

Pump type	50 Hz			60 Hz			Shaft seal	Mains-operated motor						Electronically speed-controlled motor											
	Material			Material				50 Hz	60 Hz			50/60 Hz			Voltage [V]										
								Voltage [V]	Voltage [V]			Voltage [V]													
	Cast iron EN-GJL-200 (CM-A)	Stainless steel EN 1.4301/AISI 304 (CM-I)	Stainless steel EN 1.4401/AISI 316 (CM-G)	Cast iron EN-GJL-200 (CM-A)	Stainless steel EN 1.4301/AISI 304 (CM-I)	Stainless steel EN 1.4401/AISI 316 (CM-G)	AVBE, AVBV	AQVE, AQQV, AQBE, AQBIV, AQQK	RUUE, RUUV	1 x 220-240 V (supply voltage C)	3 x 220-240/380-415 V (supply voltage F)	1 x 220 V (supply voltage A)	1 x 115/230 V (supply voltage B/B1) <sup>4)</sup>	1 x 127 V (supply voltage D) <sup>1)</sup>	3 x 208-230/440-480 V (supply voltage E/E1) <sup>4)</sup>	3 x 575 V (supply voltage H) <sup>5)</sup>	3 x 220-240/380-415 V, (50 Hz)/ 3 x 220-255/380-440 V, (60 Hz) (supply voltage O)	3 x 380-415 V, (50 Hz)/ 3 x 440-480 V, (60 Hz) (supply voltage J)	3 x 200 V/346 V, (50 Hz) 3 x 200-220/346-380 V, (60 Hz) (supply voltage G)	3 x 400 V, (50/60 Hz) (supply voltage I) <sup>5)</sup>	3 x 200-230 V, 50/60 Hz (supply voltage R)	3 x 208-230 V, 50/60 Hz (supply voltage Q)	3 x 380-500 V, (50/60 Hz) (supply voltage S)	3 x 440-480 V, (50/60 Hz) (supply voltage T)	1 x 200-240 V, (50/60 Hz) (supply voltage U)
CM 5-2	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
CM 5-3	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
CM 5-4	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
CM 5-5	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
CM 5-6	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
CM 5-7	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
CM 5-8	•	•	•	•	•	•	• <sup>2)</sup>	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
CM 5-9	•	•	•	•	•	•	• <sup>2)</sup>	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
CM 5-10	•	•	•	•	•	•	• <sup>2)</sup>	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
CM 5-11	•	•	•	•	•	•	•	• <sup>3)</sup>	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
CM 5-12	•	•	•	•	•	•	•	• <sup>3)</sup>	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
CM 5-13	•	•	•	•	•	•	•	• <sup>3)</sup>	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
CM 10-1	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
CM 10-2	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
CM 10-3	•	•	•	•	•	•	•	• <sup>2)</sup>	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
CM 10-4	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
CM 10-5	•	•	•	•	•	•	• <sup>2)</sup>	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
CM 10-6	•	•	•	•	•	•	• <sup>2)</sup>	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
CM 10-7	•	•	•	•	•	•	•	• <sup>3)</sup>	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
CM 10-8	•	•	•	•	•	•	•	• <sup>3)</sup>	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
CM 15-1	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
CM 15-2	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
CM 15-3	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
CM 15-4	•	•	•	•	•	•	• <sup>2)</sup>	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
CM 25-1	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
CM 25-2	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
CM 25-3	•	•	•	•	•	•	• <sup>2)</sup>	• <sup>2)</sup>	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
CM 25-4	•	•	•	•	•	•	• <sup>2)</sup>	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•

1) On request.

2) Neither suitable for 60 Hz mains-operated pumps, nor for CME pumps running at 100 % speed.

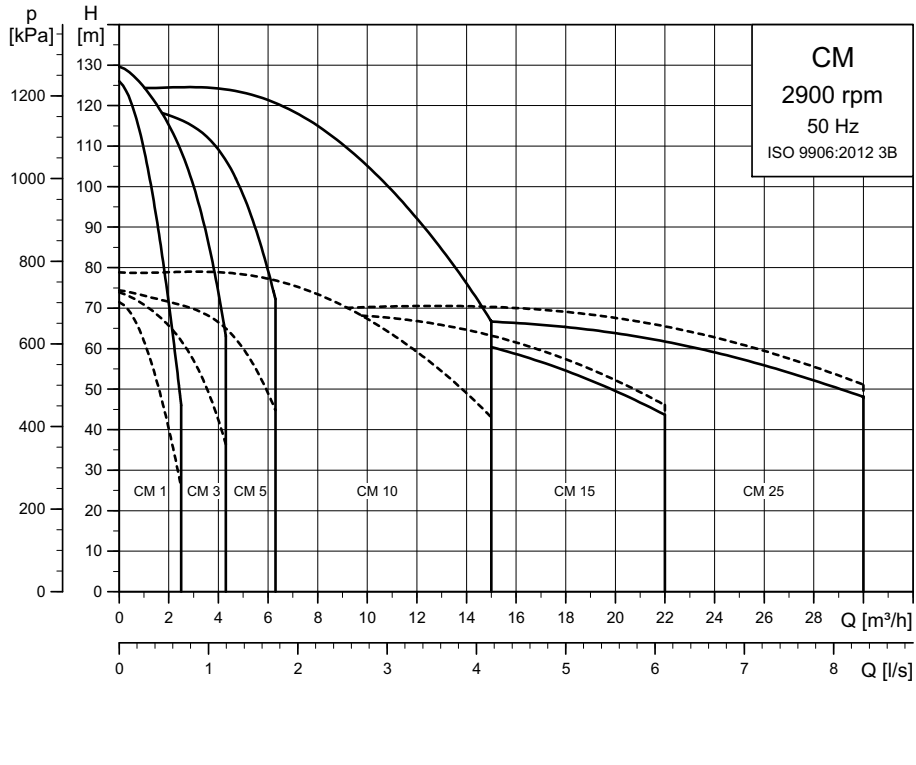
3) Not suitable for pumping liquids at temperatures above 90 °C.

4) Pumps with supply voltages B and E are supplied for wire connection without terminal board inside the terminal box (flying wires). Pumps with supply voltages B1 and E1 are supplied with terminal board inside the terminal box.

5) Only available with IE2-compliant motors and cannot be exported to the USA.

