



STAIRS PUMPS

# CB, CBI 2, 4 series HBI, HBN2, 4 series

Horizontal Multistage Centrifugal Pumps 50, 60 Hz



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## CB, CBI

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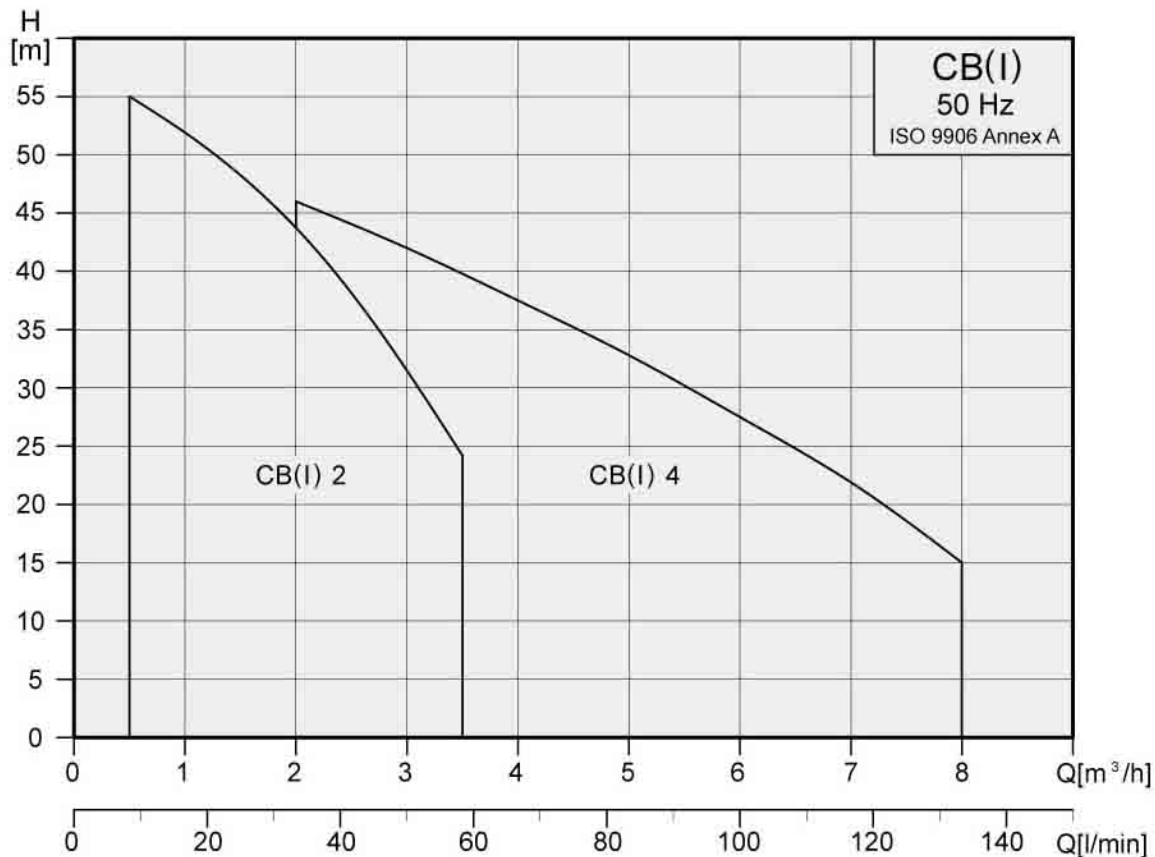


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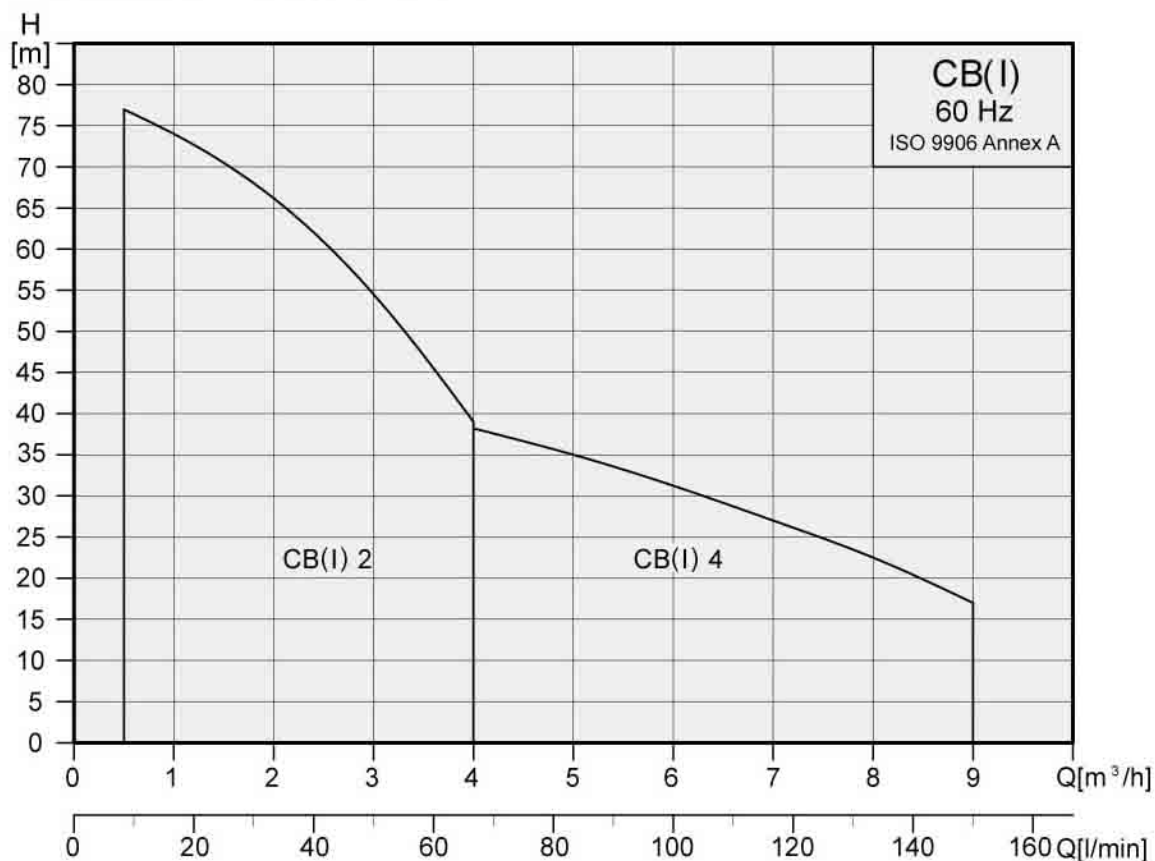
# General data

## CB, CBI

### Performance range, 50Hz



### Performance range, 60Hz





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# General data

CB, CBI

## 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 CB and CBI 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.

**CB:** 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.

**CBI:** 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	CB, CBI 2	CB, CBI 4
Suction port	Rp 1	Rp 1 1/4
Discharge port	Rp 1	Rp 1
Drain hole, priming hole	Rc 3/8	Rc 3/8

## Motor

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

Rated speed: 2850rpm(50Hz), 3450rpm(60Hz)

Enclosure class: IP 54

Insulation class: F

Standard voltages: 1 x 220~240 V, 50Hz

1 x 110/220 V, 60Hz

3 x 220~240 $\Delta$ /380~415Y V, 50Hz

3 x 200~230 $\Delta$ /346~400Y V, 60Hz



### 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>
CB(1)2, CB(1)4	0°C to + 40°C	+41°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.

### Type key

Example      CB(1)                                      4                                      -                                      30                                      -                                      CQBE

                    Pump type                      Nominal flow rate [m<sup>3</sup>/h]                      Number of stages x 10                      Mechanical Seals

