



# NER GROUP CO.,LIMITED

Yantai Bonway Manufacturer Co.,Ltd



## YZR/YZ Series Induction Motors for Cranes and Metallurgical Applications



- Frame sizes:  
YZ112-250 Rated output: 1.5 to 30Kw  
YZR112-400 Rated output: 1.5-200Kw
- Duty Cycle: S3 FC: 40% Voltage: 380V
- General environment(40°C), Insulation class: F, IP44
- Metallurgical environment (60°C), Insulation class: H, IP54

**Applications:** Used in the metallurgy and mine industry for driving type crane and similar equipment, especially suit for the instruments which need short-term and intermittent operation, frequent start and brake, overload, and have significant vibration and impact.

**Features:** Good overload capacity and strong mechanical strength. YZR series motor is of winding rotor, YZ series is squirrel-cage rotor.

### Performance Data

YZ

Model	Duty	S2															S3										Rotor inertia (kg.m <sup>2</sup> )
		6 starts/hour																									
	FC	30 min			60 min			15%			25%			40%				60%			100%						
Type	kW	I <sub>1</sub> A	n r/min	kW	I <sub>1</sub> A	n r/min	kW	I <sub>1</sub> A	n r/min	kW	I <sub>1</sub> A	n r/min	kW	I <sub>1</sub> A	n r/min	T <sub>m</sub>	T <sub>st</sub>	I <sub>st</sub> A	kW	I <sub>1</sub> A	n r/min	kW	I <sub>1</sub> A	n r/min			
Synchronous speed 1000r/min																											
YZ112M	1.8	4.9	892	1.5	4.3	920	2.2	6.5	810	1.8	4.9	892	1.5	4.3	920	2	2	20	1.1	2.7	946	0.8	3.5	980	0.022		
YZ132M1	2.5	6.5	920	2.2	5.9	935	3	7.5	804	2.5	6.5	920	2.2	5.9	935	2	2	27	1.8	5.3	950	1.5	4.9	960	0.056		
YZ132M2	4	9.2	915	3.7	8.8	912	5	12	890	4	9.2	915	3.7	8.8	912	2	2	42	3	7.5	940	2.5	7.2	945	0.062		
YZ160M1	6.3	14	922	5.5	13	933	7.5	17	903	6.3	14	922	5.5	13	933	2	2	60	5	12	940	4	10	953	0.114		
YZ160M2	8.5	18	943	7.5	16	948	11	25	926	8.5	18	943	7.5	16	948	2.3	2.3	92	6.3	14	956	5.5	13	961	0.143		
YZ160L	13	29	936	11	25	953	15	32	920	13	29	936	11	25	953	2.5	2.5	140	9	21	964	7.5	19	972	0.192		
Synchronous speed 750r/min																											
YZ160L	9	21	694	7.5	18	705	11	27	675	9	21	694	7.5	18	705	2.3	2.3	98	6	16	717	5	14	724	0.192		
YZ180L	13	30	675	11	26	694	15	35	654	13	30	675	11	26	694	2.5	2.5	130	9	22	710	7.5	19	718	0.352		
YZ200L	19	40	697	15	33	710	22	48	686	19	40	697	15	33	710	2.5	2.5	182	13	28	714	11	26	720	0.622		
YZ225M	26	54	701	22	46	712	33	69	687	26	54	701	22	46	712	2.5	2.5	275	19	40	718	17	38	720	0.82		
YZ250M1	35	74	681	30	63	694	42	89	663	35	74	681	30	63	694	2.5	2.5	350	26	56	702	22	45	717	1.432		



