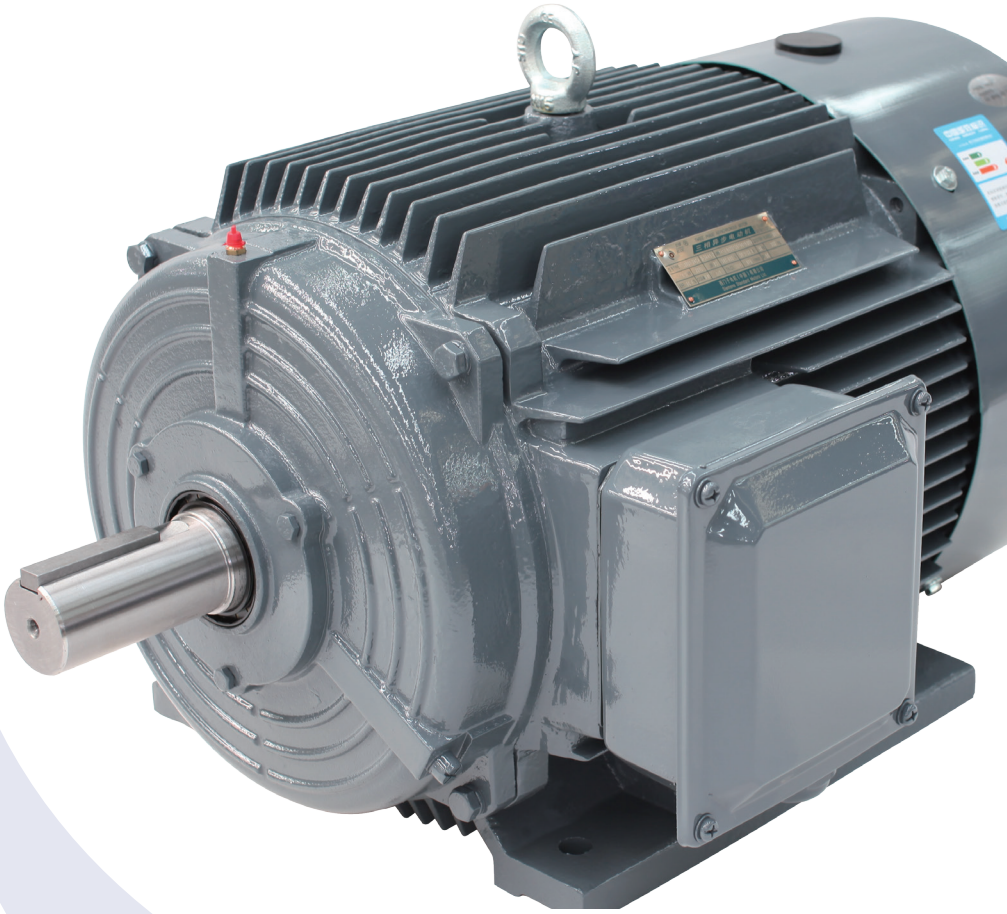
BEIDE

1TL0021 Low–voltage Three–phase Motor

Catalog



Siemens Standard Motor Ltd.

Company Profile

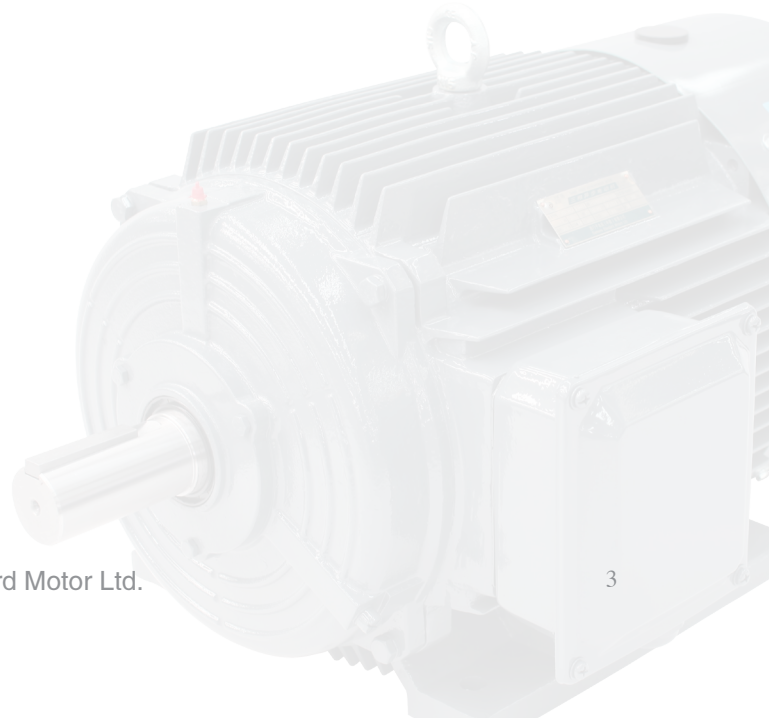
Siemens Standard Motors Ltd. (SSML)

Siemens Standard Motors Ltd. (SSML) is a Siemens-owned company in China. With an area of 200 acres, SSML is located in Yizheng City, Jiangsu Province. The company focuses on developing and producing small and medium low-voltage motors. Currently, SSML mainly produce Siemens brand low voltage AC motors according to IEC standards, and Beide brand low voltage motors designed according to China local standards.

As one of Siemens main low-voltage motor production facilities worldwide, SSML uses the knowledge and experience of more than 100 years in motor design and manufacturing, owns the advanced manufacture equipment and process, adopts the SIEMENS modern management model , and implements comprehensive quality control according to ISO9001 2008. SSML will continuously serve customers with high quality products and good service.

Quality Guideline

- Quality starts with me, Do it right in the first time.
- Encourage our employee to address problem openly and take responsibility.
- Refuse to accept defective product.
- Continuously improve our process to exceed customer's expectation.

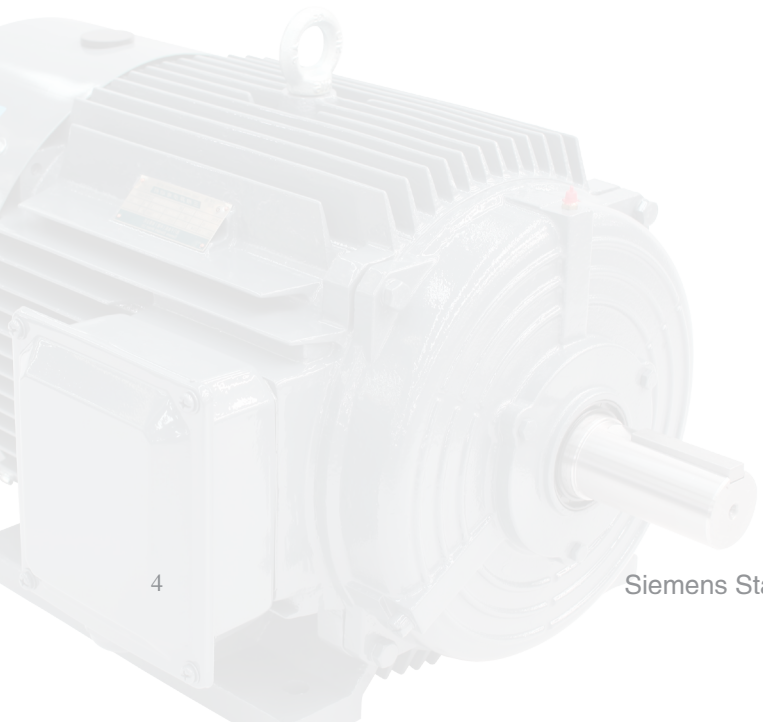


Company Profile

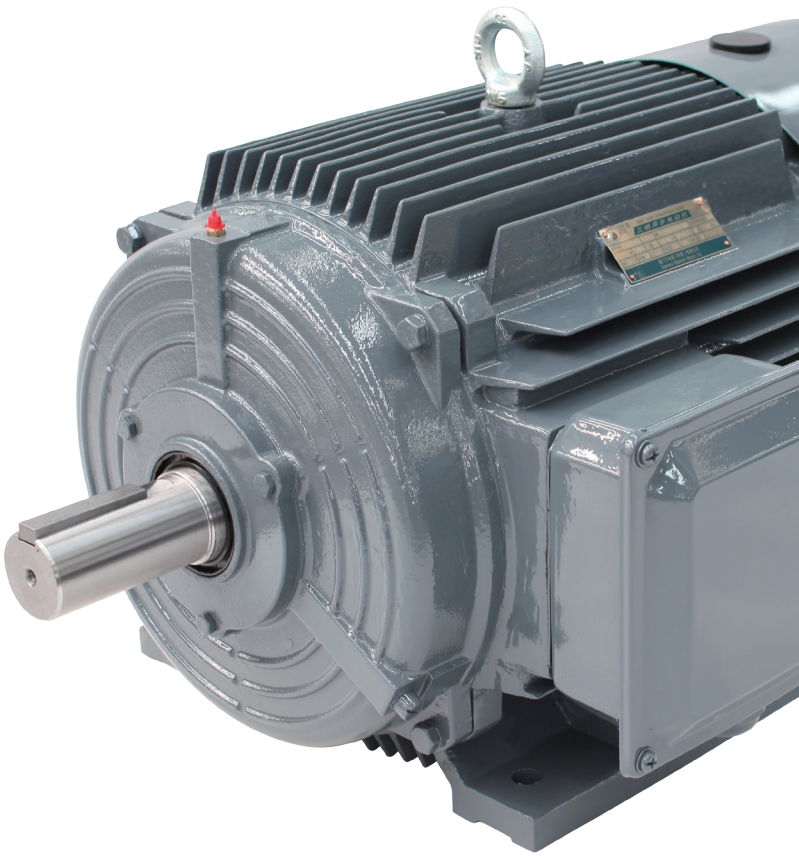
Environmental Guideline

EHS Policy of Siemens Standard Motors Ltd. is as follows:

- We institute and implement a continuously improving management system addressing our environment, occupational health and safety in compliance with the requirements of ISO14001:2004 and OHSAS18001:2007 criteria.
- We commit ourselves to abiding by the environmental, occupational health and safety laws and regulations, and fulfilling our duties in environmental protecting and occupational health safeguarding.
- We commit ourselves to the fulfillment of our social responsibility and obligation, properly harnessing resources, protecting our environment, enhancing occupational health and safety management with the ultimate goal of zero harm in our production process.



