

WONDER® Since 1988

In Synchronization with the Future

ISO14001 ISO9001 ISO45001   CE  RoHS  SASO   

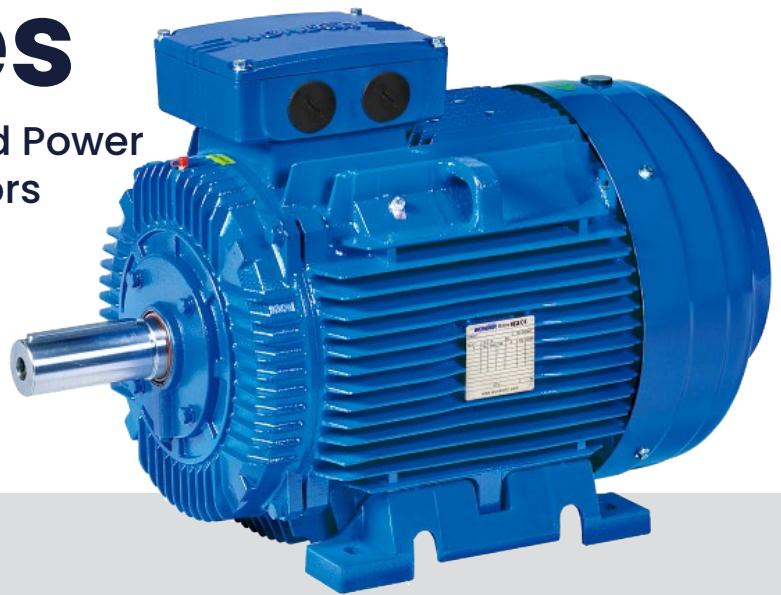
ZWE Series

High Efficiency with Increased Power
Asynchronous Cast Iron Motors

IE2

ZWE Series

High Efficiency with Increased Power
Asynchronous Cast Iron Motors



General Information:

ZWE Series motors are high efficiency motors with increased power. ZWE motors provide equipment manufacturers and end users with higher output while the frame size is smaller compared to IEC standard motors. The efficiency indicators are in line with IE2. Main product features: smaller size, less weight and outstanding appearance.

Wonder three phase asynchronous motors are widely applied in general machinery and industries such as pumps & water treatment, road machinery, petroleum, chemical and metallurgy, cement and paper-milling.

Technical Characteristics:

- IP55 protection, class F insulation, B-level temperature rise, S1 duty;
- Rated voltage 400V;
- Rated frequency 50Hz;
- Operation ambient temperature: -20°C~40°C;
- Operation altitude ≤1000m.
- Y-connection for motors up to 3kW,
Δ-connection for 4kW and above.
- Cooling method: IC411/IC416

Mounting Arrangements:

Types	Basic Type of Construction	Derived Types of Construction				
ZWE 160-280	IM B3 IM 1001	IM V5 IM 1011	IM V6 IM 1031	IM B6 IM 1051	IM B7 IM 1061	IM B8 IM 1071
ZWE 160-280	IM B35 IM 2001	IM V15 IM 2011	IM V36 IM 2031	* IM 2051	* IM 2061	* IM 2071
ZWE 160-280	IM B5 IM 3001	IM V1 IM 3011	IM V3 IM 3031			

Basic types of construction may be used in all derived types of construction.

