TOSHIBA

TOSHIBA

THREE PHASE INDUCTION MOTOR

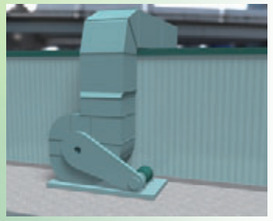
Features of TOSHIBA THREE PHASE INDUCTION MOTOR

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

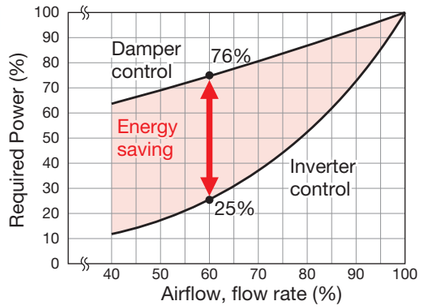
Toshiba motor standardly can be driven by inverter and especially compatibles with Toshiba inverter. Please contact us if you would use for the constant torque application.

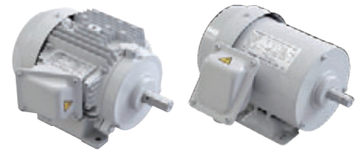
VF-S15

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.
1. 220/380/415V-50Hz,220/440V-60Hz
2. 380/660V-50Hz

TYPE-FORM

The following shows Toshiba's TYPE-FORM.

TYPE T I K K

- **T** : Three Phase
- **I** : Induction-motor
- **K** : Squirrel-cage rotor
- **K** : Double squirrel-cage

FORM F C K L A W21 *S

- **F** : Totally-Enclosed Fan-Cooled type
- **B** : Belt drive **C** : Direct-coupled
- **K** : Rolling bearing
- **L** : Flange Mounted **None** : Foot Mounted
- **A** : Aluminum Die-casting frame **K** : Steel Plate frame **None** : Cast iron frame
- **W** : Outdoor use
- **8** : World Energy Series 8 **21** : World Energy Series 21 **21C** : World Energy Series 21C
- ***S** : Inverter Surge Protection

* NOTE: "T" is omitted for motors rated 11kW or less.

Mounting Type

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

Diagram	Standard				
IEC	IMB3	IMV5	IMV6	IMB6/IMB7	IMB8

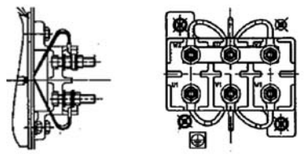
Diagram	Standard	Standard				
IEC	IMB5	IMV1	IMV3	IMB35	IMV15	IMV36

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℃
	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)

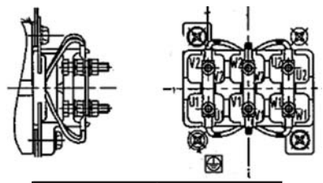
Connection Diagram

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



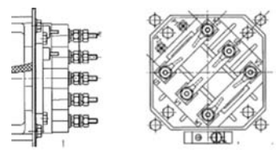
220V Δ			380/415/440V Y		
W2	U2	V2	W2 - U2 - V2		
U1	V1	W1	U1	V1	W1
L1	L2	L3	L1	L2	L3

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



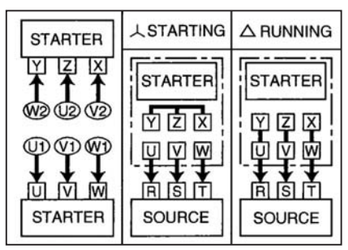
380V Δ			660V Y		
W2	U2	V2	W2 - U2 - V2		
U1	V1	W1	U1	V1	W1
L1	L2	L3	L1	L2	L3