**Performance Data**
**YZR**

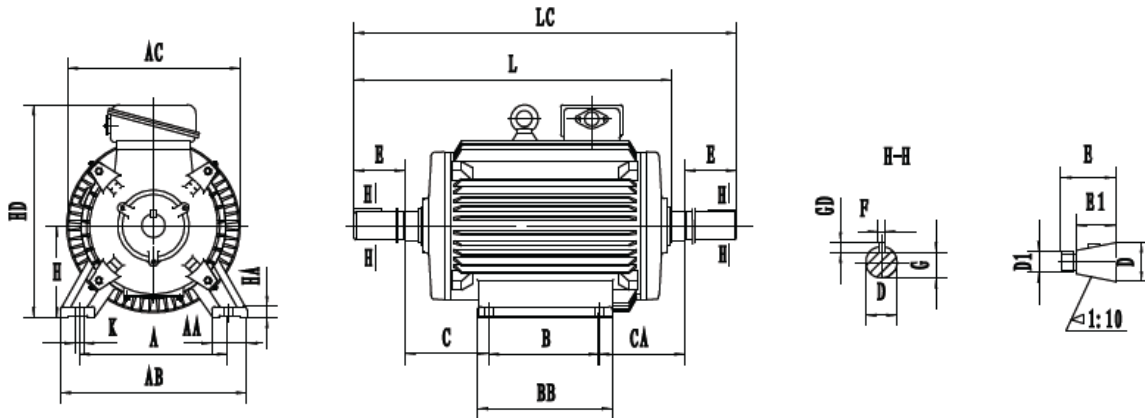
Model	Duty	S4、S5																							
		150 starts/h								300 starts/h								600 starts/h							
	FC	25%				40%				60%				40%				60%				60%			
	Type	kW	I1	I2	n	kW	I1	I2	n	kW	I1	I2	n	kW	I1	I2	n	kW	I1	I2	n	kW	I1	I2	n
Synchronous speed 1000r/min																									
YZR112M	1.6	4.75	11.3	845	1.3	4.2	8.85	890	1	3.75	6.57	920	1.2	4	8	900	0.9	3.7	5.87	930	0.7	3.4	4.46	946	
YZR132M1	2.2	6	11.2	908	2	5.7	10	913	1.7	5.3	8.4	931	1.8	5.4	9	926	1.6	5.1	7.87	936	1.35	4.9	6.8	946	
YZR132M2	3.7	9.7	13.1	915	3.5	9.2	11.2	925	2.8	8.5	9.65	940	3.3	9.4	11.9	925	2.7	8.5	9.65	940	2.3	6	7.5	950	
YZR160M1	5.8	15.5	27.3	927	5	14.1	23.4	935	4.8	13.5	22.7	937	4.8	14.1	23.4	935	4.5	13.8	22.4	937	3.8	12.2	17.5	946	
YZR160M2	7.5	18	27.6	940	7	17.1	25.6	945	6	15.6	21.8	954	6	15.6	21.8	954	5.5	14.8	19.8	959	4	13	14.2	970	
YZR160L	11	28.3	27.8	950	10	23	25	957	8	19.5	19.8	969	9	19.5	19.8	969	7.5	18.7	18.5	971	6	16.7	14.2	978	
YZR180L	15	33	43.7	960	13	29.5	37.7	965	12	28	34.6	969	12	28	34.6	969	11	26.6	31.7	972	9	23.6	22.9	978	
YZR200L	21	47	55.4	965	18.5	42.5	48.5	970	17	40.5	53.8	973	17	40.5	52.6	973	15	37	40	975	11	31.5	28.5	981	
YZR225M	28	58	70	965	25	53	62.2	969	22	50	54.5	973	22	50	54.5	973	20	46	49.4	977	15	39	36.8	982	
YZR250M1	33	63	82.6	970	30	58	74.9	973	28	54	69.8	975	26	52	64.6	977	25	50	62.1	978	17.5	39	43.2	984	
YZR250M2	42	78	90.5	967	37	70	79.3	971	33	63	70.5	975	31	60	66.1	976	30	58	63.9	977	24	49	50.9	981	
YZR280S	52	95	116	970	45	83	100	974	42	80	93.6	975	40	76	89	977	37	71	82.2	978	30	64	66.5	980	
YZR280M	70	130	115	972	62	114	102	975	55	91	104	978	52	98	85.5	979	47	92	77.3	981	37	78	61	982	
Synchronous speed 750r/min																									
YZR160L	7.5	19	22.8	712	7	18.1	21.2	716	5.8	16.4	17.3	724	6	16.7	18	722	5	15.5	14.9	727	3.8	13.7	11.2	732	
