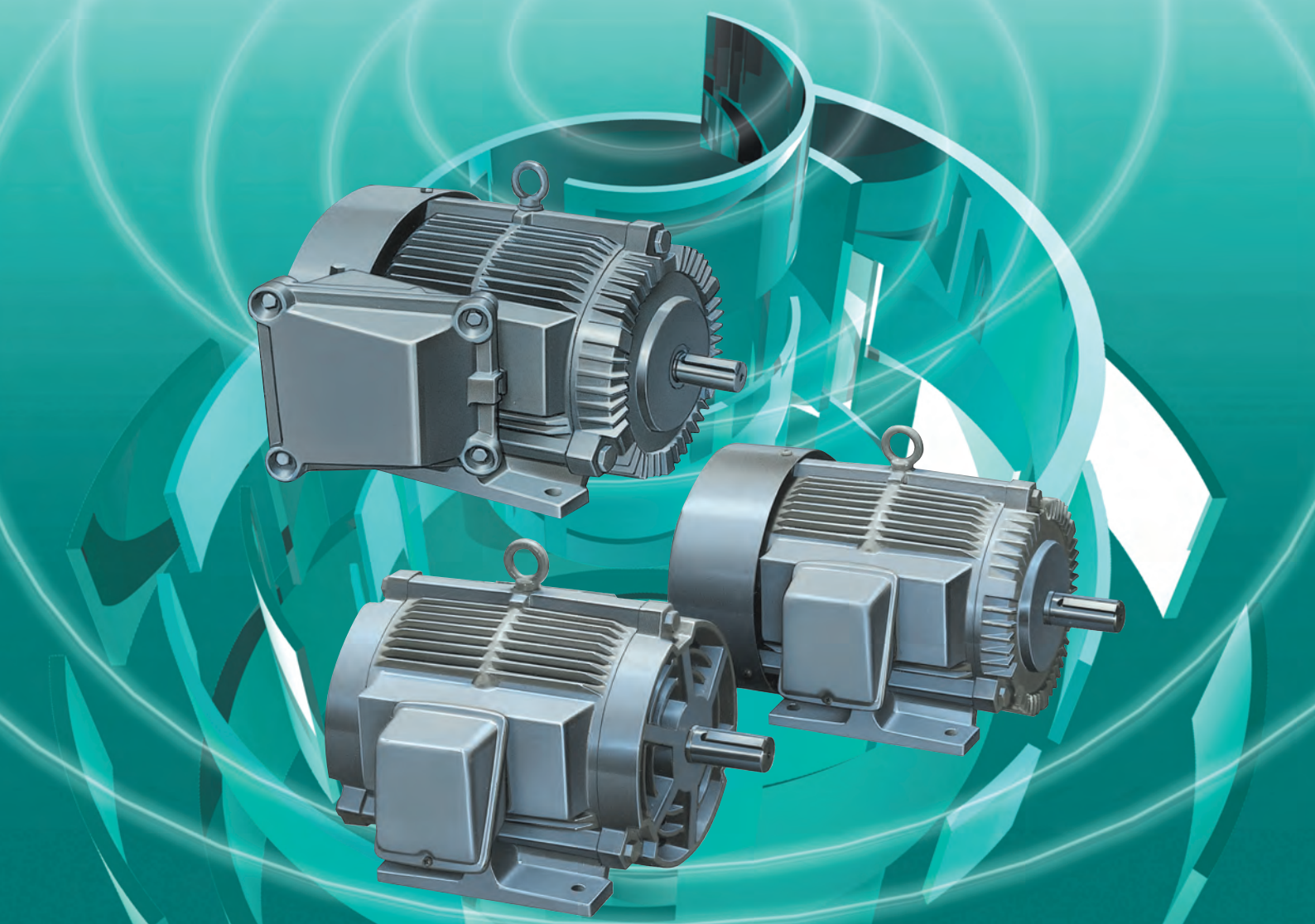
LITTLE KING 85 Series

MEIDEN

Low-Voltage 3-Phase Induction Motor

Squirrel Cage-Rotor Type

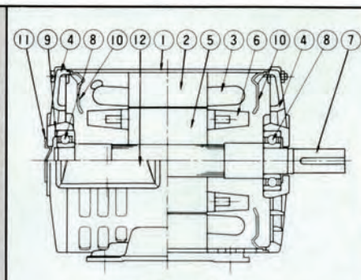
Our abundant experience and solid technical expertise maximize the performance of industrial machines



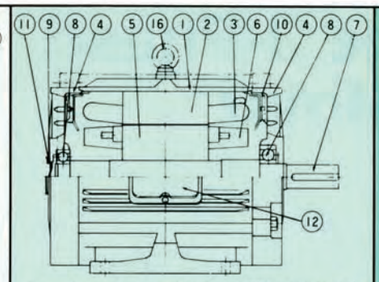
Empower for new days

Motor Construction

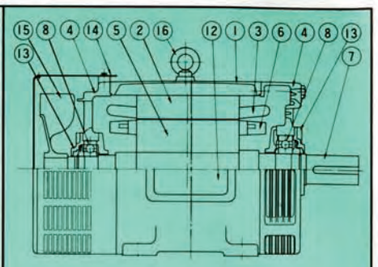
Protected drip-proof type



Frame Nos 80L~112M

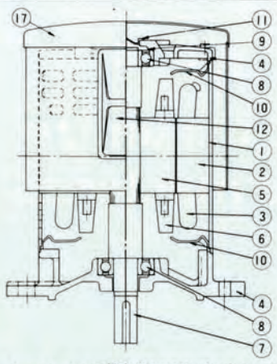


Frame Nos 132S~180M (The Frame 180M is provided with ventilation holes in its frame.)

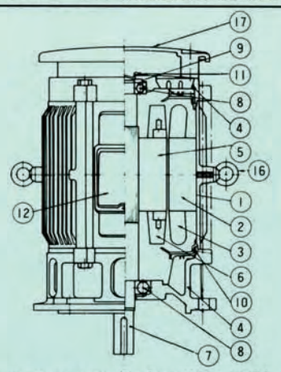


Frame Nos 180L~280M

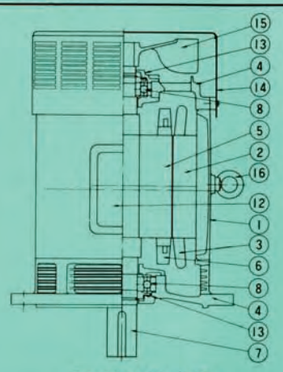
Vertical protected drip-proof type



Frame Nos 90L~112M (Only this construction is provided with vertical protected type.)



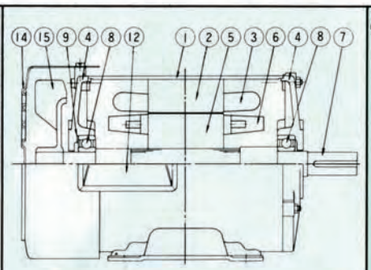
Frame Nos 132S~180M (The Frame 180M is provided with ventilation holes in its frame.)



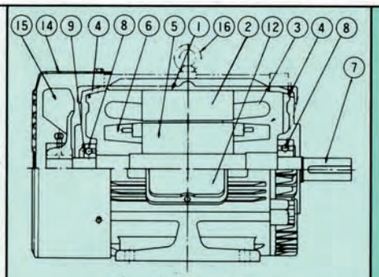
Frame Nos 180L~250M

No.	Name	No.	Name	No.	Name	No.	Name
①	Frame	⑥	Rotor fan	⑪	End lid	⑯	Eye bolt
②	Stator core	⑦	Shaft	⑫	Terminal box	⑰	Drip-proof cover
③	Stator winding	⑧	Bearing	⑬	Bearing box	⑱	Inner cover
④	Bracket	⑨	Corrugate spring	⑭	Outer cover		
⑤	Rotor core	⑩	Fan guide	⑮	Fan		

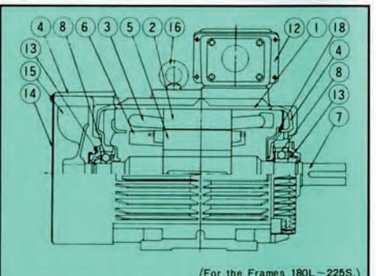
Totally-enclosed, frame surface cooled type



Frame Nos 63~80

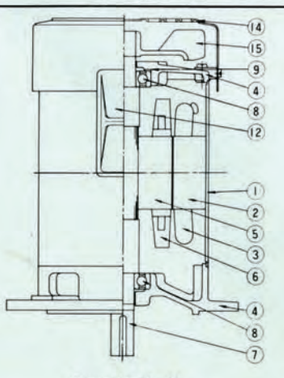


Frame Nos 90L~180M

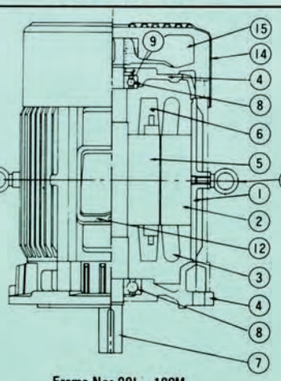


Frame Nos 180L~315M (For the Frames 180L~225S, terminal boxes are of side mounting type.)

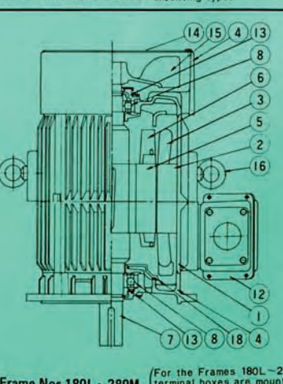
Vertical totally-enclosed, frame surface cooled type



Frame Nos 63~80



Frame Nos 90L~180M

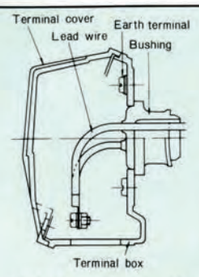


Frame Nos 180L~280M (For the Frames 180L~225S, terminal boxes are mounted in different positions.)

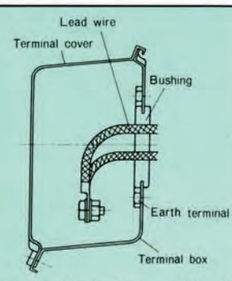
<Note> The above construction varies with Frame No.

Terminal Construction

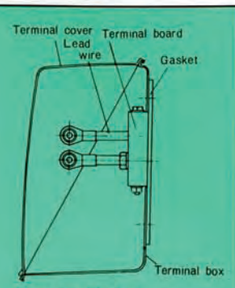
Indoor type



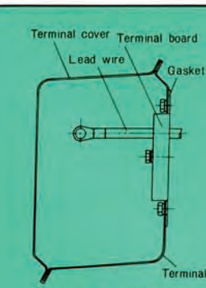
Frame Nos of Protected type 80~112
Frame Nos Totally-enclosed type 80
(Bushing type)



Frame Nos of Protected type 132~160
Frame Nos Totally-enclosed type 90~160
(Bushing type)

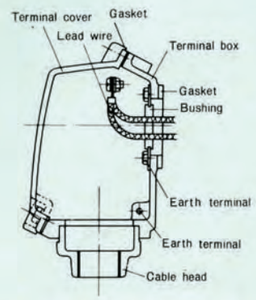


Frame Nos. 180~225
(Clamp type)

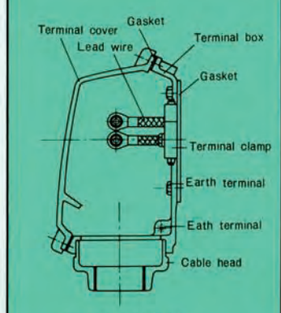


Frame Nos.250~315
(Clamp type)

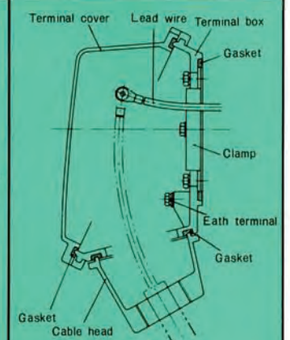
Outdoor type



Frame No.160 and below (Bushing type)



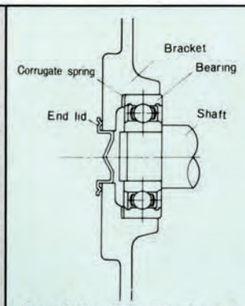
Frame Nos. 180~225
(Clamp type)



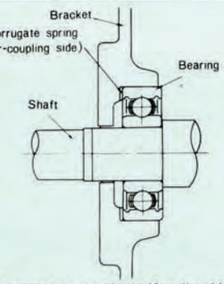
Frame Nos. 250~315
(Clamp type)

Bearing Construction

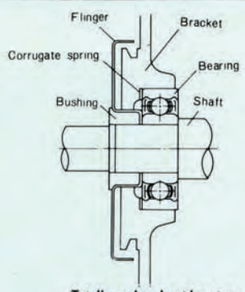
Shielded bearing type



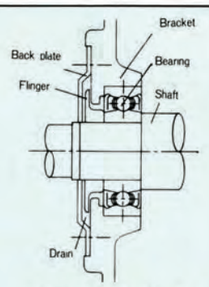
Protected drip-proof type (Opposite-coupling side)



Protected drip-proof type (Coupling side)
Totally-enclosed splash-proof type

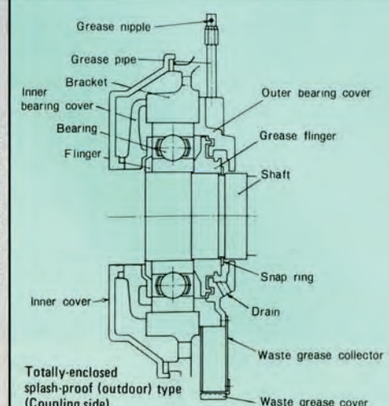


Totally-enclosed outdoor type
(Opposite-coupling side)

