

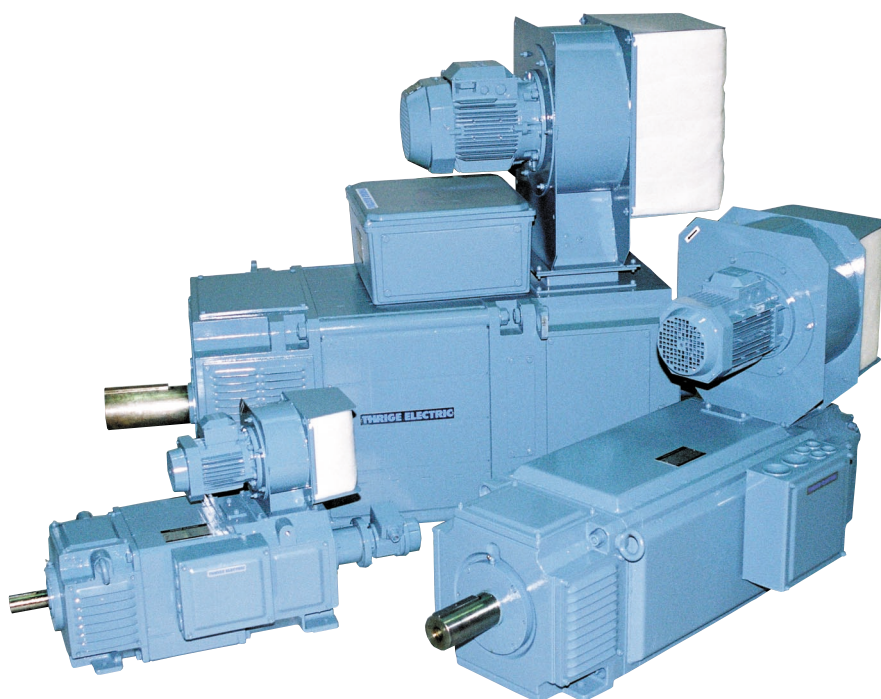
# THRIGE ELECTRIC

## DC motors, LAK 4112-4280

Catalogue 2003/02 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

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

LAK 4000 motor range:

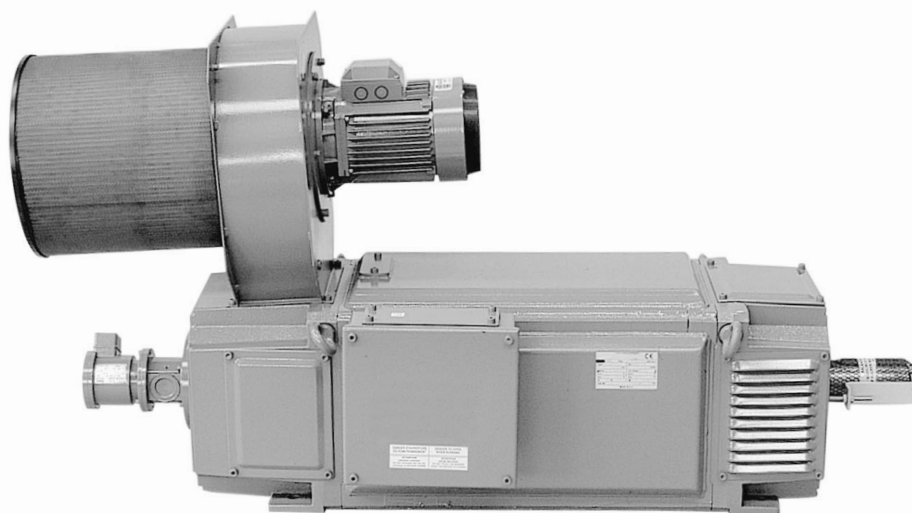
Frame size	Core lengths
4112	A, B
4132	A, B, C, D
4160	A, B, C, D
4180	A, B, C, D, E, F
4200	A, B, C
4225	A, B, C
4250	A, B, C
4280	A, B, C

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 electro-plate.
- Large number of cooling ducts in armature provide excellent cooling.
- Scrambled armature laminations for low torque ripples.
- Armature windings of varnished copper designed for low commutating stresses and high mechanical strength.
- Armature is impregnated to ensure high degree of heat transfer.
- Brush holders with spring loaded pressure fingers.
- Prepared for a number of options and accessories ensuring high flexibility.
- Painting with excellent corrosion resistant properties.
- Conforms with IEC standards.
- Available as NEMA standard.
- CSA approved.



*LAK 4180, cooling form IC06*

# Options

Frame size	LAK	4112	4132	4160	4180	4200	4225	4250	4280
<b>Cooling forms</b>									
IC06	(IP23) Force ventilated	0	0	0	0	0	0	0	0
IC17	(IP23) Single pipe ventilated	0	0	0	0	0	0	0	0
IC37	(IP54) Double pipe ventilated	0	0	0	0	0	0	0	0
IC410	(IP54) Totally enclosed	0	0	0	0	0	0	0	0
IC416	(IP54) Totally enclosed, fan cooled	0	0	0	0				
IC666	(IP54) Air-air cooled		0	0	0	0	0	0	0
IC86W	(IP54) Air-water cooled		0	0	0	0	0	0	0
<i>Other cooling forms available</i>									
<b>Protection</b>									
IP55		0	0	0	0	0	0	0	0
<b>Mounting forms</b>									
IM1001	Horizontal foot	0	0	0	0	0	0	0	0
IM1002	Horizontal foot, two shaft ends	0	0	0	0	0	0	0	0
IM2001	Horizontal foot and flange	0	0	0	0	0	0	0	0
IM2011	Vertical foot and flange	0	0	0	0	0	0	0	0
<i>Other mounting forms available</i>									
<b>Modifications and accessories</b>									
Compound winding		0	0	0	0	0	0	0	0
Series winding		0	0	0	0	0	0	0	0
Pressure switch		0	0	0	0	0	0	0	0
Temperature sensor, interpole		0	0	0	0	0	0	0	0
Temperature sensor, field winding		0	0	0	0	0	0	0	0
Bearing sensor		0	0	0	0	0	0	0	0
Grounding brush		0	0	0	0	0	0	0	0
Heating element		0	0	0	0	0	0	0	0
Brush wear sensor		0	0	0	0	0	0	0	0
Special shaft		0	0	0	0	0	0	0	0
Roller bearing d-end		0	0	0	0	0	0	0	0
Shaft seal, d-end		0	0	0	0	0	0	0	0
Special balance Class 'R'		0	0	0	0	0	0	0	0
Special paint (RAL colour)		0	0	0	0	0	0	0	0
Special corrosion protection		0	0	0	0	0	0	0	0
Transparent inspection cover		0	0	0	0	0	0	0	0
Brake		0	0	0	0	0	0	0	0
Gearbox		0	0	0	0	0	0	0	0
<b>Tachos with coupling</b>									
REO 444R1	(60v/1000 min <sup>-1</sup> )	0	0	0	0	0	0	0	0
TDP 0.2 T-4	(60v/1000 min <sup>-1</sup> )	0	0	0	0	0	0	0	0
<i>Others available</i>									
<b>Pulse generators</b>									
POG 9 D	(1-1250 ppr)	0	0	0	0	0	0	0	0
ITD40A4	(1024 ppr)	0	0	0	0	0	0	0	0
<i>Others available</i>									

# Application data

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## 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:

Position 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.

*Detailed heat exchanger information on request.*

Air/air (IC666):

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

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

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.

### Mechanical data

Frame	Inertia J - kgm <sup>2</sup>	Max. mechanical speed (min <sup>-1</sup> )
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	4000
LAK 4200C	1.40	4000
LAK 4225A	1.90	3600
LAK 4225B	2.20	3600
LAK 4225C	2.90	3600
LAK 4250A	3.30	3200
LAK 4250B	3.80	3200
LAK 4250C	4.30	3200
LAK 4280A	5.90	2800
LAK 4280B	6.80	2800
LAK 4280C	7.80	2800

### Cooling data (IC06/17/37)

Frame	Air volume m <sup>3</sup> /h	Pressure drop in motor N/m <sup>2</sup>
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

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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 <sup>-1</sup> ) at armature voltage (V)					Rated armature current (A)	Torque (Nm)	Max. elec. speed** (min <sup>-1</sup> )	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

Data subject to change without prior notice.

Cont. output (kW)	Base speed (min <sup>-1</sup> ) at armature voltage (V)					Rated armature current (A)	Torque (Nm)	Max. elec. speed** (min <sup>-1</sup> )	Efficiency (%)	Armature circuit		Code number 153
	260	400	440	460	500					Resistance (Ohm)	Inductance (mH)	
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

Cont. output (kW)	Base speed (min <sup>-1</sup> ) at armature voltage (V)					Rated armature current (A)	Torque (Nm)	Max. elec. speed** (min <sup>-1</sup> )	Efficiency (%)	Armature circuit		Code number 156
	260	400	440	460	500					Resistance (Ohm)	Inductance (mH)	
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

Cont. output (kW)	Base speed (min <sup>-1</sup> ) at armature voltage (V)					Rated armature current (A)	Torque (Nm)	Max. elec. speed** (min <sup>-1</sup> )	Efficiency (%)	Armature circuit		Code number 156
	260	400	440	460	500					Resistance (Ohm)	Inductance (mH)	
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

Cont. output (kW)	Base speed (min <sup>-1</sup> ) at armature voltage (V)					Rated armature current (A)	Torque (Nm)	Max. elec. speed** (min <sup>-1</sup> )	Efficiency (%)	Armature circuit		Code number 156
	260	400	440	460	500					Resistance (Ohm)	Inductance (mH)	
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

