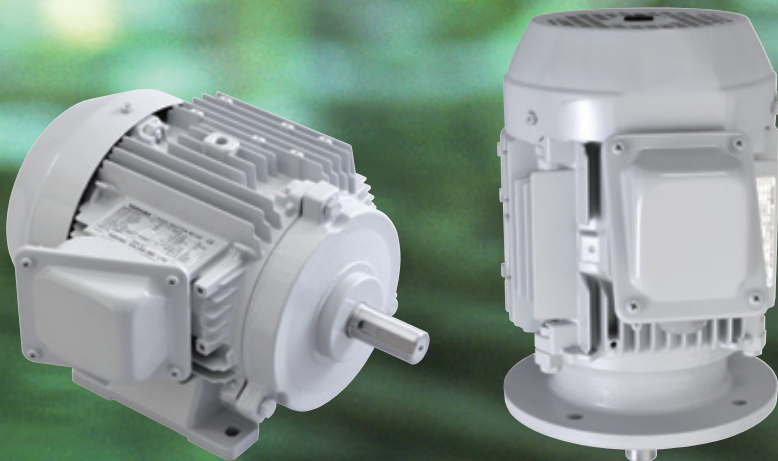


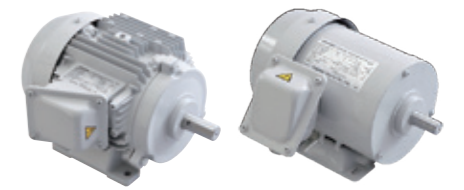
# TOSHIBA

## **TOSHIBA THREE PHASE INDUCTION MOTOR**

For Industrial General Purpose



# Features of TOSHIBA THREE PHASE INDUCTION MOTOR

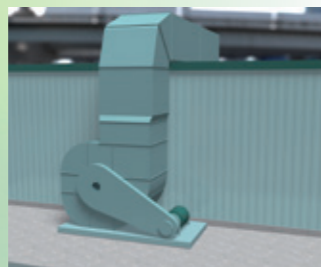


## 1. Flexible 5 ratings correspondence

220/380/415V-50Hz, 220/440V-60Hz is standard.  
Frame size 180M and above, 380/660V-50Hz is standard.

## 2. Various applications

Toshiba motor is used for various applications.



Industrial Fan & Blower



Conveyor



Mixer



Slicer

## 3. Suitable for Inverter drive

Toshiba motor standardly can be driven by inverter and especially compatibles with Toshiba inverter. Please contact us if you would use for the constant torque application.



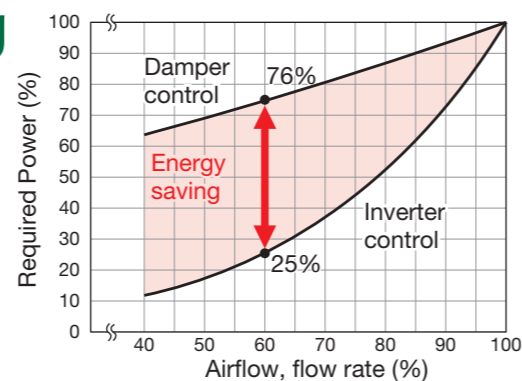
VF-S15



VF-AS3

## 4. Energy Saving

Controlling air flow of fan and water flow of pump with Inverter reduces the shaft power and saves the excess energy.



## Voltage correspondence range of Southeast Asia area

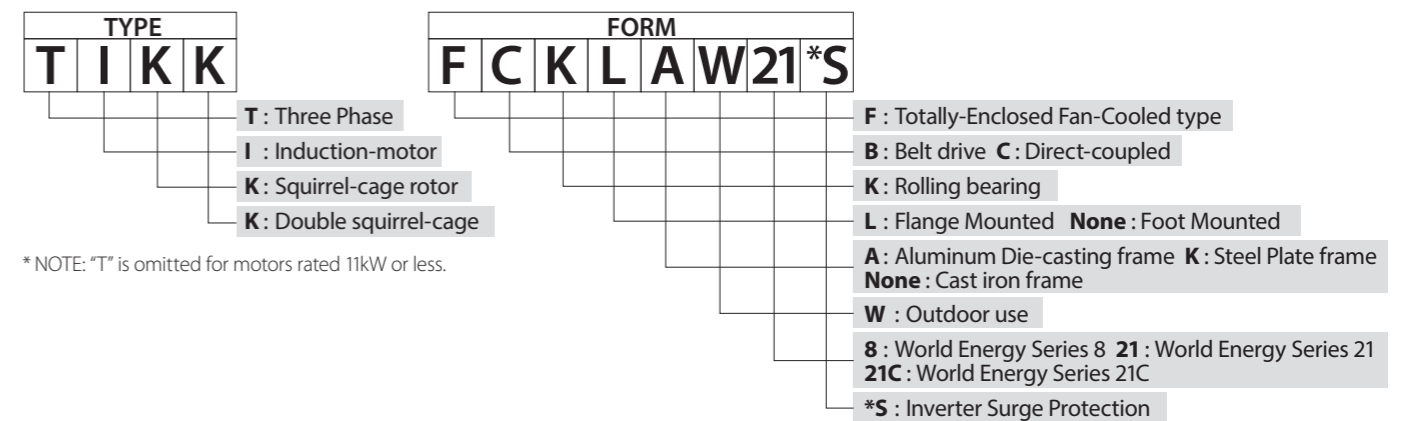
Our motor has the following ratings.

- 220/380/415V-50Hz, 220/440V-60Hz
- 380/660V-50Hz



## TYPE-FORM

The following shows Toshiba's TYPE-FORM.



## Mounting Type

Toshiba Standard Mounting type is Foot Mounted (IMB3) and Flange Mounted (IMB5 & IMV1)

Diagram						
IEC	IMB3	IMV5	IMV6	IMB6/IMB7	IMB8	
Diagram						
IEC	IMB5	IMV1	IMV3	IMB35	IMV15	IMV36

## Standard Specifications

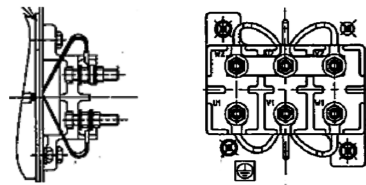
Item	Specifications	
Voltage Frequency	For Frame size 160L and Less: 220/380/415V-50Hz, 220/440V-60Hz For Frame size 180M and above: 380/660V-50Hz	
Enclosure	Totally Enclosed Fan Cooled	
Degree of Protection	IP55	
Insulation Class	155 (F)	
Time Rating	S1 (Continuous)	
Direction of Rotation	CCW (Counter Clockwise) viewed from shaft-end side	
Frame Material	Frame size 80M and less: Steel Plate Frame size 112M~160L: Aluminum Die-casting Frame size 180M and above: Cast Iron	
Ambient Condition	Ambient Temperature	-15 ~ 40°C
	Ambient Humidity	90% or Less (No condensation)
	Above Sea Level	1000m or less
	Environment	No corrosive, explosive gas or vapor or steam
Coating Color	Munsell N7	
Standard	IEC 60034-1 / IEC 60034-5	
Lead Wire Connection	6 lead wires with Terminal block	
Starting Method	Direct-on-line (132S~225M: Y-Δ Starting available)	

### Connection Diagram

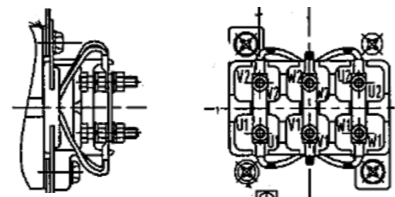
Δ:220V-50/60Hz, Y:380/415/440V-50/50/60Hz  
(Frame size: 71M~160L)

