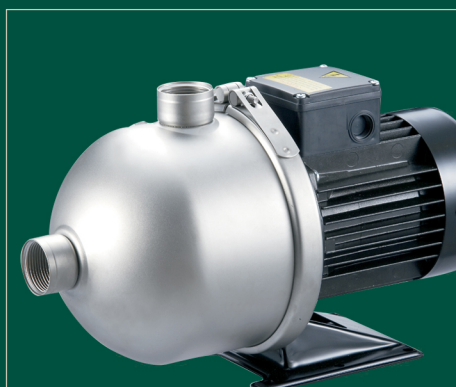
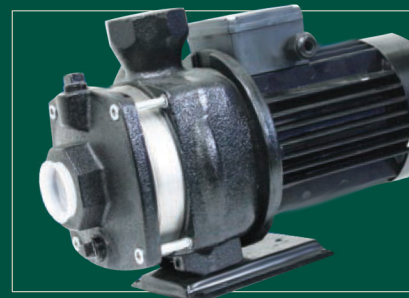


CB, 2, 4, 8, 12 CBI 2, 4 series

HBI, HBN2, 4, 8, 12 series

Horizontal Multistage Centrifugal Pumps 50, 60 Hz





Contents

CB, CBI

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HBI, HBN

General data

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Technical data

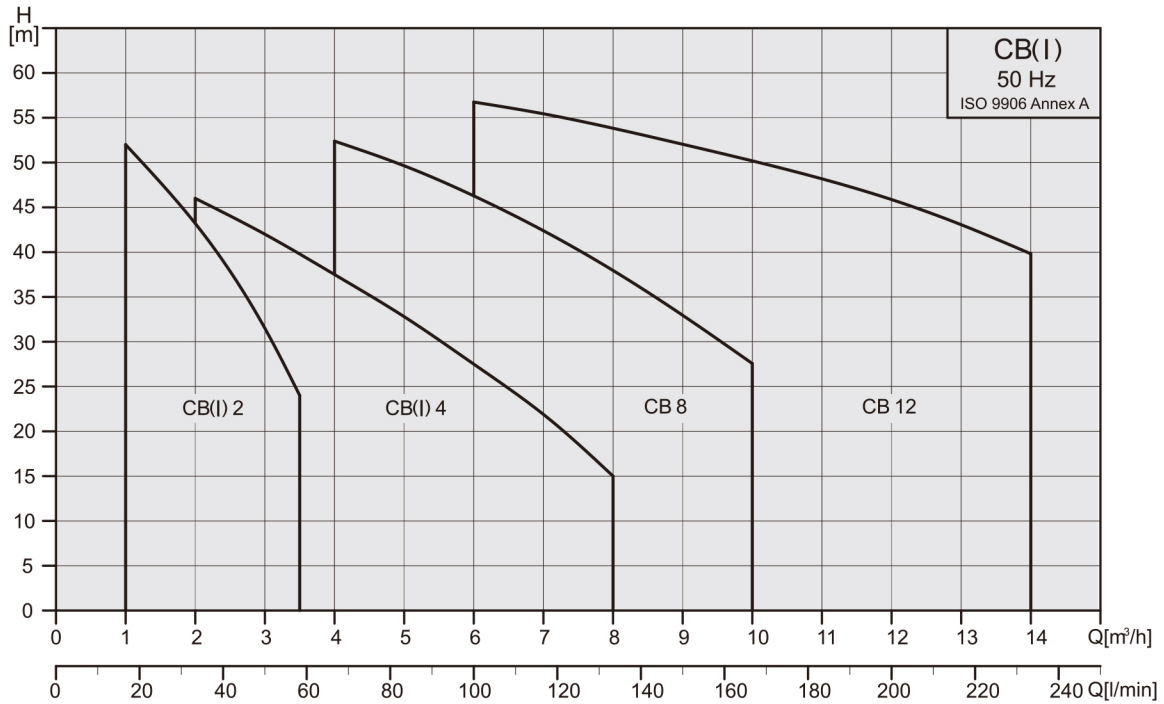
21	Performance curves HBI, HBN 2, 4 50 Hz
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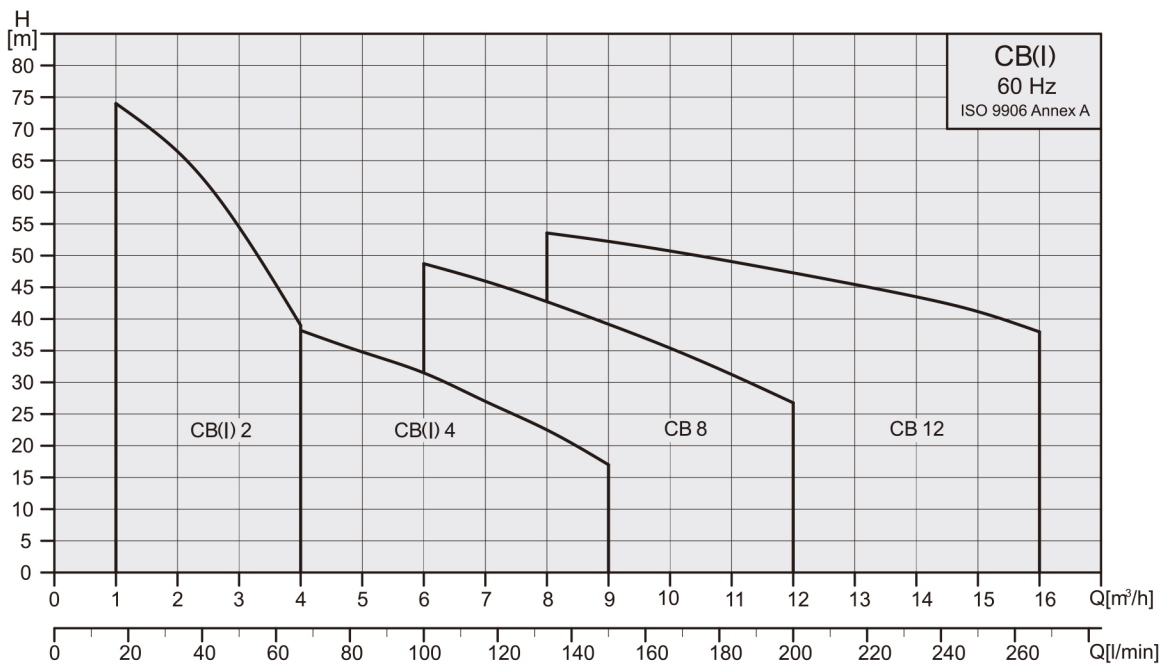
General data

CB, CBI

Performance range, 50Hz



Performance range, 60Hz





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, EPDM or Viton O-rings are available as standard.

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	CB8	CB12
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

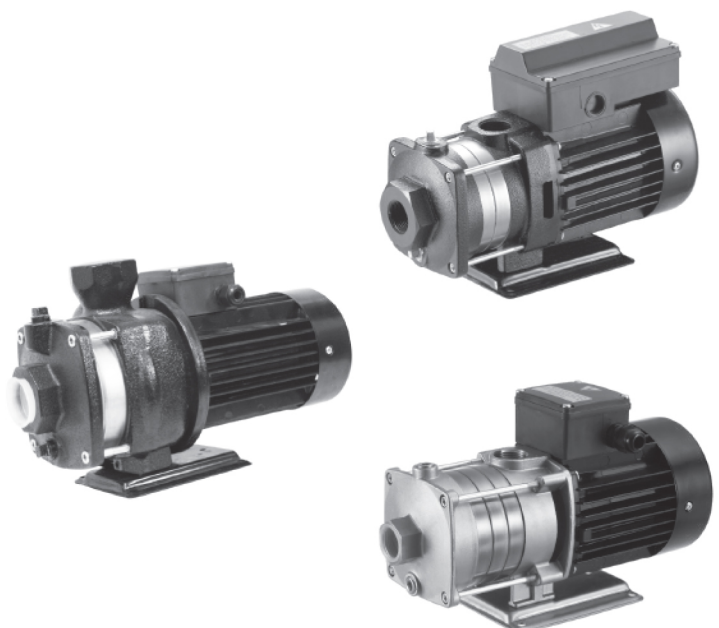
The pump is fitted with a totally enclosed, fan-cooled, squirrel-cage motor. Single-phase motors have built-in thermal overload protection. Rated speed: 2850rpm(50Hz), 3450rpm(60Hz)

Enclosure class: IP 54

Insulation class: F

Standard voltages:

	Phase	voltages
50Hz	1Φ	220-240V
	3Φ	220-240V / 380-415V
60Hz	1Φ	110 / 220V
		220-240V
	3Φ	220-255V / 380-440V 220-277V / 380-480V



Operating conditions

Liquid temperature range: 0°C ~+90°C

Maximum ambient temperature: +40°C

Maximum operating pressure: 10 kg /cm².

Maximum inlet pressure is limited by maximum operating pressure.



General data

CB, CBI

Model code

Type range	Nominal flow rate [m³/h]	Number of stages x10	Mechanical Seals
CB(I) 2 , 4	4	- 30	- CQBE

Type range	Nominal flow rate [m³/h]	Max. discharge pressure[m]	Mechanical Seals
CB(I) 8 , 12	8	- 30	- CQBE

Operating conditions

Liquid: CB : Thin, clean, non-aggressive and non-explosive liquids without solid particles or fibres.

CBI : Thin, clean, slightly aggressive and non-explosive liquids without solid particles or fibres.

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/cm² / bar	6 kg/cm² / bar
CB(I)2, CB(I)4	0°C to + 40°C	+41°C to + 90°C
CB 8, CB12	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.

Mechanical seals

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

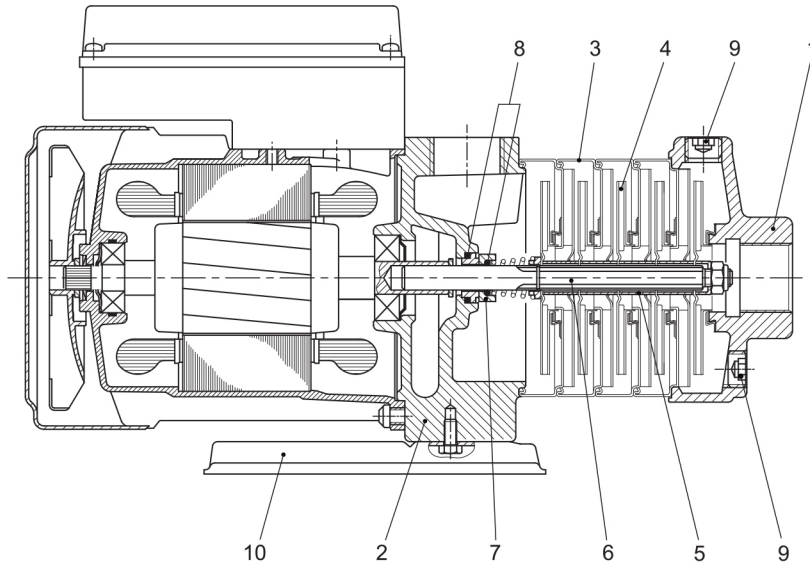
Mechanical Seals	CB, CBI 2/4	CB 8,12
CQB	●	●
CQQ	Optional	Optional
HUU	Optional	Optional
O-rings		
E	●	●
V	Optional	Optional

● Standard

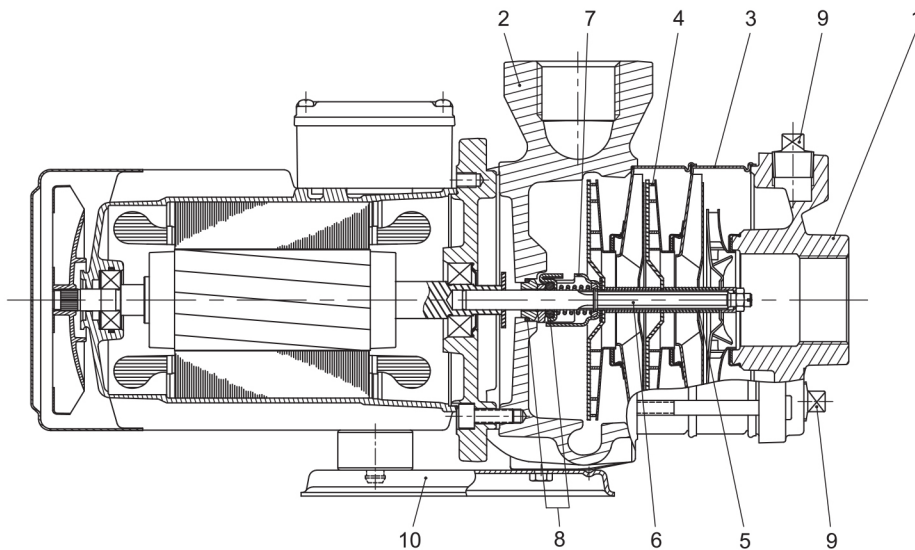


Material construction

CB(I) 2,4



CB 8,12

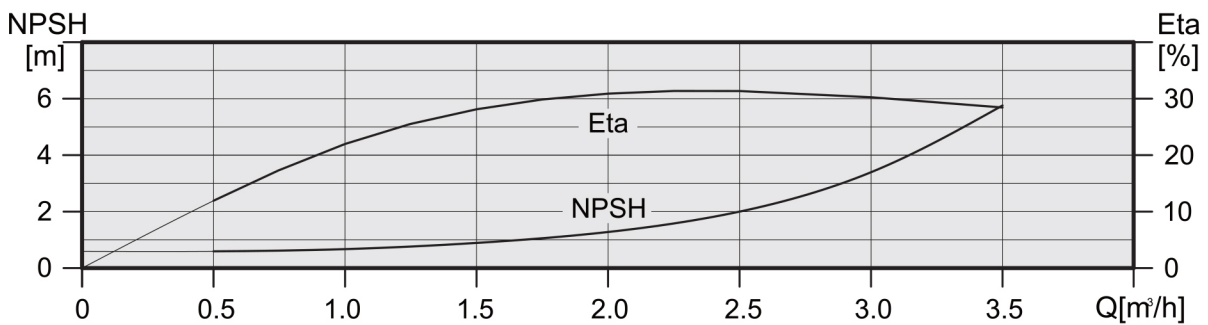
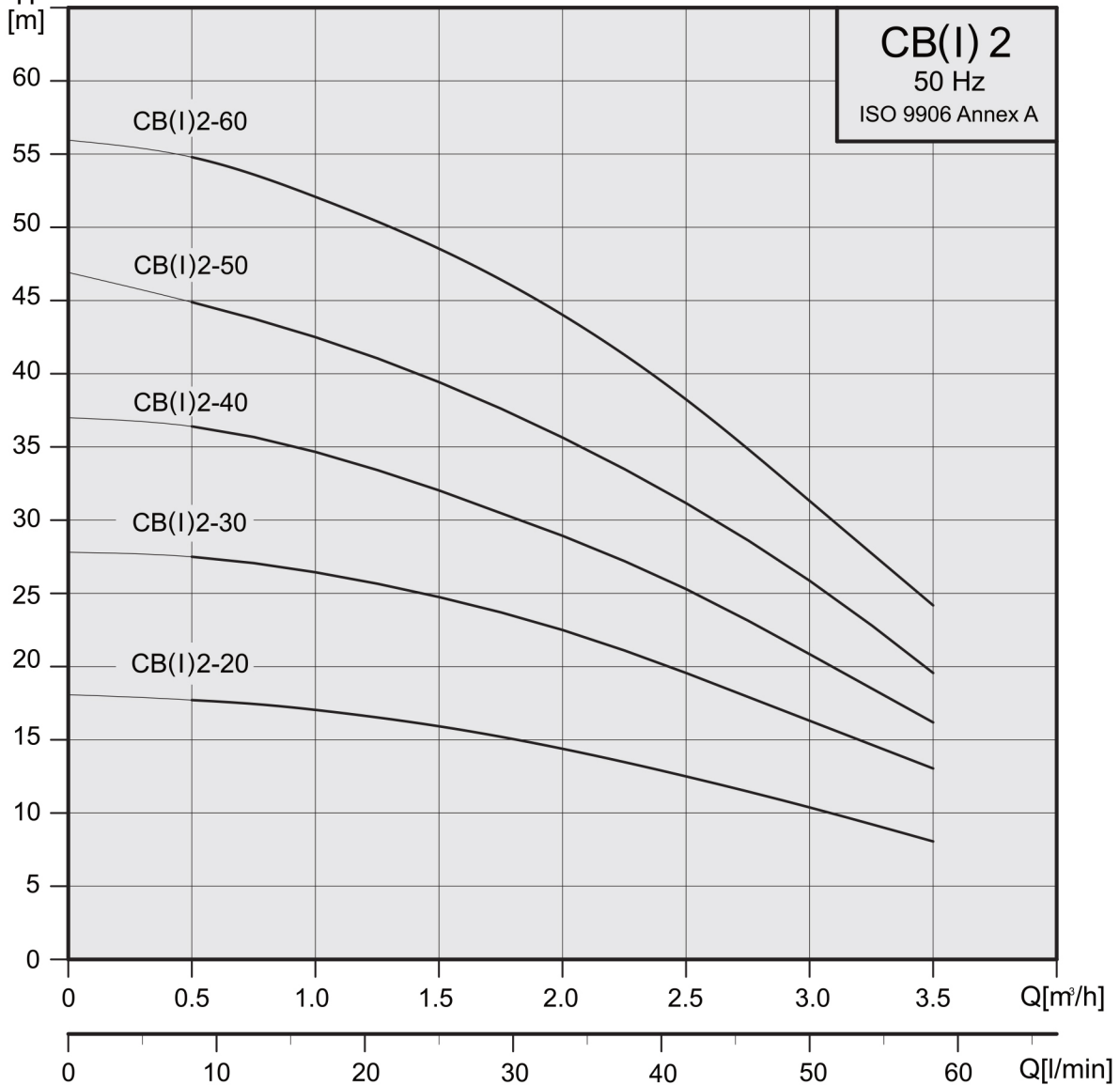