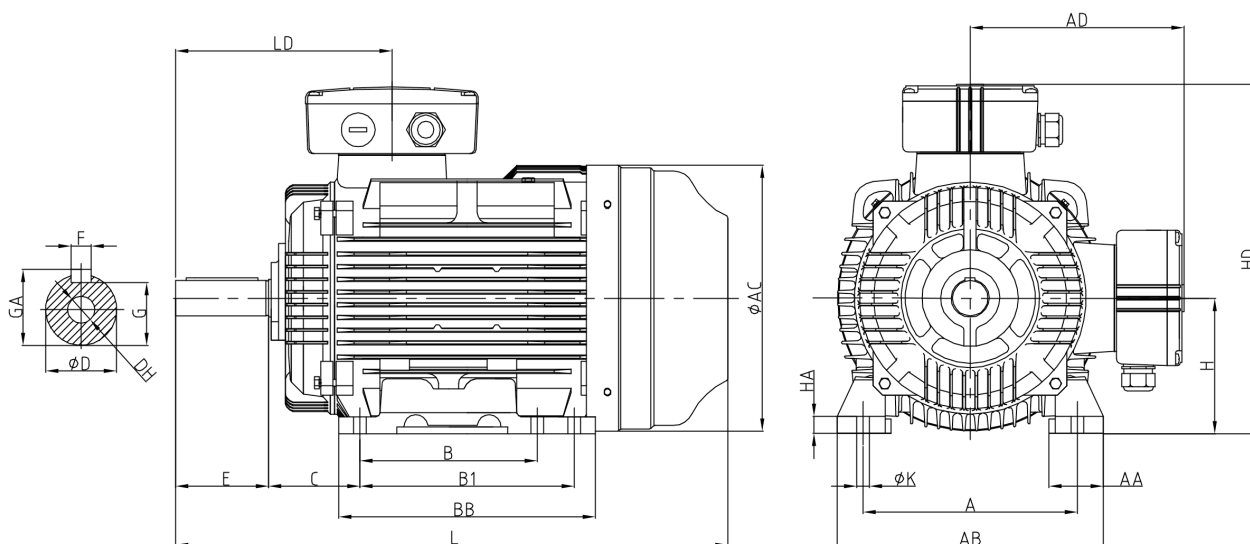
1) "*" means not-defined mounting by IEC 60034-7.

2) for the types of construction IM V6, IM B6, IM B8 inquiry is necessary.

Technical Specifications (1/4)