Δ:380V-50Hz, Y:660V-50Hz  
(Frame size: 132S~160L)

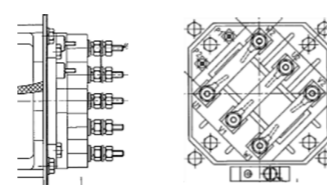
Δ:380V-50Hz, Y:660V-50Hz  
(Frame size: 180M~225M)



220V Δ			380/415/440V Y		
W2	U2	V2	W2 - U2 - V2		
U1	V1	W1	U1	V1	W1
L1	L2	L3	L1	L2	L3



380V Δ			660V Y		
W2	U2	V2	W2 - U2 - V2		
U1	V1	W1	U1	V1	W1
L1	L2	L3	L1	L2	L3

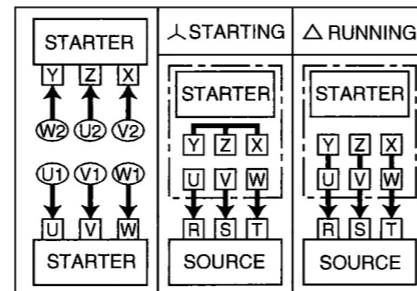
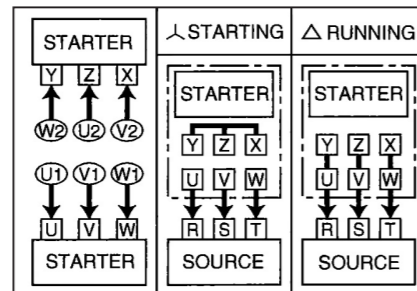
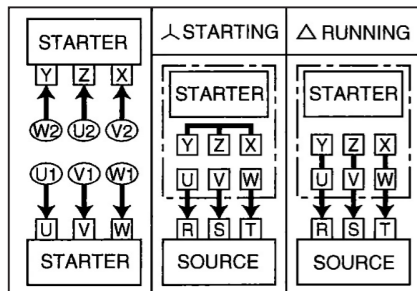


380V Δ			660V Y		
W2	U2	V2	W2 - U2 - V2		
U1	V1	W1	U1	V1	W1
L1	L2	L3	L1	L2	L3

Y-Δ Starting 220V-50/60Hz  
(Frame size: 132S~160L)

Y-Δ Starting 380V-50Hz  
(Frame size: 132S~160L)

Y-Δ Starting 380V-50Hz  
(Frame size: 180M~225M)



## Characteristics and Performance Data: 2 Pole

Pole	Rated Output		Voltage (V)	Frequency (Hz)	Frame No	Current (A)	Speed (min <sup>-1</sup> )	Efficiency (%)	Power Factor (%)	
	kW	HP								
2	0.37	0.5	220	50	71M	1.65	2800	70.9	88.0	
			380			0.95	2800	71.6	87.5	
			415			0.92	2830	72.5	81.4	
			220			60	1.55	3370	73.4	90.0
			440				0.82	3420	75.6	82.7
			0.75			1	220	50	80M	3.00
	380	1.73		2840	76.4		88.0			
	415	1.73		2860	76.8		83.5			
	220	60		3.00	3380		73.0			91.2
	440			1.55	3460		76.4			85.5
	1.5	2		220	50		90L			5.90
			380	3.40		2800		77.8	90.4	
			415	3.20		2830		78.4	83.6	
			220	60		5.60		3370	77.4	92.5
			440			2.80		3450	81.4	88.3
			2.2	3		220		50	90L	8.20
	380	4.70			2810	80.1	90.3			
	415	4.60			2830	82.5	83.7			
	220	60			8.00	3360	77.4			93.2
	440				4.00	3450	82.5			88.9
	4.0	5			220	50	112M			15.2
			380	8.90	2840			82.4	85.7	
			415	8.90	2880			82.7	73.7	
			220	60	14.4			3410	81.3	91.9
			440		7.50			3470	84.1	84.5
			5.5	7.5	220			50	132S	19.3
	380	11.2			2850	85.5	92.5			
	415	10.7			2885	85.3	84.8			
	220	60			19.0	3420	84.1			94.1
	440				9.60	3470	86.0			91.2
	7.5	10			220	50	132S			27.3
			380	14.3	2890			87.7	92.0	
			415	13.8	2920			87.0	82.3	
			220	60	25.0			3480	86.7	93.9
			440		12.7			3510	87.9	90.5
			11	15	220			50	160M	36.0
	380	21.0			2900	88.9	91.1			
	415	20.0			2930	89.4	88.1			
	220	60			36.5	3490	87.7			92.4
	440				18.3	3520	88.8			90.8
	15	20			220	50	160M			49.0
			380	28.2	2880			88.5	91.0	
			415	27.0	2900			89.5	86.5	
			220	60	48.5			3480	89.4	93.5
			440		24.5			3510	89.9	92.5
			18.5	25	220			50	160L	59.6
	380	34.5			2885	90.2	90.0			
	415	31.9			2905	90.5	87.0			
220	60	58.8			3450	89.8	92.5			
440		29.3			3495	90.6	90.0			
22	30	380			50	180M	42.5			2930
		660	24.5	2930			92.7	91.6		
30	40	380	50	200L	57.0	2940	91.9	92.7		
		660			33.0	2940	91.9	92.7		
37	50	380	50	200L	70.0	2940	92.9	93.1		
		660			40.5	2940	93.0	93.1		
45	60	380	50	225M	85.0	2940	93.2	92.7		
		660			49.0	2940	93.2	92.6		

The above characteristics and performance are design data, and are not guaranteed.

### Characteristics and Performance Data: 4 Pole

Pole	Rated Output		Voltage (V)	Frequency (Hz)	Frame No	Current (A)	Speed (min <sup>-1</sup> )	Efficiency (%)	Power Factor (%)
	kW	HP							
4	0.37	0.5	220	50	71M	1.94	1400	70.8	74.1
			380			1.12	1400	73.6	74.6
			415			1.22	1410	72.9	66.9
			220	60		1.70	1685	74.0	77.4
			440			1.00	1720	74.0	66.5
			220			80M	3.50	1410	75.8
	380	50	2.00	1410	76.4		78.0		
	415		2.05	1420	75.3		70.1		
	220		60	3.10	1690		78.4	81.1	
	440	1.80		1720	79.3		71.0		
	220	90L		6.20	1410		76.0	84.7	
	380		50	3.58	1410	76.6	85.2		
	415			3.60	1415	76.7	77.3		
	220			60	5.80	1680	77.2	88.6	
	440		3.00		1720	81.4	82.1		
	220		100L		8.70	1410	81.0	82.9	
	380	50		5.00	1410	81.6	83.1		
	415			5.00	1420	82.2	75.8		
	220			60	8.20	1700	81.4	88.2	
	440	4.40			1730	81.2	82.9		
	220	112M			15.4	1400	81.8	85.2	
	380		50	8.90	1400	82.4	85.2		
	415			8.70	1415	83.1	79.3		
	220			60	15.0	1670	81.8	88.9	
	440		7.70		1720	85.0	82.8		
	220		132S		20.4	1430	85.1	85.6	
	380	50		11.8	1430	86.0	85.8		
	415			11.6	1440	86.3	79.2		
	220			60	19.5	1710	85.0	89.2	
	440	10.2			1730	86.2	83.8		
	220	132M			27.0	1430	87.0	85.6	
	380		50	15.6	1430	87.4	86.2		
	415			15.4	1440	87.3	80.0		
	220			60	26.0	1700	86.7	89.3	
	440		13.5		1735	88.7	84.4		
	220		160M		39.2	1440	87.9	85.4	
	380	50		22.6	1440	88.6	86.1		
	415			21.2	1455	89.0	82.5		
	220			60	39.5	1705	85.6	87.4	
	440	19.5			1740	89.6	84.7		
	220	160L			52.0	1440	89.2	86.7	
	380		50	30.0	1440	89.1	87.4		
	415			28.5	1455	89.7	83.8		
	220			60	52.0	1710	85.0	88.9	
	440		26.0		1745	90.4	85.8		
	380		180M		37.0	1450	91.8	87.9	
	660	50		21.5	1450	91.8	87.9		
	380			44.0	1450	92.4	86.9		
220	60			25.5	1450	92.4	87.0		
440		60.0		1460	92.4	88.1			
660		34.5		1460	92.4	88.2			
380	200L	72.0	1460	93.2	88.5				
660		50	41.5	1460	93.3	88.5			
380			225S	88.0	1460	93.2	88.3		
660				50	51.0	1460	93.3	88.3	
380		225M			60.0	1460	92.4	88.1	
660					50	34.5	1460	92.4	88.2
380	72.0			1460		93.2	88.5		
660	41.5			1460		93.3	88.5		
380	225M		88.0	1460	93.2	88.3			
660			50	51.0	1460	93.3	88.3		