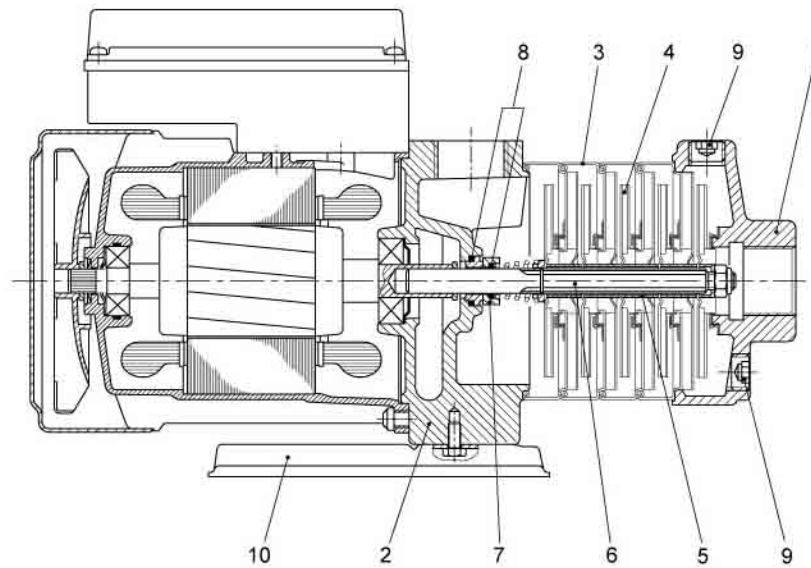
### Mechanical seals

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

Mechanical Seals	CB, CBI 2/4
CQB	●
CQQ	Optional
AUU	Optional
O-rings	
E	●
V	●

● Standard

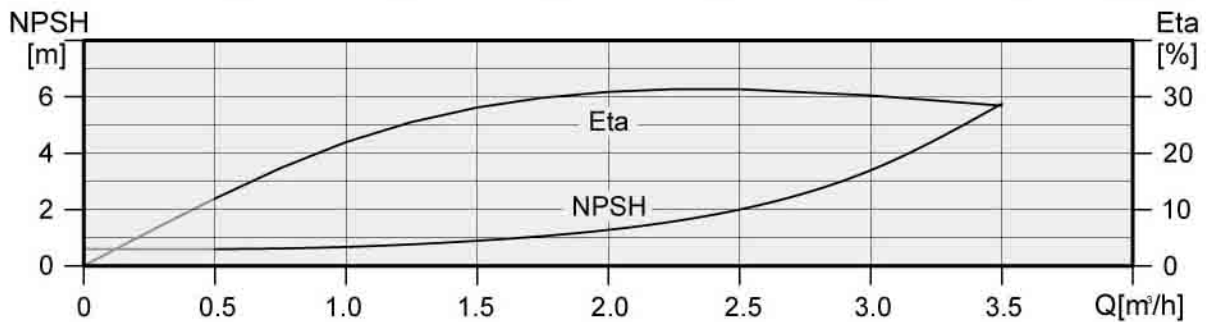
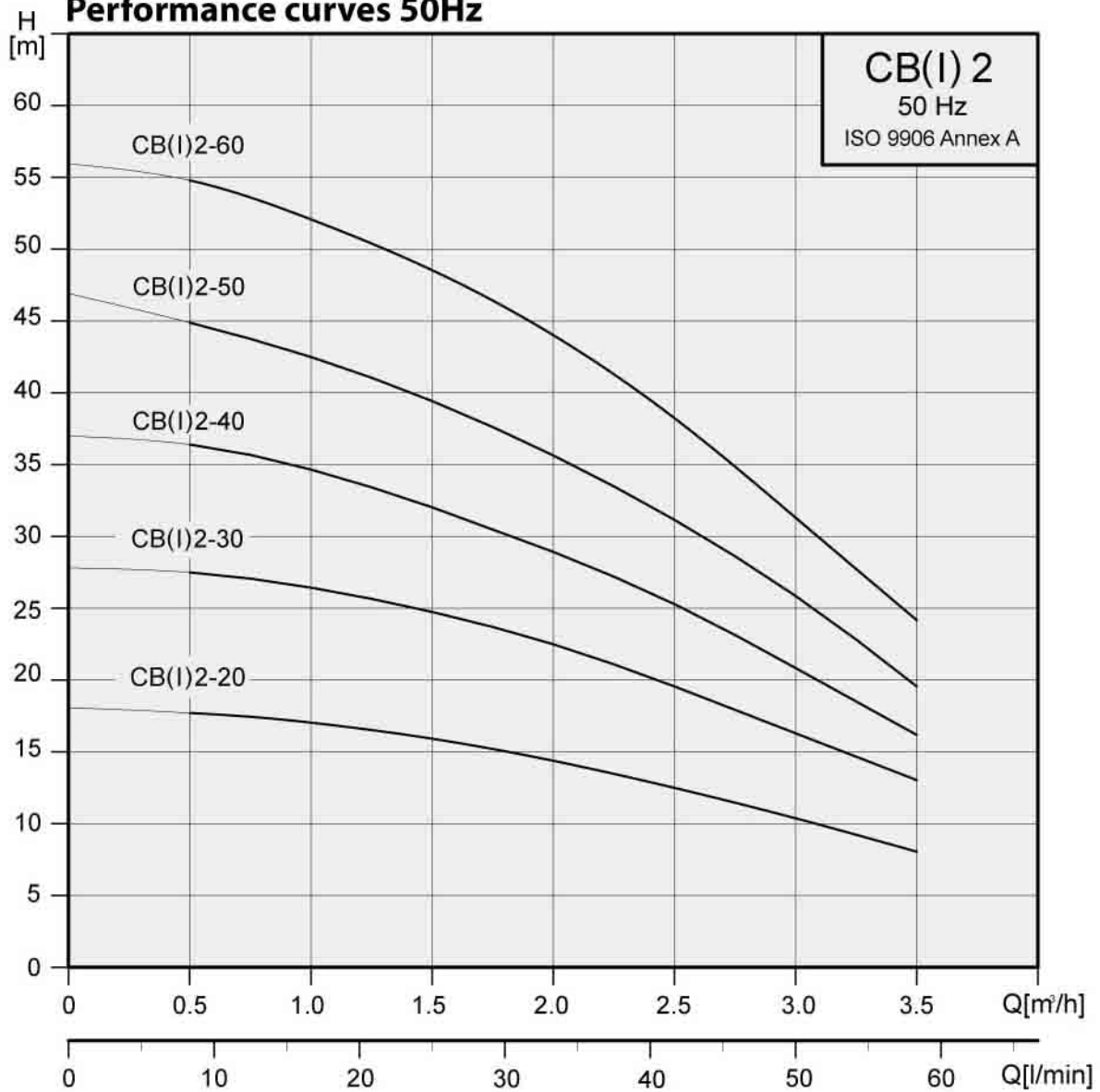
## Material construction



## Materials

Pos.	Description	Materials	
		CB	CBI
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 or Viton	EPDM or Viton
9	Drain and priming plug	Steel	SS304
10	Base plate	Steel	SS304

### Performance curves 50Hz



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

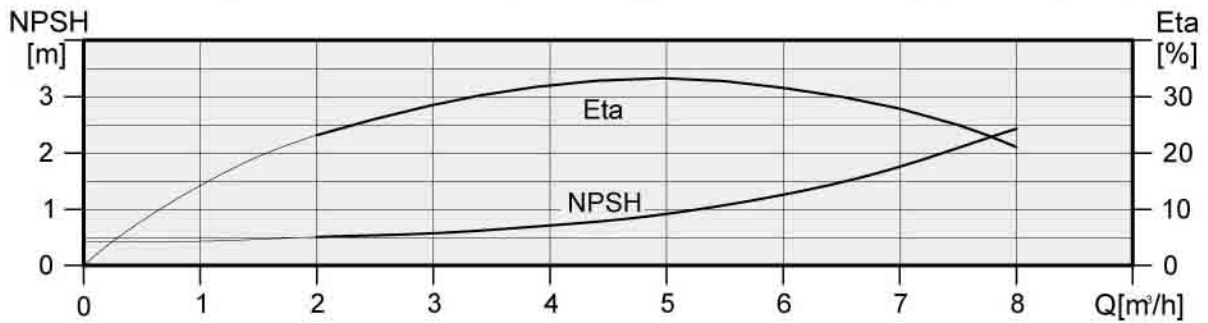
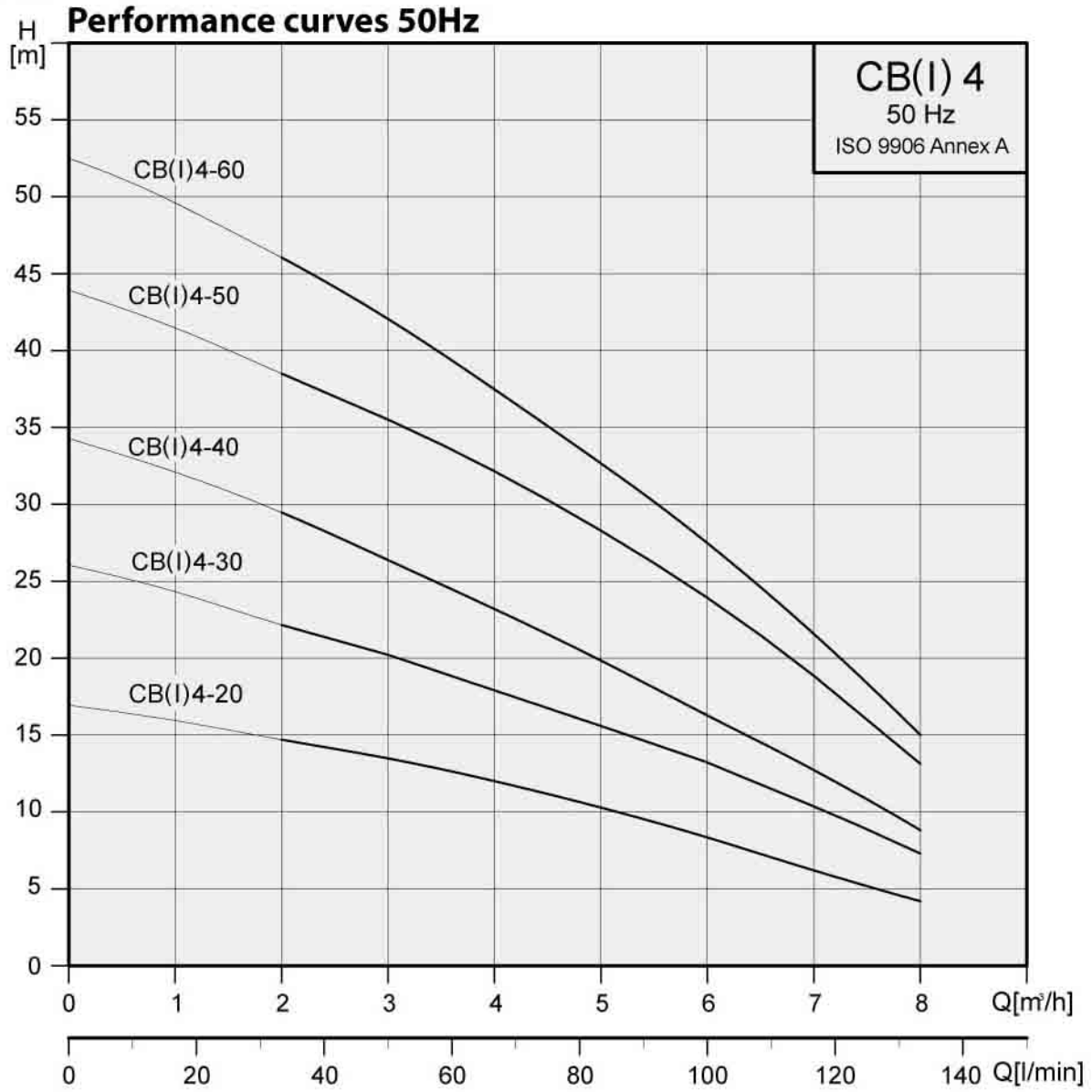
pump type	1 x 220-240 V		3 x 220-240 Δ / 380-415 V V	
	P <sub>i</sub> [W]	I <sub>in</sub> [A]	P <sub>i</sub> [W]	I <sub>in</sub> [A]
CB/CBI 2-20	420	2.1	380	1.8 / 1.1
CB/CBI 2-30	480	2.3	460	1.9 / 1.2
CB/CBI 2-40	570	2.6	560	2.0 / 1.2
CB/CBI 2-50	680	3.2	660	2.7 / 1.6
CB/CBI 2-60	810	3.7	810	2.8 / 1.6



