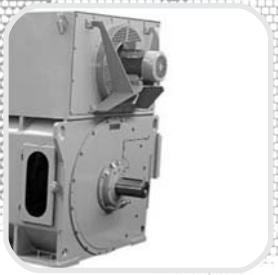
Technical Documentation



THREE PHASE INDUCTION MOTORS
WELDED CONSTRUCTION
6000 V 50 Hz 200-6300 kW

VN08EN

ATB SEVER
Technology in Motion

We set your ideas in motion. We do not merely manufacture motors, but instead turn the ambitious concepts of our customers into modern, innovative and reliable products, which are unique and point the way to the future. We bring our customers closer to their goals with reliability, creativity and flexibility.

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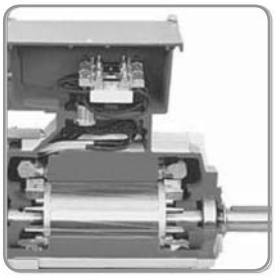


Project Motors

Content

CONTENT Page

1. INTRODUCTION

I

This catalogue includes new line of high voltage induction motors designed in accordance with experience of 30 years in motor production. During this period "SEVER" has delivered several thousands of large motors which are operating in different driving systems in power plants, steel works, pump stations etc. in our and foreign countries.

This line of motor is the third generation of high voltage induction motors based on modern investigations and its construction is modular one i.e. its construction is based on common elements system. The choice of materials, bearings, cooling form and mechanical protection as well as modern design by means of computer enabled the optimal solutions with minimal costs and good electrical and mechanical features.

This catalogue has been designated in the first line to the designers and persons making a choice of the motor for a given application. It is very helpful it contains informations about electrical and mechanical product data. Our desire is to make possible an easy and correct choice of the motor as well as its safe operation.

This catalogue contains:

- High voltage induction motors, shaft heights 355, 400 and 450 mm, power range 200 ¸ 6300 kW as it is shown in the Table 1.
- Technical description, electrical product data and dimensional sketches useful for easy and correct choice.

Table:1

Synchronous speed min^{-1}	Number of poles	Output range, kW	
		IPR 44, IP 23, IPW 24 (air) IF 44 (air-water)	IP 44, IP 54 (air-air)
3000	2	200 ÷ 2800	200 ÷ 2240
1500	4	200 ÷ 6300	200 ÷ 5000
1000	6	200 ÷ 4500	200 ÷ 3550
750	8	200 ÷ 3550	200 ÷ 3150
600	10	200 ÷ 2500	200 ÷ 2240
500	12	200 ÷ 2000	200 ÷ 1600

1.1. Standards and recommendations

Motors described in this catalogue are produced in accordance with standards and IEC recommendations–International Electro-technical Commission:

IEC 60034-1	Rotating electrical machines (excluding machines for traction vehicles) Part 1: Rating and performance characteristics.
IEC 60034-2A	Rotating electrical machines. Part 2: Methods for determining losses and efficiency from tests (excluding machines for traction vehicles)
IEC 60034-5	Rottating electrical machines (excluding machines for traction vehicles) Part V: Classification of types of enclosure
IEC 60034-6	Rottating electrical machines (excluding machines for traction vehicles) Part VI: Classification of methods of cooling
IEC 60034-7	Rottating electrical machines. Part VII: Symbols for types of construction and mounting arrangements
IEC 60034-8	Rotating electrical machines. Part VII: Terminal markings and sense of rotation
IEC 60034-9	Rotating electrical machines. Part IX: Noise Level
IEC 60034-14	Rotating electrical machines. Part XIV: Vibrations of electrical machine with shaft height 56 and above. Measurement and limits.
IEC 60071-1	Coordination of insulation. Part 1: Terms, definitions and regulations
IEC 60072A	Dimensions and output ratings for foot-mounted electrical machines with frame numbers 355 to 1000
IEC 60085	Classification of insulating materials for electrical machines and apparatus on the basis of thermal stability in service.

In the case that there is no IEC Publication, these motors are built in accordance with DIN standards an General requirements for rotating electrical machines VDE 0530. On special request, these motors can be produced and delivered in accordance with another standards and regulations.

1.2. Designation

Every motor is designated with letters and numbers. The letters indicate characteristics of motor, mechanical protection, cooling form and numbers indicate voltage, frame size and number of poles:

K	Cage rotor
O	Open motor
P	Slip ring rotor
W	Open motor cooled by air passing through the filter and protected against splashing water from any direction
R	Enclosed motor with air duct inlet
V	Enclosed motor with heat exchanger "water-air"
Z	Enclosed motor with heat exchanger "air-air"
F	Flange mounted motor
S	Short frame
M	Medium frame
a, b, c, d	Small letters added to capital S and M determine the core length in the stator frame

Numerals

1; 2...	Ordinal number of generation
3; 6; 10.	Rated voltage
355: 400: 450; ...	Shaft height H in mm

Symbols

P_N	Rated output
M_N	Rated torque
n	Rated speed
U_N	Rated voltage
I_N	Rated current
η	Efficiency
cosφ	Power factor
U_{20}	Locked rotor voltage
I_{2N}	Rated rotor current
I_P	Starting current
Mp	Starting torque
M_{PR}	Pull out torque
Im	Moment of inertia of a motor
Id	Allowed additional Moment of inertia
M	Motor mass
A	Drive end
B	Non-drive end
2p	Number of poles

Example:

1	K	O	F	6	400	S	a	10	
number of generation									
cage rotor									
open motor (IP 23)									
flange mounted motor									
voltage 6 kV									
shaft height in mm									
frame length									
core length									
number of poles									

2. MECHANICAL CHARACTERISTICS

2.1. Construction

Construction of these motors are welded type. The frame and endshields are welded from different steel sheet elements. The inside lattice construction and outside enclosure gives very high stability to the frame. All frames are produced in two lengths: S and M.

II

This construction is based on the common elements system. Different executions of motors can be made by adding the different sub-assemblies on the base type construction.

2.2. Mounting arrangements

Motors of this catalogue are produced in two standard IEC 600... arrangements:

— Horizontal shaft arrangement IBM3/IM1001/ according to IEC 34- 7 code I/code II

— Vertical shaft arrangement IMV1/IM3011/ according to IEC 34-7 code I/code II

By motors in vertical shaft arrangement, the flange is made in accordance with IEC 72-5 Publication.
On special request these motors can be produced with another fixing dimensions or in the different mechanical arrangements

2.3. Tolerances of principial dimensions

Dimensions given in bold figures are obligatory. All other dimensions are only informal. Tolerances of principal dimensions are given in the Table 2.

Table:2

Dimension		Tolerance
A		± 1,5 mm
B	up to 1000 mm above 1000 mm	+ 2,0 mm ± 2,5 mm
C		± 5,0
D		m 6
F		h 9
GA		- 0,2
K		+ 3 %
M	up to 1000 mm above 1000 mm	+ 1,0 mm ± 2,5 mm
N		j 6
S		+ 3 %

2.4. Mechanical protection and cooling form

Mechanical protections and methods of cooling are defined with IEC 60034-5 and IEC 60034-6 and therefore they are include in the type designation of motor.

Motors included in this catalogue can be delivered in any form of cooling method and degree of protection. Optimal choice of electric motor depends on many conditions: instalation place of electric motor, presence of solid particles in the air, air humidity, presence of water, presence of chemically aggressive gases and vapours, outside temperature and price of different solutions.

In every case it is necessary to consult the designer of electric motor and electromotive driving system to achieve a safe operation of motor and an economic solution. In the next text, the recommendations useful for choice of cooling method and mechanical protection are mentioned:

- Motors of line 1KO and 1PO are self-ventilated open machines, fan mounted on the shaft. The coolant (air) flows freely into the motor from the surrounding medium and returns freely to the medium surrounding the motor. The fan is only for one sense of rotation. These motors are designed for indoor installing in the clean surrounding medium without presence of water.
- Motors of line 1KW and 1PW are self-ventilated open machines, fan mounted on the shaft. The coolant is air from surrounding medium filtered by special filters mounted on the motor. These motors are designed for installing in moderately dust surrounding medium with presence of splashing water from any direction
- Motors of line 1KR and 1PR are enclosed with inlet or duct for clean air. Ventilation can be own, or in the case it is insufficient, the additional fan can be used, because the pressure drop in the duct is to high. Installing of these motors is recommended in dusty environment (rubber and cement industry).
- Motors of line 1KV and 1PV are totally enclosed. Motor ventilation is achived by heat exchanger which is an independent unit but is mounted directly on the motor. The primary coolant is air and the secondary collant is water. Installing of these motors is recommended on the places where watermains exist but the open motor can not be used by reason of splashing water. By low ambient temperature these executions are not preferable by reason of water freezing in the heat exchaner.
- Motors of line 1KZ and 1PZ are totally enclosed. The heat exchanger is mounted on the motor. The primary coolant is circulated in a closed circuit and gives its heat to the secondary coolant which is surrounding air. This execution is recommended for installing in the moist and moderately dust environment which do not balk the normal operation of heat exchanger and in which the splashing water occur.

Table:3

Symbol in type designationa	Method of cooling I EC 60034-6/69	Degrees of protection IEC 60034-5			
		Short designation	Protection against contact	Protection against ingress	Protection against ingress of water
...O...	Self-ventilated by air circulation IC 01	IP 22	Protection against contact by finger	Protection against ingress of small solid foreign bodies greater than 12 mm	Protection against dripping water
		IP 23			Protection against drops of water falling up to 60° from the vertical
...W...	Self-ventilated by air circulation through the filter IC 01	IPW 24			Protection against splashing water from any direction
...R...	Inlet duct ventilated IC 31 IC 37 A	IPR 44/ /IC 31, IP 33/ /IC 37, IP 44/	Protection against contact by tools or similar objects	Protection against ingress of foreign bodies greater than 1 mm	
...V...	Cooling with heat exchanger air-water IC W 81	IP 44 (IP 54)	Complete protection against contact	Protection against harmful deposits of dust	
...Z...	Self-ventilated with heat-exchanger air-air IC 01 61				

Inside ventilation of high speed motors is axial one with centrifugal fan as it is shown in fig – 1. Hladan vazduhstruji kroz radijalne ventilacione kanale lipaketa rotora i statora. Unutrašnji ventilator je radijalan.

The cold air circulates through the axial ventilation ducts of rotor core, air-gap, winding heads and between core and frame. Inside ventilation of low speed motors is radial one as it is shown in fig – 2. The cold air circulates through the radial ventilation ducts of stator and rotor core. Internal fan is radial one.

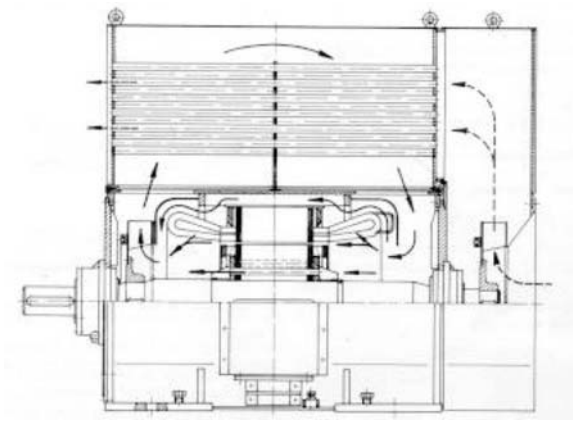


Fig. 1.
Ventilation of high speed motors

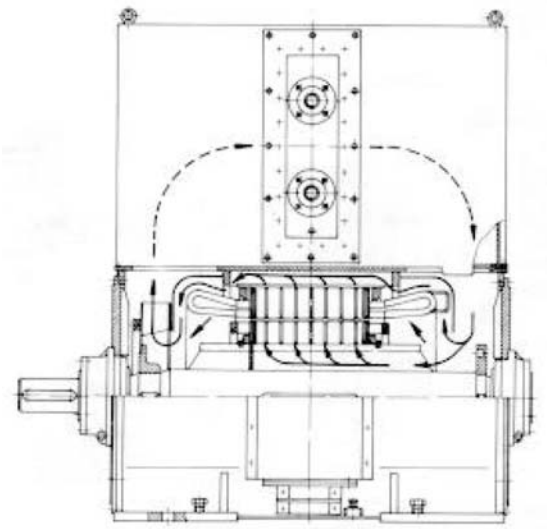


Fig. 2.
Ventilation of low speed motors

2.5. Shaft and bearings

Dimensions of shaft ends and wedges are standardized in accordance with IEC 60072 and DIN 42946. Standard motors are designed for direct coupled drives with elastic coupling.

On special request motors can be delivered with two free shaft ends or with non-standard dimensions of shaft end.

The bearing sets are provided with regulator of grease quantity and lubricating nipple which make lubrication possible while motor is running.

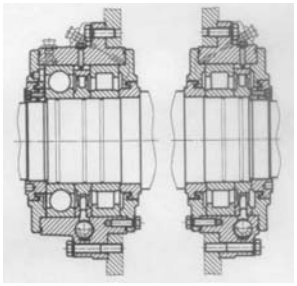


Fig. 3.
Bearing arrangement for horizontal shaft motor

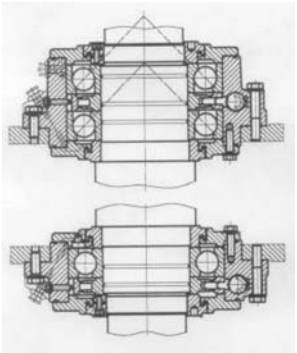


Fig. 4.
Bearing arrangement for vertical shaft motor

On the motor frame (end shields) there are placed name plates with bearing data: type, grease quantity (for one bearing set) and lubrication period.

The proper maintenance of bearings ensures a running life time at least 50000 hours for number of poles 4 and more than 4 and 40000 hours for 2 poles motors.

For lubrication of these motors the following greases are use:

- INA LIPLEKS EP3 with following characteristics:
  lithium based grease: mineral oil
  working temperature from –30°C up to +130°C
  drop point 220°C
- FOR PD2
  lithium based grease: mineral oil
  working temperature from –30°C up to +150°C
  drop point 190°C

For following frame sizes 355, 400 and 450 by 2 poles motors the used grease is FOR PD2 (table:4), and for number of poles more than 2 the used grease is INA LIPLEKS EP3.

Table: 4

Frame size	Number of poles	Types of roller bearings for mounting arrangement IM B3 (IM 1001)	
		Drive end Immovable bearings	Non drive end Movable bearings
355	2	NU 216 M.C3+6216 M.C4	NU 216 M.C3
	4 - 6	NU 220 M.C3+6220 M.C3	NU 220 M.C3
400	2	NU 216 M.C3+6216 M.C4	NU 216 M C3
	4 - 10	NU 222 M.C3+6222 M.C3	NU 222 M.C3
450	2	NU 218 M.C3+6218 M.C4	NU 218 M.C3
	4 -12	NU 224 M.C3+6224 M.C3	NU 224 M.C3 [1]
500	2	-*	-*
	4 -12	NU 226 M.C3+6226 M.C4	NU 226 M.C3 [1]
560	2	-*	-*
	4 -12	NU 230 M.C3+6230 M.C4	NU 230 M.C3 [1]

Table: 5

Frame size	Number of poles	Types of roller bearings for mounting arrangement IM V1 (IM 3001)	
		Drive end Immovable bearings	Non drive end Movable bearings
355	2	6216 M.C3	2 x 7126 B.UA
	4 - 6	6220 M	2 x 7220 B.UA
400	2	-*	-*
	4 - 10	6222 M	2 x 7222 B.UA
450	2	-*	-*
	4 -12	6224 M.C3 [2]	2 x 7224 B.MP.UA [3]
500	2	-*	-*
	4 -12	6226 M.C3 [2]	2 x 7226 B.MP.UA [3]
560	2	-*	-*
	4 -12	6230 M.C3 [1]	2 x 7230 B.MP.UA [3]

* - on special inquiry

[1] - for 2p=6 motors and more poles, without marks M

[2] - for 2p=6 motors and more poles, without marks M.C3

[3] - for 2p=6 motors and more poles, without marks MP

It is important to note that re-greasing must be done even in the case that motor is out of exploitation. In this case the re-greasing period is at least two years.

In the table 6. there are shown the quantity of grease and usually intervals of lubrication for corresponding bearings. For extreme conditions (high temperature, dust etc.) please consult the factory.

Table: 6

Motor side	Bearing type	Quantity of grease [cm³]	Re-greasing interval (working hours) Number of poles					
			2	4	6	8	10	12
Drive side	NU 216+6216	22	950	-	-	-	-	-
	NU 218+6218	28	850	-	-	-	-	-
	NU 220+6220	38	-	2200	4000	5800	7200	8000
	NU 222+6222	44	-	1800	3400	5000	6500	7800
	NU 224+6224	52	-	3000	3100	4400	5400	6700
	NU 226+6226	60	-	2600	2800	4000	5000	6500
	NU 230+6230	76	-	1700	1800	2800	4000	5000
	6216	11	1800	-	-	-	-	-
	6220	19	-	3400	6500	8000	8000	8000
	6222	22	-	2800	5600	7800	8000	8000
	6224	26	-	4800	5000	7200	8000	8000
	6226	38	-	4200	4500	7000	8000	8000
	6230	38	-	2800	3000	4500	6500	8000
Non-drive side	NU 216	11	950	-	-	-	-	-
	NU 218	14	850	-	-	-	-	-
	NU 220	19	-	2200	4000	5800	7200	8000
	NU 222	22	-	1800	3400	5000	6500	7800
	NU 224	26	-	3000	3100	4400	5400	6700
	NU 226	30	-	2600	2800	4000	5500	6500
	NU 230	38	-	1700	1800	2800	4000	5000
	2 x 7126	22	700	-	-	-	-	-
	2 x 7220	38	-	1450	2900	4500	5900	8000
	2 x 7222	44	-	1260	2400	4200	5900	7500
	2 x 7224	52	-	2000	2000	3600	5000	6500
	2 x 7226	60	-	1700	1700	3200	4500	6000
	2 x 7230	76	-	1300	1200	2400	3600	4500

The table is be valid for grease ShellAlvania R3, for framed range Kluber Staburags NBU 8EP or for other corresponding grease.

2.6. TERMINAL BOXES

2.6.1. Stator terminal box

The terminal box is designed in accordance with DIN 42962 and it is shown in Fig. 5.

In the terminal box there are placed: 3 terminal screws which are going through 3 porcelain insulators. The terminal screws M 12 are in accordance with DIN 46200 and they can be loaded up to 315 A.

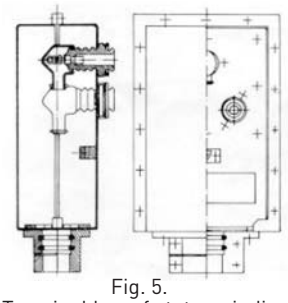


Fig. 5.
Terminal box of stator winding

Fig. 6.
View of the stator terminal

In the terminal box, beside the terminal screws, it is earthing screw also. The beginnings of all three phases are led out to the terminal screws, and insulated star point is situated inside the motor. On special request motors can be delivered with two separate terminal boxes. In this case the both ends of each phase are led out to the terminal boxes. The terminal box is welded of steel sheets and degree of protection IP 55. The standard terminal box position is on the right hand side looking at the drive end of the motor, but it can be provided on the left side when requested. Standard cable entry is turned down but it can be turned through 90°C and 190°C.

Standard cable entries are:

1 x ϕ (60 ÷ 80) or

2 x ϕ (50 ÷ 70)

On the back side of terminal box there is a membrane by reason of expansion caused by pressure. On this way the personal is protected against explosion.

2.6.2. Rotor terminal box

Rotor terminal box is designed and produced in accordance with DIN 46944 and it is shown in the figure 6.

In the rotor terminal box there are placed 6 terminal screws M 16 which can be loaded up to 800 A. In the terminal box, beside the terminal screws, it is earthing screw also. In the most cases the rotor winding is connected in the star and the star point is insulated in the motor. The winding ends are led out to

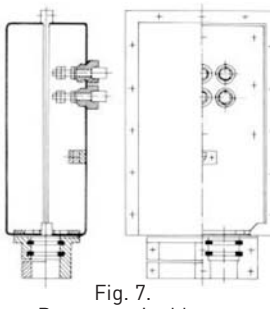


Fig. 7.
Rotor terminal box

Fig. 8.
View of the rotor terminal box

the brushes and terminal screws. Terminal box is made of welded steel sheets, enclosure IP 55. Terminal box is placed on the right side, but it can be placed on the left side if it is requested.

Cable entries are:

1 x ϕ (60 ÷ 80) or

2 x ϕ (50 ÷ 70)

The cable entry is in the down position but it can be turned for 90° or 180°.

2.6.3. Terminal box for heaters and indicators

In the case of motor equipped with indicators of temperature or heaters the separate terminal box is provided for their terminals.

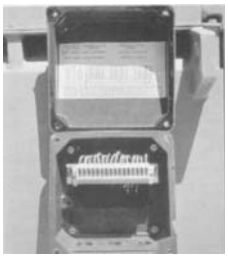


Fig. 9.
Terminal box of the thermometers for winding and bearings

2.7. Stator core and winding

Stator core is produced of laminations of high magnetic performance, small wat losses, thickness of 0,5 mm, varnish insulated on the both side withstands high temperature. Stator core is insert type that means that the laminations are composed at first, fixed and after that the complete winding is insert in it. After all stator core with winding is impressed in the motor frame.

Advantage of this type of construction is in the fact that the winding impregnation is made outside of the motor frame.

The stator winding is double layer with short winding pitch and the copper wire E-CuF20 and its dimensions are in accordance with DIN 46452. The wire insulation is LGGL i.e. enamel varnish and combination of the glass silk and varnish. The main insulation is on the base of mica paper and epoxid resign. The insulation system is class F and accords to IEC 60034-1.

After the coils are formed the main insulation is carried on the smooth parts of the coils are baked in the press on the right dimension. On this way the insulation becomes compact without pores, stable in the form and life time practically without smoulding at rated voltage. The special formed passing over the flat insulation toward the winding head and special impregnation of the winding head results in the great mechanical and electrical strenght and resistance against the moisture. The completed coils are protected with semiconductive varnish in order to better the linking of the electrostatic field.Tan δ is in accordance with VDE 0530.

Advantage of discontinual system is in a fact that eventual repair is easy and can be made on the damaged part.

For exeptional humidity and aggressive enwironments as well as for re-starting conditions the special impregnation system is used.