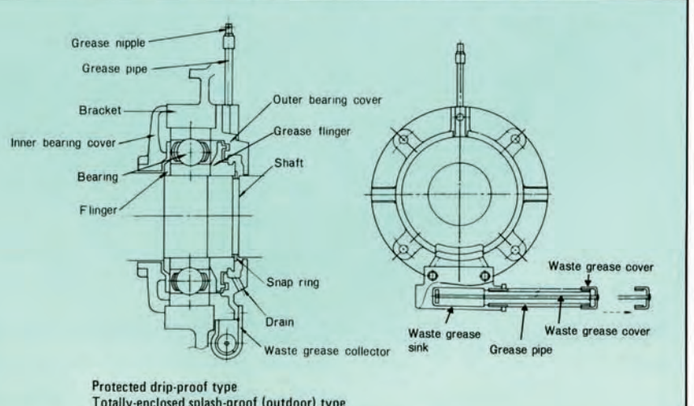


Totally-enclosed outdoor type
(Opposite-coupling side)

Grease supplement type



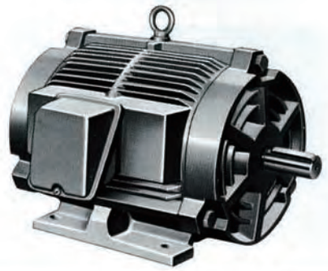
Totally-enclosed splash-proof (outdoor) type
(Coupling side)



Protected drip-proof type
Totally-enclosed splash-proof (outdoor) type

Protected Drip-Proof Type (TypeED85)

Protection type	IP22
Cooling type	IC01



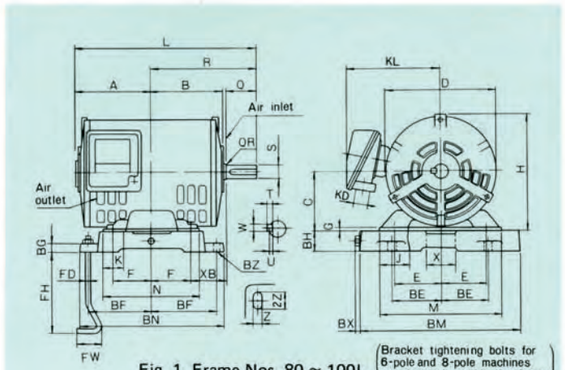
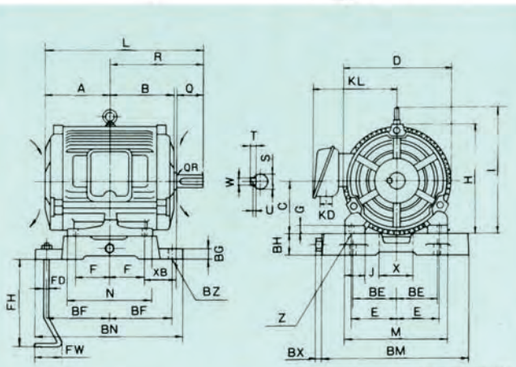


Fig. 1 Frame Nos 80 ~ 100L
Frame No. 112M

(Bracket tightening bolts for 6-pole and 8-pole machines are located outside the frame)
(Only 2-pole and 4-pole machines are attached hunging bolt.)



X:Sliding distance

Fig. 2 Frame No. 112M (6-pole and 8-pole)

External Dimension

Frame No.	Output (kW) 2-pole	4-pole	6-pole	8-pole	Class of Insulation	Fig. No.	Motor A	B	C	D	E	F	G	H	I	J	K	L	M	N	Z	XB	KD	KL
80	0.75	0.75	0.4	0.2	E	1	97.5	96	80	(155) 146	62.5	50	3	(165) 155	–	34	28	237.5	160	128	10×20	50	22	139
90L	1.5 2.2	1.5	0.75	0.4	E	1	115.5	114	90	(170) 161	70	62.5	4	(183) 172.5	–	36	30	284	175	155	10×20	56	22	146
100L	–	2.2	1.5	0.75	E	1	130	128.5	100	(190) 182	80	70	4	(204) 193	–	42	34	323	200	175	12×24	63	22	156
112M	3.7	3.7	–	–	E	1	137.5	135.5	112	202	95	70	4	229	262	42	34	337.5	230	175	12×24	70	22	167
112M	–	–	2.2	1.5	E	2	135.5	135.5	112	225	95	70	14	233	266.5	45	–	335.5	226	176	12	70	22	170
132S	5.5 7.5	5.5	3.7	*2.2	B	3	151.5	153	132	253.5	108	70	16	270	311.5	50	–	390.5	252	176	12	89	34	213
132M	–	7.5	5.5	3.7	B	3	170.5	172	132	253.5	108	89	16	270	311.5	50	–	428.5	252	214	12	89	34	213
160M	11 15	11	7.5	5.5	B	3	207	207	160	298.5	127	105	20	318	369	60	61	530	315	262	15	108	34	238
160L	18.5	15	11	7.5	B	3	229	229	160	298.5	127	127	20	318	369	60	63	574	315	306	15	108	34	238
160L	22	18.5	–	–	B	3	229	229	160	298.5	127	127	20	318	369	60	63	574	315	306	15	108	34	238
180M	30	22 30	15 18.5	11 15	B	4	236	(237.5) 236	180	341	139.5	120.5	22	367	427	70	65	587.5	350	294	15	121	49	320
180LH	37 45	–	–	–	F	5	330	256	180	378	139.5	139.5	22	365	425	70	68	700.5	350	332	15	121	62	320
180L	–	37 45	22 30	15 18.5				255										730.5						
200MH	55	–	–	–	F	5	342	262	200	418	159	133.5	25	405	465	80	80	718.5	395	334	19	133	62	344
200M%	–	55	37 45	30				262.5										748.5						
225SH	75	–	–	–	F	5	393	286	225	473	178	143	28	457	528	85	85	795	445	353	19	149	62	374
225S%	–	75	55	37				286.5										825						
225MH	90	–	–	–	F	5	405.5	298.5	225	473	178	155.5	28	457	528	85	85	820	445	378	19	149	62	374
225M%	–	90	75	45			405.5	299										850						
250SH	110	–	–	–	F	6	475	316	250	525	203	155.5	36	–	605	90	100	908.5	500	380	24	168	120×160	463
250S%	–	110	90	55				319										968.5						
250MH	132	–	–	–	F	6	496	335	250	525	203	174.5	36	–	605	90	100	948.5	500	420	24	168	120×160	463
250M%	–	132	110	75				338										1008.5						
280SH	160	–	–	–	F	6	515	366	280	585	228.5	184	36	–	685	100	110	999	560	440	24	190	120×160	493
280S%	–	160	132	90				368										1059						
280MH	200	–	–	–	F	6	569.5	391	280	585	228.5	209.5	36	–	685	100	110	1079	560	490	24	190	120×160	493
280M%	–	200	160	110				393										1139						

<Notes>
1. Tolerance for size S is j6 for ϕ28 or less, k6 for ϕ38 to ϕ48 and m6 for ϕ55 or over, according to JIS B 0401 (Limits and fits for engineering).
2. Tolerance for size C is 0 to –0.5 for 250 or less and 0 to –1.0 in case of exceeding 250.
3. Frame No. C/B show direct coupling (C) and belt driving (B) and the two types have different kinds of bearings at coupling sides.

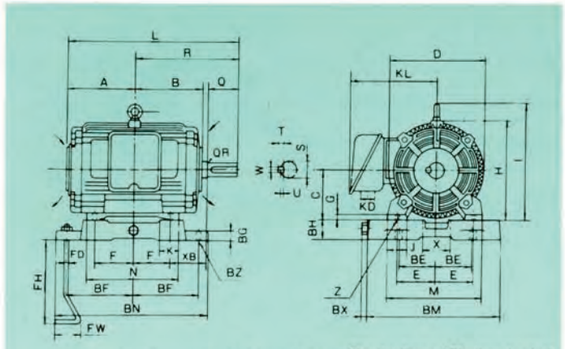


Fig. 3 Frame Nos 132S ~ 160L (For the Frame 132, three bracket mounting bolts are used.)

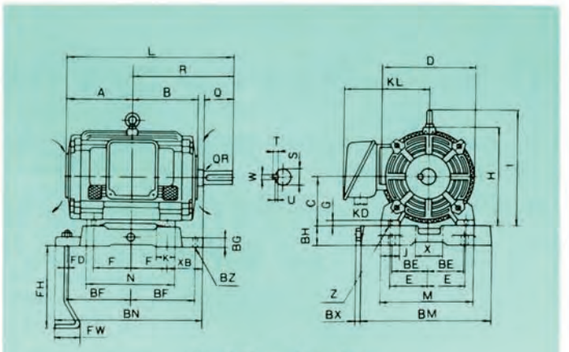


Fig. 4 Frame No. 180M

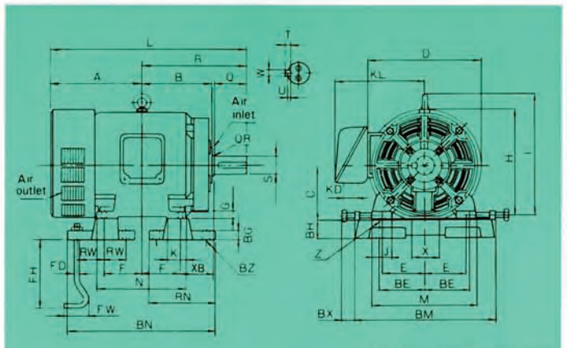


Fig. 5 Frame Nos 180L ~ 225M (The Frames 180L~200L are provided with slide bases.)

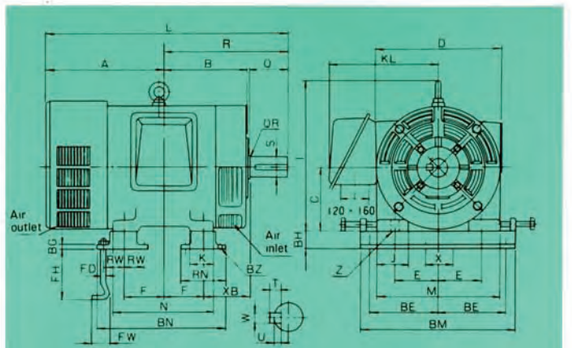


Fig. 6 Frame Nos 250M ~ 280M

Shaft R	S	Q	T	U	W	QR	Slide base (Rail) BE	BF	BG	BH	BM	BN	BZ	BX	RW	RN	X	Foundation bolt FD	FH	FW	Bearing No. Coupling side	Opposite coupling side	Approx. mass (kg) Motor	Base	Frame No.
140	19	40	6	3.5	6	0.3	65	90	15	30	214	210	13	9	–	–	40	10	95	40	6204ZZ	6204ZZ	11.5	2.0	80
168.5	24	50	7	4	8	0.3	70	105	15	30	230	240	13	9	–	–	40	10	95	40	6205ZZ	6205ZZ	17	2.2	90L
193	28	60	7	4	8	0.5	80	115	20	40	270	260	13	9	–	–	50	10	90	40	6206ZZ	6205ZZ	24	3.0	100L
200	28	60	7	4	8	0.5	95	115	20	40	290	260	13	9	–	–	50	10	90	40	6306ZZ	6206ZZ	35	3.5	112M
200	28	60	7	4	8	0.5	95	115	20	40	290	260	13	9	–	–	50	10	90	40	6306ZZ	6206ZZ	40	3.5	112M
239	38	80	8	5	10	0.5	110	120	25	45	355	280	13	10.5	–	–	60	10	85	40	6308ZZ	6207ZZ	55	5.0	132S
258	38	80	8	5	10	0.5	110	140	25	45	360	318	13	10.5	–	–	60	10	85	40	6308ZZ	6207ZZ	69	6.0	132M
323	42	110	8	5	12	0.5	125	165	30	50	406	380	16	10.5	–	–	70	12	115	50	6309ZZ	6308ZZ	100	8.5	160M
345	42	110	8	5	12	0.5	125	185	30	50	406	420	16	10.5	–	–	70	12	115	50	6309ZZ	6308ZZ	110	10.0	160L
345	48	110	9	5.5	14	0.5	125	185	30	50	406	420	16	10.5	–	–	70	12	115	50	6310ZZ	6308ZZ	130	10.0	160L
351.5	55	110	10	6	16	1	140	185	35	55	456	420	16	11.5	–	–	80	12	115	50	(6312) 6312ZZ	(6308ZZ) 6310ZZ	190	13.0	180M
370.5	55	110	10	6	16	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	6312	6308ZZ	210	–	180LH
400.5	60	140	11	7	18	0.5	140	205	35	55	456	460	16	11.5	–	–	80	12	115	50	6313ZZ	6311ZZ	215	14	180L
376.5	55	110	10	6	16	1	–	–	–	–		–	–	–	–	–	–	–	–	–	6312	6308ZZ	250	–	200MH
406.5	65	140	11	7	18	1	160	210	35	60	535	470	18	13	–	–	100	16	150	63	6314C3/NU314	6312ZZ	260	17.5	200M%
402	55	110	10	6	16	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	6312	6308ZZ	315	–	225SH
432	75	140	12	7.5	20	1	200	–	35	71	770	476	20	225	71	190	180	16	265	63	6316C3/NU316	6313ZZ	325	38	225S%
414.5	55	110	10	6	16	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	6312	6308ZZ	350	–	225MH
444.5	75	140	12	7.5	20	1	200	–	35	71	770	501	20	225	71	190	180	16	265	63	6316C3/NU316	6313ZZ	360	38	225M%
433.5	55	110	10	6	16	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	6312	6312	470	–	250SH
493.5	85	170	14	9	22	1	315	–	30	85	900	521	19	250	80	210	180	16	265	63	6318C3/NU318	6315ZZ	485	65	250S%
452.5	55	110	10	6	16	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	6312	6312	515	–	250MH
512.5	85	170	14	9	22	1	315	–	30	85	900	559	19	250	80	210	180	16	265	63	6318C3/NU318	6315ZZ	530	65	250M%
484	55	110	10	6	16	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	6312	6312	620	–	280SH
544	95	170	14	9	25	1	315	–	30	85	900	578	19	250	80	210	200	16	265	63	6320C3/NU320	6317	640	65	280S%
509.5	55	110	10	6	16	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	6312	6312	710	–	280MH
569.5	95	170	14	9	25	1	315	–	30	85	900	629	19	250	80	210	200	16	265	63	6320C3/NU320	6317	730	65	280M%

4. In case of V-belts, after reference the table of "Application of V-Belts and V-Pully" (P16), please be careful with selection and installation.
5. Bearing Nos. in the parenthesis show the one for 2-pole motors.
6. In frame Nos. 80 to 100L, sizes D and H in brackets are those of 6 and 8-pole motors.
7. Size may be changed. Please inquire sizes, when used for design.
8. In frame No. 180M, size B in bracket is 2-pole motor.
9. 2.2kW-8-pole in marked symbol* is class E insulation.

