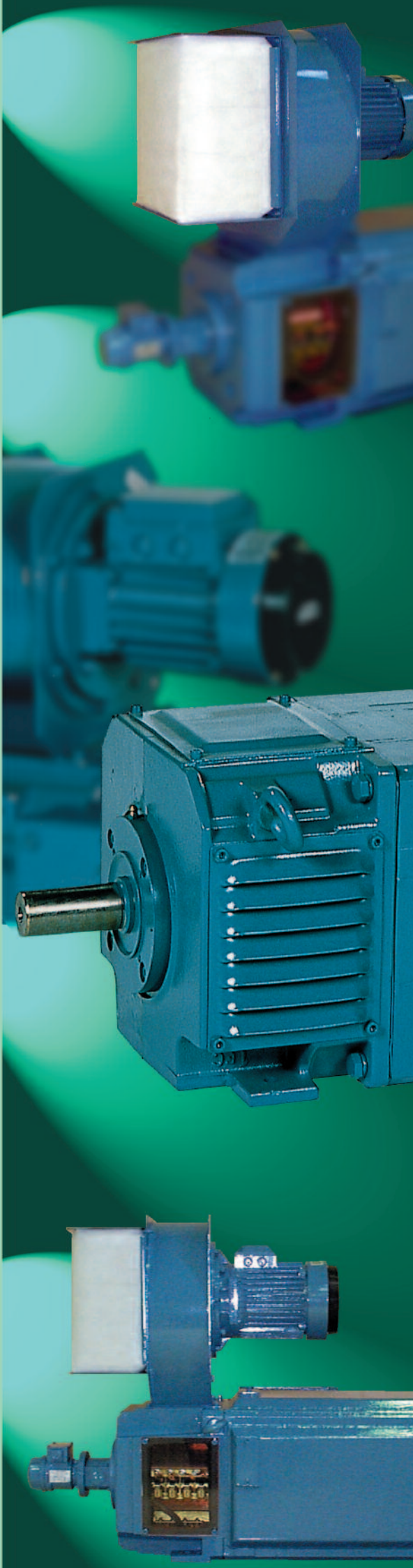


DC Motors

DMP catalogue
1-200 kW, 5-1000 Nm

T-T Electric



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Introduction

DMP d.c. motors are fully laminated, 2 or 4 pole, square frame.

Output: 1-200 kW

Torque: 5-1000 Nm

DMP motor range:

Frame size DMP	Core lengths
112-2	MA, LA
112-4	M, L
132-2	M
132-4	S, M, L, LB
160-4	S, SO, M, MO, L, LO, LB
180-4	A, B, C, D, E, F

Type designation example :

DMP 180-4E

DM = DC motor
P = Motor type
180 = Centre height in mm
4 = Number of poles
E = Core length

Basic design characteristics

- Fully laminated stator, main poles and interpoles.
- Compact square frame design.
- Easy installation of accessories.
- Large openings in end shields for easy inspection.
- Stator windings of varnish insulated copper wire.
- Laminated armature core of high grade insulated electro-plate.
- Large number of cooling ducts in armature provide excellent cooling.
- Scrambled armature laminations for low torque ripples.
- Armature windings of varnished copper designed for low commutating stresses and high mechanical strength.
- Armature is impregnated to ensure high degree of heat transfer.
- Brush holders with spring loaded pressure fingers.
- Prepared for a number of options and accessories ensuring high flexibility.
- Painting with excellent corrosion resistant properties.
- Conforms with IEC standards.
- Available as NEMA standard.
- CSA approved.

Options

Frame size	DMP	112-2	112-4	132-2	132-4	160	180
Cooling forms							
IC06	(IP23) Force ventilated	0	0	0	0	0	0
IC17	(IP23) Single pipe ventilated	0	0	0	0	0	0
IC37	(IP54) Double pipe ventilated	0	0	0	0	0	0
IC410	(IP54) Totally enclosed	0	0	0	0	0	0
IC416	(IP54) Totally enclosed, fan cooled	0	0	0	0	0	0
IC666	(IP54) Air-air cooled	0	0	0	0	0	0
IC86W	(IP54) Air-water cooled	0	0	0	0	0	0
<i>Other cooling forms available</i>							
Protection							
IP55		0	0	0	0	0	0
Mounting forms							
IM1001	Horizontal foot	0	0	0	0	0	0
IM1002	Horizontal foot, two shaft ends	0	0	0	0	0	0
IM2001	Horizontal foot and flange	0	0	0	0	0	0
IM2011	Vertical foot and flange	0	0	0	0	0	0
<i>Other mounting forms available</i>							
Modifications and accessories							
Compound winding		0	0	0	0	0	0
Pressure switch		0	0	0	0	0	0
Temperature sensor, interpole		0	0	0	0	0	0
Temperature sensor, field winding		0	0	0	0	0	0
Bearing sensor		0	0	0	0	0	0
Grounding brush		0	0	0	0	0	0
Heating element		0	0	0	0	0	0
Brush wear sensor		0	0	0	0	0	0
Special shaft		0	0	0	0	0	0
Roller bearing d-end		0	0	0	0	0	0
Shaft seal, d-end		0	0	0	0	0	0
Special balance Class 'R'		0	0	0	0	0	0
Special paint (RAL colour)		0	0	0	0	0	0
Special corrosion protection		0	0	0	0	0	0
Transparent inspection cover		0	0	0	0	0	0
Brake		0	0	0	0	0	0
Gearbox		0	0	0	0	0	0
Tachos with coupling							
REO 444R1	(60v/1000min ⁻¹)	0	0	0	0	0	0
TDP 0.2 LT-4	(60v/1000min ⁻¹)	0	0	0	0	0	0
<i>Others available</i>							
Pulse generators							
POG 9 D	(1-1250 ppr)	0	0	0	0	0	0
HG650 or DG60L	(1024 ppr)	0	0	0	0	0	0
<i>Others available</i>							

Application data

Standards

IEC 34 - IEC 72 etc.

Insulation

Class H

Temperature rise

Class F

Balance

IEC 34-14 grade 'N' standard.
Grade 'R' on request.

Overload capacity

180% xFLC for
15 sec. every 5 minutes
30 sec. every 30 minutes

Terminal box

Standard position: On right hand side (facing D-end).
Mounting of terminal box on top or left hand side on request.
DMP motors are delivered with a large terminal box IP55 including knockout openings:

DMP 112 – 132

2 x Ø 28.5 (PG 21)

2 x Ø 20.5 (PG 13.5)

Cable entry from Drive end.

DMP 160 – 180

2 x Ø 55 (PG 42)

4 x Ø 28.5 (PG 21)

Cable entry from above or below.

Blower position

Standard: On top of the motor at the non-drive end.
Other positions on request.

Blower is supplied without filter as standard.
Filter on request.

Bearings

Grease lubricated ball bearings as standard.
For belt drive please contact our sales offices.

Heat exchangers

Air/water (IC86W):

Air/water exchangers are especially recommended for polluted environment.

Standard is for clean water.
For corrosive water on request.

Position on top of the motor as standard. Fan motor at N-end.
Water connection flanges at right hand side (facing D-end).
Max. water pressure 10 PSI
Max. inlet water temperature 25°C. A water temperature rise of 8-10°C must be expected.

For motors with low loads or a low incoming water temperature, a temperature regulator is recommended to avoid condensation in the cooling air circuit and to minimize water consumption.

A constant speed fan circulates the internal cooling air. A polyamide filter is provided for carbon dust.

Detailed heat exchanger information on request.

Air/air (IC666):

Air/air heat exchangers are recommended where water is not available for cooling purposes.

The output of a motor with air/air exchanger will be approximately 20% lower compared to cooling forms IC06/17/37/86W.

Position: On top of the motor as standard.

Two constant speed fans at top of the heat exchanger to provide air circulation for the outer and inner circuits.

Application data

Fan blower motor data

DMP	U_{net}, f_{net} (Y)	I_Y (A)	U_{net}, f_{net} (Δ)	I_{Δ} (A)	P_{fan} (kW)	W_{fan} (kg)
112	3x380-420 V. 50 Hz	0.70	3x220-240 V. 50 Hz	1.20	0.25	7
132-2M	3x440-480 V. 60 Hz	0.70	3x250-280 V. 60 Hz	1.20	0.30	
132-4S/M/L	3x500 V. 50 Hz	0.60	-	-	0.25	
132-4LB	3x380-420 V. 50 Hz	2.10	3x220-240 V. 50 Hz	3.60	0.75	16
160-4S/M/L	3x440-480 V. 60 Hz	2.00	3x250-280 V. 60 Hz	3.50	0.90	
	3x500 V. 50 Hz	1.40	-	-	0.75	
160-4LB	3x380-420 V. 50 Hz	2.90	3x220-240 V. 50 Hz	5.00	1.30	18
	3x440-480 V. 60 Hz	2.80	3x250-280 V. 60 Hz	5.00	1.50	
	3x500 V. 50 Hz	2.30	-	-	1.30	
180-4A/B/C/D	3x380-420 V. 50 Hz	3.00	3x220-240 V. 50 Hz	5.20	1.50	18
	3x440-480 V. 60 Hz	2.90	3x250-280 V. 60 Hz	5.00	1.75	
	3x500 V. 50 Hz	2.70	-	-	1.50	
180-4E/F	3x380-420 V. 50 Hz	5.80	3x220-240 V. 50 Hz	10.0	2.70	20
	3x440-480 V. 60 Hz	5.80	3x250-280 V. 60 Hz	10.0	3.00	
	3x500 V. 50 Hz	4.60	-	-	2.70	

U_{net}, f_{net} (Y)	Supply voltage, frequency Y
I_Y	Current Y
P_{fan}	Power
U_{net}, f_{net} (Δ)	Supply voltage, frequency Δ
I_{Δ}	Current Δ
W_{fan}	Total fan weight

Bearings

DMP	Drive end		Non-drive end
	Ball bearing	Roller bearing	
112	6308-C3	NU 308 ECP	6208-2RS 1-HT-C3
132	6309-C3	NU 309 ECP	6307-2RS 1-HT-C3
160	6310-C3	NU 310 ECP	6309-2RS 1-HT-C3
180-4A/B/C/D/E	6215-C3	NU 2215-ECP	6312-2RS1-HT-C3
180-4F	6315-C3	NU 315 ECP	6312-2RS1-HT-C3

Output data

Select motor frame size against voltage, output and speed. For intermediate output, take the nearest higher output listed under the next frame size. For intermediate speed take the next lower speed listed within the output required. The output lists are based on:

- **Cooling forms**
IC06/IC17/IC37/IC86W.
- **The armature circuit resistance listed is for duty warm condition.**
- **The inductance listed is for the armature circuit.**
- **Motor supply from 3-phase fully controlled thyristor.**

Constant power/constant torque

The full field or base speed and maximum speed through field control with constant output is listed for each winding. Armature voltage: For -10% the output and speed are proportional to the voltage. For higher shunt field ranges, please refer to sales offices. With a combination of armature voltage/shunt control greater constant power ranges can be obtained.

Duty cycles

Ratings: All outputs are duty type S 1 and motors are fed from a 3-phase fully controlled thyristor where the form factor is 1.05.

Field windings

All motors in the output lists have separate excitation, the field being shunt wound. Compound winding can be supplied on request. Motors with compound winding may have nominal data which differ from those shown in the output lists.

Armature voltage

For other armature voltages, please contact our sales offices.

Ambient temperature and altitude

Outputs in this catalogue are based on max. 40°C ambient temperature and motor located at max. 1000 metres above sea level.

If ambient temperature and/or altitude is higher, contact our sales office.

NEMA output data

NEMA catalogue available on request.

Stock motors

Motors indicated with the sign* in the output data lists are available from stock and can be delivered promptly.

The stock motors are available according to following specification. Motor fan, standard tachogenerator and coupling can be fitted on request.

- **IM 1001, IP 23, IC 17, designed for cooling air inlet at either D or N-end (when possible, cooling air inlet should always be at the D-end of DMP motors).**
- **Cylindrical roller bearing on D-end.**
- **Terminal box on right hand side (facing D-end).**
- **Balanced with half key.**
- **Thermostats NC.**
- **PTC thermistors.**
- **Name plate and documents in English.**
- **Rating data as standard motors but field weakening is only allowed up to 25 % overspeed for stock motors.**
- **Stock motors have a parallel /serial connection suitable for an excitation voltage of 170-180-190/340-360-380 V.**
- **Stock motors have reinforced impregnation.**

Output data

Technical data

	n_{max}	n_0	J	P_f	U_{amax}	U_f	V_{cool}	P_r	$W_{(foot)}$	$W_{(flange)}$
n_{max}	Max mechanical speed									
n_0	Min speed at constant torque									
J	Moment of inertia									
P_f	Excitation power									
U_{amax}	Max rated voltage									
U_f	Excitation voltage									
V_{cool}	Cooling air flow									
P_r	Static pressure drop (IC17, IC37)									
$W_{(foot)}$	Weight: foot mounting *									
$W_{(flange)}$	Weight: flange mounting *									

*excl. accessories

Cat. Nr	U_a (V):	400	420	440	470	520	550	P	I	T	η	n_2	R_A (115°C)	L_A (0Hz)
FR 157...				n_b (min ⁻¹)				(kW)	(A)	(Nm)	(%)	min ⁻¹	(Ω)	(mH)
n_b	Base speed													
U_a	Armature voltage													
P	Mechanical power													
I	Armature current													
T	Torque													
η	Efficiency IEC													
n_2	Max electrical speed													
R_A	Armature resistance													
L_A	Armature inductance													

Data subject to change without prior notice.

Technical data

	n_{max} 5000 min ⁻¹	n_0 40 min ⁻¹	J 0.03 kgm ²	P_f 420 W	U_{amax} 620 V	U_f 110-440 V	V_{cool} 235 m ³ /h	Pr 375 Pa	$W_{(foot)}$ 90 kg	$W_{(flange)}$ 102 kg			
Cat. Nr	U_a (V): 260 400 420 440 470 520				P	I	T	η	n_2	R_A (115°C)	L_A (0Hz)		
FR 154...	n_b (min ⁻¹)				(kW)	(A)	(Nm)	(%)	min ⁻¹	(Ω)	(mH)		
241-AB	1000	1075	1145	1255	1440	3.2	12.2	31.0	61.1	1605	9.84	120	
						3.5	12.2	31.0	62.8				
						3.7	12.2	31.0	64.1				
						4.1	12.2	31.0	66.0				
						4.6	12.0	30.4	68.9				
241-BB	645	1235	1315	1400	1525	1745	2.0	13.5	29.1	50.3	1960	7.78	88
							3.8	13.5	29.3	65.0			
							4.0	13.5	29.3	66.2			
							4.3	13.5	29.3	67.5			
							4.7	13.5	29.3	69.2			
241-CB	860	1570	1670	1770	1920	2180	2.8	17.0	30.8	57.4	2480	5.14	61
							5.1	17.0	30.8	70.0			
							5.4	17.0	30.8	71.2			
							5.7	17.0	30.8	72.2			
							6.2	17.0	30.8	73.6			
251-CB	1010	1795	1905	2015	2185	2475	3.2	18.5	30.2	61.1	3060	4.21	49
							5.7	18.5	30.2	61.1			
							6.0	18.5	30.2	73.5			
							6.4	18.5	30.2	74.5			
							6.9	18.5	30.2	75.7			
241-DB	1185	2070	2195	2320	2510	2832	7.7	18.2	29.7	77.7	3250	3.33	39
							3.8	21.0	30.4	64.4			
							6.6	21.0	30.4	74.8			
							7.0	21.0	30.4	75.7			
							7.4	21.0	30.4	76.5			
241-EB*	1445	2450	2595	2740	2955	3325	8.0	21.0	30.4	77.7	3835	2.42	30
							8.9	20.7	29.9	79.4			
							4.5	23.7	30.0	69.1			
							7.7	23.7	30.0	77.9			
							8.2	23.7	30.0	78.7			
231-EB	1740	2920	3085	3255	3325	3325	8.6	23.7	30.0	79.4	3595	1.75	30
							9.3	23.7	30.0	80.4			
							10.3	23.3	29.5	81.8			
							5.8	29.0	31.6	72.3			
							9.6	29.0	31.5	80.1			
231-FB	2175	3590	3790	3995	3325	3325	10.2	29.0	31.5	80.8	3835	1.25	15
							10.7	29.0	31.5	81.4			
							7.0	34.0	30.8	75.7			
							11.5	34.0	30.7	82.3			
							12.2	34.0	30.7	82.9			
231-GB ¹	2820	4590					12.8	34.0	30.7	83.4	5000	0.85	10
							8.7	41.0	29.6	79.0			
							14.2	41.0	29.6	84.3			

¹ Cooling air inlet at commutator side. Can be used with cooling air inlet at shaft side with 10% reduction of power.

