6	Shaft	SS431	SS316
7	Mechanical seal	Silicon carbide/Carbon	Silicon carbide/S i c
8	O-ring	EPDM	EPDM
9	Base plate	Steel	Steel

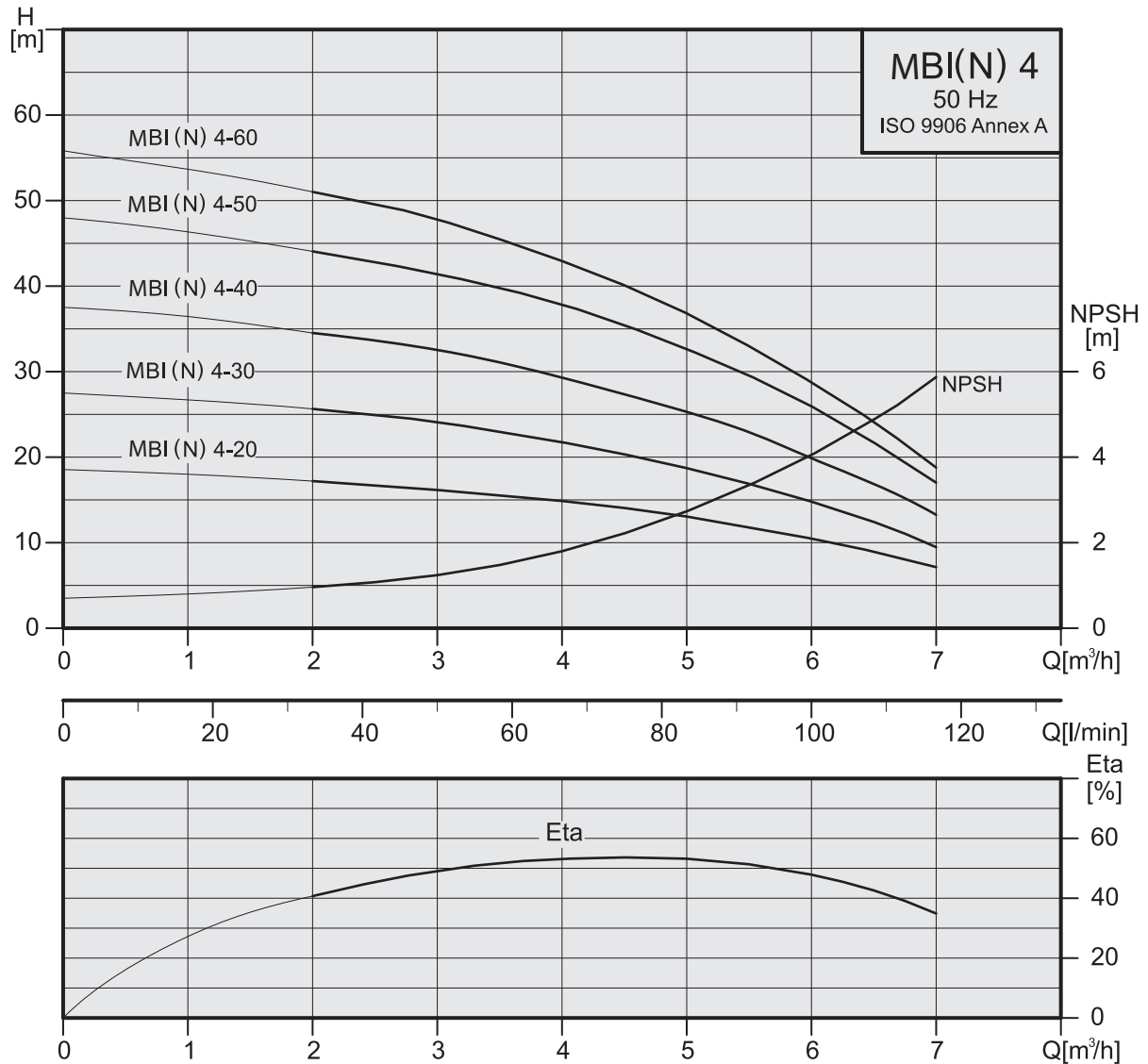
## Performance curves 50 Hz



## Electrical data, 2850 min<sup>-1</sup>

pump type	1 x 220-240 V		3 x 220-240 Δ/380-415 Y V	
	P <sub>i</sub> [W]	I <sub>1/n</sub> [A]	P <sub>i</sub> [W]	I <sub>1/n</sub> [A]
MBI/MBN 2-20	360	1.7-1.9	370	2.0-2.7 / 1.2-1.6
MBI/MBN 2-30	470	2.3-2.2	550	2.4-2.8 / 1.4-1.6
MBI/MBN 2-40	580	2.7-2.6	650	2.4-2.7 / 1.4-1.6
MBI/MBN 2-50	720	3.2-3.3	810	2.7-3.0 / 1.6-1.8
