

YKS series (H355-630) medium-sized high-voltage three-phase asynchronous motor



The cooling methods for this series of motors include IC01, IC611, and IC81W, according to the standards of GB/T1993 and IEC34-6 "Cooling Methods for Rotating Electrical Machines". If users require other cooling methods, they can be supplied separately.

The structure and installation type of this series of motors are IMB3 (horizontal with feet), which complies with GB997 and IEC34-7 "Code for Construction and

Installation Types of Electric Machines".

I. Organization Description

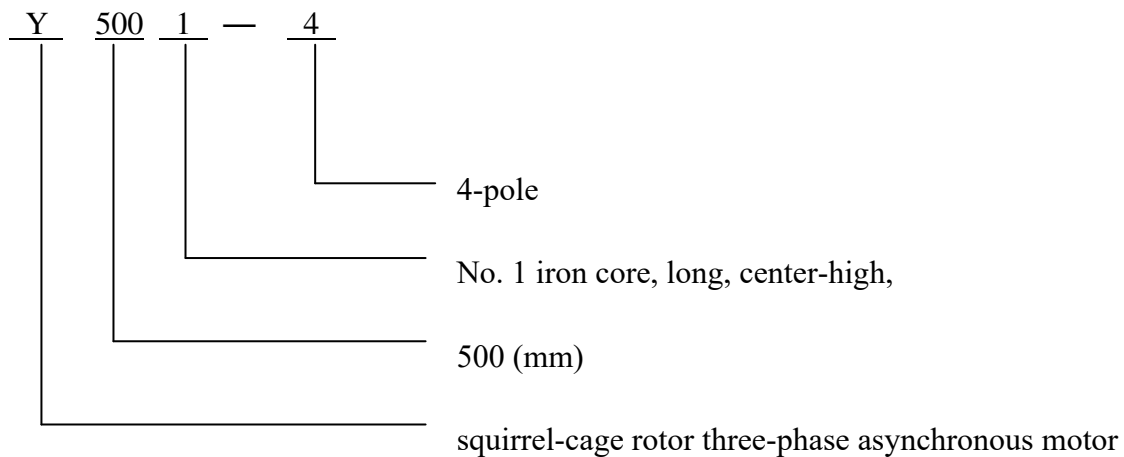
The motor frame is made of welded steel plates and adopts an integral square box structure, featuring light weight and strong rigidity. The stator adopts an external press-fit structure, with the stator winding using Class F insulation. The ends are firmly bound, and the entire stator undergoes vacuum pressure impregnation (VPI) with solvent-free paint, making the stator a solid whole with good electrical and moisture-proof performance. The rotor comes in two types: cast aluminum and copper bar. The cast aluminum rotor is made of pure aluminum by pouring, while the copper bar rotor is secured in the slot by copper bars, which are reliably welded to the end rings. The motor bearings can be either rolling bearings or sliding bearings, with the bearing protection level designed according to IP54. If rolling bearings are used, they are lubricated with grease and equipped with oil filling and draining devices, allowing for oil filling without stopping the motor. If sliding bearings are used, the oil supply system is generally provided by the user, and the motor efficiency may slightly decrease compared to the values in the technical data sheet according to relevant standards. The main outlet box is designed according to German DIN standards, with a protection level of IP54, and is generally installed on the right side of the motor (when viewed from the shaft end).

II. Model Description The motor model is composed of a product code and a specification code, arranged in sequence according to the provisions of GB4831. The product code is represented by the motor series code, with the following meanings

Y—————Squirrel-cage rotor three-phase asynchronous motor YKS—————
Enclosed squirrel-cage rotor three-phase asynchronous motor with air-water cooler YKK—————

Enclosed squirrel-cage rotor three-phase asynchronous motor with air-air cooler The specification code is composed of center height, core length sequence number, and number of poles.