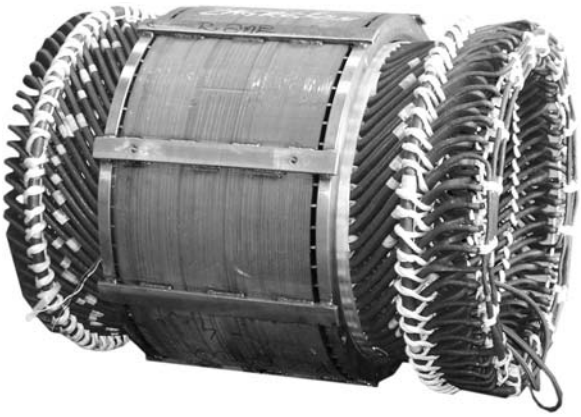


Fig. 10.
Stator core and winding

2.8. Rotor core and winding

Rotor core is produced of laminations and placed directly on the shaft of horizontal high speed motors but at low speed motors on the shaft star. Rotor is balanced together with fan and wedge on high sensitive balance machine.

2.8.1. Cage rotor

The cage is made of copper profile. Rotor bars and cage rings are joined by means of special method of welding.

This method allows a high temperature of cage during the starting up to 300°C, long life and high reliability. Rotor is deep-bar.

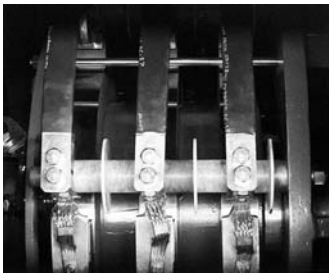


Fig. 11.
Slip-rings and brush holders

For heavy duty on special request rotor cage can be produced of special copper alloy with great strength and thermal capacity. On this way high starting torque and small starting current is achieved an this enables a big number of starting and acceleration of great Moment of inertia.

2.8.2. Slip ring rotor

Rotor winding of slip-ring motor is made of electrolytic copper ECuF20.

Insulation system of the winding corresponds to the insulation class "F". The ends of the winding are welded and good mechanical properties and persistence are achieved. Since the ends are connected the complete rotor is impregnated.

Standard slip-ring motors are designed with constant leaning brushes. The slip rings are placed outside the motor, to prevent the harmful influence of the graphite dust and to achieve an easy maintanance. The slip rings are made of copper-nickel alloy to ensure long life time and small wearing. The brushes are made of brass-graphite and they are impregnated. The choice of brushes and slip rings ensures the life time, the time of minimum one year of continual operation.

The used brushes are:

- K 14 Z3 producer Schunk & EBE GMBH
- CG 75/J producer Carbone.

3. ELECTRICAL CHARACTERISTICS

3.1. Voltage and frequency

The standard supply voltage and frequency for high voltage motors from this catalogue are 6 kV and 50 Hz.

Motors can be wound to special order, for voltages from 3 to 10 kV and frequency 60 Hz. The lower output limit for voltage 10 kV is 400 kW..

3.2. Rated output

The rated outputs given in this catalogue are valid for continual duty type S1 and following conditions:

- voltage 6 kV
- ambient temperature not exceeding 40 °C
- altitude above sea level up to 1000 m
- coolant (Water) temperature on the entry of heat exchanger not exceeding 27 °C
- temperature rise of water 5 °C
- water test preassure 10 bar
- pressure of water up to 6 bar
- water pressure drop 0,5 bar

If these conditions are not satisfied, the admissible output of motor must be corrected to the Figures 12, 13, 14, 15 and 16.

Temperature rises by the rated conditions are below allowed for insulation class "F". This reserve can be used in the cases of short time overload, voltage drop etc.

3.3. Overload

Motors of this catalogue at operating temperature are capable of withstanding for 2 minutes 1,5 times the rated current at rated voltage. Such an overload is in accordance with VDE 0530 and will not result in excessive heating. The new overloading can occur only after 30 minutes.

3.4. Starting torque and current

The rations of starting torque and starting current as well as the ratio of pull out torque i.e. current are given in the schedules of electrical data.

If the supply voltage deviates from its rated value, starting torque, pull-up an pull out torque change with the square of the voltage, whereas the starting current changes linearly. The allowed Moment of inertia of the driven machine is given in the tables. These values are valid for three starting in the case that load torque is a square function M=f(n2). In all other cases, for example M=f(n), this value is to be adjusted.

Standard motors will withstand three starts in succession from cold state, under rated conditions and two starts with the motor at normal running temperature.

The tolerances of quoted values are in accordance with IEC 60034-1 and VDE 0530:

- for starting current +20 %
- for starting torque -15 % +25%
- for pull out torque -10 %
  but not less than 1,6 Mn

Table: 7

Output remains constant as these conditions

H (m)	Θ [°C]
1000	40
2000	30
3000	20
400	10

Table: 8

Correction of the motor output (cooling with heat exchanger-air water)

Cooling water temperature °C	Permissible output %
27	100
28	99
29	98
30	97
31	96
32	95
33	94

III

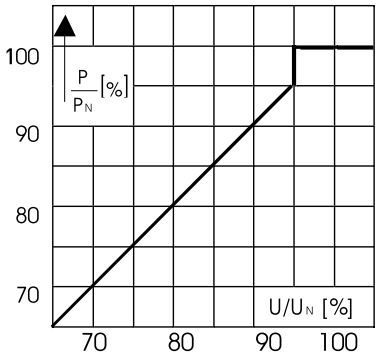


Fig. 12. Output in the function of voltage temperature

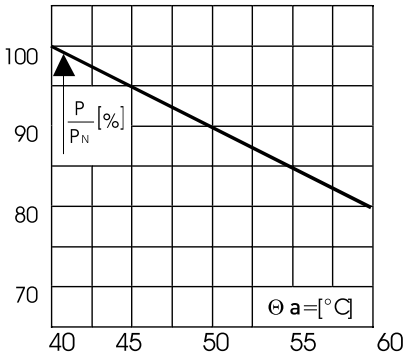


Fig. 13.Output in the function of ambient of altitude

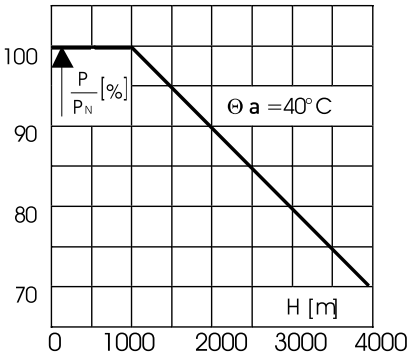


Fig. 14. Output diagram as a function

3.5. Speed

The values of the rotational speed, expressed in min^{-1} refer to the loaded motor with rated torque and normal running temperature. These values are arounded.
The tolerances of the speed are defined as the tolerances of the slip ± 20%. Standard motors are delivered for clockwise sense of rotation, viewed from the drive and of the motor. The sense of rotation is signed by the arrow on the name (UVW)plate and on the plate for rotation sense on the front side of the motor. For two sense of rotation or for anticlockwise sense of rotation this fact must be requested in the order, because the fans are designed only for clockwise rotation. The sign for birotational machine is (WUV) and for anticlockwis (VUW) or (WUV). In the case that motor is designed for two sense of rotation efficiency is less for 0,5 ¸ 1,0% from this given in the data sheets.

- It is prohibited to use the motor for reversible duty or for electric braking with contra-current without the consultation.
- Without the confirmation, the slip-ring motor can not be used for speed regulation, because the decreasing the speed aggravates the cooling conditions.
- On the request the motors can be delivered for two speed or for speed different from those given in the data sheets.

3.6. Efficiency and power factor

The values of efficiency and power factor given in the data sheets are valid for rated supply voltage and frequency for 125%, 100%, 75%, 50% and 25% for rated output P_N:

III

- The tolerance for the efficiency values is
$$-\frac{1-h}{10}$$
but not less than 0,007.
- The tolerance for the power factor values is
$$-\frac{1-\cos\varphi}{6}$$
but not less than 0,02 and not more than 0,07.

3.7. Noise

The noise levels of standard motors quoted in this catalogue comply with the recommendations of IEC 60034-9 measured in accordance with ISOR 1680.

For special requirements the noise level can be reduced below the standard values.

3.8. Vibrations

Motor vibrations are derived from effective speed of vibrations in mm/s.

All rotors are dynamically balanced. Standard motors comply with range "b", VDI 2056 and range "a" in the case of special request. Measuring instruments and methods are in accordance with DIN 45666. The test is taken on no-load running on rated voltage and frequency and the amplitude of vibration is measured at the bearing end-shields.

3.9.Testing motors

The tests specified in this part are normally made in our test station. In the case of prototype the basic tests will be done in accordance with VDE 0530. Depending on the request the motor can be tested according to other standards in the presence of the purchaser or his representative. Except the standard tests in the case of special request the additional test can be done. Additional tests can be made at the manufacturer's works or on the place of their application. When test certificate is required, it shall be requested at the time of ordering.

3.9.1. Standard testings

- Control of fixing dimensions
- Control of the air gap
- Control of the auxiliary components
- Resistance test of windings
- Insulation resistance test
- Control of marking and sense of rotation
- Routine check test
- No load losses and current test and determination of no load power factor at rated voltage
- Locked rotor test, determination of losses, current and power factor at standstill and reduced voltage
- High voltage test
- Over-speed test

3.9.2. Additional testings

- Testing of no-load characteristics
- Testing of locked rotor characteristics
- Oscillography of the current, voltage and speed during the starting
- Determination of the torque-speed curve
- Determination of the Moment of inertia
- Determination of the load characteristics
- Temperature rise test
- Noise test
- Dielectric test of winding insulation
- Oscillography of residual voltage

4. FUNDATIONS

The foundations must fill up the following conditions:

- Foundations of steel construction, high and elastic:
  Own critical frequency of system must be less for cca 0,7 x n (T group of motors and aggregate, low adjusted nk < n according VDI 2056).
- Hard and massive cencrete fundations: Own critical frequency of system must be greater for cca 1,4 x n (G group of motors and aggregates high adjusted nk > n according VDI 2506).

5. ADDITIONAL EQUIPMENT

When it is requested standard motors can be equipped with

additional equipment:

- PTC thermistors for motor protection
- Resistance thermometer Pt 100 for winding
- Resistance thermometer Pt 100 for bearing
- Contact thermometer for bearing
- Anti-condensation heaters for motors which are exposed to considerable fluctuations of temperature in moisture ambient
- Resistance thermometer for measuring the temperature of cold and hot air.
- Tripping device for PTC thermistors
- Anchor bolts
- Slide railsStand
- Over-voltage limiter

Note: By motor with heat exchanger water-air recommend to check the temperature and circulation of water.

6. SPARE PARTS

If requested we deliver the spare parts. For important driving system we recommend the following spare parts:

- bearings
- uninsulated winding
- insulators
- brushes for slip-ring motors

7. SPECIAL REQUIREMENTS

If requested motors of this catalogue can be delivered for following requirements:

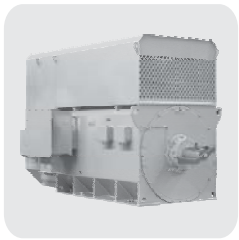
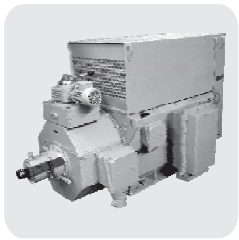
- with additional equipment according to point
- with two shaft extensions or with non standard shaft end
- with non standard fixing dimensions
- with sleeve bearings
- for two sense of rotation
- with reduced noise level
- with reduced vibrations
- special shipping
- voltage different from 6 kV
- reduced starting current and increased starting torque
- two speed motor
- special mounting arrangement
- short circuiting device for slip-ring motor
- non standard painting
- belt pulley design
- mechanical protection IP 54 and IP 55
- non standard name plate
- for high number of starting
- for additional axial bearing load
- with test report
- test report for special testing
- modification for other standards

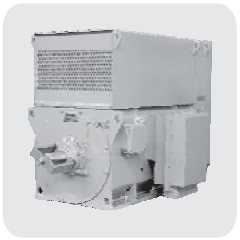
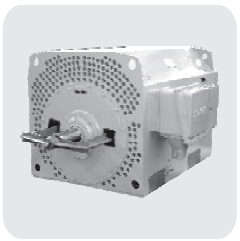
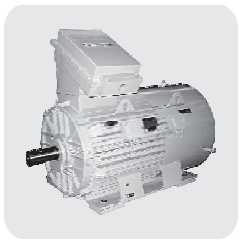
8. REQUEST AND ORDERING

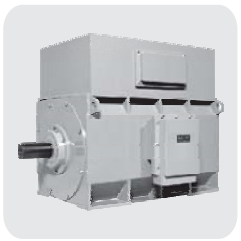
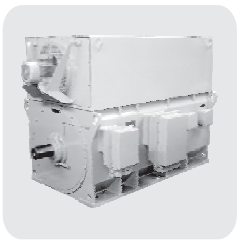
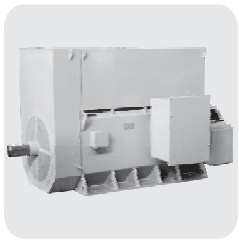
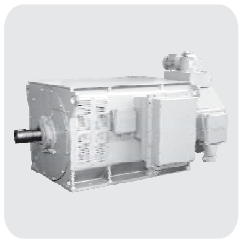
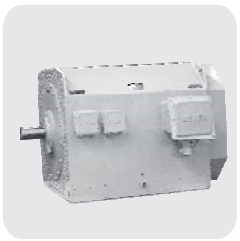
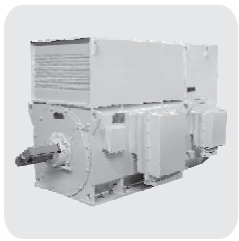
In your request or in the case of ordering please indicate the following data:

- rated output
- rated voltage and frequency
- cooling form and mechanical protection
- rated speed
- mounting arrangement
- supply conditions
- type of the driven machine
- Moment of inertia calculated on the motor shaft
- torque-speed curve of the driven machine
- number of starting per hour and number of consecutively starting
- request for starting current
- request for torque-speed curve
- overload
- place of installing and air humidity
- ambient temperature
- altitude
- position of terminal box
- sense of rotation
- other special requirements according to point 6.

Our products


Technical data

HIGH VOLTAGE THREE PHASE INDUCTION MOTORS WELDED CONSTRUCTION

Type:	Protect.:	Cooling:	Arrangement:
KR	IPR 44	IC 31	
KO	IP 23	IC 01	
KW	IPW 24	IC 01	IM B3; (IM 1001)
KV	IP 44	IC 81W	IM V1; (IM 3011)

Execution:
Rotor: **squirrel cage**
Voltage: **6 kV**
Frequency: **50 Hz**
Insul. class: **F**

Type	Rated output P_N	Rated speed n	Efficiency η %				Power factor cosφ				Rated current I_N	Current and torque rations			Mom. of inertia J_m	Weight of motor		
																IPR 44	IPW24 IP 23	IP 44
	kW	min^{-1}	5/4 P_N	1/1P_N	3/4 P_N	1/2 P_N	5/4 P_N	1/1P_N	3/4 P_N	1/2 P_N	A	I_P/I_N	M_P/M_N	M_{PR}/M_N	kgm^2	m kg		
ns=3000 min^{-1}																		
1.K...6355 Sa-2	**200**	2970	92,4	**93,1**	92,7	91,2	0,88	**0,88**	0,86	0,80	23	5,2	0,64	2,4	2,2	1320	1430	1510
1.K...6355 Sb-2	**225**	2970	93,2	**93,4**	93,1	91,7	0,89	**0,89**	0,87	0,81	26	5,2	0,64	2,4	2,4	1355	1525	1715
1.K...6355 Sc-2	**250**	2970	93,4	**93,6**	93,3	92,1	0,89	**0,89**	0,87	0,81	29	5,2	0,66	2,4	2,5	1390	1560	1750
1.K...6355 Ma-2	**280**	2970	93,7	**93,9**	93,7	92,5	0,89	**0,9**	0,88	0,83	32	5,3	0,67	2,4	2,7	1437	1607	1847
1.K...6355 Mb-2	**315**	2970	94	**94,2**	93,9	92,8	0,9	**0,9**	0,88	0,83	36	5,3	0,69	2,4	2,9	1560	1730	1970
1.K...6355 Mc-2	**355**	2971	94,2	**94,4**	94,2	93,1	0,9	**0,9**	0,89	0,85	40	5,4	0,70	2,4	3,2	1630	1800	2040
1.K...6355 Md-2	**400**	2972	94,5	**94,6**	94,4	93,3	0,91	**0,91**	0,91	0,85	45	5,5	0,74	2,4	3,6	1670	1870	2010
1.K...6400 Sa-2	**450**	2968	93,7	**94,0**	93,9	93,1	0,90	**0,90**	0,90	0,86	51	5,0	0,60	2,1	5,0	2030	2250	2290
1.K...6400 Sb-2	**500**	2972	94,0	**94,2**	94,0	93,1	0,89	**0,90**	0,90	0,86	57	5,4	0,70	2,2	5,5	2150	2370	2410
1.K...6400 Ma-2	**560**	2974	94,1	**94,5**	93,5	93,4	0,90	**0,90**	0,90	0,85	63	5,8	0,70	2,3	6,0	2350	2570	2710
1.K...6400 Mb-2	**630**	2974	94,5	**94,6**	94,4	93,6	0,91	**0,91**	0,91	0,88	71	5,8	0,70	2,3	7,0	2450	2670	2810
1.K...6450 Sa-2	**710**	2966	94,4	**94,6**	94,5	93,6	0,88	**0,90**	0,88	0,84	80	5,0	0,70	2,2	9	2570	2850	2930
1.K...6450 Sb-2	**800**	2967	94,6	**94,8**	94,7	93,9	0,89	**0,90**	0,89	0,85	90	5,1	0,70	2,2	10	2850	3150	3210
1.K...6450 Ma-2	**900**	2968	94,8	**94,9**	94,8	94	0,90	**0,91**	0,90	0,86	100	5,2	0,75	2,2	11	3070	3350	3550
1.K...6450 Mb-2	**1000**	2968	94,9	**95,1**	94,9	94	0,91	**0,91**	0,90	0,86	111	5,6	0,80	2,3	12,5	3250	3530	3730
1.K...6500 Sa-2	**1120**																	
1.K...6500 Sb-2	**1250**																	
1.K...6500 Ma-2	**1400**																	
1.K...6500 Mb-2	**1600**																	
1.K...6500 Mc-2	**1800**																	
1.K...6560 Sa-2	**2000**																	
1.K...6560 Sb-2	**2240**																	
1.K...6560 Ma-2	**2500**																	
1.K...6560 Mb-2	**2800**																	

on request

on request

Note: All other motors frame sizes, executions and additional data are available on request; All quoted data are informal; Keeping back privilege for change in catalogue.

Technical data

HIGH VOLTAGE THREE PHASE INDUCTION MOTORS WELDED CONSTRUCTION

Type:	Protect.:	Cooling:	Arrangement:	Execution:
KR	IPR 44	IC 31		Rotor: **squirrel cage**
KO	IP 23	IC 01		Voltage: **6 kV**
KW	IPW 24	IC 01	IM B3; (IM 1001)	Frequency: **50 Hz**
KV	IP 44	IC 81W	IM V1; (IM 3011)	Insul. class: **F**

Type	Rated output P_N	Rated speed n	Efficiency η %				Power factor cosφ				Rated current I_N	Current and torque rations			Mom. of inertia J_m	Weight of motor		
																IPR 44	IPW24 IP 23	IP 44
	kW	min^{-1}	5/4 P_N	1/1P_N	3/4 P_N	1/2 P_N	5/4 P_N	1/1P_N	3/4 P_N	1/2 P_N	A	I_P/I_N	M_P/M_N	M_{PR}/M_N	kgm^2	m kg		
ns=1500 min^{-1}																		
1.K...6355 Sa-4	**200**	1475	92,0	**92,6**	92,7	91,9	0,84	**0,84**	0,82	0,77	25	5,1	0,9	2,4	4,5	1360	1510	1550
1.K...6355 Sb-4	**225**	1476	92,3	**92,9**	92,9	92,2	0,84	**0,84**	0,83	0,77	28	5,1	0,9	2,4	5,0	1418	1568	1608
1.K...6355 Sc-4	**250**	1477	92,8	**93,2**	93,2	92,4	0,84	**0,84**	0,82	0,77	31	5,5	0,95	2,5	5,5	1430	1580	1620
1.K...6355 Ma-4	**280**	1479	93,2	**93,5**	93,4	92,5	0,87	**0,86**	0,84	0,78	34	5,5	1	2,5	6,0	1500	1650	1740
1.K...6355 Mb-4	**315**	1478	93,2	**93,6**	93,6	92,8	0,87	**0,86**	0,84	0,79	38	5,5	1	2,5	6,5	1610	1760	1850
1.K...6355 Mc-4	**355**	1478	93,2	**93,6**	93,6	92,9	0,87	**0,87**	0,85	0,80	42	5,5	1	2,5	7,0	1656	1806	1896
1.K...6355 Md-4	**400**	1478	93,6	**93,9**	94,0	93,2	0,87	**0,87**	0,85	0,80	47	5,5	1	2,5	7,5	1720	1870	1960
1.K...6400 Sa-4	**450**	1477	93,4	**94,0**	94,2	93,6	0,88	**0,88**	0,87	0,81	52	5,0	0,8	2,0	11,0	2090	2310	2570
1.K...6400 Sb-4	**500**	1478	93,6	**94,1**	94,3	93,7	0,88	**0,88**	0,86	0,80	58	5,0	0,8	2,0	11,5	2150	2370	2630
1.K...6400 Ma-4	**560**	1479	94,1	**94,5**	94,6	94,0	0,88	**0,88**	0,87	0,80	65	5,1	0,85	2,1	13,0	2390	2610	2970
1.K...6400 Mb-4	**630**	1480	94,2	**94,6**	94,7	94,1	0,88	**0,88**	0,87	0,80	73	5,1	0,85	2,1	14,5	2510	2730	3090
1.K...6450 Sa-4	**710**	1480	94,6	**95,0**	95,2	94,8	0,89	**0,91**	0,90	0,88	79	5,0	0,8	1,9	21,6	2750	3030	3110
1.K...6450 Sb-4	**800**	1480	94,7	**95,1**	95,3	94,9	0,89	**0,91**	0,91	0,88	89	5,0	0,8	1,9	24,3	2940	3220	3300
1.K...6450 Ma-4	**900**	1482	95,0	**95,2**	95,4	95,0	0,9	**0,91**	0,91	0,88	100	5,5	0,8	1,9	26,5	3160	3440	3520
1.K...6450 Mb-4	**1000**	1483	95,2	**95,4**	95,5	95,0	0,9	**0,91**	0,91	0,88	111	5,5	0,85	2,0	30,2	3360	3640	3720
1.K...6500 Sa-4	**1120**	1490	95,7	**95,8**	95,6	94,7	0,89	**0,89**	0,87	0,81	125	6,2	1	2,5	52	3800	3932	4212
1.K...6500 Sb-4	**1250**	1490	95,8	**95,8**	95,7	94,9	0,9	**0,88**	0,87	0,84	138	5,2	0,9	2	47	4008	4160	4420
1.K...6500 Ma-4	**1400**	1490	96	**95,8**	95,9	95,1	0,9	**0,88**	0,89	0,85	154	5,2	0,9	2	50	4422	4534	4908
1.K...6500 Mb-4	**1600**	1490	96	**95,9**	96	95	0,9	**0,88**	0,89	0,85	175	5,1	0,9	2	55	4630	4742	5116
1.K...6560 Sa-4	**1800**	1484	95,7	**96,1**	96,1	95,7	0,88	**0,88**	0,85	0,78	206	5,1	0,9	2	59	5109	5215	5631
1.K...6560 Sb-4	**2000**	1485	95,9	**96,2**	96,2	95,8	0,89	**0,89**	0,86	0,8	226	5,3	0,9	2,1	70	5667	5773	6189
1.K...6560 Ma-4	**2240**	1485	95,7	**96,2**	95,8	95,2	0,9	**0,89**	0,89	0,85	247	5,4	0,9	2,3	99	5761	5771	6387
1.K...6560 Mb-4	**2500**	1487	96,3	**96,4**	96,5	96	0,9	**0,89**	0,89	0,83	276	5,5	0,9	2,2	103	6394	6606	7020
1.K...6630 Sa-4	**3150**																	
1.K...6630 Sb-4	**3550**																	
1.K...6630 Ma-4	**4000**																	
1.K...6710 Sa-4	**4500**																	
1.K...6710 Sb-4	**5000**																	
1.K...6710 Ma-4	**5600**																	
1.K...6710 Mb-4	**6300**																	

on request

on request

Note: All other motors frame sizes, executions and additional data are available on request; All quoted data are informal; Keeping back privilege for change in catalogue.

