Fuji Electric

Innovating Energy Technology

FUJI LOW-VOLTAGE INDUCTION MOTORS

» 3 Phase Premium Efficiency Motor [IE3 class] 2, 4, 6P Output: 45 to 375 kW

» 3 Phase Standard Efficiency Motor [IE1 class] 2, 4P Output: 400 to 450 kW | 8P Output: 30 to 250 kW

03A1-E-0017c

BRIGHTEN FUTURE WITH TECHNICAL BREAKTHROUGH.

FUJI LOW-VOLTAGE THREE - PHASE INDUCTION MOTOR

FEATURES
[PREMIUM EFFICIENCY MOTOR]

High efficiency
Top-runner standards achieved

*Equivalent to efficiency class IE3 of JIS C 4034-30:2011

Improved workability
Terminal box mounted at the top
Easy to change cable outlet direction

Outdoor type
Global standard protection rating: IP55

Outdoor structure

Easy maintenance
Grease filling method adopted
No need for bearing replacement

*Frame size 225S or larger

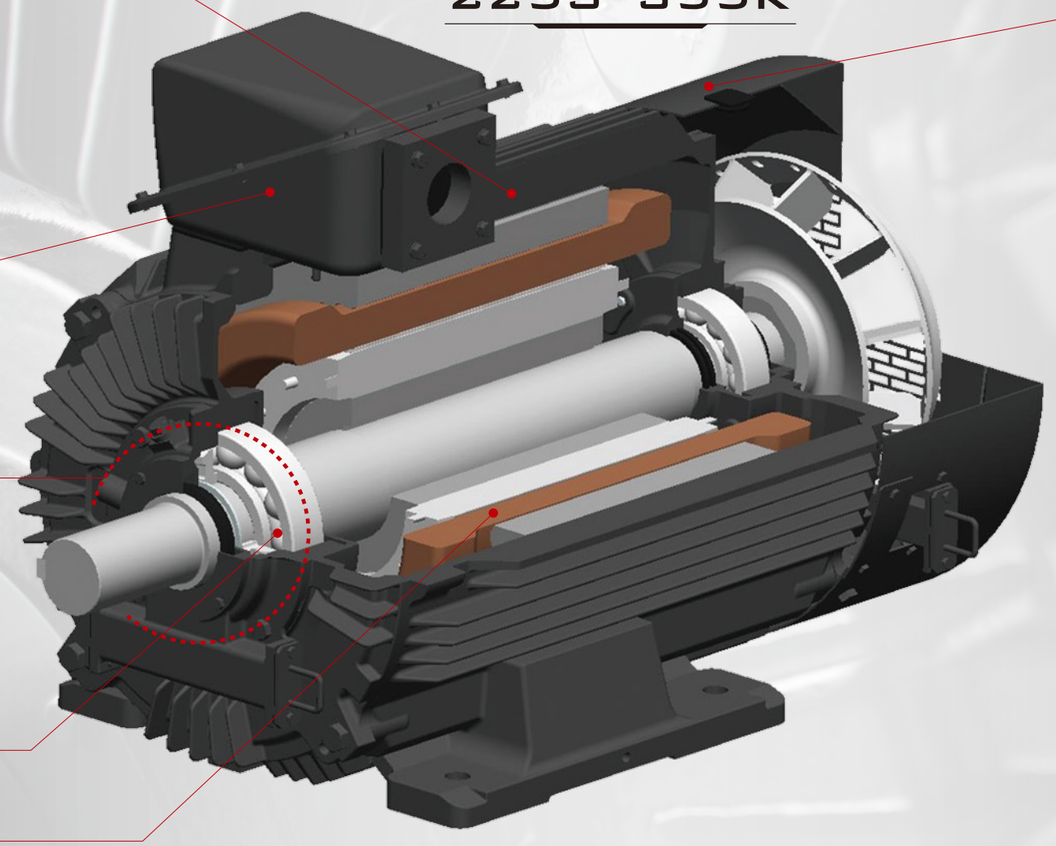
Long service life
Longer service life for insulation system

*Comparison with conventional products of Fuji

ALL PREMIUM

[FRAME NUMBER]

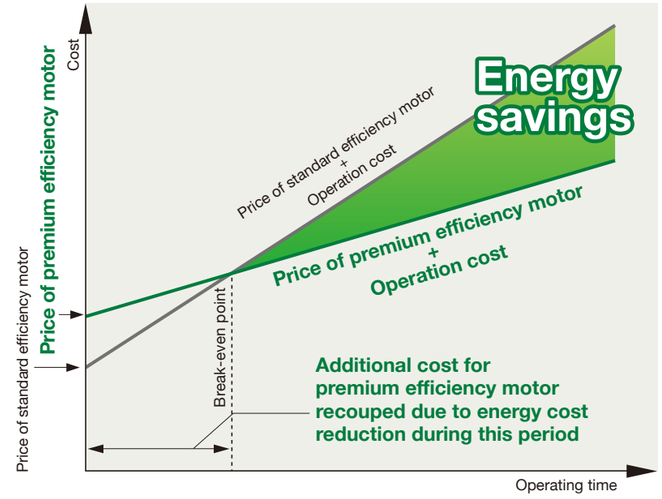
225S-355K



Energy saving
Running cost greatly decreased

Premium efficiency motors have higher efficiency than standard efficiency motors and offer a higher energy-saving effect with longer-hour applications, improving economic efficiency.

Energy-saving effect



Options

Grounding ring

Destructive shaft voltages can occur in rare instances when operating the motor with an inverter due to bearing grease, wiring, and operating conditions. As a countermeasure, the motor can be ordered with a maintenance-free grounding ring (AEGIS® SGR). Please request this option when ordering.

CONTENTS

STANDARD SPECIFICATION

Outdoor

		Premium efficiency	Standard efficiency	
Housing structure		Totally-enclosed fan-cooled type	Totally-enclosed fan-cooled type	
Type		MLU1	MLA9	
Number of poles		2P, 4P, 6P	2P, 4P	8P
Output		45 to 375 kW	400 to 450kW	30 to 250kW
Frame size		225S to 355K	355K	225S to 355K
*1 Rated voltage and rated frequency		200／200/220 V and 400／400/440 V·50/60Hz	200／200/220 V and 400／400/440 V·50/60 Hz	
Time rating		S1 (continuous)	S1 (continuous)	
Protection rating		IP55	IP44	
*2 Starting method		45 to 55 kW: 人−△starting 75 kW or larger: Direct-on-line starting	Direct-on-line starting	30 to 55 kW: 人−△starting 75 kW or larger: Direct-on-line starting
*3 Thermal class		155 (F)	155 (F)	
Direction of rotation		CCW (counterclockwise as seen from load)	CCW (counterclockwise as seen from load)	
Ambient conditions	Temperature	-30°C to +40°C	-20°C to +40°C	
	Humidity	100% RH max. (no condensation)	95% RH max. (no condensation)	
	Altitude	1,000 m max.	1,000 m max.	
	Other	No corrosive or explosive gas or vapor	No corrosive or explosive gas or vapor	
Terminal box	Mounting position (leg mounting type)	—	—	225S: 250S or larger
		Top side	Top side	225S: Left side as seen from load 250S or larger: Top side
	Port orientation (leg mounting type)	Leftward as seen from load	Leftward as seen from load	225S: Downward 250S or larger: Leftward as seen from load
	Material	Steel plate	Steel plate	
Lead wire	System	Lug system	Lug system	
	*4 No. of wires	45 to 55 kW: 6 75 kW or larger: 3	3	30 to 55 kW: 6 75 kW or larger: 3
Color of coating		Munsell N1.2 (black)	Munsell N5 (gray)	
Standard	Applicable	JIS C 4213	JIS, JEC, JEM	
	Efficiency	JIS C 4034-30:2011 (IE3-equivalent)	—	

Note 1) The manufacturable range is up to 600 V.
Note 2) Rated voltage and rated frequency (*1): output 132 kW or less: dual voltage, output over 132 kW: Single voltage specification (with 4P)
Note 3) The starting method (*2) is based on 4P.
Note 4) Temperature rise for insulation class (*3): frame size 225S: "B" rise
Note 5) No. of lead wires (*4): Fuji's standard value For made-to-order products, specify the starting method and no. of lead wires.
Note 6) If you wish to export products (motors as they are or installed in machines, equipment, etc.) to foreign countries, please contact us separately to obtain information about the high-efficiency regulations enforced and implemented in the respective countries.