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

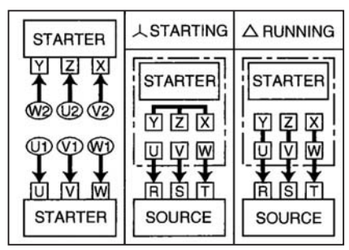


380V Δ			660V Y		
W2	U2	V2	W2 - U2 - V2		
U1	V1	W1	U1	V1	W1
L1	L2	L3	L1	L2	L3

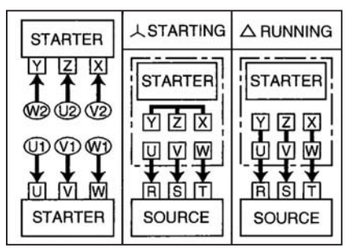
Y-Δ Starting 220V-50/60Hz (Frame size: 132S~160L)



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 kW	Rated Output HP	Voltage (V)	Frequency (Hz)	Frame No	Current (A)	Speed (min^{-1})	Efficiency (%)	Power Factor (%)
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	2840	75.5	88.4
			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	2800	77.5	90.0
			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	2810	81.5	90.1
			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	2840	82.4	85.7
			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	2850	85.5	92.5
			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	2890	88.2	91.8
			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	2900	88.9	91.1
			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	2880	88.5	91.0
			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	2885	90.2	90.0
			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	92.6	91.6
			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 kW	Rated Output HP	Voltage (V)	Frequency (Hz)	Frame No	Current (A)	Speed (min^{-1})	Efficiency (%)	Power Factor (%)
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
	0.75	1	220	50	80M	3.50	1410	75.8	77.3
			380			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
	1.5	2	220	50	90L	6.20	1410	76.0	84.7
			380			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
	2.2	3	220	50	100L	8.70	1410	81.0	82.9
			380			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
	4.0	5	220	50	112M	15.4	1400	81.8	85.2
			380			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
	5.5	7.5	220	50	132S	20.4	1430	85.1	85.6
			380			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
	7.5	10	220	50	132M	27.0	1430	87.0	85.6
			380			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
	11	15	220	50	160M	39.2	1440	87.9	85.4
			380			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
	15	20	220	50	160L	52.0	1440	89.2	86.7
			380			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
	18.5	25	380	50	180M	37.0	1450	91.8	87.9
			660			21.5	1450	91.8	87.9
	22	30	380	50	180L	44.0	1450	92.4	86.9
			660			25.5	1450	92.4	87.0
	30	40	380	50	200L	60.0	1460	92.4	88.1
			660			34.5	1460	92.4	88.2
	37	50	380	50	225S	72.0	1460	93.2	88.5
			660			41.5	1460	93.3	88.5
	45	60	380	50	225M	88.0	1460	93.2	88.3
			660			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 kW	Rated Output HP	Voltage (V)	Frequency (Hz)	Frame No	Current (A)	Speed (min^{-1})	Efficiency (%)	Power Factor (%)
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
	0.75	1	220	50	90L	3.50	910	72.9	74.5
			380			2.00	910	72.9	74.5
			415			2.00	930	74.0	74.0
			220	60		3.30	1090	73.4	82.0
			440			1.80	1120	77.7	74.0
	1.5	2	220	50	100L	7.30	900	73.5	76.9
			380			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
	2.2	3	220	50	112M	9.50	920	80.2	94.0
			380			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
	4.0	5	220	50	132S	16.1	940	82.8	80.8
			380			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
	5.5	7.5	220	50	132M	16.1	940	82.8	80.8
			380			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	940	84.9	78.4
	7.5	10	220	50	160M	28.0	955	87.1	82.6
			380			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
	11	15	220	50	160L	41.0	960	88.2	81.0
			380			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
	15	20	380	50	180L	31.5	975	91.4	81.7
			660			18.0	975	91.4	81.7
	18.5	25	380	50	200L	38.0	970	90.7	83.5
			660			22.0	970	90.8	83.5
	22	30	380	50	200L	45.0	970	91.7	83.9
			660			26.5	970	91.6	84.0
	30	40	380	50	225M	62.0	980	91.5	87.5
			660			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