Technical data

HIGH VOLTAGE THREE PHASE INDUCTION MOTORS WELDED CONSTRUCTION

Type:	Protect.:	Cooling:	Arrangement:
KR	IPR 44	IC 31	
KO	IP 23	IC 01	
KW	IPW 24	IC 01	IM B3; (IM 1001)
KV	IP 44	IC 81W	IM V1; (IM 3011)

Execution:
Rotor: **squirrel cage**
Voltage: **6 kV**
Frequency: **50 Hz**
Insul. class: **F**

Type	Rated output P_N	Rated speed n	Efficiency η %				Power factor cosφ				Rated current I_N	Current and torque rations			Mom. of inertia J_m	Weight of motor		
																IPR 44	IPW24 IP 23	IP 44
	kW	min^{-1}	5/4 P_N	1/1P_N	3/4 P_N	1/2 P_N	5/4 P_N	1/1P_N	3/4 P_N	1/2 P_N	A	I_P/I_N	M_P/M_N	M_{PR}/M_N	kgm^2	m kg		
ns=1000 min^{-1}																		
1.K...6355 Sc-6	**200**	984	92,5	**92,7**	92,4	91	0,85	**0,85**	0,81	0,73	24	4,6	1	2,2	10,5	1540	1690	1730
1.K...6355 Ma-6	**225**	984	92,7	**92,9**	92,5	91	0,85	**0,85**	0,82	0,74	27	4,6	1	2,2	11,5	1620	1792	1842
1.K...6355 Mb-6	**250**	984	93,1	**93,1**	92,8	91,5	0,85	**0,85**	0,82	0,75	30	4,4	0,9	2,2	12,5	1740	1910	2030
1.K...6400 Sa-6	**280**	986	93	**93,5**	93,6	93	0,85	**0,85**	0,83	0,76	34	4,7	0,7	2,1	12,5	1940	2140	2200
1.K...6400 Sb-6	**315**	986	93	**93,5**	93,7	93,2	0,85	**0,85**	0,83	0,77	38	4,4	0,7	2	12,8	2030	2230	2290
1.K...6400 Sc-6	**355**	986	93	**93,6**	93,9	93,4	0,86	**0,86**	0,86	0,8	42	4,4	0,6	2	14,5	2150	2350	2410
1.K...6400 Sd-6	**400**	986	93,5	**94**	94,2	93,8	0,86	**0,86**	0,86	0,8	48	4,4	0,6	2	16,2	2270	2470	2530
1.K...6400 Ma-6	**450**	987	93,8	**94,3**	94,4	93,9	0,86	**0,86**	0,86	0,8	53	4,6	0,7	2	18,4	2480	2700	2740
1.K...6400 Mb-6	**500**	987	94	**94,5**	94,6	94	0,86	**0,86**	0,86	0,8	59	4,5	0,6	2	20,5	2600	2820	2860
1.K...6450 Sa-6	**560**	990	94,2	**94,6**	94,7	94,1	0,86	**0,87**	0,86	0,8	66	5	0,8	2	30,7	2750	3030	3130
1.K...6450 Sb-6	**630**	987	94,4	**94,8**	94,9	94,4	0,86	**0,87**	0,86	0,8	74	5	0,8	2	34,5	2940	3220	3320
1.K...6450 Ma-6	**710**	988	94,5	**94,9**	94,9	94,4	0,86	**0,87**	0,86	0,8	83	5	0,8	2	39,2	3160	3460	3540
1.K...6450 Mb-6	**800**	989	94,7	**95**	95	94,4	0,87	**0,87**	0,86	0,8	93	5,5	0,8	2,1	43,7	3300	3600	3680
1.K...6500 Sa-6	**900**	991	95,4	**95,6**	95,5	94,7	0,87	**0,87**	0,85	0,78	103	5,8	1,4	2,3	87	4153	4305	4565
1.K...6500 Sb-6	**1000**	991	95,5	**95,6**	95,6	94,8	0,87	**0,87**	0,85	0,79	114	5,4	0,9	2	63	4372	4524	4784
1.K...6500 Ma-6	**1120**	991	95,6	**95,7**	95,7	94,9	0,87	**0,87**	0,85	0,78	128	5,9	0,9	2,1	70	4869	4981	5355
1.K...6500 Mb-6	**1250**	991	95,7	**95,8**	95,7	95	0,87	**0,87**	0,84	0,77	144	5,4	0,9	2	79	5046	5158	5532
1.K...6560 Sa-6	**1400**	991	95,7	**95,9**	96	95,5	0,85	**0,87**	0,85	0,8	162	5,4	0,9	2	88	5439	5545	5960
1.K...6560 Sb-6	**1600**	991	98,8	**96**	96,1	95,7	0,85	**0,88**	0,85	0,8	186	5,3	0,9	2	112	6009	6115	6531
1.K...6560 Ma-6	**1800**	991	95,9	**96**	96,2	95,7	0,85	**0,88**	0,85	0,79	209	5,3	0,9	2	123	6347	6557	6973
1.K...6560 Mb-6	**2000**	993	96,3	**96,1**	96,2	95,4	0,86	**0,9**	0,82	0,75	234	5,3	0,9	2	135	7018	7228	7644
1.K...6630 Sa-6	**2500**																	
1.K...6630 Sb-6	**2800**																	
1.K...6630 Ma-6	**3150**																	
1.K...6710 Sa-6	**3550**																	
1.K...6710 Sb-6	**4000**																	
1.K...6710 Ma-6	**4500**																	

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Technical data

HIGH VOLTAGE THREE PHASE INDUCTION MOTORS WELDED CONSTRUCTION

Type:	Protect.:	Cooling:	Arrangement:	Execution:
KR	IPR 44	IC 31		Rotor: **squirrel cage**
KO	IP 23	IC 01		Voltage: **6 kV**
KW	IPW 24	IC 01	IM B3; (IM 1001)	Frequency: **50 Hz**
KV	IP 44	IC 81W	IM V1; (IM 3011)	Insul. class: **F**

Type	Rated output P_N	Rated speed n	Efficiency η %				Power factor cosφ				Rated current I_N	Current and torque rations			Mom. of inertia J_m	Weight of motor		
																IPR 44	IPW24 IP 23	IP 44
	kW	min^{-1}	5/4 P_N	1/1P_N	3/4 P_N	1/2 P_N	5/4 P_N	1/1P_N	3/4 P_N	1/2 P_N	A	I_P/I_N	M_P/M_N	M_{PR}/M_N	kgm^2	m kg		
ns=750 min^{-1}																		
1.K...6400 Sa-8	**225**	737	92	**92,6**	92,8	92	0,84	**0,83**	0,8	0,71	29	4,5	0,8	2,1	15	2010	2210	2270
1.K...6400 Sb-8	**250**	738	92,2	**92,8**	92,9	92,1	0,84	**0,83**	0,8	0,71	31	4,5	0,8	2,1	17	2150	2350	2410
1.K...6400 Ma-8	**280**	737	92,4	**93**	93,2	92,5	0,84	**0,83**	0,81	0,72	35	4,5	0,8	2,1	18	2330	2550	2690
1.K...6400 Mb-8	**315**	738	92,7	**93,2**	93,3	92,5	0,85	**0,83**	0,8	0,72	39	4,6	0,8	2,1	20,5	2420	2640	2720
1.K...6450 Sa-8	**355**	741	93,7	**94**	93,9	93	0,83	**0,82**	0,77	0,68	44	4,8	0,8	2,2	25	2827	3107	3287
1.K...6450 Sb-8	**400**	740	93,7	**94**	93,9	93	0,83	**0,82**	0,78	0,69	50	4,5	0,8	2,2	27	2950	3230	3330
1.K...6450 Sc-8	**450**	740	93,8	**94,1**	94	93,1	0,83	**0,82**	0,78	0,68	51	4,5	0,8	2,2	28,9	3090	3370	3470
1.K...6450 Ma-8	**500**	740	94	**94,3**	94,2	93,3	0,83	**0,82**	0,78	0,69	62	4,5	0,8	2,2	31	3270	3570	3750
1.K...6450 Mb-8	**560**	740	94	**94,4**	94,3	93,5	0,83	**0,83**	0,79	0,71	69	4,5	0,8	2,2	35	3380	3680	3860
1.K...6450 Mc-8	**630**	740	94,2	**94,5**	94,4	93,6	0,83	**0,83**	0,79	0,71	77	4,5	0,8	2,2	38	3520	3820	4000
1.K...6500 Sa-8	**710**	741	94,5	**94,9**	94,5	93,4	0,85	**0,83**	0,82	0,74	84	5,1	0,9	2,2	83	3644	3760	4020
1.K...6500 Sb-8	**800**	742	94,7	**95,1**	94,5	93,3	0,86	**0,83**	0,81	0,73	95	5,5	1	2,4	98,5	3904	4056	4316
1.K...6500 Ma-8	**900**	743	94,8	**95,1**	94,5	93,1	0,86	**0,83**	0,81	0,73	107	5,9	1,1	2,5	121	4256	4638	5016
1.K...6500 Mb-8	**1000**	743	94,9	**95,2**	94,5	93	0,86	**0,83**	0,8	0,71	119	6,2	1,1	2,7	137	4734	4846	5220
1.K...6560 Ma-8	**1120**	744	95,7	**95,3**	95,5	94,6	0,85	**0,85**	0,8	0,72	134	6,1	1	2,3	192	5482	5692	6108
1.K...6560 Mb-8	**1250**	744	95,8	**95,4**	95,5	94,5	0,84	**0,85**	0,8	0,69	151	6,4	1,05	2,3	206	6282	6492	6908
1.K...6630 Sa-8	**1600**																	
1.K...6630 Sb-8	**1800**																	
1.K...6630 Ma-8	**2000**																	
1.K...6630 Mb-8	**2240**																	
1.K...6710 Sa-8	**2500**																	
1.K...6710 Sb-8	**2800**																	
1.K...6710 Ma-8	**3150**																	
1.K...6710 Mb-8	**3550**																	

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Technical data

HIGH VOLTAGE THREE PHASE INDUCTION MOTORS WELDED CONSTRUCTION

Type: KR, KO, KW, KV
Protect.: IPR 44, IP 23, IPW 24, IP 44
Cooling: IC 31, IC 01, IC 01, IC 81W
Arrangement: IM B3; (IM 1001), IM V1; (IM 3011)
Execution: Rotor: **squirrel cage**, Voltage: **6 kV**, Frequency: **50 Hz**, Insul. class: **F**

Type	Rated output P_N	Rated speed n	Efficiency η %				Power factor cosφ				Rated current I_N	Current and torque rations			Mom. of inertia J_m	Weight of motor		
																IPR 44	IPW24 IP 23	IP 44
	kW	min^{-1}	5/4 P_N	1/1P_N	3/4 P_N	1/2 P_N	5/4 P_N	1/1P_N	3/4 P_N	1/2 P_N	A	I_P/I_N	M_P/M_N	M_{PR}/M_N	kgm^2	m kg		
ns=600 min^{-1}																		
1.K...6400 Sb-10	**200**	590	92,2	**92,5**	92,3	91	0,78	**0,76**	0,7	0,59	27	4,5	0,8	2,2	20	2110	2260	2300
1.K...6400 Ma-10	**225**	590	92,3	**92,7**	92,6	91,4	0,8	**0,78**	0,73	0,62	30	4,4	0,7	2,1	22	2210	2380	2450
1.K...6400 Mb-10	**250**	591	92,7	**93**	92,8	91,6	0,8	**0,77**	0,72	0,61	34	4,4	0,7	2,1	24	2330	2720	2790
1.K...6450 Sa-10	**280**	591	92,4	**92,7**	92,5	91,3	0,8	**0,78**	0,73	0,61	37	4,8	1,2	2,1	36	2640	2840	2900
1.K...6450 Sb-10	**315**	591	93	**93,3**	93,2	92,3	0,81	**0,8**	0,76	0,66	41	4,5	1	2	41	2800	3000	3060
1.K...6450 Ma-10	**355**	591	93	**93,4**	93,3	92,4	0,81	**0,8**	0,76	0,66	46	4,5	1,1	2	44	2970	3190	3330
1.K...6450 Mb-10	**400**	591	93,1	**93,5**	93,5	92,7	0,81	**0,8**	0,78	0,69	52	4,5	1,1	2	49	3135	3355	3495
1.K...6500 Sa-10	**450**	592	94	**94,2**	94	92,7	0,81	**0,79**	0,74	0,63	58	4,9	1,1	2,2	93	3612	3764	4024
1.K...6500 Sb-10	**500**	592	94,1	**94,3**	94,1	93,1	0,82	**0,8**	0,76	0,66	64	4,8	1,1	2,1	101	3862	4014	4276
1.K...6500 Ma-10	**550**	592	94,1	**94,4**	94,3	93,3	0,82	**0,81**	0,77	0,68	69,2	4,7	1	2	110	4558	4690	5044
1.K...6500 Mb-10	**630**	592	94,3	**94,4**	94,2	93,1	0,81	**0,79**	0,74	0,63	81,3	5	1,1	2,1	118	4869	4981	5255
1.K...6560 Sa-10	**710**	592	94,3	**94,6**	94,5	93,6	0,82	**0,78**	0,78	0,69	88,4	5,2	1,4	2,1	162	5252	5358	5774
1.K...6560 Sb-10	**800**	592	94,4	**94,7**	94,6	93,8	0,82	**0,78**	0,79	0,7	99,2	5,1	1,4	2	176	5801	5907	5323
1.K...6560 Ma-10	**900**	592	94,5	**94,8**	94,8	93,9	0,82	**0,78**	0,79	0,7	111,5	5,1	1,4	2	189	5935	6561	6821
1.K...6560 Mb-10	**1000**	592	94,4	**94,6**	94,4	93,4	0,82	**0,78**	0,78	0,7	124,5	5,1	1,4	2	203	6530	6770	7186
1.K...6630 Sa-10	**1250**																	
1.K...6630 Sb-10	**1400**																	
1.K...6630 Ma-10	**1600**																	
1.K...6710 Sa-10	**1800**																	
1.K...6710 Sb-10	**2000**																	
1.K...6710 Ma-10	**2240**																	
1.K...6710 Mb-10	**2500**																	

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Technical data

HIGH VOLTAGE THREE PHASE INDUCTION MOTORS WELDED CONSTRUCTION

Type:	Protect.:	Cooling:	Arrangement:	Execution:
KR	IPR 44	IC 31		Rotor: **squirrel cage**
KO	IP 23	IC 01		Voltage: **6 kV**
KW	IPW 24	IC 01	IM B3; (IM 1001)	Frequency: **50 Hz**
KV	IP 44	IC 81W	IM V1; (IM 3011)	Insul. class: **F**

Type	Rated output P_N	Rated speed n	Efficiency η %				Power factor cosφ				Rated current I_N	Current and torque rations			Mom. of inertia J_m	Weight of motor		
																IPR 44	IPW24 IP 23	IP 44
	kW	min^{-1}	5/4 P_N	1/1P_N	3/4 P_N	1/2 P_N	5/4 P_N	1/1P_N	3/4 P_N	1/2 P_N	A	I_P/I_N	M_P/M_N	M_{PR}/M_N	kgm^2	m kg		
ns=500 min^{-1}																		
1.K...6450 Sa-12	**225**	488	91,0	**91,5**	91,5	90,3	0,78	**0,75**	0,69	0,55	32	4,4	1,1	2,2	46	2920	3210	3310
1.K...6450 Sb-12	**250**	489	91,3	**91,8**	91,6	90,3	0,78	**0,75**	0,69	0,56	35	4,3	1,1	2,3	51,7	2970	3250	3350
1.K...6450 Ma-12	**280**	489	91,7	**92**	91,7	90,3	0,78	**0,75**	0,69	0,56	39	4,5	1,2	2,4	59,8	3124	3424	3604
1.K...6450 Mb-12	**315**	489	91,8	**92,2**	92,0	90,7	0,78	**0,75**	0,7	0,58	43	4,3	1,1	2,3	65,5	3234	3534	3714
1.K...6500 Sa-12	**355**	493	93	**93,2**	92,8	91,2	0,76	**0,74**	0,68	0,56	49,5	4,1	1	2,2	87	3692	3648	4108
1.K...6500 Sb-12	**400**	493	93	**93,2**	92,7	91,2	0,75	**0,72**	0,66	0,54	57,4	4,1	1	2,2	96	4008	4160	4620
1.K...6500 Ma-12	**450**	493	93,1	**93,4**	92,9	91,3	0,76	**0,74**	0,68	0,57	62,6	4,1	1	2,1	114	4734	4846	5220
1.K...6500 Mb-12	**500**	493	93,4	**93,5**	93,1	91,6	0,76	**0,74**	0,69	0,58	69,5	4,1	1	2,1	132	4942	5054	5428
1.K...6560 Sa-12	**560**	496	94,2	**93,9**	93,1	91	0,78	**0,75**	0,7	0,59	76	5,5	1,8	2,2	220	5163	5269	5685
1.K...6560 Sb-12	**630**	496	94,3	**94,1**	93,3	91,4	0,78	**0,76**	0,7	0,6	84	5,4	1,8	2,1	251	5770	5876	6292
1.K...6560 Ma-12	**710**	496	94,4	**94,2**	93,5	91,6	0,78	**0,77**	0,72	0,62	94	5,3	1,8	2,1	277	5848	6058	6474
1.K...6560 Mb-12	**800**	496	94,4	**94,1**	93,3	91,3	0,77	**0,76**	0,71	0,6	94	5,4	1,8	2,1	307	6550	6760	7176
1.K...6630 Sa-12	**1000**																	
1.K...6630 Sb-12	**1120**																	
1.K...6630 Ma-12	**1250**																	
1.K...6710 Sa-12	**1400**																	
1.K...6710 Sb-12	**1600**																	
1.K...6710 Ma-12	**1800**																	
1.K...6710 Mb-12	**2000**																	

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Technical data

HIGH VOLTAGE THREE PHASE INDUCTION MOTORS WELDED CONSTRUCTION

Type: **KZ**

Protect.: **IP 44**

Cooling: **IC 611**

Arrangement: **IM B3; (IM 1001)**
IM V1; (IM 3011)

Execution:
Rotor: **squirrel cage**
Voltage: **6 kV**
Frequency: **50 Hz**
Insul. class: **F**

Type	Rated output P_N	Rated speed n	Efficiency η %				Power factor cosφ				Rated current I_N	Current and torque rations			Mom. of inertia J_m	Weight of motor IPR 44 m
	kW	min^{-1}	5/4 P_N	1/1P_N	3/4 P_N	1/2 P_N	5/4 P_N	1/1P_N	3/4 P_N	1/2 P_N	A	I_P/I_N	M_P/M_N	M_{PR}/M_N	kgm^2	kg
ns=3000 min^{-1}																
1.KZ...6355 Sc-2	**200**	2972	92,5	**92,3**	91,4	89,2	0,9	**0,9**	0,89	0,83	23	5,5	0,68	2,52	3,5	1690
1.KZ...6355 Ma-2	**225**	2976	92,85	**92,5**	91,6	89,3	0,9	**0,9**	0,86	0,8	26	6,5	0,83	2,9	3,7	1740
1.KZ...6355 Mb-2	**250**	2972	93,1	**92,9**	92,2	90,2	0,91	**0,91**	0,89	0,85	29	5,54	0,7	2,5	3,9	1860
1.KZ...6355 Mc-2	**280**	2972	93,3	**93,2**	92,5	90,6	0,92	**0,92**	0,91	0,87	31	5,5	0,7	2,5	4,2	1930
1.KZ...6355 Md-2	**315**	2973	93,6	**93,5**	92,8	91,03	0,92	**0,92**	0,91	0,88	35	5,6	0,7	2,5	4,6	1970
1.KZ...6400 Sa-2	**355**	2972	93,1	**93**	92,4	90,7	0,9	**0,9**	0,9	0,87	41	5,3	0,7	2,4	6,5	2390
1.KZ...6400 Sb-2	**400**	2974	93,4	**93,2**	92,5	90,8	0,91	**0,91**	0,91	0,87	45	5,7	0,8	2,5	7	2510
1.KZ...6400 Ma-2	**450**	2974	93,5	**93,4**	92,5	91,1	0,91	**0,91**	0,91	0,88	51	5,7	0,8	2,5	7,5	2710
1.KZ...6400 Mb-2	**500**	2975	93,8	**93,6**	92,9	90,4	0,92	**0,92**	0,91	0,89	56	5,7	0,8	2,5	8,5	2810
1.KZ...6450 Sa-2	**560**	2976	93,8	**93,3**	92,7	90,8	0,89	**0,912**	0,86	0,8	70	6,19	1,23	2,78	12	2970
1.KZ...6450 Sb-2	**630**	2980	93,8	**93,4**	92,8	90,4	0,89	**0,928**	0,87	0,8	70	6,37	1,19	2,84	13	3250
1.KZ...6450 Ma-2	**710**	2975	94,3	**94**	93,3	91,5	0,9	**0,9**	0,88	0,81	81	6,4	1	2,6	14	3470
1.KZ...6450 Mb-2	**800**	2976	94,3	**94,2**	93,9	91,76	0,9	**0,9**	0,89	0,82	91	6,5	1,1	2,7	15,5	3650
1.KZ...6500 Sa-2	**900**															
1.KZ...6500 Sb-2	**1000**															
1.KZ...6500 Ma-2	**1120**															
1.KZ...6500 Mb-2	**1250**															
1.KZ...6500 Mc-2	**1400**															
1.KZ...6560 Sa-2	**1600**															
1.KZ...6560 Sb-2	**1800**															
1.KZ...6560 Ma-2	**2000**															
1.KZ...6560 Mb-2	**2240**															