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# Technical data

# CB, CBI 4



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

pump type	1 x 220-240 V		3 x 220-240 V / 380-415 V V	
	P <sub>i</sub> [W]	I <sub>in</sub> [A]	P <sub>i</sub> [W]	I <sub>in</sub> [A]
CB/CBI 4-20	540	2.4	560	2.0 / 1.2
CB/CBI 4-30	820	3.5	770	2.3 / 1.3
CB/CBI 4-40	1020	4.3	1000	3.1 / 1.8
CB/CBI 4-50	1220	5.4	1200	4.0 / 2.3
CB/CBI 4-60	1450	6.2	1400	4.6 / 2.7





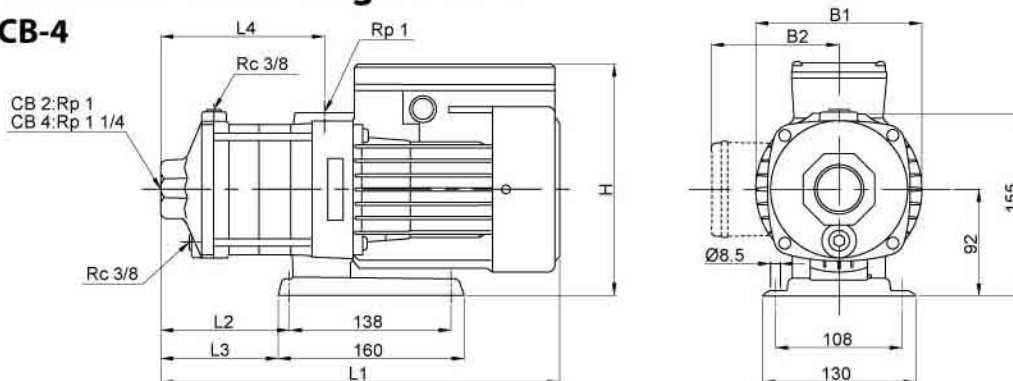
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# Technical data

# CB, CBI

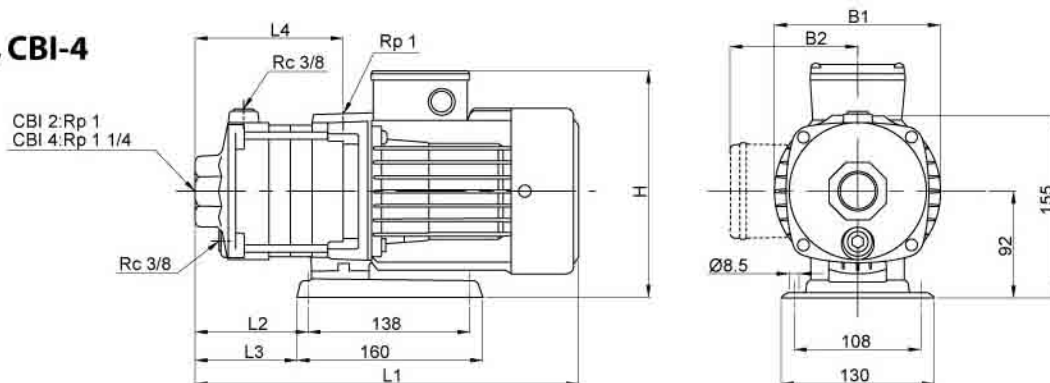
## Dimensions and weights 50 Hz

### CB-2, CB-4



pump type	mm									Kg	
	L1	L2	L3	L4	B1	B2		H		1phase	3phase
						1phase	3phase	1phase	3phase		
CB 2-20	309	75	63	101	141	127	112	228	206	10.3	10.0
CB 2-30	327	93	81	119	141	127	112	228	206	10.5	10.3
CB 2-40	345	111	99	137	141	127	112	228	206	10.8	10.5
CB 2-50	363	129	117	155	141	127	112	228	206	11.6	11.2
CB 2-60	381	147	135	173	141	127	112	228	206	11.8	11.5
CB 4-20	318	84	72	110	141	127	112	228	206	10.4	10.1
CB 4-30	344	111	99	137	141	127	112	228	206	10.8	10.5
CB 4-40	372	138	126	164	141	127	112	228	206	11.6	11.2
CB 4-50	438	165	153	191	141	127	112	228	206	13.4	13.1
CB 4-60	465	192	180	218	141	127	112	228	206	14.8	14.5

### CBI-2, CBI-4



pump type	mm									Kg	
	L1	L2	L3	L4	B1	B2		H		1phase	3phase
						1phase	3phase	1phase	3phase		
CBI 2-20	309	75	63	101	141	127	112	228	206	9.1	8.8
CBI 2-30	327	93	81	119	141	127	112	228	206	9.4	9.1
CBI 2-40	345	111	99	137	141	127	112	228	206	9.6	9.4
CBI 2-50	363	129	117	155	141	127	112	228	206	10.4	10.1
CBI 2-60	381	147	135	173	141	127	112	228	206	10.7	10.3
CBI 4-20	318	84	72	110	141	127	112	228	206	9.2	9.0
CBI 4-30	344	111	99	137	141	127	112	228	206	9.6	9.3
CBI 4-40	372	138	126	164	141	127	112	228	206	10.4	10.1
CBI 4-50	438	165	153	191	141	127	112	228	206	11.3	12.0
CBI 4-60	465	192	180	218	141	127	112	228	206	13.6	13.4

