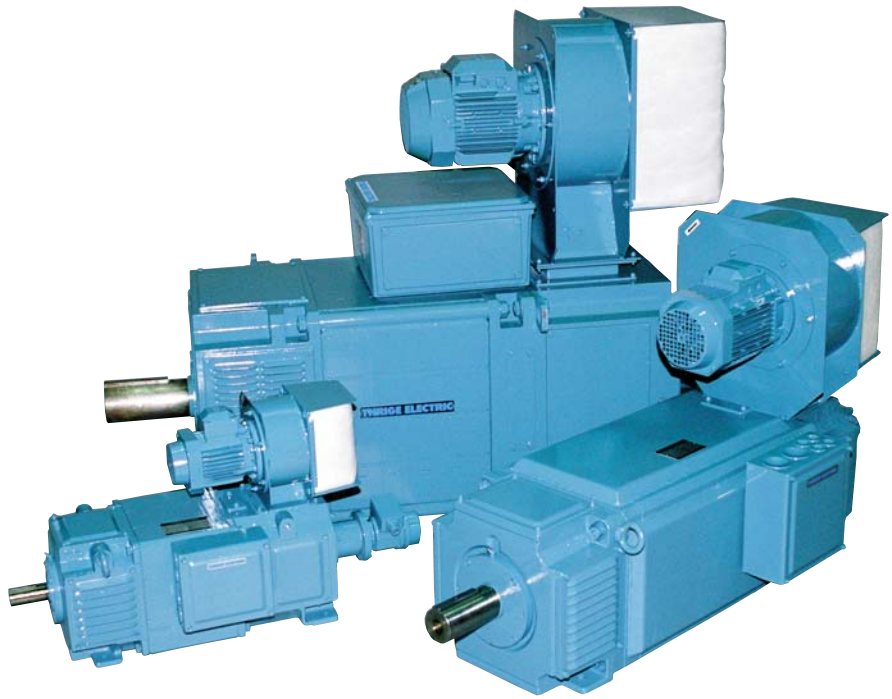
T-T Electric

DC motors, LAK 4112-4280

Catalogue 2006/11 E

LAK 7-500 kW

- 7-500 kW
- 40-4200 Nm
- Centre heights 112, 132, 160, 180
  200, 225, 250, 280
- 4 poles
- Fully laminated
- Windings: Shunt, compound or series
- Standards IEC, VDE, BS, NEMA, CSA



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Introduction

LAK 4000 d.c. motors are fully laminated, 4 pole, square frame.
Output: 7-500 kW
Torque: 40-4200 Nm

LAK 4000 motor range:

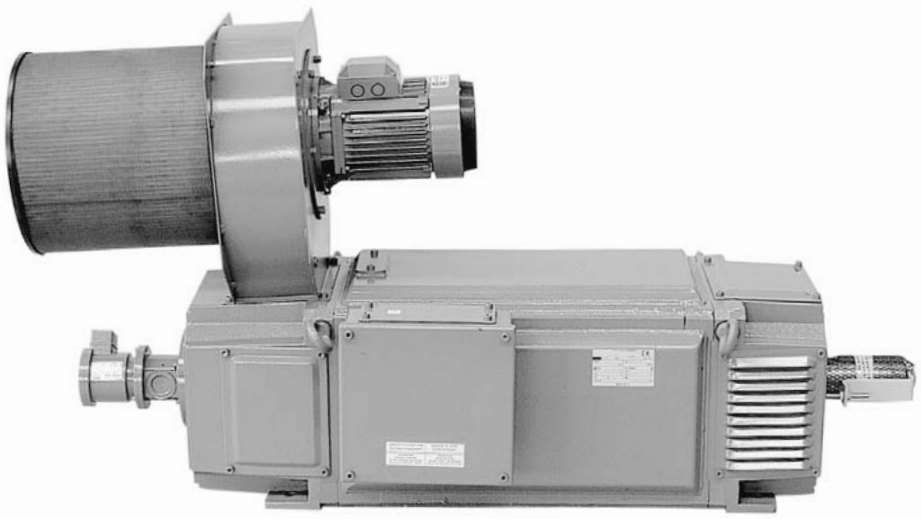
Frame size	Core lengths
4112	A, B
4132	A, B, C, D
4160	A, B, C, D
4180	A, B, C, D, E, F
4200	A, B, C
4225	A, B, C
4250	A, B, C
4280	A, B, C

Type designation example - LAK 4160B:

LAK = Type of motor
4 = Number of poles
160 = Centre height
B = 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 electroplate.
- 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.



LAK 4180, cooling form IC06

Options

Frame size	LAK	4112	4132	4160	4180	4200	4225	4250	4280
Cooling forms									
IC06 (IP23)	Force ventilated	o	o	o	o	o	o	o	o
IC17 (IP23)	Single pipe ventilated	o	o	o	o	o	o	o	o
IC37 (IP54)	Double pipe ventilated	o	o	o	o	o	o	o	o
IC410 (IP54)	Totally enclosed	o	o	o	o	o	o	o	o
IC416 (IP54)	Totally enclosed, fan cooled	o	o	o	o				
IC666 (IP54)	Air-air cooled		o	o	o	o	o	o	o
IC86W (IP54)	Air-water cooled		o	o	o	o	o	o	o
Other cooling forms available									
Protection									
IP55		o	o	o	o	o	o	o	o
Mounting forms									
IM1001	Horizontal foot	o	o	o	o	o	o	o	o
IM1002	Horizontal foot, two shaft ends	o	o	o	o	o	o	o	o
IM2001	Horizontal foot and flange	o	o	o	o	o	o	o	o
IM2011	Vertical foot and flange	o	o	o	o	o	o	o	o
Other mounting forms available									
Modifications and accessories									
Compound winding		o	o	o	o	o	o	o	o
Series winding		o	o	o	o	o	o	o	o
Pressure switch		o	o	o	o	o	o	o	o
Temperature sensor, interpole		o	o	o	o	o	o	o	o
Temperature sensor, field winding		o	o	o	o	o	o	o	o
Bearing sensor		o	o	o	o	o	o	o	o
Grounding brush		o	o	o	o	o	o	o	o
Heating element		o	o	o	o	o	o	o	o
Brush wear sensor		o	o	o	o	o	o	o	o
Special shaft		o	o	o	o	o	o	o	o
Roller bearing d-end		o	o	o	o	o	o	o	o
Shaft seal, d-end		o	o	o	o	o	o	o	o
Special balance Class ‘R’		o	o	o	o	o	o	o	o
Special paint (RAL colour)		o	o	o	o	o	o	o	o
Special corrosion protection		o	o	o	o	o	o	o	o
Transparent inspection cover		o	o	o	o	o	o	o	o
Brake		o	o	o	o	o	o	o	o
Gearbox		o	o	o	o	o	o	o	o
Tachos with coupling									
REO 444R1 (60v/1000 min^{-1})		o	o	o	o	o	o	o	o
TDP 0.2 T-4 (60v/1000 min^{-1})		o	o	o	o	o	o	o	o
Others available									
Pulse generators									
POG 9 D (1-1250 ppr)		o	o	o	o	o	o	o	o
ITD40A4 (1024 ppr)		o	o	o	o	o	o	o	o
Others available									

Application data

Standards
IEC 34 - IEC 72 etc.

Insulation
Class H

Temperature rise
Frames 112-180: Class F
Frames 200-280: Class H

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

Overload capacity
LAK 4112-4180:
180% xFLC for
15 sec. every 5 minutes
30 sec. every 30 minutes

LAK 4200-4280:
1.6xFLT for 15 sec. every 5 minutes
2.0xFLC for 30 sec. every 30 minutes

Terminal box position
LAK 4112-4180:
Standard: On right side of the motor (facing d-end).
Mounting of terminal box on top or left side on request.

LAK 4200-4280:
Standard: On top of the motor.
Mounting of terminal box on either side of the motor on request.

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.

LAK 4112-4180:
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.

LAK 4200-4280:
Postion on top of the motor as standard. Fan motor at D-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.

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.

LAK 4112-4280:
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.

Detailed heat exchanger information on request.

Mechanical data

Frame	Inertia J - kgm²	Max. mechanical speed (min⁻¹)
LAK 4112A	0.037	5000
LAK 4112B	0.05	5000
LAK 4132A	0.10	4000
LAK 4132B	0.12	4000
LAK 4132C	0.14	4000
LAK 4132D	0.20	3000
LAK 4160A	0.22	3500
LAK 4160B	0.25	3500
LAK 4160C	0.31	3500
LAK 4160D	0.46	3000
LAK 4180AA	0.39	3800
LAK 4180BA	0.47	3800
LAK 4180CA	0.55	3800
LAK 4180DA	0.69	3800
LAK 4180EA	0.81	3800
LAK 4180FA	1.05	3000
LAK 4200A	0.95	4000
LAK 4200B	1.20	
LAK 4200C	1.40	
LAK 4225A	1.90	3600
LAK 4225B	2.20	
LAK 4225C	2.90	
LAK 4250A	3.30	3200
LAK 4250B	3.80	
LAK 4250C	4.30	
LAK 4280A	5.90	2800
LAK 4280B	6.80	
LAK 4280C	7.80	

Cooling data (IC06/17/37)

Frame	Air volume m³/h	Pressure drop in motor N/m²
LAK 4112A-B	270	480
LAK 4132A-B-C	470	550
LAK 4132D	510	810
LAK 4160A-B-C	880	980
LAK 4160D	600	915
LAK 4180AA-BA	1300	1250
LAK 4180CA-DA	1300	1250
LAK 4180EA	1500	1530
LAK 4180FA	1900	1400
LAK 4200A-B-C	1050	1150
LAK 4225A-B-C	1850	1450
LAK 4250A-B-C	2700	2100
LAK 4280A-B-C	3600	2600

Bearings

Frame	Drive end		Commutator end
	Ball bearing	Roller bearing	Ball bearing
LAK 4112	6308-C3	NU308-ECP	6208-2RS-C3
LAK 4132	6309-C3	NU309-ECP	6307-2RS-C3
LAK 4160	6310-C3	NU310-ECP	6309-2RS-C
LAK 4180AA-BA	6215-C3	NU2215-ECP	6312-2RS-C3
LAK 4180CA-DA	6215-C3	NU2215-ECP	6312-2RS-C3
LAK 4180EA	6215-C3	NU2215-ECP	6312-2RS-C3
LAK 4180FA	6315-C3	NU315-ECP	6312-2RS-C3
LAK 4200	6216-C3	NU216-EC/C3	6214-C3
LAK 4225	6218-C3	NU218-EC/C3	6216-C3
LAK 4250	6220-C3	NU220-EC/C3	6218-C3
LAK 4280	6222-C3	NU222-EC/C3	6220-C3

Blower motor data

Frame	Electric supply		F.L.C. (A)	Output (kW)
LAK 4112A-B LAK 4132A-B-C	3x380-420 V	50 Hz	0.70	0.25
	3x220-240 V	50 Hz	1.20	0.25
	3x440-480 V	60 Hz	0.70	0.30
	3x250-280 V	60 Hz	1.20	0.30
	3x500 V	50 Hz	0.60	0.25
LAK 4132D LAK 4160A-B-C	3x380-420 V	50 Hz	2.10	0.75
	3x220-240 V	50 Hz	3.60	0.75
	3x440-480 V	60 Hz	2.00	0.90
	3x250-280 V	60 Hz	3.50	0.90
	3x500 V	50 Hz	1.40	0.75
LAK 4160D	3x380-420 V	50 Hz	2.90	1.30
	3x220-240 V	50 Hz	5.00	1.30
	3x440-480 V	60 Hz	2.80	1.50
	3x250-280 V	60 Hz	5.00	1.50
	3x500 V	50 Hz	2.30	1.30
LAK 4180 AA-BA-CA-DA	3x380-420 V	50 Hz	3.00	1.50
	3x220-240 V	50 Hz	5.20	1.50
	3x440-480 V	60 Hz	2.90	1.75
	3x250-280 V	60 Hz	5.00	1.75
	3x500 V	50 Hz	2.70	1.50

Frame	Electric supply		F.L.C. (A)	Output (kW)
LAK 4180EA-FA	3x380-420 V	50 Hz	5.80	2.70
	3x220-240 V	50 Hz	10.00	2.70
	3x440-480 V	60 Hz	5.80	3.00
	3x250-280 V	60 Hz	10.00	3.00
	3x500 V	50 Hz	4.60	2.70
LAK 4200A-B-C	3x380-420 V	50 Hz	3.00	1.50
	3x220-240 V	50 Hz	5.20	1.50
	3x440-480 V	60 Hz	2.90	1.75
	3x250-280 V	60 Hz	5.00	1.75
LAK 4225A-B-C	3x380-420 V	50 Hz	5.80	2.70
	3x220-240 V	50 Hz	10.00	2.70
	3x440-480 V	60 Hz	5.80	3.00
	3x250-280 V	60 Hz	10.00	3.00
LAK 4250A-B-C	3x380-420 V	50 Hz	8.40	4.00
	3x220-240 V	50 Hz	14.50	4.00
	3x440-480 V	60 Hz	10.40	5.50
	3x250-280 V	60 Hz	18.00	5.50
LAK 4280A-B-C	3x380-420 V	50 Hz	10.50	5.50
	3x220-240 V	50 Hz	18.20	5.50
	3x440-480 V	60 Hz	14.50	7.50
	3x250-280 V	60 Hz	25.20	7.50

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 is 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 or series winding can be supplied on request.
Motors with compound or series winding may have nominal data which differ from those shown in the output lists.
Compensation winding for LAK 4280 on request.

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
LAK 4112 – 4280:
Motors indicated with the sign # in the output data lists are available from stock and can be delivered promptly.

LAK 4200 – 4280:
Delivery time for motors with sign ## in the output data list is 3 weeks (ex. works).
For motors frames 4200 – 4280 in stock please contact our sales offices.

Cont. output (kW)	Base speed (min-1) at armature voltage (V)					Rated armature current (A)	Torque (Nm)	Max. elec. speed** (min-1)	Efficiency (%)	Armature circuit		Code number 153
	260	400	440	460	500					Resistance (Ohm)	Inductance (mH)	
6.7		1325				21.0	47.9	1655	75.1	3.258	40.75	201-NA
7.5			1485			21.0	47.9	1655	76.9	3.258	40.75	201-NA
7.9				1571		21.0	47.9	1655	78.0	3.258	40.75	201-NA
8.0					1740	19.2	43.8	1810	80.1	3.258	40.75	201-NA
7.1		1445				22.0	47.1	1795	76.8	2.776	35.80	201-MA
8.6			1615			22.0	47.0	1795	78.5	2.776	35.80	201-MA
8.4				1708		22.0	47.0	1795	79.5	2.776	35.80	201-MA
8.5					1885	20.1	43.1	1960	81.3	2.776	35.80	201-MA
4.6	920					24.0	48.0	1890	68.9	2.416	31.20	201-LA
7.8		1565				24.0	47.9	1890	77.9	2.416	31.20	201-LA
8.8			1745			24.0	47.9	1890	79.5	2.416	31.20	201-LA
9.2				1850		24.0	47.9	1890	80.1	2.416	31.20	201-LA
9.1					2034	21.4	42.8	2115	81.9	2.416	31.20	201-LA
4.9	1010					25.0	46.3	2105	70.2	2.174	26.90	201-KA
8.2		1700				25.0	46.3	2105	78.8	2.174	26.90	201-KA
9.2			1900			25.0	46.3	2105	80.2	2.174	26.90	201-KA
9.7				2006		25.0	46.3	2105	81.2	2.174	26.90	201-KA
9.8					2207	22.9	42.4	2295	82.5	2.174	26.90	201-KA
5.5	1120					27.5	47.0	2435	72.5	1.783	22.90	201-JA
9.2		1870				27.5	47.0	2435	80.3	1.783	22.90	201-JA
10.3			2085			27.5	47.0	2435	81.7	1.783	22.90	201-JA
10.0				2197		27.5	47.0	2435	82.5	1.783	22.90	201-JA
11.5					2418	26.6	45.5	2515	83.7	1.783	22.90	201-JA
6.1	1240					30.0	46.7	2655	73.8	1.549	19.25	201-IA
10.1		2060				30.0	46.6	2655	81.2	1.549	19.25	201-IA
11.2			2295			30.0	46.6	2655	82.5	1.549	19.25	201-IA
11.7				2417		30.0	46.6	2655	83.3	1.549	19.25	201-IA
12.4					2654	28.8	44.8	2760	84.4	1.549	19.25	201-IA
6.8	1390					33.0	46.7	2920	75.7	1.275	15.90	201-HA
11.2		2295				33.0	46.6	2920	82,5	1.275	15.90	201-HA
12.4			2550			33.0	46.6	2920	83.6	1.275	15.90	201-HA
13.1				2687		33.0	46.6	2920	84.4	1.275	15.90	201-HA
13.7					2947	31.4	44.3	3065	85.4	1.275	15.90	201-HA
8.2	1575					39.0	50.0	2975	77.9	0.973	12.90	201-GA
13.5		2575				39.0	49.9	2975	84.0	0.973	12.90	201-GA
14.9			2860			39.0	49.9	2975	85.0	0.973	12.90	201-GA
15.2				3014		37.7	48.2	3080	85.7	0.973	12.90	201-GA
9.4	1800					44.0	49.9	3425	79.7	0.772	10.20	201-FA
15.3		2930				44.0	49.8	3425	85.2	0.772	10.20	201-FA
17.0			3250			44.0	49.8	3425	86.1	0.772	10.20	201-FA
17.4				3426		43.0	48.7	3500	86.7	0.772	10.20	201-FA
11.2	2100					51.0	51.0	3855	81.8	0.573	7.80	201-EA
18.0		3390				51.0	50.8	3855	86.6	0.573	7.80	201-EA
20.0			3760			51.0	50.8	3855	87.3	0.573	7.80	201-EA
13.4	2495					60.0	51.3	4460	83.5	0.425	5.75	201-DA
21.4		4000				60.0	51.1	4460	87.7	0.425	5.75	201-DA
15.9	3055					70.0	49.8	5000	85.4	0.298	4.00	201-CA

** Through field control with constant output. Please specify.

Field loss (hot) = 625 W

	Cont. output (kW)	Base speed (min-1) at armature voltage (V) 260	400	440	460	500	Rated armature current (A)	Torque (Nm)	Max. elec. speed** (min-1)	Effici-ency (%)	Armature circuit Resist-ance (Ohm)	Induc-tance (mH)	Code number 153
	7.9		1160				25.0	65.2	1545	75.0	2.679	32.75	101-KA
	8.9			1300			25.0	65.2	1545	76.8	2.679	32.75	101-KA
	9.4				1375		25.0	65.2	1545	77.9	2.679	32.75	101-KA
	8.9		1280				27.5	66.2	1790	76.9	2.196	27.90	101-JA
	9.9			1435			27.5	66.2	1790	78.5	2.196	27.90	101-JA
	10.5				1512		27.5	66.2	1790	79.6	2.196	27.90	101-JA
	12.5					1668	27.5	66.2	1790	81.0	2.196	27.90	101-JA
	9.8		1410				30.0	66.2	1950	77.9	1.908	23.45	101-IA
#	10.9			1575			30.0	66.1	1950	79.5	1.908	23.45	101-IA
	11.5				1712		30.0	66.1	1950	80.4	1.908	23.45	101-IA
	12.7					1837	30.0	66.1	1950	81.8	1.908	23.45	101-IA
	10.9		1575				33.0	66.2	2145	79.5	1.569	19.40	101-HA
	12.2			1760			33.0	66.1	2145	80.9	1.569	19.40	101-HA
	12.8				1855		33.0	66.1	2145	81.7	1.569	19.40	101-HA
	14.1					2043	33.0	66.1	2145	83.0	1.569	19.40	101-HA
	7.9	1070					39.0	70.6	2240	74.0	1.195	15.70	101-GA
	13.1		1790				39.0	70.5	2240	81.3	1.195	15.70	101-GA
	14.6			1980			39.0	70.5	2240	82.6	1.195	15.70	101-GA
	15.4				2090		39.0	70.4	2240	83.3	1.195	15.70	101-GA
#	9.1	1230					44.0	70.8	2515	76.2	0.947	12.40	101-FA
	15.0		2030				44.0	70.6	2515	82.8	0.947	12.40	101-FA
	16.7			2255			44.0	70.6	2515	83.9	0.947	12.40	101-FA
	17.5				2373		44.0	70.6	2515	84.6	0.947	12.40	101-FA
#	10.9	1445					51.0	71.8	2835	78.7	0.708	9.50	101-EA
	17.7		2355				51.0	71.6	2835	84.4	0.708	9.50	101-EA
	19.6			2615			51.0	71.6	2835	85.3	0.708	9.50	101-EA
#	13.0	1720					60.0	72.2	3280	80.7	0.526	7.00	101-DA
	21.0		2785				60.0	72.0	3280	85.7	0.526	7.00	101-DA
	23.3			3085			60.0	72.0	3280	87.0	0.526	7.00	101-DA
	15.5	2115					70.0	70.2	4050	83.0	0.368	4.85	101-CA
	24.8		3390				70.0	69.9	4050	87.1	0.368	4.85	101-CA
	27.5			3755			70.0	69.8	4050	87.8	0.368	4.85	101-CA
	18.6	2705					82.0	65.5	5000	84.9	0.251	3.10	101-BA
	29.3		4300				82.0	65.2	5000	88.1	0.251	3.10	101-BA
	32.4			4755			82.0	65.1	5000	88.6	0.251	3.10	101-BA
	23.0	3690					100.0	59.5	5000	86.7	0.149	1.75	101-AA

** Through field control with constant output. Please specify.

Field loss (hot) = 740 W

Data subject to change without prior notice.

