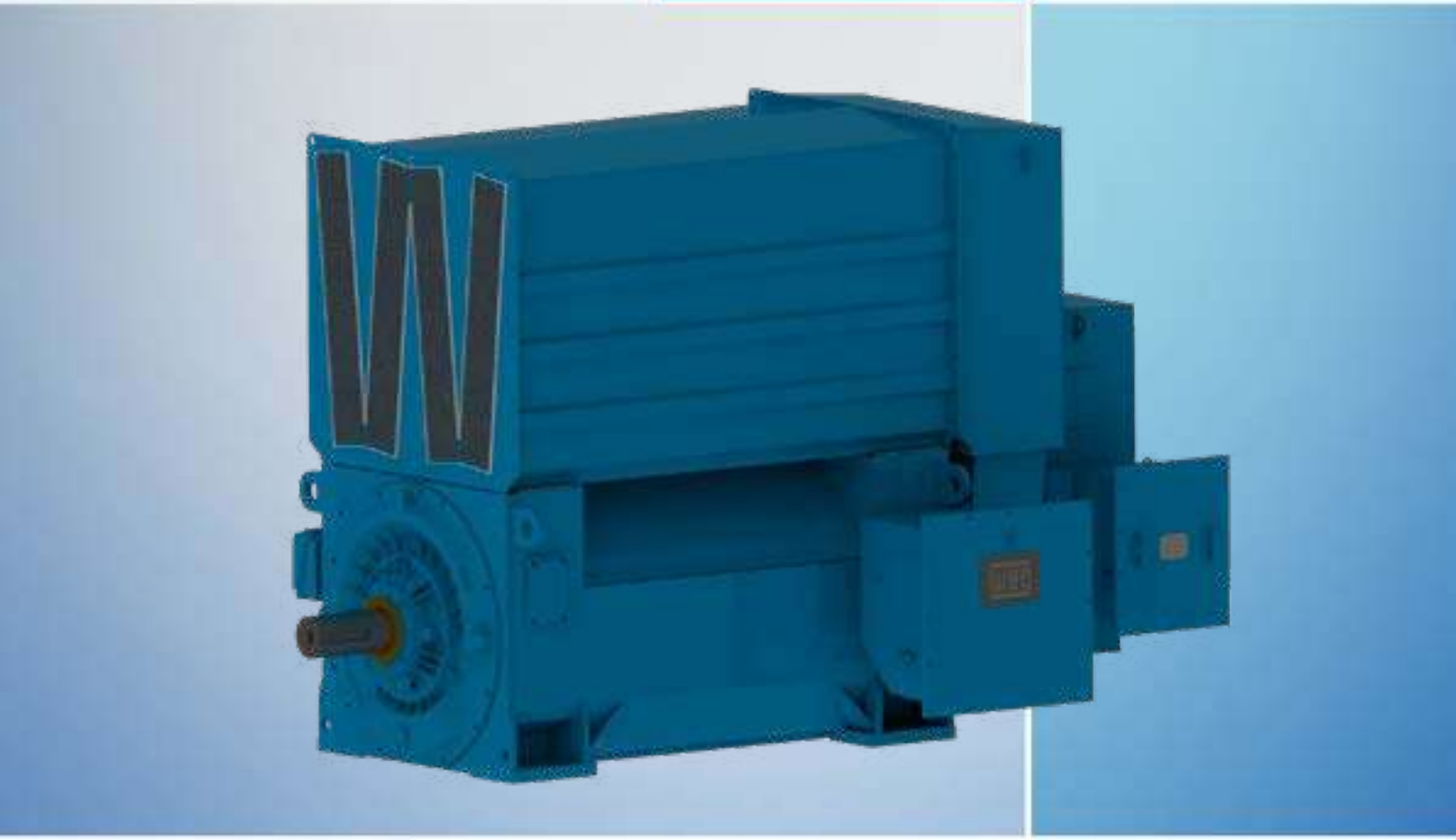
Industrial Motors
Commercial & Appliance Motors
Automation
Digital & Systems
Energy
Transmisssion & Distribution
Coatings

WA60

THREE PHASE INDUCTION SLIP-RING MOTOR

Technical Catalogue



Driving efficiency and sustainability

WA60, MODULAR SLIP-RING MOTORS

Availability for heavy load inertia applications

Slip-ring motors are an ideal solution for applications which require high starting torque and low starting current. They are especially suitable for heavy load inertia applications like the mining and cement segments or situations where network conditions are weak.

WEG's slip-ring motors minimize mechanical stress at starting, increasing the lifetime of your driven equipment. They provide maximized availability and high torque over the entire speed range.

Slip-ring motors are widely used in mills, crushers, fans, and conveyors in the mining, cement and metal industries. In addition, these motors offer a reliable solution for pumps in the water industry and safe area pumps, compressors and mixers in the petrochemical industry.

WA60 slip-ring motors inherit from M mining line that the design was specially developed with electromechanical characteristics which provide durability, long life operation, robustness and high efficiency. WA60 motors are available in shaft heights from 355 to 630 mm, with cooling methods and protection types of IC611/IP55 as standard.

WA60 motors have a welded steel frame. Slip ring unit can be supplied with permanent contact brushes namely fixed, or with brush lifting system controlled automatically. In both cases the slip rings are enclosed in a housing located at the NDE side and separated from the main motor frame. The mechanical sealing is equipped as standard for the housing.

For WA60 motors this catalog only shows the typical technical data of 6kV and 10kV at 50 Hz for 4, 6, and 8 pole motors. While the complete product scope covers motors with 60Hz, pole numbers up to 16, and voltage rating up to 13.8kV.

For more detailed technical data and configuration solutions on WA60 slip-ring motors, please contact WEG.