Cont. output (kW)	Base speed (min <sup>-1</sup> ) at armature voltage (V)					Rated armature current (A)	Torque (Nm)	Max. elec. speed** (min <sup>-1</sup> )	Efficiency (%)	Armature circuit		Code number 156
	260	400	440	460	500					Resistance (Ohm)	Inductance (mH)	
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 <sup>-1</sup> ) at armature voltage (V)				Rated armature current (A)	Torque (Nm)	Max. elec. speed** (min <sup>-1</sup> )	Efficiency (%)	Armature circuit		Code number 157
	400	440	460	500					Resistance (Ohm)	Inductance (mH)	
12.4	650	735	783	870	41.0	182	980	71.2	2.14	33.6	301-RC
14.0					41.0	182	980	73.5	2.14	33.6	301-RC
15.0					41.0	182	980	75.0	2.14	33.6	301-RC
16.3					40.3	179	980	77.3	2.14	33.6	301-RC
14.0	735	825	871	971	45.0	182	1050	73.5	1.75	28.2	301-PC
15.7					45.0	182	1050	75.5	1.75	28.2	301-PC
16.6					45.0	182	1050	76.8	1.75	28.2	301-PC
18.3					44.3	179	1050	78.9	1.75	28.2	301-PC
15.9	825	925	979	1087	50.0	185	1205	75.7	1.44	23.3	301-NC
17.9					50.0	185	1205	77.6	1.44	23.3	301-NC
18.0					50.0	185	1205	78.8	1.44	23.3	301-NC
20.7					49.2	182	1205	80.7	1.44	23.3	301-NC
18.2	935	1045	1106	1226	56.0	186	1400	77.6	1.17	18.9	301-MC
20.4					56.0	186	1400	79.3	1.17	18.9	301-MC
21.5					56.0	186	1400	80.5	1.17	18.9	301-MC
23.5					55.1	183	1400	82.2	1.17	18.9	301-MC
20.9	1075	1200	1267	1399	63.0	186	1575	79.8	0.92	14.9	301-LC
23.4					63.0	186	1575	81.4	0.92	14.9	301-LC
24.8					63.0	186	1575	82.4	0.92	14.9	301-LC
26.8					62.0	183	1575	83.9	0.92	14.9	301-LC
24.3	1245	1390	1468	1615	72.0	187	1850	81.5	0.72	11.5	301-KC
27.1					72.0	187	1850	82.9	0.72	11.5	301-KC
28.7					72.0	187	1850	83.9	0.72	11.5	301-KC
31.1					70.8	183	1850	85.3	0.72	11.5	301-KC
29.5	1490	1660	1747	1923	85.0	189	2125	84.1	0.50	8.4	301-HC
32.8					85.0	189	2125	85.3	0.50	8.4	301-HC
34.5					85.0	189	2125	86.0	0.50	8.4	301-HC
37.3					83.6	186	2125	87.2	0.50	8.4	301-HC
# 36.1	1830	2030	2134	2346	102	189	2470	86.2	0.35	5.9	301-GC
40.1					102	189	2470	87.2	0.35	5.9	301-GC
42.0					102	189	2470	87.9	0.35	5.9	301-GC
45.5					100	185	2590	88.9	0.35	5.9	301-GC
45.8	2330	2580	2711	2971	127	188	3325	88.4	0.22	3.8	301-FC
50.8					127	188	3325	89.2	0.22	3.8	301-FC
53.3					127	188	3325	89.7	0.22	3.8	301-FC
57.4					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

Cont. output (kW)	Base speed (min <sup>-1</sup> ) at armature voltage (V)				Rated armature current (A)	Torque (Nm)	Max. elec. speed** (min <sup>-1</sup> )	Efficiency (%)	Armature circuit		Code number 157
	400	440	460	500					Resistance (Ohm)	Inductance (mH)	
14.8	680	765	812	899	47.0	208	1080	75.4	1.59	26.3	601-RC
16.7					47.0	208	1080	77.3	1.59	26.3	601-RC
17.6					47.0	208	1080	78.6	1.59	26.3	601-RC
19.3					46.2	205	1080	80.5	1.59	26.3	601-RC
16.4	755	845	935	995	51.0	207	1180	76.9	1.36	22.1	601-PC
18.4					51.0	207	1180	78.7	1.36	22.1	601-PC
19.5					51.0	207	1180	79.5	1.36	22.1	601-PC
21.2					50.1	204	1180	81.7	1.36	22.1	601-PC
18.7	845	950	1003	1106	57.0	211	1280	78.9	1.12	18.3	601-NC
20.9					57.0	211	1280	80.5	1.12	18.3	601-NC
22.1					57.0	211	1280	81.6	1.12	18.3	601-NC
23.9					56.0	207	1280	83.0	1.12	18.3	601-NC
20.9	955	1065	1125	1245	63.0	210	1430	80.3	0.92	14.9	601-MC
23.4					63.0	210	1430	81.9	0.92	14.9	601-MC
24.8					63.0	210	1430	82.8	0.92	14.9	601-MC
26.8					61.9	206	1430	84.3	0.92	14.9	601-MC
24.4	1095	1220	1287	1418	72.0	213	1580	82.3	0.71	11.7	601-LC
27.3					72.0	213	1580	83.7	0.71	11.7	601-LC
28.8					72.0	213	1580	84.6	0.71	11.7	601-LC
31.2					70.8	210	1580	85.9	0.71	11.7	601-LC
28.5	1275	1420	1493	1644	82.5	214	1800	84.1	0.54	9.0	601-KC
31.7					82.5	214	1800	85.3	0.54	9.0	601-KC
33.4					82.5	214	1800	86.1	0.54	9.0	601-KC
36.2					81.1	210	1800	87.3	0.54	9.0	601-KC
34.1	1515	1680	1767	1942	97.0	215	2100	86.0	0.40	6.6	601-HC
37.9					97.0	215	2100	87.0	0.40	6.6	601-HC
39.8					97.0	215	2100	87.7	0.40	6.6	601-HC
43.0					95.3	212	2100	88.7	0.40	6.6	601-HC
41.1	1845	2050	2153	2365	115	213	2550	87.7	0.28	4.6	601-GC
45.6					115	213	2550	88.6	0.28	4.6	601-GC
48.0					115	213	2550	89.2	0.28	4.6	601-GC
51.7					113	209	2550	90.1	0.28	4.6	601-GC
52.5	2350	2605	2736	2995	144	213	3170	89.7	0.18	2.9	601-FC
58.1					144	213	3170	90.5	0.18	2.9	601-FC
61.0					144	213	3170	90.9	0.18	2.9	601-FC
65.0					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 <sup>-1</sup> ) at armature voltage (V)				Rated armature current (A)	Torque (Nm)	Max. elec. speed** (min <sup>-1</sup> )	Efficiency (%)	Armature circuit		Code number 157
	400	440	460	500					Resistance (Ohm)	Inductance (mH)	
15.4	620	700	744	827	50.0	237	925	72.5	1.64	28.30	201-NC
17.4					50.0	237	925	74.7	1.64	28.30	201-NC
18.4					50.0	237	925	76.0	1.64	28.30	201-NC
20.2		50.0	233		925	78.2	1.64	28.30	201-NC		
17.6	710	795	842	937	56.0	238	1125	74.6	1.33	22.90	201-MC
19.8					56.0	238	1125	76.6	1.33	22.90	201-MC
21.0					56.0	238	1125	77.9	1.33	22.90	201-MC
23.0		55.1	234		1125	79.9	1.33	22.90	201-MC		
20.4	815	915	969	1072	63.0	239	1265	77.1	1.05	18.10	201-LC
22.9					63.0	239	1265	78.9	1.05	18.10	201-LC
24.2					63.0	239	1265	80.0	1.05	18.10	201-LC
26.3		62.0	235		1265	81.8	1.05	18.10	201-LC		
23.8	950	1065	1126	1245	72.0	238	1490	79.1	0.83	13.85	201-KC
26.6					72.0	238	1490	80.7	0.83	13.85	201-KC
28.1					72.0	238	1490	81.7	0.83	13.85	201-KC
30.5		70.8	234		1490	83.3	0.83	13.85	201-KC		
28.9	1145	1275	1346	1481	85.0	242	1690	82.0	0.58	10.20	201-HC
32.2					85.0	242	1690	83.4	0.58	10.20	201-HC
34.0					85.0	242	1690	84.3	0.58	10.20	201-HC
36.8		83.6	237		1690	85.6	0.58	10.20	201-HC		
35.5	1410	1565	1644	1812	102	241	2000	84.4	0.40	7.05	201-GC
39.5					102	241	2000	85.6	0.40	7.05	201-GC
41.4					102	241	2000	86.3	0.40	7.05	201-GC
44.9		100	237		2000	87.5	0.40	7.05	201-GC		
45.2	1800	1995	2099	2298	127	240	2675	86.9	0.25	4.50	201-FC
50.2					127	240	2675	87.9	0.25	4.50	201-FC
52.8					127	240	2675	88.5	0.25	4.50	201-FC
56.9		125	236		2675	89.4	0.25	4.50	201-FC		
50.3	2030	2250	2360	2585	140	237	2980	88.6	0.21	3.63	201-EB
55.8					140	237	2980	89.4	0.21	3.63	201-EB
58.5					140	237	2980	89.7	0.21	3.63	201-EB
63.3		138	233		2980	90.7	0.21	3.63	201-EB		
60.4	2450	2715	2848	3120	166	235	3500	89.2	0.15	2.55	201-EC
66.8					166	235	3500	90.0	0.15	2.55	201-EC
70.0					166	235	3500	90.4	0.15	2.55	201-EC
75.3		163	231		3500	91.1	0.15	2.55	201-EC		
73.5	2920	3230	3386		200	241	3500	91.0	0.09	1.85	201-CB
79.5					200	240	3500	91.5	0.09	1.85	201-CB
83.7					200	240	3500	91.8	0.09	1.85	201-CB