Example



III. Structure Description Y is the basic series, with a protection level of IP23 and a cooling method of IC01. By removing the protective cover on the top of its frame and installing different protective covers (or coolers), motors with various protection levels and cooling methods can be derived, such as YKS (air-water cooling) and YKK (air-air cooling) series motors. 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. After removing the protective cover (or cooler), the interior of the motor can be observed and accessed, facilitating motor installation and maintenance. The stator adopts an external press-fit structure. The stator winding uses Class F insulation material and anti-corona material, and the winding ends are fixed using a special binding process, which is firm and reliable. The entire stator is treated with vacuum pressure impregnation (VPI) of Class F solvent-free paint. Therefore, the motor has excellent and reliable insulation performance, 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, ensuring no rotor bar breakage and reliable operation. When the motor rotor adopts 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.

Bearings come in two types: rolling bearings and sliding bearings, depending on the motor power and speed. The basic type of bearing has a protection level of IP54. If the motor has a higher protection level, the protection level of the bearing will also be improved accordingly.

Motors with rolling bearing structures are equipped with devices for refueling and draining oil without stopping the machine.

The main outlet box is of a sealed structure with a protection level of IP54. It is generally installed on the right side of the motor (when viewed from the shaft end), but can also be installed on the left side according to user needs. The inlet hole of the outlet box can be rotated to face up, down, left, or right.

There is a separate grounding terminal inside the box.

YKS(IP54)系列电动机型谱(6kV)

YKS(IP54) series motor model composition(6kV)

机座号 Frame		同步转速 r/min						
		3000	1500	1000	750	600	500	
		功率 kW						
355	1	220	—	—	—	—	—	
	2	250						
	3	280	220					
	4	315	250					
	5	355	280					220
	6	400	315					250
400	1	450	355	—	—	—	—	
	2	500	400	280				
	3	560	450	315				220
	4	630	500	355				250
	5	—	560	400				280
450	1	710	630	450	315	220	—	
	2	800	710	500	355	250		
	3	900	800	560	400	280		
	4	1000	900	630	450	315		220
	5	—	—	—	—	355		250
500	1	1120	1000	710	500	400	280	
	2	1250	1120	800	560	450	315	
	3	1400	1250	900	630	500	355	
	4	1600	1400	1000	710	560	400	
	5	—	—	—	—	630	450	
560	1	1800	1600	1120	800	710	500	
	2	2000	1800	1250	900	800	560	
	3	2240	2000	1400	1000	900	630	
630	1	2500	2240	1600	1120	1000	710	
	2	2800	2500	1800	1250	1120	800	
	3	3150	2800	2000	1400	1250	900	
	4	—	—	—	1600	1400	1000	

YKS(IP54)系列电动机型谱(10kV)

YKS(IP54) series motor model composition(10kV)

机座号		同步转速 r/min					
		3000	1500	1000	750	600	500
		功率 kW					
450	1	355	355	—	—	—	—
	2	400	400				
	3	450	450	315			
	4	500	500	355			
	5	560	560	400			
	6	630	630	450			
500	1	710	710	500	315	—	
	2	800	800	560	355		
	3	900	900	630	400		280
	4	1000	1000	710	450		315
	5	1120	1120	800	500		355
	6	—	—	—	560		400
560	1	1250	1250	900	630	450	315
	2	1400	1400	1000	710	500	355
	3	1600	1600	1120	800	560	400
	4	—	—	1250	900	630	450
	5	—	—	—	—	710	500
630	1	1800	1800	1400	1000	800	560
	2	2000	2000	1600	1120	900	630
	3	2240	2240	1800	1250	1000	710
	4	—	—	—	—	1120	800

YKS(IP54)系列技术数据 (6kV)

