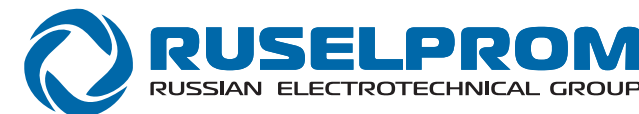


We are the experts in Drives:



Low and high voltage electric machines

Your expert
in electric motors and drives



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Low voltage						High voltage				
Type of converters	COMBIDRIVE A1	COMBIDRIVE A2	COMBIDRIVE A3	COMBIDRIVE A4	COMBIDRIVE A5	COMBIDRIVE A6	COMBIDRIVE A7			
Application	Pumps	Pumps	Pumps	Draught equipment	General industrial use	General industrial use	Loading benches	Pumps	General industrial use	
key characteristics	Energy saving, reliable and convenient to use, suitable basic operations	Budget, suitable for single drives with changing speed of rotation	Suitable for single drives with changing speed of rotation	Suitable for single drives with changing speed of rotation	Compact, suitable for main industrial operations	Suitable for main industrial operations	Suitable for main industrial operations	Designed for two transformer scheme, for single drives with changing speed of rotation	Powerful frequency converter for main industrial operations	
Format	In blocks	In blocks	In blocks, floor stand	In blocks, floor stand	In blocks, floor stand	Floor stand	Floor stand	Cabinet type	Cabinet type	
Drives	AC/AC monoblock with built in panel	AC/AC monoblock with built in panel	AC/AC monoblock with built in panel	AC/AC monoblock with built in panel	AC/AC monoblock with built in panel	AC/AC monoblock with built in panel	AC/DC/AC module with built in panel	AC/AC monoblock with built in panel	AC/AC monoblock with built in panel	
Degree of protection	IP20	IP00, IP21, IP54	IP00, IP21, IP54	IP00, IP21, IP54	IP21, IP23, IP54	IP21, IP23, IP54	IP21, IP23, IP54	IP21, IP43, IP54	IP22, IP43	
Supply Voltage /capacity range										
- 1-ph 200 ... 240 V AC	0.37 ... 2.2 kW	-	-	-	-	-	-	-	-	
- 3-ph 380 ... 480 V AC	1.1 ... 30 kW	1.1 ... 160 kW	1.1 ... 160 kW	1.1 ... 160 kW	0.37 ... 400 kW	90 ... 800 kW	2 ... 1200 kW	-	-	
- 3-ph 525 ... 690 V AC	-	-	250 ... 560 kW	250 ... 560 kW	0.75 ... 560 kW	37 ... 1200 kW	2 ... 1000 kW	-	-	
- 3-P 2.3 ... 10 kV AC Voltage of motor 2.3 ... 7.2 kV	-	-	-	-	-	-	-	250 ... 1200 kW	800 ... 27000 kW	
Rectifier										
unregulated	+	+	+	+	+	-	-	+	+	
regulated	-	-	-	-	-	+	+	-	-	
Overloading abilities										
110% dur. 1min	+	+	+	+	+	+	+	+	+	
150% dur. 1min	-	-	-	-	-	-	-	-	-	
Braking unit										
inner	-	-	-	-	+	-	-	-	-	
outer	-	-	+	+	+	+	+	-	-	
recuperation	-	-	-	-	-	-	-	+	+	
Frequency	47 ... 63 Hz	47 ... 63 Hz	47 ... 63 Hz	47 ... 63 Hz	47 ... 63 Hz	47 ... 63 Hz	47 ... 63 Hz	47 ... 63 Hz	47 ... 63 Hz	47 ... 63 Hz
Outgoing voltage	0 ... V supply	0 ... V supply	0 ... V supply	0 ... V supply	0 ... V supply	0 ... V supply	0 ... V supply	0 ... V supply	0 ... V supply	0 ... 250 Hz
Outgoing frequency	0 ... 320 Hz	0 ... 320 Hz	0 ... 320 Hz	0 ... 320 Hz	0 ... 300 Hz	0 ... 800 Hz	0 ... 320 Hz	20 ... 60 Hz	0 ... 250 Hz	
Electromagnetic compatibility class	C3	C3	C3	C3	C3	C3	C3	-	-	
Type of control										
- V/f Open circuit system	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	yes	yes
- Vector control with/without speed detector	-	-	-	-	Yes	Yes	Yes	No	Yes	Yes
- Servocontrol with/without speed detector	-	-	-	-	Yes with rotor location detector	-	Yes	No	No	No
Controlled motors										
- Asynchronous/Induction	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
- Synchronous	-	-	-	-	Yes	-	Yes	-	-	-
Functions										
running pick up	+	+	+	+	+	+	+	-	+	+
automatic re-start	+	+	+	+	+	+	+	+	+	+
2/3 wire control	+	+	+	+	+	+	+	+	+	+
DC braking	+	+	+	+	+	+	+	-	+	+
dynamic braking	+	+	+	+	+	+	+	-	+	+
sleeping mode	+	+	+	+	+	+	+	+	+	+
inbuilt scripts	+	+	+	+	+	+	+	+	+	+
PID control	+	+	+	+	+	+	+	+	+	+
Network options										
sinus filter	+	+	+	+	-	-	-	-	-	-
network throttle	Built in frequency converter	Built in frequency converter	Built in frequency converter	Built in frequency converter	Built in frequency converter	Built in frequency converter	Built in frequency converter	-	-	-
throttle DC	-	-	-	-	+	+	+	-	-	-
Filter of electromagnetic compatibility	+	+	+	+	+	+	+	-	-	-
Security functions	-	-	+	+	+	+	+	-	-	-
Interfaces	RS485 (in-built), DeviceNet	optional RS485, Profibus DP, CANopen, DeviceNet	optional RS485, Profibus DP, CANopen, DeviceNet	optional RS485, Profibus DP, CANopen, DeviceNet	RS485, optional Profibus DP, DeviceNet, CAN Open, LonWorks, BACnet, EtherNet IP	RS485, optional Profibus DP, DeviceNet, CAN Open, LonWorks, BACnet, EtherNet IP	optional RS485, Profibus DP, CANopen, DeviceNet	optional RS485, Profibus DP, CANopen, DeviceNet	RS232/RS485, PROFIBUS DP, Modbus RTU, Ethernet	