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

Field loss (hot) = 1250 W

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

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

Field loss (hot) = 1250 W

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

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

Field loss (hot) = 1400 W

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

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

Field loss (hot) = 1400 W

Cont. output (kW)	Base speed (min <sup>-1</sup> ) at armature voltage (V)				Rated armature current (A)	Torque (Nm)	Max. elec. speed** (min <sup>-1</sup> )	Efficiency (%)	Armature circuit		Code number 157
	400	440	460	500					Resistance (Ohm)	Inductance (mH)	
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 <sup>-1</sup> ) at armature voltage (V)				Rated armature current (A)	Torque (Nm)	Max. elec. speed** (min <sup>-1</sup> )	Efficiency (%)	Armature circuit		Code number 159
	400	440	460	500					Resistance (Ohm)	Inductance (mH)	
29.0	650	730	773	865	91.0	429	2300	78.7	0.73	15.7	101-RC
33.0					91.0	429	2300	80.3	0.73	15.7	101-RC
35.0					91.0	429	2300	81.4	0.73	15.7	101-RC
38.0		90.0	422		2300	83.1	0.73	15.7	101-RC		
32.0	750	840	881	981	97.0	406	1500	80.2	0.63	12.4	101-PC
36.0					97.0	406	1500	81.7	0.63	12.4	101-PC
38.0					98.0	406	1500	82.7	0.63	12.4	101-PC
41.0		95.0	407		1500	84.2	0.63	12.4	101-PC		
37.0	880	980	1037	1144	111	407	2730	82.4	0.47	9.5	101-NC
42.0					111	407	2730	83.7	0.47	9.5	101-NC
44.0					111	400	2730	84.6	0.47	9.5	101-NC
48.0		109	396		2730	85.9	0.47	9.5	101-NC		
43.0	1040	1160	1223	1346	126	396	3740	84.0	0.37	7.0	101-LC
48.0					126	396	3740	85.2	0.37	7.0	101-LC
51.0					126	396	3740	86.0	0.37	7.0	101-LC
55.0		124	389		3740	87.1	0.37	7.0	101-LC		
53.0	1280	1420	1497	1635	152	398	3910	86.0	0.26	4.8	101-HC
59.0					152	398	3910	87.0	0.26	4.8	101-HC
63.0					152	398	3910	87.7	0.26	4.8	101-HC
67.0		149	391		3910	88.7	0.26	4.8	101-HC		
59.0	1400	1560	1644	1798	166	400	2100	87.2	0.21	4.1	101-GB
65.0					166	400	2100	88.1	0.21	4.1	101-GB
68.0					166	400	2100	88.7	0.21	4.1	101-GB
74.0		163	393		2100	89.6	0.21	4.1	101-GB		
69.0	1630	1810	1899	2087	192	402	4500	88.2	0.16	3.1	101-FC
76.0					192	402	4500	89.1	0.16	3.1	101-FC
80.0					192	402	4500	89.6	0.16	3.1	101-FC
87.0		189	395		4500	90.4	0.16	3.1	101-FC		
75.0	1840	2040	2153	2375	207	387	1950	89.0	0.13	2.5	101-EB
79.0					198	370	2040	89.9	0.13	2.5	101-EB
77.0					184	343	2200	90.6	0.13	2.5	101-EB
76.0		164	306		2470	91.3	0.13	2.5	101-EB		
89.0	2220	2460	2574	2817	245	384	4500	90.2	0.10	1.7	101-DC
99.0					245	384	4500	90.8	0.10	1.7	101-DC
104					245	384	4500	91.2	0.10	1.7	101-DC
116		241	377		4500	91.9	0.10	1.7	101-DC		
110	2640	2930	3073	3365	299	400	2660	91.4	0.06	1.3	101-CB
111					272	363	2930	92.1	0.06	1.3	101-CB
109					253	337	3140	92.5	0.06	1.3	101-CB
112		227	318		3500	92.9	0.06	1.3	101-CB		
137	3330	3690	3866	4231	368	393	3390	92.4	0.04	0.8	101-BB
139					338	361	3960	92.9	0.04	0.8	101-BB
136					315	335	3950	93.2	0.04	0.8	101-BB
134		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 <sup>-1</sup> ) at armature voltage (V)				Rated armature current (A)	Torque (Nm)	Max. elec. speed** (min <sup>-1</sup> )	Efficiency (%)	Armature circuit		Code number 159
	400	440	460	500					Resistance (Ohm)	Inductance (mH)	
29.0	545	610	646	721	91.0	506	1800	76.9	0.81	18.7	201-RC
32.0					91.0	506	1800	78.8	0.81	18.7	201-RC
34.0					91.0	506	1800	80.0	0.81	18.7	201-RC
37.0		90.0	497		1800	81.8	0.81	18.7	201-RC		
31.0	625	700	739	822	97.0	479	1200	78.4	0.69	14.8	201-PC
35.0					97.0	479	1200	80.1	0.69	14.8	201-PC
37.0					97.0	479	1200	81.2	0.69	14.8	201-PC
40.0		95.0	471		1200	82.9	0.69	14.8	201-PC		
37.0	735	820	866	957	111	480	2360	81.0	0.52	11.3	201-NC
41.0					111	480	2360	82.5	0.52	11.3	201-NC
43.0					111	480	2360	83.4	0.52	11.3	201-NC
47.0		109	472		2360	84.9	0.52	11.3	201-NC		
43.0	875	975	1028	1130	126	467	3230	82.8	0.41	8.3	201-LC
48.0					126	467	3230	84.1	0.41	8.3	201-LC
50.0					126	467	3230	85.0	0.41	8.3	201-LC
55.0		124	459		3230	86.3	0.41	8.3	201-LC		
53.0	1075	1195	1258	1385	152	469	3390	85.1	0.28	5.8	201-HC
59.0					152	469	3390	86.3	0.28	5.8	201-HC
62.0					152	469	3390	87.0	0.28	5.8	201-HC
66.0		149	461		3390	88.1	0.28	5.8	201-HC		
58.0	1175	1310	1380	1514	166	471	1700	86.1	0.24	4.9	201-GB
65.0					166	471	1700	87.1	0.24	4.9	201-GB
69.0					166	471	1700	87.8	0.24	4.9	201-GB
73.0		163	463		1700	88.8	0.24	4.9	201-GB		
# 68.0	1375	1530	1605	1760	192	474	4200	87.87	0.17	3.7	201-FC
76.0					192	474	4200	88.6	0.17	3.7	201-FC
80.0					192	474	4200	89.2	0.17	3.7	201-FC
86.0		189	456		4200	90.0	0.17	3.7	201-FC		
74.0	1550	1720	1820	2000	207	453	2500	88.3	0.15	3.0	201-EB
82.0					207	457	2500	89.2	0.15	3.0	201-EB
86.0					207	457	2500	89.9	0.15	3.0	201-EB
93.0		205	452		2500	90.8	0.15	3.0	201-EB		
89.0	1870	2070	2173	2380	245	453	4500	89.5	0.11	2.1	201-DC
98.0					245	453	4500	90.2	0.11	2.1	201-DC
103					245	453	4500	90.7	0.11	2.1	201-DC
111		241	445		4500	91.4	0.11	2.1	201-DC		
110	2230	2470	2603	2846	299	471	2300	91.0	0.07	1.5	201-CB
113					278	438	2470	91.8	0.07	1.5	201-CB
109					259	407	2660	92.2	0.07	1.5	201-CB
109		232	364		2960	92.7	0.07	1.5	201-CB		
136	2810	3110	3269	3577	368	464	2930	92.0	0.05	1.0	201-BB
142					346	436	3110	92.6	0.05	1.0	201-BB
140					322	405	3340	92.9	0.05	1.0	201-BB
136		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 <sup>-1</sup> ) at armature voltage (V)				Rated armature current (A)	Torque (Nm)	Max. elec. speed** (min <sup>-1</sup> )	Efficiency (%)	Armature circuit		Code number 159
	400	440	460	500					Resistance (Ohm)	Inductance (mH)	
31.0	490	550	587	649	101	613	900	75.6	0.69	18.1	301-PC
35.0					101	613	900	77.6	0.69	18.1	301-PC
37.0					101	613	900	78.8	0.69	18.1	301-PC
41.0					99.0	603	900	80.8	0.69	18.1	301-PC
38.0	575	645	685	760	117	621	1860	78.2	0.53	13.9	301-NC
42.0					117	621	1860	80.0	0.53	13.9	301-NC
45.0					117	621	1860	81.1	0.53	13.9	301-NC
49.0					115	611	1860	82.8	0.53	13.9	301-NC
44.0	690	775	817	904	132	601	2550	80.5	0.40	10.2	301-LC
49.0					132	601	2550	82.1	0.40	10.2	301-LC
52.0					132	601	2550	83.0	0.40	10.2	301-LC
56.0					130	590	2550	84.6	0.40	10.2	301-LC
54.0	850	950	1003	1106	159	603	2690	83.1	0.28	7.1	301-HC
60.0					159	603	2690	84.4	0.28	7.1	301-HC
64.0					159	603	2690	85.2	0.28	7.1	301-HC
68.0					156	593	2690	86.5	0.28	7.1	301-HC
60.0	940	1050	1106	1216	174	607	1360	84.6	0.26	6.0	301-GB
67.0					174	607	1360	85.7	0.26	6.0	301-GB
70.0					174	607	1360	86.5	0.26	6.0	301-GB
76.0					171	597	1360	87.6	0.26	6.0	301-GB
70.0	1100	1225	1292	1418	201	610	3330	86.3	0.19	4.5	301-FC
78.0					201	610	3330	87.3	0.19	4.5	301-FC
82.0					201	610	3330	88.0	0.19	4.5	301-FC
91.0					198	599	3330	89.0	0.19	4.5	301-FC
77.0	1240	1380	1468	1615	218	591	1330	86.9	0.17	3.6	301-EB
83.0					211	571	1380	88.0	0.17	3.6	301-EB
81.0					195	528	1500	88.9	0.17	3.6	301-EB
79.0					173	469	1680	90.0	0.17	3.6	301-EB
# 93.0	1510	1670	1757	1923	258	587	4500	88.7	0.12	2.5	301-DC
103					258	587	4500	89.5	0.12	2.5	301-DC
108					258	587	4500	90.0	0.12	2.5	301-DC
116					254	576	4500	90.7	0.12	2.5	301-DC
115	1795	2000	2104	2308	315	610	1810	90.1	0.08	1.8	301-CB
116					286	553	2000	91.0	0.08	1.8	301-CB
113					266	513	2150	91.6	0.08	1.8	301-CB
111					238	458	2400	92.2	0.08	1.8	301-CB
# 142	2270	2520	2652	2904	386	598	2310	91.3	0.05	1.2	301-BB
144					354	547	2520	92.0	0.05	1.2	301-BB
141					329	508	2710	92.4	0.05	1.2	301-BB
138					295	454	3020	92.9	0.05	1.2	301-BB
167	3080	3400	3563		450	521	4000	92.5	0.03	0.7	301-AB
185					450	521	4000	92.9	0.03	0.7	301-AB
194					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 <sup>-1</sup> ) at armature voltage (V)				Rated armature current (A)	Torque (Nm)	Max. elec. speed** (min <sup>-1</sup> )	Efficiency (%)	Armature circuit		Code number 159
	400	440	460	500					Resistance (Ohm)	Inductance (mH)	
33.0	450	510	538	601	105	688	1500	74.8	0.77	17.1	401-NC
37.0					105	688	1500	76.8	0.77	17.1	401-NC
39.0					105	688	1500	78.0	0.77	17.1	401-NC
42.0					103	676	1500	80.0	0.77	17.1	401-NC
40.0	545	610	646	716	125	702	2210	77.9	0.55	12.6	401-LC
45.0					125	702	2210	79.6	0.55	12.6	401-LC
48.0					125	702	2210	80.7	0.55	12.6	401-LC
52.0					123	690	2210	82.5	0.55	12.6	401-LC
51.0	680	760	803	885	152	712	2310	81.4	0.37	8.7	401-HC
57.0					152	712	2310	82.8	0.37	8.7	401-HC
59.0					152	712	2310	83.7	0.37	8.7	401-HC
65.0					149	700	2310	85.2	0.37	8.7	401-HC
53.0	760	845	891	981	155	668	1100	83.4	0.30	7.4	401-GB
59.0					155	668	1100	84.6	0.30	7.4	401-GB
63.0					155	668	1100	85.5	0.30	7.4	401-GB
67.0					152	656	1100	86.7	0.30	7.4	401-GB
64.0	875	975	1028	1135	187	701	2930	84.3	0.24	5.6	401-FC
72.0					187	701	2930	85.5	0.24	5.6	401-FC
75.0					187	701	2930	86.3	0.24	5.6	401-FC
82.0					184	688	2930	87.4	0.24	5.6	401-FC
68.0	1000	1110	1174	1288	194	649	1300	86.0	0.19	4.5	401-EB
76.0					194	649	1300	87.0	0.19	4.5	401-EB
79.0					194	649	1340	87.6	0.19	4.5	401-EB
85.0					189	631	1340	88.6	0.19	4.5	401-EB
# 87.0	1210	1340	1409	1548	246	691	4500	87.5	0.14	3.1	401-DC
97.0					246	691	4500	88.4	0.14	3.1	401-DC
102					246	691	4500	89.0	0.14	3.1	401-DC
110					242	679	4500	89.8	0.14	3.1	401-DC
101	1445	1605	1683	1851	280	669	1770	89.3	0.09	2.3	401-CB
112					280	669	1770	90.0	0.09	2.3	401-CB
118					280	669	1770	90.5	0.09	2.3	401-CB
119					257	614	1925	91.3	0.09	2.3	401-CB
# 126	1835	2030	2129	2331	344	657	2250	90.7	0.06	1.5	401-BB
140					344	657	2250	91.3	0.06	1.5	401-BB
147					344	657	2250	91.6	0.06	1.5	401-BB
149					320	609	2425	92.2	0.06	1.5	401-BB
166	2470	2730	2868	3125	450	644	4000	91.8	0.04	0.8	401-AB
184					450	644	4000	92.3	0.04	0.8	401-AB
193					450	643	4000	92.5	0.04	0.8	401-AB
207					442	631	4000	92.9	0.04	0.8	401-AB