Materials

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	EPDM
9	Drain and priming plug	Steel	SS304
10	Base plate	Steel	SS304



Performance curves 50Hz

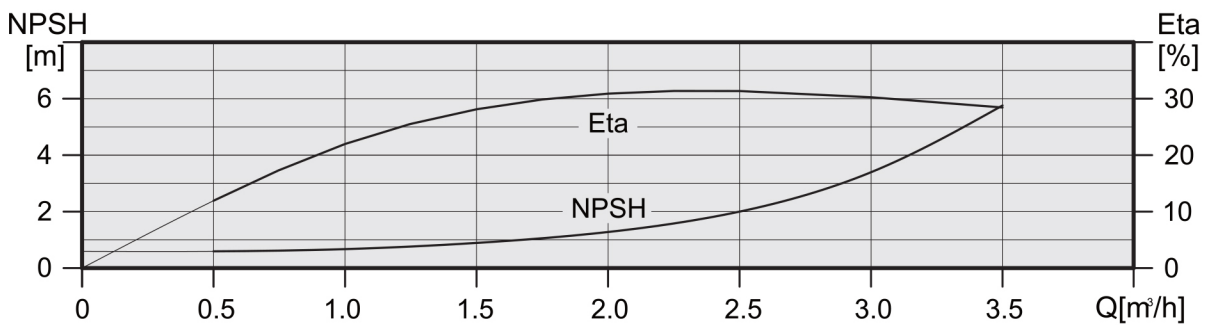
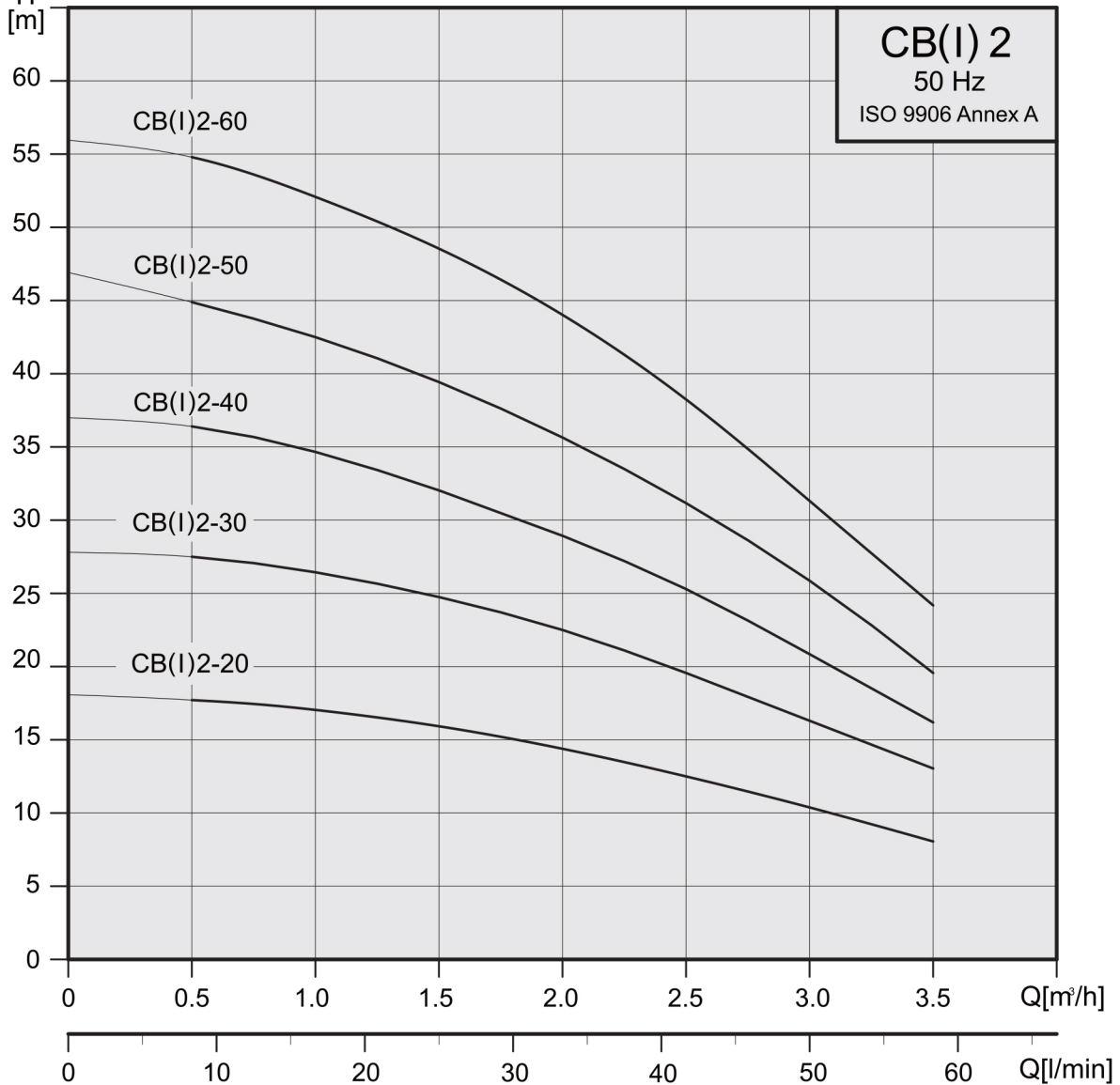


Electrical data, 2850 rpm

Pump type	1Φ 220-240V			3Φ Δ220-240V / Y 380-415V		
	I _{1/1} [A]	P ₁ [W]	P ₂ [W]	I _{1/1} [A]	P ₁ [W]	P ₂ [W]
CB/CBI 2-20	1.7 - 2.0	380	295	2.2 - 2.6 / 1.3 - 1.5	430	330
CB/CBI 2-30	2.1 - 2.2	470	360	2.2 - 2.5 / 1.3 - 1.45	530	410
CB/CBI 2-40	2.7 - 2.8	620	480	2.4 - 2.8 / 1.4 - 1.6	660	510
CB/CBI 2-50	3.2 - 3.1	720	550	2.5 - 2.9 / 1.45- 1.7	770	585
CB/CBI 2-60	3.7 - 3.6	830	630	2.9 - 3.3 / 1.7 - 1.9	860	655

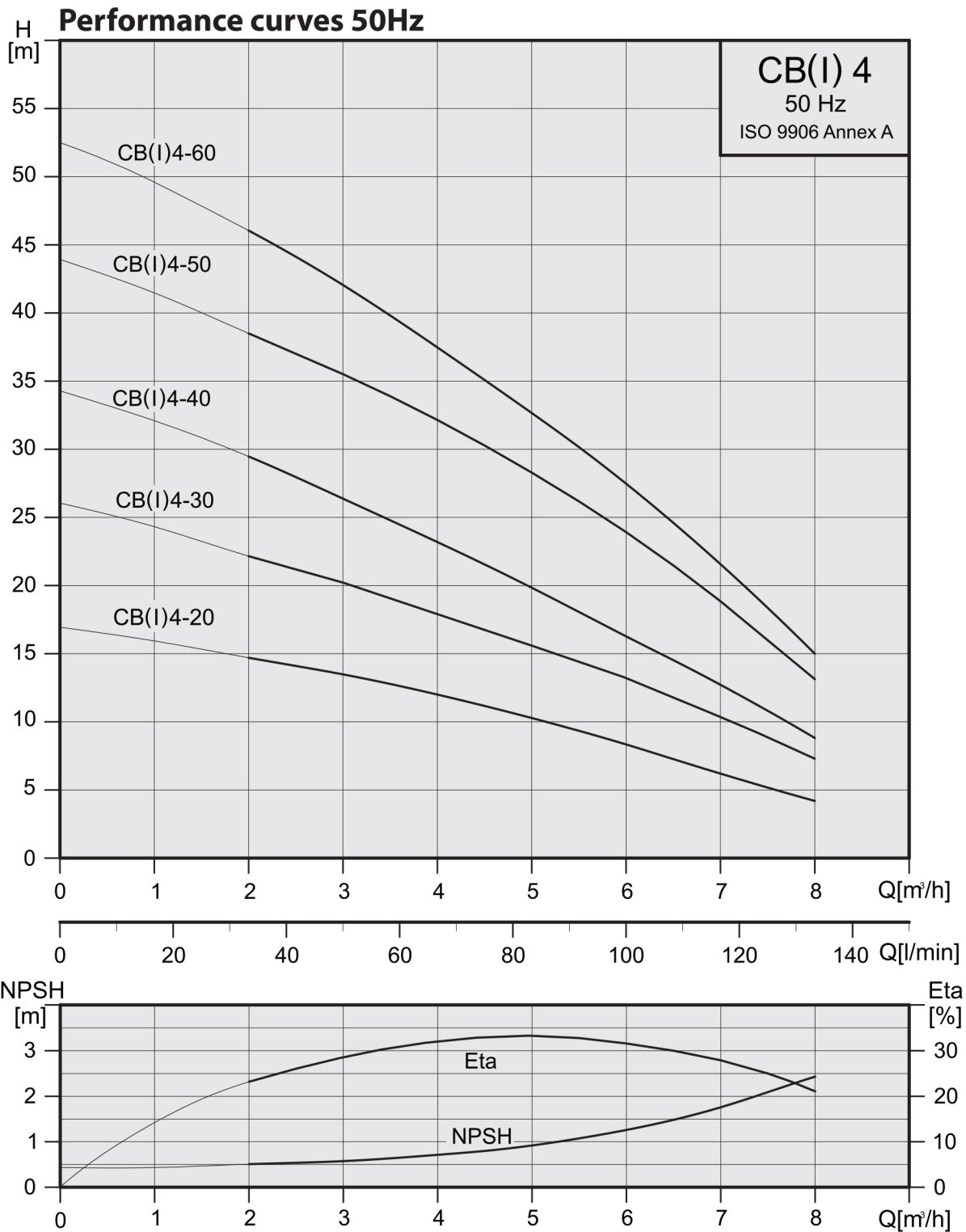


Performance curves 50Hz



Electrical data, 2850 rpm

Pump type	1Φ 220-240V			3Φ Δ220-240V / Y 380-415V		
	I _{1/1} [A]	P ₁ [W]	P ₂ [W]	I _{1/1} [A]	P ₁ [W]	P ₂ [W]
CB/CBI 2-20	1.7 - 2.0	380	295	2.2 - 2.6 / 1.3 - 1.5	430	330
CB/CBI 2-30	2.1 - 2.2	470	360	2.2 - 2.5 / 1.3 - 1.45	530	410
CB/CBI 2-40	2.7 - 2.8	620	480	2.4 - 2.8 / 1.4 - 1.6	660	510
CB/CBI 2-50	3.2 - 3.1	720	550	2.5 - 2.9 / 1.45- 1.7	770	585
CB/CBI 2-60	3.7 - 3.6	830	630	2.9 - 3.3 / 1.7 - 1.9	860	655



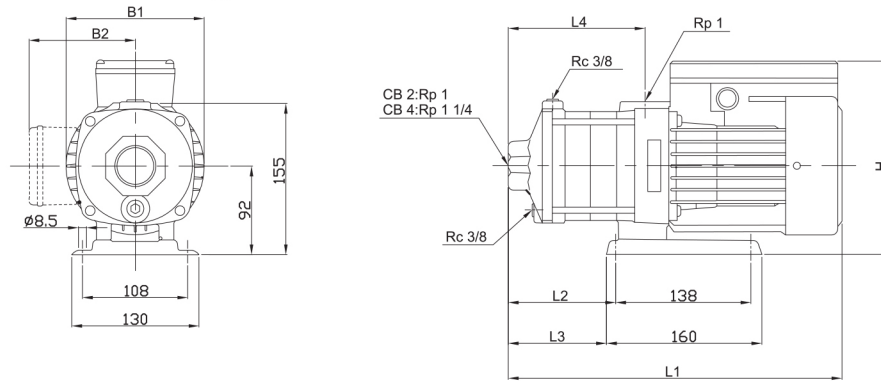
Electrical data, 2850 rpm

Pump type	1Φ 220-240V			3Φ Δ220-240V / Y 380-415V		
	I _{1/1} [A]	P ₁ [W]	P ₂ [W]	I _{1/1} [A]	P ₁ [W]	P ₂ [W]
CB/CBI 4-20	2.6 - 2.5	560	430	2.4 - 2.9 / 1.4 - 1.7	610	465
CB/CBI 4-30	3.6 - 3.5	770	595	2.5 - 2.9 / 1.5 - 1.7	790	604
CB/CBI 4-40	4.4 - 4.1	960	735	3.1 - 3.3 / 1.8 - 1.9	1010	770
CB/CBI 4-50	5.3 - 5.0	1160	940	4.2 - 4.5 / 2.4 - 2.6	1240	990
CB/CBI 4-60	6.7 - 6.4	1430	1135	5.1 - 5.5 / 2.9 - 3.2	1460	1180



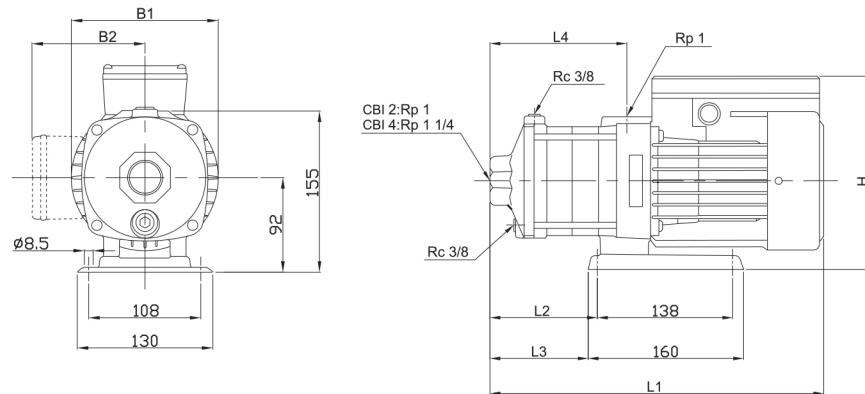
Dimensions and weights 50 Hz

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	115	228	207	10.3	10.0
CB 2-30	327	93	81	119	141	127	115	228	207	10.5	10.3
CB 2-40	345	111	99	137	141	127	115	228	207	10.8	10.5
CB 2-50	363	129	117	155	141	127	115	228	207	11.6	11.2
CB 2-60	381	147	135	173	141	127	115	228	207	11.8	11.5
CB 4-20	318	84	72	110	141	127	115	228	207	10.4	10.1
CB 4-30	344	111	99	137	141	127	115	228	207	10.8	10.5
CB 4-40	372	138	126	164	141	127	115	228	207	11.6	11.2
CB 4-50	438	165	153	191	141	127	115	228	207	13.4	13.1
CB 4-60	465	192	180	218	141	127	115	228	207	14.8	14.5

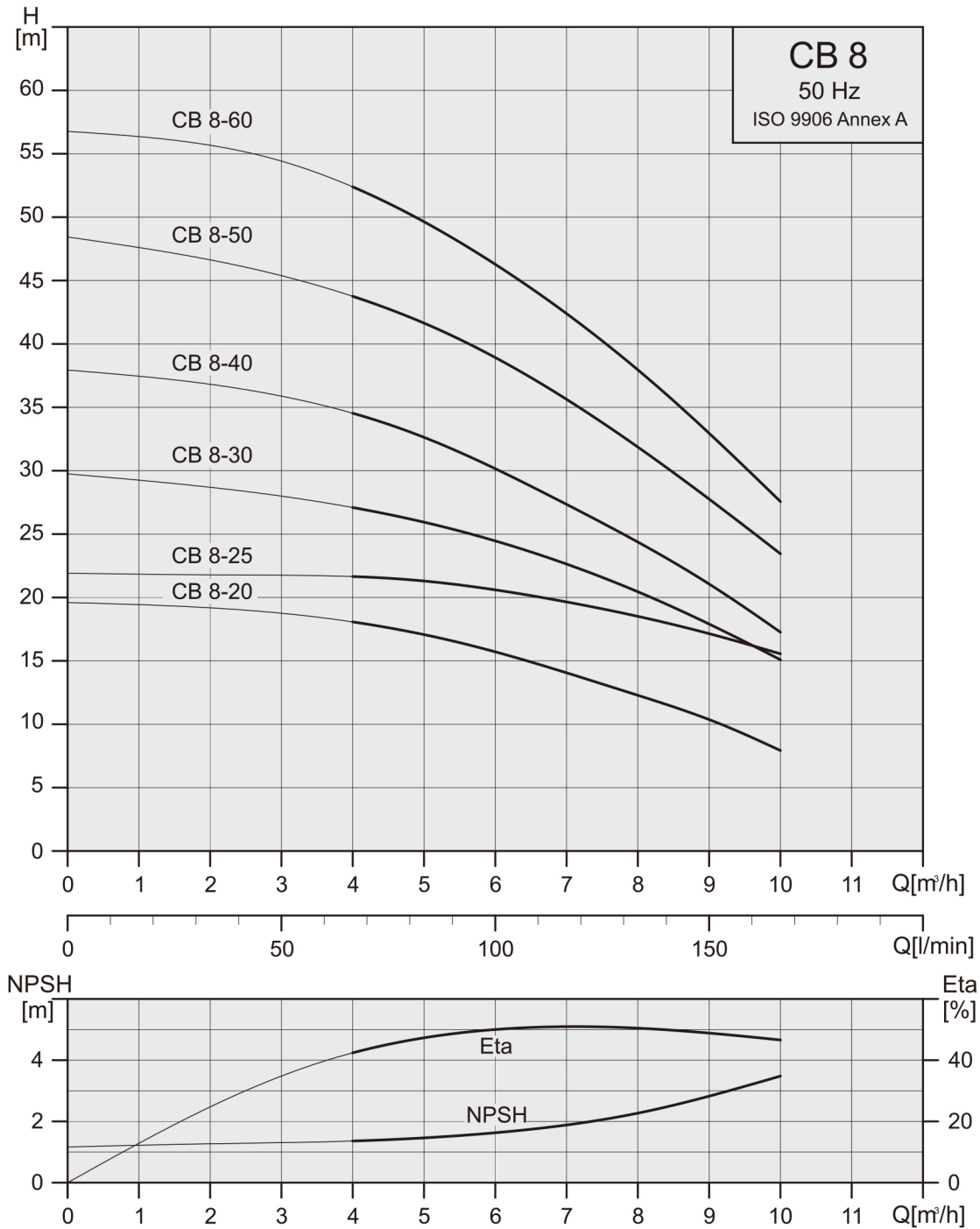
CBI-2, CBI-4



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	115	228	207	9.1	8.8
CBI 2-30	327	93	81	119	141	127	115	228	207	9.4	9.1
CBI 2-40	345	111	99	137	141	127	115	228	207	9.6	9.4
CBI 2-50	363	129	117	155	141	127	115	228	207	10.4	10.1
CBI 2-60	381	147	135	173	141	127	115	228	207	10.7	10.3
CBI 4-20	318	84	72	110	141	127	115	228	207	9.2	9.0
CBI 4-30	344	111	99	137	141	127	115	228	207	9.6	9.3
CBI 4-40	372	138	126	164	141	127	115	228	207	10.4	10.1
CBI 4-50	438	165	153	191	141	127	115	228	207	11.3	12.0
CBI 4-60	465	192	180	218	141	127	115	228	207	13.6	13.4



