



Low-voltage motors up to 315kW



# 1LG0 Low-voltage Motors

Answers for industry.

**SIEMENS**



# Low-voltage squirrel-cage motors

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# Motor standard

## Standards

The motors comply with Siemens general standard Q/321081KYA04-2006 and standards in the following table.

| Title                                                                      | DIN / VDE / EN             | IEC standard               | GB standard                  |
|----------------------------------------------------------------------------|----------------------------|----------------------------|------------------------------|
| General regulations for rotation electrical machines                       | DIN EN 60 034-1            | IEC 60 034-1<br>IEC 60 085 | GB 755-2000                  |
| AC induction motors for general use with standardized dimensions and power | DIN EN 50 347              | IEC 60 072                 | GB/T 4772.1-1999<br>Part one |
| Restart characteristic of rotation electrical machines                     | DIN EN 60 034-12           | IEC 60 034-12              | JB/T 8158-1999               |
| Terminal markings and direction rotation of rotating electrical machines   | DIN VDE 0530<br>Part eight | IEC 60 034-8               | GB1971-2006                  |
| Type of construction and installation                                      | DIN EN 60 034-7            | IEC 60 034-7               | GB/T 997-2003                |
| IEC standard voltage                                                       | DIN IEC 60 038             | IEC 60 038                 | GB/T 156-2007                |
| Cooling methods for rotation electrical machines                           | DIN EN 60 034-6            | IEC 60 034-6               | GB/T 1993-1993               |
| Mechanical vibrations of rotating electrical machines                      | DIN EN 60 034-14           | IEC 60 034-14              | GB 100068-2000               |
| Degrees of protection for rotating                                         | DIN EN 60 034-5            | IEC 60 034-5               | GB/T 4942.1-2006             |

# General information



## Mechanical design

- **Flexible terminal box mounting**

Terminal boxes are mounted in basic design on top of the motor. The terminal boxes can be turned 4 x 90° to allow cable entry from each direction. Different cable entry directions and terminal box positions can be offered as options. The double cable entries allow easy connection of thermal protections.

- **Innovated design**

The end shield on DE is equipped with circular ribs to expand surface area. Terminal box is cast iron for all frame sizes.

## High quality performance

- **High degrees of protection**

All the motors are designed for IP55, They are suitable for dusty or humid surroundings.

- **Class F insulation offers higher reliability and security**

Standard motors are designed for class F and used in class B

- **Excellent rotor processing technology**

After finishing, all rotors are protected with corrosion-resistant paint. Precise inspection system is applied to achieve high standard balancing result. Esso Unirex N3 grease is used as standard bearing lubricant that ensures longer bearing lifetime.

- **Choose higher capability bearing and grease**

Choose Esso Unirex N3 grease, assure long credible operation of the bearing.

## Conditions

- Altitude should be lower than 1000 m
- Ambient temperature -20°C ~+40°C
- Relative humidity

| Temperature     | Relative humidity |
|-----------------|-------------------|
| 20°C < T ≤30°C  | 95%               |
| 30°C < T ≤40°C  | 55%               |
| -20°C ≤ T ≤20°C | 100%              |

Note: Other requirements need to be consulted.

# Electrical features

## Voltage and frequency

All the motors can be supplied according to the following standard:

Rated voltage: 220V/380V, 380V/660V. Frequency: 50Hz

Rated voltage: 440V, Frequency: 60Hz. These standards comply with IEC 60038 of voltage deviation  $\pm 5\%$ . frequency deviation  $\pm 2\%$ .

## Rated output

The rated output refers to continuous duty according to IEC 60034-1 at a frequency of 50Hz, a coolant temperature (CT) of 40°C and a site altitude of up to 1000m above sea level.

If the actual operating conditions deviate from this class, the maximum output should be adjusted according to the following table.

## Application environment

Altitude above sea level ( ASL ) , in: m

Coolant temperature, in: °C

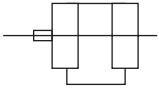
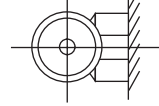
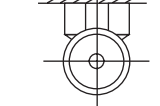
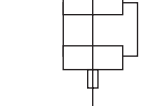
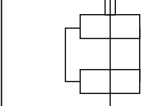
|      | <30  | 30-40 | 45   | 50   | 55   | 60   |
|------|------|-------|------|------|------|------|
| 1000 | 1.07 | 1.00  | 0.96 | 0.92 | 0.87 | 0.82 |
| 1500 | 1.04 | 0.97  | 0.93 | 0.89 | 0.84 | 0.79 |
| 2000 | 1.00 | 0.94  | 0.90 | 0.86 | 0.82 | 0.77 |
| 2500 | 0.96 | 0.90  | 0.86 | 0.83 | 0.78 | 0.74 |
| 3000 | 0.92 | 0.86  | 0.82 | 0.79 | 0.75 | 0.70 |
| 3500 | 0.88 | 0.82  | 0.79 | 0.75 | 0.71 | 0.67 |
| 4000 | 0.82 | 0.77  | 0.74 | 0.71 | 0.67 | 0.63 |

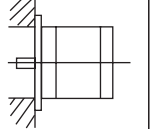
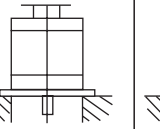
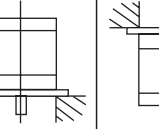
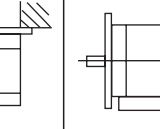
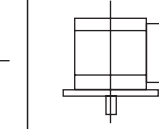
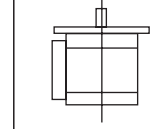
## Overload times

According to IEC60034, 1LG0 series motors are intended to withstand 1.5 times the rated current for 2 minutes at rated voltage and frequency.

# Mechanical design

## Mounting type

| Construction type | With feet and without flange on the end-shield                                    |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |
|-------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Mounting type     | IM B3<br>H80~H355                                                                 | IM B6<br>H80~H160                                                                 | IM B7<br>H80~H160                                                                 | IM B8<br>H80~H160                                                                  | IM V5<br>H80~H160                                                                   | IM V6<br>H80~H160                                                                   |
| Diagram           |  |  |  |  |  |  |

| Construction type | Without feet and with flange on the end-shield                                    |                                                                                   |                                                                                   | With feet and with flange on the end-shield                                        |                                                                                     |                                                                                     |
|-------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Mounting type     | IM B5<br>H80~H280                                                                 | IM V1 <sup>1)</sup><br>H80~H355                                                   |                                                                                   | IM V3<br>H80~H160                                                                  | IM B35<br>H80~H355                                                                  | IM V36<br>H80~H160                                                                  |
| Diagram           |  |  |  |  |  |  |

## Selection of bearings for 1LG0, basic design

| Type | Frame Size | Poles   | Drive-end bearing |                 | Non-drive-end bearing |                 |
|------|------------|---------|-------------------|-----------------|-----------------------|-----------------|
|      |            |         | Horizontal motors | Vertical motors | Horizontal motors     | Vertical motors |
| 1LG0 | 80         | 2, 4, 6 | 6204 2RZC3        |                 | 6204 2RZC3            |                 |
|      | 90         | 2, 4, 6 | 6205 2RZC3        |                 | 6205 2RZC3            |                 |
|      | 100        | 2, 4, 6 | 6206 2RZC3        |                 | 6206 2RZC3            |                 |
|      | 112        | 2, 4, 6 | 6206 2RZC3        |                 | 6206 2RZC3            |                 |
|      | 132        | 2, 4, 6 | 6208 2RZC3        |                 | 6208 2RZC3            |                 |
|      | 160        | 2       | 6209 2RZC3        |                 | 6209 2RZC3            |                 |
|      |            | 4, 6    | 6309 2RZC3        |                 | 6209 2RZC3            |                 |
|      | 180        | 2       | 6211 C3           |                 | 6211 C3               |                 |
|      |            | 4, 6    | 6311 C3           |                 | 6211 C3               |                 |
|      | 200        | 2       | 6312 C3           |                 | 6212 C3               |                 |
|      |            | 4, 6    | 6312 C3           |                 | 6212 C3               |                 |
|      | 225        | 2       | 6312 C3           |                 | 6312 C3               |                 |
|      |            | 4, 6    | 6313 C3           |                 | 6312 C3               |                 |
|      | 250        | 2       | 6313 C3           |                 | 6313 C3               | 7313            |
|      |            | 4, 6    | 6314 C3           |                 | 6313 C3               | 7313            |
|      | 280        | 2       | 6314 C3           |                 | 6314 C3               | 7314            |
|      |            | 4, 6    | 6317 C3           |                 | 6314 C3               | 7314            |
|      | 315        | 2       | 6317 C3           |                 | 6317 C3               | 7317            |
|      |            | 4, 6    | 6319 C3           |                 | 6319 C3               | 7319            |
|      | 355        | 2       | 6319 C3           |                 | 6319 C3               | 7319            |
|      |            | 4, 6    | 6322 C3           |                 | 6322 C3               | 7322            |

<sup>1)</sup> For IMV1 with canopy and without canopy, motor has different MLFB. Please find detailed information in page 12.

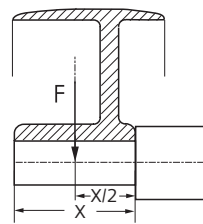
# Bearing and lubrication

## ▪ Bearing

| Frame Size | Poles | Bearing lifetime <sup>1)</sup>         |
|------------|-------|----------------------------------------|
| 80~355     | 2     | 20000 ( hours )                        |
|            | 4, 6  | 20000 or 40000 <sup>2)</sup> ( hours ) |

## ▪ Grease life and Relubrication interval for horizontal)

| Greasing type         | Frame Size            | Poles | Grease life <sup>3)</sup>                           |
|-----------------------|-----------------------|-------|-----------------------------------------------------|
| Permanent lubrication | 80~160                | 2     | 20000 hours                                         |
|                       |                       | 4, 6  | 20000 or 40000 hours <sup>2)</sup>                  |
| Greasing type         | Frame Size            | Poles | Relubrication interval Up to CT40 °C) <sup>3)</sup> |
| Regreasing            | 180~280 <sup>4)</sup> | 2     | 4000 hours                                          |
|                       |                       | 4, 6  | 8000 hours                                          |
|                       | 315                   | 2     | 3000 hours                                          |
|                       |                       | 4, 6  | 5000 hours                                          |
|                       | 355                   | 2     | 2000 hours                                          |
|                       |                       | 4, 6  | 4000 hours                                          |



## Radial force (F)

| Frame Size | Poles | Radial force, in: N |
|------------|-------|---------------------|
| 80         | 2     | 640                 |
|            | 4     | 800                 |
|            | 6     | 920                 |
| 90         | 2     | 700                 |
|            | 4     | 870                 |
|            | 6     | 1,000               |
| 100        | 2     | 970                 |
|            | 4     | 1,205               |
|            | 6     | 1,390               |
| 112        | 2     | 1,240               |
|            | 4     | 1,550               |
|            | 6     | 1,790               |
| 132        | 2     | 1,485               |
|            | 4     | 1,685               |
|            | 6     | 2,156               |
| 160        | 2     | 1,570               |
|            | 4     | 1,925               |
|            | 6     | 2,125               |
| 180        | 2     | 3,010               |
|            | 4     | 3,695               |
|            | 6     | 4,290               |

| Frame Size | Poles | Radial force, in: N |
|------------|-------|---------------------|
| 200        | 2     | 4,035               |
|            | 4     | 4,830               |
|            | 6     | 5,520               |
| 225        | 2     | 4,420               |
|            | 4     | 5,450               |
|            | 6     | 6,160               |
| 250        | 2     | 5,035               |
|            | 4     | 6,190               |
|            | 6     | 7,060               |
| 280        | 2     | 3,690               |
|            | 4     | 9,220               |
|            | 6     | 10,525              |
| 315        | 2     | 3950                |
|            | 4     | 9,900               |
|            | 6     | 12,109              |
| 355        | 2     | 6,500               |
|            | 4     | 10,400              |
|            | 6     | 12,500              |

<sup>1)</sup> Here, lifetime means that motor run under normal operation, maintained according to operating manual; the bearing lifetime will be reduced.