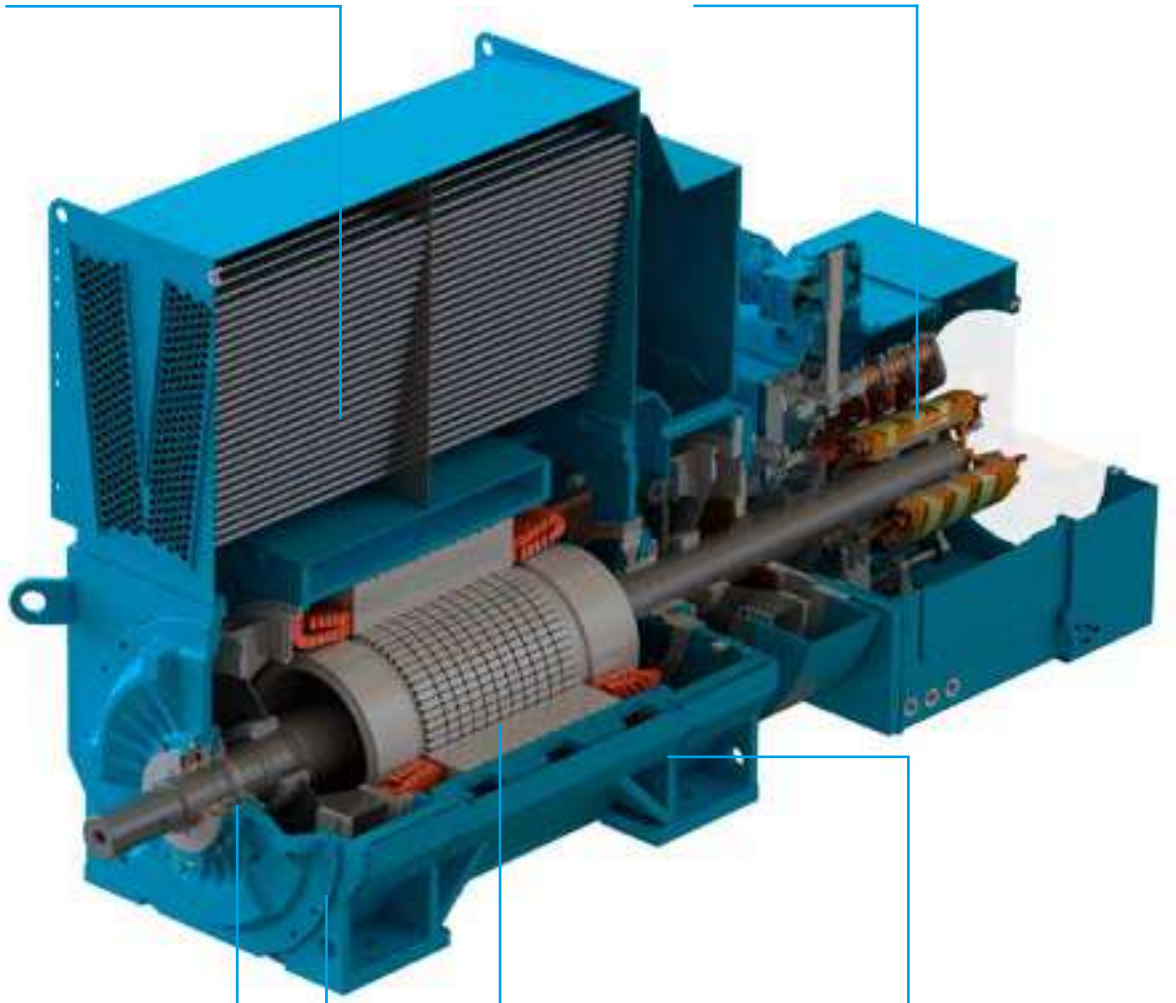
COMPONENTS DESIGN

Cooling System

- Optimized heat exchanger
- Increased air flow
- Low losses fans
- Easy assembly
- Increased mechanical strength

Liftable Slip-ring System

- Innovative design
- Extended brushes lifetime
- Low maintenance
- Low cleaning
- Integrated automatic lifing control system



Bearings

- Ball bearings as standard
- Sleeve bearings as optional

Electrical Core

- High quality lamination
- Energy efficient
- Increased power density ratio

Frame

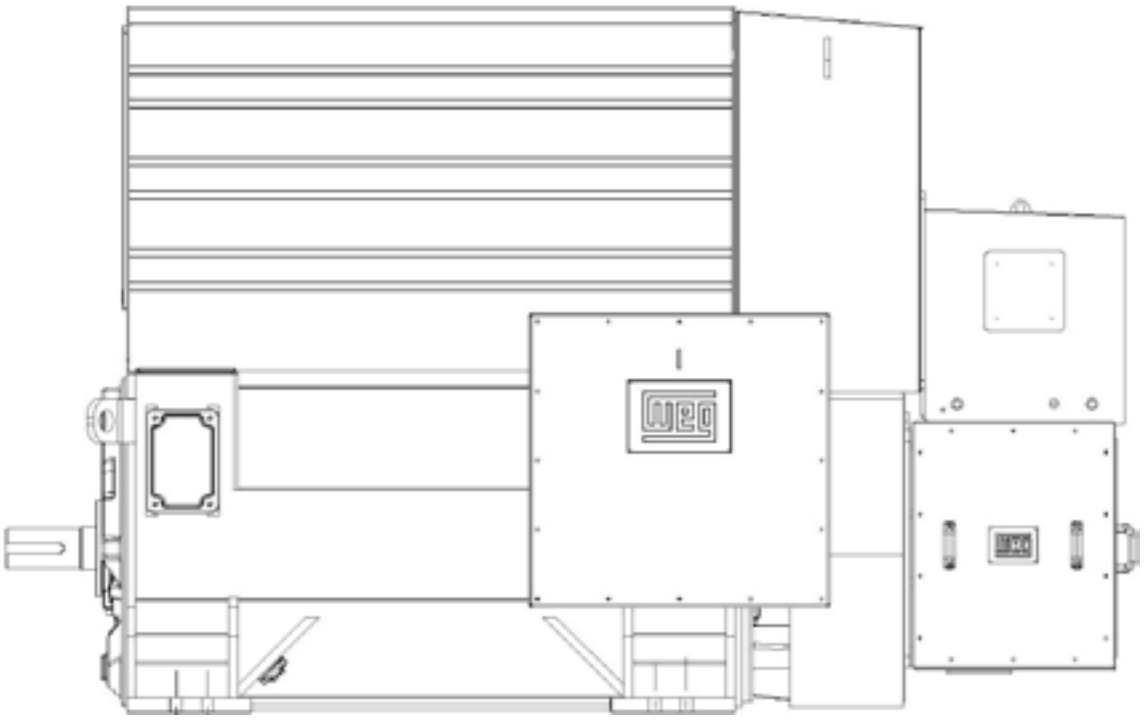
- Robust design
- Compact and lighter
- Smallest footprint area

