

THREE PHASE INDUCTION MOTOR

SUPER LINE Q SERIES

Multi-purpose energy saving for all requirements

1/4~10HP (63~132Fr.)



SF- QR 1HP 4P



SF- QRV 3HP 4P



SF- QRB 3HP 4P

15~75HP (160~225Fr.)



SF- Q 15HP 4P



SF- QV 20HP



SF- Q 50HP 4P

- Motor efficiency class IE1 conformed with IEC 60034-30-1
- Same installation based on IEC standard
- Compatible with distribution control devices
- High corrosion resistance
- Degrees of protection : IP44 & IP55
- Thermal class : 130(B) & 155(F)

Efficiency class label



MOTOR EFFICIENCY CLASS IE1

ENERGY SAVING FOR A GREEN WORLD

THREE PHASE INDUCTION MOTOR

What's New

Advance efficiency for energy saving

Efficiency is higher than non IE1 motor, Advanced energy saving is possible with three phase Q-Series.

3 HP (2.2 kW)		4 POLE		TYPE	SF-QR
Hz	50	50	50	FRAME	100L
V	220	380	415	RATING	S1
A	8.7	5.0	4.9	TH. CLASS	155 (F)
min ⁻¹	1420	1420	1440	AMB TEMP	40°C
P.F.	0.84	0.84	0.78	BEARING	6206ZZ
RATED EFF.	79.7%	79.7%	79.7%		6205ZZ
EFF. CLASS.	IE1	IE1	IE1	IP55	IC411
STD.	IEC 60034-1	IEC 60034-30-1		SERIAL	

Sample name plate model : SF-QR 3HP(2.2kW) 4P IP55

*The efficiency values and IE code are specified on nameplate.

Corrosion resistance

Steel part of Q-series motor has changed under coat painting by electric process EDP (Electro Deposited Paint), which renowned for its superior corrosion resistance, rust protection, uniformed coating film and long life used.



Old : under coat by dipping

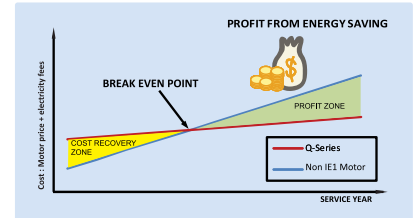
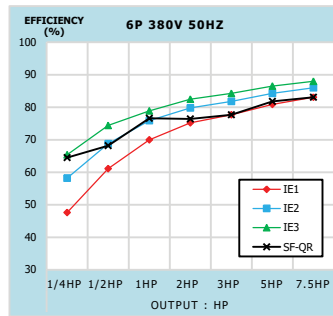
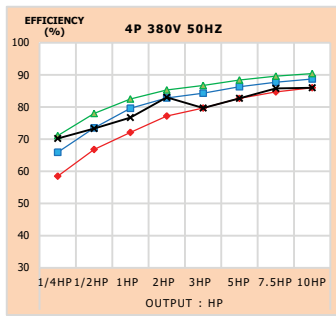
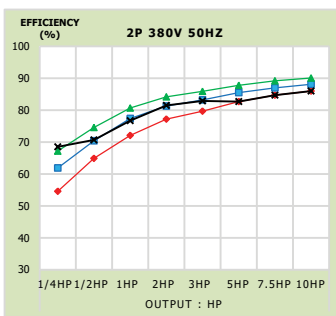


New : under coat by EDP

By salt spray test 192Hr

Hidden profit from energy saving

The investment cost of motor doesn't refer to only price, but including the variable electricity fees. Three phase Q-Series can help to reach a break even point quicker by advance energy saving performance, to consume less electricity fees.



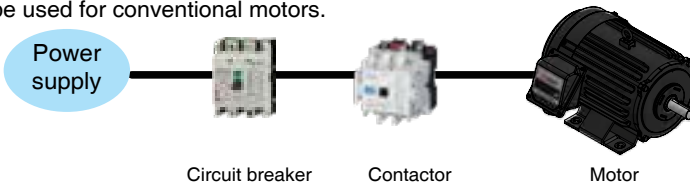
Feature and Benefits

Efficiency class guarantee

The optimized electrical design and the material with low generation loss are used for core that make MITSUBISHI ELECTRIC AUTOMATION (THAILAND) guarantee "IE1" efficiency class on three phase motor.

Compatibility with distribution control devices

Since the motors are designed for combined use with Mitsubishi's distribution control devices. The devices with equivalent specifications can be used for conventional motors.



Compact Size and Light Weight

Size and weight reductions have been achieved by use of steel-plate frame and aluminium brackets in the small-capacity motors.

Highly Reliable Insulation Systems

Class B and F insulation systems are characterized by superior resistance to heat, humidity and chemicals for top-notch reliability.

Full Lineup

We have produced variety types of motors, ranged from 1/4 HP to 75 HP, thus providing a full lineup of motors ideal for any application.

Superlative Characteristics and High Reliability

Based on experience and technology accumulated over many years, along with an exacting quality-control system, each motor is ensured to exhibit only the finest characteristics.

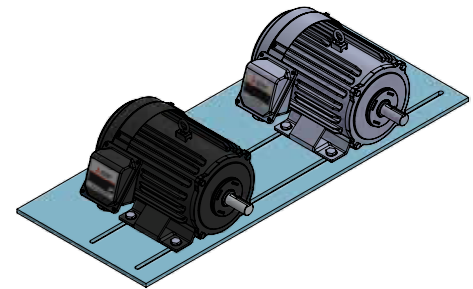
Safety: All the rotating parts and the "live" areas are made sure that it cannot be accidentally touched directly.

Smooth Acceleration: The low moment of inertia of the rotor combined with the motor's high acceleration torque, contributes to smooth starting and stopping.

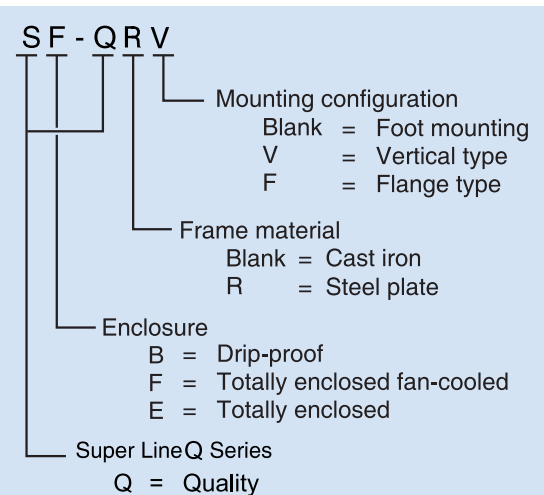
Low Noise and Vibration Levels: This feature has been achieved due to our highly individualized electrical design, the ample rigidity and the precise machining of the motor frames and brackets, and the exact balancing of the rotor.

Installation

Q-series models can completely replace the J-series. (Installation base according to IEC standard)



Significance of type designations



Characteristics and performance

SF-Q 15~75HP 2P, 4P (160~225Fr.) IP55, SF-Q 10~60HP 6P (160~225Fr.) IP55
 SF-QV 15~40HP 2P, 4P (160~180Fr.) IP55, SF-QV 10~30HP 6P (160~180Fr.) IP55