<sup>2)</sup> 40000h applies for horizontally installed motors with coupling output without additional axial loads.

<sup>3)</sup> If the coolant temperature is increased by 10K, the grease lifetime and regreasing interval are halved.

<sup>4)</sup> Standard 1LG0 motor with frame size 180~280 is not equipped with regreasing device. If regreasing device needed, please select regreasing device option (option code K40).

# Mechanical design

## Cooling and ventilation

Standard motors with frame sizes 80 to 355 are fitted with a radial-flow fan which functions independently of the direction of rotation ( cooling method IC411 to IEC60034-6 ) .

## Terminal box

| Type | Frame Size | Protection degree | Rotation of terminal box | Number of cable grand | Terminal box materia | Terminal bus | Max. cable size ( mm <sup>2</sup> ) | Cable entry size |
|------|------------|-------------------|--------------------------|-----------------------|----------------------|--------------|-------------------------------------|------------------|
| 1LG0 | 80         | IP55              | 4x90°                    | 2 hole                | Cast-iron            | M4           | 2.5                                 | M24x1.5+M16x1.5  |
|      | 90         | IP55              | 4x90°                    | 2 hole                | Cast-iron            | M5           | 2.5                                 | M24x1.5+M16x1.5  |
|      | 100        | IP55              | 4x90°                    | 2 hole                | Cast-iron            | M5           | 4                                   | M24x1.5+M16x1.5  |
|      | 112        | IP55              | 4x90°                    | 2 hole                | Cast-iron            | M5           | 4                                   | 2 - M32x1.5      |
|      | 132        | IP55              | 4x90°                    | 2 hole                | Cast-iron            | M5           | 6                                   | 2 - M32x1.5      |
|      | 160        | IP55              | 4x90°                    | 2 hole                | Cast-iron            | M6           | 16                                  | 2 - M36x2        |
|      | 180        | IP55              | 4x90°                    | 2 hole                | Cast-iron            | M6           | 16                                  | 2 - M36x2        |
|      | 200        | IP55              | 4x90°                    | 2 hole                | Cast-iron            | M8           | 25                                  | 2 - M48x2        |
|      | 225        | IP55              | 4x90°                    | 2 hole                | Cast-iron            | M8           | 35                                  | 2 - M48x2        |
|      | 250        | IP55              | 4x90°                    | 2 hole                | Cast-iron            | M10          | 120                                 | 2 - M64x2        |
|      | 280        | IP55              | 4x90°                    | 2 hole                | Cast-iron            | M10          | 120                                 | 2 - M64x2        |
|      | 315        | IP55              | 4x90°                    | 2 hole                | Cast-iron            | M16          | 240                                 | 2 - M64x2        |
|      | 355        | IP55              | 4x90°                    | 2 hole                | Cast-iron            | M20          | 400                                 | 2 - M72x2        |

The position of terminal box: on top , right or left can be chosen. (view from shaft extension end)

## Name plate information

- Rated voltage
- Rated frequency
- Rated output
- Rated speed
- Efficiency
- Power factor
- Connection type
- Protection degree
- Series number
- Motor type
- Balance
- Insulation level
- Weight

|                              |            |                    |                 |          |                    |
|------------------------------|------------|--------------------|-----------------|----------|--------------------|
| <b>SIEMENS</b>               |            | 3~Mot.             | 1LG0080-2AA20-Z | CE       | CCC s              |
| LMH                          |            | Q/321081KYA04-2006 |                 |          |                    |
| IP55 80M IMB3 14kg           |            | BRG DE             | 6204-2RZ C3     | BRG NDE  | 6204-2RZ C3 Thcl.F |
| 50Hz                         | 220/380V   | Δ/Y                | 60Hz            | 440V Y   |                    |
| 0.75kW                       | 3.13/1.81A |                    | 0.86kW          | 1.79A    |                    |
| EFF.76%                      | COSφ0.83   | 2845r/min          | EFF.76%         | COSφ0.83 | 3450r/min          |
| 210-230/360-400V             | Δ/Y        |                    | 420-460V Y      |          |                    |
| 3.02-3.31/1.74-1.93A         |            |                    | 1.71-1.87A      |          | (H)                |
| SIEMENS STANDARD MOTORS LTD. |            |                    |                 |          |                    |

|                              |            |                    |                 |          |                |
|------------------------------|------------|--------------------|-----------------|----------|----------------|
| <b>SIEMENS</b>               |            | 3~Mot.             | 1LG0183-2AA70-Z | EFF2     | CE             |
| LMH                          |            | Q/321081KYA04-2006 |                 |          |                |
| IP55 180M IMB3 165kg         |            | BRG DE             | 6211 C3         | BRG NDE  | 6211 C3 Thcl.F |
| 50HZ                         | 380/660V   | Δ/Y                | 60HZ            | 440V Δ   |                |
| 22kW                         | 41.3/23.8A |                    | 24.5kW          | 39.7A    |                |
| EFF.91.2%                    | COSφ0.89   | 2940r/min          | EFF.90%         | COSφ0.90 | 3540r/min      |
| 360-400/630-690V             | Δ/Y        |                    | 420-460V Δ      |          | (H)            |
| 39.1-43.5/22.7-24.8A         |            |                    | 38.0-41.6A      |          |                |
| SIEMENS STANDARD MOTORS LTD. |            |                    |                 |          |                |

# Mechanical design

## Noise

This value in the following table is the sound power levels applicable at 50Hz no load with a tolerance of +3dB.

Measuring-surface sound pressure level ( $L_{pA}$ )

Sound power level ( $L_{WA}$ )

| Output<br>( kW ) | synchronous speed ( r/min ) |              |              |
|------------------|-----------------------------|--------------|--------------|
|                  | $L_{pA}$ / LWA <dB ( A ) >  |              |              |
|                  | 3000 ( 2 极 )                | 1500 ( 4 极 ) | 1000 ( 6 极 ) |
| 0.55             | -                           | 47/58        | 42/54        |
| 0.75             | 56/67                       | 47/58        | 45/57        |
| 1.1              | 56/67                       | 49/61        | 45/57        |
| 1.5              | 60/72                       | 49/61        | 49/61        |
| 2.2              | 60/72                       | 52/64        | 53/65        |
| 3                | 64/76                       | 52/64        | 57/69        |
| 4                | 65/77                       | 53/65        | 57/69        |
| 5.5              | 68/80                       | 59/71        | 57/69        |
| 7.5              | 68/80                       | 59/71        | 61/73        |
| 11               | 73/86                       | 63/75        | 61/73        |
| 15               | 73/86                       | 63/75        | 61/73        |
| 18.5             | 73/86                       | 64/76        | 64/76        |
| 22               | 75/89                       | 64/76        | 64/76        |
| 30               | 78/92                       | 66/79        | 64/76        |
| 37               | 78/92                       | 68/81        | 66/78        |
| 45               | 78/92                       | 68/81        | 68/80        |
| 55               | 79/93                       | 70/83        | 68/80        |
| 75               | 80/94                       | 73/86        | 73/85        |
| 90               | 80/94                       | 73/86        | 73/85        |
| 110              | 82/96                       | 80/93        | 73/85        |
| 132              | 82/96                       | 80/93        | 73/85        |
| 160              | 85/99                       | 84/97        | 80/92        |
| 200              | 85/99                       | 84/97        | 80/92        |
| 220              | 89/103                      | 88/101       | 80/92        |
| 250              | 89/103                      | 88/101       |              |
| 280              | 89/103                      | 88/101       |              |
| 315              | 89/103                      | 88/101       |              |

## Vibration

All the rotors are dynamically balanced with half keys to vibration severity grade A (standard). The effective values of the vibration velocity of motors at no load should not exceed the values of class A specified in the following table.

| limits (rms values) for max.vibration.quantity of vibration speed (v) for the high H |                           | Frame Size H (mm) |             |             |
|--------------------------------------------------------------------------------------|---------------------------|-------------------|-------------|-------------|
| Vibration severity grade                                                             | Rated speed range ( rpm ) | 80 < H≤132        | 132 < H≤280 | 280 < H≤355 |
| A                                                                                    | 600~3600                  | 1.6               | 2.2         | 2.8         |

## Converter-fed operation

1LG0 motors are suitable for converter-fed operation with certain characteristics load, of which the load torque characteristics is referred in page 11. Some motors require special measures in special application. The planning notes for drives with a constant or square-law counter-torque are contained in the following Siemens A&D SD Inverter catalogues:

MICROMASTER:

Catalogue series DA64 and DA51

SINAMICS

Catalogue series D11

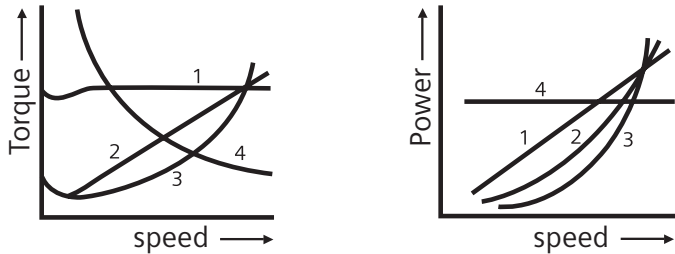
SIMOVER MASTERDRIVES:

Catalogue series DA65

These catalogues also contain tables showing which squirrel cage motor should be assigned to which SIMOVERT converter, depending on the load characteristic of the driven machine.