	Cont. output (kW)	Base speed (min-1) at armature voltage (V) 260	400	440	460	500	Rated armature current (A)	Torque (Nm)	Max. elec. speed** (min-1)	Efficiency (%)	Armature circuit Resistance (Ohm)	Inductance (mH)	Code number 156
	7.7		690				27.5	107	1250	65.6	4.01	60.30	341-AB
	8.8			785			27.5	107	1250	68.3	4.01	60.30	341-AB
	9.4				837		27.5	107	1250	70.0	4.01	60.30	341-AB
	10.4					942	27.0	105	1250	72.8	4.01	60.30	341-AB
	9.1		820				31.0	106	1410	69.0	3.16	46.20	341-BB
	10.3			930			31.0	106	1410	71.4	3.16	46.20	341-BB
	11.0				993		31.0	105	1410	73.0	3.16	46.20	341-BB
	12.0					1111	30.5	104	1410	75.5	3.16	46.20	341-BB
	5.9	555					35.0	102	1750	60.1	2.41	33.90	341-CB
	10.7		1000				35.0	102	1750	72.5	2.41	33.90	341-CB
	12.1			1130			35.0	102	1750	74.7	2.41	33.90	341-CB
	12.8				1199		35.0	102	1750	76.0	2.41	33.90	341-CB
	14.0					1337	34.4	100	1750	78.2	2.41	33.90	341-CB
	7.9	720					43.0	105	2000	66.2	1.61	23.60	341-DB
	13.8		1260				43.0	105	2000	76.7	1.61	23.60	341-DB
	15.4			1410			43.0	105	2000	78.5	1.61	23.60	341-DB
	16.3				1493		43.0	105	2000	79.6	1.61	23.60	341-DB
	17.8					1654	42.3	103	2000	81.4	1.61	23.60	341-DB
#	9.4	835					49.0	107	2160	69.5	1.26	19.40	341-EB
	16.0		1430				49.0	107	2160	78.9	1.26	19.40	341-EB
	18.0			1600			49.0	107	2160	80.5	1.26	19.40	341-EB
	19.0				1693		49.0	107	2160	81.5	1.26	19.40	341-EB
	20.7					1870	48.2	105	2160	83.1	1.26	19.40	341-EB
	10.2	980					51.0	99.0	2630	72.6	1.04	15.30	341-FB
	17.1		1650				51.0	99.1	2630	80.9	1.04	15.30	341-FB
	19.1			1840			51.0	99.1	2630	82.3	1.04	15.30	341-FB
	20.2				1943		51.0	99.0	2630	83.2	1.04	15.30	341-FB
	21.8					2144	50.2	97.4	2630	84.6	1.04	15.30	341-FB
#	12.7	1150					62.0	106	2920	75.4	0.77	11.80	341-GB
	21.2		1915				62.0	105	2920	82.8	0.77	11.80	341-GB
	23.6			2135			62.0	105	2920	84.1	0.77	11.80	341-GB
	24.9				2251		62.0	105	2920	84.9	0.77	11.80	341-GB
	26.8					2481	61.0	104	2920	86.1	0.77	11.80	341-GB
	14.5	1380					69.0	100	3750	77.6	0.61	8.70	341-HB
	23.9		2270				69.0	101	3750	84.3	0.61	8.70	341-HB
	26.6			2525			69.0	100	3750	85.4	0.61	8.70	341-HB
	27.3				2662		69.0	100	3750	86.1	0.61	8.70	341-HB
	30.2					2923	67.9	98.7	3750	87.2	0.61	8.70	341-HB
	16.2	1725					74.0	89.7	4000	81.1	0.45	5.03	341-KB
	26.2		2795				74.0	89.6	4000	86.4	0.45	5.03	341-KB
	29.1			3100			74.0	89.4	4000	87.3	0.45	5.03	341-KB
	30.5				3264		74.0	89.4	4000	87.8	0.45	5.03	341-KB
	32.9					3572	72.8	87.9	4000	88.7	0.45	5.03	341-KB
	22.6	2220					97.0	100	4000	84.3	0.26	3.20	331-GB
	36.1		3560				96.8	100	4000	88.5	0.26	3.20	331-GB
	39.9			3945			96.7	100	4000	89.3	0.26	3.20	331-GB

** Through field control with constant output. Please specify.

Field loss (hot) = 750 W

Data subject to change without prior notice.

Cont. output (kW)	Base speed (min^{-1}) at armature voltage (V) 260	400	440	460	500	Rated armature current (A)	Torque (Nm)	Max. elec. speed** (min^{-1})	Efficiency (%)	Armature circuit Resistance (Ohm)	Armature circuit Inductance (mH)	Code number 156
10.2		730				35.0	133	1200	68.8	2.81	42.0	241-AB
11.6			830			35.0	133	1200	71.3	2.81	42.0	241-AB
12.3				881		35.0	133	1200	72.8	2.81	42.0	241-AB
13.6					990	34.4	131	1200	75.4	2.81	42.0	241-AB
7.4	515					43.0	137	1410	61.6	1.88	29.2	241-BB
13.3		930				43.0	137	1410	73.6	1.88	29.2	241-BB
15.0			1045			43.0	137	1410	75.7	1.88	29.2	241-BB
15.9				1106		43.0	137	1410	77.0	1.88	29.2	241-BB
17.3					1236	42.3	134	1410	79.1	1.88	29.2	241-BB
8.9	605					49.0	140	1520	65.6	1.46	23.6	241-CB
15.6		1060				49.0	140	1520	76.2	1.46	23.6	241-CB
17.5			1190			49.0	140	1520	78.1	1.46	23.6	241-CB
18.5				1258		49.0	140	1520	79.2	1.46	23.6	241-CB
20.2					1399	48.2	138	1520	81.1	1.46	23.6	241-CB
9.7	715					51.0	130	1860	69.0	1.22	18.7	241-DB
16.7		1230				51.0	130	1860	78.5	1.22	18.7	241-DB
18.6			1375			51.0	130	1860	80.1	1.22	18.7	241-DB
19.7				1449		51.0	130	1860	81.1	1.22	18.7	241-DB
21.4					1606	50.2	127	1860	82.8	1.22	18.7	241-DB
12.2	845					62.0	138	2050	72.2	0.89	14.2	241-EB
20.7		1430				62.0	138	2050	80.7	0.89	14.2	241-EB
23.1			1595			62.0	138	2050	82.2	0.89	14.2	241-EB
24.4				1683		62.0	138	2050	83.1	0.89	14.2	241-EB
26.4					1861	61.0	136	2050	84.5	0.89	14.2	241-EB
# 14.0	1015					69.0	132	2500	74.8	0.71	10.5	241-FB
23.4		1700				69.0	132	2500	82.4	0.71	10.5	241-FB
26.1			1895			69.0	132	2500	83.7	0.71	10.5	241-FB
27.5				1997		69.0	132	2500	84.5	0.71	10.5	241-FB
29.8					2202	67.9	129	2500	85.8	0.71	10.5	241-FB
15.8	1285					74.0	118	3350	78.8	0.52	7.3	241-GB
25.8		2100				74.0	118	3350	84.9	0.52	7.3	241-GB
28.7			2335			74.0	117	3350	86.0	0.52	7.3	241-GB
30.1				2461		74.0	117	3350	86.6	0.52	7.3	241-GB
32.6					2697	72.8	115	3350	87.6	0.52	7.3	241-GB
# 22.1	1665					100	127	3900	82.5	0.30	4.6	241-HB
35.7		2690				100	127	3900	87.4	0.30	4.6	241-HB
39.6			2980			100	127	3900	88.2	0.30	4.6	241-HB
41.6				3132		100	127	3900	88.7	0.30	4.6	241-HB
44.7					3433	98.3	125	3900	89.5	0.30	4.6	241-HB
27.7	2280					122	116	4000	85.1	0.19	2.6	231-HB
44.1		3645				122	116	4000	88.9	0.19	2.6	231-HB

** Through field control with constant output. Please specify.

Field loss (hot) = 830 W

Data subject to change without prior notice.

	Cont. output (kW)	Base speed (min^{-1}) at armature voltage (V) 260	400	440	460	500	Rated armature current (A)	Torque (Nm)	Max. elec. speed** (min^{-1})	Efficiency (%)	Armature circuit Resistance (Ohm)	Inductance (mH)	Code number 156
	11.8		765				38.5	148	1460	72.0	2.14	35.00	141-AB
	13.3			860			38.5	148	1460	74.2	2.14	35.00	141-AB
	14.1				910		38.5	148	1460	75.5	2.14	35.00	141-AB
	16.1					1019	37.9	145	1460	77.7	2.14	35.00	141-AB
	7.7	495					43.0	149	1610	63.5	1.69	29.00	141-BB
	13.6		875				43.0	149	1610	74.7	1.69	29.00	141-BB
	15.3			980			43.0	149	1610	76.7	1.69	29.00	141-BB
	16.1				1037		43.0	149	1610	77.9	1.69	29.00	141-BB
	17.7					1154	42.3	146	1610	79.8	1.69	29.00	141-BB
	9.0	580					42.3	148	1830	66.8	1.35	23.00	141-CB
	15.5		1000				48.0	148	1830	76.9	1.35	23.00	141-CB
	17.4			1125			48.0	148	1830	78.7	1.35	23.00	141-CB
	18.4				1189		48.0	148	1830	79.8	1.35	23.00	141-CB
	20.0					1317	47.2	146	1830	81.6	1.35	23.00	141-CB
	10.7	690					55.0	148	2080	70.0	1.05	17.00	141-DB
	18.2		1170				55.0	148	2080	79.1	1.05	17.00	141-DB
	20.3			1310			55.0	148	2080	80.7	1.05	17.00	141-DB
	21.4				1385		55.0	148	2080	81.4	1.05	17.00	141-DB
	23.3					1528	54.1	146	2080	83.2	1.05	17.00	141-DB
#	13.0	825					65.0	150	2470	72.7	0.80	13.00	141-EB
	21.9		1390				65.0	150	2470	81.0	0.80	13.00	141-EB
	24.4			1550			65.0	150	2470	82.4	0.80	13.00	141-EB
	25.7				1639		65.0	150	2470	83.3	0.80	13.00	141-EB
	27.9					1803	63.9	148	2470	84.7	0.80	13.00	141-EB
#	16.2	1045					77.0	148	3000	77.3	0.53	9.00	141-FB
	26.7		1720				77.0	148	3000	84.0	0.53	9.00	141-FB
	29.7			1915			77.0	148	3000	85.1	0.53	9.00	141-FB
	31.2				2016		77.0	148	3000	85.8	0.53	9.00	141-FB
	33.7					2216	75.7	145	3000	86.9	0.53	9.00	141-FB
#	21.6	1365					98.0	151	3780	81.5	0.32	6.00	141-GB
	34.9		2215				98.0	151	3780	86.8	0.32	6.00	141-GB
	38.7			2455			98.0	151	3780	87.7	0.32	6.00	141-GB
	40.6				2579		98.0	151	3780	88.2	0.32	6.00	141-GB
	43.7					2827	96.4	148	3780	89.1	0.32	6.00	141-GB
	25.7	1880					114	131	4000	84.3	0.21	3.00	141-HB
	41.0		3010				114	130	4000	88.4	0.21	3.00	141-HB
	45.4			3330			114	130	4000	89.1	0.21	3.00	141-HB
	47.6				3494		114	130	4000	89.4	0.21	3.00	141-HB
	51.2					3827	112	128	4000	90.1	0.21	3.00	141-HB

** Through field control with constant output. Please specify.

Field loss (hot) = 1000 W

Data subject to change without prior notice.

Cont. output (kW)	Base speed (min-1) at armature voltage (V) 260	400	440	460	500	Rated armature current (A)	Torque (Nm)	Max. elec. speed** (min-1)	Efficiency (%)	Armature circuit Resistance (Ohm)	Armature circuit Inductance (mH)	Code number 156
11.7		465				43.0	242	920	65.2	2.74	44.5	401-AB
13.4			530			43.0	242	920	68.0	2.74	44.5	401-AB
14.4				568		43.0	242	920	69.8	2.74	44.5	401-AB
16.0					639	42.2	237	920	72.6	2.74	44.5	401-AB
13.5		545				47.0	238	1040	68.9	2.17	36.1	401-BB
15.4			620			47.0	238	1040	71.4	2.17	36.1	401-BB
16.4				661		47.0	238	1040	73.0	2.17	36.1	401-BB
18.1					740	46.2	234	1040	75.6	2.17	36.1	401-BB
15.3		635				51.0	229	1210	71.8	1.78	28.5	401-CB
17.3			720			51.0	229	1210	74.0	1.78	28.5	401-CB
18.4				763		51.0	229	1210	75.5	1.78	28.5	401-CB
20.2					856	50.1	225	1210	77.7	1.78	28.5	401-CB
10.3	415					60.0	236	1345	62.7	1.36	21.8	401-DB
18.5		750				60.0	236	1345	74.4	1.36	21.8	401-DB
20.9			845			60.0	236	1345	76.5	1.36	21.8	401-DB
22.1				896		60.0	236	1345	77.8	1.36	21.8	401-DB
24.2					1000	59.0	232	1345	79.9	1.36	21.8	401-DB
12.5	515					69.0	233	1645	66.8	1.03	16.0	401-EB
22.0		900				69.0	233	1645	77.2	1.03	16.0	401-EB
24.7			1010			69.0	233	1645	79.0	1.03	16.0	401-EB
26.1				1071		69.0	233	1645	80.1	1.03	16.0	401-EB
28.5					1192	67.8	229	1645	81.9	1.03	16.0	401-EB
16.5	660					85.0	239	1920	72.0	0.69	11.1	401-FB
28.2		1125				85.0	239	1920	80.8	0.69	11.1	401-FB
31.5			1260			85.0	239	1920	82.5	0.69	11.1	401-FB
33.3				1331		85.0	239	1920	83.2	0.69	11.1	401-FB
36.1					1466	83.5	235	1920	84.6	0.69	11.1	401-FB
20.9	895					99.0	223	2575	78.3	0.42	7.1	401-GB
34.4		1475				99.0	223	2575	84.9	0.42	7.1	401-GB
38.3			1645			99.0	223	2575	86.0	0.42	7.1	401-GB
40.3				1732		99.0	223	2575	86.8	0.42	7.1	401-GB
43.5					1899	97.3	219	2575	87.8	0.42	7.1	401-GB
26.8	1235					123	207	3000	81.3	0.28	4.0	401-HB
43.5		2010				123	207	3000	86.8	0.28	4.0	401-HB
48.3			2230			123	207	3000	87.8	0.28	4.0	401-HB
50.8				2344		123	207	3000	88.4	0.28	4.0	401-HB
54.7					2567	121	203	3000	89.2	0.28	4.0	401-HB

** Through field control with constant output. Please specify.

Field loss (hot) = 1350 W

Cont. output (kW)	Base speed (min-1) at armature voltage (V) 400	440	460	500	Rated armature current (A)	Torque (Nm)	Max. elec. speed** (min-1)	Efficiency (%)	Armature circuit: Resistance (Ohm)	Armature circuit: Inductance (mH)	Code number 157
12.4	650				41.0	182	980	71.2	2.14	33.6	301-RC
14.0		735			41.0	182	980	73.5	2.14	33.6	301-RC
15.0			783		41.0	182	980	75.0	2.14	33.6	301-RC
16.3				870	40.3	179	980	77.3	2.14	33.6	301-RC
14.0	735				45.0	182	1050	73.5	1.75	28.2	301-PC
15.7		825			45.0	182	1050	75.5	1.75	28.2	301-PC
16.6			871		45.0	182	1050	76.8	1.75	28.2	301-PC
18.3				971	44.3	179	1050	78.9	1.75	28.2	301-PC
15.9	825				50.0	185	1205	75.7	1.44	23.3	301-NC
17.9		925			50.0	185	1205	77.6	1.44	23.3	301-NC
18.0			979		50.0	185	1205	78.8	1.44	23.3	301-NC
20.7				1087	49.2	182	1205	80.7	1.44	23.3	301-NC
18.2	935				56.0	186	1400	77.6	1.17	18.9	301-MC
20.4		1045			56.0	186	1400	79.3	1.17	18.9	301-MC
21.5			1106		56.0	186	1400	80.5	1.17	18.9	301-MC
23.5				1226	55.1	183	1400	82.2	1.17	18.9	301-MC
20.9	1075				63.0	186	1575	79.8	0.92	14.9	301-LC
23.4		1200			63.0	186	1575	81.4	0.92	14.9	301-LC
24.8			1267		63.0	186	1575	82.4	0.92	14.9	301-LC
26.8				1399	62.0	183	1575	83.9	0.92	14.9	301-LC
24.3	1245				72.0	187	1850	81.5	0.72	11.5	301-KC
27.1		1390			72.0	187	1850	82.9	0.72	11.5	301-KC
28.7			1468		72.0	187	1850	83.9	0.72	11.5	301-KC
31.1				1615	70.8	183	1850	85.3	0.72	11.5	301-KC
29.5	1490				85.0	189	2125	84.1	0.50	8.4	301-HC
32.8		1660			85.0	189	2125	85.3	0.50	8.4	301-HC
34.5			1747		85.0	189	2125	86.0	0.50	8.4	301-HC
37.3				1923	83.6	186	2125	87.2	0.50	8.4	301-HC
# 36.1	1830				102	189	2470	86.2	0.35	5.9	301-GC
40.1		2030			102	189	2470	87.2	0.35	5.9	301-GC
42.0			2134		102	189	2470	87.9	0.35	5.9	301-GC
45.5				2346	100	185	2590	88.9	0.35	5.9	301-GC
45.8	2330				127	188	3325	88.4	0.22	3.8	301-FC
50.8		2580			127	188	3325	89.2	0.22	3.8	301-FC
53.3			2711		127	188	3325	89.7	0.22	3.8	301-FC
57.4				2971	124	185	3325	90.5	0.22	3.8	301-FC
61.0	3165				166	184	3500	90.4	0.13	2.1	301-EC

** Through field control with constant output. Please specify.

Field loss (hot) = 1050 W

Data subject to change without prior notice.

Cont. output (kW)	Base speed (min^{-1}) at armature voltage (V) 400	440	460	500	Rated armature current (A)	Torque (Nm)	Max. elec. speed** (min^{-1})	Efficiency (%)	Armature circuit Resistance (Ohm)	Inductance (mH)	Code number 157
14.8	680				47.0	208	1080	75.4	1.59	26.3	601-RC
16.7		765			47.0	208	1080	77.3	1.59	26.3	601-RC
17.6			812		47.0	208	1080	78.6	1.59	26.3	601-RC
19.3				899	46.2	205	1080	80.5	1.59	26.3	601-RC
16.4	755				51.0	207	1180	76.9	1.36	22.1	601-PC
18.4		845			51.0	207	1180	78.7	1.36	22.1	601-PC
19.5			935		51.0	207	1180	79.5	1.36	22.1	601-PC
21.2				995	50.1	204	1180	81.7	1.36	22.1	601-PC
18.7	845				57.0	211	1280	78.9	1.12	18.3	601-NC
20.9		950			57.0	211	1280	80.5	1.12	18.3	601-NC
22.1			1003		57.0	211	1280	81.6	1.12	18.3	601-NC
23.9				1106	56.0	207	1280	83.0	1.12	18.3	601-NC
20.9	955				63.0	210	1430	80.3	0.92	14.9	601-MC
23.4		1065			63.0	210	1430	81.9	0.92	14.9	601-MC
24.8			1125		63.0	210	1430	82.8	0.92	14.9	601-MC
26.8				1245	61.9	206	1430	84.3	0.92	14.9	601-MC
24.4	1095				72.0	213	1580	82.3	0.71	11.7	601-LC
27.3		1220			72.0	213	1580	83.7	0.71	11.7	601-LC
28.8			1287		72.0	213	1580	84.6	0.71	11.7	601-LC
31.2				1418	70.8	210	1580	85.9	0.71	11.7	601-LC
28.5	1275				82.5	214	1800	84.1	0.54	9.0	601-KC
31.7		1420			82.5	214	1800	85.3	0.54	9.0	601-KC
33.4			1493		82.5	214	1800	86.1	0.54	9.0	601-KC
36.2				1644	81.1	210	1800	87.3	0.54	9.0	601-KC
34.1	1515				97.0	215	2100	86.0	0.40	6.6	601-HC
37.9		1680			97.0	215	2100	87.0	0.40	6.6	601-HC
39.8			1767		97.0	215	2100	87.7	0.40	6.6	601-HC
43.0				1942	95.3	212	2100	88.7	0.40	6.6	601-HC
41.1	1845				115	213	2550	87.7	0.28	4.6	601-GC
45.6		2050			115	213	2550	88.6	0.28	4.6	601-GC
48.0			2153		115	213	2550	89.2	0.28	4.6	601-GC
51.7				2365	113	209	2550	90.1	0.28	4.6	601-GC
52.5	2350				144	213	3170	89.7	0.18	2.9	601-FC
58.1		2605			144	213	3170	90.5	0.18	2.9	601-FC
61.0			2736		144	213	3170	90.9	0.18	2.9	601-FC
65.0				2995	140	207	3170	91.6	0.18	2.9	601-FC
70.0	3190				189	210	3500	91.6	0.10	1.7	601-EC