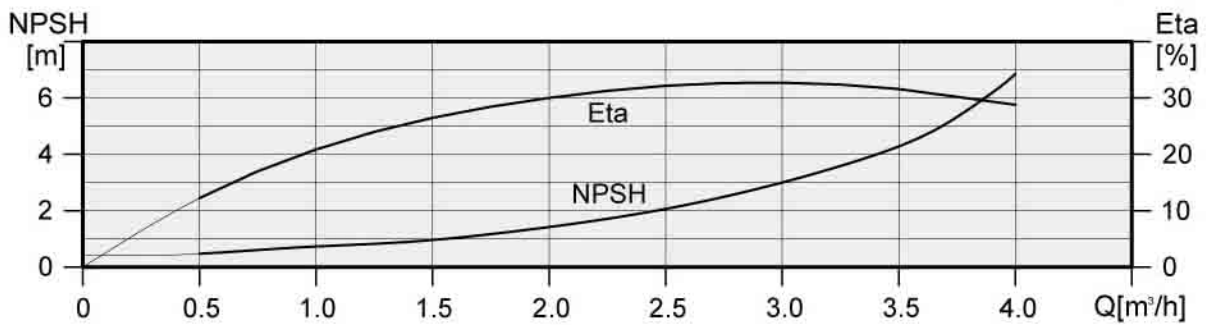
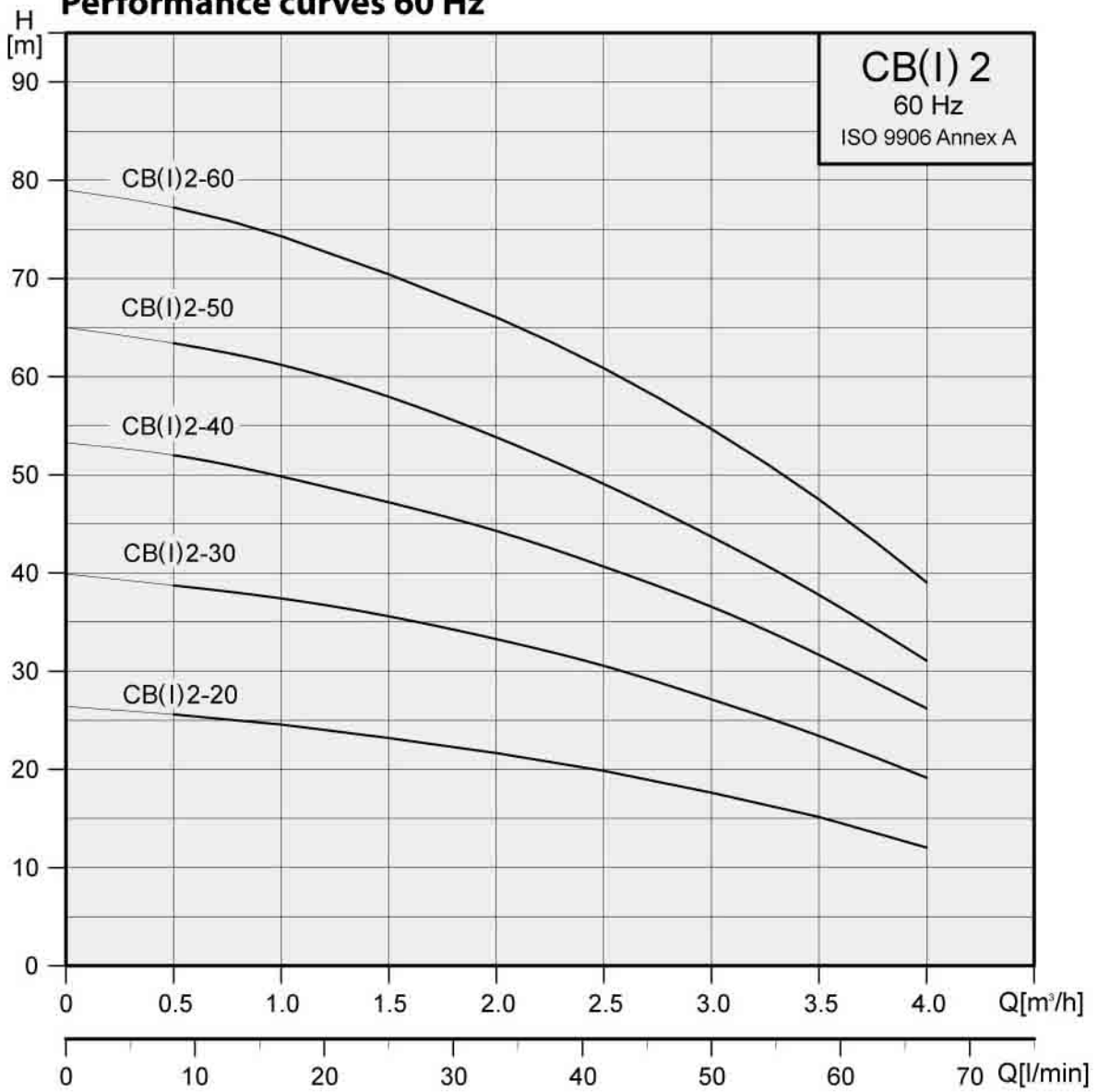


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# Technical data

# CB, CBI 2

## Performance curves 60 Hz



## Electrical data, 3450 min<sup>-1</sup>

pump type	1 x 110/220 V		3 x 200-230 Δ/346-400 Y V	
	P <sub>i</sub> [W]	I <sub>in</sub> [A]	P <sub>i</sub> [W]	I <sub>in</sub> [A]
CB/CBI 2-20	640	6.0 / 3.0	520	2.7 / 1.6
CB/CBI 2-30	780	7.6 / 3.8	690	3.0 / 1.8
CB/CBI 2-40	870	8.8 / 4.4	860	3.2 / 1.9
CB/CBI 2-50	1210	11 / 5.5	1090	3.6 / 2.1
CB/CBI 2-60	1280	13.5 / 6.8	1240	4.1 / 2.4

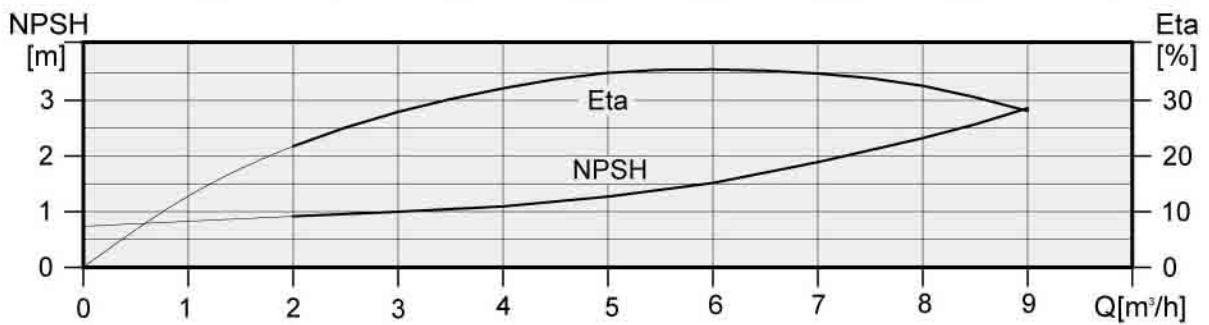
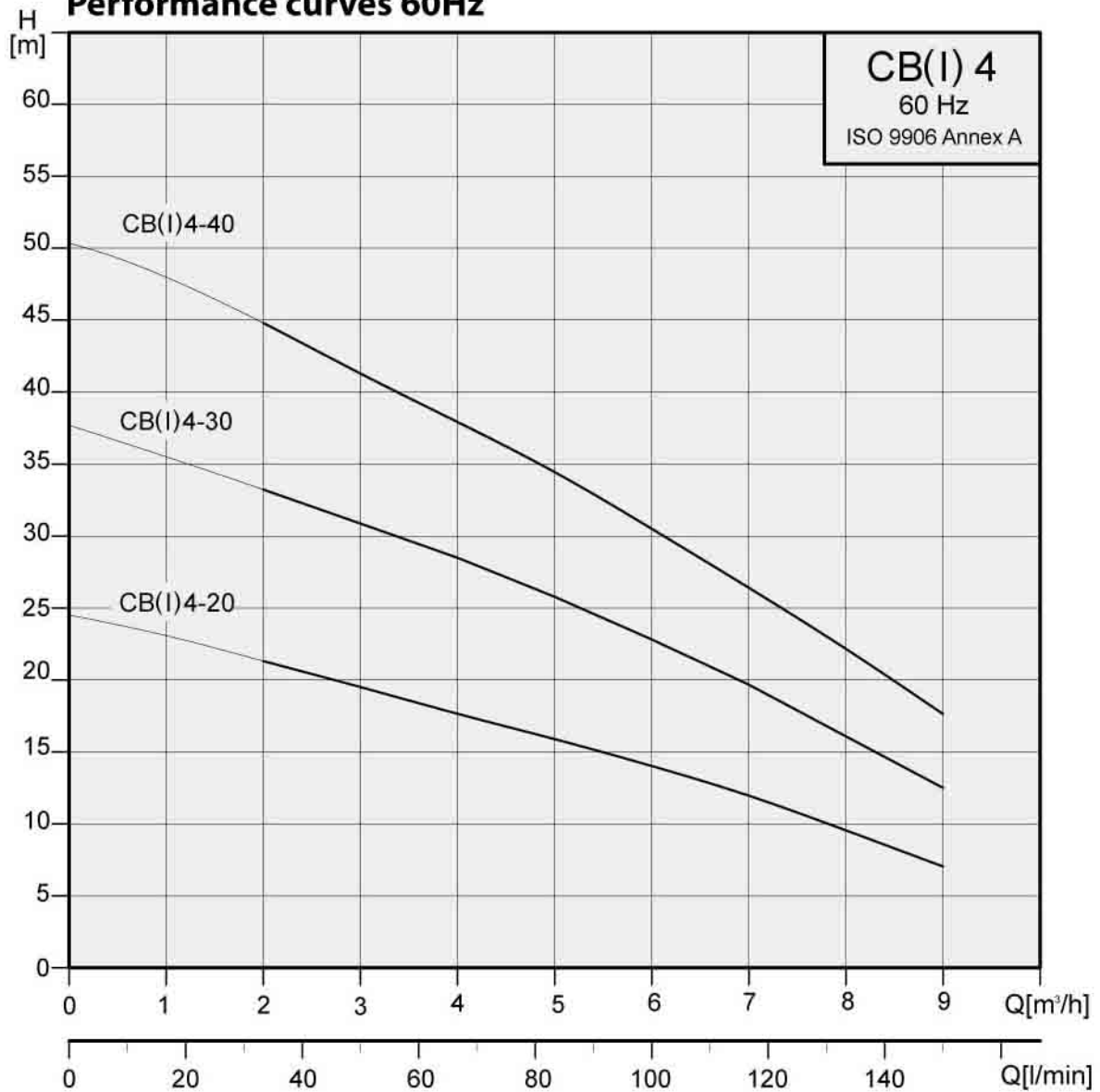


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# Technical data

## CB, CBI 4

### Performance curves 60Hz



### Electrical data, 3450 min<sup>-1</sup>

pump type	1 x 110/220 V		3 x 200-230 Δ /346-400 Y V	
	P <sub>i</sub> [W]	I <sub>in</sub> [A]	P <sub>i</sub> [W]	I <sub>in</sub> [A]
CB/CBI 4-20	970	8.5 / 4.2	810	3.1 / 1.8
CB/CBI 4-30	1450	13.5 / 6.8	1250	3.9 / 2.3
CB/CBI 4-40	1710	16 / 8	1520	4.9 / 2.8