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Technical data

HIGH VOLTAGE THREE PHASE INDUCTION MOTORS WELDED CONSTRUCTION

Type: **KZ**

Protect.: **IP 44**

Cooling: **IC 611**

Arrangement: **IM B3; (IM 1001)**
IM V1; (IM 3011)

Execution:
Rotor: **squirrel cage**
Voltage: **6 kV**
Frequency: **50 Hz**
Insul. class: **F**

Type	Rated output P_N	Rated speed n	Efficiency η %				Power factor cosφ				Rated current I_N	Current and torque rations			Mom. of inertia J_m	Weight of motor IPR 44 m
	kW	min $^{-1}$	5/4 P_N	1/1P_N	3/4 P_N	1/2 P_N	5/4 P_N	1/1P_N	3/4 P_N	1/2 P_N	A	I_P/I_N	M_P/M_N	M_{PR}/M_N	kgm^2	kg
ns=1500 min^{-1}																
1.KZ...6355 Sc-4	**200**	1480	92,5	**92,6**	92,2	90,8	0,9	**0,9**	0,88	0,82	23	6	1,06	2,8	6,5	1730
1.KZ...6355 Ma-4	**225**	1481	92,9	**92,9**	95,5	91	0,91	**0,91**	0,88	0,82	26	6,3	1,11	2,9	7	1800
1.KZ...6355 Mb-4	**250**	1481	92,9	**93**	92,7	91,4	0,91	**0,91**	0,88	0,83	28	6,1	1,1	2,8	7,5	1910
1.KZ...6355 Mc-4	**280**	1480	93,1	**93,2**	92,6	91,7	0,91	**0,91**	0,89	0,84	32	5,9	1,03	2,7	8	1956
1.KZ...6355 Md-4	**315**	1480	93,5	**93,7**	92,5	92,3	0,92	**0,92**	0,89	0,85	35	5,7	1,03	2,6	8,5	2120
1.KZ...6400 Sa-4	**355**	1481	93,4	**93,5**	92,4	92,6	0,88	**0,88**	0,86	0,79	42	5,6	1	2,3	12,5	2450
1.KZ...6400 Sb-4	**400**	1481	93,7	**93,8**	93,6	92,5	0,88	**0,88**	0,86	0,79	47	5,6	1	2,3	13	2510
1.KZ...6400 Ma-4	**450**	1481	93,9	**94**	93,7	92,6	0,88	**0,88**	0,87	0,81	52	5,7	1	2,3	14,5	2750
1.KZ...6400 Mb-4	**500**	1482	94,1	**94,2**	93,9	93,8	0,88	**0,88**	0,87	0,81	58	5,8	1	2,3	16	2870
1.KZ...6450 Sa-4	**560**	1480	94,5	**94,5**	94,5	93,1	0,9	**0,9**	0,89	0,85	63	5,5	0,9	2,3	23,6	3150
1.KZ...6450 Sb-4	**630**	1480	94,7	**93,8**	94,7	93,3	0,9	**0,9**	0,89	0,85	71	5,5	0,9	2,3	27,3	3340
1.KZ...6450 Ma-4	**710**	1480	94,9	**94**	94,9	93,4	0,9	**0,9**	0,89	0,85	80	5,8	0,9	2,3	29,5	3560
1.KZ...6450 Mb-4	**800**	1480	95	**94,2**	94	93,5	0,9	**0,9**	0,89	0,85	90	5,9	0,9	2,3	33,2	3760
1.KZ...6500 Sa-4	**900**	1490	95	**95,3**	94,5	93,1	0,91	**0,88**	0,88	0,84	100	6,3	1	2,6	51	4212
1.KZ...6500 Sb-4	**1000**	1490	95,3	**95,4**	94,7	93,4	0,91	**0,88**	0,88	0,86	110	6,2	1	2,6	54	4420
1.KZ...6500 Ma-4	**1120**	1490	95,4	**95,5**	94,7	93,6	0,91	**0,88**	0,88	0,87	122	6,1	1	2,5	59	4908
1.KZ...6500 Mb-4	**1250**	1491	95,5	**95,6**	95	93,7	0,91	**0,88**	0,88	0,88	136	6,2	1	2,5	63	5116
1.KZ...6560 Sa-4	**1400**	1485	95,4	**95,5**	95,3	94,5	0,9	**0,9**	0,9	0,86	155	5,8	0,8	2,3	66	5839
1.KZ...6560 Sb-4	**1600**	1485	95,5	**95,6**	95,5	94,7	0,9	**0,91**	0,9	0,87	176	5,7	0,8	2,3	74	6399
1.KZ...6560 Ma-4	**1800**	1485	95,6	**95,7**	95,6	94,8	0,91	**0,91**	0,9	0,87	197	5,9	0,8	2,3	84	6647
1.KZ...6560 Mb-4	**2000**	1487	96,2	**96,4**	96,4	95,9	0,9	**0,89**	0,88	0,82	277	6,8	0,8	2,6	98	7280
1.KZ...6630 Sa-4	**2500**															
1.KZ...6630 Sb-4	**2800**								on request							
1.KZ...6630 Ma-4	**3150**															
1.KZ...6710 Sa-4	**3550**															
1.KZ...6710 Sb-4	**4000**								on request							
1.KZ...6710 Ma-4	**4500**															
1.KZ...6710 Mb-4	**5000**															

Note: All other motors frame sizes, executions and additional data are available on request; All quoted data are informal; Keeping back privilege for change in catalogue.

Technical data

HIGH VOLTAGE THREE PHASE INDUCTION MOTORS WELDED CONSTRUCTION

Type: **KZ**

Protect.: **IP 44**

Cooling: **IC 611**

Arrangement: **IM B3; (IM 1001)**
IM V1; (IM 3011)

Execution:
Rotor: **squirrel cage**
Voltage: **6 kV**
Frequency: **50 Hz**
Insul. class: **F**

Type	Rated output P_N	Rated speed n	Efficiency η %				Power factor cosφ				Rated current I_N	Current and torque rations			Mom. of inertia J_m	Weight of motor IPR 44 m
	kW	min $^{-1}$	5/4 P_N	1/1P_N	3/4 P_N	1/2 P_N	5/4 P_N	1/1P_N	3/4 P_N	1/2 P_N	A	I_P/I_N	M_P/M_N	M_{PR}/M_N	kgm^2	kg
ns=1000 min^{-1}																
1.KZ...6400 Sa-6	**225**	988	93,3	**93,4**	93,1	91,9	0,86	**0,84**	0,82	0,73	28	5,4	0,9	2,3	14	2300
1.KZ...6400 Sb-6	**250**	987	93,1	**93,4**	93,3	92,2	0,87	**0,85**	0,83	0,75	30	5,1	0,8	2,3	14,3	2390
1.KZ...6400 Sc-6	**280**	987	93,2	**93,5**	93,4	92,4	0,87	**0,86**	0,84	0,77	34	5,1	0,8	2,3	16	2510
1.KZ...6400 Sd-6	**315**	988	93,5	**94**	93,7	93,7	0,87	**0,86**	0,84	0,77	38	5,1	0,8	2,3	17,7	2630
1.KZ...6400 Ma-6	**355**	988	94	**94,1**	93,9	92,9	0,87	**0,86**	0,84	0,77	42	5,1	0,8	2,3	19,9	2840
1.KZ...6400 Mb-6	**400**	988	93,9	**94,1**	93,9	92,9	0,87	**0,86**	0,84	0,78	48	5	0,8	2,9	22	2960
1.KZ...6450 Sa-6	**450**	990	94,3	**94,3**	94	92,8	0,87	**0,86**	0,83	0,76	53	5,6	0,9	2,3	33,7	3150
1.KZ...6450 Sb-6	**500**	990	94,4	**94,5**	94,1	93	0,88	**0,87**	0,84	0,77	59	5,6	0,9	2,3	37,3	3340
1.KZ...6450 Ma-6	**560**	990	94,4	**94,6**	94,2	93,1	0,88	**0,87**	0,85	0,77	66	5,7	0,9	2,4	42,2	3560
1.KZ...6450 Mb-6	**630**	990	94,7	**94,7**	94,3	93,1	0,88	**0,87**	0,84	0,75	74	6	1	2,4	47	3700
1.KZ...6500 Sa-6	**710**	991	95	**95**	94,6	92,8	0,88	**0,87**	0,85	0,79	81	6	1,4	2,4	87	4565
1.KZ...6500 Sb-6	**800**	991	95,1	**95,1**	94,8	93	0,88	**0,88**	0,86	0,8	91	5,8	1,4	2,3	95	4784
1.KZ...6500 Ma-6	**900**	991	95,3	**95,3**	94,9	93,1	0,88	**0,88**	0,86	0,8	103	5,8	1,4	2,3	103	5355
1.KZ...6500 Mb-6	**1000**	991	95,4	**95,4**	95	93,1	0,88	**0,87**	0,86	0,8	114	6	1,4	2,3	111	5532
1.KZ...6560 Sa-6	**1120**	991	95,3	**95,5**	95,3	94,5	0,86	**0,87**	0,86	0,82	129	5	0,8	1,9	110	6169
1.KZ...6560 Sb-6	**1250**	991	95,4	**95,6**	95,4	94,6	0,86	**0,87**	0,86	0,82	144	5	0,8	1,9	120	6739
1.KZ...6560 Ma-6	**1400**	992	95,6	**95,7**	95,5	94,7	0,86	**0,87**	0,86	0,82	160	5	0,8	1,9	130	7233
1.KZ...6560 Mb-6	**1600**	993	95,9	**95,9**	95,6	94,6	0,87	**0,87**	0,86	0,82	182	5	0,8	2	162	7904
1.KZ...6630 Sa-6	**2000**															
1.KZ...6630 Sb-6	**2240**								on request							
1.KZ...6630 Ma-6	**2500**															
1.KZ...6710 Sa-6	**2800**															
1.KZ...6710 Sb-6	**3150**								on request							
1.KZ...6710 Ma-6	**3550**															

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Technical data

HIGH VOLTAGE THREE PHASE INDUCTION MOTORS WELDED CONSTRUCTION

Type: **KZ**

Protect.: **IP 44**

Cooling: **IC 611**

Arrangement: **IM B3; (IM 1001)**
IM V1; (IM 3011)

Execution:
Rotor: **squirrel cage**
Voltage: **6 kV**
Frequency: **50 Hz**
Insul. class: **F**

Type	Rated output P_N	Rated speed n	Efficiency η %				Power factor cosφ				Rated current I_N	Current and torque rations			Mom. of inertia J_m	Weight of motor IPR 44 m
	kW	min $^{-1}$	5/4 P_N	1/1P_N	3/4 P_N	1/2 P_N	5/4 P_N	1/1P_N	3/4 P_N	1/2 P_N	A	I_P/I_N	M_P/M_N	M_{PR}/M_N	kgm^2	kg
ns=750 min^{-1}																
1.KZ...6400 Sa-8	**180**	740	92,4	**92,5**	92,1	90,5	0,83	**0,8**	0,75	0,64	23	5,5	0,9	2,3	16,5	2370
1.KZ...6400 Sb-8	**200**	736	92,5	**92,7**	92,5	91,1	0,84	**0,82**	0,79	0,7	25	5,5	0,9	2,3	18,5	2510
1.KZ...6400 Ma-8	**225**	739	92,5	**92,9**	92,4	91,1	0,84	**0,83**	0,79	0,7	28	5,5	0,9	2,3	19,5	2690
1.KZ...6400 Mb-8	**250**	739	92,8	**93,1**	92,9	92,9	0,84	**0,83**	0,79	0,7	31	5,5	0,9	2,3	22	2750
1.KZ...6450 Sa-8	**280**	742	93,6	**93,5**	93	91,5	0,83	**0,8**	0,75	0,64	36	5	0,9	2,3	28	3230
1.KZ...6450 Sb-8	**315**	742	93,6	**93,6**	93,1	91,5	0,83	**0,81**	0,77	0,66	40	5	0,9	2,3	30	3350
1.KZ...6450 Sc-8	**355**	742	93,8	**93,8**	93,3	91,9	0,83	**0,81**	0,77	0,66	45	5	0,9	2,3	31,9	3490
1.KZ...6450 Ma-8	**400**	743	93,9	**93,9**	93,6	92,2	0,83	**0,82**	0,8	0,68	44,8	5,18	0,82	3,64	34	3670
1.KZ...6450 Mb-8	**450**	742	94	**93,16**	93,7	92,5	0,83	**0,78**	0,8	0,7	56,7	5	0,77	3,67	38	3780
1.KZ...6450 Mc-8	**500**	743	94,3	**93,9**	93,9	92,7	0,83	**0,82**	0,8	0,7	62	5,18	0,74	3,66	41	3920
1.KZ...6500 Sa-8	**560**	742	94,2	**94,2**	93,7	92,2	0,86	**0,86**	0,83	0,75	66	5,4	1	2,4	83	4020
1.KZ...6500 Sb-8	**630**	742	94,3	**94,2**	93,7	92,1	0,87	**0,86**	0,83	0,75	74	5,6	1	2,5	98.5	4316
1.KZ...6500 Ma-8	**710**	743	94,4	**94,3**	93,7	92	0,87	**0,86**	0,83	0,76	83	5,9	1	2,6	121	5012
1.KZ...6500 Mb-8	**800**	743	94,5	**94,3**	93,7	92,1	0,87	**0,86**	0,83	0,76	93	5,8	1	2,5	137	5220
1.KZ...6560 Ma-8	**900**	744	95,2	**9,2**	94,7	93,4	0,85	**0,84**	0,81	0,73	107	6	1	2,3	192	6368
1.KZ...6560 Mb-8	**1000**	744	95,3	**95,2**	94,8	93,5	0,85	**0,84**	0,81	0,73	119	6	1	2,3	275	7168
1.KZ...6630 Sa-8	**1400**															
1.KZ...6630 Sb-8	**1600**															
1.KZ...6630 Ma-8	**1800**															
1.KZ...6630 Mb-8	**2000**															
1.KZ...6710 Sa-8	**2240**															
1.KZ...6710 Sb-8	**2500**															
1.KZ...6710 Ma-8	**2800**															
1.KZ...6710 Mb-8	**3150**															

on request

on request

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Technical data

HIGH VOLTAGE THREE PHASE INDUCTION MOTORS WELDED CONSTRUCTION

Type: **KZ**

Protect.: **IP 44**

Cooling: **IC 611**

Arrangement: **IM B3; (IM 1001)**
IM V1; (IM 3011)

Execution:
Rotor: **squirrel cage**
Voltage: **6 kV**
Frequency: **50 Hz**
Insul. class: **F**

Type	Rated output P_N	Rated speed n	Efficiency η %				Power factor cosφ				Rated current I_N	Current and torque rations			Mom. of inertia J_m	Weight of motor IPR 44 m
	kW	min $^{-1}$	5/4 P_N	1/1P_N	3/4 P_N	1/2 P_N	5/4 P_N	1/1P_N	3/4 P_N	1/2 P_N	A	I_P/I_N	M_P/M_N	M_{PR}/M_N	kgm^2	kg
ns=600 min^{-1}																
1.KZ...6400 Sb-10	**160**	592	92,1	**92**	91,2	89,1	0,76	**0,72**	0,64	0,51	23	5,2	1	2,5	21,5	2470
1.KZ...6400 Ma-10	**180**	592	92,5	**92,4**	91,7	89,8	0,77	**0,74**	0,67	0,55	25	5,1	0,9	2,5	23,5	2570
1.KZ...6400 Mb-10	**200**	593	92,6	**92,5**	91,8	89,8	0,77	**0,74**	0,66	0,54	28	5,1	0,9	2,5	25,5	2690
1.KZ...6450 Sa-10	**225**	592	92,5	**92,6**	92,2	90,5	0,8	**0,79**	0,75	0,64	30	5	1,1	2,3	39	3040
1.KZ...6450 Sb-10	**250**	592	92,9	**93**	92,5	91	0,8	**0,79**	0,74	0,63	33	5	1,1	2,3	44	3200
1.KZ...6450 Ma-10	**280**	592	93	**93,1**	92,6	91,1	0,8	**0,79**	0,74	0,63	37	5	1,1	2,3	47	3370
1.KZ...6450 Mb-10	**315**	592	93,2	**93,3**	92,9	91,5	0,8	**0,8**	0,76	0,66	41	5	1,1	2,3	52	3540
1.KZ...6500 Sa-10	**355**	592	93,7	**93,7**	93,3	91,8	0,82	**0,81**	0,76	0,67	45	4,9	1,1	2,2	93	4024
1.KZ...6500 Sb-10	**400**	593	93,8	**93,8**	93,3	91,8	0,82	**0,81**	0,76	0,66	50,6	5	1,1	2,2	101	4274
1.KZ...6500 Ma-10	**450**	593	93,9	**94**	93,6	92,2	0,82	**0,81**	0,77	0,68	56,9	4,8	1	2,1	110	5044
1.KZ...6500 Mb-10	**500**	592	94	**94,1**	93,8	92,5	0,82	**0,82**	0,78	0,7	62,3	4,6	1	2,1	118	5355
1.KZ...6560 Sa-10	**560**	593	94	**93,6**	92,5	92,5	0,83	**0,82**	0,78	0,69	70	5,5	1,5	2,2	162	5982
1.KZ...6560 Sb-10	**630**	593	94	**93,8**	92,5	92,5	0,83	**0,82**	0,79	0,7	78	5,3	1,5	2,1	176	6531
1.KZ...6560 Ma-10	**710**	593	94.3	**94**	92,7	92,7	0,83	**0,83**	0,79	0,7	87,7	5,2	1,4	2,1	190	6821
1.KZ...6560 Mb-10	**800**	593	94.4	**94**	93	93	0,83	**0,83**	0,79	0,7	98,5	5,2	1,4	2,1	203	7446
1.KZ...6630 Sa-10	**1120**															
1.KZ...6630 Sb-10	**1250**							on request								
1.KZ...6630 Ma-10	**1400**															
1.KZ...6710 Sa-10	**1600**															
1.KZ...6710 Sb-10	**1800**							on request								
1.KZ...6710 Ma-10	**2000**															
1.KZ...6710 Mb-10	**2240**															

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Technical data

HIGH VOLTAGE THREE PHASE INDUCTION MOTORS WELDED CONSTRUCTION

Type: **KZ**

Protect.: **IP 44**

Cooling: **IC 611**

Arrangement: **IM B3; (IM 1001) IM V1; (IM 3011)**

Execution:
Rotor: **squirrel cage**
Voltage: **6 kV**
Frequency: **50 Hz**
Insul. class: **F**

Type	Rated output P_N	Rated speed n	Efficiency η %				Power factor cosφ				Rated current I_N	Current and torque rations			Mom. of inertia J_m	Weight of motor IPR 44 m
	kW	min $^{-1}$	5/4 P_N	1/1P_N	3/4 P_N	1/2 P_N	5/4 P_N	1/1P_N	3/4 P_N	1/2 P_N	A	I_P/I_N	M_P/M_N	M_{PR}/M_N	kgm^2	kg
ns=500 min^{-1}																
1.KZ...6450 Sa-12	**180**	491	91,2	**91,1**	91,1	90	88,0	**0,74**	0,71	0,62	27	5,1	1,5	2,6	49	3330
1.KZ...6450 Sb-12	**200**	491	91,4	**91,4**	91,3	90,5	88,3	**0,75**	0,71	0,63	30	5	1,5	2,6	54,7	3370
1.KZ...6450 Ma-12	**225**	492	91,7	**91,4**	91,5	90,6	88,3	**0,75**	0,71	0,63	34	5	1,5	2,6	62,8	3524
1.KZ...6450 Mb-12	**250**	492	91,9	**91,9**	91,7	90,9	88,7	**0,76**	0,71	0,64	37	4,9	1,4	2,6	60,5	3634
1.KZ...6500 Sa-12	**280**	493	93	**93**	92,5	90,8	0,78	**0,76**	0,7	0,59	38	4	1	2,1	93	4108
1.KZ...6500 Sb-12	**315**	493	93,2	**93,2**	92,7	91	0,78	**0,75**	0,7	0,59	43,4	4	1	2,1	96	4420
1.KZ...6500 Ma-12	**355**	493	93,2	**93,1**	92,5	90,6	0,76	**0,74**	0,68	0,56	49,6	4,8	1,1	2,1	114	5220
1.KZ...6500 Mb-12	**400**	493	93,4	**93,4**	92,8	91,1	0,78	**0,75**	0,7	0,58	55	4,3	1	2,2	191.4	5428
1.KZ...6560 Sa-12	**450**	496	93,6	**93,2**	92,2	89,7	0,79	**0,78**	0,71	0,6	60,5	5,7	1,8	2,2	220	5893
1.KZ...6560 Sb-12	**500**	496	93,7	**93,3**	92,3	90	0,79	**0,77**	0,7	0,63	66,2	5,45	1,7	2,1	250	6500
1.KZ...6560 Ma-12	**560**	496	93,8	**93,5**	92,5	90,3	0,79	**0,78**	0,73	0,64	73,6	5,4	1,6	2,1	276	6734
1.KZ...6560 Mb-12	**630**	496	94	**93,6**	92,7	90,5	0,79	**0,78**	0,74	0,65	82,2	5,3	1,5	2	308	7436
1.KZ...6630 Sa-12	**800**															
1.KZ...6630 Sb-12	**900**															
1.KZ...6630 Ma-12	**1000**															
1.KZ...6630 Mb-12	**1120**															
1.KZ...6710 Sa-12	**1250**															
1.KZ...6710 Sb-12	**1400**															
1.KZ...6710 Sc-12	**1600**															

on request

on request

Note: All other motors frame sizes, executions and additional data are available on request; All quoted data are informal; Keeping back privilege for change in catalogue.