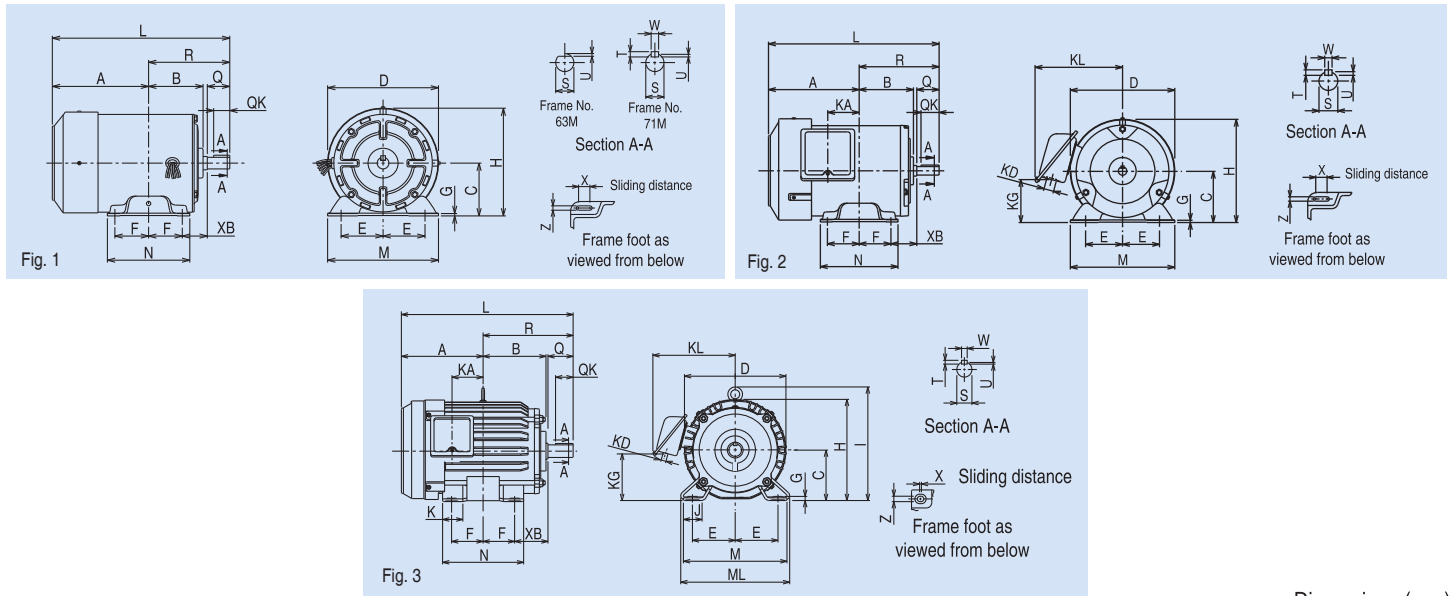
Type	Pole	Rated power		Frame No.	Hz	Volt	50% Load			75% Load			100% Load			Torque(%)		Is (A)	Inertia J (kg·m ²)		
		HP	kW				I (A)	Eff(%)	PF	I (A)	Eff(%)	PF	I (A)	Eff (%)	PF	Speed (min ⁻¹)	Torque (kg·m)			Tm	Ts
HT	2P	15	11	160M	50	380	12.1	89.0	0.78	16.4	89.4	0.85	22.1	87.6	0.87	2915	3.67	318	233	140	0.036
						415	12.7	87.8	0.69	16.3	89.2	0.79	21.0	87.9	0.83	2930	3.65	382	279	153	
		20	15	160M	50	380	15.9	90.5	0.79	22.0	90.4	0.86	29.5	88.7	0.87	2910	5.02	323	242	194	0.044
						415	16.8	89.3	0.70	21.6	90.4	0.80	28.1	89.1	0.83	2930	4.98	388	291	212	
		25	18.5	160L	50	380	18.6	91.9	0.82	26.1	91.9	0.88	35.3	90.1	0.88	2915	6.18	363	283	260	0.056
						415	18.7	91.4	0.75	25.0	92.0	0.84	33.1	90.8	0.86	2935	6.14	435	340	284	
		30	22	180M	50	380	23.0	91.4	0.80	31.7	91.8	0.86	42.7	90.2	0.87	2930	7.31	332	214	286	0.088
						415	23.6	90.7	0.72	30.7	91.8	0.81	40.2	91.0	0.84	2945	7.27	398	257	312	
	40	30	180L	50	380	29.8	92.4	0.83	42.1	92.4	0.88	57.1	90.7	0.88	2925	9.98	332	223	392	0.111	
					415	29.9	91.8	0.76	40.5	92.4	0.84	53.5	91.2	0.86	2945	9.92	398	267	428		
	50	37	200L	50	380	37.3	92.0	0.82	51.8	92.7	0.88	69.9	91.6	0.88	2960	12.17	351	265	531	0.193	
					415	38.0	91.2	0.74	50.5	92.5	0.83	66.3	91.8	0.85	2970	12.13	420	317	580		
	60	45	200L	50	380	45.3	92.3	0.82	63.1	92.9	0.87	84.6	91.9	0.88	2960	14.80	355	268	657	0.218	
					415	47.0	91.1	0.73	62.0	92.4	0.82	81.1	91.7	0.84	2970	14.75	425	320	718		
	75	55	225S	50	380	55.7	92.0	0.81	77.4	92.7	0.87	104.4	92.1	0.87	2955	18.12	367	273	812	0.282	
					415	56.9	91.3	0.74	75.1	92.6	0.83	98.6	92.1	0.84	2970	18.03	439	327	887		
	4P	15	11	160M	50	380	13.1	89.3	0.71	17.2	89.5	0.81	22.7	87.6	0.84	1455	7.36	329	301	150	0.072
						415	14.5	87.3	0.60	17.7	88.8	0.73	22.1	87.9	0.79	1465	7.31	395	361	164	
		20	15	160L	50	380	17.4	90.7	0.72	23.0	90.9	0.82	30.1	89.2	0.85	1455	10.04	367	359	231	0.103
						415	19.0	89.3	0.62	23.4	90.6	0.74	29.3	89.5	0.80	1465	9.97	440	431	253	
		25	18.5	180M	50	380	22.0	90.0	0.71	28.8	91.1	0.80	37.6	89.9	0.83	1470	12.25	355	285	281	0.175
						415	25.1	87.8	0.59	30.2	89.9	0.71	37.4	89.8	0.77	1480	12.17	425	341	307	
		30	22	180M	50	380	25.3	90.7	0.73	33.8	91.4	0.81	44.2	90.2	0.84	1470	14.57	350	282	327	0.200
						415	28.2	88.8	0.61	34.8	90.6	0.73	43.7	90.0	0.78	1475	14.52	419	337	358	
40	30	180L	50	380	32.0	91.7	0.78	43.9	91.8	0.85	58.9	90.7	0.85	1465	19.93	311	254	395	0.252		
				415	33.6	90.9	0.68	43.5	91.7	0.79	56.2	90.7	0.82	1470	19.87	373	305	432			
50	37	200L	50	380	41.4	91.9	0.74	55.5	92.4	0.82	73.6	91.2	0.84	1475	24.42	309	213	452	0.390		
				415	45.7	90.2	0.62	56.8	91.6	0.74	72.0	91.2	0.78	1480	24.34	370	256	494			
60	45	200L	50	380	48.4	91.9	0.77	66.0	92.2	0.84	88.3	91.7	0.84	1470	29.80	301	210	539	0.449		
				415	52.5	90.6	0.66	66.7	91.8	0.77	85.9	91.7	0.79	1475	29.70	360	251	589			
75	55	225S	50	380	60.0	92.7	0.75	80.5	93.3	0.83	106.8	92.2	0.85	1475	36.30	335	228	672	0.702		
				415	64.4	91.3	0.65	80.9	92.7	0.76	103.3	92.2	0.80	1480	36.17	401	273	733			
6P	10	7.5	160M	50	380	10.3	86.7	0.64	13.2	87.1	0.74	17.1	84.7	0.79	965	7.57	272	243	89.5	0.097	
					415	11.7	83.4	0.54	13.8	85.7	0.66	17.0	84.7	0.73	970	7.53	327	292	97.8		
	15	11	160L	50	380	14.2	88.4	0.67	18.5	88.4	0.77	24.3	86.4	0.79	960	11.15	270	256	129	0.130	
					415	15.7	76.3	0.56	19.0	87.8	0.69	23.8	86.4	0.75	970	11.04	325	309	141		
	20	15	180M	50	380	19.7	89.4	0.65	25.2	90.2	0.75	32.5	88.5	0.79	975	14.98	319	268	210	0.283	
					415	21.8	87.2	0.55	26.1	89.2	0.67	32.1	88.3	0.74	980	14.90	382	321	229		
	25	18.5	180L	50	380	22.5	90.3	0.69	29.6	90.5	0.79	39.0	88.6	0.81	975	18.47	294	253	245	0.321	
					415	24.2	88.9	0.60	29.9	90.1	0.72	37.8	88.9	0.77	980	18.38	353	303	267		
30	22	180L	50	380	25.2	91.0	0.73	34.2	90.7	0.81	45.8	89.2	0.82	970	22.08	266	233	264	0.359		
				415	26.7	90.0	0.64	33.8	90.7	0.75	43.5	89.2	0.79	975	21.96	320	280	288			
40	30	200L	50	380	34.2	90.9	0.73	45.9	91.1	0.82	61.1	90.2	0.83	975	29.95	297	253	380	0.524		
				415	37.3	89.2	0.63	46.3	90.6	0.75	59.0	90.2	0.78	980	29.80	356	303	415			
50	37	200L	50	380	43.2	91.0	0.72	56.9	91.5	0.81	75.1	90.8	0.82	975	36.94	323	282	508	0.644		
				415	47.9	89.0	0.60	58.9	90.6	0.72	74.0	90.8	0.77	980	36.75	387	338	555			
60	45	225S	50	380	47.7	92.4	0.78	65.8	92.3	0.84	89.1	91.4	0.84	980	44.70	272	222	509	0.972		
				415	51.3	90.9	0.67	65.9	91.8	0.78	85.5	91.4	0.80	985	44.47	326	265	556			

SF-QR 1/4HP~10HP HORIZONTAL TYPE

TOTALLY ENCLOSED FAN-COOLED TYPE, IP44 DEGREES OF PROTECTION



SF-QR 1/2HP 4P 71M IP44



Dimensions (mm)

Model	Frame No.	Output HP (kW)			Fig.	Motor																Terminal box						
		2-Pole	4-Pole	6-Pole		A	B	C*	D	E	F	G	H	I	J	K	L	M	ML	N	X	XB	Z	KA	KG	KD	KL	KP**
SF-QR	63M	1/4(0.2)	1/4(0.2)	-	1	113	77	63	127	50	40	2.3	129	-	-	-	216	135	-	100	12	40	7	-	-	-	-	162
	71M	1/2(0.4)	1/2(0.4)	1/4(0.2)		118	87	71	148	56	45	3.2	147	-	-	-	238	148	-	110	18	45	7	-	-	-	-	161
	80M	1(0.75)	1(0.75)	1/2(0.4)	2	122	95	80	162	62.5	50	3.2	165	-	-	-	262	160	-	125	15	50	9	39.5	63	27	145	-
	90L	2(1.5), 3(2.2)	2(1.5)	1(0.75)		143	114	90	184	70	62.5	4	186	-	-	-	311.5	175	-	150	15	56	9	53	76	27	158	-
	100L	-	3(2.2)	2(1.5)	3	173	128	100	207	80	70	6.5	204	230	40	45	366	200	212	180	4	63	12	65	88	27	169	-
	112M	5(3.7)	5(3.7)	3(2.2)		181	135	112	228	95	70	6.5	225	253	40	45	381	230	242	180	4	70	12	69	103	27	180	-
	132S	7.5(5.5), 10(7.5)	7.5(5.5)	5(3.7)	211.5	152	132	266	108	70	6.5	265	288	40	45	450.5	256	268	180	4	89	12	75	120	27	197	-	
	132M	-	10(7.5)	7.5(5.5)	230.5	171	132	266	108	89	6.5	265	288	40	45	488.5	256	268	218	4	89	12	94	120	27	197	-	

* The perpendicular variation of tolerance for the shaft center is $\begin{matrix} 0 \\ -0.5 \end{matrix}$
 ** This dimension is for model which $KP > H$ only.

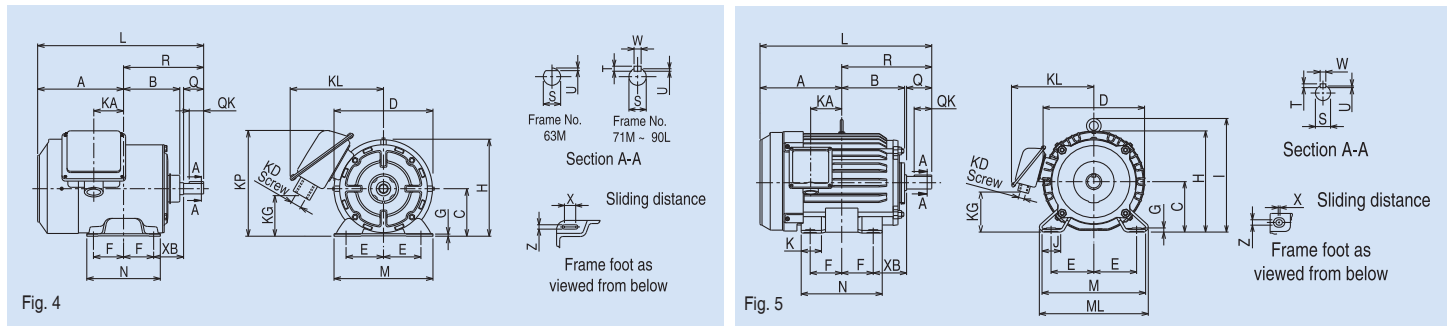
Model	Frame No.	Shaft end						Bearing No.		Approximate weight (kg)			Approximate packing dimension (LxWxH)	Packing weight (kg)			
		Q	QK	R	S	T	U	W	Drive end	Opposite	2-Pole	4-Pole		6-Pole	2-Pole	4-Pole	6-Pole
SF-QR	63M	23	-	103	11 h6	-	1	-	6201ZZ	6201ZZ	5	5.5	-	245 x 165 x 170	5.5	6	-
	71M	30	25	120	14 j6	5	3	5	6202ZZ	6201ZZ	7	8	7.3	270 x 200 x 185	7.5	8.5	7.8
	80M	40	32	140	19 j6	6	3.5	6	6204ZZ	6203ZZ	10.5	11.5	11	315 x 270 x 206	11	12	11.5
	90L	50	40	168.5	24 j6	7	4	8	6205ZZ	6204ZZ	16.5, 20	19	19	368 x 280 x 226	17, 20.5	19.5	19.5
	100L	60	45	193	28 j6	7	4	8	6206ZZ	6205ZZ	-	24	25	430 x 355 x 300	-	25	26
	112M	60	45	200	28 j6	7	4	8	6207ZZ	6206ZZ	31	33.1	35	439 x 345 x 290	36.5	38.6	40.5
	132S	80	63	239	38 k6	8	5	10	6308ZZ	6207ZZ	43, 51	46.8	46	529 x 384 x 303	50.5, 58.5	56.1	53.5
	132M	80	63	258	38 k6	8	5	10	6308ZZ	6207ZZ	-	59.3	57.5	529 x 384 x 303	-	66.8	65

