

## YL series (H355-630) medium-sized vertical three-phase asynchronous motor



The power levels, electrical performance, installation dimensions, and tolerances of the YL and YLKK series medium-sized high-voltage three-phase asynchronous motors (frame sizes 450-630) comply with the national standard GB755 "Rotating Electrical Machines - Rating and Performance", the International Electrotechnical Commission standard IEC34-1 "Rotating Electrical Machines - Rating and Performance", and the mechanical industry standards JB/T7593, JB/T10315.1, and JB/T10315.2.

The enclosure protection levels of this series of motors are classified into four types: IP23, IP44, IP54, and IP55, according to the standards of GB4942.1 and IEC34-5 "Degrees of Protection Provided by Enclosures for Rotating Electrical Machines".

The motor adopts the internationally popular box-type structure, with the frame and end covers welded from steel plates, providing good rigidity and light weight.

The stator adopts an external press-fit structure. The stator winding utilizes Class F insulation materials and anti-corona materials, and the winding ends are fixed using a special binding process, ensuring firmness and reliability. The entire stator is treated with vacuum pressure impregnation (VPI) Class F solvent-free paint. As a result, the motor exhibits excellent and reliable insulation performance, as well as moisture resistance and impact resistance.

This series of electric motors features two types of squirrel-cage rotors: cast aluminum and copper bar. The cast aluminum rotor is made of pure aluminum through casting, eliminating the risk of rotor bar breakage and ensuring reliable operation. When the motor rotor is a copper cage rotor, the rotor bars and end rings are welded using medium frequency welding, and the rotor copper bars undergo a slot-fastening process, thus providing high reliability.

## YL 系列电动机型谱 ( 6kV )

## YL series motor model composition ( 6kV )

机座号 Frame		同步转速 r/min					
		1500	1000	750	600	500	
		功率 kW					
355	3	220	—	—	—	—	
	4	250					
	5	280	220				
	6	315	250				
400	1	355	—	—	—	—	
	2	400	280				
	3	450	315				220
	4	500	355				250
	5	560	400				280
450	1	630	450	315	220	—	
	2	710	500	355	250		
	3	800	560	400	280		
	4	900	630	450	315		220
	5	—	—	—	355		250
500	1	1000	710	500	400	280	
	2	1120	800	560	450	315	
	3	1250	900	630	500	355	
	4	1400	1000	710	560	400	
	5	—	—	—	630	450	
560	1	1600	1120	800	710	500	
	2	1800	1250	900	800	560	
	3	2000	1400	1000	900	630	
630	1	2240	1600	1120	1000	710	
	2	2500	1800	1250	1120	800	
	3	2800	2000	1400	1250	900	
	4	—	—	1600	1400	1000	

## YL 系列电动机型谱 ( 10kV )

## YL series motor model composition ( 10kV )

机座号 Frame		同步转速 r/min				
		1500	1000	750	600	500
		功率 kW				
450	1	355	—	—	—	—
	2	400	—	—	—	—
	3	450	315	—	—	—
	4	500	355	—	—	—
	5	560	400	—	—	—
	6	630	450	—	—	—
500	1	710	500	315	—	—
	2	800	560	355	—	—
	3	900	630	400	280	—
	4	1000	710	450	315	—
	5	1120	800	500	355	—
	6	—	—	560	400	—
560	1	1250	900	630	450	315
	2	1400	1000	710	500	355
	3	1600	1120	800	560	400
	4	—	1250	900	630	450
	5	—	—	—	710	500
630	1	1800	1400	1000	800	560
	2	2000	1600	1120	900	630
	3	2240	1800	1250	1000	710
	4	—	—	—	1120	800

YL 中型电动机技术数据 (6kV)  
 YL medium size, motor technical data (6kV)

