

## THREE PHASE INDUCTION MOTOR

# SUPER LINE Q SERIES

*Multi-purpose energy saving for all requirements*

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



SF- QR 1HP 4P



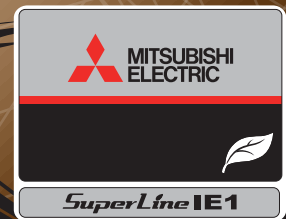
SF- QR 3HP 4P



SF- QRV 3HP 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*

## 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.

		THREE PHASE INDUCTION MOTOR	
<b>3 HP (2.2 kW)</b>	<b>4 POLE</b>	<b>TYPE</b>	<b>SF-QR</b>
Hz	50	50	50
V	220	380	415
A	8.7	5.0	4.9
min <sup>-1</sup>	1420	1420	1440
P.F.	0.84	0.84	0.78
<b>RATED EFF.</b>	<b>79.7%</b>	<b>79.7%</b>	<b>79.7%</b>
<b>EFF. CLASS.</b>	<b>IE1</b>	<b>IE1</b>	<b>IE1</b>
<b>STD.</b>	<b>IEC 60034-1</b>	<b>IEC 60034-30-1</b>	<b>IEC 60034-30-1</b>
FRAME 100L RATING S1 TH. CLASS 155 (F) AMB TEMP 40°C BEARING 6206ZZ 6205ZZ IP55 IC411 SERIAL			
MITSUBISHI ELECTRIC AUTOMATION (THAILAND) CO.,LTD. NM04N469-03			

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.



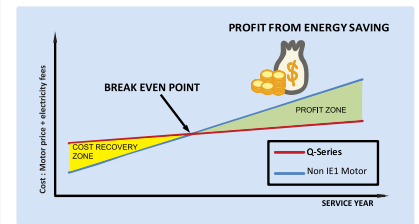
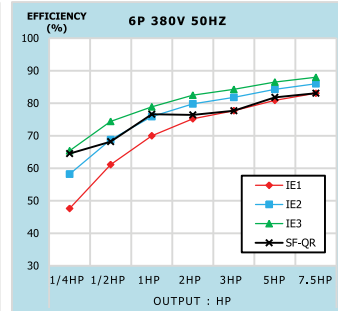
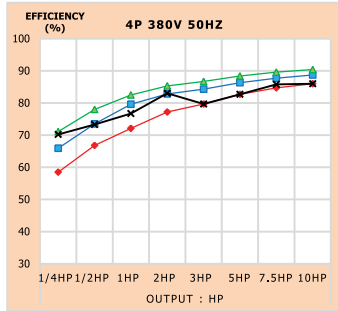
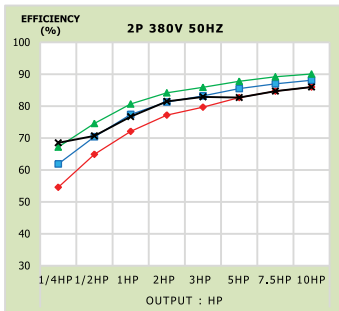
Old : under coat by dipping

New : under coat by EDP

By salt spray test 196Hr

### 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 be help to reach a break even point quicker by advance energy saving performance, to consume less electricity fees.



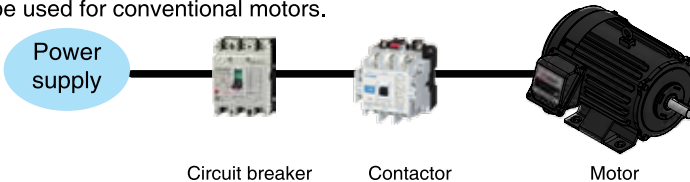
## Feature and Benefits

### 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.

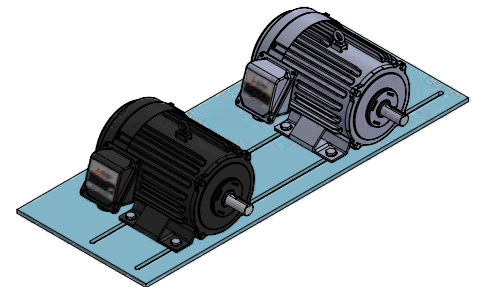
### Compatibility with distribution control devices

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.



### Installation

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



### 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 10 HP, thus providing a full lineup of motors ideal for any application.

### Superlative Characteristics and High Reliability

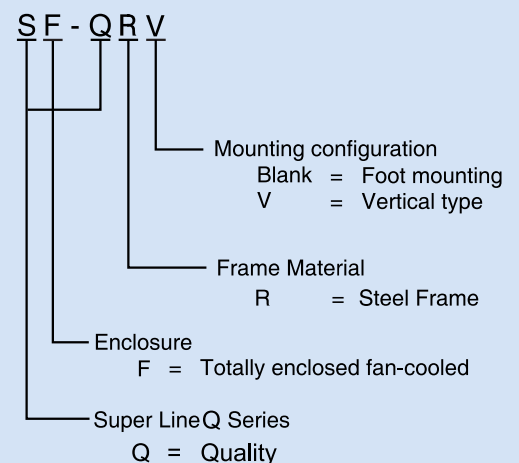
Based on experience and technology accumulated over many years, along with an exacting quality-control system, each motor is ensured to exhibit only the finest characteristics.