SF-QR 1/4HP~10HP HORIZONTAL TYPE

TOTALLY ENCLOSED FAN-COOLED TYPE, IP55 DEGREES OF PROTECTION



SF-QR 3HP 4P 100L



Model	Frame No.	Output HP (kW)			Fig.	Motor																	Terminal box					
		2-Pole	4-Pole	6-Pole		A	B	C*	D	E	F	G	H	I	J	K	L	M	ML	N	X	XB	Z	KA	KG	KD	KL	KP**
SF-QR	63M	1/4(0.2)	1/4(0.2)	-	4	121.4	73.6	63	127	50	40	2.3	129	-	-	-	224.4	135	-	100	12	40	7	38.4	75	PF1/2	130	162
	71M	1/2(0.4)	1/2(0.4)	1/4(0.2)		128.5	83	71	148	56	45	3.2	147	-	-	-	248.5	148	-	110	18	45	7	44.5	67	PF1/2	140	161
	80M	1(0.75)	1(0.75)	1/2(0.4)		122	98	80	162	62.5	50	3.2	165	-	-	-	262	160	-	125	15	50	9	39.5	38	PF3/4	145	-
	90L	2(1.5), 3(2.2)	2(1.5)	1(0.75)		143	117	90	184	70	62.5	4	186	-	-	-	311.5	175	-	150	15	56	9	53	59	PF3/4	158	-
	100L	-	3(2.2)	2(1.5)	5	173	131	100	207	80	70	6.5	204	230	40	45	366	200	212	180	4	63	12	65	64	PF3/4	170	-
	112M	5(3.7)	5(3.7)	3(2.2)		181	138	112	228	95	70	6.5	225	253	40	45	381	230	242	180	4	70	12	69	87	PF3/4	182	-
	132S	7.5(5.5), 10(7.5)	7.5(5.5)	5(3.7)		211.5	155	132	266	108	70	6.5	265	288	40	45	450.5	256	268	180	4	89	12	75	96	PF1	210	-
	132M	-	10(7.5)	7.5(5.5)		230.5	174	132	266	108	89	6.5	265	288	40	45	488.5	256	268	218	4	89	12	94	96	PF1	210	-

* The perpendicular variation of tolerance for the shaft center is $\frac{0}{-0.5}$
 ** This dimension is for model which KP > H only.

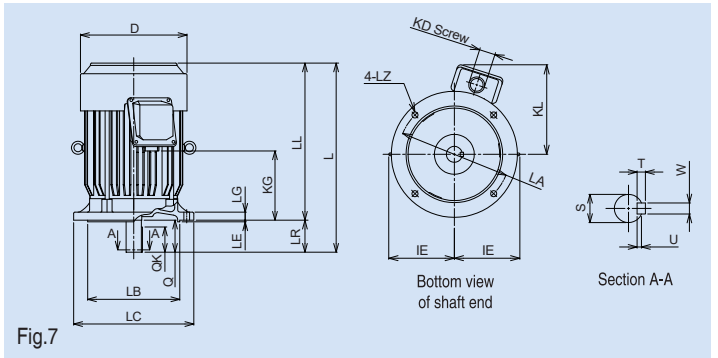
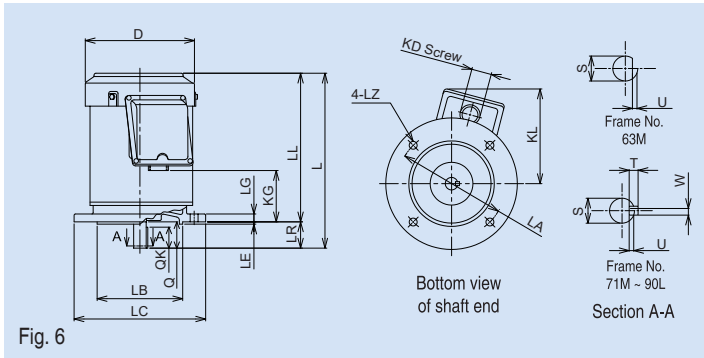
Model	Frame No.	Shaft end						Bearing No.		Approximate weight (kg)			Approximate packing dimension (LxWxH)	Packing weight (kg)			
		Q	QK	R	S	T	U	W	Drive end	Opposite	2-Pole	4-Pole		6-Pole	2-Pole	4-Pole	6-Pole
SF-QR	63M	23	-	103	11 h6	-	1	-	6201ZZ	6201ZZ	5	5.5	-	272 x 226 x 222	5.5	6	-
	71M	30	25	120	14 j6	5	3	5	6202ZZ	6201ZZ	7	8	7.3	275 x 256 x 180	7.5	8.5	7.8
	80M	40	32	140	19 j6	6	3.5	6	6204ZZ	6203ZZ	10.5	11.5	11	315 x 270 x 206	11	12	11.5
	90L	50	40	168.5	24 j6	7	4	8	6205ZZ	6204ZZ	16.5 , 20	19	19	368 x 280 x 226	17 , 20.5	19.5	19.5
	100L	60	45	193	28 j6	7	4	8	6206ZZ	6205ZZ	-	24	25	456 x 355 x 300	-	25	26
	112M	60	45	200	28 j6	7	4	8	6207ZZ	6206ZZ	31	33.1	35	469 x 375 x 320	36.5	38.6	40.5
	132S	80	63	239	38 k6	8	5	10	6308ZZ	6207ZZ	43 , 51	46.8	46	559 x 414 x 333	50.5 , 58.5	56.1	53.5
	132M	80	63	258	38 k6	8	5	10	6308ZZ	6207ZZ	-	59.3	57.5	559 x 414 x 333	-	66.8	65

SF-QRV 1/4HP~10HP VERTICAL TYPE

TOTALLY ENCLOSED FAN-COOLED TYPE, IP55 DEGREES OF PROTECTION



SF-QRV 3HP 4P 100L



Dimensions (mm)

Model	Flange No.	Frame No.	Output HP (kW)			Fig.	Motor										Terminal box		
			2-Pole	4-Pole	6-Pole		D	IE	LA	LB	LC	LE	LG	LL	LZ	L	KD	KG	KL
SF-QRV	FF130	63M	1/4(0.2)	1/4(0.2)	-	6	127	-	130	110 j6	160	3.5	10	208	10	231	PF1/2	58	125
	FF130	71M	1/2(0.4)	1/2(0.4)	1/4(0.2)		148	-	130	110 j6	160	3.5	10	229	10	259	PF1/2	80	138
	FF165	80M	1(0.75)	1(0.75)	1/2(0.4)		162	-	165	130 j6	200	3.5	12	226	12	266	PF3/4	78	144
	FF165	90L	2(1.5), 3(2.2)	2(1.5)	1(0.75)		184	-	165	130 j6	200	3.5	12	288.5	12	338.5	PF3/4	133	156
	FF215	100L	-	3(2.2)	2(1.5)	7	207	130	215	180 j6	250	4	16	321	14.5	381	PF3/4	148	169
	FF215	112M	5(3.7)	5(3.7)	3(2.2)		228	141	215	180 j6	250	4	16	351	14.5	411	PF3/4	174	180
	FF265	132S	7.5(5.5), 10(7.5)	7.5(5.5)	5(3.7)		266	156	265	230 j6	300	4	20	392.5	14.5	472.5	PF1	173	213
	FF265	132M	-	10(7.5)	7.5(5.5)		266	156	265	230 j6	300	4	20	430.5	14.5	510.5	PF1	211	213

Model	Flange No.	Frame No.	Shaft end							Bearing No.		Approximate weight (kg)			Approximate packing dimension (LxWxH)	Packing weight (kg)		
			LR	Q	QK	S	T	U	W	Drive end	Opposite	2-Pole	4-Pole	6-Pole		2-Pole	4-Pole	6-Pole
SF-QRV	FF130	63M	23	23	-	11 h6	-	1	-	6201ZZ	6201ZZ	6.5	6.6	-	318 x 256 x 180	6.8	6.9	-
	FF130	71M	30	30	25	14 j6	5	3	5	6202ZZ	6201ZZ	8.4	8.7	9	318 x 256 x 180	8.9	9.2	9.5
	FF165	80M	40	40	32	19 j6	6	3.5	6	6204ZZ	6203ZZ	12.5	14	13	368 x 280 x 226	13	14.5	13.5
	FF165	90L	50	50	40	24 j6	7	4	8	6205ZZ	6204ZZ	19, 23	22	21.5	425 x 280 x 226	19.8, 23.8	22.8	22.3
	FF215	100L	60	60	45	28 j6	7	4	8	6206ZZ	6205ZZ	-	28	29.5	456 x 355 x 300	-	29.5	31
	FF215	112M	60	60	45	28 j6	7	4	8	6207ZZ	6206ZZ	37	39	41	481 x 375 x 352	44	46	48
	FF265	132S	80	80	63	38 k6	8	5	10	6308ZZ	6207ZZ	53, 60.5	56	56.5	581 x 433 x 382	61, 68.5	64	64.5
	FF265	132M	80	80	63	38 k6	8	5	10	6308ZZ	6207ZZ	-	68	66	581 x 433 x 382	-	76	74