End Shields

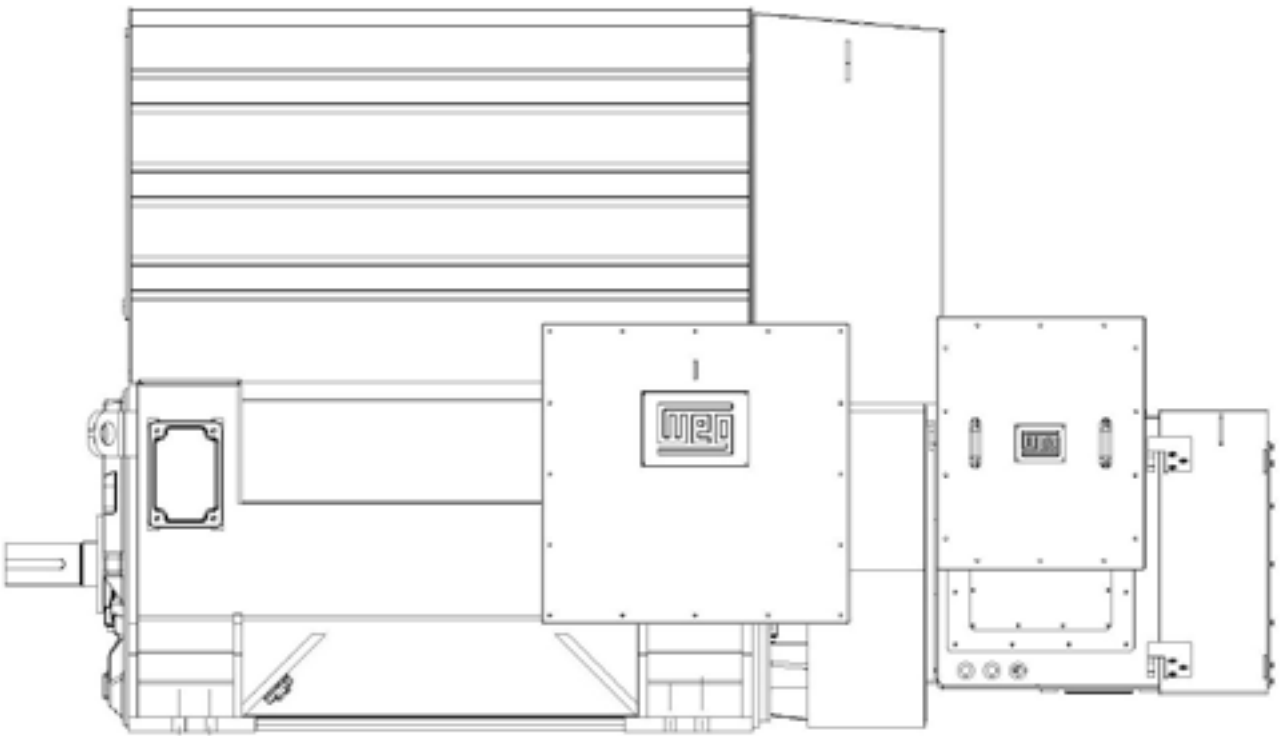
- High quality cast iron or steel plate
- Reinforced structure

MOUNTING ARRANGEMENTS

Standard mounting arrangements for WA60 fixed slip-ring motors



Standard mounting arrangements for WA60 liftable slip-ring motors

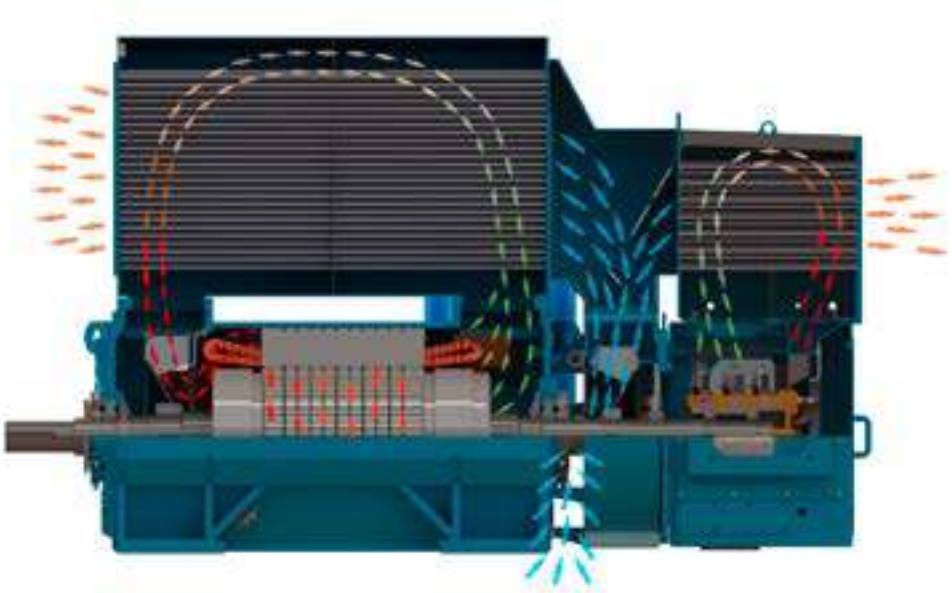


COOLING AND PROTECTION DEGREE

Standard combinations for WA60 motors are IC611/IP55.
Other cooling methods (IC616, IC81W, etc.) are available on request.

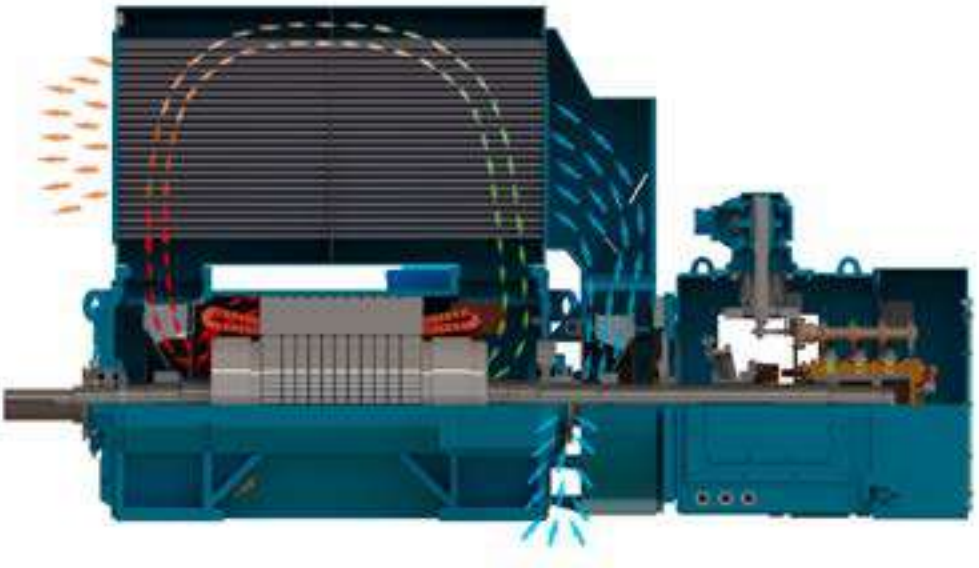
Fixed slip-ring motor

This design has an air-to-air heat exchanger mounted on the motor, which is fully enclosed, another air to air heat exchagner is assembled on the slip-ring housing. Shaft mounted fans are fitted both inside motor frame and inside slip ring protection box, and to supply the inside cooling circuits for motor and slip ring respectively. And the ouside cooling circuits are driven by one external fan. The motor is protected against dust and splashing water from any direction.



Liftable slip-ring motor

This design has an automatic controlled liftable silp- ring system, the brushes are kept clear of the slip-ring after the motor start-up, so there is no need for heat emission in the slip-ring hosuing. The cooling for the motor is the same as the nomal design of W60 line motors in WEG, which can share the same standard components. The motor is also protected against dust and splashing water from any direction.