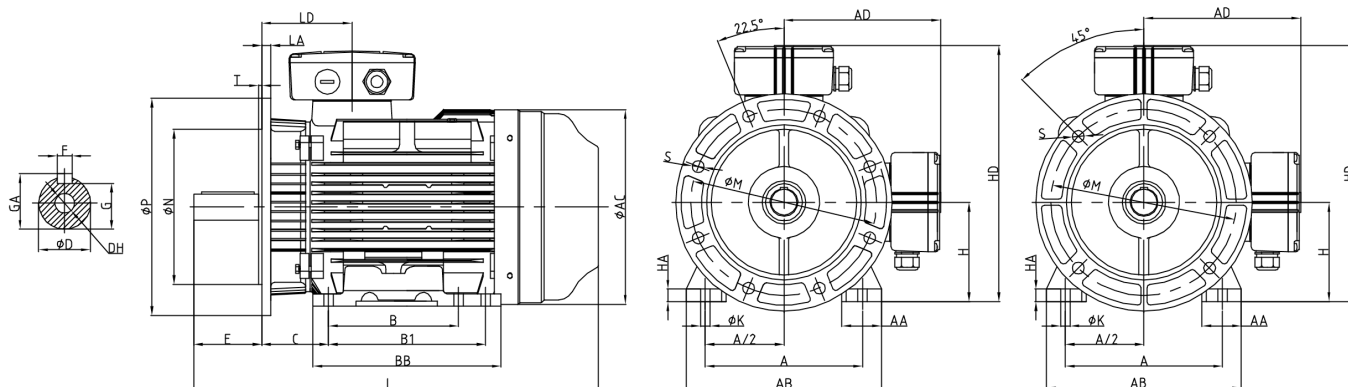
Rated Output		IEC Frame	Rated Speed r/m	Full Load Current I_n (A)	Efficiency $\eta\%$			Power Factor $\cos\phi$			Locked Rotor Current I_L/I_n	Locked Rotor Torque T_L/T_n	Break-down Torque T_b/T_n	Sound LP dB(A)	Moment of Inertia J(kgm ²)	Weight kg
					% of Full Load											
kW	HP			400V	100	75	50	100	75	50						
3000r/m (2 Pole) 50Hz																
18.5	25	160M	2940	33	91.2	91.2	90.1	0.89	0.82	0.80	8.1	2.2	3.1	69	0.065	130
22	30	160L	2940	38.4	91.8	92.0	91.0	0.90	0.86	0.83	9.0	2.7	3.3	69	0.073	142
30	40	180M	2950	52.1	92.4	92.1	91.7	0.90	0.88	0.85	8.9	2.4	3.4	75	0.105	195
45	60	200L	2950	77.4	93.2	93.3	92.2	0.90	0.86	0.81	8.5	2.5	3.2	75	0.180	262
55	75	225M	2950	93.3	93.5	93.3	92.4	0.91	0.84	0.80	8.0	2.3	3.0	81	0.355	325
75	100	250S/M	2965	129	94.0	93.8	93.1	0.99	0.88	0.82	8.0	2.2	3.1	80	0.401	425
110	150	280M	2975	187	94.5	94.5	93.4	0.90	0.86	0.78	7.5	2.0	2.3	80	0.770	595
132	175	315S	2980	223	94.8	94.6	93.7	0.90	0.85	0.80	7.5	2.2	3.2	80	1.580	960
160	215	315M/L	2980	270	95.0	94.9	93.8	0.90	0.89	0.85	7.8	2.2	3.2	82	1.728	1000
200	270	315M/L	2980	336	95.2	95.1	94.5	0.90	0.89	0.86	7.5	2.4	3.1	83	1.980	1080
250	335	315LX	2980	421	95.2	95.2	94.8	0.90	0.88	0.85	7.5	2.0	2.6	86	2.523	1360
315	420	315LX	2980	536	95.2	95.2	94.7	0.89	0.87	0.83	7.5	2.2	2.6	88	3.102	1500
1500r/m (4 Pole) 50Hz																
15	20	160M	1465	2.77	91.0	90.8	90.4	0.86	0.83	0.73	7.4	2.2	2.5	65	0.107	125
18.5	25	160L	1465	34	91.5	91.3	90.6	0.86	0.81	0.75	8.8	3.0	3.1	65	0.115	145
30	40	180L	1470	53.8	92.5	92.3	91.7	0.87	0.82	0.77	8.1	2.3	3.1	70	0.189	200
37	50	200L	1475	66.8	93.0	93.0	91.6	0.86	0.83	0.71	7.5	2.2	2.5	70	0.31	258