MBI/MBN 2-60	830	3.8-3.6	910	2.9-3.3 / 1.7-1.9

## Performance curves 50 Hz

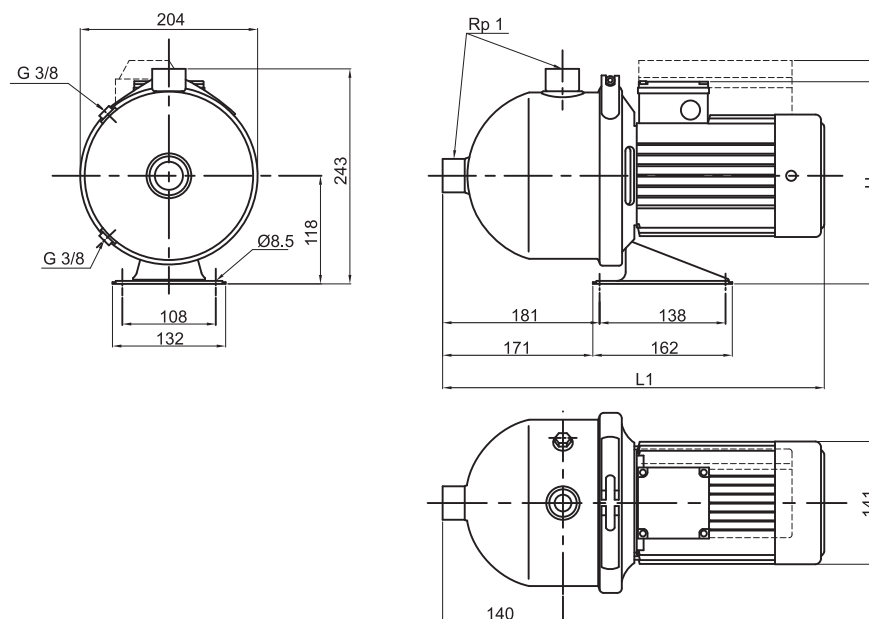


## Electrical data, 2850 min<sup>-1</sup>

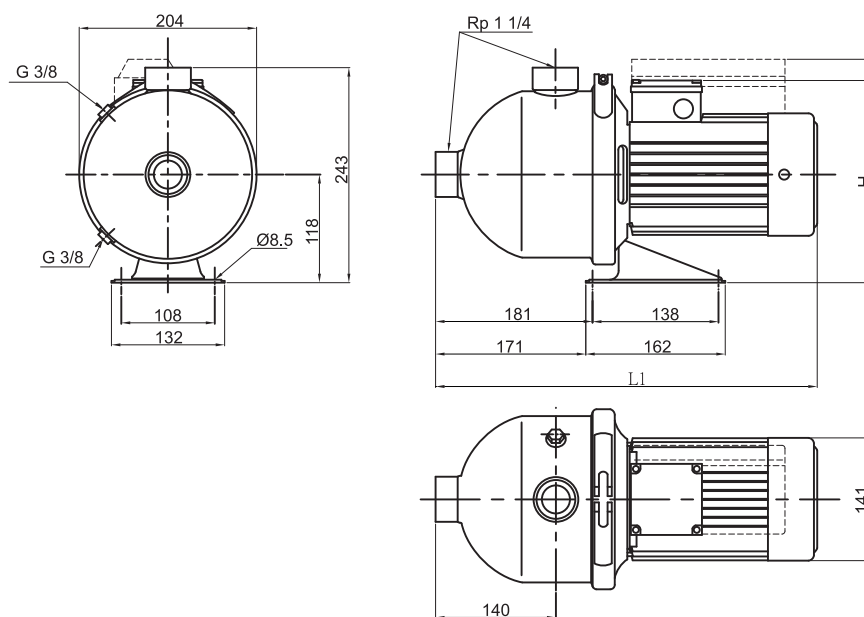
pump type	1 x 220-240 V		3 x 220-240 Δ/380-415 Y V	
	P <sub>i</sub> [W]	I <sub>1/n</sub> [A]	P <sub>i</sub> [W]	I <sub>1/n</sub> [A]
MBI/MBN 4-20	580	2.7-2.6	660	2.5-2.9 / 1.5-1.7
MBI/MBN 4-30	820	3.9-3.7	850	2.8-3.0 / 1.6-1.7
MBI/MBN 4-40	1000	4.6-4.4	1060	3.3-3.5 / 1.9-2.0
MBI/MBN 4-50	1240	5.8-5.5	1310	4.2-4.5 / 2.4-2.6
MBI/MBN 4-60	1510	7.1-6.9	1550	5.2-5.6 / 3.0-3.3



