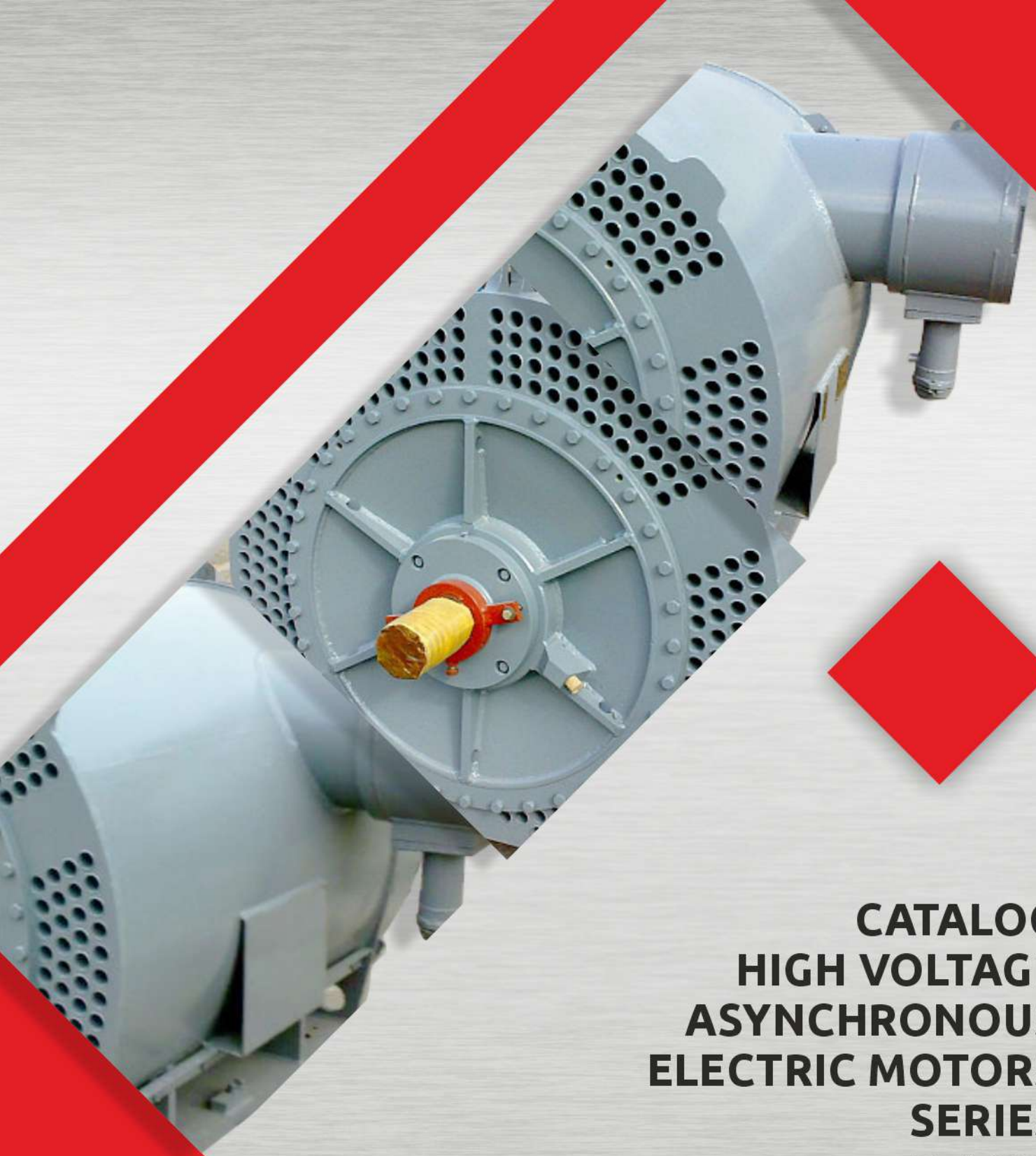

CATALOG
HIGH VOLTAGE ASYNCHRONOUS ELECTRIC MOTORS
SERIES BAO2

elmo

The company "Dneproresurs" began its work in 1998. Currently, DNEPRORESURS LLC specializes in the production and sale of industrial equipment.