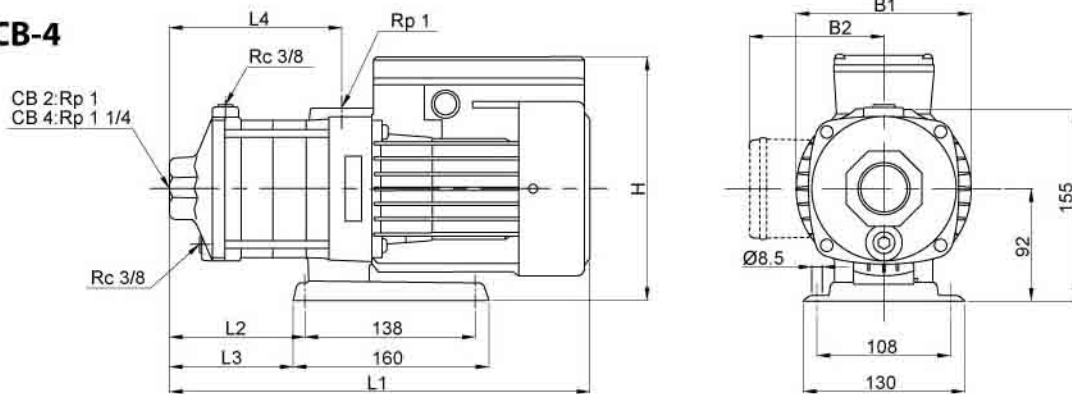
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# Technical data

CB, CBI

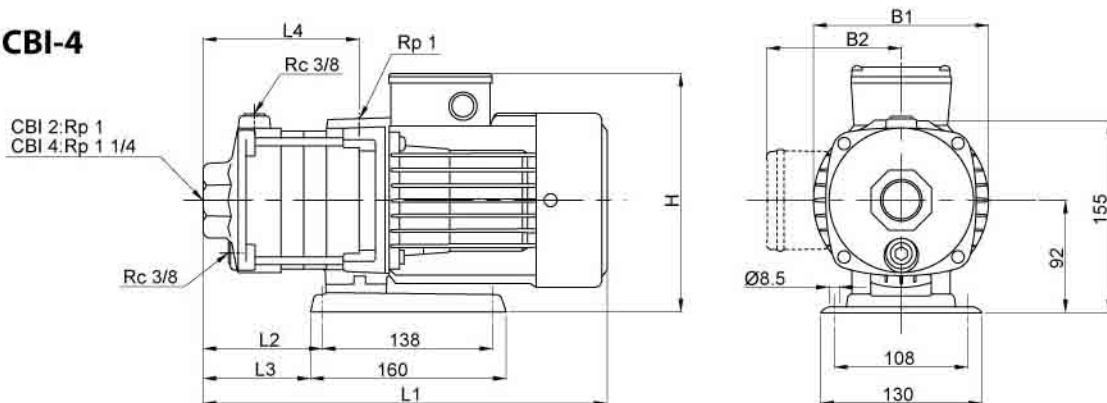
## Dimensions and weights 60 Hz

### CB-2, CB-4



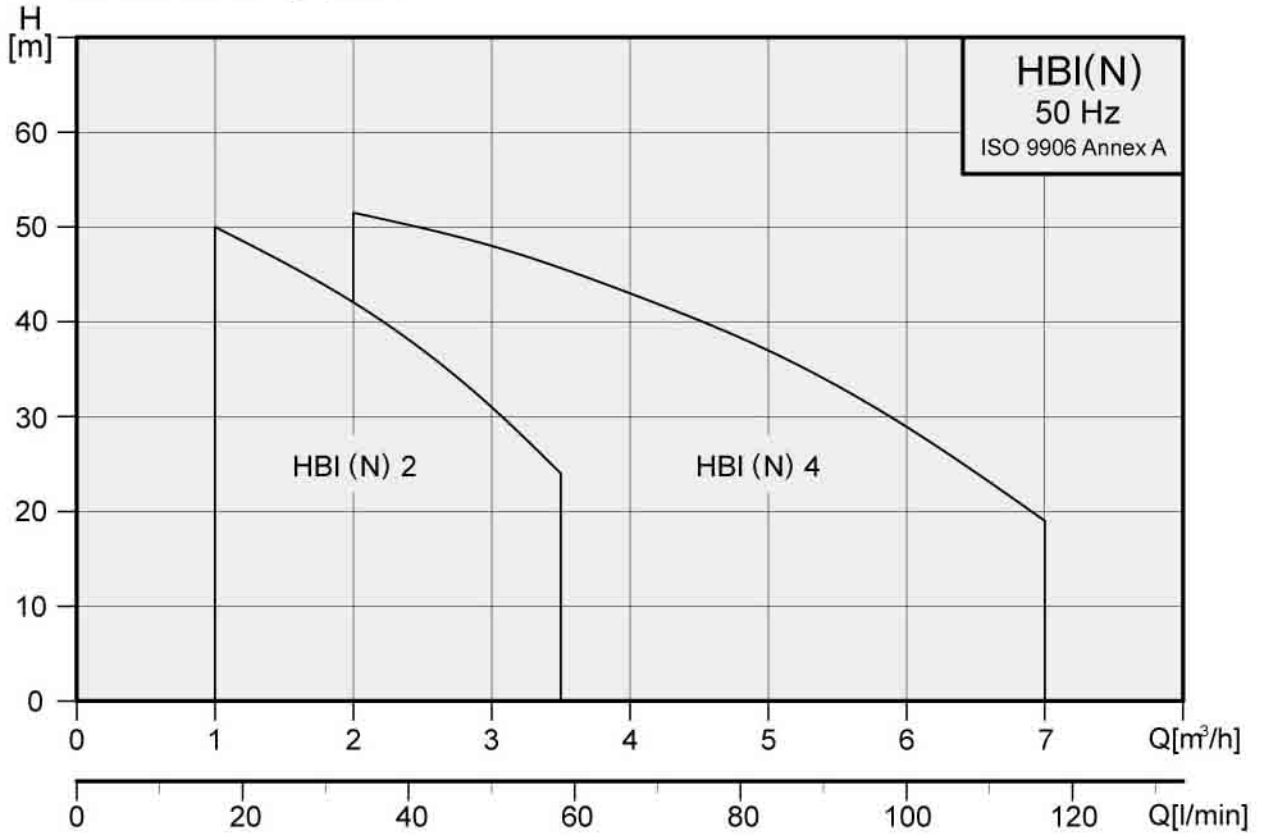
pump type	mm									Kg	
	L1	L2	L3	L4	B1	B2		H		1phase	3phase
						1phase	3phase	1phase	3phase		
CB 2-20	309	75	63	101	141	127	112	228	206	10.3	10.0
CB 2-30	327	93	81	119	141	127	112	228	206	11.1	10.8
CB 2-40	345	111	99	137	141	127	112	228	206	11.3	11.1
CB 2-50	403	129	117	155	141	127	112	228	206	13	12.4
CB 2-60	421	147	135	173	141	127	112	228	206	13.2	12.7
CB 4-20	318	84	72	110	141	127	112	228	206	12.2	10.7
CB 4-30	384	111	99	137	141	127	112	228	206	12.7	12.3
CB 4-40	412	138	126	164	141	127	112	228	206	14	13.7