** Through field control with constant output. Please specify.

Field loss (hot) = 1050 W

	Cont. output (kW)	Base speed (min^{-1}) at armature voltage (V) 400	440	460	500	Rated armature current (A)	Torque (Nm)	Max. elec. speed** (min^{-1})	Efficiency (%)	Armature circuit Resistance (Ohm)	Inductance (mH)	Code number 157
	15.4	620				50.0	237	925	72.5	1.64	28.30	201-NC
	17.4		700			50.0	237	925	74.7	1.64	28.30	201-NC
	18.4			744		50.0	237	925	76.0	1.64	28.30	201-NC
	20.2				827	50.0	233	925	78.2	1.64	28.30	201-NC
	17.6	710				56.0	238	1125	74.6	1.33	22.90	201-MC
	19.8		795			56.0	238	1125	76.6	1.33	22.90	201-MC
	21.0			842		56.0	238	1125	77.9	1.33	22.90	201-MC
	23.0				937	55.1	234	1125	79.9	1.33	22.90	201-MC
	20.4	815				63.0	239	1265	77.1	1.05	18.10	201-LC
	22.9		915			63.0	239	1265	78.9	1.05	18.10	201-LC
	24.2			969		63.0	239	1265	80.0	1.05	18.10	201-LC
	26.3				1072	62.0	235	1265	81.8	1.05	18.10	201-LC
	23.8	950				72.0	238	1490	79.1	0.83	13.85	201-KC
	26.6		1065			72.0	238	1490	80.7	0.83	13.85	201-KC
	28.1			1126		72.0	238	1490	81.7	0.83	13.85	201-KC
	30.5				1245	70.8	234	1490	83.3	0.83	13.85	201-KC
	28.9	1145				85.0	242	1690	82.0	0.58	10.20	201-HC
	32.2		1275			85.0	242	1690	83.4	0.58	10.20	201-HC
	34.0			1346		85.0	242	1690	84.3	0.58	10.20	201-HC
	36.8				1481	83.6	237	1690	85.6	0.58	10.20	201-HC
#	35.5	1410				102	241	2000	84.4	0.40	7.05	201-GC
	39.5		1565			102	241	2000	85.6	0.40	7.05	201-GC
	41.4			1644		102	241	2000	86.3	0.40	7.05	201-GC
	44.9				1812	100	237	2000	87.5	0.40	7.05	201-GC
	45.2	1800				127	240	2675	86.9	0.25	4.50	201-FC
	50.2		1995			127	240	2675	87.9	0.25	4.50	201-FC
	52.8			2099		127	240	2675	88.5	0.25	4.50	201-FC
	56.9				2298	125	236	2675	89.4	0.25	4.50	201-FC
	50.3	2030				140	237	2980	88.6	0.21	3.63	201-EB
	55.8		2250			140	237	2980	89.4	0.21	3.63	201-EB
	58.5			2360		140	237	2980	89.7	0.21	3.63	201-EB
	63.3				2585	138	233	2980	90.7	0.21	3.63	201-EB
#	60.4	2450				166	235	3500	89.2	0.15	2.55	201-EC
	66.8		2715			166	235	3500	90.0	0.15	2.55	201-EC
	70.0			2848		166	235	3500	90.4	0.15	2.55	201-EC
	75.3				3120	163	231	3500	91.1	0.15	2.55	201-EC
	73.5	2920				200	241	3500	91.0	0.09	1.85	201-CB
	79.5		3230			200	240	3500	91.5	0.09	1.85	201-CB
	83.7			3386		200	240	3500	91.8	0.09	1.85	201-CB

** Through field control with constant output. Please specify.

Field loss (hot) = 1250 W

Data subject to change without prior notice.

Cont. output (kW)	Base speed (min^{-1}) at armature voltage (V) 400	440	460	500	Rated armature current (A)	Torque (Nm)	Max. elec. speed** (min^{-1})	Efficiency (%)	Armature circuit Resistance (Ohm)	Inductance (mH)	Code number 157
18.1	640				57.0	270	1040	75.9	1.28	23.6	501-NC
20.3		720			57.0	270	1040	77.8	1.28	23.6	501-NC
21.5			763		57.0	270	1040	79.0	1.28	23.6	501-NC
23.5				846	56.0	265	1040	80.9	1.28	23.6	501-NC
20.4	725				63.0	269	1150	77.7	1.05	19.1	501-MC
22.9		815			63.0	269	1150	79.5	1.05	19.1	501-MC
24.2			861		63.0	269	1150	80.6	1.05	19.1	501-MC
26.3				957	61.9	264	1150	82.3	1.05	19.1	501-MC
23.9	840				72.0	273	1280	80.1	0.81	15.1	501-LC
26.8		935			72.0	273	1280	81.6	0.81	15.1	501-LC
28.3			989		72.0	273	1280	82.6	0.81	15.1	501-LC
30.7				1091	70.8	269	1280	84.1	0.81	15.1	501-LC
28.0	975				82.5	274	1450	82.1	0.62	11.6	501-KC
31.2		1090			82.5	274	1450	83.5	0.62	11.6	501-KC
33.0			1150		82.5	274	1450	84.4	0.62	11.6	501-KC
35.7				1264	81.1	269	1450	85.7	0.62	11.6	501-KC
33.6	1165				97.0	276	1680	84.3	0.45	8.5	501-HC
37.4		1295			97.0	276	1680	85.4	0.45	8.5	501-HC
39.4			1365		97.0	276	1680	86.2	0.45	8.5	501-HC
42.6				1500	95.3	271	1680	87.4	0.45	8.5	501-HC
40.6	1425				115	273	2050	86.3	0.32	5.9	501-GC
45.2		1585			115	273	2050	87.4	0.32	5.9	501-GC
47.5			1664		115	273	2050	88.0	0.32	5.9	501-GC
51.2				1832	113	268	2050	89.1	0.32	5.9	501-GC
52.0	1820				144	273	2550	88.6	0.20	3.8	501-FC
57.6		2015			144	273	2550	89.4	0.20	3.8	501-FC
60.5			2119		144	273	2550	90.0	0.20	3.8	501-FC
65.2				2322	142	268	2550	90.7	0.20	3.8	501-FC
55.8	2050				154	261	3110	89.4	0.18	2.9	501-EB
61.8		2270			154	261	3110	90.1	0.18	2.9	501-EB
64.8			2375		154	261	3110	90.7	0.18	2.9	501-EB
69.5				2600	151	256	3110	91.3	0.18	2.9	501-EB
69.5	2470				189	269	3420	90.7	0.12	2.1	501-EC
76.9		2735			189	269	3420	91.3	0.12	2.1	501-EC
80.6			2873		189	269	3420	91.7	0.12	2.1	501-EC
86.6				3139	186	264	3420	92.3	0.12	2.1	501-EC
77.9	2940				210	253	3500	91.6	0.09	1.5	501-CB
86.0		3250			210	253	3500	92.1	0.09	1.5	501-CB
90.2			3406		210	253	3500	92.4	0.09	1.5	501-CB

** Through field control with constant output. Please specify.

Field loss (hot) = 1250 W

Data subject to change without prior notice.

	Cont. output (kW)	Base speed (min^{-1}) at armature voltage (V) 400	440	460	500	Rated armature current (A)	Torque (Nm)	Max. elec. speed** (min^{-1})	Efficiency (%)	Armature circuit Resistance (Ohm)	Inductance (mH)	Code number 157
	19.6	605				63.0	310	1000	73.8	1.24	22.60	101-LC
	22.1		680			63.0	310	1000	75.9	1.24	22.60	101-LC
	23.5			724		63.0	310	1000	77.2	1.24	22.60	101-LC
	25.6				803	62.0	305	1000	77.2	1.24	22.60	101-LC
	23.0	710				72.0	310	1175	76.2	0.97	17.30	101-KC
	25.8		795			72.0	310	1175	78.0	0.97	17.30	101-KC
	27.3			842		72.0	310	1175	79.2	0.97	17.30	101-KC
	29.8				933	70.8	305	1175	82.0	0.97	17.30	101-KC
	28.2	860				85.0	313	1330	79.5	0.68	12.70	101-HC
	31.5		960			85.0	313	1330	81.1	0.68	12.70	101-HC
	33.3			1013		85.0	313	1330	82.1	0.68	12.70	101-HC
	36.1				1120	83.6	308	1330	83.7	0.68	12.70	101-HC
	34.7	1060				102	313	1565	82.3	0.48	8.85	101-GC
	38.7		1180			102	313	1565	83.6	0.48	8.85	101-GC
	40.7			1243		102	313	1565	84.5	0.48	8.85	101-GC
	44.1				1370	100	308	1565	85.8	0.48	8.85	101-GC
#	44.4	1360				127	312	2105	85.1	0.30	5.65	101-FC
	49.4		1510			127	312	2105	86.2	0.30	5.65	101-FC
	52.0			1590		127	312	2105	86.9	0.30	5.65	101-FC
	56.2				1745	125	307	2105	88.0	0.30	5.65	101-FC
	49.6	1540				140	308	2350	87.1	0.25	4.60	101-EB
	55.1		1710			140	308	2350	88.0	0.25	4.60	101-EB
	57.8			1790		140	308	2350	88.6	0.25	4.60	101-EB
	62.5				1965	138	302	2350	89.5	0.25	4.60	101-EB
#	59.6	1860				166	306	2815	87.9	0.18	3.20	101-EC
	66.1		2060			166	306	2815	88.7	0.18	3.20	101-EC
	69.4			2168		166	306	2815	89.3	0.18	3.20	101-EC
	74.7				2375	163	301	2815	90.1	0.18	3.20	101-EC
#	73.1	2220				200	314	3230	90.3	0.11	2.30	101-CB
	80.9		2460			200	314	3230	90.9	0.11	2.30	101-CB
	84.9			2579		200	314	3230	91.3	0.11	2.30	101-CB
	92.7				2822	200	314	3230	91.9	0.11	2.30	101-CB
#	86.4	2815				234	294	3500	91.4	0.08	1.50	101-BB
	95.5		3100			234	294	3500	91.9	0.08	1.50	101-BB
	98.1			3259		234	293	3500	92.3	0.08	1.50	101-BB

** Through field control with constant output. Please specify.

Field loss (hot) = 1400 W

Data subject to change without prior notice.

Cont. output (kW)	Base speed (min^{-1}) at armature voltage (V) 400	440	460	500	Rated armature current (A)	Torque (Nm)	Max. elec. speed** (min^{-1})	Efficiency (%)	Armature circuit: Resistance (Ohm)	Armature circuit: Inductance (mH)	Code number 157
23.2	620				72.0	357	990	77.7	0.95	19.6	401-LC
26.0		695			72.0	357	990	79.5	0.95	19.6	401-LC
27.6			739		72.0	357	990	80.6	0.95	19.6	401-LC
30.0				817	70.8	350	990	82.0	0.95	19.6	401-LC
27.2	725				82.5	358	1130	80.0	0.73	15.0	401-KC
30.5		815			82.5	358	1130	81.2	0.73	15.0	401-KC
32.2			861		82.5	358	1130	82.2	0.73	15.0	401-KC
34.9				952	81.1	351	1130	83.8	0.73	15.0	401-KC
32.9	870				97.0	361	1310	82.4	0.53	11.0	401-HC
36.6		970			97.0	361	1310	83.8	0.53	11.0	401-HC
38.7			1023		97.0	361	1310	84.7	0.53	11.0	401-HC
41.8				1130	95.3	354	1310	85.7	0.53	11.0	401-HC
39.9	1070				115	357	1590	84.8	0.37	7.6	401-GC
44.4		1190			115	357	1590	85.9	0.37	7.6	401-GC
46.8			1253		115	357	1590	86.7	0.37	7.6	401-GC
50.5				1380	113	350	1590	87.6	0.37	7.6	401-GC
51.3	1370				144	357	1985	87.5	0.24	4.9	401-FC
56.9		1525			144	357	1985	88.4	0.24	4.9	401-FC
59.8			1600		144	357	1985	89.0	0.24	4.9	401-FC
64.3				1755	142	350	1985	89.5	0.24	4.9	401-FC
55.0	1550				154	339	2450	88.0	0.21	4.0	401-EB
61.1		1720			154	339	2450	88.9	0.21	4.0	401-EB
64.0			1805		154	339	2450	89.4	0.21	4.0	401-EB
68.9				1975	151	333	2450	90.2	0.21	4.0	401-EB
68.8	1870				189	351	2690	89.8	0.14	2.8	401-EC
76.2		2075			189	351	2690	90.5	0.14	2.8	401-EC
80.0			2178		189	351	2690	90.9	0.14	2.8	401-EC
85.8				2380	186	344	2690	91.3	0.14	2.8	401-EC
77.4	2230				210	331	3480	90.8	0.10	2.0	401-CB
85.5		2465			210	331	3480	91.4	0.10	2.0	401-CB
89.7			2589		210	331	3480	91.8	0.10	2.0	401-CB
96.2				2827	207	325	3480	92.3	0.10	2.0	401-CB
92.6	2810				250	315	3500	91.6	0.07	1.3	401-BB
102		3105			250	315	3500	92.1	0.07	1.3	401-BB
107			3254		250	315	3500	92.4	0.07	1.3	401-BB

** Through field control with constant output. Please specify.

Field loss (hot) = 1400 W

Data subject to change without prior notice.

Cont. output (kW)	Base speed (min^{-1}) at armature voltage (V) 400	440	460	500	Rated armature current (A)	Torque (Nm)	Max. elec. speed** (min^{-1})	Efficiency (%)	Armature circuit: Resistance (Ohm)	Armature circuit: Inductance (mH)	Code number 157
21.8	410				72.0	508	715	72.2	1.21	29.0	701-LC
24.6		460			72.0	508	715	74.4	1.21	29.0	701-LC
26.1			489		72.0	508	715	75.8	1.21	29.0	701-LC
28.7				548	70.8	500	715	78.2	1.21	29.0	701-LC
25.8	485				82.5	509	815	75.0	0.94	22.2	701-KC
29.0		545			82.5	510	815	77.0	0.94	22.2	701-KC
30.8			577		82.5	510	815	78.3	0.94	22.2	701-KC
33.7				644	81.1	501	815	80.2	0.94	22.2	701-KC
31.4	585				97.0	514	945	78.2	0.69	16.3	701-HC
35.2		655			97.0	514	945	79.9	0.69	16.3	701-HC
37.2			690		97.0	514	945	81.0	0.69	16.3	701-HC
40.6				769	95.3	505	945	82.6	0.69	16.3	701-HC
38.5	725				115	508	1145	81.2	0.47	11.3	701-GC
43.0		810			115	508	1145	82.6	0.47	11.3	701-GC
45.3			851		115	508	1145	83.6	0.47	11.3	701-GC
49.3				947	113	499	1145	85.1	0.47	11.3	701-GC
49.9	935				144	509	1430	84.5	0.30	7.3	701-FC
55.5		1045			144	509	1430	85.7	0.30	7.3	701-FC
58.4			1096		144	509	1430	86.4	0.30	7.3	701-FC
63.3				1207	142	500	1430	87.6	0.30	7.3	701-FC
53.8	1060				154	487	1750	85.3	0.27	5.8	701-EB
59.8		1170			154	487	1750	86.4	0.27	5.8	701-EB
62.8			1235		154	487	1750	87.1	0.27	5.8	701-EB
67.7				1353	151	478	1750	88.2	0.27	5.8	701-EB
67.4	1290				189	500	1995	87.6	0.17	4.1	701-EC
74.9		1430			189	500	1995	88.5	0.17	4.1	701-EC
78.7			1502		189	500	1995	89.0	0.17	4.1	701-EC
84.7				1644	186	492	1995	89.8	0.17	4.1	701-EC
76.4	1540				210	473	2510	89.3	0.12	3.0	701-CB
84.6		1705			210	473	2510	90.0	0.12	3.0	701-CB
88.8			1791		210	473	2510	90.5	0.12	3.0	701-CB
95.5				1962	206	465	2510	91.2	0.12	3.0	701-CB
91.7	1945				250	450	2745	90.4	0.09	1.9	701-BB
101		2155			250	450	2745	91.0	0.09	1.9	701-BB
106			2261		250	450	2745	91.4	0.09	1.9	701-BB
114				2471	246	442	2745	91.9	0.09	1.9	701-BB

** Through field control with constant output. Please specify.

Field loss (hot) = 2000 W

	Cont. output (kW)	Base speed (min^{-1}) at armature voltage (V) 400	440	460	500	Rated armature current (A)	Torque (Nm)	Max. elec. speed** (min^{-1})	Efficiency (%)	Armature circuit Resistance (Ohm)	Inductance (mH)	Code number 159
	29.0	650				91.0	429	2300	78.7	0.73	15.7	101-RC
	33.0		730			91.0	429	2300	80.3	0.73	15.7	101-RC
	35.0			773		91.0	429	2300	81.4	0.73	15.7	101-RC
	38.0				865	90.0	422	2300	83.1	0.73	15.7	101-RC
	32.0	750				97.0	406	1500	80.2	0.63	12.4	101-PC
	36.0		840			97.0	406	1500	81.7	0.63	12.4	101-PC
	38.0			881		98.0	406	1500	82.7	0.63	12.4	101-PC
	41.0				981	95.0	407	1500	84.2	0.63	12.4	101-PC
	37.0	880				111	407	2730	82.4	0.47	9.5	101-NC
	42.0		980			111	407	2730	83.7	0.47	9.5	101-NC
	44.0			1037		111	400	2730	84.6	0.47	9.5	101-NC
	48.0				1144	109	396	2730	85.9	0.47	9.5	101-NC
	43.0	1040				126	396	3740	84.0	0.37	7.0	101-LC
	48.0		1160			126	396	3740	85.2	0.37	7.0	101-LC
	51.0			1223		126	396	3740	86.0	0.37	7.0	101-LC
	55.0				1346	124	389	3740	87.1	0.37	7.0	101-LC
	53.0	1280				152	398	3910	86.0	0.26	4.8	101-HC
	59.0		1420			152	398	3910	87.0	0.26	4.8	101-HC
	63.0			1497		152	398	3910	87.7	0.26	4.8	101-HC
	67.0				1635	149	391	3910	88.7	0.26	4.8	101-HC
	59.0	1400				166	400	2100	87.2	0.21	4.1	101-GB
	65.0		1560			166	400	2100	88.1	0.21	4.1	101-GB
	68.0			1644		166	400	2100	88.7	0.21	4.1	101-GB
	74.0				1798	163	393	2100	89.6	0.21	4.1	101-GB
#	69.0	1630				192	402	4500	88.2	0.16	3.1	101-FC
	76.0		1810			192	402	4500	89.1	0.16	3.1	101-FC
	80.0			1899		192	402	4500	89.6	0.16	3.1	101-FC
	87.0				2087	189	395	4500	90.4	0.16	3.1	101-FC
	75.0	1840				207	387	1950	89.0	0.13	2.5	101-EB
	79.0		2040			198	370	2040	89.9	0.13	2.5	101-EB
	77.0			2153		184	343	2200	90.6	0.13	2.5	101-EB
	76.0				2375	164	306	2470	91.3	0.13	2.5	101-EB
	89.0	2220				245	384	4500	90.2	0.10	1.7	101-DC
	99.0		2460			245	384	4500	90.8	0.10	1.7	101-DC
	104			2574		245	384	4500	91.2	0.10	1.7	101-DC
	116				2817	241	377	4500	91.9	0.10	1.7	101-DC
	110	2640				299	400	2660	91.4	0.06	1.3	101-CB
	111		2930			272	363	2930	92.1	0.06	1.3	101-CB
	109			3073		253	337	3140	92.5	0.06	1.3	101-CB
	112				3365	227	318	3500	92.9	0.06	1.3	101-CB
	137	3330				368	393	3390	92.4	0.04	0.8	101-BB
	139		3690			338	361	3960	92.9	0.04	0.8	101-BB
	136			3866		315	335	3950	93.2	0.04	0.8	101-BB
	134				4231	283	300	4400	93.5	0.04	0.8	101-BB

** Through field control with constant output. Please specify.

Field loss (hot) = 1560 W

Cont. output (kW)	Base speed (min-1) at armature voltage (V) 400	440	460	500	Rated armature current (A)	Torque (Nm)	Max. elec. speed** (min-1)	Efficiency (%)	Armature circuit Resistance (Ohm)	Inductance (mH)	Code number 159
29.0	545				91.0	506	1800	76.9	0.81	18.7	201-RC
32.0		610			91.0	506	1800	78.8	0.81	18.7	201-RC
34.0			646		91.0	506	1800	80.0	0.81	18.7	201-RC
37.0				721	90.0	497	1800	81.8	0.81	18.7	201-RC
31.0	625				97.0	479	1200	78.4	0.69	14.8	201-PC
35.0		700			97.0	479	1200	80.1	0.69	14.8	201-PC
37.0			739		97.0	479	1200	81.2	0.69	14.8	201-PC
40.0				822	95.0	471	1200	82.9	0.69	14.8	201-PC
37.0	735				111	480	2360	81.0	0.52	11.3	201-NC
41.0		820			111	480	2360	82.5	0.52	11.3	201-NC
43.0			866		111	480	2360	83.4	0.52	11.3	201-NC
47.0				957	109	472	2360	84.9	0.52	11.3	201-NC
43.0	875				126	467	3230	82.8	0.41	8.3	201-LC
48.0		975			126	467	3230	84.1	0.41	8.3	201-LC
50.0			1028		126	467	3230	85.0	0.41	8.3	201-LC
55.0				1130	124	459	3230	86.3	0.41	8.3	201-LC
53.0	1075				152	469	3390	85.1	0.28	5.8	201-HC
59.0		1195			152	469	3390	86.3	0.28	5.8	201-HC
62.0			1258		152	469	3390	87.0	0.28	5.8	201-HC
66.0				1385	149	461	3390	88.1	0.28	5.8	201-HC
58.0	1175				166	471	1700	86.1	0.24	4.9	201-GB
65.0		1310			166	471	1700	87.1	0.24	4.9	201-GB
69.0			1380		166	471	1700	87.8	0.24	4.9	201-GB
73.0				1514	163	463	1700	88.8	0.24	4.9	201-GB
# 68.0	1375				192	474	4200	87.87	0.17	3.7	201-FC
76.0		1530			192	474	4200	88.6	0.17	3.7	201-FC
80.0			1605		192	474	4200	89.2	0.17	3.7	201-FC
86.0				1760	189	456	4200	90.0	0.17	3.7	201-FC
74.0	1550				207	453	2500	88.3	0.15	3.0	201-EB
82.0		1720			207	457	2500	89.2	0.15	3.0	201-EB
86.0			1820		207	457	2500	89.9	0.15	3.0	201-EB
93.0				2000	205	452	2500	90.8	0.15	3.0	201-EB
89.0	1870				245	453	4500	89.5	0.11	2.1	201-DC
98.0		2070			245	453	4500	90.2	0.11	2.1	201-DC
103			2173		245	453	4500	90.7	0.11	2.1	201-DC
111				2380	241	445	4500	91.4	0.11	2.1	201-DC
110	2230				299	471	2300	91.0	0.07	1.5	201-CB
113		2470			278	438	2470	91.8	0.07	1.5	201-CB
109			2603		259	407	2660	92.2	0.07	1.5	201-CB
109				2846	232	364	2960	92.7	0.07	1.5	201-CB
136	2810				368	464	2930	92.0	0.05	1.0	201-BB
142		3110			346	436	3110	92.6	0.05	1.0	201-BB
140			3269		322	405	3340	92.9	0.05	1.0	201-BB
136				3577	289	363	3720	93.2	0.05	1.0	201-BB
168	3800				450	424	4000	93.0	0.03	0.5	201-AB