* Normally kept in stock with reinforced impregnation.

Technical data

Cat. Nr	n_{max}	n_0	J	P_f	U_{amax}	U_f	V_{cool}	Pr	$W_{(foot)}$	$W_{(flange)}$			
	5000 min ⁻¹	40 min ⁻¹	0.04 kgm ²	500 W	620 V	110-440 V	235 m ³ /h	375 Pa	96 kg	108 kg			
FR 154...	U_a (V):260 400		420 440 470 520		P	I	T	η	n_2	R_A (115°C)	L_A (0Hz)		
	n_b (min ⁻¹)				(kW)	(A)	(Nm)	(%)	min ⁻¹	115°C (Ω)	(mH)		
141-AB	655	705	755	830	964	3.0	12.2	44.3	56.3	1055	11.51	164	
						3.3	12.2	44.3	58.1				
						3.5	12.2	44.3	59.7				
						3.9	12.2	44.3	61.8				
						4.4	12.0	43.6	65.3				
151-AB	725	780	835	915	1058	3.5	13.5	45.6	58.6	1280	9.85	141	
						3.7	13.5	45.6	60.2				
						4.0	13.5	45.6	61.8				
						4.4	13.5	45.7	63.8				
						5.0	13.3	44.8	67.1				
141-BB	790	850	910	1000	1153	3.5	13.7	42.6	59.0	1275	9.52	121	
						3.8	13.7	42.6	60.7				
						4.0	13.7	42.6	62.2				
						4.5	13.7	42.7	64.3				
						5.1	13.5	41.9	67.4				
141-CB	1040	1110	1180	1285	1472	4.8	17.0	44.0	65.5	1650	6.29	83	
						5.1	17.0	44.0	66.8				
						5.4	17.0	44.0	68.1				
						5.9	17.0	44.1	69.8				
						6.7	16.7	43.3	72.5				
141-DB	645	1200	1275	1355	1470	1674	2.9	18.5	42.9	54.8	1895	5.16	67
							5.4	18.5	43.1	68.5			
							5.8	18.5	43.1	69.7			
							6.1	18.5	43.2	70.8			
							6.7	18.5	43.1	72.4			
141-EB	770	1390	1480	1570	1705	1933	3.5	21.0	43.4	58.7	2200	4.07	54
							6.3	21.0	43.5	71.2			
							6.7	21.0	43.5	72.3			
							7.1	21.0	43.5	73.4			
							7.8	21.0	43.6	74.8			
141-FB	950	1660	1765	1865	2020	2278	4.3	24.0	43.5	64.2	2610	2.97	41
							7.6	24.0	43.5	75.0			
							8.0	24.0	43.5	76.0			
							8.5	24.0	43.5	76.9			
							9.2	24.0	43.5	78.1			
141-GB*	1165	1995	2110	2230	2410	2710	5.5	29.2	45.1	68.5	3120	2.13	30
							9.4	29.0	45.2	77.9			
							10.0	29.0	45.2	78.7			
							10.5	29.0	45.2	79.5			
							11.4	29.0	45.1	80.6			
131-CB*	1305	2210	2340	2470	2665	2993	6.2	32.0	45.7	70.7	3120	1.76	25
							10.6	32.0	45.7	79.4			
							11.2	32.0	45.7	80.2			
							11.8	32.0	45.7	80.0			
							12.7	32.0	45.7	81.9			
141-HB	1470	2465	2610	2750	2965	3326	14.1	31.5	44.9	83.3	3850	1.52	21
							6.8	34.0	44.0	72.6			
							11.4	34.0	44.0	80.7			
							12.0	34.0	44.0	81.4			
							12.7	34.0	44.0	82.0			
141-KB*	1675	2785	2940	3100	3335	3326	13.7	34.0	44.1	82.9	4340	1.22	17
							15.1	33.4	43.3	84.2			
							7.8	38.0	44.3	75.0			
							12.9	38.0	44.3	82.3			
							13.6	38.0	44.3	82.9			
							14.4	38.0	44.3	83.5			
							15.5	38.0	44.3	84.3			

1 Cooling air inlet at commutator side. Can be used with cooling air inlet at shaft side with 10% reduction of power.

* Normally kept in stock with reinforced impregnation.

Technical data

	n_{max} 5000 min ⁻¹	n_0 40 min ⁻¹	J 0.037 kgm ²	P_f 625 W	U_{amax} 550 V	U_f 110-440 V	V_{cool} 270 m ³ /h	Pr 480 Pa	$W_{(foot)}$ 103 kg	$W_{(flange)}$ 115 kg				
Cat. Nr	U_a (V):	260	400	420	440	470	520	P	I	T	η	n_2	R_A (115°C)	L_A (0Hz)
FR 153...		n_b (min ⁻¹)					(kW)	(A)	(Nm)	(%)	min ⁻¹	115°C (Ω)	(mH)	
201-NA		1325	1405	1485	1605	1810	6.7	21.0	47.9	75.1	1655	3.258	40.75	
							7.1	21.0	47.9	76.0	1655			
							7.5	21.0	47.9	76.9	1655			
							8.1	21.0	47.9	78.0	1655			
							8.3	19.2	43.8	80.1	1810			
201-MA		1445	1530	1615	1745	1960	7.1	22.0	47.1	76.8	1795	2.776	35.80	
							7.5	22.0	47.1	77.7	1795			
							8.6	22.0	47.0	78.5	1795			
							8.6	22.0	47.0	79.5	1795			
							8.8	20.1	43.1	81.3	1960			
201-LA	920	1565	1655	1745	1890	2115	4.6	24.0	48.0	68.9	1890	2.416	31.20	
							7.8	24.0	47.9	77.9	1890			
							8.3	24.0	47.9	78.7	1890			
							8.8	24.0	47.9	79.5	1890			
							9.4	24.0	47.9	80.4	1890			
201-KA	1010	1700	1800	1900	2050	2295	4.9	25.0	46.3	70.2	2105	2.174	26.90	
							8.2	25.0	46.3	78.8	2105			
							8.7	25.0	46.3	79.5	2105			
							9.2	25.0	46.3	80.2	2105			
							9.9	25.0	46.3	81.2	2105			
201-JA	1120	1870	1980	2085	2245	2515	5.5	27.5	47.0	72.5	2435	1.783	22.90	
							9.2	27.5	47.0	80.3	2435			
							9.7	27.5	47.0	81.0	2435			
							10.3	27.5	47.0	81.7	2435			
							11.1	27.5	47.0	82.5	2435			
201-IA	1240	2060	2175	2295	2470	2760	6.1	30.0	46.7	73.8	2655	1.549	19.25	
							10.1	30.0	46.6	81.2	2655			
							10.6	30.0	46.6	81.9	2655			
							11.2	30.0	46.6	82.5	2655			
							12.0	30.0	46.6	83.3	2655			
201-HA	1390	2295	2420	2550	2745	3065	6.8	33.0	46.7	75.7	2920	1.275	15.90	
							11.2	33.0	46.6	82.5	2920			
							11.8	33.0	46.6	83.1	2920			
							12.4	33.0	46.6	83.6	2920			
							13.4	33.0	46.6	84.4	2920			
201-GA	1575	2575	2720	2860	3080	3500	8.2	39.0	50.0	77.9	2975	0.973	12.90	
							13.5	39.0	49.9	84.0	2975			
							14.2	39.0	49.9	84.6	2975			
							14.9	39.0	49.9	85.0	2975			
							15.5	37.7	48.2	85.7	3080			
201-FA	1800	2930	3090	3250	3500	3500	9.4	44.0	49.9	79.7	3425	0.772	10.20	
							15.3	44.0	49.8	85.2	3425			
							16.1	44.0	49.8	85.7	3425			
							17.0	44.0	49.8	86.1	3425			
							17.8	43.0	48.7	86.7	3500			
201-EA	2100	3390	3575	3760	3500	3500	11.2	51.0	51.0	81.8	3855	0.573	7.80	
							18.0	51.0	50.8	86.6	3855			
							19.0	51.0	50.8	87.0	3855			
							20.0	51.0	50.8	87.3	3855			
							13.4	60.0	51.3	83.5	4460			
201-DA	2495	4000					21.4	60.0	51.1	87.7	4460	0.425	5.75	
							15.9	70.0	49.8	85.4	5000			
201-CA	3055											0.298	4.00	

1 Cooling air inlet at commutator side. Can be used with cooling air inlet at shaft side with 10% reduction of power.

* Normally kept in stock with reinforced impregnation.

Technical data

Cat. Nr	n_{max}	n_0	J	P_f	U_{amax}	U_f	V_{cool}	Pr	$W_{(foot)}$	$W_{(flange)}$			
	5000 min ⁻¹	40 min ⁻¹	0.05 kgm ²	740 W	550 V	110-440 V	270 m ³ /h	480 Pa	110 kg	122 kg			
FR 153...	U_a (V):260	400	420	440	470	520	P	I	T	η	n_2	R_A (115°C)	L_A (0Hz)
		n_b (min ⁻¹)					(kW)	(A)	(Nm)	(%)	min ⁻¹	115°C (Ω)	(mH)
101-KA		1160					7.9	25.0	65.2	75.0	1545	2.679	32.75
			1230				8.4	25.0	65.2	76.0	1545		
				1300			8.9	25.0	65.2	76.8	1545		
					1405		9.6	25.0	65.2	77.9	1545		
101-JA		1280					8.9	27.5	66.2	76.9	1790	2.196	27.90
			1355				9.4	27.5	66.2	77.8	1790		
				1435			9.9	27.5	66.2	78.5	1790		
					1545		10.7	27.5	66.2	79.6	1790		
101-IA*		1410					12.0	27.5	66.2	81.0	1790	1.908	23.45
			1495				9.8	30.0	66.2	77.9	1950		
				1575			10.4	30.0	66.2	78.7	1950		
					1700		10.9	30.0	66.1	79.5	1950		
101-HA		1575					11.8	30.0	66.1	80.4	1950	1.569	19.40
			1670				13.2	30.0	66.1	81.8	1950		
				1760			10.9	33.0	66.2	79.5	2145		
					1895		11.6	33.0	66.2	80.2	2145		
101-GA	1070						12.2	33.0	66.1	80.9	2145	1.195	15.70
							13.1	33.0	66.1	81.7	2145		
			1790				14.7	33.0	66.1	83.0	2145		
				1880			7.9	39.0	70.6	74.0	2240		
101-FA*	1230						13.1	39.0	70.5	81.3	2240	0.947	12.40
							13.9	39.0	70.5	82.0	2240		
			2030				14.6	39.0	70.5	82.6	2240		
				1980			15.7	39.0	70.4	83.3	2240		
101-EA*	1445						9.1	44.0	70.8	76.2	2515	0.708	9.50
							15.0	44.0	70.6	82.8	2515		
			2030				15.8	44.0	70.6	83.3	2515		
				2145			16.7	44.0	70.6	83.9	2515		
101-DA*	1720						17.9	44.0	70.6	84.6	2515	0.526	7.00
							10.9	51.0	71.8	78.7	2835		
			2355				17.7	51.0	71.6	84.4	2835		
				2485			18.6	51.0	71.6	84.9	2835		
101-CA	2115						19.6	51.0	71.6	85.3	2835	0.368	4.85
							13.0	60.0	72.2	80.7	3280		
			2785				21.0	60.0	72.0	85.7	3280		
				2935			22.1	60.0	72.0	86.2	3280		
101-BA	2705						23.3	60.0	72.0	87.0	3280	0.251	3.10
							15.5	70.0	70.2	83.0	4050		
			3390				24.8	70.0	69.9	87.1	4050		
				3575			26.1	70.0	69.9	87.5	4050		
101-AA	3690						27.5	70.0	69.8	87.8	4050	0.149	1.75
							18.6	82.0	65.5	84.9	5000		
			4300				29.3	82.0	65.2	88.1	5000		
				4525			30.9	82.0	65.1	88.4	5000		

1 Cooling air inlet at commutator side. Can be used with cooling air inlet at shaft side with 10% reduction of power.

* Normally kept in stock with reinforced impregnation.

Technical data

Cat. Nr	n_{max}	n_0	J	P_f	U_{amax}	U_f	V_{cool}	Pr	$W_{(foot)}$	$W_{(flange)}$			
	5000 min ⁻¹	40 min ⁻¹	0.09 kgm ²	550 W	620 V	110-440 V	435 m ³ /h	400 Pa	132 kg	147 kg			
FR 154...	U_a (V):260	400	420	440	470	520	P	I	T	η	n_2	R_A (115°C)	L_A (0Hz)
		n_b (min ⁻¹)					(kW)	(A)	(Nm)	(%)	min ⁻¹	115°C (Ω)	(mH)
241-AB		605					4.0	16.4	63.1	56.1	1460	8.93	132
		650					4.3	16.4	63.1	57.9	1480		
		700					4.6	16.4	63.1	59.5	1480		
		770					5.1	16.4	63.4	61.7	1480		
		898					5.8	16.1	62.1	65.2	1480		
241-BB		830					5.6	20.5	64.3	63.7	1725	5.73	87
		885					6.0	20.5	64.3	65.1	1725		
		945					6.4	20.5	64.3	66.5	1725		
		1035					7.0	20.5	64.3	68.3	1725		
		1186					7.9	20.2	63.3	71.2	1725		
241-CB		980					6.6	23.3	64.6	67.0	1950	4.50	68
		1045					7.1	23.3	64.6	68.3	1950		
		1110					7.5	23.3	64.6	69.5	1950		
		1210					8.2	23.3	64.6	71.2	1950		
		1383					9.2	22.9	63.5	73.8	1950		
241-DB		1200					8.3	27.5	66.1	71.7	2200	3.18	51
		1275					8.8	27.5	66.1	72.8	2200		
		1350					9.3	27.5	66.1	73.9	2200		
		1465					10.1	27.5	66.1	75.3	2200		
		1664					11.3	27.0	65.0	77.5	2200		
231-AB	745	1330					5.3	30.5	67.6	62.2	1860	2.60	43
		1415					9.4	30.5	67.7	73.8	1860		
		1495					10.0	30.5	67.7	74.9	1860		
		1620					10.6	30.5	67.7	75.8	1860		
		1835					11.5	30.5	67.7	77.1	1860		
251-EB	830	1465					5.6	32.0	64.9	63.6	2650	2.37	36
		1555					10.0	32.0	65.0	74.8	2650		
		1650					10.6	32.0	65.0	75.8	2650		
		1785					11.2	32.0	65.0	76.7	2650		
		2019					12.2	32.0	65.1	77.9	2650		
241-EB	945	1650					6.6	36.0	66.5	66.5	2840	1.93	30
		1750					11.5	36.0	66.4	76.7	2840		
		1850					12.2	36.0	66.4	77.7	2840		
		2000					12.9	36.0	66.4	78.5	2840		
		2257					13.9	36.0	66.4	79.6	2840		
251-FB	1100	1880					7.7	40.0	66.5	70.1	3160	1.51	24
		1990					13.1	40.0	66.5	79.1	3160		
		2105					13.9	40.0	66.5	79.9	3160		
		2270					14.6	40.0	66.5	80.7	3160		
		2554					15.8	40.0	66.5	81.7	3160		
241-FB	1280	2155					17.5	39.3	65.3	83.2	3160	1.16	19
		2280					9.1	46.0	68.0	73.0	3480		
		2405					15.4	46.0	68.1	81.1	3480		
		2595					16.3	46.0	68.1	81.8	3480		
		2911					17.1	46.0	68.1	82.5	3480		
241-GB	1505	2500					18.5	46.0	68.1	83.3	3480	0.92	15
		2645					20.4	45.2	66.9	84.7	3480		
		2790					10.6	52.0	67.3	75.4	4000		
		3000					17.6	52.0	67.3	82.7	4000		
							18.7	52.0	67.3	83.3	4000		
231-DB	1820	2990					19.7	52.0	67.3	83.9	4000	0.65	11
		3155					21.2	52.0	67.4	84.7	4000		
		3320					12.7	60.0	66.9	78.7	4000		
							20.8	60.0	66.6	84.9	4000		
							22.0	60.0	66.6	85.4	4000		
231-EB	2240						23.2	60.0	66.6	85.9	4000	0.47	8
		3640					15.6	72.0	66.5	81.0	4000		
							25.3	72.0	66.5	86.3	4000		

1 Cooling air inlet at commutator side. Can be used with cooling air inlet at shaft side with 10% reduction of power.

* Normally kept in stock with reinforced impregnation.