### CBI-2, CBI-4

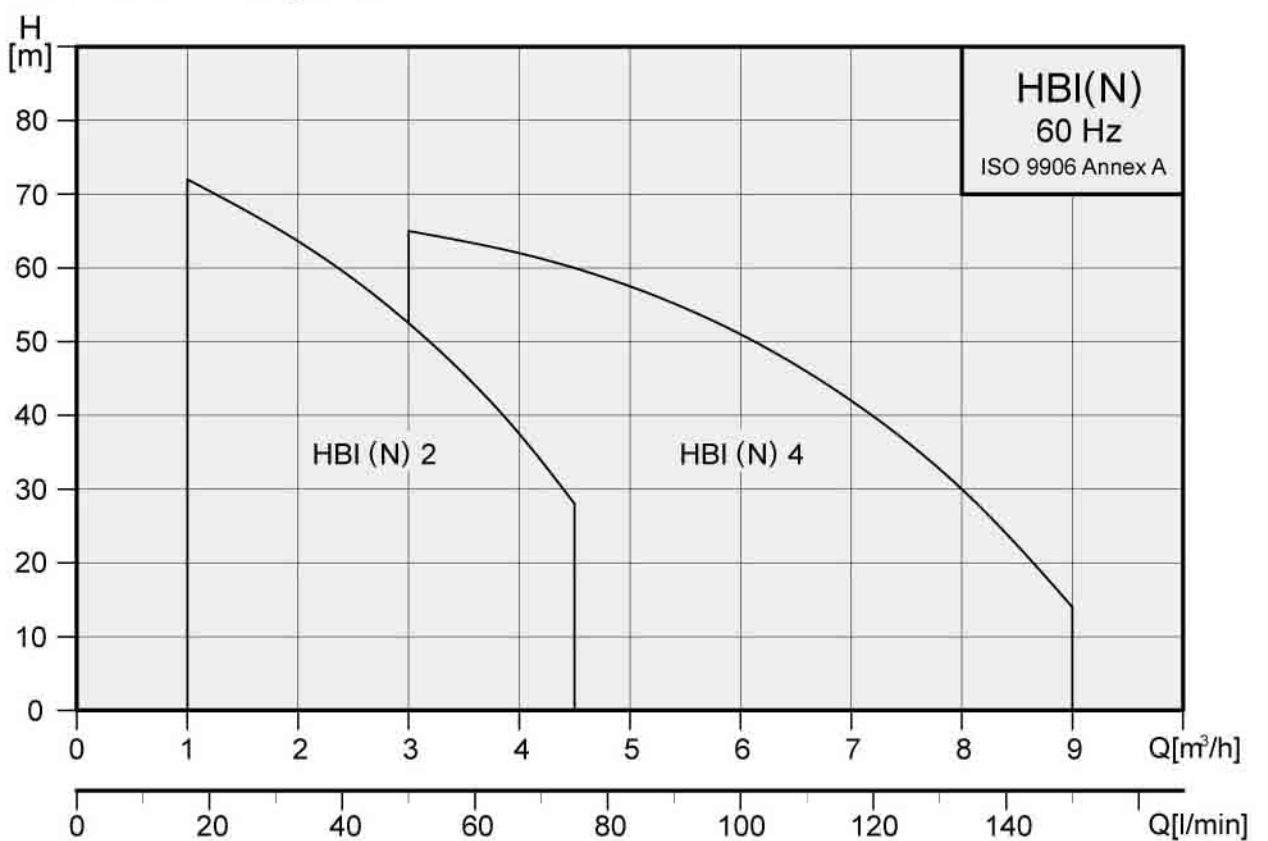


pump type	mm									Kg	
	L1	L2	L3	L4	B1	B2		H		1phase	3phase
						1phase	3phase	1phase	3phase		
CBI 2-20	309	75	63	101	141	127	112	228	206	9.1	8.8
CBI 2-30	327	93	81	119	141	127	112	228	206	10.0	9.6
CBI 2-40	345	111	99	137	141	127	112	228	206	10.2	10.0
CBI 2-50	403	129	117	155	141	127	112	228	206	11.8	11.5
CBI 2-60	421	147	135	173	141	127	112	228	206	12.1	11.7
CBI 4-20	318	84	72	110	141	127	112	228	206	9.8	9.5
CBI 4-30	384	111	99	137	141	127	112	228	206	11.5	11.1
CBI 4-40	412	138	126	164	141	127	112	228	206	12.8	12.6

### Performance range, 50Hz



### Performance range, 60Hz





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# General data

HBI, HBN

## 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	HBI(N) 2	HBI(N) 4
Suction port	Rp 1	Rp1 1/4
Discharge port	Rp 1	Rp1 1/4
Drain hole, priming hole	G 3/8	G 3/8

## Motor

Totally enclosed and fan-cooled standard motor.

Standard voltages: 1 x 220~240 V, 50Hz

1 x 110/220 V, 60Hz

3 x 220~240△/380~415Y V, 50Hz

3 x 200~230△/346~400Y V, 60Hz

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.

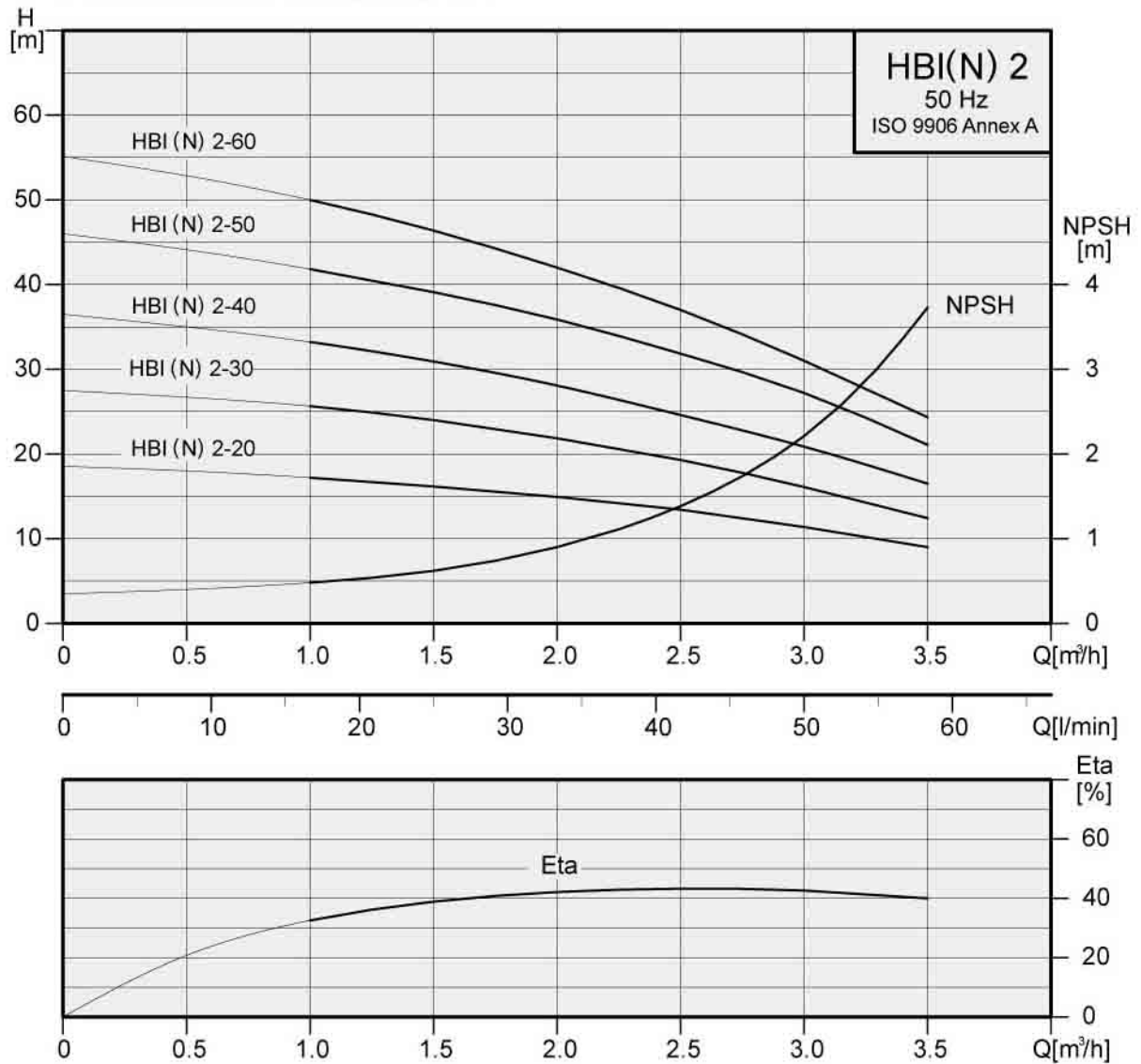
Most common non-highly corrosive watery liquids, oily liquids, hot and cold liquids can be pumped with these pumps.

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.