YKS(IP54) series 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 Tm	额定 转矩 Tst	额定 电流 Ist	电 机 J m (kg.m ²)	负 载 J (kg.m ²)	Y	YKS
						Tn	Tn	In				
YKS3551-2	220	26.5	2990	92.8	0.86	1.8	0.6	7	2.2	16	1850	2100
YKS3552-2	250	30.1	2990	92.9	0.86	1.8	0.6	7	2.4	18	1870	2120
YKS3553-2	280	33.7	2990	93.1	0.86	1.8	0.6	7	2.6	20	1890	2140
YKS3554-2	315	37.7	2990	93.4	0.86	1.8	0.6	7	2.8	22	1920	2170
YKS3555-2	355	42.4	2990	93.7	0.86	1.8	0.6	7	3.0	24	1980	2230
YKS3556-2	400	47.6	2990	94.1	0.86	1.8	0.6	7	3.2	27	2030	2280
YKS4001-2	450	53.3	2990	94.4	0.86	1.8	0.6	7	4.8	30	2340	2620
YKS4002-2	500	58.5	2990	94.6	0.87	1.8	0.6	7	5.2	33	2420	2700
YKS4003-2	560	64.5	2990	94.7	0.87	1.8	0.6	7	5.6	36	2510	2790
YKS4004-2	630	73.4	2990	94.9	0.87	1.8	0.6	7	6.0	39	2640	2920
YKS4501-2	710	82.7	2990	95.0	0.87	1.8	0.6	7	7.4	43	3410	4060
YKS4502-2	800	92.9	2990	95.2	0.87	1.8	0.6	7	7.8	51	3460	4110
YKS4503-2	900	104.5	2990	95.3	0.87	1.8	0.6	7	8.2	55	3510	4160
YKS4504-2	1000	114.6	2990	95.4	0.88	1.8	0.6	7	8.6	57	3590	4240
YKS5001-2	1120	128.2	2990	95.5	0.88	1.8	0.6	7	10.2	58	4590	5290
YKS5002-2	1250	143.0	2990	95.6	0.88	1.8	0.6	7	10.8	67	4650	5350
YKS5003-2	1400	160.0	2990	95.7	0.88	1.8	0.6	7	11.2	73	4730	5430
YKS5004-2	1600	182.6	2990	95.8	0.88	1.8	0.6	7	11.8	80	4820	5520
YKS5601-2	1800	205.2	2990	95.9	0.88	1.8	0.6	7	20.0	100.0	7900	8650
YKS5602-2	2000	227.8	2990	96.0	0.88	1.8	0.6	7	23.0	102.0	8150	8900
YKS5603-2	2240	254.9	2990	96.1	0.88	1.8	0.6	7	26.0	104.0	8400	9150
YKS6301-2	2500	281.0	2990	96.2	0.89	1.8	0.6	7	35.0	110.0	9150	9950
YKS6302-2	2800	314.4	2990	96.3	0.89	1.8	0.6	7	40.0	115.0	9550	10350
YKS6303-2	3150	353.7	2990	96.3	0.89	1.8	0.6	7	45.0	120.0	9950	10750
YKS3553-4	220	26.7	1490	93.3	0.85	1.8	0.8	6.5	3.0	78	1720	2080
YKS3554-4	250	30.3	1490	93.4	0.85	1.8	0.8	6.5	4.0	88	1760	2120
YKS3555-4	280	33.5	1490	93.5	0.86	1.8	0.8	6.5	4.0	97	1800	2160
YKS3556-4	315	37.7	1490	93.6	0.86	1.8	0.8	6.5	4.0	108	1860	2220
YKS4001-4	355	42.3	1490	93.8	0.86	1.8	0.8	6.5	6.0	120	2280	2740
YKS4002-4	400	47.6	1490	94.0	0.86	1.8	0.8	6.5	6.0	133	2350	2810
YKS4003-4	450	53.5	1490	94.2	0.86	1.8	0.8	6.5	7.0	147	2430	2890
YKS4004-4	500	58.6	1490	94.3	0.87	1.8	0.8	6.5	7.0	161	2520	2980
YKS4005-4	560	65.5	1490	94.5	0.87	1.8	0.8	6.5	8.0	178	2610	3070
YKS4501-4	630	73.5	1490	94.8	0.87	1.8	0.8	6.5	11	197	3170	3700
YKS4502-4	710	82.7	1490	95.0	0.87	1.8	0.8	6.5	12	218	3250	3780
YKS4503-4	800	93.0	1490	95.1	0.87	1.8	0.8	6.5	13	241	3370	3900
YKS4504-4	900	104.6	1490	95.2	0.87	1.8	0.8	6.5	14	266	3590	4120
YKS5001-4	1000	116.1	1490	95.3	0.87	1.8	0.7	6.5	24	290	4150	4790
YKS5002-4	1120	128.4	1490	95.4	0.88	1.8	0.7	6.5	26	318	4300	4940
YKS5003-4	1250	143.1	1490	95.5	0.88	1.8	0.7	6.5	30	347	4600	5240
YKS5004-4	1400	160.1	1490	95.6	0.88	1.8	0.7	6.5	32	380	4770	5410