MODEL LIST

MLU7044 ◎ For products with stock indication, please provide the part number code when placing orders.
Part number code Stock indication ◎ In stock (200-400/200-400, 220-440 V)
*Those without a stock indication are made to order.

2, 4, 6P

	Frame size	Type	Output [kW] 2P	4P	6P	Thermal class
Premium efficiency	225S	MLU1220	55 MLU7044 ◎	–	–	155 (F)
		MLU122N	—	55 MLU7045 ◎	45 MLU7046 ◎	
	250S	MLU1250	75	—	—	
		MLU125E	—	75	55	
	250M	MLU1252	90	—	—	
		MLU125F	—	90	75	
	280S	MLU1280	110	—	—	
		MLU128E	—	110	90	
	280M	MLU1282	132	—	—	
		MLU128F	—	132	110	
	280L	MLU1284	160	160	132	
		MLU1286	200	200	160	
	315L	MLU1314	220,250	220,250	200,220	
		MLU1316	300	300	250	
	355K*	MLU1350	315	315	—	
		MLU1352	355	355,375	—	
		MLU1354	375	—	300,315	
		MLU1356	—	—	355,375	
Standard efficiency	355K*	MLA9354	400	400	—	155 (F)
		MLA9356	450	450	—	

Note) The frame sizes marked with an asterisk (*) indicate Fuji's own designations.

8P

	Frame size	Type	Output [kW] 8P	Thermal class
Standard efficiency	225S	MLA9221	30	155 (F)
	250S	MLA9250	37	
		MLA9251	37	
	250M	MLA9252	45	
		MLA9253	45	
	280S	MLA9280	55	
		MLA9281	55	
	280M	MLA9282	75	
		MLA9283	75	
	315S	MLA9310	90	
		MLA9311	90	
	315M	MLA9312	110	
		MLA9313	110	
	315MN*	MLA9314	132	
		MLA9315	132	
		MLA9316	150	
		MLA9317	150	
	315L	MLA9318	160	
	355M*	MLA9350	185	
		MLA9352	200	
	355K*	MLA9354	220	
		MLA9356	250	

Note) The frame sizes marked with an asterisk (*) indicate Fuji's own designations.

TYPE NUMBER NOMENCLATURE

1, 2, 3 digit Model

Code	Model
MLU	Premium efficiency
MLA	Standard efficiency

4 digit Series No.

1	2	3	4	5	6	7	8
M	L	U	1	2	2	N	B

5, 6, 7 digit Frame size

Code	Frame size
220	225S
22N	
250	250S
25E	
252	250M
25F	
280	280S
28E	
282	280M
28F	
284	280L
286	
310	315S
311	
312	315M
313	
314	315MN*1/315L*2
315	315MN
316	315MN*1/315L*2
317	315MN
318	315L
350	355M*1/355K*2
352	
354	355K
356	

*1: Standard efficiency
*2: Premium efficiency

8 digit Mounting method

Code	Frame size
A	Indoor IMB3 (F11)
B	Outdoor IMB3 (F11)
C	Indoor IMV1 (L52)
D	Outdoor IMV1 (L52)
G	Indoor IMB5 (L51)
H	Outdoor IMB5 (L51)
J	Indoor IMB35 (L81)
L	Indoor IMV5 (F12)
N	Indoor IMV6 (F13)
Q	Indoor IMV3 (L53)
R	Outdoor IMV3 (L53)
S	Outdoor IMB35 (L81)
T	Outdoor IMV5 (F12)
U	Outdoor IMV6 (F13)
Z	Other

Note) Indications in parentheses show former symbols.

DIMENSIONAL OUTLINE DRAWINGS

Outdoor | **Premium Efficiency Motor**

Fig. A

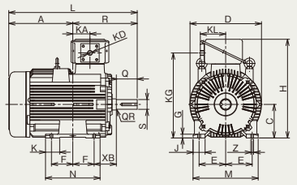


Fig. B

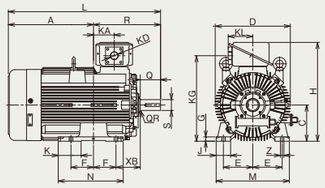


Fig. C

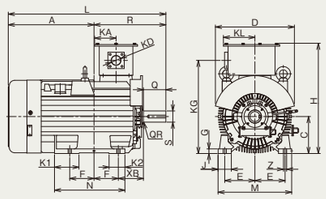
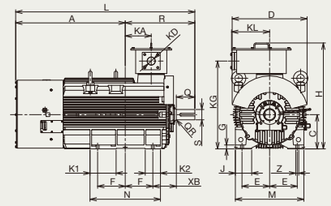
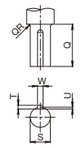


Fig. D



Shaft end detail



Premium efficiency

[Unit: mm]