### Performance curves 50 Hz

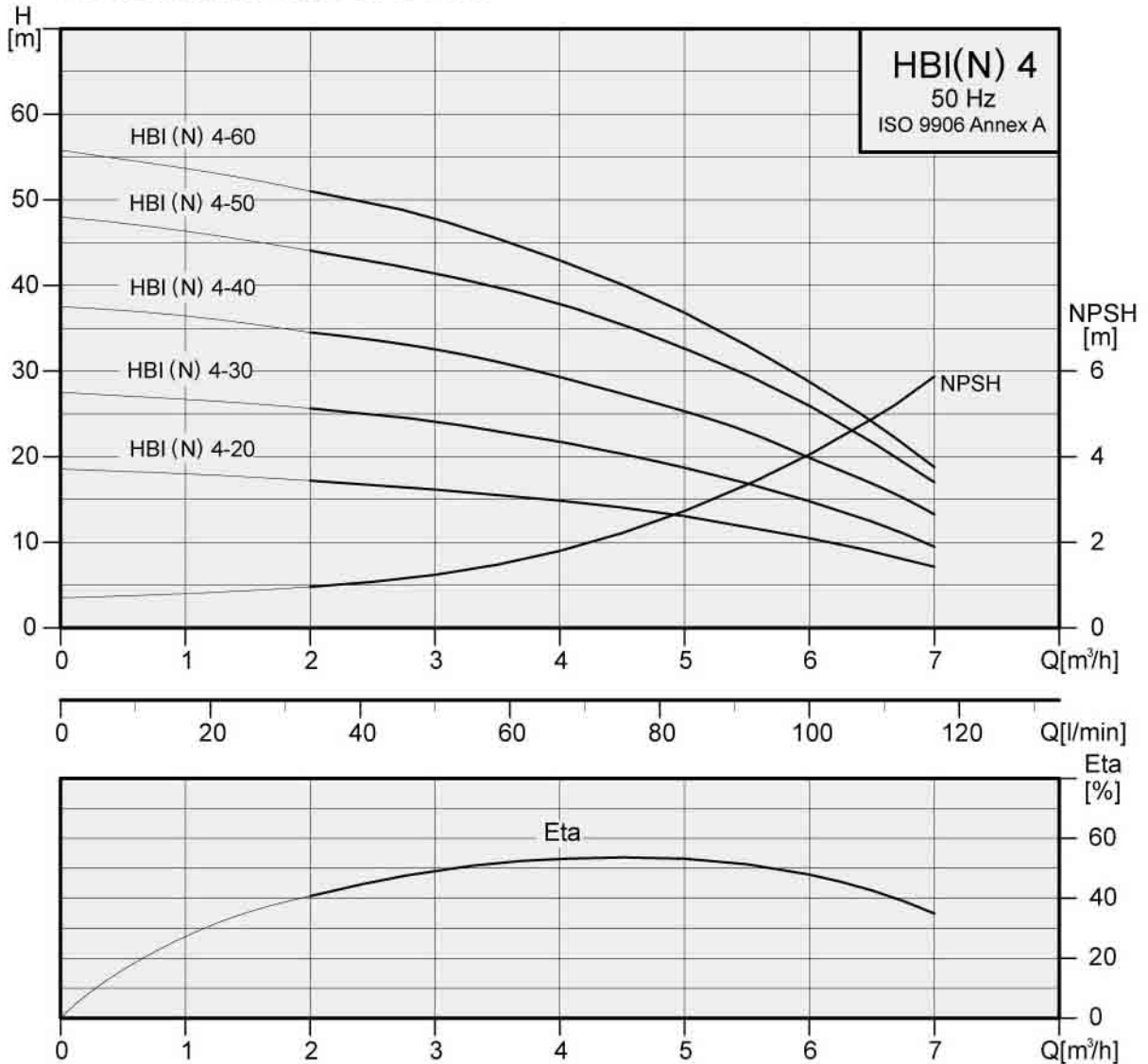


### Electrical data, 2850 min<sup>-1</sup>

pump type	1 x 220-240 V		3 x 220-240 △/380-415 Y V	
	P <sub>i</sub> [W]	I <sub>n</sub> [A]	P <sub>i</sub> [W]	I <sub>n</sub> [A]
HBI/HBN 2-20	450	1.9	370	1.9 / 1.1
HBI/HBN 2-30	540	2.4	480	1.9 / 1.1
HBI/HBN 2-40	630	2.8	620	2.0 / 1.2
HBI/HBN 2-50	800	3.8	820	2.7 / 1.6
HBI/HBN 2-60	940	4.2	910	2.8 / 1.6



### 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>m</sub> [A]	P <sub>i</sub> [W]	I <sub>m</sub> [A]
HBI/HBN 4-20	560	2.5	560	2.0 / 1.2
HBI/HBN 4-30	760	3.5	720	2.4 / 1.4
HBI/HBN 4-40	1000	4.8	980	3.2 / 1.8
HBI/HBN 4-50	1220	5.7	1210	4.0 / 2.3
HBI/HBN 4-60	1410	6.4	1410	4.8 / 2.7



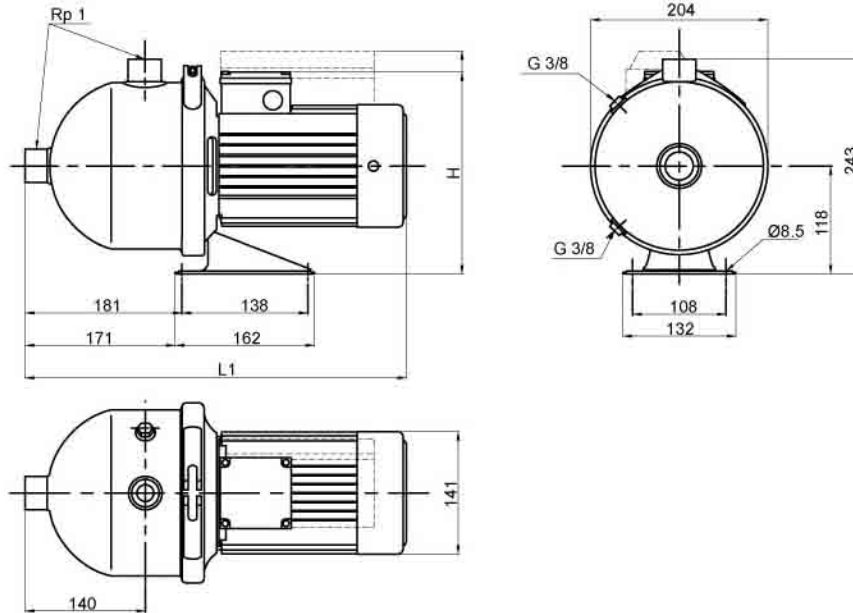
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# Technical data