SF-Q 15HP~75HP(160M~225S) HORIZONTAL TYPE

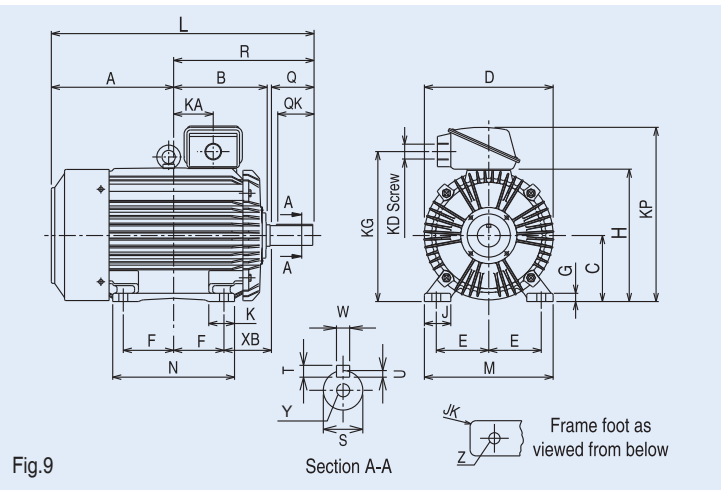
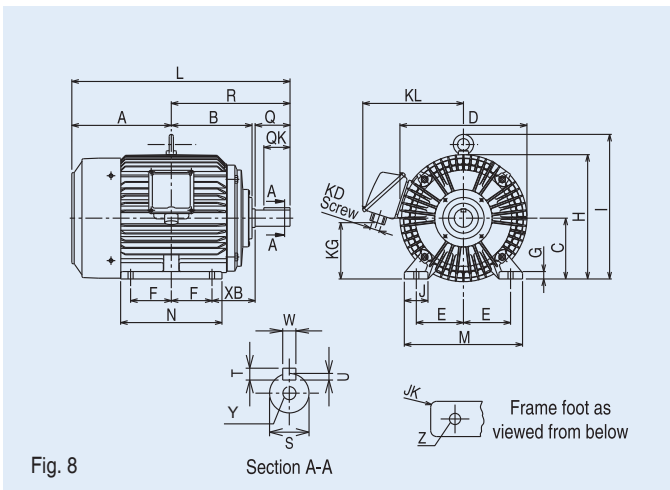
TOTALLY ENCLOSED FAN-COOLED TYPE, IP55 DEGREES OF PROTECTION



SF-Q 15HP 4P 160M



SF-Q 50HP 4P 200L



Model	Frame No.	Output HP (kW)			Fig.	Motor																Terminal box					
		2-Pole	4-Pole	6-Pole		A	B	C*	D	E	F	G	H	I	J	JK	K	L	M	N	XB	Z	KA	KG	KD	KL	KP
SF-Q	160M	15(11), 20(15)	15(11)	10(7.5)	8	252	207	160	324	127	105	20	322	373	55	R6	-	575	310	260	108	15	-	127	PF1 1/4	271	-
	160L	25(18.5)	20(15)	15(11)		274	229	160	324	127	127	20	322	373	55	R6	-	619	310	304	108	15	-	127	PF1 1/4	271	-
	180M	30(22)	25(18.5), 30(22)	20(15)		294.5	239	180	376	139.5	120.5	22	367	427	70	R6	-	646	350	300	121	15	-	151	PF1 1/2	295	-
	180L	40(30)	40(30)	25(18.5), 30(22)		313.5	258	180	376	139.5	139.5	22	367	427	70	R6	-	684	350	338	121	15	-	151	PF1 1/2	295	-
	200L	50(37), 60(45)	50(37), 60(45)	40(30), 50(37)	9	370.5	281	200	410	159	152.5	25	405	-	80	R6	78	(766) 796	390	369	133	18.5	120	476	PF2	-	550
	225S	75(55)	75(55)	60(45)		380	287.5	225	459	178	143	28	457	-	80	R8	82	(782) 812	430	350	149	18.5	120	528	PF2	-	602

* The perpendicular variation of tolerance for the shaft center is -0.5

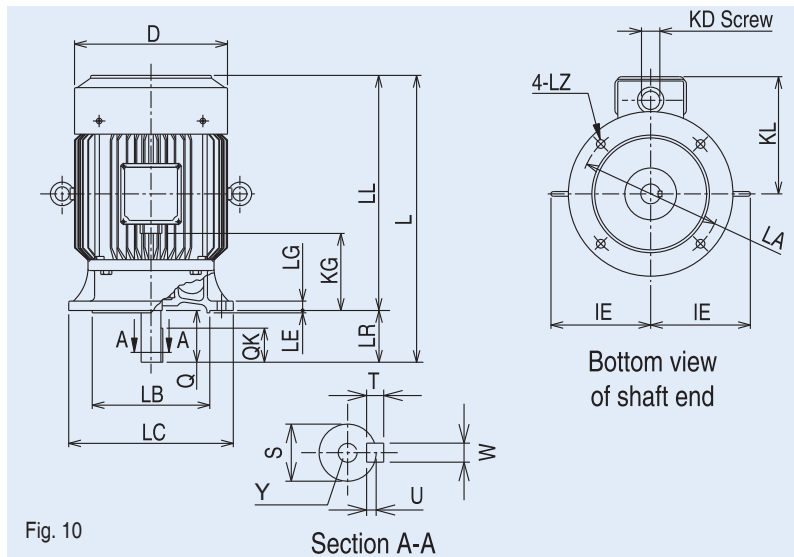
Model	Frame No.	Shaft end							Shaft Tapping (MxPitchxDepth)	Bearing No.		Approximate weight (kg)			Approximate packing dimensions (LxWxH)	Packing weight (kg)		
		Q	QK	R	S	T	U	W		Y	Drive end	Opposite	2-Pole	4-Pole		6-Pole	2-Pole	4-Pole
SF-Q	160M	110	90	323	42 k6	8	5	12	M16 x 2.0 x 36	6309ZZ	6308ZZ	105,115	110	107	731 x 547 x 494	126,136	131	128
	160L	110	90	345	42 k6	8	5	12	M16 x 2.0 x 36	6309ZZ	6308ZZ	145	136	135	731 x 547 x 494	166	157	156
	180M	110	90	351.5	48 k6	9	5.5	14	M16 x 2.0 x 36	6311ZZ	6310ZZ	189	193,213	202	796 x 595 x 548	213	217,237	226
	180L	110	90	370.5	55 m6	10	6	16	M20 x 2.5 x 42	(6312ZZC3) 6312ZZ	6310ZZ	220	231	221,235	796 x 595 x 548	244	255	245,259
	200L	(110) 140	(90) 110	(395.5) 425.5	(55 m6) 60 m6	(10) 11	(6) 7	(16) 18	M20 x 2.5 x 42	(6312ZZC3) 6313ZZ	(6311ZZC3) 6311ZZ	303,326	287,311	297,343	910 x 522 x 691	330,353	314,338	324,370
	225S	(110) 140	(90) 110	(402) 432	(55 m6) 65 m6	(10) 11	(6) 7	(16) 18	M20 x 2.5 x 42	(6312ZZC3) 6315ZZ	(6312ZZC3) 6312ZZ	340	356	372	924 x 579 x 774	370	386	402

() is dimension for 2-pole motors.

SF-QV 15HP~40HP(160M~180L) VERTICAL TYPE
 TOTALLY ENCLOSED FAN-COOLED TYPE, IP55 DEGREES OF PROTECTION



SF-QV 30HP 4P 180L



Dimensions (mm)

Model	Flange No.	Frame No.	Output HP (kW)			Fig.	Motor										Terminal box		
			2-Pole	4-Pole	6-Pole		D	IE	LA	LB	LC	LE	LG	LL	LZ	L	KD	KG	KL
SF-QV	FF300	160M	15(11), 20(15)	15(11)	10(7.5)	10	324	213	300	250 j6	350	5	20	500	18.5	610	PF1 1/4	147	259
	FF300	160L	25(18.5)	20(15)	15(11)		324	213	300	250 j6	350	5	20	544	18.5	654	PF1 1/4	169	259
	FF350	180M	30(22)	25(18.5), 30(22)	20(15)		376	247	350	300 j6	400	5	20	576	18.5	686	PF1 1/2	176	284
	FF350	180L	40(30)	40(30)	25(18.5), 30(22)		376	247	350	300 j6	400	5	20	614	18.5	724	PF1 1/2	195	284

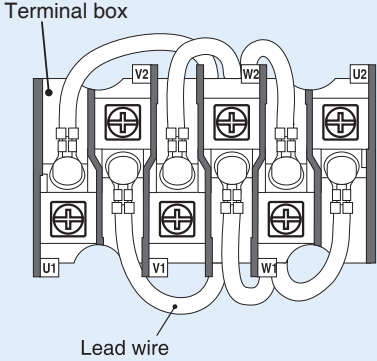
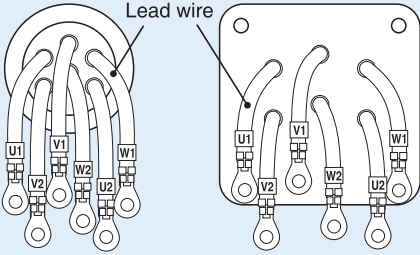
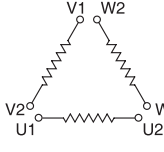
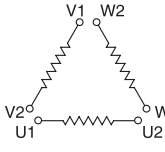
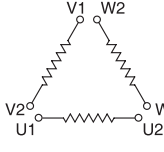
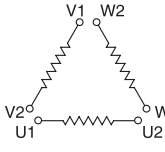
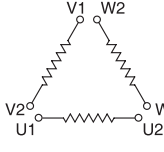
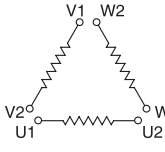
Model	Frame No.	Shaft end							Shaft Tapping (MxPitchxD)	Bearing No.		Approximate weight (kg)			Approximate packing dimensions (LxWxH)	Packing weight (kg)		
		Q	QK	R	S	T	U	W	Y	Drive end	Opposite	2-Pole	4-Pole	6-Pole		2-Pole	4-Pole	6-Pole
SF-QV	160M	110	90	323	42 k6	8	5	12	M16 x 2.0 x 36	6309ZZ	6308ZZ	110,120	113	110	766 x 546 x 557	134,144	137	134
	160L	110	90	345	42 k6	8	5	12	M16 x 2.0 x 36	6309ZZ	6308ZZ	150	141	140	766 x 546 x 557	174	165	164
	180M	110	90	351.5	48 k6	9	5.5	14	M16 x 2.0 x 36	6311ZZ	6310ZZ	194	198,218	207	836 x 596 x 610	221	225,245	234
	180L	110	90	370.5	55 m6	10	6	16	M20 x 2.5 x 42	(6312ZZC3) 6312ZZ	6310ZZ	225	236	226,240	836 x 596 x 610	252	263	253,267

() is dimension for 2-pole motors.