Vertical Protected Type (Type VE90)

Vertical Protected Drip-Proof Type (Type VED85)

Protected Drip-Proof Flange-Mounted Type (Type HED85)

Protection type	90L~100L, 112M (2,4-pole)	IP20
	112M (6,8-pole), 132S~250M	IP22
Cooling type		IC01

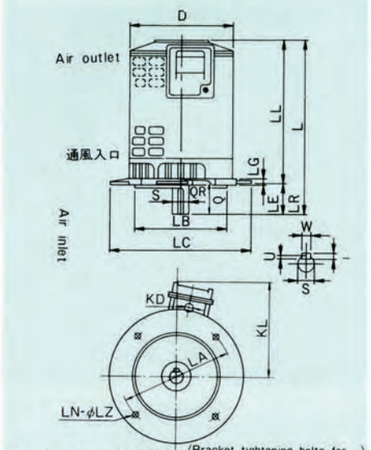


Fig. 1 Frame Nos 90L ~ 100L (Bracket tightening bolts for 6-pole and 8-pole machines are located outside the frame)
Frame No.112M (Only 2-pole and 4-pole machines are attached hunging bolt.)

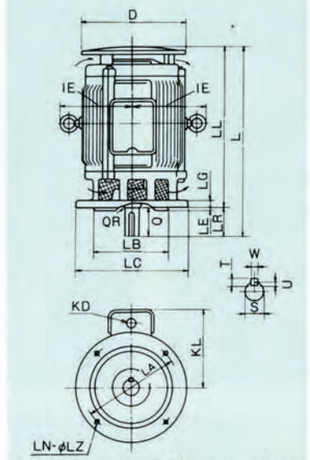


Fig. 2 Frame No. 112M (6-pole and 8-pole)

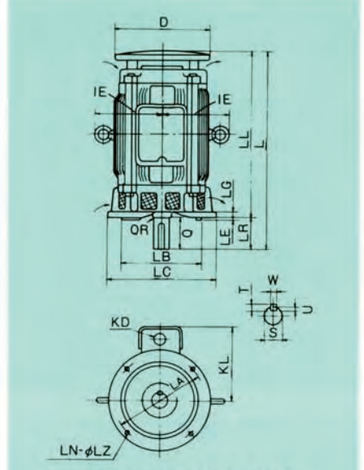
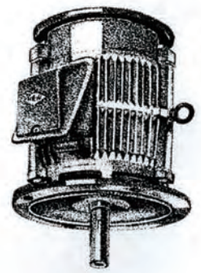


Fig. 3 Frame Nos 132S ~ 160L

External Dimension

Flange No.	Frame No.	Output (kW) 2-pole	4-pole	6-pole	8-pole	Class of Insulation	Fig. No.	Motor D	LL	L	IE	LA	LB	LC	LE	LG	LZ	LN	LR	KD	KL
FF165	90L	1.5 2.2	1.5	0.75	0.4	E	1	161	305.5	255.5	—	165	130	200	3.5	12	12	4	50	22	149
FF215	100L	—	2.2	1.5	0.75	E	1	182	341	281	—	215	180	250	4	16	15	4	60	22	158
	112M	3.7	3.7	—	—	E	1	202	363.5	303.5	150	215	180	250	4	16	15	4	60	22	169
	112M	—	—	2.2	1.5	E	2	240	421	361	155	215	180	250	4	16	15	4	60	22	170
FF265	132S	5.5 7.5	5.5	3.7	*2.2	B	3	270	485	405	180	265	230	300	4	20	15	4	80	34	213
	132M	—	7.5	5.5	3.7	B	3	270	523	443	180	265	230	300	4	20	15	4	80	34	213
FF300	160M	11 15	11	7.5	5.5	B	3	310	613	503	209	300	250	350	5	20	19	4	110	34	238
	160L	—	15	11	7.5	B	3	310	657	547	209	300	250	350	5	20	19	4	110	34	238
FF350	160L	18.5	—	—	—	B	3	310	657	547	209	350	300	400	5	20	19	4	110	34	238
	160L	22	18.5	—	—	B	3	310	657	547	209	350	300	400	5	20	19	4	110	34	238
	180M	30	22 30	15 18.5	11 15	B	4	362	671	561	247	350	300	400	5	20	19	4	110	49	320
FF400	180LH	37 45	—	—	—	F	5	378	700.5	590.5	247	400	350	450	5	22	19	8	110	62	320
	180L	—	37 45	22 30	18.5 22				730.5										140		
FF500	200MH	55	—	—	—	F	5	418	718.5	608.5	265	500	450	550	5	22	19	8	110	62	344
	200M$_{B}^{A}$	—	55	37 45	30				748.5										140		
	225SH	75	—	—	—	F	5	473	795	685	303	500	450	550	5	22	19	8	110	62	374
	225S$_{B}^{A}$	—	75	55	37				825										140		
	225MH	90	—	—	—	F	5	473	820	693.5	303	500	450	550	5	22	19	8	110	62	374
	225M$_{B}^{A}$	—	90	75	45				850										140		
FF600	250SH	110	—	—	—	F	6	525	908.5	798.5	315	600	550	660	6	25	24	8	110	120×160	463
	250S$_{B}^{A}$	—	110	90	55				968.5										170		
	250MH	132	—	—	—	F	6	525	948.5	838.5	315	600	550	660	6	25	24	8	110	120×160	463
	250M$_{B}^{A}$	—	132	110	75				1008.5										170		

<Notes>
1. Tolerance for size S is j6 for φ28 or less, k6 for φ38 to φ48 and m6 for φ55 or over, according to JIS B 0401 (Limits and fits for engineering).
2. Tolerance for size LB is j6 for φ450 or less and js6 for φ550 or over, according to JIS B 0401.
3. Frame No. C/B show direct coupling (C) and belt driving (B) and the two types have different kinds of bearings at coupling sides.



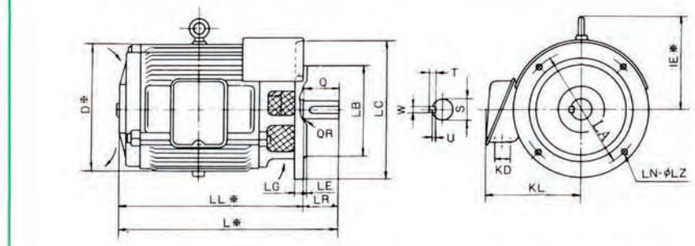


Fig. 7 Frame Nos. 90L~132M (Typical Drawing for Flange Type)

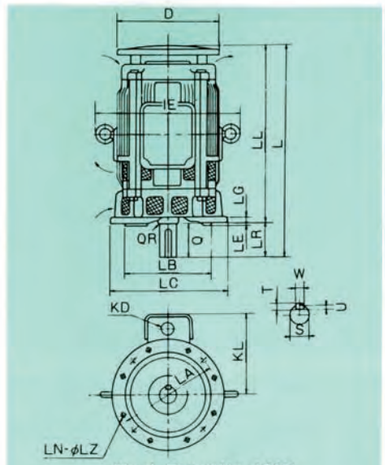


Fig. 4 Frame No. 180M

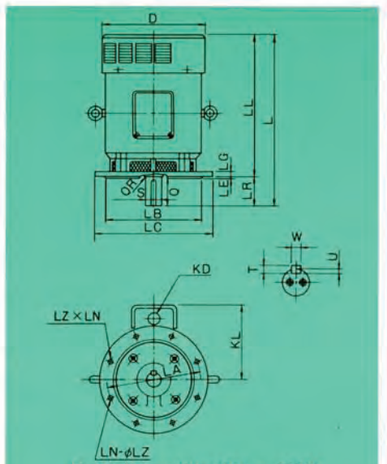


Fig. 5 Frame Nos 180L ~ 225M

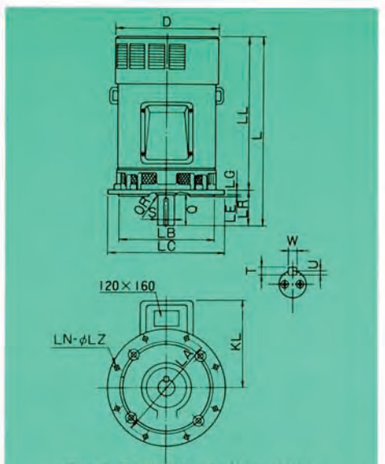


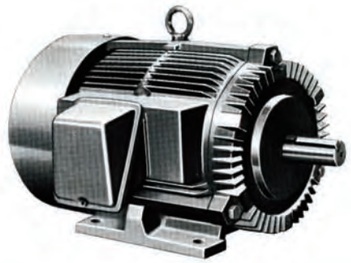
Fig. 6 Frame Nos 250S ~ 250M

Shaft S	Q	T	U	W	QR	Bearing No. Coupling side	Opposite coupling side	Approx. mass (kg)	Flange type D*	L*	LL*	IE*	Frame No.	Flange No.
24	50	7	4	8	0.3	6205ZZ	6205ZZ	19.5	161	305.5	255.5	—	90L	FF165
28	60	7	4	8	0.3	6206ZZ	6205ZZ	27	182	341	281	—	100L	FF215
28	60	7	4	8	0.5	6306ZZ	6206ZZ	40	202	363.5	303.5	150	112M	
28	60	7	4	8	0.5	6306ZZ	6206ZZ	45	225	381	321	155	112M	
38	80	8	5	10	0.5	6308ZZ	6207ZZ	62	253.5	441	361	180	132S	FF265
38	80	8	5	10	0.5	6308ZZ	6207ZZ	76	253.5	479	399	180	132M	
42	110	8	5	12	0.5	6309ZZ	6308ZZ	106	298.5	570	460	209	160M	FF300
42	110	8	5	12	0.5	6309ZZ	6308ZZ	127	298.5	614	504	209	160ML	
42	110	8	5	12	0.5	6309ZZ	6308ZZ	135	298.5	614	504	209	160ML	FF350
48	110	9	5.5	14	0.5	6310ZZ	6308ZZ	137	298.5	614	504	209	160ML	
55	110	10	6	16	1	(6312) 6312ZZ	(6308ZZ) 6310ZZ	200	341	628	518	247	180M	
55	110	10	6	16	1	6312	6308ZZ	200	378	700.5	590.5	247	180LH	FF400
60	140	11	7	18	0.5	6313ZZ	6311ZZ	205		730.5			180L	
55	110	10	6	16	1	6312	6308ZZ	240	418	718.5	608.5	265	200MH	FF500
65	140	11	7	18	1	6314C3/NU314	6312ZZ	250		748.5			200M$_{B}^{A}$	
55	110	10	6	16	1	6312	6308ZZ	305	473	778.5	668.5	303	225SH	
75	140	12	7.5	20	1	6316C3/NU316	6313ZZ	315		808.5			225S$_{B}^{A}$	
55	110	10	6	16	1	6312	6308ZZ	340	473	803.5	693.5	303	225MH	
75	140	12	7.5	20	1	6316C3/NU316	6313ZZ	350		833.5			225M$_{B}^{A}$	
55	110	10	6	16	1	6312	6312	460	525	908.5	798.5	315	250SH	FF600
85	170	14	9	22	1	6318C3/NU318	6315ZZ	475		968.5			250S$_{B}^{A}$	
55	110	10	6	16	1	6312	6312	505	525	948.5	838.5	315	250MH	
85	170	14	9	22	1	6318C3/NU318	6315ZZ	520		1008.5			250M$_{B}^{A}$	

4. In case of V-belts, after reference the table of "Application of V-Belts and V-Pully" (P16), please be careful with selection and installation.
5. Bearing Nos. in the parenthesis show the one for 2-pole motors.
6. Sizes of flange-mounted type are the same as those values of vertical type shown in the above table other than those marked symbol*.
7. In frame Nos. 80 to 100L, sizes D and H in brackets are those of 6 and 8-pole motors.
8. Size may be changed. Please inquire sizes, when used for design.