Contents



Overview

Rated output：0.55 ~ 315 kW

Frame size：80 ~ 355

Voltage and Frequency：support multiple voltage and frequency

Cooling method：IC411

Oiling device：FS180~355 motor as standard

Degree of protection：IP55

Degree of insulation：F

Coolant temperature：-15 ~ 40 ℃

Site altitude above see level：not exceed 1000 m

1TL0021 series of motors is the newly designed high efficiency low voltage three phase asynchronous motor, the housing material is cast iron, is designed for continuous duty operation(S1). 1TL0021 series of motors owns the features of high efficiency, novel structure, beautiful appearance, low noise, small vibration, high degree of insulation, etc, also can be used in the fields of fans, pump, compressors and textile machine.

By adopting the 1TL0021 series of motors, customer can save energy up to 10%, which contributes to upgrading the status of the industry and enhancing the competitive power of the products.

Construction and mounting type

Construction type	With feet and without flange on the end-shield (DE)					
Mounting type	IM B3 FS[3] 80 ~ 355	IM B6 FS 80 ~ 160	IM B7 FS80 ~ 160	IM B8 FS 80 ~ 160	IM V5 [1] FS 80 ~ 160	IM V6 [2] FS 80 ~ 160
Diagram						

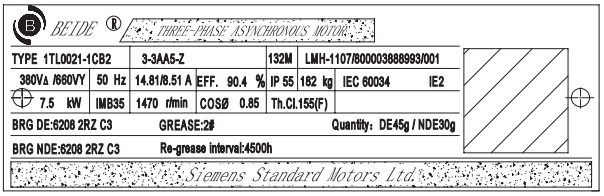
Construction type	Without feet and with flange on the end-shield (DE)			With feet and with flange on the end-shield (DE)		
Mounting type	IM B5 FS 80 ~ 280	IM V1 [1] FS 80 ~ 355	IM V3 [2] FS 80 ~ 160	IM B35 FS 80 ~ 355	IM V15 [1] FS 80 ~ 160	IM V35 [2] FS 80 ~ 160
Diagram						

Construction type	Without feet and with C-flange on the end-shield (DE)			With feet and with C-flange on the end-shield (DE)
Mounting type	IM B14 FS 80 ~ 112	IM V18 [1] FS 80 ~ 112	IM V19 [2] FS 80 ~ 112	IM B34 FS80 ~ 112
Diagram				

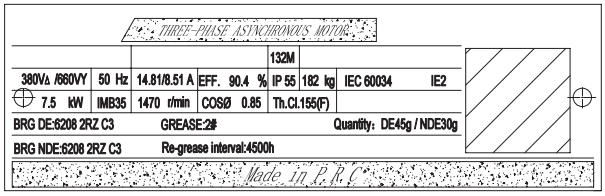
[1] At outdoor application, the using of protective cover (Option code H00) is recommended
[2] At out door application the protection of shaft again jet-water is recommended
[3] FS-frame size

Nameplate

1TL002_Beide brand nameplate



1TL002_Brand labeling nameplate



Bearing system

1TL0021 series motors are supplied with the ball bearing as standard. These bearings are either of the sealed or regreasable type.

For FS80 ~ 160, the floating bearings are assembled; for FS180 ~ 355, floating bearing at DE, and fixed bearing at NDE assembled.

The standard bearing can endure a maximum cantilever force, If higher cantilever force on the shaft required, the increased cantilever bearing design (Option code: L22) should be considered.

Bearing assignment

Frame size	Pole	Standard design			Increased cantilever-bearing (Option code:L22)		
		DE bearing	NDE bearing (Horizontal mounting)	NDE bearing (Vertical mounting)	DE bearing	NDE bearing (Horizontal mounting)	NDE bearing (Vertical mounting)
80	2, 4, 6	6204 2RZ C3	6204 2RZ C3	6204 2RZ C3	–	–	–
90	2, 4, 6	6205 2RZ C3	6205 2RZ C3	6205 2RZ C3	–	–	–
100	2, 4, 6	6206 2RZ C3	6206 2RZ C3	6206 2RZ C3	6306 2RZ C3	6206 2RZ C3	6206 2RZ C3
112	2, 4, 6	6206 2RZ C3	6206 2RZ C3	6206 2RZ C3	6306 2RZ C3	6206 2RZ C3	6206 2RZ C3
132	2, 4, 6, 8	6208 2RZ C3	6208 2RZ C3	6208 2RZ C3	6308 2RZ C3	6208 2RZ C3	6208 2RZ C3
160	2	6309 2RZ C3	6209 2RZ C3	6209 2RZ C3	–	–	–
	4, 6, 8						
180	2	6310 C3	6210 C3	6210 C3	NU310	6210 C3	6210 C3
	4, 6, 8						
200	2	6312 C3	6212 C3	6212 C3	NU312	6212 C3	6212 C3
	4, 6, 8						
225	2	6313 C3	6213 C3	6213 C3	NU313	6213 C3	6213 C3
	4, 6, 8						
250	2	6314 C3	6215 C3	7215 AC	NU314	6215 C3	O.R.
	4, 6, 8						
280	2, 4, 6, 8	6317 C3	6217 C3	7217 AC	NU317	6217 C3	O.R.
315	2	6319 C3	6317 C3	7317 AC	NU319	6317 C3	O.R.
	4, 6, 8	6319 C3	6319 C3	7319 AC		6319 C3	
355	2	6319 C3	6319 C3	7319 AC	NU319	6319 C3	O.R.
	4, 6, 8	6322 C3	6322 C3	7322 AC	NU322	6322 C3	O.R.

Note: DE Driven end
NDE Non driven end
– Not possible
O.R. Possible on request

Grease life and re-greasing interval

For permanent lubrication, the bearing grease lifetime is matched to the bearing lifetime. This can, however, only be achieved if the motor is operated in accordance with the catalog specifications.

For motors which can be regreased at defined regreasing intervals, the bearing lifetime can be extended and/or unfavorable factors such as temperature, mounting conditions, speed, bearing size and mechanical load can be compensated.

Grease life (Horizontal installation)

Frame size	Poles	Grease lifetime up to CT 40 ºC [1]
Grease for permanent lubrication bearing		
80 ~ 160	2, 4, 6, 8	20000 or 40000 [2]
Grease for regreasable bearing		
180 ~ 250	2	4000 (h)
180 ~ 250	4, 6, 8	8000 (h)
280 ~ 315	2	3000 (h)
280 ~ 315	4, 6, 8	5000 (h)
355	2	2000 (h)
355	4, 6, 8	4000 (h)

Note: [1] If the coolant temperature is increased by 10 K, the grease lifetime and regreasing interval are halved.
[2] 40000 h apply to horizontally installed motors with coupling output without additional axial loads.

- When motor runs beyond the rated speed, the increase of motor vibration will result in the extra radial and axial force on bearing. This will reduce the life of bearing;
- When the motor vibration increase due to the environment or other equipment, the bearing also will endure more radial and axial force. This also will reduce the life of bearing;
- If the coolant temperature is increased by 10 ºC, the grease lifetime and regreasing interval is halved.

Connection boxes technical data

Frame size	Contact screw thread	Outer cable diameter (sealing range)	Cable entry size
80 ~ 100	M4	10 ~ 14	M24 x 1.5
112 ~ 132	M5	13 ~ 18	M27 x 2 + M27 x 2
160 ~ 180	M5	18 ~ 25	M36 x 2 + M36 x 2
200 ~ 225	M8	22 ~ 32	M48 x 2 + M48 x 2
250	M10	37 ~ 44	M64 x 2 + M64 x 2
280	M10		
315	M12		
355	M16	45 ~ 52	M72 x 2 + M72 x 2

Vibration

1TL0021 rotors are dynamically balanced to severity grade A using a half key.

Table below contains the effective vibration values for unloaded motors.

Vibration rating	Frame size	56 ≤ FS ≤ 132	160 ≤ FS ≤ 280	280 < FS ≤ 315
A	Installation	Vibration speed (mm/s)	Vibration speed (mm/s)	Vibration speed (mm/s)
	Free mounting	1.6	2.2	2.8
	Rigid mounting	1.3	1.8	2.3

Anti-condensation heater

Motors whose windings are at risk of condensation due to the climatic conditions, e.g. inactive motors in humid atmospheres or motors that are subjected to widely fluctuating temperatures can be equipped with anti-condensation heaters (Option code: Q04),

2 auxiliary terminals in connection box are needed." Anti-condensation heaters must be switched off during operation. When motor shut down, the heaters must be switched on.

Electrical data of Anti-condensation heater

Frame size	Power（W）	Voltage（V）
80 ~ 90	20	220
100 ~ 112	30	220
132 ~ 160	40	220
180 ~ 200	50	220
225 ~ 280	60	220
315	80	220
355	100	220

Electrical design

Rated Output

1TL0021 motors rated output powers means that the motor runs under continuous duty S1 (IEC 60034 - 1) operation when operated at ambient temperature from -15 ºC to 40 ºC and at altitudes of up to 1000 m over sea.

Voltage and Frequency

IEC 60034-1 differentiates between Category A (combination of voltage deviation ± 5 % and frequency deviation ± 2 %) and Category B (combination of voltage deviation ± 10 % and frequency deviation +3 % / -5 %) for voltage and frequency fluctuations. The motors can supply their rated torque in both Category A and B. In Category A, the temperature rise is approximately 10 K higher than during normal operation.