45	55	225S	1475	81	93.3	93.1	92.0	0.86	0.84	0.75	7.5	2.2	2.5	71	0.52	320
55	75	225M	1475	98.4	93.8	93.6	92.2	0.86	0.85	0.79	7.5	2.2	2.5	68	0.64	390
75	100	250S/M	1470	134	94.1	93.9	92.8	0.86	0.85	0.81	7.2	2.2	2.5	68	0.79	510
90	110	280S	1470	158	94.4	94.2	93.1	0.87	0.86	0.83	7.2	2.2	2.5	68	0.83	530
110	150	280M	1485	193	94.8	94.5	93.4	0.87	0.86	0.78	7.2	2.2	2.5	68	1.89	650
132	175	315S	1485	228	94.9	94.7	94.0	0.88	0.85	0.80	7.8	2.5	3.1	70	3.52	945
160	215	315M/L	1485	276	95.2	95.0	94.3	0.88	0.86	0.81	6.8	2.2	2.8	70	3.71	1060
200	270	315M/L	1485	344	95.2	95.2	94.6	0.88	0.87	0.80	6.9	2.3	2.9	70	4.49	1150
250	335	315LX	1490	430	95.2	95.2	94.8	0.88	0.86	0.82	6.5	2.3	2.7	80	4.49	1475
315	420	315L/X	1490	543	95.2	95.2	94.6	0.88	0.86	0.82	7.0	2.2	2.6	85	5.78	1580
1000r/m (6 Pole) 50Hz																
11	15	160M	970	22.1	89.0	89.1	88.5	0.78	0.75	0.65	6.9	2.3	3.0	56	0.128	122
15	20	160L	970	30.5	89.8	89.4	88.1	0.79	0.74	0.65	6.0	2.0	2.6	59	0.127	145
18.5	25	180L	980	36.8	90.7	90.4	89.6	0.80	0.74	0.66	9.1	3.1	3.2	59	0.230	174
30	40	200L	980	58.3	91.7	91.5	91.0	0.81	0.76	0.67	7.5	2.3	2.8	59	0.388	318
37	50	225M	980	71.4	92.3	92.4	91.8	0.81	0.75	0.66	7.0	2.1	2.4	59	0.629	385
45	60	250S/M	980	83.3	92.8	92.9	92.3	0.84	0.78	0.67	7.5	2.4	3.0	60	0.996	465
75	100	280M	980	133	93.8	93.9	93.4	0.87	0.80	0.71	8.2	2.6	3.1	68	1.98	580
90	125	315S	980	162	94.2	94.2	93.8	0.85	0.80	0.74	7.2	2.1	2.6	69	3.75	880
110	150	315M/L	990	195	94.5	94.4	93.7	0.86	0.83	0.76	6.2	1.9	2.2	70	4.58	962
132	175	315M/L	990	231	94.8	94.6	92.1	0.87	0.81	0.77	7.0	1.9	2.2	70	5.18	1140
160	215	315M/L	990	283	95.0	95.0	94.5	0.86	0.85	0.78	7.1	1.9	2.2	70	5.70	1350
200	270	315LX	990	358	95.0	95.0	94.3	0.85	0.84	0.77	7.2	2.0	2.3	75	6.72	1450