# Technical information

## Load torque characteristics



Torque/speed characteristic

Power/speed characteristic

1. Torque almost constant; power proportional to speed.
  2. Torque increases proportionally with the speed; power proportional to the square of the speed.
  3. Torque increases proportionally with the square of the speed; power proportional to the cube of the speed.  
(applicable for 1LG0 series motors)
  4. Torque decreases in inverse proportion to the speed; power constant.
- Siemens 1LG0 series products are designed to drive pumps, fans, compressors and HVAC in both constant and variable speed applications. For other complex applications, we still recommend Siemens imported motors.

## Motor temperature protection

The 1LG0 motors can be supplied with PTC thermistors or PT100 temperature sensors for alarms and tripping.

- **PTC thermistors are absolutely necessary if these motors are used for converter-fed operation!**

## Insulation

Insulation system comprises high-grade enameled wires and insulating sheet materials combined with solvent-free impregnating resin. The system ensures a high level of mechanical and electrical strength as well as good service ability and a long motor life. Providing these conditions are met, the insulation of 1LG0 motors is such that they can operate unrestrictedly in converter-fed mode up to voltage of 460V+10%. The same applies to operation with pulse-controlled AC converters with voltage front times  $t_s > 0.1s$  at the motor terminals.

## Connection of the motors

In addition to the restrictions applying to mains-connected machines, the maximum permissible conductor cross-sections for the converter must also be kept in mind when the motors are connected.

## Mechanical stress, grease life

Due to the higher speed beyond the rated speed value and the resulting increased vibration, the mechanical balance quality changes and the bearings are under greater mechanical stress. This reduces the grease life and the bearing life. (enquire if necessary).



# Order number

|   |   |   |   |   |   |   |   |   |    |    |    |
|---|---|---|---|---|---|---|---|---|----|----|----|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| 1 | L | G | 0 |   |   |   |   |   |    |    |    |

Motor serial

Frame size 80 ~ 355

S = short (0 , 1 , 2)

M = medium (3 , 4 , 5)

L = long (6 , 7 , 8)

Number Of Poles 2、4、6

Design

Voltage, connections and frequency

voltage            Rating plate markings  
code

|   |                     |      |
|---|---------------------|------|
| 1 | 230 VD / 400 VY     | 50Hz |
| 2 | 220 VD / 380 VY     | 50Hz |
| 6 | 400 VD / 690 VY     | 50Hz |
| 7 | 380 VD / 660 VY     | 50Hz |
| 9 | E-Voltage/Frequency |      |

Construction type

0-With feet and without flange on the end-shield

1-Without feet and with flange on the end-shield

6-With feet and with flange on the end-shield

4-Without feet and with flange on the end-shield, and with canopy on non-driven end

8<sup>1)</sup>-Without feet and with flange on the end-shield, IMV1 without canopy

Note: If require else voltage and mounting type, please refer to Local Siemens Sales Organisation.



Ordering example:

Three-phase motor IP55

2-pole 50 Hz, 11kW 380VD/660VY IMB3

Order No. 1LG0163-2AA..

Voltage identifier: -7

construction type: -0

<sup>1)</sup> “ 8 ” only for 1LG0 motor with frame size 250~355, IMV1 without canopy; for 1LG0 motor with the other frame sizes, IMV1 without canopy, the 12th position is "1".

Technical data table

| Frame Size       | Type           | Rated Output       | Rated speed        | Efficiency at (50Hz) 4/4 load | Efficiency at (50Hz) 3/4 load | Power factor           | Rated current      | Rated torque       | Rated Output       | Rated speed        | Efficiency         | Power factor           | Rated current      | Rated torque       | Starting current                     | Starting torque                      | Max torque                          | Moment of inertia J | Weight |
|------------------|----------------|--------------------|--------------------|-------------------------------|-------------------------------|------------------------|--------------------|--------------------|--------------------|--------------------|--------------------|------------------------|--------------------|--------------------|--------------------------------------|--------------------------------------|-------------------------------------|---------------------|--------|
|                  |                | P <sub>rated</sub> | n <sub>rated</sub> | η <sub>rated</sub>            | η <sub>rated</sub>            | cos φ <sub>rated</sub> | I <sub>rated</sub> | T <sub>rated</sub> | P <sub>rated</sub> | n <sub>rated</sub> | η <sub>rated</sub> | cos φ <sub>rated</sub> | I <sub>rated</sub> | T <sub>rated</sub> | I <sub>LG</sub> / I <sub>rated</sub> | T <sub>LR</sub> / T <sub>rated</sub> | T <sub>B</sub> / T <sub>rated</sub> |                     | kg     |
| 3000rpm 2-pole   |                |                    |                    |                               |                               |                        |                    |                    |                    |                    |                    |                        |                    |                    |                                      |                                      |                                     |                     |        |
| 220VD/380VY 50Hz |                |                    |                    |                               |                               |                        |                    |                    |                    |                    |                    |                        |                    |                    |                                      |                                      |                                     |                     |        |
| 440VY 60Hz       |                |                    |                    |                               |                               |                        |                    |                    |                    |                    |                    |                        |                    |                    |                                      |                                      |                                     |                     |        |
| 80M              | 1LG0 080-2AA.. | 0.75               | 2845               | 76                            | 75.1                          | 0.83                   | 1.81               | 2.5                | 0.86               | 3450               | 76.0               | 0.83                   | 1.79               | 2.38               | 6.1                                  | 2.3                                  | 2.7                                 | 0.0008              | 14     |
| 80M              | 1LG0 083-2AA.. | 1.1                | 2840               | 77.4                          | 80                            | 0.84                   | 2.57               | 3.7                | 1.3                | 3430               | 79.0               | 0.84                   | 2.57               | 3.62               | 7                                    | 2.3                                  | 2.5                                 | 0.0009              | 15     |
| 90S              | 1LG0 090-2AA.. | 1.5                | 2840               | 79                            | 79.2                          | 0.84                   | 3.43               | 5                  | 1.75               | 3440               | 80.0               | 0.84                   | 3.42               | 4.86               | 6.9                                  | 2.3                                  | 2.3                                 | 0.0012              | 22     |
| 90L              | 1LG0 096-2AA.. | 2.2                | 2840               | 81.1                          | 81.8                          | 0.85                   | 4.85               | 7.4                | 2.55               | 3440               | 82.0               | 0.85                   | 4.80               | 7.08               | 6.9                                  | 2.3                                  | 2.8                                 | 0.0014              | 24     |
| 100L             | 1LG0 106-2AA.. | 3                  | 2860               | 83                            | 83.2                          | 0.88                   | 6.31               | 10                 | 3.45               | 3460               | 84.0               | 0.87                   | 6.19               | 9.52               | 6.9                                  | 2.3                                  | 2.8                                 | 0.0039              | 33     |
| 380VD/660VY 50Hz |                |                    |                    |                               |                               |                        |                    |                    |                    |                    |                    |                        |                    |                    |                                      |                                      |                                     |                     |        |
| 440VD 60Hz       |                |                    |                    |                               |                               |                        |                    |                    |                    |                    |                    |                        |                    |                    |                                      |                                      |                                     |                     |        |
| 112M             | 1LG0 113-2AA.. | 4                  | 2880               | 85                            | 85.8                          | 0.88                   | 8.1                | 13.3               | 4.6                | 3480               | 86.0               | 0.88                   | 8.0                | 12.6               | 7.2                                  | 2.3                                  | 2.8                                 | 0.0055              | 38     |
| 132S             | 1LG0 130-2AA.. | 5.5                | 2900               | 86                            | 87.1                          | 0.88                   | 11                 | 18.1               | 6.3                | 3500               | 86.0               | 0.88                   | 10.9               | 17.2               | 7.5                                  | 2.3                                  | 2.8                                 | 0.0109              | 58     |
| 132S             | 1LG0 131-2AA.. | 7.5                | 2900               | 87                            | 88.7                          | 0.88                   | 14.9               | 24.7               | 8.6                | 3500               | 87.0               | 0.88                   | 14.7               | 23.5               | 7.4                                  | 2.3                                  | 2.8                                 | 0.013               | 63     |
| 160M             | 1LG0 163-2AA.. | 11                 | 2930               | 88.4                          | 88.6                          | 0.89                   | 21.2               | 35.9               | 12.6               | 3520               | 89.5               | 0.89                   | 20.8               | 34.2               | 7.5                                  | 2.5                                  | 2.6                                 | 0.038               | 105    |
| 160M             | 1LG0 164-2AA.. | 15                 | 2930               | 89.4                          | 90                            | 0.89                   | 28.6               | 48.9               | 17.3               | 3520               | 90.0               | 0.895                  | 28.2               | 46.9               | 7.3                                  | 2.5                                  | 2.9                                 | 0.045               | 115    |
| 160L             | 1LG0 166-2AA.. | 18.5               | 2930               | 91                            | 91                            | 0.9                    | 34.3               | 60.3               | 21.3               | 3520               | 90.5               | 0.905                  | 34.1               | 57.8               | 7.2                                  | 2.5                                  | 2.8                                 | 0.055               | 128    |
| 180M             | 1LG0 183-2AA.. | 22                 | 2940               | 91.2                          | 90.2                          | 0.89                   | 41.2               | 71.5               | 24.5               | 3540               | 90.0               | 0.90                   | 39.7               | 66.1               | 7.5                                  | 2.3                                  | 2.9                                 | 0.075               | 165    |
| 200L             | 1LG0 206-2AA.. | 30                 | 2950               | 91.4                          | 91.2                          | 0.9                    | 55.4               | 97.1               | 33.5               | 3540               | 91.2               | 0.90                   | 53.6               | 90.4               | 6.9                                  | 2.2                                  | 2.9                                 | 0.124               | 225    |
| 200L             | 1LG0 207-2AA.. | 37                 | 2950               | 92                            | 92.2                          | 0.9                    | 67.9               | 120                | 41.5               | 3540               | 92.0               | 0.90                   | 65.8               | 112                | 7.1                                  | 2.3                                  | 2.9                                 | 0.139               | 246    |
| 225M             | 1LG0 223-2AA.. | 45                 | 2960               | 92.5                          | 92.6                          | 0.9                    | 82.1               | 145                | 51                 | 3550               | 92.8               | 0.91                   | 79.2               | 137                | 7.3                                  | 2.5                                  | 2.9                                 | 0.233               | 296    |
| 250M             | 1LG0 253-2AB.. | 55                 | 2965               | 93                            | 92.8                          | 0.9                    | 100                | 177                | 62                 | 3560               | 92.5               | 0.90                   | 98                 | 166                | 7.5                                  | 2.5                                  | 2.9                                 | 0.312               | 390    |
| 280S             | 1LG0 280-2AB.. | 75                 | 2970               | 93.6                          | 93                            | 0.9                    | 135                | 241                | 84                 | 3560               | 93.0               | 0.90                   | 132                | 225                | 7.5                                  | 2.3                                  | 2.9                                 | 0.597               | 504    |
| 280M             | 1LG0 283-2AB.. | 90                 | 2970               | 93.9                          | 93.7                          | 0.91                   | 160                | 289                | 101                | 3560               | 93.8               | 0.91                   | 155                | 271                | 7.5                                  | 2                                    | 2.3                                 | 0.675               | 536    |
| 315S             | 1LG0 310-2AC.. | 110                | 2975               | 94                            | 93.2                          | 0.91                   | 195                | 353                | 123                | 3570               | 94.0               | 0.91                   | 189                | 329                | 7.1                                  | 1.8                                  | 2.2                                 | 1.18                | 865    |
| 315M             | 1LG0 313-2AC.. | 132                | 2975               | 94.5                          | 93.9                          | 0.91                   | 233                | 424                | 148                | 3570               | 94.5               | 0.91                   | 226                | 396                | 7.1                                  | 1.8                                  | 2.2                                 | 1.55                | 960    |
| 315L             | 1LG0 316-2AC.. | 160                | 2975               | 94.6                          | 94                            | 0.92                   | 279                | 514                | 180                | 3570               | 94.6               | 0.92                   | 271                | 482                | 7                                    | 1.9                                  | 2.5                                 | 1.76                | 1035   |
| 315L             | 1LG0 317-2AC.. | 200                | 2975               | 94.8                          | 94.9                          | 0.92                   | 348                | 642                | 224                | 3570               | 94.8               | 0.92                   | 337                | 599                | 7.1                                  | 1.8                                  | 2.2                                 | 2.02                | 1160   |
| 355M             | 1LG0 353-2AC.. | 220                | 2987               | 94.8                          | 94.8                          | 0.92                   | 383                | 703                | 246                | 3580               | 94.8               | 0.92                   | 370                | 656                | 7.1                                  | 1.4                                  | 2.2                                 | 3.02                | 1545   |
| 355M             | 1LG0 354-2AC.. | 250                | 2987               | 95.2                          | 94.9                          | 0.9                    | 444                | 799                | 280                | 3580               | 95.3               | 0.92                   | 419                | 747                | 7.1                                  | 1.4                                  | 2.2                                 | 3.56                | 1650   |
| 355L             | 1LG0 356-2AC.. | 280                | 2987               | 95.2                          | 95.1                          | 0.9                    | 497                | 895                | 314                | 3580               | 95.3               | 0.92                   | 470                | 838                | 7.1                                  | 1.4                                  | 2.2                                 | 3.84                | 1650   |
| 355L             | 1LG0 357-2AC.. | 315                | 2987               | 95.4                          | 95.4                          | 0.9                    | 558                | 1007               | 353                | 3580               | 95.6               | 0.92                   | 527                | 942                | 7.1                                  | 1.4                                  | 2.2                                 | 4.16                | 1790   |