** Through field control with constant output. Please specify.

Field loss (hot) = 1700 W

	Cont. output (kW)	Base speed (min^{-1}) at armature voltage (V) 400	440	460	500	Rated armature current (A)	Torque (Nm)	Max. elec. speed** (min^{-1})	Effici-ency (%)	Armature circuit Resist-ance (Ohm)	Induc-tance (mH)	Code number 159
	31.0	490				101	613	900	75.6	0.69	18.1	301-PC
	35.0		550			101	613	900	77.6	0.69	18.1	301-PC
	37.0			587		101	613	900	78.8	0.69	18.1	301-PC
	41.0				649	99.0	603	900	80.8	0.69	18.1	301-PC
	38.0	575				117	621	1860	78.2	0.53	13.9	301-NC
	42.0		645			117	621	1860	80.0	0.53	13.9	301-NC
	45.0			685		117	621	1860	81.1	0.53	13.9	301-NC
	49.0				760	115	611	1860	82.8	0.53	13.9	301-NC
	44.0	690				132	601	2550	80.5	0.40	10.2	301-LC
	49.0		775			132	601	2550	82.1	0.40	10.2	301-LC
	52.0			817		132	601	2550	83.0	0.40	10.2	301-LC
	56.0				904	130	590	2550	84.6	0.40	10.2	301-LC
	54.0	850				159	603	2690	83.1	0.28	7.1	301-HC
	60.0		950			159	603	2690	84.4	0.28	7.1	301-HC
	64.0			1003		159	603	2690	85.2	0.28	7.1	301-HC
	68.0				1106	156	593	2690	86.5	0.28	7.1	301-HC
	60.0	940				174	607	1360	84.6	0.26	6.0	301-GB
	67.0		1050			174	607	1360	85.7	0.26	6.0	301-GB
	70.0			1106		174	607	1360	86.5	0.26	6.0	301-GB
	76.0				1216	171	597	1360	87.6	0.26	6.0	301-GB
	70.0	1100				201	610	3330	86.3	0.19	4.5	301-FC
	78.0		1225			201	610	3330	87.3	0.19	4.5	301-FC
	82.0			1292		201	610	3330	88.0	0.19	4.5	301-FC
	91.0				1418	198	599	3330	89.0	0.19	4.5	301-FC
	77.0	1240				218	591	1330	86.9	0.17	3.6	301-EB
	83.0		1380			211	571	1380	88.0	0.17	3.6	301-EB
	81.0			1468		195	528	1500	88.9	0.17	3.6	301-EB
	79.0				1615	173	469	1680	90.0	0.17	3.6	301-EB
#	93.0	1510				258	587	4500	88.7	0.12	2.5	301-DC
	103		1670			258	587	4500	89.5	0.12	2.5	301-DC
	108			1757		258	587	4500	90.0	0.12	2.5	301-DC
	116				1923	254	576	4500	90.7	0.12	2.5	301-DC
	115	1795				315	610	1810	90.1	0.08	1.8	301-CB
	116		2000			286	553	2000	91.0	0.08	1.8	301-CB
	113			2104		266	513	2150	91.6	0.08	1.8	301-CB
	111				2308	238	458	2400	92.2	0.08	1.8	301-CB
#	142	2270				386	598	2310	91.3	0.05	1.2	301-BB
	144		2520			354	547	2520	92.0	0.05	1.2	301-BB
	141			2652		329	508	2710	92.4	0.05	1.2	301-BB
	138				2904	295	454	3020	92.9	0.05	1.2	301-BB
	167	3080				450	521	4000	92.5	0.03	0.7	301-AB
	185		3400			450	521	4000	92.9	0.03	0.7	301-AB
	194			3563		450	520	4000	93.2	0.03	0.7	301-AB

** Through field control with constant output. Please specify.

Field loss (hot) = 1900 W

	Cont. output (kW)	Base speed (min^{-1}) at armature voltage (V) 400	440	460	500	Rated armature current (A)	Torque (Nm)	Max. elec. speed** (min^{-1})	Efficiency (%)	Armature circuit: Resistance (Ohm)	Armature circuit: Inductance (mH)	Code number 159
	33.0	450				105	688	1500	74.8	0.77	17.1	401-NC
	37.0		510			105	688	1500	76.8	0.77	17.1	401-NC
	39.0			538		105	688	1500	78.0	0.77	17.1	401-NC
	42.0				601	103	676	1500	80.0	0.77	17.1	401-NC
	40.0	545				125	702	2210	77.9	0.55	12.6	401-LC
	45.0		610			125	702	2210	79.6	0.55	12.6	401-LC
	48.0			646		125	702	2210	80.7	0.55	12.6	401-LC
	52.0				716	123	690	2210	82.5	0.55	12.6	401-LC
	51.0	680				152	712	2310	81.4	0.37	8.7	401-HC
	57.0		760			152	712	2310	82.8	0.37	8.7	401-HC
	59.0			803		152	712	2310	83.7	0.37	8.7	401-HC
	65.0				885	149	700	2310	85.2	0.37	8.7	401-HC
	53.0	760				155	668	1100	83.4	0.30	7.4	401-GB
	59.0		845			155	668	1100	84.6	0.30	7.4	401-GB
	63.0			891		155	668	1100	85.5	0.30	7.4	401-GB
	67.0				981	152	656	1100	86.7	0.30	7.4	401-GB
	64.0	875				187	701	2930	84.3	0.24	5.6	401-FC
	72.0		975			187	701	2930	85.5	0.24	5.6	401-FC
	75.0			1028		187	701	2930	86.3	0.24	5.6	401-FC
	82.0				1135	184	688	2930	87.4	0.24	5.6	401-FC
	68.0	1000				194	649	1300	86.0	0.19	4.5	401-EB
	76.0		1110			194	649	1300	87.0	0.19	4.5	401-EB
	79.0			1174		194	649	1340	87.6	0.19	4.5	401-EB
	85.0				1288	189	631	1340	88.6	0.19	4.5	401-EB
#	87.0	1210				246	691	4500	87.5	0.14	3.1	401-DC
	97.0		1340			246	691	4500	88.4	0.14	3.1	401-DC
	102			1409		246	691	4500	89.0	0.14	3.1	401-DC
	110				1548	242	679	4500	89.8	0.14	3.1	401-DC
	101	1445				280	669	1770	89.3	0.09	2.3	401-CB
	112		1605			280	669	1770	90.0	0.09	2.3	401-CB
	118			1683		280	669	1770	90.5	0.09	2.3	401-CB
	119				1851	257	614	1925	91.3	0.09	2.3	401-CB
#	126	1835				344	657	2250	90.7	0.06	1.5	401-BB
	140		2030			344	657	2250	91.3	0.06	1.5	401-BB
	147			2129		344	657	2250	91.6	0.06	1.5	401-BB
	149				2331	320	609	2425	92.2	0.06	1.5	401-BB
	166	2470				450	644	4000	91.8	0.04	0.8	401-AB
	184		2730			450	644	4000	92.3	0.04	0.8	401-AB
	193			2868		450	643	4000	92.5	0.04	0.8	401-AB
	207				3125	442	631	4000	92.9	0.04	0.8	401-AB

** Through field control with constant output. Please specify.

Field loss (hot) = 2280 W

Data subject to change without prior notice.

Cont. output (kW)	Base speed (min^{-1}) at armature voltage (V) 400	440	460	500	Rated armature current (A)	Torque (Nm)	Max. elec. speed** (min^{-1})	Efficiency (%)	Armature circuit Resistance (Ohm)	Inductance (mH)	Code number 159
49.0	570				148	815	1700	79.8	0.42	10.3	501-HC
54.0		635			148	815	1700	81.3	0.42	10.3	501-HC
58.0			587		148	815	1700	82.3	0.42	10.3	501-HC
63.0				745	146	801	1700	83.9	0.42	10.3	501-HC
54.0	630				162	820	920	81.3	0.34	8.7	501-GB
60.0		705			162	820	920	82.8	0.34	8.7	501-GB
64.0			744		162	820	920	83.7	0.34	8.7	501-GB
69.0				817	159	806	920	85.1	0.34	8.7	501-GB
62.0	735				181	795	2450	83.0	0.27	6.6	501-FC
69.0		820			181	795	2450	84.3	0.27	6.6	501-FC
72.0			851		181	795	2450	85.1	0.27	6.6	501-FC
78.0				952	178	783	2450	86.3	0.27	6.6	501-FC
70.0	835				202	790	1070	84.4	0.22	5.3	501-EB
77.0		930			202	790	1070	85.5	0.22	5.3	501-EB
81.0			979		202	790	1070	86.3	0.22	5.3	501-EB
87.0				1082	194	761	1125	87.5	0.22	5.3	501-EB
84.0	1020				239	789	3400	86.5	0.15	3.7	501-DC
94.0		1130			239	789	3400	87.5	0.15	3.7	501-DC
98.0			1189		239	789	3400	88.1	0.15	3.7	501-DC
106				1308	235	775	3400	89.0	0.15	3.7	501-DC
104	1215				292	821	1450	88.2	0.11	2.7	501-CB
116		1345			292	821	1450	89.0	0.11	2.7	501-CB
121			1414		292	821	1450	89.5	0.11	2.7	501-CB
120				1558	263	736	1620	90.5	0.11	2.7	501-CB
130	1545				358	805	3000	89.8	0.07	1.7	501-BB
144		1710			358	805	3000	90.4	0.07	1.7	501-BB
150			1796		358	805	3000	90.9	0.07	1.7	501-BB
150				1971	324	727	3000	91.6	0.07	1.7	501-BB
166	2100				450	757	3200	91.4	0.05	1.0	501-AB
183		2320			450	756	3200	91.9	0.05	1.0	501-AB
192			2427		450	756	3200	92.2	0.05	1.0	501-AB
206				2654	442	742	3200	92.6	0.05	1.0	501-AB

** Through field control with constant output. Please specify.

Field loss (hot) = 2400 W

	Cont. output (kW)	Base speed (min^{-1}) at armature voltage (V) 400	440	460	500	Rated armature current (A)	Torque (Nm)	Max. elec. speed** (min^{-1})	Efficiency (%)	Armature circuit Resistance (Ohm)	Inductance (mH)	Code number 159
	65.6	610				194	1024	1200	82.7	0.26	10.5	601-BF
	73.2		680			194	1024	1200	84.0	0.26	10.5	601-BF
	77.0			724		194	1024	1200	84.8	0.26	10.5	601-BF
	84.0				798	190	1007	1200	86.1	0.26	10.5	601-BF
	65.4	670				196	930	1050	81.7	0.29	8.5	601-FF
	73.0		750			196	930	1050	83.0	0.29	8.5	601-FF
	77.7			793		196	930	1050	83.9	0.29	8.5	601-FF
	84.0				875	192	914	1050	85.3	0.29	8.5	601-FF
	74.7	770				220	928	1200	83.3	0.22	6.8	601-EF
	83.2		860			220	927	1200	84.5	0.22	6.8	601-EF
	88.0			900		220	927	1200	85.3	0.22	6.8	601-EF
	95.0				1000	216	911	1200	86.5	0.22	6.8	601-EF
	89.9	880				255	977	1350	86.6	0.14	5.6	601-BD
	99.8		980			255	977	1350	87.6	0.14	5.6	601-BD
	105			1028		255	977	1350	88.2	0.14	5.6	601-BD
	113				1125	250	960	1350	89.1	0.14	5.6	601-BD
	103	1060				294	929	1700	86.5	0.13	3.8	601-CF
	114		1180			294	929	1700	87.4	0.13	3.8	601-CF
	120			1243		294	929	1700	88.0	0.13	3.8	601-CF
	130				1356	289	913	1700	88.9	0.13	3.8	601-CF
#	142	1310				394	1039	2500	89.7	0.06	2.6	601-AF
	158		1450			394	1039	2500	90.4	0.06	2.6	601-AF
	166			1527		394	1039	2500	90.8	0.06	2.6	601-AF
	179				1673	387	1021	2500	91.4	0.06	2.6	601-AF
#	174	1850				474	905	2800	91.4	0.05	1.4	601-AD
	193		2040			474	904	2800	91.9	0.05	1.4	601-AD
	202			2143		474	904	2800	92.2	0.05	1.4	601-AD
	217				2337	465	888	2800	92.6	0.05	1.4	601-AD

** Through field control with constant output. Please specify.

Field loss (hot) = 2650 W

Data subject to change without prior notice.

	Cont. output (kW)	Base speed (min-1) at armature voltage (V) 400	440	460	500	Rated armature current (A)	Torque (Nm)	Max. electrical speed** (min-1)	Effici-ency (%)	Armature circuit Resist-ance (Ohm)	Induc-tance (mH)	Field loss (W)	Code number 2511
##	44.2	580				136	728	1980	81.1	0.494	9.3	2060	1320
	49.5		650			136	727	1980	82.6	0.495	9.3	2060	1320
	52.1			685		136	726	1980	83.3	0.495	9.3	2060	1320
	57.4				755	136	726	1980	84.4	0.495	9.3	2060	1320
##	56.9	750				169	725	2540	84.4	0.319	6.2	2060	1080
	63.5		835			169	726	2540	85.5	0.320	6.2	2060	1080
	66.8			880		169	725	2540	86.0	0.320	6.2	2060	1080
	73.3				965	169	725	2450	86.9	0.321	6.2	2060	1080
	64.1	845				187	724	2400	85.5	0.261	5.2	2020	0984
	71.4		940			187	725	2400	86.6	0.261	5.2	2020	0984
	75.0			990		187	723	2400	87.1	0.262	5.2	2020	0984
	82.3				1090	187	721	2300	87.9	0.262	5.2	2020	0984
	81.5	1090				232	714	1950	87.7	0.170	3.3	2020	0792
	90.6		1210			233	715	1950	88.6	0.170	3.3	2020	0792
	95.0			1270		232	714	1950	88.9	0.171	3.3	2020	0792
	103				1390	230	708	1950	89.7	0.170	3.3	2020	0792
##	96.4	1320				271	697	3020	88.9	0.125	2.3	2050	0660
	106		1460			268	693	3020	89.7	0.125	2.3	2050	0660
	112			1530		271	699	3020	89.9	0.126	2.3	2050	0660
	122				1680	270	694	3020	90.5	0.126	2.3	2050	0660
##	109	1550				300	672	4000	90.8	0.0833	1.6	2300	0540
	121		1720			301	672	4000	91.2	0.0840	1.6	2300	0540
	127			1800		302	674	4000	91.4	0.0845	1.6	2300	0540
	138				1970	301	669	4000	91.8	0.0847	1.6	2300	0540
##	135	1880				370	686	4000	91.1	0.0660	1.3	2020	0492
	149		2080			370	684	4000	91.6	0.0663	1.3	2020	0492
	156			2180		369	683	4000	91.8	0.0667	1.3	2020	0492
	171				2380	371	686	4000	92.1	0.0677	1.3	2020	0492
##	153	2200				415	664	4000	92.2	0.0449	0.84	2300	0396
	169		2440			415	661	4000	92.5	0.0454	0.84	2300	0396
	176			2550		413	659	4000	92.6	0.0457	0.84	2300	0396
	182				2770	391	627	4000	93.0	0.0451	0.84	2300	0396
	161	2480				435	620	4000	92.5	0.0354	0.60	2550	0336
	177		2730			434	619	4000	92.7	0.0360	0.60	2550	0336
##	173	3120				464	530	4000	93.2	0.0223	0.41	2440	0276

** Through field control with constant output. Please specify.

Data subject to change without prior notice.

	Cont. output (kW)	Base speed (min-1) at armature voltage (V) 400	440	460	500	Rated armature current (A)	Torque (Nm)	Max. electrical speed** (min-1)	Efficiency (%)	Armature circuit Resistance (Ohm)	Inductance (mH)	Field loss (W)	Code number 2521
##	42.6	465				134	875	1620	79.4	0.557	11.6	2200	1320
	47.8		525			134	870	1640	81.0	0.559	11.6	2200	1320
	50.4			555		134	867	1640	81.7	0.560	11.6	2200	1320
	55.6				610	134	870	1640	83.0	0.560	11.6	2200	1320
##	54.9	605				165	867	2110	83.0	0.362	7.8	2190	1080
	61.4		675			166	869	2050	84.3	0.363	7.8	2190	1080
	64.6			710		166	869	2020	84.8	0.363	7.8	2190	1080
	71.0				780	165	869	1960	85.9	0.364	7.8	2190	1080
	62.0	675				184	877	2000	84.3	0.296	6.4	2220	0984
	69.1		755			184	874	1970	85.5	0.296	6.4	2220	0984
	72.7			795		184	873	1930	86.0	0.296	6.4	2220	0984
	98.8				870	184	876	1840	86.9	0.297	6.4	2220	0984
	79.3	885				229	856	1610	86.7	0.193	4.2	2050	0792
	88.1		985			228	854	1610	87.7	0.193	4.2	2050	0792
	92.5			1040		228	849	1610	88.1	0.193	4.2	2050	0792
	101				1140	227	846	1560	88.9	0.193	4.2	2050	0792
##	94.2	1060				267	849	2480	88.1	0.142	2.9	2190	0660
	104		1180			266	842	2480	89.0	0.142	2.9	2190	0660
	109			1240		265	839	2480	89.3	0.142	2.9	2190	0660
	119				1350	265	842	2480	89.9	0.143	2.9	2190	0660
##	108	1240				299	832	4000	90.2	0.0950	1.9	2490	0540
	119		1380			298	824	4000	90.8	0.0952	1.9	2490	0540
	125			1440		299	829	4000	91.0	0.0957	1.9	2490	0540
	136				1580	297	822	4000	91.5	0.0961	1.9	2490	0540
##	132	1490				365	846	4000	90.5	0.0756	1.6	2220	0492
	146		1650			364	845	4000	91.0	0.0762	1.6	2220	0492
	153			1730		364	845	4000	91.3	0.0766	1.6	2220	0492
	166				1890	362	839	3920	91.7	0.0769	1.6	2220	0492
##	151	1780				411	810	3590	91.8	0.0510	1.0	2320	0396
	167		1970			412	810	3590	92.2	0.0515	1.0	2320	0396
	174			2070		410	803	3590	92.4	0.0518	1.0	2320	0396
	190				2250	410	806	3500	92.6	0.0527	1.0	2320	0396
	158	1990				428	758	4000	92.3	0.0406	0.75	2570	0336
	174		2200			427	755	4000	92.6	0.0411	0.75	2570	0336
	181			2310		424	748	4000	92.7	0.0414	0.75	2570	0336
	192				2510	413	731	4000	93.0	0.0414	0.75	2570	0336
##	195	2490				525	748	4000	92.9	0.0266	0.51	2630	0276