The above characteristics and performance are design data, and are not guaranteed.

### Characteristics and Performance Data: 6 Pole

Pole	Rated Output		Voltage (V)	Frequency (Hz)	Frame No	Current (A)	Speed (min <sup>-1</sup> )	Efficiency (%)	Power Factor (%)	
	kW	HP								
6	0.37	0.5	220	50	80M	1.90	920	71.0	69.5	
			380			1.09	920	71.0	69.5	
			415			1.09	930	69.4	61.0	
			220			60	1.70	1090	73.6	74.0
			440				1.00	1120	73.8	64.0
			220				90L	3.50	910	72.9
			380	50		2.00		910	72.9	74.5
			415			2.00		930	74.0	74.0
			220			60		3.30	1090	73.4
			440	1.80				1120	77.7	74.0
			220	100L				7.30	900	73.5
			380			50	4.20	900	73.4	77.1
	415	4.10	915		73.8		69.1			
	220	60	6.60		1090		75.4	81.3		
	440		3.70		1120	77.7	71.8			
	220		112M		9.50	920	80.2	94.0		
	380	50		5.50	920	76.7	81.4			
	415			5.30	930	78.2	75.4			
	220			60	9.00	1100	76.4	83.6		
	440	4.70			1130	80.7	78.3			
	220	132S			16.1	940	82.8	80.8		
	380		50	9.30	940	82.6	80.8			
	415			8.90	955	83.5	75.3			
	220			60	15.4	1130	82.7	83.5		
	440		8.00		1150	84.9	78.4			
	220		132M		16.1	940	82.8	80.8		
	380	50		9.30	940	82.6	80.8			
	415			8.90	955	83.5	75.3			
	220			60	15.4	1130	82.7	83.5		
	440	8.00			1150	84.9	78.4			
	220	160M			28.0	955	87.1	82.6		
	380		50	16.1	955	87.1	82.7			
	415			15.9	960	87.4	77.8			
	220			60	27.0	1155	87.9	85.1		
	440		14.2		1165	88.8	80.3			
	220		160L		41.0	960	88.2	81.0		
	380	50		23.7	960	88.2	81.0			
	415			23.3	970	88.7	75.5			
	220			60	39.0	1160	88.8	84.8		
	440	20.7			1170	89.8	79.2			
	380	180L			31.5	975	91.4	81.7		
	660		50	18.0	975	91.4	81.7			
	380			200L	38.0	970	90.7	83.5		
	660				50	22.0	970	90.8	83.5	
	380		200L			45.0	970	91.7	83.9	
	660					50	26.5	970	91.6	84.0
	380	225M			62.0		980	91.5	87.5	
	660				50		34.0	970	91.6	87.4

The above characteristics and performance are design data, and are not guaranteed.

### Name Plate

**RATED VOLTAGE**

**RATED FREQUENCY**

**RATED CURRENT**

**RATED SPEED**

**POWER FACTOR**

**RATED OUTPUT HP(kW)**

**POLES**

[Sample: Foot mounted type]

**TOSHIBA 3 PHASE INDUCTION MOTOR**

RATED VOLTAGE	220	380	415	220	440	V	1	HP	TYPE	IK
RATED FREQUENCY	50	50	50	60	60	Hz	10.75	kW	FORM	FBKKW8XS
RATED CURRENT	3.50	2.00	2.85	3.10	1.80	A			FRAME No.	80M
RATED SPEED	1410	1410	1420	1700	1720	min <sup>-1</sup>	4	POLES	THERMAL CLASS	F
POWER FACTOR	76.5	76.5	69.5	81.0	72.5	%			DUTY TYPE	S1
STANDARD	220V Δ 380/415/440V		Y	BEARING L.S. 6204ZZ		PROTECTION	IP55		TYPE OF CURRENT	~
SERIAL NO.	IEC 60034-1		NO. O.S. 6204ZZ	TYPE OF CURRENT		~		MANUF. IN		

**TOSHIBA DALIAN CO., LTD.**

**TYPE**

**FORM**

**FRAME NO**

**THERMAL CLASS**

**DUTY TYPE**

**PROTECTION**

**TYPE OF CURRENT**

**MANUFACTURING YEAR**

[Sample: Flange mounted type]

**TOSHIBA 3 PHASE INDUCTION MOTOR**

RATED OUTPUT	2 HP	11.5 kW	4	POLES	TYPE	IK	FORM	FCKLAW21XS	DUTY TYPE	S1
RATED VOLTAGE	220	380	415	220	440	V	FRAME No.	90L	PROTECTION	IP55
RATED FREQUENCY	50	50	50	60	60	Hz	220V Δ 380/415/440V	Y	TYPE OF CURRENT	~
RATED CURRENT	6.20	3.58	3.61	5.60	3.00	A	BEARING	L.S. 6205ZZ	STANDARD	IEC 60034-1
RATED SPEED	1410	1410	1415	1700	1720	min <sup>-1</sup>	NO. O.S.	6304ZZ	MANUF. IN	
POWER FACTOR	84.0	84.0	76.5	89.0	82.0	%	SERIAL No.			