Standard 60034 - 1	Category A	Category B
Voltage deviation	± 5 %	± 10 %
Frequency deviation	± 2 %	+3 % / -5 %
According to the standard, longer operation is not recommended for Category B.		

Tolerance for electrical data

■ Efficiency η at

Prated ≤ 150 kW: - 0.15 x (1 – η)

Prated > 150 kW: - 0.10 x (1 – η)

With η being a decimal number

■ Power factor - (1 – cos ϕ) / 6

Minimum absolute value: 0.02

Maximum absolute value: 0.07

■ Slip ± 20 % (for motors < 1 kW ± 30 % is admissible)

■ Locked-rotor current +20 %

■ Locked-rotor torque -15 % to +25 %

■ Breakdown torque -10 %

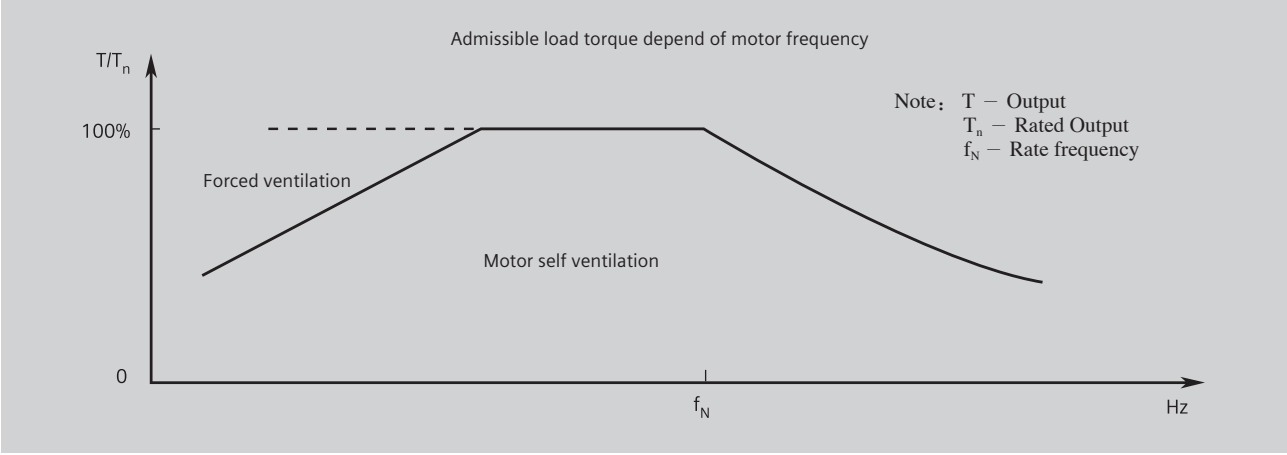
■ Moment of inertia ± 10 %

Converter fed application

1TL0021 motors are suitable for pumps, fans, compressors, texitle machine and mechanical machine applications where variable or constant speed is required.

The standard insulation of the 1TL0021 motors is designed such that operation is possible on the converter at mains voltage up to 460 V.

1TL0021 motors are capable for converter-fed operation with certain characteristics load, of which the load torque characteristics is referred in the following diagram:



In application where the motor is driven by a converter, the degree of electrical interference depends on the type of converter used (type, number of IGBTs, interference suppression measures, and manufacturer), cabling, distance and application requirements. The installation guidelines of the converter manufacturer with regards to electromagnetic compatibility must be considered at all times during the design and implementation phases.

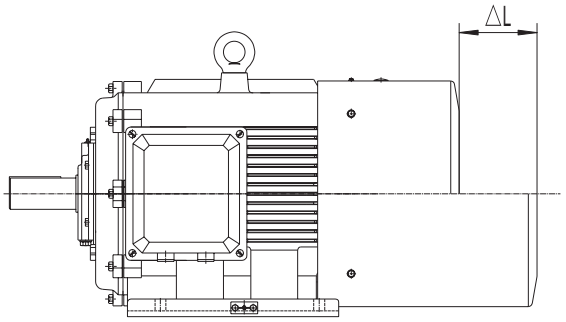
At rated output with converter fed operation, the motors will be used in temperature class 155 (F). To prevent damage as a result of bearing currents, insulated bearings are recommended to be assembled for frame size 250 and above. Please inquire Siemens about the detailed information of insulated bearing.

By usage with admissible torque and below, the motor can be operated with self cooling; by usage over the admissible torque line, the motor with forced ventilation is needed.

At operating speeds above rated speed the noise and vibration levels increase and the bearing life time reduce. Attention should be paid to the re-greasing intervals and the grease service life.

The allowed maximum safe operating speed of 1TL0021 motors shows the diagram

Frame size	2 pole		4 pole		6 pole		8 pole	
	Max.rpm	fmax	Max.rpm	fmax	Max.rpm	fmax	Max.rpm	fmax
80	5200	87	3600	120	2400	120	1800	120
90	5200	87	3600	120	2400	120	1800	120
100	5200	87	3600	120	2400	120	1800	120
112	5200	87	3600	120	2400	120	1800	120
132	4500	75	2700	90	2400	120	1800	120
160	4500	75	2700	90	2400	120	1800	120
180	4500	75	2700	90	2400	120	1800	120
200	4500	75	2300	77	1800	90	1400	93
225	3600	60	2300	77	1800	90	1400	93
250	3600	60	2300	77	1800	90	1400	93
280	3600	60	2300	77	1800	90	1400	93
315	3600	60	2300	77	1800	90	1400	93
355	3600	60	2300	77	1800	90	1400	93



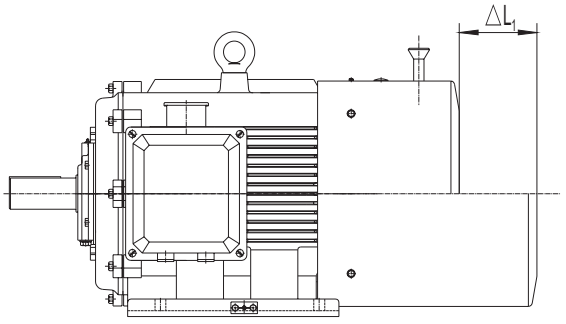
Technical data for separately fan

Motor frame size	rated voltage (V)	Rated frequency (Hz)	Rated output (W)	Current (A)	Speed (r/min)	ΔL
80	220D/380Y	50	30	0.14/0.08	2800	60
90		50	30	0.14/0.08	2800	75
100		50	52	0.21/0.12	2800	70
112		50	52	0.21/0.12	2800	80
132		50	45	0.35/0.2	1400	75
160		50	45	0.35/0.2	1400	45
180		50	120	1.04/0.6	1400	55
200		50	120	1.04/0.6	1400	60
225		50	120	1.04/0.6	1400	70
250		50	230	1.73/1.0	1400	65
280		50	230	1.73/1.0	1400	105
315		50	370	1.91/1.1	1250	95
355		50	550	2.18/1.26	1350	100

Note: The fan can be running with supply 210 ~ 240VD/360 ~ 420VY 50Hz, and also 220 ~ 260VD/380 ~ 480VY 60Hz. Other voltage supply, possible on request.

Electro-Magnetic Brake

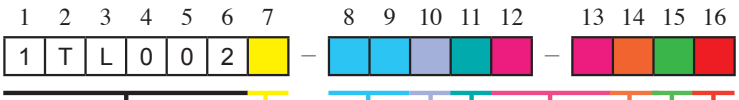
Disc type DC electro-magnetic brake can be attached to the 1TL0021 series of motors, the motors are suitable for all kinds of machines which require fast stop, accurate positioning and reciprocating operation.



The technical data for the brakes

Frame size	Static braking torque (Nm)	No-load braking time (s)	Brake voltage when switch is on the DC side (V)	Excitation power (W)	ΔL_1 (mm)
80	8	0.2	99	50	70
90	15	0.2	99	60	75
100	30	0.2	99	80	75
112	40	0.25	170	110	75
132	75	0.25	170	130	85
160	150	0.35	170	150	105
180	200	0.35	170	150	100
200	300	0.45	170	200	125
225	450	0.45	170	200	140

Order No.



Low-voltage motor series for export

1=Motors, High-Efficiency(EU eff1) GP IE2

Code of frame size

0D = 080; 0E = 090

1A = 100; 1B = 112; 1C = 132; 1D = 160; 1E = 180

2A = 200; 2B = 225; 2C = 250; 2D = 280

3A = 315; 3B = 355

Code of poles

A = 2 / B = 4 / C = 6 / D = 8

Code of iron core length

0, 1 = S; 2, 3 = M; 4, 5, 6, 7 = L

Code of voltage, connections and frequency

		04 = 400VD 50Hz
	22 = 230VD / 400VY 50Hz	35 = 415VD 50Hz
21 = 220VD / 380VY 50Hz	23 = 240VD / 415VY 50Hz	90[1] = special voltage&frequency
33 = 380VD / 660VY 50Hz	34 = 400VD / 690VY 50Hz	

Code of Construction and mounting type

	T[3] = IM B6		
A[2) 3)] = IM B3	U[3] = IM B7	W[3) 8)] = IM V15	M[3) 6) 7) 8)] = IM V18
J[3] = IM B35	V[3] = IM B8	Y[3] = IM V35	L[3) 6) 7)] = IM V19
F[3) 4) 6)] = IM B5	C[3) 8)] = IM V5	G[3) 6) 8)] = IM V1	N[3) 7)] = IM B34
K[3) 5) 6) 7)] = IM B14	D[3] = IM V6	H[3) 6)] = IM V3	

Code of winding protection

A = without winding protection

B[9] = 3 PTC thermistors for tripping

C[9] = 6 PTC thermistors for alarm and tripping

H[9] = 3 resistance thermometers Pt100

J[9] = 6 resistance thermometers Pt100

Z[10] = Other temperature for winding protection

Code of connection box location (view from drive end)

4 = on top; 5 = on RHS; 6 = on LHS

Foot note:

1) Order other voltages with voltage code 90 and the corresponding Option code (see under "Option") .