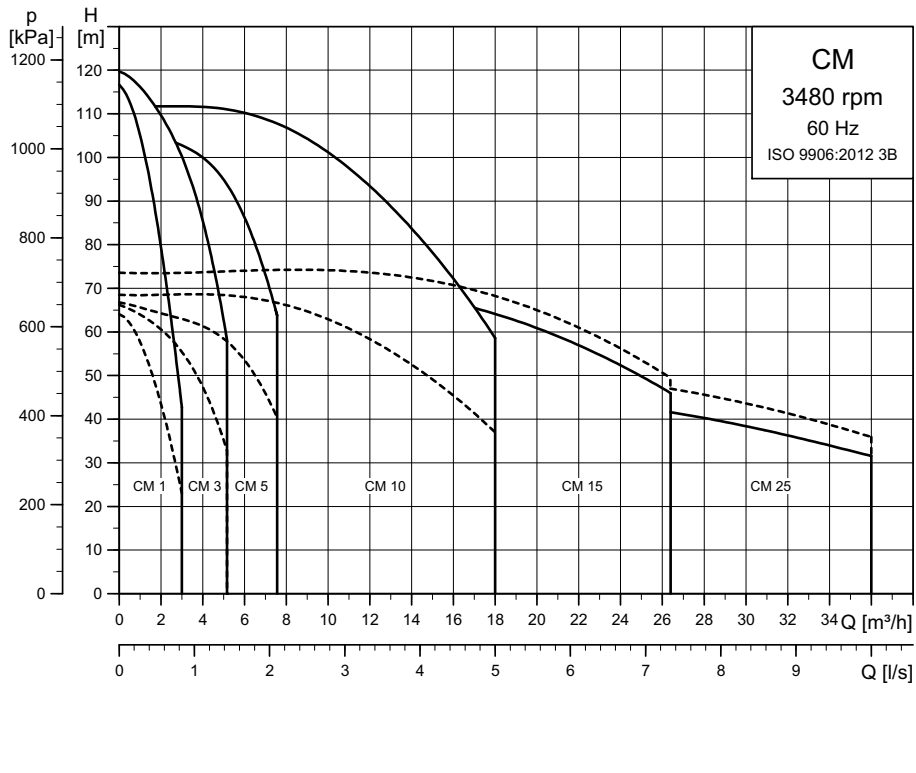
# 7. Performance range

## CM, 50 Hz



TM04 3340 4616

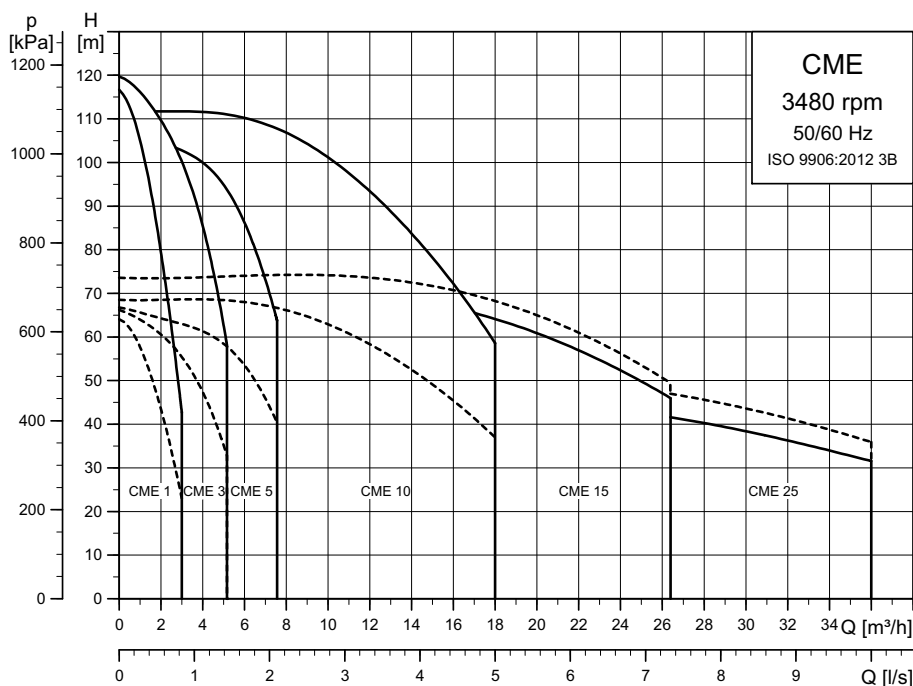
## CM, 60 Hz



TM04 3369 4616

**CME, 50/60 Hz**

Supply voltages S, T, U



TM04 3568 5112

**EuP ready**

The CM, CME pumps are energy-optimised and comply with the EuP Directive (Commission Regulation (EC) No 547/2012) which has been effective since 1 January 2013. As from this date, all pumps will be classified/graduated in a new energy efficiency index (MEI).

**Minimum efficiency index**

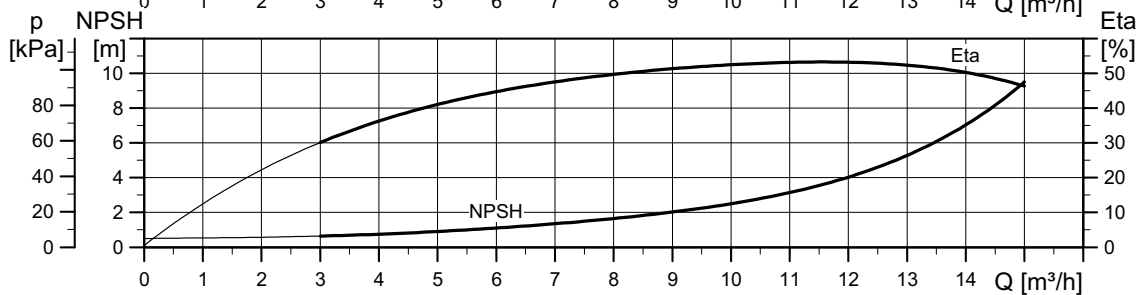
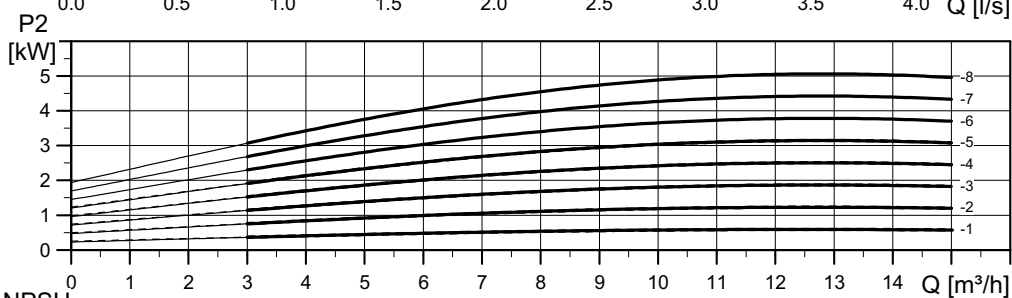
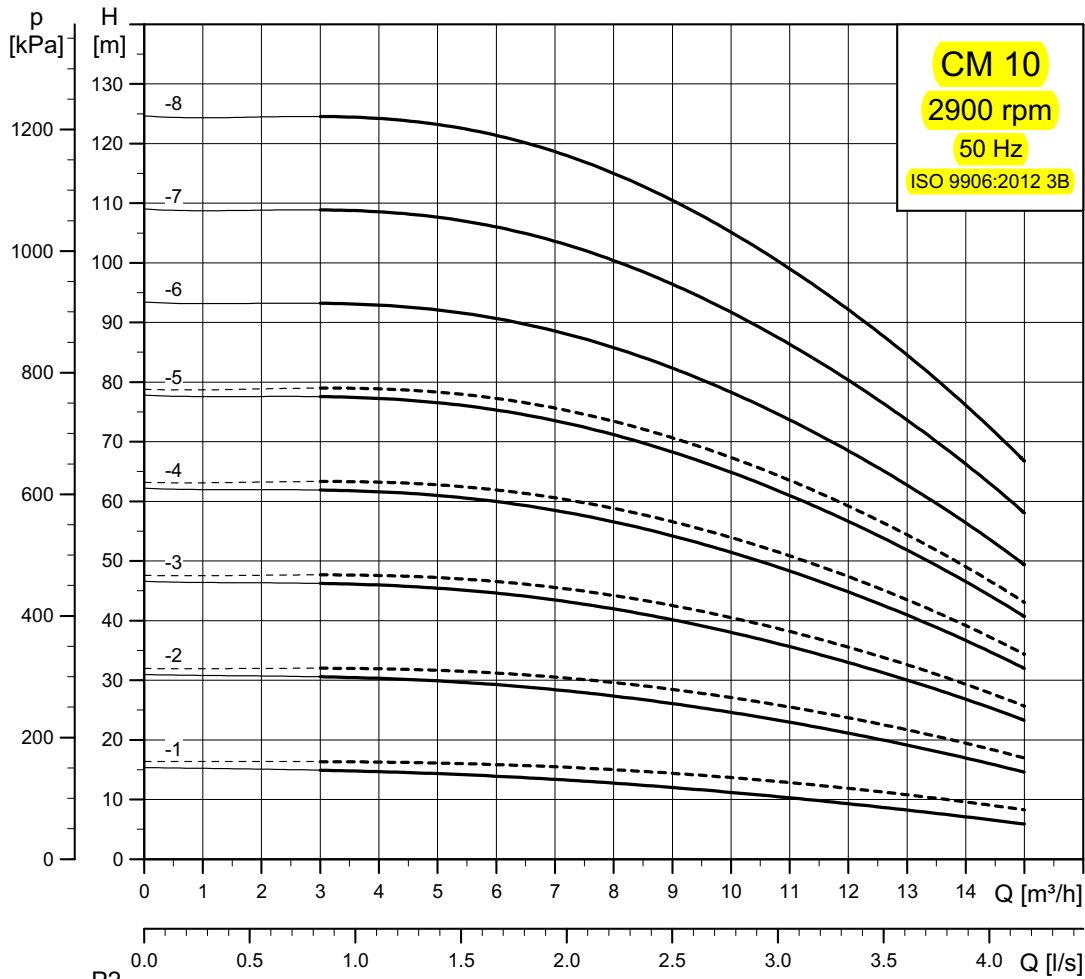
Minimum efficiency index (MEI) means the dimensionless scale unit for hydraulic pump efficiency at best efficiency point (BEP), part load (PL) and overload (OL). The Commission Regulation (EU) sets efficiency requirements to  $MEI \geq 0.40$  as from 1 January 2015. An indicative benchmark for best-performing water pump available on the market as from 1 January 2013 is determined in the Regulation.

- The benchmark for most efficient water pumps is  $MEI \geq 0.70$ .
- The efficiency of a pump with a trimmed impeller is usually lower than that of a pump with the full impeller diameter. The trimming of the impeller will adapt the pump to a fixed duty point, leading to reduced energy consumption. The minimum efficiency index (MEI) is based on the full impeller diameter.

- The operation of this water pump with variable duty points may be more efficient and economic when controlled, for example, by the use of a variable-speed drive that matches the pump duty to the system.
- Information on benchmark efficiency is available at <http://europump.eu/efficiencycharts>.