Frame size	Type	Output [kW] 2P	4P	6P	Drawing No.	A	C	D	E	F	G	H	I	J	K	K1	K2	KA	KD	KG	KL	L	M	N	R	XB	Z	Shaft end Q	QR	S	T	U	W	Bearing: Operation side 2P	Operation side 4P·6P	Opposite operation side 2P	Opposite operation side 4P·6P	Approximate mass [kg]
225S	1220B	55	–	–	A	429	225	476	178	143	25	642	–	80	95	–	–	115	G2 1/2	550	170	831	436	366	402	149	18.5	110	1	55m6	10	6	16	6312ZZC3	–	6312ZZC3	–	400
	122NB	–	55	45								662								570		861			432			140	2	65m6	11	7	18	–	6315ZZC3	–	6312ZZC3	440
250S	1250B	75	–	–	B	579.5	250	519	203	155.5	30	683	–	100	–	158	120	143.5	G2 1/2	591	170	1013	506	449	433.5	168	24	110	1	55m6	10	6	16	6314C3	–	6314C3	–	590
	125EB	–	75	55		588.5																1052			463.5			140	2	75m6	12	7.5	20	–	6318	–	6314	580
250M	1252B	90	–	–		560.5	250	519	203	174.5	30	658	–	100	–	158	120	162.5	G2 1/2	591	170	1013	506	449	452.5	168	24	110	1	55m6	10	6	16	6314C3	–	6314C3	–	620
	125FB	–	90	75		569.5						683										1052			482.5			140	2	75m6	12	7.5	20	–	6318	–	6314	
280S	1280B	110	–	–	C	658	280	628	228.5	184	45	861	–	160	–	225	225	155.5	G2 1/2	735	230	1142	630	570	484	190	24	110	1	55m6	10	6	16	6314C3	–	*2	–	920
	128EB	–	110	90		650		605			30	831		125		185	120	167		705		1194	560	533	544			170	2	85m6	14	9	22	–	6320	–	6317	730
280M	1282B	132	–	–		632.5	280	628	228.5	209.5	45	861	–	160	–	225	225	181	G2 1/2	735	230	1142	630	570	509.5	190	24	110	1	55m6	10	6	16	6314C3	–	*2	–	940
	128FB	–	132	110		624.5		605			30	831		125		185	120	192.5		705		1194	560	533	569.5			170	2	85m6	14	9	22	–	6320	–	NU314	820
280L	1284B	160	–	–		843.5	280	628	228.5	228.5	45	861	–	160	–	450	225	200	G2 1/2	735	230	1372	630	800	528.5	190	24	110	1	55m6	10	6	16	6314C3	6320	*2	NU314	1250
		–	160	132		842.5					30			125		210	120					1431	560	557	588.5			170		95m6	14	9	25					1200
	1286B	200	–	–		843.5					45			160		450	225					1372	630	800	528.5			110		55m6	10	6	16					1300
		–	200	160		842.5					30			125		210	120					1431	560	557	588.5			170		95m6	14	9	25					1300
315L	1314B	220	–	–	D	1008	315	689	254	254	45	975	–	190	–	500	250	239	*1	808	350	1618	730	900	610	216	28	140	1	65m6	11	7	18	6314C3	6222	*2	NU314	1550
		–	220	–							36			150		240	140					1648	630	648	640			170	2	95m6	14	9	25					1600
		250	–	–							45			190		500	250					1618	730	900	610			140	1	65m6	11	7	18					1550
		–	250	200							36			150		240	140					1648	630	648	640			170	2	95m6	14	9	25					1600
		–	–	220							36			150		240	140					1648	630	648	640			170	2	95m6	14	9	25					1600
	1316B	300	–	–							45			190		500	250					1618	730	900	610			140	1	65m6	11	7	18					1600
		–	300	250							36			150		240	140					1648	630	648	640			170	2	95m6	14	9	25					1700
355K	1350B	315	–	–		987	355	778	305	355	55	1059	–	190	–	360	250	375	*1	893	460	1736	810	950	749	254	28	140	1	65m6	11	7	18	6316C3	6222	*2	NU314	2000
		–	315	–							36			160		330	180					1806	730	890	819			210	2.5	100m6	16	10	28					2000
	1352B	355	–	–							55			190		360	250					1736	810	950	749			140	1	65m6	11	7	18					2100
		–	355,375	–							36			160		330	180					1806	730	890	819			210	2.5	100m6	16	10	28					2100
	1354B	375	–	–							55			190		360	250					1736	810	950	749			140	1	65m6	11	7	18					2200
		–	–	300,315							36			160		330	180					1806	730	890	819			210	2.5	100m6	16	10	28					2150
	1356B	–	–	–							36			160		330	180					1806	730	890	819			210	2.5	100m6	16	10	28					2300
		–	–	355,375							36			160		330	180					1806	730	890	819			210	2.5	100m6	16	10	28					2300

MLU

Note 1) The standard mounting method is IMB3 (F11: frame mounting). Please contact us for other mounting methods.
Note 2) Dimensional tolerance: height of rotating shaft C ≤ 250 mm: $^{0}_{-0.5}$mm, C > 250 mm: $^{0}_{-1}$mm, shaft end key groove (W) dimensional tolerance: average class (N9).
Note 3) The 2-pole models are for direct connection only.
Note 4) Bearing nos. beginning with "63" represent a single row deep groove ball bearing, "NU" a cylindrical roller bearing, "ZZ" a grease-filled shielded ball bearing and "C3" a bearing with the radial gap of C3.
Note 5) *1: Please contact us for the individual dimensions. *2: NU314MCCG50
Note 6) The dimensions are subject to change. Please request dimensional outline drawings for designing.

DIMENSIONAL OUTLINE DRAWINGS

Outdoor | **Standard Efficiency Motor**

Fig. A

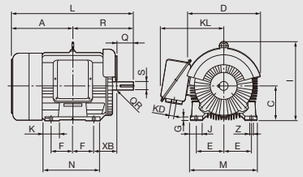


Fig. B

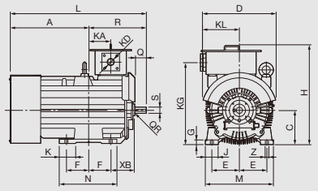
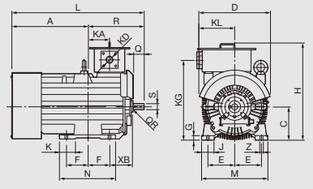
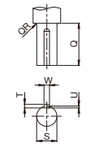


Fig. C

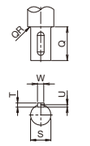


Shaft end detail

225S to 315L



355M-K



Standard efficiency

[Unit: mm]

Frame size	Type	Output [kW] 2P	4P	6P	8P	Drawing No.	A	C	D	E	F	G	H	I	J	K	K1	K2	KA	KD		KG	KL	L	M	N	R	XB	Z	Shaft end Q	QR	S	T	U	W	Bearing Operation side 2P	4P	6P	8P	Opposite operation side 2P	4P	6P	8P	Approximate mass [kg]
225S	9221				30	A	406	225	475	178	143	25	–	515	80	95	—	—	—	G2 1/2		—	414	838	436	366	432	149	19	140	2	65m6	11	7	18				6315ZZ				6312ZZ	330
250S	9250				37	B	445.5	250	535	203	155.5	30	673	—	100	120	—	—	143	G2 1/2		581	170	909	506	411	463.5	168	24	140	2	75m6	12	7.5	20				6318				6314ZZ	465
	9251				37																															NU318							
250M	9252				45		464.5	250	535	203	174.5	30	673	—	100	120	—	—	162.5	G2 1/2		581	170	947	506	449	482.5	168	24	140	2	75m6	12	7.5	20				6318				6314ZZ	520
	9253				45																															NU318							
280S	9280				55		495	280	605	228.5	184	35	805	—	100	120	—	—	167	G2 1/2		675	230	1039	557	468	544	190	24	170	2	85m6	14	9	22				6320				6317	685
	9281				55																															NU320							
280M	9282				75		520.5	280	605	228.5	209.5	35	805	—	100	120	—	—	192.5	G2 1/2		675	230	1090	557	519	569.5	190	24	170	2	85m6	14	9	22				6320				6317	740
	9283				75																															NU320							
315S	9310				90	C	713	315	623	254	203	42	917	—	120	145	—	—	201	*1		753	350	1302	628	526	589	216	28	170	2	95m6	14	9	25				6322				NU322	1075
	9311				90																															NU322							6322	
315M	9312				110		737.5	315	623	254	228.5	42	917	—	120	145	—	—	226.5	*1		753	350	1352	628	577	614.5	216	28	170	2	95m6	14	9	25				6322				NU322	1210
	9313				110																															NU322							6322	
315MN	9314				132		737.5	315	623	254	228.5	42	917	—	120	145	—	—	226.5	*1		753	350	1452	628	577	614.5	216	28	170	2	95m6	14	9	25				6322				NU322	1255
	9315				132																															NU322							6322	
	9316				150		837.5	315	623	254	228.5	42	917	—	120	145	—	—						1452	628	577	614.5	216	28	170	2	95m6	14	9	25				6322				NU322	1310
	9317				150																															NU322							6322	
315L	9318				160		862	315	623	254	254	42	917	—	120	145	—	—	252	*1		753	350	1502	628	628	640	216	28	170	2	95m6	14	9	25				6322				NU322	1395
355M	9350				185		847	355	695	305	280	42	998	—	120	145	—	—	310	*1		883	460	1591	730	690	744	254	28	210	2.5	100m6	16	10	28				6322				NU322	1585
	9352				200		847	355	695	305	280	42	998	—	120	145	—	—						1591	730	690	744	254	28	210	2.5	100m6	16	10	28				6322				NU322	1755
355K	9354	400	—	—	—		884	355	695	305	355	42	998	—	120	145	—	—	385	*1		883	460	1633	730	840	749	254	28	140	2	65m6	11	7	18	6216C3	6322	—	6322	NU214C3	NU322	—	NU322	1905
		—	400	—	220		872																	1691			819			210	2.5	100m6	16	10	28									
	9356	450	—	—	—		884																	1633			749			140	2	65m6	11	7	18									2000
		—	450	—	250		872																	1691			819			210	2.5	100m6	16	10	28									