Standard Specifications

Item		Specifications												
Voltage and frequency		LT (Low Voltage) : 220/380/415V 50Hz HT (High Voltage) : 380/415V 50Hz												
Enclosure construction and degrees of protection		Degrees of protection	Enclosure construction	Model name	Pole	Output HP(kW)								
						1/4(0.2)	1/2(0.4)	1(0.75)	2(1.5)	3(2.2)	5(3.7)	7.5(5.5)	10(7.5)	
		IP44, IP55	Totally enclosed fan-cooled	Horizontal type SF-QR	2	●	●	●	●	●	●	●	●	●
					4	●	●	●	●	●	●	●	●	
					6	●	●	●	●	●	●	●	●	—
		IP55		Vertical type SF-QV	2	●	●	●	●	●	●	●	●	●
					4	●	●	●	●	●	●	●	●	●
					6	●	●	●	●	●	●	●	●	—
		Degrees of protection	Enclosure construction	Model name	Pole	Output HP(kW)								
						10(7.5)	15(11)	20(15)	25(18.5)	30(22)	40(30)	50(37)	60(45)	75(55)
		IP55	Totally enclosed fan-cooled	Horizontal type SF-Q	2	—	●	●	●	●	●	●	●	●
					4	—	●	●	●	●	●	●	●	●
					6	●	●	●	●	●	●	●	●	—
				Vertical type SF-QV	2	—	●	●	●	●	●	—	—	—
4	—				●	●	●	●	●	—	—	—		
6	●				●	●	●	●	—	—	—	—		
* Standard vertical type motor can be used for indoor flange type														
Method of cooling		IC411												
Rating		S1 (continuous)												
Frame material		63M ~ 132M : Steel plate 160M ~ 225S : Cast iron												
Power transmission system		Direct-coupled, Belt driven												
Direction of rotation		Counterclockwise (CCW) viewed from shaft end side.												
Thermal class		IP44 : 63M ~ 90L 130(B), 100L ~ 132M 155(F) IP55 : 63M ~ 225S 155(F)												
Circumstance conditions	Ambient temperature	-20 ~ +40°C												
	Ambient humidity	95% RH or less												
	Altitude	1,000m above sea level or less												
	Environment	No bursting / erosive gas or vapor												
Connection type		Degrees of protection	Frame No.	Output HP (kW)		No. of leads	Connection type							
		IP44	63M ~ 90L	1/4(0.2kW) ~ 2(1.5kW)		6	Lead wire							
			100L ~ 132M	3(2.2kW) ~ 10(7.5kW)			Terminal box							
		IP55	63M ~ 225S	1/4(0.2kW) ~ 75(55kW)										
Coating color		Munsell N1.5 (Black)												
Conformed standard		IEC 60034-1, IEC 60034-30-1												
Advantage		For 160M up -Shaft end with tapping -For 4P reinforced insulation for inverter operation												

Connection

Construction of lead wires	Connection diagram																																																											
 <p>Terminal box</p> <p>Lead wire</p>	<p>LT : 220/380/415V 50Hz</p>	<p>* HT : 380/415V 50Hz</p>																																																										
<p>Lead wire</p> <p>IP 44: 63M ~ 71M</p> <p>IP 44 : 80M ~ 90L</p> <p>IP 55 : 160M ~ 225S</p> 	<table border="1"> <thead> <tr> <th colspan="3" data-bbox="587 663 1011 719">CONNECTION DIAGRAM (端子接続図)</th> </tr> <tr> <th data-bbox="587 730 767 797">DUAL VOLTAGE (二種電圧)</th> <th data-bbox="767 730 890 797">LOW VOLTAGE (低電圧) △ 220V</th> <th data-bbox="890 730 1011 797">HIGH VOLTAGE (高電圧) △ 380~415V</th> </tr> <tr> <td data-bbox="587 797 767 1003">  <p>LT NM54N753-01</p> </td> <td data-bbox="767 797 890 1003"> <table border="1"> <thead> <tr> <th colspan="2">SOURCE (電源)</th> </tr> <tr> <th>R</th> <th>S</th> </tr> </thead> <tbody> <tr> <td>U1</td> <td>V1</td> </tr> <tr> <td>U2</td> <td>V2</td> </tr> <tr> <td>W1</td> <td>W2</td> </tr> </tbody> </table> </td> <td data-bbox="890 797 1011 1003"> <table border="1"> <thead> <tr> <th colspan="2">SOURCE (電源)</th> </tr> <tr> <th>R</th> <th>S</th> </tr> </thead> <tbody> <tr> <td>U1</td> <td>V1</td> </tr> <tr> <td>U2</td> <td>V2</td> </tr> <tr> <td>W1</td> <td>W2</td> </tr> </tbody> </table> </td> </tr> </thead> </table> <table border="1"> <thead> <tr> <th colspan="3" data-bbox="1066 685 1490 719">CONNECTION DIAGRAM (端子接続図)</th> </tr> <tr> <th data-bbox="1066 730 1246 797">△-△ STARTING (スターデルタ始動)</th> <th data-bbox="1246 730 1369 797">STARTING (始動) △</th> <th data-bbox="1369 730 1490 797">RUNNING (運転) △</th> </tr> <tr> <td data-bbox="1066 797 1246 1003">  <p>HT 54N438-02</p> </td> <td data-bbox="1246 797 1369 1003"> <table border="1"> <thead> <tr> <th colspan="2">SOURCE (電源)</th> </tr> <tr> <th>R</th> <th>S</th> </tr> </thead> <tbody> <tr> <td>U1</td> <td>V1</td> </tr> <tr> <td>U2</td> <td>V2</td> </tr> <tr> <td>W1</td> <td>W2</td> </tr> </tbody> </table> </td> <td data-bbox="1369 797 1490 1003"> <table border="1"> <thead> <tr> <th colspan="2">SOURCE (電源)</th> </tr> <tr> <th>R</th> <th>S</th> </tr> </thead> <tbody> <tr> <td>U1</td> <td>V1</td> </tr> <tr> <td>U2</td> <td>V2</td> </tr> <tr> <td>W1</td> <td>W2</td> </tr> </tbody> </table> </td> </tr> </thead> </table>		CONNECTION DIAGRAM (端子接続図)			DUAL VOLTAGE (二種電圧)	LOW VOLTAGE (低電圧) △ 220V	HIGH VOLTAGE (高電圧) △ 380~415V	 <p>LT NM54N753-01</p>	<table border="1"> <thead> <tr> <th colspan="2">SOURCE (電源)</th> </tr> <tr> <th>R</th> <th>S</th> </tr> </thead> <tbody> <tr> <td>U1</td> <td>V1</td> </tr> <tr> <td>U2</td> <td>V2</td> </tr> <tr> <td>W1</td> <td>W2</td> </tr> </tbody> </table>	SOURCE (電源)		R	S	U1	V1	U2	V2	W1	W2	<table border="1"> <thead> <tr> <th colspan="2">SOURCE (電源)</th> </tr> <tr> <th>R</th> <th>S</th> </tr> </thead> <tbody> <tr> <td>U1</td> <td>V1</td> </tr> <tr> <td>U2</td> <td>V2</td> </tr> <tr> <td>W1</td> <td>W2</td> </tr> </tbody> </table>	SOURCE (電源)		R	S	U1	V1	U2	V2	W1	W2	CONNECTION DIAGRAM (端子接続図)			△-△ STARTING (スターデルタ始動)	STARTING (始動) △	RUNNING (運転) △	 <p>HT 54N438-02</p>	<table border="1"> <thead> <tr> <th colspan="2">SOURCE (電源)</th> </tr> <tr> <th>R</th> <th>S</th> </tr> </thead> <tbody> <tr> <td>U1</td> <td>V1</td> </tr> <tr> <td>U2</td> <td>V2</td> </tr> <tr> <td>W1</td> <td>W2</td> </tr> </tbody> </table>	SOURCE (電源)		R	S	U1	V1	U2	V2	W1	W2	<table border="1"> <thead> <tr> <th colspan="2">SOURCE (電源)</th> </tr> <tr> <th>R</th> <th>S</th> </tr> </thead> <tbody> <tr> <td>U1</td> <td>V1</td> </tr> <tr> <td>U2</td> <td>V2</td> </tr> <tr> <td>W1</td> <td>W2</td> </tr> </tbody> </table>	SOURCE (電源)		R	S	U1	V1	U2	V2	W1	W2
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* HT can be used only with motors 5HP and above.

THREE PHASE INDUCTION MOTOR WITH ELECTROMAGNETIC BRAKE

Feature and benefits

Safety brake

Brake rated damping torque is about 150% of motor rated torque, enhance braking performance

High efficiency and high torque

Accumulated techniques and CAE (Computer Aided Engineering) analysis that we found steel frame pass through magnetic field then can energize high power and save energy of motor.

Powerful and smooth speed

Due to high efficiency design focused on high acceleration torque and die-cast rotor of rather small moment of inertia, enables smooth starting and stopping.

Low vibration and low noise

Our high technology equipment, the ample rigidity, precise machining of each part and exact balancing of electrical design which makes MEATH motor have low vibration and low noise.

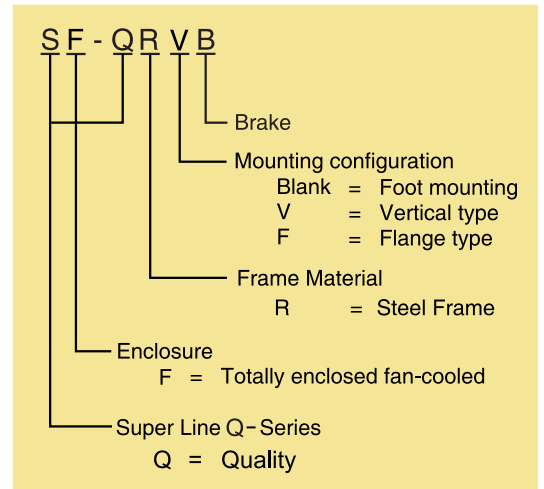
IP55 degrees of protection

Dust and water jet proof structure of both motor and brake body is excellent for operation at outdoor or dusty site.

Efficiency class guarantee

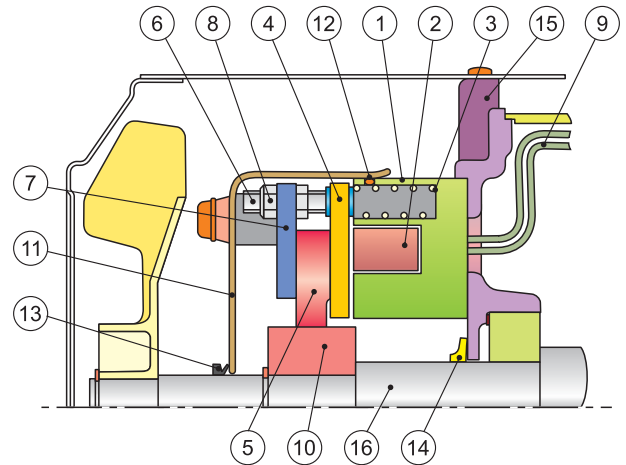
The optimized electrical design and the material with low generation loss are used for core that make MITSUBISHI ELECTRIC AUTOMATION (THAILAND) guarantee "IE1" efficiency class on three phase motor.