Totally-Enclosed Frame Surface Cooled Type (Type TIS85)

Protection type	63 ~ 71	Body IP44
	80 ~ 315M	IP44
Cooling type		IC0141



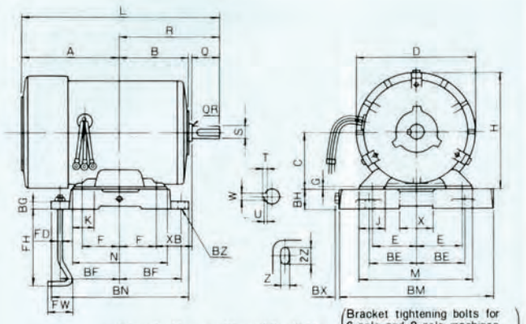


Fig. 1 Frame Nos 63 ~ 71 (Bracket tightening bolts for 6-pole and 8-pole machines are located outside the frame)

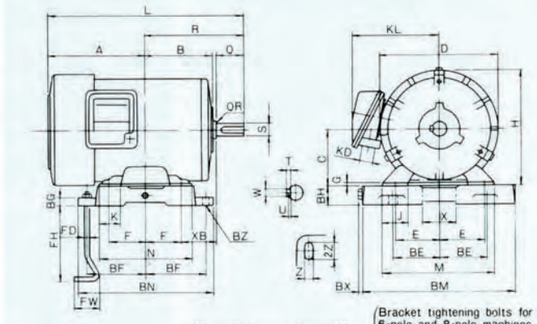


Fig. 2 Frame No. 80 (Bracket tightening bolts for 6-pole and 8-pole machines are located outside the frame)

External Dimension

Frame No.	Output (kW) 2-pole	4-pole	6-pole	8-pole	Class of Insulation	Fig No.	Motor A	B	C	D	E	F	G	H	I	J	K	L	M	N	Z	XB	KD	KL
63	0.2	0.2	–	–	E	1	108	76	63	129	50	40	2.5	128	–	25	20	211	125	100	7×14	40	–	–
71	0.4	0.4	0.2	–	E	1	120	86	71	145	56	45	3	144	–	27	22	240	140	112	7×14	45	–	–
80	0.75	0.75	0.4	0.2	E	2	140	96	80	167	62.5	50	3	163.5	–	34	28	280	160	128	10×20	50	22	139
90L	1.5 2.2	1.5	0.75	0.4	E	3	160.5	114	90	194	70	62.5	10	187	–	35	–	329	170	155	10	56	22	152
100L	–	2.2	1.5	0.75	E	3	180	128.5	100	220	80	70	12	210	243.5	40	–	373	196	176	12	63	22	160
112M	3.7	3.7	2.2	1.5	E	3	189	135.5	112	240	95	70	14	233	266.5	45	–	389	226	176	12	70	22	172
132S	5.5 7.5	5.5	3.7	*2.2	B	4	217	153	132	276	108	70	16	270	311.5	50	–	456	252	176	12	89	34	215
132M	–	7.5	5.5	3.7	B	4	236	172	132	276	108	89	16	270	311.5	50	–	494	252	214	12	89	34	215
160M	11 15	11	7.5	5.5	B	4	270	207	160	320	127	105	20	318	369	60	61	593	315	262	15	108	34	240
160L	18.5	15	11	7.5	B	4	292	229	160	320	127	127	20	318	369	60	63	637	315	306	15	108	34	240
180M	22	18.5 22	15	11	B	4	311	(237.5) 236	180	366	139.5	120.5	22	367	427	70	64.5	662.5	350	294	15	121	49	320
180L	30	30	18.5 22	15	F	5	330	(257.5) 255	180	366	139.5	139.5	22	367	427	70	68.5	700.5	350	332	15	121	49	320
200LH	37 45	–	–	–	F	5	361	281	200	409	159	152.5	25	405	465	80	81	756.5	400	372	19	133	62	344
200L	–	37 45	30 37	18.5 22				280										786.5						
225SH	55	–	–	–	F	5	376.5	286	225	462	178	143	28	457	528	80	85	778.5	440	355	19	149	62	374
225S*8	–	55	45	30				286.5										808.5						
250SH	75	–	–	–	F	6	481	317	250	530	203	155.5	32	740	–	90	100	914.5	500	385	24	168	62	–
250S*8	–	75	55	37				317.5										944.5						
250MH	90	–	–	–	F	6	500	336	250	530	203	174.5	32	740	–	90	100	952.5	500	425	24	168	62	–
250M*8	–	90	75	45				336.5										982.5						
280SH	110	–	–	–	F	6	510	363	280	590	228.5	184	32	805	–	100	110	994	560	450	24	190	77	–
280S*8	–	110	90	55				366										1054						
280MH	132	–	–	–	F	6	534.5	388.5	280	590	228.5	209.5	32	805	–	100	110	1044	560	500	24	190	77	–
280M*8	–	132	110	75				391.5										1104						
315SH	160	–	–	–	F	6	590	408	315	635	254	203	36	880	–	110	125	1119	630	500	28	216	77	–
315S*8	–	160	132	90				410										1179						
315MH	200	–	–	–	F	6	614.5	436.5	315	635	254	228.5	36	880	–	110	125	1169	630	550	28	216	77	–
315M*8	–	200	160	110				435.5										1229						

<Notes> 1. Tolerance for size S is h6 for ϕ11, j6 for ϕ14 to ϕ28, k6 for ϕ38 to ϕ48 and m6 for ϕ55 or over, according to JIS B 0401 (Limits and fits for engineering).
2. Tolerance for size C is 0 to −0.5 for 250 or less and 0 to −1.0 in case of exceeding 250.
3. Frame No. C/B show direct coupling (C) and belt driving (B) and the two types have different kinds of bearings at coupling sides.

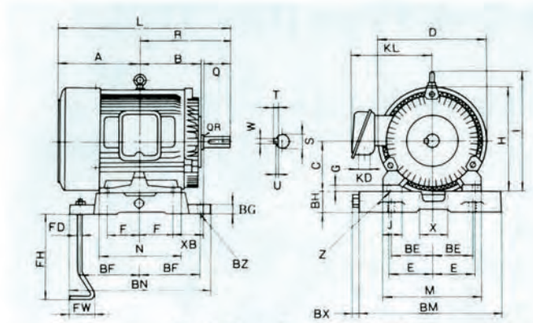


Fig. 3 Frame Nos 90L ~ 112M

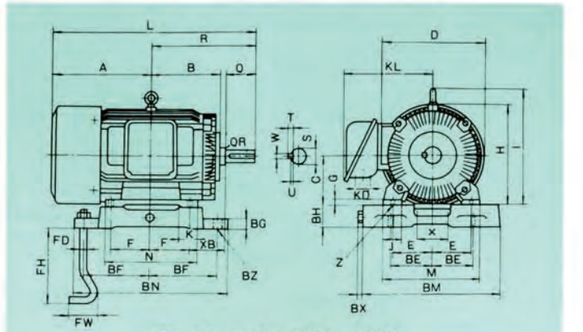


Fig. 4 Frame Nos 132S ~ 180M

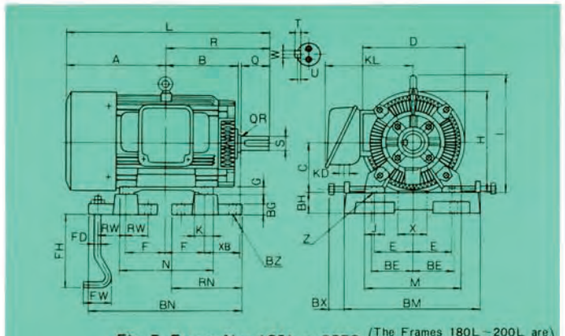


Fig. 5 Frame Nos 180L ~ 225S (The Frames 180L ~ 200L are provided with slide bases.)

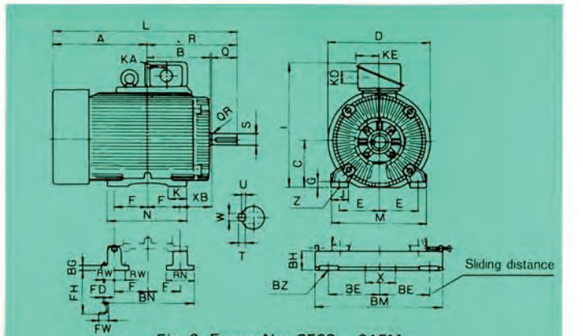


Fig. 6 Frame Nos 250S ~ 315M

Shaft R	S	Q	T	U	W	QR	Slide base (rail) BE	BF	BG	BH	BM	BN	BZ	BX	RW	RN	X	Foundation bolt FD	FH	FW	Bearing No. Coupling side	Opposite coupling side	Approx mass (kg) Motor	Base	Frame No.
103	11	23	–	1	–	0.3	50	80	17	30	188	185	13	9	–	–	40	10	95	40	6201 ZZ	6201 ZZ	7.0	1.5	63
120	14	30	5	3	5	0.3	55	85	15	30	194	200	13	9	–	–	40	10	95	40	6202ZZ	6202ZZ	9.0	1.8	71
140	19	40	5	3.5	6	0.3	65	90	15	30	214	210	13	9	–	–	40	10	95	40	6204ZZ	6204ZZ	12.0	2.0	80
168.5	24	50	7	4	8	0.3	70	105	15	30	230	240	13	9	–	–	40	10	95	40	6205ZZ	6205ZZ	23.5	2.2	90L
193	28	60	7	4	8	0.5	80	115	20	40	270	260	13	9	–	–	50	10	90	40	6206ZZ	6205ZZ	32	3.0	100L
200	28	60	7	4	8	0.5	95	115	20	40	290	260	13	9	–	–	50	10	90	40	6206ZZ	6206ZZ	45	3.5	112M
239	38	80	8	5	10	0.5	110	120	25	45	355	280	13	10.5	–	–	60	10	85	40	6308ZZ	6207ZZ	62	5.0	132S
258	38	80	8	5	10	0.5	110	140	25	45	360	318	13	10.5	–	–	60	10	85	40	6308ZZ	6207ZZ	72	6.0	132M
323	42	110	8	5	12	0.5	125	165	30	50	406	380	16	10.5	–	–	70	12	115	50	6309ZZ	6308ZZ	100	8.5	160M
345	42	110	8	5	12	0.5	125	185	30	50	406	420	16	10.5	–	–	70	12	115	50	6309ZZ	6308ZZ	115	10.0	160L
351.5	48	110	9	5.5	14	1	140	185	35	55	456	420	16	11.5	–	–	80	12	115	50	(6311) 6311ZZ	(6308ZZ) 6310ZZ	165	12.0	180M
370.5	55	110	10	6	16	(1) 0.5	140	205	35	55	456	460	16	11.5	–	–	80	12	115	50	(6312C3) 6312ZZC3	(6308ZZ) 6310ZZ	190	14	180L
395.5	55	110	10	6	16	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	6312C3	6308ZZ	265	–	200LH
425.5	60	140	11	7	18	0.5	160	230	35	60	535	520	18	13	–	–	100	16	150	63	6313ZZC3	6311ZZ	275	18	200L
402	55	110	10	6	16	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	6312C3	6308ZZ	315	–	225SH
432	65	140	11	7	18	1	200	–	35	71	770	476	20	225	71	190	180	16	265	63	6314C3/NU314	6312ZZ	325	38	225S*8
433.5	55	110	10	6	16	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	6312C3	6312C3	470	–	250SH
463.5	75	140	12	7.5	20	1	315	–	30	85	900	521	19	250	80	210	180	16	265	63	6316C3/NU316	6313ZZ	490	65	250S*8
452.5	55	110	10	6	16	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	6312C3	6312C3	520	–	250MH
482.5	75	140	12	7.5	20	1	315	–	30	85	900	559	19	250	80	210	180	16	265	63	6316C3/NU316	6313ZZ	540	65	250M*8
484	55	110	10	6	16	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	6312C3	6312C3	650	–	280SH
544	85	170	14	9	22	1	315	–	30	85	900	578	19	250	80	210	200	16	265	63	6318C3/NU318	6315ZZ	670	65	280S*8
509.5	55	110	10	6	16	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	6312C3	6312C3	750	–	280MH
569.5	85	170	14	9	22	1	315	–	30	85	900	629	19	250	80	210	200	16	265	63	6318C3/NU318	6315ZZ	770	65	280M*8
529	55	110	10	6	16	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	6312C3	6312C3	880	–	315SH
589	95	170	14	9	25	1	375	–	35	100	1120	656	24	280	95	250	200	20	445	88	6320C3/NU320	6317	900	105	315S*8
554.5	55	110	10	6	16	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	6312C3	6312C3	950	–	315MH
614.5	95	170	14	9	25	1	375	–	35	100	1120	707	24	280	95	250	200	20	445	88	6320C3/NU320	6317	975	105	315M*8

4. In case of V-belts, after reference table of "Application of V-Belts and V-Pully" (P16), please be careful with selection and installation.
5. Bearing Nos. in the parenthesis show the one for 2-pole motors.
6. Size may be changed. Please inquire sizes, when used for design.
7. In frame Nos. 180M and 180L, size B in bracket is 2-pole motor.
8. 2.2kW-8-pole in marked symbol* is class E insulation.