Note 1) For information on the models indicated by ▭, refer to "DIMENSIONAL OUTLINE DRAWINGS [Premium Efficiency Motor]" (pages 8 - 9).
Note 2) The standard mounting method is IMB3 (F11: frame mounting). Please contact us for other mounting methods.
Note 3) Dimensional tolerance: height of rotating shaft C ≤ 250 mm: $^{0}_{-0.5}$mm, C > 250 mm: $^{0}_{-1}$mm, shaft end key groove (W) dimensional tolerance: average class (N9).
Note 4) The 8-pole models indicated by ▱ are for non-direct connection only. The other models are for direct connection only.
Note 5) The 2-pole models use a fan for one-direction rotation only.
Note 6) Bearing nos. beginning with "63" represent a single row deep groove ball bearing, "NU" a cylindrical roller bearing, "ZZ" a grease-filled shielded ball bearing and "C3" a bearing with the radial gap of C3.
Note 7) "1: Please contact us for the individual dimensions.
Note 8) The dimensions are subject to change. Please request dimensional outline drawings for designing.

CHARACTERISTIC SPECIFICATION 400 V class

Premium efficiency 2P

Type	Output [kW]	Voltage [V]	Frequency [Hz]	Rated current [A]	Rated speed [min-1]	Load characteristic									Efficiency class	Starting current [A]	Starting torque [%]	Maximum torque [%]	Input difference from standard motor[kW] (with 100% load)
						50% load			75% load			100% load							
						Current [A]	Efficiency [%]	Power factor [%]	Current [A]	Efficiency [%]	Power factor [%]	Current [A]	Efficiency [%]	Power factor [%]					
MLU1220	55	400	50	92	2965	50.5	93.8	83.8	71.0	94.4	89.5	92.0	94.3	91.5	IE3	857	156	342	2.315
		400	60	90	3560	48.5	91.9	89.1	70.0	92.2	92.3	90.0	93.0	94.9	IE2	667	102	271	1.366
		440	60	83	3565	45.5	92.0	86.2	65.0	93.3	89.9	83.0	93.6	92.9	IE3	762	133	338	1.613
MLU1250	75	400	50	122	2970	68.0	93.9	84.7	96.0	94.8	89.3	122	94.8	93.6	IE3	1070	129	281	1.792
		400	60	122	3565	66.0	92.5	88.7	95.0	93.5	91.4	122	93.7	94.7	IE2	874	93	231	1.657
		440	60	111	3570	62.0	92.6	85.7	87.0	93.9	90.3	111	94.2	94.1	IE3	971	115	282	1.904
MLU1252	90	400	50	146	2970	81.0	94.3	85.1	114	95.0	90.0	146	95.1	93.6	IE3	1290	135	281	2.346
		400	60	145	3565	78.0	93.7	88.9	112	94.4	92.2	145	94.5	94.8	IE2	1050	97	230	2.694
		440	60	132	3570	73.0	93.8	86.3	103	94.8	90.8	132	95.0	94.2	IE3	1160	120	281	3.089
MLU1280	110	400	50	182	2970	104	94.7	80.7	144	95.3	86.8	182	95.4	91.4	IE3	1460	122	259	3.230
		400	60	179	3570	97.0	94.1	87.0	139	94.7	90.4	179	94.7	93.7	IE2	1170	86	210	2.763
		440	60	164	3575	93.0	94.1	82.5	129	95.0	88.3	164	95.2	92.5	IE3	1310	107	257	3.244
MLU1282	132	400	50	223	2975	130	94.8	77.3	177	95.5	84.6	223	95.4	89.6	IE3	1900	142	278	3.114
		400	60	214	3570	117	94.5	86.1	167	95.1	90.0	214	95.1	93.6	IE2	1490	94	222	3.440
		440	60	198	3575	113	94.5	81.1	156	95.4	87.3	198	95.5	91.6	IE3	1680	120	274	3.716
MLU1284	160	400	50	257	2970	141	94.9	86.3	200	95.6	90.6	257	95.6	94.0	IE3	2070	128	257	3.212
		400	60	256	3570	137	94.6	89.1	198	95.2	91.9	256	95.0	95.0	IE2	1710	95	212	2.702
		440	60	233	3570	128	94.6	86.7	182	95.5	90.6	233	95.4	94.5	IE3	1890	117	258	3.408
MLU1286	200	400	50	320	2970	175	95.3	86.6	249	95.9	90.7	320	95.8	94.2	IE3	2590	135	256	3.546
		400	60	319	3570	169	94.9	90.0	246	95.4	92.3	319	95.4	94.9	IE2	2130	99	211	3.349
		440	60	290	3570	158	94.9	87.5	225	95.7	91.4	290	95.8	94.5	IE3	2360	122	257	4.224
MLU1314	220	400	50	352	2970	194	95.8	85.5	274	96.1	90.4	352	95.9	94.1	IE3	2980	120	283	3.892
		400	60	349	3565	186	95.1	89.8	270	95.5	92.4	349	95.4	95.4	IE2	2440	87	232	3.435
		440	60	318	3570	175	95.2	86.7	248	95.8	91.1	318	95.8	94.8	IE3	2710	108	283	4.397
	250	400	50	400	2970	220	95.9	85.6	312	96.1	90.3	400	95.9	94.1	IE3	3280	117	272	4.142
		400	60	397	3565	211	95.3	89.7	306	95.6	92.5	397	95.4	95.3	IE2	2650	83	221	3.620
		440	60	362	3570	198	95.4	86.8	282	95.9	91.0	362	95.8	94.6	IE3	2960	104	271	4.432
MLU1316	300	400	50	479	2970	263	96.1	85.7	373	96.3	90.5	479	96.0	94.2	IE3	4010	124	277	4.960
		400	60	474	3565	251	95.5	90.3	365	95.7	93.0	474	95.4	95.8	IE2	3230	88	224	4.344
		440	60	432	3570	236	95.6	87.3	337	96.0	91.2	432	95.9	95.0	IE3	3620	110	275	5.645
MLU1350	315	400	50	507	2975	281	95.3	84.9	396	95.9	89.8	507	96.0	93.4	IE3	4240	104	276	4.153
		400	60	500	3570	267	95.0	89.7	386	95.4	92.6	500	95.4	95.3	IE2	3410	72	224	2.792
		440	60	457	3575	252	95.0	86.4	356	95.7	91.0	457	95.8	94.4	IE3	3810	90	274	4.171
MLU1352	355	400	50	568	2975	315	95.5	85.2	443	96.0	90.3	568	96.0	94.0	IE3	4980	112	288	5.076
		400	60	561	3570	300	94.9	90.0	434	95.5	92.8	561	95.4	95.7	IE2	4010	79	234	3.147
		440	60	513	3575	282	94.9	87.0	400	95.7	91.2	513	95.8	94.8	IE3	4470	98	286	4.304
MLU1354	375	400	50	593	2975	323	95.5	87.7	461	96.0	91.7	593	95.9	95.2	IE3	4960	106	273	4.120
		400	60	592	3570	313	95.0	91.1	456	95.4	93.3	592	95.4	95.8	IE2	4060	78	224	2.488
		440	60	538	3575	292	95.2	88.5	418	95.9	92.1	538	95.8	95.5	IE3	4500	95	273	3.296

Note 1) These characteristic values are based on the dynamometer method (actual load method).
Note 2) The above current values are for the 400 V type. For the 200 V type, the above value x 2.
Note 3) These characteristic values are typical ones. They are not guaranteed.