B3 Mounting and Overall Dimensions



Frame Size	Poles	Mounting and Overall dimensions (mm)																				
		A	B	BI	C	D	E	F	G	H	K	DH	GA	AA	AB	AC	AD	HA	HD	BB	LD	L
160M	2~8	254	210	/	108	42	110	12	37	160	15	M16×36	45	65	315	314	265	20	409	260	256	610
160L	2~8	254	254	/	108	42	110	12	37	160	15	M16×36	45	65	315	314	265	20	409	384	256	654
180M	2.4	279	241	/	121	48	110	14	42.5	180	15	M16×36	51.5	68	351	355	280	22	445	311	271	684
180L	4.6.8	279	279	/	121	48	110	14	42.5	180	15	M16×36	51.5	68	351	355	280	22	445	349	271	722
200L	2~8	318	305	/	133	55	110	16	49	200	19	M20×42	59	70	388	397	310	25	492	369	296	774
225S	4.8	356	286	/	149	60	140	18	53	225	19	M20×42	64	79	430	445	335	28	540	361	329	822
225M	2	356	311	/	149	55	110	16	49	225	19	M20×42	59	79	430	445	335	28	540	386	299	816
	4~8	356	311	/	149	60	140	18	53	225	19	M20×42	64	79	430	445	335	28	540	386	329	847
250S/M	2	406	311	349	168	60	140	18	53	250	24	M20×42	59	97	484	484	375	30	616	445	348	911
	4~8	406	311	349	168	65	140	18	58	250	24	M20×42	64	80	484	484	375	30	616	445	348	911
280S	2	457	368	/	190	65	140	18	58	280	24	M20×42	64	85	542	542	405	35	672	485	357	965
	4~8	457	368	/	190	75	140	20	67.5	280	24	M20×42	69	85	542	542	405	35	672	485	357	965
280M	2	457	419	/	190	65	140	18	58	280	24	M20×42	69	85	542	542	405	35	672	536	357	1016
	4~8	457	419	/	190	75	140	20	67.5	280	24	M20×42	79.5	85	542	542	405	35	672	536	357	1016
315S	2	508	406	/	216	65	140	18	58	315	28	M20×46	69	120	628	620	530	45	815	570	397	1201
	4~8	508	406	/	216	80	170	22	71	315	28	M20×46	85	120	628	620	530	45	815	570	427	1231
315M/L	2	508	457	508	216	65	140	18	58	315	28	M20×46	69	120	628	620	530	45	815	680	397	1311
	4~8	508	457	508	216	80	170	22	71	315	28	M20×46	85	120	628	620	530	45	815	680	427	1341
315LX	2	508	508	560	216	65	170	18	58	315	28	M20×46	69	120	628	620	560	45	847	851	397	1501
	4~8	508	508	560	216	80	170	22	71	315	28	M20×46	85	120	628	620	560	45	847	851	427	1531