ELECTRICAL DATA

IC611/IP55, insulation class F, temperature rise class B, 6000V,50Hz

Output (kW)	Frame	Full Load Torque (Nm)	Breakdown Torque Tb/Tn	Inertia J (kg.m²)	Allowable locked rotor (s)		Weight (kg)	Noise dB(A)	Rated Speed (RPM)	Efficiency			Power Factor			Full load current In (A)	Rotor Voltage (V)	Rotor Current (A)
					Hot	Cold				50%	75%	100%	50%	75%	100%			
4 poles																		
315	355C	2042	2.1	8.6	11	13	3073	85	1473	91.6	92.9	93.0	0.70	0.80	0.84	39	399	495
355	355C	2302	2.0	9.2	11	13	3130	85	1473	92.3	93.3	93.3	0.74	0.82	0.85	43	430	518
400	355C	2593	2.0	9.9	11	13	3203	85	1473	92.8	93.6	93.6	0.77	0.84	0.86	48	464	540
450	355C	2914	2.2	10.6	11	13	3263	85	1475	93.1	94.0	93.9	0.75	0.83	0.86	54	531	526
500	400C	3220	2.5	19.3	13	15	4030	85	1483	94.2	95.0	95.0	0.78	0.85	0.88	58	4030	488
560	400C	3604	2.5	20.5	13	15	4112	85	1484	94.5	95.2	95.2	0.78	0.85	0.88	64	4112	502
630	400C	4054	2.4	21.6	13	15	4210	85	1484	94.8	95.4	95.4	0.79	0.86	0.88	72	4210	524
710	400C	4575	2.2	22.7	13	15	4289	85	1482	95.1	95.5	95.3	0.83	0.88	0.90	80	4289	578
800	450C	5152	2.1	30.6	13	15	5206	88	1483	94.2	95.0	95.1	0.80	0.86	0.88	92	741	667
900	450C	5780	2.5	33.6	13	15	5471	88	1487	94.5	95.4	95.6	0.73	0.82	0.86	105	899	609
1000	450C	6422	2.5	35.4	13	15	5567	88	1487	94.8	95.6	95.8	0.74	0.82	0.86	117	963	630
1120	450C	7203	2.2	36.7	13	15	5655	88	1485	95.2	95.8	95.7	0.79	0.85	0.88	128	966	707
1250	450C	8039	2.3	38.2	13	15	5792	88	1485	95.4	96.0	96.0	0.78	0.85	0.87	144	1057	717
1320	450C	8495	2.1	40.2	13	15	5912	88	1484	95.3	95.9	95.8	0.82	0.87	0.89	149	1061	764
1400	500C	9009	2.0	60.5	13	15	7162	91	1484	94.2	95.2	95.4	0.85	0.89	0.90	157	1119	772
1600	500C	10296	2.0	63.2	13	15	7340	91	1484	94.7	95.5	95.7	0.85	0.89	0.90	179	1212	810
1800	500C	11584	2.1	65.2	13	15	7435	91	1484	94.6	95.4	95.5	0.85	0.89	0.90	202	1297	850
2000	500C	12871	2.0	67.9	13	15	7600	91	1484	94.9	95.6	95.7	0.86	0.89	0.90	223	1357	907
2120	500C	13606	2.2	71.6	13	15	7754	91	1488	95.1	95.9	96.1	0.82	0.87	0.89	239	1487	869
2250	560C	14450	2.3	87.3	13	15	9189	91	1487	94.4	95.4	95.8	0.82	0.87	0.89	254	1999	684
2500	560C	16056	2.2	94.1	15	17	9537	91	1487	95.3	96.1	96.2	0.84	0.88	0.90	278	2157	704
2800	560C	17958	2.5	97.9	15	17	9765	91	1489	95.5	96.2	96.4	0.79	0.86	0.88	318	2335	724
3150	560C	20230	1.9	102.4	15	17	9939	91	1487	96.2	96.6	96.6	0.84	0.88	0.89	397	2605	825
3550	560C	22769	2.2	112.9	15	17	10470	91	1489	96.2	96.7	96.7	0.83	0.88	0.90	393	2803	762
4000	630C	25603	2.5	210.3	15	17	12562	93	1492	95.7	96.5	96.7	0.82	0.88	0.90	442	3015	800
4500	630C	28804	2.5	224.0	15	17	13018	93	1492	95.9	96.6	96.8	0.81	0.88	0.90	497	3316	815
5000	630C	31983	2.6	243.7	15	17	13658	93	1493	96.1	96.8	97.0	0.81	0.87	0.90	551	3685	811
6 poles																		
280	355C	2715	2.5	14.7	8	10	3360	84	985	92.4	93.6	93.9	0.67	0.77	0.82	35	326	527
315	355C	3054	2.4	15.6	8	10	3437	84	985	92.7	93.9	94.1	0.68	0.78	0.83	39	351	553
355	400C	3428	2.4	27.1	8	10	4072	84	989	94.7	95.3	95.2	0.72	0.81	0.85	42	556	391
400	400C	3859	2.8	28.7	10	12	4157	84	990	94.6	95.3	95.4	0.67	0.78	0.83	49	648	374
450	400C	4345	2.5	28.7	10	12	4157	84	989	94.9	95.5	95.4	0.70	0.80	0.84	54	648	421
500	400C	4838	2.1	30.3	10	12	4240	84	987	95.3	95.6	95.3	0.76	0.83	0.86	59	649	471
560	400C	5413	2.2	32.0	10	12	4320	84	988	95.4	95.7	95.4	0.75	0.83	0.86	66	708	483
630	450C	6090	2.4	35.9	10	12	5118	87	988	94.9	95.5	95.5	0.64	0.75	0.80	79	858	447
710	450C	6877	2.1	35.9	10	12	5118	87	986	95.2	95.6	95.4	0.67	0.78	0.82	87	858	505
800	450C	7741	2.1	40.7	10	12	5425	87	987	95.5	95.8	95.6	0.70	0.79	0.83	97	966	505
900	450C	8699	2.2	44.2	10	12	5599	87	988	95.7	96.1	95.9	0.72	0.80	0.84	108	957	570
1000	450C	9666	2.2	46.2	10	12	5692	87	988	95.8	96.1	95.9	0.72	0.81	0.84	119	1020	594
1120	450C	10826	2.1	48.3	12	15	5837	87	988	96.0	96.3	96.1	0.72	0.81	0.84	134	1093	620
1250	500C	12070	1.8	69.9	12	15	6925	89	989	96.1	96.4	96.2	0.75	0.82	0.84	149	1102	695
1400	500C	13505	1.9	79.2	12	15	7369	89	990	96.2	96.6	96.4	0.74	0.81	0.84	166	1287	663
1600	500C	15450	2.0	81.9	12	15	7553	89	989	96.3	96.6	96.4	0.74	0.82	0.84	190	1279	758
1800	500C	17381	1.9	89.7	12	15	7871	89	989	96.3	96.6	96.5	0.74	0.81	0.84	214	1395	789
2000	560C	19254	2.1	147.8	12	15	9313	91	992	95.7	96.3	96.3	0.75	0.82	0.85	235	1391	870
2250	560C	21683	1.9	152.7	12	15	9459	91	991	95.9	96.4	96.4	0.77	0.84	0.86	261	1436	950
2500	560C	24068	2.0	175.7	12	15	10181	91	992	96.1	96.6	96.5	0.77	0.84	0.86	290	1648	922
2800	560C	26956	2.0	187.1	18	20	10559	91	992	96.4	96.8	96.7	0.78	0.84	0.86	324	1776	951
3000	630C	28881	2.0	237.5	18	20	11575	91	992	96.0	96.5	96.5	0.79	0.85	0.87	344	2017	902
3150	630C	30295	2.1	255.1	18	20	12071	91	993	96.0	96.6	96.7	0.77	0.84	0.86	364	2216	857
3550	630C	34141	2.1	281.7	18	20	12634	91	993	96.2	96.7	96.8	0.78	0.85	0.87	406	2465	871
4000	630C	38469	2.2	308.2	18	20	13253	91	993	96.4	96.9	96.9	0.78	0.84	0.87	457	2774	869
8 poles																		
315	400C	4098	2.0	26.9	12	13	4098	81	734	94.4	94.5	93.9	0.68	0.77	0.82	39	592	331
355	400C	4619	2.0	28.9	12	13	4187	81	734	94.6	94.7	94.1	0.68	0.78	0.82	44	642	343
400	450C	5176	2.3	35.9	12	13	4838	85	738	94.2	94.8	94.7	0.66	0.76	0.81	50	641	382
450	450C	5823	2.2	39.5	12	13	5035	85	738	94.5	95.1	94.9	0.69	0.79	0.83	55	700	395
500	450C	6470	2.1	43.9	12	13	5245	85	738	94.8	95.2	95.0	0.71	0.80	0.83	61	772	397
560	450C	7247	2.1	48.2	15	17	5433	85	738	94.9	95.3	95.1	0.71	0.80	0.84	67	859	399
630	450C	8141	2.3	50.4	15	17	5550	85	739	95.0	95.5	95.4	0.68	0.78	0.82	77	964	397
710	450C	9175	2.2	52.6	15	17	5632	85	739	94.9	95.4	95.2	0.69	0.78	0.83	86	1028	421
800	500C	10310	2.0	77.5	15	17	6920	85	741	95.3	95.9	95.9	0.67	0.77	0.81	99	1099	443
900	500C	11599	2.0	80.8	15	17	7045	85	741	95.5	96.0	95.9	0.67	0.77	0.81	111	1183	466
1000	500C	12888	2.0	87.4	15	17	7327	85	741	95.7	96.1	96.0	0.69	0.78	0.82	122	1283	476
1180	500C	15208	1.8	94.1	15	17	7598	85	741	96.0	96.3	96.1	0.71	0.79	0.82	144	1400	517
1250	560C	16110	2.0	121.9	18	20	8191	87	741	95.0	95.6	95.5	0.70	0.79	0.83	152	1179	651
1320	560C	17012	2.0	133.4	18	20	8502	87	741	95.1	95.7	95.6	0.71	0.80	0.83	160	1280	632
1400	560C	18019	2.0	144.9	18	20	8837	87	742	95.3	95.9	95.8	0.71	0.80	0.83	169	1397	612
1600	560C	20593	2.0	156.5	18	20	9161	87	742	95.6	96.0	95.9	0.71	0.80	0.83	193	1537	636
1800	560C	23167	2.1	168.0	18	20	9490	87	742	95.8	96.2	96.1	0.71	0.80	0.83	217	1708	639
2000	560C	25707	2.1	184.6	18	20	9936	87	743	95.9	96.3	96.3	0.70	0.79	0.83	241	1921	629
2250	630C	28920	2.2	291.2	18	20	11776	89	743	95.8	96.3	96.3	0.72	0.80	0.84	268	2275	598
2500	630C	32133	2.2	311.9	18	20	12196	89	743	96.0	96.5	96.4	0.72	0.81	0.84	297	2466	612
2800	630C	35989	2.2	332.7	18	20	12629	89	743	96.1	96.6	96.5	0.72	0.81	0.84	332	2690	631
3150	630C	40488	2.2	353.4	18	20	13062	89	743	96.3	96.7	96.7	0.71	0.80	0.84	373	2959	641