Premium efficiency 4P

Type	Output [kW]	Voltage [V]	Frequency [Hz]	Rated current [A]	Rated speed [min-1]	Load characteristic									Efficiency class	Starting current [A]	Starting torque [%]	Maximum torque [%]	Input difference from standard motor[kW] (with 100% load)
						50% load			75% load			100% load							
						Current [A]	Efficiency [%]	Power factor [%]	Current [A]	Efficiency [%]	Power factor [%]	Current [A]	Efficiency [%]	Power factor [%]					
MLU122N	55	400	50	100	1485	62.9	94.2	67.0	80.3	94.9	78.1	100	94.8	83.7		950	275	355	1.821
		400	60	94	1780	53.0	95.0	78.8	72.7	95.5	85.8	94.0	95.4	88.5	IE3	799	205	290	2.176
		440	60	88	1785	53.7	94.4	71.2	69.7	95.3	81.5	88.0	95.4	86.0		880	260	355	2.090
MLU125E	75	400	50	135	1485	78.5	94.6	72.9	106	95.2	80.8	135	95.1	84.3	IE3	1215	260	315	2.277
		400	60	128	1780	69.3	94.6	82.6	97.6	95.2	87.4	128	95.2	88.8	IE2	1024	200	255	2.348
		440	60	122	1785	69.6	94.3	75.0	94.8	95.2	81.8	122	95.4	84.6	IE3	1159	260	315	2.541
MLU125F	90	400	50	160	1485	93.9	94.7	73.0	125	95.3	81.5	160	95.2	85.3	IE3	1520	270	315	2.185
		400	60	152	1785	82.3	94.7	83.3	116	95.3	88.1	152	95.2	89.8	IE2	1292	210	260	2.208
		440	60	141	1785	80.8	94.4	77.4	110	95.3	84.7	141	95.4	87.8	IE3	1410	270	320	2.376
MLU128E	110	400	50	190	1490	112	95.0	74.7	149	95.5	83.7	190	95.5	87.5	IE3	1900	230	330	3.219
		400	60	184	1785	100	94.9	83.7	141	95.5	88.7	184	95.5	90.4	IE2	1564	170	270	3.307
		440	60	172	1790	98.9	94.8	77.0	134	95.6	84.5	172	95.8	87.6	IE3	1720	215	335	3.264
MLU128F	132	400	50	226	1490	130	95.2	77.2	176	95.8	84.8	226	95.8	88.0	IE3	2260	245	335	3.225
		400	60	220	1785	119	95.3	84.3	168	95.9	88.7	220	95.9	90.3	IE2	1870	185	275	3.355
		440	60	204	1790	115	95.2	78.9	158	96.0	85.6	204	96.2	88.3	IE3	2040	230	340	3.458
MLU1284	160	400	50	273	1480	161	95.8	74.9	217	96.2	83.0	273	96.1	88.0	IE3	2170	124	261	3.549
		400	60	267	1780	149	95.5	81.1	208	95.9	86.8	267	95.8	90.3	IE2	1750	88	211	3.942
		440	60	246	1780	144	95.5	76.4	195	96.1	84.0	246	96.2	88.7	IE3	1960	111	259	4.205
MLU1286	200	400	50	342	1480	204	95.9	73.8	273	96.3	82.4	342	96.1	87.8	IE3	2810	136	268	3.573
		400	60	332	1780	185	95.7	81.6	259	96.0	87.1	332	95.8	90.8	IE2	2230	94	214	4.000
		440	60	307	1780	180	95.6	76.2	244	96.2	83.8	307	96.3	88.8	IE3	2520	120	265	4.521
MLU1314	220	400	50	376	1480	230	95.8	72.1	305	96.3	81.1	376	96.2	87.8	IE3	3140	136	275	3.944
		400	60	365	1780	209	95.7	79.4	289	96.2	85.7	365	96.0	90.6	IE2	2530	96	221	4.732
		440	60	338	1780	204	95.6	74.0	273	96.3	82.3	338	96.3	88.7	IE3	2830	121	272	4.894
	250	400	50	429	1480	262	95.9	71.8	348	96.4	80.7	429	96.2	87.4	IE3	3380	129	259	4.204
		400	60	414	1780	235	95.9	80.0	327	96.3	86.0	414	96.1	90.7	IE2	2670	88	206	5.314
		440	60	384	1780	230	95.8	74.4	309	96.4	82.6	384	96.4	88.6	IE3	3020	112	255	5.814
MLU1316	300	400	50	509	1480	304	96.2	74.0	409	96.4	82.4	509	96.2	88.5	IE3	3700	119	237	4.554
		400	60	495	1775	275	96.1	81.9	388	96.3	86.9	495	96.1	91.1	IE2	2920	80	188	5.825
		440	60	456	1780	267	96.1	76.7	364	96.5	84.0	456	96.4	89.5	IE3	3300	103	232	6.650
MLU1350	315	400	50	531	1485	316	95.8	75.1	426	96.3	83.1	531	96.2	89.0	IE3	4010	100	248	4.271
		400	60	517	1780	288	95.8	82.4	406	96.3	87.2	517	96.2	91.4	IE2	3190	69	198	5.848
		440	60	476	1785	278	95.8	77.6	380	96.4	84.6	476	96.4	90.1	IE3	3580	87	243	5.956
MLU1352	355	400	50	596	1485	351	95.8	76.2	476	96.4	83.8	596	96.2	89.3	IE3	4660	108	254	4.035
		400	60	579	1780	322	96.0	82.9	455	96.4	87.6	579	96.2	92.0	IE2	3690	74	203	5.829
		440	60	533	1785	311	95.8	78.2	425	96.5	85.2	533	96.5	90.6	IE3	4130	92	248	6.069
MLU1354	375	400	50	631	1485	379	95.8	74.6	508	96.4	82.9	631	96.4	89.0	IE3	5040	108	262	4.734
		400	60	615	1780	346	96.0	81.5	484	96.5	87.0	615	96.3	91.4	IE2	4020	75	210	6.321
		440	60	568	1785	338	95.8	76.0	457	96.5	83.7	568	96.6	89.7	IE3	4550	96	259	6.337

Note 1) These characteristic values are based on the dynamometer method (actual load method).
Note 2) The above current values are for the 400 V type. For the 200 V type, the above value x 2.
Note 3) These characteristic values are typical ones. They are not guaranteed.