Pump type	MEI	Efficiency at best efficiency point [%]
CM, CME 1 A	0.70	37.1
CM, CME 1 I/G	0.68	36.4
CM, CME 3 A	0.70	50.6
CM, CME 3 I/G	0.70	49.3
CM, CME 5 A	0.70	53.3
CM, CME 5 I/G	0.70	52.1
CM, CME 10 A	0.70	62.2
CM, CME 10 I/G	0.52	57.9
CM, CME 15 A	0.70	67.5
CM, CME 15 I/G	0.59	63.1
CM, CME 25 A	0.70	68.3
CM, CME 25 I/G	0.41	63.8

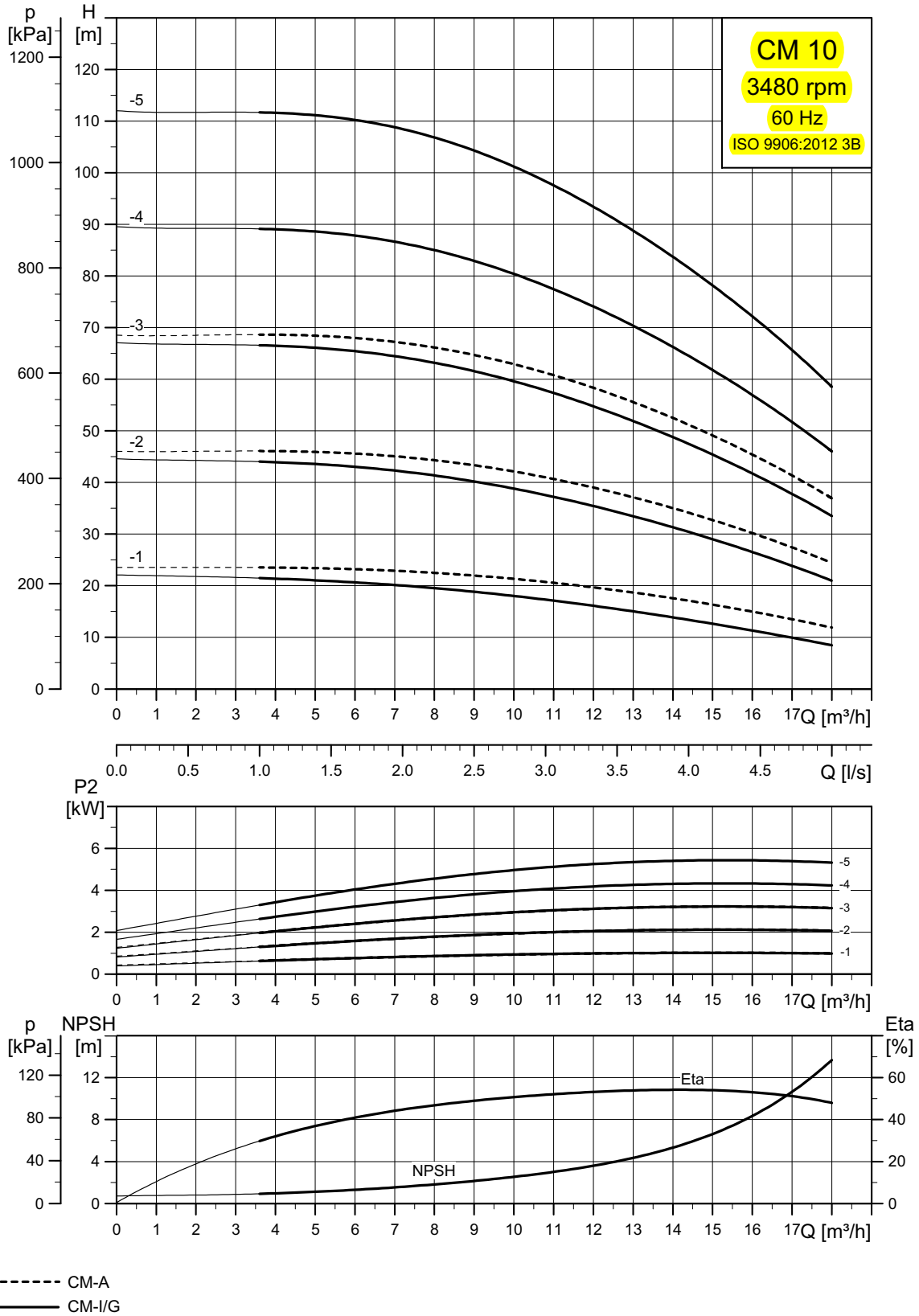
**CM 10**



----- CM-A  
———— CM-I/G

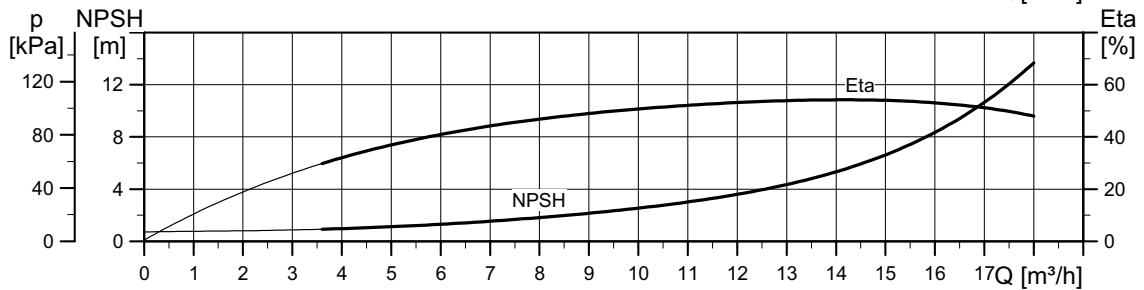
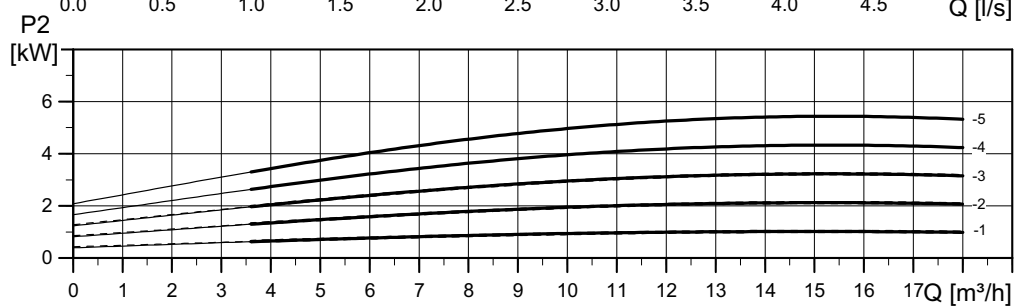
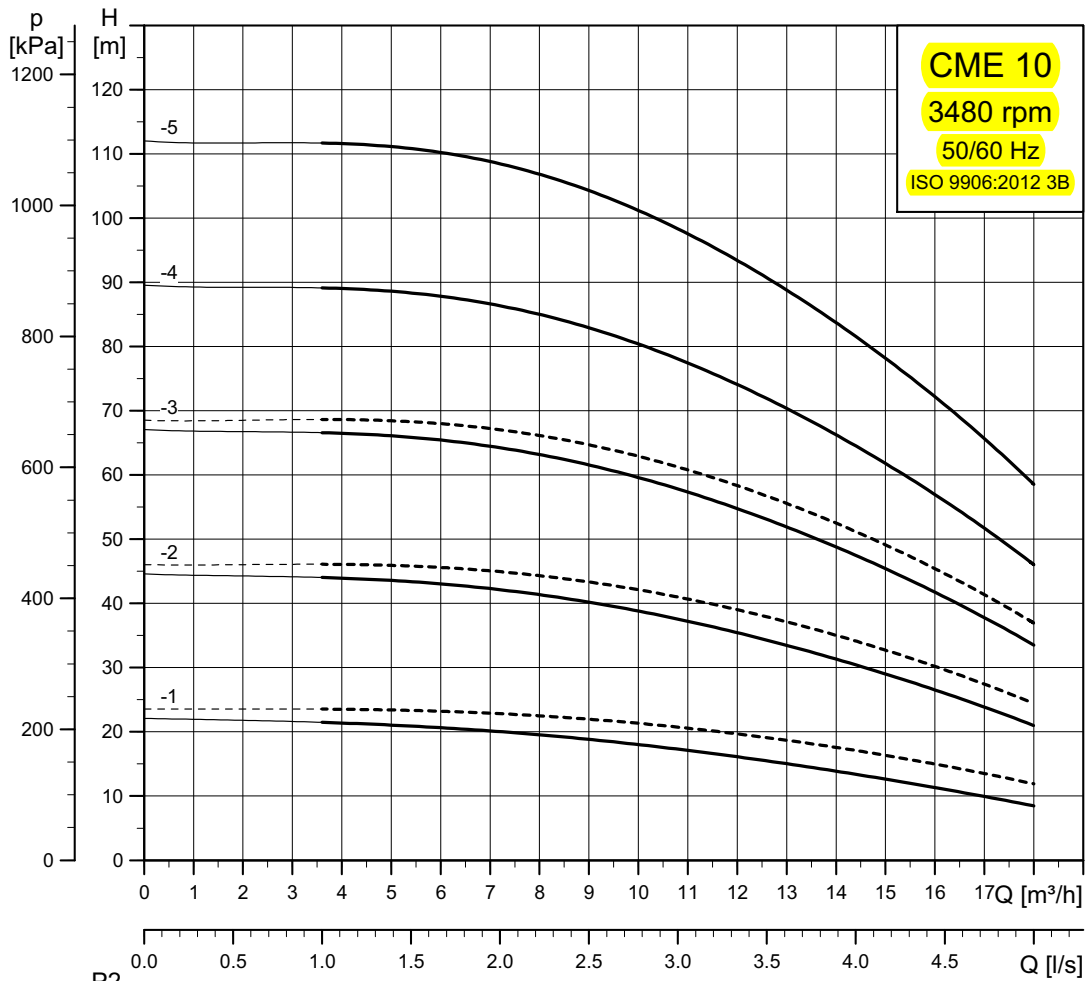
TM04 3337 4616