** Through field control with constant output. Please specify.

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	Cont. output (kW)	Base speed (min-1) at armature voltage (V) 400	440	460	500	Rated armature current (A)	Torque (Nm)	Max. electrical speed** (min-1)	Efficiency (%)	Armature circuit Resistance (Ohm)	Inductance (mH)	Field loss (W)	Code number 2531
##	41.2	385				133	1022	1340	77.1	0.631	14.5	2370	1320
	46.5		430			134	1033	1370	78.9	0.634	14.5	2370	1320
	49.1			455		134	1031	1370	79.8	0.634	14.5	2370	1320
	54.2				505	133	1025	1370	81.3	0.634	14.5	2370	1320
##	53.4	505				164	1010	1680	81.2	0.411	9.7	2210	1080
	59.8		570			164	1002	1650	82.7	0.411	9.7	2210	1080
	63.0			600		164	1003	1620	83.3	0.012	9.7	2210	1080
	69.3				660	164	1003	1570	84.5	0.412	9.7	2210	1080
	60.4	570				183	1012	1640	82.7	0.335	8.1	2240	0984
	67.5		635			182	1015	1580	84.1	0.336	8.1	2240	0984
	71.1			670		183	1013	1550	84.7	0.336	8.1	2240	0984
	78.2				740	183	1009	1480	85.7	0.337	8.1	2240	0984
	77.1	735				225	1002	1370	85.6	0.219	5.2	2270	0792
	85.9		820			225	1000	1370	86.6	0.220	5.2	2270	0792
	90.2			865		225	996	1350	87.1	0.220	5.2	2270	0792
	99.0				950	225	995	1260	87.9	0.221	5.2	2270	0792
##	92.8	900				266	985	2080	87.1	0.161	3.6	2180	0660
	103		1000			266	984	2080	88.0	0.161	3.6	2180	0660
	108			1050		265	982	2080	88.5	0.161	3.6	2180	0660
	118				1150	265	980	2080	89.2	0.161	3.6	2180	0660
##	106	1060				296	955	3710	89.6	0.107	2.4	2510	0540
	118		1170			297	963	3930	90.2	0.108	2.4	2510	0540
	123			1230		295	955	3880	90.6	0.107	2.4	2510	0540
	135				1340	297	962	3720	91.0	0.108	2.4	2510	0540
##	130	1270				362	978	3420	89.9	0.0850	2.0	2240	0492
	144		1400			362	982	3400	90.5	0.0855	2.0	2240	0492
	151			1470		361	981	3330	90.8	0.0857	2.0	2240	0492
	165				1610	362	979	3150	91.3	0.0863	2.0	2240	0492
##	148	1490				404	949	3060	91.5	0.0572	1.3	2540	0396
	164		1650			405	949	3060	91.9	0.0579	1.3	2540	0396
	172			1730		406	949	3060	92.1	0.0582	1.3	2540	0396
	187				1890	404	945	2850	92.5	0.0587	1.3	2540	0396
	158	1670				429	904	4000	92.1	0.0454	0.94	2760	0336
	174		1850			428	898	4000	92.5	0.0458	0.94	2760	0336
	182			1930		427	901	4000	92.6	0.0460	0.94	2760	0336
	198				2110	426	896	4000	92.9	0.0466	0.94	2760	0336
##	199	2090				536	909	4000	92.9	0.0297	0.63	2800	0276
	214		2310			522	885	4000	93.2	0.0297	0.63	2800	0276
	214			2410		498	848	4000	93.4	0.0292	0.63	2800	0276
	215	2300				577	893	4000	93.1	0.0246	0.53	2830	0252

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	Cont. output (kW)	Base speed (min-1) at armature voltage (V) 400	440	460	500	Rated armature current (A)	Torque (Nm)	Max. electrical speed** (min-1)	Efficiency (%)	Armature circuit Resistance (Ohm)	Inductance (mH)	Field loss (W)	Code number 2611
##	46.8	350				152	1277	1220	77.1	0.559	14.9	2450	1480
	52.7		395			152	1274	1350	79.0	0.560	14.9	2450	1480
	55.7			420		152	1267	1350	79.8	0.560	14.9	2450	1480
	61.6				460	152	1279	1350	81.2	0.562	14.9	2450	1480
	55.1	415				172	1268	1450	80.0	0.423	11.0	2500	1272
	61.8		465			172	1269	1620	81.6	0.425	11.0	2500	1272
	65.2			490		172	1271	1710	82.3	0.425	11.0	2500	1272
	71.9				540	172	1272	1680	83.5	0.426	11.0	2500	1272
##	69.4	520				209	1275	1610	83.0	0.290	7.9	2500	1080
	77.6		580			209	1278	1610	84.3	0.291	7.9	2500	1080
	81.7			610		209	1279	1610	84.8	0.292	7.9	2500	1080
	89.8				670	209	1280	1560	85.9	0.292	7.9	2500	1080
	88.3	655				258	1287	1330	85.5	0.193	5.4	2530	0888
	98.4		730			258	1287	1330	86.6	0.194	5.4	2530	0888
	103			770		257	1277	1330	87.2	0.193	5.4	2530	0888
	113				845	257	1277	1330	88.0	0.194	5.4	2530	0888
##	105	795				301	1261	2710	87.2	0.141	3.7	2450	0740
	117		885			302	1263	2710	88.1	0.142	3.7	2450	0740
	123			930		302	1263	2710	88.4	0.143	3.7	2450	0740
	135				1020	303	1264	2710	89.1	0.143	3.7	2450	0740
	121	930				342	1243	3250	88.5	0.108	2.8	2420	0636
	134		1030			341	1242	3480	89.3	0.108	2.8	2420	0636
	141			1080		342	1247	3480	89.6	0.109	2.8	2420	0636
	154				1190	341	1236	3480	90.2	0.109	2.8	2420	0636
##	149	1130				414	1259	3250	89.9	0.0745	2.0	2500	0540
	165		1250			414	1261	3250	90.6	0.0748	2.0	2500	0540
	173			1310		414	1261	3250	90.8	0.0751	2.0	2500	0540
	189				1430	414	1262	3250	91.3	0.0755	2.0	2500	0540
	170	1330				465	1221	2960	91.4	0.0509	1.3	2870	0444
	188		1470			465	1221	2960	91.8	0.0512	1.3	2870	0444
	196			1540		463	1215	2960	92.1	0.0512	1.3	2870	0444
	214				1680	463	1216	2960	92.4	0.0516	1.3	2870	0444
##	198	1600				537	1182	3600	92.2	0.0375	0.92	2770	0368
	219		1770			538	1182	3600	92.5	0.0378	0.92	2770	0368
	229			1860		537	1176	3600	92.7	0.0379	0.92	2770	0368
	250				2030	538	1176	3600	93.0	0.0383	0.92	2770	0368
	226	1830				610	1179	3600	92.6	0.0292	0.71	2810	0324
	249		2020			609	1177	3600	92.9	0.0294	0.71	2810	0324
	261			2120		610	1176	3600	93.1	0.0296	0.71	2810	0324
	284				2310	609	1174	3600	93.3	0.0299	0.71	2810	0324
##	250	2110				671	1132	3600	93.2	0.0211	0.52	3030	0276
	276		2330			671	1131	3600	93.4	0.0213	0.52	3030	0276
	288			2440		669	1127	3600	93.5	0.0214	0.52	3030	0276
	312				2660	666	1120	3600	93.7	0.0216	0.52	3030	0276
	288	2480				771	1109	3600	93.3	0.0160	0.37	2920	0232
	302		2740			734	1053	3600	93.6	0.0158	0.37	2920	0232

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	Cont. output (kW)	Base speed (min-1) at armature voltage (V) 400	440	460	500	Rated armature current (A)	Torque (Nm)	Max. electrical speed** (min-1)	Efficiency (%)	Armature circuit Resistance (Ohm)	Inductance (mH)	Field loss (W)	Code number 2621
##	44.5	280				147	1518	980	75.9	0.613	17.7	2780	1480
	50.2		315			146	1522	1100	77.9	0.613	17.7	2780	1480
	53.1			335		147	1514	1170	78.8	0.614	17.7	2780	1480
	58.8				370	147	1518	1190	80.3	0.616	17.7	2780	1480
	52.6	335				167	1499	1170	78.9	0.464	13.1	2710	1272
	59.1		375			167	1505	1310	80.5	0.466	13.1	2710	1272
	62.3			395		167	1506	1380	81.3	0.466	13.1	2710	1272
	68.8				435	167	1510	1440	82.6	0.467	13.1	2710	1272
##	66.4	415				202	1528	1420	82.1	0.318	9.4	2810	1080
	74.4		465			203	1528	1400	83.4	0.319	9.4	2810	1080
	78.3			490		202	1526	1380	84.1	0.319	9.4	2810	1080
	86.2				540	202	1524	1330	85.2	0.467	9.4	2810	1080
	84.8	530				250	1528	1170	84.8	0.318	6.4	2620	0888
	94.6		595			250	1518	1170	85.9	0.319	6.4	2620	0888
	99.5			625		250	1520	1170	86.4	0.319	6.4	2620	0888
	109				685	250	1520	1170	87.4	0.320	6.4	2620	0888
##	100	640				288	1492	2240	86.7	0.211	4.4	2810	0740
	112		715			291	1496	2400	87.5	0.212	4.4	2810	0740
	117			750		289	1490	2400	88.0	0.212	4.4	2810	0740
	129				820	291	1502	2400	88.7	0.212	4.4	2810	0740
	117	750				333	1490	2620	87.9	0.155	3.3	2710	0636
	130		835			333	1487	2920	88.7	0.157	3.3	2710	0636
	136			875		332	1484	3060	89.1	0.156	3.3	2710	0636
	149				960	332	1482	3060	89.7	0.158	3.3	2710	0636
##	144	915				402	1503	2860	89.5	0.118	2.4	2810	0540
	160		1010			404	1513	2860	90.1	0.119	2.4	2810	0540
	168			1060		404	1514	2860	90.4	0.199	2.4	2810	0540
	183				1160	402	1507	2860	91.0	0.120	2.4	2810	0540
	164	1090				450	1437	2610	91.0	0.0812	1.6	2990	0444
	181		1200			449	1440	2610	91.5	0.0819	1.6	2990	0444
	190			1260		450	1440	2610	91.7	0.0822	1.6	2990	0444
	207				1380	450	1433	2610	92.1	0.0824	1.6	2990	0444
##	192	1310				523	1400	3310	91.8	0.0558	1.1	3120	0368
	213		1450			525	1403	3310	92.2	0.0561	1.1	3120	0368
	222			1520		522	1395	3310	92.4	0.0564	1.1	3120	0368
	242				1650	522	1401	3310	92.7	0.0567	1.1	3120	0368
	220	1500				596	1401	3370	92.3	0.0412	0.85	3160	0324
	242		1650			593	1401	3370	92.7	0.0416	0.85	3160	0324
	253			1730		593	1397	3370	92.8	0.0417	0.85	3160	0324
	276				1890	593	1395	3370	93.1	0.0420	0.85	3160	0324
##	244	1710				656	1339	3500	93.0	0.0321	0.62	3410	0276
	269		1920			656	1338	3500	93.2	0.0234	0.62	3410	0276
	281			2010		654	1335	3500	93.3	0.0235	0.62	3410	0276
	305				2190	652	1330	3500	93.5	0.0237	0.62	3410	0276
	278	2040				746	1301	3600	93.1	0.0178	0.44	3410	0232
	297		2250			723	1261	3600	93.4	0.0177	0.44	3410	0232
	297			2350		691	1207	3600	93.5	0.0174	0.44	3410	0232

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	Cont. output (kW)	Base speed (min-1) at armature voltage (V) 400	440	460	500	Rated armature current (A)	Torque (Nm)	Max. electrical speed** (min-1)	Efficiency (%)	Armature circuit Resistance (Ohm)	Inductance (mH)	Field loss (W)	Code number 2631
##	41.4	240				139	1647	840	74.2	0.694	21.3	2920	1480
	46.9		270			140	1659	940	76.3	0.695	21.3	2920	1480
	49.6			285		139	1662	990	77.3	0.695	21.3	2920	1480
	55.1				320	140	1644	1070	78.9	0.697	21.3	2920	1480
	49.0	285				158	1642	990	77.4	0.528	15.7	2840	1272
	55.2		325			158	1622	1130	79.3	0.529	15.7	2840	1272
	58.2			340		158	1635	1190	80.1	0.529	15.7	2840	1272
	64.4				375	158	1640	1250	81.5	0.531	15.7	2840	1272
##	62.1	355				192	1671	1240	80.9	0.362	11.3	2970	1080
	69.6		400			192	1662	1220	82.4	0.362	11.3	2970	1080
	73.4			420		192	1669	1200	83.1	0.363	11.3	2970	1080
	80.9				465	192	1661	1160	84.3	0.363	11.3	2970	1080
	79.4	455				237	1667	1060	83.9	0.240	7.7	3010	0888
	88.6		510			236	1659	1060	85.2	0.241	7.7	3010	0888
	93.2			535		236	1664	1060	85.8	0.241	7.7	3010	0888
	102				590	235	1651	1040	86.8	0.241	7.7	3010	0888
##	95.7	555				279	1647	1940	85.7	0.176	5.3	2920	0740
	106		620			277	1633	2150	86.9	0.176	5.3	2920	0740
	112			650		279	1646	2150	87.2	0.177	5.3	2920	0740
	122				715	277	1630	2150	88.2	0.176	5.3	2920	0740
	110	645				315	1629	2250	87.3	0.134	3.9	3090	0636
	122		715			314	1630	2500	88.3	0.134	3.9	3090	0636
	128			750		314	1630	2620	88.7	0.134	3.9	3090	0636
	141				825	316	1632	2750	89.3	0.135	3.9	3090	0636
##	136	800				382	1624	2580	89.1	0.0917	2.8	2970	0540
	151		885			382	1629	2580	89.8	0.0922	2.8	2970	0540
	159			930		384	1633	2580	90.1	0.0927	2.8	2970	0540
	173				1020	382	1620	2530	90.7	0.0928	2.8	2970	0540
	155	940				427	1575	2350	90.8	0.0630	1.9	3420	0444
	172		1040			428	1579	2350	91.3	0.0634	1.9	3420	0444
	180			1090		427	1577	2350	91.6	0.0636	1.9	3420	0444
	196				1190	426	1573	2350	92.0	0.0638	1.9	3420	0444
#	182	1140				496	1525	2980	91.7	0.0465	1.3	3380	0368
	202		1260			498	1531	2980	92.1	0.0469	1.3	3380	0368
	211			1320		497	1527	2980	92.4	0.0469	1.3	3380	0368
	230				1440	496	1525	2980	92.7	0.0472	1.3	3380	0368
	208	1300				564	1528	3060	92.3	0.0361	1.0	3380	0324
	230		1430			564	1536	3060	92.7	0.0364	1.0	3380	0324
	241			1500		564	1534	3060	92.8	0.0365	1.0	3380	0324
	263				1640	565	1531	3060	93.1	0.0368	1.0	3380	0324
##	232	1510				623	1467	3160	93.1	0.0260	0.74	3530	0276
	256		1670			623	1464	3160	93.4	0.0262	0.74	3530	0276
	268			1750		623	1463	3160	93.5	0.0263	0.74	3530	0276
	292				1910	623	1460	3160	93.7	0.0266	0.74	3530	0276
	265	1770				710	1430	3600	93.3	0.0199	0.52	3730	0232
	293		1950			712	1435	3600	93.6	0.0201	0.52	3730	0232
	306			2050		710	1426	3600	93.7	0.0202	0.52	3730	0232
	332				2230	708	1422	3600	93.8	0.0204	0.52	3730	0232

** Through field control with constant output. Please specify.

Data subject to change without prior notice.

	Cont. output (kW)	Base speed (min-1) at armature voltage (V) 400	440	460	500	Rated armature current (A)	Torque (Nm)	Max. electrical speed** (min-1)	Efficiency (%)	Armature circuit Resistance (Ohm)	Inductance (mH)	Field loss (W)	Code number 2711
	67.9	315				221	2059	1100	76.9	0.389	11.5	3520	1272
	76.6		355			221	2061	1110	78.7	0.391	11.5	3520	1272
	80.9			375		221	2060	1110	79.6	0.391	11.5	3520	1272
	89.4				415	221	2057	1110	81.0	0.392	11.5	3520	1272
##	86.0	395				267	2079	1060	80.5	0.266	8.3	3660	1080
	96.5		445			267	2071	1060	82.1	0.267	8.3	3660	1080
	101			470		264	2052	1060	83.0	0.265	8.3	3660	1080
	112				515	267	2077	1060	84.0	0.268	8.3	3660	1080
	97.4	445				297	2090	1020	82.0	0.219	6.9	3710	0984
	109		500			297	2082	1020	83.4	0.220	6.9	3710	0984
	114			525		294	2074	1020	84.3	0.218	6.9	3710	0984
	126				580	296	2075	1020	85.2	0.220	6.9	3710	0984
	111	510				332	2079	970	83.5	0.176	5.6	3760	0888
	123		565			329	2079	970	85.0	0.175	5.6	3760	0888
	130			595		331	2087	970	85.5	0.177	5.6	3760	0888
	117	550				348	2032	1870	84.1	0.161	4.8	3610	0820
	131		615			349	2034	1870	85.3	0.162	4.8	3610	0820
	137			645		347	2028	1870	85.9	0.161	4.8	3610	0820
	151				710	348	2031	1870	86.8	0.163	4.8	3610	0820
	153	725				440	2015	2240	87.0	0.0996	2.9	3520	0636
	170		810			439	2004	2240	88.0	0.100	2.9	3520	0636
	179			850		441	2011	2240	88.3	0.101	2.9	3520	0636
	196				930	440	2013	2240	89.1	0.101	2.9	3520	0636
##	173	850				484	1944	2340	89.4	0.0689	2.1	4150	0540
	192		940			484	1951	2340	90.1	0.0694	2.1	4150	0540
	201			985		483	1949	2340	90.4	0.0696	2.1	4150	0540
	220				1080	484	1945	2340	90.9	0.0701	2.1	4150	0540
	193	945				536	1950	2270	90.1	0.0570	1.7	4210	0492
	214		1050			536	1946	2270	90.7	0.0575	1.7	4210	0492
	224			1100		535	1945	2270	91.0	0.0576	1.7	4210	0492
	245				1200	536	1950	2270	91.4	0.0581	1.7	4210	0492
	217	1060				598	1955	2170	90.7	0.0461	1.4	4210	0444
	240		1170			597	1959	2170	91.3	0.0465	1.4	4210	0444
	252			1230		599	1957	2170	91.5	0.0467	1.4	4210	0444
	275				1350	598	1945	2170	92.0	0.0471	1.4	4210	0444
##	233	1240				635	1794	2690	91.7	0.0350	0.96	4480	0368
	258		1370			637	1798	2690	92.1	0.0354	0.96	4480	0368
	270			1440		636	1791	2690	92.3	0.0355	0.96	4480	0368
	295				1570	637	1794	2690	92.6	0.0359	0.96	4480	0368
	266	1420				722	1789	2720	92.1	0.0278	0.74	4540	0324
	294		1570			723	1788	2720	92.5	0.0281	0.74	4540	0324
	308			1640		723	1794	2720	92.6	0.0283	0.74	4540	0324
	325				1790	699	1734	2810	93.0	0.0280	0.74	4540	0324
##	324	1720				872	1799	2930	92.9	0.0193	0.54	4410	0276
	345		1900			840	1734	3040	93.3	0.0191	0.54	4410	0276
	350			1980		814	1688	3130	93.5	0.0189	0.54	4410	0276
	354				2150	754	1572	3200	93.9	0.0184	0.54	4410	0276
	339	2030				908	1595	3200	93.4	0.0142	0.38	4290	0232
	339		2220			823	1458	3200	93.6	0.0138	0.38	4290	0232
##	350	2200				934	1519	3200	93.7	0.0115	0.33	4290	0216

** Through field control with constant output. Please specify.

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	Cont. output (kW)	Base speed (min-1) at armature voltage (V) 400	440	460	500	Rated armature current (A)	Torque (Nm)	Max. electrical speed** (min-1)	Efficiency (%)	Armature circuit Resistance (Ohm)	Inductance (mH)	Field loss (W)	Code number 2721
	64.4	260				212	2365	910	75.9	0.425	14.3	3860	1272
	72.8		295			213	2357	990	77.8	0.426	14.3	3860	1272
	76.9			310		212	2369	990	78.7	0.426	14.3	3860	1272
	85.2				345	212	2358	990	80.2	0.428	14.3	3860	1272
##	82.0	325				257	2410	930	79.6	0.290	10.3	4040	1080
	91.9		365			257	2405	930	81.3	0.291	10.3	4040	1080
	96.9			385		257	2404	930	82.1	0.291	10.3	4040	1080
	107				425	257	2404	930	83.3	0.292	10.3	4040	1080
	92.7	365				285	2425	900	81.3	0.238	8.6	4100	0984
	103		410			282	2399	900	83.1	0.237	8.6	4100	0984
	109			430		284	2421	900	83.6	0.238	8.6	4100	0984
	120				475	283	2413	900	84.7	0.239	8.6	4100	0984
	105	420				316	2388	870	83.2	0.190	7.0	3920	0888
	118		470			318	2398	870	84.3	0.192	7.0	3920	0888
	124			495		317	2392	870	85.0	0.192	7.0	3920	0888
	137				545	319	2401	860	85.8	0.194	7.0	3920	0888
	112	445				336	2404	1550	83.4	0.176	5.9	3970	0820
	125		500			335	2388	1650	84.7	0.176	5.9	3970	0820
	131			525		333	2383	1650	85.4	0.176	5.9	3970	0820
	144				580	333	2371	1650	86.4	0.176	5.9	3970	0820
	146	590				422	2363	2000	86.6	0.108	3.6	3980	0636
	163		660			423	2359	2000	87.5	0.109	3.6	3980	0636
	171			690		423	2367	2000	88.0	0.109	3.6	3980	0636
	188				760	424	2362	2000	88.7	0.110	3.6	3980	0636
#	181	730				512	2368	1880	88.4	0.0744	2.6	4030	0540
	201		810			512	2370	1880	89.2	0.0748	2.6	4030	0540
	211			850		512	2371	1880	89.6	0.0751	2.6	4030	0540
	231				930	512	2372	1880	90.1	0.0756	2.6	4030	0540
	185	770				516	2294	2000	89.7	0.0623	2.1	4600	0492
	205		855			516	2290	2000	90.4	0.0627	2.1	4600	0492
	215			895		516	2294	2000	90.6	0.0630	2.1	4600	0492
	235				980	516	2290	2000	91.1	0.0634	2.1	4600	0492
	208	870				575	2283	1910	90.4	0.0504	1.7	4410	0444
	231		965			577	2286	1910	91.0	0.0508	1.7	4410	0444
	242			1010		576	2288	1910	91.3	0.0510	1.7	4410	0444
	264				1110	576	2271	1910	91.7	0.0513	1.7	4410	0444
##	224	1010				612	2118	2380	91.4	0.0383	1.2	4810	0368
	248		1120			613	2115	2380	91.9	0.0387	1.2	4810	0368
	260			1180		614	2104	2380	92.1	0.0389	1.2	4810	0368
	283				1280	612	2111	2380	92.4	0.0392	1.2	4810	0368
	256	1160				697	2108	2400	91.9	0.0304	0.93	4810	0324
	283		1280			697	2111	2400	92.3	0.0308	0.93	4810	0324
	296			1340		696	2110	2400	92.4	0.0309	0.93	4810	0324
	323				1460	697	2113	2400	92.7	0.0313	0.93	4810	0324
##	311	1390				839	2137	2600	92.7	0.0211	0.67	4950	0276
	344		1540			841	2133	2600	93.0	0.0214	0.67	4950	0276
	355			1610		828	2106	2630	93.2	0.0213	0.67	4950	0276
	363				1750	776	1981	2810	93.6	0.0208	0.48	4950	0276
	346	1650				930	2003	2810	93.1	0.0160	0.48	4870	0232
	351		1810			854	1852	3060	93.5	0.0156	0.48	4870	0232
##	361	1790				965	2900	2900	93.5	0.0130	0.41	4870	0216
	361		1960			875	3200	3200	93.8	0.0126	0.41	4870	0216