YZR180L	11	25.4	40.6	711	10	23.5	36.6	717	8	20.5	28.8	728	8	20.5	28.8	728	7.5	19.7	26.9	729	5.8	17.8	20.6	736	
YZR200L	15	34	54.1	713	13	30	46.6	718	12	28.2	43	720	12	28.2	43	720	11	27	39	724	9	23	28.1	731	
YZR225M	21	45	56.8	718	18.5	41	49.7	721	17	38	45.6	724	17	38	45.6	724	15	35	40	727	11	31	29.1	733	
ZR250M1	29	61.5	68.5	700	25	54	58.7	705	22	49	51.9	712	22	49	51.9	712	20	46	46.2	716	15	39	34.2	725	
YZR250M2	33	70	62.5	725	30	64	56.6	727	28	61	52.8	728	26	58	48.9	730	25	57	47	731	18.5	45	34.4	736	
YZR280S	42	91	85.8	719	37	83	75.6	723	33	76.3	67	726	31	74	63.5	728	30	72	61.5	732	24	64	49	733	
YZR280M	52	104	90.2	727	45	93	77.7	730	42	89	72.4	732	42	89	72.4	732	37	83	63.5	735	30	73	51.4	737	
YZR315S	64	118	132.7	731	60	110.5	124.2	733	56	106	115.8	733	52	100	107	735	48	94	98.8	736	35	80	71.7	740	
YZR315M	75	142	136	725	72	136	130.7	725	65	126	117.6	727	60	120	108	729	55	116	99	729	41	100	73.7	732	
Synchronous speed 600 r/min																									
YZR280S	33	78.7	141.8	578	30	74	125	579	28	71	116	580	26	68	108	582	25	66	103	583	17	56	69.8	588	
YZR280M	42	98.7	154	565	37	90	136	569	33	84.3	118	573	31	82	110	574	28	78.5	98	577	22	72.5	75	582	
YZR315S	50	110	128.4	583	45	100	115.3	585	42	96	107.4	586	40	94	102.2	587	37	90	94.5	587	30	84	76.3	589	
YZR315M	65	144	129	584	63	136	119	585	55	130	109	586	53	126	98.7	587	48	124	94.7	588	37	114	73	589	
YZR355M	80	160.5	149.7	587	72	156	134.5	588	65	140	121	589	60	130	112	590	55	124	102.4	590	41	104	76.2	591	
YZR355L1	100	185	157	586	90	170	142	588	80	155	126.5	589	75	150	119	590	70	145	111	591	50	120	78.4	594	
YZR355L2	120	250	149.8	588	110	230	137.5	589	95	210	122.7	591	90	205	116.2	591	80	190	130.2	592	60	165	77.1	594	
YZR400L1	146	314	223	588	130	288	199	589	115	268	175	590	110	260	168	591	97	247	148	592	75	220	114	594	
YZR400L2	185	396	223	590	165	365	262	589	145	332	183	592	140	324	176	592	123	298	155	592	95	265	122	594	