Vertical Totally-Enclosed Frame Surface Cooled Type (Type VTIS85)

Totally-Enclosed Frame Surface Cooled Flange-Mounted Type (Type HTIS85)

Protection type	63 ~ 71	Body IP44
	80 ~ 315M	IP44
Cooling type		IC0141

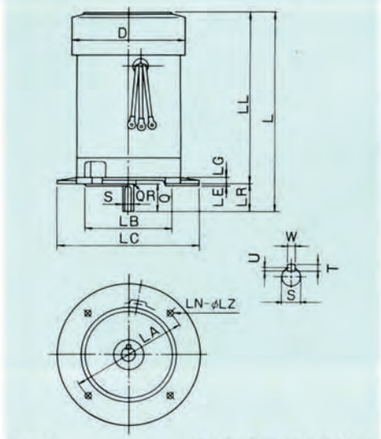


Fig. 1
Frame Nos 63 ~ 71

(Bracket tightening bolts for 6-pole and 8-pole machines are located outside the frame)

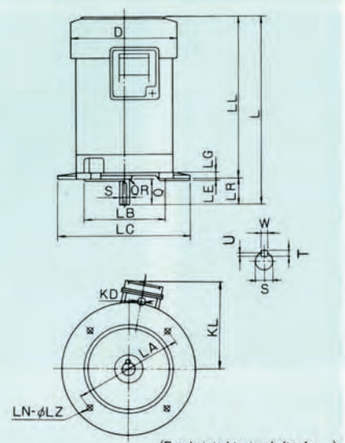


Fig. 2 Frame No. 80

(Bracket tightening bolts for 6-pole and 8-pole machines are located outside the frame)

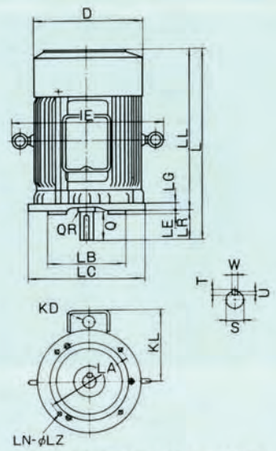
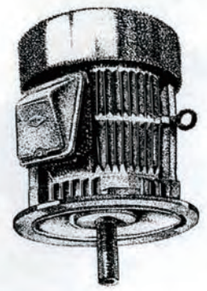


Fig. 3 Frame Nos 90L ~ 112M

External Dimension

Flange No.	Frame No.	Output (kW) 2-pole	4-pole	6-pole	8-pole	Class on Insulation	Fig-No.	Motor D	L	LL	IE	LA	LB	LC	LE	LG	LZ	LN	LR	KD	KL
FF130	63	0.2	0.2	—	—	E	1	129	229	206	—	130	110	160	3.5	10	10	4	23	—	—
	71	0.4	0.4	0.2	—	E	1	145	260.5	230.5	—	130	110	160	3.5	10	10	4	30	—	—
FF165	80	0.75	0.75	0.4	0.2	E	2	167	298	258	—	165	130	200	3.5	12	12	4	40	22	142
	90L	1.5 / 2.2	1.5	0.75	0.4	E	3	194	342	292	—	165	130	200	3.5	12	12	4	50	22	152
FF215	100L	—	2.2	1.5	0.75	E	3	220	373	313	144	215	180	250	4	16	15	4	60	22	160
	112M	3.7	3.7	2.2	1.5	E	3	240	402	342	155	215	180	250	4	16	15	4	60	22	172
FF265	132S	5.5 / 7.5	5.5	3.7	*2.2	B	4	276	456	376	180	265	230	300	4	20	15	4	80	34	215
	132M	—	7.5	5.5	3.7	B	4	276	494	414	180	265	230	300	4	20	15	4	80	34	215
FF300	160M	11 / 15	11	7.5	5.5	B	4	320	633	523	209	300	250	350	5	20	19	4	110	34	240
	160L	18.5	15	11	7.5	B	4	320	677	567	209	300	250	350	5	20	19	4	110	34	240
FF350	180M	22	18.5 / 22	15	11	B	4	366	702.5	592.5	247	350	300	400	5	20	19	4	110	49	320
FF350	180L	30	30	18.5 / 22	15	F	5	366	740.5	630.5	247	350	300	400	5	20	19	4	110	49	320
FF400	200LH	37 / 45	—	—	—	F	5	409	756.5	646.5	265	400	350	450	5	22	19	8	110	62	344
	200L	—	37 / 45	30 / 37	18.5 / 22				786.5										140		
FF500	225SH	55	—	—	—	F	5	462	778.5	668.5	303	500	450	550	5	22	19	8	110	62	374
	225S※	—	55	45	30				808.5										140		
	250SH	75	—	—	—	F	6	530	914.5	804.5	365	500	450	550	5	22	19	8	110	62	490
	250S※	—	75	55	37				944.5										140		
	250MH	90	—	—	—	F	6	530	952.5	842.5	365	500	450	550	5	22	19	8	110	62	490
	250M※	—	90	75	45				982.5										140		
FF600	280SH	110	—	—	—	F	6	590	994	884	420	600	550	660	6	25	24	8	110	77	525
	280S※	—	110	90	55				1054										170		
	280MH	132	—	—	—	F	6	590	1044	934	420	600	550	660	6	25	24	8	110	77	525
	280M※	—	132	110	75				1104										170		

<Notes>
1. Tolerance for size S is h6 for φ11, j6 for φ14 to φ28, k6 for φ38 to φ48 and m6 for φ55 or over, according to JIS B 0401 (Limits and fits for engineering).
2. Tolerance for size LB is j6 for φ450 or less and js6 for φ550 or over, according to JIS B 0401.
3. Frame No. C/B show direct coupling (C) and belt driving (B) and the two types have different kinds of bearings at coupling sides.



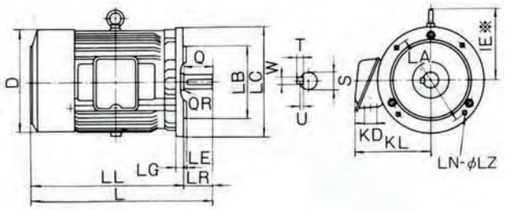


Fig. 7 Frame Nos 90L ~ 132M (Typical Drawing for Flange Type)

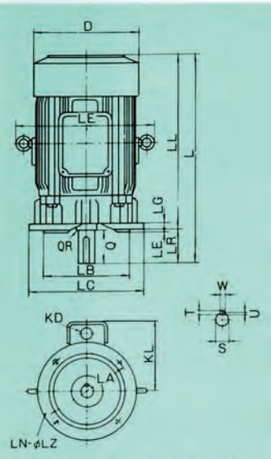


Fig. 4 Frame Nos 132S ~ 180M

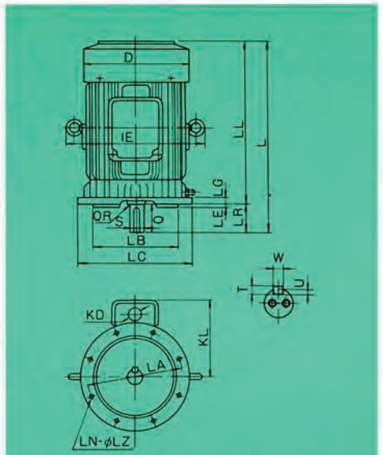


Fig. 5 Frame Nos. 180L~225S

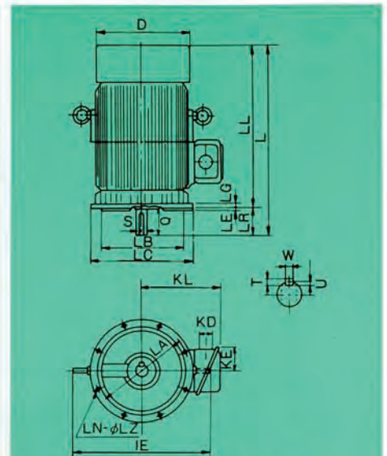


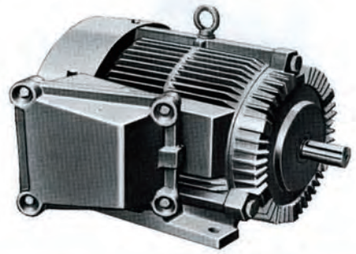
Fig. 6 Frame Nos 250S ~ 280M

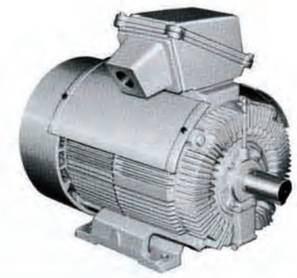
Shaft S	Q	T	U	W	QR	Bearing No. Coupling side	Opposite coupling side	Approx. mass (kg)	Flange type IE※	Frame No.	Flange No.
11	23	—	1	—	0.3	6201ZZ	6201ZZ	14	—	63	FF130
14	30	5	3	5	0.3	6202ZZ	6202ZZ	17	—	71	
19	40	6	3.5	6	0.3	6204ZZ	6204ZZ	22	—	80	FF165
24	50	7	4	8	0.3	6205ZZ	6205ZZ	30	—	90L	
28	60	7	4	8	0.5	6206ZZ	6205ZZ	40	144	100L	FF215
28	60	7	4	8	0.5	6306ZZ	6206ZZ	50	155	112M	
38	80	8	5	10	0.5	6308ZZ	6207ZZ	76	180	132S	FF265
38	80	8	5	10	0.5	6308ZZ	6207ZZ	87	180	132M	
42	110	8	5	12	0.5	6309ZZ	6308ZZ	125	209	160M	FF300
42	110	8	5	12	0.5	6309ZZ	6308ZZ	140	209	160L	
48	110	9	5.5	14	1	(6311) 6311ZZ	(6308ZZ) 6310ZZ	205	247	180M	FF350
55	110	10	6	16	(1) 0.5	(6312C3) 6312ZZC3	(6308ZZ) 6310ZZ	230	247	180L	FF350
55	110	10	6	16	1	6312C3	6308ZZ	290	265	200LH	FF400
60	140	11	7	18	0.5	6313ZZC3	6311ZZ	300	265	200L	
55	110	10	6	16	1	6312C3	6308ZZ	380	303	225SH	FF500
65	140	11	7	18	1	6314C3/NU314	6312ZZ	390	303	225S※	
55	110	10	6	16	1	6312C3	6312C3	520	—	250SH	
75	140	12	7.5	20	1	6316C3/NU316	6313ZZ	550	—	250S※	
55	110	10	6	16	1	6312C3	6312C3	590	—	250MH	
75	140	12	7.5	20	1	6316C3/NU316	6313ZZ	610	—	250M※	
55	110	10	6	16	1	6312C3	6312C3	720	—	280SH	FF600
85	170	14	9	22	1	6318C3/NU318	6315ZZ	740	—	280S※	
55	110	10	6	16	1	6312C3	6312C3	810	—	280MH	
85	170	14	9	22	1	6318C3/NU318	6315ZZ	830	—	280M※	

4. In case of V-belts, after reference table of "Application of V-Belts and V-Pully" (P16), please be careful with selection and installation.
5. Bearing Nos. in the parenthesis show the one for 2-pole motors.
6. Size may be changed. Please inquire sizes, when used for design.
7. In frame Nos. 180M and 180L, size B in bracket is 2-pole motor.
8. 2.2kW-8-pole in marked symbol* is class E insulation.

Totally-Enclosed Frame Surface Cooled Outdoor Type (Type TISP85)

Protection type	IPW44
Cooling type	IC0141





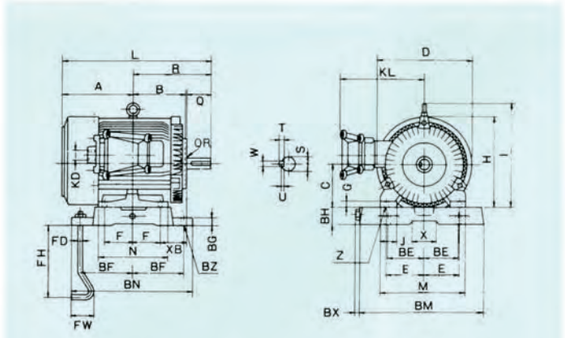


Fig. 1 Frame Nos 63 ~ 112M

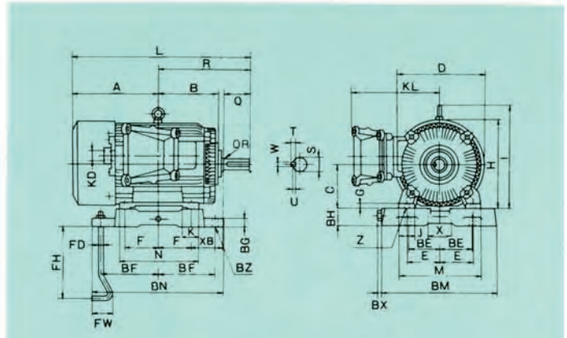


Fig. 2 Frame Nos 132S ~ 180M

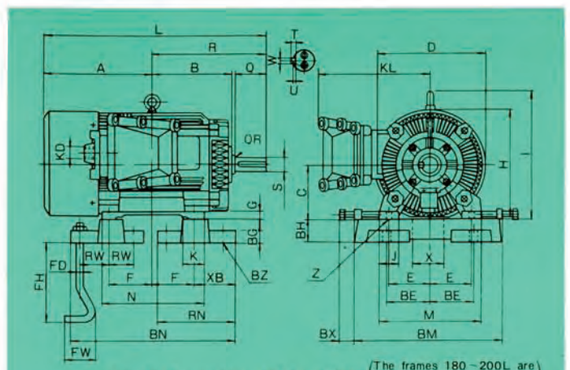


Fig. 3 Frame Nos 180L~225S (The frames 180~200L are provided with side bases.)