Performance curves 50Hz

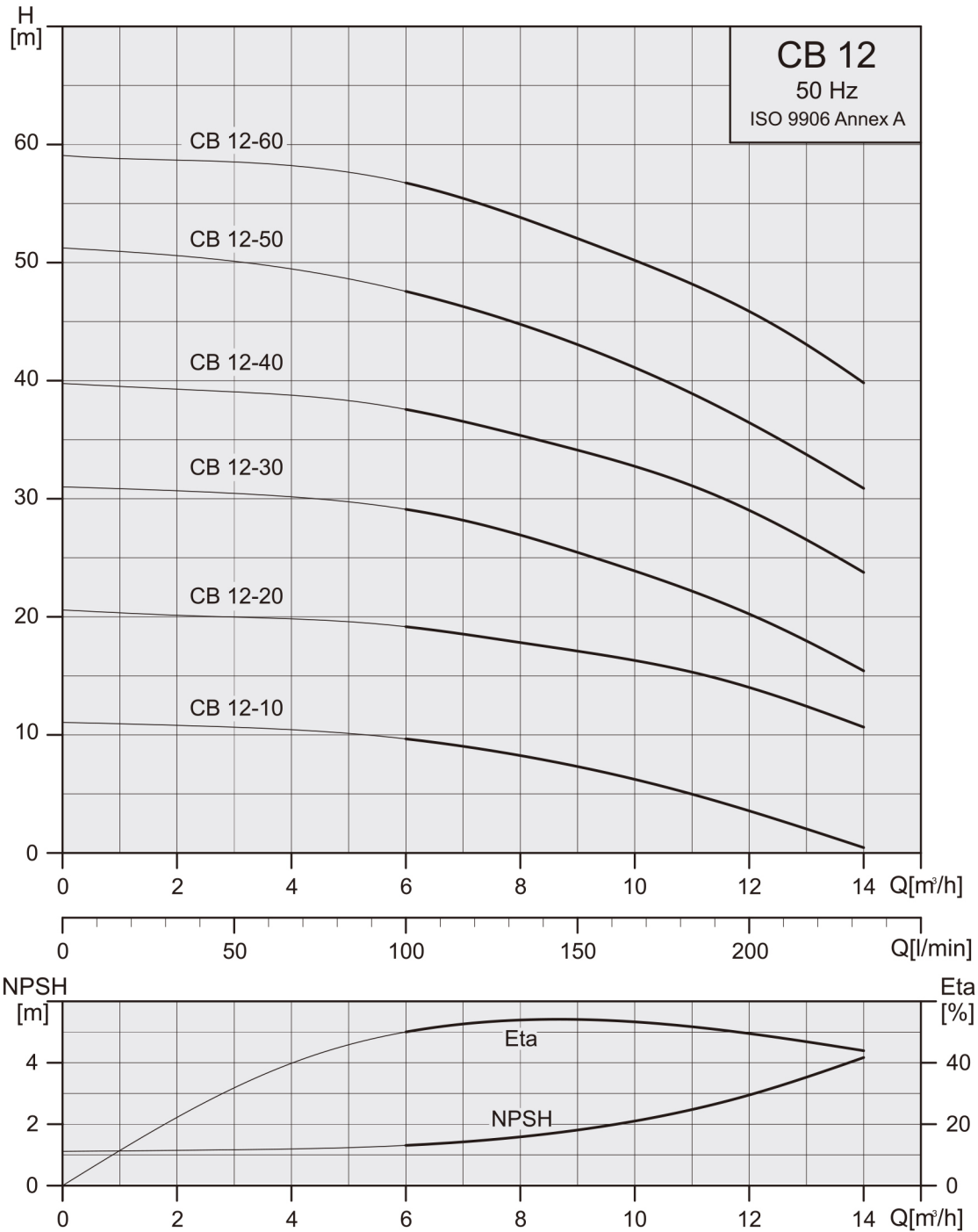


Electrical data, 2850 rpm

Pump type	1Φ 220-240V			3Φ Δ220-240V / Y 380-415V		
	I _{1/1} [A]	P ₁ [W]	P ₂ [W]	I _{1/1} [A]	P ₁ [W]	P ₂ [W]
CB 8-20	3.3 - 3.2	760	595	2.9 - 3.3 / 1.7 - 1.9	810	620
CB 8-25	—	—	—	3.5 - 3.8 / 2.0 - 2.2	1060	860
CB 8-30	5.2 - 5.0	1130	910	4.3 - 4.8 / 2.5 - 2.8	1260	1020
CB 8-40	6.3 - 6.1	1390	1105	5.7 - 6.3 / 3.3 - 3.7	1520	1205
CB 8-50	8.2 - 8.1	1940	1610	5.7 - 6.3 / 3.4 - 3.7	1860	1475
CB 8-60	9.0 - 8.8	2090	1740	6.5 - 7.0 / 3.8 - 4.1	2110	1755



Performance curves 50Hz



Electrical data, 2850 rpm

Pump type	1Φ 220-240V			3Φ Δ220-240V / Y 380-415V		
	I _{1/1} [A]	P ₁ [W]	P ₂ [W]	I _{1/1} [A]	P ₁ [W]	P ₂ [W]
CB 12-10	—	—	—	2.8 - 3.1 / 1.6 - 1.8	590	455
CB 12-20	5.3 - 5.1	1160	935	3.8 - 4.0 / 2.2 - 2.3	1170	950
CB 12-30	7.8 - 7.4	1680	1330	5.7 - 6.5 / 3.3 - 3.8	1690	1365
CB 12-40	11.0 - 10.6	2400	1995	7.3 - 7.6 / 4.2 - 4.4	2350	1960
CB 12-50	12.7 - 12.2	2910	2440	8.8 - 9.0 / 5.1 - 5.2	2820	2375
CB 12-60	—	—	—	10.6-11.4 / 6.1 - 6.6	3320	2860



Dimensions and weights 50 Hz

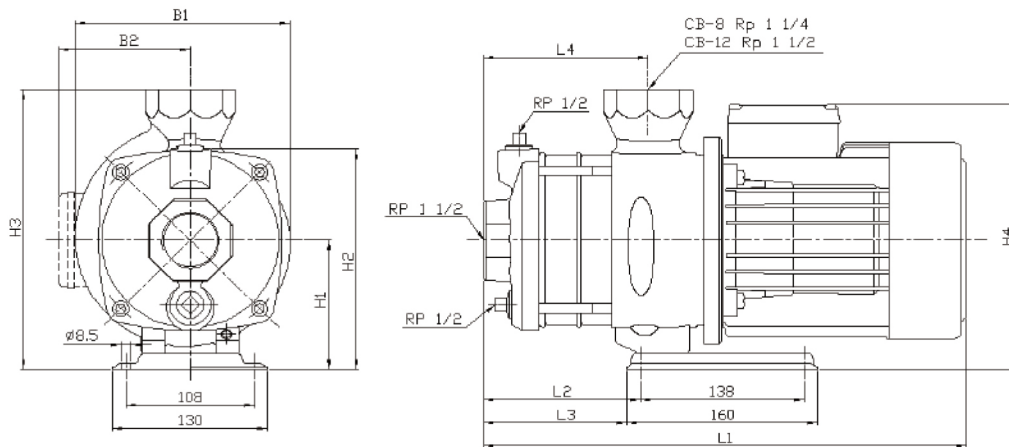


Fig. 1

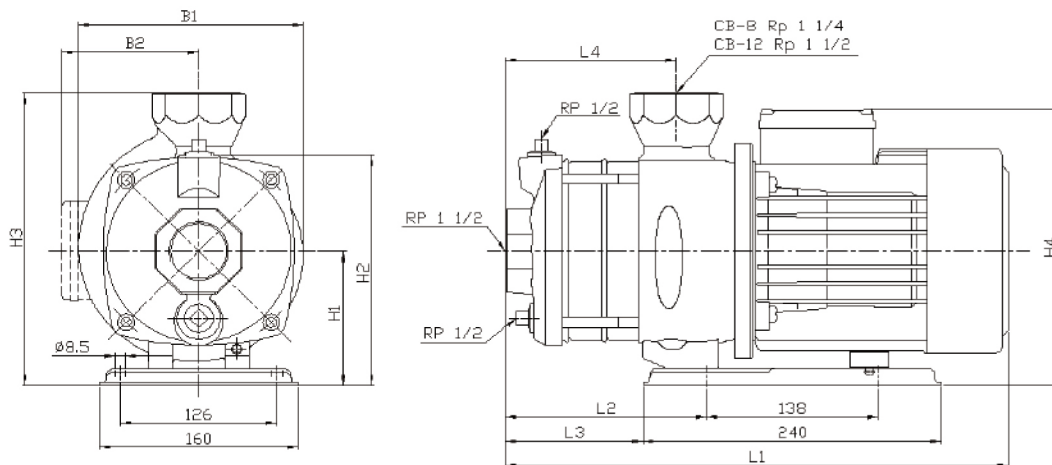


Fig. 2

CB - 8

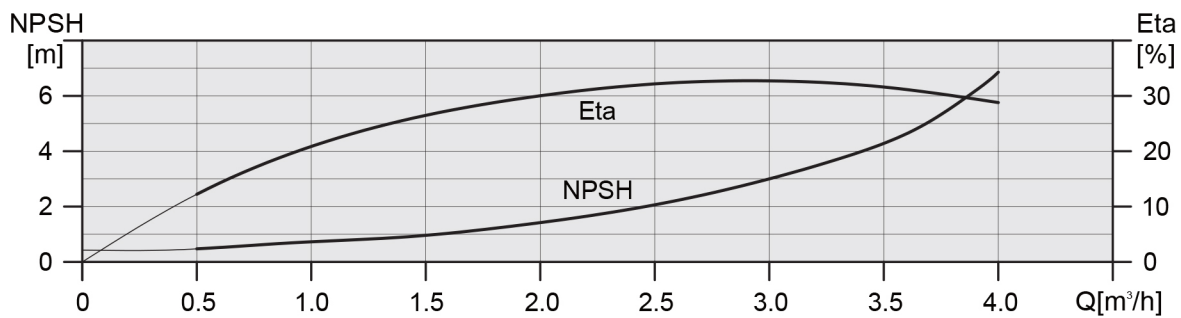
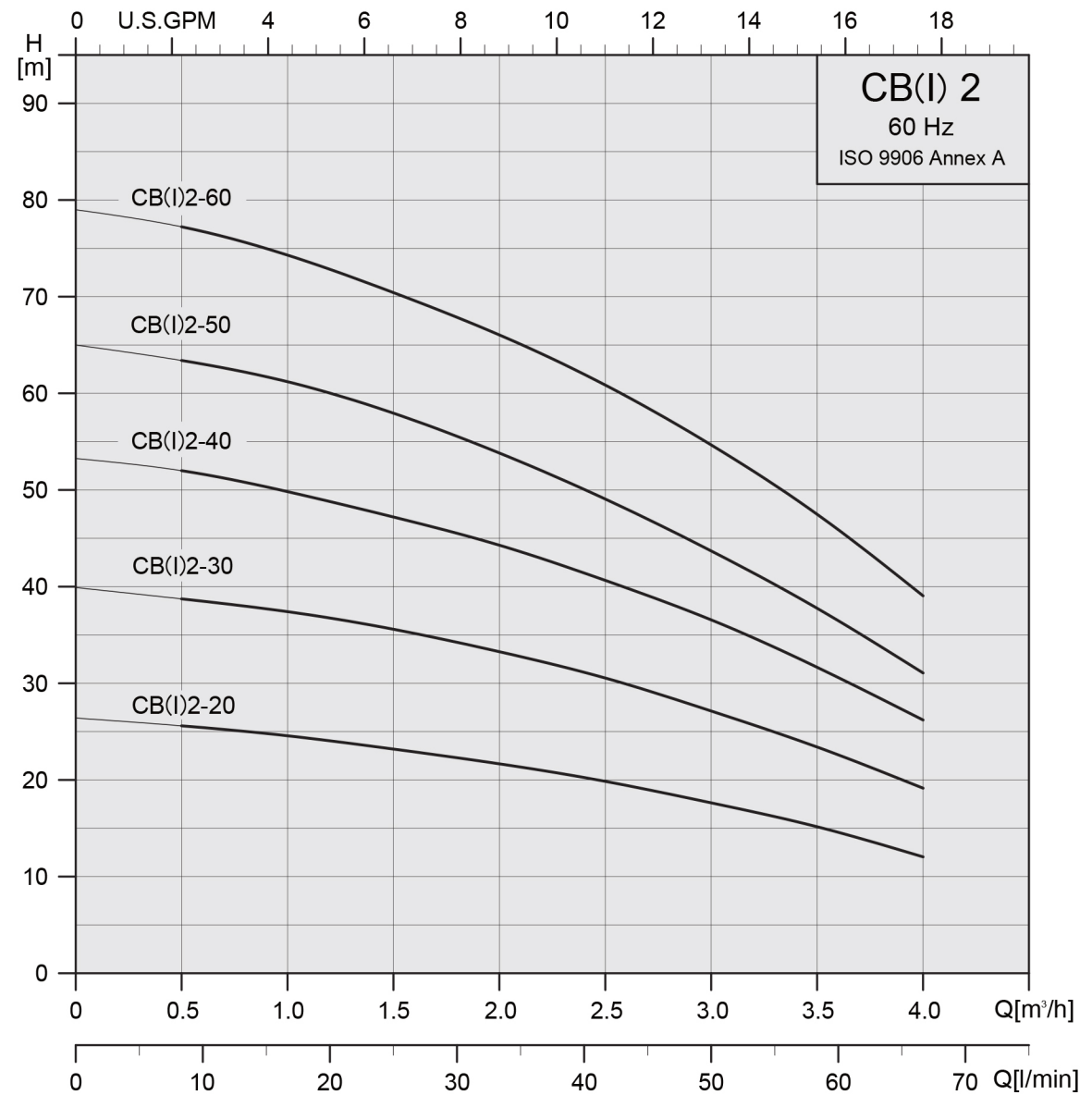
Pump type	Dimension [mm]																				Fig.		Net Weight [mm]	
	1 phase										3 phase										1Φ	3Φ	1Φ	3Φ
	L1	L2	L3	L4	B1	B2	H1	H2	H3	H4	L1	L2	L3	L4	B1	B2	H1	H2	H3	H4				
CB 8-20	320	54	41	77	181	135	110	187	239	245	320	54	41	77	181	114	110	187	239	224	1	1	17.2	17.0
CB 8-25	-	-	-	107	-	-	110	187	239	-	390	84	71	107	181	114	110	187	239	224	-	1	-	19.1
CB 8-30	390	84	71	107	181	135	110	187	239	245	390	84	71	107	181	114	110	187	239	224	1	1	19.5	19.2
CB 8-40	390	84	71	107	181	135	110	187	239	245	390	84	71	107	181	114	110	187	239	224	1	1	20.7	20.5
CB 8-50	480	162	111	137	185	152	110	187	239	262	420	114	101	137	181	114	110	187	239	224	2	1	28.5	21.4
CB 8-60	480	162	111	137	185	152	110	187	239	262	480	162	111	137	185	139	110	187	239	249	2	2	28.7	27.6