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

Field loss (hot) = 2280 W

Cont. output (kW)	Base speed (min <sup>-1</sup> ) at armature voltage (V)				Rated armature current (A)	Torque (Nm)	Max. elec. speed** (min <sup>-1</sup> )	Efficiency (%)	Armature circuit		Code number 159
	400	440	460	500					Resistance (Ohm)	Inductance (mH)	
49.0	570	635	587	745	148	815	1700	79.8	0.42	10.3	501-HC
54.0					148	815	1700	81.3	0.42	10.3	501-HC
58.0					148	815	1700	82.3	0.42	10.3	501-HC
63.0					146	801	1700	83.9	0.42	10.3	501-HC
54.0	630	705	744	817	162	820	920	81.3	0.34	8.7	501-GB
60.0					162	820	920	82.8	0.34	8.7	501-GB
64.0					162	820	920	83.7	0.34	8.7	501-GB
69.0					159	806	920	85.1	0.34	8.7	501-GB
62.0	735	820	851	952	181	795	2450	83.0	0.27	6.6	501-FC
69.0					181	795	2450	84.3	0.27	6.6	501-FC
72.0					181	795	2450	85.1	0.27	6.6	501-FC
78.0					178	783	2450	86.3	0.27	6.6	501-FC
70.0	835	930	979	1082	202	790	1070	84.4	0.22	5.3	501-EB
77.0					202	790	1070	85.5	0.22	5.3	501-EB
81.0					202	790	1070	86.3	0.22	5.3	501-EB
87.0					194	761	1125	87.5	0.22	5.3	501-EB
84.0	1020	1130	1189	1308	239	789	3400	86.5	0.15	3.7	501-DC
94.0					239	789	3400	87.5	0.15	3.7	501-DC
98.0					239	789	3400	88.1	0.15	3.7	501-DC
106					235	775	3400	89.0	0.15	3.7	501-DC
104	1215	1345	1414	1558	292	821	1450	88.2	0.11	2.7	501-CB
116					292	821	1450	89.0	0.11	2.7	501-CB
121					292	821	1450	89.5	0.11	2.7	501-CB
120					263	736	1620	90.5	0.11	2.7	501-CB
130	1545	1710	1796	1971	358	805	3000	89.8	0.07	1.7	501-BB
144					358	805	3000	90.4	0.07	1.7	501-BB
150					358	805	3000	90.9	0.07	1.7	501-BB
150					324	727	3000	91.6	0.07	1.7	501-BB
166	2100	2320	2427	2654	450	757	3200	91.4	0.05	1.0	501-AB
183					450	756	3200	91.9	0.05	1.0	501-AB
192					450	756	3200	92.2	0.05	1.0	501-AB
206					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 <sup>-1</sup> ) at armature voltage (V)				Rated armature current (A)	Torque (Nm)	Max. elec. speed** (min <sup>-1</sup> )	Efficiency (%)	Armature circuit		Code number 159
	400	440	460	500					Resistance (Ohm)	Inductance (mH)	
65.6	610	680	724	798	194	1024	1200	82.7	0.26	10.5	601-BF
73.2					194	1024	1200	84.0	0.26	10.5	601-BF
77.0					194	1024	1200	84.8	0.26	10.5	601-BF
84.0					190	1007	1200	86.1	0.26	10.5	601-BF
65.4	670	750	793	875	196	930	1050	81.7	0.29	8.5	601-FF
73.0					196	930	1050	83.0	0.29	8.5	601-FF
77.7					196	930	1050	83.9	0.29	8.5	601-FF
84.0					192	914	1050	85.3	0.29	8.5	601-FF
74.7	770	860	900	1000	220	928	1200	83.3	0.22	6.8	601-EF
83.2					220	927	1200	84.5	0.22	6.8	601-EF
88.0					220	927	1200	85.3	0.22	6.8	601-EF
95.0					216	911	1200	86.5	0.22	6.8	601-EF
89.9	880	980	1028	1125	255	977	1800	86.6	0.14	5.6	601-BD
99.8					255	977	1800	87.6	0.14	5.6	601-BD
105					255	977	1800	88.2	0.14	5.6	601-BD
113					250	960	1800	89.1	0.14	5.6	601-BD
85.7	890	990	1047	1154	249	918	1400	84.7	0.18	5.2	601-DF
95.4					249	918	1400	85.8	0.18	5.2	601-DF
101					249	918	1400	86.5	0.18	5.2	601-DF
109					244	902	1400	87.6	0.18	5.2	601-DF
103	1060	1180	1243	1356	294	929	1700	86.5	0.13	3.8	601-CF
114					294	929	1700	87.4	0.13	3.8	601-CF
120					294	929	1700	88.0	0.13	3.8	601-CF
130					289	913	1700	88.9	0.13	3.8	601-CF
# 142	1310	1450	1527	1673	394	1039	2500	89.7	0.06	2.6	601-AF
158					394	1039	2500	90.4	0.06	2.6	601-AF
166					394	1039	2500	90.8	0.06	2.6	601-AF
179					387	1021	2500	91.4	0.06	2.6	601-AF
# 174	1850	2040	2143	2337	474	905	2800	91.4	0.05	1.4	601-AD
193					474	904	2800	91.9	0.05	1.4	601-AD
202					474	904	2800	92.2	0.05	1.4	601-AD
217					465	888	2800	92.6	0.05	1.4	601-AD

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

Field loss (hot) = 2650 W

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

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

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

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

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

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

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

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

Data subject to change without prior notice.

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

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

Data subject to change without prior notice.