Technical data

HIGH VOLTAGE THREE PHASE INDUCTION MOTORS WELDED CONSTRUCTION

Type:	Protect.:	Cooling:	Arrangement:
PR	IPR 44	IC 31	
PO	IP 23	IC 01	
PW	IPW 24	IC 01	IM B3; (IM 1001)
PV	IP 44	IC 81W	IM V1; (IM 3011)

Execution:
Rotor: **slip ring**
Voltage: **6 kV**
Frequency: **50 Hz**
Insul. class: **F**

Type	Rated output P_N	Rated speed n	Efficiency η %				Power factor cosφ				Rated current I_N	Rotor voltage U_{20}	Rotor current I_{20}	Max. torque	Mom. of inertia J_m	Weight of motor IPR 44	Weight of motor IPW24 IP 23	Weight of motor IP 44
	kW	min^{-1}	5/4 P_N	1/1P_N	3/4 P_N	1/2 P_N	5/4 P_N	1/1P_N	3/4 P_N	1/2 P_N	A	V	A	M_{PR}/M_N	kgm^2	m kg	m kg	m kg
ns=1500 min^{-1}																		
1.P...6355 Sa-4	**200**	1478	90,3	**90,1**	91,1	90,3	0,84	**0,84**	0,83	0,76	25	329	381	2	5,1	1650	1660	1816
1.P...6355 Sb-4	**225**	1480	90,9	**91,5**	91,8	91,1	0,86	**0,87**	0,85	0,8	27	364	386	2	5,6	1708	1688	1844
1.P...6355 Sc-4	**250**	1480	91	**91,7**	91,8	90,9	0,85	**0,86**	0,83	0,76	31	404	383	2,2	6,1	1720	1730	1886
1.P...6355 Ma-4	**280**	1481	91,8	**92,2**	92,1	91,2	0,86	**0,85**	0,82	0,75	34	454	379	2,4	7,1	1820	1830	1990
1.P...6355 Mb-4	**315**	1481	92,3	**92,7**	92,6	91,8	0,86	**0,86**	0,84	0,77	38	486	399	2,3	7,6	1930	1940	2100
1.P...6355 Mc-4	**355**	1481	92,3	**92,7**	92,7	92	0,86	**0,86**	0,84	0,77	43	520	420	2,3	8,1	1978	1986	2145
1.P...6355 Md-4	**400**	1481	92,6	**93**	93	92,3	0,86	**0,86**	0,84	0,78	48	561	439	2,3	8,6	2040	2050	2210
1.P...6400 Sa-4	**450**	1483	93,7	**94,2**	94,3	93,7	0,84	**0,84**	0,82	0,75	55	520	536	1,9	12,6	2430	2440	2610
1.P...6400 Sb-4	**500**	1483	94,1	**94,5**	94,6	94	0,84	**0,84**	0,82	0,74	61	561	550	2	13,1	2490	2500	2670
1.P...6400 Ma-4	**560**	1485	94,4	**94,7**	94,7	94	0,85	**0,85**	0,83	0,75	67	640	536	2	14,4	2820	2830	3000
1.P...6400 Mb-4	**630**	1485	94,6	**94,9**	94,9	94,2	0,86	**0,85**	0,84	0,76	75	706	546	2	16,4	2940	2950	3120
1.P...6450 Sa-4	**710**	1480	93,6	**94**	94,1	93,6	0,86	**0,87**	0,86	0,83	84	700	627	1,9	28,9	3520	3530	3710
1.P...6450 Sb-4	**800**	1481	93,9	**94,2**	94,3	93,8	0,87	**0,88**	0,87	0,84	93	777	632	2,1	31,6	3710	3720	3900
1.P...6450 Ma-4	**900**	1482	94,1	**94,4**	94,4	93,9	0,87	**0,88**	0,87	0,83	104	875	628	2,1	34,3	4030	4040	4220
1.P...6450 Mb-4	**1000**	1484	94,3	**94,5**	94,4	93,9	0,88	**0,88**	0,87	0,83	116	1000	606	2,2	38	4230	4240	4420
1.P...6500 Sa-4	**1120**	1486	95,4	**95,5**	95,4	94,6	0,89	**0,89**	0,87	0,81	126	1172	579	2,6	52	4164	4316	4576
1.P...6500 Sb-4	**1250**	1487	95,6	**95,7**	95,9	94,8	0,9	**0,9**	0,89	0,84	138	1278	590	2,5	59	4372	4524	4784
1.P...6500 Ma-4	**1400**	1487	95,8	**95,9**	95,7	95	0,91	**0,91**	0,9	0,85	153	1406	598	2,5	65	4786	4898	5272
1.P...6500 Mb-4	**1600**	1488	95,9	**96**	95,9	95,1	0,91	**0,91**	0,9	0,85	175	1562	613	2,6	72	4994	5106	5480
1.P...6560 Sa-4	**1800**	1484	95,8	**96,1**	96,2	95,9	0,89	**0,9**	0,89	0,85	199	1406	781	2,2	66	5504	5610	6026
1.P...6560 Sb-4	**2000**	1485	96	**96,2**	96,3	95,9	0,9	**0,89**	0,89	0,85	220	1562	777	2,3	74	6062	6168	6584
1.P...6560 Ma-4	**2240**	1486	96,1	**96,4**	96,4	95,9	0,9	**0,9**	0,89	0,84	246	1758	770	2,4	84	6156	6366	6782
1.P...6560 Mb-4	**2500**	1483	96,3	**96,5**	96,5	96	0,91	**0,91**	0,89	0,85	273	2009	746	2,6	98	6789	6999	7415
1.P...6630 Sa-4	**3150**																	
1.P...6630 Sb-4	**3550**																	
1.P...6630 Ma-4	**4000**																	
1.P...6710 Sa-4	**4500**																	
1.P...6710 Sb-4	**5000**																	
1.P...6710 Ma-4	**5600**																	
1.P...6710 Mb-4	**6300**																	

on request

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Technical data

HIGH VOLTAGE THREE PHASE INDUCTION MOTORS WELDED CONSTRUCTION

Type:	Protect.:	Cooling:	Arrangement:
PR	IPR 44	IC 31	
PO	IP 23	IC 01	
PW	IPW 24	IC 01	IM B3; (IM 1001)
PV	IP 44	IC 81W	IM V1; (IM 3011)

Execution:
Rotor: **slip ring**
Voltage: **6 kV**
Frequency: **50 Hz**
Insul. class: **F**

Type	Rated output P_N	Rated speed n	Efficiency η %				Power factor cosφ				Rated current I_N	Rotor voltage U_{20}	Rotor current I_{20}	Max. torque	Mom. of inertia J_m	Weight of motor IPR 44	Weight of motor IPW24 IP 23	Weight of motor IP 44
	kW	min $^{-1}$	5/4 P_N	1/1P_N	3/4 P_N	1/2 P_N	5/4 P_N	1/1P_N	3/4 P_N	1/2 P_N	A	V	A	M_{PR}/M_N	kgm^2	kg	m	
ns=1000 min^{-1}																		
1.P...6355 Sc-6	**200**	990	93,3	**93,3**	92,8	91,2	0,84	**0,83**	0,79	0,69	25	410	259	2,4	11,1	1830	1840	1996
1.P...6355 Ma-6	**225**	990	93,4	**93,4**	92,9	91,3	0,84	**0,83**	0,79	0,69	28	454	302	2,4	12,6	1942	1952	2112
1.P...6355 Mb-6	**250**	989	93,7	**93,7**	93,.3	91,8	0,84	**0,83**	0,8	0,71	31	550	317	2,3	13,6	2060	2070	2230
1.P...6400 Sa-6	**280**	986	92,9	**93,5**	93,6	93	0,83	**0,82**	0,71	0,69	35	446	387	2	14,1	2280	2290	2460
1.P...6400 Sb-6	**315**	985	92,8	**93,5**	93,7	93,3	0,84	**0,83**	0,8	0,72	39	460	425	2	14,4	2370	2380	2550
1.P...6400 Sc-6	**355**	985	92,9	**93,6**	93,9	93,4	0,85	**0,84**	0,82	0,74	43	513	430	2	16,1	2490	2500	2670
1.P...6400 Sd-6	**400**	986	93,5	**94**	94,2	93,7	0,85	**0,84**	0,82	0,74	48	575	430	2	17,8	2610	2620	2820
1.P...6400 Ma-6	**450**	987	93,9	**94,4**	94,5	93,9	0,85	**0,84**	0,81	0,73	55	654	422	2	20,3	2910	2920	3090
1.P...6400 Mb-6	**500**	988	94,1	**94,5**	94,6	94	0,86	**0,85**	0,82	0,75	60	721	425	2	22,4	3030	3040	3210
1.P...6450 Sa-6	**560**	987	93,8	**94**	94,1	93,4	0,83	**0,83**	0,81	0,73	69	746	465	2	38	3240	3250	3430
1.P...6450 Sb-6	**630**	987	94	**94,3**	94,3	93,7	0,85	**0,84**	0,82	0,75	77	828	468	2,1	41,8	3430	3440	3620
1.P...6450 Ma-6	**710**	987	94,2	**94,5**	94,5	93,8	0,85	**0,85**	0,83	0,76	85	933	466	2,1	47	3750	4760	3940
1.P...6450 Mb-6	**800**	988	94,4	**94,6**	94,5	93,8	0,85	**0,85**	0,82	0,74	96	1065	457	2,2	51,5	3890	3900	4080
1.P...6500 Sa-6	**900**	992	95,6	**95,7**	95,6	94,8	0,89	**0,88**	0,85	0,78	102	1220	443	2,7	87	4517	4669	4929
1.P...6500 Sb-6	**1000**	992	95,7	**95,8**	95,7	94,9	0,89	**0,88**	0,85	0,78	113	1330	450	2,7	95	4736	4888	5148
1.P...6500 Ma-6	**1120**	992	95,8	**95,9**	95,8	95	0,89	**0,88**	0,85	0,78	127	1463	457	2,8	103	5233	5345	5719
1.P...6500 Mb-6	**1250**	992	96	**96**	95,8	95	0,87	**0,88**	0,84	0,76	142	1626	458	3	111	5410	5522	5896
1.P...6560 Sa-6	**1400**	990	95,5	**95,6**	95,6	94,8	0,88	**0,88**	0,87	0,82	160	1330	640	2,1	109	5825	5940	6356
1.P...6560 Sb-6	**1600**	990	95,8	**96**	96,1	95,6	0,88	**0,88**	0,86	0,82	182	1463	666	2,1	120	6404	6510	6926
1.P...6560 Ma-6	**1800**	990	95,9	**96,1**	96,2	95,6	0,87	**0,88**	0,86	0,82	205	1625	671	2,2	130	6742	6952	7368
1.P...6560 Mb-6	**2000**	993	96,3	**96,4**	96,2	95,4	0,88	**0,88**	0,84	0,78	227	2090	572	2,5	163	7413	7623	8039
1.P...6630 Sa-6	**2500**																	
1.P...6630 Sb-6	**2800**								on request									
1.P...6630 Ma-6	**3150**																	
1.P...6710 Sa-6	**3550**																	
1.P...6710 Sb-6	**4000**								on request									
1.P...6710 Ma-6	**4500**																	

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Technical data

HIGH VOLTAGE THREE PHASE INDUCTION MOTORS WELDED CONSTRUCTION

Type:	Protect.:	Cooling:	Arrangement:
PR	IPR 44	IC 31	
PO	IP 23	IC 01	
PW	IPW 24	IC 01	IM B3; (IM 1001)
PV	IP 44	IC 81W	IM V1; (IM 3011)

Execution:
Rotor: **slip ring**
Voltage: **6 kV**
Frequency: **50 Hz**
Insul. class: **F**

Type	Rated output P_N	Rated speed n	Efficiency η %				Power factor cosφ				Rated current I_N	Rotor voltage U_{20}	Rotor current I_{20}	Max. torque	Mom. of inertia J_m	Weight of motor IPR 44	Weight of motor IPW24 IP 23	Weight of motor IP 44
	kW	min^{-1}	5/4 P_N	1/1P_N	3/4 P_N	1/2 P_N	5/4 P_N	1/1P_N	3/4 P_N	1/2 P_N	A	V	A	M_{PR}/M_N	kgm^2	m kg	m kg	m kg
ns=750 min^{-1}																		
1.P...6400 Sa-8	**225**	737	91,7	**92,3**	92,4	91,6	0,81	**0,8**	0,75	0,64	29	424	330	2	16,6	2350	2360	2530
1.P...6400 Sb-8	**250**	737	91,9	**92,5**	92,6	91,7	0,82	**0,8**	0,76	0,65	33	475	325	2,1	18,6	2490	2500	2670
1.P...6400 Ma-8	**280**	737	92,1	**92,7**	92,8	92	0,82	**0,8**	0,76	0,66	36	505	343	2,1	19,9	2820	2830	3000
1.P...6400 Mb-8	**315**	738	92,5	**93**	93	92,1	0,82	**0,8**	0,76	0,65	41	577	336	2,2	22,4	2840	2860	3030
1.P...6450 Sa-8	**355**	741	92,9	**93,1**	92,9	91,9	0,8	**0,79**	0,74	0,64	46	576	378	2,2	32,3	3517	3327	3507
1.P...6450 Sb-8	**400**	741	93	**93,2**	93,1	92,1	0,8	**0,79**	0,74	0,63	52	618	395	2,2	34,3	3540	3450	3630
1.P...6450 Sc-8	**450**	741	93,2	**93,4**	93,3	92,5	0,8	**0,8**	0,75	0,65	58	672	410	2,2	36,2	3580	3590	3770
1.P...6450 Ma-8	**500**	741	93,3	**93,5**	93,4	92,5	0,81	**0,8**	0,76	0,66	64	733	416	2,2	38,8	3870	3870	4050
1.P...6450 Mb-8	**560**	742	93,5	**93,7**	93,6	92,7	0,82	**0,81**	0,77	0,67	71	808	423	2,2	42,8	3970	3980	4160
1.P...6450 Sc-8	**630**	742	93,6	**93,8**	93,7	92,8	0,83	**0,81**	0,77	0,67	80	898	427	2,3	45,8	4110	4120	4300
1.P...6500 Sa-8	**710**	740	94,5	**94,7**	94,6	93,6	0,86	**0,85**	0,83	0,75	84	692	623	2,2	83	4008	4124	4384
1.P...6500 Sb-8	**800**	741	94,7	**94,8**	94,5	93,4	0,86	**0,85**	0,82	0,74	94	817	591	2,3	98,5	4268	4420	4680
1.P...6500 Ma-8	**900**	743	94,8	**94,8**	94,4	93,1	0,86	**0,85**	0,82	0,73	106	999	540	2,5	121,5	4890	5002	5376
1.P...6500 Mb-8	**1000**	743	94,9	**94,8**	94,4	93	0,86	**0,85**	0,81	0,72	118	1124	532	2,7	137	5098	5210	5584
1.P...6560 Ma-8	**1120**	743	95,7	**95,7**	95,5	94,5	0,87	**0,86**	0,83	0,73	128	1487	450	2,8	192	5877	5879	6139
1.P...6560 Mb-8	**1250**	744	95,8	**95,8**	95,5	94,6	0,87	**0,86**	0,81	0,72	146	1636	453	2,8	206	6677	6887	7303
1.P...6630 Sa-8	**1600**																	
1.P...6630 Sb-8	**1800**																	
1.P...6630 Ma-8	**2000**																	
1.P...6630 Mb-8	**2240**																	
1.P...6710 Sa-8	**2500**																	
1.P...6710 Sb-8	**2800**																	
1.P...6710 Ma-8	**3150**																	
1.P...6710 Mb-8	**3550**																	

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Technical data

HIGH VOLTAGE THREE PHASE INDUCTION MOTORS WELDED CONSTRUCTION

Type:	Protect.:	Cooling:	Arrangement:
PR	IPR 44	IC 31	
PO	IP 23	IC 01	
PW	IPW 24	IC 01	IM B3; (IM 1001)
PV	IP 44	IC 81W	IM V1; (IM 3011)

Execution:
Rotor: **slip ring**
Voltage: **6 kV**
Frequency: **50 Hz**
Insul. class: **F**

Type	Rated output P_N	Rated speed n	Efficiency η %				Power factor cosφ				Rated current I_N	Rotor voltage U_{20}	Rotor current I_{20}	Max. torque	Mom. of inertia J_m	Weight of motor IPR 44	Weight of motor IPW24 IP 23	Weight of motor IP 44
	kW	min $^{-1}$	5/4 P_N	1/1P_N	3/4 P_N	1/2 P_N	5/4 P_N	1/1P_N	3/4 P_N	1/2 P_N	A	V	A	M_{PR}/M_N	kgm^2	m kg	m kg	m kg
ns=600 min^{-1}																		
1.P...6400 Sb-10	**200**	589	91,2	**91,7**	91,6	90,2	0,72	**0,7**	0,63	0,52	30	370	349	1,9	21,6	2450	2460	2630
1.P...6400 Ma-10	**225**	589	91,5	**92,2**	92	90,8	0,75	**0,72**	0,67	0,55	33	404	359	1,9	23,9	2640	2650	2820
1.P...6400 Mb-10	**250**	589	91,9	**92,3**	92,2	90,9	0,75	**0,72**	0,67	0,54	37	444	361	2	25,9	2760	2770	2940
1.P...6450 Sa-10	**280**	589	91,9	**92,2**	92,1	91	0,78	**0,74**	0,68	0,56	40	617	279	2,1	43,3	3130	3140	3320
1.P...6450 Sb-10	**315**	589	92,1	**92,6**	92,5	91,5	0,78	**0,75**	0,69	0,58	44	677	289	2,1	48,3	3290	3300	3480
1.P...6450 Ma-10	**355**	589	92,2	**92,6**	92,6	91,7	0,78	**0,76**	0,71	0,6	49	740	298	2,1	51,8	3560	3570	3720
1.P...6450 Mb-10	**400**	589	92,3	**92,7**	92,6	91,8	0,78	**0,76**	0,71	0,6	55	814	305	2,1	56,8	3720	3735	3915
1.P...6500 Sa-10	**450**	592	94,1	**94,1**	93,8	92,5	0,82	**0,8**	0,75	0,63	58	960	284	2,4	93	3976	4128	4388
1.P...6500 Sb-10	**500**	592	94,2	**94,3**	94,1	92,9	0,82	**0,81**	0,76	0,66	63	1019	297	2,5	101,4	4226	4378	4638
1.P...6500 Ma-10	**550**	592	94,3	**94,5**	94,2	93,5	0,82	**0,81**	0,77	0,67	69	1084	307	2,4	110	4922	5054	5408
1.P...6500 Mb-10	**630**	593	94,4	**94,5**	94,1	93	0,82	**0,8**	0,74	0,63	80	1254	303	2,5	118	5233	5345	5719
1.P...6560 Sa-10	**710**	593	94,5	**94,8**	94,7	93,7	0,83	**0,81**	0,75	0,64	89	1212	355	2,2	162	5647	5753	6169
1.P...6560 Sb-10	**800**	593	94,6	**94,8**	94,7	93,8	0,83	**0,82**	0,78	0,69	99	1312	375	2,2	176	6196	6302	6718
1.P...6560 Ma-10	**900**	593	94,5	**94,8**	94,7	93,8	0,83	**0,82**	0,78	0,69	111	1430	387	2,2	189	6330	6540	6956
1.P...6560 Mb-10	**1000**	593	95	**95,2**	95	94,1	0,83	**0,82**	0,78	0,69	123	1574	389	2,2	203	6955	7165	7581
1.P...6630 Sa-10	**1250**																	
1.P...6630 Sb-10	**1400**																	
1.P...6630 Ma-10	**1600**																	
1.P...6710 Sa-10	**1800**																	
1.P...6710 Sb-10	**2000**																	
1.P...6710 Ma-10	**2240**																	
1.P...6710 Mb-10	**2500**																	

on request

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Technical data

HIGH VOLTAGE THREE PHASE INDUCTION MOTORS WELDED CONSTRUCTION

Type:	Protect.:	Cooling:	Arrangement:
PR	IPR 44	IC 31	
PO	IP 23	IC 01	
PW	IPW 24	IC 01	IM B3; (IM 1001)
PV	IP 44	IC 81W	IM V1; (IM 3011)

Execution:
Rotor: **slip ring**
Voltage: **6 kV**
Frequency: **50 Hz**
Insul. class: **F**

Type	Rated output	Rated speed	Efficiency η %				Power factor cosφ				Rated current	Rotor voltage	Rotor current	Max. torque	Mom. of inertia	Weight of motor IPR 44	Weight of motor IPW24 IP 23	Weight of motor IP 44
	P_N	n									I_N	U_{20}	I_{20}		J_m	m		
	kW	min^{-1}	5/4 P_N	1/1P_N	3/4 P_N	1/2 P_N	5/4 P_N	1/1P_N	3/4 P_N	1/2 P_N	A	V	A	M_{PR}/M_N	kgm^2	kg		
ns=500 min^{-1}																		
1.P...6450 Sa-12	**225**	489	90,9	**91,2**	91	89,5	0,72	**0,69**	0,62	0,5	34	488	285	2,3	50	3420	3430	3610
1.P...6450 Sb-12	**250**	489	91,9	**91,4**	91,1	89,5	0,72	**0,69**	0,62	0,5	38	554	278	2,3	55,7	3540	3550	3730
1.P...6450 Ma-12	**280**	490	91,5	**91,6**	91,2	89,5	0,72	**0,69**	0,62	0,5	43	639	268	2,3	63,8	3719	3729	3909
1.P...6450 Mb-12	**315**	490	91,6	**91,8**	91,4	89,9	0,73	**0,69**	0,62	0,5	48	693	279	2,3	61,5	3824	3834	4034
1.P...6500 Sa-12	**355**	492	93,3	**93,5**	93,2	91,8	0,78	**0,75**	0,69	0,58	49	900	243	2,4	87	4060	4212	4472
1.P...6500 Sb-12	**400**	492	93,3	**93,4**	93,1	91,6	0,77	**0,74**	0,68	0,56	56	1015	243	2,4	94	4372	4524	4784
1.P...6500 Ma-12	**450**	492	93,3	**93,3**	92,9	91,4	0,79	**0,76**	0,7	0,58	61	1160	240	2,4	114	5098	5210	5584
1.P...6500 Mb-12	**500**	492	93,6	**93,8**	93,5	92,2	0,79	**0,76**	0,71	0,59	67,5	1250	245	2,4	123	5306	5418	5792
1.P...6560 Sa-12	**560**	496	94	**93,6**	92,7	90,5	0,75	**0,7**	0,62	0,49	82	1425	238	3,1	220	5588	5664	6080
1.P...6560 Sb-12	**630**	495	94,1	**93,8**	93	91	0,77	**0,7**	0,66	0,53	88	1567	243	3	251	6165	6271	6687
1.P...6560 Ma-12	**710**	496	94,2	**93,9**	93,1	91	0,77	**0,73**	0,66	0,53	99	1742	246	3	277	6243	6453	6869
1.P...6560 Mb-12	**800**	496	94,5	**94,1**	93,3	91,3	0,77	**0,73**	0,66	0,53	112	1960	246	3	307	6945	7153	7571
1.P...6630 Sa-12	**1000**																	
1.P...6630 Sb-12	**1120**																	
1.P...6630 Ma-12	**1250**																	
1.P...6710 Sa-12	**1400**																	
1.P...6710 Sb-12	**1600**																	
1.P...6710 Ma-12	**1800**																	
1.P...6710 Mb-12	**2000**																	

on request

on request

Note: All other motors frame sizes, executions and additional data are available on request; All quoted data are informal; Keeping back privilege for change in catalogue.