2) The types of construction IM B6/7/8(FS80~160), IM V6 and IM V5(FS80~160) without protective cover are also possible as long as no condensation drainage holes (Order code: H03) and no stamping of these types of construction on the rating plate are required. As standard, the type of construction IM B3 is then stamped on the rating plate.

3) The type of mounting construction is stamped on the rating plate.

4) The types of construction IM V1 and IM V3 without protective cover(FS80~160) are also possible as long as no condensation drainage holes and no stamping of these types of construction on the rating plate are required. As standard, the type of construction IM B5 is then stamped on the rating plate.

5) The types of construction IM V18 and IM V19 without protective cover are also possible as long as no condensation drainage holes (Order code: H03) and no stamping of these types of construction on the rating plate are required. As standard, the type of construction IM B14 is then stamped on the rating plate.

6) For motor with IM B5, IM V1, IM V3, IM B14, IM V18 and IM V19 construction and mounting type, the 16th digit of motor order No. must be "4";

7) Only for FS80 ~ 112.

8) Without canopy, for protective cover with canopy needed Option code H00.

9) Choose this option, the connection box will be changed to cast iron.

10) Please specially consult with Siemens.

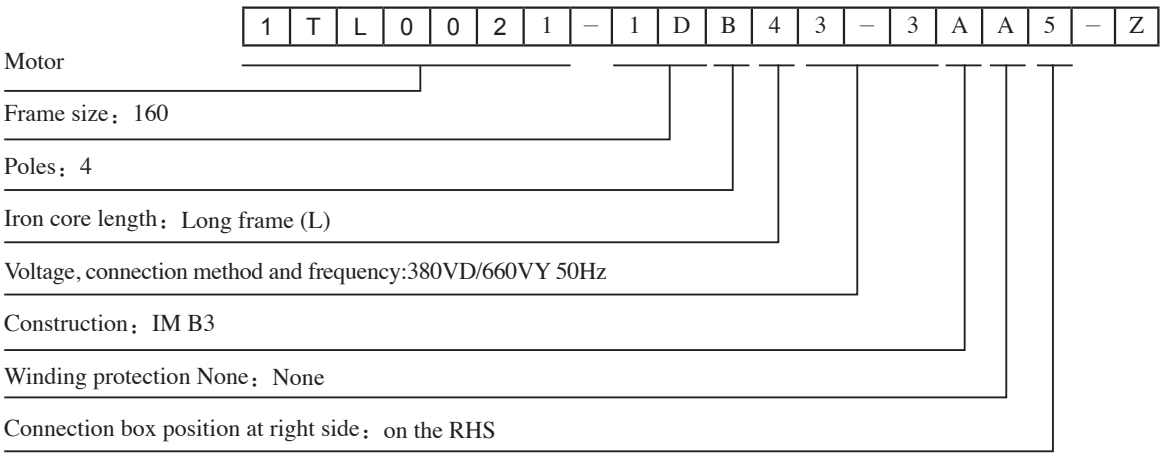
Order No. example:

Low voltage three phase asynchronous motor

4-pole, 15 kW, IM B3, 380VD/660VY 50 Hz, connection box at right side and cable entry at bottom (view from DE)

Motor order code: 1TL0021-1DB43-3AA5-Z

Motor order code introduction



Technical data table

Frame Size	Rate Output 50 Hz	Order No.	Rated Speed	Efficiency is in accordance with IE2 of IEC 60034-30				Rated torque	Starting current /Rated current	Starting torque/ Rated torque	Max torque / Rated torque	Moment of Inertia	IMB3 Weight	Noise
				(100%) Effeciency at (50 HZ) 4/4 load	(75%) Effeciency at (50 HZ) 3/4 load	Power factor	Rated current							
	kW		rpm	%	%		A	Nm	Direct start to rated torque (current) multiples			kgm²	kg	L_{pfA}
		3000rpm 2-pole												
		220VD / 380VY 50HZ												
80M	0.75	1TL0021-0DA22-1 □□□	2795	77.4	78.5	0.84	1.75	2.6	5.6	2.4	2.4	0.00080	13.5	53
80M	1.1	1TL0021-0DA32-1 □□□	2835	79.6	80.6	0.84	2.50	3.7	6	2.8	3.2	0.0012	15.0	53
90S	1.5	1TL0021-0EA02-1 □□□	2890	81.3	81.7	0.84	3.35	5.0	6.5	2.4	3.1	0.0021	19.0	60
90L	2.2	1TL0021-0EA42-1 □□□	2890	83.2	83.7	0.85	4.75	7.3	7.2	2.6	3.5	0.0026	23	60
100L	3	1TL0021-1AA42-1 □□□	2885	84.6	85.1	0.84	6.4	9.9	7.5	4	4.5	0.0036	30	62
		3000rpm 2-pole												
		380VD / 660VY 50HZ												
112M	4	1TL0021-1BA23-3 □□□	2930	85.8	86.6	0.86	8.2	13.0	7.5	2.2	2.9	0.0064	37	63
132S	5.5	1TL0021-1CA03-3 □□□	2930	87	87.6	0.87	11.0	17.9	7.5	2.2	2.9	0.014	54	69
132S	7.5	1TL0021-1CA13-3 □□□	2930	88.1	88.8	0.89	14.5	24.4	7.5	2.3	2.9	0.017	59	69
160M	11	1TL0021-1DA23-3 □□□	2935	89.4	90.1	0.86	21.5	35.8	7.5	2.2	2.9	0.031	93	71
160M	15	1TL0021-1DA33-3 □□□	2935	90.3	91	0.86	29.5	48.8	7.5	2.4	3.2	0.038	103	71
160L	18.5	1TL0021-1DA43-3 □□□	2935	90.9	91.7	0.89	34.5	60.2	7.5	2.4	3.2	0.046	118	71
180M	22	1TL0021-1EA23-3 □□□	2935	91.3	91.8	0.87	42.0	71.6	7.6	2.5	3.2	0.072	151	72
200L	30	1TL0021-2AA43-3 □□□	2955	92	92.3	0.86	58	97.0	7.5	2.5	3.2	0.13	215	74
200L	37	1TL0021-2AA53-3 □□□	2955	92.5	92.8	0.88	69	119.6	7.5	2.5	3.2	0.15	240	74
225M	45	1TL0021-2BA23-3 □□□	2965	92.9	93.1	0.88	84	144.9	7.9	2.5	3.1	0.24	277	75
250M	55	1TL0021-2CA23-3 □□□	2970	93.2	93.2	0.88	102	176.9	7.5	2.5	3	0.42	309	75
280S	75	1TL0021-2DA03-3 □□□	2975	93.8	93.8	0.87	140	240.8	7.5	2.8	3	0.75	470	77
280M	90	1TL0021-2DA23-3 □□□	2978	94.1	94.1	0.87	167	288.6	7.5	3	3.1	0.88	520	77
315S	110	1TL0021-3AA03-3 □□□	2982	94.3	94.3	0.90	197	352.3	7.5	2.2	2.6	1.4	750	81
315M	132	1TL0021-3AA23-3 □□□	2982	94.6	94.6	0.91	235	422.7	7.5	2.3	2.9	1.7	905	81
315L	160	1TL0021-3AA53-3 □□□	2982	94.8	95.1	0.92	280	512.4	7.5	2.5	2.8	1.9	945	81
315L	185	1TL0021-3AA63-3 □□□	2982	95	95.3	0.92	320	592.5	7.5	2.5	2.8	2.3	1060	81
315L	200	1TL0021-3AA73-3 □□□	2982	95	95.3	0.92	350	640.5	7.5	2.5	2.8	2.3	1070	81
355M	220	1TL0021-3BA23-3 □□□	2985	95.0	94.7	0.90	390	704	7.0	2.0	2.6	2.5	1400	86
355M	250	1TL0021-3BA33-3 □□□	2985	95.0	94.7	0.90	445	800	7.4	2.3	2.8	2.7	1460	86
355L	280	1TL0021-3BA53-3 □□□	2985	95.0	95.1	0.91	490	896	7.0	2.2	2.6	3.0	1540	88
355L	315	1TL0021-3BA63-3 □□□	2985	95.0	95.0	0.91	550	1008	7.4	2.5	2.8	3.3	1670	88

Note:

[1] About the code of other voltage and frequency, winding protection and connection box position, please refer to Orde No. in page 12.

[2] Noise value is only applicable to the direct power supply of the motor in 50Hz power supply and the condition of no-load operation, the tolerance is +3dB.