**TOSHIBA DALIAN CO., LTD.**

(INS.S) = Inverter Surge Protection  
Surge peak 1250V  
or less in between lines

### Terminal Box

Frame Size	Protection of Degree	Rotation of terminal box	Terminal box material	Terminal bus	Conduct Hole Size (mm <sup>2</sup> )
71M	IP55	4 x 90°	Steel	M4	φ18
80M	IP55	4 x 90°	Steel	M4	φ18
90L	IP55	4 x 90°	Steel	M4	φ18
100L	IP55	4 x 90°	Steel	M4	φ18
112M	IP55	4 x 90°	Steel	M4	φ18
132S	IP55	4 x 90°	Steel	M5	φ32
132M	IP55	4 x 90°	Steel	M5	φ32
160M	IP55	4 x 90°	Steel	M5	φ32
160L	IP55	4 x 90°	Steel	M5	φ32
180M	IP55	4 x 90°	Steel	M6	φ24
180L	IP55	4 x 90°	Steel	M6	φ24
200L	IP55	4 x 90°	Steel	M8	φ28
225S	IP55	4 x 90°	Steel	M8	φ28
225M	IP55	4 x 90°	Steel	M8	φ28

### Vibration

Fram No.	mm/sec (RMS)	
	2 Pole	4 Pole
71M	1.6	1.6
80M	1.6	1.6
90L	1.6	1.6
100L	1.6	1.6
112M	1.6	1.6
132S	1.6	1.6
132M	1.6	1.6
160M	2.2	2.2
160L	2.2	2.2
180M	2.2	2.2
180L	2.2	2.2
200L	2.2	2.2
225S	2.2	2.2
225M	2.2	2.2

### Outline Dimension

Fig. 1

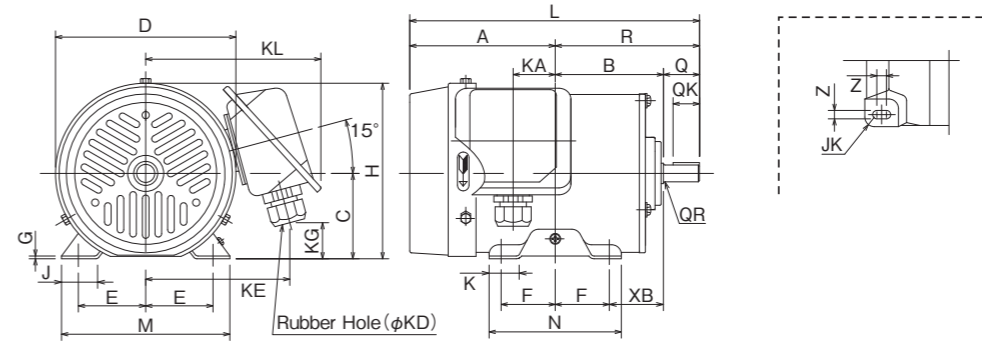
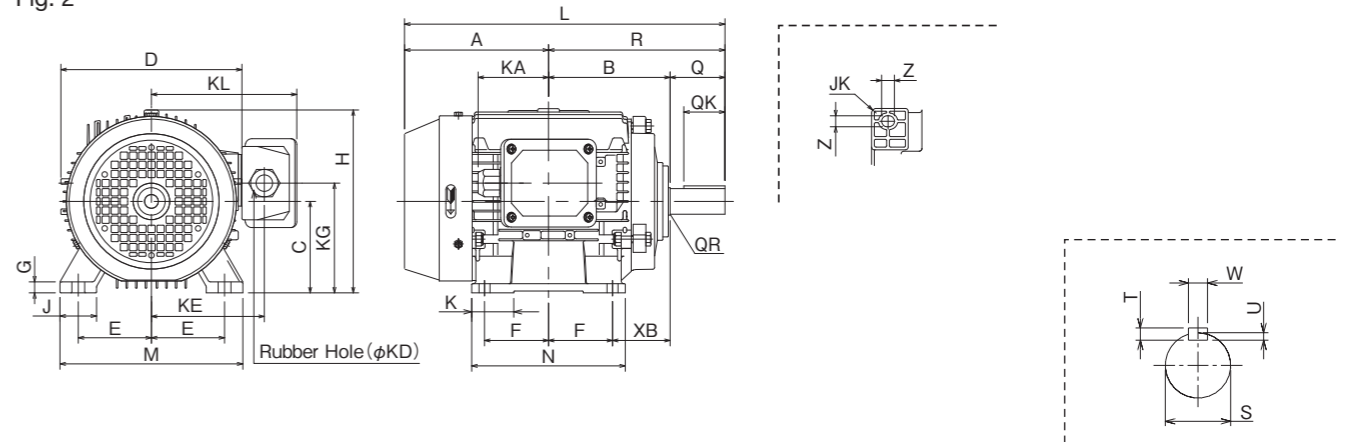


Fig. 2



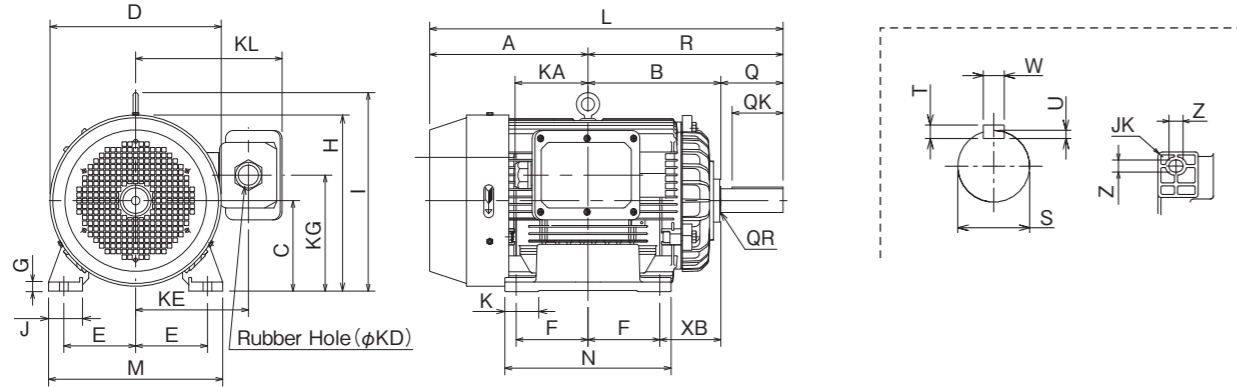
### Foot Mount (Frame No.71M~100L)

Frame No	Output (kW)			Insulation Class	Fig No	Dimension (mm)																		
	2P	4P	6P			A	B	C	D	E	F	G	H	I	J	K	L	M	N	R	Z	XB	O	JK
71M	0.37	0.37	-	F	1	121	90	71	150	56	45	2.3	146	-	30	25	241	140	110	120	7x8	-	-	8
	0.55	-	-	F	1	121	90	71	150	56	45	2.3	146	-	30	25	241	140	110	120	7x8	-	-	8
80M	0.75	0.55	0.37	F	1	133	100	80	170	62.5	50	4.5	165	-	35	30	273	165	130	140	8x10	50	-	8
	1.1	0.75	0.55	F	1	133	100	80	170	62.5	50	4.5	165	-	35	30	273	165	130	140	8x10	50	-	8
90L	1.5	1.1	0.75	F	2	143	118.5	90	198	70	62.5	10	190	-	40	40	311.5	176	150	168.5	10x12	56	-	5
	2.2	1.5	-	F	2	143	118.5	90	198	70	62.5	10	190	-	40	40	311.5	176	150	168.5	10x12	56	-	5
100L	-	2.2	1.1	F	2	157.5	133	100	198	80	70	12	200	-	40	46	350.5	200	168	193	12x14	63	-	5
	-	-	1.5	F	2	157.5	133	100	198	80	70	12	200	-	40	46	350.5	200	168	193	12x14	63	-	5

Frame No	Dimension (mm)												Bearing No				Approx Weight (kg)		
	Terminal Box				Shaft dimension								2P		4P & Above		2P	4P	6P
	KA	KD	KE	KG	KL	Q	QK	QR	S	W	T	U	L.S	O.S	L.S	O.S	2P	4P	6P
71M	35	18	125	30	151	30	22	1.3	14	5	5	3	6203	6203	6203	6203	10	11	-
80M	27.5	18	130	42	157	40	32	0.5	19	6	6	3.5	6204	6204	6204	6204	14.5	16	17.4
90L	77	18	123.5	120	159	50	40	0.5	24	8	7	4	6205	6304	6205	6304	15	16	16.5
100L	77	18	123.5	120	159	60	45	0.5	28	8	7	4	6206	6304	6206	6304	-	21	23