Significance of type designations



Brake Structure

1	Fixed core	9	Brake lead wire
2	Coil	10	Hub
3	Braking spring	11	Brake cover
4	Armature	12	O-ring
5	Disc (lining)	13	V-ring
6	Stopper bolt	14	Fringer
7	Brake plate	15	Motor bracket
8	Nut (for adjustment)	16	Motor shaft



The brake's fixed core (1) and coil (2) are relative to the armature (4) fixed with installation screws to the bracket (15) on the motor's counter-load side. Braking spring (3) is mounted on the fixed core (1). The disc (5) is installed on the motor shaft (16) via the hub (10). Stopping bolt (6) fixes the brake plate (7) with the nut (8) that is used to adjust the gap (g) between the armature (4) and fixed core (1). The brake cover (11) is fixed to the brake plate (7) with the screw to protect brake body from water. O-ring (12) between brake cover (11) and fixed core (1) prevent dripping water from seeping inside the brake. V-ring (13) and fringer (14) those rotate with shaft shake the water dripping off before seeping inside the brake and motor.

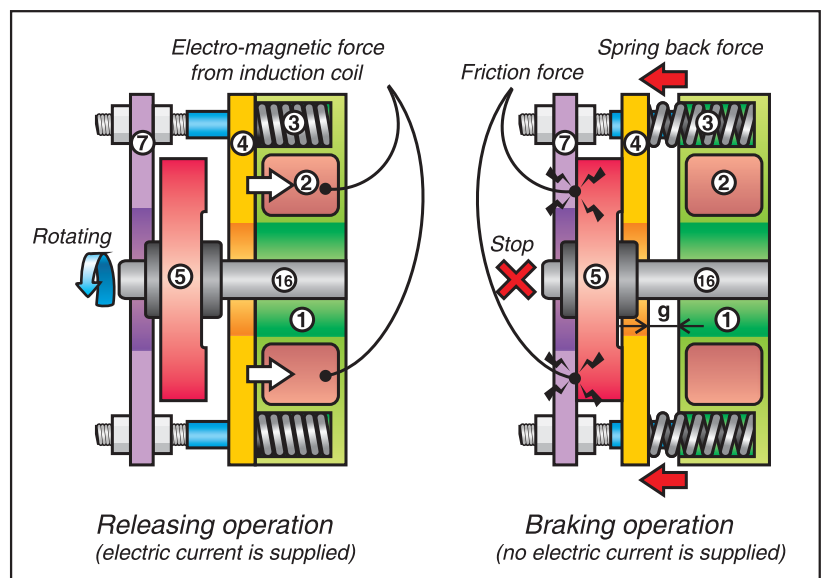
Brake operation

RELEASING OPERATION

When electric current is supplied to the coil(2), the electro-magnetic force is occurred. This effects the armature(4) overcomes pressing force of braking spring(3) so the armature(4) is attracted to the fixed core(1). The gap(g) is disappeared and a clearance is formed between the armature(4) and disc(5), freeing the disc(5) and releasing the brake. In this state, the motor shaft(16) can be rotated.

BRAKING OPERATION

When the electric current to the coil(2) is shut off, there is not electromagnetic force. The armature(4) is released and pressed back by force of braking spring(3). The armature(4) presses the disc(5) against brake plate(7) surface and braking are applied with frictional torque. In this manner, when the fixed core(1) is in the non-excited state, the brake is always applied.



Characteristics and performance

LT (220/380/415V 50Hz) SF-QRB / SF-QRFB / SF-QRVB 1/4HP ~ 10HP

Pole	Frame No.	Output		Brake Type	100% Load											
		HP	kW		220V 50Hz				380V 50Hz				415V 50Hz			
					I(A)	Eff(%)	PF	Speed (min ⁻¹)	I(A)	Eff(%)	PF	Speed (min ⁻¹)	I(A)	Eff(%)	PF	Speed (min ⁻¹)
4	63M	1/4	0.2	TB-2	1.10	70.2	0.67	1430	0.65	70.2	0.67	1430	0.69	67.4	0.60	1440
	71M	1/2	0.4	TB-A0.4	2.00	73.3	0.73	1400	1.14	73.3	0.73	1400	1.18	72.0	0.66	1420
	80M	1	0.75	TB-A0.75	3.20	76.7	0.81	1400	1.85	76.7	0.81	1400	1.80	78.0	0.74	1410
	90L	2	1.5	TB-A1.5	6.1	83.0	0.79	1430	3.5	83.0	0.79	1430	3.5	83.5	0.72	1440
	100L	3	2.2	TB-A2.2	8.7	79.7	0.84	1420	5.0	79.7	0.84	1420	4.9	79.7	0.78	1440
	112M	5	3.7	TB-A3.7	14.0	83.1	0.84	1430	8.1	83.1	0.84	1430	8.0	83.2	0.77	1450
	132S	7.5	5.5	TB-A7.5	20.2	84.7	0.84	1450	11.7	84.7	0.84	1450	11.6	84.7	0.77	1460
6	132M	10	7.5	TB-A7.5	26.8	86.0	0.85	1450	15.5	86.0	0.85	1450	15.0	86.2	0.80	1460
	71M	1/4	0.2	TB-A0.4	1.23	64.5	0.65	920	0.71	64.5	0.65	920	0.74	63.5	0.58	930
	80M	1/2	0.4	TB-A0.75	2.23	68.2	0.69	920	1.28	68.2	0.69	920	1.30	69.0	0.61	930
	90L	1	0.75	TB-A1.5	4.0	76.6	0.64	960	2.3	76.6	0.64	960	2.3	76.3	0.59	965
	100L	2	1.5	TB-A2.2	7.4	76.4	0.69	940	4.3	76.4	0.69	940	4.5	76.1	0.61	940
	112M	3	2.2	TB-A3.7	9.7	77.7	0.76	940	5.6	77.7	0.76	940	5.4	79.0	0.70	950
	132S	5	3.7	TB-A7.5	14.5	81.8	0.80	950	8.4	81.8	0.80	950	8.3	81.5	0.74	960
	132M	7.5	5.5	TB-A7.5	21.3	83.1	0.80	950	12.3	83.1	0.80	950	12.3	83.1	0.73	950

NOTE : Characteristic and performance data in this table is applied on motor only, when doesn't equip with brake set.

Brake Characteristic

Brake type	Rated damping torque (N·m)	Allowable damping equivalent (kJ/min)	Electromagnetic characteristic (20°C)		Electromagnetic stroke		Brake motor inertia * J (kg·m ²)	
			Input (W)	Current (DC A)	Initial (mm)	Adjustable limit (mm)	4 pole	6 pole
TB-2	2	2.3	23	0.18	0.15	0.4	0.0010	
TB-A0.4	4	2.9	26	0.19	0.15	0.4	0.0015	
TB-A0.75	7.5	3.2	40	0.24	0.15	0.5	0.0028	
TB-A1.5	15	5.1	38	0.3	0.2	0.5	0.0078	
TB-A2.2	22	7.2	43	0.34	0.2	0.5	0.0088	0.0089
TB-A3.7	37	10.1	55	0.44	0.2	0.55	0.0161	0.0171
TB-A7.5	132S	75	250/17**	2.0/0.55**	0.25	1.2	0.0341	0.0346
	132M						0.0417	0.0466

* Brake motor inertia includes motor driven shaft inertia and brake inertia

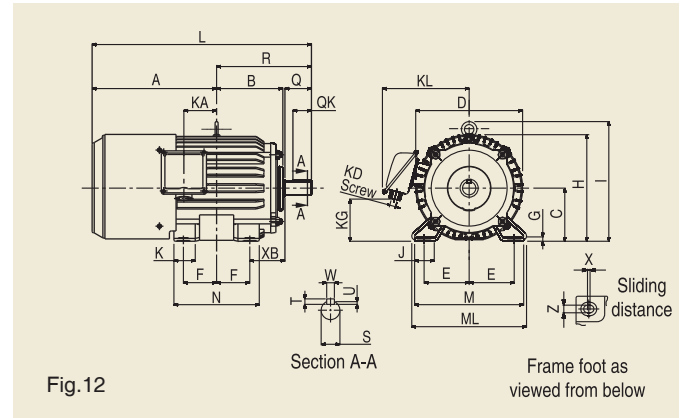
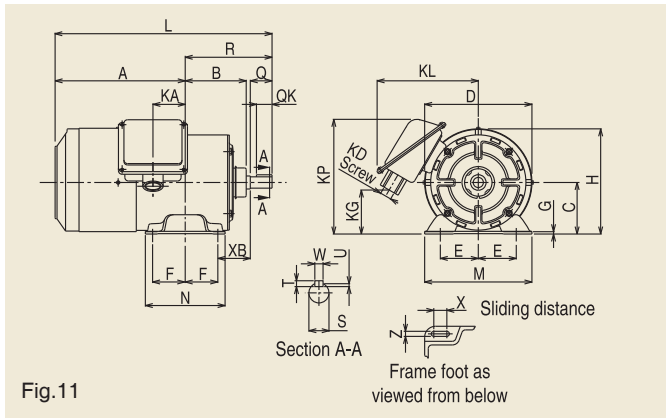
** The first number is the transient value in stat time, the second number is at steady state

SF-QRB 1/4HP~10HP HONRIZONTAL TYPE

TOTALLY ENCLOSED FAN-COOLED TYPE, IP55 DEGREES OF PROTECTION



SF-QRB 3HP 4P 100L



Dimensions (mm)

Model	Frame No.	Output HP (kW)		Brake type	Fig.	Motor																	
		4-Pole	6-Pole			A	B	C*	D	E	F	G	H	I	J	K	L	M	ML	N	X	XB	Z
SF-QRB	63M	1/4(0.2)	-	TB-2	11	173	73.6	63	127.6	50	40	2.3	126.9	-	-	-	276	135	-	100	12	40	7
	71M	1/2(0.4)	1/4(0.2)	TB-A0.4		178.5	83	71	149.2	56	45	3.2	145.6	-	-	-	298.5	148	-	110	18	45	7
	80M	1(0.75)	1/2(0.4)	TB-A0.75		191	98	80	163.2	62.5	50	3.2	161.6	-	-	-	331	160	-	125	15	50	9
	90L	2(1.5)	1(0.75)	TB-A1.5		218.5	117	90	185.2	70	62.5	4	182.6	-	-	-	387	175	-	150	15	56	9
	100L	3(2.2)	2(1.5)	TB-A2.2	12	250	131	100	205	80	70	6.5	203.5	230	40	45	443	200	212	180	4	63	12
	112M	5(3.7)	3(2.2)	TB-A3.7		262	138	112	223.8	95	70	6.5	226	253	40	45	462	230	242	180	4	70	12
	132S	7.5(5.5)	5(3.7)	TB-A7.5		287.5	155	132	263.8	108	70	6.5	265	288	40	45	526.5	256	268	180	4	89	12
	132M	10(7.5)	7.5(5.5)	TB-A7.5		306.5	174	132	263.8	108	89	6.5	265	288	40	45	564.5	256	268	218	4	89	12