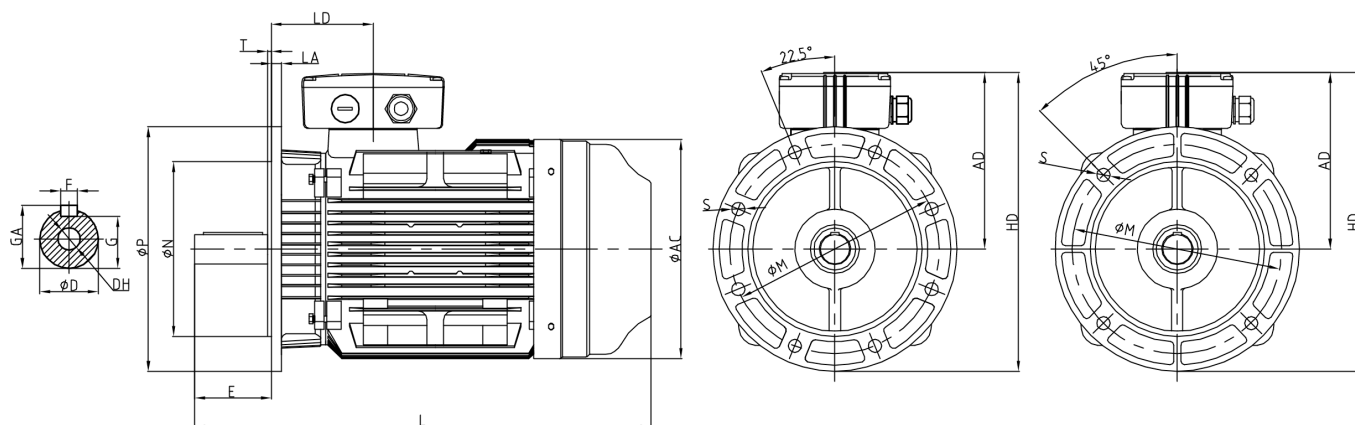
B35 Mounting and Overall Dimensions



Frame Size	Poles	Mounting and Overall Dimensions (mm)																										
		A	B	BI	C	D	E	F	G	H	K	M	N	P	S	T	DH	GA	AA	AB	AC	AD	BB	HA	HD	LA	LD	L
160M	2~8	254	210	/	108	42	110	12	37	160	15	300	250	350	4-φ19	5	M16×36	45	64	315	314	265	260	20	425	15	256	610
160L	2~8	254	254	/	108	42	110	12	37	160	15	300	250	350	4-φ19	5	M16×36	45	64	315	314	265	305	20	425	15	256	654
180M	2	279	241	/	121	48	110	14	42.5	180	15	300	250	350	4-φ19	5	M16×36	51.5	70	351	355	280	315	22	460	15	271	684
180L	4~8	279	279	/	121	48	110	14	42.5	180	15	300	250	350	4-φ19	5	M16×36	51.5	70	351	355	280	350	22	460	15	271	722
200L	2~8	318	305	/	133	55	110	16	49	200	19	350	300	400	4-φ19	5	M20×42	59	70	388	397	310	370	25	510	17	296	774
225S	4~8	356	286	/	149	60	140	18	53	225	19	400	350	450	8-φ19	5	M20×42	64	75	430	445	335	370	28	555	20	329	822
225M	2	356	311	/	149	55	110	16	49	225	19	400	350	450	8-φ19	5	M20×42	59	75	430	445	335	395	28	555	20	299	816
	4~8	356	311	/	149	60	140	18	53	225	19	400	350	550	8-φ19	5	M20×42	64	75	430	445	335	395	28	555	20	329	847
250S/M	2	406	311	349	168	60	140	18	53	250	24	500	450	550	8-φ19	5	M20×42	64	80	484	484	375	445	30	625	22	348	911
	4~8	406	311	349	168	65	140	18	58	250	24	500	450	550	8-φ19	5	M20×42	69	80	484	484	375	445	30	625	22	348	911
280S	2	457	368	/	190	65	140	18	58	280	24	500	450	550	8-φ19	5	M20×42	69	85	542	542	405	490	35	685	22	357	965
	4~8	457	368	/	190	75	140	20	67.5	280	24	500	450	550	8-φ19	5	M20×42	79.5	85	542	542	405	490	35	685	22	357	965
280M	2	457	419	/	190	65	140	18	58	280	24	500	450	550	8-φ19	5	M20×42	69	85	542	542	405	540	35	685	22	357	1016
	4~8	457	419	/	190	75	140	20	67.5	280	24	600	550	660	8-φ24	6	M20×46	79.5	85	542	542	405	540	35	685	22	357	1016
315S	2	508	406	/	216	65	140	18	58	315	28	600	550	660	8-φ24	6	M20×46	69	120	628	620	530	570	45	845	22	397	1201
	4~8	508	406	/	216	80	170	22	71	315	28	600	550	660	8-φ24	6	M20×46	85	120	628	620	530	570	45	845	22	427	1231
315M/L	2	508	457	508	216	65	140	18	58	315	28	600	550	660	8-φ24	6	M20×46	69	120	628	620	530	680	45	845	22	397	1311
	4~8	508	457	508	216	80	170	22	71	315	28	600	550	660	8-φ24	6	M20×46	85	120	628	620	530	680	45	845	22	427	1341
315LX	2	508	508	560	216	65	140	18	58	315	28	600	550	660	8-φ24	6	M20×46	69	120	628	620	560	851	45	847	22	397	1501
	4~8	508	508	560	216	80	170	22	71	315	28	600	550	660	8-φ24	6	M20×46	85	120	628	620	560	851	45	847	22	427	1531