Data subject to change without prior notice.

Technical data

	n_{max} 4000 min ⁻¹	n_0 40 min ⁻¹	J 0.10 kgm ²	P_f 750 W	U_{amax} 620 V	U_f 110-440 V	V_{cool} 470 m ³ /h	Pr 550 Pa	$W_{(foot)}$ 115 kg	$W_{(flange)}$ 130 kg			
Cat. Nr	U_a (V):260	400	420	440	470	520	P	I	T	η	n_2	R_A (115°C)	L_A (0Hz)
FR 156...	n_b (min ⁻¹)						(kW)	(A)	(Nm)	(%)	min ⁻¹	115°C (Ω)	(mH)
341-AB		690	737	785	855	980	7.7	27.5	107.0	65.6	1250	4.01	60.30
							8.2	27.5	107.0	67.0	1250		
							8.8	27.5	107.0	68.3	1250		
							9.6	27.5	107.0	70.0	1250		
							10.8	27.0	105.0	72.8	1250		
341-BB		820	875	930	1015	1155	9.1	31.0	106.0	69.0	1410	3.16	46.20
							9.7	31.0	106.0	70.3	1410		
							10.3	31.0	106.0	71.4	1410		
							11.2	31.0	105.0	73.0	1410		
							12.5	30.5	104.0	75.5	1410		
341-CB	555	1000	1065	1130	1225	1390	5.9	35.0	102.0	60.1	1750	2.41	33.90
							10.7	35.0	102.0	72.5	1750		
							11.4	35.0	102.0	73.6	1750		
							12.1	35.0	102.0	74.7	1750		
							13.1	35.0	102.0	76.0	1750		
341-DB	720	1260	1335	1410	1525	1720	7.9	43.0	105.0	66.2	2000	1.61	23.60
							13.8	43.0	105.0	76.7	2000		
							14.6	43.0	105.0	77.6	2000		
							15.4	43.0	105.0	78.5	2000		
							16.7	43.0	105.0	79.6	2000		
341-EB*	835	1430	1515	1600	1730	1945	9.4	49.0	107.0	69.5	2160	1.26	19.40
							16.0	49.0	107.0	78.9	2160		
							17.0	49.0	107.0	79.7	2160		
							18.0	49.0	107.0	80.5	2160		
							19.4	49.0	107.0	81.5	2160		
341-FB	980	1650	1745	1840	1985	2230	10.2	51.0	99.0	72.6	2630	1.04	15.30
							17.1	51.0	99.1	80.9	2630		
							18.1	51.0	99.1	81.7	2630		
							19.1	51.0	99.1	82.3	2630		
							20.6	51.0	99.0	83.2	2630		
341-GB*	1150	1915	2025	2135	2300	2580	12.7	62.0	106.0	75.4	2920	0.77	11.80
							21.2	62.0	105.0	82.8	2920		
							22.4	62.0	105.0	83.5	2920		
							23.6	62.0	105.0	84.1	2920		
							25.4	62.0	105.0	84.9	2920		
341-HB	1380	2270	2395	2525	2720	3040	14.5	69.0	100.0	77.6	3750	0.61	8.70
							23.9	69.0	101.0	84.3	3750		
							25.2	69.0	101.0	84.8	3750		
							26.6	69.0	100.0	85.4	3750		
							28.6	69.0	100.0	86.1	3750		
341-KB	1725	2795	2945	3100	3335	3715	16.2	74.0	89.7	81.1	4000	0.45	5.03
							26.2	74.0	89.6	86.4	4000		
							27.6	74.0	89.6	86.9	4000		
							29.1	74.0	89.4	87.3	4000		
							31.2	74.0	89.4	87.8	4000		
331-GB	2220	3560	3750	3945			22.6	100.0	97.0	84.3	4000	0.26	3.20
							36.1	100.0	96.8	88.5	4000		
							38.0	100.0	96.8	88.9	4000		
							39.9	100.0	96.7	89.3	4000		

1 Cooling air inlet at commutator side. Can be used with cooling air inlet at shaft side with 10% reduction of power.

* Normally kept in stock with reinforced impregnation.

Technical data

	n_{max} 4000 min ⁻¹	n_0 40 min ⁻¹	J 0.12 kgm ²	P_f 830 W	U_{amax} 620 V	U_f 110-440 V	V_{cool} 470 m ³ /h	Pr 550 Pa	$W_{(foot)}$ 145 kg	$W_{(flange)}$ 160 kg				
Cat. Nr	U_a (V):	260	400	420	440	470	520	P	I	T	η	n_2	R_A (115°C)	L_A (0Hz)
FR 156...	n_b (min ⁻¹)						(kW)	(A)	(Nm)	(%)	min ⁻¹	(Ω)	(mH)	
241-AB	730							10.2	35.0	133.0	68.8	1200	2.81	42.0
								10.9	35.0	133.0	70.1	1200		
								11.6	35.0	133.0	71.3	1200		
								12.6	35.0	133.0	72.8	1200		
								14.1	34.4	131.0	75.4	1200		
241-BB	515	930						7.4	43.0	137.0	61.6	1410	1.88	29.2
								13.3	43.0	137.0	73.6	1410		
								14.1	43.0	137.0	74.7	1410		
								15.0	43.0	137.0	75.7	1410		
								16.2	43.0	137.0	77.0	1410		
241-CB	605	1060						8.9	49.0	140.0	65.6	1520	1.46	23.6
								15.6	49.0	140.0	76.2	1520		
								16.5	49.0	140.0	77.2	1520		
								17.5	49.0	140.0	78.1	1520		
								18.9	49.0	140.0	79.2	1520		
241-DB	715	1230						9.7	51.0	130.0	69.0	1860	1.22	18.7
								16.7	51.0	130.0	78.5	1860		
								17.7	51.0	130.0	79.3	1860		
								18.6	51.0	130.0	80.1	1860		
								20.1	51.0	130.0	81.1	1860		
241-EB	845	1430						12.2	62.0	138.0	72.2	2050	0.89	14.2
								20.7	62.0	138.0	80.7	2050		
								21.9	62.0	138.0	81.5	2050		
								23.1	62.0	138.0	82.2	2050		
								24.9	62.0	138.0	83.1	2050		
241-FB*	1015	1700						27.5	61.0	136.0	84.5	2050	0.71	10.5
								14.0	69.0	132.0	74.8	2500		
								23.4	69.0	132.0	82.4	2500		
								24.8	69.0	132.0	83.1	2500		
								26.1	69.0	132.0	83.7	2500		
241-GB	1285	2100						28.1	69.0	132.0	84.5	2500	0.52	7.3
								31.0	67.9	129.0	85.8	2500		
								15.8	74.0	118.0	78.8	3350		
								25.8	74.0	118.0	84.9	3350		
								27.3	74.0	117.0	85.5	3350		
241-HB*	1665	2690						28.7	74.0	117.0	86.0	3350	0.03	4.6
								30.8	74.0	117.0	86.6	3350		
								33.9	72.8	115.0	87.6	3350		
								22.1	100.0	127.0	82.5	3900		
								35.7	100.0	127.0	87.4	3900		
231-HB	2280	3645						37.6	100.0	127.0	87.8	3900	0.19	2.6
								39.6	100.0	127.0	88.2	3900		
								42.5	100.0	127.0	88.7	3900		
								46.5	98.3	125.0	89.5	3900		
								27.7	122.0	116.0	85.1	4000		
								44.1	122.0	116.0	88.9	4000		

1 Cooling air inlet at commutator side. Can be used with cooling air inlet at shaft side with 10% reduction of power.

* Normally kept in stock with reinforced impregnation.

Technical data

	n_{max} 4000 min ⁻¹	n_0 40 min ⁻¹	J 0.14 kgm ²	P_f 1000 W	U_{amax} 620 V	U_f 110-440 V	V_{cool} 470 m ³ /h	Pr 550 Pa	$W_{(foot)}$ 170 kg	$W_{(flange)}$ 185 kg				
Cat. Nr	U_a (V):	260	400	420	440	470	520	P	I	T	η	n_2	R_A (115°C)	L_A (0Hz)
FR 156...	n_b (min ⁻¹)						(kW)	(A)	(Nm)	(%)	min ⁻¹	(Ω)	(mH)	
141-AB	580	1000	1065	765	1125	1215	1370	11.8	38.5	148.0	72.0	1460	2.14	35.00
				810				12.6	38.5	148.0	73.1	1460		
				860				13.3	38.5	148.0	74.2	1460		
				930				14.4	38.5	148.0	75.5	1460		
				1060				16.1	37.9	145.0	77.7	1460		
141-BB	495	875	925	980	1060	1200	1370	7.7	43.0	149.0	63.5	1610	1.69	29.00
								13.6	43.0	149.0	74.7	1610		
								14.4	43.0	149.0	75.7	1610		
								15.3	43.0	149.0	76.7	1610		
								16.5	43.0	149.0	77.9	1610		
141-CB	580	1000	1065	1125	1215	1370	1590	9.0	48.0	148.0	66.8	1830	1.35	23.00
								15.5	48.0	148.0	76.9	1830		
								16.5	48.0	148.0	77.9	1830		
								17.4	48.0	148.0	78.7	1830		
								18.8	48.0	148.0	79.8	1830		
141-DB	690	1170	1240	1310	1415	1590	1875	10.7	55.0	148.0	70.0	2080	1.05	17.00
								18.2	55.0	148.0	79.1	2080		
								19.3	55.0	148.0	79.9	2080		
								20.3	55.0	148.0	80.7	2080		
								21.9	55.0	148.0	81.7	2080		
141-EB*	825	1390	1470	1550	1675	1875	2305	24.2	54.1	146.0	83.2	2080	0.08	13.00
								13.0	65.0	150.0	72.7	2470		
								21.9	65.0	150.0	81.0	2470		
								23.1	65.0	150.0	81.7	2470		
								24.4	65.0	150.0	82.4	2470		
141-FB*	1045	1720	1820	1915	2060	2305	2940	26.3	65.0	150.0	83.3	2470	0.53	90.00
								29.0	63.9	148.0	84.7	2470		
								16.2	77.0	148.0	77.3	3000		
								26.7	77.0	148.0	84.0	3000		
								28.2	77.0	148.0	84.6	3000		
141-GB*	1365	2215	2335	2455	2635	2940	3980	29.7	77.0	148.0	85.1	3000	0.32	60.00
								31.9	77.0	148.0	85.8	3000		
								35.1	75.7	145.0	86.9	3000		
								21.6	98.0	151.0	81.5	3780		
								34.9	98.0	151.0	86.8	3780		
141-HB	1880	3010	3170	3330	3570	3980	4900	36.8	98.0	151.0	87.3	3780	0.21	3.00
								38.7	98.0	151.0	87.7	3780		
								41.5	98.0	151.0	88.2	3780		
								45.5	96.4	148.0	89.1	3780		
								25.7	114.0	131.0	84.3	4000		
								41.0	114.0	130.0	88.4	4000		
								43.2	114.0	130.0	88.7	4000		
								45.4	114.0	130.0	89.1	4000		
								48.6	114.0	130.0	89.4	4000		
								53.2	112.0	128.0	90.1	4000		

1 Cooling air inlet at commutator side. Can be used with cooling air inlet at shaft side with 10% reduction of power.

* Normally kept in stock with reinforced impregnation.

Technical data

	n_{max} 5000 min ⁻¹	n_0 40 min ⁻¹	J 0.20 kgm ²	P_f 1350 W	U_{amax} 550 V	U_f 110-440 V	V_{cool} 510 m ³ /h	Pr 810 Pa	$W_{(foot)}$ 220 kg	$W_{(flange)}$ 235 kg		
Cat. Nr	U_a (V): 260 400 420 440 470 520				P	I	T	η	n_2	R_A (115°C)	L_A (0Hz)	
FR 156...	n_b (min ⁻¹)				(kW)	(A)	(Nm)	(%)	min ⁻¹	(Ω)	(mH)	
401-AB	465	500	530	580	665	11.7	43.0	242	65.2	920	2.74	44.5
						12.6	43.0	242	66.7			
						13.4	43.0	242	68.0			
						14.7	43.0	242	69.8			
						16.6	42.2	237	72.6			
401-BB	545	580	620	675	770	13.5	47.0	238	68.9	1040	2.17	36.1
						14.5	47.0	238	70.2			
						15.4	47.0	238	71.4			
						16.8	47.0	238	73.0			
						18.8	46.2	234	75.6			
401-CB	635	680	720	780	890	15.3	51.0	229	71.8	1210	1.78	28.5
						16.3	51.0	229	73.0			
						17.3	51.0	229	74.0			
						18.8	51.0	229	75.5			
						21.0	50.1	225	77.7			
401-DB	415	750	795	845	915	10.3	60.0	236	62.7	1345	1.36	21.8
						18.5	60.0	236	74.4			
						19.7	60.0	236	75.5			
						20.9	60.0	236	76.5			
						22.6	60.0	236	77.8			
401-EB	515	900	955	1010	1095	12.5	69.0	233	66.8	1645	1.03	16.0
						22.0	69.0	233	77.2			
						23.3	69.0	233	78.1			
						24.7	69.0	233	79.0			
						26.7	69.0	233	80.1			
401-FB	660	1125	1190	1260	1360	16.5	85.0	239	72.0	1920	0.69	11.1
						28.2	85.0	239	80.8			
						29.8	85.0	239	81.5			
						31.5	85.0	239	82.5			
						34.0	85.0	239	83.2			
401-GB	895	1475	1560	1645	1770	20.9	99.0	223	78.3	2575	0.42	7.1
						34.4	99.0	223	84.9			
						36.4	99.0	223	85.5			
						38.3	99.0	223	86.0			
						41.2	99.0	223	86.8			
401-HB	1235	2010	2120	2230	2395	26.8	123.0	207	81.3	3000	0.28	4.0
						43.5	123.0	207	86.8			
						45.9	123.0	207	87.3			
						48.3	123.0	207	87.8			
						51.9	123.0	207	88.4			
					2670	56.9	121.0	203	89.2			

1 Cooling air inlet at commutator side. Can be used with cooling air inlet at shaft side with 10% reduction of power.

* Normally kept in stock with reinforced impregnation.

Technical data

	n_{max} 3500 min ⁻¹	n_0 40 min ⁻¹	J 0.22 kgm ²	P_f 1050 W	U_{amax} 550 V	U_f 110-440 V	V_{cool} 880 m ³ /h	Pr 980 Pa	$W_{(foot)}$ 190 kg	$W_{(flange)}$ 215 kg			
Cat. Nr	U_a (V):400	420	440	470	520	550	P	I	T	η	n_2	R_A (115°C)	L_A (0Hz)
FR 157...	n_b (min ⁻¹)						(kW)	(A)	(Nm)	(%)	min ⁻¹	(Ω)	(mH)
301-RC	650	695	735	800	905	975	12.4	41	182	71.2	980	2.14	33.6
							13.3	41	182	72.5	980		
							14.0	41	182	73.5	980		
							15.3	41	182	75.0	980		
							17.0	40	179	77.3	980		
							18.0	40	178	78.4	980		
301-PC	735	775	825	890	1010	1080	14.0	45	182	73.5	1050	1.75	28.2
							14.8	45	182	74.5	1050		
							15.7	45	182	75.5	1050		
							17.0	45	182	76.8	1050		
							19.0	44	179	78.9	1080		
							20.2	44	178	80.0	1080		
301-NC	825	875	925	1000	1130	1205	15.9	50	185	75.7	1205	1.44	23.3
							16.9	50	185	76.7	1205		
							17.9	50	185	77.6	1205		
							19.4	50	185	78.8	1205		
							21.5	49	182	80.7	1205		
							22.9	49	181	81.7	1205		
301-MC	935	990	1045	1130	1275	1360	18.2	56	186	77.6	1400	1.17	18.9
							19.3	56	186	78.5	1400		
							20.4	56	186	79.3	1400		
							22.0	56	186	80.5	1400		
							24.4	55	183	82.2	1400		
							25.6	54	180	83.1	1400		
301-LC	1075	1135	1200	1295	1455	1550	20.9	63	186	79.8	1575	0.92	14.9
							22.2	63	186	80.6	1575		
							23.4	63	186	81.4	1575		
							25.3	63	186	82.4	1575		
							27.9	62	183	83.9	1575		
							29.3	61	181	84.7	1575		
301-KC	1245	1320	1390	1500	1680	1795	24.3	72	187	81.5	1850	0.72	11.5
							25.7	72	187	82.3	1850		
							27.1	72	187	82.9	1850		
							29.3	72	187	83.9	1850		
							32.3	71	183	85.3	1850		
							34.0	70	181	86.0	1850		
301-HC	1490	1575	1660	1785	2000	2125	29.5	85	189	84.1	2125	0.50	8.4
							31.1	85	189	84.7	2125		
							32.8	85	189	85.3	2125		
							35.3	85	189	86.0	2125		
							38.8	84	186	87.2	2125		
							41.0	83	184	87.8	2125		
301-GC*	1830	1930	2030	2180	2440	2590	36.1	102	189	86.2	2470	0.35	5.9
							37.9	102	189	86.7	2470		
							40.1	102	189	87.2	2470		
							42.9	102	189	87.9	2470		
							47.3	100	185	88.9	2590		
							49.6	99	183	89.4	2590		
301-FC	2330	2455	2580	2770	3090	3280	45.8	127	188	88.4	3325	0.22	3.8
							48.3	127	188	88.8	3325		
							50.8	127	188	89.2	3325		
							54.5	127	188	89.7	3325		
							59.7	125	185	90.5	3325		
							62.9	124	183	90.9	3325		
301-EB	2630	2770	2910	3120	3480		51.6	142	188	89.8	3500	0.18	3.0
							54.4	142	188	90.2	3500		
							57.2	142	188	90.6	3500		
							61.3	142	188	91.0	3500		
							67.1	140	184	91.7	3500		
							61.0	166	184	90.4	3500		
301-EC	3165	3335					64.2	166	184	90.7	3500	0.13	2.1

1 Cooling air inlet at commutator side. Can be used with cooling air inlet at shaft side with 10% reduction of power.

* Normally kept in stock with reinforced impregnation.