** Through field control with constant output. Please specify.

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	Cont. output (kW)	Base speed (min-1) at armature voltage (V) 400	440	460	500	Rated armature current (A)	Torque (Nm)	Max. electrical speed** (min-1)	Efficiency (%)	Armature circuit Resistance (Ohm)	Inductance (mH)	Field loss (W)	Code number 2731
	60.4	215				203	2683	750	74.4	0.475	16.6	4320	1272
	68.4		245			203	2666	850	76.5	0.476	16.6	4320	1272
	72.4			255		203	2711	880	77.4	0.477	16.6	4320	1272
	80.4				285	204	2694	870	79.0	0.478	16.6	4320	1272
##	77.3	270				246	2734	840	78.4	0.324	12.0	4210	1080
	87.0		305			247	2724	840	80.2	0.325	12.0	4210	1080
	91.7			325		246	2695	840	81.0	0.325	12.0	4210	1080
	100				360	245	2679	820	82.4	0.325	12.0	4210	1080
	87.2	310				272	2686	820	80.2	0.267	9.9	4350	0984
	97.8		345			272	2707	820	81.8	0.268	9.9	4350	0984
	103			365		271	2695	820	82.5	0.268	9.9	4350	0984
	113				400	269	2698	800	83.9	0.267	9.9	4350	0984
	99.7	350				304	2720	780	81.9	0.215	8.1	4430	0888
	111		390			302	2718	780	83.6	0.214	8.1	4430	0888
	117			415		302	2692	780	84.2	0.215	8.1	4430	0888
	129				455	303	2708	750	85.2	0.216	8.1	4430	0888
	105	380				317	2639	1330	82.7	0.195	6.9	4200	0820
	118		425			320	2652	1480	83.9	0.197	6.9	4200	0820
	124			445		319	2661	1490	84.5	0.197	6.9	4200	0820
	136				490	317	2651	1490	85.7	0.197	6.9	4200	0820
	138	500				402	2636	1750	85.9	0.121	4.1	4320	0636
	154		555			403	2650	1800	86.9	0.122	4.1	4320	0636
	162			585		403	2645	1800	87.3	0.122	4.1	4320	0636
	177				640	401	2641	1800	88.2	0.122	4.1	4320	0636
##	171	615				487	2655	1710	87.9	0.0829	3.0	4270	0540
	190		685			487	2649	1710	88.7	0.0833	3.0	4270	0540
	200			720		488	2653	1710	89.1	0.0838	3.0	4270	0540
	219				790	488	2647	1710	89.7	0.0842	3.0	4270	0540
	193	690				545	2671	1640	88.6	0.0684	2.5	4350	0492
	214		765			544	2672	1640	89.4	0.0687	2.5	4350	0492
	224			805		542	2657	1640	89.8	0.0688	2.5	4350	0492
	246				880	545	2670	1640	90.4	0.0694	2.5	4350	0492
	198	735				550	2573	1730	90.0	0.0565	2.0	4950	0444
	219		815			549	2566	1730	90.7	0.0568	2.0	4950	0444
	229			855		547	2558	1730	91.0	0.0568	2.0	4950	0444
	251				935	549	2564	1730	91.4	0.0574	2.0	4950	0444
##	235	900				646	2494	1950	90.9	0.0411	1.4	4780	0368
	260		995			646	2495	1950	91.4	0.0414	1.4	4780	0368
	272			1040		645	2498	1950	91.7	0.0416	1.4	4780	0368
	297				1140	645	2488	1950	92.1	0.0419	1.4	4780	0368
	243	980				663	2638	2180	91.6	0.0340	1.1	5430	0324
	269		1080			664	2379	2180	92.0	0.0343	1.1	5430	0324
	282			1140		665	2362	2180	92.2	0.0345	1.1	5430	0324
	307				1240	664	2364	2180	92.5	0.0348	1.1	5430	0324
##	296	1190				800	2375	2360	92.5	0.0235	0.78	5100	0276
	327		1320			801	2366	2360	92.8	0.0238	0.78	5100	0276
	343			1380		802	2374	2360	93.0	0.0239	0.78	5100	0276
	373				1500	800	2375	2360	93.2	0.0242	0.78	5100	0276
	341	1400				919	2326	2460	92.8	0.0182	0.55	5420	0232
	373		1540			911	2313	2480	93.1	0.0184	0.55	5420	0232
	378			1610		881	2242	2560	93.3	0.0181	0.55	5420	0232
	382				1750	816	2085	2770	93.6	0.0176	0.55	5420	0232
#	377	1540				1012	2338	2390	93.1	0.0152	0.48	5010	0216
	394		1690			957	2226	2530	93.5	0.0149	0.48	5010	0216
	397			1770		921	2142	2630	93.7	0.0147	0.48	5010	0216
	397				1920	845	1975	2860	93.9	0.0143	0.48	5010	0216

** Through field control with constant output. Please specify.

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	Cont. output (kW)	Base speed (min-1) at armature voltage (V) 400	440	460	500	Rated armature current (A)	Torque (Nm)	Max. electrical speed** (min-1)	Efficiency (%)	Armature circuit Resistance (Ohm)	Inductance (mH)	Field loss (W)	Code number 2811
##	116	335				357	3307	750	81.3	0.190	8.2	5290	0984
	131		375			361	3336	750	82.5	0.192	8.2	5290	0984
	138			395		361	3336	750	83.2	0.193	8.2	5290	0984
	152				435	360	3337	750	84.4	0.193	8.2	5290	0984
	132	385				398	3274	740	83.0	0.153	6.7	5370	0888
	148		430			399	3287	740	84.2	0.154	6.7	5370	0888
	156			450		400	3311	740	84.8	0.155	6.7	5370	0888
	149	445				442	3198	980	84.2	0.125	4.6	5390	0732
	166		495			441	3203	980	85.5	0.125	4.6	5390	0732
	175			525		443	3183	980	86.0	0.126	4.6	5390	0732
	192				575	442	3189	980	86.9	0.126	4.6	5390	0732
##	184	545				533	3224	1860	86.3	0.0881	3.4	5070	0636
	205		605			534	3236	1860	87.3	0.0886	3.4	5070	0636
	215			635		533	3233	1860	87.8	0.0886	3.4	5070	0636
	236				700	533	3220	1860	88.5	0.0891	3.4	5070	0636
	207	640				583	3089	1730	88.8	0.0615	2.5	5700	0540
	229		710			581	3080	1730	89.7	0.0617	2.5	5700	0540
	241			745		583	3089	1730	89.9	0.0620	2.5	5700	0540
	263				815	581	3082	1730	90.5	0.0622	2.5	5700	0540
##	232	715				647	3099	1680	89.7	0.0502	2.1	5780	0492
	257		790			647	3107	1680	90.4	0.0505	2.1	5780	0492
	269			830		645	3095	1680	90.7	0.0505	2.1	5780	0492
	294				910	645	3085	1680	91.2	0.0508	2.1	5780	0492
	263	810				727	3101	1620	90.4	0.0402	1.7	5950	0444
	291		895			727	3105	1620	91.0	0.0404	1.7	5950	0444
	305			940		727	3099	1620	91.3	0.0406	1.7	5950	0444
	334				1030	729	3097	1620	91.7	0.0409	1.7	5950	0444
##	290	935				799	2962	2130	90.7	0.0336	1.2	5730	0372
	320		1040			797	2938	2130	91.3	0.0338	1.2	5730	0372
	335			1090		796	2935	2130	91.5	0.0340	1.2	5730	0372
	353				1180	766	2857	2220	92.2	0.0335	1.2	5730	0372
	321	1080				873	2838	2250	91.9	0.0244	0.89	6310	0324
	355		1190			874	2849	2250	92.3	0.0247	0.89	6310	0324
	372			1250		875	2842	2250	92.4	0.0249	0.89	6310	0324
	388				1360	835	2725	2340	92.9	0.0245	0.89	6310	0324
##	393	1310				1061	2865	2140	92.6	0.0171	0.65	5890	0276
	409		1440			997	2712	2280	93.2	0.0166	0.65	5890	0276
	415			1510		965	2625	2350	93.5	0.0165	0.65	5890	0276
	421				1640	898	2452	2530	93.8	0.0161	0.65	5890	0276

** Through field control with constant output. Please specify.

	Cont. output (kW)	Base speed (min-1) at armature voltage (V) 400	440	460	500	Rated armature current (A)	Torque (Nm)	Max. electrical speed** (min-1)	Efficiency (%)	Armature circuit Resistance (Ohm)	Inductance (mH)	Field loss (W)	Code number 2821
##	110	285				338	3686	680	81.3	0.201	9.9	5760	0984
	124		320			341	3701	680	82.6	0.203	9.9	5760	0984
	130			335		339	3706	680	83.4	0.202	9.9	5760	0984
	144				370	341	3717	680	84.4	0.204	9.9	5760	0984
	125	325				376	3673	670	83.0	0.162	8.0	5750	0888
	140		360			377	3714	670	84.3	0.163	8.0	5750	0888
	148			380		380	3719	670	84.8	0.164	8.0	5750	0888
	163				420	380	3706	670	85.8	0.164	8.0	5750	0888
	141	375				418	3591	880	84.3	0.133	5.5	5510	0732
	157		420			417	3570	880	85.6	0.133	5.5	5510	0732
	166			445		420	3562	880	86.0	0.134	5.5	5510	0732
	182				485	419	3584	880	86.9	0.134	5.5	5510	0732
##	173	455				500	3631	1590	86.5	0.0928	4.1	5370	0635
	193		510			501	3614	1710	87.5	0.0934	4.1	5370	0635
	203			535		502	3624	1710	87.9	0.0937	4.1	5370	0635
	223				585	503	3640	1710	88.6	0.0942	4.1	5370	0635
	215	560				609	3667	1420	88.3	0.0640	3.0	5630	0540
	239		625			609	3652	1420	89.1	0.0643	3.0	5630	0540
	251			655		610	3660	1420	89.5	0.0645	3.0	5630	0540
	275				715	610	3673	1420	90.1	0.0649	3.0	5630	0540
##	243	635				681	3655	1360	89.2	0.0518	2.5	5730	0492
	270		705			683	3657	1360	89.9	0.0522	2.5	5730	0492
	283			740		682	3652	1360	90.2	0.0523	2.5	5730	0492
	310				810	683	3655	1360	90.8	0.0526	2.5	5730	0492
	249	675				688	3523	1630	90.5	0.0428	2.0	6020	0444
	276		750			689	3514	1630	91.1	0.0430	2.0	6020	0444
	290			785		690	3528	1630	91.4	0.0432	2.0	6020	0444
	316				860	688	3509	1630	91.8	0.0434	2.0	6020	0444
##	274	785				753	3333	1950	90.9	0.0356	1.4	5930	0372
	304		870			756	3337	1950	91.4	0.0360	1.4	5930	0372
	318			910		754	3337	1950	91.7	0.0361	1.4	5930	0372
	347				995	754	3331	1950	92.1	0.0363	1.4	5930	0372
	331	925				901	3417	1880	91.9	0.0253	1.1	6200	0324
	365		1020			899	3417	1880	92.3	0.0255	1.1	6200	0324
	383			1070		900	3418	1880	92.5	0.0257	1.1	6200	0324
	417				1170	898	3404	1890	92.8	0.0259	1.1	6200	0324
##	371	1080				1000	3281	1960	92.8	0.0182	0.78	6870	0276
	409		1190			998	3282	1960	93.1	0.0184	0.78	6870	0276
	428			1250		998	3270	1960	93.2	0.0185	0.78	6870	0276
	460				1360	984	3230	2000	93.5	0.0186	0.78	6870	0276
	390	1180				1051	3156	2050	92.8	0.0166	0.63	6530	0248
	430		1310			1050	3135	2050	93.1	0.0168	0.63	6530	0248
	439			1370		1023	3060	2110	93.2	0.0167	0.63	6530	0248
	441				1480	942	2846	2290	93.7	0.0162	0.63	6530	0248
##	433	1360				1162	3041	2120	93.1	0.0130	0.48	6720	0216
	436		1490			1059	2794	2330	93.6	0.0125	0.48	6720	0216

** Through field control with constant output. Please specify.

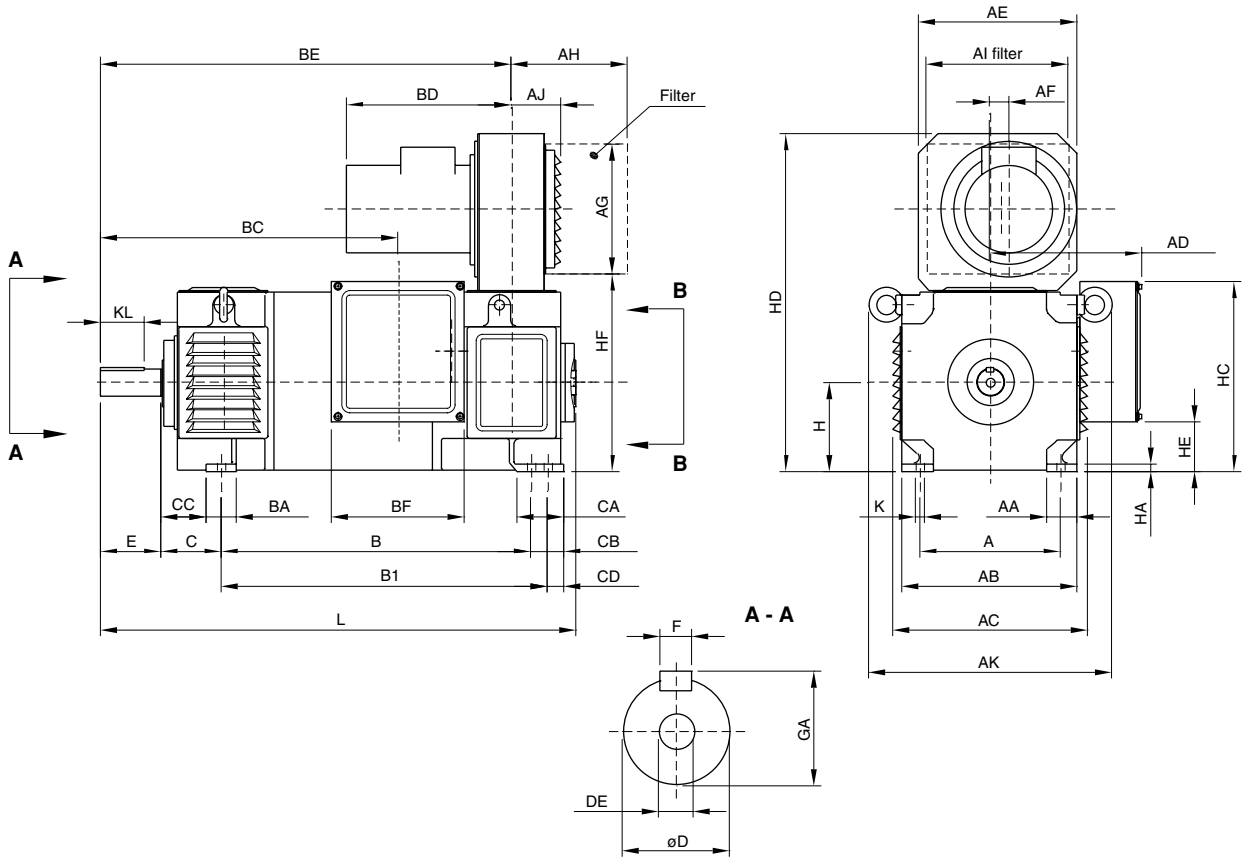
Data subject to change without prior notice.

	Cont. output (kW)	Base speed (min-1) at armature voltage (V) 400	440	460	500	Rated armature current (A)	Torque (Nm)	Max. electrical speed** (min-1)	Efficiency (%)	Armature circuit Resistance (Ohm)	Inductance (mH)	Field loss (W)	Code number 2831
##	103	235				326	4186	600	79.1	0.238	11.9	5690	0984
	116		265			327	4180	600	80.6	0.239	11.9	5690	0984
	122			280		325	4161	600	81.5	0.238	11.9	5690	0984
	135				310	326	4159	600	82.8	0.239	11.9	5690	0984
	117	270				360	4138	580	81.2	0.190	9.7	5790	0888
	132		300			364	4202	580	82.5	0.192	9.7	5790	0888
	139			315		363	4214	580	83.2	0.192	9.7	5790	0888
	153				350	363	4175	580	84.4	0.193	9.7	5790	0888
	133	310				403	4097	780	82.6	0.155	6.6	6070	0732
	149		350			404	4066	780	83.9	0.156	6.6	6070	0732
	156			365		401	4082	780	84.7	0.156	6.6	6070	0732
	172				400	402	4107	780	85.6	0.156	6.6	6070	0732
##	163	380				479	4096	1330	85.0	0.110	5.0	5870	0636
	182		425			480	4090	1480	86.2	0.110	5.0	5870	0636
	191			445		479	4099	1500	86.7	0.110	5.0	5870	0636
	210				490	480	4093	1500	87.6	0.111	5.0	5870	0636
	204	470				585	4145	1250	87.2	0.0749	3.6	5490	0540
	227		525			586	4129	1250	88.1	0.0753	3.6	5490	0540
	239			550		587	4150	1250	88.5	0.0756	3.6	5490	0540
	261				605	585	4120	1250	89.3	0.0757	3.6	5490	0540
##	230	530				652	4144	1350	88.2	0.0609	3.0	5690	0492
	256		585			654	4179	1350	89.0	0.0614	3.0	5690	0492
	269			615		655	4177	1350	89.3	0.0616	3.0	5690	0492
	294				675	653	4160	1350	90.0	0.0618	3.0	5690	0492
	237	565				661	4006	1290	89.6	0.0500	2.4	6610	0444
	262		625			659	4003	1290	90.4	0.0502	2.4	6610	0444
	275			655		660	4010	1290	90.7	0.0503	2.4	6610	0444
	301				720	660	3992	1290	91.2	0.0506	2.4	6610	0444
##	261	650				723	3835	1710	90.2	0.0415	1.7	6570	0372
	290		725			726	3820	1710	90.8	0.0418	1.7	6570	0372
	304			760		726	3820	1710	91.1	0.0419	1.7	6570	0372
	332				830	725	3820	1710	91.6	0.0422	1.7	6570	0372
	313	770				857	3882	1660	91.3	0.0295	1.3	6700	0324
	347		855			859	3876	1660	91.8	0.0298	1.3	6700	0324
	363			895		857	3873	1660	92.1	0.0299	1.3	6700	0324
	396				980	857	3859	1660	92.4	0.0301	1.3	6700	0324
##	353	905				955	3725	1730	92.4	0.0211	0.94	6810	0276
	390		1000			955	3725	1730	92.8	0.0213	0.94	6810	0276
	408			1050		954	3711	1730	93.0	0.0214	0.94	6810	0276
	445				1150	954	3695	1730	93.3	0.0216	0.94	6810	0276
	372	990				1007	3588	1800	92.4	0.0192	0.76	7150	0248
	410		1090			1005	3592	1800	92.7	0.0194	0.76	7150	0248
	429			1140		1004	3594	1800	92.9	0.0196	0.76	7150	0248
	444				1250	951	3392	1910	93.3	0.0191	0.76	7150	0248
#	423	1140				1140	3544	1820	92.7	0.0152	0.57	7010	0216
	440		1260			1072	3335	1930	93.3	0.0148	0.57	7010	0216
	441			1320		1025	3191	2020	93.5	0.0146	0.57	7010	0216
	441				1440	941	2925	2210	93.8	0.0143	0.57	7010	0216

** Through field control with constant output. Please specify.

Data subject to change without prior notice.