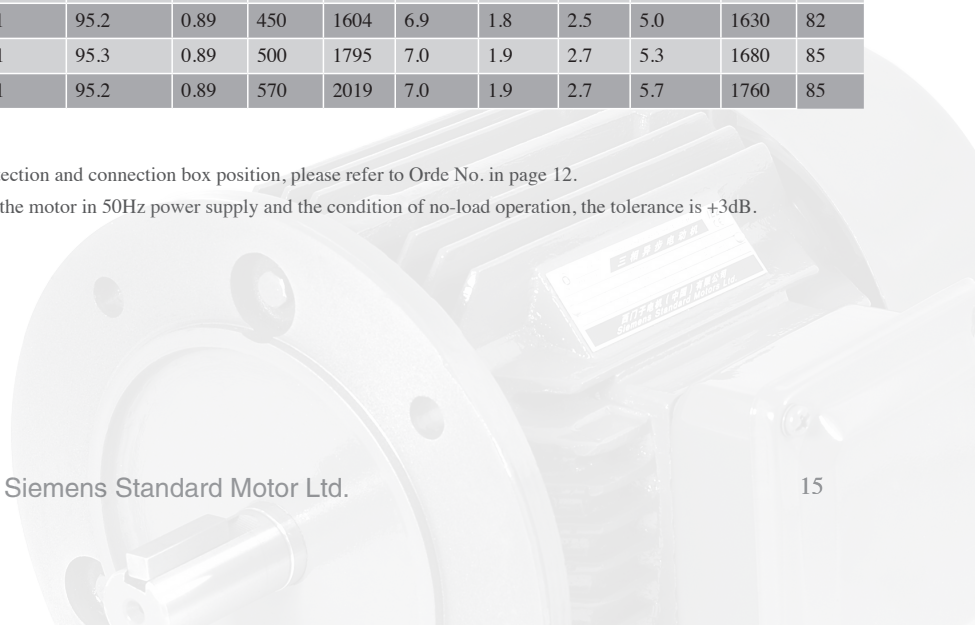
Technical data table

Frame Size	Rate Output 50 Hz	Order No.	Rated Speed	Efficiency is in accordance with IE2 of IEC 60034-30				Rated torque	Starting current /Rated current	Starting torque/ Rated torque	Max torque / Rated torque	Moment of Inertia	IMB3 Weight	Noise
				(100%) Effeciency at (50 HZ) 4/4 load	(75%) Effeciency at (50 HZ) 3/4 load	Power factor	Rated current							
	kW		rpm	%	%		A	Nm	Direct start to rated torque (current) multiples			kgm²	kg	L_{pfA}
		1500rpm 4 pole												
		220VD / 380VY 50HZ												
80M	0.55	1TL0021-0DB22-1 □□□	1425	74.0	74.7	0.8	1.40	3.7	6	2	2.7	0.0021	14.0	45
80M	0.75	1TL0021-0DB32-1 □□□	1440	79.6	79.6	0.75	1.90	5.0	6.5	2.8	3.5	0.0027	15.5	45
90S	1.1	1TL0021-0EB02-1 □□□	1440	81.4	81.4	0.75	2.75	7.3	7	2.8	3.5	0.0041	20	47
90L	1.5	1TL0021-0EB42-1 □□□	1435	82.8	82.8	0.76	3.60	9.9	7	3	3.8	0.0047	23	47
100L	2.2	1TL0021-1AB42-1 □□□	1435	84.3	85	0.79	5.0	14.6	7	3	3.2	0.0081	30	55
100L	3	1TL0021-1AB52-1 □□□	1435	85.5	86.3	0.79	6.7	20.0	7	3	3.2	0.010	33	55
		1500rpm 4 pole												
		380VD / 660VY 50HZ												
112M	4	1TL0021-1BB23-3 □□□	1445	86.6	87.1	0.79	8.9	26.4	7.1	2.7	3.1	0.011	42	55
132S	5.5	1TL0021-1CB03-3 □□□	1460	87.7	88.2	0.79	12.1	36.0	7.5	2.5	3.1	0.021	58	57
132M	7.5	1TL0021-1CB23-3 □□□	1460	88.7	89.4	0.82	15.7	49.1	7.7	2.7	3.2	0.029	72	57
160M	11	1TL0021-1DB23-3 □□□	1465	89.8	90.4	0.84	22.0	71.7	7.5	2.5	3.1	0.051	99	60
160L	15	1TL0021-1DB43-3 □□□	1465	90.6	91.3	0.85	29.5	97.8	7.8	2.7	3.2	0.066	120	60
180M	18.5	1TL0021-1EB23-3 □□□	1465	91.2	91.8	0.85	36.5	120.6	7.3	2.5	3.2	0.13	163	61
180L	22	1TL0021-1EB43-3 □□□	1465	91.6	92.3	0.85	43.0	143.4	7.3	2.4	3.2	0.14	182	64
200L	30	1TL0021-2AB43-3 □□□	1470	92.3	92.9	0.85	58	194.9	7.3	2.7	3.2	0.22	227	67
225S	37	1TL0021-2BB03-3 □□□	1475	92.7	93.2	0.86	71	239.6	7.3	2.7	3.2	0.45	262	67
225M	45	1TL0021-2BB23-3 □□□	1475	93.1	93.5	0.87	84	291.4	7.3	2.7	3.2	0.51	284	67
250M	55	1TL0021-2CB23-3 □□□	1480	93.5	93.9	0.86	104	354.9	7.5	3.1	3.5	0.80	330	68
280S	75	1TL0021-2DB03-3 □□□	1485	94	94.3	0.87	139	482.3	7.5	2.7	3.1	1.4	510	70
280M	90	1TL0021-2DB23-3 □□□	1485	94.2	94.3	0.87	167	578.8	7.5	2.7	3.1	1.5	555	70
315S	110	1TL0021-3AB03-3 □□□	1488	94.5	94.5	0.86	205	706.0	7.3	2.8	2.9	2.2	750	72
315M	132	1TL0021-3AB23-3 □□□	1486	94.7	94.7	0.88	240	848.3	7.3	2.5	2.7	2.5	880	72
315L	160	1TL0021-3AB53-3 □□□	1488	94.9	94.9	0.88	290	1026.9	7.4	3	2.9	3.0	965	72
315L	185	1TL0021-3AB63-3 □□□	1488	95.1	95.1	0.88	335	1187.3	7.4	3	3	3.6	1060	74
315L	200	1TL0021-3AB73-3 □□□	1488	95.1	95.1	0.88	365	1283.6	7.4	3	3	3.7	1080	74
355M	220	1TL0021-3BB23-3 □□□	1490	95.1	95.2	0.89	395	1411	6.9	1.7	2.5	4.9	1580	82
355M	250	1TL0021-3BB33-3 □□□	1490	95.1	95.2	0.89	450	1604	6.9	1.8	2.5	5.0	1630	82
355L	280	1TL0021-3BB53-3 □□□	1490	95.1	95.3	0.89	500	1795	7.0	1.9	2.7	5.3	1680	85
355L	315	1TL0021-3BB63-3 □□□	1490	95.1	95.2	0.89	570	2019	7.0	1.9	2.7	5.7	1760	85

Note:

[1] About the code of other voltage and frequency, winding protection and connection box position, please refer to Orde No. in page 12.

[2] Noise value is only applicable to the direct power supply of the motor in 50Hz power supply and the condition of no-load operation, the tolerance is +3dB.



Technical data table

Frame Size	Rate Output 50 Hz	Order No.	Rated Speed	Efficiency is in accordance with IE2 of IEC 60034-30				Rated torque	Starting current /Rated current	Starting torque/ Rated torque	Max torque / Rated torque	Moment of Inertia	IMB3 Weight	Noise
				(100%) Effeciency at (50 HZ) 4/4 load	(75%) Effeciency at (50 HZ) 3/4 load	Power factor	Rated current							
	kW		rpm	%	%		A	Nm	Direct start to rated torque (current) multiples			kgm²	kg	L_{pfA}
		1000rpm 6-pole												
		220VD / 380VY 50HZ												
80M	0.55	1TL0021-0DC32-1 □□□	895	71	72	0.76	1.55	5.9	4.5	2.3	2.3	0.0028	16	44
90S	0.75	1TL0021-0EC02-1 □□□	935	75.9	76.5	0.71	2.10	7.7	5	2.1	2.6	0.0038	20	48
90L	1.1	1TL0021-0EC42-1 □□□	945	78.1	78.1	0.71	3.00	11.1	5.5	2.4	2.8	0.0046	24	48
100L	1.5	1TL0021-1AC42-1 □□□	945	79.8	80.1	0.74	3.85	15.2	5.5	2.4	2.9	0.0086	31	54
112M	2.2	1TL0021-1BC22-1 □□□	950	81.8	82.5	0.73	5.6	22.1	5.5	2.6	3.3	0.012	41	54
132S	3	1TL0021-1CC02-1 □□□	960	83.3	84.3	0.73	7.5	29.8	6	2	2.2	0.019	54	56
		1000rpm 6-pole												
		380VD / 660VY 50HZ												
132M	4	1TL0021-1CC23-3 □□□	960	84.6	85.4	0.73	9.8	39.8	6.2	2.2	2.5	0.024	65	56
132M	5.5	1TL0021-1CC33-3 □□□	960	86	86.6	0.75	13.0	54.7	6.4	2.4	2.6	0.031	73	56
160M	7.5	1TL0021-1DC23-3 □□□	975	87.2	87.9	0.77	17.0	74.2	6.4	2.1	2.6	0.056	103	61
160L	11	1TL0021-1DC43-3 □□□	975	88.7	89.4	0.78	24.0	108.9	6.4	2.1	2.6	0.077	120	61
180L	15	1TL0021-1EC43-3 □□□	975	89.7	90.4	0.78	32.5	146.9	6.5	2.3	3	0.18	163	61
200L	18.5	1TL0021-2AC43-3 □□□	975	90.4	91	0.81	38.5	181.2	6.5	2.3	2.8	0.27	210	65
200L	22	1TL0021-2AC53-3 □□□	975	90.9	91.4	0.82	45.0	215.5	6.5	2.3	2.8	0.32	228	65
225M	30	1TL0021-2BC23-3 □□□	980	91.7	92.3	0.83	60	292.3	6.5	2.2	2.8	0.62	282	65
250M	37	1TL0021-2CC23-3 □□□	982	92.2	92.8	0.83	73	359.8	7	2.5	2.8	0.91	332	65
280S	45	1TL0021-2DC03-3 □□□	985	92.7	93.3	0.85	87	436.3	7.5	2.5	2.8	1.2	437	65
280M	55	1TL0021-2DC23-3 □□□	986	93.1	93.7	0.85	106	532.7	7.5	2.5	2,8	1.5	485	65
315S	75	1TL0021-3AC03-3 □□□	986	93.7	94.3	0.85	143	726.4	7.3	2.3	2.8	2.3	690	66
315M	90	1TL0021-3AC23-3 □□□	986	94	94.5	0.85	171	871.7	7.3	2.3	2.8	2.8	830	66
315L	110	1TL0021-3AC53-3 □□□	988	94.3	94.7	0.86	205	1063.3	7.5	2.4	2.8	3.9	965	68
315L	132	1TL0021-3AC63-3 □□□	988	94.6	95	0.86	245	1275.9	7.5	2.5	3	4.3	1010	68
355M	160	1TL0021-3BC23-3 □□□	991	94.8	95.4	0.87	295	1542	7.0	2.4	2.2	8.9	1610	72
355M	185	1TL0021-3BC33-3 □□□	991	95.0	95.5	0.87	340	1783	7.1	2.6	2.6	9.4	1750	72
355M	200	1TL0021-3BC43-3 □□□	991	95.0	95.5	0.87	370	1930	7.1	2.6	2.6	10.5	1750	75
355L	220	1TL0021-3BC53-3 □□□	991	95.0	95.5	0.87	405	2121	7.6	2.6	2.6	11.5	1850	75
355L	250	1TL0021-3BC63-3 □□□	992	95.0	95.4	0.87	460	2408	7.8	2.8	2.7	12.9	1930	75

Note:

[1] About the code of other voltage and frequency, winding protection and connection box position, please refer to Orde No. in page 12.