Premium efficiency 6P

Type	Output [kW]	Voltage [V]	Frequency [Hz]	Rated current [A]	Rated speed [min-1]	Load characteristic									Efficiency class	Starting current [A]	Starting torque [%]	Maximum torque [%]	Input difference from standard motor[kW] (with 100% load)
						50% load			75% load			100% load							
						Current [A]	Efficiency [%]	Power factor [%]	Current [A]	Efficiency [%]	Power factor [%]	Current [A]	Efficiency [%]	Power factor [%]					
MLU122N	45	400	50	98	985	70.2	92.7	49.9	82.9	93.7	62.7	98.0	93.8	70.7		735	290	325	1.787
		400	60	87	1185	55.5	93.7	62.4	70.2	94.5	73.4	87.0	94.5	79.0	IE3	609	220	275	2.355
		440	60	85	1185	59.3	93.0	53.5	71.1	94.2	66.1	85.0	94.5	73.5		680	280	335	2.157
MLU125E	55	400	50	109	990	72.1	93.5	58.9	89.1	94.3	70.9	109	94.3	77.2	IE3	926.5	260	315	1.851
		400	60	102	1185	61.4	93.5	69.1	80.5	94.3	78.4	102	94.2	82.6	IE2	765	200	265	1.588
		440	60	97	1190	62.9	93.3	61.5	78.8	94.4	72.8	97.0	94.6	78.6	IE3	873	255	325	1.770
MLU125F	75	400	50	146	990	96.4	94.0	59.7	119	94.7	71.9	146	94.6	78.4	IE3	1241	270	310	2.686
		400	60	137	1185	81.0	94.1	71.0	107	94.6	80.2	136	94.5	84.2	IE2	1020	205	260	1.988
		440	60	129	1190	83.2	94.0	62.9	105	94.9	74.4	129	95.0	80.3	IE3	1161	265	320	2.486
MLU128E	90	400	50	175	990	115	94.4	59.8	143	95.1	71.8	175	95.1	78.1	IE3	1540	250	320	3.189
		400	60	162	1190	94.2	94.2	73.2	127	94.8	81.1	162	94.8	84.6	IE2	1215	175	255	2.356
		440	60	154	1190	98.1	94.1	64.0	124	95.0	75.0	154	95.2	80.6	IE3	1386	230	325	3.063
MLU128F	110	400	50	208	990	135	94.5	62.6	169	95.3	73.9	208	95.3	80.1	IE3	1872	260	330	2.474
		400	60	196	1190	114	94.6	73.5	153	95.3	81.6	196	95.3	85.0	IE2	1470	180	260	2.348
		440	60	185	1190	117	94.6	65.3	149	95.6	76.1	185	95.8	81.4	IE3	1702	235	330	2.825
MLU1284	132	400	50	248	990	160	95.1	62.6	204	95.7	73.2	248	95.5	80.4	IE3	1720	126	221	3.868
		400	60	234	1185	135	95.2	74.1	184	95.7	81.2	234	95.3	85.4	IE2	1280	76	169	3.273
		440	60	219	1190	137	95.1	66.5	178	95.8	76.2	219	95.8	82.6	IE3	1500	105	214	3.844
MLU1286	160	400	50	301	985	194	95.3	62.5	247	95.8	73.2	301	95.6	80.3	IE3	2060	129	218	3.030
		400	60	283	1185	162	95.4	74.7	222	95.8	81.5	283	95.4	85.5	IE2	1530	77	166	3.225
		440	60	265	1190	166	95.2	66.4	215	95.9	76.4	265	95.9	82.6	IE3	1790	106	211	3.917
MLU1314	200	400	50	364	985	230	95.4	65.8	296	95.9	76.3	364	95.8	82.8	IE3	2640	120	242	3.772
		400	60	347	1185	199	95.2	76.2	273	95.7	82.8	347	95.4	87.2	IE2	1980	73	185	4.260
		440	60	324	1185	200	95.1	69.0	261	95.8	78.7	324	95.8	84.6	IE3	2300	99	234	4.451
	220	400	50	406	985	262	95.3	63.6	333	95.9	74.6	406	95.8	81.6	IE3	3030	130	249	3.282
		400	60	383	1185	221	95.3	75.4	302	95.8	82.3	383	95.4	86.9	IE2	2240	78	189	3.684
		440	60	360	1185	225	95.1	67.4	292	95.9	77.3	360	95.8	83.7	IE3	2630	107	240	3.901
MLU1316	250	400	50	451	985	281	95.5	67.2	365	95.9	77.3	451	95.8	83.5	IE3	3160	118	231	2.753
		400	60	433	1185	244	95.2	77.7	339	95.7	83.5	433	95.4	87.4	IE2	2360	71	176	3.057
		440	60	402	1185	244	95.1	70.7	323	95.8	79.5	402	95.8	85.2	IE3	2750	98	222	3.310
MLU1354	300	400	50	543	985	347	95.7	65.2	447	96.2	75.6	543	95.9	83.2	IE3	3730	109	227	3.630
		400	60	520	1185	303	95.6	74.7	413	96.1	81.8	520	95.6	87.1	IE2	2870	70	177	5.002
		440	60	485	1185	303	95.4	68.1	396	96.1	77.6	485	96.0	84.6	IE3	3280	92	221	4.290
	315	400	50	590	985	396	95.4	60.2	494	96.1	71.8	590	95.9	80.4	IE3	4370	128	250	3.112
		400	60	550	1185	329	95.5	72.3	442	96.1	80.3	550	95.7	86.4	IE2	3280	78	192	4.887
		440	60	520	1185	338	95.2	64.2	431	96.1	74.8	520	96.1	82.7	IE3	3810	106	242	4.495
MLU1356	355	400	50	674	985	457	95.2	58.9	567	95.9	70.7	674	95.8	79.4	IE3	4880	123	247	2.769
		400	60	624	1185	375	95.5	71.6	502	96.0	79.7	624	95.5	86.0	IE2	3630	74	188	4.395
		440	60	592	1185	388	95.2	63.1	492	96.0	74.0	592	95.9	82.1	IE3	4230	101	238	3.922
	375	400	50	693	985	457	95.7	61.9	577	96.2	73.1	693	96.0	81.4	IE3	4980	123	240	3.697
		400	60	651	1185	383	95.7	73.8	520	96.3	81.1	651	95.8	86.8	IE2	3730	75	184	5.805
		440	60	613	1185	391	95.5	65.9	504	96.3	76.1	613	96.2	83.4	IE3	4340	102	232	5.340

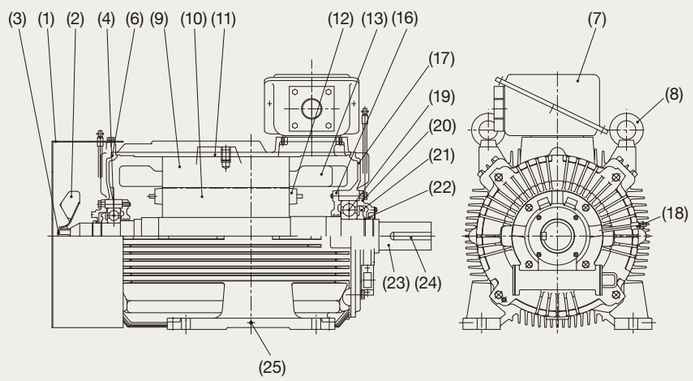
Note 1) These characteristic values are based on the dynamometer method (actual load method).
Note 2) The above current values are for the 400 V type. For the 200 V type, the above value x 2.
Note 3) These characteristic values are typical ones. They are not guaranteed.