型号 (Type)	额定 功率 (kW)	定子 电流 (A)	转速 (r/min)	效率 (%)	功率 因数 CosΦ	最大 转矩	堵转 转矩	堵转 电流	转动惯量		重量 (kg)
						额定 转矩	额定 转矩	额定 电流	电机 J <sub>m</sub> (kg.m <sup>2</sup> )	负载 J (kg.m <sup>2</sup> )	
						T <sub>m</sub>	T <sub>st</sub>	I <sub>st</sub>			
						T <sub>n</sub>	T <sub>n</sub>	I <sub>n</sub>			
YL3553-4	220	26.7	1490	93.3	0.85	1.8	0.8	6.5	3.0	78	1820
YL3554-4	250	30.3	1490	93.4	0.85	1.8	0.8	6.5	4.0	88	1860
YL3555-4	280	33.5	1490	93.5	0.86	1.8	0.8	6.5	4.0	97	1900
YL3556-4	315	37.7	1490	93.6	0.86	1.8	0.8	6.5	4.0	108	1960
YL4001-4	355	42.3	1490	93.8	0.86	1.8	0.8	6.5	6.0	120	2380
YL4002-4	400	47.6	1490	94.0	0.86	1.8	0.8	6.5	6.0	133	2450
YL4003-4	450	53.5	1490	94.2	0.86	1.8	0.8	6.5	7.0	147	2530
YL4004-4	500	58.6	1490	94.3	0.87	1.8	0.8	6.5	7.0	161	2620
YL4005-4	560	65.5	1490	94.5	0.87	1.8	0.8	6.5	8.0	178	2710
YL4501-4	630	73.5	1490	94.8	0.87	1.8	0.8	6.5	11	197	3270
YL4502-4	710	82.7	1490	95.0	0.87	1.8	0.8	6.5	12	218	3350
YL4503-4	800	93.0	1490	95.1	0.87	1.8	0.8	6.5	13	241	3470
YL4504-4	900	104.6	1490	95.2	0.87	1.8	0.8	6.5	14	266	3690
YL5001-4	1000	116.1	1490	95.3	0.87	1.8	0.7	6.5	24	290	4300
YL5002-4	1120	128.4	1490	95.4	0.88	1.8	0.7	6.5	26	318	4450
YL5003-4	1250	143.1	1490	95.5	0.88	1.8	0.7	6.5	30	347	4750
YL5004-4	1400	160.1	1490	95.6	0.88	1.8	0.7	6.5	32	380	4920
YL5601-4	1600	180.8	1490	95.7	0.89	1.8	0.6	6.5	57	420	6550
YL5602-4	1800	203.2	1490	95.8	0.89	1.8	0.6	6.5	60	460	6780
YL5603-4	2000	225.5	1490	95.9	0.89	1.8	0.6	6.5	66	498	6950
YL6301-4	2240	252.3	1490	96.0	0.89	1.8	0.6	6.5	102	540	9060
YL6302-4	2500	281.3	1490	96.1	0.89	1.8	0.6	6.5	112	584	9470
YL6303-4	2800	314.7	1490	96.2	0.89	1.8	0.6	6.5	119	631	9790
YL3555-6	220	27.8	990	93.0	0.82	1.8	0.8	6	6.0	210	1950
YL3556-6	250	31.4	990	93.3	0.82	1.8	0.8	6	7.0	236	2010
YL4002-6	280	34.7	990	93.5	0.83	1.8	0.8	6	10	262	2400
YL4003-6	315	39.0	990	93.7	0.83	1.8	0.8	6	11	291	2460
YL4004-6	355	43.8	990	93.9	0.83	1.8	0.8	6	11	324	2540
YL4005-6	400	49.3	990	94.0	0.83	1.8	0.8	6	12	361	2630
YL4501-6	450	54.8	990	94.1	0.84	1.8	0.8	6	15	401	3230
YL4502-6	500	59.9	990	94.5	0.85	1.8	0.8	6	16	440	3310
YL4503-6	560	66.9	990	94.7	0.85	1.8	0.8	6	17	487	3410
YL4504-6	630	75.2	990	94.8	0.85	1.8	0.8	6	20	540	3640
YL5001-6	710	84.6	990	95.0	0.85	1.8	0.7	6	32	599	4220
YL5002-6	800	95.2	990	95.1	0.85	1.8	0.7	6	34	665	4360
YL5003-6	900	107.0	990	95.2	0.85	1.8	0.7	6	40	736	4650
YL5004-6	1000	118.8	990	95.3	0.85	1.8	0.7	6	47	805	4780