The quality system is certified according to ISO 9001:2018.

Today, asynchronous electric motors are used in such industries as mechanical engineering, petrochemistry, chemical and metallurgical, cement, food, mining and energy industries.

Electric motors are used to operate pumps, fans, blowers, smoke exhausters, lifting mechanisms, coal pumps, industrial ventilation systems, etc. Therefore, the main requirement is high quality and reliability of operation. All electric motors of our company have passed the necessary tests and meet all standards and technical safety requirements.

The delivery of our products is carried out throughout Ukraine by goods delivery services or vehicles with strict observance of the deadlines. By ordering electric motors from our company, you can also purchase the necessary spare parts. Electric motors purchased from us are the key to the successful operation of your equipment for many years!

ASYNCHRONOUS EXPLOSION-PROOF ELECTRIC MOTORS BAO2 SERIES

Asynchronous high-voltage tree-phase explosion-proof motors with square-cage rotor of BAO2 type and BAO2У are designed for driving stationary machines and mechanisms operating in explosive areas of class 1 according to GOST P.51330.9, marking for explosion protection is 1ExdIIBT4 and underground workings of mines, mines and their ground structures, dangerous for mine gas or dust, explosion proof marking is PB4B, PBExdI is for export.

TECHNICAL FEATURES

Electric motors of BAO2 series are designed with height of axe of rotation 450, 560 and 630mm.

The motors are designed for operating from alternating-current mains with frequency of 50Hz, voltage 3 000V, 6 000V and 10 000V.

The motors are designed at voltage 6 000V. The motors with the quantity of poles 4 are designed at voltage 10 000V. The motors with the marking of explosion-proof 1ExdIIBT4 are designed at voltage 3 000V.

The type of climatic category is - У2, Т2, ХЛ2, У5, Т5.

Typical operation is continuous S1.

Structural design is IM1001.

Level of protection is IP54, outer fan has IP20.

Cooling method of the motor is ICA0151.

The start of the motor is direct, it is provided both at the rated voltage and at the voltage drop of the network during the start up to 0,8 Unom. the motors should be designed for 2400 inclusions per year, it is allowed to have three consecutive starts from the cold state, two starts from the hot state, with an interval between starts from 3 to 5 minutes and an allowable number of starts from 6 to 8 per a day.

The motors have rolling bearings. Lubrication of the bearings is consistent, it can be replenished without stopping the motor. The temperature control of bearings is carried out by thermal resistance converters.

The connection of the motors to the drive mechanism is effected by means of toothed or resilient pin couplings. Insulating materials of stator winding of heat resistance class is “F”. The insulation of the stator winding is thermohardening of type “Monolith-2".

The terminal box has three power clamp and grounding clamps (internal and external), allow the insertion of an armored cable with copper or aluminum conductors with a dry cutting or filling with a cable mass. The temperature control of the winding and the stator core is carried out by six thermocouples embedded in the stator groove.

The motors can have right and left direction of rotation. The direction of rotation is changed only from the idle state. Optimal design, high quality of used materials and components, progressive manufacturing technology ensure high technical level, guarantee safety, reliability and ease of use.

The electric motors of the BAO2У series are specially designed for driving coal pumps in mines where coal mining is done by hydraulic means, but can be widely used for other mining mechanisms.

THE STRUCTURE OF THE MARKING OF ELECTRIC MOTORS BAO2, BAO2У SERIES

To identify the parameters of the motor, a code consisting of six positions is used:

1		2	3	4		5	6
BAO2	-	450	XXXX	X	-	6	У2

Field №	Marking code	Расшифровка кода обозначения
1	Series marking	BAO2 - asynchronous explosion proof blow motor (У is for coal pumps)
2	Dimension	Heigh of the axe of rotation, mm
3	Power	kW
4	Voltage of the motors	10 000V - sign Д, for 3 000V and 6000V no sign
5	Number of poles	4, 6, 8
6	Climatic category	According to GOST 15150

Technical features of the motors are indicated in Table 1.