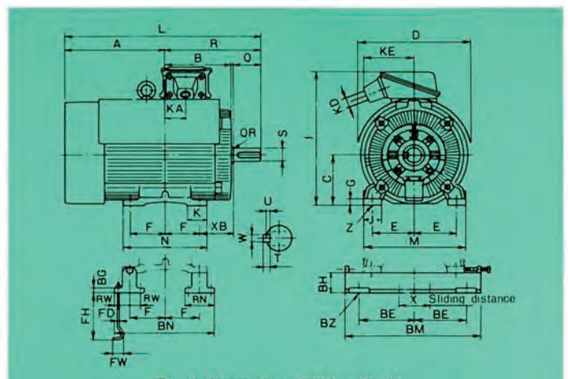


Fig. 4 Frame Nos 250S ~ 315M

External Dimension

Frame No.	Output (kW) 2-pole	4-pole	6-pole	8-pole	Class of insulation	Fig No.	Motor A	B	C	D	E	F	G	H	I	J	K	L	M	N	Z	XB	KD	KL
63	0.2	0.2	–	–	E	1	107	78.5	63	141	50	40	7	133.5	–	26	–	210	124	101	7	40	PF¾	178
71	0.4	0.4	0.2	–	E	1	121	88.5	71	157	56	45	8	149.5	–	28	–	241	136	111	7	45	PF¾	185
80	0.75	0.75	0.4	0.2	E	1	136	98.5	80	178	62.5	50	9	169	–	33	–	276	155	130	10	50	PF¾	192
90L	1.5 2.2	1.5	0.75	0.4	E	1	160.5	117	90	194	70	62.5	10	187	–	35	–	329	170	155	10	56	PF¾	202
100L	–	2.2	1.5	0.75	E	1	180	131.5	100	220	80	70	12	210	243.5	40	–	373	196	176	12	63	PF¾	218
112M	3.7	3.7	2.2	1.5	E	1	189	138.5	112	240	95	70	14	233	266.5	45	–	389	226	176	12	70	PF¾	230
132S	5.5 7.5	5.5	3.7	*2.2	B	2	217	157	132	276	108	70	16	270	311.5	50	–	456	252	176	12	89	PF1¼	274
132M	–	7.5	5.5	3.7	B	2	236	176	132	276	108	89	16	270	311.5	50	–	494	252	214	12	89	PF1¼	274
160M	11 15	11	7.5	5.5	B	2	270	211	160	320	127	105	20	318	369	60	61	593	315	262	15	108	PF1¼	300
160L	18.5	15	11	7.5	B	2	292	233	160	320	127	127	20	318	369	60	63	637	315	306	15	108	PF1¼	300
180M	22	18.5 22	15	11	B	2	311	(237.5) 236	180	366	139.5	120.5	22	367	427	70	64.5	662.5	350	294	15	121	PF2	375
180L	30	30	18.5 22	15	F	3	330	255 (257.5)	180	366	139.5	139.5	22	367	427	70	68.5	700.5	350	332	15	121	PF2	375
200LH	37 45	–	–	–	F	3	361	281	200	409	159	152.5	25	405	465	80	81	756.5	400	372	19	133	PF2	400
200L	–	37 45	37 37	18.5 22				280										786.5						
225SH	55	–	–	–	F	3	376.5	286	225	462	178	143	28	457	528	80	85	778.5	440	355	19	149	PF2	430
225S*a	–	55	45	30				286.5										808.5						
250SH	75	–	–	–	F	4	481	317	250	530	203	155.5	32	755	–	90	100	914.5	500	385	24	168	PF2½	–
250S*a	–	75	55	37				317.5										944.5						
250MH	90	–	–	–	F	4	500	336	250	530	203	174.5	32	755	–	90	100	952.5	500	425	24	168	PF2½	–
250M*a	–	90	75	45				336.5										982.5						
280SH	110	–	–	–	F	4	510	363	280	590	228.5	184	32	820	–	100	110	994	560	450	24	190	PF2½	–
280S*a	–	110	90	55				366										1054						
280MH	132	–	–	–	F	4	534.5	388.5	280	590	228.5	209.5	32	820	–	100	110	1044	560	500	24	190	PF2½	–
280M*a	–	132	110	75				391.5										1104						
315SH	160	–	–	–	F	4	590	408	315	670	254	203	36	895	–	110	125	1119	630	500	28	216	PF2½	–
315S*a	–	160	132	90				410										1179						
315MH	200	–	–	–	F	4	614.5	436.5	315	670	254	228.5	36	895	–	110	125	1169	630	550	28	216	PF2½	–
315M*a	–	200	160	110				435.5										1229						

<Notes>
1. Tolerance for size S is h6 for ϕ11, j6 for ϕ14 to ϕ28, k6 for ϕ38 to ϕ48 and m6 for ϕ55 or over, according to JIS B 0401 (Limits and fits for engineering).
2. Tolerance for size C is 0 to −0.5 for 250 or less and 0 to −1.0 in case of exceeding 250.
3. Frame No. C/B show direct coupling (C) and belt driving (B) and the two types have different kinds of bearings at coupling side.

Frame No.	Shaft R	S	Q	T	U	W	QR	Slide base (rail) BE	BF	BG	BH	BM	BN	BZ	BX	RW	RN	X	Foundation bolt FD	FH	FW	Bearing No. Coupling side	Opposite coupling	Approx. mass(kg) Motor	Base	Frame No.
63	103	11	23	–	1	–	0.3	50	80	17	30	188	185	13	9	–	–	40	10	95	40	6201ZZ	6201ZZ	14	1.5	63
71	120	14	30	5	3	5	0.3	55	85	15	30	194	200	13	9	–	–	40	10	95	40	6202ZZ	6202ZZ	17	1.8	71
80	140	19	40	6	3.5	6	0.3	65	90	15	30	214	210	13	9	–	–	40	10	95	40	6204ZZ	6204ZZ	21	2.0	80
90L	168.5	24	50	7	4	8	0.3	70	105	15	30	230	240	13	9	–	–	40	10	95	40	6205ZZ	6205ZZ	29	2.2	90L
100L	193	28	60	7	4	8	0.5	80	115	20	40	270	260	13	9	–	–	50	10	90	40	6206ZZ	6205ZZ	38	3.0	100L
112M	200	28	60	7	4	8	0.5	95	115	20	40	290	260	13	9	–	–	50	10	90	40	6306ZZ	6206ZZ	51	3.5	112M
132S	239	38	80	8	5	10	0.5	110	120	25	45	355	280	13	10.5	–	–	60	10	85	40	6308ZZ	6207ZZ	72	5.0	132S
132M	258	38	80	8	5	10	0.5	110	140	25	45	360	318	13	10.5	–	–	60	10	85	40	6308ZZ	6207ZZ	82	6.0	132M
160M	323	42	110	8	5	12	0.5	125	165	30	50	406	380	16	10.5	–	–	70	12	115	50	6309ZZ	6308ZZ	110	8.5	160M
160L	345	42	110	8	5	12	0.5	125	185	30	50	406	420	16	10.5	–	–	70	12	115	50	6309ZZ	6308ZZ	125	10.0	160L
180M	351.5	48	110	9	5.5	14	1	140	185	35	55	456	420	16	11.5	–	–	80	12	115	50	(6311) 6311ZZ	(6308ZZ) 6310ZZ	185	13.0	180M
180L	370.5	55	110	10	6	16	(1) 0.5	140	205	35	55	456	460	16	11.5	–	–	80	12	115	50	(6312C3) 6311ZZC3	(6308ZZ) 6310ZZ	210	14	180L
200LH	395.5	55	110	10	6	16	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	6312C3	6308ZZ	290	–	200LH
200L	425.5	60	140	11	7	18	0.5	160	230	35	60	535	520	18	13	–	–	100	16	150	63	6313ZZC3	6311ZZ	300	18	200L
225SH	402	55	110	10	6	16	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	6312C3	6308ZZ	350	–	225SH
225S*a	432	65	140	11	7	18	1	200	–	35	71	770	476	20	225	71	190	180	16	265	63	6314C3/NU314	6312ZZ	360	36	225S*a
250SH	433.5	55	110	10	6	16	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	6312C3	6312C3	550	–	250SH
250S*a	463.5	75	140	12	7.5	20	1	315	–	30	85	900	521	19	250	80	210	180	16	265	63	6316C3/NU316	6313ZZ	570	65	250S*a
250MH	452.5	55	110	10	6	16	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	6312C3	6312C3	610	–	250MH
250M*a	482.5	75	140	12	7.5	20	1	315	–	30	85	900	559	19	250	80	210	180	16	265	63	6316C3/NU316	6313ZZ	630	65	250M*a
280SH	484	55	110	10	6	16	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	6312C3	6312C3	740	–	280SH
280S*a	544	85	170	14	9	22	1	315	–	30	85	900	578	19	250	80	210	200	16	265	63	6318C3/NU318	6315ZZ	760	65	280S*a
280MH	509.5	55	110	10	6	16	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	6312C3	6312C3	830	–	280MH
280M*a	569.5	85	170	14	9	22	1	315	–	30	85	900	629	19	250	80	210	200	16	265	63	6318C3/NU318	6315ZZ	850	65	280M*a
315SH	529	55	110	10	6	16	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	6312C3	6312C3	960	–	315SH
315S*a	589	95	170	14	9	25	1	375	–	35	100	1120	656	24	280	95	250	200	20	445	88	6320C3/NU320	6317	980	105	315S*a
315MH	554.5	55	110	10	6	16	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	6312C3	6312C3	1030	–	315MH
315M*a	614.5	95	170	14	9	25	1	375	–	35	100	1120	707	24	280	95	250	200	20	445	88	6320C3/NU320	6317	1060	105	315M*a

4. In case of V-belts, after reference table of "Application of V-Belts and V-Pully" (P16), please be careful with selection and installation.
5. Bearing Nos. in the parenthesis show the one for 2-pole motors.
6. Size may be changed. Please inquire sizes, when used for design.
7. In frame Nos. 180M and 180L, size B in bracket is 2-pole motor.
8. 2.2kW-8-pole in marked symbol* is class E insulation.

Vertical Totally-Enclosed Frame Surface Cooled Outdoor Type (Type VTISP85)

Totally-Enclosed Frame Surface Cooled Flange-Mounted Outdoor Type (Type HTISP85)

Protection type	IPW44
Cooling type	IC0141

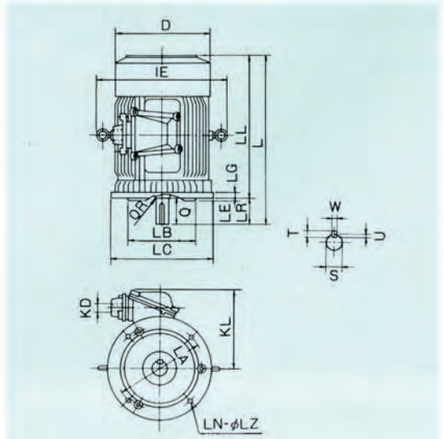


Fig. 1 Frame Nos 63 ~ 112M

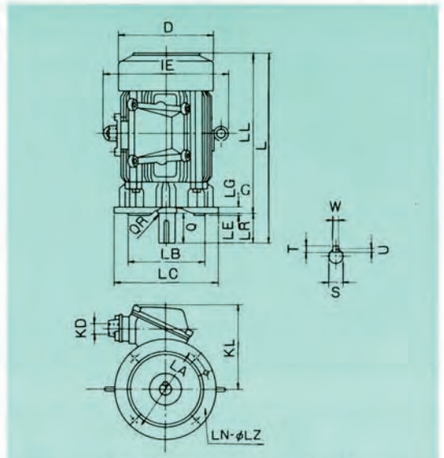
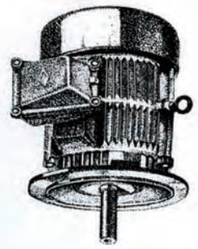


Fig. 2 Frame Nos 132S ~ 180M



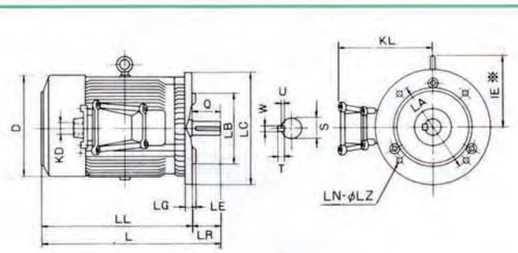


Fig. 5 Frame Nos. 90L~132M (Typical Drawing for Flange Type)

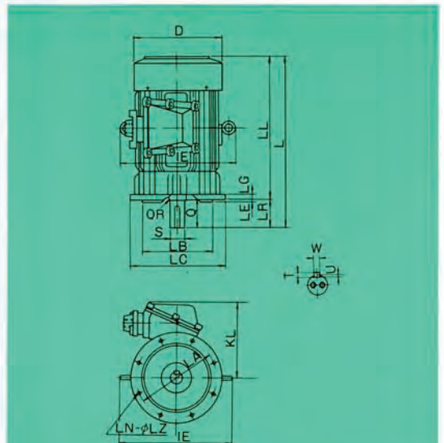


Fig. 3 Frame Nos 180L ~ 225S

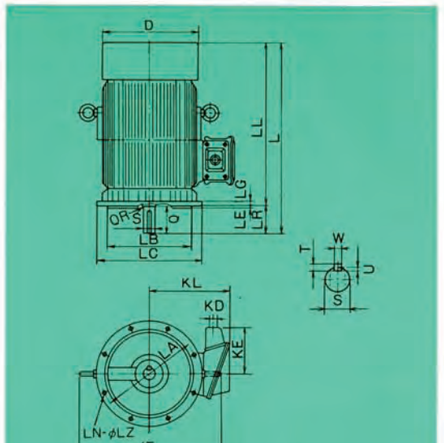


Fig. 4 Frame Nos 250S ~ 315M

External Dimension

Flange No.	Frame No.	Output (kW) 2-pole	4-pole	6-pole	8-pole	Class of Insulation	Fig. No.	Motor D	L	LL	IE	LA	LB	LC	LE	LG	LZ	LN	LR	KD	KL
FF130	63	0.2	0.2	—	—	E	1	141	221	198	—	130	110	160	3.5	10	10	4	23	PF¾	178
	71	0.4	0.4	0.2	—	E	1	157	251	221	—	130	110	160	3.5	10	10	4	30	PF¾	185
FF165	80	0.75	0.75	0.4	0.2	E	1	178	285	245	—	165	130	200	3.5	12	12	4	40	PF¾	192
	90L	1.5 2.2	1.5	0.75	0.4	E	1	194	342	292	—	165	130	200	3.5	12	12	4	50	PF¾	202
FF215	100L	—	2.2	1.5	0.75	E	1	220	373	313	144	215	180	250	4	16	15	4	60	PF¾	218
	112M	3.7	3.7	2.2	1.5	E	1	240	402	342	310	215	180	250	4	16	15	4	60	PF¾	230
FF265	132S	5.5 7.5	5.5	3.7	*2.2	B	2	276	456	376	180	265	230	300	4	20	15	4	80	PF1¼	274
	132M	—	7.5	5.5	3.7	B	2	276	494	414	180	265	230	300	4	20	15	4	80	PF1¼	274
FF300	160M	11 15	11	7.5	5.5	B	2	320	633	523	209	300	250	350	5	20	19	4	110	PF1¼	300
	160L	18.5	15	11	7.5	B	2	320	677	567	209	300	250	350	5	20	19	4	110	PF1¼	300
FF350	180M	22	18.5 22	15	11	B	2	366	702.5	592.5	247	350	300	400	5	20	19	4	110	PH2	375
FF350	180L	30	30	18.5 22	15	F	3	366	740.5	630.5	247	350	300	400	5	20	19	4	110	PF2	375
FF400	200LH	37 45	—	—	—	F	3	409	756.5	646.5	265	400	350	450	5	22	19	8	110	PF2	400
	200L	—	37 45	30 37	18.5 32				786.5										140		
FF500	225SH	55	—	—	—	F	3	462	778.5	668.5	303	500	450	550	5	22	19	8	110	PF2	430
	225S※	—	55	45	30				808.5										140		
	250SH	75	—	—	—	F	4	530	914.5	804.5	365	500	450	550	5	22	19	8	110	PF2½	505
	250S※	—	75	55	37				944.5										140		
	250MH	90	—	—	—	F	4	530	952.5	842.5	365	500	450	550	5	22	19	8	110	PF2½	505
	250M※	—	90	75	45				982.5										140		
FF600	280SH	110	—	—	—	F	4	590	994	884	420	600	550	660	6	25	24	8	110	PF2½	540
	280S※	—	110	90	55				1054										170		
	280MH	132	—	—	—	F	4	590	1044	934	420	600	550	660	6	25	24	8	110	PF2½	540
	280M※	—	132	110	75				1104										170		