YL 中型电动机技术数据 (6kV)  
 YL medium size, motor technical data (6kV)

型号 (Type)	额定 功率 (kW)	定子 电流 (A)	转速 (r/min)	效率 (%)	功率 因数 Cos Φ	最大 转矩	堵转 转矩	堵转 电流	转动惯量		重量 (kg)
						额定 转矩	额定 转矩	额定 电流	电机 J <sub>m</sub> (kg.m <sup>2</sup> )	负载 J (kg.m <sup>2</sup> )	
						T <sub>m</sub>	T <sub>st</sub>	I <sub>st</sub>			
						T <sub>n</sub>	T <sub>n</sub>	I <sub>n</sub>			
YL5601-6	1120	131.4	990	95.4	0.86	1.8	0.7	6.5	70	886	6300
YL5602-6	1250	146.5	990	95.5	0.86	1.8	0.7	6.5	75	972	6600
YL5603-6	1400	163.9	990	95.6	0.86	1.8	0.7	6.5	82	1068	6730
YL6301-6	1600	187.1	990	95.7	0.86	1.8	0.7	6.5	147	1192	8790
YL6302-6	1800	210.2	990	95.8	0.86	1.8	0.7	6.5	162	1312	9230
YL6303-6	2000	233.4	990	95.9	0.86	1.8	0.7	6.5	173	1428	9440
YL4003-8	220	29.2	740	92.9	0.78	1.8	0.8	5.5	11	424	2530
YL4004-8	250	32.7	740	93.0	0.79	1.8	0.8	5.5	12	477	2600
YL4005-8	280	36.6	740	93.2	0.79	1.8	0.8	5.5	13	529	2690
YL4501-8	315	40.6	740	93.4	0.80	1.8	0.8	5.5	16	588	3300
YL4502-8	355	45.7	740	93.5	0.80	1.8	0.8	5.5	17	656	3380
YL4503-8	400	51.3	740	93.7	0.80	1.8	0.8	5.5	18	731	3500
YL4504-8	450	57.0	740	93.8	0.81	1.8	0.8	5.5	19	813	3610
YL5001-8	500	63.0	740	94.3	0.81	1.8	0.8	5.5	30	894	4080
YL5002-8	560	69.6	740	94.4	0.82	1.8	0.8	5.5	34	989	4320
YL5003-8	630	78.2	740	94.5	0.82	1.8	0.8	5.5	38	1099	4490
YL5004-8	710	88.1	740	94.6	0.82	1.8	0.8	5.5	42	1222	4750
YL5601-8	800	96.8	740	94.7	0.84	1.8	0.7	6	87	1357	6110
YL5602-8	900	108.8	740	94.8	0.84	1.8	0.7	6	92	1505	6300
YL5603-8	1000	120.7	740	94.9	0.84	1.8	0.7	6	102	1650	6590
YL6301-8	1120	135.1	740	95.0	0.84	1.8	0.7	6	137	1820	8530
YL6302-8	1250	150.6	740	95.1	0.84	1.8	0.7	6	151	2001	8790
YL6303-8	1400	168.5	740	95.2	0.84	1.8	0.7	6	160	2204	9120
YL6304-8	1600	192.3	740	95.3	0.84	1.8	0.7	6	168	2468	9320
YL4501-10	220	29.9	590	92.1	0.77	1.8	0.8	5.5	19	729	3120
YL4502-10	250	33.4	590	92.3	0.78	1.8	0.8	5.5	20	820	3200
YL4503-10	280	37.3	590	92.5	0.78	1.8	0.8	5.5	22	910	3290
YL4504-10	315	41.4	590	92.6	0.79	1.8	0.8	5.5	24	1014	3390
YL4505-10	355	46.6	590	92.8	0.79	1.8	0.8	5.5	25	1131	3490
YL5001-10	400	51.6	590	93.3	0.80	1.8	0.8	5.5	36	1261	4030
YL5002-10	450	58.0	590	93.4	0.80	1.8	0.8	5.5	38	1404	4130
YL5003-10	500	64.3	590	93.6	0.80	1.8	0.8	5.5	42	1544	4270
YL5004-10	560	71.9	590	93.7	0.80	1.8	0.8	5.5	45	1711	4410
YL5005-10	630	80.8	590	93.8	0.80	1.8	0.8	5.5	52	1902	4730
YL5601-10	710	88.6	590	94.0	0.82	1.8	0.7	6	79	2116	6040
YL5602-10	800	99.7	590	94.2	0.82	1.8	0.7	6	88	2355	6210
YL5603-10	900	112.0	590	94.3	0.82	1.8	0.7	6	93	2615	6370