	Cont. output (kW)	Base speed (min <sup>-1</sup> ) at armature voltage (V)				Rated armature current (A)	Torque (Nm)	Max. electrical speed** (min <sup>-1</sup> )	Efficiency (%)	Armature circuit		Field loss (W)	Code number 2631
		400	440	460	500					Resistance (Ohm)	Inductance (mH)		
##	41.4	240	270	285	139	1647	840	74.2	0.694	21.3	2920	1480	
	46.9												320
	49.6	158	1622	1130	79.3	0.529	15.7	2840	1272				
	55.1									158	1635	1190	80.1
##	62.1	355	400	420	192	1671	1240	80.9	0.362	11.3	2970	1080	
	69.6												465
	73.4	237	1667	1060	83.9	0.240	7.7	3010	0888				
	80.9									236	1659	1060	85.2
##	79.4	455	510	535	237	1667	1060	83.9	0.240	7.7	3010	0888	
	88.6												590
	93.2	279	1647	1940	85.7	0.176	5.3	2920	0740				
	102									277	1633	2150	86.9
##	95.7	555	620	650	279	1647	1940	85.7	0.176	5.3	2920	0740	
	106												715
	112	315	1629	2250	87.3	0.134	3.9	3090	0636				
	122									314	1630	2500	88.3
##	110	645	715	750	314	1630	2620	88.7	0.134	3.9	3090	0636	
	128												825
	141	382	1624	2580	89.1	0.0917	2.8	2970	0540				
	136									382	1629	2580	89.8
##	151	800	885	930	384	1633	2580	90.1	0.0927	2.8	2970	0540	
	159												1020
	173	427	1575	2350	90.8	0.0630	1.9	3420	0444				
	155									428	1579	2350	91.3
#	182	940	1040	1090	427	1577	2350	91.6	0.0636	1.9	3420	0444	
	172												1190
	202	496	1525	2980	91.7	0.0465	1.3	3380	0368				
	182									498	1531	2980	92.1
##	211	1140	1260	1320	497	1527	2980	92.4	0.0469	1.3	3380	0368	
	230												1440
	208	564	1528	3060	92.3	0.0361	1.0	3380	0324				
	230									564	1536	3060	92.7
##	241	1300	1430	1500	564	1534	3060	92.8	0.0365	1.0	3380	0324	
	263												1640
	232	623	1467	3160	93.1	0.0260	0.74	3530	0276				
	256									623	1464	3160	93.4
##	268	1510	1670	1750	623	1463	3160	93.5	0.0263	0.74	3530	0276	
	292												1910
	265	710	1430	3600	93.3	0.0199	0.52	3730	0232				
	293									712	1435	3600	93.6
##	306	1770	1950	2050	710	1426	3600	93.7	0.0202	0.52	3730	0232	
	332												2230

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

Data subject to change without prior notice.

	Base speed (min <sup>-1</sup> ) at armature voltage (V)				Rated armature current (A)	Torque (Nm)	Max. electrical speed** (min <sup>-1</sup> )	Efficiency (%)	Armature circuit		Field loss (W)	Code number 2711
	400	440	460	500					Resistance (Ohm)	Inductance (mH)		
##	67.9	315	355	415	221	2059	1100	76.9	0.389	11.5	3520	1272
	76.6				221	2061	1110	78.7	0.391	11.5	3520	1272
	80.9	375	415		221	2060	1110	79.6	0.391	11.5	3520	1272
	89.4				221	2057	1110	81.0	0.392	11.5	3520	1272
##	86.0	395	445	515	267	2079	1060	80.5	0.266	8.3	3660	1080
	96.5				267	2071	1060	82.1	0.267	8.3	3660	1080
	101	470	515		264	2052	1060	83.0	0.265	8.3	3660	1080
	112				267	2077	1060	84.0	0.268	8.3	3660	1080
##	97.4	445	500	580	297	2090	1020	82.0	0.219	6.9	3710	0984
	109				297	2082	1020	83.4	0.220	6.9	3710	0984
	114	525	580		294	2074	1020	84.3	0.218	6.9	3710	0984
	126				296	2075	1020	85.2	0.220	6.9	3710	0984
##	111	510	565	595	332	2079	970	83.5	0.176	5.6	3760	0888
	123				329	2079	970	85.0	0.175	5.6	3760	0888
	130	331	2087		970	85.5	0.177	5.6	3760	0888		
##	117	550	615	710	348	2032	1870	84.1	0.161	4.8	3610	0820
	131				349	2034	1870	85.3	0.162	4.8	3610	0820
	137	645	710		347	2028	1870	85.9	0.161	4.8	3610	0820
	151				348	2031	1870	86.8	0.163	4.8	3610	0820
##	153	725	810	930	440	2015	2240	87.0	0.0996	2.9	3520	0636
	170				439	2004	2240	88.0	0.100	2.9	3520	0636
	179	850	930		441	2011	2240	88.3	0.101	2.9	3520	0636
	196				440	2013	2240	89.1	0.101	2.9	3520	0636
##	173	850	940	1080	484	1944	2340	89.4	0.0689	2.1	4150	0540
	192				484	1951	2340	90.1	0.0694	2.1	4150	0540
	201	985	1080		483	1949	2340	90.4	0.0696	2.1	4150	0540
	220				484	1945	2340	90.9	0.0701	2.1	4150	0540
##	193	945	1050	1200	536	1950	2270	90.1	0.0570	1.7	4210	0492
	214				536	1946	2270	90.7	0.0575	1.7	4210	0492
	224	1100	1200		535	1945	2270	91.0	0.0576	1.7	4210	0492
	245				536	1950	2270	91.4	0.0581	1.7	4210	0492
##	217	1060	1170	1350	598	1955	2170	90.7	0.0461	1.4	4210	0444
	240				597	1959	2170	91.3	0.0465	1.4	4210	0444
	252	1230	1350		599	1957	2170	91.5	0.0467	1.4	4210	0444
	275				598	1945	2170	92.0	0.0471	1.4	4210	0444
##	233	1240	1370	1570	635	1794	2690	91.7	0.0350	0.96	4480	0368
	258				537	1798	2690	92.1	0.0354	0.96	4480	0368
	270	1440	1570		636	1791	2690	92.3	0.0355	0.96	4480	0368
	295				637	1794	2690	92.6	0.0359	0.96	4480	0368
##	266	1420	1570	1790	722	1789	2720	92.1	0.0278	0.74	4540	0324
	294				723	1788	2720	92.5	0.0281	0.74	4540	0324
	308	1640	1790		723	1794	2720	92.6	0.0283	0.74	4540	0324
	325				699	1734	2810	93.0	0.0280	0.74	4540	0324
##	324	1720	1900	2150	872	1799	2930	92.9	0.0193	0.54	4410	0276
	345				840	1734	3040	93.3	0.0191	0.54	4410	0276
	350	1980	2150		814	1688	3130	93.5	0.0189	0.54	4410	0276
	354				754	1572	3200	93.9	0.0184	0.54	4410	0276
##	339	2030	2220		908	1595	3200	93.4	0.0142	0.38	4290	0232
	339				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.

Data subject to change without prior notice.

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

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

Data subject to change without prior notice.

	Base speed (min <sup>-1</sup> ) at armature voltage (V)				Rated armature current (A)	Torque (Nm)	Max. electrical speed** (min <sup>-1</sup> )	Efficiency (%)	Armature circuit		Field loss (W)	Code number 2731
	400	440	460	500					Resistance (Ohm)	Inductance (mH)		
##	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				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				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				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				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				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				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				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				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				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				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				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				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				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				845	1975	2860	93.9	0.0143	0.48	5010	0216

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

Data subject to change without prior notice.

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

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

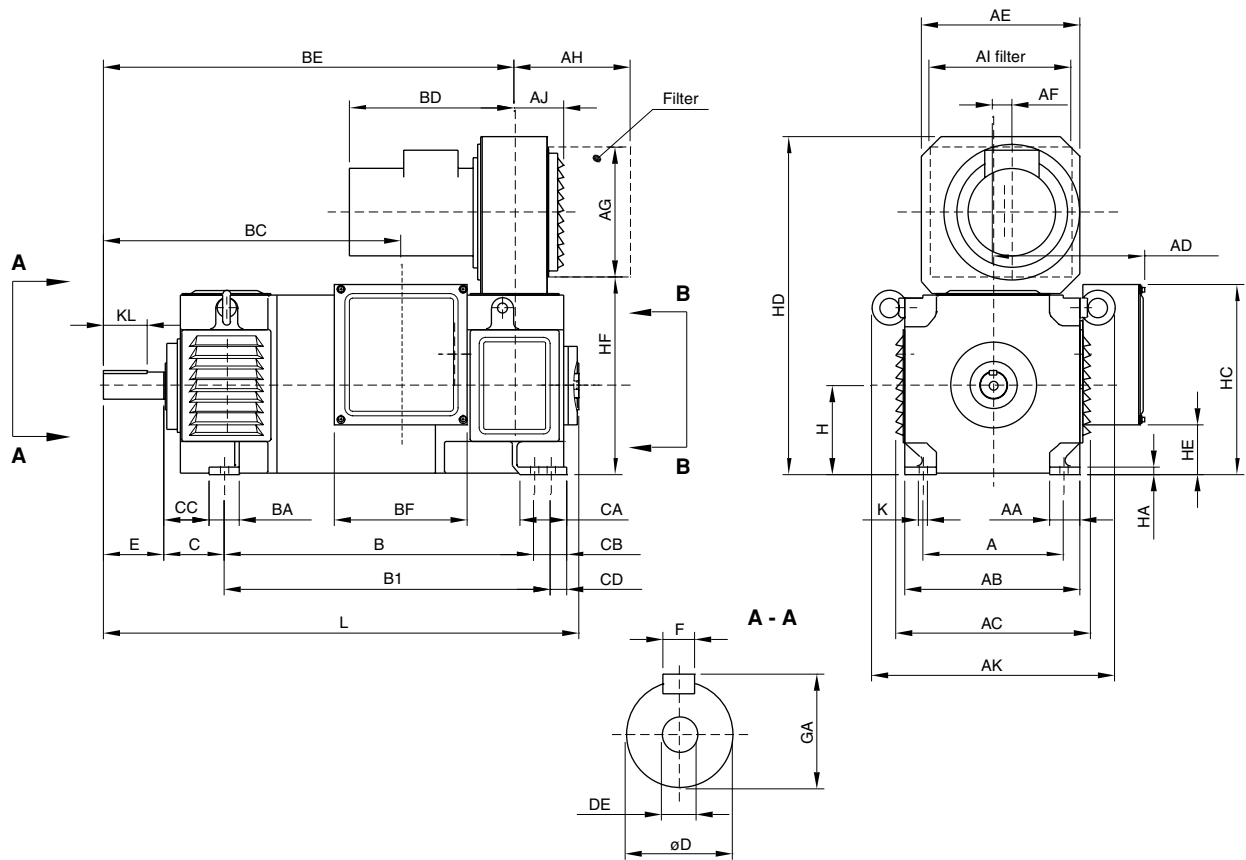
	Cont. output (kW)	Base speed (min <sup>-1</sup> ) at armature voltage (V)				Rated armature current (A)	Torque (Nm)	Max. electrical speed** (min <sup>-1</sup> )	Efficiency (%)	Armature circuit		Field loss (W)	Code number 2821
		400	440	460	500					Resistance (Ohm)	Inductance (mH)		
##	110	285	320	335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

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

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

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

Data subject to change without prior notice.