CB - 12

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



Performance curves 60 Hz



Electrical data, 3450 rpm

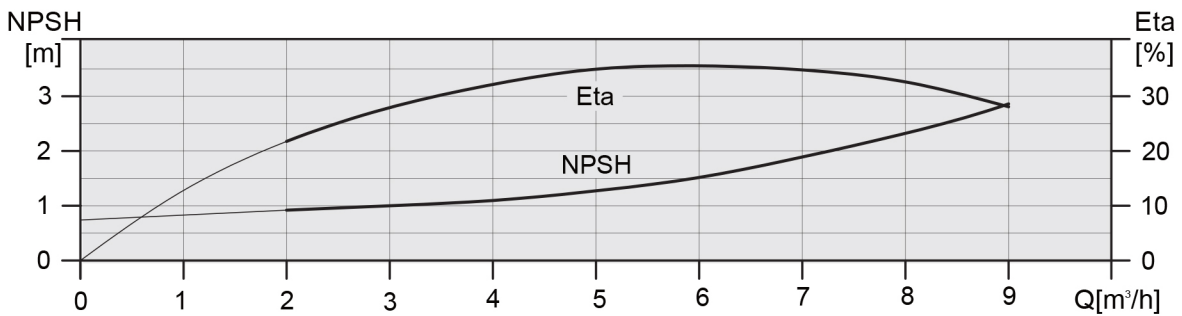
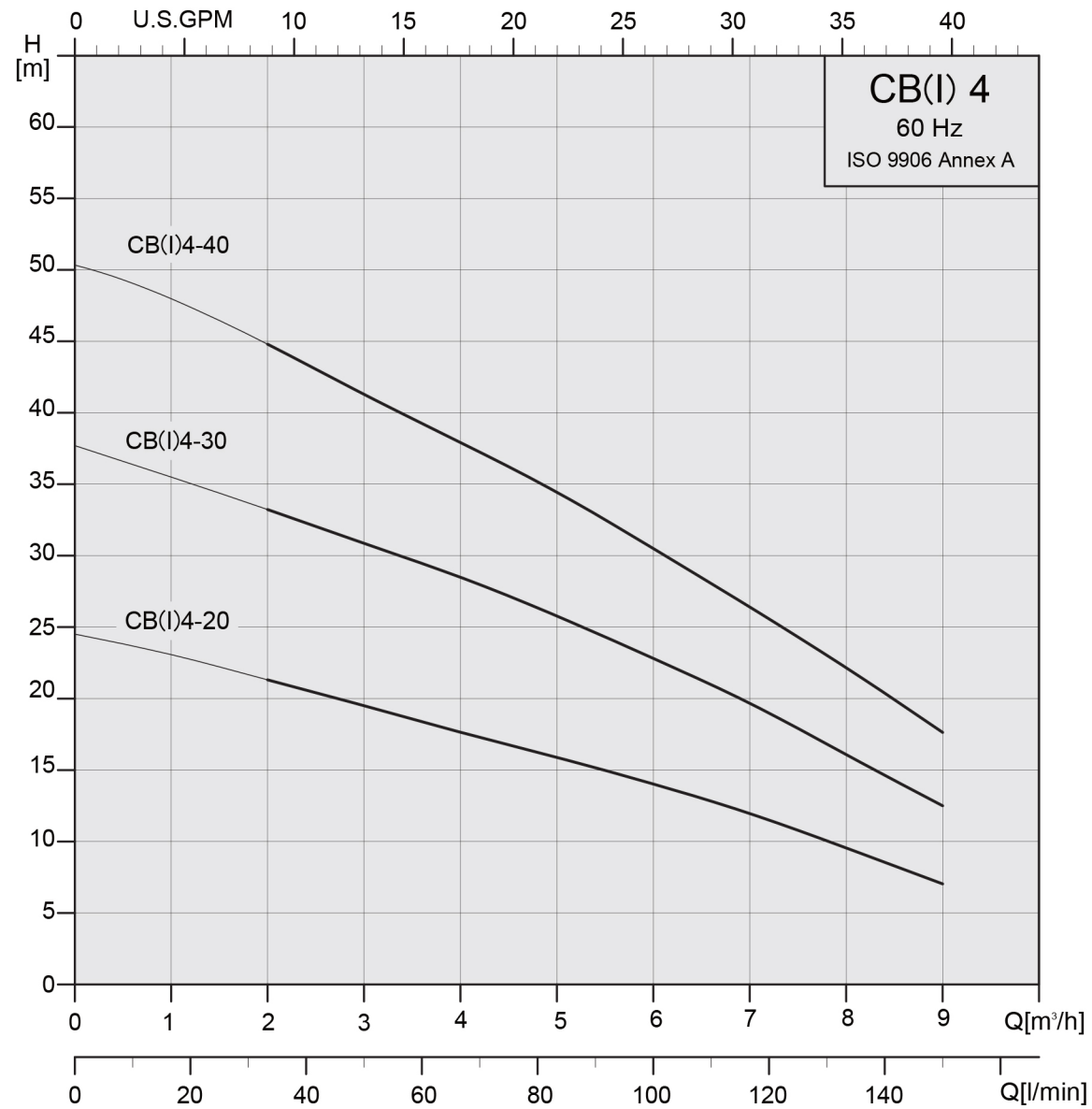
Pump type	1Φ 110 / 220V			3Φ Δ 220-255 / Y 380-440 V		
	I _{1/1} [A]	P ₁ [W]	P ₂ [W]	I _{1/1} [A]	P ₁ [W]	P ₂ [W]
CB/CBI 2-20	6.3 / 3.2	570	460	1.8 - 1.9 / 1.0 - 1.1	550	430
CB/CBI 2-30	7.9 / 4.1	780	630	3.5 - 3.3 / 2.0 - 1.9	680	540
CB/CBI 2-40	8.8 / 4.4	870	710	3.1 - 3.2 / 1.8 - 1.9	950	725
CB/CBI 2-50	11.7 / 5.9	1190	995	3.7 - 3.8 / 2.1 - 2.2	1160	940
CB/CBI 2-60	13.7 / 6.9	1410	1180	3.7 - 3.8 / 6.4 - 6.6	1280	1060



Technical data

CB, CBI 4

Performance curves 60Hz



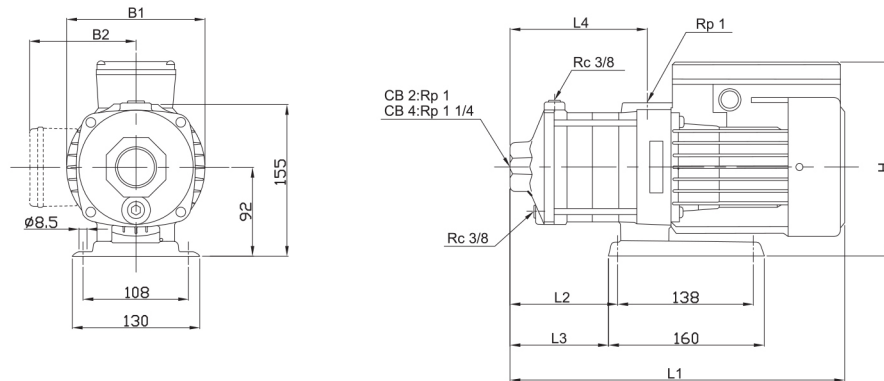
Electrical data, 3450 rpm

Pump type	1Φ 110 / 220V			3Φ Δ 220-255 / Y 380-440 V		
	I _{1/1} [A]	P ₁ [W]	P ₂ [W]	I _{1/1} [A]	P ₁ [W]	P ₂ [W]
CB/CBI 4-20	9.5 / 4.7	950	770	2.85 - 3.0 / 1.65 - 1.8	890	720
CB/CBI 4-30	12.5 / 6.2	1310	1100	3.9 - 4.0 / 2.3 - 2.4	1250	1050
CB/CBI 4-40	— / 8.3	1700	1360	5.1 - 5.3 / 2.9 - 3.1	1630	1310



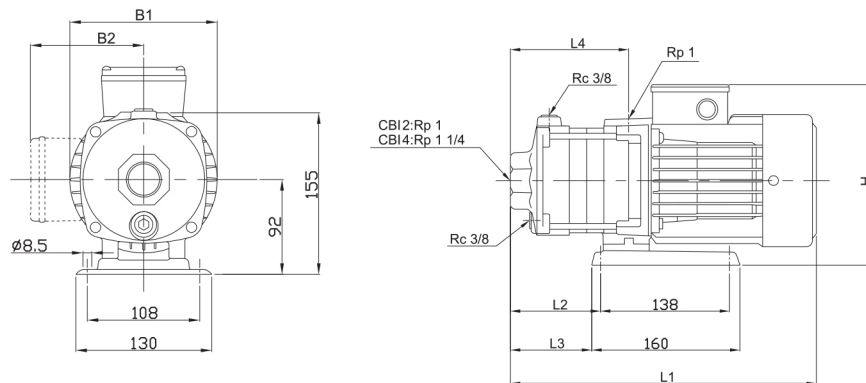
Dimensions and weights 60 Hz

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	115	228	207	10.3	10.0
CB 2-30	327	93	81	119	141	127	115	228	207	11.1	10.8
CB 2-40	345	111	99	137	141	127	115	228	207	11.3	11.1
CB 2-50	403	129	117	155	141	127	115	228	207	13	12.4
CB 2-60	421	147	135	173	141	127	115	228	207	13.2	12.7
CB 4-20	318	84	72	110	141	127	115	228	207	12.2	10.7
CB 4-30	384	111	99	137	141	127	115	228	207	12.7	12.3
CB 4-40	412	138	126	164	141	127	115	228	207	14	13.7

CBI-2, CBI-4



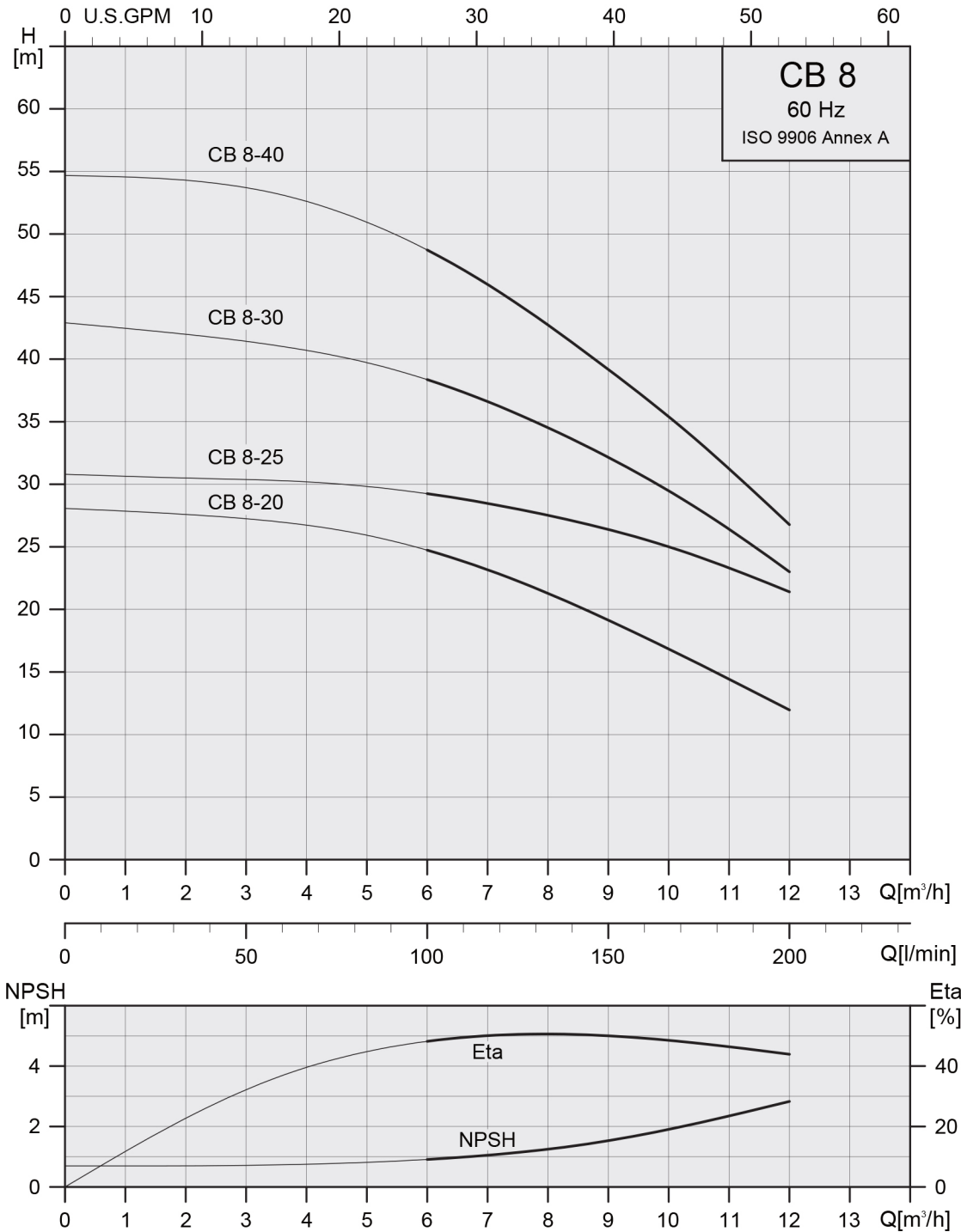
pump type	mm									Kg	
	L1	L2	L3	L4	B1	B2		H		1phase	3phase
						1phase	3phase	1phase	3phase		
CBI 2-20	309	75	63	101	141	127	115	228	207	9.1	8.8
CBI 2-30	327	93	81	119	141	127	115	228	207	10.0	9.6
CBI 2-40	345	111	99	137	141	127	115	228	207	10.2	10.0
CBI 2-50	403	129	117	155	141	127	115	228	207	11.8	11.5
CBI 2-60	421	147	135	173	141	127	115	228	207	12.1	11.7
CBI 4-20	318	84	72	110	141	127	115	228	207	9.8	9.5
CBI 4-30	384	111	99	137	141	127	115	228	207	11.5	11.1
CBI 4-40	412	138	126	164	141	127	115	228	207	12.8	12.6



Technical data

CB 8

Performance curves 60Hz

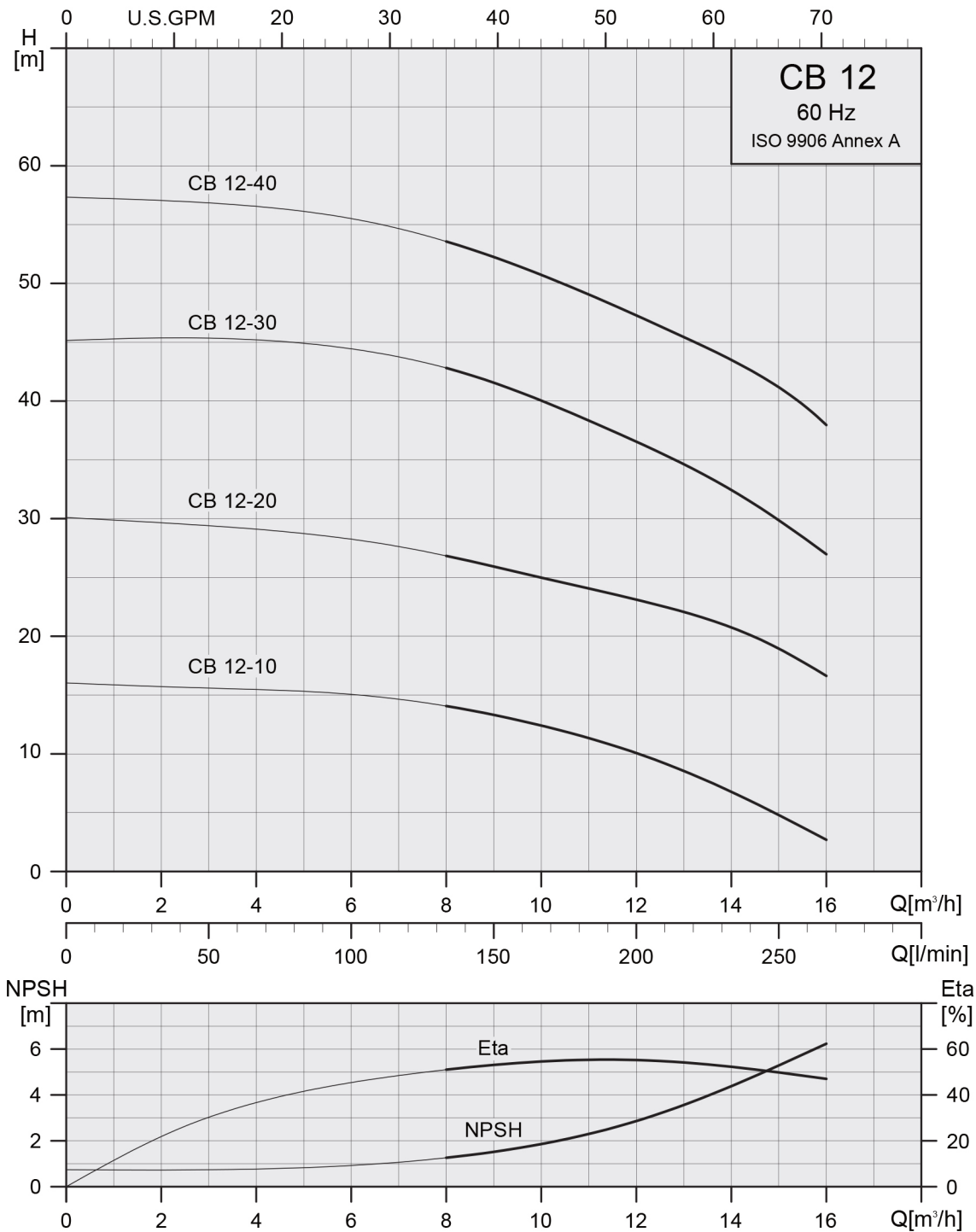


Electrical data, 3450 rpm

Pump type	1Φ 110/220V			3Φ Δ 220-255 / Y 380-440 V		
	I _{1/1} [A]	P ₁ [W]	P ₂ [W]	I _{1/1} [A]	P ₁ [W]	P ₂ [W]
CB 8-20	11.7 / 5.9	1250	1050	3.7 - 3.8 / 2.2 - 2.3	1220	1020
CB 8-25	—	—	—	4.8 - 5.0 / 2.8 - 2.9	1620	1295
CB 8-30	— / 8.9	1830	1510	5.7 - 5.5 / 3.3 - 3.2	1860	1490
CB 8-40	— / 10.4	2080	1720	3Φ Δ 220-277 / Y 380-480 V		
				6.4 - 5.9 / 3.7 - 3.4	2340	1930