## MBI(N)-2

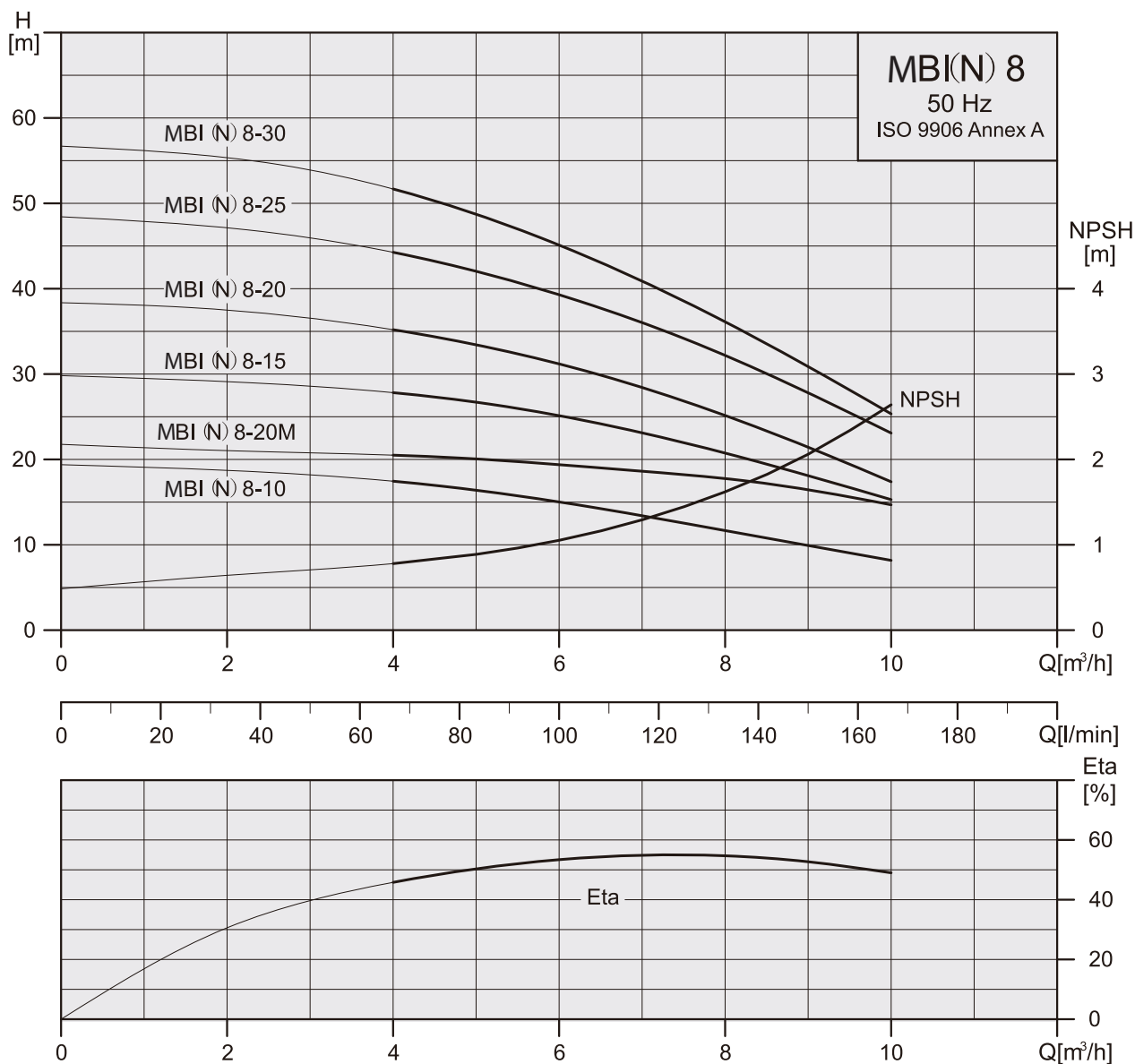


## MBI(N)-4



pump type	Dimension (mm)				Net Weight (kg)
	1-Phase		3-Phase		
	L1	H	L1	H	
MBI/MBN 2-20	403	255	403	233	9.6
MBI/MBN 2-30	403	255	403	233	9.9
MBI/MBN 2-40	403	255	403	233	10.1
MBI/MBN 2-50	403	255	403	233	10.8
MBI/MBN 2-60	403	255	403	233	11.0
MBI/MBN 4-20	403	255	403	233	9.6
MBI/MBN 4-30	403	255	403	233	9.9
MBI/MBN 4-40	403	255	403	233	10.6
MBI/MBN 4-50	441	255	441	233	12.1
MBI/MBN 4-60	441	255	441	233	12.3

