

Electrical Features

Motors acc. to EN 60034-1

Protective system	IP55
Insulation class	F
Number of poles	2
Efficiencies	EN 60034-30, IE3 ≥ 0,75 kW

	50 Hz		60 Hz	
	220 V – 240 V Δ 380 V – 415 V Υ	380 V – 415 V Δ	460 V Υ	460 V Δ
up to 5.5 kW	Standard	●	Standard	●
as of 6.0 kW	–	Standard	–	Standard

In accordance with DIN EN 60034-1, **Zone A**, and permanent operation, the voltage tolerance is $\pm 5\%$ and the frequency tolerance is $\pm 2\%$.

Special voltages are available upon request:

	200 V	200 V 220 V	200 V – 220 V 400 V	380 V	400 V	415 V	440 V	480 V	500 V	575 V	200 V $\Upsilon\Upsilon$ 400 V Υ	230 V $\Upsilon\Upsilon$ 460 V Υ
50 Hz	●	–	–	●	●	●	–	–	●	–	●	–
60 Hz	–	●	●	●	●	–	●	●	–	●	–	●

● available – not available

Other voltages upon request.

For special demands, versions for use with a standardized voltage 50 and 60 Hz (Transformer usage) are possible after consulting with the company, e. g. 3 x 400 V, $\pm 5\%$, 50 – 60 Hz.

Motors as of 6 kW

Motors are Δ connected.

The motor design allows Υ/Δ -starting, if required.

Screw-spindle pumps used for Υ/Δ -starting must be started without pressure.

Soft-starting devices are a recommendable alternative to Υ/Δ -starting.

Switching-on frequency

Motors less than 3 kW ►
maximum 200 times per hour

Motors from 3 kW to 4 kW ►
maximum 40 times per hour

Motors from 5 kW to 9 kW ►
maximum 20 times per hour

Motors as of 11 kW ►
maximum 15 times per hour

Higher on/off cycling frequencies are available upon request.

Electrical Features

Non-European Regulations, Brinkmann motors



Approved by UL with „UL Recognized Component Mark“ for USA acc. to UL 1004-1 and for Canada acc. to CSA C22.2 No. 100-14 (UL-File E233349)



Brinkmann Motors up to 15 kW, 60 Hz, and up to max. 600 V are available with UL Recognized Component Mark approval as special designs.

Brinkmann motors ranging from 1.3 kW to 13 kW, 50 Hz, are available with the China Energy Label GB18613-2020, Grade 3 upon request.



CC311B

Compliance Certification number CC311B according to 10 C.F.R. §431 (NEMA PREMIUM EFFICIENCY)

Brinkmann motors ranging from 0.86 kW to 15 kW, 60 Hz, are available with NEMA PREMIUM MG 1 upon request.



Brinkmann motors ranging from 1.1 kW to 6.3 kW, 60 Hz, are available with KEMCO certification for South Korea upon request.

Brinkmann Motors Options	50 Hz					60 Hz								
	200 V	380 V	400 V	415 V	500 V	200 V 220 V	380 V	400 V	440 V	460 V	230 V 460 V	480 V	230 V 480 V	575 V 600 V
UL/CSA	-	-	-	-	-	●	●	●	●	●	●	●	●	●
CEL (Grade 3) 1.3 kW – 13 kW	●	●	●	●	●	-	-	-	-	-	-	-	-	-
NEMA PREMIUM MG 1 ≥ 0.86 kW	Y 0.86 – 6.3 kW	-	-	-	-	●	●	●	●	●	●	●	●	●
	Δ 3.45 – 15 kW	-	-	-	-	-	●	●	●	●	-	●	-	●
	YY/Y 0.86 – 15 kW	-	-	-	-	-	-	○	-	-	●	-	●	-
KEMCO	Y 1.1 – 6.3 kW	-	-	-	-	-	●	●	●	●	-	●	-	-
	Δ 1.1 – 6.3 kW	-	-	-	-	-	●	○	○	○	-	○	-	-
	YY/Y 1.1 – 5.8 kW	-	-	-	-	-	●	-	●	-	-	-	-	-

● available – not available ○ upon request Additional country-specific approvals upon request.

Non-European Regulations, Standard motors

Upon request. Depending on actual motor rating and sizing (Power / Motor efficiency class) deviations in pump and motor configurations are possible. An overview of pumps built with standard motors can be found on our website.

Current / Rated current

The current (I_{catalog}) stated at the name plates is used for the sizing of electronic components.