## YL 中型电动机技术数据 (6kV)

## YL medium size motor technical data (6kV)

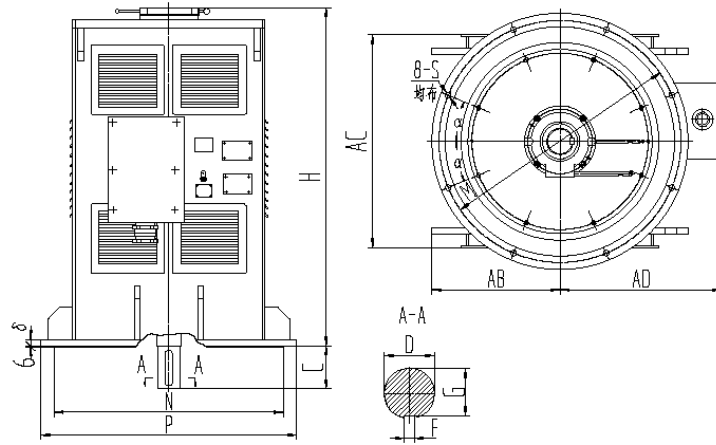
型号 (Type)	额定 功率 (kW)	定子 电流 (A)	转速 (r/min)	效率 (%)	功率 因数 Cos Φ	最大 转矩	堵转 转矩	堵转 电流	转动惯量		重量 (kg)
						额定 转矩	额定 转矩	额定 电流	电机 J <sub>m</sub> (kg.m <sup>2</sup> )	负载 J (kg.m <sup>2</sup> )	
						T <sub>m</sub>	T <sub>st</sub>	I <sub>st</sub>			
						T <sub>n</sub>	T <sub>n</sub>	I <sub>n</sub>			
YL6301-10	1000	124.3	590	94.4	0.82	1.8	0.7	6	140	2870	8130
YL6302-10	1120	138.9	590	94.6	0.82	1.8	0.7	6	152	3170	8420
YL6303-10	1250	154.7	590	94.8	0.82	1.8	0.7	6	167	3489	8730
YL6304-10	1400	173.1	590	94.9	0.82	1.8	0.7	6	175	3850	8930
YL4504-12	220	31.7	490	91.4	0.73	1.8	0.8	5.5	24	1135	3380
YL4505-12	250	35.9	490	91.7	0.73	1.8	0.8	5.5	26	1277	3490
YL5001-12	280	39.3	490	92.7	0.74	1.8	0.8	5.5	40	1418	4050
YL5002-12	315	43.6	490	92.8	0.75	1.8	0.8	5.5	42	1580	4140
YL5003-12	355	49.0	490	93.0	0.75	1.8	0.8	5.5	43	1764	4180
YL5004-12	400	55.0	490	93.3	0.75	1.8	0.8	5.5	47	1967	4330
YL5005-12	450	61.8	490	93.4	0.75	1.8	0.8	5.5	50	2191	4490
YL5601-12	500	65.0	490	93.7	0.79	1.8	0.7	6	103	2411	5860
YL5632-12	560	72.7	490	93.8	0.79	1.8	0.7	6	114	2673	6050
YL5603-12	630	81.7	490	93.9	0.79	1.8	0.7	6	127	2974	6250
YL6301-12	710	92.0	490	94.0	0.79	1.8	0.7	6	191	3312	7920
YL6302-12	800	103.4	490	94.2	0.79	1.8	0.7	6	208	3688	8210
YL6303-12	900	116.3	490	94.3	0.79	1.8	0.7	6	227	4098	8520
YL6304-12	1000	129.0	490	94.4	0.79	1.8	0.7	6	239	4502	8710