## Dimensions & Mounting

mm

Frame with feet, end cover without flange (IM1001, IM1002, IM1003, IM1004)

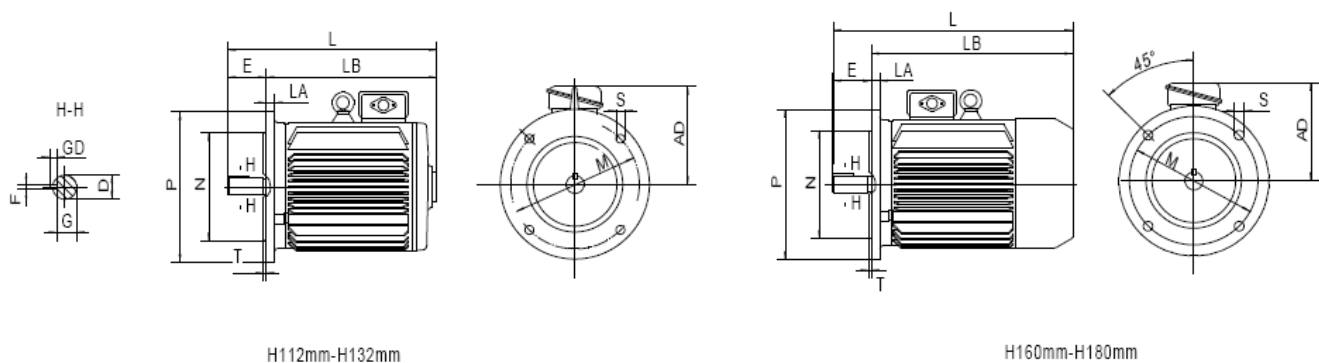
YZ



Frame	Mounting Dimension														Overall Dimension							
	Frame							Shaft End							AA	AB	AC	BB	HA	HD	L	LC
	A	B	C	CA	H	K	Bolt dia	D	D1	E	E1	G	GD	F								
112M	190	140	70	300	112	12	M10	32	—	80	—	27	8	10	50	250	245	235	14	335	590	670
132M	116	178	89	150	132	12	M10	38	—	80	—	33	8	10	59	275	285	260	20	365	497	577
160M	254	210	108	180	160	15	M12	48	—	110	—	42.5	9	14	60	320	325	290	25	425	608	718
160L	254	254	108	180	160	15	M12	48	—	110	—	42.5	9	14	60	320	325	335	25	425	650	762
180L	279	279	121	180	180	15	M12	55	M36×3	110	82	19.9	9	14	70	360	360	380	25	465	690	800
200L	318	305	133	210	200	19	M16	60	M42×3	140	105	19.9	9	16	85	405	405	400	25	501	788	928
225M	356	311	149	258	225	19	M16	65	M42×3	140	105	23.9	10	16	85	455	430	410	28	545	860	1000
250M	406	349	168	295	250	24	M20	70	M48×3	140	105	25.4	11	18	95	515	480	510	30	605	952	1092

Frame without feet, end cover with flange, horizontal mounting YZ motor (IM3001, IM3003)

YZ



H112mm-H132mm

H160mm-H180mm

Frame	Mounting Dimension																Overall Dimension		
	Flange									Shaft End									
	Flange	M	N	P	LA	T	S	Bolt	Hole	D	D1	E	E1	F	GD	G	AD	L	LB
112M	FF215	215	180	250	14	4	15	M12	4	32	-	80	-	10	8	27	220	430	350
132M	FF265	265	230	300	14	4	15	M12	4	38	-	80	-	10	8	33	230	495	415
160M	FF300	300	250	350	18	5	19	M16	4	48	-	110	-	14	9	42.5	260	700	590
160L	FF300	300	250	350	18	5	19	M16	4	48	-	110	-	14	9	42.5	260	743	633
180L	FF300	300	250	350	18	5	19	M16	4	55	M36×3	110	82	14	9	19.9	280	735	625

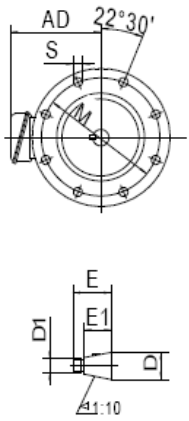
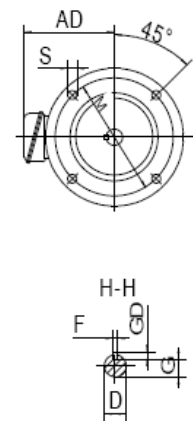
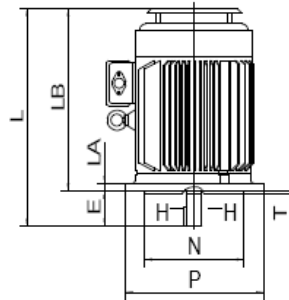
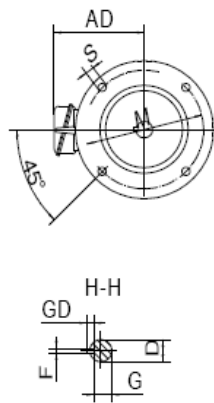
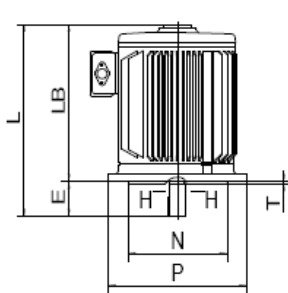
Frame without feet, end cover with flange and shaft down vertical mounting YZ motor (IM3011, IM3013)