Table 1

Motor type	Power, kW	Silding motion	Stator current, A	Efficiency, %	cos φ	M_{start}/M_{nom}	M_{max}/M_{nom}	I_{start}/I_{nom}	Rotor inertio, $kg*m^2$	Maximum allowable sound power level, Lw, Д6(A)	Type and level of explosion proff
Synchronous speed of rotation n=1500rpm, voltage 6 000V											
BAO2-450-200-4	200	1,1	23,4	93,7	0,88	1,2	2,5	6,5	8	106	1ExdIIBT4 PBExdI PB-4B
BAO2-450-250-4	250	1,1	28,9	94,3	0,88	1,2	2,5	6,5	9	108	
BAO2-450-315-4	315	1,0	35,9	94,8	0,89	1,2	2,5	6,5	11	108	
BAO2-450-400-4	400	1,0	45,5	95,0	0,89	1,2	2,5	6,5	13	108	
BAO2-560-500-4	500	1,0	56,3	95,0	0,9	1,3	2,5	6,5	5	108	
BAO2-560-630-4	630	1,0	70,9	95,0	0,9	1,3	2,5	6,0	22	111	
BAO2-560-800-4	800	0,9	89,6	95,3	0,9	1,3	2,5	6,5	26	111	
BAO2-560-1000-4	1000	1,0	112,0	95,5	0,9	1,3	2,5	6,0	50	111	
BAO2-630-1250-4	1250	1,0	139,8	95,6	0,9	1,1	2,3	6,5	55	113	
BAO2-630-1600-4	1600	1,0	178,2	96,0	0,9	1,1	2,3	6,5	64	113	
BAO2-630-2000-4	2000	1,0	222,3	96,2	0,9	1,1	2,3	7,0	73	113	
BAO2У-630-1250-4	1250	1,0	139,8	95,6	0,9	1,1	2,3	6,5	55	113	PBExdI PB-4B
BAO2У-630-1600-4	1600	1,0	178,2	96,0	0,9	1,1	2,3	6,5	64	113	
BAO2У-630-2000-4	2000	1,0	222,3	96,2	0,9	1,1	2,3	7,0	73	113	
Synchronous speed of rotation n=1500rpm, voltage 10 000V											
BAO2-450-200Д-4	200	1,1	15,1	93,0	0,82	1,2	2,5	6,5	13	108	1ExdIIBT4 PBExdI PB-4B
BAO2-450-250Д-4	250	1,1	18,4	93,4	0,84	1,2	2,5	6,5	13	108	
BAO2-450-315Д-4	315	1,0	22,	93,5	0,86	1,2	2,5	6,5	13	108	
BAO2-560-400Д-4	400	1,0	28,5	94,3	0,86	1,3	2,5	6,5	15	111	
BAO2-560-500Д-4	500	1,0	35,1	94,5	0,87	1,3	2,5	6,0	21	111	
BAO2-560-630Д-4	630	1,0	43,1	94,8	0,89	1,3	2,5	6,5	25	111	
BAO2-560-800Д-4	800	0,9	54,7	95,0	0,89	1,3	2,5	6,0	49	111	
BAO2-630-1000Д-4	1000	1,0	67,4	95,2	0,9	1,1	2,3	6,5	55	113	
BAO2-630-1250Д-4	1250	1,0	84,0	95,5	0,9	1,1	2,3	6,5	64	113	
BAO2-630-1600Д-4	1600	1,0	107,1	95,8	0,9	1,1	2,3	7,0	73	113	
BAO2У-630-1000Д-4	1000	1,0	67,4	95,2	0,9	1,1	2,3	6,5	55	113	PBExdI PB-4B
BAO2У-630-1250Д-4	1250	1,0	84,0	95,5	0,9	1,1	2,3	6,5	64	113	
BAO2У-630-1600Д-4	1600	1,0	107,1	95,8	0,9	1,1	2,3	7,0	73	113	
Synchronous speed of rotation n=1000rpm, voltage 6 000V											
BAO2-450-200-6	200	1,3	24,8	93,7	0,83	1,1	2,2	6,0	15	102	1ExdIIBT4 PBExdI PB-4B
BAO2-450-250-6	250	1,2	30,4	94,2	0,84	1,1	2,2	6,0	17	105	
BAO2-450-315-6	315	1,2	38,1	94,7	0,84	1,1	2,2	6,0	19	105	
BAO2-560-400-6	400	1,2	47,8	94,8	0,85	1,1	2,2	6,0	22	105	
BAO2-560-500-6	500	1,1	59,6	94,9	0,85	1,1	2,2	6,0	34	105	
BAO2-560-630-6	630	1,0	74,8	95,3	0,85	1,1	2,2	6,0	41	108	
BAO2-560-800-6	800	1,0	94,8	95,5	0,85	1,1	2,2	5,5	68	108	
BAO2-630-1000-6	1000	1,0	117,7	96,2	0,85	1,0	2,2	6,5	89	110	
BAO2-630-1250-6	1250	1,0	147,0	96,3	0,85	1,0	2,1	6,0	90	110	
Synchronous speed of rotation n=750rpm, voltage 6 000V											
BAO2-450-200-8	200	1,3	26,1	93,4	0,79	1,0	2,0	6,0	20	99	1ExdIIBT4 PBExdI PB-4B
BAO2-450-250-8	250	1,3	32,0	94,0	0,8	1,1	2,0	6,0	23	102	
BAO2-560-315-8	315	1,3	40,0	94,7	0,8	1,0	2,2	6,0	37	102	
BAO2-560-400-8	400	1,3	50,6	95,0	0,8	1,0	2,2	6,0	43	102	
BAO2-560-500-8	500	1,3	63,2	95,2	0,8	1,0	2,2	6,0	50	102	
BAO2-560-630-8	630	1,3	79,4	95,5	0,8	1,0	2,2	6,0	99	105	
BAO2-630-800-8	800	1,3	100,3	95,9	0,8	1,0	2,0	6,0	116	105	
BAO2-630-1000-8	1000	1,3	125,3	96,0	0,8	1,0	2,1	6,0	138	105	