ELECTRICAL DATA

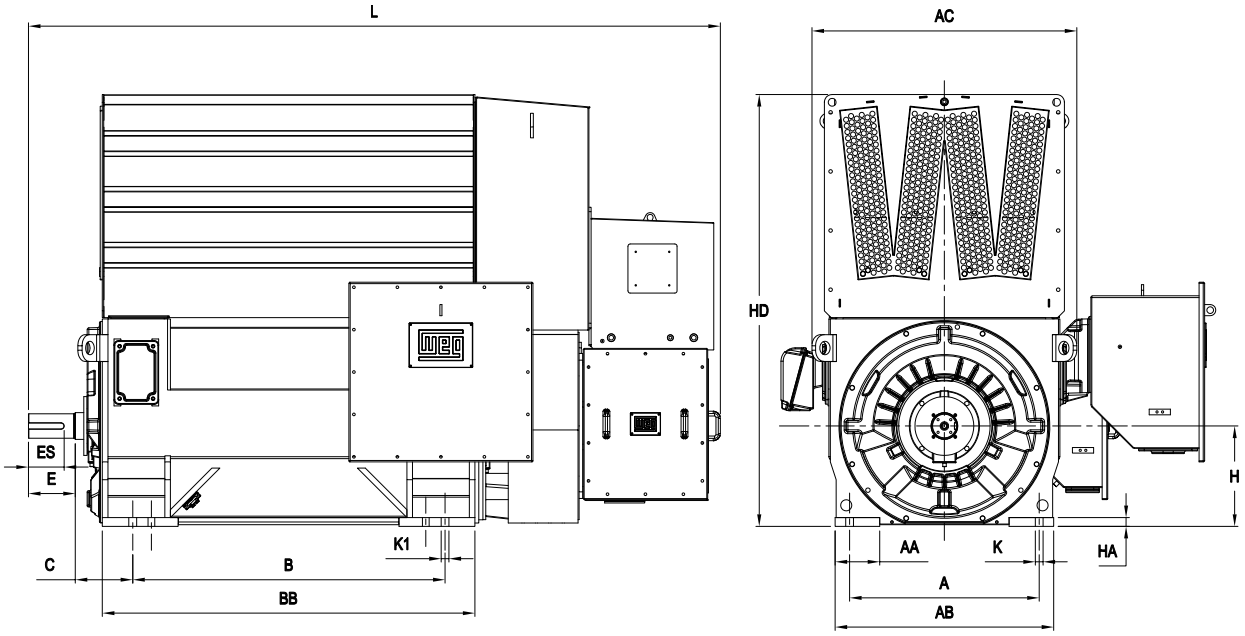
IC611/IP55, insulation class F, temperature rise class B, 10000V,50Hz