* The perpendicular variation of tolerance for the shaft center is $\begin{matrix} 0 \\ -0.5 \end{matrix}$

Model	Frame No.	Terminal box					Shaft end							Bearing No.		Approx. weight (kg)		Approx. packing dimension (LxWxH)	Packing weight (kg)	
		KA	KG	KD	KL	KP**	Q	QK	R	S	T	U	W	Drive end	Opposite	4-Pole	6-Pole		4-Pole	6-Pole
SF-QRB	63M	38.4	69	PF 1/2	153	175	23	20	103	11 h6	4	2.5	4	6201ZZ	6201ZZ	8	-	315 x 270 x 206	8.7	-
	71M	44.5	53	PF 1/2	165	168	30	25	120	14 j6	5	3	5	6202ZZ	6202ZZ	11	11	315 x 270 x 206	11.7	11.7
	80M	39.5	32	PF 3/4	167	-	40	32	140	19 j6	6	3.5	6	6204ZZ	6204ZZ	15	15	368 x 280 x 226	16	16
	90L	53	46	PF 3/4	180	-	50	40	168.5	24 j6	7	4	8	6205ZZ	6205ZZ	25	24	430 x 355 x 300	26	25
	100L	65	59	PF 3/4	192	-	60	45	193	28 j6	7	4	8	6206ZZ	6205ZZ	32	33	579 x 435 x 347	40	41
	112M	69	74	PF 3/4	203	-	60	45	200	28 j6	7	4	8	6207ZZ	6206ZZ	42	45	579 x 435 x 347	50	53
	132S	75	84	PF 1	242	-	80	63	239	38 k6	8	5	10	6308ZZ	6207ZZ	65	60	650 x 450 x 370	74	69
	132M	94	84	PF 1	242	-	80	63	258	38 k6	8	5	10	6308ZZ	6207ZZ	73	72	650 x 450 x 370	82	81

** This dimension is for model which KP > H only.

SF-QRFB 1/4HP~10HP FLANGE TYPE

TOTALLY ENCLOSED FAN-COOLED TYPE, IP55 DEGREES OF PROTECTION



SF-QRFB 7.5HP 4P 132S

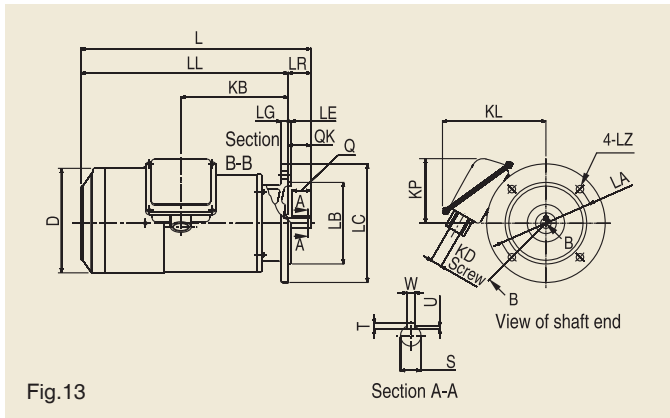


Fig. 13

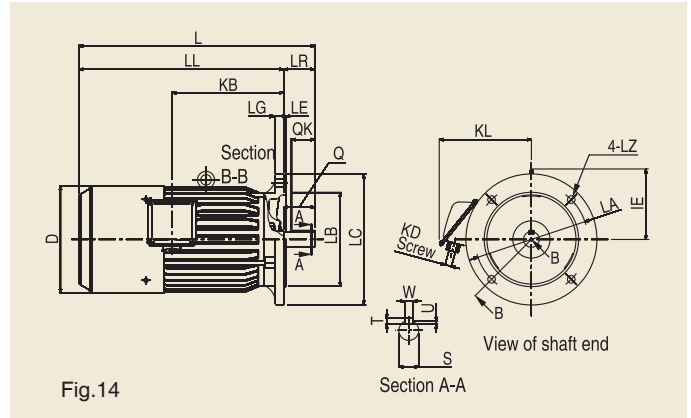


Fig. 14

Dimensions (mm)

Model	Frame No.	Output HP (kW)		Brake type	Fig.	Motor										Terminal box			
		4-Pole	6-Pole			D	IE	LA	LB	LC	LE	LG	LL	LZ	L	KB	KD	KL	KP*
SF-QRFB	63M	1/4(0.2)	-	TB-2	13	127.6	-	130	110 j6	160	3.5	10	259.5	10	282.5	125	PF 1/2	153	112
	71M	1/2(0.4)	1/4(0.2)	TB-A0.4		149.2	-	130	110 j6	160	3.5	10	279	10	309	145	PF 1/2	165	97
	80M	1(0.75)	1/2(0.4)	TB-A0.75		163.2	-	165	130 j6	200	3.5	12	295	12	335	143.5	PF 3/4	167	-
	90L	2(1.5)	1(0.75)	TB-A1.5		185.2	-	165	130 j6	200	3.5	12	364	12	414	198.5	PF 3/4	180	-
	100L	3(2.2)	2(1.5)	TB-A2.2	14	205	130	215	180 j6	250	4	16	398	14.5	458	213	PF 3/4	192	-
	112M	5(3.7)	3(2.2)	TB-A3.7		223.8	141	215	180 j6	250	4	16	432	14.5	492	239	PF 3/4	203	-
	132S	7.5(5.5)	5(3.7)	TB-A7.5		263.8	156	265	230 j6	300	4	20	468.5	14.5	548.5	256	PF 1	242	-
	132M	10(7.5)	7.5(5.5)	TB-A7.5		263.8	156	265	230 j6	300	4	20	506.5	14.5	586.5	294	PF 1	242	-

* This dimension is for model which KP > LC/2 only.

Model	Frame No.	Shaft end							Bearing No.		Approximate weight (kg)		Approximate packing dimension (LxWxH)	Packing weight (kg)	
		LR	Q	QK	S	T	U	W	Drive end	Opposite	4-Pole	6-Pole		4-Pole	6-Pole
SF-QRFB	63M	23	23	20	11 h6	4	2.5	4	6201ZZ	6201ZZ	9	-	368 x 280 x 226	10	-
	71M	30	30	25	14 j6	5	3	5	6202ZZ	6202ZZ	12	12	368 x 280 x 226	13	13
	80M	40	40	32	19 j6	6	3.5	6	6204ZZ	6204ZZ	18	18	425 x 280 x 226	19	19
	90L	50	50	40	24 j6	7	4	8	6205ZZ	6205ZZ	27	26	507 x 401 x 357	34	33
	100L	60	60	45	28 j6	7	4	8	6206ZZ	6205ZZ	36	37	650 x 450 x 370	45	46
	112M	60	60	45	28 j6	7	4	8	6207ZZ	6206ZZ	46	49	650 x 450 x 370	55	58
	132S	80	80	63	38 k6	8	5	10	6308ZZ	6207ZZ	73	68	650 x 450 x 370	82	77
	132M	80	80	63	38 k6	8	5	10	6308ZZ	6207ZZ	81	80	650 x 450 x 370	90	89

SF-QRVB 1/4HP~10HP VERTICAL TYPE

TOTALLY ENCLOSED FAN-COOLED TYPE, IP55 DEGREES OF PROTECTION



SF-QRVB 1/2HP 4P 71M

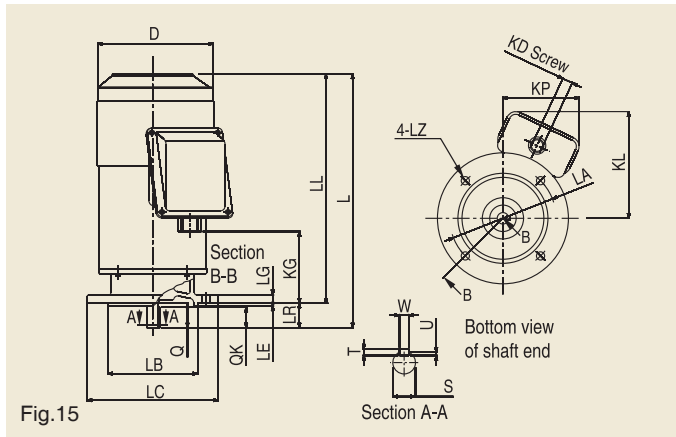


Fig. 15

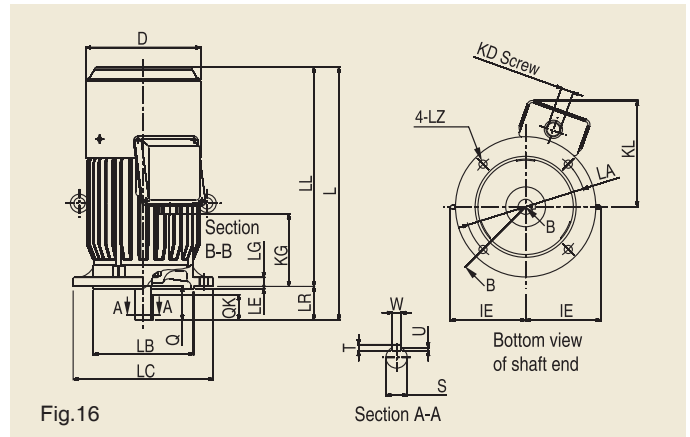


Fig. 16

Dimensions (mm)

Model	Frame No.	Output HP (kW)		Brake type	Fig.	Motor										Terminal box			
		4-Pole	6-Pole			D	IE	LA	LB	LC	LE	LG	LL	LZ	L	KG	KD	KL	KP*
SF-QRVB	63M	1/4(0.2)	-	TB-2	15	127.6	-	130	110 j6	160	3.5	10	259.5	10	282.5	42	PF 1/2	144	133
	71M	1/2(0.4)	1/4(0.2)	TB-A0.4		149.2	-	130	110 j6	160	3.5	10	279	10	309	62	PF 1/2	159	120
	80M	1(0.75)	1/2(0.4)	TB-A0.75		163.2	-	165	130 j6	200	3.5	12	295	12	335	61	PF 3/4	163	-
	90L	2(1.5)	1(0.75)	TB-A1.5		185.2	-	165	130 j6	200	3.5	12	364	12	414	116	PF 3/4	176	-
	100L	3(2.2)	2(1.5)	TB-A2.2	16	205	130	215	180 j6	250	4	16	398	14.5	458	130	PF 3/4	189	-
	112M	5(3.7)	3(2.2)	TB-A3.7		223.8	141	215	180 j6	250	4	16	432	14.5	492	156	PF 3/4	199	-
	132S	7.5(5.5)	5(3.7)	TB-A7.5		263.8	156	265	230 j6	300	4	20	468.5	14.5	548.5	156	PF 1	238	-
	132M	10(7.5)	7.5(5.5)	TB-A7.5		263.8	156	265	230 j6	300	4	20	506.5	14.5	586.5	194	PF 1	238	-