YKS(IP54)系列技术数据 (6kV)

YKS(IP54) series 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 m (kg.m ²)	负 载 J (kg.m ²)	Y	YKS
						Tm Tn	Tst Tn	Ist In				
YKS5601-4	1600	180.8	1490	95.7	0.89	1.8	0.6	6.5	57	420	6350	6990
YKS5602-4	1800	203.2	1490	95.8	0.89	1.8	0.6	6.5	60	460	6580	7220
YKS5603-4	2000	225.5	1490	95.9	0.89	1.8	0.6	6.5	66	498	6750	7390
YKS6301-4	2240	252.3	1490	96.0	0.89	1.8	0.6	6.5	102	540	8760	9270
YKS6302-4	2500	281.3	1490	96.1	0.89	1.8	0.6	6.5	112	584	9170	9680
YKS6303-4	2800	314.7	1490	96.2	0.89	1.8	0.6	6.5	119	631	9390	9900
YKS3555-6	220	27.8	990	93.0	0.82	1.8	0.8	6	6.0	210	1850	2210
YKS3556-6	250	31.4	990	93.3	0.82	1.8	0.8	6	7.0	236	1910	2280
YKS4002-6	280	34.7	990	93.5	0.83	1.8	0.8	6	10	262	2300	2750
YKS4003-6	315	39.0	990	93.7	0.83	1.8	0.8	6	11	291	2360	2820
YKS4004-6	355	43.8	990	93.9	0.83	1.8	0.8	6	11	324	2440	2900
YKS4005-6	400	49.3	990	94.0	0.83	1.8	0.8	6	12	361	2530	2980
YKS4501-6	450	54.7	990	94.1	0.84	1.8	0.8	6	15	401	3130	3660
YKS4502-6	500	59.9	990	94.5	0.85	1.8	0.8	6	16	440	3210	3740
YKS4503-6	560	66.9	990	94.7	0.85	1.8	0.8	6	17	487	3310	3840
YKS4504-6	630	75.2	990	94.8	0.85	1.8	0.8	6	20	540	3540	4070
YKS5001-6	710	84.6	990	95.0	0.85	1.8	0.7	6	32	599	4070	4710
YKS5002-6	800	95.2	990	95.1	0.85	1.8	0.7	6	34	665	4210	4850
YKS5003-6	900	107.0	990	95.2	0.85	1.8	0.7	6	40	736	4500	5140
YKS5004-6	1000	118.8	990	95.3	0.85	1.8	0.7	6	47	805	4630	5270
YKS5601-6	1120	131.4	990	95.4	0.86	1.8	0.7	6.5	70	886	6100	6740
YKS5602-6	1250	146.5	990	95.5	0.86	1.8	0.7	6.5	75	972	6400	7030
YKS5603-6	1400	163.9	990	95.6	0.86	1.8	0.7	6.5	82	1068	6530	7170
YKS6301-6	1600	187.1	990	95.7	0.86	1.8	0.7	6.5	147	1192	8490	9000
YKS6302-6	1800	210.2	990	95.8	0.86	1.8	0.7	6.5	162	1312	8930	9440
YKS6303-6	2000	233.4	990	95.9	0.86	1.8	0.7	6.5	173	1428	9140	9650
YKS4003-8	220	29.2	740	92.9	0.78	1.8	0.8	5.5	11	424	2430	2880
YKS4004-8	250	32.7	740	93.0	0.79	1.8	0.8	5.5	12	477	2500	2950
YKS4005-8	280	36.6	740	93.2	0.79	1.8	0.8	5.5	13	529	2590	3050
YKS4501-8	315	40.6	740	93.4	0.80	1.8	0.8	5.5	16	588	3200	3730
YKS4502-8	355	45.7	740	93.5	0.80	1.8	0.8	5.5	17	656	3280	3810
YKS4503-8	400	51.3	740	93.7	0.80	1.8	0.8	5.5	18	731	3400	3940
YKS4504-8	450	57.0	740	93.8	0.81	1.8	0.8	5.5	19	813	3510	4050
YKS5001-8	500	63.0	740	94.3	0.81	1.8	0.8	5.5	30	894	3930	4560
YKS5002-8	560	69.6	740	94.4	0.82	1.8	0.8	5.5	34	989	4170	4800
YKS5003-8	630	78.2	740	94.5	0.82	1.8	0.8	5.5	38	1099	4340	4980
YKS5004-8	710	88.1	740	94.6	0.82	1.8	0.8	5.5	42	1222	4600	5240
YKS5601-8	800	96.8	740	94.7	0.84	1.8	0.7	6	87	1357	5910	6550
YKS5602-8	900	108.8	740	94.8	0.84	1.8	0.7	6	92	1505	6100	6740
YKS5603-8	1000	120.7	740	94.9	0.84	1.8	0.7	6	102	1650	6390	7030