**CM 10**



TM04 3373 4616

**CME 10**



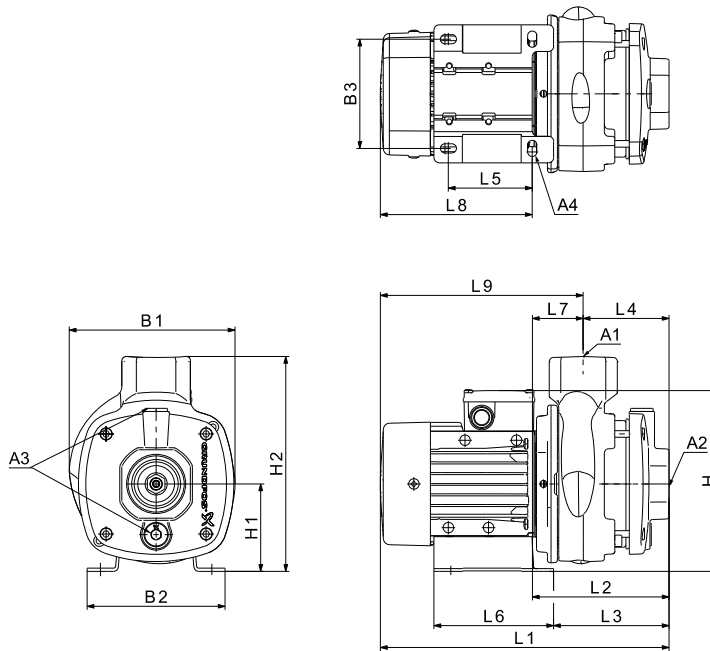
----- CME-A  
 ——— CME-I/G

**Note:** Irrespective of the input frequency, the 100 % speed of CME pumps is approximately 3400 min<sup>-1</sup>.

TM04 3572 4616

**CM 10-A**

(A = cast iron EN-GJL-200)



TM06 7512 3616

**Dimensions**

**3 x 220-240/380-415 V, 50 Hz (supply voltage F)**

Pump type	Frame size	P <sub>2</sub> [kW]	Dimensions [mm]																		
			A1	A2	A3	A4	B1	B2	B3	H	H1	H2	L1	L2	L3	L4	L5	L6	L7	L8	L9
CM 10-1	71	0.65	1 1/2"	1 1/2"	3/8"	10.5	190	158	125	209	100	242	330	156	131	97	95	137	59	174	232
CM 10-2	90	1.50	1 1/2"	1 1/2"	3/8"	12.0	190	199	160	210	100	242	420	188	173	97	140	170	91	232	322
CM 10-3	90	2.20	1 1/2"	1 1/2"	3/8"	12.0	190	199	160	210	100	242	490	218	203	127	140	170	91	272	362
CM 10-4	100	3.0	1 1/2"	1 1/2"	3/8"	12.0	198	199	160	220	100	242	537	264	249	157	140	170	107	273	380
CM 10-5	100	3.0	1 1/2"	1 1/2"	3/8"	12.0	198	199	160	220	100	242	567	294	279	187	140	170	107	273	380

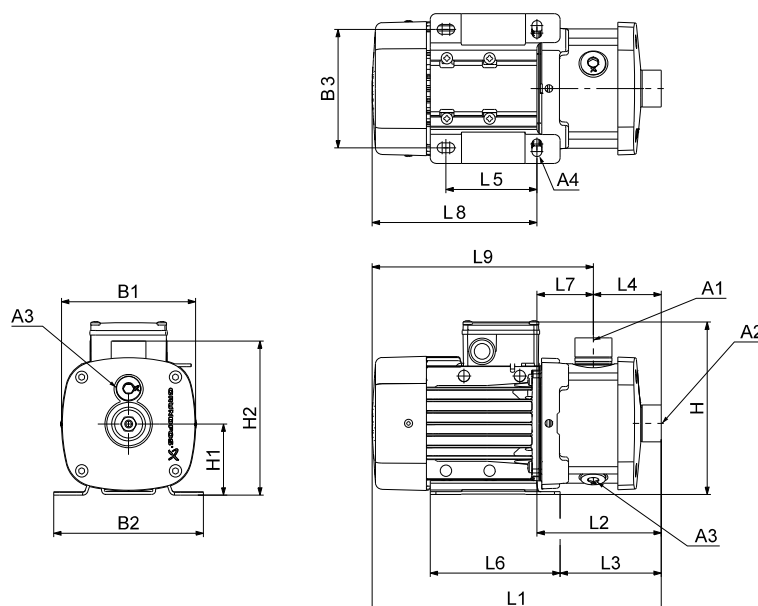
**1 x 220-240 V, 50 Hz (supply voltage C)**

Pump type	Frame size	P <sub>2</sub> [kW]	Dimensions [mm]																		
			A1	A2	A3	A4	B1	B2	B3	H	H1	H2	L1	L2	L3	L4	L5	L6	L7	L8	L9
CM 10-1	80	0.67	1 1/2"	1 1/2"	3/8"	10.5	190	158	125	233	100	242	370	156	131	97	95	137	59	214	272
CM 10-2	90	1.30	1 1/2"	1 1/2"	3/8"	12.0	190	199	160	239	100	242	420	188	173	97	140	170	91	232	322
CM 10-3	90	1.90	1 1/2"	1 1/2"	3/8"	12.0	190	199	160	239	100	242	451	219	204	127	140	170	92	232	324

All dimensions are in mm unless otherwise stated.

## CM 10-I and CM 10-G

(I = EN 1.4301/AISI 304 and G = EN 1.4401/AISI 316)



TM06 7507 3616

### Dimensions

3 x 220-240/380-415 V, 50 Hz (supply voltage F)

Pump type	Frame size	P <sub>2</sub> [kW]	Dimensions [mm]																		
			A1	A2	A3	A4	B1	B2	B3	H	H1	H2	L1	L2	L3	L4	L5	L6	L7	L8	L9
CM 10-1	71	0.65	1 1/2"	1 1/2"	3/8"	10.5	141	158	125	209	100	219	360	186	161	105	95	137	81	174	255
CM 10-2	90	1.50	1 1/2"	1 1/2"	3/8"	12.0	178	199	160	210	100	219	450	218	203	105	140	170	113	232	345
CM 10-3	90	2.20	1 1/2"	1 1/2"	3/8"	12.0	178	199	160	210	100	219	490	218	203	105	140	170	113	272	385
CM 10-4	100	3.00	1 1/2"	1 1/2"	3/8"	12.0	198	199	160	220	100	219	537	264	249	135	140	170	129	273	402
CM 10-5	100	3.00	1 1/2"	1 1/2"	3/8"	12.0	198	199	160	220	100	219	597	324	309	195	140	170	129	273	402
CM 10-6	112	4.00	1 1/2"	1 1/2"	3/8"	12.0	220	228	190	246	112	231	650	348	332	195	140	172	153	302	455
CM 10-7	132	5.50	1 1/2"	1 1/2"	3/8"	12.0	220	228	190	246	112	231	710	408	392	255	140	172	153	302	455
CM 10-8	132	5.50	1 1/2"	1 1/2"	3/8"	12.0	220	228	190	246	112	231	710	408	392	255	140	172	153	302	455

Please note that the dimension H is smaller than H2 for CM 10-1, CM 10-2 and CM 10-3.