Technical data table

| Frame            | Type           | Rated Output       | Rated speed        | Efficiency at ( 50hz ) 4/4 load | Efficiency at ( 50hz ) 3/4 load | Power factor | Rated current | Rated torque | Rated Output | Rated speed | Efficiency $\eta_{rated}$ | Power factor $\cos\phi_{rated}$ | Rated current | Rated torque | Rated Output | Rated speed | Efficiency $\eta_{rated}$ | Power factor $\cos\phi_{rated}$ | Rated current | Rated torque | Starting current                    | Starting torque                     | Max torque                         | Moment of inertia J | Weight |  |
|------------------|----------------|--------------------|--------------------|---------------------------------|---------------------------------|--------------|---------------|--------------|--------------|-------------|---------------------------|---------------------------------|---------------|--------------|--------------|-------------|---------------------------|---------------------------------|---------------|--------------|-------------------------------------|-------------------------------------|------------------------------------|---------------------|--------|--|
| Size             |                | P <sub>rated</sub> | n <sub>rated</sub> | %                               | %                               |              | A             | Nm           | kW           | rpm         | %                         |                                 | A             | Nm           | kW           | rpm         | %                         |                                 | A             | Nm           | I <sub>LR</sub> /I <sub>rated</sub> | T <sub>LR</sub> /T <sub>rated</sub> | T <sub>B</sub> /T <sub>rated</sub> | kgm <sup>2</sup>    | kg     |  |
| 1500rpm 4-pole   |                |                    |                    |                                 |                                 |              |               |              |              |             |                           |                                 |               |              |              |             |                           |                                 |               |              |                                     |                                     |                                    |                     |        |  |
| 220VD/380VY 50Hz |                |                    |                    |                                 |                                 |              |               |              |              |             |                           |                                 | 440VY 60Hz    |              |              |             |                           |                                 |               |              |                                     |                                     |                                    |                     |        |  |
| 80M              | 1LG0 080-4AA.. | 0.55               | 1390               | 71                              | 71.9                            | 0.75         | 1.57          | 3.8          | 0.63         | 1690        | 73.0                      | 0.75                            | 1.51          | 3.56         | 5            | 2.4         | 2.6                       | 0.002                           | 14            |              |                                     |                                     |                                    |                     |        |  |
| 80M              | 1LG0 083-4AA.. | 0.75               | 1380               | 73                              | 74.7                            | 0.76         | 2.05          | 5.2          | 0.86         | 1680        | 75.0                      | 0.76                            | 1.98          | 4.89         | 5.8          | 2.4         | 2.6                       | 0.002                           | 15            |              |                                     |                                     |                                    |                     |        |  |
| 90S              | 1LG0 090-4AA.. | 1.1                | 1390               | 76.2                            | 75                              | 0.76         | 2.89          | 7.6          | 1.3          | 1680        | 77.0                      | 0.77                            | 2.88          | 7.39         | 5.8          | 2.3         | 2.5                       | 0.0021                          | 21            |              |                                     |                                     |                                    |                     |        |  |
| 90L              | 1LG0 096-4AA.. | 1.5                | 1390               | 78.5                            | 75.8                            | 0.79         | 3.67          | 10.3         | 1.75         | 1680        | 79.0                      | 0.79                            | 3.68          | 9.95         | 5.8          | 2.4         | 2.8                       | 0.003                           | 23            |              |                                     |                                     |                                    |                     |        |  |
| 100L             | 1LG0 106-4AA.. | 2.2                | 1410               | 81                              | 78.8                            | 0.8          | 5.16          | 14.9         | 2.55         | 1710        | 81.0                      | 0.81                            | 5.10          | 14.2         | 6            | 2.4         | 2.3                       | 0.007                           | 31            |              |                                     |                                     |                                    |                     |        |  |
| 100L             | 1LG0 107-4AA.. | 3                  | 1410               | 82.8                            | 80.9                            | 0.81         | 6.8           | 20.3         | 3.45         | 1710        | 83.0                      | 0.82                            | 6.65          | 19.3         | 6            | 2.3         | 2.8                       | 0.007                           | 33            |              |                                     |                                     |                                    |                     |        |  |
| 380VD/660VY 50Hz |                |                    |                    |                                 |                                 |              |               |              |              |             |                           |                                 | 440VD 60Hz    |              |              |             |                           |                                 |               |              |                                     |                                     |                                    |                     |        |  |
| 112M             | 1LG0 113-4AA.. | 4                  | 1435               | 84.5                            | 84                              | 0.82         | 8.8           | 26.6         | 4.6          | 1730        | 85.0                      | 0.82                            | 8.7           | 25.4         | 6.2          | 2.3         | 2.8                       | 0.0095                          | 44            |              |                                     |                                     |                                    |                     |        |  |
| 132S             | 1LG0 130-4AA.. | 5.5                | 1440               | 86                              | 85.9                            | 0.82         | 11.8          | 36.5         | 6.3          | 1740        | 85.5                      | 0.85                            | 11.4          | 34.6         | 6.5          | 2.3         | 2.8                       | 0.0214                          | 61            |              |                                     |                                     |                                    |                     |        |  |
| 132M             | 1LG0 133-4AA.. | 7.5                | 1440               | 87.2                            | 87.4                            | 0.84         | 15.6          | 49.7         | 8.6          | 1740        | 87.0                      | 0.84                            | 15.4          | 47.2         | 7            | 2.5         | 2.8                       | 0.0296                          | 71            |              |                                     |                                     |                                    |                     |        |  |
| 160M             | 1LG0 163-4AA.. | 11                 | 1460               | 89                              | 88.5                            | 0.83         | 22.6          | 72           | 12.6         | 1750        | 89.0                      | 0.85                            | 21.9          | 68.8         | 7            | 2.4         | 2.9                       | 0.075                           | 110           |              |                                     |                                     |                                    |                     |        |  |
| 160L             | 1LG0 166-4AA.. | 15                 | 1460               | 90                              | 89.7                            | 0.84         | 30.1          | 98.1         | 17.3         | 1750        | 89.5                      | 0.85                            | 29.8          | 94.4         | 7.5          | 2.5         | 2.9                       | 0.092                           | 132           |              |                                     |                                     |                                    |                     |        |  |
| 180M             | 1LG0 183-4AA.. | 18.5               | 1470               | 90.6                            | 91.2                            | 0.86         | 36.1          | 120.2        | 21.3         | 1760        | 91.0                      | 0.86                            | 35.7          | 116          | 7            | 2.3         | 2.9                       | 0.139                           | 164           |              |                                     |                                     |                                    |                     |        |  |
| 180L             | 1LG0 186-4AA.. | 22                 | 1470               | 91.4                            | 91.6                            | 0.86         | 42.5          | 143          | 24.5         | 1760        | 91.5                      | 0.865                           | 40.6          | 133          | 7            | 2.4         | 2.9                       | 0.158                           | 180           |              |                                     |                                     |                                    |                     |        |  |
| 200L             | 1LG0 206-4AA.. | 30                 | 1470               | 92.1                            | 92.3                            | 0.86         | 57.5          | 195          | 33.5         | 1760        | 92.5                      | 0.86                            | 55.3          | 182          | 7            | 2.3         | 2.8                       | 0.262                           | 225           |              |                                     |                                     |                                    |                     |        |  |
| 225S             | 1LG0 220-4AA.. | 37                 | 1475               | 92.6                            | 92.7                            | 0.87         | 69.8          | 240          | 41.5         | 1770        | 92.8                      | 0.87                            | 67.4          | 224          | 6.9          | 2.2         | 2.7                       | 0.406                           | 285           |              |                                     |                                     |                                    |                     |        |  |
| 225M             | 1LG0 223-4AA.. | 45                 | 1475               | 92.8                            | 93.2                            | 0.87         | 84.7          | 291          | 51           | 1770        | 93.0                      | 0.87                            | 82.7          | 275          | 6.9          | 2.2         | 2.3                       | 0.469                           | 305           |              |                                     |                                     |                                    |                     |        |  |
| 250M             | 1LG0 253-4AA.. | 55                 | 1480               | 93                              | 93.3                            | 0.87         | 103           | 355          | 62           | 1770        | 93.5                      | 0.875                           | 99            | 335          | 7.1          | 2.4         | 2.8                       | 0.66                            | 400           |              |                                     |                                     |                                    |                     |        |  |
| 280S             | 1LG0 280-4AA.. | 75                 | 1480               | 93.8                            | 93.6                            | 0.87         | 140           | 484          | 84           | 1780        | 93.8                      | 0.88                            | 134           | 451          | 6.8          | 2.3         | 2.8                       | 1.12                            | 553           |              |                                     |                                     |                                    |                     |        |  |
| 280M             | 1LG0 283-4AA.. | 90                 | 1480               | 94.3                            | 94.1                            | 0.87         | 167           | 580          | 101          | 1780        | 94.3                      | 0.88                            | 160           | 542          | 7.2          | 2.4         | 2.8                       | 1.46                            | 582           |              |                                     |                                     |                                    |                     |        |  |
| 315S             | 1LG0 310-4AB.. | 110                | 1480               | 94.6                            | 94                              | 0.88         | 201           | 710          | 123          | 1780        | 94.5                      | 0.88                            | 194           | 660          | 6.2          | 2.3         | 2.8                       | 3.11                            | 900           |              |                                     |                                     |                                    |                     |        |  |
| 315M             | 1LG0 313-4AB.. | 132                | 1480               | 94.9                            | 94.4                            | 0.88         | 240           | 852          | 148          | 1780        | 94.8                      | 0.88                            | 233           | 794          | 6.1          | 2.2         | 2.8                       | 3.29                            | 995           |              |                                     |                                     |                                    |                     |        |  |
| 315L             | 1LG0 316-4AB.. | 160                | 1480               | 95.1                            | 94.8                            | 0.89         | 287           | 1032         | 180          | 1780        | 94.9                      | 0.89                            | 280           | 966          | 6.5          | 2.2         | 2.8                       | 3.79                            | 1070          |              |                                     |                                     |                                    |                     |        |  |
| 315L             | 1LG0 317-4AB.. | 200                | 1480               | 95.3                            | 94.9                            | 0.89         | 358           | 1291         | 224          | 1780        | 95.0                      | 0.89                            | 348           | 1202         | 6.4          | 2.1         | 2.8                       | 4.49                            | 1220          |              |                                     |                                     |                                    |                     |        |  |
| 355M             | 1LG0 353-4AB.. | 220                | 1490               | 95                              | 95.3                            | 0.89         | 395           | 1410         | 246          | 1780        | 95.0                      | 0.89                            | 382           | 1320         | 6.9          | 1.6         | 2.2                       | 4.82                            | 1645          |              |                                     |                                     |                                    |                     |        |  |
| 355M             | 1LG0 354-4AB.. | 250                | 1490               | 95.2                            | 95.3                            | 0.87         | 459           | 1602         | 280          | 1780        | 95.3                      | 0.90                            | 428           | 1502         | 6.9          | 1.6         | 2.2                       | 5.67                            | 1685          |              |                                     |                                     |                                    |                     |        |  |
| 355L             | 1LG0 356-4AB.. | 280                | 1490               | 95.2                            | 95.4                            | 0.87         | 514           | 1794         | 314          | 1780        | 95.3                      | 0.90                            | 480           | 1685         | 6.9          | 1.6         | 2.2                       | 6.13                            | 1780          |              |                                     |                                     |                                    |                     |        |  |
| 355L             | 1LG0 357-4AB.. | 315                | 1490               | 95.2                            | 95.4                            | 0.87         | 578           | 2019         | 353          | 1780        | 95.6                      | 0.90                            | 538           | 1894         | 6.9          | 1.6         | 2.2                       | 6.66                            | 1890          |              |                                     |                                     |                                    |                     |        |  |