Output (kW)	Frame	Full Load Torque (Nm)	Breakdown Torque Tb/Tn	Inertia J (kg.m²)	Allowable locked rotor (s)		Weight (kg)	Noise dB(A)	Rated Speed (RPM)	Efficiency			Power Factor			Full load current In (A)	Rotor Voltage (V)	Rotor Current (A)
					Hot	Cold				50%	75%	100%	50%	75%	100%			
4 poles																		
355	400C	2277	3.6	20.5	8	10	4049	85	1489	91.7	93.4	93.9	0.66	0.77	0.83	26	671	322
400	400C	2567	3.2	20.5	8	10	4049	85	1488	92.5	93.9	94.2	0.69	0.80	0.85	29	671	364
450	400C	2890	2.9	21.6	8	10	4127	85	1487	93.0	94.1	94.2	0.74	0.83	0.87	32	690	400
500	400C	3211	3.0	22.7	8	10	4221	85	1487	93.3	94.4	94.6	0.73	0.82	0.86	35	756	403
560	400C	3597	2.9	22.7	8	10	4217	85	1487	93.6	94.6	94.6	0.74	0.83	0.87	39	775	440
630	450C	4043	2.8	29.1	10	12	5027	88	1488	92.6	94.0	94.4	0.68	0.79	0.83	46	747	517
710	450C	4563	2.5	30.6	10	12	5128	88	1486	93.3	94.4	94.6	0.74	0.82	0.86	50	769	568
800	450C	5138	2.6	32.1	10	12	5247	88	1487	93.6	94.7	94.9	0.71	0.81	0.85	57	855	571
900	450C	5784	2.4	33.6	10	12	5348	88	1486	94.1	95.0	95.0	0.76	0.84	0.87	63	880	625
1000	450C	6418	2.6	38.4	10	12	5686	88	1488	94.5	95.3	95.4	0.75	0.83	0.87	70	1029	592
1120	500C	7208	2.2	53.5	13	15	6643	91	1484	92.6	93.9	94.3	0.84	0.88	0.90	76	956	730
1250	500C	8039	2.3	53.5	13	15	6649	91	1485	92.9	94.2	94.5	0.82	0.87	0.89	86	1034	746
1400	500C	9003	2.3	58.2	13	15	6941	91	1485	93.4	94.6	94.9	0.83	0.88	0.90	95	1129	761
1600	500C	10290	2.3	63.0	13	15	7227	91	1485	94.0	95.0	95.1	0.84	0.89	0.90	108	1243	793
1800	500C	11568	2.3	67.8	13	15	7504	91	1486	94.4	95.3	95.4	0.84	0.88	0.90	121	1381	797
2000	500C	12845	2.4	72.8	15	17	7786	91	1487	94.7	95.6	95.7	0.82	0.88	0.90	134	1554	781
2250	560C	14431	2.3	88.9	15	17	9079	91	1489	94.8	95.7	96.0	0.79	0.86	0.88	154	1674	816
2500	560C	16034	2.2	95.7	15	17	9384	91	1489	95.1	95.9	96.1	0.81	0.87	0.89	169	1807	844
2800	560C	17970	2.2	100.8	15	17	9744	91	1488	95.4	96.1	96.2	0.83	0.88	0.90	187	1962	866
3000	560C	19241	2.4	111.3	15	17	10292	91	1489	95.6	96.3	96.4	0.83	0.88	0.90	200	2203	822
3150	630C	20176	2.3	203.5	15	17	12163	93	1491	95.0	95.9	96.2	0.86	0.90	0.91	208	2519	759
3550	630C	22738	2.2	216.2	15	17	12599	93	1491	95.3	96.2	96.4	0.86	0.90	0.91	234	2771	777
4000	630C	25603	2.3	230.0	15	17	13040	93	1492	94.5	95.6	96.0	0.85	0.90	0.91	264	3079	790
4500	630C	28804	2.5	243.7	15	17	13476	93	1492	95.8	96.5	96.7	0.83	0.89	0.90	299	3462	779
6 poles																		
355	400C	3414	3.3	31.8	6	8	4243	84	993	93.3	94.3	94.5	0.61	0.74	0.80	27	720	297
400	400C	3847	3.5	33.4	6	8	4323	84	993	93.1	94.3	94.6	0.57	0.71	0.78	31	809	298
450	450C	4350	2.3	38.0	10	12	5159	87	988	94.0	94.7	94.7	0.72	0.81	0.85	32	679	407
500	450C	4823	2.6	38.0	10	12	5164	87	990	94.0	94.9	95.0	0.67	0.78	0.83	37	758	400
560	450C	5413	2.2	36.8	10	12	5141	87	988	94.3	95.0	94.9	0.67	0.77	0.82	42	805	426
630	450C	6096	2.2	36.8	10	12	5134	87	987	94.4	95.0	94.9	0.67	0.77	0.82	47	842	458
710	450C	6870	2.3	38.8	10	12	5248	87	987	94.6	95.1	95.1	0.65	0.76	0.80	54	910	475
800	450C	7741	2.2	42.0	10	12	5391	87	987	95.0	95.4	95.3	0.71	0.80	0.83	58	910	537
900	450C	8708	2.3	44.0	12	13	5504	87	987	95.1	95.6	95.4	0.70	0.79	0.83	66	980	560
1000	500C	9637	2.0	66.4	12	13	6699	89	991	95.3	95.9	95.8	0.69	0.78	0.82	73	1070	569
1120	500C	10804	2.1	70.5	12	13	6884	89	990	95.3	95.8	95.7	0.67	0.77	0.81	83	1078	633
1250	500C	12058	1.8	72.6	12	13	6990	89	990	95.8	96.2	96.0	0.73	0.81	0.83	91	1170	658
1400	500C	13478	2.1	81.8	15	17	7361	89	992	95.7	96.2	96.1	0.68	0.78	0.82	103	1427	597
1600	500C	15434	2.1	88.5	15	17	7715	89	990	95.9	96.3	96.2	0.72	0.80	0.83	116	1422	682
1800	560C	17346	2.1	140.9	15	17	9165	91	991	94.7	95.5	95.6	0.69	0.78	0.82	133	1593	687
2000	560C	19293	2.0	146.5	15	17	9361	91	990	94.9	95.6	95.7	0.69	0.78	0.82	147	1697	720
2250	560C	21748	1.9	159.3	15	17	9707	91	988	95.2	95.7	95.7	0.71	0.80	0.83	164	1682	818
2360	560C	22789	1.7	169.3	15	17	10037	91	989	95.5	96.0	95.8	0.76	0.82	0.84	169	1825	798
2500	560C	24043	2.3	187.1	15	17	10346	91	993	95.9	96.5	96.5	0.74	0.82	0.85	176	1828	823
2650	630C	26928	2.1	255.1	18	20	11840	91	993	95.4	96.1	96.2	0.78	0.85	0.87	183	2057	779
2800	630C	26928	2.2	274.0	18	20	12225	91	993	95.6	96.2	96.3	0.78	0.85	0.87	193	2243	753
3150	630C	30264	2.2	293.5	18	20	12643	91	994	95.8	96.4	96.5	0.78	0.84	0.87	217	2468	772
3550	630C	34107	2.3	308.2	18	20	13063	91	994	96.0	96.6	96.7	0.76	0.84	0.86	247	2739	779
8 poles																		
315	450C	4076	2.3	35.1	12	13	4728	85	738	93.1	93.8	93.7	0.67	0.77	0.82	24	583	334
355	450C	4587	2.3	37.3	12	13	4833	85	739	93.4	94.1	94.0	0.66	0.77	0.82	27	642	342
400	450C	5169	2.4	39.5	12	13	4953	85	739	93.7	94.4	94.3	0.64	0.76	0.81	30	712	345
450	450C	5807	2.5	43.7	12	13	5149	85	740	93.9	94.7	94.6	0.65	0.76	0.81	34	803	341
500	450C	6452	2.5	50.8	12	13	5423	85	740	93.6	94.4	94.4	0.66	0.77	0.82	37	919	334
560	500C	7208	2.0	74.5	15	17	6652	85	742	94.4	95.1	95.1	0.68	0.78	0.81	42	917	376
630	500C	8108	1.9	77.8	15	17	6799	85	742	94.7	95.3	95.3	0.69	0.78	0.82	47	987	392
710	500C	9138	2.0	81.1	15	17	6934	85	742	94.2	95.0	95.1	0.69	0.78	0.81	53	1069	409
800	500C	10283	2.0	84.4	15	17	7071	85	743	95.0	95.6	95.6	0.67	0.77	0.81	60	1166	420
900	500C	11584	1.9	87.7	15	17	7190	85	742	95.2	95.7	95.5	0.69	0.78	0.82	66	1220	452
1000	500C	12853	2.0	91.1	15	17	7327	85	743	95.3	95.8	95.7	0.67	0.77	0.81	74	1340	455
1120	560C	14415	2.1	139.2	18	20	8587	87	742	94.5	95.3	95.3	0.70	0.79	0.83	82	1275	539
1250	560C	16067	2.1	150.7	18	20	8908	87	743	94.8	95.5	95.5	0.69	0.79	0.83	91	1418	538
1320	560C	16966	2.3	173.8	18	20	9481	87	743	94.8	95.5	95.6	0.69	0.79	0.83	96	1601	501
1400	560C	17970	2.3	180.5	18	20	9652	87	744	94.9	95.6	95.7	0.68	0.78	0.82	103	1708	498
1600	560C	20538	2.3	185.3	18	20	9796	87	744	95.1	95.8	95.8	0.68	0.78	0.82	118	1829	529
1800	560C	23105	2.3	191.1	18	20	9963	87	744	95.3	95.9	95.9	0.67	0.77	0.82	132	1967	556
2000	630C	25707	2.3	301.6	18	20	11751	89	743	95.3	95.9	95.9	0.72	0.81	0.85	142	2244	540
2250	630C	28881	2.3	322.3	18	20	12064	89	744	95.4	95.9	95.9	0.72	0.81	0.85	159	2470	553
2500	630C	32090	2.3	343.0	18	20	12472	89	744	95.6	96.1	96.0	0.72	0.81	0.85	177	2672	566
2800	630C	35989	2.2	353.4	18	20	12704	89	743	95.8	96.2	96.2	0.72	0.81	0.85	198	2827	597