1 x 220-240 V, 50 Hz (supply voltage C)

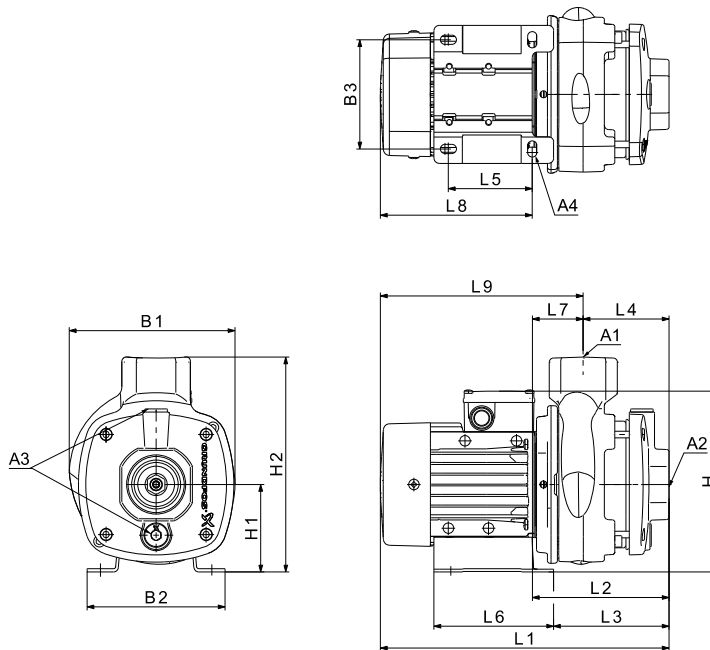
Pump type	Frame size	P <sub>2</sub> [kW]	Dimensions [mm]																		
			A1	A2	A3	A4	B1	B2	B3	H	H1	H2	L1	L2	L3	L4	L5	L6	L7	L8	L9
CM 10-1	80	0.67	1 1/2"	1 1/2"	3/8"	10.5	141	158	125	233	100	219	400	186	161	105	95	137	81	214	295
CM 10-2	90	1.30	1 1/2"	1 1/2"	3/8"	12.0	178	199	160	239	100	219	450	218	203	105	140	170	113	232	345
CM 10-3	90	1.90	1 1/2"	1 1/2"	3/8"	12.0	178	199	160	239	100	219	451	219	204	105	140	170	114	232	346

All dimensions are in mm unless otherwise stated.



## CM 10-A

(A = cast iron EN-GJL-200)



TM06 7512 3616

### Dimensions

- 3 x 208-230/440-480 V, 60 Hz (supply voltage E)
- 3 x 380-415 V, 50 Hz; 3 x 440-480 V, 60 Hz (supply voltage J)
- 3 x 220-240/380-415 V, 50 Hz; 3 x 220-255/380-440 V, 60 Hz (supply voltage O)

Pump type	Frame size	P <sub>2</sub> [kW]		Dimensions [mm]																		
		50 Hz	60 Hz	A1	A2	A3	A4	B1	B2	B3	H	H1	H2	L1	L2	L3	L4	L5	L6	L7	L8	L9
CM 10-1	80	0.64	1.10	1 1/2"	1 1/2"	3/8"	10.5	190	158	125	217	100	242	390	156	131	97	95	137	59	234	292
CM 10-2	90	1.27	2.20	1 1/2"	1 1/2"	3/8"	12.0	190	199	160	210	100	242	460	188	173	97	140	170	91	272	362
CM 10-3	100	2.30	4.00	1 1/2"	1 1/2"	3/8"	12.0	198	199	160	220	100	242	507	234	219	127	140	170	107	273	380

- 1 x 115/230 V, 60 Hz (supply voltage B)
- 1 x 220 V, 60 Hz (supply voltage A)

Pump type	Frame size	P <sub>2</sub> [kW]	Dimensions [mm]																		
			A1	A2	A3	A4	B1	B2	B3	H	H1	H2	L1	L2	L3	L4	L5	L6	L7	L8	L9
CM 10-1	80	1.14* / 1.10	1 1/2"	1 1/2"	3/8"	10.5	255	158	125	233	100	242	370	156	131	97	95	137	59	214	272

\* Applies to supply voltage A.

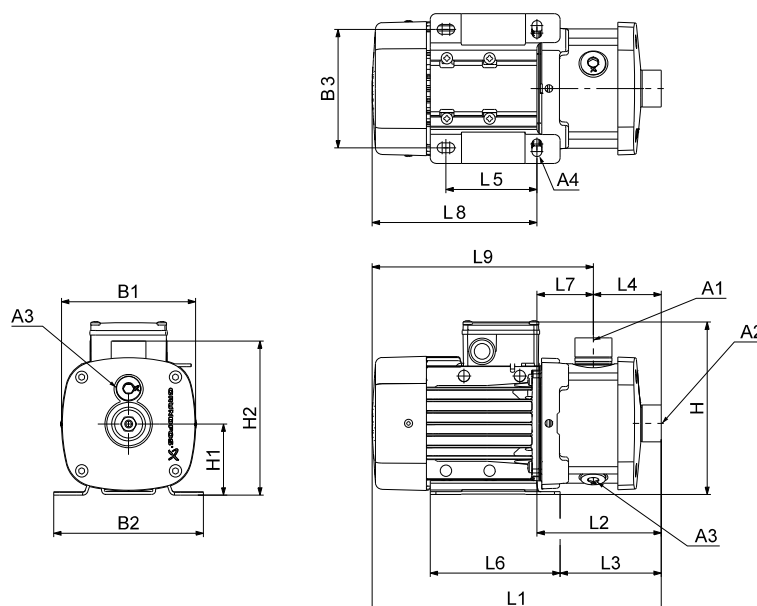
- 3 x 200/346 V, 50 Hz; 3 x 200-220/346-380 V, 60 Hz (supply voltage G)

Pump type	Frame size	P <sub>2</sub> [kW]		Dimensions [mm]																		
		50 Hz	60 Hz	A1	A2	A3	A4	B1	B2	B3	H	H1	H2	L1	L2	L3	L4	L5	L6	L7	L8	L9
CM 10-1	80	0.74	1.28	1 1/2"	1 1/2"	3/8"	10.5	190	158	125	209	100	242	390	156	131	97	95	137	59	234	292
CM 10-2	90	1.27	2.20	1 1/2"	1 1/2"	3/8"	12.0	190	199	160	210	100	242	460	188	173	97	140	170	91	272	362
CM 10-3	112	2.30	4.00	1 1/2"	1 1/2"	3/8"	12.0	220	228	190	246	112	254	560	258	242	127	140	172	130	302	433

All dimensions are in mm unless otherwise stated.

## CM 10-I and CM 10-G

(I = EN 1.4301/AISI 304 and G = EN 1.4401/AISI 316)



TM06 7507 3616

### Dimensions

3 x 208-230/440-480 V, 60 Hz (supply voltage E)

3 x 380-415 V, 50 Hz; 3 x 440-480 V, 60 Hz (supply voltage J)

3 x 220-240/380-415 V, 50 Hz; 3 x 220-255/380-440 V, 60 Hz (supply voltage O)

Pump type	Frame size	P <sub>2</sub> [kW]		Dimensions [mm]																		
		50 Hz	60 Hz	A1	A2	A3	A4	B1	B2	B3	H	H1	H2	L1	L2	L3	L4	L5	L6	L7	L8	L9
CM 10-1	80	0.64	1.10	1 1/2"	1 1/2"	3/8"	10.5	180	158	125	217	100	219	420	186	161	105	95	137	81	234	315
CM 10-2	90	1.27	2.20	1 1/2"	1 1/2"	3/8"	12.0	178	199	160	210	100	219	490	218	203	105	140	170	113	272	385
CM 10-3	100	2.30	4.00	1 1/2"	1 1/2"	3/8"	12.0	198	199	160	220	100	219	507	234	219	105	140	170	129	273	402
CM 10-4	132	3.18	5.50	1 1/2"	1 1/2"	3/8"	12.0	220	228	190	246	112	231	590	288	272	135	140	172	153	302	455
CM 10-5	132	3.18	5.50	1 1/2"	1 1/2"	3/8"	12.0	220	228	190	246	112	231	650	348	332	195	140	172	153	302	455

Note: The dimension H is smaller than H2 for CM 10-1 and CM 10-2.