Dimension drawing, LAK 4112-4132 IC06



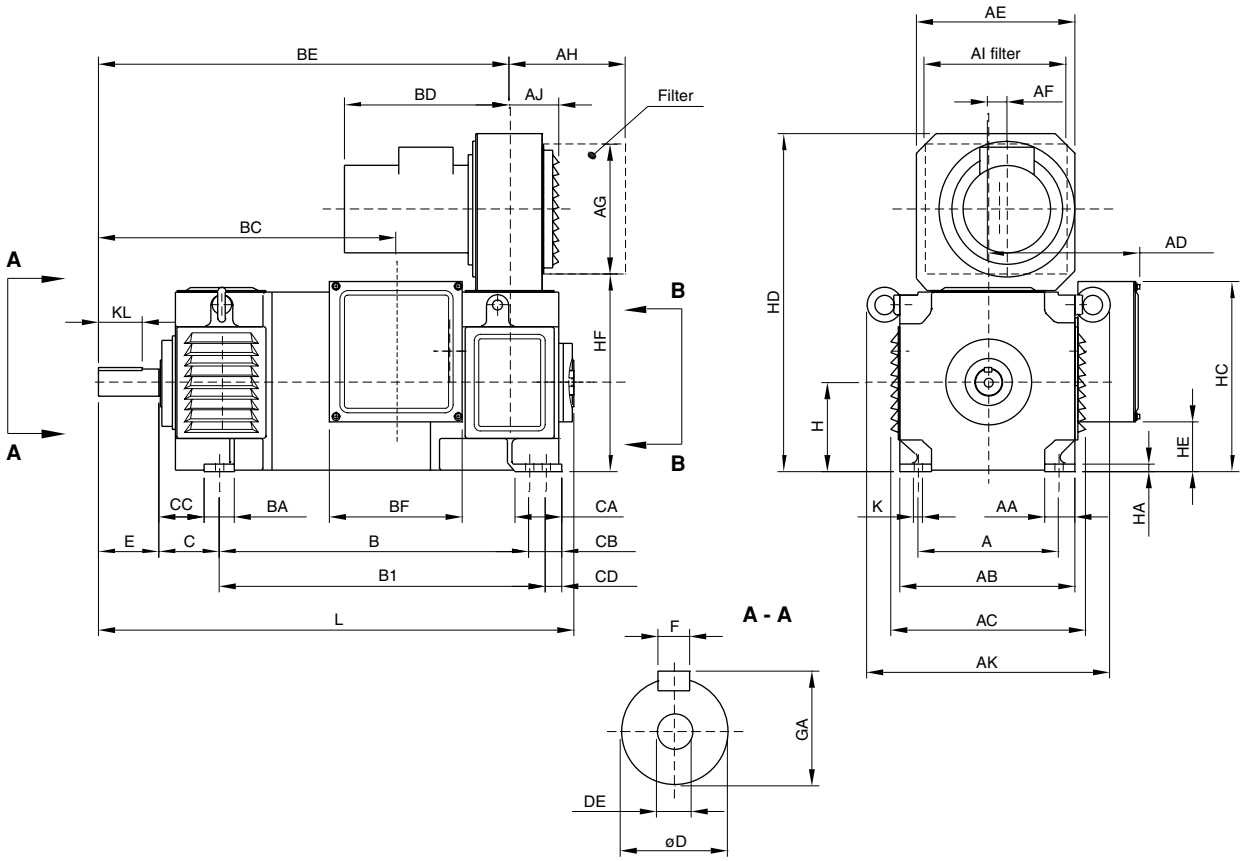
Dimensions in mm

Type	A	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK	B	BA	BC	BD	BE	BF	B1	CD	C	CA	CB
LAK 4112A	190	45	220	256	203	220	17	195	175	195	77	326	373	50	336	235	514	190	403	11	70	71	41
LAK 4112B													428		391		569		458				
LAK 4132A	216	47.5	260	295	223	220	17	195	175	195	77	366	437	50	374	235	545	190			89	60	25
LAK 4132B						220	17	195	175	195	77		482		419	235	590						
LAK 4132C						220	17	195	175	195	77		532		469	235	640						
LAK 4132D						285	33.5	235	208	235	89		642		609	298	780						

Type	CC	D	DE	E	F	GA	H	HA	HC	HD	HE	HF	K	KL	L	L+REO444R1	L+TDP0.2LT	Weight (kg)
LAK 4112A	45	38	M10	80	10	41	112	10	241	451	66	250	12	57	594.5	805.5	811.5	122
LAK 4112B															649.5	860.5	866.5	129
LAK 4132A	64	38	M10	80	10	41	132	12	261	491	86	290	12	57	650.5	861.5	867.5	137
LAK 4132B		38		80	10	41				491		290		57	695.5	906.5	912.5	167
LAK 4132C		38		80	10	41				491		290		57	745.5	956.5	962.5	192
LAK 4132D		42		110	12	45				569		314		80	885	1096	1102	251

Dimensions are not binding.

Dimension drawing, LAK 4160-4180 IC06



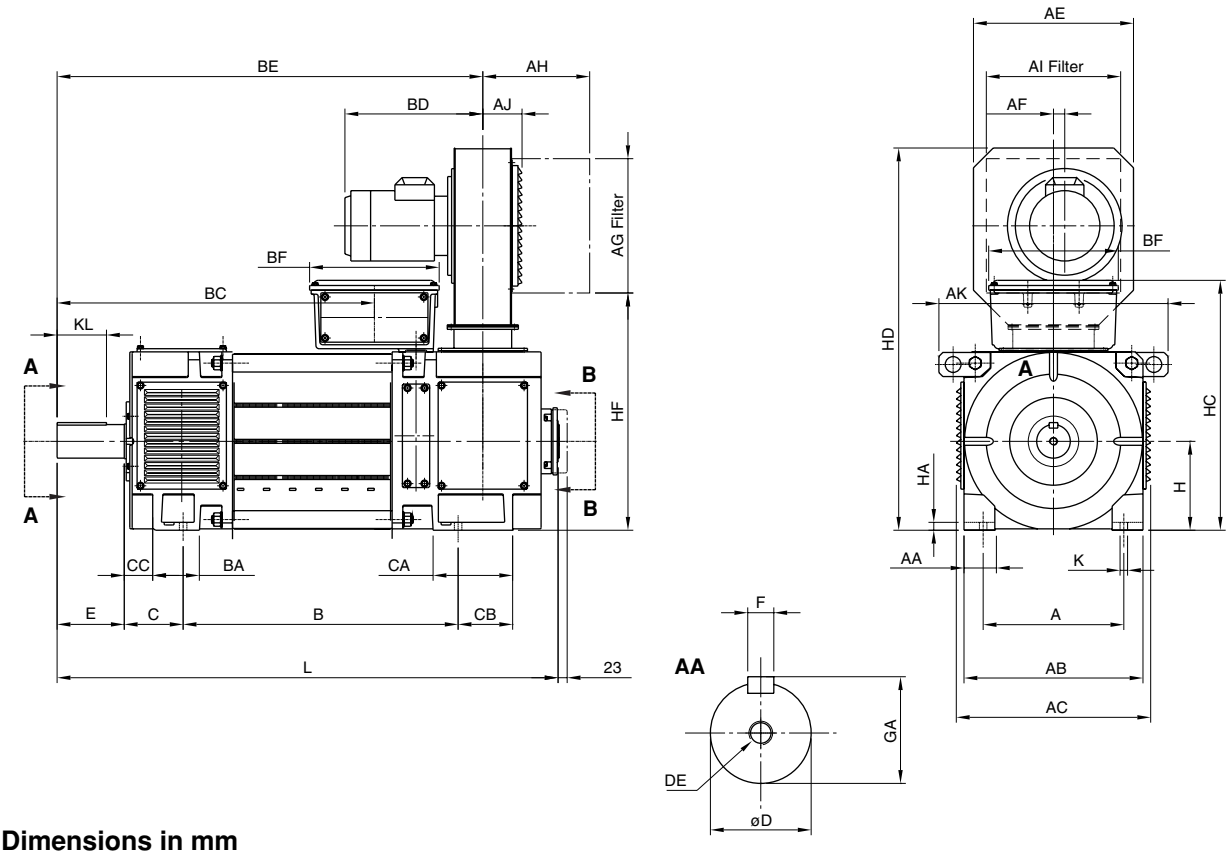
Dimensions in mm

Type	A	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK	B	BA	BC	BD	BE	BF	B1	CD	C
LAK 4160A/AA	254	56	316	351	274	285	33.5	235	208	235	89	439	475	56	426	298	631	240			108
LAK 4160B/BB						285	33.5	235	208	235	89		522		473	298	678				
LAK 4160C/CC						285	33.5	235	208	235	89		587		538	298	743				
LAK 4160D						315	21.5	300	209	300	80		712		663.5	299	868.5				
LAK 4180AA	279	66	356	391	297	355	25.5	340	265	340	95	479	561	66	499	305	718	240			121
LAK 4180BA		66			297	355	25.5		265		95		612	66	535	305	754				
LAK 4180CA		66			297	355	25.5		265		95		677	66	616	305	835				
LAK 4180DA		66			297	355	25.5		265		95		707	66	681	305	900		720	43.5	
LAK 4180EA		66			297	405	28.5		270		105		720	66	741	349	960		795	28.5	
LAK 4180FA		61			322	405	28.5		270		105		795	85	821	349	1071				

Type	CA	CB	CC	D	DE	E	F	GA	H	HA	HC	HD	HE	HF	K	KL	L	L+REO 444R1	L+TDP 0.2LT	Weight (kg)
LAK 4160A/AA	65	28	80	48	M16	110	14	51.5	160	14	343.5	611	88.5	356	15	80	744	955	961	241
LAK 4160B/BB												611		356			791	1002	1008	271
LAK 4160C/CC												611		356			856	1067	1073	321
LAK 4160D												641		338			981	1192	1198	423
LAK 4180AA	195	50	91	55	M16	110	16	59	180	16	364	745	109	402	15	80	848.5	1059.5	1065.5	381
LAK 4180BA	195	35		55	M16	110	16	59		16	364	745	109	402	15	80	884.5	1095.5	1101.5	411
LAK 4180CA	195	21		60	M16	140	18	64		16	364	745	109	402	15	110	965.5	1176.5	1182.5	483
LAK 4180DA	195	56.5		70	M20	140	20	74.5		16	364	745	109	402	15	110	1030.5	1241.5	1247.5	503
LAK 4180EA	195	103.5		70	M20	140	20	74.5		16	364	815	109	448	15	110	1190.5	1301.5	1307.5	585
LAK 4180FA	95	40		70	M20	140	20	74.5		16	372.5	815	117.5	448	19	110	1248	1459	1465	680

Dimensions are not binding.

Dimension drawing, LAK 4200-4280 IC06

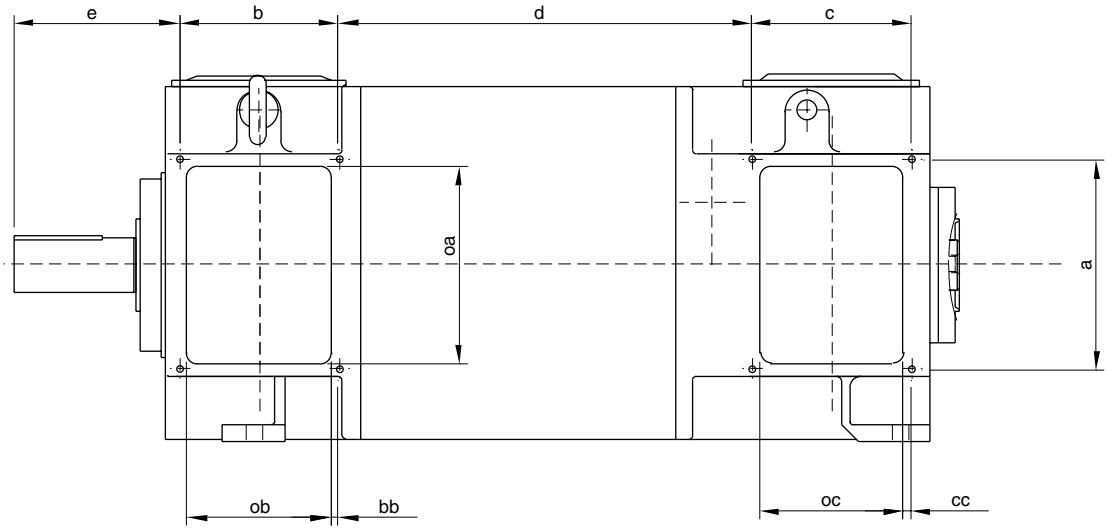


Dimensions in mm

Type	A	AA	AB	AC	AE	AF	AG	AH	AI	AJ	AK	B	BA	BC	BD	BE	BF	C	CA	CB
LAK 4200A												542		616		854.5				
LAK 4200B	318	70	404	443	355	25.5	340	265.5	340	94	500	610	113	684	305.5	922.5	278	133	178	116
LAK 4200C												678		752		990.5				
LAK 4225A												630		737		1012				
LAK 4225B	356	78	453	492	405	28.5	340	271	340	99	580	696	118	803	349	1078	328	149	201	138
LAK 4225C												762		869		1144				
LAK 4250A												679		793		1083				
LAK 4250B	406	84	502	541	460	40	450	346	450	135	629	751	138	865	426	1155	328	168	229	160
LAK 4250C												823		937		1227				
LAK 4280A												735		863		1208				
LAK 4280B	457	89	560	599	460	40	450	346	450	135	687	815	155	943	426	1288	423	190	242	166
LAK 4280C												895		1023		1368				

Type	CC	D	DE	E	F	GA	H	HA	HC	HD	HF	K	KL	L	L+REO 444R1	L+TDP0.2LT	Weight (kg)
LAK 4200A														1032	1243	1249	530
LAK 4200B	59	75	M20	140	20	79.5	200	20	550	858	515	19	100	1100	1311	1317	590
LAK 4200C														1168	1379	1385	660
LAK 4225A														1202	1413	1419	760
LAK 4225B	72	85	M20	170	22	90	225	20	633	968	601	19	125	1268	1479	1485	830
LAK 4225C														1334	1545	1551	930
LAK 4250A														1309	1520	1526	1030
LAK 4250B	75	95	M20	170	25	100	250	23	682	1107	652	24	125	1381	1592	1598	1140
LAK 4250C														1453	1664	1670	1310
LAK 4280A														1468	1679	1685	1290
LAK 4280B	81	100	M20	210	28	106	280	26	790	1206	751	24	160	1548	1759	1765	1500
LAK 4280C														1628	1839	1845	1700

Dimensions are not binding.

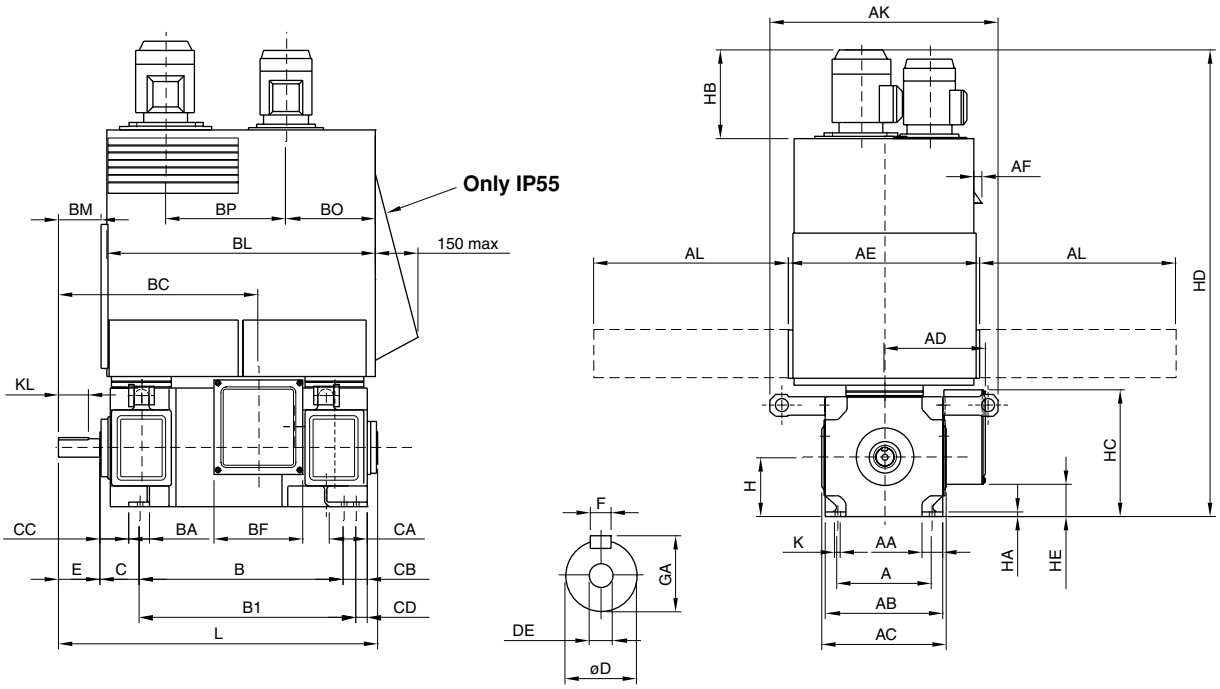


Dimensions in mm

Type	a	b	bb	c	cc	d	e	oa	ob	oc	t	Weight (kg)
LAK 4112A	110	110	5	110	5	245	104	110	100	100	M6	115
LAK 4112B						300						122
LAK 4132A	150	125	7.5	125	7.5	241	116.5	145	110	110	M6	130
LAK 4132B						286						160
LAK 4132C						336						185
LAK 4132D						446	146.5					235
LAK 4160A/AA	190	145	7.5	145	7.5	263	150	180	130	130	M6	225
LAK 4160B/BB						310						255
LAK 4160C/CC						375						305
LAK 4160D						500						405
LAK 4180AA	210	160	7.5	160	7.5	320	158.5	200	145	145	M8	270
LAK 4180BA			7.5		7.5	356	158.5	200	145	145		320
LAK 4180CA			7.5		7.5	407	188.5	200	145	145		370
LAK 4180DA			7.5		7.5	472	188.5	200	145	145		460
LAK 4180EA			7.5		7.5	532	188.5	200	145	145		540
LAK 4180FA			10		10	660	171	210	140	155		630
LAK 4200A	220	175	8	175	8	400	192.5	210	159	159	M8	495
LAK 4200B						468						560
LAK 4200C						536						630
LAK 4225A	254	209	17	209	11	485	211	239	170	191	M8	730
LAK 4225B						551						800
LAK 4225C						617						900
LAK 4250A	274	209	14.5	209	9	526	227.5	260	180	191	M8	970
LAK 4250B						598						1070
LAK 4250C						670						1240
LAK 4280A	330	240	15	240	9	585	263	312	200	222	M8	1210
LAK 4280B						665						1420
LAK 4280C						745						1620

Dimensions are not binding.

Dimension drawing, LAK 4132-4180 IC666



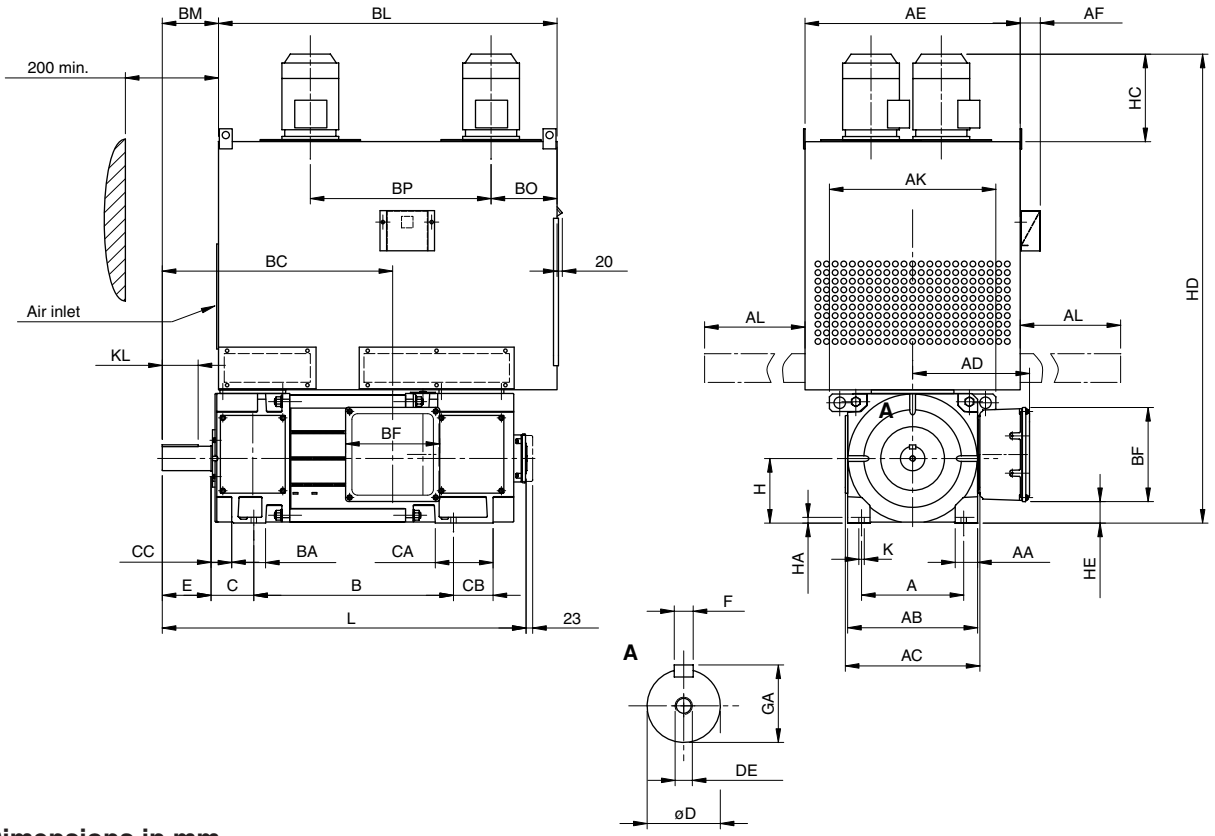
Dimensions in mm

Type	A	AA	AB	AC	AD	AE	AF	AK	AL	B	BA	BC	BF	BL	BM	BP	BO	C	B1	CA
LAK 4132A	216	47.5	260	279	223	390	20	440	390	437	50	374	190	647	91	290	223	89		60
LAK 4132B										482		419		647	91	290	223			
LAK 4132C										532		469		647	91	290	223			
LAK 4132D										642		609		772	121	400	238			
LAK 4160A/AA	254	56	316	335	274	515	20	616	527.5	475	56	426	240	723	115	325	240	108		65
LAK 4160B/BB						515			527.5	522		473		723		325	240			
LAK 4160C/CC						515			527.5	587		538		723		325	240			
LAK 4160D						606			597	712		663		843		320	278			
LAK 4180AA	279	66	356	375	297	606	25	656	597	561	66	499	240	843	126.5	320	278	121		195
LAK 4180BA		66			297	606			597	612	66	535		843	126.5	320	278			195
LAK 4180CA		66			297	606			597	677	66	616		843	156.5	320	278			195
LAK 4180DA		66			297	606			597	707	66	681		843	156.5	320	278		720	195
LAK 4180EA		66			297	720			715	720	66	741		1047	164	500	337		795	195
LAK 4180FA		61			322	720			715	795	85	821		1047	131	500	337			95

Type	CB	CC	CD	D	DE	E	F	GA	H	HA	HB	HC	HD	HE	K	KL	L	Weight (kg)
LAK 4132A	25	64		38	M10	80	10	41	132	12	215	261	1089	86	12	57	650.5	220
LAK 4132B				38		80	10	41								57	695.5	240
LAK 4132C				38		80	10	41								57	745.5	265
LAK 4132D				42		110	12	45								80	885.5	325
LAK 4160A/AA	28	80		48	M16	110	14	51.5	160	14	240	343.5	1259	88.5	15	80	744	335
LAK 4160B/BB											240		1259				791	365
LAK 4160C/CC											240		1259				856	410
LAK 4160D											240		1334				981	525
LAK 4180AA	50.5	91		55	M16	110	16	59	180	16	240	364	1356	109	15	80	848.5	525
LAK 4180BA	35.5			55	M16	110	16	59		16	240	364	1356	109	15	80	884.5	555
LAK 4180CA	21.5			60	M16	140	18	64		16	240	364	1356	109	15	110	965.5	615
LAK 4180DA	56.5		43.5	70	M20	140	20	74.5		16	240	364	1356	109	15	110	1030.5	645
LAK 4180EA	103.5		28.5	70	M20	140	20	74.5		16	280	364	1451	109	15	110	1090.5	725
LAK 4180FA	40			70	M20	140	20	74.5		16	280	372.5	1451	117.5	19	110	1248	820

Dimensions are not binding.