Table1

Motor type	Power, kW	Silding motion	Stator current, A	Efficiency, %	cos φ	M_{start}/M_{nom}	M_{max}/M_{nom}	I_{start}/I_{nom}	Rotor inertio, $kg*m^2$	Maximum allowable sound power level, Lw, Д6(A)	Type and level of explosion proff
Synchronous speed of rotation n=1500rpm, voltage 3 000V											
BAO2-450-200-4	200	1,1	46,8	93,7	0,88	1,2	2,5	6,5	8	106	1ExdIIBT4
BAO2-450-250-4	250	1,1	57,8	94,3	0,88	1,2	2,5	6,5	9	108	
BAO2-450-315-4	315	1,0	71,8	94,8	0,89	1,2	2,5	6,5	11	108	
BAO2-450-400-4	400	1,0	91,0	95,0	0,89	1,2	2,5	6,5	13	108	
BAO2-560-500-4	500	1,0	112,6	95,0	0,9	1,3	2,5	6,5	5	108	
BAO2-560-630-4	630	1,0	141,8	95,0	0,9	1,3	2,5	6,0	22	111	
BAO2-560-800-4	800	0,9	179,2	95,3	0,9	1,3	2,5	6,5	26	111	
BAO2-560-1000-4	1000	1,0	224,0	95,5	0,9	1,3	2,5	6,0	50	111	
BAO2-630-1250-4	1250	1,0	279,6	95,6	0,9	1,1	2,3	6,5	55	113	
BAO2-630-1600-4	1600	1,0	356,4	96,0	0,9	1,1	2,3	6,5	64	113	
BAO2-630-2000-4	2000	1,0	444,6	96,2	0,9	1,1	2,3	7,0	73	113	
BAO2У-630-1250-4	1250	1,0	279,6	95,6	0,9	1,1	2,3	6,5	55	113	
BAO2У-630-1600-4	1600	1,0	356,4	96,0	0,9	1,1	2,3	6,5	64	113	
BAO2У-630-2000-4	2000	1,0	444,6	96,2	0,9	1,1	2,3	7,0	73	113	
Synchronous speed of rotation n=1000rpm, voltage 3 000V											
BAO2-450-200-6	200	1,3	49,6	93,7	0,83	1,1	2,2	6,0	15	102	1ExdIIBT4
BAO2-450-250-6	250	1,2	60,8	94,2	0,84	1,1	2,2	6,0	17	105	
BAO2-450-315-6	315	1,2	76,2	94,7	0,84	1,1	2,2	6,0	19	105	
BAO2-560-400-6	400	1,2	95,6	94,8	0,85	1,1	2,2	6,0	22	105	
BAO2-560-500-6	500	1,1	119,2	94,9	0,85	1,1	2,2	6,0	34	105	
BAO2-560-630-6	630	1,0	149,6	95,3	0,85	1,1	2,2	6,0	41	108	
BAO2-560-800-6	800	1,0	189,6	95,5	0,85	1,1	2,2	5,5	68	108	
BAO2-630-1000-6	1000	1,0	235,4	96,2	0,85	1,0	2,2	6,5	79	110	
BAO2-630-1250-6	1250	1,0	294,0	96,3	0,85	1,0	2,1	6,0	90	110	
Synchronous speed of rotation n=750rpm, voltage 3 000V											
BAO2-450-200-8	200	1,3	52,2	93,4	0,79	1,0	2,0	6,0	20	99	1ExdIIBT4
BAO2-450-250-8	250	1,3	64,0	94,0	0,8	1,1	2,0	6,0	23	102	
BAO2-560-315-8	315	1,3	80,0	94,7	0,8	1,0	2,2	6,0	37	102	
BAO2-560-400-8	400	1,3	101,2	95,0	0,8	1,0	2,2	6,0	43	102	
BAO2-560-500-8	500	1,3	126,4	95,2	0,8	1,0	2,2	6,0	50	102	
BAO2-560-630-8	630	1,3	158,8	95,5	0,8	1,0	2,2	6,0	99	105	
BAO2-630-800-8	800	1,3	200,6	95,9	0,8	1,0	2,0	6,0	116	105	
BAO2-630-1000-8	1000	1,3	250,6	96,0	0,8	1,0	2,1	6,0	138	105	