YKS(IP54)系列技术数据 (6kV)
 YKS(IP54)series 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 m (kg.m ²)	负载 J (kg.m ²)	Y	YKS
						Tm Tn	Tst Tn	Ist In				
YKS6301-8	1120	135.1	740	95.0	0.84	1.8	0.7	6	137	1820	8230	8740
YKS6302-8	1250	150.6	740	95.1	0.84	1.8	0.7	6	151	2001	8490	9000
YKS6303-8	1400	168.5	740	95.2	0.84	1.8	0.7	6	160	2204	8820	9330
YKS6304-8	1600	192.3	740	95.3	0.84	1.8	0.7	6	168	2468	9020	9530
YKS4501-10	220	29.9	590	92.1	0.77	1.8	0.8	5.5	19	729	3020	3550
YKS4502-10	250	33.4	590	92.3	0.78	1.8	0.8	5.5	20	820	3100	3630
YKS4503-10	280	37.3	590	92.5	0.78	1.8	0.8	5.5	22	910	3190	3720
YKS4504-10	315	41.4	590	92.6	0.79	1.8	0.8	5.5	24	1014	3290	3830
YKS4505-10	355	46.6	590	92.8	0.79	1.8	0.8	5.5	25	1131	3390	3920
YKS5001-10	400	51.6	590	93.3	0.80	1.8	0.8	5.5	36	1261	3880	4510
YKS5002-10	450	58.0	590	93.4	0.80	1.8	0.8	5.5	38	1404	3980	4620
YKS5003-10	500	64.3	590	93.6	0.80	1.8	0.8	5.5	42	1544	4120	4760
YKS5004-10	560	71.9	590	93.7	0.80	1.8	0.8	5.5	45	1711	4260	4890
YKS5005-10	630	80.8	590	93.8	0.80	1.8	0.8	5.5	52	1902	4580	5220
YKS5601-10	710	88.6	590	94.0	0.82	1.8	0.7	6	79	2116	5840	6580
YKS5602-10	800	99.7	590	94.2	0.82	1.8	0.7	6	88	2355	6010	6750
YKS5603-10	900	112.0	590	94.3	0.82	1.8	0.7	6	93	2615	6170	7810
YKS6301-10	1000	124.3	590	94.4	0.82	1.8	0.7	6	140	2870	7830	8340
YKS6302-10	1120	138.9	590	94.6	0.82	1.8	0.7	6	152	3170	8120	8630
YKS6303-10	1250	154.7	590	94.8	0.82	1.8	0.7	6	167	3489	8430	8940
YKS6304-10	1400	173.1	590	94.9	0.82	1.8	0.7	6	175	3850	8630	9140
YKS4504-12	220	31.7	490	91.4	0.73	1.8	0.8	5.5	24	1135	3280	3910
YKS4505-12	250	35.9	490	91.7	0.73	1.8	0.8	5.5	26	1277	3390	3920
YKS5001-12	280	39.3	490	92.7	0.74	1.8	0.8	5.5	40	1418	3900	4540
YKS5002-12	315	43.6	490	92.8	0.75	1.8	0.8	5.5	42	1580	3990	4630
YKS5003-12	355	49.0	490	93.0	0.75	1.8	0.8	5.5	43	1764	4030	4660
YKS5004-12	400	55.0	490	93.3	0.75	1.8	0.8	5.5	47	1967	4180	4820
YKS5005-12	450	61.8	490	93.4	0.75	1.8	0.8	5.5	50	2191	4340	4980
YKS5601-12	500	65.0	490	93.7	0.79	1.8	0.7	6	103	2411	5660	6330
YKS5632-12	560	72.7	490	93.8	0.79	1.8	0.7	6	114	2673	5850	6490
YKS5603-12	630	81.7	490	93.9	0.79	1.8	0.7	6	127	2974	6050	6690
YKS6301-12	710	92.0	490	94.0	0.79	1.8	0.7	6	191	3312	7620	8130
YKS6302-12	800	103.4	490	94.2	0.79	1.8	0.7	6	208	3688	7910	8420
YKS6303-12	900	116.3	490	94.3	0.79	1.8	0.7	6	227	4098	8220	8730
YKS6304-12	1000	129.0	490	94.4	0.79	1.8	0.7	6	239	4502	8410	9920