Technical data table

| Frame            | Type           | Rated Output       | Rated speed        | Efficiency at 4/4 load | Efficiency at (50Hz) | Efficiency at (50Hz) 3/4 load | Power factor | Rated current      | Rated torque       | Rated Output       | Rated speed        | Efficiency $\eta_{rated}$ | Power factor $\cos \phi_{rated}$ | Rated current      | Rated torque       | Starting current                    | Starting torque                     | Max torque                         | Moment of inertia J | Weight kg |
|------------------|----------------|--------------------|--------------------|------------------------|----------------------|-------------------------------|--------------|--------------------|--------------------|--------------------|--------------------|---------------------------|----------------------------------|--------------------|--------------------|-------------------------------------|-------------------------------------|------------------------------------|---------------------|-----------|
| Size             |                | P <sub>rated</sub> | n <sub>rated</sub> | $\eta_{rated}$         | $\eta_{rated}$       | $\eta_{rated}$                |              | I <sub>rated</sub> | T <sub>rated</sub> | P <sub>rated</sub> | n <sub>rated</sub> | $\eta_{rated}$            | $\cos \phi_{rated}$              | I <sub>rated</sub> | T <sub>rated</sub> | I <sub>st</sub> /I <sub>rated</sub> | T <sub>st</sub> /T <sub>rated</sub> | T <sub>B</sub> /T <sub>rated</sub> |                     |           |
| 1000rpm 6-pole   |                |                    |                    |                        |                      |                               |              |                    |                    |                    |                    |                           |                                  |                    |                    |                                     |                                     |                                    |                     |           |
| 220VD/380VY 50Hz |                |                    |                    |                        |                      |                               |              |                    |                    | 440VY 60Hz         |                    |                           |                                  |                    |                    |                                     |                                     |                                    |                     |           |
| 80M              | 1LG0 083-6AA.. | 0.55               | 885                | 65                     | 67.3                 | 67.3                          | 0.72         | 1.79               | 5.9                | 0.63               | 1080               | 66.0                      | 0.72                             | 1.74               | 5.57               | 4.7                                 | 1.9                                 | 2.1                                | 0.003               | 16        |
| 90S              | 1LG0 090-6AA.. | 0.75               | 910                | 69                     | 70.2                 | 70.2                          | 0.72         | 2.29               | 7.9                | 0.86               | 1100               | 71.0                      | 0.72                             | 2.21               | 7.47               | 5                                   | 2                                   | 2.3                                | 0.0029              | 20        |
| 90L              | 1LG0 096-6AA.. | 1.1                | 910                | 72                     | 74.5                 | 74.5                          | 0.73         | 3.18               | 11.5               | 1.3                | 1100               | 73.5                      | 0.73                             | 3.18               | 11.3               | 5                                   | 2.1                                 | 2.3                                | 0.0035              | 23        |
| 100L             | 1LG0 106-6AA.. | 1.5                | 920                | 76                     | 78.2                 | 78.2                          | 0.75         | 4                  | 15.6               | 1.75               | 1110               | 78.0                      | 0.75                             | 3.93               | 15.1               | 5                                   | 2.2                                 | 2.4                                | 0.0069              | 31        |
| 112M             | 1LG0 113-6AA.. | 2.2                | 935                | 80                     | 81.3                 | 81.3                          | 0.75         | 5.6                | 22.5               | 2.55               | 1130               | 81.0                      | 0.76                             | 5.4                | 21.6               | 5                                   | 2.4                                 | 2.4                                | 0.0138              | 40        |
| 132S             | 1LG0 130-6AA.. | 3                  | 960                | 81.5                   | 82.2                 | 82.2                          | 0.76         | 7.4                | 29.8               | 3.45               | 1160               | 82.0                      | 0.76                             | 7.3                | 28.4               | 6                                   | 2.1                                 | 2.6                                | 0.0286              | 56        |
| 380VD/660VY 50Hz |                |                    |                    |                        |                      |                               |              |                    |                    | 440VD 60Hz         |                    |                           |                                  |                    |                    |                                     |                                     |                                    |                     |           |
| 132M             | 1LG0 133-6AA.. | 4                  | 960                | 82                     | 83.9                 | 83.9                          | 0.76         | 9.8                | 38.2               | 4.6                | 1160               | 83.0                      | 0.76                             | 9.6                | 37.9               | 6                                   | 2.1                                 | 2.8                                | 0.036               | 68        |
| 132M             | 1LG0 134-6AA.. | 5.5                | 960                | 84.4                   | 86.3                 | 86.3                          | 0.77         | 12.9               | 52.5               | 6.3                | 1160               | 86.0                      | 0.77                             | 12.5               | 51.9               | 6.4                                 | 2.1                                 | 2.8                                | 0.045               | 75        |
| 160M             | 1LG0 163-6AA.. | 7.5                | 970                | 86                     | 87.9                 | 87.9                          | 0.77         | 17.2               | 71.6               | 8.6                | 1160               | 87.5                      | 0.78                             | 16.5               | 70.8               | 6.5                                 | 2                                   | 2.7                                | 0.088               | 104       |
| 160L             | 1LG0 166-6AA.. | 11                 | 970                | 87.5                   | 89.1                 | 89.1                          | 0.78         | 24.5               | 105.1              | 12.6               | 1160               | 88.5                      | 0.78                             | 24.0               | 104                | 6.5                                 | 2                                   | 2.9                                | 0.116               | 127       |
| 180L             | 1LG0 186-6AA.. | 15                 | 970                | 89                     | 89.6                 | 89.6                          | 0.83         | 30.9               | 143                | 17.3               | 1170               | 90.0                      | 0.82                             | 30.8               | 141                | 6.5                                 | 2.2                                 | 2.7                                | 0.207               | 167       |
| 200L             | 1LG0 206-6AB.. | 18.5               | 980                | 90                     | 90.1                 | 90.1                          | 0.81         | 38.6               | 177                | 21.3               | 1170               | 90.5                      | 0.82                             | 37.7               | 174                | 6.5                                 | 2.2                                 | 2.8                                | 0.315               | 210       |
| 200L             | 1LG0 207-6AB.. | 22                 | 980                | 90                     | 91.1                 | 91.1                          | 0.83         | 44.7               | 210                | 24.5               | 1170               | 91.0                      | 0.835                            | 42.3               | 200                | 6.5                                 | 2.1                                 | 2.6                                | 0.36                | 223       |
| 225M             | 1LG0 223-6AB.. | 30                 | 980                | 91.7                   | 92.3                 | 92.3                          | 0.84         | 59.2               | 287                | 33.5               | 1170               | 92.0                      | 0.85                             | 56.2               | 273                | 6.5                                 | 2                                   | 2.6                                | 0.547               | 290       |
| 250M             | 1LG0 253-6AB.. | 37                 | 980                | 92                     | 92.1                 | 92.1                          | 0.86         | 71                 | 353                | 41.5               | 1170               | 92.0                      | 0.87                             | 68                 | 339                | 6.9                                 | 2.1                                 | 2.8                                | 0.834               | 375       |
| 280S             | 1LG0 280-6AB.. | 45                 | 980                | 92.5                   | 92.6                 | 92.6                          | 0.86         | 86                 | 430                | 51                 | 1180               | 92.5                      | 0.86                             | 84                 | 413                | 7                                   | 2.2                                 | 2.8                                | 1.39                | 492       |
| 280M             | 1LG0 283-6AB.. | 55                 | 980                | 92.8                   | 93.2                 | 93.2                          | 0.86         | 105                | 525                | 62                 | 1180               | 93.0                      | 0.865                            | 101                | 502                | 7                                   | 2.1                                 | 2                                  | 1.65                | 530       |
| 315S             | 1LG0 310-6AB.. | 75                 | 989                | 93.5                   | 93.8                 | 93.8                          | 0.86         | 142                | 724                | 84                 | 1186               | 93.8                      | 0.86                             | 137                | 676                | 7                                   | 2.3                                 | 2.8                                | 4.11                | 820       |
| 315M             | 1LG0 313-6AB.. | 90                 | 989                | 93.8                   | 94.1                 | 94.1                          | 0.86         | 170                | 869                | 101                | 1186               | 93.8                      | 0.86                             | 164                | 813                | 6.2                                 | 2                                   | 2.7                                | 4.28                | 895       |
| 315L             | 1LG0 316-6AB.. | 110                | 989                | 94.3                   | 94.5                 | 94.5                          | 0.86         | 206                | 1062               | 123                | 1186               | 94.0                      | 0.86                             | 200                | 990                | 6.2                                 | 2                                   | 2.6                                | 5.45                | 1010      |
| 315L             | 1LG0 317-6AB.. | 132                | 989                | 94.6                   | 94.8                 | 94.8                          | 0.87         | 244                | 1274               | 148                | 1186               | 94.5                      | 0.87                             | 236                | 1192               | 6.5                                 | 2                                   | 2.8                                | 6.12                | 1080      |
| 355M             | 1LG0 353-6AB.. | 160                | 989                | 94.5                   | 94.2                 | 94.2                          | 0.88         | 292                | 1609               | 180                | 1180               | 94.5                      | 0.88                             | 284                | 1457               | 6.7                                 | 1.9                                 | 2                                  | 8.85                | 1590      |
| 355M             | 1LG0 354-6AB.. | 185                | 989                | 94.5                   | 94.4                 | 94.4                          | 0.88         | 338                | 1861               | 207                | 1180               | 94.5                      | 0.88                             | 327                | 1675               | 6.7                                 | 1.9                                 | 2                                  | 8.98                | 1660      |
| 355M             | 1LG0 355-6AB.. | 200                | 989                | 94.7                   | 94.6                 | 94.6                          | 0.88         | 365                | 2012               | 224                | 1180               | 94.7                      | 0.88                             | 353                | 1813               | 6.7                                 | 1.9                                 | 2                                  | 9.55                | 1730      |
| 355L             | 1LG0 356-6AB.. | 220                | 989                | 94.7                   | 94.7                 | 94.7                          | 0.88         | 401                | 2213               | 246                | 1180               | 94.7                      | 0.88                             | 387                | 1991               | 6.7                                 | 1.9                                 | 2                                  | 10.09               | 1835      |