Overall and connecting dimensions of the engines are given in Table 2.

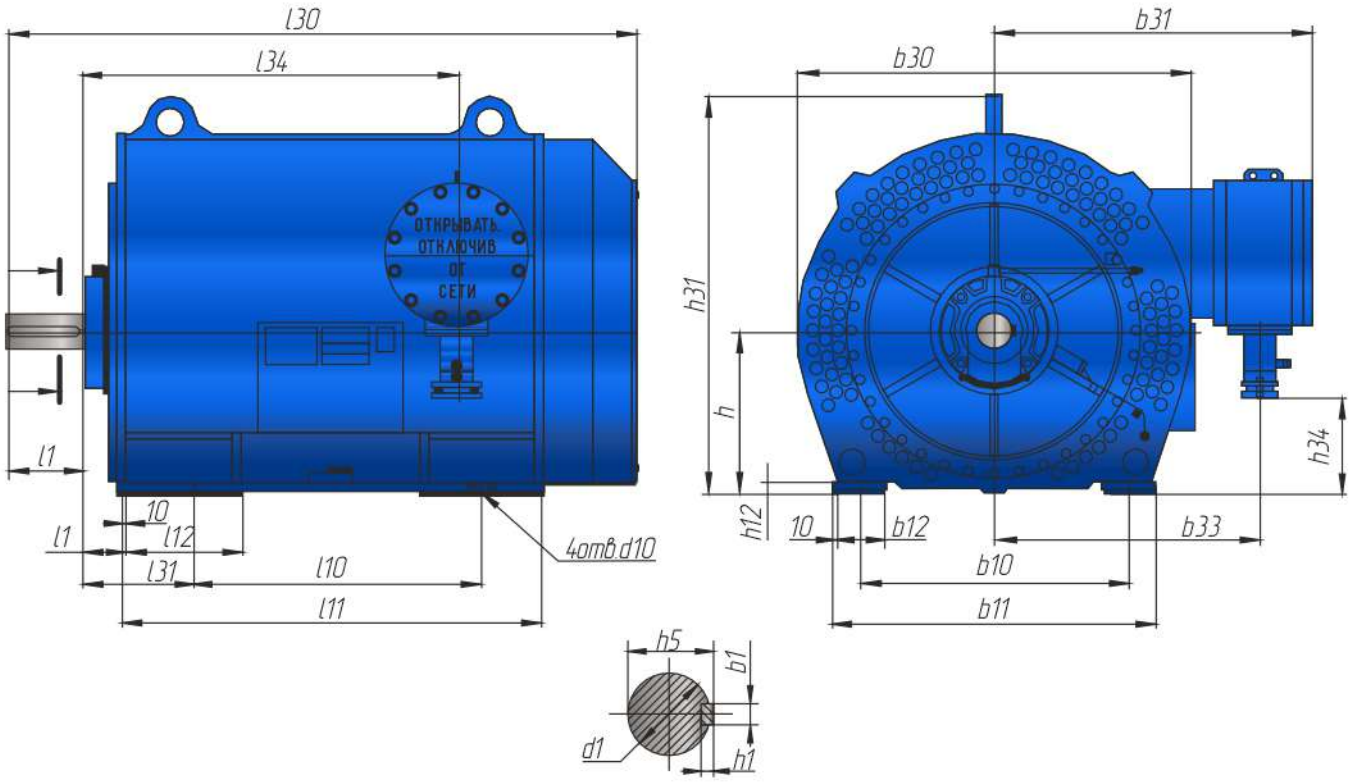

Table 2

Motor type	Overall dimensions, mm				Mounting and connecting dimensions, mm								
	l30	b30	b31	h31	l1	l10	l11	l12	l31	l34	l91	d1	d10
BAO2-450-200-4	1660	1100	885	1105	210	630	1070	325	315	925	122	100	35
BAO2-450-250-4						710							
BAO2-450-315-4													
BAO2-450-400-4						800							
BAO2-450-200-6						710							
BAO2-450-250-6													
BAO2-450-315-6	1760					800	1170			1050			
BAO2-450-200-8						710							
BAO2-450-250-8						800							
BAO2-560-500-4	1745	1210	960	1270	210	630	1120	350	355	925	115	110	42
BAO2-560-630-4						710							
BAO2-560-800-4	1980	1300	1010/950	1315		800	1320			1125			
BAO2-560-1000-4						900							
BAO2-560-400-6	1745	1210	960	1270		630	1120			925			
BAO2-560-500-6						710							
BAO2-560-630-6	1980	1300	1010/950	1315		800	1320			1125			
BAO2-560-800-6						900							
BAO2-560-315-8	1745	1210	960	1270		630	1120			925			
BAO2-560-400-8						710							
BAO2-560-500-8	1980	1300	1010/950	1315		800	1320			1125			
BAO2-560-630-8						900							
BAO2-630-1250-4	2200	1450	1000	1460	250	1000	1420	450	375	1250	108	140	