We are the experts in excitation systems:

Excitation systems	Static		Brushless		Brushless		Static		Static		with high frequency exciter		commutator exciter			
Types of excitation systems	Static		Brushless		Brushless		Static		Static		with high frequency exciter		commutator exciter			
Names of excitation systems	Thyristor exciter BT-P3M		Thyristor exciter BT-P3M-P		System of automatic regulation of excitation, 5CB-P3M		System of automatic regulation of excitation, 5CB-P3M		Thyristor system of self excitation, CTC		Thyristor system of independent excitation, CTH		System of automatic regulation of excitation B4-P3M		System of automatic regulation of excitation BK-P3M	
Application	Designed for excitation by automatically rectified current of excitation winding of synchronous motor		Designed for excitation by automatically rectified current of excitation winding of synchronous motor		Designed for excitation by automatically rectified current of excitation winding of synchronous generator		Designed for excitation by automatically rectified current of excitation winding of synchronous generator		Designed for excitation by automatically rectified current of excitation winding of synchronous generator		Designed for supplies of automatically regulated direct current to high frequency excitor of synchronous generator		Designed for control of excitation current of commutator exciter of synchronous generator			
Type of regulator	APB-P3M703		APB-P3M701		APB-P3M701		APB-P3M700		APB-P3M700		APB-P3M700		APB-P3M701		APB-P3M700	
Rated current of excitation system	200,315,400		200,315,400		up tp 15A		up to 15A		up to 3500 A		up to 3500 A		up to 50A		up to 15A	
Rated voltage of excitation system	48,75,115,150,230		48,75,115,150,230		up to 150 V		up to 150 V		-		-		-		-	
Quantity of regulation channels	1		2		1		2		2		2		1		2	
Type of power converter	thyristor		IGBT		thyristor		thyristor		Thyristor		Thyristor		IGBT		thyristor	
Reservation of power converter	1 (without reserve); 1+1 (100% reserve)		1 (without reserve) 1+1 (100% reserve)		1+1		1 (without reserve) 1+1 (100% reserve)		1 (without reserve) 1+1 (100% reserve) n-1		1 (without reserve) 1+1 (100% reserve) n-1		1 (without reserve) 1+1 (100% reserve)		1 (without reserve) 1+1 (100% reserve)	
Cooling method	natural air /forced air		natural air		natural air		natural air		natural air, forced air, forced water		natural air, forced air, forced water		natural air		natural air	
Restrictors and protection block	installed		installed		installed		installed		installed		installed		installed		installed	
Sensor display	optional		optional		optional		optional		optional		optional		optional		optional	
Capacity of event log	1000 records		1000 records		1000 records		1000 records		1000 records		1000 records		1000 records		1000 records	
Presence of oscillographic system	installed		installed		installed		installed		installed		installed		installed		installed	
Integration into automatic control system	Modbus protocol, Profibus, Ethernet on approval		Modbus protocol, Profibus, Ethernet on approval		Modbus protocol, Profibus, Ethernet on approval		Modbus protocol, Profibus, Ethernet on approval		installed		installed		installed		installed	
Climatic arrangement	YXJ4		YXJ4		YXJ4		In accordance with technical specification		In accordance with technical specification		In accordance with technical specification		YXJ4		YXJ4	
Enclosure degree of protection	IP21-54		IP21-54		IP21-54		IP21-54		IP21-54		IP21-54		IP21-54		IP21-54	
Frame size, mm	624*640*1740		800*605*1972		suspendable arrangement 600*250*800, floor arrangement 624*534*1712		In accordance with technical specification		In accordance with technical specification		In accordance with technical specification		In accordance with technical specification		In accordance with technical specification	