Technical data

HIGH VOLTAGE THREE PHASE INDUCTION MOTORS WELDED CONSTRUCTION

Type: **PZ**

Protect.: **IP 44**

Cooling: **IC 611**

Arrangement: **IM B3; (IM 1001)**
IM V1; (IM 3001)

Execution:
Rotor: **slip ring**
Voltage: **6 kV**
Frequency: **50 Hz**
Insul. class: **F**

Type	Rated output P_N	Rated speed n	Efficiency η %				Power factor cosφ				Rated current I_N	Rotor voltage U_{20}	Rotor current I_{20}	Max. torque	Mom. of inertia J_m	Weight of motor IR 44 m
	kW	min^{-1}	5/4 P_N	1/1P_N	3/4 P_N	1/2 P_N	5/4 P_N	1/1P_N	3/4 P_N	1/2 P_N	A	V	A	M_{PR}/M_N	kgm^2	kg
ns=1500 min^{-1}																
1.PZ...6355 Sc-4	**200**	1483	90,9	**91**	90,6	89,2	0,87	**0,87**	0,84	0,77	24	385	320	2,4	7,1	2085
1.PZ...6355 Ma-4	**225**	1483	91,3	**91,4**	91	89,5	0,87	**0,87**	0,84	0,76	27	430	321	2,4	8,1	2190
1.PZ...6355 Mb-4	**250**	1483	91,3	**91,4**	91	89,7	0,87	**0,87**	0,85	0,77	30	457	336	2,2	8,6	2300
1.PZ...6355 Mc-4	**280**	1483	91,6	**91,8**	91,5	90,2	0,87	**0,87**	0,85	0,79	34	488	353	2,6	9,1	2346
1.PZ...6355 Md-4	**315**	1483	92,1	**91,5**	91,2	89,3	0,87	**0,87**	0,86	0,80	38	524	370	2,5	9,6	2410
1.PZ...6400 Sa-4	**355**	1486	93,8	**94**	93,6	92,4	0,85	**0,84**	0,81	0,73	43	503	434	2,2	14,1	2790
1.PZ...6400 Sb-4	**400**	1486	94,1	**94,2**	93,9	92,7	0,85	**0,84**	0,81	0,73	49	542	453	2,2	14,6	2850
1.PZ...6400 Ma-4	**450**	1486	94,3	**94,4**	94,1	92,8	0,86	**0,85**	0,83	0,75	54	615	447	2,3	16,4	3180
1.PZ...6400 Mb-4	**500**	1486	94,5	**94,6**	94,2	93	0,87	**0,86**	0,83	0,76	59	675	451	2,3	17,9	3300
1.PZ...6450 Sa-4	**560**	1483	92,9	**92,9**	92,5	91,3	0,87	**0,87**	0,85	0,79	67	700	489	2,4	31,9	3840
1.PZ...6450 Sb-4	**630**	1484	93,1	**93,1**	92,7	91,5	0,88	**0,87**	0,85	0,8	75	776	493	2,4	33,1	4030
1.PZ...6450 Ma-4	**710**	1485	93,2	**93,2**	92,8	91,6	0,88	**0,87**	0,85	0,78	84	875	491	2,5	37,3	4330
1.PZ...6450 Mb-4	**800**	1486	93,4	**93,3**	92,9	92	0,88	**0,87**	0,85	0,78	95	999	482	2,5	41	4530
1.PZ...6500 Sa-4	**900**	1487	94,8	**94,8**	94,4	93	0,91	**0,9**	0,89	0,84	100	1082	505	2,6	52	5400
1.PZ...6500 Sb-4	**1000**	1487	95	**95**	94,5	93	0,91	**0,91**	0,9	0,86	110	1173	517	2,5	59	5800
1.PZ...6500 Ma-4	**1120**	1487	95,2	**95,1**	94,7	93,5	0,92	**0,92**	0,91	0,88	122	1278	529	2,5	65	6200
1.PZ...6500 Mb-4	**1250**	1488	95,3	**95,3**	94,9	93,7	0,92	**0,92**	0,91	0,88	136	1406	535	2,6	72	6400
1.PZ...6560 Sa-4	**1400**	1485	95,4	**95,5**	95,4	94,5	0,9	**0,91**	0,9	0,87	154	1278	668	2,2	65	6234
1.PZ...6560 Sb-4	**1600**	1485	95,5	**95,7**	95,5	94,7	0,91	**0,91**	0,91	0,89	174	1406	693	2,2	74	6792
1.PZ...6560 Ma-4	**1800**	1486	95,7	**95,8**	95,6	94,8	0,91	**0,92**	0,91	0,89	195	1562	698	2,3	90	7042
1.PZ...6560 Mb-4	**2000**	1487	95,8	**95,9**	95,7	94,9	0,92	**0,92**	0,92	0,9	215	1758	687	2,4	98	7675
1.PZ...6630 Sa-4	**2500**															
1.PZ...6630 Sb-4	**2800**							on request								
1.PZ...6630 Ma-4	**3150**															
1.PZ...6710 Sa-4	**3550**															
1.PZ...6710 Sb-4	**4000**							on request								
1.PZ...6710 Ma-4	**4500**															
1.PZ...6710 Mb-4	**5000**															

Note: All other motors frame sizes, executions and additional data are available on request; All quoted data are informal; Keeping back privilege for change in catalogue.

Technical data

HIGH VOLTAGE THREE PHASE INDUCTION MOTORS WELDED CONSTRUCTION

Type: **PZ**

Protect.: **IP 44**

Cooling: **IC 611**

Arrangement: **IM B3; (IM 1001)**
IM V1; (IM 3011)

Execution:
Rotor: **slip ring**
Voltage: **6 kV**
Frequency: **50 Hz**
Insul. class: **F**

Type	Rated output P_N	Rated speed n	Efficiency η %				Power factor cosφ				Rated current I_N	Rotor voltage U_{20}	Rotor current I_{20}	Max. torque	Mom. of inertia J_m	Weight of motor IR 44 m
	kW	min $^{-1}$	5/4 P_N	1/1P_N	3/4 P_N	1/2 P_N	5/4 P_N	1/1P_N	3/4 P_N	1/2 P_N	A	V	A	M_{PR}/M_N	kgm^2	kg
ns=1000 min^{-1}																
1.PZ...6355 Mb-6	**200**	991	93,3	**93,3**	92,9	91,4	0,84	**0,83**	0,8	0,71	25	464	318	2,2	14,6	2430
1.PZ...6400 Sa-6	**225**	988	93,3	**93,4**	93,2	92	0,83	**0,82**	0,77	0,67	28	434	317	2,3	15,6	2640
1.PZ...6400 Sb-6	**250**	987	93,1	**93,4**	93,3	92,2	0,84	**0,83**	0,79	0,69	31	448	343	2,3	15,9	2730
1.PZ...6400 Sc-6	**280**	988	93,2	**93,5**	93,4	92,4	0,85	**0,84**	0,8	0,72	34	496	346	2,3	17,6	2850
1.PZ...6400 Sd-6	**315**	988	93,8	**94**	93,8	92,8	0,85	**0,84**	0,81	0,72	38	555	347	2,3	19,3	2970
1.PZ...6400 Ma-6	**355**	989	94,1	**94,2**	93,9	92,9	0,85	**0,84**	0,81	0,72	43	628	344	2,3	21,8	3270
1.PZ...6400 Mb-6	**400**	989	94,2	**94,3**	94,1	93,1	0,86	**0,85**	0,82	0,74	48	690	354	2,3	23,9	3390
1.PZ...6450 Sa-6	**450**	989	92,8	**92,8**	92,4	91,1	0,83	**0,82**	0,77	0,67	57	746	369	2,3	41	3560
1.PZ...6450 Sb-6	**500**	989	92,9	**92,9**	92,5	91,5	0,84	**0,82**	0,78	0,69	63	829	367	2,3	44,8	3750
1.PZ...6450 Ma-6	**560**	990	93,2	**93**	92,7	93,2	0,85	**0,82**	0,79	0,69	71	933	364	2,3	50	4050
1.PZ...6450 Mb-6	**630**	990	93,3	**93,1**	93,2	91,3	0,85	**0,82**	0,79	0,69	79	1066	357	2,3	54,5	4190
1.PZ...6500 Sa-6	**710**	992	95,2	**95,1**	94,7	93,4	0,89	**0,88**	0,86	0,79	80	1125	379	2,8	87	5400
1.PZ...6500 Sb-6	**800**	992	95,3	**95,3**	94,9	93,6	0,89	**0,89**	0,86	0,8	90	1220	395	2,8	95	5800
1.PZ...6500 Ma-6	**900**	992	95,5	**95,4**	95	93,8	0,89	**0,89**	0,87	0,8	101	1330	406	2,8	103	6200
1.PZ...6500 Mb-6	**1000**	992	95,6	**95,5**	95,1	94	0,89	**0,89**	0,86	0,79	112	1463	409	2,9	111	6400
1.PZ...6560 Sa-6	**1120**	991	95,4	**95,5**	95,3	94,5	0,89	**0,89**	0,88	0,84	126,8	1220	560	2,1	110	6594
1.PZ...6560 Sb-6	**1250**	991	95,5	**95,6**	95,4	94,6	0,89	**0,89**	0,88	0,84	141,4	1330	573	2,1	120	7134
1.PZ...6560 Ma-6	**1400**	991	95,6	**95,7**	95,5	94,7	0,89	**0,89**	0,88	0,83	157,8	1463	582	2,2	130	7628
1.PZ...6560 Mb-6	**1600**	992	95,9	**95,9**	95,6	94,6	0,89	**0,89**	0,88	0,82	180,4	1830	527	2,4	162	8299
1.PZ...6630 Sa-6	**2000**															
1.PZ...6630 Sb-6	**2240**							on request								
1.PZ...6630 Ma-6	**2500**															
1.PZ...6710 Sa-6	**2800**															
1.PZ...6710 Sb-6	**3150**							on request								
1.PZ...6710 Ma-6	**3550**															

Note: All other motors frame sizes, executions and additional data are available on request; All quoted data are informal; Keeping back privilege for change in catalogue.

Technical data

HIGH VOLTAGE THREE PHASE INDUCTION MOTORS WELDED CONSTRUCTION

Type: **PZ**

Protect.: **IP 44**

Cooling: **IC 611**

Arrangement: **IM B3; (IM 1001)**
IM V1; (IM 3001)

Execution:
Rotor: **slip ring**
Voltage: **6 kV**
Frequency: **50 Hz**
Insul. class: **F**

Type	Rated output P_N	Rated speed n	Efficiency η %				Power factor cosφ				Rated current I_N	Rotor voltage U_{20}	Rotor current I_{20}	Max. torque	Mom. of inertia J_m	Weight of motor IR 44 m
	kW	min $^{-1}$	5/4 P_N	1/1P_N	3/4 P_N	1/2 P_N	5/4 P_N	1/1P_N	3/4 P_N	1/2 P_N	A	V	A	M_{PR}/M_N	kgm^2	kg
ns=750 min^{-1}																
1.PZ...6400 Sa-8	**180**	740	92	**92,1**	91,6	89,9	0,83	**0,78**	0,7	0,6	24	424	260	2,3	18,1	2710
1.PZ...6400 Sb-8	**200**	739	92,3	**92,5**	92,2	90,1	0,83	**0,8**	0,7	0,6	26	450	274	2,3	20,1	2850
1.PZ...6400 Ma-8	**225**	739	92,4	**92,6**	92,3	90,8	0,83	**0,8**	0,7	0,6	29	490	2814	2,3	21,4	3180
1.PZ...6400 Mb-8	**250**	739	92,7	**92,9**	92,6	91,3	0,83	**0,8**	0,8	0,73	32	541	283	2,3	23,9	3210
1.PZ...6450 Sa-8	**280**	742	92, 6	**92,4**	91,7	89,9	0,78	**0,75**	0,68	0,56	39	575	294	2,2	35,3	3637
1.PZ...6450 Sb-8	**315**	742	92,7	**92,5**	91,7	90,2	0,78	**0,75**	0,68	0,56	44	620	308	2,2	37,3	3760
1.PZ...6450 Sc-8	**355**	742	92,9	**92,8**	92,2	90,6	0,79	**0,76**	0,7	0,58	48	672	319	2,2	39,3	3900
1.PZ...6450 Ma-8	**400**	742	93	**92,9**	92,4	90,8	0,8	**0,77**	0,71	0,58	54	733	330	2,2	41,8	4140
1.PZ...6450 Mb-8	**450**	742	93,3	**93,2**	92,7	91,2	0,8	**0,78**	0,72	0,6	60	809	336	2,2	45,8	4270
1.PZ...6450 Mc-8	**500**	742	93,3	**93,2**	92,7	91,2	0,81	**0,78**	0,72	0,6	66	899	335	2,3	48,8	4410
1.PZ...6500 Sa-8	**560**	741	94,2	**94,1**	93,7	92,2	0,86	**0,86**	0,83	0,76	66	642	529	2,3	83	5600
1.PZ...6500 Sb-8	**630**	742	94,3	**94,2**	93,7	92,2	0,87	**0,86**	0,83	0,76	74	750	508	2,4	98	5800
1.PZ...6500 Ma-8	**710**	743	94,4	**94,3**	93,7	92	0,87	**0,86**	0,84	0,76	83	898	475	2,5	121	6200
1.PZ...6500 Mb-8	**800**	743	94,5	**94,4**	93,8	92,1	0,87	**0,87**	0,84	0,77	93	999	481	2,5	137	6400
1.PZ...6560 Ma-8	**900**	743	95,1	**95**	94,7	93,4	0,88	**0,87**	0,85	0,77	104	1364	403	2,8	192	6300
1.PZ...6560 Mb-8	**1000**	744	95,3	**95,2**	94,7	93,4	0,87	**0,86**	0,82	0,74	116	1488	408	2,8	206	7600
1.PZ...6630 Sa-8	**1400**															
1.PZ...6630 Sb-8	**1600**															
1.PZ...6630 Ma-8	**1800**															
1.PZ...6630 Mb-8	**2000**															
1.PZ...6710 Sa-8	**2240**															
1.PZ...6710 Sb-8	**2500**															
1.PZ...6710 Ma-8	**2800**															
1.PZ...6710 Mb-8	**3150**															

on request

on request

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Technical data

HIGH VOLTAGE THREE PHASE INDUCTION MOTORS WELDED CONSTRUCTION

Type: **PZ**

Protect.: **IP 44**

Cooling: **IC 611**

Arrangement: **IM B3; (IM 1001)**
IM V1; (IM 3011)

Execution:
Rotor: **slip ring**
Voltage: **6 kV**
Frequency: **50 Hz**
Insul. class: **F**

Type	Rated output P_N	Rated speed n	Efficiency η %				Power factor cosφ				Rated current I_N	Rotor voltage U_{20}	Rotor current I_{20}	Max. torque	Mom. of inertia J_m	Weight of motor IR 44 m
	kW	min $^{-1}$	5/4 P_N	1/1P_N	3/4 P_N	1/2 P_N	5/4 P_N	1/1P_N	3/4 P_N	1/2 P_N	A	V	A	M_{PR}/M_N	kgm^2	kg
ns=600 min^{-1}																
1.PZ...6400 Sb-10	**160**	591	91,5	**91,4**	90,6	88,4	0,73	**0,68**	0,60	0,48	25	370	274	2,3	23,1	2810
1.PZ...6400 Ma-10	**180**	591	91,8	**91,8**	91,2	89,1	0,74	**0,7**	0,63	0,5	27	404	282	2,3	25,4	3000
1.PZ...6400 Mb-10	**200**	591	92,1	**92**	91,3	89,2	0,75	**0,7**	0,62	0,41	30	444	284	2,3	27,4	3120
1.PZ...6450 Sa-10	**225**	592	92,3	**92,2**	91,5	89,6	0,76	**0,71**	0,64	0,52	33	617	222	2,3	46,3	3450
1.PZ...6450 Sb-10	**250**	592	92,6	**92,5**	91,9	90,1	0,76	**0,71**	0,66	0,53	37	677	227	2,3	51,3	3610
1.PZ...6450 Ma-10	**280**	592	92,8	**92,9**	92,2	90,4	0,78	**0,74**	0,67	0,53	39	740	232	2,3	54,8	3860
1.PZ...6450 Mb-10	**315**	592	92,9	**92,9**	92,3	90,6	0,78	**0,74**	0,67	0,55	44	812	237	2,3	59,8	4025
1.PZ...6500 Sa-10	**355**	592	93,7	**93,7**	93,2	91,6	0,84	**0,82**	0,77	0,67	45	858	251	2,5	93	4388
1.PZ...6500 Sb-10	**400**	593	93,8	**93,8**	93,3	91,7	0,84	**0,82**	0,76	0,66	50	960	252	2,6	101	4638
1.PZ...6500 Ma-10	**450**	592	94	**94**	93,5	92,1	0,85	**0,83**	0,78	0,68	56	1019	268	2,5	110	5408
1.PZ...6500 Mb-10	**500**	592	94,1	**94,1**	93,7	92,4	0,85	**0,83**	0,79	0,7	62	1087	279	2,3	118	5719
1.PZ...6560 Sa-10	**560**	594	94,1	**94,1**	93,7	92,2	0,83	**0,82**	0,77	0,68	69	1124	306	2,4	162	6377
1.PZ...6560 Sb-10	**630**	594	94,2	**94,3**	93,9	92,5	0,83	**0,82**	0,78	0,69	77	1210	320	2,3	176	6926
1.PZ...6560 Ma-10	**710**	594	94,4	**94,4**	94,1	92,7	0,83	**0,83**	0,79	0,7	88	1312	362	2,2	190	7216
1.PZ...6560 Mb-10	**800**	594	94,5	**94,6**	94,2	93	0,84	**0,83**	0,79	0,7	98	1432	343	2,2	203	7845
1.PZ...6630 Sa-10	**1120**															
1.PZ...6630 Sb-10	**1250**							on request								
1.PZ...6630 Ma-10	**1400**															
1.PZ...6710 Sa-10	**1600**															
1.PZ...6710 Sb-10	**1800**							on request								
1.PZ...6710 Ma-10	**2000**															
1.PZ...6710 Mb-10	**2240**															

Note: All other motors frame sizes, executions and additional data are available on request; All quoted data are informal; Keeping back privilege for change in catalogue.

Technical data

HIGH VOLTAGE THREE PHASE INDUCTION MOTORS WELDED CONSTRUCTION

Type: PZ

Protect.: IP 44

Cooling: IC 611

Arrangement: IM B3; (IM 1001) IM V1; (IM 3001)

Execution:
Rotor: **slip ring**
Voltage: **6 kV**
Frequency: **50 Hz**
Insul. class: **F**

Type	Rated output P_N	Rated speed n	Efficiency η %				Power factor cosφ				Rated current I_N	Rotor voltage U_{20}	Rotor current I_{20}	Max. torque	Mom. of inertia J_m	Weight of motor IR 44 m
	kW	min^{-1}	5/4 P_N	1/1P_N	3/4 P_N	1/2 P_N	5/4 P_N	1/1P_N	3/4 P_N	1/2 P_N	A	V	A	M_{PR}/M_N	kgm^2	kg
ns=500 min^{-1}																
1.PZ...6450 Sa-12	**180**	490	91,2	**91**	90,1	87,7	0,76	**0,7**	0,63	0,5	27	489	226	2,5	51	3740
1.PZ...6450 Sb-12	**200**	490	91,3	**91,1**	90,1	87,6	0,75	**0,7**	0,62	0,49	31	554	221	2,5	56,7	3860
1.PZ...6450 Ma-12	**225**	490	91,5	**91,2**	90,2	87,6	0,75	**0,7**	0,61	0,48	34	639	214	2,5	64,8	4015
1.PZ...6450 Mb-12	**250**	490	91,7	**91,4**	90,4	88	0,76	**0,7**	0,62	0,49	38	692	220	2,5	62,5	4144
1.PZ...6500 Sa-12	**280**	492	92,9	**93**	92,6	91	0,8	**0,78**	0,73	0,61	37	810	217	2,4	87	4472
1.PZ...6500 Sb-12	**315**	492	93,1	**93,2**	92,7	91,1	0,8	**0,77**	0,72	0,61	42	900	215	2,4	96	4784
1.PZ...6500 Ma-12	**355**	493	93,2	**93,2**	92,5	90,7	0,79	**0,76**	0,7	0,58	48	1080	200	2,4	114	5584
1.PZ...6500 Mb-12	**400**	493	93,4	**93,3**	92,8	91,1	0,8	**0,77**	0,71	0,6	54	1160	210	2,4	123	5792
1.PZ...6560 Sa-12	**450**	496	93,5	**93**	91,9	89	0,78	**0,74**	0,67	0,54	62	1305	208	3,2	220	6288
1.PZ...6560 Sb-12	**500**	496	93,7	**93,2**	92,2	89,7	0,8	**0,76**	0,69	0,58	67	1425	212	3,1	256	6895
1.PZ...6560 Ma-12	**560**	496	93,8	**93,4**	92,3	89,9	0,8	**0,77**	0,71	0,59	74	1576	215	3,1	276	7129
1.PZ...6560 Mb-12	**630**	496	93,9	**93,5**	92,5	90,2	0,81	**0,78**	0,72	0,6	83	1742	218	3,1	308	7831
1.PZ...6630 Sa-12	**800**															
1.PZ...6630 Sa-12	**900**															
1.PZ...6630 Ma-12	**1000**															
1.PZ...6630 Mb-12	**1120**															
1.PZ...6710 Sa-12	**1250**															
1.PZ...6710 Sb-12	**1400**															
1.PZ...6710 Sc-12	**1600**															

on request

on request

Note: All other motors frame sizes, executions and additional data are available on request; All quoted data are informal; Keeping back privilege for change in catalogue.