**YZ**

H112mm-H132mm

H160mm-H180mm

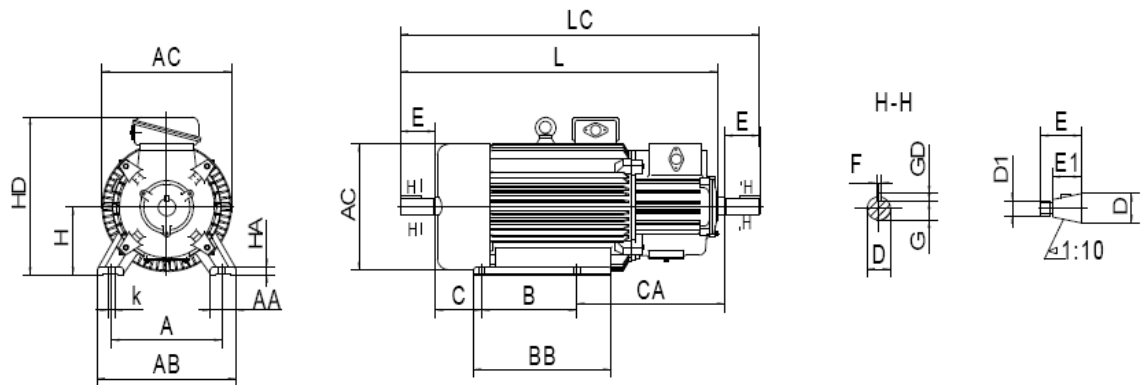
H200mm-H400mm



Frame	Mounting Dimension																Overall Dimension		
	Flange									Shaft End									
	Flange	M	N	P	LA	T	S	Bolt	Hole	D	D1	E	E1	F	GD	G	AD	LB	L
112M	FF215	215	180	250	14	4	15	M12	4	32	-	80	-	10	8	27	220	350	430
132M	FF265	265	230	300	14	4	15	M12	4	38	-	80	-	10	8	33	230	415	495
160M	FF300	300	250	350	18	5	19	M16	4	48	-	110	-	14	9	42.5	260	590	700
160L	FF300	300	250	350	18	5	19	M16	4	48	-	110	-	14	9	42.5	260	633	743
180L	FF300	300	250	350	18	5	19	M16	4	55	M36×3	110	82	14	9	19.9	280	625	735
200L	FF400	400	350	450	20	5	19	M16	8	60	M42×3	140	105	16	10	21.4	320	715	855
225M	FF400	400	350	450	20	5	19	M16	8	65	M42×3	140	105	16	10	23.9	320	775	915
250M	FF500	500	450	550	22	5	19	M16	8	70	M48×3	140	105	18	11	25.4	355	865	1005

Frame with feet, end cover without flange, YZR motor (IM1001, IM1002, IM1003, IM1004)