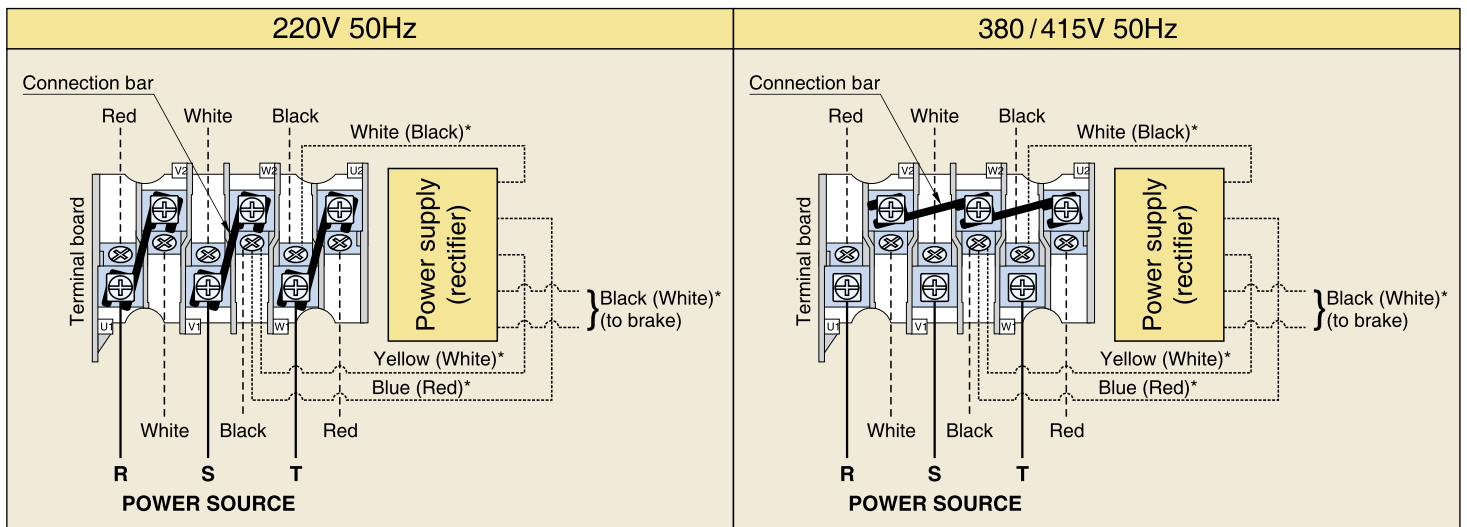
* This dimension is for model which KP > LC/2 only.

Model	Frame No.	Shaft end							Bearing No.		Approximate weight (kg)		Approximate packing dimension (LxWxH)	Packing weight (kg)	
		LR	Q	QK	S	T	U	W	Drive end	Opposite	4-Pole	6-Pole		4-Pole	6-Pole
SF-QRVB	63M	23	23	20	11 h6	4	2.5	4	6201ZZ	6201ZZ	9	-	368 x 280 x 226	10	-
	71M	30	30	25	14 j6	5	3	5	6202ZZ	6202ZZ	12	12	368 x 280 x 226	13	13
	80M	40	40	32	19 j6	6	3.5	6	6204ZZ	6204ZZ	18	18	425 x 280 x 226	19	19
	90L	50	50	40	24 j6	7	4	8	6205ZZ	6205ZZ	27	26	507 x 401 x 357	34	33
	100L	60	60	45	28 j6	7	4	8	6206ZZ	6205ZZ	36	37	650 x 450 x 370	45	46
	112M	60	60	45	28 j6	7	4	8	6207ZZ	6206ZZ	46	49	650 x 450 x 370	55	58
	132S	80	80	63	38 k6	8	5	10	6308ZZ	6207ZZ	73	68	650 x 450 x 370	82	77
	132M	80	80	63	38 k6	8	5	10	6308ZZ	6207ZZ	81	80	650 x 450 x 370	90	89

Standard Specifications

Item		Specifications			
Motor	Voltage and frequency	LT: 220/380 /415V 50Hz			
	Enclosure construction	Totally enclosed fan cooled type			
	Degrees of protection	IP55			
	Method of cooling	IC411			
	Rating	S1 (continuous)			
	Model	Construction	Horizontal	Flange	Vertical
		Type	SF-QRB	SF-QRFB	SF-QRVB
	Frame No.	63M~132M			
	Output HP (kW)	4 pole	1/4(0.2)~10(7.5)		
		6 pole	1/4(0.2)~7.5(5.5)		
	Frame material	Steel plate			
	Thermal class	155 (F)			
	Terminal	6 lead wires with terminal block			
	Direction of rotation	Counterclockwise (CCW), viewed from shaft-end side			
	Circumstance conditions	Ambient temperature	-20 ~ +40 °C		
		Ambient humidity	95% RH or less		
Altitude		1,000m above sea level or less			
Environment		No bursting/erosive gas or vapor			
Coating color	Munsell N1.5 (Black)				
Conformed standard	IEC 60034-1, IEC 60034-30-1				
Brake	Damping system	Non-excited damping type (spring damping type)			
	Damping torque	2~75 N·m (150%)			
	Voltage and frequency	AC 220V 50Hz (brake with rectifier)			
	Thermal class	155 (F)			
	Mechanical life	More than 1 million operations			
	Conformed standard	TES 1111			

Connection



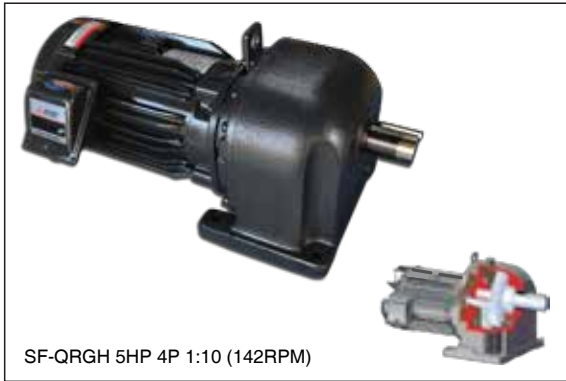
----- Motor's lead wire
 Rectifier's lead wire
 _____ Power source's lead wire

* Color of rectifier's lead wire in () is for 132S, 132M motor.

Note: 1. Y-Δ starting is not allowable.
 2. The difference of these 2 cases of connection is only at connection bar position.

Special motor

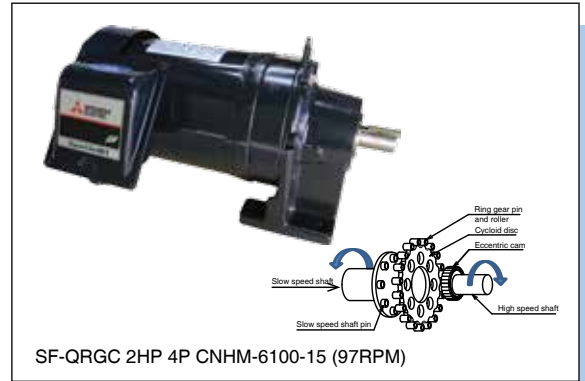
MEATH is also the manufacturer of special purpose motors for specific applications. The following are some of the special motors we have designed and are now manufacturing.



SF-QRGH 5HP 4P 1:10 (142RPM)

Gear motor-Helical

High performance cooling structure of steel motor frame integrated with RGC.(Round-bar Gear cutting : gear cutting after heat treatment) technology and precision cutting, make the product to be compact and lightweight, suitable for install with limited space machine.



SF-QRGC 2HP 4P CNHM-6100-15 (97RPM)

Gear motor-Cyclo Drive

Cyclo drive speed reducer assembled to MEATH IP55 standard motor is able to absorb 500% shock load without damage.



SE-JF 1.5kW 2P V-3

Spindle motor

For applications which requires extremely low vibration, such as spindling, each part of motor should be balanced carefully. MEATH also provided motors with low vibration degree of V-3



SB-JRF 7.5kW 4P- double shaft

Elevator motor

Flange type motor with drip-proof enclosure and double shaft construction. One side is tapered to install with gear and the other side to install with encoder.



SF-THO 100HP(75kW) 4P 380V

Import motor

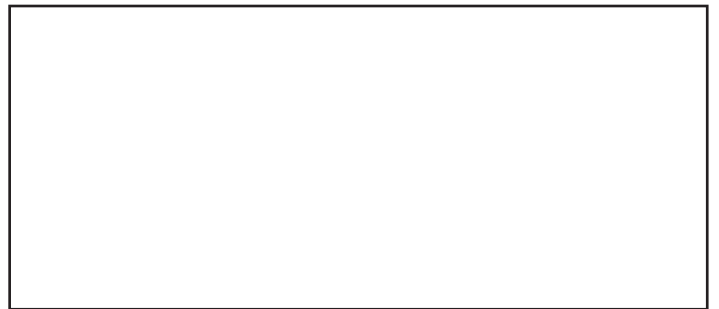
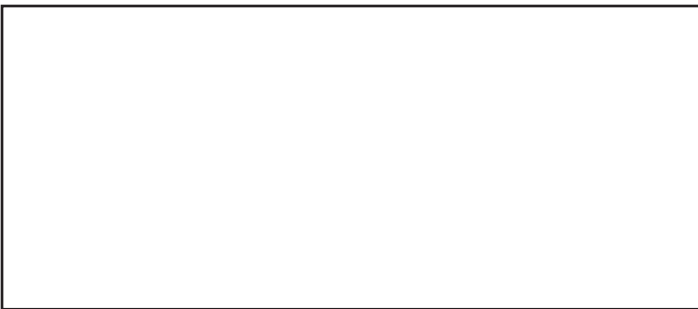
Imported motors output since 100HP (75kW) and up for heavy duty work and supports all requirements.



SE-QRV 2HP 4P 200V

Special design

MEATH can design special motors both electrical design and mechanical design for specific user according to the needs of a variety of customers, such as 200V, OPP, Inverter, V3, V5 etc.



mitsubishi MITSUBISHI ELECTRIC AUTOMATION (THAILAND) CO., LTD.