- CONNECTION
- STANDARD
- BEARING NO (LS/OS)
- SERIAL NO
- MANUFACTURER

[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	0.75 kW	FORM FBKKW8 S
RATED CURRENT	3.50	2.00	2.05	3.10	1.80	A	4 POLES	FRAME No. 80M
RATED SPEED	1410	1410	1420	1700	1720	min⁻¹		THERMAL CLASS F
POWER FACTOR	76.5	76.5	69.5	81.0	72.5	%		DUTY TYPE S1
220V Δ	380/415/440V Y			BEARING L.S. 6204ZZ				PROTECTION IP55
STANDARD IEC 60034-1				NO. O.S. 6204ZZ				TYPE OF CURRENT ~
SERIAL NO.								MANUF.IN

Ⓜ TOSHIBA DALIAN CO., LTD. (INS.S)

[Sample: Flange mounted type]

TOSHIBA 3 PHASE INDUCTION MOTOR

RATED OUTPUT	2 HP 1.5 kW		4 POLES	TYPE IK FORM FCKLAW21 S DUTY TYPE S1		
RATED VOLTAGE	220	380	415	220	440	V
RATED FREQUENCY	50	50	50	60	60	Hz
RATED CURRENT	6.20	3.58	3.60	5.60	3.00	A
RATED SPEED	1410	1410	1415	1700	1720	min⁻¹
POWER FACTOR	84.0	84.0	76.5	89.0	82.0	%

FRAME No. 90L PROTECTION IP55 THERMAL CLASS F
220V Δ 380/415/440V Y TYPE OF CURRENT ~
BEARING L.S.6205ZZ STANDARD IEC 60034-1
NO. O.S.6304ZZ MANUF.IN
SERIAL No.
TOSHIBA DALIAN CO., LTD. (INS.S)

- TYPE
- FORM
- FRAME NO
- THERMAL CLASS
- DUTY TYPE
- PROTECTION
- TYPE OF CURRENT
- MANUFACTUING YEAR

(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 (mm²)
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

mm/sec (RMS)

Fram No.	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

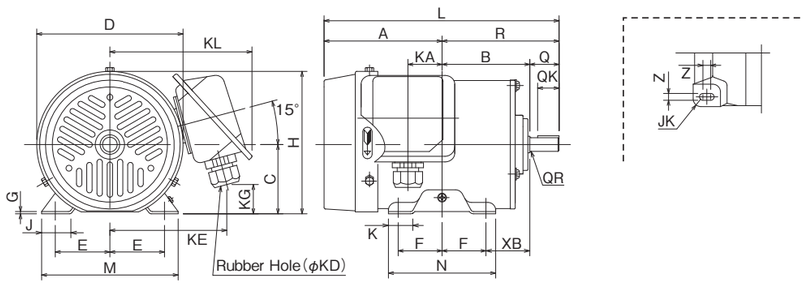
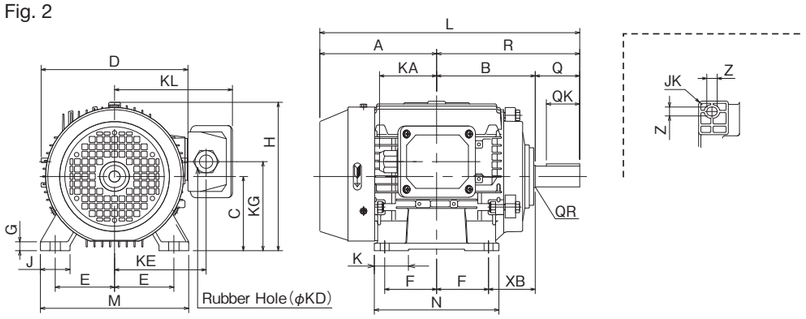