<Notes> 1. Tolerance for size S is h6 for φ11, j6 for φ14 to φ28, k6 for φ38 to φ48 and m6 for φ55 or over, according to JIS B 0401 (Limits and fits for engineering).
2. Tolerance for size LB is j6 for φ450 or less and js6 for φ550 or over, according to JIS B 0401.
3. Frame No. C/B show direct coupling (C) and belt driving (B) and the two types have different kinds of bearings at coupling sides.

Shaft S	Q	T	U	W	QR	Bearing No. Coupling side	Opposite coupling side	Approx. mass (kg)	Flange type IE※	Frame No.	Flange No.
11	23	—	1	—	0.3	6201ZZ	6201ZZ	8.0	—	63	FF130
14	30	5	3	5	0.3	6202ZZ	6202ZZ	10.5	—	71	
19	40	6	3.5	6	0.3	6204ZZ	6204ZZ	14.0	—	80	FF165
24	50	7	4	8	0.3	6205ZZ	6205ZZ	26	—	90L	
28	60	7	4	8	0.5	6206ZZ	6205ZZ	35	144	100L	FF215
28	60	7	4	8	0.5	6306ZZ	6206ZZ	50	155	112M	
38	80	8	5	10	0.5	6308ZZ	6207ZZ	68	180	132S	FF265
38	80	8	5	10	0.5	6308ZZ	6207ZZ	79	180	132M	
42	110	8	5	12	0.5	6309ZZ	6308ZZ	115	209	160M	FF300
42	110	8	5	12	0.5	6309ZZ	6308ZZ	130	209	160L	
48	110	9	5.5	14	1	(6311) 6311ZZ	(6308ZZ) 6310ZZ	185	247	180M	FF350
55	110	10	6	16	(1) 0.5	(6312C3) 6312ZZC3	(6308ZZ) 6310ZZ	210	247	180L	FF350
55	110	10	6	16	1	6312C3	6308ZZ	270	265	200LH	FF400
60	140	11	7	18	0.5	6313ZZC3	6311ZZ	280	265	200L	
55	110	10	6	16	1	6312C3	6308ZZ	310	303	225SH	FF500
65	140	11	7	18	1	6314C3/NU314	6312ZZ	320	303	225S※	
55	110	10	6	16	1	6312C3	6312C3	460	—	250SH	
75	140	12	7.5	20	1	6316C3/NU316	6313ZZ	480	—	250S※	
55	110	10	6	16	1	6312C3	6312C3	510	—	250MH	
75	140	12	7.5	20	1	6316C3/NU316	6313ZZ	530	—	250M※	
55	110	10	6	16	1	6312C3	6312C3	640	—	280SH	FF600
85	170	14	9	22	1	6318C3/NU318	6315ZZ	660	—	280S※	
55	110	10	6	16	1	6312C3	6312C3	740	—	280MH	
85	170	14	9	22	1	6318C3/NU318	6315ZZ	760	—	280M※	

4. In case of V-belts, after reference table of "Application of V-Belts and V-Pully" (P16), please be careful with selection and installation.
5. Bearing Nos. in the parenthesis show the one for 2-pole motors.
6. Sizes of flange-mounted type are the same as those values of vertical type shown in the above table other than those marked symbol*.
7. Size may be changed. Please inquire sizes, when used for design.
8. 2.2kW-8-pole in marked symbol* is class E insulation.

Rated Current and Rated Speed (reference values)

Output (kW)	Voltage Frequency (V-Hz)	Protected drip-proof type								Totally-enclosed frame surface cooled type							
		2-pole		4-pole		6-pole		8-pole		2-pole		4-pole		6-pole		8-pole	
		AMP	min^{-1}	AMP	min^{-1}	AMP	min^{-1}	AMP	min^{-1}	AMP	min^{-1}	AMP	min^{-1}	AMP	min^{-1}	AMP	min^{-1}
0.2	200-50							1.8	670	1.0	2840	1.4	1390	1.4	920	1.8	670
	200-60							1.6	800	0.9	3400	1.2	1670	1.2	1100	1.6	800
	220-60							1.6	810	0.9	3440	1.2	1680	1.2	1120	1.6	810
0.4	200-50					2.6	920	3.0	695	1.8	2880	2.2	1410	2.6	920	3.0	695
	200-60					2.2	1100	2.6	835	1.7	3460	1.9	1690	2.2	1100	2.6	835
	220-60					2.3	1120	2.6	845	1.6	3480	1.9	1700	2.3	1120	2.6	845
0.75	200-50	3.4	2900	3.6	1420	4.1	930	4.8	700	3.4	2900	3.7	1420	4.1	930	4.8	700
	200-60	3.0	3470	3.4	1700	3.6	1120	4.2	840	3.0	3470	3.3	1700	3.6	1120	4.2	840
	220-60	3.0	3490	3.2	1710	3.6	1130	4.2	850	3.0	3490	3.2	1710	3.6	1130	4.2	850
1.5	200-50	6.0	2900	6.4	1420	7.2	930	8.0	705	6.0	2900	6.6	1420	7.2	930	8.0	705
	200-60	5.8	3470	6.0	1700	6.5	1120	7.2	845	5.8	3470	6.0	1700	6.5	1120	7.2	845
	220-60	5.4	3490	5.6	1710	6.2	1130	7.0	855	5.4	3490	5.8	1710	6.2	1130	7.0	855
2.2	200-50	8.4	2900	9.0	1420	10	930	11	705	8.4	2900	8.9	1420	10	930	11	705
	200-60	8.2	3470	8.4	1710	9.2	1120	9.8	845	8.2	3470	8.5	1710	9.2	1120	9.8	845
	220-60	7.6	3490	8.0	1720	8.8	1130	9.4	855	7.6	3490	7.9	1720	8.8	1130	9.4	855
3.7	200-50	13	2900	15	1420	16	950	18	710	13	2900	15	1420	16	950	18	710
	200-60	13	3470	14.2	1710	15	1130	16	850	13	3470	14	1710	15	1130	16	850
	220-60	12	3490	13.2	1720	14	1140	16	860	12	3490	13	1720	14	1140	16	860
5.5	200-50	20	2900	22	1450	24	950	26	720	20	2900	22	1450	24	950	26	720
	200-60	20	3470	20	1730	22	1130	23	860	20	3470	21	1730	22	1130	23	860
	220-60	18	3490	19	1740	22	1140	23	870	18	3490	20	1740	22	1140	24	870
7.5	200-50	28	2900	29	1450	32	960	34	720	28	2900	30	1450	32	960	36	720
	200-60	26	3470	27	1730	30	1150	30	860	26	3470	28	1730	30	1150	32	860
	220-60	24	3490	25	1740	28	1160	30	870	24	3490	26	1740	28	1160	31	870
11	200-50	40	2900	44	1450	44	960	51	725	40	2900	42	1450	46	960	48	725
	200-60	38	3470	40	1730	42	1150	46	870	40	3470	40	1730	42	1150	46	870
	220-60	36	3500	38	1750	40	1160	44	875	36	3500	38	1750	40	1160	42	875
15	200-50	54	2900	56	1450	62	970	71	725	52	2900	56	1450	62	970	64	720
	200-60	52	3470	53	1730	58	1160	63	870	52	3470	54	1730	58	1160	60	865
	220-60	48	3500	50	1750	54	1170	62	875	48	3500	50	1750	54	1170	58	870
18.5	200-50	68	2920	68	1450	75	970	83	720	64	2920	70	1450	76	960	80	720
	200-60	64	3500	66	1740	70	1160	75	865	64	3500	68	1740	72	1150	76	865
	220-60	59	3520	60	1750	66	1170	72	870	58	3520	62	1750	66	1160	70	870
22	200-50	77	2920	80	1460	88	960	96	720	76	2920	82	1450	90	960	96	720
	200-60	75	3500	78	1750	84	1150	87	865	76	3500	80	1740	84	150	88	865
	220-60	69	3520	72	1760	78	1160	82	870	70	3520	74	1750	80	1160	84	870
30	200-50	108	2940	110	1460	120	960	130	720	104	2920	110	1450	120	960	136	725
	200-60	106	3520	106	1750	114	1150	120	865	102	3500	108	1740	112	1150	124	870
	220-60	96	3540	98	1760	104	1160	112	870	94	3520	98	1750	106	1160	120	875
37	200-50	130	2940	134	1460	146	960	150	720	126	2920	134	1460	146	960	158	725
	200-60	130	3520	132	1750	140	1150	144	865	126	3500	132	1750	138	1150	—	—
	220-60	118	3540	120	1760	130	1160	132	870	114	3520	120	1760	128	1160	138	875
45	400-50	80	2940	85	1460	90	970	95	720	76	2920	79	1460	87	970	101	725
	440-60	72	3540	74	1760	78	1170	85	870	69	3520	71	1760	77	1170	87	875
55	400-50	95	2940	98	1460	108	970	114	720	93	2940	97	1460	116	970	117	730
	440-60	85	3540	87	1760	95	1170	99	870	85	3530	87	1760	99	1170	102	880
75	400-50	133	2940	133	1460	148	970	144	720	129	2940	135	1470	153	970	164	730
	440-60	118	3540	118	1760	129	1170	126	870	116	3530	119	1770	132	1170	142	880
90	400-50	150	2940	158	1460	167	970	171	720	150	2940	164	1470	178	970	187	730
	440-60	139	3540	140	1760	148	1170	151	870	136	3530	144	1770	157	1170	165	880
110	400-50	192	2940	201	1470	216	970	214	720	181	2940	195	1470	212	970	211	730
	440-60	170	3540	177	1765	189	1170	191	870	164	3540	172	1770	185	1170	188	880
132	400-50	225	2940	238	1470	252	970			222	2940	236	1470	250	970		
	440-60	198	3540	210	1765	222	1170			198	3540	207	1770	220	1170		
160	400-50	269	2940	281	1470	285	970			264	2950	278	1470	308	970		
	440-60	240	3540	252	1765	255	1170			239	3540	247	1770	268	1170		
200	400-50	339	2950	347	1470					335	2950	348	1470				
	440-60	300	3540	313	1765					299	3540	308	1770				

Application of V-Belts and V-Pulley and Mounting of V-Pulleys

- The standard V-belts conform to JISK6323 (V Belts for Power Transmission), while narrow V-belts conform to JISK6368 (Narrow V-Belts for Power Transmission).
- Outputs of motors suitable for V-belt driving are as specified in Table 1, applicable according to the type of V-belt.
- Application of V-belts and V-pulleys for the respective motor outputs is as specified in Table 2.
- If the diameter of a V-pulley is smaller than the value specified in the Table or if the number of belts becomes unusually large, then the shaft may be broken due to excessive shaft loading or bearings may be damaged. If such usage is intended, please make inquiries to us.