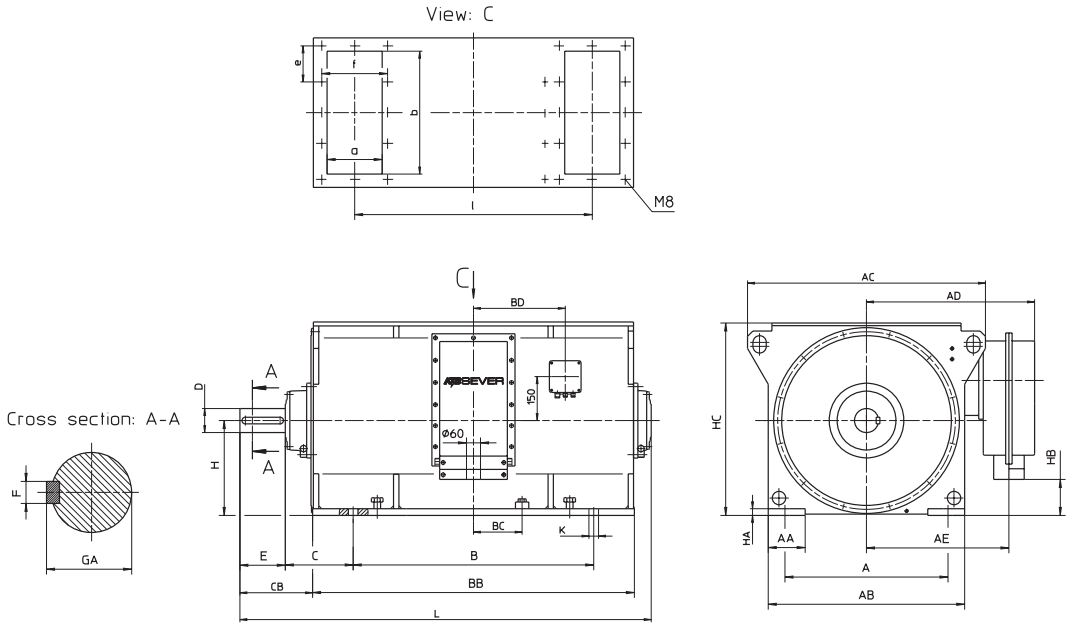
Dimensional sketches

HIGH VOLTAGE THREE PHASE INDUCTION MOTORS WELDED CONSTRUCTION

Rotor: **squirrel cage**

Execution: **KR**

Arrangement: **IM B3 (IM 1001)**
Protect.: **IPR 54 (IPR55)**
Cooling method: **IC 31**



[1] If request cable inlet can be delivered in range ϕ60 - ϕ80, or with two inlet holesa ϕ50 - ϕ70.

Frame		2p	a	b	n x e	f	l	HC
355	**S**	2	240	550	4 x 145	270	778	720
		4 - 6						
	M	2					878	
		4 - 6						
400	**S**	2	260	650	4 x 170	290	862	820
		4 - 10						
	M	2					962	
		4 - 10						
450	**S**	2	260	750	5 x 156	290	1024	920
		4 - 12						
	M	2					1144	
		4 - 12						

[2] All other dimensions according to executionKO (IM B3)
- Fixing dimensions obligatory, all other informal.

Note: All other motors frame sizes, executions and additional data are available on request; All quoted data are informal; Keeping back privilege for change in catalogue.

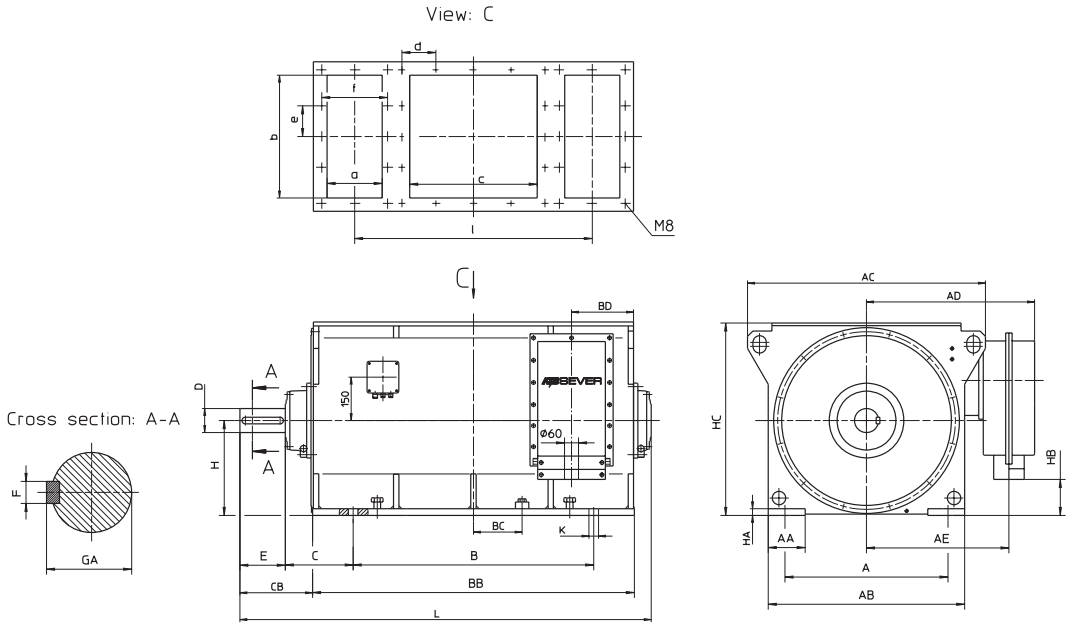
Dimensional sketches

HIGH VOLTAGE THREE PHASE INDUCTION MOTORS WELDED CONSTRUCTION

Rotor: **squirrel cage**

Execution: **KR**

Arrangement: **IM B3 (IM 1001)**
Protect.: **IPR 54 (IPR55)**
Cooling method: **IC 31**



[1] If request cable inlet can be delivered in range ϕ60 - ϕ80, or with two inlet holesa ϕ50 - ϕ70.

Frame		2p	a	b	c	n x e	f	l	HC
500	**S**	4 - 12	300	800	600	4 x 210	330	1200	1010
	M				720			1320	
560	**S**	4 - 12	260	860	780	4 x 225	340	1360	1120
	M				910			1490	

[2] All other dimensions according to executionKO (IM B3)
- Fixing dimensions obligatory, all other informal.

Note: All other motors frame sizes, executions and additional data are available on request; All quoted data are informal; Keeping back privilege for change in catalogue.

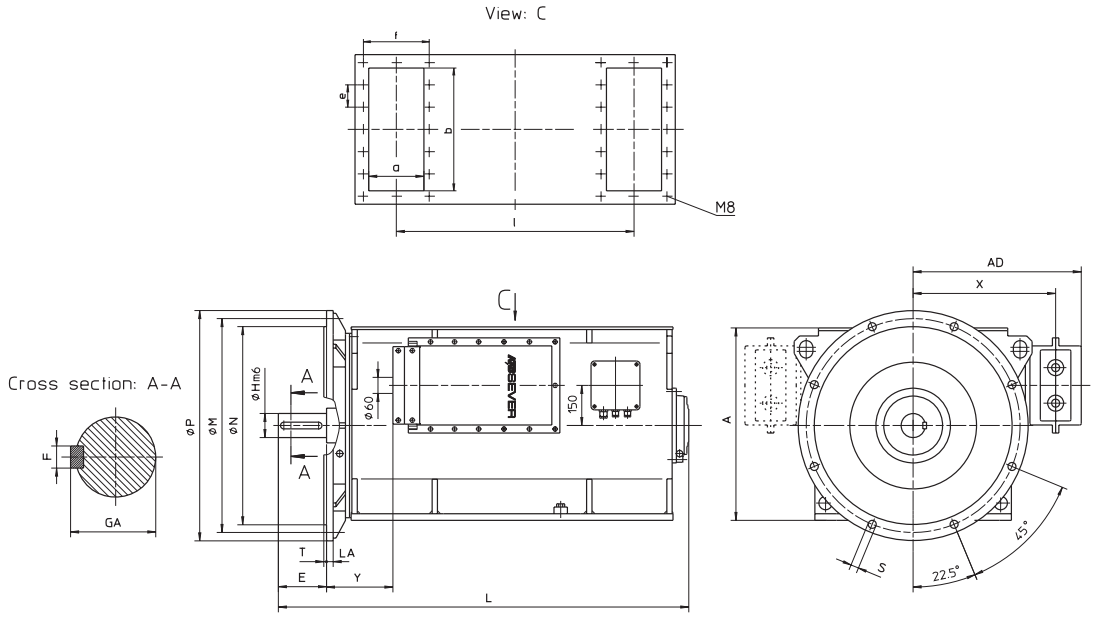
Dimensional sketches

HIGH VOLTAGE THREE PHASE INDUCTION MOTORS WELDED CONSTRUCTION

Rotor: **squirrel cage**

Execution: **KRF***

Arrangement: **IM V1 (IM 3011)**
Protect.: **IPR 54 (IPR55)**
Cooling method: **IC 01**



[1] If request cable inlet can be delivered in range ϕ60 - ϕ80, or with two inlet holesa ϕ50 - ϕ70.

Flange	Frame		2p	A	AD	D	E	F	GA	L	LA	M	N	P	S	T	C	Y
FF 740	**355**	**S**	2	720	630	**70**	**140**	**20**	**74,5**	1406	28	**740**	**680**	**800**	**24**	**6**	510	210
			4 - 6			**90**	**170**	**25**	**95**	1445								
		M	2			**70**	**140**	**20**	**74,5**	1506								260
			4 - 6			**90**	**170**	**25**	**95**	1545								
FF 940	**400**	**S**	2	820	680	**75**	**140**	**20**	**79,5**	1545	28	**940**	**880**	**1000**	**28**	**6**	560	285
			4 - 10			**100**	**210**	**28**	**106**	1635								
		M	2			**75**	**140**	**20**	**79,5**	1645								355
			4 - 10			**100**	**210**	**28**	**106**	1735								
FF 1080	**450**	**S**	2	920	730	**85**	**170**	**22**	**90**	1745	28	**1080**	**1000**	**1150**	**28**	**6**	610	370
			4 - 12			**110**	**210**	**28**	**116**	1800								
		M	2			**85**	**170**	**22**	**90**	1865								430
			4 - 12			**110**	**210**	**28**	**116**	1920								
FF 1180	**500**	**S**	4 - 12	1010	895	**125**	**210**	**32**	**132**	2000	28	**1180**	**1120**	**1250**	**28**	**7**	700	-
		M	4 - 12			**125**	**210**	**32**	**132**	2120								-
FF1320	**560**	**S**	4 - 12	1120	910	**140**	**250**	**36**	**148**	2320	28	**1320**	**1250**	**1400**	**28**	**8**	755	-
		M	4 - 12			**140**	**250**	**36**	**148**	2450								-

[2] * For every horizontal type (KR , KO , KW , ... ,PV i PZ) it is possible to produce vertical type (KRF , KOF , KWF , ... ,PVF i PZF).
- Fixing dimensions obligatory, all other informal.
- For shaft high 500 and 560, position of terminal boxes is change.

Note: All other motors frame sizes, executions and additional data are available on request; All quoted data are informal; Keeping back privilege for change in catalogue.

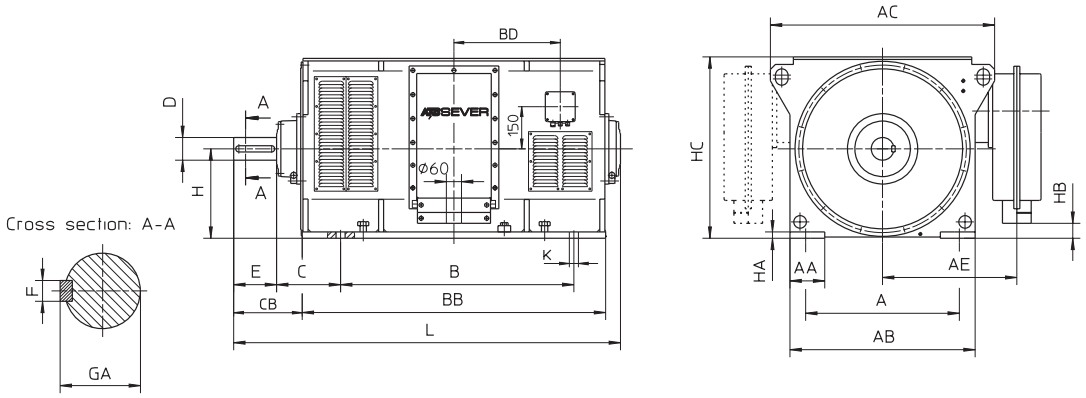
Dimensional sketches

HIGH VOLTAGE THREE PHASE INDUCTION MOTORS WELDED CONSTRUCTION

Rotor: **squirrel cage**

Execution: **KO**

Arrangement: **IM B3 (IM 1001)**
Protect.: **IP 23**
Cooling method: **IC 01**



[1] If request cable inlet can be delivered in range ϕ60 - ϕ80, or with two inlet holesa ϕ50 - ϕ70.

Frame		2p	**A**	AA	AB	AC	AD	AE	**B**	BA	BB	BC	BD	**C**	CB	**D**	**E**	**F**	**GA**	**H**	HA	HB	HC	HD	K	L
355	**S**	2	**610**	131	720	890	630	535	**800**	350	1106	132	380	**254**	242	**70**	**140**	**20**	**74,5**	**355**	25	60	720	1253	36	1406
		4 - 6													272	**90**	**170**	**25**	**95**							1445
	M	2							**900**		1206	182			242	**70**	**140**	**20**	**74,5**							1506
		4 - 6													272	**90**	**170**	**25**	**95**							1545
400	**S**	2	**686**	151	820	990	680	585	**900**	380	1234	165	425	**280**	255	**75**	**140**	**20**	**79,5**	**400**	25	105	820	1353	36	1545
		4 - 10													325	**100**	**210**	**28**	**106**							1635
	M	2							**1000**		1334	215			255	**75**	**140**	**20**	**79,5**							1645
		4 - 10													325	**100**	**210**	**28**	**106**							1735
450	**S**	2	**750**	181	920	1090	730	635	**1000**	420	1396	206	520	**315**	285	**85**	**170**	**22**	**90**	**450**	25	155	920	1453	42	1745
		4 - 12													325	**110**	**210**	**28**	**116**							1800
	M	2							**1120**		1516	266			285	**85**	**170**	**22**	**90**							1865
		4 - 12													325	**110**	**210**	**28**	**116**							1920

[2] All other dimensions according to executionKO (IM B3)
- Fixing dimensions obligatory, all other informal.

Note: All other motors frame sizes, executions and additional data are available on request; All quoted data are informal; Keeping back privilege for change in catalogue.

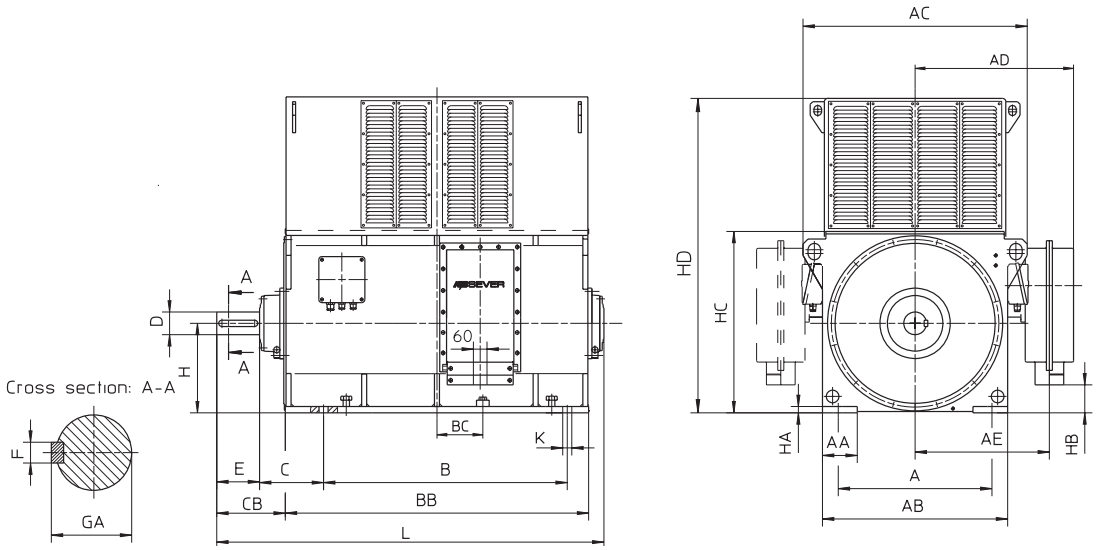
Dimensional sketches

HIGH VOLTAGE THREE PHASE INDUCTION MOTORS WELDED CONSTRUCTION

Rotor: **squirrel cage**

Execution: **KO**

Arrangement: **IM B3 (IM 1001)**
Protect.: **IP 23**
Cooling method: **IC 01**



[1] If request cable inlet can be delivered in range ϕ60 - ϕ80, or with two inlet holesa ϕ50 - ϕ70.

Frame		2p	**A**	AA	AB	AC	AD	AE	**B**	BA	BB	BC	BD	**C**	CB	**D**	**E**	**F**	**GA**	**H**	HA	HB	HC	HD	K	L
500	**S**	4 - 12	**900**	210	1050	1250	895	700	**1000**	600	1600	170	230	**400**	328	**125**	**210**	**32**	**132**	**500**	25	205	1010	1700	42	2000
	M								**1120**		1720	230														2120
560	**S**	4 - 12	**950**	300	1160	1360	910	755	**1120**	600	1820	230	230	**500**	388	**140**	**250**	**36**	**148**	**560**	25	265	1120	1820	42	2320
	M								**1250**		1950	305														2450

[2] All other dimensions according to executionKO (IM B3)
- Fixing dimensions obligatory, all other informal.

Note: All other motors frame sizes, executions and additional data are available on request; All quoted data are informal; Keeping back privilege for change in catalogue.

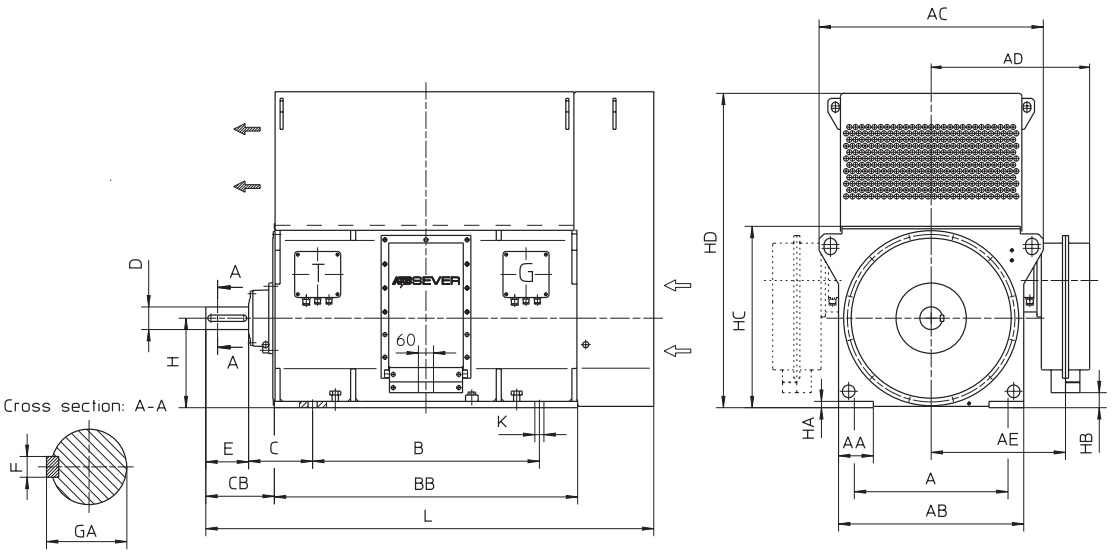
Dimensional sketches

HIGH VOLTAGE THREE PHASE INDUCTION MOTORS WELDED CONSTRUCTION

Rotor: **squirrel cage**

Execution: **KZ**

Arrangement: **IM B3 (IM 1001)**
Protect.: **IP 54 (IP 55)**
Cooling method: **IC 611**
Heat exchanger: **air-air**



[1] If request cable inlet can be delivered in range ϕ60 - ϕ80, or with two inlet holesa ϕ50 - ϕ70.

Frame		2p	A	AA	AB	AC	AD	AE	B	BA	BB	BC	BD	C	CB	D	E	F	GA	H	HA	HB	HC	HD	K	L
355	S	2	610	131	720	890	630	535	800	350	1106	132	380	254	242	70	140	20	74,5	355	25	60	720	1253	36	1650
		4													272	90	170	25	95							1680
	M	2							900		1206	182			242	70	140	20	75							1750
		4 - 6													272	90	170	25	95							1780
400	S	2	686	151	820	990	680	585	900	380	1234	165	425	280	255	75	140	20	79,5	400	25	105	820	1353	36	1790
		4 - 10													325	100	210	28	106							1860
	M	2							1000		1334	215			255	75	140	20	79,5							1890
		4 - 10													325	100	210	28	106							1960
450	S	2	750	181	920	1090	730	635	1000	420	1396	206	520	315	285	85	170	22	90	450	25	155	920	1453	42	1985
		4 - 12													325	110	210	28	116							2025
	M	2							1120		1516	266			285	85	170	22	90							2105
		4 - 12													325	110	210	28	116							2145

[2] All other dimensions according to executionKO (IM B3)
- Fixing dimensions obligatory, all other informal.

Note: All other motors frame sizes, executions and additional data are available on request; All quoted data are informal; Keeping back privilege for change in catalogue.

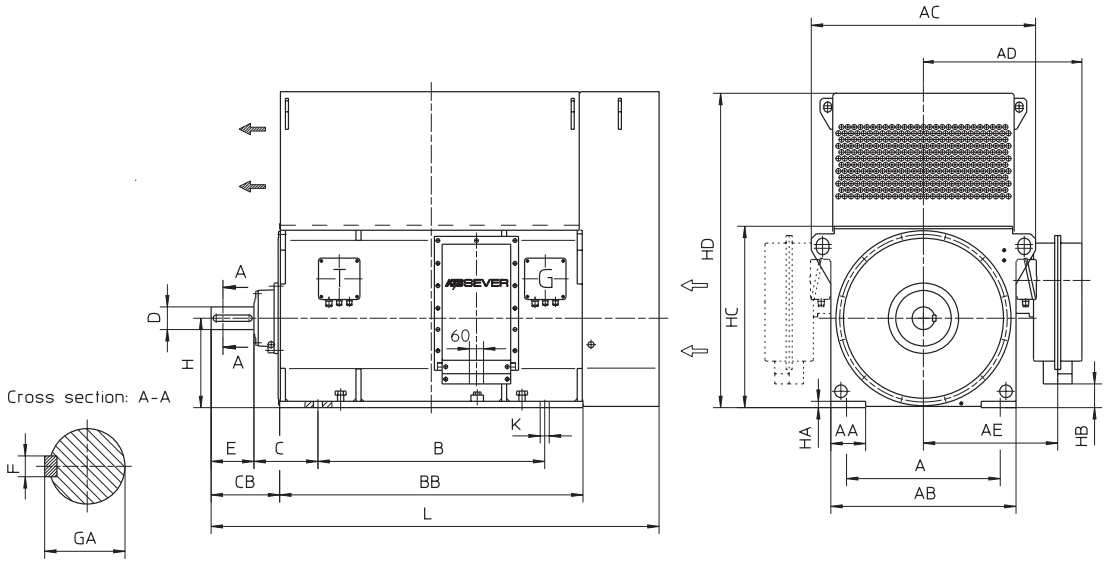
Dimensional sketches

HIGH VOLTAGE THREE PHASE INDUCTION MOTORS WELDED CONSTRUCTION

Rotor: **squirrel cage**

Execution: **KZ**

Arrangement: **IM B3 (IM 1001)**
Protect.: **IP 54 (IP 55)**
Cooling method: **IC 611**
Heat exchanger: **air-air**



[1] If request cable inlet can be delivered in range ϕ60 - ϕ80, or with two inlet holesa ϕ50 - ϕ70.