Technical data

	n_{max} 3500 min ⁻¹	n_0 40 min ⁻¹	J 0.24 kgm ²	P_f 1050 W	U_{amax} 550 V	U_f 110-440 V	V_{cool} 880 m ³ /h	Pr 980 Pa	$W_{(foot)}$ 200 kg	$W_{(flange)}$ 225 kg				
Cat. Nr	U_a (V):	400	420	440	470	520	550	P	I	T	η	n_2	R_A (115°C)	L_A (0Hz)
FR 156...		n_b (min ⁻¹)					(kW)	(A)	(Nm)	(%)	min ⁻¹	(Ω)	(mH)	
601-RC	680	720	765	830	935	1000	14.8	47	208	75.4	1075	1.59	26.3	
							15.7	47	208	76.4				
							16.7	47	208	77.3				
							18.0	47	208	78.6				
							20.1	46	205	80.5				
601-PC	755	800	845	915	1035	1105	21.2	46	203	81.5	1180	1.36	22.1	
							16.4	51	207	76.9				
							17.4	51	207	77.9				
							18.4	51	207	78.7				
							19.9	51	207	79.5				
601-NC	845	900	950	1025	1150	1225	22.0	50	204	81.7	1280	1.12	18.3	
							23.3	50	202	82.6				
							18.7	57	211	78.9				
							19.8	57	211	79.8				
							20.9	57	211	80.5				
601-MC	955	1010	1065	1150	1295	1380	22.6	57	211	81.6	1430	0.92	14.9	
							24.9	56	207	83.0				
							26.3	55	205	83.9				
							20.9	63	210	80.3				
							22.2	63	210	81.1				
601-LC	1095	1160	1220	1315	1475	1575	23.4	63	210	81.9	1580	0.71	11.7	
							25.3	63	210	82.8				
							27.9	62	206	84.3				
							29.5	61	204	85.1				
							24.4	72	213	82.3				
601-KC	1275	1345	1420	1525	1710	1825	25.8	72	213	83.1	1800	0.54	9.0	
							27.3	72	213	83.7				
							29.4	72	213	84.6				
							32.4	71	210	85.9				
							33.8	69	205	86.6				
601-HC	1515	1595	1680	1805	2020	2155	30.1	83	214	84.1	1800	0.40	6.6	
							31.7	83	214	85.3				
							34.1	83	214	86.1				
							37.6	81	210	87.3				
							38.6	78	202	88.0				
601-GC	1845	1950	2050	2200	2460	2615	37.9	97	215	87.0	1825	0.28	4.6	
							40.7	97	215	87.7				
							44.7	95	212	88.7				
							45.1	90	200	89.4				
							41.1	115	213	87.7				
601-GB	2020	2130	2240	2400	2680	2850	43.4	115	213	88.2	2095	0.25	4.0	
							45.6	115	213	88.6				
							49.0	115	213	89.2				
							53.8	113	209	90.1				
							54.1	107	197	90.6				
601-FC	2350	2480	2605	2795	3115	3315	43.2	120	204	88.7	2155	0.18	2.9	
							45.5	120	204	89.1				
							47.9	120	204	89.5				
							51.4	120	204	90.0				
							56.3	118	201	90.8				
601-EB	2640	2780	2920	3140	3490	3735	59.2	117	198	91.2	3170	0.15	2.4	
							52.5	144	213	89.7				
							55.3	144	213	90.1				
							58.1	144	213	90.5				
							62.3	144	213	90.9				
601-EC ¹	3190	3360					67.6	140	207	91.6	3170	0.10	1.7	
							67.5	132	195	91.9				
							56.4	154	204	90.5				
							59.4	154	204	90.8				
							62.4	154	204	91.1				

1 Cooling air inlet at commutator side. Can be used with cooling air inlet at shaft side with 10% reduction of power.

* Normally kept in stock with reinforced impregnation.

Data subject to change without prior notice.

Technical data

	n_{max} 3500 min ⁻¹	n_0 40 min ⁻¹	J 0.25 kgm ²	P_f 1250 W	U_{amax} 550 V	U_f 110-440 V	V_{cool} 880 m ³ /h	Pr 980 Pa	$W_{(foot)}$ 230 kg	$W_{(flange)}$ 245 kg				
Cat. Nr	U_a (V):	400	420	440	470	520	550	P	I	T	η	n_2	R_A (115°C)	L_A (0Hz)
FR 157...		n_b (min ⁻¹)					(kW)	(A)	(Nm)	(%)	min ⁻¹	(Ω)	(mH)	
201-NC	620	660	700	760	860	920	15.4	50	237	72.5	925	1.64	28.30	
							16.4	50	237	73.6	925			
							17.4	50	237	74.7	925			
		18.8	50	237	76.0	925								
		21.0	50	233	78.2	925								
		22.3	50	232	79.3	925								
201-MC	710	750	795	860	975	1040	17.6	56	238	74.6	1125	1.33	22.90	
							18.7	56	238	75.6	1125			
							19.8	56	238	76.6	1125			
		21.5	56	238	77.9	1125								
		23.9	55	234	79.9	1125								
		25.1	54	230	80.9	1125								
201-LC	815	865	915	990	1115	1190	20.4	63	239	77.1	1265	1.05	18.10	
							21.6	63	239	78.0	1265			
							22.9	63	239	78.9	1265			
		24.7	63	239	80.0	1265								
		27.4	62	235	81.8	1265								
		28.8	61	231	82.7	1265								
201-KC	950	1010	1065	1150	1295	1380	23.8	72	238	79.1	1490	0.83	13.85	
							25.2	72	238	79.9	1490			
							26.6	72	238	80.7	1490			
		28.7	72	238	81.7	1490								
		31.7	71	234	83.3	1490								
		33.5	70	232	84.2	1490								
201-HC	1145	1210	1275	1375	1540	1640	28.9	85	242	82.0	1690	0.58	10.20	
							30.6	85	242	82.8	1690			
							32.2	85	242	83.4	1690			
		34.7	85	242	84.3	1690								
		38.3	84	237	85.6	1690								
		40.5	83	235	86.3	1690								
201-GC*	1410	1485	1565	1680	1885	2000	35.5	102	241	84.4	2000	0.4	7.05	
							37.4	102	241	85.0	2000			
							39.5	102	241	85.6	2000			
		42.3	102	241	86.3	2000								
		46.7	100	237	87.5	2000								
		48.6	98	232	88.1	2000								
201-FC	1800	1895	1995	2145	2390	2540	45.2	127	240	86.9	2675	0.25	4.50	
							47.7	127	240	87.4	2675			
							50.2	127	240	87.9	2675			
		53.9	127	240	88.5	2675								
		59.2	125	236	89.4	2675								
		62.4	124	234	89.8	2675								
201-EB	2030	2140	2250	2420	2700	2860	50.3	140	237	88.6	2980	0.21	3.63	
							53.1	140	237	89.0	2980			
							55.8	140	237	89.4	2980			
		59.9	140	237	89.9	2980								
		65.6	138	233	90.7	2980								
		69.0	136	230	91.0	2980								
201-EC*	2450	2580	2715	2910	3245	3460	60.4	166	235	89.2	3500	0.15	2.55	
							63.6	166	235	89.6	3500			
							66.8	166	235	90.0	3500			
		71.7	166	235	90.4	3500								
		78.5	163	231	91.1	3500								
		73.5	200	241	91.0	3500								
201-CB	2920	3075	3230	3460	3700	3900	77.4	200	241	91.2	3500	0.09	1.85	
							81.2	200	240	91.5	3500			
		87.0	200	240	91.8	3500								
		87.0	200	240	91.8	3500								

1 Cooling air inlet at commutator side. Can be used with cooling air inlet at shaft side with 10% reduction of power.

* Normally kept in stock with reinforced impregnation.

Technical data

	n_{max} 3500 min ⁻¹	n_0 40 min ⁻¹	J 0.27 kgm ²	P_f 1250 W	U_{amax} 550 V	U_f 110-440 V	V_{cool} 880 m ³ /h	Pr 980 Pa	$W_{(foot)}$ 230 kg	$W_{(flange)}$ 255 kg				
Cat. Nr	U_a (V):	400	420	440	470	520	550	P	I	T	η	n_2	R_A (115°C)	L_A (0Hz)
FR 157...		n_b (min ⁻¹)					(kW)	(A)	(Nm)	(%)	min ⁻¹	(Ω)	(mH)	
501-NC	640	680	720	780	880	940	18.1	57	270	75.9	1035	1.28	23.6	
							19.2	57	270	76.9				
							20.3	57	270	77.8				
							22.0	57	270	79.0				
							24.4	56	265	80.9				
							25.8	55	263	81.9				
501-MC	725	770	815	880	995	1060	20.4	63	269	77.7	1150	1.05	19.1	
							21.7	63	269	78.7				
							22.9	63	269	79.5				
							24.7	63	269	80.6				
							27.4	62	264	82.3				
							29.0	61	261	83.2				
501-LC	840	885	935	1010	1135	1210	23.9	72	273	80.1	1275	0.81	15.1	
							25.3	72	273	80.9				
							26.8	72	273	81.6				
							28.9	72	273	82.6				
							31.9	71	269	84.1				
							33.6	70	265	84.9				
501-KC	975	1035	1090	1175	1315	1405	28.0	83	274	82.1	1450	0.62	11.6	
							29.6	83	274	82.9				
							31.2	83	274	83.5				
							33.7	83	274	84.4				
							37.1	81	269	85.7				
							39.1	80	266	86.4				
501-HC	1165	1230	1295	1395	1560	1660	33.6	97	276	84.3	1680	0.45	8.5	
							35.5	97	276	84.9				
							37.4	97	276	85.4				
							40.3	97	276	86.2				
							44.3	95	271	87.4				
							46.6	94	268	88.0				
501-GC	1425	1505	1585	1700	1905	2020	40.6	115	273	86.3	2045	0.32	5.9	
							42.9	115	273	86.9				
							45.2	115	273	87.4				
							48.5	115	273	88.0				
							53.3	113	268	89.1				
							56.1	112	265	89.6				
501-GB	1560	1650	1730	1860	2080	2210	42.5	120	260	87.1	2420	0.29	4.9	
							44.9	120	260	87.6				
							47.2	120	260	88.0				
							50.7	120	260	88.6				
							55.6	118	256	89.5				
							58.5	117	253	89.9				
501-FC	1820	1915	2015	2165	2415	2560	52.0	144	273	88.6	2560	0.20	3.8	
							54.8	144	273	89.0				
							57.6	144	273	89.4				
							61.8	144	273	90.0				
							67.8	142	268	90.7				
							71.2	140	265	91.1				
501-EB	2050	2160	2270	2430	2710	2880	55.8	154	261	89.4	3110	0.18	2.9	
							58.8	154	261	89.8				
							61.8	154	261	90.1				
							66.3	154	261	90.7				
							72.6	151	256	91.3				
							76.3	150	253	91.7				
501-EC ¹	2470	2605	2735	2935	3265	3465	69.5	189	269	90.7	3420	0.12	2.1	
							73.2	189	269	91.0				
							76.9	189	269	91.3				
							82.4	189	269	91.7				
							90.1	186	264	92.3				
							94.6	184	261	92.6				
501-CB	2940	3095	3250	3480			77.9	210	253	91.6	3500	0.09	1.5	
							82.0	210	253	91.8				
							86.0	210	253	92.1				
							92.2	210	253	92.4				

1 Cooling air inlet at commutator side. Can be used with cooling air inlet at shaft side with 10% reduction of power.

* Normally kept in stock with reinforced impregnation.

Data subject to change without prior notice.

Technical data

	n_{max} 3500 min ⁻¹	n_0 40 min ⁻¹	J 0.31 kgm ²	P_f 1400 W	U_{amax} 550 V	U_f 110-440 V	V_{cool} 880 m ³ /h	Pr 980 Pa	$W_{(foot)}$ 275 kg	$W_{(flange)}$ 290 kg				
Cat. Nr	U_a (V):	400	420	440	470	520	550	P	I	T	η	n_2	R_A (115°C)	L_A (0Hz)
FR 157...		n_b (min ⁻¹)					(kW)	(A)	(Nm)	(%)	min ⁻¹	(Ω)	(mH)	
101-LC	605	645	680	740	835	895	19.6	63	310	73.8	1000	1.24	22.60	
							20.9	63	310	74.9	1000			
							22.1	63	310	75.9	1000			
							24.0	63	310	77.2	1000			
							26.6	62	305	79.2	1000			
							28.1	61	300	80.3	1000			
101-KC	710	750	795	860	970	1035	23.0	72	310	76.2	1175	0.97	17.30	
							24.4	72	310	77.1	1175			
							25.8	72	310	78.0	1175			
							27.9	72	310	79.2	1175			
							31.0	71	305	81.1	1175			
							32.7	70	301	82.0	1175			
101-HC	860	910	960	1035	1165	1240	28.2	85	313	79.5	1330	0.68	12.70	
							29.8	85	313	80.4	1330			
							31.5	85	313	81.1	1330			
							34.0	85	313	82.1	1330			
							37.5	84	308	83.7	1330			
							39.7	83	306	84.4	1330			
101-GC	1060	1120	1180	1270	1425	1515	34.7	102	313	82.3	1565	0.48	8.85	
							36.6	102	313	83.0	1565			
							38.7	102	313	83.6	1565			
							41.6	102	313	84.5	1565			
							45.9	100	308	85.8	1565			
							48.3	99	304	86.4	1565			
101-FC*	1360	1435	1510	1625	1815	1930	44.4	127	312	85.1	2105	0.30	5.65	
							46.9	127	312	85.7	2105			
							49.4	127	312	86.2	2105			
							53.1	127	312	86.9	2105			
							58.4	125	307	88.0	2105			
							61.6	124	305	88.5	2105			
101-EB	1540	1620	1710	1840	2050	2180	49.6	140	308	87.1	2350	0.25	4.60	
							52.3	140	308	87.6	2350			
							55.1	140	308	88.0	2350			
							59.1	140	308	88.6	2350			
							64.9	138	302	89.5	2350			
							68.2	136	299	90.0	2350			
101-EC*	1860	1960	2060	2215	2470	2620	59.6	166	306	87.9	2815	0.18	3.20	
							62.8	166	306	88.3	2815			
							66.1	166	306	88.7	2815			
							70.9	166	306	89.3	2815			
							77.7	163	301	90.1	2815			
							81.9	162	298	90.5	2815			
101-CB*	2220	2340	2460	2635	2935	3110	73.1	200	314	90.3	3230	0.11	2.30	
							76.9	200	314	90.5	3230			
							80.9	200	314	90.9	3230			
							86.7	200	314	91.3	3230			
							96.4	200	314	91.9	3230			
							102.0	200	314	92.2	3230			
101-BB*	2815	2960	3100	3330			86.4	234	294	91.4	3500	0.08	1.50	
							91.0	234	294	91.7	3500			
							95.5	234	294	91.9	3500			
							102.0	234	293	92.3	3500			

1 Cooling air inlet at commutator side. Can be used with cooling air inlet at shaft side with 10% reduction of power.

* Normally kept in stock with reinforced impregnation.