## Outline Dimension

Fig. 3



### Foot Mount (Frame No.112M~160L)

Frame No	Output (kW)			Insulation Class	Fig No	Dimension (mm)																		
	2P	4P	6P			A	B	C	D	E	F	G	H	I	J	K	L	M	N	R	Z	XB	O	JK
112M	3	3.0	2.2	F	3	186	140	112	214	95	70	12	-	261	40	46	386	220	168	200	12x14	70	-	5
	4	4.0	-	F	3	186	140	112	214	95	70	12	-	261	40	46	386	220	168	200	12x14	70	-	5
132S	5.5	5.5	3.0	F	3	210.5	159	132	252	108	70	15	-	303	50	50	449.5	260	175	239	12x14	89	-	5
	7.5	-	4.0	F	3	210.5	159	132	252	108	70	15	-	303	50	50	449.5	260	175	239	12x14	89	-	5
132M	-	7.5	5.5	F	3	229.5	178	132	252	108	89	15	-	303	50	50	487.5	260	213	258	12x14	89	-	5
160M	11	11	7.5	F	3	302	213	160	304	127	105	18	-	351	60	60	625	308	250	323	14.5x18.5	108	-	5
	15	-	-	F	3	302	213	160	304	127	105	18	-	351	60	60	625	308	250	323	14.5x18.5	108	-	5
160L	18.5	15	11	F	3	280	235	160	304	127	127	18	-	351	60	60	625	308	294	345	14.5x18.5	108	-	5

Frame No	Dimension (mm)												Bearing No				Approx Weight (kg)		
	Terminal Box				Shaft dimension								2P		4P & Above				
	KA	KD	KE	KG	KL	Q	QK	QR	S	W	T	U	L.S	O.S	L.S	O.S	2P	4P	6P
112M	77	18	130.5	142	166	60	45	1.5	28	8	7	4	6207	6305	6207	6305	26	27	27
132S	129	32	178.5	167	240	80	63	0.5	38	10	8	5	6308	6306	6308	6306	41	42	50
																	43		
132M	128	32	178.5	167	240	80	63	0.5	38	10	8	5	6308	6306	6308	6306	-	48	56
160M	128	32	199.5	205	259	110	90	2	42	12	8	5	6310	6208	6310	6208	70	77	81
																	82		
160L	129	32	199.5	205	259	110	90	2	42	12	8	5	6310	6208	6310	6208	92	92	99

## Outline Dimension

Fig. 4

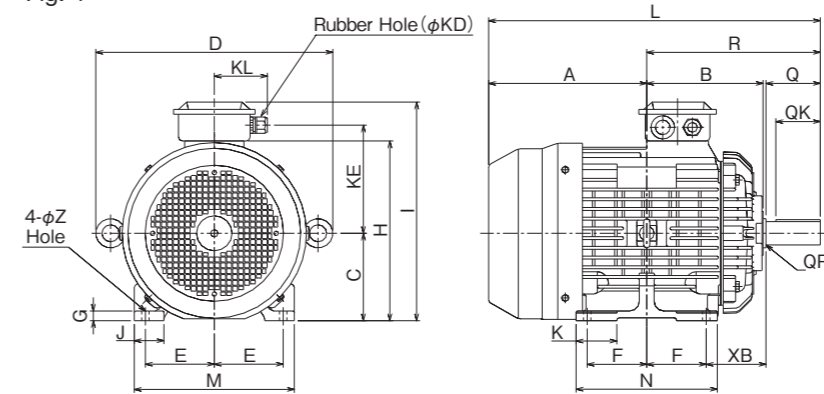
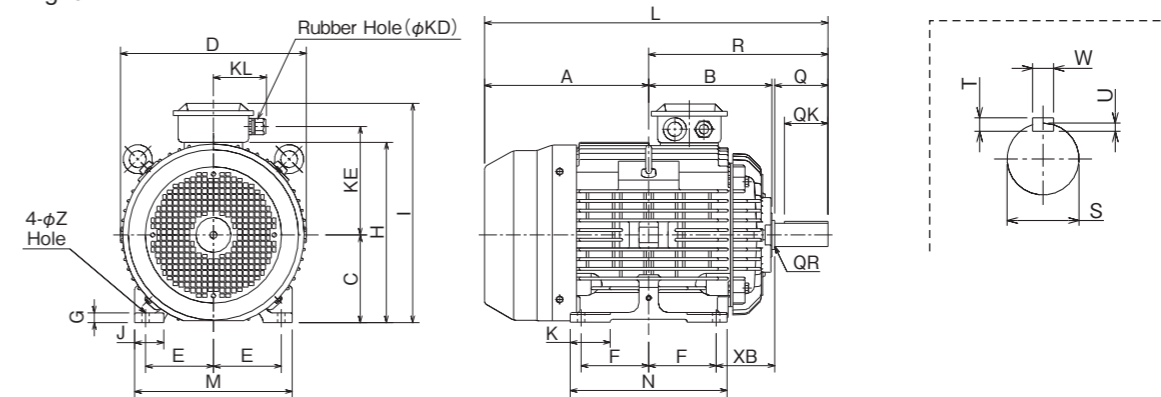


Fig. 5



### Foot Mount (Frame No.180M~225M)

Frame No	Output (kW)			Insulation Class	Fig No	Dimension (mm)																		
	2P	4P	6P			A	B	C	D	E	F	G	H	I	J	K	L	M	N	R	Z	XB	O	JK
180M	22	18.5	-	F	4	320	235.5	180	480	139.5	120.5	20	370	450	60	82.5	671.5	324	286	351.5	14.5	121	-	-
180L	-	22	15	F	5	339	254.5	180	373	139.5	139.5	20	370	450	60	82.5	709.5	324	324	370.5	14.5	121	-	-
200L	30	30	18.5	F	5	374	279.5	200	407	159	152.5	20	410	511.5	80	80	769.5	378	360	395.5	18.5	133	-	-
	22																							
225S	-	37	-	F	5	380.5	296	225	464	178	143	22	460	561.5	80	120	825	416	366	444.5	18.5	149	-	-
225M	45	-	-	F	5	380.5	296	225	464	178	155.5	22	460	561.5	80	120	795	416	366	414.5	18.5	149	-	-
225M	-	45	30	F	5	380.5	296	225	464	178	155.5	22	460	561.5	80	120	825	416	366	444.5	18.5	149	-	-

Frame No	Dimension (mm)												Bearing No				Approx Weight (kg)		
	Terminal Box				Shaft dimension								2P		4P & Above				
	KA	KD	KE	KG	KL	Q	QK	QR	S	W	T	U	L.S	O.S	L.S	O.S	2P	4P	6P
180M	-	24	222.5	-	107.5	110	90	1.5	48	14	9	5.5	6310	6210	6310	6210	173	161	-
180L	-	24	222.5	-	-	110	90	1.5	48	14	9	5.5	-	-	6310	6210	-	190	193
200L	-	28	244	-	142.5	110	90	1.5	55	16	10	6	6312	6312	-	-	228	243	226
																	256		
225S	-	28	269	-	142.5	140	110	1.5	60	18	11	7	-	-	6315	6312	-	326	-
225M	-	28	269	-	142.5	110	90	1.5	55	16	10	6	6312	6312	-	-	313	-	-
225M	-	28	269	-	142.5	140	110	1.5	60	18	11	7	-	-	6315	6312	-	331	328