Application of V-Belts and V-pulleys for Various Motor Outputs

Reted motor output (kW)				Standard V-belt				Narrow V-belt			
2-pole	4-pole	6-pole	8-pole	Type of V-belt	No. of V-belts	Nominal V-pulley diameter dp (mm)	V-pulley rim width PW (mm)	Type of V-belt	No. of V-belts	Nominal V-pulley diameter de (mm)	V-pulley rim width PW (mm)
0.2	0.2	—	—	A	1	75	20	3V	1	71	17.4
0.4	0.4	—	—	A	1	75	20	3V	1	71	17.4
0.75	0.75	0.4	—	A	1	80	20	3V	1	71	17.4
1.5	—	0.75	—	A	2	80	35	3V	1	75	17.4
2.2	—	—	—	A	2	90	35	3V	1	75	17.4
—	1.5	—	—	A	2	90	35	3V	2	75	27.7
—	2.2	1.5	—	A	2	100	35	3V	2	75	27.7
3.7	—	—	—	A	3	90	50	3V	2	75	27.7
—	—	2.2	—	A	3	100	50	3V	2	90	27.7
—	3.7	—	—	A	3	112	50	3V	2	100	27.7
5.5	—	—	—	A	3	112	50	3V	3	75	38.0
7.5	—	—	—	A	3	132	50	3V	4	80	48.3
—	5.5	3.7	—	B	3	125	63	3V	3	100	38.0
—	7.5	—	—	B	3	150	63	3V	3	125	38.0
—	—	5.5	—	B	3	150	63	3V	3	140	38.0
—	—	7.5	—	B	4	150	82	3V	4	140	48.3
—	11	—	—	B	4	160	82	3V	4	125	48.3
—	—	11	—	B	5	170	101	3V	5	140	58.6
—	15	—	—	B	5	170	101	3V	6	125	68.9
—	18.5	—	—	B	5	200	101	3V	6	140	68.9
—	22	15	—	B	5	224	101	3V	6	160	68.9
—	—	18.5	—	C	4	224	110.5	5V	3	180	60.4
—	30	22	—	C	5	224	136	5V	4	180	77.5
—	—	30	—	C	5	265	136	5V	4	224	77.9
—	37	—	—	C	6	224	161.5	5V	4	200	77.9
—	45	37	—	C	6	265	161.5	5V	4	224	77.9
—	—	—	30	C	6	265	161.5	5V	5	224	95.4
—	55	—	—	C	7	265	187	5V	5	224	95.4
—	—	45	—	C	7	280	187	5V	5	224	95.4
—	—	—	37	C	7	280	187	5V	5	250	95.4
—	—	—	45	C	7	315	187	5V	6	250	112.9
—	—	55	—	C	8	300	212.5	5V	6	250	112.9
—	75	—	—	C	8	315	212.5	5V	6	250	112.9
—	—	—	55	D	5	355	196	5V	6	280	112.9
—	90	—	—	—	—	—	—	5V	6	280	112.9
—	—	75	—	D	6	355	233	5V	6	315	112.9
—	—	90	75	D	6	400	233	5V	6	355	112.9
—	—	110	—	D	7	400	270	8V	4	355	123.8
—	—	—	90	—	—	—	—	8V	4	355	123.8
—	—	132	110	—	—	—	—	8V	4	400	123.8
—	—	160	132	—	—	—	—	8V	4	450	123.8

How to Stretch V-Belt:

If the tension of V-belt is too much, its life may be shortened due to fatigue or the belt will give rise to overheating in bearings, breakage in the shaft, etc.
If the tension of V-belt is insufficient the belt may increase vibration and slippage and the life of V-belt will be shortened extremely. These cautions should be borne in mind when arranging the V-belt.

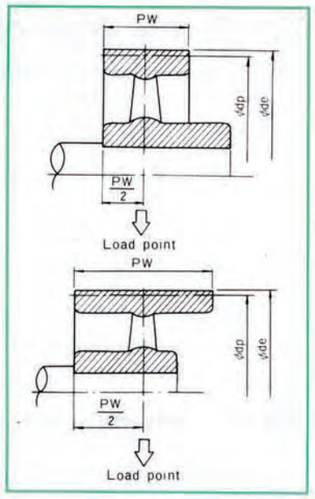
Type of V-Belt and Applicable Max. Output (Table 1)

	Standard V-belt	Narrow V-belt
2P	7.5	7.5
4P	75	90
6P	110	160
8P	75	132

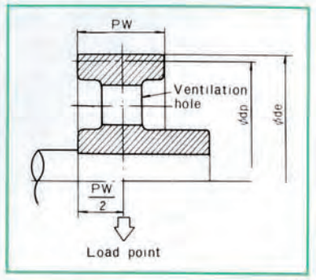
Unit: kW

How to Mount V-Pulley

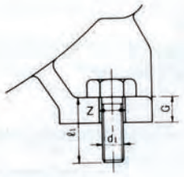
In order to minimize the load to be applied to the bearings and the stepped part of motor shaft, it is necessary to move the shaft's load (caused by V-belt tension) as nearer as possible to the motor side. Therefore the V-pulley should be mounted as illustrated below so that its rim end surface can be contained in the same plane for the stepped part of shaft.



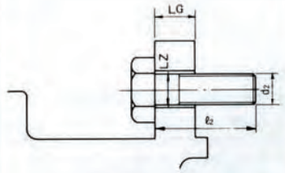
In order not to block ventilation cooling for the motor, the standard V-pulley is arranged into an arm shape as illustrated above. If the pulley is flat plate type as shown below, it should be provided with a big ventilation hole (the bigger the better).



Installation of Motor



Frame

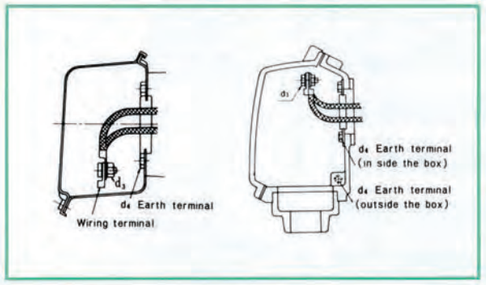


Flange

Frame No.		63	71	80	90	100	112	132	160	180	200	225	250	280	315
Z mounting hole		7	7	10	10	12	12	12	15	15	19	19	24	24	28
d1 mounting bolt		M6	M6	M8	M8	M10	M10	M10	M12	M12	M16	M16	M20	M20	M20
Protected drip-proof type	G	—	—	3	4	4	14	16	20	22	25	28	36	36	—
	ℓ_1	—	—	16	20	25	30	35	40	40	50	50	75	75	—
	ℓ_1 Max.	—	—	25	30	35	35	45	60	60	70	70	85	85	—
Totally-enclosed frame surface cooled type	G	2.5	3	3	10	12	14	16	20	22	25	28	32	32	36
	ℓ_1	12	12	16	25	30	30	35	40	40	50	50	70	70	85
	ℓ_1 Max.	20	20	25	30	35	35	45	60	60	70	70	80	80	85

Frame No.		63	71	80	90	100	112	132	160	180	200	225	250	280	315
Protected drip-proof type	LZ	—	—	—	12	15	15	15	19	19	19	19	24	—	—
	d_2	—	—	—	M10	M12	M12	M12	M16	M16	M16	M16	M20	—	—
	LG	—	—	—	12	16	16	20	20	20 22	22	22	25	—	—
	ℓ_2	—	—	—	30	35	35	40	45	45 50	50	50	65	—	—
	ℓ_2 Max.	—	—	—	35	45	45	50	50	50 90	90	90	90	—	—
Totally-enclosed frame surface cooled type	LZ	10	10	12	12	15	15	15	19	19	19	19	19	24	—
	d_2	M8	M8	M10	M10	M12	M12	M12	M16	M16	M16	M16	M16	M20	—
	LG	10	10	12	12	16	16	20	20	20	22	22	22	25	—
	ℓ_2	25	25	30	30	35	35	40	45	45	45	50	50	50	—
	ℓ_2 Max.	25	25	30	30	40	35	45	50	50	50	70	70	70	—

Terminal Connection



Frame No.			63~112	132~160	180~225		250~315								
Protected drip-proof type	Output (kW)		3.7 below	22 below	37 below	90 below	55	75	90	110	132	160	200		
	d_3	200V Class	M5	M6	M6	M8	M12	M12	—	—	—	—	—		
		400V Class	M5	M6	M6	M8	M8	M8	M10	M10	M12	M12	M12		
	d_4		M6	M8	M10		M10								
Totally-enclosed frame surface cooled type	出力 (kW)		3.7 below	18.5 below	37 below	55 below	37	45	55	75	90	110	132	160	200
	d_3	200V Class	M5	M6	M6	M8	M8	M10	M12	M12	—	—	—		
		400V Class	M5	M6	M6	M8	M8	M8	M8	M8	M10	M10	M12	M12	M12
	d_4		M6	M8	M10		M10								

Relubrication Interval and Amount of Grease

Bearing No.		Amount of grease		Relubrication interval (Unit: 10^2H)															
				Ball bearing								Roller bearing							
Ball bearing	Roller bearing	g	cc	2-pole		4-pole		6-pole		8-pole		2-pole		4-pole		6-pole		8-pole	
				50Hz	60Hz	50	60	50	60	50	60	50	60	50	60	50	60	50	60
6310	NU310	20	22	32	28	50	50	50	50	50	50	27	22	50	44	50	50	50	50
6311	NU311	25	28	30	25	50	50	50	50	50	50	24	20	48	40	50	50	50	50
6312	NU312	30	33	28	23	50	46	50	50	50	50	22	18	44	36	50	50	50	50
6313	NU313	35	39	26	21	50	42	50	50	50	50	20	17	40	34	50	50	50	50
6314	NU314	40	45	24	20	48	40	50	50	50	50	19	16	38	32	50	48	50	50
6315	NU315	45	50	—	—	44	36	50	50	50	50	—	—	36	30	50	45	50	50
6316	NU316	50	56	—	—	42	34	50	50	50	50	—	—	34	28	50	42	50	50
6317	NU317	55	61	—	—	38	32	50	48	50	50	—	—	30	26	45	39	50	50
6318	NU318	60	67	—	—	36	30	50	45	50	50	—	—	30	24	45	36	50	48
6319	NU319	65	72	—	—	34	28	50	42	50	50	—	—	28	22	42	33	50	44
6320	NU320	70	78	—	—	32	28	48	42	50	50	—	—	26	22	39	33	50	44

Standard Specification

No.	Item		Standard specification		Semi-standard specification
1	Standard		JIS, JEC, JEM		IEC, BS
2	Protection/Cooling type		Protected type IP20, IC01 Protected drip-proof type IP22, IC01		IP54, IP55
			Totally-enclosed splash-proof frame surface cooled type Indoor type: IP44, IC0141 Outdoor type: IPW44, IC0141		
3	Rotor construction		Squirrel-cage rotor type		
4	Rated voltage/frequency		37kW and below	200V-50·60Hz, 220V-60Hz	Other than standard specification
			45kW and above	400V-50Hz, 440V-60Hz	
5	Type of insulation		Frame 112M and below	Class E insulation	Other than standard specification
			Frame 132S~180M	Class B insulation	
			Frame 180L and above	Class F insulation	
6	Ambient temperature and altitude		–20°C~40°C 1000m or below		Other than standard specification
7	Environmental conditions		Relative humidity 90% Max. Sometimes weak acid or alkaline gas may exist.		
8	Torque characteristics	Locked-rotor torque	37kW and below	According to JIS C 4210	Other than standard specification
			45kW and above	100%	
		Pull-up torque	37kW and below	According to JIS C 4210	
			45kW and above	90%	
		Break-down torque	37kW and below	According to JIS C 4210	
			45kW and above	200%	
9	Time rating		Continuous		
10	Revolving direction		Clockwise as seen from anti-coupling side		Counter-clockwise
11	Position of terminal box	Protected drip-proof type	All frames	Right side as seen from opposite coupling side	
		Totally-enclosed splash-proof type	Frame 225 and below	Right side as seen from opposite coupling side	
			Frame 250 and above	Upper side of the motor	
12	Terminal arrangement		Lug type (lead wire system)		Stud type
13	Direction of external cable intake	Protected drip-proof type	All frames	Downward	
		Totally-enclosed splash-proof type	Frame 225 and below	Downward (toward opposite coupling side for outdoor type)	
			Frame 250 and above	Right side as seen from opposite coupling side	
14	External cable intake method		Indoor use	Knockout type	Packing type (with threads for conduit pipe)
			Outdoor use	Threaded joint steel conduit type	
15	Color of coating		Munsell 5B5/0.5 (standard color)		Other than standard color
16	Accessories		Shaft end key		Slide base (Frame 200 and below) Slide rail (Frame 225 and above) Foundation bolts Space heater

Please specify the following items when ordering LITTLE KING series motors.

No.	Specification item	Appointment item	Remarks	No.	Specification item	Appointment item	Remarks
1	Facility			13	Starting method	Direct/Star-delta/Reduced voltage	Specify the type of starter, and the tap voltage when reduced voltage starting is required.
2	Driven equipment						
3	Quantity			14	Starting frequency	Time/day	When the starting frequency is more than several times per day, please specify the numbeer of times ot starting and its interval time.
4	Output	kW					
5	No. of poles	P					
6	Voltage	V		15	Load moment of inertia J (In terms of motor shaft)	$kg \cdot m^2$	When the GD^2 of the load is large, please specify it. ($J=1/4\ GD^2$)
7	Frequency	50Hz · 60Hz					
8	Location	Indoor Outdoor		16	Performance required	Locked-rotor torque (%), Breakdown torque (%) etc.	When any requirements concerned with performance exist, please specify the value of them.
9	Type	Protected type Protected drip-proof type Totally-enclosed frame surface cooled type Indoor type Outdoor type	IP20, IC01 IP22, IC01 IP44, IC0141 IPW44, IC0141	17	Noise level limitation	Yes · No	When low noise type is required, please specify the value of noise in dB (A).
10	Coupling with load	Direct coupling Belt drive	Specify the following items in case of belt drive: Diameter of pulley (P.C.D.), Pulley width (PW), Kind of belt, No. of belt	18	Explosion-proof	Yes · No	Specify the kind and class of gas and explosion-proof classification.
11	Revolving direction	Counter clockwise Clockwise	Viewed from opposite coupling side	19	Environmental conditions	Standard, Non-standard	Specify the specific items. (Ambient temperature, humidity, corrosive gas, vibration and description related with the equipment delivered before.)
12	Terminal		Terminal leadout: Lug type Stud type: Direct: Right or left side as viewed from opposite coupling side; Diameter of the screw: Kind and size of cable	20	Finished color	Yes · No	Munsell 5B5/0.5 (Standerd color)
				21	Accessories/ spare parts	With, Without	Specify the article and quantity of it.

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