[2] Noise value is only applicable to the direct power supply of the motor in 50Hz power supply and the condition of no-load operation, the tolerance is +3dB.

Technical data table

Frame Size	Rate Output 50 Hz	Order No.	Rated Speed	Efficiency is in accordance with IE2 of IEC 60034-30				Rated torque	Starting current /Rated current	Starting torque/ Rated torque	Max torque / Rated torque	Moment of Inertia	IMB3 Weight	Noise
				(100%) Effeciency at (50 HZ) 4/4 load	(75%) Effeciency at (50 HZ) 3/4 load	Power factor	Rated current							
	kW		rpm	%	%		A	Nm	Direct start to rated torque (current) multiples			kgm²	kg	L_{pfA}
		750rpm 8-pole												
		220VD/380VY 50HZ												
132S	2.2	1TL0021-1CD02-1 □□□	700	79.3	80.0	0.70	6.0	29.2	4.6	1.9	3	0.022	72	51
132M	3	1TL0021-1CD22-1 □□□	700	81.2	81.5	0.75	7.5	40	4.8	2	3	0.037	70	51
		750rpm 8-pole												
		380VD/660VY 50HZ												
160M	4	1TL0021-1DD23-3 □□□	730	82.8	83.0	0.66	11.1	52	4.9	1.8	2.8	0.051	105	55
160M	5.5	1TL0021-1DD33-3 □□□	720	84.5	84.8	0.68	14.5	73	4.6	1.5	2.0	0.051	103	55
160L	7.5	1TL0021-1DD43-3 □□□	725	86.0	86.2	0.67	19.8	99	5	1.7	2.3	0.067	127	55
180L	11	1TL0021-1ED43-3 □□□	715	87.7	88.0	0.75	25.5	147	5	2.1	2.6	0.20	163	59
200L	15	1TL0021-2AD53-3 □□□	715	88.9	89.0	0.78	33.0	200	6	2.3	2.9	0.35	233	60
225S	18.5	1TL0021-2BD03-3 □□□	729	89.7	90.0	0.77	42.0	240	6.6	2.4	3	0.48	246	63
225M	22	1TL0021-2BD23-3 □□□	728	90.3	90.6	0.79	48.0	290	7	2.7	2.8	0.56	286	63
250M	30	1TL0021-2CD23-3 □□□	732	91.3	91.5	0.81	64	390	6.3	2.2	2.7	0.94	330	59
280S	37	1TL0021-2DD03-3 □□□	736	91.9	92.0	0.78	79	480	6.5	2.5	2.7	1.2	427	59
280M	45	1TL0021-2DD23-3 □□□	738	92.4	92.5	0.79	94	582	6.3	2.2	2.7	1.5	485	59
315S	55	1TL0021-3AD03-3 □□□	740	92.9	93.0	0.81	112	710	6.2	2	2.9	2.1	665	69
315M	75	1TL0021-3AD23-3 □□□	738	93.5	94.0	0.81	151	970	6.7	2.2	2.5	2.6	845	69
315L	90	1TL0021-3AD53-3 □□□	738	93.9	94.5	0.83	175	1165	5.9	1.8	2.3	3.3	890	69
315L	110	1TL0021-3AD63-3 □□□	741	94.2	94.5	0.83	220	1418	7.1	2.3	3	4.2	1040	69
355M	132	1TL0021-3BD23-3 □□□	743	94.4	95.0	0.81	260	1699	7.1	2.2	2.4	8.2	1530	77
355M	160	1TL0021-3BD33-3 □□□	742	94.6	95.1	0.82	310	2059	7.1	2.2	2.4	9.6	1650	77
355L	185	1TL0021-3BD53-3 □□□	742	94.8	95.4	0.84	355	2382	7.1	2.0	2.1	11.4	1820	77
355L	200	1TL0021-3BD63-3 □□□	742	94.8	95.3	0.84	380	2576	7.4	2.0	2.1	12.7	1930	77

Note:

[1] About the code of other voltage and frequency, winding protection and connection box position, please refer to Orde No. in page 12.

[2] Noise value is only applicable to the direct power supply of the motor in 50Hz power supply and the condition of no-load operation, the tolerance is +3dB.

Options

Motor order code	Option Code[1]	Description	Application Scope
Voltages and frequency			
1TL0021- □□□□ 9-0 □□□ -Z	M2A[2]	220VD/380VY 60Hz，50Hz power output	FS80 ~ 355
	M2B[3]	380VD/660VY 60Hz，50Hz power output	FS80 ~ 355
	M2C[2]	440VY 60Hz，50Hz power output	FS80 ~ 355
	M2D[3]	440VD 60Hz，50Hz power output	FS80 ~ 355
	M2E[2]	460VY 60Hz，50Hz power output	FS80 ~ 355
	M2F[3]	460VD 60Hz，50Hz power output	FS80 ~ 355
Windings and insulation			
–	N01	Temperature class 155 (F), used according to 155 (F), with service factor (SF1.15)	FS80 ~ 355
–	N10	Temperature class 180（H）	FS80 ~ 355
–	Q04[4]	Anti-condensation heater for 220 VAC (spaces heater)	FS80 ~ 355
Motor connection box			
–	R10 [5]	Rotation of the connection box through 90º, entry from DE	FS80 ~ 355
–	R11 [6]	Rotation of the connection box through 90º, entry from NDE	FS80 ~ 355
–	R12	Rotation of the connection box through 180º	FS80 ~ 355
–	H04	External earthing	FS80 ~ 280
–	X07	Cast iron connection box	FS80 ~ 355
–	X47	Connection boxes of the motors include 2 self-locking cable gland	FS112 ~ 355
Bearings			
–	Q5A	Installation of 2PT100 screw-in resistance thermometers for bearing	FS180 ~ 355
–	L80	SKF Bearing	FS80 ~ 355
–	L81	NSK or FAG or ORS bearings	FS80 ~ 355
–	L20	Located bearing at DE	FS80 ~ 160
–	L22[7)10)]	Increased cantilever forces	FS100 ~ 355
Mechanical design and degrees of protection			
–	X17[8)9)]	Second standard shaft extension	FS80 ~ 355
–	L82[11)]	DE shaft with threaded hole	FS80 ~ 355

1) Order No. supplement Z with option code when ordering;
2) Only applicable to the motor whose power is 3kW and below;
3) Only applicable to the motor whose power is 3kW and above;
4) When choose these options, the connection boxes will be changed to cast iron shell;
5) Not applicable to the FS80~100 flange mounted motors, and can't be used with the option H08;
6) Not applicable to the outlet on top;
7) Not applicable to the FS160；
8) H00、F70 can't be used with this option;
9) Second standard shaft extension on NDE is shown in the dimension drawings;

Options

Motor order code	Option Code[1)]	Description	Application Scope
–	H00[12)]	Motor with protective cover	FS80 ~ 355
–	H03[13)]	Drainage holes	FS80 ~ 355
–	F90[14)]	Fan motor(no fan cover, NDE fully enclosed)	FS80 ~ 355
–	D03	Applicable to the motors that is used in the coolant temperature of -40ºC~+40ºC	FS80 ~ 355
–	X50[15)]	Install OMRON encoder (E6B2-CWZ6C-1024)and independent drive fan	FS80 ~ 355
–	F01	Install the electro-magnetic brake	FS80 ~ 225
–	W74 [16)]	Install the OMRON encoder(E6B2-CWZ1X-1024) and independent drive fan	FS80 ~ 355
–	F70[12)]	Motors with the independent drive fan	FS80 ~ 355
–	W03	Motor shaft DE with oil seal	FS80 ~ 132
Rating plate and test certificates			
–	B80	Acceptance test certificate 3.1 in accordance with EN 10204	FS80 ~ 355
Paint finish			
–	S01	Unpainted, only primed	FS80 ~ 355
–	W88	Design for TH, W, F1, WF1 and Sea air resistant	FS80 ~ 355
Packing			
–	B90	Packing(FS80~132 motors adopt the carton packaging, FS160~355 motors adopt the wooden cases packaging)	FS80 ~ 355

10) The flange of L22 are not full circle type in mounting type B5, B35, V1, V3, V15 and V35 for FS100~132. Please consult Siemens for the specific outline drawing;

11) Threaded hole size is shown in the DB size of the section of dimension drawings;

12) Unable to be used with the option X17;

13) Only applicable to the vertical mounting motors. For the construction type of IM B5 and IM B14, when choose this option, it is necessary to ensure the connection box is on top of the frame. For other construction types, please specially consult with SIEMENS.