BAO2-630-1600-4	2300					1120	1550			1380			
BAO2-630-2000-4	2500	1530	1035	1500		1250	1760			1590			
BAO2-630-1000-6	2300	1450	1000	1460		1120	1550			1380			
BAO2-630-1250-6	2500	1530	1035	1500		1250	1760			1590			
BAO2-630-800-8	2300	1450	1000	1460		1120	1550			1380			
BAO2-630-1000-8	2500	1530	1035	1500		1250	1760			1590			
BAO2У-630-1250-4	2200	1450	1000	1460		1000	1420			1250			
BAO2У-630-1600-4	2300					1120	1550			1380			
BAO2У-630-2000-4	2500	1530	1035	1500		1250	1760			1590			
BAO2-450-200Д-4	1760	1100	1010	1105	210	710	1170	325	315	1035	122	100	35
BAO2-450-250Д-4													
BAO2-450-315Д-4													
BAO2-560-400Д-4	1745	1210	1070	1270		630	1120	350	355	925	115	110	42
BAO2-560-500Д-4						710							
BAO2-560-630Д-4	1980	1300	1110	1315		800	1320			1125			
BAO2-560-800Д-4						900							
BAO2-630-1000Д-4	2200	1450	1150	1460	250	1000	1420	450	375	1250	108	140	
BAO2-630-1250Д-4	2300					1120	1550			1380			
BAO2-630-1600Д-4	2500	1530	1180	1500		1250	1760			1590			
BAO2У-630-1000Д-4	2200	1450	1145	1460		1000	1420			1250			
BAO2У-630-1250Д-4	2300					1120	1550			1380			
BAO2У-630-1600Д-4	2500	1530	1180	1500		1250	1760			1590			