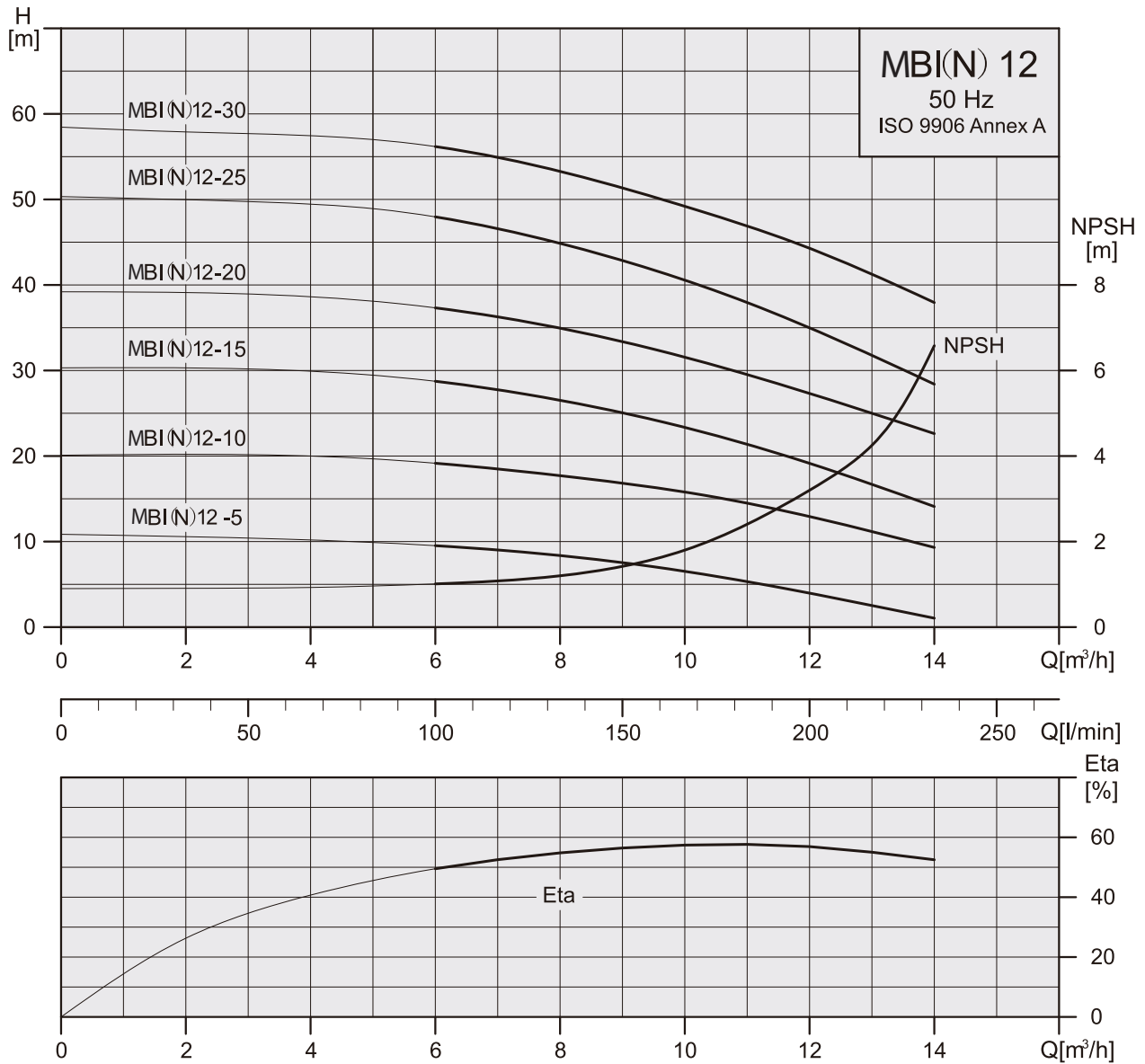
## Performance curves 50Hz



### Electrical data, 2850 min<sup>-1</sup>

pump type	1x220-240 V		3x220-240/380-415 V	
	P <sub>1</sub> [W]	I <sub>1/1</sub> [A]	P <sub>1</sub> [W]	I <sub>1/1</sub> [A]
MBI/MBN 8-10	760	3.3-3.1	810	2.7-3.1 / 1.6-1.8
MBI/MBN 8-20M	-	-	1120	4.2-4.5 / 2.4-2.6
MBI/MBN 8-15	1150	5.3-5.1	1190	3.9-4.4 / 2.3-2.6
MBI/MBN 8-20	1420	6.8-6.6	1450	5.0-5.5 / 2.9-3.2
MBI/MBN 8-25	1880	8.1-7.9	1840	5.8-6.5 / 3.4-3.8
MBI/MBN 8-30	2100	9.1-9.0	2050	6.4-6.9 / 3.7-4.0