Performance curves 60Hz



Electrical data, 3450 rpm

Pump type	1Φ 110 / 220V			3Φ Δ 220-255 / Y 380-440 V		
	I _{1/1} [A]	P ₁ [W]	P ₂ [W]	I _{1/1} [A]	P ₁ [W]	P ₂ [W]
CB 12-10	—	—	—	3.5 - 3.7 / 2.0 - 2.1	910	765
CB 12-20	— / 9.4	2120	1750	6.0 - 5.9 / 3.5 - 3.4	1960	1570
				3Φ Δ 220-277 / Y 380-480 V		
CB 12-30	—	—	—	8.8 - 10.2 / 5.1 - 5.9	2940	2430
CB 12-40	—	—	—	11.2 - 11.3 / 6.5 - 6.6	3810	3250



Dimensions and Weights 60Hz

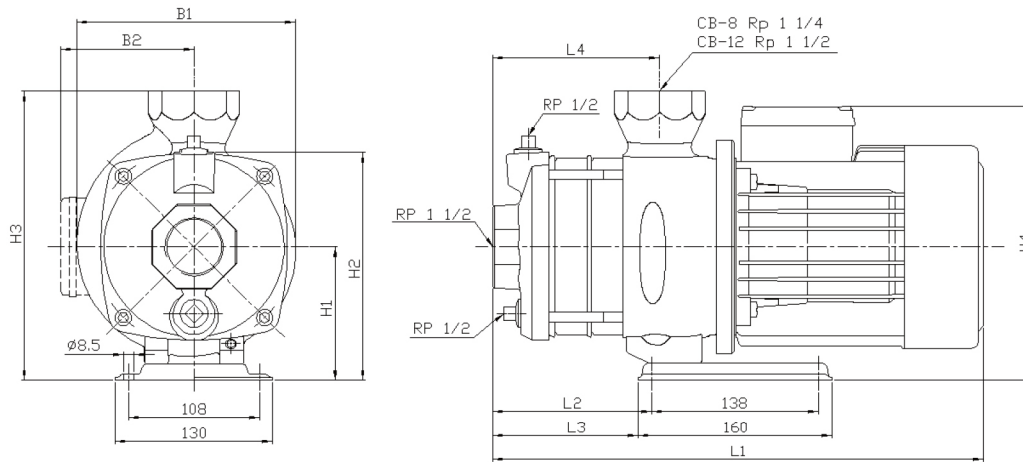


Fig. 1

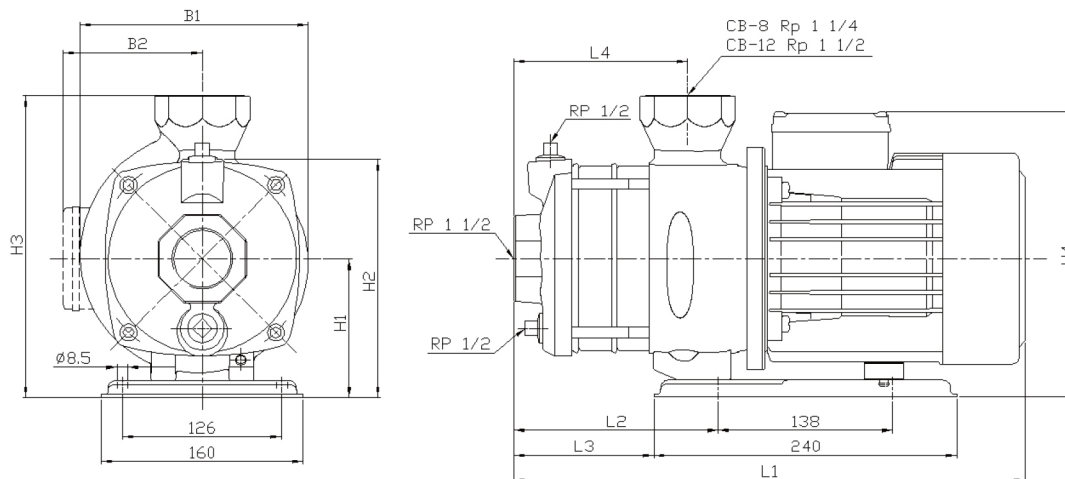


Fig. 2

CB - 8

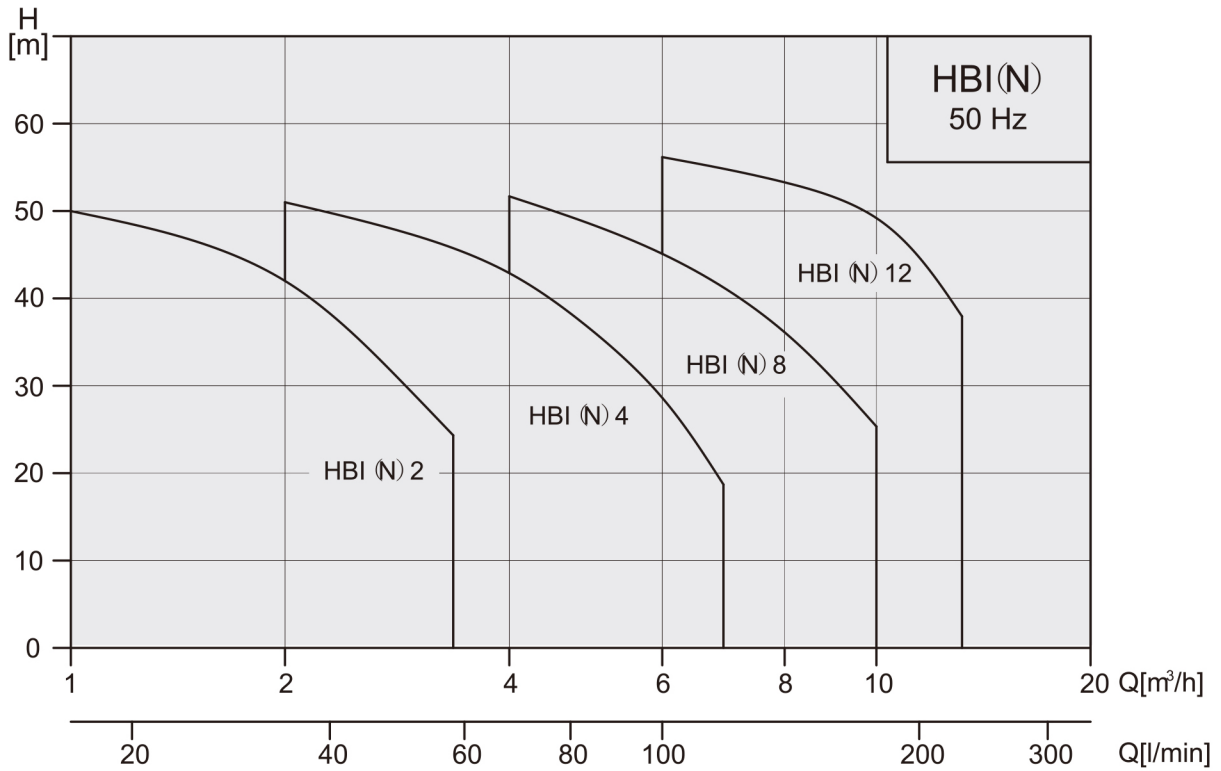
Pump type	Dimension [mm]																				Fig.		Net Weight [mm]	
	1 phase										3 phase										1Φ	3Φ	1Φ	3Φ
	L1	L2	L3	L4	B1	B2	H1	H2	H3	H4	L1	L2	L3	L4	B1	B2	H1	H2	H3	H4				
CB 8-20	360	54	41	77	181	135	110	187	239	245	360	54	41	77	181	114	110	187	239	224	1	1	18.6	18.4
CB 8-25	-	-	-	107	-	-	110	187	239	-	390	84	71	107	181	114	110	187	239	224	-	1	-	20.3
CB 8-30	450	132	81	107	185	152	110	187	239	262	390	84	71	107	181	114	110	187	239	224	2	1	26.6	20.4
CB 8-40	450	132	81	107	185	152	110	187	239	262	450	132	81	107	185	139	110	187	239	249	2	2	26.8	26.8

CB - 12

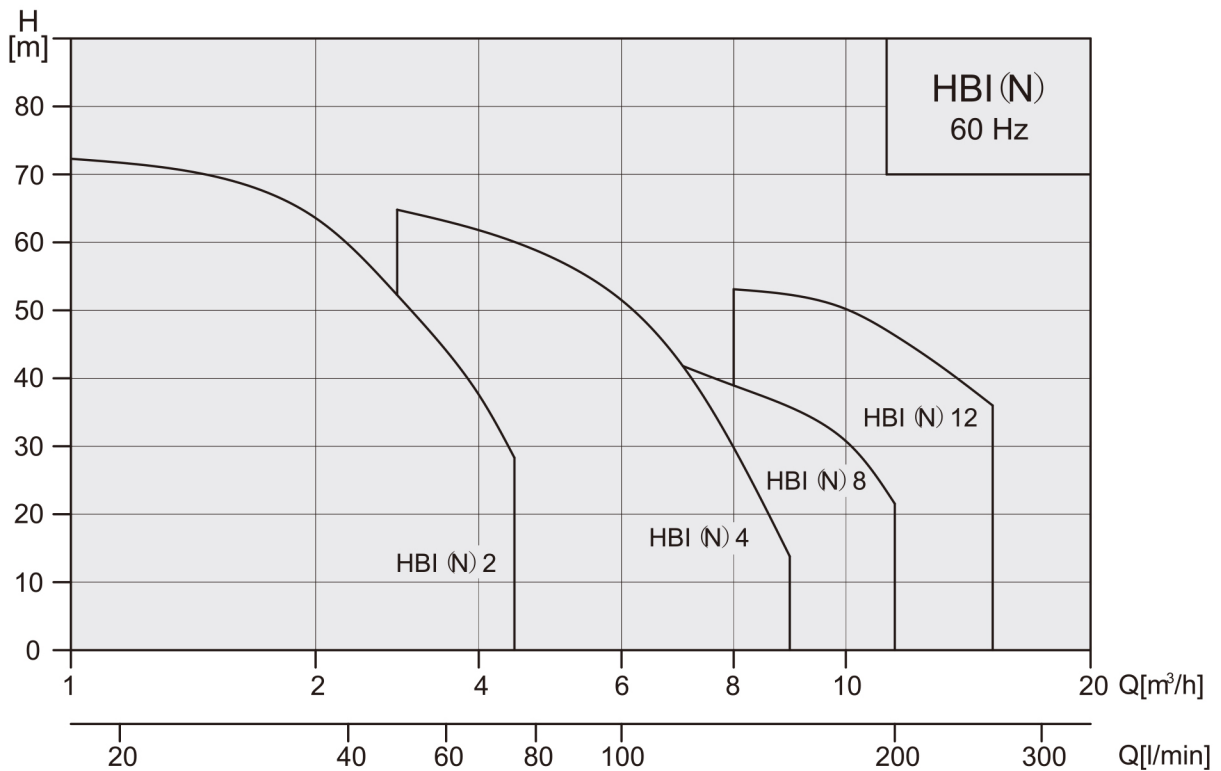
Pump type	Dimension [mm]																				Fig.		Net Weight [mm]	
	1 phase										3 phase										1Φ	3Φ	1Φ	3Φ
	L1	L2	L3	L4	B1	B2	H1	H2	H3	H4	L1	L2	L3	L4	B1	B2	H1	H2	H3	H4				
CB 12-10	-	-	-	77	-	-	110	187	239	-	360	54	41	77	181	114	110	187	239	224	-	1	-	16.2
CB 12-20	420	102	51	77	185	152	110	187	239	262	360	54	41	77	181	114	110	187	239	224	2	1	25.8	19.1
CB 12-30	-	-	-	107	-	-	110	187	239	-	450	132	81	107	185	139	110	187	239	249	-	2	-	28.9
CB 12-40	-	-	-	107	-	-	122	199	251	-	471	132	81	107	196	150	122	199	251	272	-	2	-	34.2



Performance range, 50Hz



Performance range, 60Hz





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.

Pipe connections:

Connection \ Pump	HBI(N) 2	HBI(N) 4	HBI(N) 8	HBI(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.
 Rated speed: 2850rpm(50Hz), 3450rpm(60Hz)
 Enclosure class: IP 54
 Insulation class: F

Standard voltages:

	Phase	voltages
50Hz	1Φ	220-240V
	3Φ	220-240V / 380-415V
60Hz	1Φ	110 / 220V
		220-240V
	3Φ	220-255V / 380-440V 220-277V / 380-480V

Operating conditions

Liquid temperature range: 0°C ~+110°C
 Maximum ambient temperature: +40°C
 Maximum operating pressure: 10 kg./cm².
 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.



General data

HBI, HBN

Model code

Type range	Nominal flow rate [m³/h]	Number of stages x10			Mechanical Seals
HBI (N) 2, 4	4	-	3	0	RQBE (HBI) RQQE (HBN)

Type range	Nominal flow rate [m³/h]	Number of 130mm diameter impellers		Number of 98mm diameter impellers		Mechanical Seals
HBI (N) 8, 12	8	-	1	5	-	RQBE (HBI) RQQE (HBN)

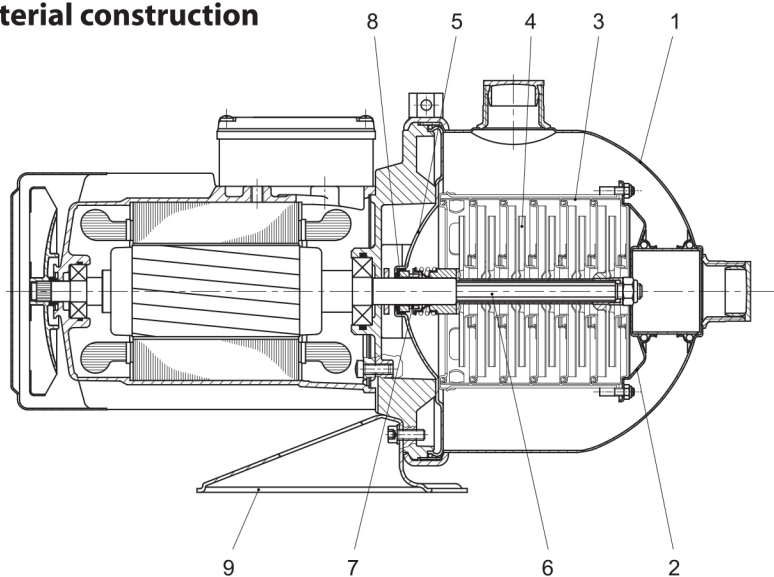
※ HBI 8-20M = Two 98 mm diameter impellers

Mechanical seals

List of Materials		Mechanical Seals	HBI 2/4	HBI 8/12	HBN 2/4	HBN 8/12
Q: Silicon carbide	E: EPDM	RQB	●	●	-	-
B: Carbon	V: Viton	RQQ	Optional	Optional	●	●
R: Seal Type		O-rings				
		E	●	●	●	●
		V	Optional	Optional	Optional	Optional