14) When without the fans or the shells, the motor length will be decreased by Δ1. If it is necessary to output according to the nameplate power, the motor requires external cooling. Customers are supposed to adopt the right cooling method, without or wrong cooling methods will decrease the service life for the motors. even damage the motors;

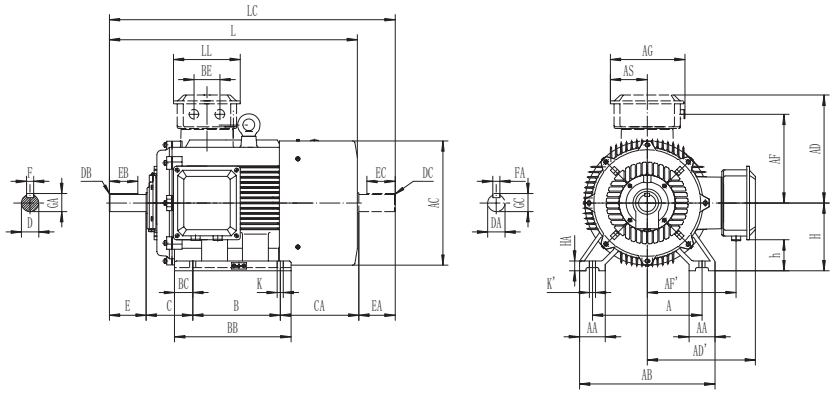
15) When the SINAMICS frequency converter is coupled with the Omron encoder(E6B2-CWZ6C), the frequency converter requires some special configuration. For more information, please consult the SIEMENS hotline;

16) SINAMICS frequency converter can be directly coupled with the Omron encoder(E6B2-CWZ1X).

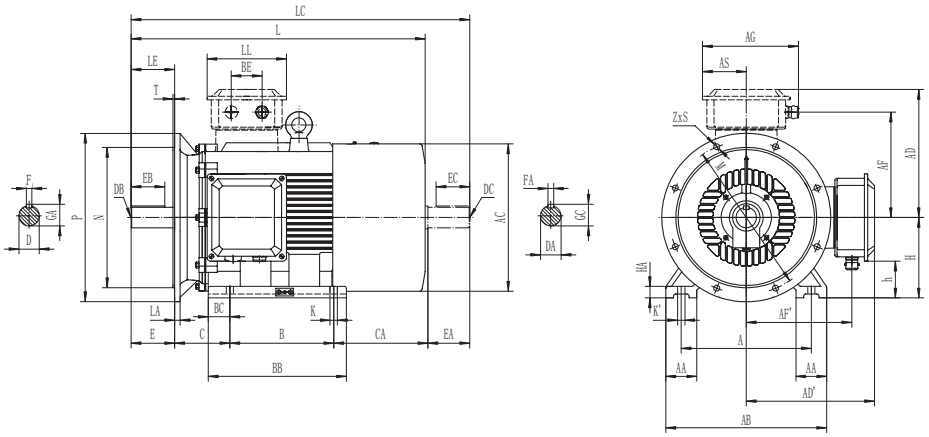
Dimension drawings

Cast-iron series 1TL0021
Frame sizes 80M TO 355L

Type of construction IM B3



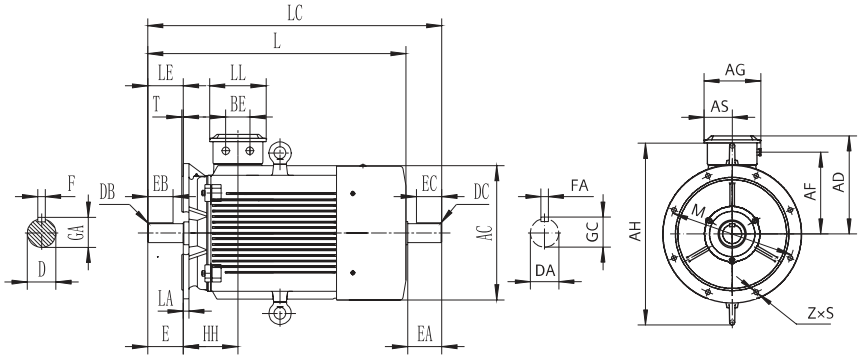
Type of construction IM B35



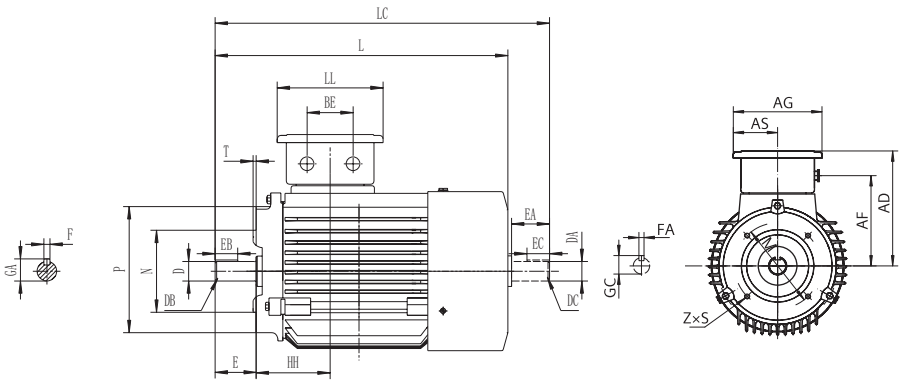
Frame size	Type 1TL0021-	Poles	Dimension designation according to IEC standards													
			A	AA	AB	AC[1)]	AD / AD'	AF / AF'	AG	AH	AS	B[2)]	BB	BC	BE	C
80 M	0D □ 2	2,4,6	125	34	160	164	140	111	120	–	52	100	130	15	-[3)]	50
	0D □ 3		125	34	160	164	140	111	120	–	52	100	130	15	-[3)]	50
90 S	0E □ 0	2, 4, 6	140	36	180	180	155	121	135	–	55	100	140	20	-[3)]	56
90 L	0E □ 4		140	36	180	180	155	121	135	–	55	125	165	20	-[3)]	56
100 L	1A □ 4	2, 4, 6	160	40	200	200	165	140	135	–	55	140	188	24	-[3)]	63
	1A □ 5	4	160	40	200	200	165	140	135	–	55	140	188	24	-[3)]	63
112 M	1B □ 2	2, 4, 6	190	45	226	225	188	152	150	–	64	140	180	20	42	70
132 S	1C □ 0	2, 4, 6, 8	216	55	262	265	203	175	150	–	64	140	186	23	42	89
	1C □ 1	2	216	55	262	265	203	175	150	–	64	140	186	23	42	89
132 M	1C □ 2	4, 6, 8	216	55	262	265	203	175	150	–	64	178	224	23	42	89
	1C □ 3	6	216	55	262	265	203	175	150	–	64	178	224	23	42	89
160 M	1D □ 2	2, 4, 6, 8	254	65	314	313	251	206	195	450	83	210	260	25	60	108
	1D □ 3	2, 8	254	65	314	313	251	206	195	450	83	210	260	25	60	108
160 L	1D □ 4	2, 4, 6, 8	254	65	314	313	251	206	195	450	83	254	304	25	60	108
180M	1E □ 2	2, 4	279	70	349	360	280	221	195	480	83	241	309	35	60	121
180L	1E □ 4	4, 6, 8	279	70	349	360	280	221	195	480	83	279	344	35	60	121
200L	2A □ 4	2, 6	318	70	388	405	310	248	255	530	107	305	379	32	72	133
	2A □ 5	2, 4, 6, 8	318	70	388	405	310	248	255	530	107	305	379	32	72	133
225S	2B □ 0	4, 8	356	75	431	440	325	274	255	550	107	286	366	45	72	149
225M	2B □ 2	2	356	75	431	440	325	274	255	550	107	311	391	45	72	149
		4, 6, 8														

[1)] Measurement dimensions for the screws;
[2)] he dimension corresponds to the dimension that listed in the DIN 50347 Standard ;

Type of construction IM B5 and IM V1



Type of construction IM B14



Dimension designation according to IEC standards																			
	CA[2)]	H	h	HA	HH	K / K'	L	LC	LL	D	DB[4)]	E	EB	F	GA	DA	EA	EC	FA	GC
	108	80	29	10	76	10	285	338	103	19	M6	40	22	6	21.5	19	40	22	6	21.5
	108	80	29	10	76	10	285	338	103	19	M6	40	22	6	21.5	19	40	22	6	21.5
	119	90	35	12	76	10	320	375	110	24	M8	50	32	8	27	24	50	32	8	27
	119	90	35	12	76	10	345	400	110	24	M8	50	32	8	27	24	50	32	8	27
	128	100	45	14	94	12	385	451	110	28	M10	60	40	8	31	28	60	40	8	31
	128	100	45	14	94	12	385	451	110	28	M10	60	40	8	31	28	60	40	8	31
	135	112	48	15	92	12	395	465	119	28	M10	60	40	8	31	28	60	40	8	31
	168	132	68	18	122	12	470	557	119	38	M12	80	56	10	41	38	80	56	10	41
	168	132	68	18	122	12	470	557	119	38	M12	80	56	10	41	38	80	56	10	41
	170	132	68	18	122	12	510	597	119	38	M12	80	56	10	41	38	80	56	10	41
	170	132	68	18	122	12	510	597	119	38	M12	80	56	10	41	38	80	56	10	41
	189	160	77	20	159	15	612	727	157	42	M16	110	80	12	45	42	110	80	12	45
	189	160	77	20	159	15	612	727	157	42	M16	110	80	12	45	42	110	80	12	45
	190	160	77	20	159	15	656	772	157	42	M16	110	80	12	45	42	110	80	12	45
	226	180	97	22	158	15	695	808	157	48	M16	110	80	14	51.5	48	110	80	14	51.5
	223	180	97	22	158	15	730	843	157	48	M16	110	80	14	51.5	48	110	80	14	51.5
	242	200	94	25	202	19	780	900	194	55	M20	110	80	16	59	55	110	80	16	59
	242	200	94	25	202	19	780	900	194	55	M20	110	80	16	59	55	110	80	16	59
	245	225	119	28	212	19	810	960	194	60	M20	140	100	18	64	60	140	100	18	64
	245	225	119	28	212	19	805	925	194	55	M20	110	80	16	59	55	110	80	16	59
							835	985		60		140	100	18	64	60	140	100	18	64

[3)] There is only one inlet hole in the FS80~100 motors.;
[4)] When the 1TL0021 motors are equipped with the L82 option, the thread hole size。