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Edition 1

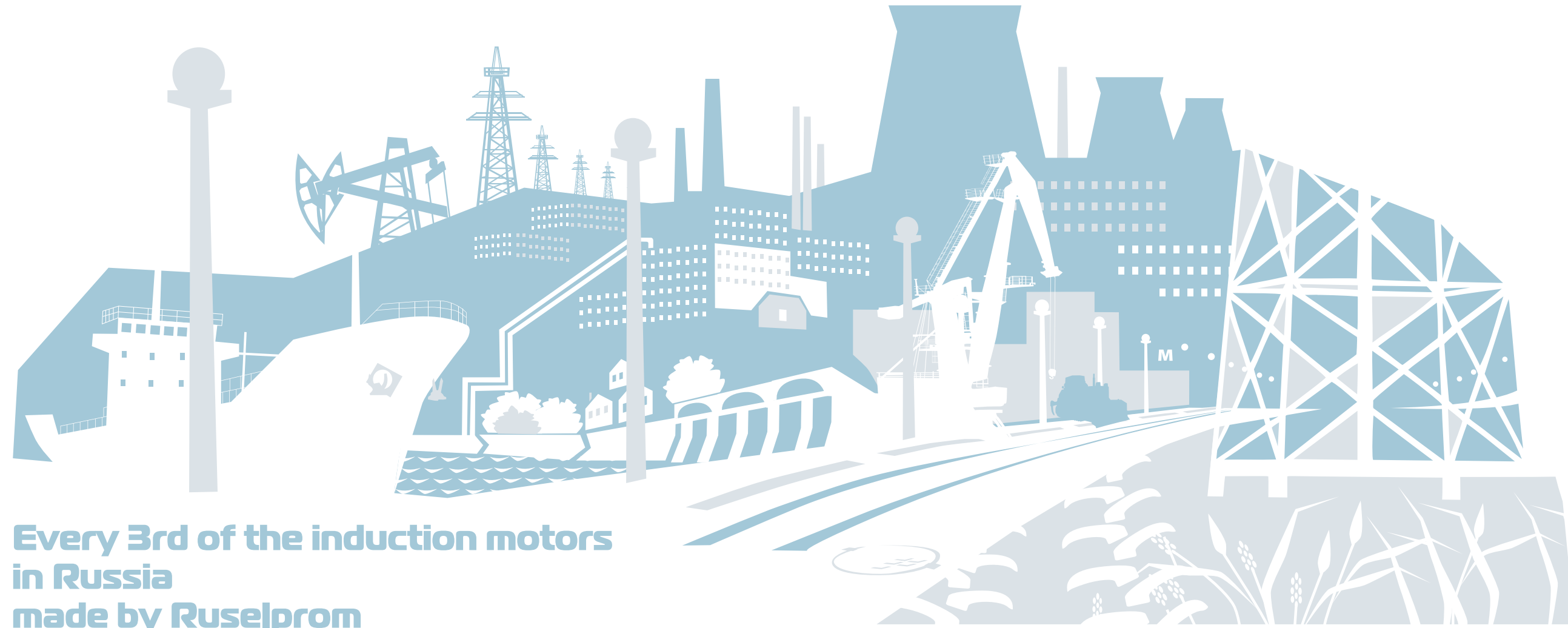
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LOW VOLTAGE ELECTRIC MACHINES