Standard efficiency 2P 4P 8P

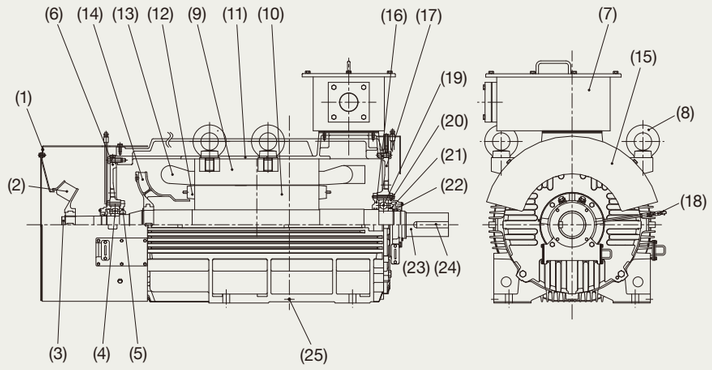
Number of poles	Type	Output [kW]	Rated current [A]			Rated speed [min-1]		
			50Hz	60Hz		50Hz	60Hz	
			400V	400V	440V	400V	400V	440V
2P	MLA9354	400	675	665	615	2980	3570	3580
	MLA9356	450	760	750	690	2980	3570	3580
4P	MLA9354	400	655	645	595	1485	1780	1785
	MLA9356	450	740	730	670	1485	1780	1785
8P	MLA9221	30	64	61	57	730	875	880
	MLA9250/9251	37	78	74	70	730	880	885
	MLA9252/9253	45	93	89	83	735	880	885
	MLA9280/9281	55	112	107	100	735	880	885
	MLA9282/9283	75	149	143	134	735	880	885
	MLA9310/9311	90	172	168	154	735	880	885
	MLA9312/9313	110	207	202	185	735	880	885
	MLA9314/9315	132	256	250	230	735	880	885
	MLA9316/9317	150	290	282	260	735	880	885
	MLA9318	160	304	300	276	735	880	885
	MLA9350	185	352	347	319	735	880	885
	MLA9352	200	380	375	345	735	880	885
	MLA9354	220	418	413	380	735	880	885
	MLA9356	250	475	469	431	735	880	885

Note) The above current values are for the 400 V type. For the 200 V type, the above value x 2.

Frame size: 250M



Frame size: 315M



No.	Part name	No.	Part name
(1)	Fan cover	(14)	Internal fan
(2)	External fan	(15)	Air guide
(3)	C-shaped retaining ring for securing external fan	(16)	Inner end cover on operation side
(4)	Bearing opposite operation side	(17)	Bracket on operation side
(5)	Inner end cover opposite operation side	(18)	Grease inlet
(6)	Bracket opposite operation side	(19)	Bearing on operation side
(7)	Terminal box	(20)	Outer end cover on operation side
(8)	Hanger bolt	(21)	Rotating disk
(9)	Stator iron core	(22)	C-shaped retaining ring for shaft
(10)	Rotor iron core	(23)	Shaft
(11)	Stator frame	(24)	Shaft end key
(12)	Rotor conductor	(25)	Grounding screw
(13)	Stator winding		

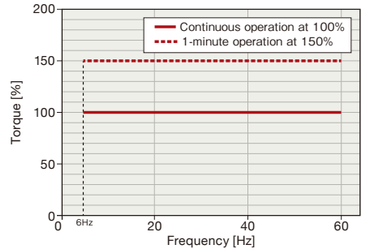
Consider the following points for speed control by using an inverter to drive a premium efficiency motor.

- Increase of the generated loss and starting characteristics
- Decrease of the cooling capacity in a low-speed region
- Bearing service life and mechanical strength in a high-speed region of 60 Hz or higher
- Generation of surge voltage

1. Allowable torque characteristics

The output voltage of an inverter contains a harmonic component. This causes a higher generated loss of the motor than when it is driven by a sine wave as in a commercial power supply, leading to a temperature rise of the motor. Meanwhile, the motor is cooled by its own fan mounted on the shaft. However, the air volume of the fan decreases when the rotational speed is reduced, which causes a decrease in the cooling capacity of the motor. Accordingly, pay attention to the motor temperature when using the product at a low rotational speed.

Fig. 1 **Representative 4P models (frame size 225S or larger)**



Note 1) The above torque characteristics are based on operation in combination with Fuji inverters.
Note 2) The torque at 100% is the allowable torque [N･m] when each output is 60 Hz.

2. Starting characteristics

Unlike when using a commercial power supply, inverter driving is restricted by the inverter current. Generally, the starting torque is lower than when driven by a commercial power supply. This torque can be increased to some extent by adjusting the amount of torque boost in the V/F pattern. When an even higher starting torque is required, it is necessary to increase the capacity of the inverter and motor.

3. Noise

1) Generally, inverter driving involves higher electromagnetic noise than when using a commercial power supply because of the effect of the inverter. When used at a frequency higher than the commercial frequency, the ventilation sound increases as the rotational speed increases.
2) Please contact us for details of noise reduction measures, which include use of a low-noise inverter and provision of a noise-reduction reactor between the inverter and the motor.

4. Vibration

1) When the operation frequency for inverter driving is different from the commercial power frequency, resonance with the enclosure is generated at a certain rotational speed band, and this may result in a larger vibration. If this happens, measures such as improving the foundation of the motor installation or of the coupling may be required.
2) When used at a frequency higher than the commercial power frequency, vibration increases as the speed increases.

5. High-speed operation

When a motor is driven in a high-speed region of over 60 Hz, the bearing service life may be reduced for reasons such as increased vibration, which limits the maximum speed. In addition, noise, strength, service life, etc. may pose problems with power transmission mechanisms such as the coupling, belt, chain and gear. Please contact their respective manufacturers for details.

6. Surge voltage

When a 400-V-class motor is driven by a PWM inverter that uses a high-speed switching device such as an IGBT, surge voltage may be generated depending on the power voltage, cable length and installation condition. This surge voltage may cause the motor insulation to deteriorate. The maximum value for the motor terminal voltage is 1300 V line voltage. If a surge voltage exceeding this value is generated, reduce the surge voltage by fitting an AC reactor, surge suppression filter, etc. on the inverter output side.

7. Electrolytic corrosion of bearings

When an inverter is used to drive the motor, electrolytic corrosion may be developed on rare occasions depending on the bearing grease, wiring, load and operation conditions. If any measure to deal with electrolytic corrosion is required, please consult us in advance.

[Reference] JEM-TR 169
"Supplement to the application guide for low-voltage three-phase squirrel-cage induction motors for general purposes driven by inverters"

USE OF PREMIUM EFFICIENCY MOTORS

To achieve an energy-saving effect by improving the efficiency, which is the biggest feature of premium efficiency motors, it is necessary to study products from various perspectives including their selection, operation and maintenance.

- Motor characteristics (starting current, rotational speed, load factor)
- Motor installation environment (dimensions, mount)
- Peripheral devices (magnetic switch, thermal overload relay)

1. Starting current

Losses of various parts have been reduced as much as possible in order to improve the motor efficiency. For that purpose, the resistance of various parts (winding, rotor) has been reduced, which makes the starting current inclined to be higher than that of conventional standard efficiency motors.

2. Rotational speed

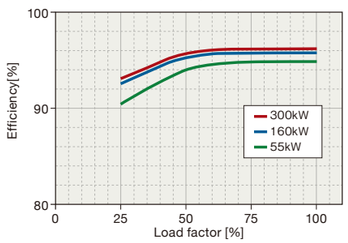
The generated loss of the motor is reduced as compared with conventional standard efficiency motors and the rotational speed is inclined to be slightly higher (slip is inclined to be smaller). For square reduction loads such as pumps and fans, attention must be paid because the power requirement may be increased in proportion to the increase of the rotational speed, leading to increased power consumption.