Technical data

	n_{max} 3500 min ⁻¹	n_0 40 min ⁻¹	J 0.33 kgm ²	P_f 1400 W	U_{amax} 550 V	U_f 110-440 V	V_{cool} 880 m ³ /h	Pr 980 Pa	$W_{(foot)}$ 280 kg	$W_{(flange)}$ 305 kg				
Cat. Nr	U_a (V):	400	420	440	470	520	550	P	I	T	η	n_2	R_A (115°C)	L_A (0Hz)
FR 157...		n_b (min ⁻¹)					(kW)	(A)	(Nm)	(%)	min ⁻¹	(Ω)	(mH)	
401-LC	620	660	695	755	850	910	23.2	72	357	77.7	990	0.95	19.6	
							24.6	72	357	78.6				
							26.0	72	357	79.5				
							28.2	72	357	80.6				
							31.2	71	350	82.0				
401-KC	725	770	815	880	990	1055	32.9	70	346	82.9	1130	0.73	15	
							27.2	83	358	80.0				
							28.9	83	358	80.7				
							30.5	83	358	81.2				
							32.9	83	358	82.2				
401-HC	870	920	970	1045	1175	1250	36.3	81	351	83.8	1310	0.53	11	
							38.4	80	348	84.6				
							32.9	97	361	82.4				
							34.7	97	361	83.1				
							36.6	97	361	83.8				
401-GC	1070	1130	1190	1280	1435	1530	39.5	97	361	84.7	1590	0.37	7.6	
							43.5	95	354	85.7				
							45.9	94	350	86.4				
							39.9	115	357	84.8				
							42.2	115	357	85.4				
401-GB	1180	1250	1310	1410	1580	1680	44.4	115	357	85.9	1900	0.33	6.6	
							47.8	115	357	86.7				
							52.5	113	349	87.6				
							55.3	112	346	88.2				
							41.9	120	340	85.7				
401-FC	1370	1450	1525	1635	1825	1940	44.3	120	340	86.2	1985	0.24	4.9	
							46.6	120	340	86.7				
							50.1	120	340	87.4				
							55.1	118	334	88.5				
							58.0	117	330	89.0				
401-EB	1550	1640	1720	1850	2060	2190	51.3	144	357	87.5	2450	0.21	4.0	
							54.1	144	357	87.9				
							56.9	144	357	88.4				
							61.1	144	357	89.0				
							66.9	142	350	89.5				
401-EC ¹	1870	1970	2075	2225	2475	2630	70.3	140	346	89.9	2690	0.14	2.8	
							55.0	154	339	88.0				
							58.1	154	339	88.5				
							61.1	154	339	88.9				
							65.6	154	339	89.4				
401-CB	2230	2350	2465	2645	2940	3120	71.9	151	333	90.2	3480	0.1	2	
							75.5	150	329	90.7				
							77.4	210	331	90.8				
							81.4	210	331	91.1				
							85.5	210	331	91.4				
401-BB ¹	2810	2960	3105	3325			91.6	210	331	91.8	3500	0.07	1.3	
							100.1	207	325	92.3				
							105.1	204	321	92.5				
							92.6	250	315	91.6				
							97.5	250	315	91.8				
							102.3	250	315	92.1				
							109.6	250	315	92.4				

¹ Cooling air inlet at commutator side. Can be used with cooling air inlet at shaft side with 10% reduction of power.

* Normally kept in stock with reinforced impregnation.

Technical data

	n_{max} 3500 min ⁻¹	n_0 40 min ⁻¹	J 0.46 kgm ²	P_f 2000 W	U_{amax} 550 V	U_f 110-440 V	V_{cool} 880 m ³ /h	Pr 980 Pa	$W_{(foot)}$ 380 kg	$W_{(flange)}$ 405 kg		
Cat. Nr	U_a (V): 400 420 440 470 520 550					P	I	T	η	n_2	R_A (115°C)	L_A (0Hz)
FR 157...	n_b (min ⁻¹)					(kW)	(A)	(Nm)	(%)	min ⁻¹	(Ω)	(mH)
701-LC	410	435	460	500	570	21.8	72	508	72.2	715	1.21	29
						23.2	72	508	73.4			
						24.6	72	508	74.4			
						26.7	72	508	75.8			
						29.9	71	500	78.2			
						31.7	70	494	79.4			
701-KC	485	515	545	590	670	25.8	83	509	75.0	815	0.94	22.2
						27.4	83	510	76.1			
						29.0	83	510	77.0			
						31.5	83	510	78.3			
						35.0	81	501	80.2			
						37.1	80	496	81.2			
701-HC	585	620	655	705	800	31.4	97	514	78.2	945	0.69	16.3
						33.3	97	514	79.0			
						35.2	97	514	79.9			
						38.0	97	514	81.0			
						42.2	95	505	82.6			
						44.6	94	500	83.5			
701-GC	725	765	810	870	985	38.5	115	508	81.2	1145	0.47	11.3
						40.7	115	508	81.9			
						43.0	115	508	82.6			
						46.3	115	508	83.6			
						51.3	113	499	85.1			
						54.1	112	494	85.9			
701-GB	800	840	890	960	1070	40.6	120	487	82.2	1350	0.43	9.6
						43.0	120	487	82.9			
						45.3	120	487	83.6			
						48.9	120	487	84.5			
						53.9	118	479	85.8			
						56.8	117	474	86.5			
701-FC	935	990	1045	1120	1255	49.9	144	509	84.5	1430	0.30	7.3
						52.7	144	509	85.1			
						55.5	144	509	85.7			
						59.7	144	509	86.4			
						65.8	142	500	87.6			
						69.2	140	495	88.1			
701-EB	1060	1110	1170	1260	1410	53.8	154	487	85.3	1750	0.27	5.8
						56.8	154	487	85.9			
						59.8	154	487	86.4			
						64.3	154	487	87.1			
						70.7	151	478	88.2			
						74.4	150	473	88.7			
701-EC ¹	1290	1360	1430	1535	1710	67.4	189	500	87.6	1995	0.17	4.1
						71.1	189	500	88.0			
						74.9	189	500	88.5			
						80.4	189	500	89.0			
						88.1	186	492	89.8			
						92.6	184	486	90.3			
701-CB ¹	1540	1625	1705	1830	2040	76.4	210	473	89.3	2510	0.12	3
						80.5	210	473	89.7			
						84.6	210	473	90.0			
						90.7	210	473	90.5			
						99.3	207	465	91.2			
						104.3	204	460	91.5			
701-BB ²	1945	2050	2155	2310	2570	91.7	250	450	90.4	2745	0.09	1.9
						96.6	250	450	90.7			
						101.4	250	450	91.0			
						108.7	250	450	91.4			
						118.9	246	442	91.9			
						124.8	243	437	92.2			

1 Cooling air inlet at commutator side. Can be used with cooling air inlet at shaft side with 10% reduction of power.

2 Cooling air inlet at commutator side. Can be used with cooling air inlet at shaft side with 15% reduction of power.

* Normally kept in stock with reinforced impregnation.

Technical data

	n_{max} 4500 min ⁻¹	n_0 40 min ⁻¹	J 0.39 kgm ²	P_f 1520 W	U_{amax} 550 V	U_f 110-440 V	V_{cool} 1300 m ³ /h	Pr 1250 Pa	$W_{(foot)}$ 290 kg	$W_{(flange)}$ 320 kg				
Cat. Nr	U_a (V):	400	420	440	470	520	550	P	I	T	η	n_2	R_A (115°C)	L_A (0Hz)
FR 159...		n_b (min ⁻¹)					(kW)	(A)	(Nm)	(%)	min ⁻¹	(Ω)	(mH)	
101-RC	650	700	730	790	900	950	27	85	400	77.9	2300	0.73	15.7	
							29	85	400	78.9				
							31	85	400	79.7				
							33	85	400	80.8				
							37	84	394	82.5				
							39	83	389	83.4				
101-PC	750	800	840	900	1020	1090	32	97	406	80.2	1500	0.63	12.4	
							34	97	406	81.0				
							36	97	406	81.7				
							39	97	406	82.7				
							43	95	399	84.2				
							45	94	395	85.0				
101-NC	880	930	980	1060	1190	1260	37	111	407	82.4	2730	0.47	9.5	
							40	111	407	83.1				
							42	111	407	83.7				
							45	111	407	84.6				
							50	109	400	85.9				
							52	108	396	86.6				
101-LC	1040	1100	1160	1250	1400	1490	43	126	396	84.0	3740	0.37	7	
							46	126	396	84.6				
							48	126	396	85.2				
							52	126	396	86.0				
							57	124	389	87.1				
							60	123	385	87.8				
101-HC	1280	1350	1420	1530	1700	1810	53	152	398	86.0	3910	0.26	4.8	
							56	152	398	86.5				
							59	152	398	87.0				
							64	152	398	87.7				
							70	149	391	88.7				
							81	148	387	89.2				
101-GB	1400	1480	1560	1680	1870	1990	59	166	400	87.2	2100	0.21	4.1	
							62	166	400	87.6				
							65	166	400	88.1				
							70	166	400	88.7				
							77	163	393	89.6				
							94	162	389	90.0				
101-FC*	1630	1720	1810	1940	2170	2300	69	192	402	88.2	4500	0.16	3.1	
							72	192	402	88.7				
							76	192	402	89.1				
							82	192	402	89.6				
							90	189	395	90.4				
							94	187	391	90.6				
101-EB	1840	1930	2040	2200	2470	2620	75	207	387	89.0	1950	0.13	2.5	
							79	207	387	89.4				
							79	198	370	89.9				
							79	184	343	90.6				
							79	164	306	91.3				
							79	154	287	91.6				
101-DC ¹	2220	2340	2460	2630	2930	3110	89	245	384	90.2	4500	0.1	1.7	
							94	245	384	90.5				
							99	245	384	90.8				
							106	245	384	91.2				
							116	241	377	91.9				
							122	238	373	92.1				
101-CB ¹	2640	2780	2930	3140	3500	3720	110	299	400	91.4	2660	0.06	1.3	
							111	286	382	91.8				
							111	272	363	92.1				
							111	253	337	92.5				
							111	227	302	92.9				
							111	214	284	93.1				
101-BB ¹	3330	3500	3690	3950	4400	4400	137	368	393	92.4	3390	0.04	0.8	
							139	356	380	92.6				
							139	338	361	92.9				
							139	315	335	93.2				
							139	283	300	93.5				
							139	283	300	93.5				

¹ Cooling air inlet at commutator side. Can be used with cooling air inlet at shaft side with 15% reduction of power.

* Normally kept in stock with reinforced impregnation.

Data subject to change without prior notice.

Technical data

	n_{max} 4500 min ⁻¹	n_0 40 min ⁻¹	J 0.47 kgm ²	P_f 1670 W	U_{amax} 550 V	U_f 110-440 V	V_{cool} 1300 m ³ /h	Pr 1250 Pa	$W_{(foot)}$ 330 kg	$W_{(flange)}$ 360 kg				
Cat. Nr	U_a (V):	400	420	440	470	520	550	P	I	T	η	n_2	R_A (115°C)	L_A (0Hz)
FR 159...	n_b (min ⁻¹)						(kW)	(A)	(Nm)	(%)	min ⁻¹	(Ω)	(mH)	
201-RC	540							27	85	472	75.6	1800	0.81	18.7
								28	85	472	76.6			
								30	85	472	77.5			
								32	85	472	78.8			
								36	84	464	80.7			
								38	83	459	81.7			
201-PC	625							31	97	479	78.4	1200	0.69	14.8
								33	97	479	79.3			
								35	97	479	80.1			
								38	97	479	81.2			
								42	95	471	82.9			
								44	94	466	83.8			
201-NC	735							37	111	480	81.0	2360	0.52	11.3
								39	111	480	81.8			
								41	111	480	82.5			
								44	111	480	83.4			
								49	109	472	84.9			
								52	108	467	85.6			
201-LC	875							43	126	467	82.8	3230	0.41	8.3
								45	126	467	83.5			
								48	126	467	84.1			
								51	126	467	85.0			
								57	124	459	86.3			
								60	123	454	86.9			
201-HC	1075							53	152	469	85.1	3390	0.28	5.8
								56	152	469	85.7			
								59	152	469	86.3			
								63	152	469	87.0			
								69	149	461	88.1			
								73	148	456	88.6			
201-GB	1175							58	166	471	86.1	1700	0.24	4.9
								61	166	471	86.7			
								65	166	471	87.1			
								70	166	471	87.8			
								76	163	463	88.8			
								80	162	458	89.3			
201-FC*	1375							68	192	474	87.7	4200	0.17	3.7
								72	192	474	88.2			
								76	192	474	88.6			
								82	192	474	89.2			
								89	189	456	90.0			
								94	187	461	90.5			
201-EB	1550							74	207	453	87.8	2500	0.15	3
								78	207	457	88.4			
								82	207	457	88.8			
								88	207	457	89.4			
								96	204	449	90.1			
								101	202	444	90.5			
201-DC	1870							89	245	453	89.5	4500	0.11	2.1
								94	245	453	89.9			
								98	245	453	90.2			
								105	245	453	90.7			
								115	241	445	91.4			
								121	238	441	91.7			
201-CB'	2230							110	299	471	91.0	2300	0.07	1.5
								113	293	462	91.4			
								113	278	438	91.8			
								113	259	407	92.2			
								113	232	364	92.7			
								113	219	342	92.9			
201-BB'	2810							136	368	464	92.0	2930	0.05	1
								142	365	460	92.2			
								142	346	436	92.6			
								142	322	405	92.9			
								141	289	363	93.2			
								141	273	341	93.4			
201-AB'	3800							168	450	424	93.0	4000	0.03	0.5

1 Cooling air inlet at commutator side. Can be used with cooling air inlet at shaft side with 15% reduction of power.

* Normally kept in stock with reinforced impregnation.

Data subject to change without prior notice.

Technical data

	n_{max} 4500 min ⁻¹	n_0 40 min ⁻¹	J 0.55 kgm ²	P_f 1900 W	U_{amax} 550 V	U_f 110-440 V	V_{cool} 1300 m ³ /h	Pr 1250 Pa	$W_{(foot)}$ 380 kg	$W_{(flange)}$ 410 kg				
Cat. Nr	U_a (V):	400	420	440	470	520	550	P	I	T	η	n_2	R_A (115°C)	L_A (0Hz)
FR 159...		n_b (min ⁻¹)					(kW)	(A)	(Nm)	(%)	min ⁻¹	(Ω)	(mH)	
301-PC	490	520	550	600	675	725	31	101	613	75.6	900	0.69	18.1	
							33	101	613	76.6				
							35	101	613	77.6				
							38	101	613	78.8				
							43	99	603	80.8				
							45	98	596	81.7				
301-NC	575	610	645	700	790	845	38	117	621	78.2	1860	0.53	13.9	
							40	117	621	79.1				
							42	117	621	80.0				
							46	117	621	81.1				
							51	115	611	82.8				
							53	114	605	83.7				
301-LC	690	730	775	835	940	1000	44	132	601	80.5	2550	0.4	10.2	
							46	132	601	81.3				
							49	132	601	82.1				
							53	132	601	83.0				
							58	130	590	84.6				
							61	128	584	85.3				
301-HC	850	900	950	1025	1150	1225	54	159	603	83.1	2690	0.28	7.1	
							57	159	603	83.8				
							60	159	603	84.4				
							65	159	603	85.2				
							71	156	593	86.5				
							75	155	587	87.2				
301-GB	940	995	1050	1130	1265	1345	60	174	607	84.6	1360	0.26	6	
							63	174	607	85.1				
							67	174	607	85.7				
							72	174	607	86.5				
							79	171	597	87.6				
							83	169	591	88.2				
301-FC	1100	1165	1225	1320	1475	1565	70	201	610	86.3	3330	0.19	4.5	
							74	201	610	86.8				
							78	201	610	87.3				
							84	201	610	88.0				
							93	198	599	89.0				
							97	196	593	89.4				
301-EB	1240	1310	1380	1500	1680	1790	77	218	591	86.9	1330	0.17	3.6	
							81	218	591	87.4				
							83	211	571	88.0				
							83	195	528	88.9				
							82	173	469	90.0				
							82	163	440	90.5				
301-DC ^{1*}	1510	1590	1670	1795	2000	2125	93	258	587	88.7	4500	0.12	2.5	
							98	258	587	89.1				
							103	258	587	89.5				
							110	258	587	90.0				
							121	254	576	90.7				
							127	251	570	91.1				
301-CB ¹	1795	1900	2000	2150	2400	2550	115	315	610	90.1	1810	0.08	1.8	
							116	301	583	90.6				
							116	286	553	91.0				
							115	266	513	91.6				
							115	238	458	92.2				
							115	224	431	92.4				
301-BB ^{1*}	2270	2395	2520	2710	3020	3200	142	386	598	91.3	2310	0.05	1.2	
							144	372	576	91.6				
							144	354	547	92.0				
							144	329	508	92.4				
							144	295	454	92.9				
							143	278	427	93.0				
301-AB ¹	3080	3230	3400	3640			167	450	521	92.5	4000	0.03	0.7	
							176	450	521	92.8				
							185	450	521	92.9				
							198	450	520	93.2				

1 Cooling air inlet at commutator side. Can be used with cooling air inlet at shaft side with 15% reduction of power.

* Normally kept in stock with reinforced impregnation.