Frame		2p	**A**	AA	AB	AC	AD	AE	**B**	BA	BB	BC	BD	**C**	CB	**D**	**E**	**F**	**GA**	**H**	HA	HB	HC	HD	K	L
500	**S**	4 - 12	**900**	210	1050	1250	895	700	**1000**	600	1600	170	230	**400**	328	**125**	**210**	**32**	**132**	**500**	25	205	1010	1700	42	2280
	M								**1120**		1720	230														2400
560	**S**	4 - 12	**950**	300	1160	1360	910	755	**1120**	600	1820	230	230	**500**	388	**140**	**250**	**36**	**148**	**560**	25	265	1120	1850	42	2520
	M								**1250**		1950	305														2650

[2] All other dimensions according to executionKO (IM B3)
- Fixing dimensions obligatory, all other informal.

Note: All other motors frame sizes, executions and additional data are available on request; All quoted data are informal; Keeping back privilege for change in catalogue.

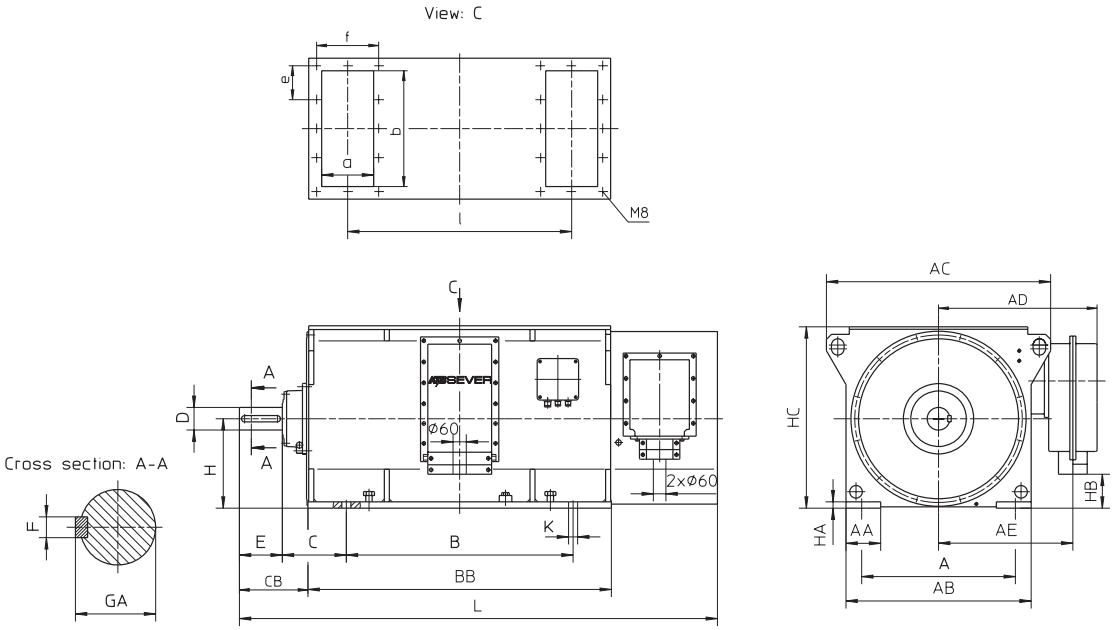
Dimensional sketches

HIGH VOLTAGE THREE PHASE INDUCTION MOTORS WELDED CONSTRUCTION

Rotor: **slip ring**

Execution: **PR**

Arrangement: **IM B3 (IM 1001)**
Protect.: **IPR 54 (IP 55)**
Cooling method: **IC 31**



[1] If request cable inlet can be delivered in range ϕ60 - ϕ80, or with two inlet holesa ϕ50 - ϕ70.

Frame		2p	a	b	n x e	f	l	HC
355	**S**	2	240	550	4 x 145	270	778	720
		4 - 6						
	M	2					878	
		4 - 6						
400	**S**	2	260	650	4 x 170	290	862	820
		4 - 10						
	M	2					962	
		4 - 10						
450	**S**	2	260	750	5 x 156	290	1024	920
		4 - 12						
	M	2					1144	
		4 - 12						

[2] All other dimensions according to executionKO (IM B3)
- Fixing dimensions obligatory, all other informal.

Note: All other motors frame sizes, executions and additional data are available on request; All quoted data are informal; Keeping back privilege for change in catalogue.

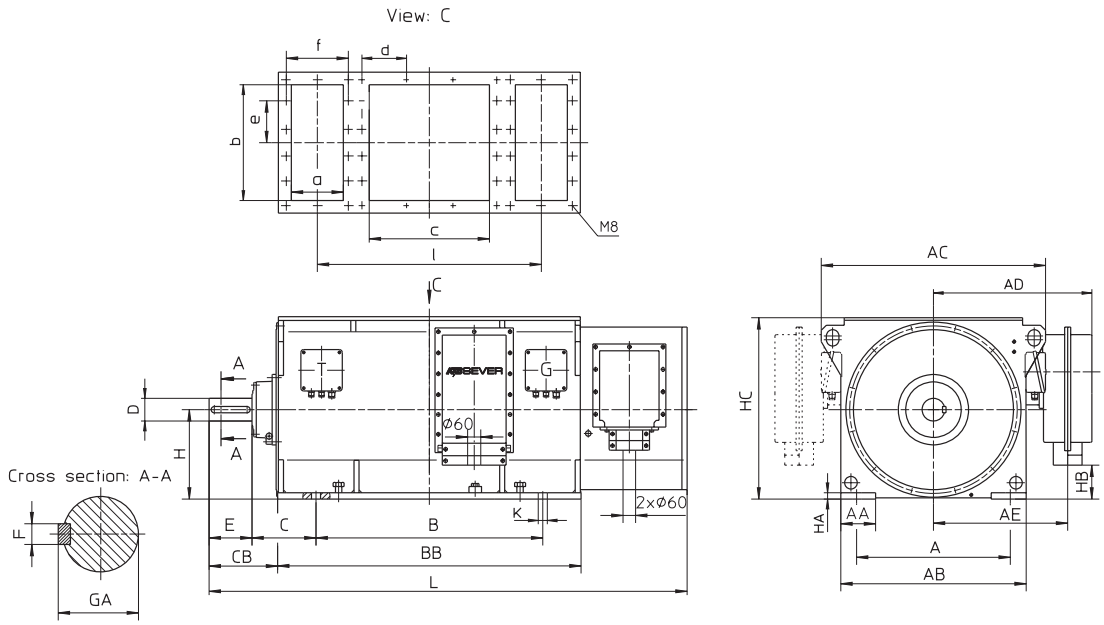
Dimensional sketches

HIGH VOLTAGE THREE PHASE INDUCTION MOTORS WELDED CONSTRUCTION

Rotor: **slip ring**

Execution: **PR**

Arrangement: **IM B3 (IM 1001)**
Protect.: **IPR54 (IPR 55)**
Cooling method: **IC 31**



[1] If request cable inlet can be delivered in range ϕ60 - ϕ80, or with two inlet holesa ϕ50 - ϕ70.

Frame		2p	a	b	c	n x e	n x d	f	l	HC
500	**S**	4 - 12	300	800	600	4 x 210	3 x 210	330	1200	1010
	M				720		3 x 250		1320	
560	**S**	4 - 12	310	860	780	4 x 225	3 x 270	340	1360	1120
	M				910		3 x 315		1490	

[2] All other dimensions according to executionKO (IM B3)
- Fixing dimensions obligatory, all other informal.

Note: All other motors frame sizes, executions and additional data are available on request; All quoted data are informal; Keeping back privilege for change in catalogue.

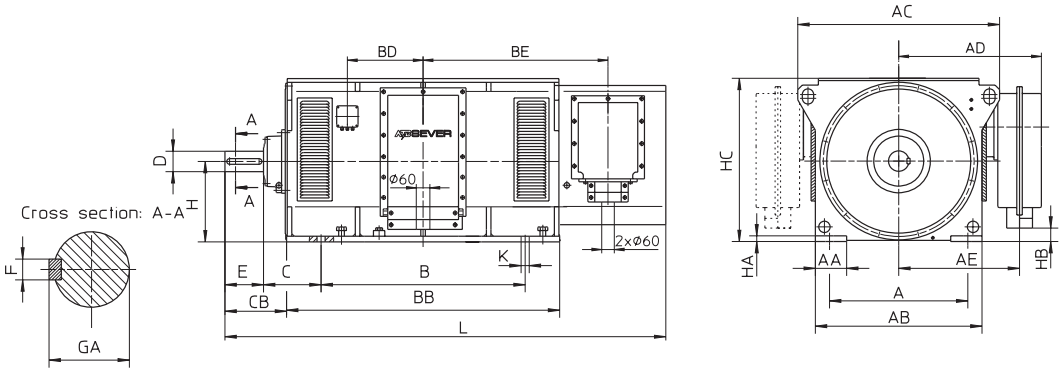
Dimensional sketches

HIGH VOLTAGE THREE PHASE INDUCTION MOTORS WELDED CONSTRUCTION

Rotor: **slip ring**

Execution: **PO**

Arrangement: **IM B3 (IM 1001)**
Protect.: **IP 44 (IP 55)**
Cooling method: **IC 611**



[1] If request cable inlet can be delivered in range ϕ60 - ϕ80, or with two inlet holesa ϕ50 - ϕ70.

Frame	2p	A	AA	AB	AC	AD	AE	B	BA	BB	BC	BD	BE	C	CB	D	E	F	GA	H	HA	HB	HC	HD	K	L
355	**S** 4 - 6	**610**	131	720	890	630	535	**800**	350	1106	132	380	744	**254**	272	**90**	**170**	**25**	**95**	**355**	25	60	720	1250	36	1830
	M 4 - 6							**900**		1206	182		794													1930
400	**S** 4 - 10	**686**	151	820	990	680	585	**900**	380	1234	165	425	807	**280**	325	**100**	**210**	**28**	**106**	**400**	25	105	820	1350	36	2010
	M 4 - 10							**1000**		1334	215		857													2110
450	**S** 4 - 12	**750**	181	920	1090	730	635	**1000**	420	1396	206	520	888	**315**	325	**110**	**210**	**28**	**116**	**450**	25	155	920	1450	42	2175
	M 4 - 12							**1120**		1516	266		948													2295

[2] All other dimensions according to executionKO (IM B3)
- Fixing dimensions obligatory, all other informal.

Note: All other motors frame sizes, executions and additional data are available on request; All quoted data are informal; Keeping back privilege for change in catalogue.

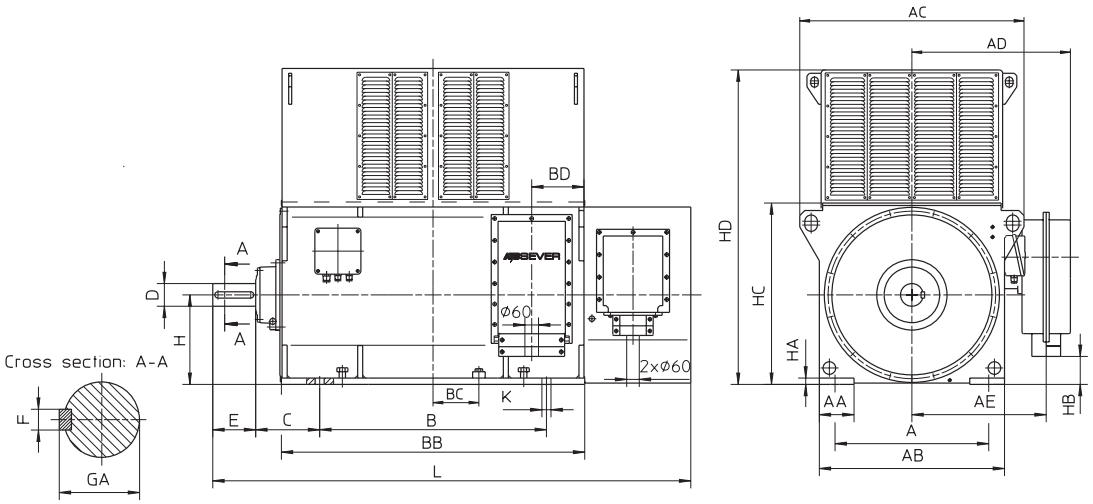
Dimensional sketches

HIGH VOLTAGE THREE PHASE INDUCTION MOTORS WELDED CONSTRUCTION

Rotor: **slip ring**

Execution: **PO**

Arrangement: **IM B3 (IM 1001)**
Protect.: **IP 23**
Cooling method: **IC 01**



[1] If request cable inlet can be delivered in range ϕ60 - ϕ80, or with two inlet holesa ϕ50 - ϕ70.

Frame		2p	**A**	AA	AB	AC	AD	AE	**B**	BA	BB	BC	BD	BE	**C**	CB	**D**	**E**	**F**	**GA**	**H**	HA	HB	HC	HD	K	L
500	**S**	4 - 12	**900**	210	1050	1250	895	700	**1000**	600	1600	170	230	470	**400**	328	**125**	**210**	**32**	**132**	**500**	25	205	1010	1700	42	2480
	M								**1120**		1720	230															2600
560	**S**	4 - 12	**950**	300	1160	1360	910	755	**1120**	600	1820	230	230	470	**500**	388	**140**	**250**	**36**	**148**	**560**	25	265	1120	1850	42	2800
	M								**1250**		1950	305															2930

[2] All other dimensions according to executionKO (IM B3)
- Fixing dimensions obligatory, all other informal.

Note: All other motors frame sizes, executions and additional data are available on request; All quoted data are informal; Keeping back privilege for change in catalogue.

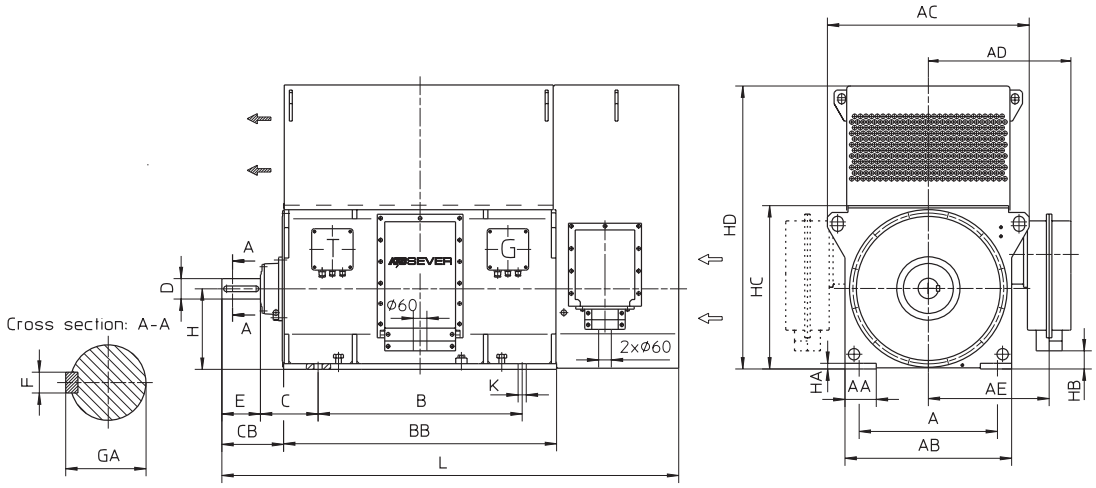
Dimensional sketches

HIGH VOLTAGE THREE PHASE INDUCTION MOTORS WELDED CONSTRUCTION

Rotor: **slip ring**

Execution: **PZ**

Arrangement: **IM B3 (IM 1001)**
Protect.: **IP 54 (IP 55)**
Cooling method: **IC 611**
Heat exchanger: **air-air**



[1] If request cable inlet can be delivered in range ϕ60 - ϕ80, or with two inlet holesa ϕ50 - ϕ70.

Frame		2p	A	AA	AB	AC	AD	AE	B	BA	BB	BC	BD	BE	C	CB	D	E	F	GA	H	HA	HB	HC	HD	K	L
355	S	4	**610**	131	735	890	630	535	**800**	350	1106	132	380	744	**254**	272	**90**	**170**	**25**	**95**	**355**	25	60	720	1253	36	1830
	M	4 - 6							**900**		1206	182		794													1930
400	S	4 - 10	**686**	151	835	990	680	585	**900**	380	1234	165	425	807	**280**	325	**100**	**210**	**28**	**106**	**400**	25	105	820	1353	36	2010
	M								**1000**		1334	215		857													2110
450	S	4 - 12	**750**	181	935	1090	730	635	**1000**	420	1396	206	520	888	**315**	325	**110**	**210**	**28**	**116**	**450**	25	155	920	1453	42	2175
	M								**1120**		1516	266		948													2295

[2] All other dimensions according to executionKO (IM B3)
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Dimensional sketches

HIGH VOLTAGE THREE PHASE INDUCTION MOTORS WELDED CONSTRUCTION

Rotor: **slip ring**

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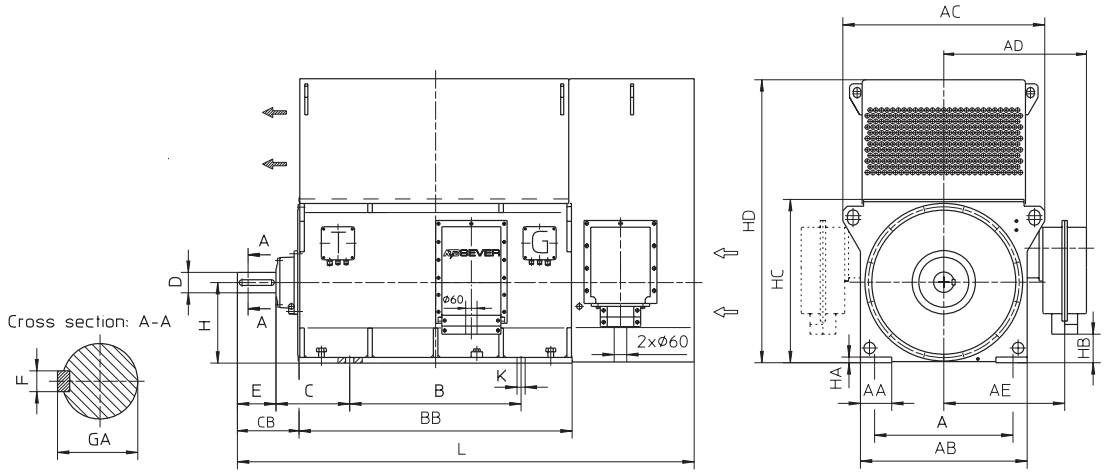

[1] If request cable inlet can be delivered in range ϕ60 - ϕ80, or with two inlet holesa ϕ50 - ϕ70.

Frame		2p	**A**	AA	AB	AC	AD	AE	**B**	BA	BB	BC	BD	BE	**C**	CB	**D**	**E**	**F**	**GA**	**H**	HA	HB	HC	HD	K	L
500	S	4 - 12	**900**	210	1050	1250	895	700	**1000**	600	1600	170	230	470	**400**	328	**125**	**210**	**32**	**132**	**500**	25	205	1010	1700	42	2580
	M								**1120**		1720	230															2700
560	S	4 - 12	**950**	300	1160	1360	910	755	**1120**	600	1820	230	230	470	**500**	388	**140**	**250**	**36**	**148**	**560**	25	265	1120	1850	42	2870
	M								**1250**		1950	305															3000

[2] All other dimensions according to executionKO (IM B3)
- Fixing dimensions obligatory, all other informal.

Note: All other motors frame sizes, executions and additional data are available on request; All quoted data are informal; Keeping back privilege for change in catalogue.

QUESTIONNAIRE FOR THE OFFER OF ASYNCHRONOUS ELECTRIC MOTORS

ATB SEVER
Technology in Motion

Enquiry Number:

Customer: ITEM: Qty:

A MOTOR DATA

1 Motor type: Three phase: Single phase:
2 Rotor type: Squirrel cage: Slip-ring:
3 Rated output: P_N= _____ kW
4 Rated voltage: U_N= _____ V Connect: Star Delta
5 Rated frequency: f_N= _____ Hz
6 Rated speed: n_N= _____ rpm
7 Insulation class: F B
8 Duty type: S1 S2 S3 S4 S5 S6 S7 S8 S9 S10
ED %
starts /h _____ min _____ J_{mot} _____ kgm^2
9 Standard: _____ IEC or _____
10 Cooling method: _____ IC
11 Mounting arrengement: IM
12 Protection degree: Motor IP: _____ Terminal box IP: _____
13 *Sense of rotation: Left Right Both
14 Motor brake: yes no
Braking moment: _____ Nm
Brake voltage: _____ V/Hz _____ V,DC
15 No-load regime? (single phase motor) yes no
16 Rotor data: U_{2c}= _____ V I_{2n}= _____ A

B DATA ABOUT THE DRIVEN MACHINE

1 Type:
2 Required power:
3 Required speed:
4 Load torque characteristic:
Constant: Squared _____ or _____
Speed %: 0 25 50 75 100
Torque Nm:
5 Moment of inertia: J= _____ kgm^2
6 Running machine special data:

C AMBIENT CONDITIONS

1 Ambient temperature: C
2 Relative humidity: %
3 Altitude (above sea level): m
4 Specific ambient conditions:

D POWER TRANSMISSION AND STARTING CONDITIONS

1 Coupling type:
2 Starting:
3 Number of consecutive startings:
Hot state: Cold state:
_____ per hour _____ per hour
_____ per day _____ per day

E ADDITIONAL REQUESTS FOR MOTOR EXECUTION

1 Overloading from: _____ % P_N
Duration: _____ min
2 Temperature rise: F B
3 Request for: vibration level _____ mm/s
noise level _____ db
4 *Terminal box position:
left right On top
5 Additional shaft loading sense
axial force radial force
6 Converter feed operation: yes no
Converter type: _____
Manufacturer: _____
Speed range: from _____ to _____ rpm
7 Sensor category (mark in lower field):
Taho gen. Encoder Absolute Resolver
_____ _____ _____
Sensor Type: _____
8 Flange size: _____ mm
9 Second shaft end: yes no
DA= _____ mm EA= _____ mm
10 Other requests and limits:

F ADDITIONAL EQUIPMENT, SPARE PARTS AND DOCUMENTATION

1 Thermal protection: yes no
Type: _____
2 Bearings thermometers yes no
3 Anti-condesation heaters yes no
4 Spare parts yes no
5 Guarantee sheet yes no
6 Language of instruction list:
7 Other requests for packing:

H CUSTOMER

1 Company:
2 Adress:
3 City:
4 Country:
5 Person:
6 Telefon / Telefax:
7 e-mail:

You are kindly requested to provide us with as much data as possible thus enabling us to offer satisfactorily

* OBSERVED FROM DRIVE END

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