Fig. 2



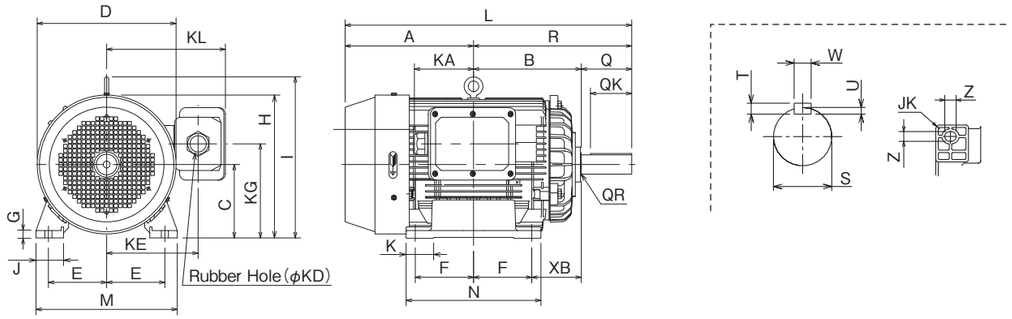
Foot Mount (Frame No.71M~100L)

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				
	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 / 16.5	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 43	42	50
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 82	77	81
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

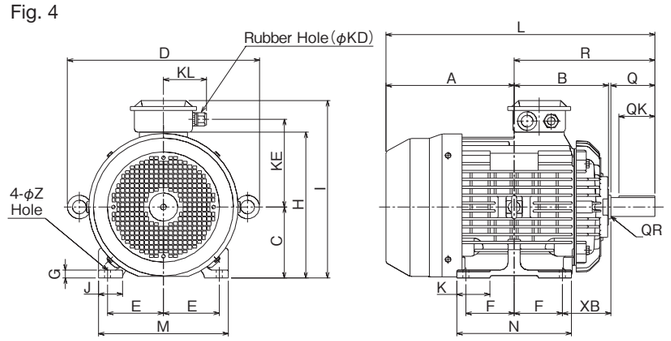
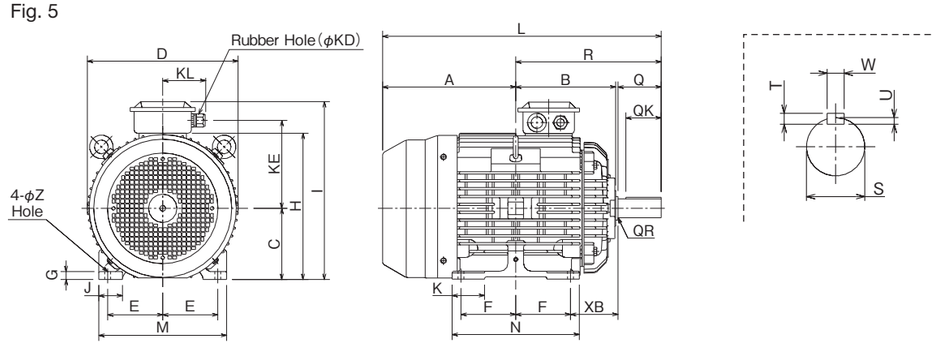


Fig. 5



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 37	30	18.5 22	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	-	-
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	-	-	228 256	243	226 252
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

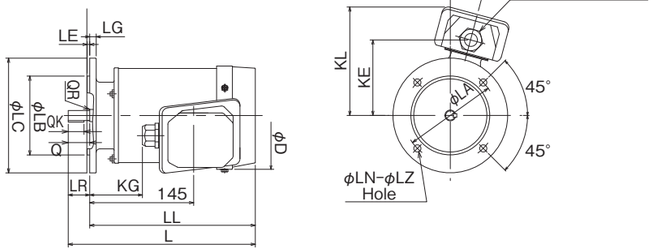
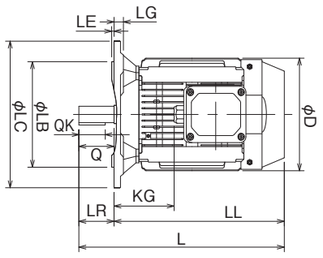
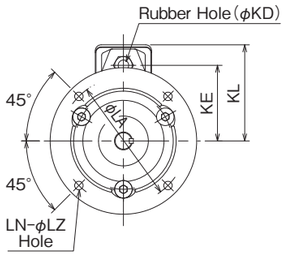
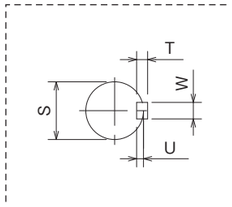