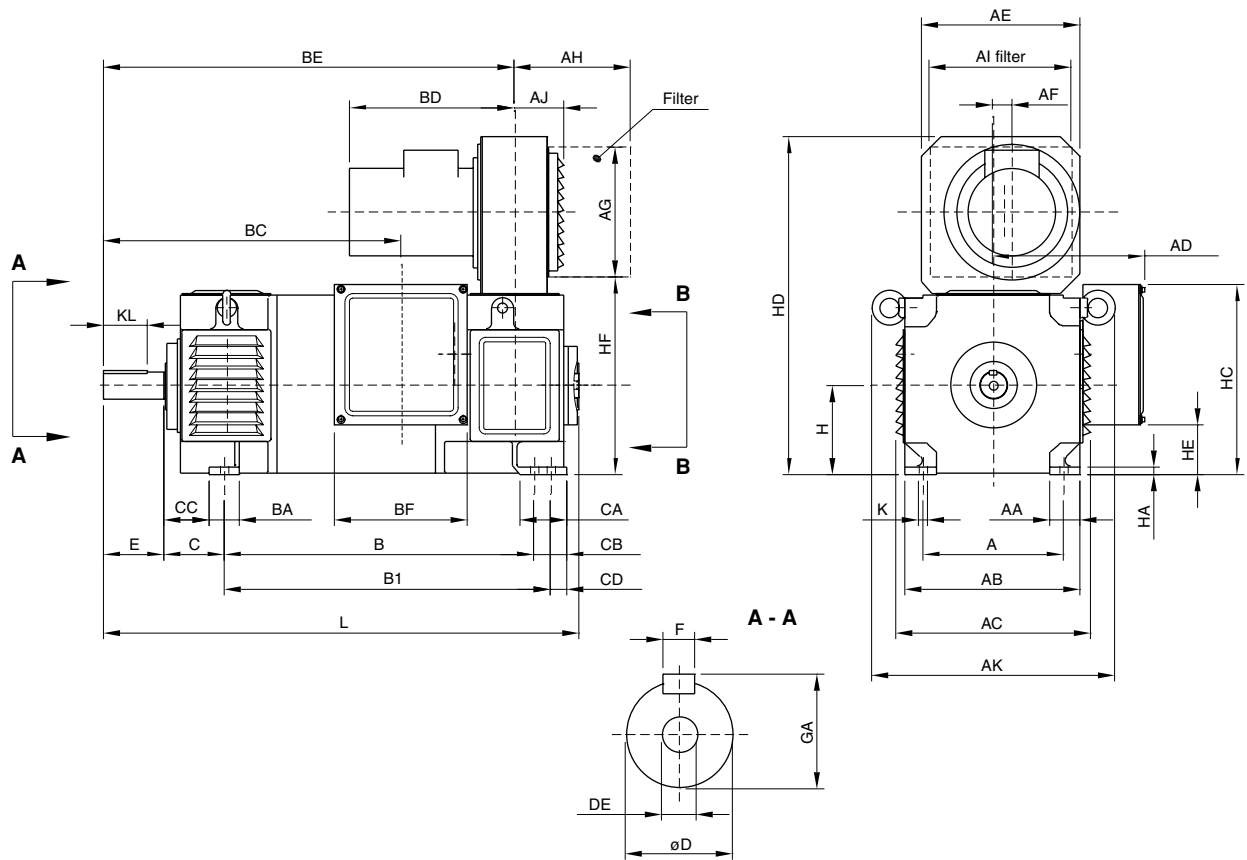


Dimensions in mm

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															695.5	906.5	912.5	167
LAK 4132C															745.5	956.5	962.5	192
LAK 4132D															885	1096	1102	251

Dimensions are not binding.

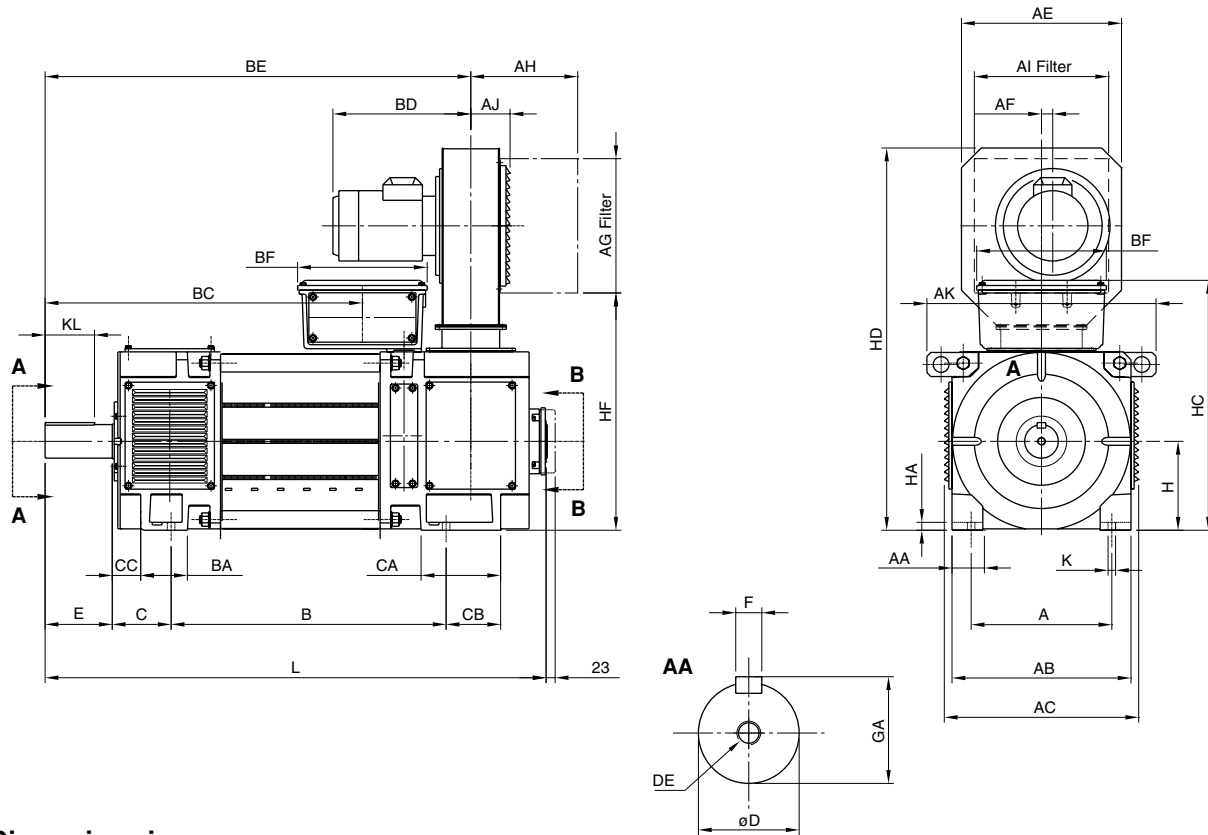


Dimensions in mm

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				
LAK 4180EA		66			297	405	28.5		270		105		720	66	741	349	960				
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.

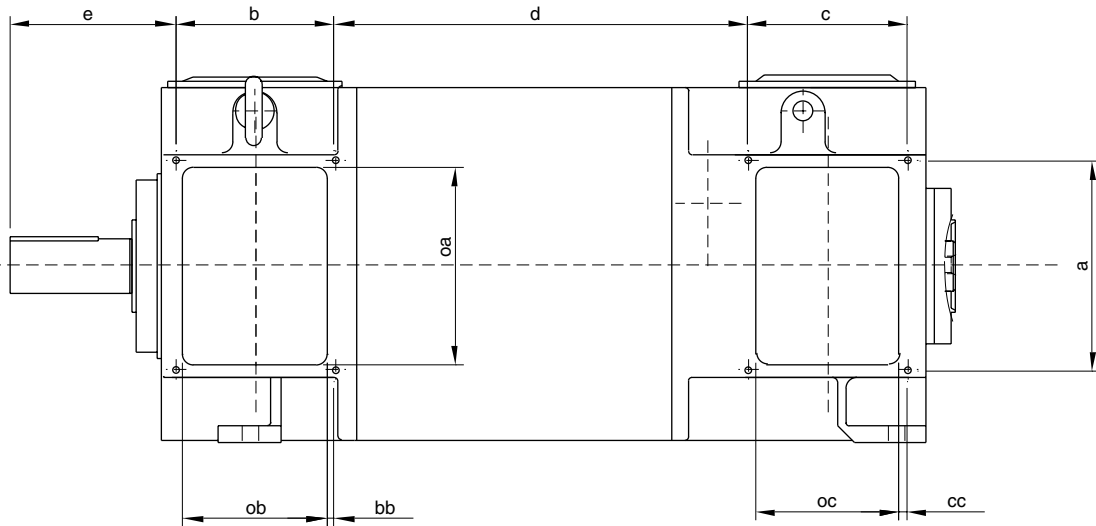


Dimensions in mm

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	K	KL	L	L+REO444R1	L+TDP0.2LT	Weight (kg)
LAK 4200A													1032	1243	1249	530
LAK 4200B	59	75	M20	140	20	79.5	200	20	550	858	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	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	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	24	160	1548	1759	1765	1500
LAK 4280C													1628	1839	1845	1700