Technical data

	n_{max} 4500 min ⁻¹	n_0 40 min ⁻¹	J 0.69 kgm ²	P_f 2240 W	U_{amax} 550 V	U_f 110-440 V	V_{cool} 1300 m ³ /h	Pr 1250 Pa	$W_{(foot)}$ 470 kg	$W_{(flange)}$ 500 kg				
Cat. Nr	U_a (V):	400	420	440	470	520	550	P	I	T	η	n_2	R_A (115°C)	L_A (0Hz)
FR 159...		n_b (min ⁻¹)					(kW)	(A)	(Nm)	(%)	min ⁻¹	(Ω)	(mH)	
401-NC	450	480	510	550	625	670	33	105	688	74.8	1500	0.77	17.1	
							35	105	688	75.8				
							37	105	688	76.8				
		40	105	688	78.0									
		44	103	676	80.0									
		47	102	670	81.0									
401-LC	545	580	610	660	745	800	40	125	702	77.9	2210	0.55	12.6	
							43	125	702	78.8				
							45	125	702	79.6				
		49	125	702	80.7									
		54	123	690	82.5									
		57	122	683	83.3									
401-HC	680	720	760	820	920	980	51	152	712	81.4	2310	0.37	8.7	
							54	152	712	82.1				
							57	152	712	82.8				
		61	152	712	83.7									
		68	149	700	85.2									
		71	148	693	85.9									
401-GB	760	800	845	910	1020	1085	53	155	668	83.4	1100	0.3	7.4	
							56	155	668	84.0				
							59	155	668	84.6				
		64	155	668	85.5									
		70	152	656	86.7									
		74	151	649	87.3									
401-FC	875	925	975	1050	1180	1255	64	187	701	84.3	2930	0.24	5.6	
							68	187	701	84.9				
							72	187	701	85.5				
		77	187	701	86.3									
		85	184	688	87.4									
		89	182	681	88.0									
401-EB	1000	1055	1110	1200	1340	1430	68	194	649	86.0	1300	0.19	4.5	
							72	194	649	86.5				
							76	194	649	87.0				
		81	194	649	87.6									
		88	189	631	88.6									
		88	176	586	89.3									
401-DC*	1210	1275	1340	1440	1610	1710	87	246	691	87.5	4500	0.14	3.1	
							92	246	691	88.0				
							97	246	691	88.4				
		104	246	691	89.0									
		114	242	679	89.8									
		120	239	671	90.2									
401-CB'	1445	1525	1605	1720	1925	2045	101	280	669	89.3	1770	0.09	2.3	
							107	280	669	89.7				
							112	280	669	90.0				
		121	280	669	90.5									
		124	257	614	91.3									
		123	242	576	91.6									
401-BB'*	1835	1930	2030	2175	2425	2575	126	344	657	90.7	2250	0.06	1.5	
							133	344	657	91.0				
							140	344	657	91.3				
		150	344	657	91.6									
		155	320	609	92.2									
		154	301	572	92.5									
401-AB'	2470	2600	2730	2930	3250	3450	166	450	644	91.8	4000	0.04	0.8	
							175	450	644	92.0				
							184	450	644	92.3				
		197	450	643	92.5									
		215	442	631	92.9									
		225	438	625	93.1									

1 Cooling air inlet at commutator side. Can be used with cooling air inlet at shaft side with 10% reduction of power.

* Normally kept in stock with reinforced impregnation.

Technical data

	n_{max} 3800 min ⁻¹	n_0 40 min ⁻¹	J 0.81 kgm ²	P_f 2400 W	U_{amax} 550 V	U_f 110-440 V	V_{cool} 1500 m ³ /h	Pr 1530 Pa	$W_{(foot)}$ 520 kg	$W_{(flange)}$ 550 kg			
Cat. Nr	U_a (V):400 420		440	470	520	550	P	I	T	η	n_2	R_A (115°C)	L_A (0Hz)
FR 159...	n_b (min ⁻¹)						(kW)	(A)	(Nm)	(%)	min ⁻¹	(Ω)	(mH)
501-HC	570	605	635	690	775	825	49	148	815	79.8	1700	0.42	10.3
							51	148	815	80.6			
							54	148	815	81.3			
							59	148	815	82.3			
							65	146	801	83.9			
							69	144	792	84.6			
501-GB	630	665	705	760	850	910	54	162	820	81.3	920	0.34	8.7
							57	162	820	82.1			
							60	162	820	82.8			
							65	162	820	83.7			
							72	159	806	85.1			
							76	158	798	85.8			
501-FC	735	780	820	870	990	1055	62	181	795	83.0	2450	0.27	6.6
							65	181	795	83.6			
							69	181	795	84.3			
							74	181	795	85.1			
							81	178	783	86.3			
							86	176	775	87.0			
501-EB	835	885	930	1000	1125	1200	70	202	790	84.4	1070	0.22	5.3
							74	202	790	85.0			
							77	202	790	85.5			
							83	202	790	86.3			
							90	194	761	87.5			
							90	181	711	88.3			
501-DC	1020	1075	1130	1215	1360	1445	84	239	789	86.5	3400	0.15	3.7
							89	239	789	87.0			
							94	239	789	87.5			
							100	239	789	88.1			
							110	235	775	89.0			
							116	233	766	89.5			
501-CB ¹	1215	1280	1345	1445	1620	1725	104	292	821	88.2	1450	0.11	2.7
							110	292	821	88.6			
							116	292	821	89.0			
							124	292	821	89.5			
							125	263	736	90.5			
							125	247	691	90.9			
501-BB ¹	1545	1625	1710	1835	2040	2170	130	358	805	89.8	3000	0.07	1.7
							137	358	805	90.1			
							144	358	805	90.4			
							154	358	805	90.9			
							169	352	790	91.6			
							177	348	781	91.9			
501-AB ¹	2100	2200	2320	2480	2760		166	450	757	91.4	3200	0.05	1
							175	450	756	91.7			
							183	450	756	91.9			
							196	450	756	92.2			
							214	442	742	92.6			

1 Cooling air inlet at commutator side. Can be used with cooling air inlet at shaft side with 15% reduction of power.

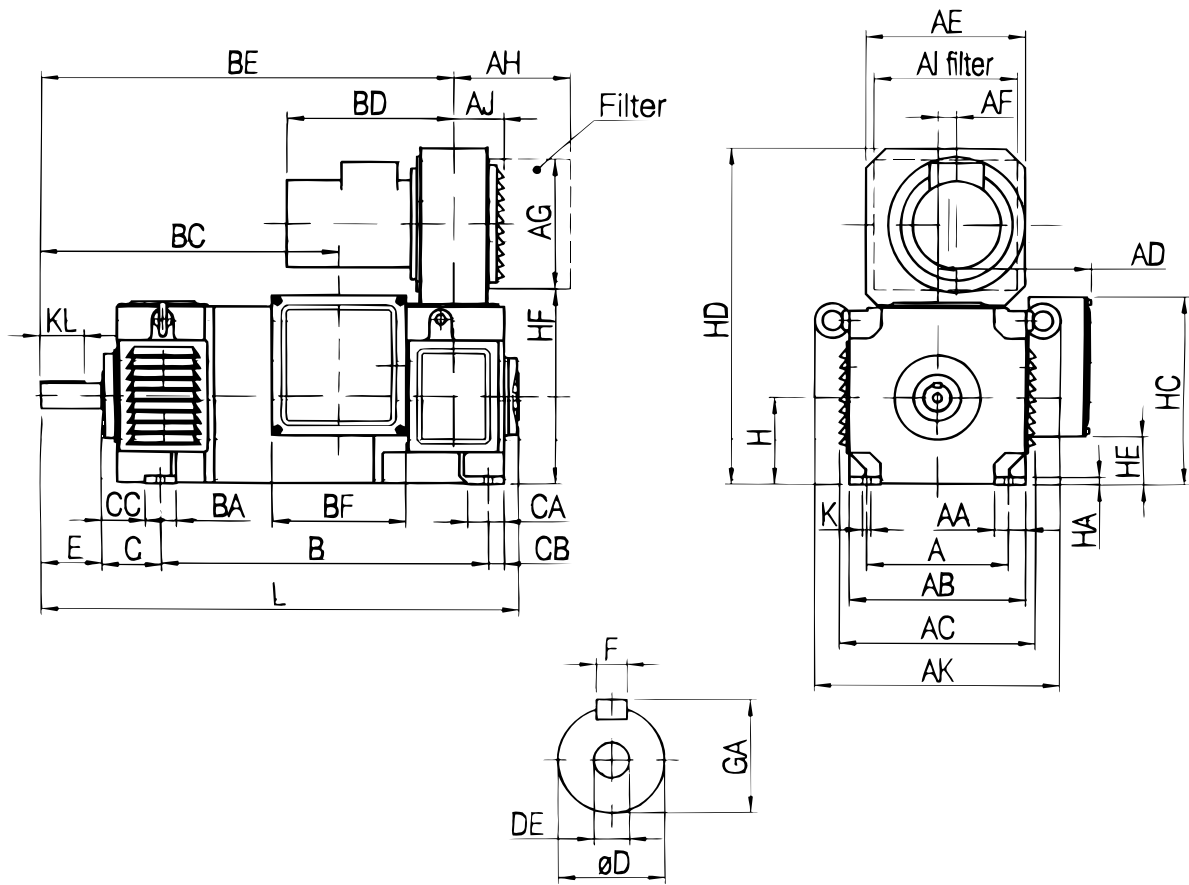
* Normally kept in stock with reinforced impregnation.

Technical data

	n_{max} 3000 min ⁻¹	n_0 40 min ⁻¹	J 1.05 kgm ²	P_f 2650 W	U_{amax} 550 V	U_f 110-440 V	V_{cool} 1900 m ³ /h	Pr 1400 Pa	$W_{(foot)}$ 630 kg	$W_{(flange)}$ 660 kg			
Cat. Nr	U_a (V):400 420		440	470	520	550	P	I	T	η	n_2	R_A (115°C)	L_A (0Hz)
FR 159...	n_b (min ⁻¹)						(kW)	(A)	(Nm)	(%)	min ⁻¹	(Ω)	(mH)
601-BF	610	650	680	740	830	880	66	194	1024	82.7	1200	0.26	10.5
							69	194	1024	83.4			
							73	194	1024	84.0			
							79	194	1024	84.8			
							87	194	1007	86.1			
							92	189	996	86.8			
601-FF	670	710	750	810	910	970	65	196	930	81.7	1050	0.29	8.5
							69	196	930	82.4			
							73	196	930	83.0			
							79	196	930	83.9			
							87	193	914	85.3			
							86	191	904	86.0			
601-EF	770	810	860	920	1040	1100	75	220	928	83.3	1200	0.22	6.8
							79	220	928	83.9			
							83	220	927	84.5			
							90	220	927	85.3			
							99	216	911	86.5			
							104	214	902	87.1			
601-BD	880	930	980	1050	1170	1250	90	255	977	86.6	1800	0.14	5.6
							95	255	977	87.1			
							100	255	977	87.6			
							108	255	977	88.2			
							118	251	960	89.1			
							124	248	950	89.6			
601-DF	890	940	990	1070	1200	1270	86	249	918	84.7	1400	0.18	5.2
							91	249	918	85.3			
							95	249	918	85.8			
							103	249	918	86.5			
							113	245	902	87.6			
							119	242	892	88.1			
601-CF	1060	1120	1180	1270	1410	1500	103	294	929	86.5	1700	0.13	3.8
							109	294	929	87.0			
							115	294	929	87.4			
							123	294	929	88.0			
							135	289	913	88.9			
							142	286	903	89.4			
601-AF ^{1*}	1310	1380	1450	1560	1740	1840	143	394	1039	89.7	2500	0.06	2.6
							151	394	1039	90.1			
							158	394	1039	90.4			
							170	394	1039	90.8			
							186	387	1021	91.4			
							195	383	1010	91.8			
601-AD ^{1*}	1850	1940	2040	2190	2430	2580	175	474	905	91.4	2800	0.05	1.4
							184	474	905	91.7			
							193	474	904	91.9			
							207	474	904	92.2			
							226	466	888	92.6			
							237	461	878	92.8			

1 Cooling air inlet at commutator side. Can be used with cooling air inlet at shaft side with 15% reduction of power.

* Normally kept in stock with reinforced impregnation.

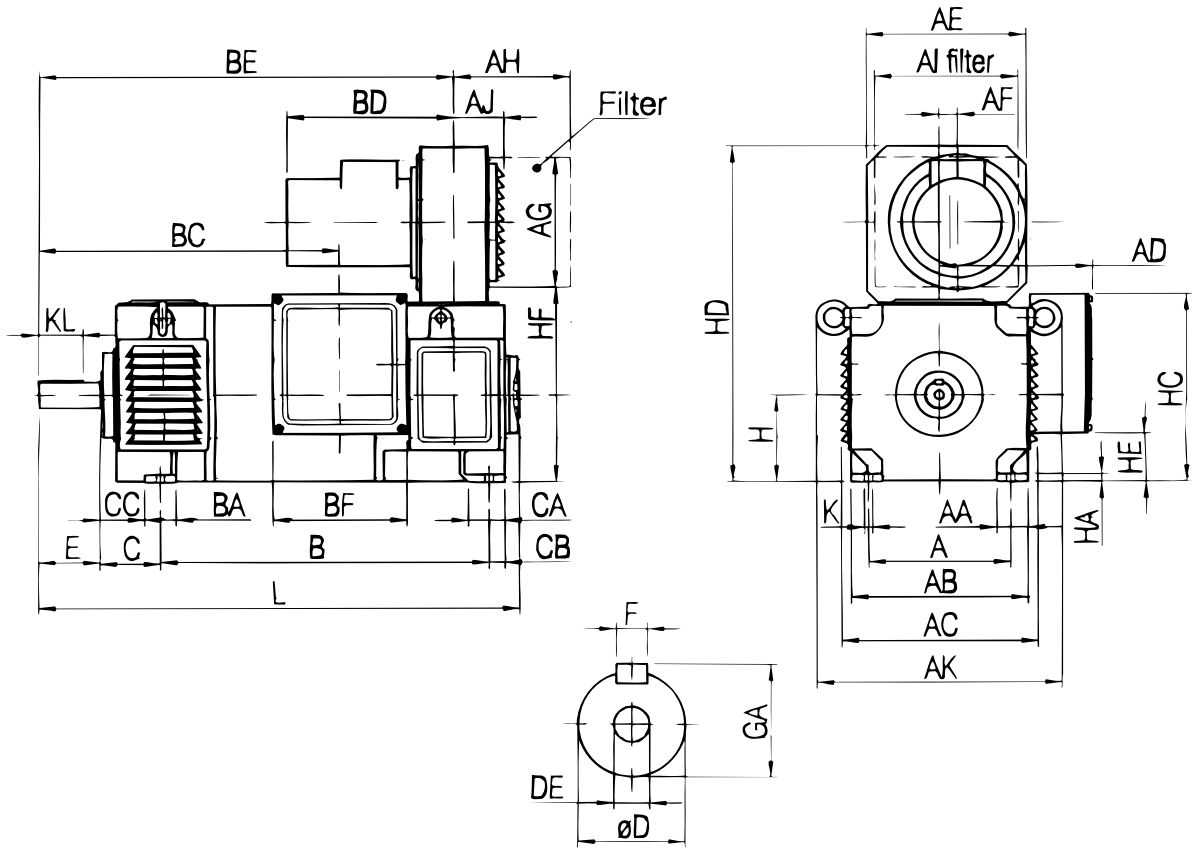


Dimensions in mm

DMP	A	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK	B	BA	BC	BD	BE	BF
112-2MA	190	45	220	256	203	220	17	195	175	195	77	326	373	50	336	235	514	190
112-2LA													428		391		569	
112-4M													373		336		514	
112-4L													428		391		569	
132-2M	216	47.5	260	295	223	220	17	195	175	195	77	366	482	50	419	335	590	190
132-4S						220	17	195	175	195	77		437		374	335	545	
132-4M						220	17	195	175	195	77		482		419	335	590	
132-4L						220	17	195	175	195	77		532		469	335	640	
132-4LB						285	33.5	235	208	235	89		642		609	298	780	