### YZR



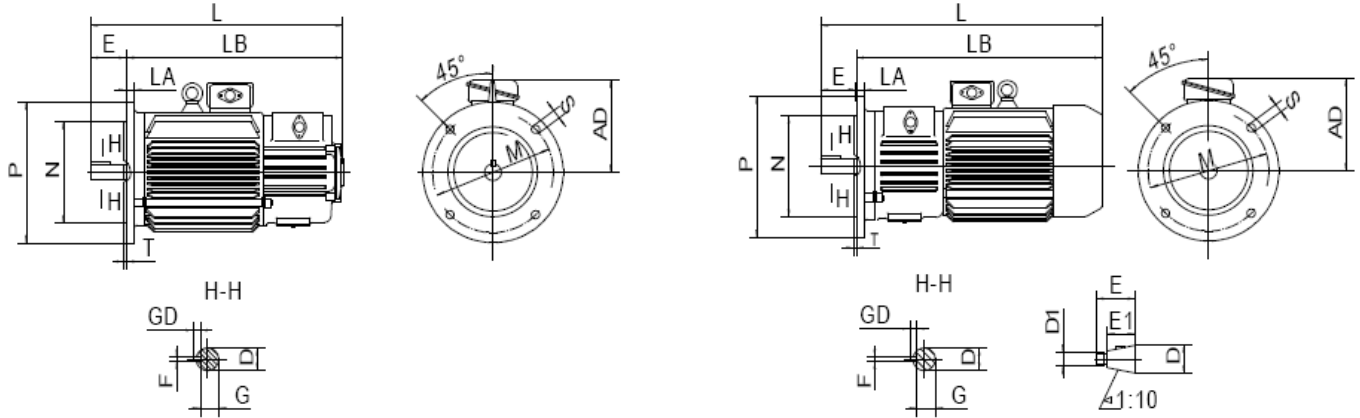
Frame	Mounting Dimension														Overall Dimension							
	Frame							Shaft End														
	A	B	C	CA	H	K	Bolt dia	D	D1	E	E1	G	GD	F	AA	AB	AC	BB	HA	HD	L	LC
112M	190	140	70	300	112	12	M10	32	—	80	—	27	8	10	50	250	245	235	18	335	590	670
132M	216	178	89	306	132	12	M10	38	—	80	—	33	8	10	50	275	285	260	20	365	641	727
160M	254	210	108	330	160	15	M12	48	—	110	—	42.5	9	14	60	320	325	290	25	425	758	868
160L	254	254	108	330	160	15	M12	48	—	110	—	42.5	9	14	60	320	325	335	25	425	800	912
180L	279	279	121	360	180	15	M12	55	M36×3	110	82	19.9	9	14	70	360	360	380	25	465	870	980
200L	318	305	133	400	200	19	M16	60	M42×3	140	105	21.4	10	16	85	405	405	400	25	510	1040	1180
225M	356	311	149	450	225	19	M16	65	M42×3	140	105	23.9	10	16	85	455	430	410	28	545	1050	1190
250M	406	349	168	540	250	24	M20	70	M48×3	140	105	25.4	11	18	95	515	480	510	30	605	1197	1337
280S	457	368	190	540	280	24	M20	85	M56×4	170	130	31.7	12	20	100	575	535	530	32	665	1265	1438
280M	457	419	190	540	280	24	M20	85	M56×4	170	130	31.7	12	20	100	575	535	580	32	665	1315	1489
315S	508	406	216	600	315	28	M24	95	M64×4	170	130	35.2	14	22	110	635	620	575	35	725	1385	1562
315M	508	457	216	600	315	28	M24	95	M64×4	170	130	35.2	14	22	110	635	620	625	35	725	1435	1613
355M	610	560	254	630	355	28	M24	110	M80×4	210	165	41.9	14	25	110	740	620	725	38	840	1650	1864
355L	610	630	254	630	355	28	M24	110	M80×4	210	165	41.9	14	25	110	740	620	795	38	840	1720	1934
400L	686	710	280	630	400	35	M30	130	M100×4	250	200	50	16	28	136	850	840	880	45	1085	1865	2120

Frame without feet , end cover with flange, horizontal mounting YZR motor (IM3001, IM3003)

## YZR

H112mm-H132mm

H160mm-H180mm



Frame	Mounting Dimension																Overall Dimension		
	Flange									Shaft End									
	Flange	M	N	P	LA	T	S	Bolt dia	Holes	D	D1	E	E1	F	GD	G	AD	LB	L
112M	FF215	215	180	250	14	4	15	M12	4	32	—	80	—	10	8	27	220	515	595
132M	FF265	265	230	300	14	4	15	M12	4	38	—	80	—	10	8	33	230	565	645
160M	FF300	300	250	350	18	5	19	M16	4	48	—	110	—	14	9	42.5	260	718	828
160L	FF300	300	250	350	18	5	19	M16	4	48	—	110	—	14	9	42.5	260	762	872
180L	FF300	300	250	350	18	5	19	M16	4	55	M36×3	110	82	14	9	19.9	280	805	915