Table with 16 columns and 25 rows detailing technical specifications for low voltage electric machines. Columns include: Types of motors, Induction motors for industrial applications, Induction motors with higher slip, Induction motors, multi-speed, Induction motors, open drip, Induction motors, flameproof, Induction motors, 7AUVER, for variable frequency drive, Induction motors of CENELEC standard, Induction motors, explosion proof, Induction motors, explosion proof for mining application, Induction motors for drives of beam pumping units, Induction motors for elevators with variable frequency drives, Induction motors for centrifugal pumps, monoblock construction type, Induction motors for special applications, Induction motors for variable frequency drives of special design arrangements, Induction motors for the operations with variable frequency drives, Induction motors for the operations with variable frequency drives, Synchronous generators.

Our solutions for industries



Every 3rd of the induction motors in Russia made by Ruselprom

Marine & Shipbuilding Oil and gas mining & Chemical Urban services utilities Energy Transport Mining and metallurgy

- Drives for: induction motors for propulsion systems: DPA; induction motors for dynamic positioning and steering systems: G3D; pumps: A3M, A3MB, SA, 4AM; induction motors for cranes: 4MTH, SAT, SA4, SMTKF, 7MTKF; Generators: TFC steam and gas turbine; TFC for diesel engines: CTJM, CT3; Gear-module for such gen-sets: PFGM; Digital excitation systems: EGB-PGM201
- Drives for: drilling machines: AK5, AOK5, CDEM, АДЧРС, АДЭС, BA; pumps: CHEV, SA, CHEV; pumps: A4, ДАЗО4, АОД, АДЧР, ДАВ, АРМ, АЗМ, СД2, АОВ, АДН, СДС3, СТД, SA, SA, Ж, 7AUVER, SA/MJH, AИРС, 1BAO, BA; draught equipment blowers, exhausters: A4, ДАЗО, АОД, АДЧР, АО, АО2, АДЧР, SA, 7AUVER, 1BAO, BA; compressors: CДН, СДН3, СДС, СДВ, ДВА3, ДВАД, АЗМ, АРМ, АА, АОД, АДЧР, АОМ, АОМ, SA, SA, Ж, 7AUVER, SA/MJH, AИРС, BA, 1BAO; fans: А4, А3, ДАЗО4, ДАЗО, АОД, АО, 2АОД, АДЧР, SA, 7AUVER, SA/MJH; escalators: AK3, SA, 4A; elevators: А4, ДАЗО, АОД, АДЧР, SA, 7AUVER, SA/MJH, AИРС, 1BAO, BA; cranes: SAT, SA4, SMTKF, 7MTKF; chippers: CДН, СДН3, СДС3, СДН2; railway and urban transport: drying chambers: АНЗ, АЖ, АКВ, АЗК, АЗВ, А1(М); Excitation systems: BT-PGM, EGB-PGM, CTC-PGM, CTH-PGM, CTR-PGM, B4-PGM, BK-PGM; Generators: BOF, TTIC, TTC