1 x 115/230 V, 60 Hz (supply voltage B)

1 x 220 V, 60 Hz (supply voltage A)

Pump type	Frame size	P <sub>2</sub> [kW]	Dimensions [mm]																		
			A1	A2	A3	A4	B1	B2	B3	H	H1	H2	L1	L2	L3	L4	L5	L6	L7	L8	L9
CM 10-1	80	1.14* / 1.10	1 1/2"	1 1/2"	3/8"	10.5	206	158	125	233	100	219	400	186	161	105	95	137	81	214	295

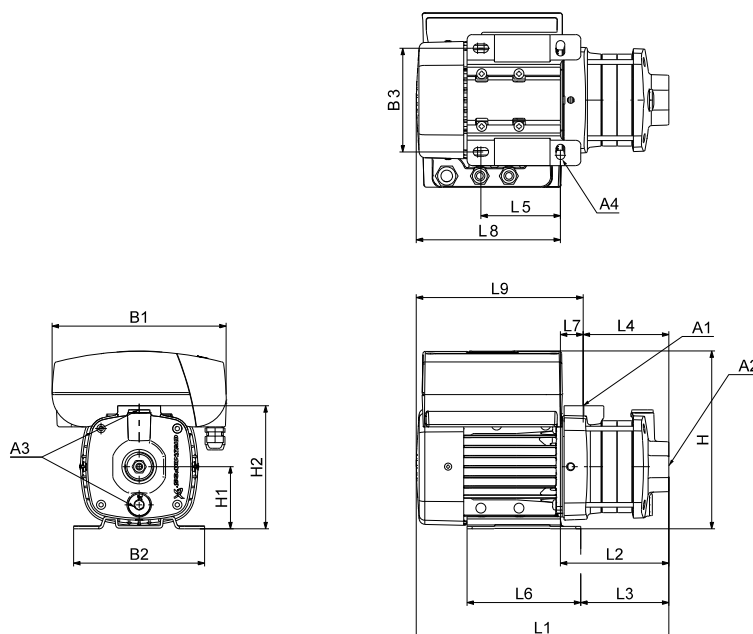
\* Applies to supply voltage A.

3 x 200/346 V, 50 Hz; 3 x 200-220/346-380 V, 60 Hz (supply voltage G)

Pump type	Frame size	P <sub>2</sub> [kW]		Dimensions [mm]																		
		50 Hz	60 Hz	A1	A2	A3	A4	B1	B2	B3	H	H1	H2	L1	L2	L3	L4	L5	L6	L7	L8	L9
CM 10-1	80	0.74	1.28	1 1/2"	1 1/2"	3/8"	10.5	180	158	125	209	100	219	420	186	161	105	95	137	81	234	315
CM 10-2	90	1.27	2.20	1 1/2"	1 1/2"	3/8"	12.0	178	199	160	210	100	219	490	218	203	105	140	170	113	272	385
CM 10-3	112	2.30	4.00	1 1/2"	1 1/2"	3/8"	12.0	220	228	190	246	112	231	560	258	242	105	140	172	153	302	455
CM 10-4	132	3.18	5.50	1 1/2"	1 1/2"	3/8"	12.0	220	228	190	246	112	231	590	288	272	135	140	172	153	302	455
CM 10-5	132	3.18	5.50	1 1/2"	1 1/2"	3/8"	12.0	220	228	190	246	112	231	650	348	332	195	140	172	153	302	455

All dimensions are in mm unless otherwise stated.

Note: The dimension H is smaller than H2 for CM 10-1 and CM 10-2.

**CME 10-A****(A = cast iron EN-GJL-200)**

TM06 7510 3616

**Dimensions****3 x 380-500 V, 50/60 Hz (supply voltage S)****3 x 440-480 V, 50/60 Hz (supply voltage T)**

Pump type	Frame size	P <sub>2</sub> [kW]	Dimensions [mm]																		
			A1	A2	A3	A4	B1	B2	B3	H	H1	H2	L1	L2	L3	L4	L5	L6	L7	L8	L9
CME 10-1	80	1.10	1 1/2"	1 1/2"	3/8"	10.5	267	158	125	258	100	242	398	162	138	97	95	137	65	236	301
CME 10-2	90	2.20	1 1/2"	1 1/2"	3/8"	12.0	267	199	160	258	100	242	398	190	175	97	140	170	93	209	301
CME 10-3	112	4.00	1 1/2"	1 1/2"	3/8"	12.0	291	230	190	312	112	254	506	242	222	127	140	189	115	264	379

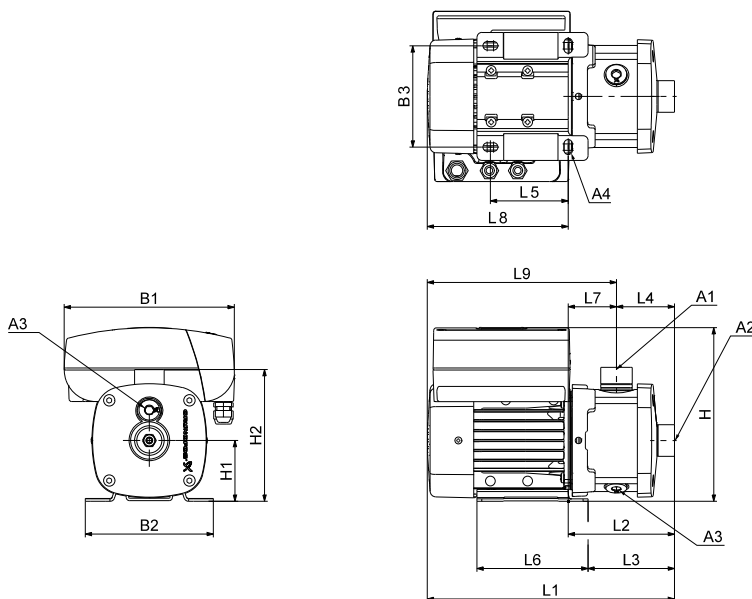
**1 x 200-240 V, 50/60 Hz (supply voltage U)**

Pump type	Frame size	P <sub>2</sub> [kW]	Dimensions [mm]																		
			A1	A2	A3	A4	B1	B2	B3	H	H1	H2	L1	L2	L3	L4	L5	L6	L7	L8	L9
CME 10-1	80	1.10	1 1/2"	1 1/2"	3/8"	10.5	212	158	125	258	100	242	352	155	131	97	95	137	58	196	255

All dimensions are in mm unless otherwise stated.

## CME 10-I and CME 10-G

(I = EN 1.4301/AISI 304 and G = EN 1.4401/AISI 316)



TM06 7508 3616

### Dimensions

**3 x 380-500 V, 50/60 Hz (supply voltage S)**  
**3 x 440-480 V, 50/60 Hz (supply voltage T)**

Pump type	Frame size	P <sub>2</sub> [kW]	Dimensions [mm]																		
			A1	A2	A3	A4	B1	B2	B3	H	H1	H2	L1	L2	L3	L4	L5	L6	L7	L8	L9
CME 10-1	80	1.10	1 1/2"	1 1/2"	3/8"	10.5	267	158	125	258	100	219	428	192	168	105	95	137	87	236	323
CME 10-2	90	2.20	1 1/2"	1 1/2"	3/8"	12.0	267	199	160	258	100	219	428	220	205	105	140	170	115	209	323
CME 10-3	112	4.00	1 1/2"	1 1/2"	3/8"	12.0	291	230	190	312	112	230	506	242	222	105	140	189	137	264	401
CME 10-4	112	5.50	1 1/2"	1 1/2"	3/8"	12.0	291	230	190	312	112	230	553	289	269	135	140	189	154	264	418
CME 10-5	112	5.50	1 1/2"	1 1/2"	3/8"	12.0	291	230	190	312	112	230	613	349	329	195	140	189	154	264	418

**1 x 200-240 V, 50/60 Hz (supply voltage U)**

Pump type	Frame size	P <sub>2</sub> [kW]	Dimensions [mm]																		
			A1	A2	A3	A4	B1	B2	B3	H	H1	H2	L1	L2	L3	L4	L5	L6	L7	L8	L9
CME 10-1	80	1.10	1 1/2"	1 1/2"	3/8"	10.5	212	158	125	258	100	219	382	185	161	105	95	137	80	196	277

All dimensions are in mm unless otherwise stated.