DMP	C	CA	CB	CC	D	DE	E	F	GA	H	HA	HC	HD	HE	HF	K	KL	L	L+REO444R1	L+TDP0.2LT	W (kg)
112-2MA	70	55	25	45	38	M10	80	10	41	112	10	241	451	66	250	12	60	594.5	805.5	811.5	97
112-2LA																		649.5	860.5	866.5	103
112-4M																		594.5	805.5	811.5	110
112-4L																		649.5	860.5	866.5	117
132-2M	89	60	25	64	38	M10	80	10	41	132	12	261	491	86	290	12	60	695.5	906.5	912.5	139
132-4S					38		80	10	41								60	650.5	861.5	867.5	122
132-4M					38		80	10	41								60	695.5	906.5	912.5	152
132-4L					38		80	10	41								60	745.5	956.5	962.5	177
132-4LB					42		110	12	45								80	885	1096	1102	236

Dimensions are not binding

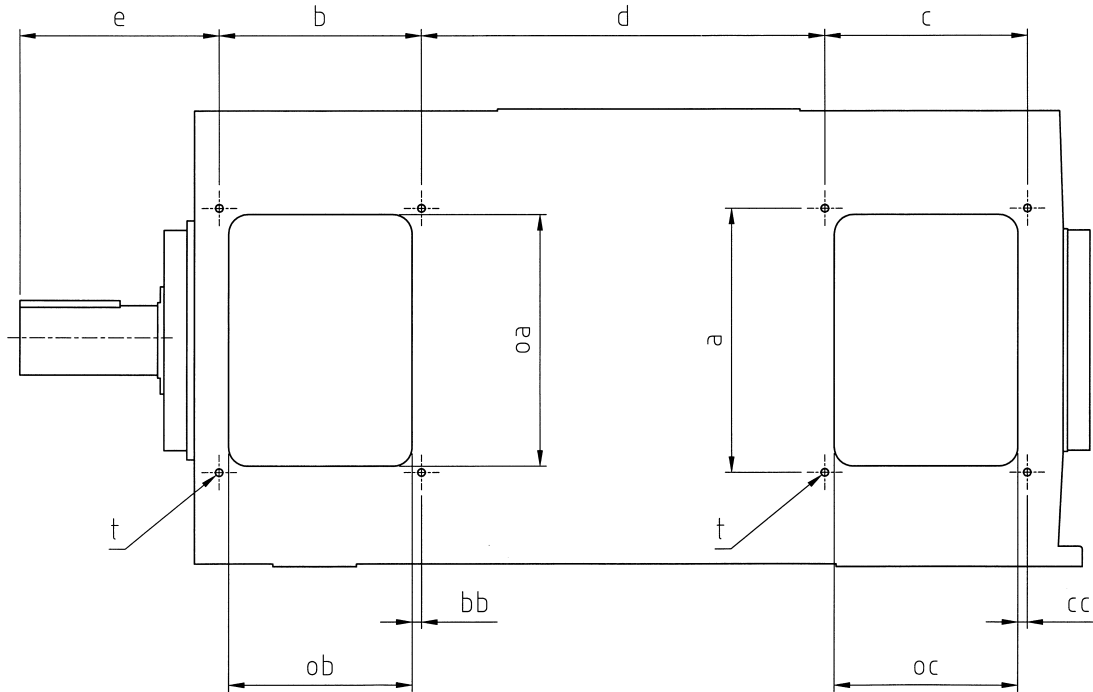


Dimensions in mm

DMP	A	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK	B	BA	BC	BD	BE	BF
160-4S/SO	254	56	316	351	274	285	33.5	235	208	235	89	439	475	56	426	298	631	240
160-4M/MO						285	33.5	235	208	235	89		522		473	298	678	
160-4L/LO						285	33.5	235	208	235	89		587		538	298	743	
160-4LB						315	21.5	300	208	300	80		712		663.5	299	868	
180-4A	279	66	356	391	294	355	25.5	340	265	340	95	479	561	66	499	305	718	240
180-4B		66			294	355	25.5		265		95		612	66	535	305	754	
180-4C		66			294	355	25.5		265		95		677	66	616	305	835	
180-4D		66			294	355	25.5		265		95		707	66	681	305	900	
180-4E		61			294	405	28.5		270		105		720	66	741	349	960	
180-4F		61			392	405	28.5		270		105		795	85	821	349	1071	

DMP	C	CA	CB	CC	D	DE	E	F	GA	H	HA	HC	HD	HE	HF	K	KL	L	L+REO444R1	L+TDP0.2LT	W (kg)
160-4S/SO	108	65	28	80	48	M16	110	14	51.5	160	14	343.5	611	88.5	356	15	80	744	955	961	206/216
160-4M/MO													611		356			791	1002	1008	246/256
160-4L/LO													611		356			856	1067	1073	291/301
160-4LB													641		338			981	1192	1198	398
180-4A	121	195	50	91	55	M16	110	16	59	180	18	364	745	109	402	15	80	848.5	1059.5	1065.5	308
180-4B		195	35		55	M16	110	16	59		18	364	745	109	402	15	80	884.5	1095.5	1101.5	348
180-4C		195	21		60	M16	140	18	64		18	364	745	109	402	15	110	965.5	1176.5	1182.5	398
180-4D		195	43		70	M20	140	20	74.5		18	364	745	109	402	15	110	1030.5	1241.5	1247.5	488
180-4E		195	28		70	M20	140	20	74.5		18	364	815	109	448	15	110	1190.5	1301.5	1307.5	540
180-4F		95	40		70	M20	140	20	74.5		18	372.5	815	117.5	444	19	110	1248	1459	1465	650

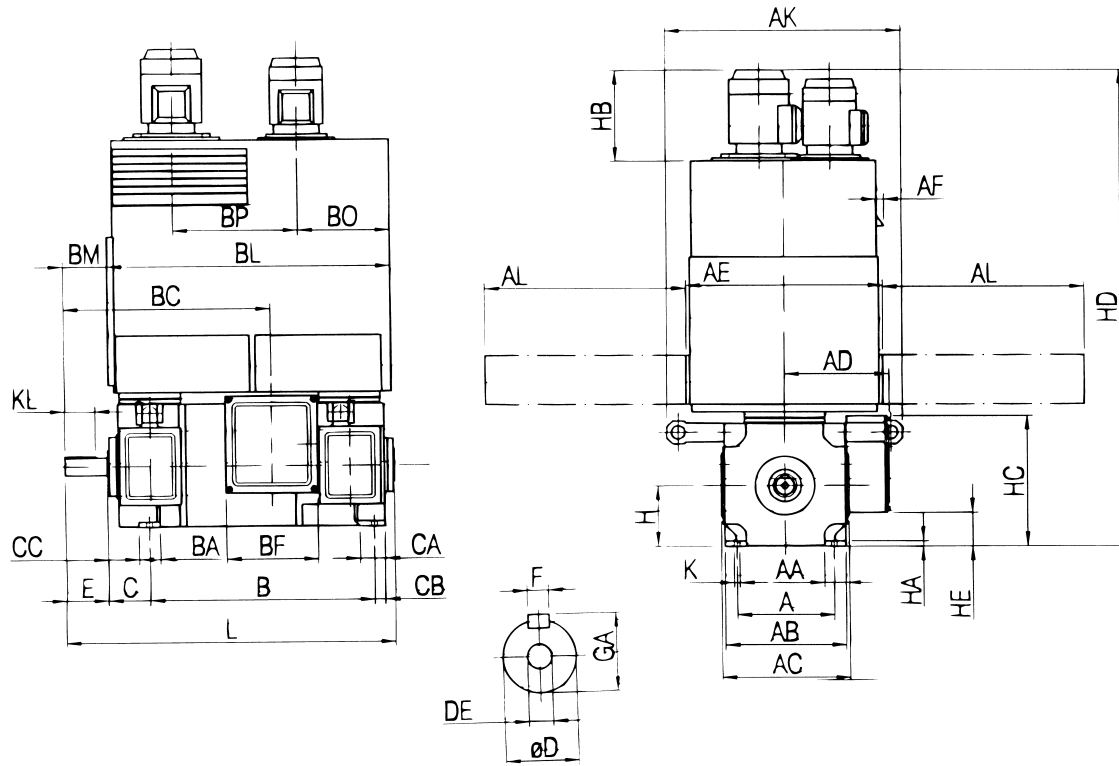
Dimensions are not binding



Dimensions in mm

DMP	a	b	bb	c	cc	d	e	oa	ob	oc	t	W (kg)
112-2MA	110	110	5	110	5	245	104	110	100	100	M6	90
112-2LA						300						96
112-4M						245						103
112-4L						300						110
132-2M	150	125	7.5	125	7.5	286	116.5	145	110	110	M6	132
132-4S						241	116.5					115
132-4M						286	116.5					145
132-4L						336	116.5					170
132-4LB						446	146.5					220
160-4S/MO	190	145	7.5	145	7.5	263	150	180	130	130	M6	190/200
160-4M/MO						310						230/240
160-4L/LO						375						275/285
160-4LB						500						380
180-4A	210	160	7.5	160	7.5	320	158.5	200	145	145	M8	290
180-4B			7.5		7.5	356	158.5	200	145	145		330
180-4C			7.5		7.5	407	188.5	200	145	145		380
180-4D			7.5		7.5	472	188.5	200	145	145		470
180-4E			7.5		7.5	532	188.5	200	145	145		520
180-4F			10		10	660	171	210	140	155		630

Dimensions are not binding

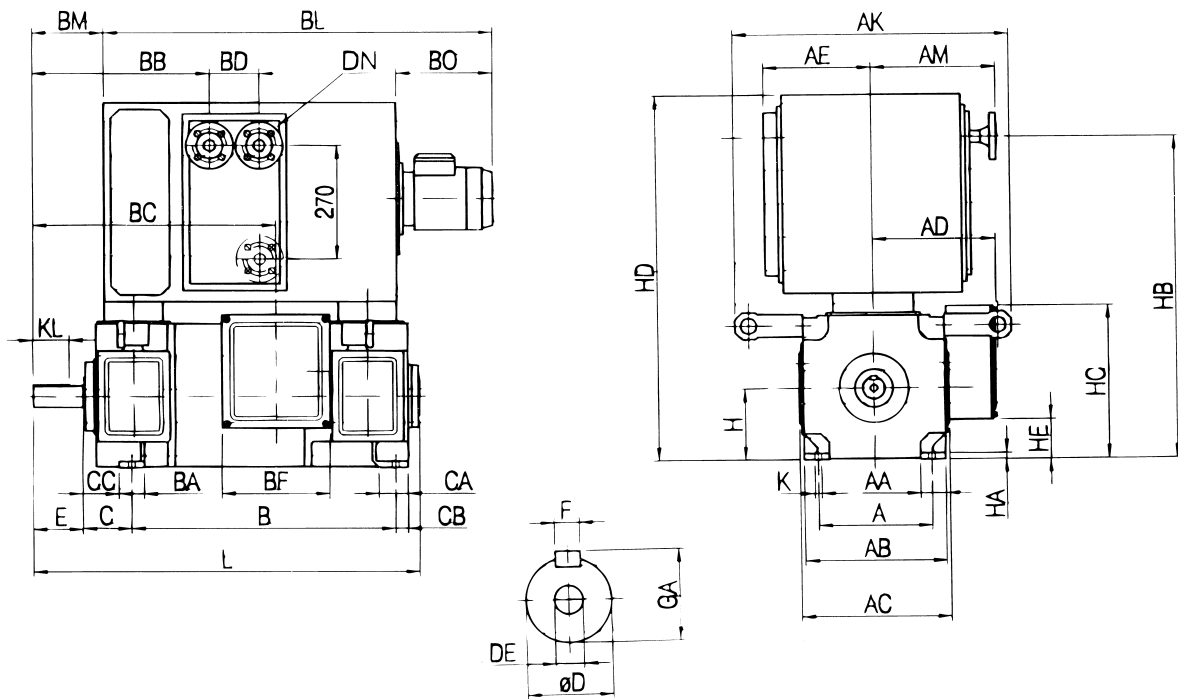


Dimensions in mm

DMP	A	AA	AB	AC	AD	AE	AF	AK	AL	B	BA	BC	BF	BL	BM	BP	BO	C	
132-2M	216	47.5	260	279	223	390	20	440	390	482	50	419	190	647	91	290	223	89	
132-4S										437		374		647		91	290		223
132-4M										482		419		647		91	290		223
132-4L										532		469		647		91	290		223
132-4LB										642		609		772		121	400		238
160-4S/SO	254	56	316	335	274	515	20	616	527.5	475	56	426	240	723	115	325	240	108	
160-4M/MO									527.5	522		473		723		325	240		
160-4L/LO									527.5	587		538		723		325	240		
160-4LB									597	712		663		843		320	278		
180-4A	279	66	356	375	294	606	20	656	600	561	66	499	240	843	126.5	320	278	121	
180-4B		66			294	606			600	612	66	535		843	126.5	320	278		
180-4C		66			294	606			600	677	66	616		843	156.5	320	278		
180-4D		66			294	606			600	707	66	681		843	156.5	320	278		
180-4E		66			294	720			740	720	66	741		1047	149	500	337		
180-4F		61			322	720			740	795	85	821		1047	131	500	337		

DMP	CA	CB	CC	D	DE	E	F	GA	H	HA	HB	HC	HD	HE	K	KL	L	W (kg)	
132-2M	60	25	64	38	M10	80	10	41	132	12	215	261	1089	86	12	60	695.5	212	
132-4S				38		80	10	41									60	650.5	205
132-4M				38		80	10	41									60	695.5	225
132-4L				38		80	10	41									60	745.5	250
132-4LB				42		110	12	45									80	885	310
160-4S/SO	65	28	80	48	M16	110	14	51.5	160	14	343.5	1259	88.5	15	80	744	310		
160-4M/MO																	1259	791	340
160-4L/LO																	1259	856	385
160-4LB																	1334	981	500
180-4A	195	50	91	55	M16	110	16	59	180	18	240	364	1356	109	15	80	848.5	525	
180-4B	195	35		55	M16	110	16	59		18	240	364	1356	109	15	80	884.5	555	
180-4C	195	21		60	M16	140	18	64		18	240	364	1356	109	15	110	965.5	615	
180-4D	195	43		70	M20	140	20	74.5		18	240	364	1356	109	15	110	1030.5	645	
180-4E	195	28		70	M20	140	20	74.5		18	280	364	1451	109	15	110	1090.5	725	
180-4F	95	40		70	M20	140	20	74.5		16	280	372.5	1451	117.5	19	110	1248	820	