- Drives for: draught equipment blowers, exhausters: ДАЗО, АОД, А4, АДЧР, SA, 7AUVER, 5AMIT; cooling fans: А4, А3, ДАЗО4, АДЧР, 2ACB0, 3ACB0, SA, 7AUVER, SA/MJH; pumps: A4, ДАЗО4, АОД, АДЧР, ДАВ, АРМ, АЗМ, СД2, АОВ, АДН, СДС3, СТД, SA, SA, Ж, 7AUVER, SA/MJH, AИРС, 1BAO, BA; compressors: CДН, СДН3, СДС, СДВ, ДВА3, ДВАД, АЗМ, АРМ, АА, АОД, АДЧР, АОМ, АОМ, SA, SA, Ж, 7AUVER, SA/MJH, AИРС, BA, 1BAO; fans: CДН, СДН3, СДС, СДВ, ДВА3, ДВАД, АЗМ, АРМ, АА, АОД, АДЧР, BA; escalators: AK3, SA, 4A; elevators: А4, А3, ДАЗО4, ДАЗО, АОД, АО, 2АОД, АДЧР, SA, 7AUVER, SA/MJH; cranes: SAT, SA4, SMTKF, 7MTKF; chippers: CДН, СДН3, СДС3, СДН2; railway and urban transport: drying chambers: АНЗ, АЖ, АКВ, АЗК, АЗВ, А1(М); Excitation systems: BT-PGM, EGB-PGM, CTC-PGM, CTH-PGM, CTR-PGM, B4-PGM, BK-PGM; Generators: BOF, TTIC, TTC
- Drives for: trucks: CГT, ТК30; trains and urban transport: AИЗ, АЖ, АЖВ, АЗК, АЗВ, А1(М); traction motors for subway cars: TADBM280-4V2; compressors: А4, ДАЗО, АОД, АДЧР, ДАЗО, АО, АО2, АДЧР, SA, 7AUVER, 5AMIT; fans: ДАКХ, АЗК(П), БСДК(П), АДКП, АКВ; escaltors: AK3, SA, 4A
- Drives for: mills and crushers: CDM, CDM3, CДС, СДС3, CQB, AKC, AKC3, AZD, AOM, AKD, СДЗО, AK4, AK3; rig batteries: AK5, 4AOK5, АДЧРС; blowers, exhausters: А4, ДАЗО, АОД, АДЧР, ДАЗО, АО, АО2, АДЧР, SA, 7AUVER, 5AMIT; compressors: CДН, СДН3, СДС, СДВ, ДВА3, ДВАД, АЗМ, АРМ, АА, АОД, АДЧР, АОМ, АОМ, SA, SA, Ж, 7AUVER, SA/MJH, AИРС, BA, 1BAO; fans: CДН, СДН3, СДС, СДВ, ДВА3, ДВАД, АЗМ, АРМ, АА, АОД, АДЧР, BA; escalators: AK3, SA, 4A; press: АДФ, АК4, АОК, АОК4; conveyor systems: AK4, AKC, AK3, АДЧР, АДПМ, 1BAO, BPA; cranes: 4MTH, SAT, SA4, SMTKF, 7MTKF; excavators: ДС3, ДА3, ТК3, АДЧР3; railway and urban transport АНЗ trucks: CГT, ТК30
- Excitation systems: BT-PGM, EGB-PGM, CTC-PGM, CTH-PGM, CTR-PGM, B4-PGM, BK-PGM; Turbogenerators TTIC

HIGH VOLTAGE ELECTRIC MACHINES

Table with 16 columns and 25 rows detailing technical specifications for high voltage electric machines. Columns include: Types of motors, Induction motors, squirrel cage rotor of industrial applications, Induction motors, slip ring rotor of special applications, Induction motors of special applications, Special synchronous motors of special applications, Explosion proof induction motors of special applications, Induction motors, slip ring motor of special applications (cranes), Induction motors, squirrel cage rotor of special applications, Induction motors, squirrel cage rotor of special applications, Induction motors with squirrel cage rotor of industrial applications, High speed induction motors, Induction motors with squirrel cage rotor of special applications, Induction motors with squirrel cage rotor produced under special requirements of customers, Induction motors with slip ring rotor of special applications, Induction motors with slip ring rotor of industrial applications, Induction motors with slip ring rotor of special applications, Synchronous motors, Synchronous explosion proof motors, Turbine motors and synchronous generators, Synchronous diesel generators, Hydrogenerators for small hydro power plants.