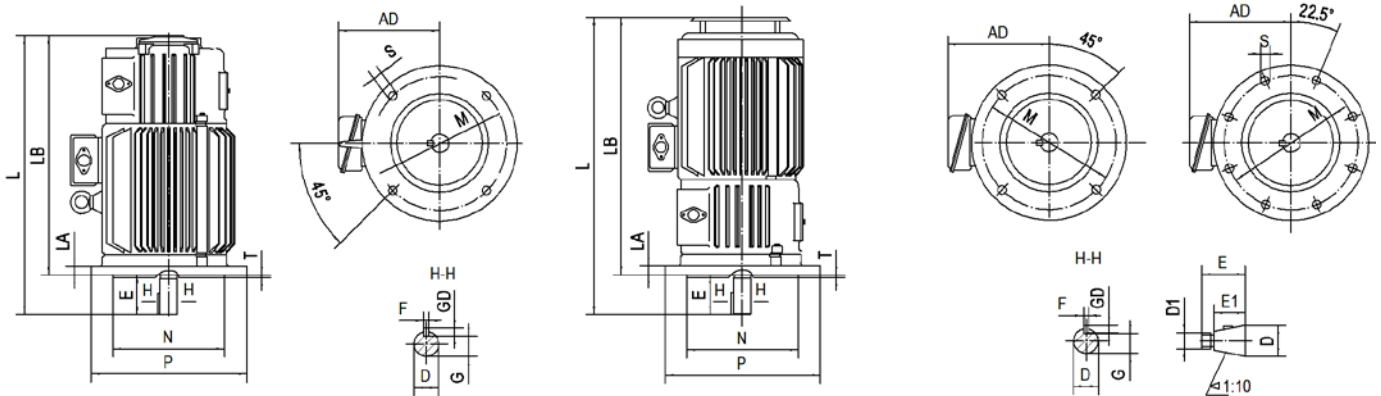
Frame without feet, end cover with flange and shaft down mounting motor (IM3011, IM3013)

## YZR

H112mm-H132mm

H160mm-H180mm


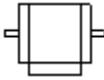
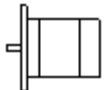