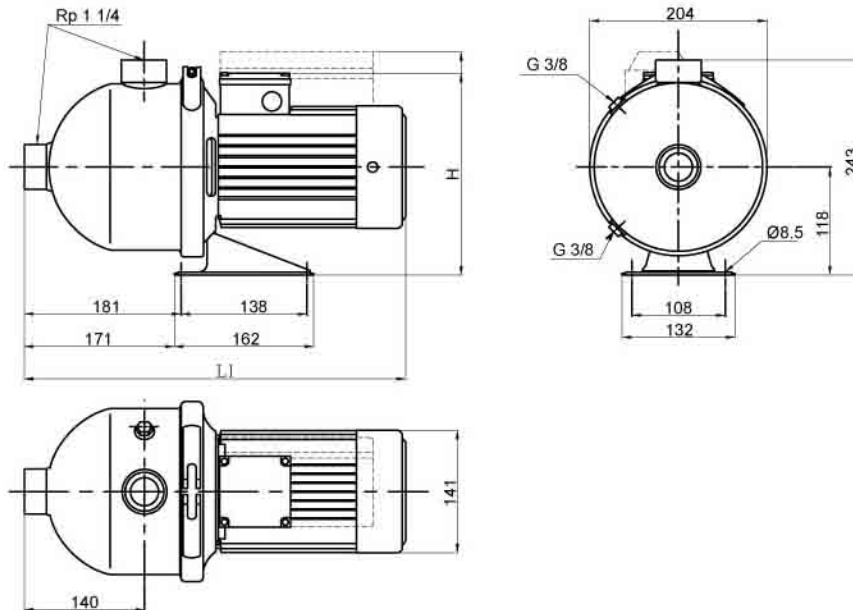
HBI, HBN

## Dimensions and weights 50 Hz

**HBI(N)-2**



**HBI(N)-4**



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

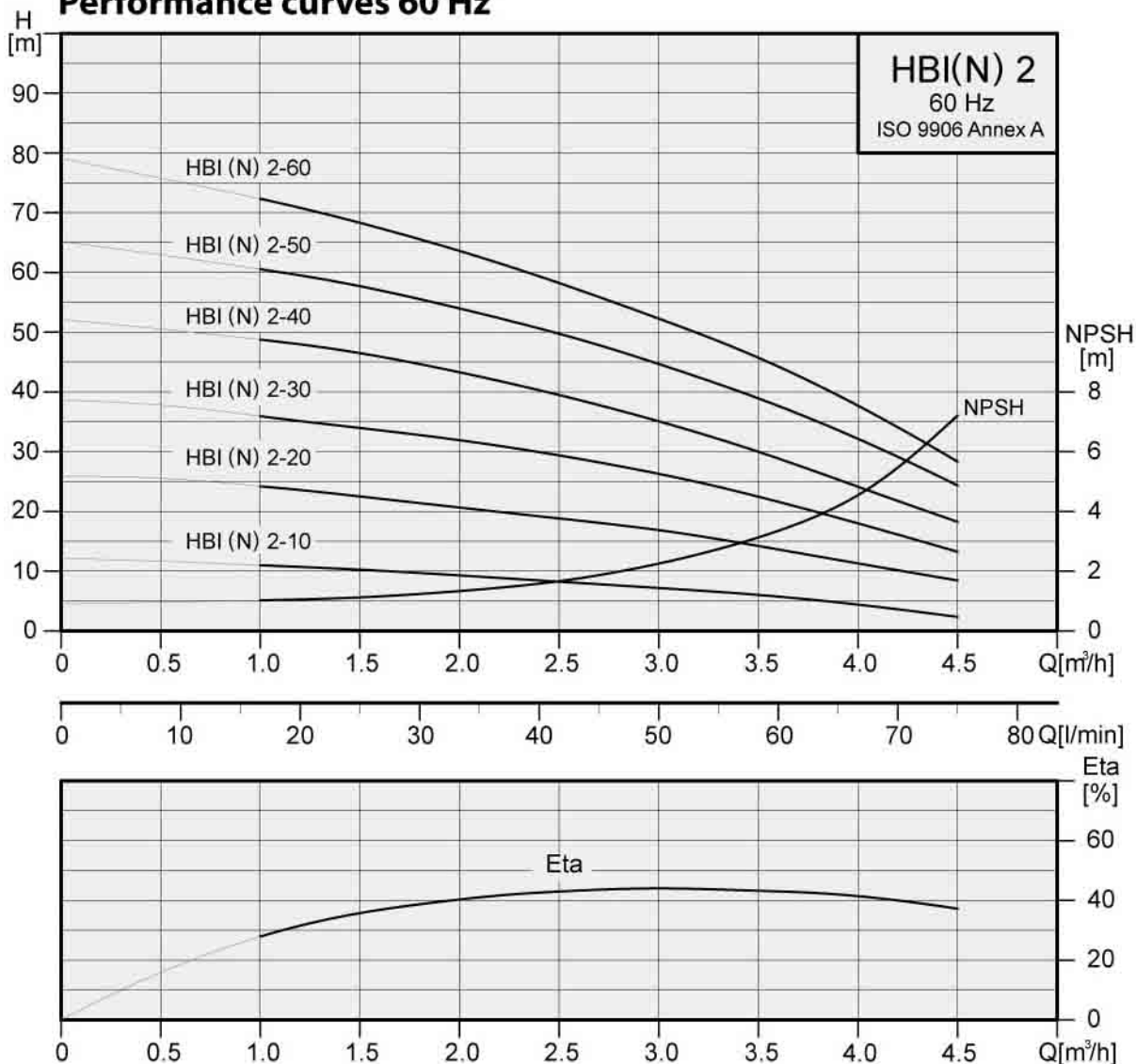


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# Technical data

# HBI, HBN 2

## Performance curves 60 Hz

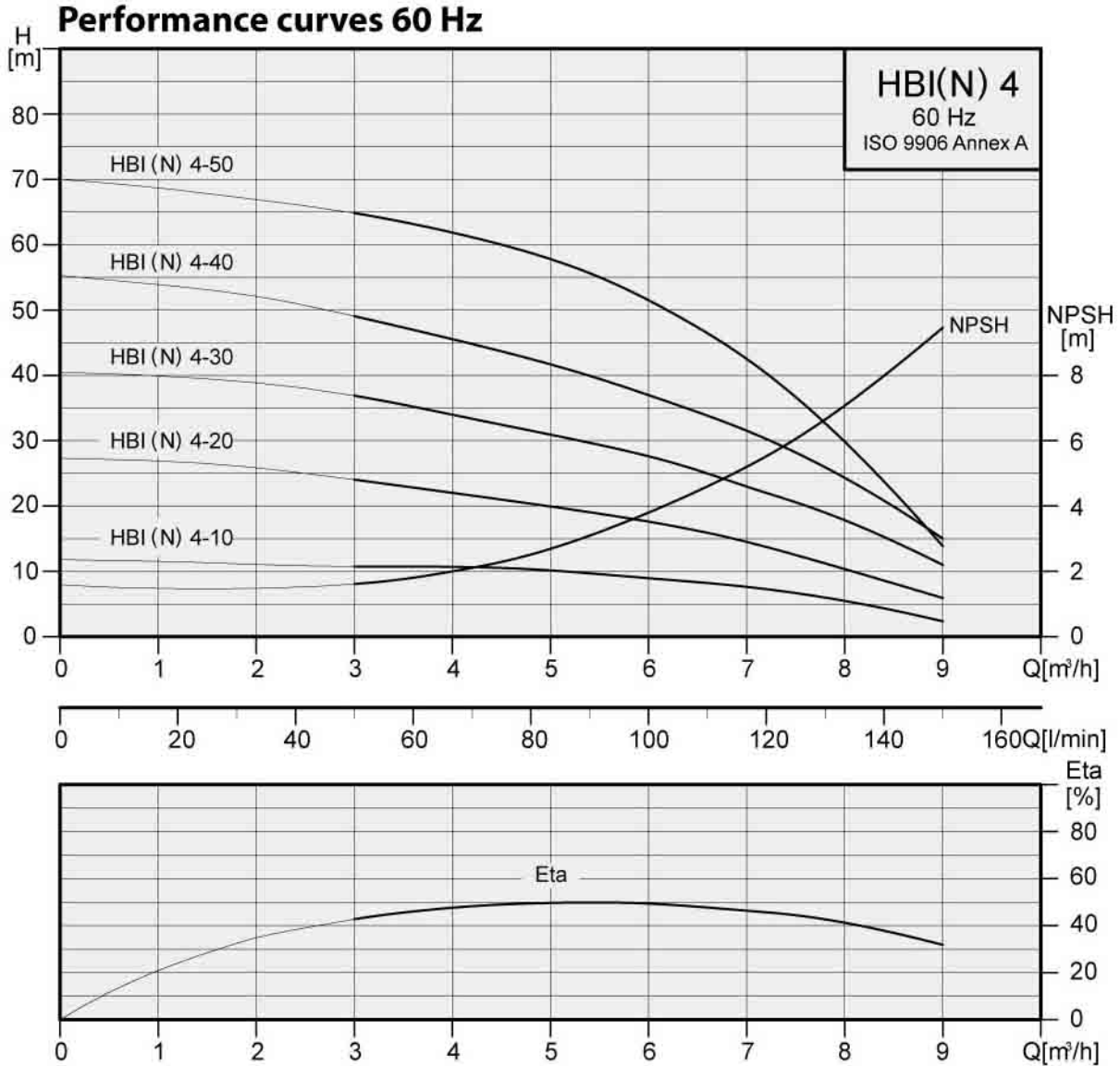


## Electrical data, 3450 min<sup>-1</sup>

pump type	1 x 110/220 V		3 x 200-230 Δ/346-400 Y V	
	P <sub>i</sub> [W]	I <sub>in</sub> [A]	P <sub>i</sub> [W]	I <sub>in</sub> [A]
HBI/HBN 2-10	450	3.4 / 1.7	380	1.5 / 0.9
HBI/HBN 2-20	620	5.2 / 2.6	560	2.8 / 1.6
HBI/HBN 2-30	800	7.0 / 3.5	780	3.2 / 1.8
HBI/HBN 2-40	1020	9.4 / 4.7	1020	3.5 / 2.0
HBI/HBN 2-50	1200	11 / 5.5	1120	3.8 / 2.2
HBI/HBN 2-60	1420	13 / 6.5	1260	4.5 / 2.6



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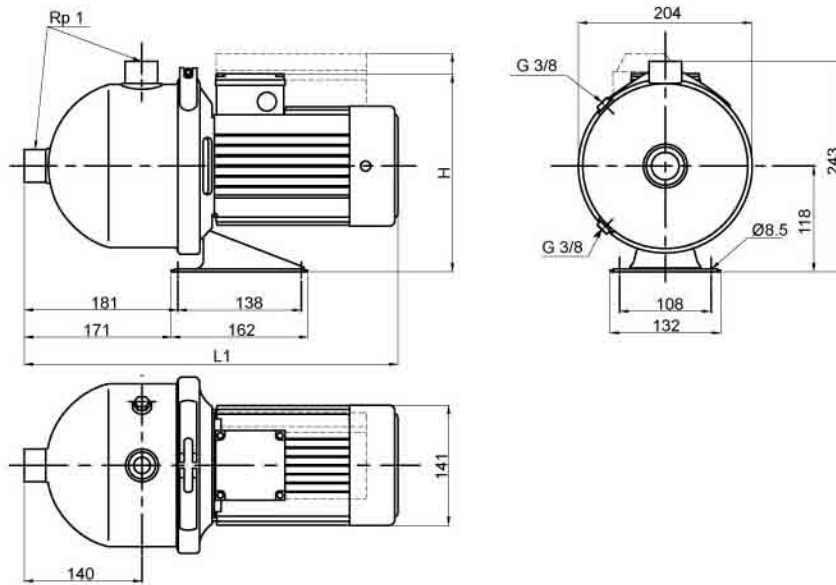
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# Technical data

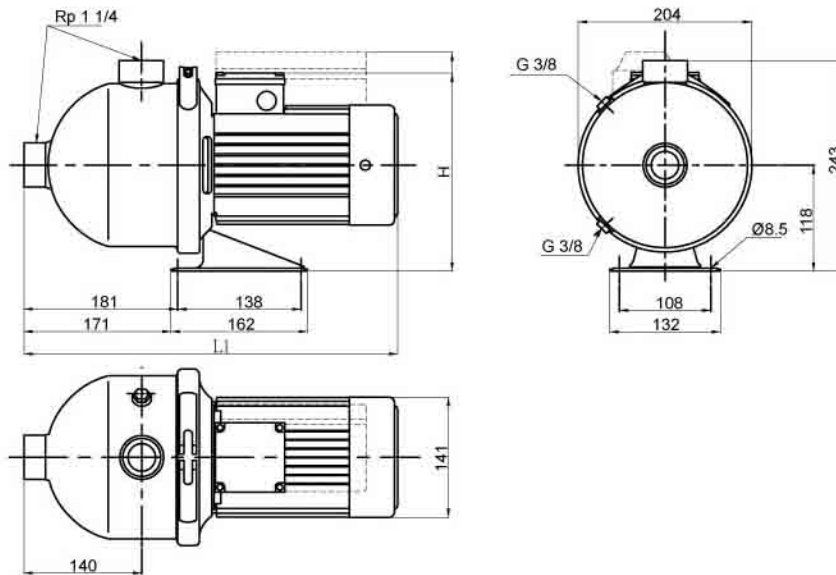
HBI, HBN

## Dimensions and weights 60 Hz

### HBI(N)-2



### HBI(N)-4



pump type	Dimension (mm)				Net Weight (kg)
	1-Phase		3-Phase		
	L1	H	L1	H	
HBI/HBN 2-10	403	255	403	233	9.5
HBI/HBN 2-20	403	255	403	233	9.5
HBI/HBN 2-30	403	255	403	233	9.8
HBI/HBN 2-40	403	255	403	233	10.3
HBI/HBN 2-50	441	255	441	233	11.7
HBI/HBN 2-60	441	255	441	233	12.0
HBI/HBN 4-10	403	255	403	233	9.5
HBI/HBN 4-20	403	255	403	233	9.5
HBI/HBN 4-30	403	255	403	233	10.1
HBI/HBN 4-40	441	255	441	233	11.5
HBI/HBN 4-50	441	255	441	233	12.8



*STAIRS PUMPS*

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