● Standard

Material construction

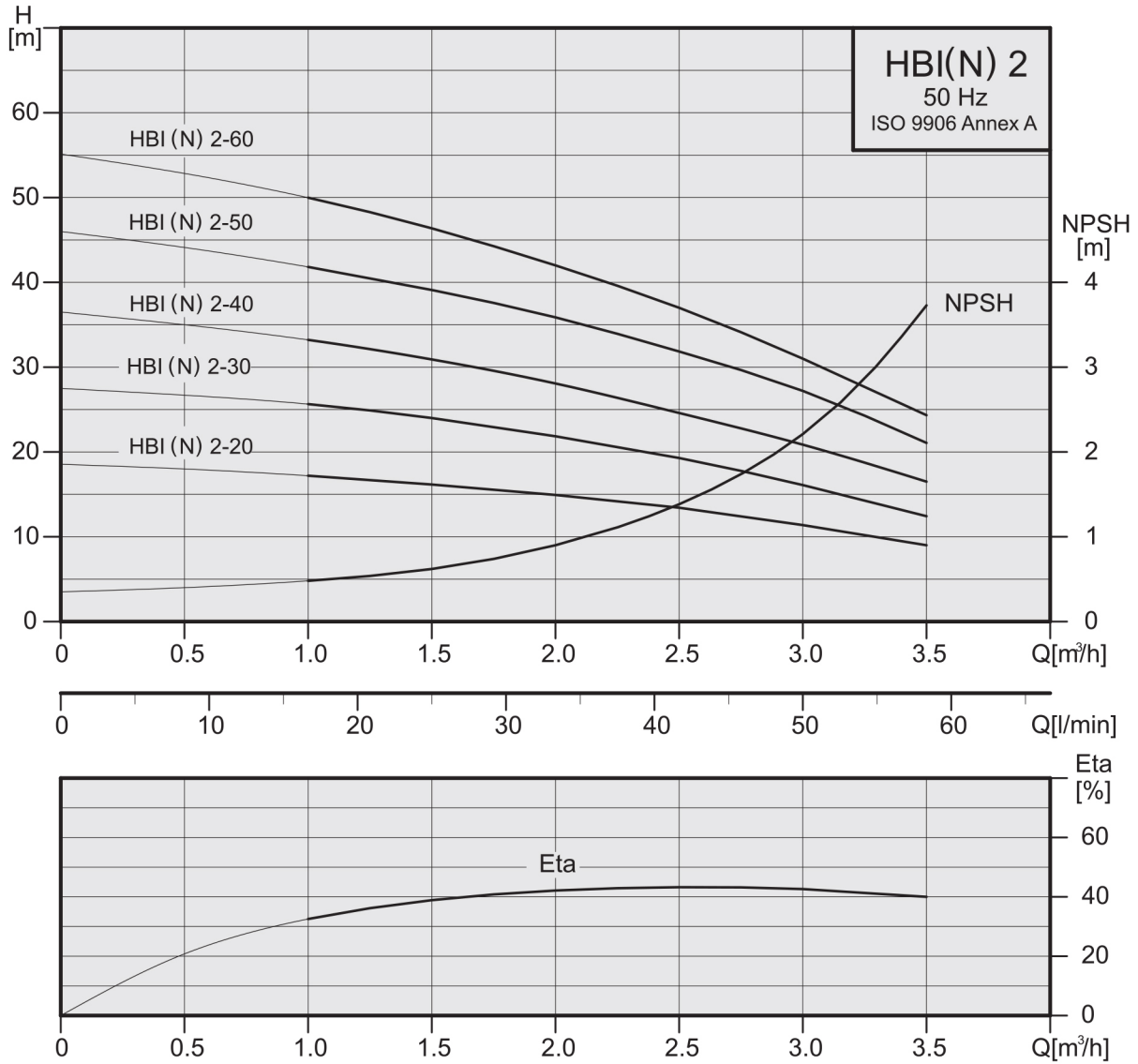


Materials

Pos.	Description	Materials	
		HBI	HBN
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/Silicon carbide
8	O-ring	EPDM	EPDM
9	Base plate	Steel	Steel



Performance curves 50 Hz

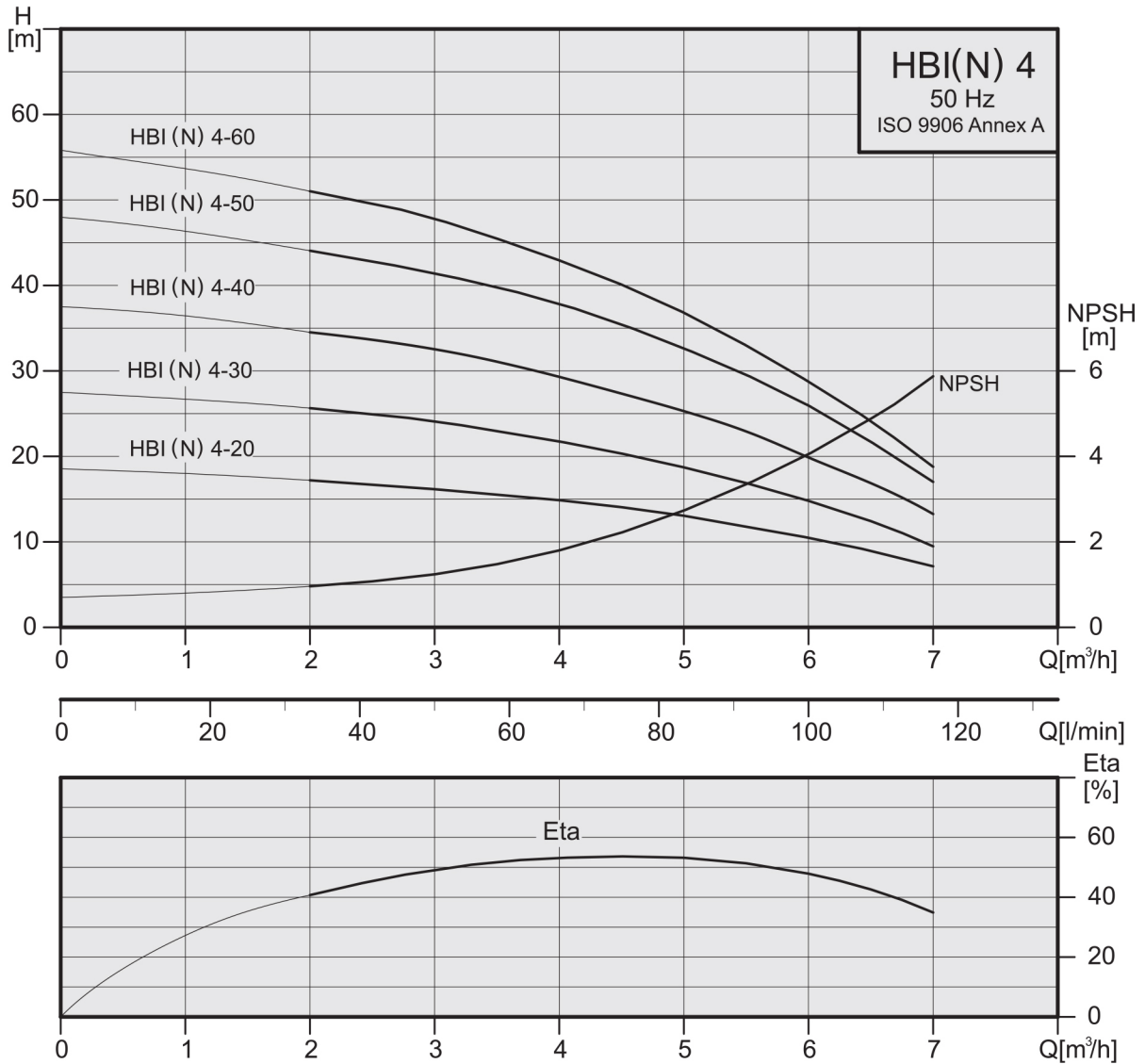


Electrical data, 2850 rpm

Pump type	1Φ 220-240V			3Φ Δ220-240V / Y 380-415V		
	I _{1/1} [A]	P ₁ [W]	P ₂ [W]	I _{1/1} [A]	P ₁ [W]	P ₂ [W]
HBI/HBN 2-20	1.7 - 1.9	360	280	2.0 - 2.7 / 1.2 - 1.6	370	290
HBI/HBN 2-30	2.3 - 2.2	470	365	2.4 - 2.8 / 1.4 - 1.6	550	430
HBI/HBN 2-40	2.7 - 2.6	580	455	2.4 - 2.7 / 1.4 - 1.6	650	505
HBI/HBN 2-50	3.2 - 3.3	720	550	2.7 - 3.0 / 1.6 - 1.8	810	620
HBI/HBN 2-60	3.8 - 3.6	830	635	2.9 - 3.3 / 1.7 - 1.9	910	690



Performance curves 50 Hz



Electrical data, 2850 rpm

Pump type	1Φ 220-240V			3Φ Δ220-240V / Y 380-415V		
	I _{1/1} [A]	P ₁ [W]	P ₂ [W]	I _{1/1} [A]	P ₁ [W]	P ₂ [W]
HBI/HBN 4-20	2.7 - 2.6	580	450	2.5 - 2.9 / 1.5 - 1.7	660	515
HBI/HBN 4-30	3.9 - 3.7	820	635	2.8 - 3.0 / 1.6 - 1.7	850	650
HBI/HBN 4-40	4.6 - 4.4	1000	765	3.3 - 3.5 / 1.9 - 2.0	1060	810
HBI/HBN 4-50	5.8 - 5.5	1240	1005	4.2 - 4.5 / 2.4 - 2.6	1310	1060
HBI/HBN 4-60	7.1 - 6.9	1510	1210	5.2 - 5.6 / 3.0 - 3.3	1550	1230

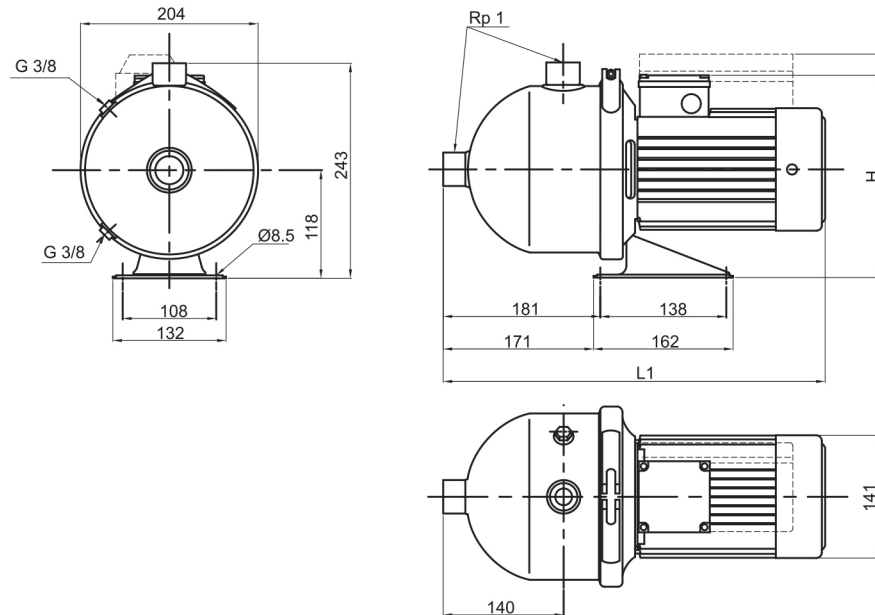


Technical data

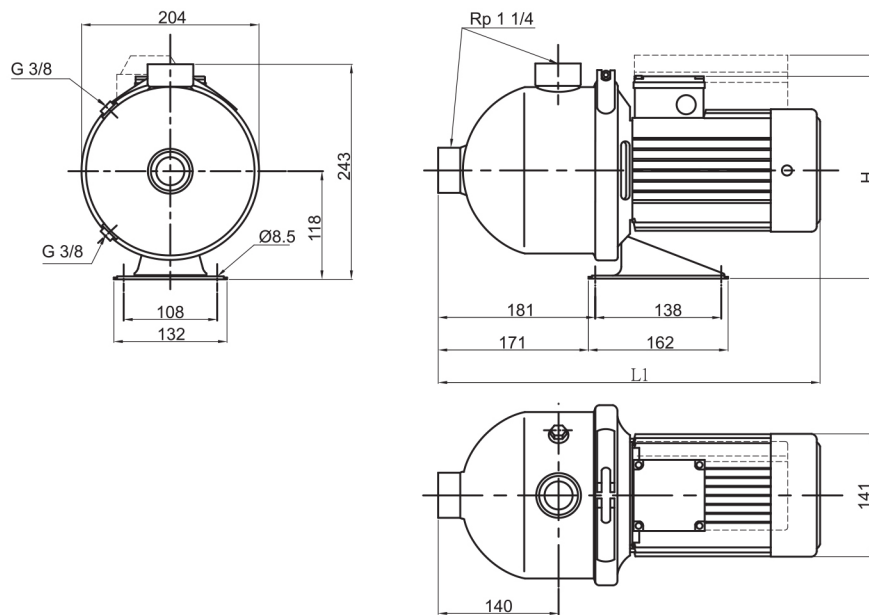
HBI, HBN

Dimensions and weights 50 Hz

HBI(N)-2



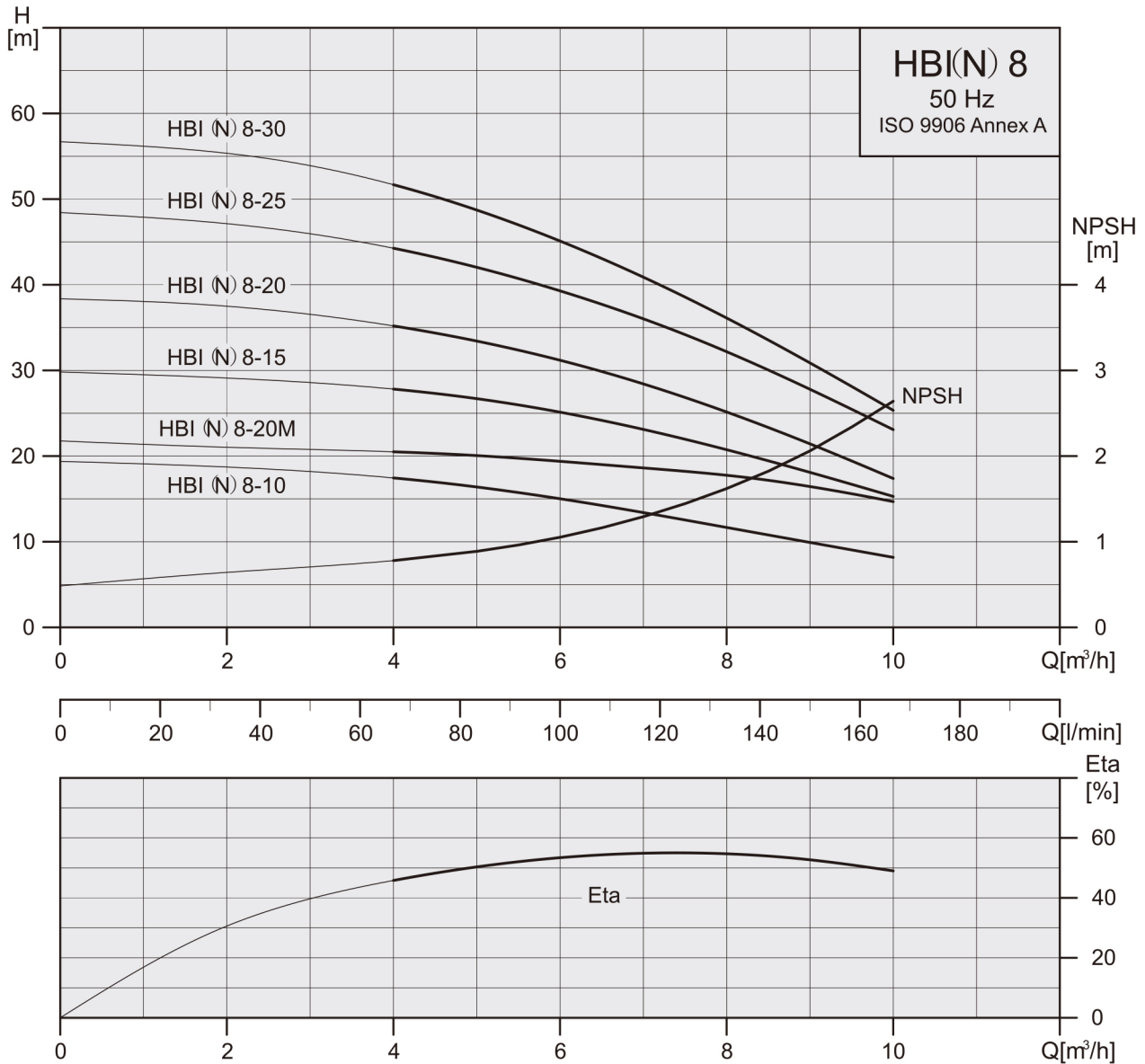
HBI(N)-4



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



Performance curves 50Hz



Electrical data, 2850 rpm

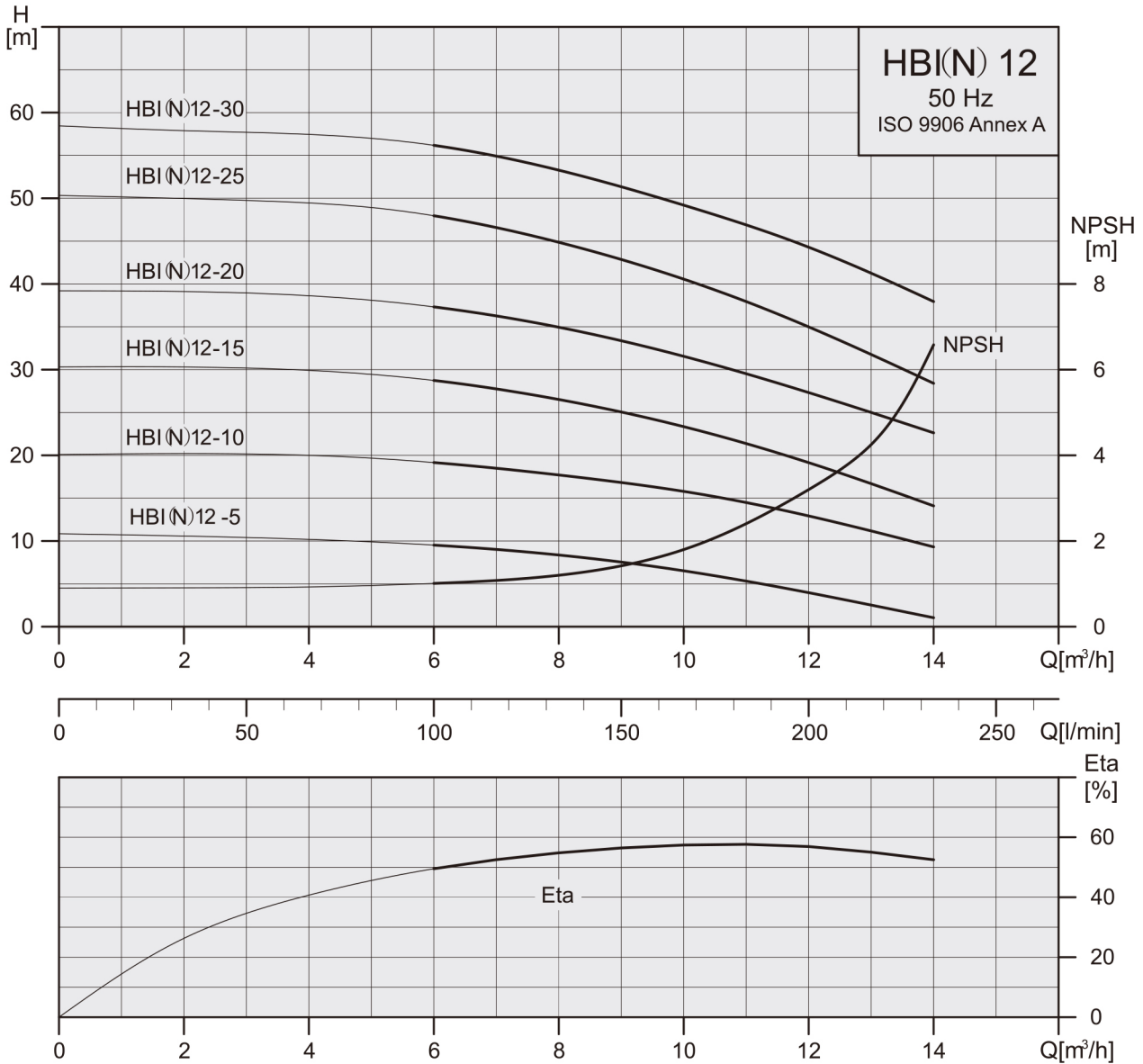
Pump type	1Φ 220-240V			3Φ Δ220-240V / Y 380-415V		
	I _{1/1} [A]	P ₁ [W]	P ₂ [W]	I _{1/1} [A]	P ₁ [W]	P ₂ [W]
HBI/HBN 8-10	3.3 - 3.1	760	580	2.7 - 3.1 / 1.6 - 1.8	810	620
HBI/HBN 8-20M	—	—	—	4.2 - 4.5 / 2.4 - 2.6	1120	910
HBI/HBN 8-15	5.3 - 5.1	1150	930	3.9 - 4.4 / 2.3 - 2.6	1190	965
HBI/HBN 8-20	6.8 - 6.6	1420	1130	5.0 - 5.5 / 2.9 - 3.2	1450	1150
HBI/HBN 8-25	8.1 - 7.9	1880	1560	5.8 - 6.5 / 3.4 - 3.8	1840	1460
HBI/HBN 8-30	9.1 - 9.0	2100	1750	6.4 - 6.9 / 3.7 - 4.0	2050	1710