## Outline Dimension

Fig. 1

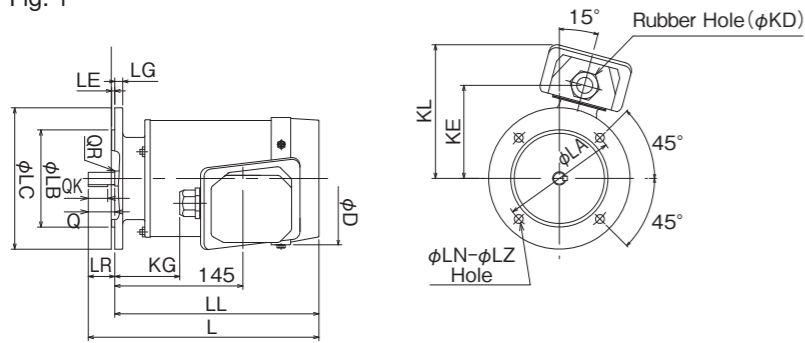
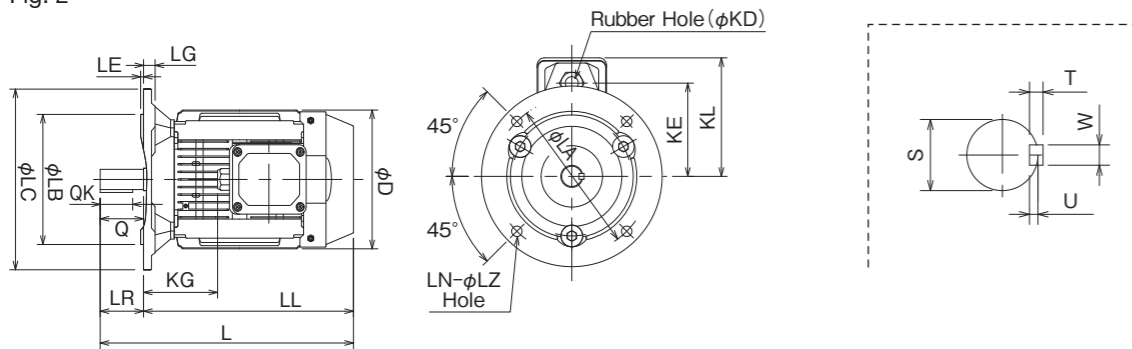


Fig. 2



## Flange Mount (Frame No.71M~100L)

Flange No	Output (kW)			Frame No	Insulation Class	Fig No	Dimension (mm)						Terminal Box				
	2P	4P	6P				D	IE	IL	L	LL	LR	KA	KD	KE	KL	KG
FF130	0.37	0.37	-	71M	F	1	150	-	-	261	231	30	-	18	105	147	73.5
	0.55	-	-														
FF165	0.75	0.55	0.37	80M	F	1	170	-	-	273	233	40	-	18	129	159	56.5
	1.1	0.75	0.55														
FF165	1.5	1.1	0.75	90L	F	2	198	-	-	325	275	50	-	18	117.5	153	86.5
	2.2	1.5	-														
FF215	-	2.2	1.1	100L	F	2	198	-	-	350.5	290.5	60	-	18	117.5	153	102.5
	-	-	1.5														

Flange No	Dimension (mm)													Bearing No				Approx Weight (kg)			
	Flange						Shaft dimension							2P		4P & Above		2P	4P	6P	
	LA	LB	LC	LE	LG	LN	LZ	Q	QK	QR	S	W	T	U	L.S	O.S	L.S				O.S
FF130	130	110	160	3.5	9	4	10	30	22	1.3	14	5	5	3	6203	6203	6203	6203	11	12	-
FF165	165	130	200	3.5	10	4	12	40	32	0.5	19	6	6	3.5	6204	6204	6204	6204	12.5	16	14.4
FF165	165	130	200	3.5	10	4	12	50	40	0.5	24	8	7	4	6205	6304	6205	6304	16.5	17.5	18
																			18		
FF215	215	180	250	4	11	4	14.5	60	45	0.5	28	8	7	4	6206	6304	6206	6304	-	23	25

## Outline Dimension

Fig. 3

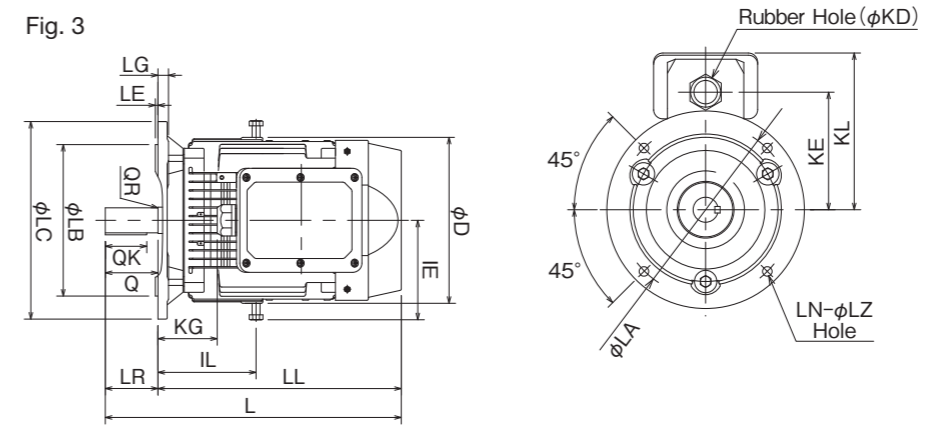
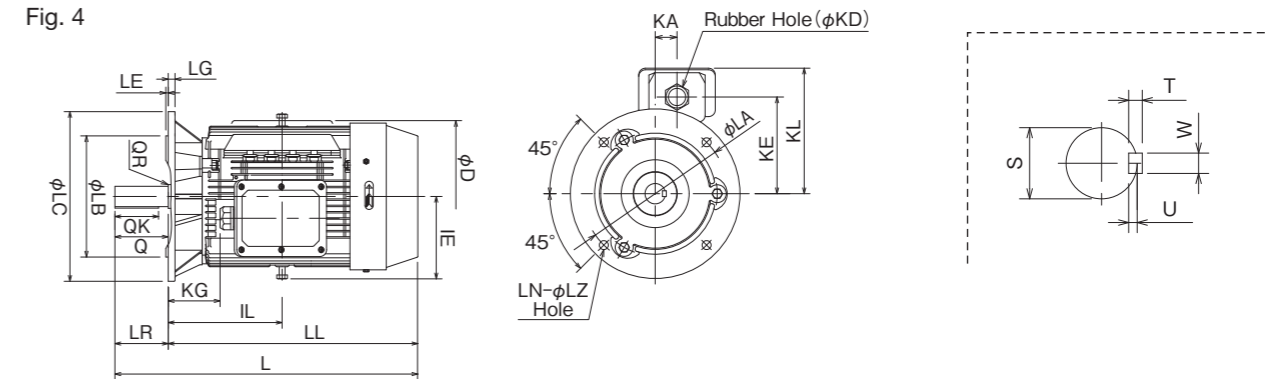