## Performance curves 50Hz

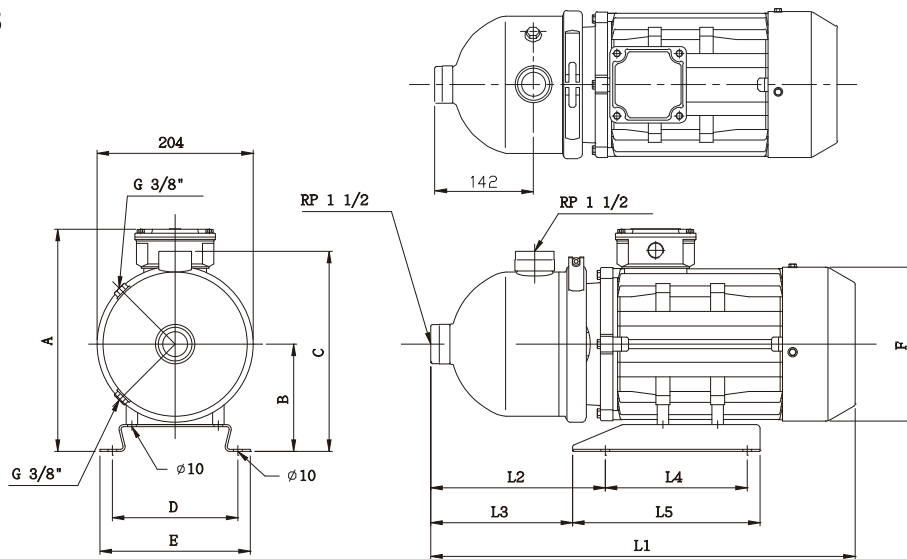


### Electrical data, 2850min<sup>-1</sup>

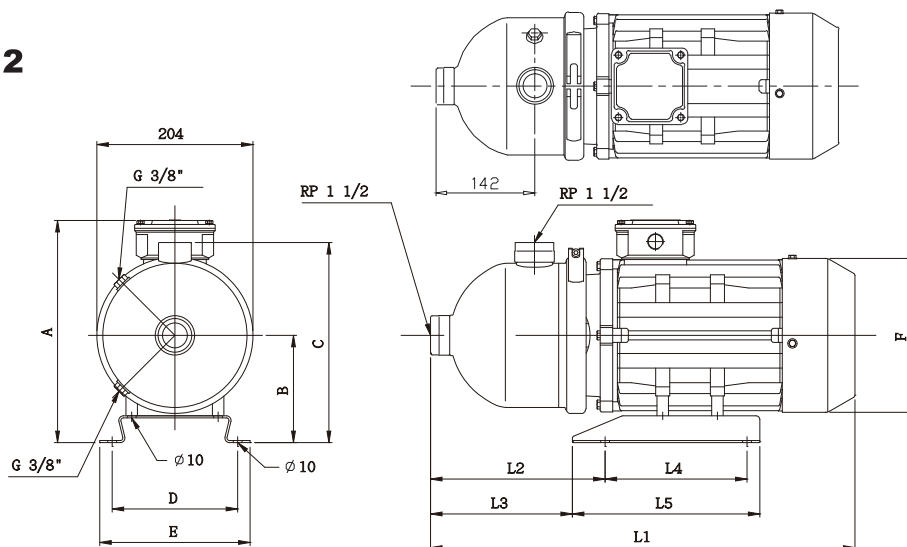
pump type	1x220-240 V		3x220-240/380-415 V	
	P <sub>i</sub> [W]	I <sub>1/1</sub> [A]	P <sub>i</sub> [W]	I <sub>1/1</sub> [A]
MBI/MBN 12-05	-	-	550	2.4-2.8 / 1.4-1.6
MBI/MBN 12-10	1170	5.3-5.1	1190	3.6-3.8 / 2.1-2.2
MBI/MBN 12-15	1650	7.6-7.5	1690	5.5-6.0 / 3.2-3.5
MBI/MBN 12-20	2310	10.6-10.4	2350	7.0-7.4 / 4.0-4.3
MBI/MBN 12-25	2980	13.1-12.7	2880	9.0-9.3 / 5.2-5.4
MBI/MBN 12-30	-	-	3610	11.7-12.1 / 6.8-7.0

## Dimensions and weights 50Hz

### MBI(N)-8



### MBI(N)-12



pump type	Dimension[mm]														Net Weight(kg)	
	L1		L2	L3	L4	L5	A		B	C	D	E	F	1phase	3phase	
	1phase	3phase					1phase	3phase								
MBI(N) 8-10	403	403	181	171	138	162	255	233	118	243	108	132	141	10.20	10.02	
MBI(N) 8-15	441	441	181	171	138	162	255	233	118	243	108	132	141	12.28	12.08	
MBI(N) 8-20M	-	441	181	171	138	162	-	233	118	243	108	132	141	-	11.98	
MBI(N) 8-20	441	441	181	171	138	162	255	233	118	243	108	132	141	13.54	13.34	
MBI(N) 8-25	514	-	200	180	195	235	267	-	121	245	158	178	177	23.08	-	
	-	441	181	171	138	162	-	233	118	243	108	132	141	-	13.92	
MBI(N) 8-30	514	514	200	180	195	235	267	261	121	245	158	178	177	23.14	22.22	
MBI(N) 12-05	-	403	181	171	138	162	-	233	118	243	108	132	141	-	9.41	
MBI(N) 12-10	441	441	181	171	138	162	255	233	118	243	108	132	141	11.72	11.52	
MBI(N) 12-15	441	441	181	171	138	162	255	233	118	243	108	132	141	13.38	13.18	
MBI(N) 12-20	514	514	200	180	195	235	267	261	121	245	158	178	177	22.52	21.48	
MBI(N) 12-25	514	514	200	180	195	235	267	261	121	245	158	178	177	25.74	24.36	
MBI(N) 12-30	-	539	230	198	195	245	-	284	133	259	174	198	197	-	30.20	



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