Technical data

HBI, HBN 12

Performance curves 50Hz



Electrical data, 2850 rpm

Pump type	1Φ 220-240V			3Φ Δ220-240V / Y 380-415V		
	I _{1/1} [A]	P ₁ [W]	P ₂ [W]	I _{1/1} [A]	P ₁ [W]	P ₂ [W]
HBI/HBN 12-05	—	—	—	2.4 - 2.8 / 1.4 - 1.6	550	425
HBI/HBN 12-10	5.3 - 5.1	1170	945	3.6 - 3.8 / 2.1 - 2.2	1190	965
HBI/HBN 12-15	7.6 - 7.5	1650	1310	5.5 - 6.0 / 3.2 - 3.5	1690	1345
HBI/HBN 12-20	10.6 - 10.4	2310	1925	7.0 - 7.4 / 4.0 - 4.3	2350	1960
HBI/HBN 12-25	13.1 - 12.7	2980	2510	9.0 - 9.3 / 5.2 - 5.4	2880	2420
HBI/HBN 12-30	—	—	—	11.7- 12.1 / 6.8 - 7.0	3610	3110

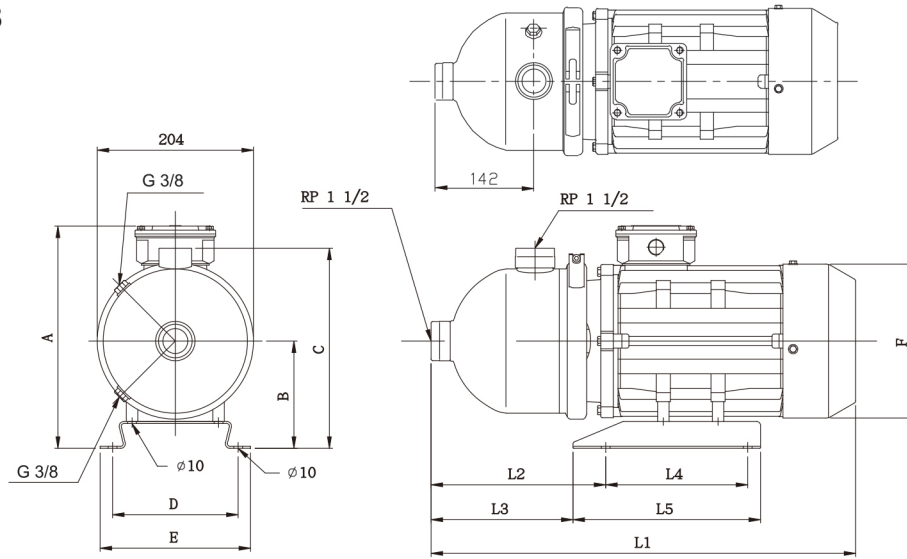


Technical data

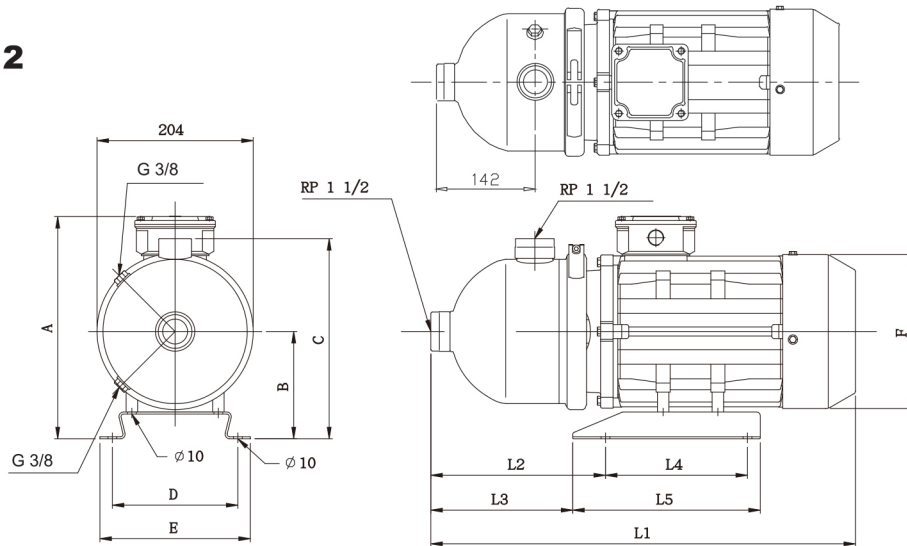
HBI, HBN

Dimensions and weights 50Hz

HBI(N)-8



HBI(N)-12



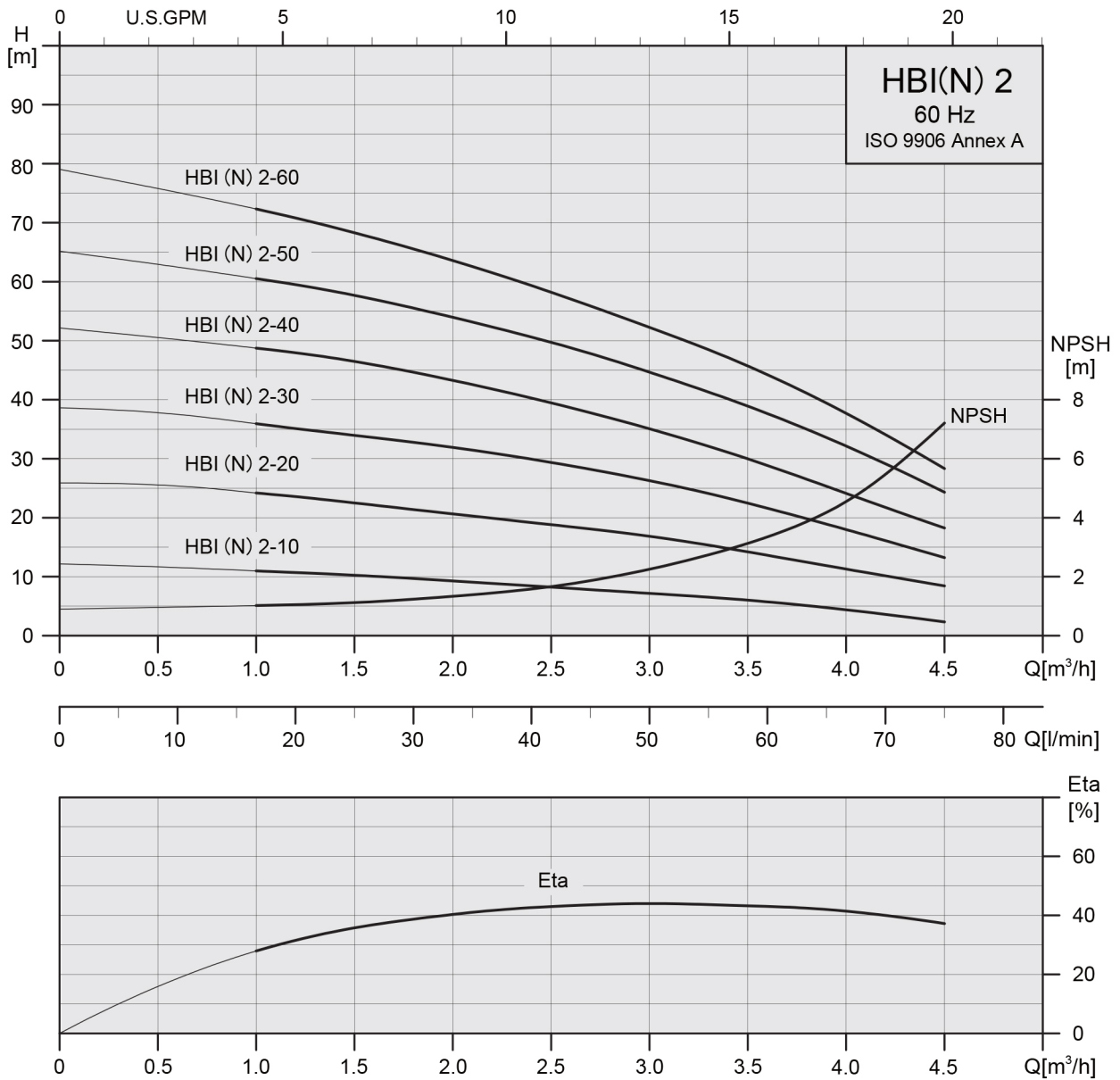
pump type	Dimension[mm]														
	L1		L2	L3	L4	L5	A		B	C	D	E	F	Net Weight(kg)	
	1phase	3phase					1phase	3phase						1phase	3phase
HBI(N) 8-10	403	403	181	171	138	162	255	233	118	243	108	132	141	10.20	10.02
HBI(N) 8-15	441	441	181	171	138	162	255	233	118	243	108	132	141	12.28	12.08
HBI(N) 8-20M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



Technical data

HBI, HBN 2

Performance curves 60 Hz

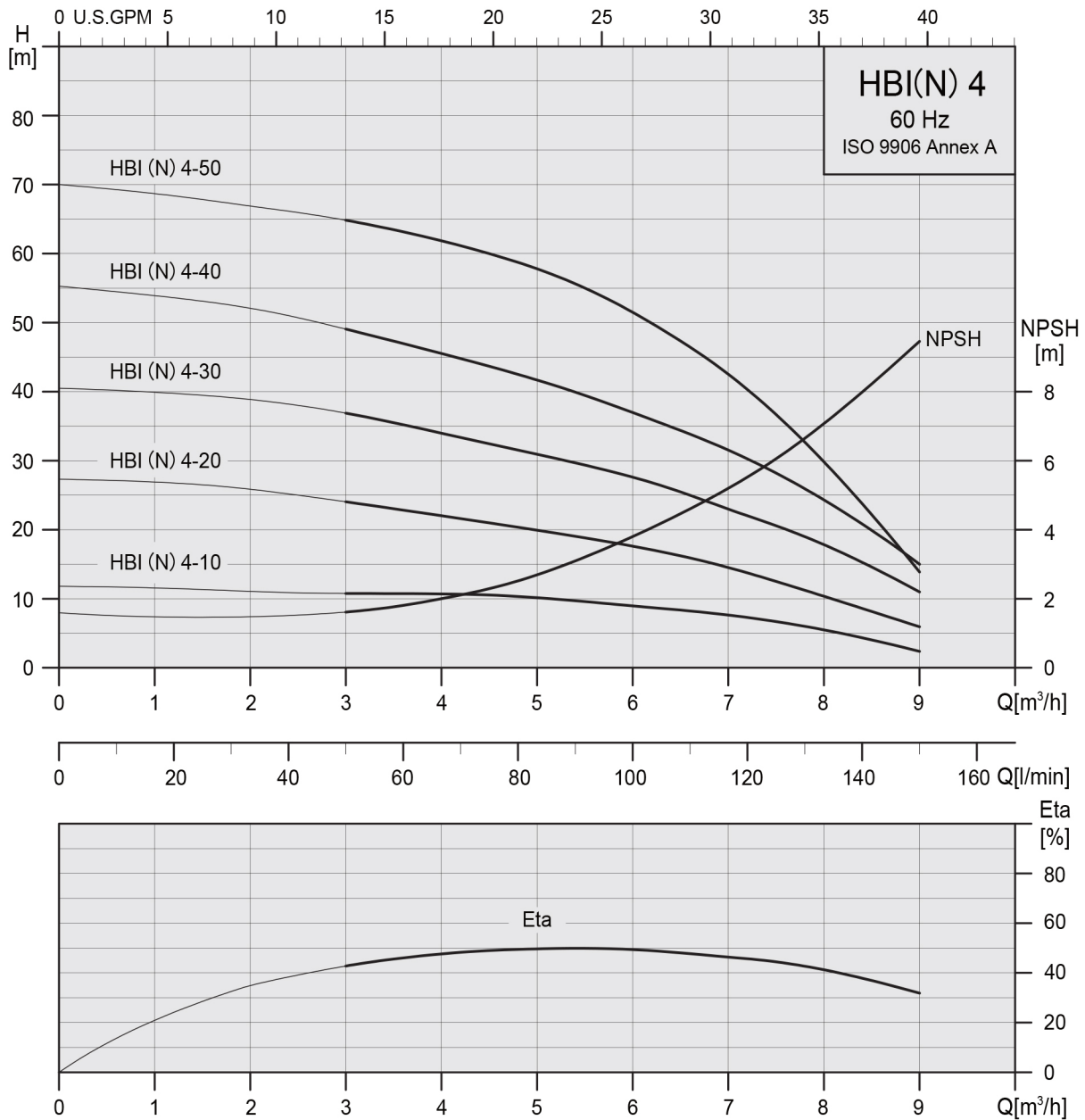


Electrical data, 3450 rpm

Pump type	1Φ 110 / 220V			3Φ Δ 220-255V / Y 380-440V		
	I _{1/1} [A]	P ₁ [W]	P ₂ [W]	I _{1/1} [A]	P ₁ [W]	P ₂ [W]
HBI/HBN 2-10	5.9 / 3.0	390	310	1.5 - 1.6 / 0.9 - 1.0	360	290
HBI/HBN 2-20	6.6 / 3.4	570	455	1.7 - 1.8 / 1.0 - 1.1	540	435
HBI/HBN 2-30	7.6 / 3.8	750	605	2.2 - 2.3 / 1.3 - 1.4	720	580
HBI/HBN 2-40	9.3 / 4.7	980	790	3.0 - 3.2 / 1.75 - 1.9	950	770
HBI/HBN 2-50	10.7 / 5.4	1160	970	3.8 - 3.9 / 2.2 - 2.3	1170	980
HBI/HBN 2-60	12.4 / 6.3	1375	1150	4.1 - 4.2 / 2.35 - 2.45	1330	1115



Performance curves 60 Hz



Electrical data, 3450 rpm

Pump type	1Φ 110 / 220V			3Φ Δ220-255V / Y 380-440V		
	I _{1/1} [A]	P ₁ [W]	P ₂ [W]	I _{1/1} [A]	P ₁ [W]	P ₂ [W]
HBI/HBN 4-10	5.9 / 3.1	530	425	1.8 - 1.9 / 1.1 - 1.2	560	450
HBI/HBN 4-20	9.3 / 4.7	970	780	2.9 - 3.1 / 1.7 - 1.8	910	740
HBI/HBN 4-30	12.5 / 6.5	1360	1140	4.1 - 4.2 / 2.4 - 2.5	1280	1080
HBI/HBN 4-40	— / 8.5	1730	1380	4.7 - 4.8 / 2.7 - 2.8	1675	1340
HBI/HBN 4-50	— / 9.9	2080	1660	5.7 - 6.0 / 3.3 - 3.5	1995	1595