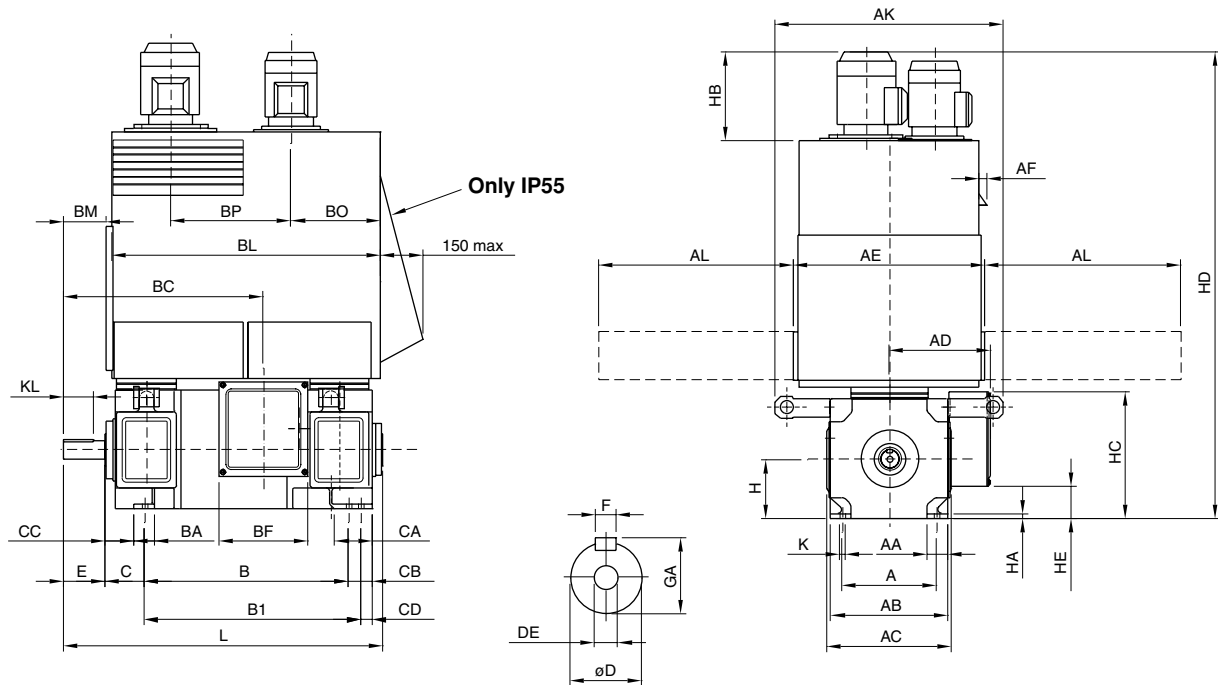
Dimensions are not binding.



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						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.

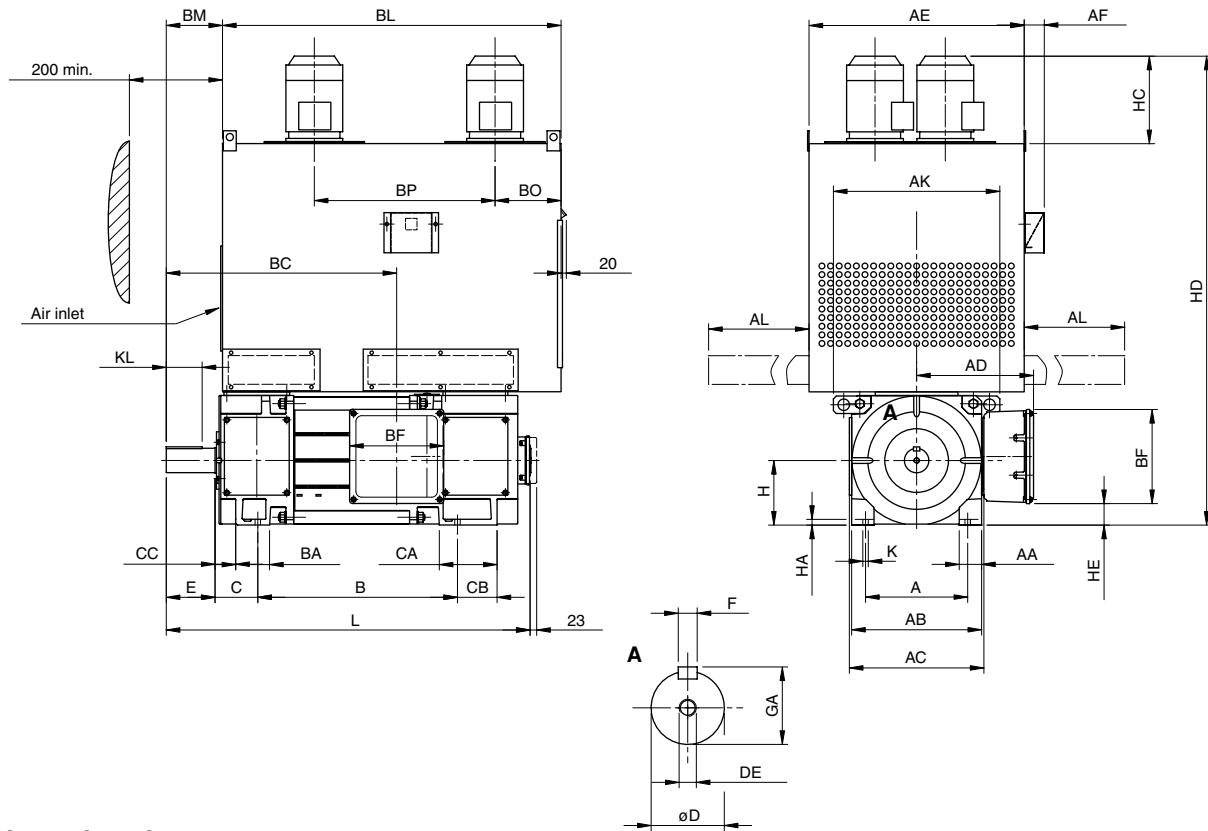


Dimensions in mm

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			522	473		723		325		240					
LAK 4160C/CC						515			587	538		723		325		240					
LAK 4160D						606			597	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	720	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			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	80	650.5	220	
LAK 4132B				38		80	10	41									695.5	240	
LAK 4132C				38		80	10	41									745.5	265	
LAK 4132D				42		110	12	45									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.

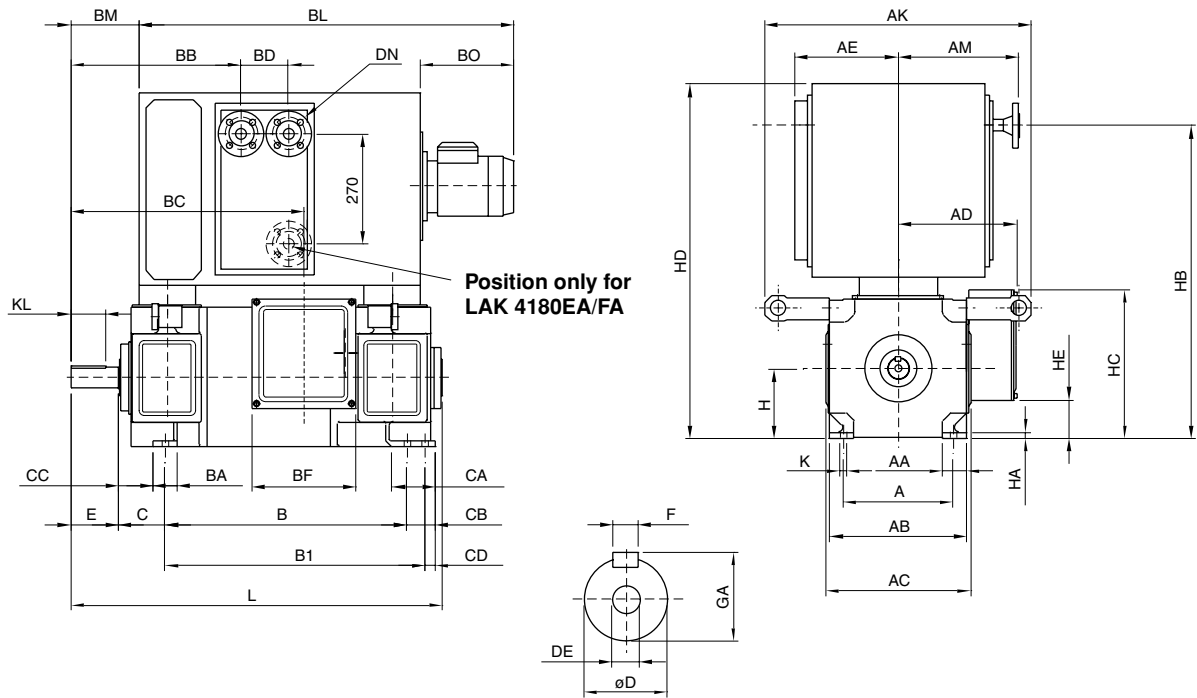


Dimensions in mm

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.