| Penultimate position:  |                  |                  |                  |                      | Final position                                 |                                                |                                             |                                                                                  |  |
|------------------------|------------------|------------------|------------------|----------------------|------------------------------------------------|------------------------------------------------|---------------------------------------------|----------------------------------------------------------------------------------|--|
| Voltage Identifier No. |                  |                  |                  |                      | Type of construction Identifier No.            |                                                |                                             |                                                                                  |  |
| 220VD/380VY 50Hz       | 380VD/660VY 50Hz | 230VD/400VY 50Hz | 400VD/690VY 50Hz | E-Voltage/ Frequency | With feet and without flange on the end-shield | Without feet and with flange on the end-shield | With feet and with flange on the end-shield | Without feet and with flange on the end-shield and with Canopy on non-driven end |  |
| 2                      | 7                | 1                | 6                | 9                    | 0                                              | 1                                              | 6                                           | 4                                                                                |  |
|                        |                  |                  |                  |                      |                                                | 8 <sup>1)</sup>                                |                                             |                                                                                  |  |

1). " 8 " only for 1LGO motor with frame size 250~355, IMV1 without canopy; for 1LGO motor with the other frame sizes, IMV1 without canopy, the 12th position is "1" .

# Technical data table

## Special Design/Option Code

|                     |            |     |                   |
|---------------------|------------|-----|-------------------|
| E-Voltage/Frequency |            | L2B | 220VD /380VY 60Hz |
| L1C                 | 415VY 50Hz | L2D | 380VD /660VY 60Hz |
| L1D                 | 415VD 50Hz | L2E | 460VY 60Hz        |
| L1U                 | 400VD 50Hz | L2F | 460VD 60Hz        |

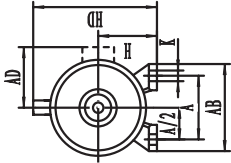
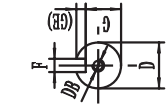
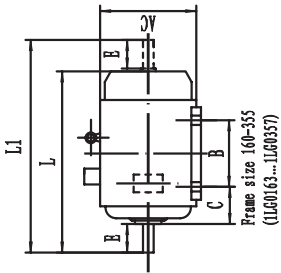
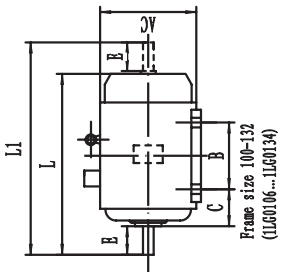
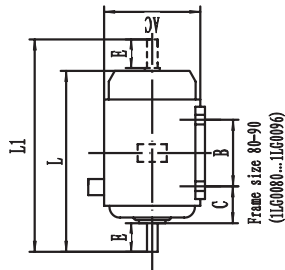
| Winding protection  |                                                                                                    | Application Scope |
|---------------------|----------------------------------------------------------------------------------------------------|-------------------|
| A11                 | Motor protection with PTC thermistors with three embedded temperature sensors for tripping         | All               |
| A12                 | Motor protection with PTC thermistors with six embedded temperature sensors for alarm and tripping | All               |
| A60                 | Installation of 3 PT100 resistance thermometers                                                    | 100~355           |
| A61                 | Installation of 6 PT100 resistance thermometers                                                    | 180~355           |
| A72                 | Installation of 2PT100 screw-in resistance thermometers for rolling-contact bearings               | 180~355           |
| K45                 | Anti-condensation heater for 220V                                                                  | All               |
| Mechanical design   |                                                                                                    |                   |
| K09 <sup>1)</sup>   | Terminal box on RHS (View on drive end)                                                            | All               |
| K10 <sup>1)</sup>   | Terminal box on LHS (View on drive end)                                                            | All               |
| K11 <sup>1)</sup>   | Terminal box on top, Cable entry on Right (view on drive end)                                      | All               |
| K83                 | Rotation of terminal box by 90° , inserted from drive end                                          | All               |
| K84                 | Rotation of terminal box by 90° , inserted from non-drive end                                      | All               |
| K85                 | Rotation of terminal box by 180°                                                                   | All               |
| K16 <sup>2)</sup>   | Second standard shaft-extension                                                                    | All               |
| K40                 | Regreasing device                                                                                  | 180~280           |
| W01                 | SKF bearings                                                                                       | All               |
| W02                 | NSK bearings                                                                                       | All               |
| Paint               |                                                                                                    |                   |
| Y53                 | Standard finish in other standard: RAL7032 or RAL9006                                              | All               |
| Testing certificate |                                                                                                    |                   |
| B02                 | Acceptance test certificate 3.1 according to EN 10204                                              | All               |

## Paint

Standard colour is RAL7030, two other special colours can be offered by option Y53. When ordering, please specify RAL7032 or RAL9006.

<sup>1)</sup> Indication of terminal box position is not necessary when motor is B5 design.

<sup>2)</sup> Motor without feet and with flange on the end-shield, and with canopy on non-driven end should not be associated with this option.

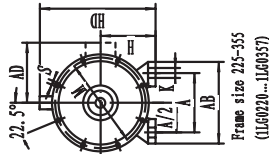
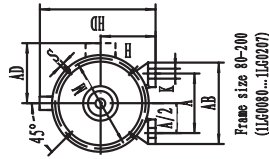
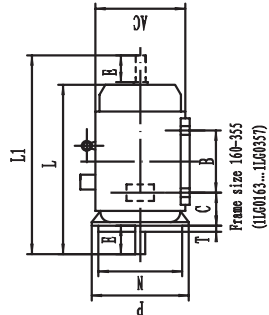
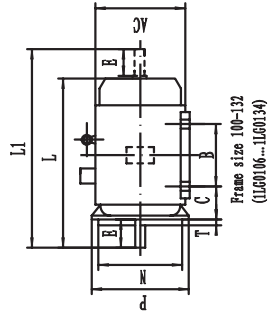
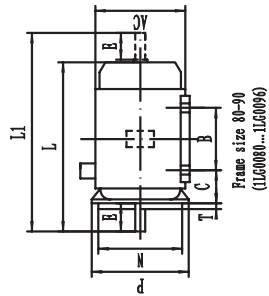