Motor ≤ 0.12 kW (50 Hz): $I_{\text{max}} = I_{\text{catalog}}$

Motor 0.17 kW – 0.32 kW: $I_{\text{max}} = \text{please see table}$

Motor ≥ 0.48 kW: $I_{\text{max}} = 1.05 \times I_{\text{catalog}}$

Power	I_{max} @400 V, 50 Hz	I_{max} @460 V, 60 Hz
0.17/0.195 kW	$I_{\text{max}} = 1.2 \times I_{\text{N}}$	$I_{\text{max}} = 1.08 \times I_{\text{N}}$
0.22/0.255 kW	$I_{\text{max}} = 1.14 \times I_{\text{N}}$	$I_{\text{max}} = 1.08 \times I_{\text{N}}$
0.32/0.365 kW	$I_{\text{max}} = 1.24 \times I_{\text{N}}$	$I_{\text{max}} = 1.1 \times I_{\text{N}}$

Special voltages upon request.

For extended voltage ranges we mention only the highest current value in our data sheets.



Technical motor data IE3

Three-phase induction motor 2 pole, thermal protection class F, grade of protection IP 55

Brinkmann motors

	Power 50 Hz / 60 Hz kW	Current 2 pole 50 Hz A		Noise level max. dBA / 50 Hz	Current 2 pole 60 Hz A		Noise level max. dBA / 60 Hz
		Y 380 V – 415 V	Δ 380 V – 415 V		Y 460 V	Δ 460 V	
		IE3	B 1.3 / 1.49		2.80 – 2.75	–	
B 1.5 / 1.75	3.20 – 3.05		–	63	3.1	–	67
B 1.7 / 1.95	3.60 – 3.60		–	63	3.5	–	67
B 1.9 / 2.18	3.95 – 3.90		–	63	3.9	–	67
B 2.2 / 2.55	4.50 – 4.35		–	63	4.4	–	67
B 2.6 / 2.94	5.35 – 5.20		–	63	5.1	–	67
B 3.0 / 3.45	6.20 – 6.20		–	63	6.0	–	67
B 3.3 / 3.8	6.70 – 6.60		–	71	6.4	–	75
B 4.0 / 4.55	8.30 – 8.35		–	71	7.9	–	75
B 5.0 / 5.75	10.0 – 9.65		–	71	9.5	–	75
B 5.5 / 6.3	10.9 – 10.4		–	74	10.4	–	77
B 6.0 / 6.9	–		11.2 – 10.6	74	–	10.7	77
B 6.5 / 7.48	–		12.0 – 11.3	74	–	11.5	77
B 7.5 / 8.6	–		14.3 – 13.4	74	–	13.7	77
B 9.0 / 10.3	–		16.7 – 15.6	74	–	15.8	78
B 11.0 / 12.6	–	20.1 – 18.8	75	–	19.5	80	
B 13.0 / 15.0	–	24.2 – 23.5	77	–	23.6	80	

Standard motors

	Power 50 Hz / 60 Hz kW	Current 2 pole 50 Hz A	Noise level dBA / 50 Hz	Current 2 pole 60 Hz A	Noise level dBA / 60 Hz	Current 4 pole 50 Hz A	Noise level dBA / 50 Hz	Current 4 pole 60 Hz A	Noise level dBA / 60 Hz
		Y 400 V		Y 460 V		Y 400 V		Y 460 V	
		IE3	0.75 / 0.86	1.56	63	1.63	67	1.75	56
1.1 / 1.27	2.25		63	2.25	67	2.4	59	2.35	61
1.5 / 1.75	3.0		68	2.95	72	3.15	59	3.15	61
2.2 / 2.54	4.2		68	4.2	72	4.4	63	4.35	65
3.0 / 3.45	5.6		70	5.5	74	5.9	63	5.8	65
4.0 / 4.55	7.3		72	7.2	76	7.9	61	7.7	65
5.5 / 6.3	9.9		72	9.8	76	10.5	67	10.5	71
		Δ 400 V		Δ 460 V		Δ 400 V		Δ 460 V	
IE3	7.5 / 8.6	13.1	72	13.0	75	14.3	67	14.2	71
	11.0 / 12.6	19.6	75	19.5	80	20.5	68	20.0	72
	15.0 / 17.3	27.0	75	27.0	80	28.5	68	28.0	72
	18.5 / 21.3	32.0	75	32.0	80	35.0	69	34.5	71
	22.0 / 25.3	37.5	76	37.5	>80	41.0	71	41.0	73
	30.0 / 33.5*	53.0	76	52.0	>80	55.0	68	55.0	71
	37.0 / 41.5*	65.0	77	63.0	>80	70.0	68	68.0	70
	45.0 / 51.0*	78.0	77	77.0	>80	80.0	68	81.0	70
	55.0 / 62.0*	95.0	>80	92.0	>80	96.0	69	97.0	70
	75.0 / 84.0	128.0	>80	128.0	>80				
	90.0 / 101.0	152.0	>80	148.0	>80				
110.0 / 123.0	183.0	>80	179.0	>80					

Noise level with +3 dBA tolerance for standard motors.

Depending on actual motor rating and sizing (Power / Motor efficiency class) deviations in pump and motor configurations are possible. Motors from various suppliers will be used, depending on availability.

* Different horsepower rating at 60 Hz, see data sheet for 4 pole operation.