## 26. Motor data

### Mains-operated motors, 50 Hz

1 x 220-240 V, 50 Hz (supply voltage C)

Frame size	P <sub>2</sub> [kW]	I <sub>1/1</sub> [A]	Cos φ <sub>1/1</sub>	η [%]	I <sub>start</sub> [A]	Speed [min <sup>-1</sup> ]
71A	0.3	1.8 - 2.4	0.95 - 0.86	67.4 - 61.4	6.1 - 8.2	2.800 - 2.830
71B	0.5	3.1 - 2.8	0.97 - 0.99	74-70	16.4 - 14.8	2.730 - 2.740
80A	0.67	4.4 - 4.0	0.99 - 0.99	71.8 - 73	17.2 - 15.6	2.720 - 2.800
80B	0.9	5.4 - 5.0	0.98 - 0.98	76-74	23.2 - 21.5	2.750 - 2.790
90SA	1.3	8.4 - 8.0	0.98 - 0.98	71-71	28.6 - 27.2	2.710 - 2.710
90SB	1.9	11.0 - 10.0	0.99 - 0.98	75-76	40.7 - 37.0	2.755 - 2.770

3 x 220-240/380-415 V, 50 Hz (supply voltage F)

Frame size	P <sub>2</sub> [kW]	I <sub>1/1</sub> [A]	Cos φ <sub>1/1</sub>	η [%]	I <sub>start</sub> [A]	Speed [min <sup>-1</sup> ]
71A	0.46	2.0 - 2.2 / 1.0 - 1.2	0.83 - 0.75	73.4 - 73.6	9.8 - 11.7 / 4.9 - 6.4	2.770 - 2.820
71B	0.65	2.8 - 3.1 / 1.6 - 1.8	0.82 - 0.72	73.9 - 72.9	16.2 - 19.2 / 9.3 - 11.2	2.770 - 2.820
80C	1.10	4.4 - 4.5 / 2.55 - 2.6	0.82 - 0.74	83.1 - 83.4	31.7 - 35.1 / 18.4 - 20.3	2.830 - 2.860
90SB	1.50	5.45 - 5.45 / 3.15 - 3.15	0.87 - 0.82	84.2 - 84.9	46.3 - 50.7 / 26.8 - 29.3	2.890 - 2.910
90LC	2.20	7.70 - 7.70 / 4.45 - 4.45	0.89 - 0.87	85.9 - 85.9	65.5 - 73.2 / 37.8 - 42.3	2.890 - 2.910
100LC	3.00	11.0 - 11.0 / 6.30 - 6.30	0.87 - 0.82	87.2 - 87.1	92.4 - 101.2 / 52.9 - 58.0	2.900 - 2.920
112MC	4.00	13.8 - 13.2 / 8.00 - 7.65	0.89 - 0.86	89.2 - 89.2	154.6 - 162.4 / 89.6 - 94.1	2.920 - 2.940
132SC	5.50	19.0 - 19.0 / 11.0 - 11.0	0.87 - 0.82	89.9 - 90.2	212.8 - 243.2 / 123.2 - 140.8	2.920 - 2.940
132SD	6.40	22.8 - 22.6 / 13.2 - 13.0	0.86 - 0.80	89.9 - 90.0	273.6 - NA / 158.4 - NA	2.920 - 2.930

### Mains-operated motors, 60 Hz

1 x 220 V, 60 Hz (supply voltage A)

Frame size	P <sub>2</sub>		Service factor	I <sub>1/1</sub> [A]	Service factor current	Cos φ <sub>1/1</sub>	η [%]	I <sub>start</sub> [A]	Speed [min <sup>-1</sup> ]
	[kW]	[hp]							
71B	0.60	0.80	1	4.1	4.1	0.98	71	16.8	3.300
80A	0.84	1.1	1	5.8	5.8	0.98	69.8	18.6	3.150
80B	1.14	1.5	1	7.35	7.35	0.99	73.5	19.8	3.270
90SB	1.54	2.0	1	9.8	9.8	0.98	74.8	37.2	3.330

1 x 115/230 V, 60 Hz (supply voltage B)

Frame size	P <sub>2</sub>		Service factor	I <sub>1/1</sub> [A]	Service factor current	Cos φ <sub>1/1</sub>	η [%]	I <sub>start</sub> [A]	Speed [min <sup>-1</sup> ]
	[kW]	[hp]							
71BA	0.60	0.8	1	7.6 / 3.9	7.6 / 3.9	0.76	69-66	19.8 / 10.1	3.240
80AA	0.78	1.06	1	10.6 / 5.4	10.6 / 5.4	0.65	69-68	31.8 / 16.2	3.240
80BA	1.10	1.50	1	14.0 / 7.0	14.0 / 7.0	0.94	71-69	44.8 / 22.4	3.320
90CC	1.50	2.03	1	19.5 / 9.8	19.5 / 9.8	0.97	72.9 - 69	78.0 / 39.2	3.360

**3 x 208-230/440-480 V, 60 Hz (supply voltage E)**

Frame size	P <sub>2</sub>		Service factor	I <sub>1/1</sub> [A]	Service factor current	Cos φ <sub>1/1</sub>	η [%]	I <sub>start</sub> [A]	Speed [min <sup>-1</sup> ]
	[kW]	[hp]							
71AA	0.43	0.58	1	1.9 - 1.7 / 1.0 - 0.8	1.9 - 1.7 / 1.0 - 0.8	0.85 - 0.81 / 0.85 - 0.81	76.0 - 78.6	11.2 - 11.1 / 5.9 - 5.2	3.360 - 3.420
71BA	0.74	1.0	1	3.4 - 3.6 / 1.7 - 1.8	3.4 - 3.6 / 1.7 - 1.8	0.89 - 0.83 / 0.89 - 0.83	76.0 - 78.4	20.1 - 23.4 / 10.0 - 11.7	3.220 - 3.370
80CB	1.1	1.47	1	5.2 - 5.1 / 2.55 - 2.65	5.2 - 5.1 / 2.55 - 2.65	0.81 - 0.73 / 0.81 - 0.73	84.8 - 84.7	35.4 - 39.3 / 17.3 - 20.4	3.430 - 3.470
90FA	2.2	2.95	1	8.20 - 7.7 / 4.0 - 3.7	8.20 - 7.7 / 4.0 - 3.7	0.9 - 0.86 / 0.9 - 0.86	86.5 - 87.0	74.6 - 80.9 / 36.4 - 38.9	3.510 - 3.530
100DA	2.9	3.9	1	10.8 - 10.5 / 5.25 - 5.3	10.8 - 10.5 / 5.25 - 5.3	0.85 - 0.78 / 0.85 - 0.78	88.0 - 88.2	129.6 - 91.4 / 63.0 - 46.1	3.520 - 3.530
112CA	4.0	5.36	1	14.6 - 13.6 / 6.95 - 6.65	14.6 - 13.6 / 6.95 - 6.65	0.9 - 0.86 / 0.9 - 0.86	88.6 - 88.5	131.4 - 156.4 / 62.6 - 76.5	3.530 - 3.540
132DA	5.5	7.37	1	20.4 - 19.8 / 9.95 - 9.85	20.4 - 19.8 / 9.95 - 9.85	0.84 - 0.78 / 0.84 - 0.78	90.1 - 90.0	259.1 - 277.2 / 126.4 - 137.9	3.540 - 3.550
132EB	6.4	8.57	1	23.6 - 22.8 / 11.6 - 11.6	23.6 - 22.8 / 11.6 - 11.6	0.84 - 0.78 / 0.84 - 0.78	90.1 - 89.9	144.0 - 143.6 / 70.8 - 73.1	3.530 - 3.550

**3 x 575 V, 60 Hz (supply voltage H)\***

Frame size	P <sub>2</sub>		Service factor	I <sub>1/1</sub> [A]	Service factor current	Cos φ <sub>1/1</sub>	η [%]	I <sub>start</sub> [A]	Speed [min <sup>-1</sup> ]
	[kW]	[hp]							
71AA	0.43	0.58	1	0.7	0.7	0.84	76.0	4.6	3.340
71BA	0.74	1.0	1	1.3	1.3	0.84	76	8.5	3.340
80BA	1.04	1.4	1	1.55	1.55	0.8	85.2	11.8	3.450
80CB	1.28	1.7	1	1.84	1.84	0.82	85.7	15.3	3.440
90CC	1.7	2.3	1	2.89	2.89	0.83	85.9	27.7	3.440
90FA	2.5	3.4	1	3.5	3.5	0.9	85.9	20.7	3.490
100BB	4.0	5.4	1	5.7	5.7	0.88	88.5	49.6	3.500
132CA	6	8	1	8.2	8.2	0.86	89.2	106.6	3.520

\* Only available with IE2 efficiency motors.