Dimensions are not binding

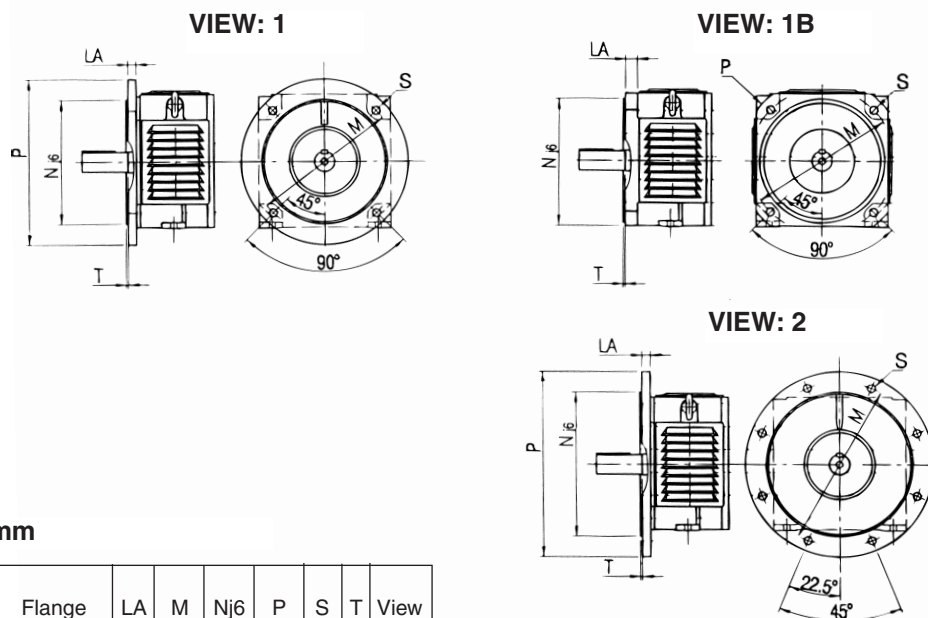


Dimensions in mm

DMP	A	AA	AB	AC	AD	AE	AK	AM	B	BA	BB	BC	BD	BF	BL	BM	BO	C
132-2M	216	47.5	260	279	223	195	440	230	482	50	314	419	110	190	791	99	220	89
132-4S									437		314	374			746	99		
132-4M									482		314	419			791	99		
132-4L									532		314	469			841	99		
132-4LB									642		344	609			951	129		
160-4S/SO	254	56	316	335	274	240	616	278	475	56	393	426	110	240	753	158	215	108
160-4M/MO									522			473			800			
160-4L/LO									587			538			865			
160-4LB									712			663			990			
180-4A	279	66	356	375	294	295	656	328	561	66	453.5	499	110	240	860	168.5	240	121
180-4B		66			294	295		328	612	66	453.5	535	110		896	168.5	240	
180-4C		66			294	295		328	677	66	483.5	616	110		947	198.5	240	
180-4D		66			294	295		328	707	66	483.5	681	110		1012	198.5	240	
180-4E		66			294	292		337	720	66	542.5	741	142		1112	198.5	280	
180-4F		61			322	292		337	795	85	525	821	142		1240	181	280	

DMP	CA	CB	CC	D	DE	DN	E	F	GA	H	HA	HB	HC	HD	HE	K	KL	L	W (kg)	
132-2M	60	25	64	38	M10	20	80	10	41	132	12	599	261	719	86	12	80	60	695.5	220
132-4S				38			80	10	41									60	650.5	200
132-4M				38			80	10	41									60	695.5	235
132-4L				38			80	10	41									60	745.5	260
132-4LB				42			110	12	45									80	885.5	330
160-4S/SO	65	28	80	48	M16	20	110	14	51.5	160	14	723	343.5	819	88.5	15	80	744	310	
160-4M/MO																		791	340	
160-4L/LO																		856	400	
160-4LB																		981	500	
180-4A	195	50	91	55	M16	20	110	16	59	180	18	761	364	857	109	15	80	848.5	410	
180-4B	195	35		55	M16	20	110	16	59		18	761	364	857	109	15	80	884.5	460	
180-4C	195	21		60	M16	20	140	18	64		18	761	364	857	109	15	110	965.5	510	
180-4D	195	43		70	M20	20	140	20	74.5		18	761	364	857	109	15	110	1030.5	600	
180-4E	195	28		70	M20	25	140	20	74.5		18	769	364	867	109	15	110	1090.5	660	
180-4F	95	40		70	M20	25	140	20	74.5		16	769	372.5	867	117.5	19	110	1248	790	

Dimensions are not binding



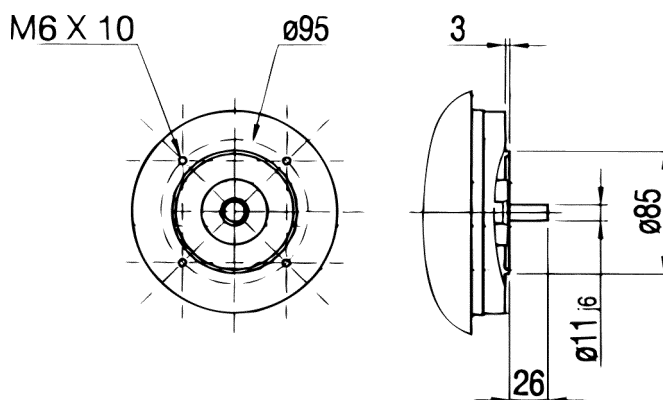
Dimensions in mm

DMP	Flange	LA	M	Nj6	P	S	T	View
112	F215	14	215	180	250	15	4	1B
	F265	14	265	230	300	15	4	1B
132	F265	17	265	230	300	15	4	1B
	F300	17	300	250	350	19	5	1B
160	F350	20	350	300	400	19	5	1B
180-4A/B/C/D/E	F300	41	300	250	350	19	5	1
	F350	17	350	300	400	19	5	1B
	F400	17	400	350	450	19	5	2B
	F500	20	500	450	550	19	5	2
180-4F	F300	41	300	250	350	19	5	1
	F500	20	500	450	550	19	5	2

Other dimensions on request

Dimension drawing, DMP

tachometer flange

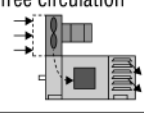
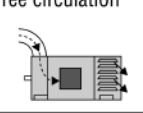
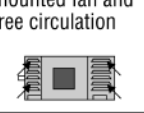
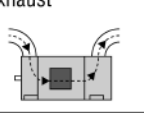
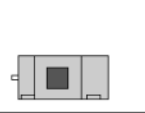
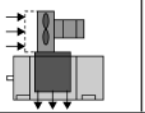
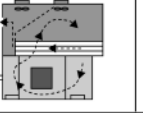
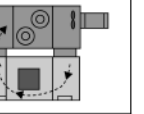


Dimensions are not binding

To Fax +33 1 34 70 21 79
 From Ref. Number
 Cust. name Applic. type:

Unit(s) DC motors/Generators DMP

Cooling:

<input type="checkbox"/> IC 06 Motor mounted fan and free circulation 	<input type="checkbox"/> IC 17 Ducted air supply and free circulation 	<input type="checkbox"/> IC 01 Self ventilated motor with shaft mounted fan and free circulation 	<input type="checkbox"/> IC 37 Ducted air supply and exhaust 	<input type="checkbox"/> IC 410 Totally enclosed 	<input type="checkbox"/> IC 416 Totally enclosed fan cooled 	<input type="checkbox"/> IC 666 Air/Air cooler 	<input type="checkbox"/> IC 86 W Air/Water cooler 
Enclosure IP 23				Enclosure IP 54/55			

Operating range	Min. operating speed	Base speed	Max. field-weakening speed
Speed			r/min
Power			kW
Torque			Nm
Armature voltage			V
Armature current			A
Field voltage			V

Mounting arrangement	As viewed from D-end fill in below					
	right	left	above	below	D-end	N-end
Terminal box						
Fan motor D.e						
Fan motor N.e						
Duct connection D.e						
Duct connection N.e						
Cooler						

Catalogue number:

Position number:

Remarks

<p>STANDARD MODEL</p> <p>If data not given, following values will be assumed:</p> <ul style="list-style-type: none"> - Altitude, max 1000 m above sea level - Located indoors - Ambient temperature • 40 •C - Ambient air dust-free, chemically neutral - Air humidity 5 to 20 g/m³ - IEC Standard - Insulation class H, utilization F - Duty type S1 - Overload per Catalog DMP - Supplied from fully controlled 3-phase bridge - Enclosure IP 23 - Frame type IM 1001 - Standard colour and finish - Anti-corrosion coating - 1 shaft extension, standard - Deep-groove ball bearings - Normal seal - Balancing class "N" - Rotation: both directions - Separate excitation 	<p>SPECIAL DESIGN</p> <p>Please specify variations from standard</p> <p><input type="checkbox"/> Outdoors <input type="checkbox"/> not protected <input type="checkbox"/> with cover</p> <p><input type="checkbox"/> NEMA Standard <input type="checkbox"/> CSA Standard</p> <p><input type="checkbox"/> Utilization H, B</p> <p><input type="checkbox"/> Duty type S..... / % ED</p> <p><input type="checkbox"/> IP 54 <input type="checkbox"/> IP 55</p> <p><input type="checkbox"/> IM 1011 (V5) <input type="checkbox"/> IM 1031 (V6) <input type="checkbox"/> IM 1051 (B6) <input type="checkbox"/> IM 1061 (B7)</p> <p><input type="checkbox"/> IM 2001 (B35) <input type="checkbox"/> IM 2011 (V15) <input type="checkbox"/> IM 2031 (V36)</p> <p>Flange dimension F..... (dim. M)</p> <p><input type="checkbox"/> Special colour per RAL</p> <p><input type="checkbox"/> Anti-corrosive protection paint</p> <p><input type="checkbox"/> Special shaft D..... L.....</p> <p><input type="checkbox"/> Second shaft extension dimensions D..... L.....</p> <p><input type="checkbox"/> Rollerbearing on drive end</p> <p><input type="checkbox"/> Shaft seal on drive end</p> <p><input type="checkbox"/> Balancing class "R" <input type="checkbox"/> Balancing class "S" (seen from D.E.)</p> <p><input type="checkbox"/> Clockwise <input type="checkbox"/> Anticlockwise</p> <p><input type="checkbox"/> Excitation series wound <input type="checkbox"/> Stabilisation winding</p> <p><input type="checkbox"/> Tropicalisation</p>
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ACCESSORIES	
<input type="checkbox"/> Mounted fan 380 Vac / 50 Hz	<input type="checkbox"/> Air pressure switch
<input type="checkbox"/> Filter for fan	<input type="checkbox"/> Air / air heat exch. blower 380 V..... / 50 Hz or V..... / Hz
<input type="checkbox"/> Air / water heat exchanger	<input type="checkbox"/> Without tachometer
<input type="checkbox"/> With tachometer, type	<input type="checkbox"/> REO 444 N1 <input type="checkbox"/> REO 444 L1 <input type="checkbox"/> REO 444 R1
	<input type="checkbox"/> REO 444 R2 <input type="checkbox"/> TDP 0.2 T4 <input type="checkbox"/> + FSL <input type="checkbox"/> REO 588
	<input type="checkbox"/> GTR 9.16 (Hollow shaft) <input type="checkbox"/>
<input type="checkbox"/> With coupling type	<input type="checkbox"/> BOWEX <input type="checkbox"/> ROTEX <input type="checkbox"/> THOMAS
<input type="checkbox"/> Mtg. of pulse generator with pulse number per rotg.:	<input type="checkbox"/> Litton <input type="checkbox"/> Leine Linde <input type="checkbox"/> Hubner
	<input type="checkbox"/> 1024 <input type="checkbox"/> 2048 <input type="checkbox"/>
<input type="checkbox"/> Mtg. of brake type MAYR size:	<input type="checkbox"/> 6 (26Nm) <input type="checkbox"/> 7 (50Nm) <input type="checkbox"/> 8 (100Nm)
	<input type="checkbox"/> 9 (200Nm) <input type="checkbox"/> 10 (400Nm) <input type="checkbox"/> 11 (800Nm)
	or type: <input type="checkbox"/>Nm
Brake DC voltage	<input type="checkbox"/> 24 V <input type="checkbox"/> 96 V <input type="checkbox"/> 170 V
	<input type="checkbox"/> 190 V <input type="checkbox"/>V
<input type="checkbox"/> Brake terminal box	<input type="checkbox"/> Rectifier..... Vac
<input type="checkbox"/> Brake enclosure IP 55	<input type="checkbox"/> Hand release
<input type="checkbox"/> Heating element	<input type="checkbox"/> 110 V <input type="checkbox"/> 220 V <input type="checkbox"/>V
<input type="checkbox"/> Thermistor	<input type="checkbox"/> Bimetallic sensor <input type="checkbox"/> PT 100 (Resistor-thermometer)
<input type="checkbox"/> Transparent inspection cover	<input type="checkbox"/> Earth brush <input type="checkbox"/> Loctite screw blocking
<input type="checkbox"/> SPM	

Delivery week	<input type="checkbox"/> EX WORKS <input type="checkbox"/> DDU <input type="checkbox"/> FOB <input type="checkbox"/> C I F
	<input type="checkbox"/> LORRY <input type="checkbox"/> AIR <input type="checkbox"/> SEA
Delivery address:

Marking:
Motor unit price:
Accessories prices:

Total:
	- multiplier/discount
Net unit price:
When <input type="checkbox"/> → with extra price	When <input type="checkbox"/> → without extra price



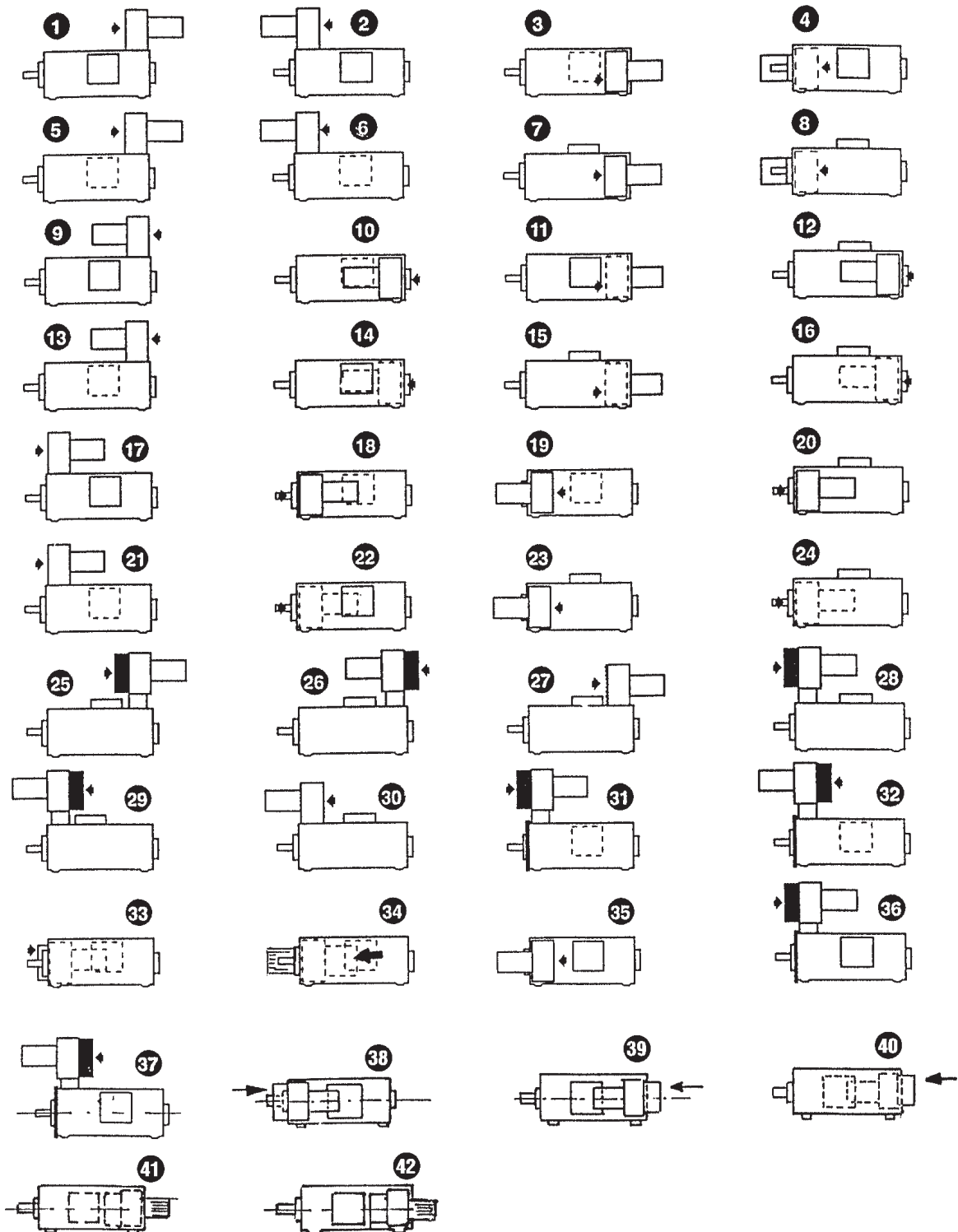
Ordering

Fan blower

The fan blower can be mounted on top or on either side, at the drive end or at the non-drive end. The location does not affect the output of the motor (except when specified in the tables). The fan can be delivered with a

slotted cover, a filter or a flange for an air-duct. On request a pressure switch can be installed on the fan blower and the terminal box can be arranged in 42 different mounting combinations.

Pos 25-42: Additional price for blower and terminal box mounted on same side.



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