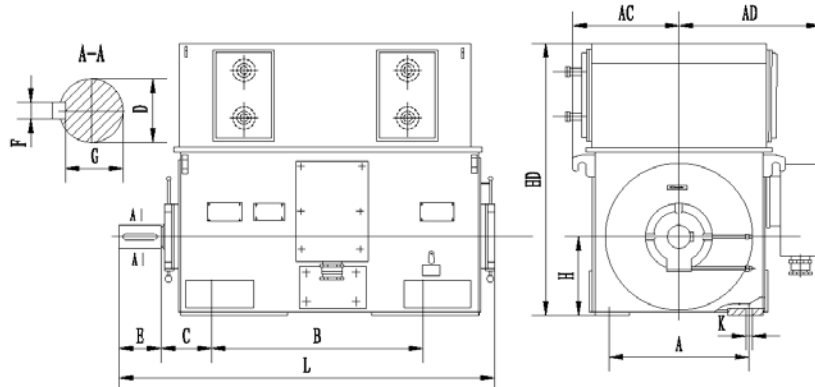
注：表中性能数据对应的保证值见附表。

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

YKS 系列 (IP54) 中型电动机外形及安装尺寸 (6kV)

(mm)

YKS series(IP54) medium type asynchronous motor overall and mounting dimensions figure



机座号	极数	安装尺寸及公差																外形尺寸					
		mm																mm					
		A		B		C ^a		D		E		F		G		H		K		AC	AD	HD	L
基本尺寸	极限偏差	基本尺寸	极限偏差	基本尺寸	极限偏差	基本尺寸	极限偏差	基本尺寸	极限偏差	基本尺寸	极限偏差	基本尺寸	极限偏差	基本尺寸	极限偏差	基本尺寸	极限偏差						
355	2	630	± 1.4	900	± 1.4	315		80	$+0.030$ $+0.011$	170	± 0.50	22		71		355		28	$+0.52$ 0	505	760	1250	1640
	4、6							100		210	± 0.57	28	0 -0.052	90									1680
400	2	710		1000		375		90		170	± 0.50	25		81		400		35		555	810	1400	1850
	4~8					335		110	$+0.035$ $+0.013$		28		100				1860						
450	2	± 1.75	± 1.75	1120		400		100		210		28		90	0 -0.2	450		35		595	850	1500	2090
	4							120		32		109			2120								
	6~12					355		130	$+0.040$ $+0.015$	250		32	0 -0.062	119									
500	2	900		1250		560		110	$+0.035$ $+0.013$	210		28	0 -0.052	100		500		0 -1.0		600	910	1950	2320
	4							130		32		119			2280								
	6~12					475		140		36		128	0 -0.3										
560	2	± 2.1	± 2.1	1400		560		130		250		32	0 -0.062	119	0 -0.2	560				800	1200	2150	2750
	4							150		36		138			2600								
	6~12					500		160		40		147	0 -0.3										
630	2	1120		1600		560		140		250	± 0.65	36		128		630		48		860	1250	2350	2900
	4							170		40		157			2750								
	6~12					530		180		45		165											

a 当采用滑动轴承时，极限偏差不包括轴向串动量。