**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.

### Significance of type designations



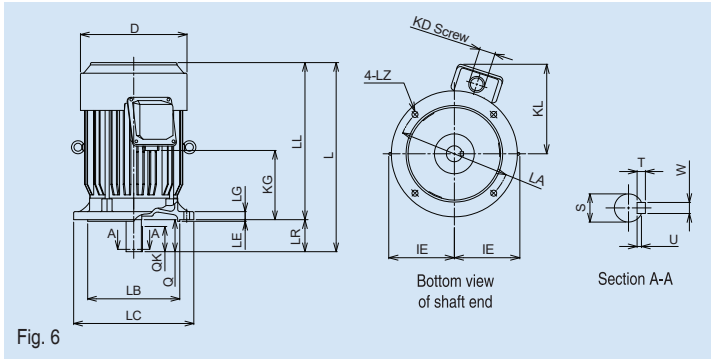
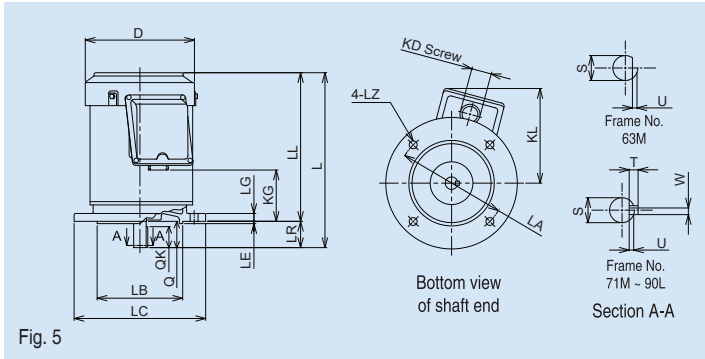






**SF-QRV 1/4HP~10HP VERTICAL TYPE**

TOTALLY ENCLOSED FAN-COOLED TYPE, IP55 DEGREES OF PROTECTION



Dimensions (mm)

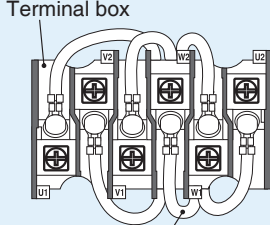
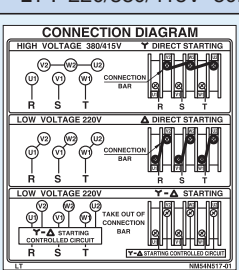
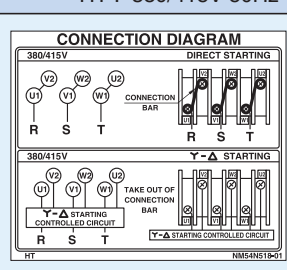
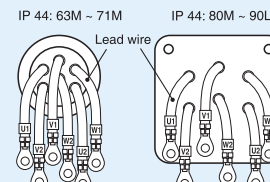
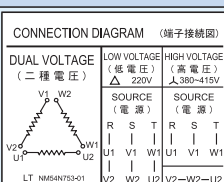
Model	Flange No.	Frame No.	Output HP (kW)			Fig.	Motor										Terminal box		
			2-Pole	4-Pole	6-Pole		D	IE	LA	LB	LC	LE	LG	LL	LZ	L	KD	KG	KL
SF-QRV	FF130	63M	1/4(0.2)	1/4(0.2)	-	5	127	-	130	110 j6	160	3.5	10	208	10	231	PF1/2	58	125
	FF130	71M	1/2(0.4)	1/2(0.4)	1/4(0.2)		148	-	130	110 j6	160	3.5	10	229	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)	6	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	451 x 345 x 322	44	46	48
	FF265	132S	80	80	63	38 k6	8	5	10	6308ZZ	6207ZZ	53, 60.5	56	56.5	551 x 403 x 352	61, 68.5	64	64.5
	FF265	132M	80	80	63	38 k6	8	5	10	6308ZZ	6207ZZ	-	68	66	551 x 403 x 352	-	76	74

Standard Specifications

Item		Specifications					
Voltage and frequency		LT (Low Voltage) : 10HP and below = 220/380/415V 50Hz HT (High Voltage) : 5HP and above = 380/415V 50Hz					
Enclosure construction and degrees of protection		Degrees of protection	Enclosure construction	Model Name		Output HP (kW)	Pole
		IP55	Totally enclosed fan-cooled	Horizontal	Vertical	1/4(0.2kW) ~ 7.5(5.5kW) 10(7.5kW)	2, 4, 6 2, 4
				SF-QR	SF-QRV		
IP44	Totally enclosed fan-cooled	SF-QR	-	1/4(0.2kW) ~ 2(1.5kW)	4		
* Standard vertical-type motor can be used for indoor flange type							
Frame material		Steel plate					
Power transmission system		Direct-coupled and belt driven					
Direction of rotation		Counterclockwise (CCW) viewed from shaft-end side.					
Thermal class		IP44 : 63M ~ 90L	130 (B)				
		IP55 : 63M ~ 132M	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	
		IP55	63M ~ 132M	1/4(0.2kW) ~ 10(7.5kW)	6	Terminal box	
		IP44	63M ~ 90L	1/4(0.2kW) ~ 2(1.5kW)	6	Lead wire	
Coating color		Munsell N1.5 (Black)					
Conformed standard		IEC 60034-1 IEC 60034-30-1					

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      IP 44: 80M ~ 90L</p> 	<p>LT : 220/380/415V 50Hz</p> 	

\* HT can be used only with motors 5HP and above.

MITSUBISHI ELECTRIC AUTOMATION (THAILAND) CO., LTD.