Fig. 4

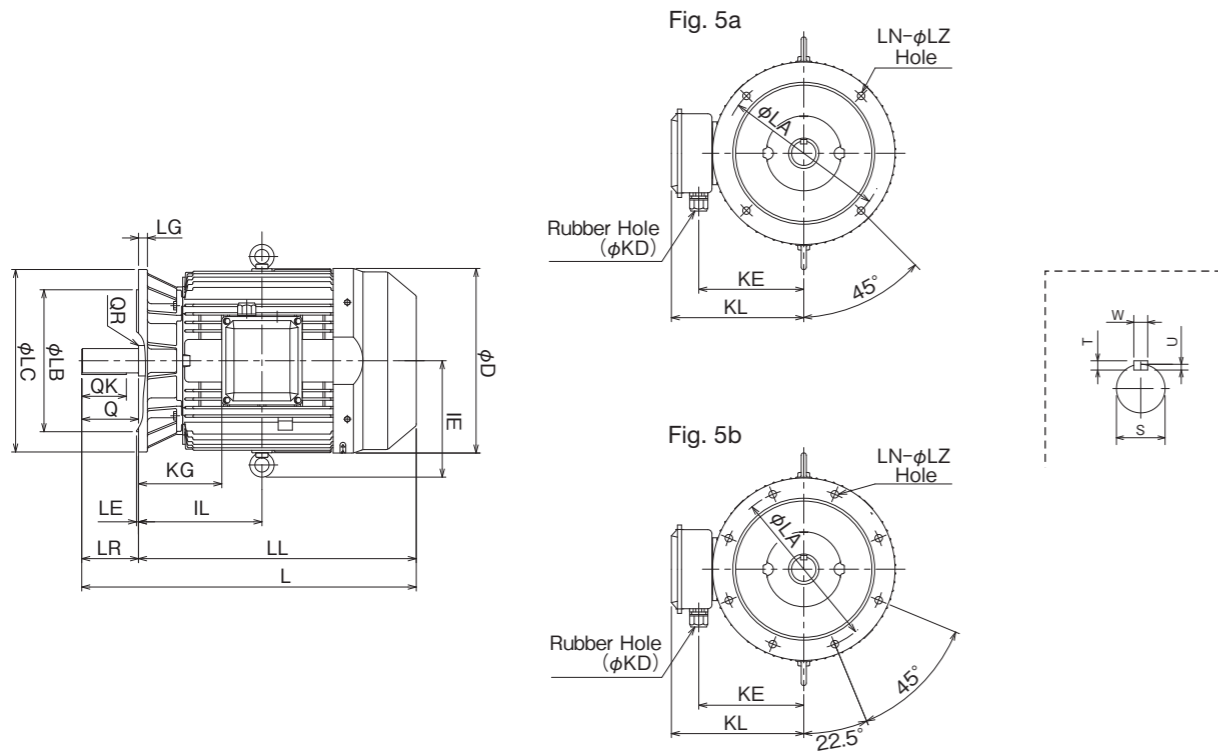


## Flange Mount (Frame No.112M~160L)

Flange No	Output (kW)			Frame No	Insulation Class	Fig No	Dimension (mm)						Terminal Box				
	2P	4P	6P				D	IE	IL	L	LL	LR	KA	KD	KE	KL	KG
FF215	3.0	3.0	2.2	112M	F	3	214	129	140	386	326	60	-	18	129	164	119.5
	4.0	4.0	-														
FF265	5.5	5.5	3.0	132S	F	3	252	151	149	449.5	369.5	80	-	32	178.5	240	90
	7.5	-	4.0														
FF265	-	7.5	5.5	132M	F	3	252	151	178	487.5	407.5	80	-	32	178.5	240	128
FF300	11	11	7.5	160M	F	4	313	170	213	603	493	110	-	32	199.5	259	85
	15																
FF300	18.5	15	11	160L	F	4	313	170	235	625	515	110	-	32	199.5	259	107

Flange No	Dimension (mm)															Bearing No				Approx Weight (kg)		
	Flange					Shaft dimension										2P		4P & Above		2P	4P	6P
	LA	LB	LC	LE	LG	LN	LZ	Q	QK	QR	S	W	T	U	L.S	O.S	L.S	O.S				
FF215	215	180	250	4	12	4	14.5	60	45	1.5	28	8	7	4	6207	6305	6207	6305	28	29	29	
FF265	265	230	300	4	14	4	14.5	80	63	0.5	38	10	8	5	6308	6306	6308	6306	45	46	54	
																			47			
FF265	265	230	300	4	14	4	14.5	80	63	0.5	38	10	8	5	6308	6306	6308	6306	-	52	60	
FF300	300	250	350	5	14	4	18.5	110	90	2	42	12	8	5	6310	6208	6310	6208	77	84	88	
																			89			
FF300	300	250	350	5	14	4	18.5	110	90	2	42	12	8	5	6310	6208	6310	6208	99	99	106	