H200mm-H315mm





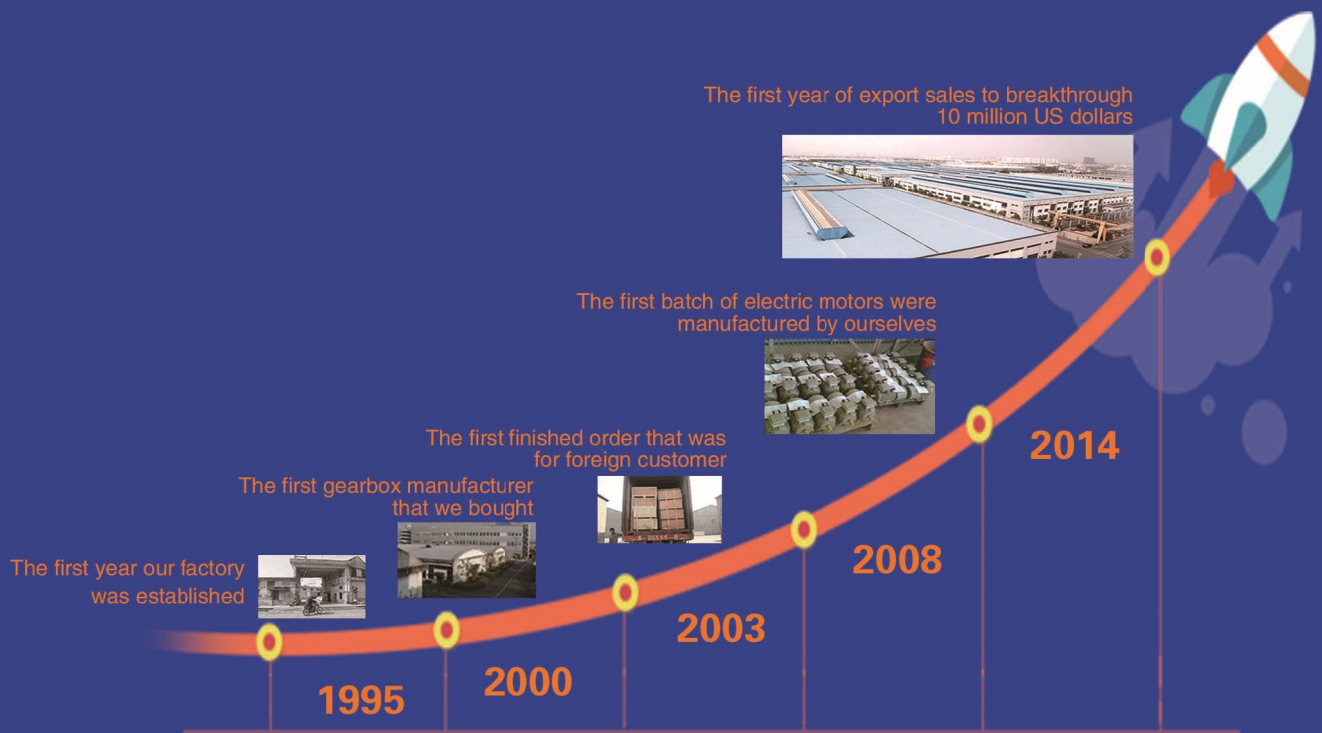
Frame	Mounting Dimension																Overall Dimension		
	Flange									Shaft End									
	Flange	M	N	P	LA	T	S	Bolt dia	Holes	D	D1	E	E1	F	GD	G	AD	LB	L
112M	FF215	215	180	250	14	4	15	M12	4	32	—	80	—	10	8	27	220	515	595
132M	FF265	265	230	300	14	4	15	M12	4	38	—	80	—	10	8	33	230	565	645
160M	FF300	300	250	350	18	5	19	M16	4	48	—	110	—	14	9	42.5	260	718	828
160L	FF300	300	250	350	18	5	19	M16	4	48	—	110	—	14	9	42.5	260	762	872
180L	FF300	300	250	350	18	5	19	M16	4	55	M36×3	110	82	14	9	19.9	280	805	915
200L	FF400	400	350	450	20	5	19	M16	8	60	M42×3	140	105	16	10	21.4	320	910	1050
225M	FF400	400	350	450	20	5	19	M16	8	65	M42×3	140	105	16	10	23.9	320	970	1110
250M	FF500	500	450	550	22	5	19	M16	8	70	M48×3	140	105	18	11	25.4	355	1126	1266
280S	FF500	500	450	550	22	5	19	M16	8	85	M56×4	170	130	20	12	31.7	385	1200	1370
280M	FF500	500	450	550	22	5	19	M16	8	85	M56×4	170	130	20	12	31.7	385	1250	1420
315S	FF600	600	550	660	25	6	24	M20	8	95	M64×4	170	130	22	12	35.2	435	1305	1475
315M	FF600	600	550	660	25	6	24	M20	8	95	M64×4	170	130	22	12	35.2	435	1355	1525

Conventional mounting type and suitable frame size are given in following table

Mounting Type	Symbol	Range (Frame Size)		Note
		YZ series	YZR series	
	IM1001	112~160	112~160	Single Cylindrical Shaft End
	IM1003	180~250	180~400	Single Conical Shaft End
	IM1002	112~160	112~160	Double Cylindrical Shaft End
	IM1004	180~250	180~400	Double Conical Shaft End
	IM3001	112~160	112~160	Single Cylindrical Shaft End
	IM3003	180	180	Single Conical Shaft End
	IM3011	112~160	112~160	Single Cylindrical Shaft End
	IM3013	180~250	180~315	Single Conical Shaft End

Data above may be changed without prior notice.

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