Dimension drawing, LAK 4200-4280 IC666



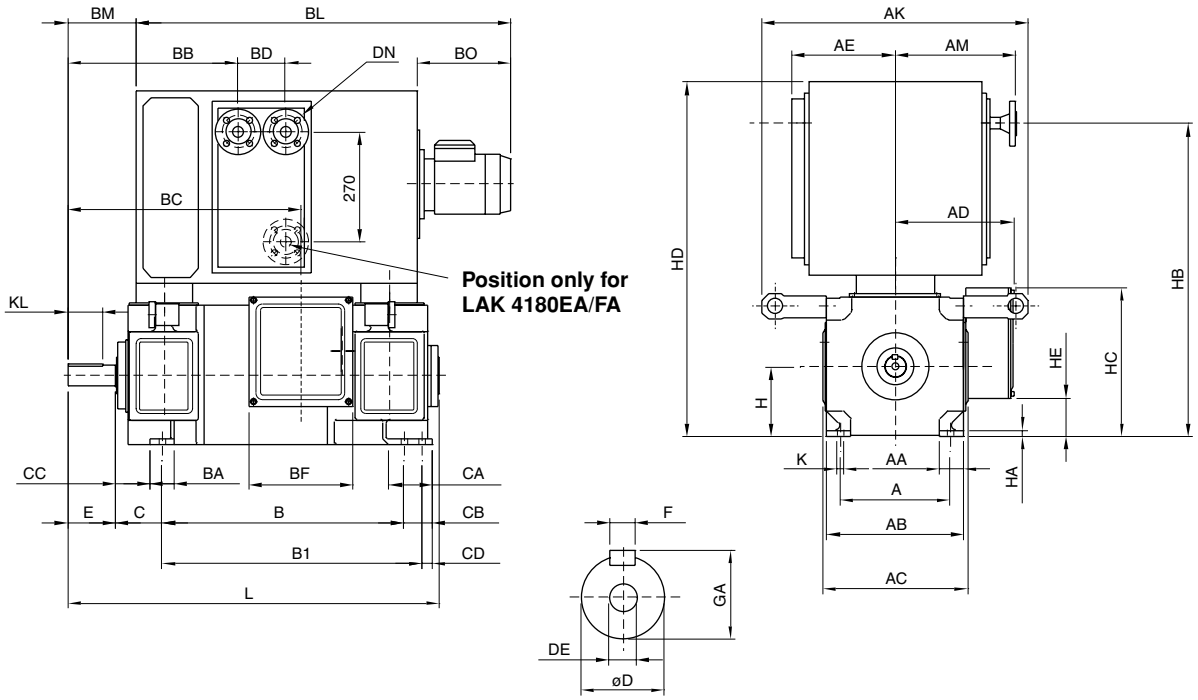
Dimensions in mm

Type	A	AA	AB	AC	AD	AE	AF	AL	AK	B	BA	BC	BF	BL	BM	BO	BP	C	CA	CB
LAK 4200A										542		616								
LAK 4200B	318	70	404	420	350	690	70	680	500	610	113	684	278	1030	170	200	500	133	178	116
LAK 4200C										678		752								
LAK 4225A										630		737								
LAK 4225B	356	78	453	469	408	750	70	375	580	696	118	803	328	1180	196	230	630	149	201	138
LAK 4225C										762		869								
LAK 4250A										679		793								
LAK 4250B	406	84	502	518	432	750	70	375	629	751	138	865	328	1180	212	230	630	168	229	160
LAK 4250C										823		937								
LAK 4280A										735		863								
LAK 4280B	457	89	560	576	510	860	70	430	687	815	155	943	423	1500	240	310	720	190	242	166
LAK 4280C										895		1023								

Type	CC	D	DE	E	F	GA	H	HA	HC	HE	HD	K	KL	L	L+REO444R1	L+TDP0.2LT	Weight (kg)
LAK 4200A														1032	1243	1249	699
LAK 4200B	59	75	M20	140	20	79.5	200	20	280	77	1455	19	100	1100	1311	1317	759
LAK 4200C														1168	1379	1385	834
LAK 4225A														1202	1413	1419	1034
LAK 4225B	72	85	M20	170	22	90	225	20	305	75	1635	19	125	1268	1479	1485	1104
LAK 4225C														1334	1545	1551	1199
LAK 4250A														1309	1520	1526	1269
LAK 4250B	75	95	M20	170	25	100	250	23	305	106	1684	24	125	1381	1592	1598	1374
LAK 4250C														1453	1664	1670	1544
LAK 4280A														1468	1679	1685	1614
LAK 4280B	81	100	M20	210	28	106	280	26	310	93.5	2013	24	160	1548	1759	1765	1824
LAK 4280C														1628	1839	1845	2024

Dimensions are not binding.

Dimension drawing, LAK 4132-4180 IC86W



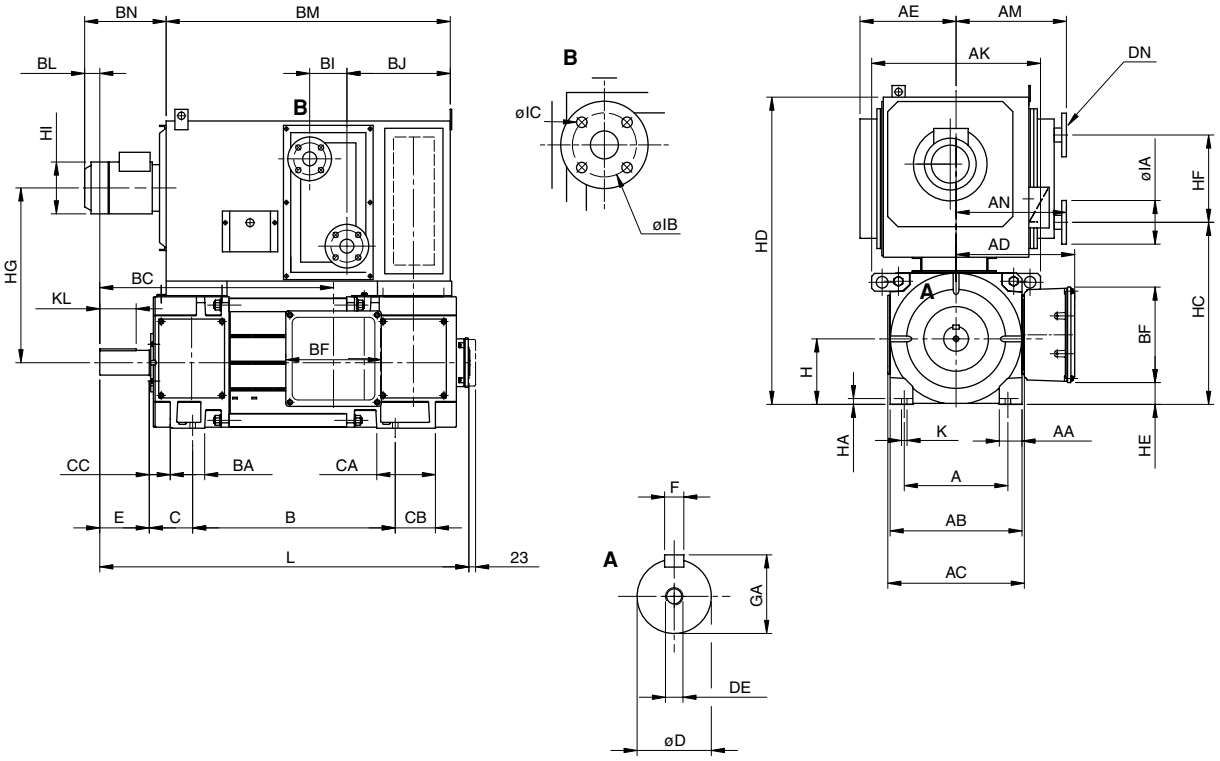
Dimensions in mm

Type	A	AA	AB	AC	AD	AE	AK	AM	B	BA	BB	BC	BD	BF	BL	BM	BO	C	B1	CA	CB
LAK 4132A	216	47.5	260	279	223	195	440	230	437	50	314	374	110	190	741	99	220	89		60	25
LAK 4132B									482		314	419			786	99					
LAK 4132C									532		314	469			836	99					
LAK 4132D									642		344	609			946	129					
LAK 4160A/AA	254	56	316	335	274	240	616	278	475	56	393	426	110	240	753	158	215	108		65	28
LAK 4160B/BB									522			473			800						
LAK 4160C/CC									587			538			865						
LAK 4160D									712			663			990						
LAK 4180AA	279	66	356	375	297	295	656	328	561	66	453.5	499	110	240	860	168.5	240	121		195	50.5
LAK 4180BA		66			297	295		328	612	66	453.5	535	110		896	168.5	240			195	35.5
LAK 4180CA		66			297	295		328	677	66	483.5	616	110		947	198.5	240			195	21.5
LAK 4180DA		66			297	295		328	707	66	483.5	681	110		1012	198.5	240		720	195	56.5
LAK 4180EA		66			297	292		337	720	66	542.5	741	142		1112	198.5	280		795	195	103.5
LAK 4180FA		61			322	292		337	795	85	525	821	142		1240	181	280			95	40

Type	CC	D	DE	DN	E	F	GA	H	HA	HB	HC	HD	HE	K	KL	L	CD	Weight (kg)
LAK 4132A	64	38	M10	20	80	10	41	132	12	599	261	719	86	12	57	650.5		220
LAK 4132B		38			80	10	41								57	695.5		240
LAK 4132C		38			80	10	41								57	745.5		265
LAK 4132D		42			110	12	45								80	885		325
LAK 4160A/AA	80	48	M16	20	110	14	51.5	160	14	723	343.5	819	88.5	15	80	744		335
LAK 4160B/BB																791		365
LAK 4160C/CC																856		410
LAK 4160D																981		525
LAK 4180AA	91	55	M16	20	110	16	59	180	16	761	364	857	109	15	80	848.5		525
LAK 4180BA		55	M16	20	110	16	59		16	761	364	857	109	15	80	884.5		555
LAK 4180CA		60	M16	20	140	18	64		16	761	364	857	109	15	110	965.5		615
LAK 4180DA		70	M20	20	140	20	74.5		16	761	364	857	109	15	110	1030.5	43.5	645
LAK 4180EA		70	M20	25	140	20	74.5		16	769	364	867	109	15	110	1090.5	28.5	725
LAK 4180FA		70	M20	25	140	20	74.5		16	769	372.5	867	117.5	19	110	1248		820

Dimensions are not binding.

Dimension drawing, LAK 4200-4280 IC86W



Dimensions in mm

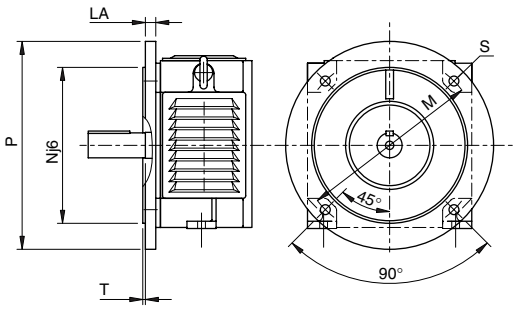
Type	A	AA	AB	AC	AD	AE	AK	AM/N	B	BA	BC	BF	BI	BJ	BL	BM	BN	C	CA	CB	CC
LAK 4200A									542		616					730					
LAK 4200B	318	70	404	420	350	280	500	329	610	113	684	278	128	283	38	798	240	133	178	116	59
LAK 4200C									678		752					866					
LAK 4225A									630		737					910					
LAK 4225B	356	78	453	469	408	330	580	379	696	118	803	328	128	355	52	976	280	149	201	138	72
LAK 4225C									762		869					1042					
LAK 4250A									679		793					959					
LAK 4250B	406	84	502	518	432	330	629	379	751	138	865	328	128	355	39	1031	280	168	229	160	75
LAK 4250C									823		937					1103					
LAK 4280A									735		863					1072					
LAK 4280B	457	89	560	576	510	480	687	529	815	155	943	423	120	500	99	1152	380	190	242	166	81
LAK 4280C									895		1023					1232					

Type	D	DE	DN	E	F	GA	H	HA	HC	HD	HE	HF	HG	HI	IA	IB	IC	K	KL	L	Weight (kg)
LAK 4200A																				1032	660
LAK 4200B	75	M20	32	140	20	79.5	200	20	610	910	77	150	515	158	140	100	18	19	100	1100	720
LAK 4200C																				1168	795
LAK 4225A																				1202	935
LAK 4225B	85	M20	40	170	22	90	225	20	625	1055	75	300	600	178	150	110	18	19	125	1268	1005
LAK 4225C																				1334	1100
LAK 4250A																				1309	1175
LAK 4250B	95	M20	40	170	25	100	250	23	675	1105	106	300	625	178	150	110	18	24	125	1381	1280
LAK 4250C																				1453	1450
LAK 4280A																				1468	1535
LAK 4280B	100	M20	40	210	28	106	280	26	933	1508	93.5	300	841	250	150	110	18	24	160	1548	1745
LAK 4280C																				1628	1945

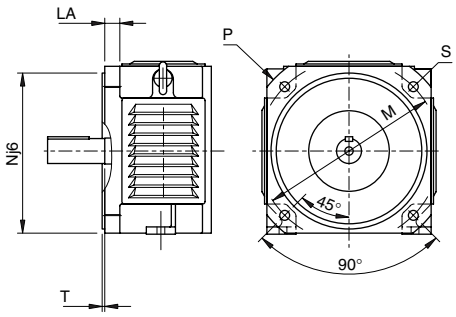
Dimensions are not binding.

Dimension drawing, LAK 4112-4180 Flanges IEC

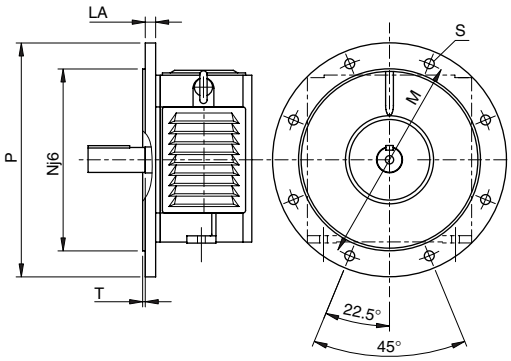
VIEW: 1



VIEW: 1B



VIEW: 2/2B



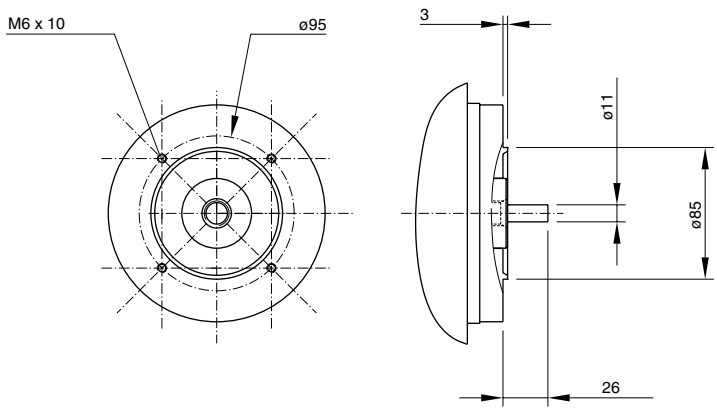
Dimensions in mm

Type	Flange size	LA	M	Nj6	P	S	T	View
LAK 4112A/B	F215	14	215	180	250	15	4	1B
	F265	14	265	230	300	15	4	1B
LAK 4132A/B/C/D	F265	17	265	230	300	15	4	1B
	F300	17	300	250	350	19	5	1B
LAK 4160A/B/C/D	F350	20	350	300	400	19	5	1B
LAK 4180AA->EA	F350	17	350	300	400	19	5	1B
	F400	17	400	350	450	19	5	2B
LAK 4180FA	F500	20	500	450	550	19	5	2

Other dimensions on request.

Dimension drawing, LAK 4112-4180 Tachometer flange

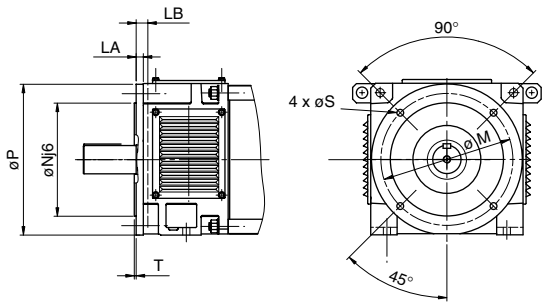
B - B



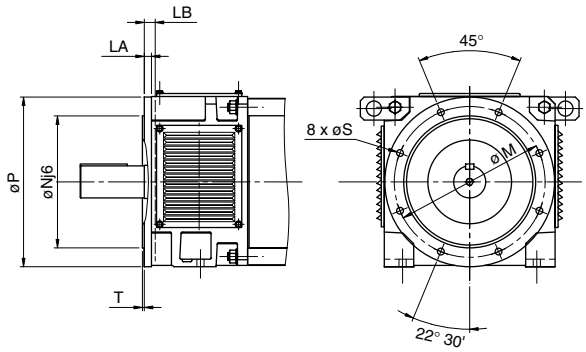
Dimensions are not binding.

Dimension drawing, LAK 4200-4280 Flanges IEC

VIEW: 1



VIEW: 2



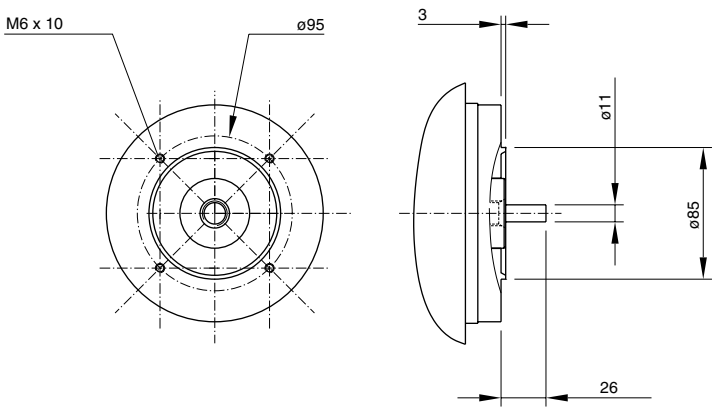
Dimensions in mm

Type	Flange size	LA	LB	M	Nj6	P	S	T	View
LAK 4200	F350	19	30	350	300	400	18	5	1
LAK 4225	F400	19	32	400	350	450	18	5	2
LAK 4250	F400	22	36	400	350	450	18	5	2
LAK 4280	F500	23	42	500	450	550	18	5	2

Other dimensions on request.

Dimension drawing, LAK 4200-4280 Tachometer flange

B - B



Dimensions are not binding.

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