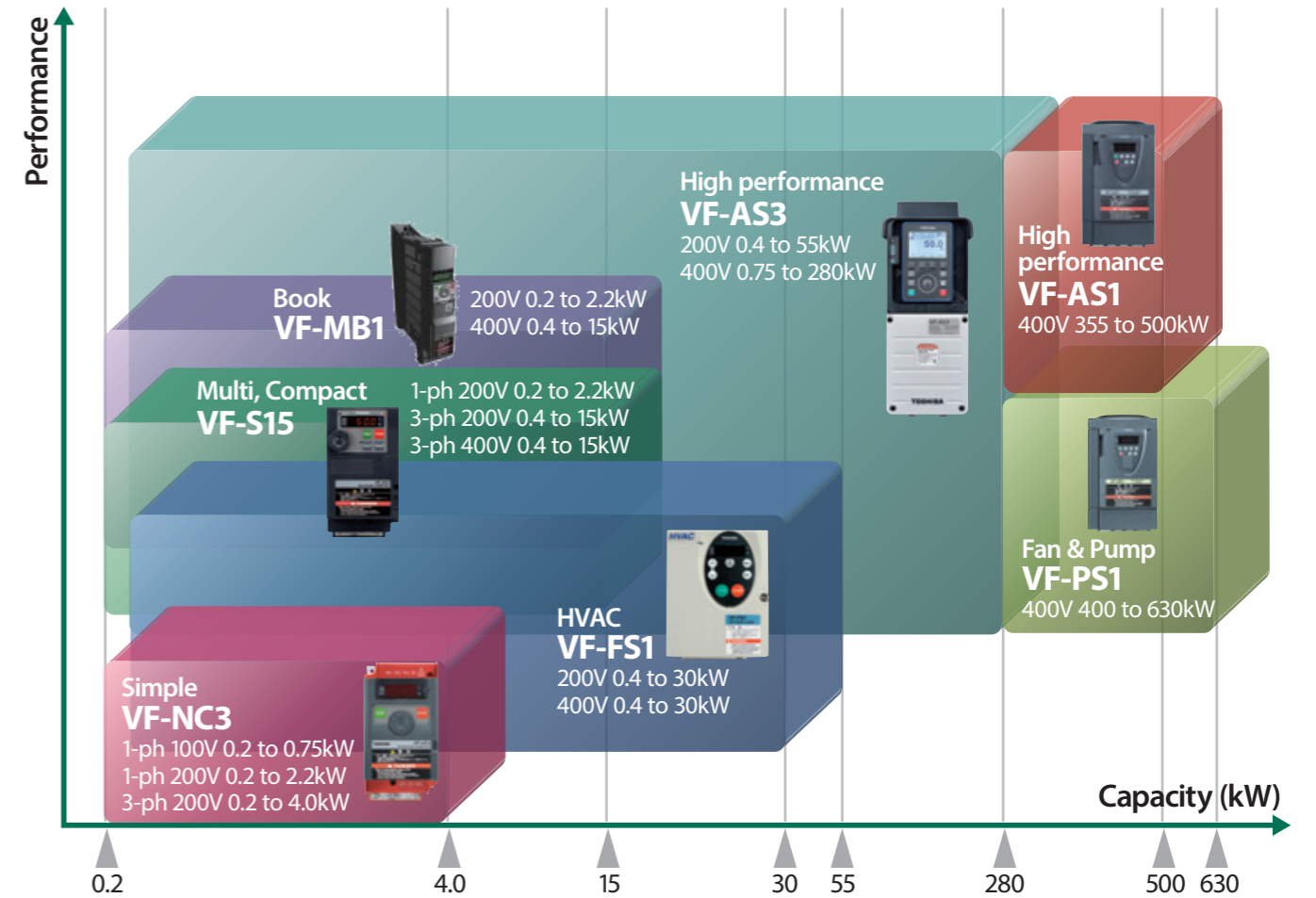
## Outline Dimension



## Flange Mount (Frame No.180M~225M)

Flange No	Output (kW)			Frame No	Insulation Class	Fig No	Dimension (mm)										
	2P	4P	6P				D	IE	IL	L	LL	LR	Terminal Box				
													KA	KD	KE	KL	KG
FF300	22	18.5	-	180M	F	5a	373	240	241.5	671.5	561.5	110	-	24	219	266.5	163
FF300	-	22	15	180L	F	5a	373	240	260.5	709.5	599.5	110	-	24	219	266.5	182
FF350	30	30	18.5	200L	F	5a	410	260	285.5	769.5	659.5	110	-	28	239	306.5	186.5
	37		22														
FF400	-	37	-	225S	F	5b	456	287	304	825	685	140	-	28	259	326.5	205.5
FF400	45	45	30	225M	F	5b	456	287	304	825	685	140	-	28	259	326.5	205.5

Flange No	Dimension (mm)													Bearing No				Approx Weight (kg)			
	Flange						Shaft dimension							2P		4P & Above		2P	4P	6P	
	LA	LB	LC	LE	LG	LN	LZ	Q	QK	QR	S	W	T	U	L.S	O.S	L.S	O.S	2P	4P	6P
FF300	300	250	350	5	15	4	18.5	110	90	1.5	48	14	9	5.5	6310	6210	6310	6210	177	166	-
FF300	300	250	350	5	15	4	18.5	110	90	0.5	48	14	9	5.5	-	-	6310	6210	-	182	218
FF350	350	300	400	5	19	4	18.5	110	90	1.5	55	16	10	6	6312	6312	6312	6312	236	294	266
																			300		284
FF400	400	350	450	5	22	8	18.5	140	110	1.5	60	18	11	7	-	-	6315	6312	-	306	-
FF400	400	350	450	5	22	8	18.5	140	110	1.5	60	18	11	7	6315	6312	6315	6312	305	317	361



## NEW!! High performance VF-AS3 IP55

IP55 / UL type 12 protection for direct mounting on wall.

Voltage class	HD	Applied motor capacity(kW) : Dual rating															
		0.4	0.75	1.5	2.2	4.0	5.5	7.5	11	15	18.5	22	30	37	45	55	75
3ph-480V class (IP55)	ND	0.75	1.5	2.2	4.0	5.5	7.5	11	15	18.5	22	30	37	45	55	75	90



## Features of VF-AS3

- Built-in Ethernet
- Real Time Clock
- Web Server
- QR Code®
- Video Guidance
- Remote Sensor Monitoring

For more information of Inverter, please contact us on the next page.



# TOSHIBA contacts in South East Asia

E-mail: TAPL-Enquiry-IDS@ml.toshiba.co.jp

## Toshiba Asia Pacific Pte. Ltd.

### • Singapore – Head Office

20 Pasir Panjang Road, #12-25/28 Mapletree Business City, Singapore 117439  
Tel: (65) 6297-0990, DID: (65) 6305 5515 Fax: 6305-5560

### • Vietnam, Ho Chi Minh City

Unit 1702,17th Floor, Centec Tower 72-74 Nguyen Thi Minh Khai, District 3, Ho chi Minh City, Vietnam  
Tel: (84) 8-3827-4560 Fax: (84) 8-3827-4564

### • Myanmar, Yangon

#8E No.65 Corner of Sule Pagoda Road and Merchant Street, Kyuaktada Township, Yangon, Myanmar  
Tel: (95) 1-389529

### • Bangladesh, Dhaka

13Floor, Crystal Palace, SE(D) 22, Road 140, Gulshan South Avenue, Gulshan 1, Dhaka-1212, Bangladesh  
Tel: (880) 2 9886089

## Toshiba Asia Pacific (Thailand) Co., Ltd.

### • Thailand, Bangkok

323 United Center Building, 21st Floor, Room 2101-2102A, Silom Road, Silom, Bangrak, Bangkok 10500, Thailand  
Tel: (66) 2237-5909 Fax: (66) 2237-5912

## Toshiba (Philippines), Inc.

### • Philippine, Manila

19/F Panorama Tower, 34th Street corner Lane A, Bonifacio Global City, Taguig City 1634 the Philippines  
Tel: (63) 2-819-1048 Fax: (63) 2-819-5479

## PT. Toshiba Asia Pacific Indonesia

### • Indonesia, Jakarta

16th Floor, Summitmas I, Jl. Jenderal Sudirman Kav. 61-62, Jakarta 12190, Indonesia  
Tel: (62) 21-5200754 Fax: (62) 21-5200774

Manufactured by: TOSHIBA DALIAN CO., LTD.

Distributed by:

Contact by E-mail



## ⚠ Precautions

\*Please read the instruction manual before installing or operating motor.

\*This product is intended for general purpose uses in industrial application. It cannot be used applications where may cause big impact on public uses, such as power plant and railway, and equipment which endanger human life or injury, such as nuclear power control, aviation, space flight control, traffic, safety device, amusement, or medical.

It may be considerable whether to apply, under the special condition or an application where strict quality control may not be required. Please contact our headquarters, branch, or local offices printed on the front and back covers of this catalogue.

\* When exporting Toshiba motors separately or combined with your equipment, please be sure to satisfy the objective conditions and inform conditions listed in the export control policies, so called Catch All restrictions, which are set by the Ministry of Economy, Trade and Industry of Japan, and the appropriate export procedures must also be taken.

\*Please use our product in applications where do not cause serious accidents or damages even if product is failure, or please use in environment where safety equipment is applicable or a backup circuit device is provided outside the system.

\*None of Toshiba, its subsidiaries, affiliates or agents, shall be liable for any physical damages, including, without limitation, malfunction, anomaly, breakdown or any other problem that may occur to any apparatus in which the Toshiba motor is incorporated or to any equipment that is used in combination with the Toshiba motor. Nor shall Toshiba, its subsidiaries, affiliates or agents be liable for any compensatory damages resulting from such utilization, including compensation for special, indirect, incidental, consequential, punitive or exemplary damages, or for loss of profit, income or data, even if the user has been advised or apprised of the likelihood of the occurrence of such loss or damages.

## TOSHIBA INDUSTRIAL PRODUCTS AND SYSTEMS CORPORATION

580, Horikawa-cho, Saiwai-ku, Kawasaki, Kanagawa 212-0013, Japan

Tel: +81-(0)44-520-0828 Fax: +81-(0)44-520-0508