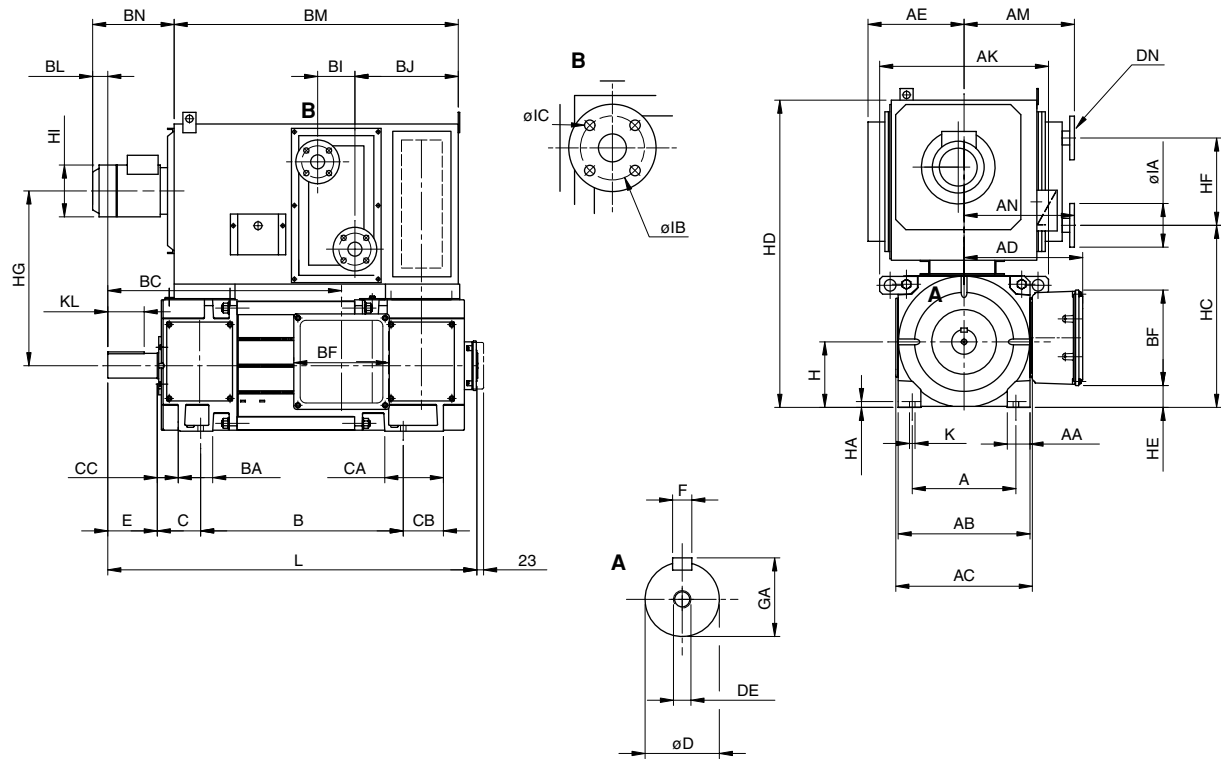


Dimensions in mm

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					297	295			328	612	66	453.5	535		110	896	168.5			240	195	35.5	
LAK 4180CA					297	295			328	677	66	483.5	616		110	947	198.5			240	195	21.5	
LAK 4180DA					297	295			328	707	66	483.5	681		110	1012	198.5			240	720	195	56.5
LAK 4180EA					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									695.5		240	
LAK 4132C		38			80	10	41									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																884.5		555	
LAK 4180CA																965.5		615	
LAK 4180DA																1030.5		43.5	645
LAK 4180EA																1090.5		28.5	725
LAK 4180FA																1248			820

Dimensions are not binding.



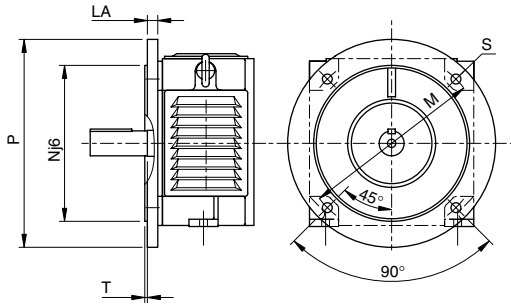
Dimensions in mm

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

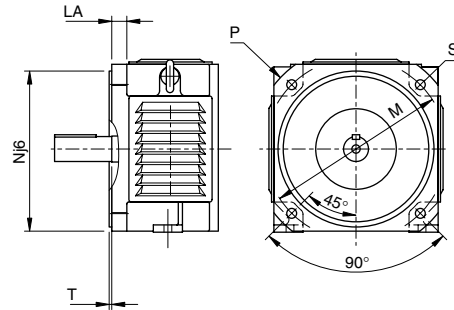
Type	D	DE	DN	E	F	GA	H	HA	HC	HD	HE	HF	HG	HI	IA	IB	IC	K	KL	L	Weight (kg)
LAK 4200A	75	M20	32	140	20	79.5	200	20	610	910	77	150	515	158	140	100	18	19	100	1032	660
LAK 4200B																				1100	720
LAK 4200C																				1168	795
LAK 4225A	85	M20	40	170	22	90	225	20	625	1055	75	300	600	178	150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

Dimensions are not binding.

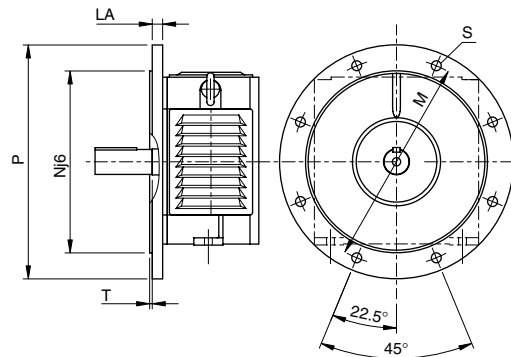
VIEW: 1



VIEW: 1B



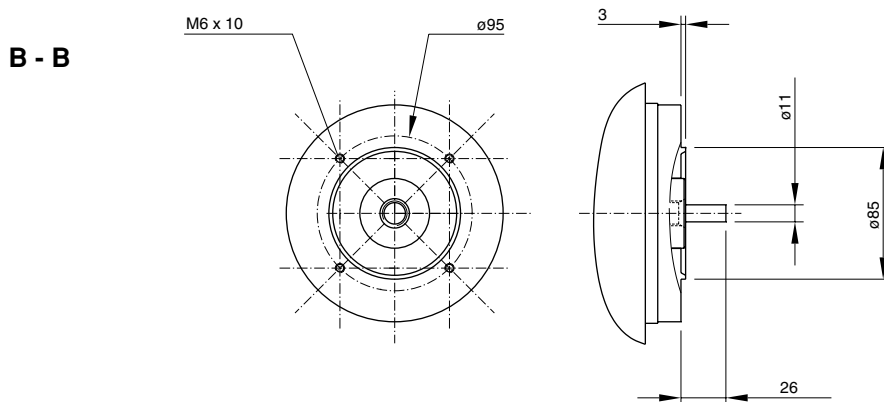
VIEW: 2/2B



Dimensions in mm

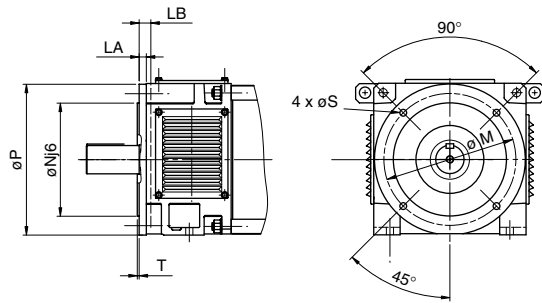
Type	Flange size	LA	M	Nj6	P	S	T	View
LAK 4112A/B	F215	14	215	180	250	15	4	1B
	F265	14	265	230	300	15	4	1B
LAK 4132A/B/C/D	F265	17	265	230	300	15	4	1B
	F300	17	300	250	350	19	5	1B
LAK 4160A/B/C/D	F350	20	350	300	400	19	5	1B
LAK 4180AA->EA	F350	17	350	300	400	19	5	1B
	F400	17	400	350	450	19	5	2B
LAK 4180FA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

Other dimensions on request.

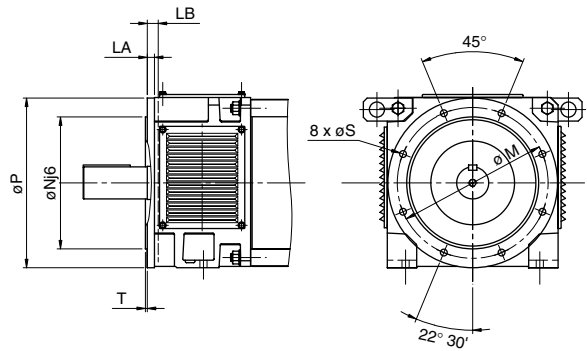


Dimensions are not binding.

VIEW: 1



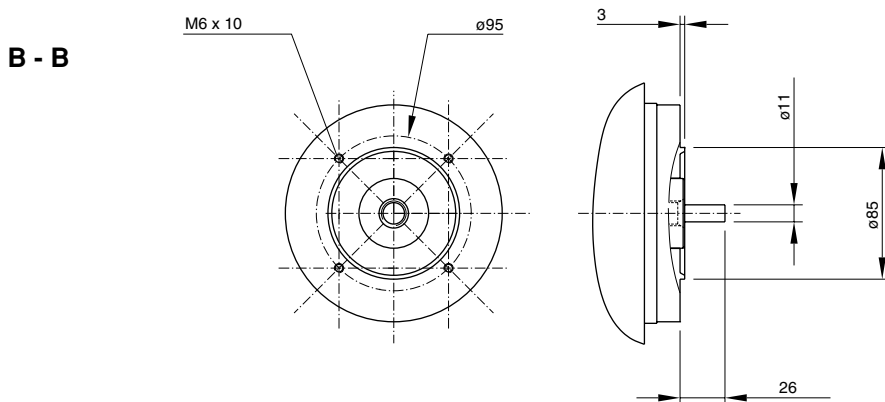
VIEW: 2



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.



Dimensions are not binding.

# d.c. motors

## - around the world

### industrial applications:

LAK 2000	up to 20 kW
LAK 4000	up to 500 kW
LAKC 4/6/8000	up to 2000 kW

### special d.c. products:

high speed - test equipment

generators

mill motors

explosion proof motors

pressurized motors

customised motors

### other products:

a.c. vector motors

repair and service

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Fax: 01 34 70 21 79

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