Note:
Rating list presents typical value of preliminary technical data on standard conditions.
Ratings of special site conditions of ambient temperature up to 40 °C or down to -20°C, altitude higher than 1000 m a.s.l. on request.
Accurate motor performance data will be given on specific requirements at the quotation stage.

MECHANICAL DATA

Fixed slip-ring, IC611/IP55



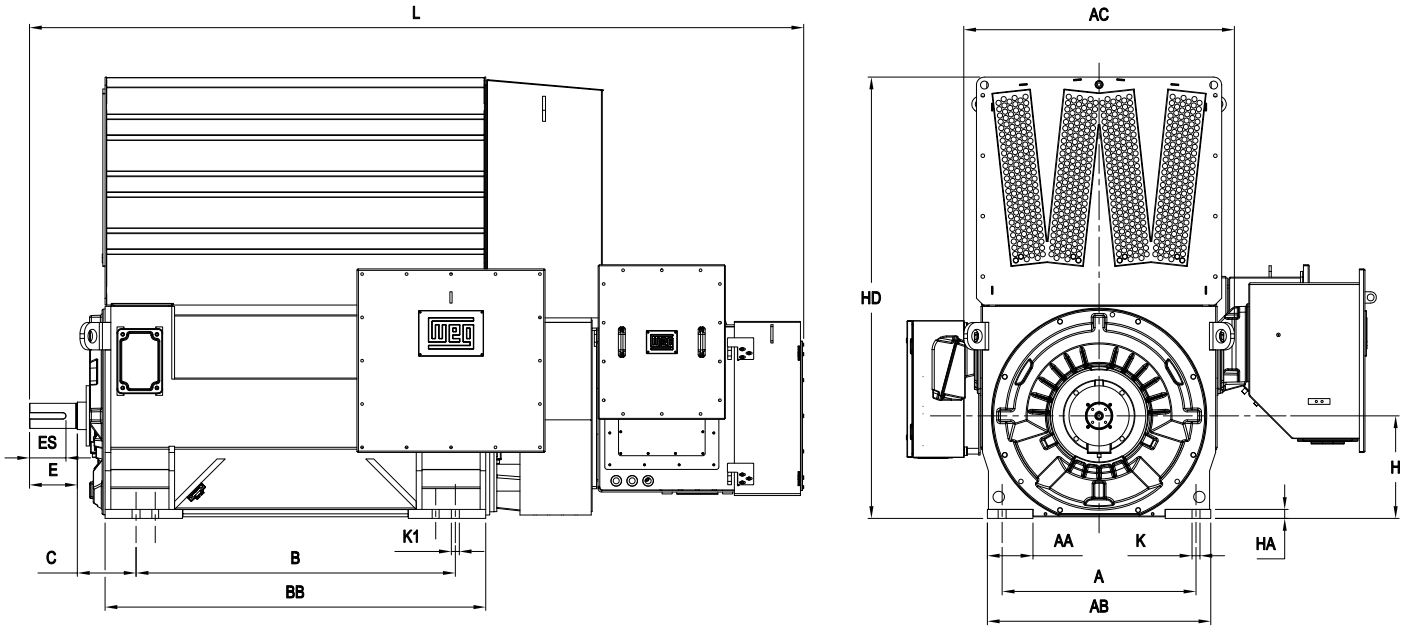
Frame	Poles	Dimensions (mm)												
		A	B	K	C	AB	BB	L	H	HD	HA	AA	K1	AC
355	4/6/8	610	1000	35	254	771	1308	2630	355	1570	39.5	172	35	1036
400	4/6/8	686	1250	35	280	866	1508	2935	400	1795	39.5	170	35	1073
450	4/6/8	850	1400	35	250	980	1670	3100	450	1940	39.5	200	35	1187
500	4/6/8	900	1600	42	260	1080	1835	3320	500	2295	39.5	245	42	1287
560	4/6/8	1060	1800	42	365	1300	2170	3925	560	2460	53	280	42	1600
630	4/6/8	1250	2000	42	510	1450	2400	4235	630	2740	32.5	280	42	1808