Fig. 2







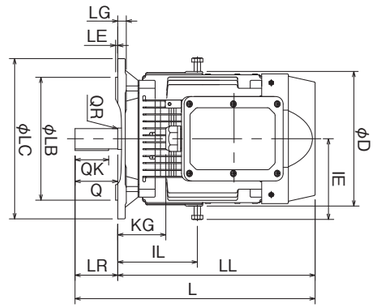
Flange Mount (Frame No.71M~100L)

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

Flange No	Dimension (mm)													Bearing No				Approx Weight (kg)		
	Flange							Shaft dimension							2P		4P & Above				
	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
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 18	17.5	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



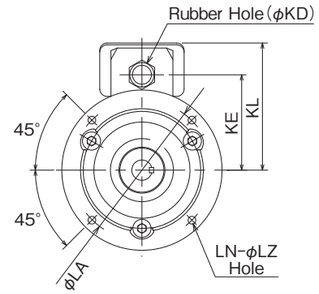
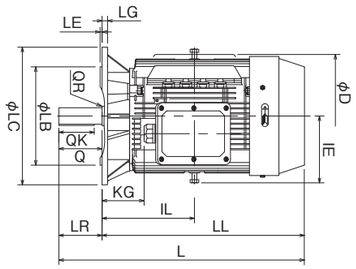
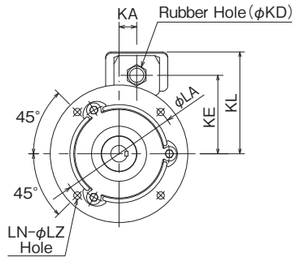
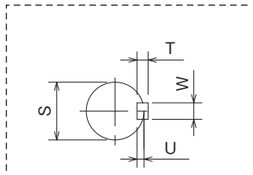


Fig. 4







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

Flange No	Output (kW)			Frame No	Insulation Class	Fig No	Dimension (mm)										
							D	IE	IL	L	LL	LR	Terminal Box				
	2P	4P	6P										KA	KD	KE	KL	KG
FF215	3.0 4.0	3.0 4.0	2.2 -	112M	F	3	214	129	140	386	326	60	-	18	129	164	119.5
FF265	5.5 7.5	5.5 -	3.0 4.0	132S	F	3	252	151	149	449.5	369.5	80	-	32	178.5	240	90
FF265	-	7.5	5.5	132M	F	3	252	151	178	487.5	407.5	80	-	32	178.5	240	128
FF300	11 15	11	7.5	160M	F	4	313	170	213	603	493	110	-	32	199.5	259	85
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				
	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
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 47	46	54
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 89	84	88
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