Frame with feet and without flange on the end shield

mm

| Frame size |       | Poles |     | Mounting Dimensions and Tolerance |     |    |      |     |      |     |     |      |      | Contour Dimensions |      |      |     |  |  |  |  |
|------------|-------|-------|-----|-----------------------------------|-----|----|------|-----|------|-----|-----|------|------|--------------------|------|------|-----|--|--|--|--|
| A          | A/2   | B     | C   | D                                 | E   | F  | G 1) | H   | K 2) | DB  | AB  | AC   | AD   | HD                 | L    | L1   |     |  |  |  |  |
| 125        | 62.5  | 100   | 50  | 19                                | 40  | 6  | 15.5 | 80  | 10   | M6  | 165 | 164  | 145  | 220                | 295  | 335  |     |  |  |  |  |
| 140        | 70    | 125   | 56  | 24                                | 50  | 8  | 20   | 90  |      |     | M8  | 180  | 184  | 155                | 250  | 320  | 375 |  |  |  |  |
| 160        | 80    | 140   | 63  | 28                                | 60  | 10 | 24   | 100 |      |     | M10 | 205  | 204  | 180                | 270  | 385  | 445 |  |  |  |  |
| 190        | 95    | 140   | 70  | 38                                | 80  | 10 | 33   | 132 | 12   | M12 | 230 | 228  | 190  | 300                | 400  | 465  |     |  |  |  |  |
| 216        | 108   | 178   | 89  |                                   |     |    |      |     |      |     | 112 | 470  | 555  |                    |      |      |     |  |  |  |  |
| 254        | 127   | 210   | 108 | 42                                | 110 | 12 | 37   | 160 | 15   | M16 | 320 | 325  | 255  | 420                | 615  | 735  |     |  |  |  |  |
| 279        | 139.5 | 241   | 121 | 48                                |     |    |      |     |      |     | 180 | 700  | 810  |                    |      |      |     |  |  |  |  |
| 318        | 159   | 305   | 133 | 55                                | 140 | 16 | 49   | 200 | 19   | M20 | 395 | 408  | 305  | 505                | 770  | 880  |     |  |  |  |  |
| 356        | 178   | 286   | 149 | 60                                |     |    |      |     |      |     | 225 | 820  | 935  |                    |      |      |     |  |  |  |  |
| 406        | 203   | 349   | 168 | 60                                | 170 | 18 | 53   | 250 | 24   | M20 | 490 | 504  | 370  | 615                | 915  | 1060 |     |  |  |  |  |
| 457        | 228.5 | 368   | 190 | 65                                |     |    |      |     |      |     | 280 | 980  | 1125 |                    |      |      |     |  |  |  |  |
| 508        | 254   | 457   | 216 | 80                                | 140 | 20 | 67.5 | 315 | 28   | M20 | 550 | 566  | 410  | 680                | 1010 | 1156 |     |  |  |  |  |
| 559        | 279   | 419   | 232 | 85                                |     |    |      |     |      |     | 330 | 1030 | 1176 |                    |      |      |     |  |  |  |  |
| 610        | 305   | 508   | 254 | 95                                | 170 | 18 | 58   | 250 | 20   | M20 | 635 | 639  | 530  | 845                | 1330 | 1500 |     |  |  |  |  |
| 660        | 330   | 559   | 279 | 100                               |     |    |      |     |      |     | 300 | 1330 | 1500 |                    |      |      |     |  |  |  |  |
| 711        | 355   | 610   | 305 | 110                               | 170 | 20 | 67.5 | 355 | 24   | M20 | 730 | 718  | 655  | 1010               | 1530 | 1700 |     |  |  |  |  |
| 762        | 380   | 660   | 330 | 115                               |     |    |      |     |      |     | 380 | 1530 | 1700 |                    |      |      |     |  |  |  |  |

1)  $\phi$ -D-QE, QE limit deviations for frame size 80M 1LG0080...1LG0083 are ( $^{+0.11}$ ), others are ( $^{+0.13}$ ). 2) K hole's positional tolerance is based on the central line of shaft extension



Frame with feet and with flange (with through holes) on the end shield

mm

| Frame size             |               |       | Poles |      | Mounting Dimensions and Tolerance |     |       |       |                 |     |                 |       |        |        |                 |                 |                 |       |                    | Contour Dimensions |      |     |      |      |       |      |      |        |     |     |     |        |     |     |     |     |     |
|------------------------|---------------|-------|-------|------|-----------------------------------|-----|-------|-------|-----------------|-----|-----------------|-------|--------|--------|-----------------|-----------------|-----------------|-------|--------------------|--------------------|------|-----|------|------|-------|------|------|--------|-----|-----|-----|--------|-----|-----|-----|-----|-----|
|                        | Flange number | A     | A/2   | B    | C                                 | D   | E     | F     | G <sup>1)</sup> | H   | R <sup>2)</sup> |       | M      | N      | P <sup>3)</sup> | R <sup>4)</sup> | S <sup>2)</sup> | T     | Flange hole number | DB                 | AB   | AC  | AD   | HD   | L     | L1   |      |        |     |     |     |        |     |     |     |     |     |
| 80M 11G0080...11G0083  | PF165         | 125   | 62.5  | 100  | 50                                | 19  | 40    | 6     | 15.5            | 80  | 10              | ±0.30 | 165    | 130    | 200             | ±1.5            | 12              | φ1.00 | 3.5                | 4                  | M6   | 165 | 164  | 145  | 220   | 295  | 335  |        |     |     |     |        |     |     |     |     |     |
|                        |               | 140   | 70    | 125  | 56                                | 24  | 50    | 8     | 20              | 90  | 12              | φ1.00 | 215    | 180    | 250             | ±2.0            | 15              | 5     | M8                 |                    | 180  | 184 | 155  | 250  | 320   | 375  |      |        |     |     |     |        |     |     |     |     |     |
|                        |               | 160   | 80    | 140  | 63                                | 28  | 60    | 10    | 24              | 112 |                 |       |        |        |                 |                 |                 |       | M10                |                    | 205  | 204 | 180  | 270  | 385   | 445  |      |        |     |     |     |        |     |     |     |     |     |
|                        |               | 190   | 95    | 140  | 70                                | 38  | 80    | 10    | 33              | 132 |                 |       |        |        |                 |                 |                 |       | M12                |                    | 230  | 228 | 190  | 300  | 400   | 465  | 510  | 595    |     |     |     |        |     |     |     |     |     |
| 112M 11G0113           | PF215         | 216   | 108   | 178  | 89                                | 38  | 80    | 10    | 33              | 132 | ±0.30           | 265   | 230    | 300    | ±2.0            | 15              | φ1.50           | 5     | 8                  | 4                  | M16  | 320 | 325  | 255  | 420   | 615  | 735  |        |     |     |     |        |     |     |     |     |     |
| 254                    |               | 127   | 254   | 121  | 48                                | 110 | ±0.40 | 300   | 250             | 350 | ±3.0            | 19    | 0      | 400    | 350             | ±0.018          |                 |       |                    |                    |      | 450 | 19   | M16  | 355   | 366  | 280  | 455    | 700 | 810 |     |        |     |     |     |     |     |
| 279                    |               | 139.5 | 279   | 121  | 55                                | 140 | 16    | 49    | 200             | 350 | ±0.016          | 400   |        |        |                 |                 |                 |       |                    |                    |      |     |      |      | φ1.50 | 400  | 350  | ±0.018 | 450 | 19  | M16 | 395    | 408 | 305 | 505 | 770 | 880 |
| 318                    |               | 159   | 305   | 133  | 60                                | 140 | ±0.30 | 18    | 53              | 225 | 400             | 350   |        |        |                 |                 |                 |       |                    |                    |      |     |      |      |       |      |      |        |     |     |     | ±0.018 | 450 | 435 | 456 | 335 | 560 |
| 225S 11G0220           | PF400         | 356   | 178   | 311  | 149                               | 55  | 110   | ±0.40 | 16              | 49  | 225             | 19    | 400    | 350    | 450             | ±4.0            | 24              | φ1.50 | 5                  | 8                  | M20  | 490 | 504  | 370  | 615   | 915  | 1060 |        |     |     |     |        |     |     |     |     |     |
| 406                    |               | 203   | 349   | 168  | 65                                | 140 | 20    | 67.5  | 280             | 24  | 500             | 450   | ±0.020 | 550    | 550             | 566             | 410             |       |                    |                    |      | 680 | 1010 | 1156 |       |      |      |        |     |     |     |        |     |     |     |     |     |
| 457                    |               | 228.5 | 391   | 190  | 75                                | 18  | 53    | 250   | 28              | 315 | 28              | 600   | 550    | ±0.022 | 660             | 635             | 639             |       |                    |                    |      | 530 | 845  | 1190 | 1330  |      |      |        |     |     |     |        |     |     |     |     |     |
| 419                    |               | 75    | 20    | 67.5 | 18                                | 53  | 250   | 28    | 315             | 28  | 600             | 550   | ±0.022 | 660    | 635             | 639             | 530             |       |                    |                    |      | 845 | 1190 | 1330 |       |      |      |        |     |     |     |        |     |     |     |     |     |
| 280M 11G0283           | PF500         | 406   | 203   | 349  | 168                               | 65  | 140   | 20    | 67.5            | 280 | 24              | 500   | 450    | ±0.020 | 550             | 550             | 566             | 410   | 680                | 1010               | 1156 |     |      |      |       |      |      |        |     |     |     |        |     |     |     |     |     |
| 457                    |               | 228.5 | 391   | 190  | 75                                | 18  | 53    | 250   | 28              | 315 | 28              | 600   | 550    | ±0.022 | 660             | 635             | 639             | 530   | 845                | 1190               | 1330 |     |      |      |       |      |      |        |     |     |     |        |     |     |     |     |     |
| 419                    |               | 75    | 20    | 67.5 | 18                                | 53  | 250   | 28    | 315             | 28  | 600             | 550   | ±0.022 | 660    | 635             | 639             | 530             | 845   | 1190               | 1330               |      |     |      |      |       |      |      |        |     |     |     |        |     |     |     |     |     |
| 406                    |               | 203   | 349   | 168  | 65                                | 140 | 20    | 67.5  | 18              | 53  | 250             | 28    | 315    | 28     | 600             | 550             | ±0.022          | 660   | 635                | 639                | 530  | 845 | 1190 | 1330 |       |      |      |        |     |     |     |        |     |     |     |     |     |
| 315S 11G0310           | PF600         | 508   | 254   | 457  | 216                               | 80  | 170   | 22    | 71              | 315 | 28              | 600   | 550    | ±0.022 | 660             | 635             | 639             | 530   | 845                | 1190               | 1330 |     |      |      |       |      |      |        |     |     |     |        |     |     |     |     |     |
| 508                    |               | 254   | 457   | 216  | 80                                | 170 | 22    | 71    | 315             | 28  | 600             | 550   | ±0.022 | 660    | 635             | 639             | 530             | 845   | 1190               | 1330               |      |     |      |      |       |      |      |        |     |     |     |        |     |     |     |     |     |
| 508                    |               | 254   | 457   | 216  | 80                                | 170 | 22    | 71    | 315             | 28  | 600             | 550   | ±0.022 | 660    | 635             | 639             | 530             | 845   | 1190               | 1330               |      |     |      |      |       |      |      |        |     |     |     |        |     |     |     |     |     |
| 508                    |               | 254   | 457   | 216  | 80                                | 170 | 22    | 71    | 315             | 28  | 600             | 550   | ±0.022 | 660    | 635             | 639             | 530             | 845   | 1190               | 1330               |      |     |      |      |       |      |      |        |     |     |     |        |     |     |     |     |     |
| 355M 11G0353...11G0355 | PF740         | 610   | 305   | 500  | 250                               | 95  | 170   | 25    | 86              | 355 | 28              | 740   | 680    | ±0.025 | 800             | 730             | 718             | 655   | 1010               | 1530               | 1700 |     |      |      |       |      |      |        |     |     |     |        |     |     |     |     |     |
| 610                    |               | 305   | 500   | 250  | 95                                | 170 | 25    | 86    | 355             | 28  | 740             | 680   | ±0.025 | 800    | 730             | 718             | 655             | 1010  | 1530               | 1700               |      |     |      |      |       |      |      |        |     |     |     |        |     |     |     |     |     |
| 610                    |               | 305   | 500   | 250  | 95                                | 170 | 25    | 86    | 355             | 28  | 740             | 680   | ±0.025 | 800    | 730             | 718             | 655             | 1010  | 1530               | 1700               |      |     |      |      |       |      |      |        |     |     |     |        |     |     |     |     |     |
| 610                    |               | 305   | 500   | 250  | 95                                | 170 | 25    | 86    | 355             | 28  | 740             | 680   | ±0.025 | 800    | 730             | 718             | 655             | 1010  | 1530               | 1700               |      |     |      |      |       |      |      |        |     |     |     |        |     |     |     |     |     |
| 355L 11G0356...11G0357 |               | 630   |       |      |                                   | 95  | 170   | 25    | 86              |     |                 |       |        |        |                 |                 |                 |       |                    | M24                |      |     |      |      | 1530  | 1700 |      |        |     |     |     |        |     |     |     |     |     |

1) b-p-QB, GB limit deviations for frame size 80M 11G0080...11G0183 are (H<sup>+</sup>), others are (h<sup>+</sup>).