R=0 distance from flange to shaft shoulder

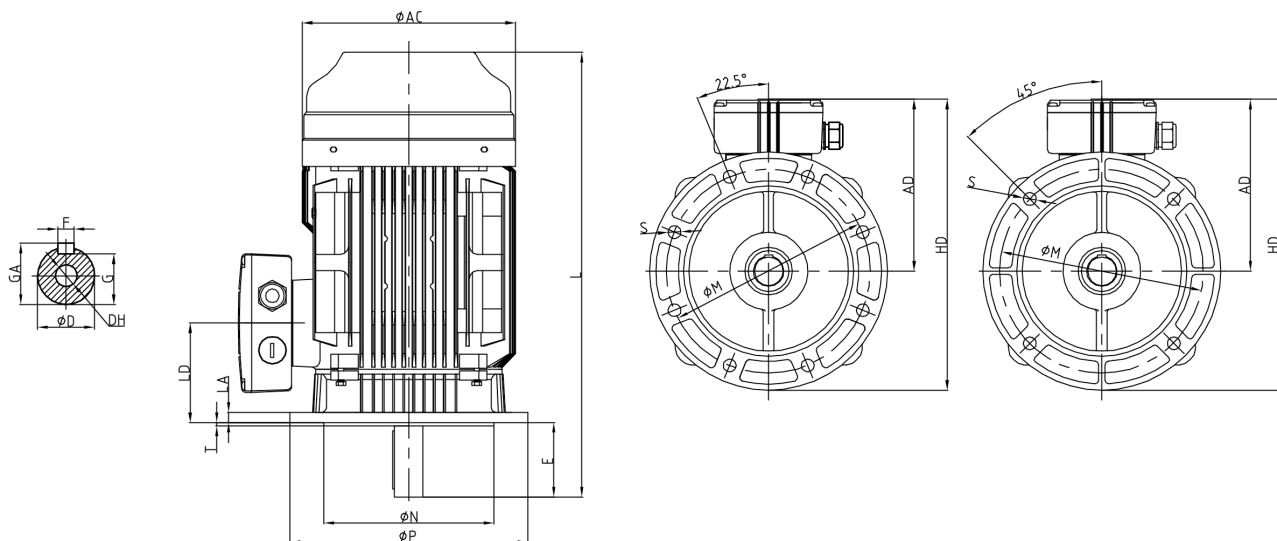
B5 Mounting and Overall Dimensions



Frame Size	Poles	Mounting and Overall Dimensions (mm)																										
		A	B	BI	C	D	E	F	G	H	K	M	N	P	S	T	DH	GA	AA	AB	AC	AD	BB	HA	HD	LA	LD	L
160M	2~8	254	210	/	108	42	110	12	37	160	15	300	250	350	4-φ19	5	M16×36	45	64	315	314	265	260	20	425	15	256	610
160L	2~8	254	254	/	108	42	110	12	37	160	15	300	250	350	4-φ19	5	M16×36	45	64	315	314	265	305	20	425	15	256	654
180M	2	279	241	/	121	48	110	14	42.5	180	15	300	250	350	4-φ19	5	M16×36	51.5	70	351	355	280	315	22	460	15	271	684
180L	4~8	279	279	/	121	48	110	14	42.5	180	15	300	250	350	4-φ19	5	M16×36	51.5	70	351	355	280	350	22	460	15	271	722
200L	2~8	318	305	/	133	55	110	16	49	200	19	350	300	400	4-φ19	5	M20×42	59	70	388	397	310	370	25	510	17	296	774
225S	4~8	356	286	/	149	60	140	18	53	225	19	400	350	450	8-φ19	5	M20×42	64	75	430	445	335	370	28	555	20	329	822
225M	2	356	311	/	149	55	110	16	49	225	19	400	350	450	8-φ19	5	M20×42	59	75	430	445	335	395	28	555	20	299	816
	4~8	356	311	/	149	60	140	18	53	225	19	400	350	550	8-φ19	5	M20×42	64	75	430	445	335	395	28	555	20	329	847
250S/M	2	406	311	349	168	60	140	18	53	250	24	500	450	550	8-φ19	5	M20×42	64	80	484	484	375	445	30	625	22	348	911
	4~8	406	311	349	168	65	140	18	58	250	24	500	450	550	8-φ19	5	M20×42	69	80	484	484	375	445	30	625	22	348	911
280S	2	457	368	/	190	65	140	18	58	280	24	500	450	550	8-φ19	5	M20×42	69	85	542	542	405	490	35	685	22	357	965
	4~8	457	368	/	190	75	140	20	67.5	280	24	500	450	550	8-φ19	5	M20×42	79.5	85	542	542	405	490	35	685	22	357	965
280M	2	457	419	/	190	65	140	18	58	280	24	500	450	550	8-φ19	5	M20×42	69	85	542	542	405	540	35	685	22	357	1016
	4~8	457	419	/	190	75	140	20	67.5	280	24	600	550	660	8-φ24	6	M20×46	79.5	85	542	542	405	540	35	685	22	357	1016
315S	2	508	406	/	216	65	140	18	58	315	28	600	550	660	8-φ24	6	M20×46	69	120	628	620	530	570	45	845	22	397	1201
	4~8	508	406	/	216	80	170	22	71	315	28	600	550	660	8-φ24	6	M20×46	85	120	628	620	530	570	45	845	22	427	1231
315M/L	2	508	457	508	216	65	140	18	58	315	28	600	550	660	8-φ24	6	M20×46	69	120	628	620	530	680	45	845	22	397	1311
	4~8	508	457	508	216	80	170	22	71	315	28	600	550	660	8-φ24	6	M20×46	85	120	628	620	530	680	45	845	22	427	1341