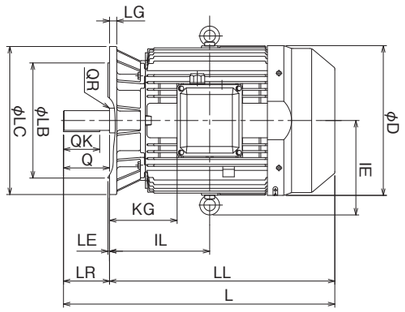


Fig. 5a

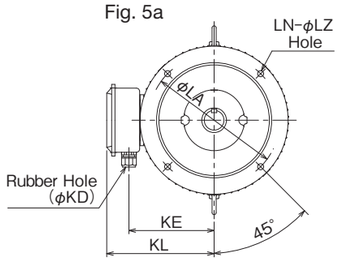
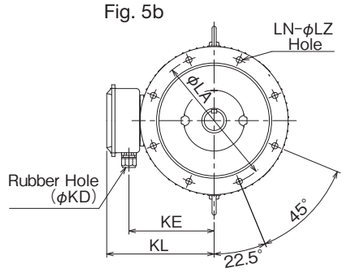
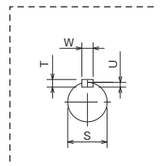


Fig. 5b



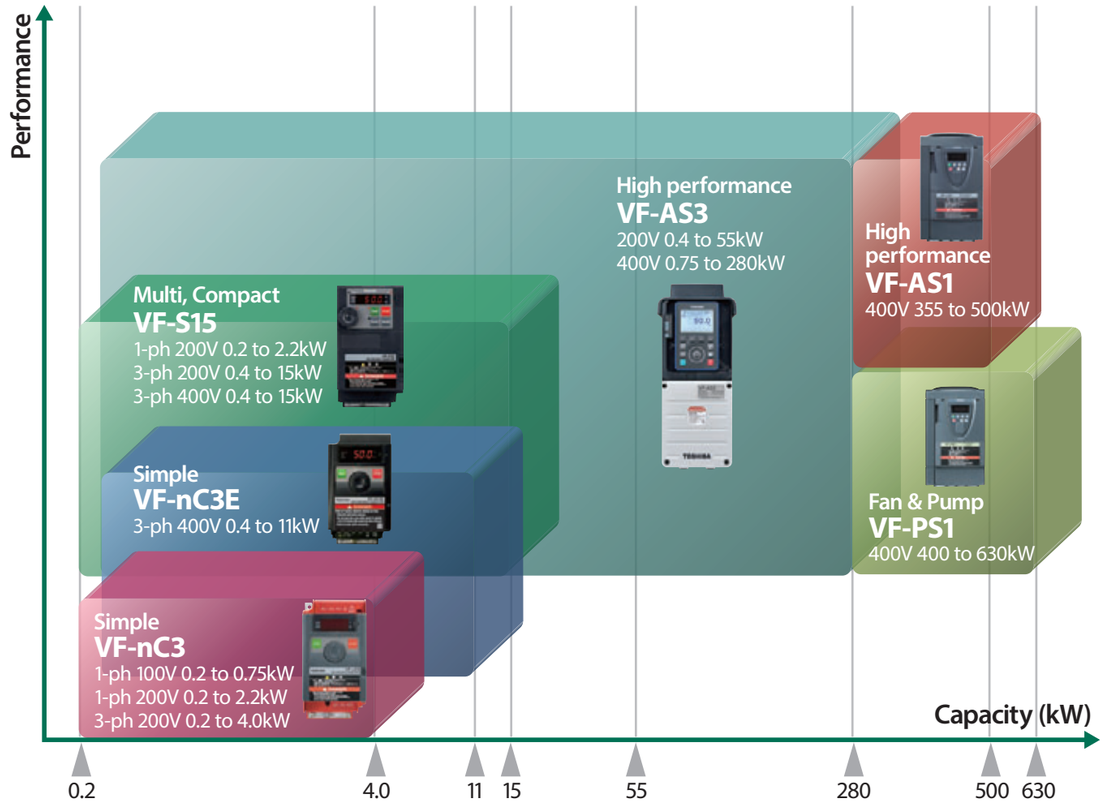


Flange Mount (Frame No.180M~225M)

Flange No	Output (kW)			Frame No	Insulation Class	Fig No	Dimension (mm)										
							D	IE	IL	L	LL	LR	Terminal Box				
	2P	4P	6P										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				
	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

Toshiba Inverter Lineup



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2020-09 AB