## Mains-operated motors, 50/60 Hz

3 x 220-240/380-415 V, 50 Hz; 3 x 220-255/380-440 V, 60 Hz (supply voltage O)

Frame size	P <sub>2</sub> [kW]	Frequency [Hz]	I <sub>1/1</sub> [A]	Cos φ <sub>1/1</sub>	η [%]	I <sub>start</sub> [A]	Speed [min <sup>-1</sup> ]
71B	0.43	50	2.3 - 2.6 / 1.3 - 1.5	0.72 - 0.60	78-76	11.5 - 15.6 / 6.5 - 9.0	2.870 - 2.890
	0.74	60	3.1 - 2.75 / 1.78 - 1.58	0.87 - 0.84	75-77	15.5 - 16.5 / 8.9 - 9.5	3.280 - 3.350
80C	0.64	50	3.75 - 4.75 / 2.16 - 2.75	0.56 - 0.43	83.1 - 78.6	36.0 - 42.8 / 20.7 - 24.8	2.920 - 2.930
	1.1	60	4.30 - 4.25 / 2.48 - 2.44	0.83 - 0.72	84.6 - 85.4	28.4 - 33.2 / 16.4 - 19.0	3.420 - 3.470
90LC	1.27	50	5.9 - 6.95 / 3.40 - 4.0	0.70 - 0.55	85.4 - 83.4	85.6 - 95.9 / 49.3 - 55.2	2.960 - 2.970
	2.2	60	7.95 - 7.55 / 4.60 - 4.35	0.88 - 0.84	86.8 - 87.0	71.6 - 90.6 / 41.4 - 52.2	3.520 - 3.530
100LC	1.68	50	7.0 - 7.90 / 4.05 - 4.55	0.73 - 0.62	88.1 - 86.2	98.0 - 110.6 / 56.7 - 63.7	2.950 - 2.960
	2.90	60	10.2 - 9.10 / 5.85 - 5.25	0.90 - 0.85	86.9 - 88.5	88.7 - 88.3 / 50.9 - 50.9	3.490 - 3.520
112MC	2.3	50	9.95 - 10.6 / 5.75 - 6.1	0.73 - 0.63	88.4 - 86.7	159.2 - 173.8 / 92.0 - 100.0	2.970 - 2.970
	4	60	14.0 - 12.8 / 8.05 - 7.35	0.89 - 0.84	89.1 - 89.7	147.0 - 169.0 / 84.5 - 97.0	3.520 - 3.540
132SC	3.18	50	12.4 - 13.0 / 7.20 - 7.45	0.78 - 0.69	90.0 - 89.2	213.3 - 236.6 / 123.8 - 135.6	2.960 - 2.960
	5.5	60	19.0 - 16.8 / 11.0 - 9.75	0.91 - 0.86	89.5 - 90.4	201.4 - 231.0 / 116.6 - 134.1	3.510 - 3.530
132SD	3.7	50	16.4 - 18.4 / 9.45 - 10.6	0.69 - 0.57	89.6 - 87.8	272.2 - 311.0 / 156.9 - 179.1	2.960 - 2.970
	6.4	60	22.2 - 20.4 / 12.8 - 11.8	0.89 - 0.82	90.0 - 90.2	217.6 - 265.2 / 125.4 - 153.4	3.510 - 3.540

3 x 380-415 V, 50 Hz; 3 x 440-480 V, 60 Hz (supply voltage J)

Frame size	P <sub>2</sub> [kW]	Frequency [Hz]	I <sub>1/1</sub> [A]	Cos φ <sub>1/1</sub>	η [%]	I <sub>start</sub> [A]	Speed [min <sup>-1</sup> ]
71AA	0.25	50	0.55 - 0.65	0.77 - 0.71	77-76	4.0 - 5.1	2.870 - 2.890
	0.43	60	0.95 - 0.80	0.85 - 0.82	76.0 - 78.6	5.6 - 5.2	3.360 - 3.420
71BA	0.43	50	1.4 - 1.5	0.76 - 0.66	77-76	7.7 - 9.0	2.860 - 2.890
	0.74	60	1.7 - 1.8	0.89 - 0.83	76.0 - 78.4	10.0 - 11.7	3.220 - 3.380
80CB	0.64	50	1.82 - 1.98	0.67 - 0.56	84.2 - 83.1	16.9 - 19.2	2.910 - 2.920
	1.10	60	2.22 - 2.22	0.8 - 0.72	84.9 - 85.4	16.7 - 19.3	3.440 - 3.470
90FA	1.27	50	2.85 - 2.9	0.81 - 0.74	86.7 - 86	34.2 - 37.7	2.950 - 2.960
	2.2	60	4.0 - 3.7	0.88 - 0.84	86.8 - 87.0	36.0 - 40.7	3.520 - 3.530
100DA	1.68	50	4.05 - 4.60	0.73 - 0.62	88.1 - 86.2	48.6 - 62.1	2.950 - 2.960
	2.9	60	5.25 - 5.3	0.85 - 0.79	88.5 - 88.2	63.0 - 46.1	3.520 - 3.540
112CA	2.3	50	5.2 - 5.1	0.8 - 0.74	86.4 - 88.8	80.6 - 78.3	2.960 - 2.970
	4.0	60	6.95 - 6.65	0.88 - 0.84	88.7 - 88.5	84.1 - 89.1	3.540 - 3.550
132DA	3.18	50	7.2 - 7.45	0.78 - 0.69	90.0 - 89.2	123.8 - 135.6	2.960 - 2.960
	5.5	60	9.7 - 9.45	0.86 - 0.82	90.4 - 90.4	133.4 - 145.5	3.530 - 3.550
132EB	3.7	50	9.45 - 10.6	0.69 - 0.57	89.6 - 87.8	156.9 - 179.1	2.960 - 2.970
	6.4	60	11.8 - 12.0	0.82 - 0.74	90.6 - 90.2	153.4 - 174.0	3.540 - 3.550

3 x 200/346 V, 50 Hz; 3 x 200-220/346-380 V, 60 Hz (supply voltage G)

Frame size	P <sub>2</sub> [kW]	Frequency [Hz]	I <sub>1/1</sub> [A]	Cos φ <sub>1/1</sub>	η [%]	I <sub>start</sub> [A]	Speed [min <sup>-1</sup> ]
71AA	0.25	50	1.6 / 1.0	0.65	77	11.7 / 7.3	2.900
	0.43	60	2.0 - 1.8 / 1.15 - 1.05	0.85 - 0.8	76.0 - 78.6	11.8 - 11.7 / 6.8 - 6.8	3.370 - 3.424
71B	0.43	50	3.6 / 2.0	0.53	77	19.8 / 11.0	2.904
	0.74	60	3.3 - 3.5 / 2.0 - 2.2	0.83 - 0.76	76 - 78.4	19.5 - 22.8 / 11.8 - 14.3	3.380 - 3.429
80C	0.74	50	5.95 / 3.45	0.46	78.1	37.5 / 21.7	2.920
	1.28	60	5.5 - 5.65 / 3.15 - 3.25	0.80 - 0.71	84.4 - 84.3	34.4 - 37.9 / 19.7 - 21.8	3.410 - 3.450
90LC	1.27	50	6.75 / 3.9	0.69	86.0	99.9 / 57.7	2.960
	2.2	60	8.85 - 8.35 / 5.1 - 4.8	0.88 - 0.85	86.8 - 87.0	92.9 - 100.2 / 53.6 - 57.6	3.510 - 3.520
100LC	1.68	50	7.45 / 4.30	0.73	88.1	59.6 / 34.4	2.950
	2.90	60	10.8 - 10.4 / 6.25 - 6.0	0.91 - 0.87	86.9 - 88.1	81.0 - 96.7 / 46.9 - 55.8	3.490 - 3.510
112MC	2.3	50	10.2 / 5.9	0.77	87.3	157.1 / 90.9	2.960
	4	60	14.6 - 13.6 / 8.45 - 7.85	0.90 - 0.87	88.6 - 89.1	135.8 - 148.9 / 78.6 - 86.0	3.520 - 3.540
132SC	3.18	50	13.6 / 7.85	0.78	90.0	152.3 / 87.9	2.960
	5.5	60	21.0 - 20.0 / 12.1 - 11.6	0.91 - 0.88	89.5 - 90.1	214.2 - 296.0 / 123.4 - 171.7	3.510 - 3.520
132SD	3.7	50	20.0 / 11.6	0.63	88.8	240.0 / 139.2	2.970
	6.4	60	24.6 - 23.6 / 14.2 - 13.8	0.87 - 0.82	90.1 - 90.6	270.6 - 290.3 / 156.2 - 169.7	3.520 - 3.520

**3 x 400 V, 50/60 Hz (supply voltage I)\***

Frame size	P <sub>2</sub> [kW]	Frequency [Hz]	I <sub>1/1</sub> [A]	Cos φ <sub>1/1</sub>	η [%]	I <sub>start</sub> [A]	Speed [min <sup>-1</sup> ]
71AA	0.25	50	0.73	0.68	72.6	4.7	2.890
	0.43	60	1.0	0.86	73.5	6.5	3.320
71BA	0.43	50	1.68	0.53	71.1	10.9	2.890
	0.74	60	1.70	0.84	76.0	11.1	3.320
80BA	0.6	50	1.9	0.59	81.6	13.5	2.910
	1.04	60	2.18	0.83	83	13.5	3.400
80CB	0.74	50	2.28	0.57	82.4	13.9	2.920
	1.28	60	2.65	0.84	83.9	13.8	3.400
90CC	1	50	3	0.59	81.3	26.7	2.960
	1.7	60	3.2	0.87	81.3	23.7	3.510
90FA	1.45	50	3.0	0.83	86.8	36.0	2.920
	2.5	60	4.65	0.91	85.4	41.9	3.500
100BB	2.32	50	5.5	0.7	87	63.3	2.960
	4	60	7.35	0.89	87.6	63.2	3.500
132CA	3.5	50	8.8	0.65	88.2	145.2	2.960
	6	60	11.2	0.87	90	172.9	3.520

\* Only available with IE2 efficiency motors.