R=0 distance from flange to shaft shoulder

VI Mounting and Overall Dimensions



Frame Size	Poles	Mounting and Overall Dimensions (mm)															
		D	E	F	G	M	N	P	S	T	DH	GA	AC	LA	HD	LD	L
160M	2~8	42	110	12	37	300	250	350	4- $\phi 19$	5	M16 \times 36	45	314	15	428	146	610
160L	2~8	42	110	12	37	300	250	350	4- $\phi 19$	5	M16 \times 36	45	314	15	428	146	654
180M	2.4	48	110	14	42.5	300	250	350	4- $\phi 19$	5	M16 \times 36	51.5	355	15	444	161	684
180L	4~8	48	110	14	42.5	300	250	350	4- $\phi 19$	5	M16 \times 36	51.5	355	15	444	161	722
200L	2~8	55	110	16	49	350	300	400	4- $\phi 19$	5	M20 \times 42	59	397	17	496	186	774
225S	4.8	60	140	18	53	400	350	450	8- $\phi 19$	5	M20 \times 42	64	445	20	544	189	822
225M	2	55	110	16	49	400	350	450	8- $\phi 19$	5	M20 \times 42	59	445	20	544	189	816
	4~8	60	140	18	53	400	350	450	8- $\phi 19$	5	M20 \times 42	64	445	20	544	189	847
250M	2	60	140	18	53	500	450	550	8- $\phi 19$	5	M20 \times 42	64	484	22	645	208	911
	4~8	65	140	18	58	500	450	550	8- $\phi 19$	5	M20 \times 42	69	484	22	645	208	911
280S	2	65	140	18	58	500	450	550	8- $\phi 18.5$	5	M20 \times 42	69	546	22	675	217	965
	4~8	75	140	20	67.5	500	450	550	8- $\phi 18.5$	5	M20 \times 42	79.5	546	22	675	217	965
280M	2	65	140	18	58	500	450	550	8- $\phi 18.5$	5	M20 \times 42	69	546	22	675	217	1016
	4~8	75	140	20	67.5	500	450	550	8- $\phi 18.5$	5	M20 \times 42	79.5	546	22	675	217	1016
315S	2	65	140	18	58	600	550	660	8- $\phi 24$	6	M20 \times 46	69	620	22	815	257	1201
	4~8	80	170	22	71	600	550	660	8- $\phi 24$	6	M20 \times 46	85	620	22	815	257	1231
315M/L	2	75	140	20	67.5	740	680	800	8- $\phi 24$	6	M20 \times 46	79.5	698	25	970	284	1311
	4~8	95	170	25	86	740	680	800	8- $\phi 24$	6	M20 \times 46	100	698	25	970	284	1341
355M/L	2	75	140	20	67.5	740	680	800	8- $\phi 24$	6	M20 \times 46	79.5	698	25	990	284	1501
	4~8	95	170	25	86	740	680	800	8- $\phi 24$	6	M20 \times 46	100	698	25	990	284	1531

R=0 distance from flange to shaft shoulder

Bearings

Frame Size	Driving End		Non-driving End	
	2 Pole	4 Pole	2 Pole	4,6,8 Pole
160	6309C3	6309C3	6209C3	6209C3
180	6311C3	6311C3	6211C3	6211C3
200	6312C3	6312C3	6212C3	6212C3
225	6312C3	6313C3	6312C3	6312C3
250	6313C3	6315C3	6313C3	6313C3
280	6314C3	6317C3	6314C3	6314C3
315	6317C3	NU319	6317C3/7317B(V1)	6319C3/7319B(V1)

R=0 distance from flange to shaft shoulder



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