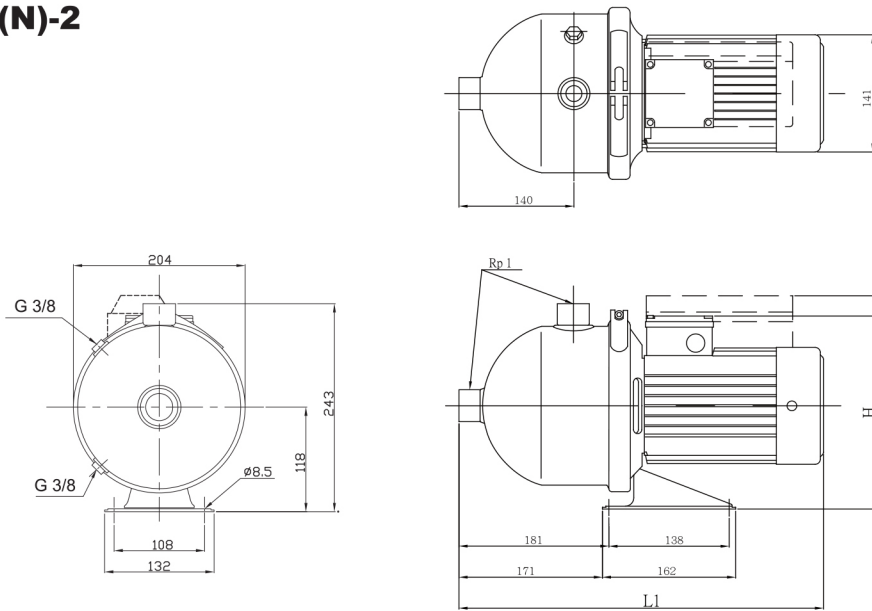


Technical data

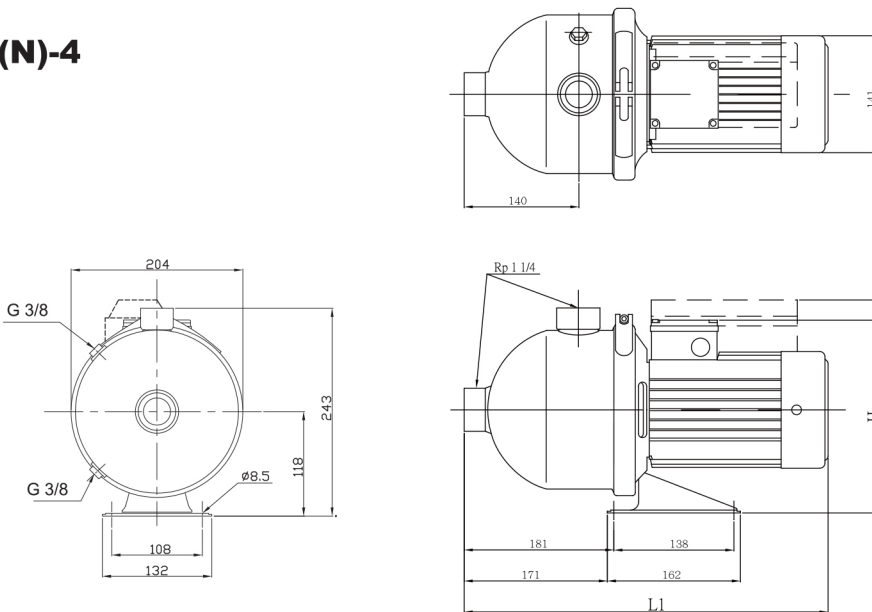
HBI, HBN

Dimensions and weights 60 Hz

HBI(N)-2



HBI(N)-4



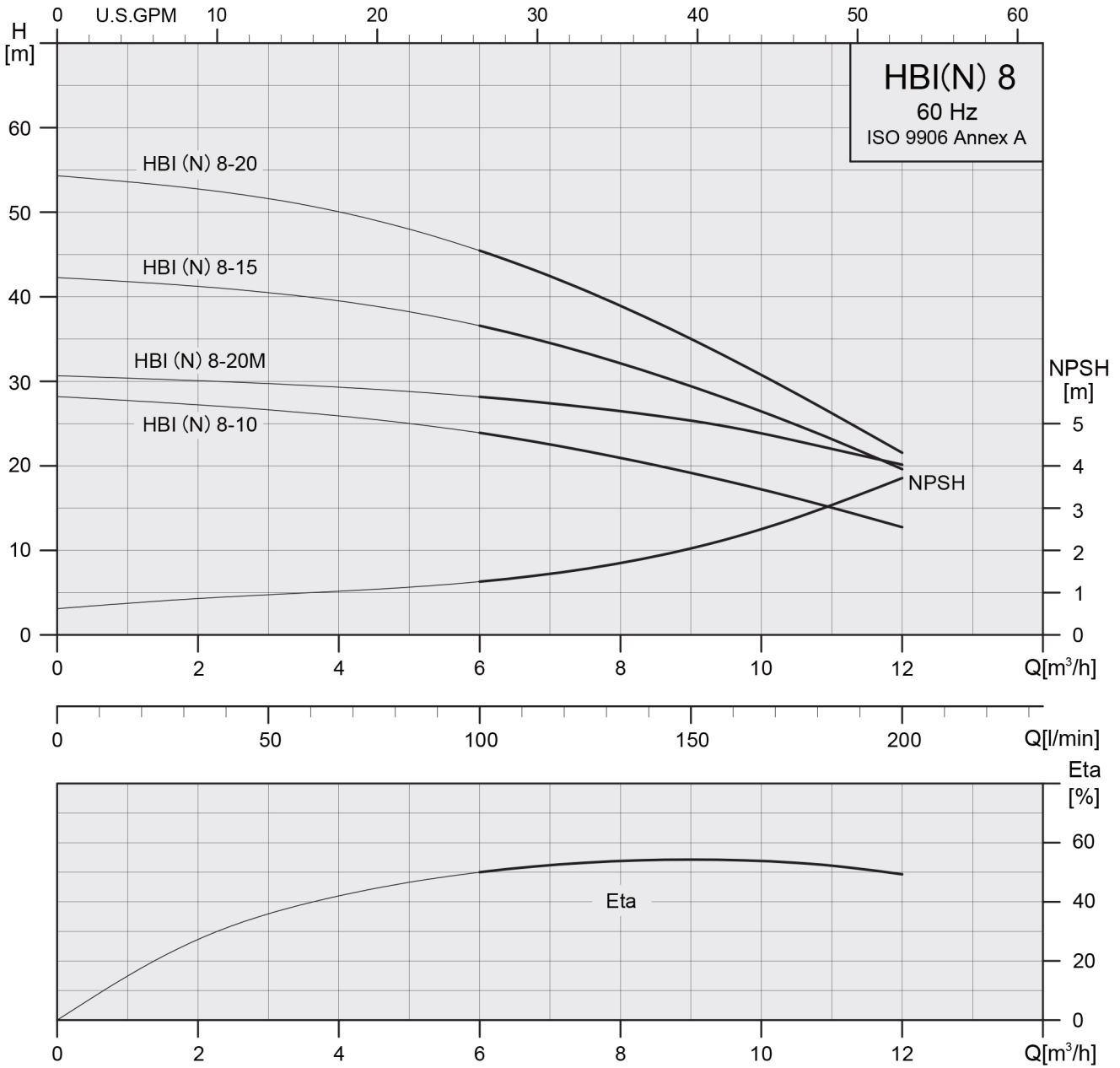
pump type	Dimension (mm)				Net Weight (kg)
	1-Phase		3-Phase		
	L1	H	L1	H	
HBI/HBN 2-10	403	255	403	233	9.5
HBI/HBN 2-20	403	255	403	233	9.5
HBI/HBN 2-30	403	255	403	233	9.8
HBI/HBN 2-40	403	255	403	233	10.3
HBI/HBN 2-50	441	255	441	233	11.7
HBI/HBN 2-60	441	255	441	233	12.0
HBI/HBN 4-10	403	255	403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



Technical data

HBI, HBN 8

Performance curves 60Hz

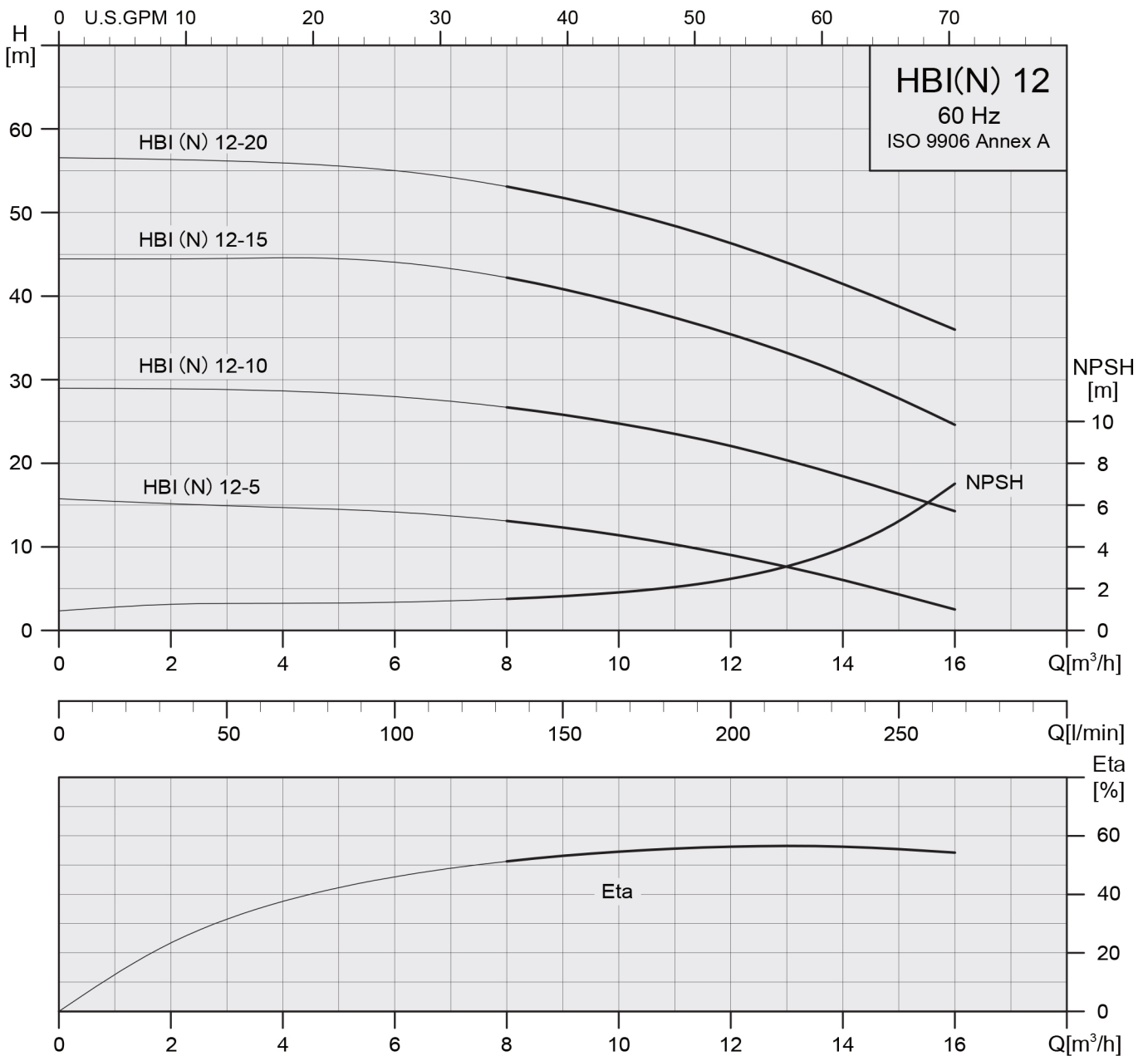


Electrical data, 3450 rpm

Pump type	1Φ 110 / 220V			3Φ Δ220-255V / Y 380-440V		
	I _{1/1} [A]	P ₁ [W]	P ₂ [W]	I _{1/1} [A]	P ₁ [W]	P ₂ [W]
HBI/HBN 8-10	11.4 / 6.0	1280	1070	3.9 - 4.1 / 2.3 - 2.4	1210	1010
HBI/HBN 8-20M	— / 8.3	1730	1380	5.2 - 5.3 / 3.0 - 3.1	1670	1340
HBI/HBN 8-15	— / 9.3	2080	1710	5.6 - 5.7 / 3.2 - 3.3	1890	1560
HBI/HBN 8-20	— / 10.9	2460	2030	3Φ Δ220-277V / Y 380-480V		
				7.1 - 6.9 / 4.1 - 4.0	2360	1950



Performance curves 60Hz



Electrical data, 3450 rpm

Pump type	1Φ 110 / 220V			3Φ Δ220-255V / Y 380-440V		
	I _{1/1} [A]	P ₁ [W]	P ₂ [W]	I _{1/1} [A]	P ₁ [W]	P ₂ [W]
HBI/HBN 12-05	8.5 / 4.5	940	760	2.8 - 3.0 / 1.6 - 1.75	850	690
HBI/HBN 12-10	— / 9.7	2170	1790	5.7 - 5.9 / 3.3 - 3.4	1930	1595
				3Φ Δ220-277V / Y 380-480V		
HBI/HBN 12-15	—	—	—	9.2 - 8.9 / 5.3 - 5.1	2860	2365
HBI/HBN 12-20	—	—	—	11.2 - 11.8 / 6.5 - 6.8	3950	3370

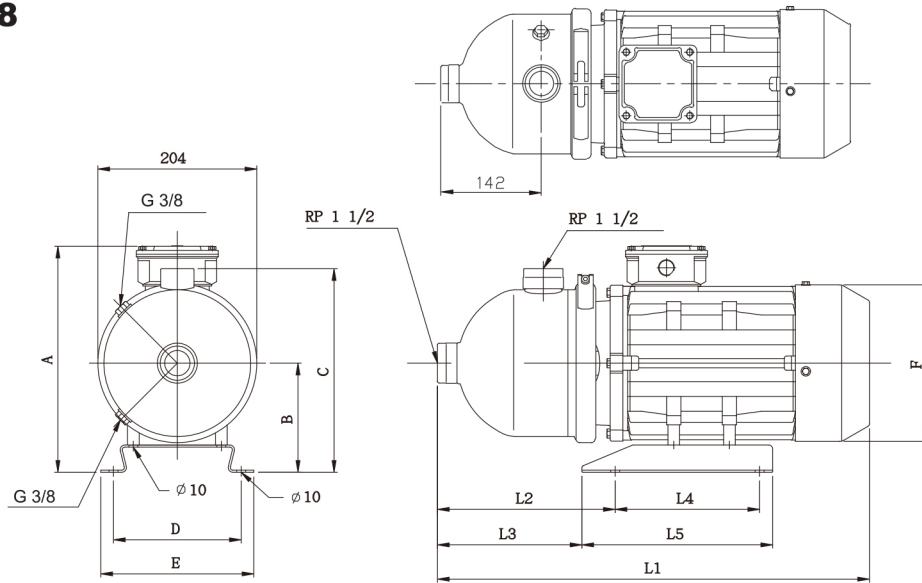


Technical data

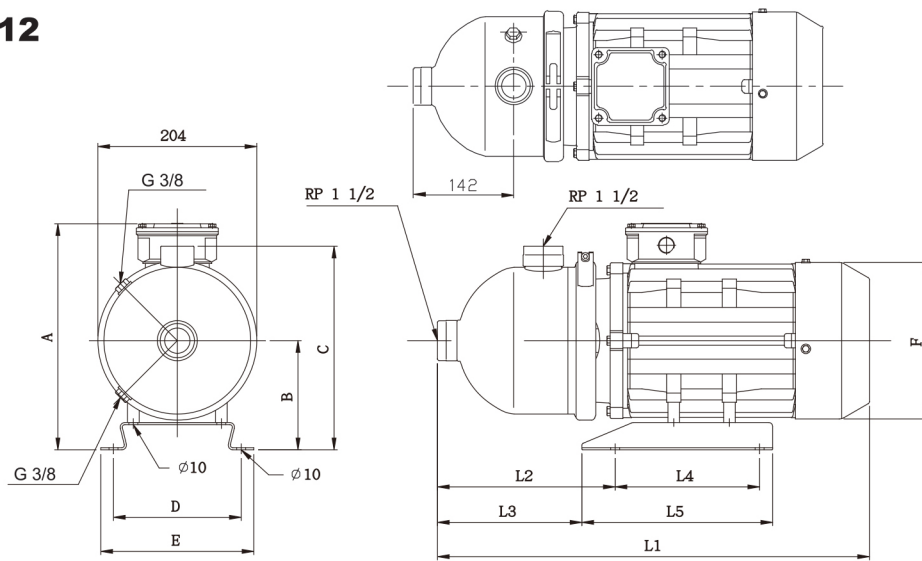
HBI, HBN

Dimensions and weights 60 Hz

HBI(N)-8



HBI(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								
HBI(N) 8-10	441	441	181	171	138	162	255	233	118	243	108	132	141	11.70	11.50	
HBI(N) 8-15	514	-	200	180	195	235	267	-	121	245	158	178	177	21.42	-	
	-	441	181	171	138	162	-	233	118	243	108	132	141	-	13.18	
HBI(N) 8-20M	441	441	181	171	138	162	255	233	118	243	108	132	141	13.24	13.05	
HBI(N) 8-20	514	514	200	180	195	235	267	261	121	245	158	178	177	21.50	21.60	
HBI(N) 12-05	403	403	181	171	138	162	255	233	118	243	108	132	141	10.26	10.06	
HBI(N) 12-10	514	-	200	180	195	235	267	-	121	245	158	178	177	20.64	-	
	-	441	181	171	138	162	-	233	118	243	108	132	141	-	12.64	
HBI(N) 12-15	-	493	200	180	195	235	-	261	121	245	158	178	177	-	23.72	
HBI(N) 12-20	-	514	230	198	195	245	-	284	133	259	174	198	197	-	29.40	



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