Frame	Poles	Shaft Dimensions (mm)							Bearings	
		E	ES	D	G	GD	F	D1	DE	NDE
355	4/6/8	210	170	110	100	16	28	M24x3.0	6224	6228
400	4/6/8	250	200	130	119	18	32	M24x3.0	6228	6228
450	4/6/8	210	160	110	100	16	28	M24x3.0	6324	6328
500	4/6/8	250	200	140	128	20	36	M30x3.5	6330	6332
560	4/6/8	300	240	170	157	22	40	M36x4.0	NU1036+6036	NU1032
630	4/6/8	300	240	170	157	22	40	M36x4.0	NU1036+6036	NU232

Note:
Preliminary dimensions of standard configuration in the list.
Optional solutions e.g. ≥10 poles, NEMA oversize main terminal box, sleeve bearings, etc. on request.
Accurate dimension drawing will be given on customized solution at the quotation stage.

MECHANICAL DATA

Liftable slip-ring, IC611/IP55



Frame	Poles	Dimensions (mm)												
		A	B	K	C	AB	BB	L	H	HD	HA	AA	K1	AC
355	4/6/8	610	1000	35	254	771	1308	2950	355	1570	39.5	172	35	1036
400	4/6/8	686	1250	35	280	866	1508	3255	400	1795	39.5	170	35	1073
450	4/6/8	850	1400	35	250	980	1670	3400	450	1940	39.5	200	35	1187
500	4/6/8	900	1600	42	260	1080	1835	3615	500	2295	39.5	245	42	1287
560	4/6/8	1060	1800	42	365	1300	2170	4110	560	2460	53	280	42	1600
630	4/6/8	1250	2000	42	510	1450	2400	4450	630	2740	32.5	280	42	1808

Frame	Poles	Shaft Dimensions (mm)							Bearings	
		E	ES	D	G	GD	F	D1	DE	NDE
355	4/6/8	210	170	110	100	16	28	M24x3.0	6224	6228
400	4/6/8	250	200	130	119	18	32	M24x3.0	6228	6228
450	4/6/8	210	160	110	100	16	28	M24x3.0	6324	6328
500	4/6/8	250	200	140	128	20	36	M30x3.5	6330	6332
560	4/6/8	300	240	170	157	22	40	M36x4.0	NU1036+6036	NU1032
630	4/6/8	300	240	170	157	22	40	M36x4.0	NU1036+6036	NU232

Note:
Preliminary dimensions of standard configuration in the list.
Optional solutions e.g. ≥10 poles, NEMA oversize main terminal box, sleeve bearings, etc. on request.
Accurate dimension drawing will be given on customized solution at the quotation stage.



Global Presence

With more than 39.000 employees worldwide, WEG is one of the largest electric motors, electronic equipments and systems manufacturers. We are constantly expanding our portfolio of products and services with expertise and market knowledge. We create integrated and customized solutions ranging from innovative products to complete after-sales service.

WEG's know-how guarantees our ***WA60 three-phase induction slip-ring motor*** is the right choice for your application and business, assuring safety, efficiency and reliability.

Availability is to have a global support network

Partnership is to create solutions that suits your needs

Competitive edge is to unite technology and inovation







SERVICE

From our wide Services portfolio, stands out the list of interventions on products from WEG activity areas: Electric Motors, Energy and Automation, being the most common:

	Products		Procedure	
	Automation	Motor	Internal	External
General Repair and overhaul	X	X	X	X
Product repair that may include the replacement of the components by original parts	X	X	X	X
Commissioning and start up	X	X		X
Repair of electrical machines (Ex and Safety)		X	X	X
Inspection and/or replacement of sleeve bearing or bearings		X	X	X
Repair of the sleeve bearings shell		X	X	X
High, Medium and Low Voltage rewinding		X	X	
Stator or rotor core replacement		X	X	
Brushes and brushes holder replacement		X	X	X
Shaft complete replacement or repair of shafts with grinding finishing of complete rotor		X	X	
Dynamic balancing of rotor (Maximum speed 1600 rpm 20T)		X	X	
Field dynamic balancing		X		X
Centring service		X		X
Painting (standard and special plan)		X	X	X
Inspection, tests and technical analysis	X	X	X	X
Energy Efficiency Study	X	X		X
Training of product maintenance	X	X		X

Inspection, Tests and Technical Analyses

From all the inspections, tests and technical analyses we have capacity to offer, we emphasize the following:

- Production and expedition of spare parts to all over the world;
- Application diagnosis on site or in our factory;
- Technical advise on best, reliable and efficient solutions on energy saving.



Automation

- Analysis of application improvements and technical assessment to the client, helping on the choice of the most appropriate equipment, targeting the application/optimizing installation efficiency
- Manufacturing, Installation, Modification, Start-Up and Maintenance of Electrical Panels
- Support on the settings parametrization of Variable Speed Drives and Soft Starters
- Commissioning and Start-Up of applications with Variable Speed Drives
- WEG Products Training

Explosive Atmospheres



Electric Motors

- Commissioning and Start-Up of applications with electric motors
- Alignment applications with electric motors
- Vibration analysis and failures diagnosis
- Dimensional check of Electric Motors and Components/Spare Parts
- Electric Motors maintenance
- Electric Motors Mechanical and Electrical refurbishment:
  - Replacement of bearings / sleeve bearings
  - Recovery of sleeve bearings
  - Rewinding of Electric Motors (stator/rotor) - in Low, Medium and High Voltage (up to 11kV)
  - Recover / Refurbishment / replacement of spare parts
  - Replacement of rotor shafts
  - Repair and replacement of accessories, temperature sensors and anti-condensation heaters and other auxiliaries
- Balancing in factory up to 1600 rpm (20T, Ø Max. 4640 mm)
- Dynamic balancing on site
- Electric Motors modification to new operating conditions (IP protection, cooling system, auxiliaries mounting form, terminal boxes, external loads, etc)
- Painting and finishing recovery
- Customer training on electric motors
- Repair electric machines (Ex and Safety)
- Energy analysis and efficiency of electric motors



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The scope of WEG Group solutions is not limited to the products and solutions presented in this catalogue.
To know our portfolio, Please consult us.

For WEG's worldwide operations visit our website

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ENERGY

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The values shown are subject to change without prior notice.
The information contained is reference values.