Table 2

Motor type	Mounting and connecting dimensions, mm											Weight, kg
	b1	b10	b11	b12	b33	h	h1	h5	h12	h34	N	
BAO2-450-200-4	28	750	900	130	740	450	16	106	30	265	1	2160
BAO2-450-250-4												2340
BAO2-450-315-4												2760
BAO2-450-400-4												3180
BAO2-450-200-6												2460
BAO2-450-250-6												3000
BAO2-450-315-6												3300
BAO2-450-200-8												3120
BAO2-450-250-8												3360
BAO2-560-500-4	32	950	1130	165	810	560	18	117	35	445	1	3450
BAO2-560-630-4												3850
BAO2-560-800-4					850							4600
BAO2-560-1000-4												5635
BAO2-560-400-6					810							3910
BAO2-560-500-6												4370
BAO2-560-630-6					850							4175
BAO2-560-800-6												6440
BAO2-560-315-8					810							4025
BAO2-560-400-8												4485
BAO2-560-500-8					850							5290
BAO2-560-630-8												6555
BAO2-630-1250-4	36	1250	1440	240	955	630	20	156		620	2	6600
BAO2-630-1600-4												7210
BAO2-630-2000-4					1000					640		8370
BAO2-630-1000-6					955					620		6500
BAO2-630-1250-6					1000					640		7560
BAO2-630-800-8					955					620		6970
BAO2-630-1000-8					1000					640		8230
BAO2У-630-1250-4					955					620		6600
BAO2У-630-1600-4												7210
BAO2У-630-2000-4					990					640		8370
BAO2-450-200Д-4	28	750	900	130	870	450	16	106	30	211	1	3220
BAO2-450-250Д-4												3210
BAO2-450-315Д-4												3180
BAO2-560-400Д-4	32	950	1130	165	920	560	18	117	35	404		3435
BAO2-560-500Д-4												3814
BAO2-560-630Д-4					960							4540
BAO2-560-800Д-4												5531
BAO2-630-1000Д-4	36	1250	1440	240	1150	630	20	156		550	2	6540
BAO2-630-1250Д-4												7130
BAO2-630-1600Д-4					1190							8050
BAO2У-630-1000Д-4					1100							6540
BAO2У-630-1250Д-4												7130
BAO2У-630-1600Д-4					1135							8050

Note: N - number of keys at the end of the shaft. Value only for engines with explosion protection design PB-4B.

Questionnaire for the selection of electric motors

Name of the organization: _____
Address: _____
Contact person: _____ **Tel./Fax:** _____

Required motor ratings:

Connection voltage Δ/Y: _____,V
Mains frequency _____, Hz
Power _____, kW
Rotational speed _____, rpm
Rated current _____, A
Effiency _____, % cos φ _____
Starting current ratio _____
Starting torque ratio _____

Working mode _____
Mounting design _____
Stator winding insulation class _____
Degree of protection _____
Rotation axis height _____
Type of drive mechanism and method of torque transmission (pulley, gearbox, clutch)
_____

Environmental conditions:

Ambient temperature: -___/+___, °C humidity _____, % altitude _____, m.
Installation: internal _____, outdoor _____.
Atmosphere: normal _____, corrosive _____, explosive _____.
Start Method: Direct Start _____, winding switching with Y on Δ: _____
frequency converter _____, soft starter _____.

When controlled by a frequency converter:

Depth of speed control _____.

Cooling: self-ventilation _____, forced ventilation _____.

Shaft position/speed sensors (encoder) required _____, not required _____.

Explosion protection: not required _____, 1 ExdIIBT4 _____, PBExdI _____
Room explosion protection class _____.

Additional information:

Temperature control (presence of built-in sensors):
required _____, not required _____.
Terminal box position: above _____, right ____, left _____, other _____.
Other information: _____
_____

Number of engines ordered: _____PCS.

A correctly completed questionnaire with the maximum content of information will allow you to choose the best electric motor for you in the shortest possible time!