注：表中性能数据对应的保证值见附表。

Note: These property data shown in table which in correspondence with these guaranteed values are shown in the additive table.

## YL(6kV)中型电动机外形及安装尺寸

## YL(6kV) medium size motor overall and mounting dimensions figure



YL(6kV)中型电动机(不承受负载推力)外形及安装尺寸：

(mm)

 YL (6kV)medium size motors (don't undertake the thrust caused by loading)  
 overall and mounting dimension

机座号	极数	安装尺寸及公差										外形尺寸			
		N	P	M	$\delta$	$\alpha$	S	D	F	G	C	AB	AC	AD	H
355	4-6	$880 \pm 0.025$	1000	940	25	$22.5^\circ$	28	$100^{+0.035}_{+0.013}$	$28 - 0.052$	$90 - 0.2$	210	510	790	750	1640
400	4-8	$1000 \pm 0.028$	1150	1080	25	$22.5^\circ$	28	$110^{+0.035}_{+0.013}$	$28 - 0.052$	$100 - 0.2$	210	560	860	790	1740
450	4	$1120 \pm 0.033$	1250	1180	29	$22.5^\circ$	28	$120^{+0.035}_{+0.013}$	$32 - 0.062$	$109 - 0.2$	210	610	960	840	1970
	6-12	$1120 \pm 0.033$	1250	1180	29	$22.5^\circ$	28	$130^{+0.040}_{+0.015}$	$32 - 0.062$	$119 - 0.2$	250	610	960	840	1970
500	4	$1250 \pm 0.033$	1400	1320	34	$22.5^\circ$	28	$130^{+0.040}_{+0.015}$	$32 - 0.062$	$119 - 0.2$	250	660	1060	890	2160
	6-12	$1250 \pm 0.033$	1400	1320	34	$22.5^\circ$	28	$140^{+0.040}_{+0.015}$	$36 - 0.062$	$128 - 0.3$	250	660	1060	890	2160
560	4	$1400 \pm 0.039$	1600	1500	39	$22.5^\circ$	35	$150^{+0.040}_{+0.015}$	$36 - 0.062$	$138 - 0.3$	250	710	1160	940	2400
	6-12	$1400 \pm 0.039$	1600	1500	39	$22.5^\circ$	35	$160^{+0.040}_{+0.015}$	$40 - 0.062$	$147 - 0.3$	300	710	1160	940	2400
630	4	$1600 \pm 0.039$	1800	1700	39	$22.5^\circ$	35	$170^{+0.040}_{+0.015}$	$40 - 0.062$	$157 - 0.3$	300	760	1260	990	2650
	6-12	$1600 \pm 0.039$	1800	1700	39	$22.5^\circ$	35	$180^{+0.040}_{+0.015}$	$45 - 0.062$	$165 - 0.3$	300	760	1260	990	2650