Dimension drawings

Cast-iron series 1TL0021

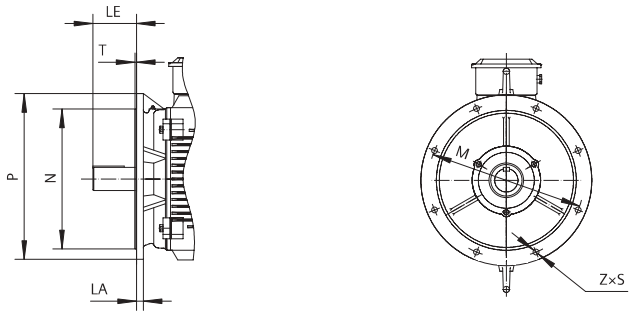
Frame sizes 80M to 355L

Frame size	Type 1TL0021-	Poles	Dimension designation according to IEC standards													
			A	AA	AB	AC[1)]	AD / AD'	AF / AF'	AG	AH	AS	B[2)]	BB	BC	BE	C
250M	2C □ 2	2 4, 6, 8	406	80	484	490	360	311	285	625	124	349	425	40	80	168
280S	2D □ 0	2 4, 6, 8	457	85	542	545	390	351	285	725	124	368	485	74	80	190
280M	2D □ 2	2 4, 6, 8	457	85	542	545	390	351	285	725	124	419	536	74	80	190
315S	3A □ 0	2 4, 6, 8	508	120	628	608	505	401	370	840	171	406	540	84	120	216
315M	3A □ 2	2 4, 6, 8	508	120	628	608	505	401	370	840	171	457/508	680	84	120	216
315L	3A □ 5/3A □ 6/ 3A □ 7	2 4, 6, 8	508	120	628	608	505	401	370	840	171	457/508	680	84	120	216
355M	3B □ 2	2 4, 6, 8	610	120	730	718	630	516	454	1032	181	560/630	750	68	125	254
	3B □ 3	2 4, 6, 8	610	120	730	718	630	516	454	1032	181	560/630	750	68	125	254
	3B □ 4	6	610	120	730	718	630	516	454	1032	181	560/630	750	68	125	254
355L	3B □ 5	2 4, 6, 8	610	120	730	718	630	516	454	1032	181	560/630	750	68	125	254
	3B □ 6	2 4, 6, 8	610	120	730	718	630	516	454	1032	181	560/630	750	68	125	254

[1)] Measurement dimensions for the screws;
[2)] The dimension corresponds to the dimension that listed in the DIN 50347 Standard;

The dimension corresponds to the dimension that listed in the DIN 50347 Standard

IM B5、IM B35、IM V1、IM V3 construction type



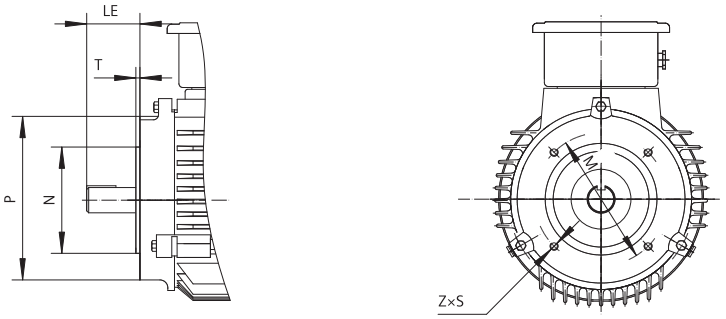
Frame size	Type of construction	Flange with through holes (FF/A) / tapped holes (FT/C)
		According to DIN EN 50347
80	IM B5, IM B35, IMV1, IM V3 IM B14, IM V18, IM V19	FF 165 FT 100
90	IM B5, IM B35, IMV1, IM V3 IM B14, IM V18, IM V19	FF 165 FT 115
100	IM B5, IM B35, IMV1, IM V3 IM B14, IM V18, IM V19	FF 215 FT 130
112	IM B5, IM B35, IMV1, IM V3 IM B14, IM V18, IM V19	FF 215 FT 130
132	IM B5, IM B35, IMV1, IM V3	FF 265
160	IM B5, IM B35, IMV1, IM V3	FF 300
180	IM B5, IM B35, IMV1, IM V3	FF 300
200	IM B5, IM B35, IMV1, IM V3	FF 350
225	IM B5, IM B35, IMV1, IM V3	FF 400
250	IM B5, IM B35, IMV1, IM V3	FF 500
280	IM B5, IM B35, IMV1, IM V3	FF 500
315	IM B5, IM B35, IMV1, IM V3	FF 600
355	IM B5, IM B35, IMV1, IM V3	FF 740

Dimension designation according to IEC standards																			
	CA[2)]	H	h	HA	HH	K / K'	L	LC	LL	D	DB[3)]	E	EB	F	GA	DA	EA	EC	FA	GC
	203	250	126	30	222	24/40	860	1005	224	60	M20	140	100	18	64	60	140	100	18	64
								1005		65					69	65				69
	282	280	156	35	262	24	970	1120	224	65	M20	140	100	18	69	65	140	100	18	69
										75				20	79	75			20	79
	281	280	156	35	262	24	1020	1170	224	65	M20	140	100	18	69	65	140	100	18	69
										75				20	79	75			20	79
	370	315	155	45	291	28	1120	1272	280	65	M20	140	100	18	69	65	140	100	18	69
							1150	1332		80		170	130	22	85	80	170	130	22	85
	499/448	315	155	45	291	28	1300	1452	280	65	M20	140	100	18	69	65	140	100	18	69
							1330	1512		80		170	130	22	85	80	170	130	22	85
	499/448	315	155	45	291	28	1300	1452	280	65	M20	140	100	18	69	65	140	100	18	69
							1330	1512		80		170	130	22	85	80	170	130	22	85
	548/478	355	136	53	281	28	1490	1642	400	75	M20	140	125	20	79.5	75	140	125	20	79.5
							1520	1702		95	M24	170	140	25	100	95	170	140	25	100
	548/478	355	136	53	281	28	1490	1642	400	75	M20	140	125	20	79.5	75	140	125	20	79.5
							1520	1702		95	M24	170	140	25	100	95	170	140	25	100
	548/478	355	136	53	281	28	1520	1702	400	95	M24	170	140	25	100	95	170	140	25	100
	548/478	355	136	53	281	28	1490	1642	400	75	M20	140	125	20	79.5	75	140	125	20	79.5
							1520	1702		95	M24	170	140	25	100	95	170	140	25	100
	548/478	355	136	53	281	28	1490	1642	400	75	M20	140	125	20	79.5	75	140	125	20	79.5
							1520	1702		95	M24	170	140	25	100	95	170	140	25	100

[3)] When the 1TL0021 motors are equipped with the L82 option, the thread hole size。

Flange dimension

IM B14、IM V18、IM V19 construction type



	Dimension designation basis							
	LA	LE	M	N	P	S	T	Z
	12	40	165	130	200	12	3.5	4
	–	40	100	80	120	M 6	3	4
	12	50	165	130	200	12	3.5	4
	–	50	115	95	140	M 8	3	4
	13	60	215	180	250	14.5	4	4
	–	60	130	110	160	M 8	3.5	4
	14	60	215	180	250	14.5	4	4
	–	60	130	110	160	M 8	3.5	4
	14	80	265	230	300	14.5	4	4
	14	110	300	250	350	18.5	5	4
	15	110	300	250	350	18.5	5	4
	17	110	350	300	400	18.5	5	4
	20	110 / 140	400	350	450	18.5	5	8
	22	140	500	450	550	18.5	5	8
	22	140	500	450	550	18.5	5	8
	22	140 / 170	600	550	660	24	6	8
	25	140 / 170	740	680	800	24	6	8

Certificates

ENVIRONMENTAL MANAGEMENT SYSTEM CERTIFICATE

Certificate No. 00117E32695R3L/3200

We hereby certify that

Siemens Standard Motors Ltd.

No.99, Zhongxin Road, Yizheng City, Jiangsu Province, P.R.C.

by reason of its

Environmental Management System

has been awarded this certificate for compliance with the standard

GB/T 24001-2016 / ISO 14001:2015

The Environmental Management System Applies in the following area:

Design, Production and Related Management Activities of Motors

Certified since: September 17, 2010 Valid from: September 26, 2017 Valid until: September 16, 2020

the expiry date of last certification cycle: September 16, 2017 the date of recertification audit: September 5, 2017 to September 6, 2017

After a surveillance cycle, the certificate is valid only when used together with an Acceptance Notice of Surveillance Audit issued by CQC.
Please access www.cqc.com.cn for checking validity of the certificate.

CHINA QUALITY CERTIFICATION CENTRE

Section 9, No.188, Nansihuan(the South Fourth Ring Road) Xi'an(West Road), Beijing 100070,China
http://www.cqc.com.cn

E 0020437

2015年版

QUALITY MANAGEMENT SYSTEM CERTIFICATE

Certificate No. 00118Q37058R5L/3200

We hereby certify that

Siemens Standard Motors Ltd.

Unified Social Credit Code: 91321061783725234

No.99, Zhongxin Road, Yizheng City, Jiangsu Province, P.R.C

by reason of its

Quality Management System

has been awarded this certificate for compliance with the standard

GB/T 19001-2016 / ISO 9001:2015

The Quality Management System Applies in the following area:

Design, Production of Three-Phase Asynchronous Motor (H63-H355); Production of AC Permanent Magnetic Servo Motor (H20-H90); Production of Three-Phase AC Spindle Motor (H100-H132)

Certified since: April 29, 2003 Valid from: July 18, 2018 Valid until: July 9, 2021

the expiry date of last certification cycle: July 9, 2018 the date of recertification audit: July 3, 2018 to July 4, 2018
After a surveillance cycle, the certificate is valid only when used together with an Acceptance Notice of Surveillance Audit issued by CQC.
Please access www.cqc.com.cn for checking validity of the certificate.
This certificate and its relevant information can query in the website of Certification and Accreditation Administration of the People's Republic of China (www.cnca.gov.cn).

CHINA QUALITY CERTIFICATION CENTRE

Section 9, No.188, Nansihuan(the South Fourth Ring Road) Xi'an(West Road), Beijing 100070,China
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