Technical Information

Electrical Features, NEMA MG1 12-12



Technical motor data NEMA Premium

Three-phase induction motor 2 pole, thermal protection class F, grade of protection IP 55

Brinkmann motors

	Power 60 Hz kW / HP	Current 2 pole 60 Hz A		Noise level max. dBA / 60 Hz
		Y 460 V	Δ 460 V	
MG1 12-12	B 1.49 / 2.0	2.7	–	67
	B 1.75 / 2.3	3.1	–	67
	B 1.95 / 2.6	3.5	–	67
	B 2.18 / 2.9	3.9	–	67
	B 2.55 / 3.4	4.4	–	67
	B 2.94 / 3.9	5.1	–	67
	B 3.45 / 4.6	6.0	–	67
	B 3.8 / 5.1	6.4	–	75
	B 4.55 / 6.1	7.9	–	75
	B 5.75 / 7.7	9.5	–	75
	B 6.3 / 8.4	10.4	–	77
	B 6.9 / 9.2	–	10.7	77
	B 7.48 / 10.0	–	11.5	77
	B 8.6 / 11.5	–	13.7	77
	B 10.3 / 13.8	–	15.8	78
B 12.6 / 16.9	–	19.5	80	
B 15.0 / 20.1	–	23.6	80	

Standard motors

	Power 60 Hz kW / HP	Current 2 pole 60 Hz A	Noise level dBA / 60 Hz	Current 4 pole 60 Hz A	Noise level dBA / 60 Hz
		Y 460 V		Y 460 V	
MG1 12-12	0.75 / 1.0	1.45	67	1.59	58
	1.1 / 1.5	1.98	67	2.15	61
	1.5 / 2.0	2.6	72	2.85	61
	2.2 / 3.0	3.65	72	3.8	65
	3.0 / 4.0	4.9	74	5.1	65
	3.7 / 5.0	6.0	76	6.5	65
	5.5 / 7.5	8.6	76	9.3	71
		Δ 460 V		Δ 460 V	
MG1 12-12	7.5 / 10.0	11.5	75	12.4	71
	11.0 / 15.0	17.2	80	18.0	72
	15.0 / 20.0	24.0	80	25.0	72
	18.5 / 25.0	28.0	80	30.5	71
	22.0 / 30.0	34.0	81	36.5	73
	30.0 / 40.0	47.0	81	48.0	71
	37.0 / 50.0	57.0	82	58.0	70
	45.0 / 60.0	69.0	>82	71.0	70
	55.0 / 75.0	83.0	>82	84.0	70
	75.0 / 100.0	112.0	>82	116.0	82
	90.0 / 125.0	132.0	>82	136.0	82
110.0 / 150.0	160.0	>82	168.0	82	

Noise level with +3 dBA tolerance for standard motors.

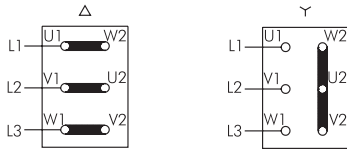
Special voltages and cycles are available upon request. Depending on actual motor rating and sizing (Power / Motor efficiency class) deviations in pump and motor configurations are possible. Motors from various suppliers will be used, depending on availability.

Electrical Features

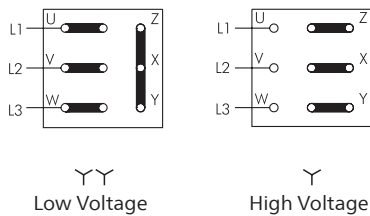
Circuits

Standard voltage changing Δ / Δ
 e. g. 220 – 240 V / 380 – 415 V, 50 Hz

Δ (Delta Connection) Υ (Star Connection)



Voltage changing 1 : 2 $\Upsilon\Upsilon$ / Υ
 e. g. 230 V / 460 V, 60 Hz



Installation

Brinkmann Screw Pump with connector

Motors up to 5.5 kW are available with HAN 10-pin connector; motors 6.0 kW to 13 kW are available with HAN modular plug connector.

Set-up altitude and coolant temperature

The specified power ratings (P_N) and operating values for the motors apply for operating mode S 1 according to EN 60034-1 (continuous operation) at a frequency of 50 Hz, rated voltage, a cooling air temperature (KT) of max. 40 °C and a set-up altitude of up to 1000 m above sea level. The motors can also be used at a cooling air temperature above 40 °C up to max. 60 °C or set-up altitude above 1000 m above sea level. In such cases the power rating must be reduced according to the diagrams, or an appropriately larger motor version or higher heat class has to be selected. However, a deviation from the specified data is necessary when the cooling air temperature is reduced according to table simultaneously at set-up altitudes higher than 1000 m above sea level.

Set-up altitude / m	Maximum cooling air temperature for heat class F / °C
0 up to 1000	40
1000 up to 2000	30
2000 up to 3000	19
3000 up to 4000	9