(*Square reduction load: load that varies in proportion to the square of the rotational speed)

3. Load factor and efficiency

As shown in Fig. 2, motor efficiency reaches its maximum at a load factor of approximately 75 to 100% The energy-saving effect can be maximized by selecting so that the motor load factor is between 75 and 100%. If the load factor is extremely low, the motor capacity must be reconsidered. If there is any load variation or rotational speed variation, you are recommended to fit an inverter for optimized control according to the rotational speed and load.

Fig. 2 **Graph representing the relationship between the load factor and efficiency (representative model)**



Note) Generally, a larger motor capacity offers higher motor efficiency.

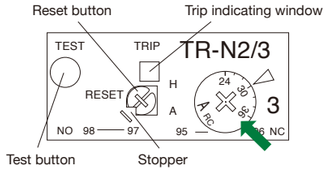
4. Motor peripheral devices

1) The peripheral devices may require reconsideration due to an increase of the magnetic switch, starter or motor starting current. When using devices from other manufacturers for replacement, please contact the respective manufacturers.

2) Thermal overload relay

As with Item 1, the setting of the thermal overload relay shown in Fig. 3 may require reconsideration due to an increase of the starting current.

Fig. 3 **Thermal overload relay setting**



5. Other

1) Motor mass

To improve efficiency, premium efficiency motors are inclined to be heavier than conventional standard efficiency motors. In particular, when using a motor installed on a moving object or with a mount that is not robust, take appropriate measures separately.

2) Notes on use

The descriptions in this catalog are intended to help the user select a model. In actual use, please read the "Instruction Manual" that comes with the motor carefully to ensure correct use.

3) Star-delta starting

For star-delta starting, be sure to install a model with a magnetic switch (3-contact type) on the primary side.

4) Outdoor type structure

The leg mounting type and flange mounting type have different waterproof structures. Please order a type that is appropriate for the mounting method. For use in an environment subject to explosive gas or dust, choose an explosion-proof type.

HOW TO ORDER

1. To place an order, please provide the following information.
For motors of other than the Fuji standard types, you will need to provide details of your requirements.

1	Voltage _____V Frequency: ☐ 50Hz, ☐ 60Hz, ☐ 50/60Hz Class of rating: ☐ S1 (Cont. MCR), ☐ _____ Ambient temperature at altitude up to 1000m: ☐ 40˚C, ☐ _____˚C,	
2	Rotor: ☐ Squirrel-cage Enclosure and Degree of protection: ☐ TEFC, IP55, ☐ TEFC, IP44, ☐ _____	
3	Quantity, required x Item No.	x
4	Application	
5	Output	kW
6	No. of poles/Syn. speed	/ min^{-1}
7	Mounting-Type of construction: IM B 3 (Horizon.), IM V 1 (Verti.)	B3 V1
8	Location-Installation	Indoor Outdoor
9	Insulation class	155(F)
10	Temperature rise limit of winding with resist. method [k]	"B" rise (80) "F" rise (105)
11	Starting method For Star-delta (人–△) starting: Load torque during run-up assumed as a quadratic function of speed	DOL 人–△
12	Terminal box: (1) ☐ Flexible leads, ☐ Fixed terminals, ☐ _____ (2) Cable entry opening: ☐ Hole, ☐ Pipe thread, ☐ _____ (3) External cable spec: No. of cables & cores, conductor mm^2, Overall dia/inner sheath dia (4) Location of box	☐ cable, ☐ core, ☐ mm^2 _____ / _____mm dia Left Right Top
13	Coupling method Belting data: Belt type-qty. Pulley PD-width [mm] and mass [kg] are required. When the motor's shaft extension is directly mounted on the shaft with the blower's impeller, please provide data of the impeller (including drawings showing size, mass and moment of inertia).	Direct con. single shaft ext.
14	Vertical mounting: Normal/Momentary design ext. thrust force in ☐ N	Down. Up
15	Bearings: Grease anti-friction	Yes
16	Accessories: ☐ Shaft ext. key	
17	Painting: ☐ Fuji std. practice	Yes
18	Characteristics ([1]): ☐ Fuji design	Yes
19	Permissible load ☐ J [$kg \cdot m^2$]	
20	Direction of rotation: seen from drive end of motor	CCW CW
21	Direction of rotation of motor fan	Bi(both) Uni(one)
22	Fuji motor type/Frame No.	/
23	Applicable standard	
24	Attached dwg No. for reference	
Remarks		

Note: ([1]) Guaranteed values are subject to tolerances per standards. There are no upper limits on tolerance for locked-rotor torque.
Remarks (1) Test: Characteristics are determined with the Equivalent circuit method. (2) Materials: Japanese standards. (3) Threads and dimensions: Metric.

2. When using the product for any of the following applications, please contact us in advance.

(1) Use on vital equipment*1 or equipment that may affect human safety and have a serious impact on the maintenance of public functions*2 requires special consideration.*3 Be sure to contact us in advance. Using the product without giving special consideration may lead to serious accidents.

(2) Notify us in advance when using the product for clean rooms, food processing machines, etc. Use of a standard product as it is without subjecting it to special treatment may result in a leakage of grease or oil through the joint between a bearing shield and frame or shaft penetration. Special consideration is required for use in an environment where oil should be avoided.

(3) Bearings are not subjected to treatment against electrolytic corrosion. If directly connected with the load, electrolytic corrosion may occur due to the shaft voltage. For use in applications that may involve electrolytic corrosion, measures such as use of isolation coupling are required.

*1: Operating room devices, life-support systems (artificial dialysis, incubators, etc.), toxic and other gas and smoke extraction systems, equipment made compulsory by various laws and regulations such as the Fire Service Act and Building Standards Act, various safety systems and other equivalent systems

*2: Systems for air, train, maritime and other traffic control and equipment to control such systems, systems for controlling nuclear power stations, communication control equipment and other equivalent systems

*3: Have adequate discussions with device designers on the installation, operation and management of the product and construction in advance with regards to a backup system available for use in the event of product failure

⚠ Notes on safety

[1] The descriptions in this catalog are intended for assisting with model selection. Before actual use, read the "Instruction Manual" carefully to ensure correct use.

[2] These products are not designed or manufactured for use in vital devices or systems.

When considering products mentioned in this material for special applications such as nuclear power control, aerospace, medical care or traffic devices or systems for these purposes, inquire our sales representative. For use in any equipment where failure of the products may lead to life-threatening consequences or serious damage, be sure to provide a safety system.

⚠ Notes on adoption of premium efficiency motors

Premium efficiency motors feature lower generated loss and generally have slightly higher rotational speeds than standard efficiency motors. If the load is a pump or blower and a standard efficiency motor is replaced with a premium efficiency motor, the rotational speed is increased, resulting in increased motor output. Despite the high motor efficiency, increased output may cause increased power consumption. The resistance (primary and secondary) has been lowered for reducing copper loss and the starting current is inclined to increase, which may require changing of the breaker.

Fuji Electric Co., Ltd.

Gate City Ohsaki, East Tower, 11-2,
Osaki 1-chome, Shinagawa-ku,
Tokyo 141-0032, Japan
Phone: +81-3-5435-7190 Fax: +81-3-5435-7475
URL: www.fujielectric.com/

2019-9(I19c/B16)SI1FOLS Printed in Japan