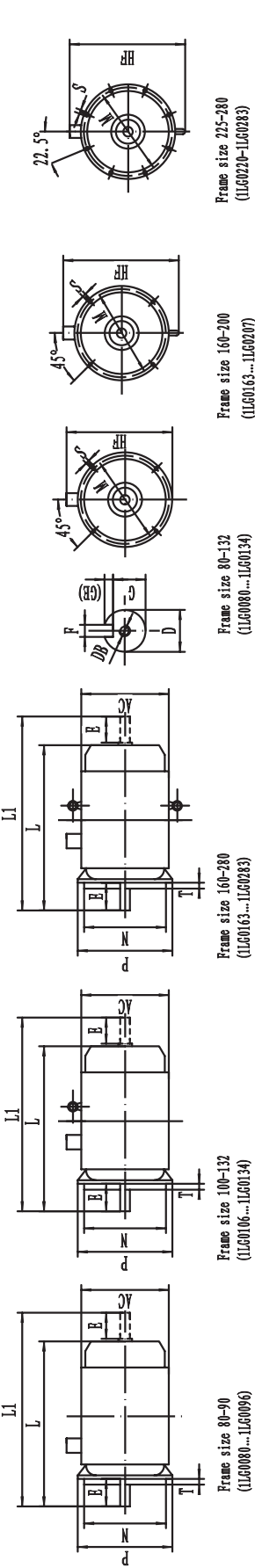
2) K, S hole's positional tolerances are based on the central line of shaft extension

3) Dimension of P is the maximum limit.

4) R is the distance from the flange to the drive shaft end.

1) D=QB, QB limit deviations for frame size 80M 11G0080...11G0083 are (+<sup>0.15</sup>), others are (+<sup>0.15</sup>), 2) K, S hole's positional tolerances are based on the central line of shaft extension  
3) Dimension of P is the maximum limit. 4) R is the distance from the flange to the drive shaft end.

Dimension drawings

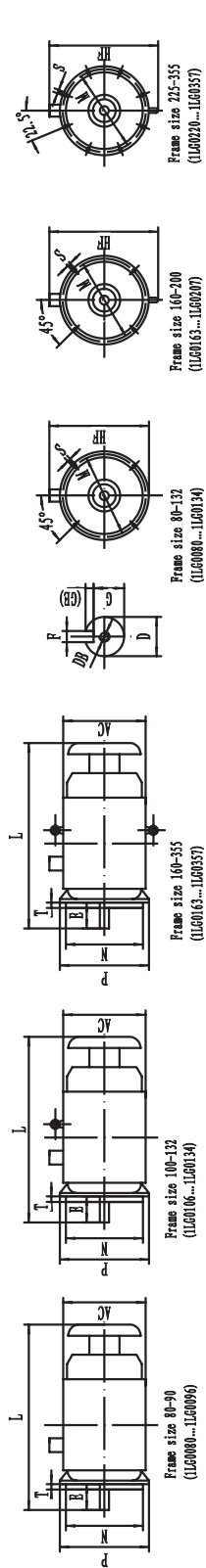


Frame without feet and with flange (with through holes) on the end shield

| Frame size |                   | Flange number | Poles | Mounting Dimensions and Tolerance                        |                                                          |             |                                                     |                                                     |                                                            |      |     |                                                          |                                                          |                 |           | Contour Dimensions |                                       |     |   |                    |     |     |             |             |      |      |     |     |     |  |  |  |  |  |  |  |  |  |  |     |      |
|------------|-------------------|---------------|-------|----------------------------------------------------------|----------------------------------------------------------|-------------|-----------------------------------------------------|-----------------------------------------------------|------------------------------------------------------------|------|-----|----------------------------------------------------------|----------------------------------------------------------|-----------------|-----------|--------------------|---------------------------------------|-----|---|--------------------|-----|-----|-------------|-------------|------|------|-----|-----|-----|--|--|--|--|--|--|--|--|--|--|-----|------|
|            |                   |               |       | D                                                        | E                                                        |             | F                                                   |                                                     | G <sup>1)</sup>                                            |      | M   | N                                                        | P <sup>3)</sup>                                          | R <sup>4)</sup> |           | S <sup>2)</sup>    |                                       | T   |   | Flange hole number | DB  | AC  | HF          | L           | L1   |      |     |     |     |  |  |  |  |  |  |  |  |  |  |     |      |
| 80M        | 1LG0080...1LG0083 | FF165         |       | 19                                                       | 40                                                       |             | 6                                                   | $\begin{smallmatrix} 0 \\ -0.030 \end{smallmatrix}$ | $\begin{smallmatrix} 15.5 \\ 0 \\ -0.10 \end{smallmatrix}$ |      | 165 | 130                                                      | 200                                                      |                 | $\pm 1.5$ | 12                 | $\phi 11.00 \text{ } \textcircled{H}$ | 3.5 | 4 | 8                  | M6  | 164 | 235         | 295         | 335  |      |     |     |     |  |  |  |  |  |  |  |  |  |  |     |      |
| 90S        | 1LG0090           |               | 24    | $\begin{smallmatrix} -0.009 \\ -0.004 \end{smallmatrix}$ |                                                          | 50          | $\pm 0.310$                                         | 8                                                   |                                                            | 20   |     |                                                          | $\begin{smallmatrix} -0.014 \\ -0.011 \end{smallmatrix}$ |                 |           |                    |                                       |     |   |                    |     |     |             | M8          | 184  | 255  | 320 | 375 |     |  |  |  |  |  |  |  |  |  |  |     |      |
| 90L        | 1LG0096           |               | 28    |                                                          | 60                                                       |             | $\begin{smallmatrix} 0 \\ -0.036 \end{smallmatrix}$ |                                                     | 24                                                         | 215  | 180 | 250                                                      |                                                          |                 |           |                    |                                       |     |   |                    |     |     |             |             |      |      |     | 345 | 400 |  |  |  |  |  |  |  |  |  |  |     |      |
| 100L       | 1LG0106...1LG0107 | FF215         |       | 38                                                       | 80                                                       | $\pm 0.370$ | 10                                                  |                                                     | 33                                                         | 265  | 230 | 300                                                      |                                                          | $\pm 2.0$       | 15        | 4                  | 4                                     | 4   | 4 | 4                  | M10 | 204 | 290         | 385         | 445  |      |     |     |     |  |  |  |  |  |  |  |  |  |  |     |      |
| 112M       | 1LG0113           |               |       |                                                          |                                                          |             |                                                     |                                                     |                                                            |      |     |                                                          |                                                          |                 |           |                    |                                       |     |   |                    |     |     |             |             |      |      |     |     |     |  |  |  |  |  |  |  |  |  |  | 228 | 315  |
| 132S       | 1LG0130...1LG0131 | FF265         | 2、4、6 | 42                                                       | $\begin{smallmatrix} -0.018 \\ -0.002 \end{smallmatrix}$ |             | 12                                                  |                                                     | 37                                                         | 300  | 250 | $\begin{smallmatrix} -0.016 \\ -0.013 \end{smallmatrix}$ | 350                                                      | $\pm 3.0$       | 19        | 5                  | $\phi 11.50 \text{ } \textcircled{H}$ | 5   | 5 | 5                  | M16 | 325 | 480         | 615         | 735  |      |     |     |     |  |  |  |  |  |  |  |  |  |  |     |      |
| 132M       | 1LG0133...1LG0134 |               |       |                                                          |                                                          |             |                                                     |                                                     |                                                            |      |     |                                                          |                                                          |                 |           |                    |                                       |     |   |                    |     | 48  | 110         | $\pm 0.430$ | 14   | 42.5 |     |     |     |  |  |  |  |  |  |  |  |  |  |     | 366  |
| 160M       | 1LG0163...1LG0164 | FF300         |       | 55                                                       |                                                          |             | 16                                                  | $\begin{smallmatrix} 0 \\ -0.043 \end{smallmatrix}$ | 49                                                         | 350  | 300 | $\pm 0.016$                                              | 400                                                      | $\pm 3.0$       | 19        | 5                  | $\phi 11.50 \text{ } \textcircled{H}$ | 5   | 5 | 5                  | 408 | 570 | 770         | 880         |      |      |     |     |     |  |  |  |  |  |  |  |  |  |  |     |      |
| 160L       | 1LG0166           |               | 60    |                                                          |                                                          |             |                                                     |                                                     |                                                            |      |     |                                                          |                                                          |                 |           |                    |                                       |     |   |                    |     | 140 | $\pm 0.500$ | 18          | 53   |      |     |     |     |  |  |  |  |  |  |  |  |  |  | 815 | 965  |
| 180M       | 1LG0183           |               | 55    |                                                          |                                                          |             |                                                     |                                                     |                                                            |      |     |                                                          |                                                          |                 |           |                    |                                       |     |   |                    |     | 110 | $\pm 0.430$ | 16          | 49   |      |     |     |     |  |  |  |  |  |  |  |  |  |  |     | 820  |
| 180L       | 1LG0186           | FF350         |       | 60                                                       | $\begin{smallmatrix} -0.030 \\ -0.011 \end{smallmatrix}$ |             | 18                                                  |                                                     | 53                                                         | 500  | 450 | $\pm 0.018$                                              | 450                                                      | $\pm 4.0$       | 19        | 5                  | $\phi 11.50 \text{ } \textcircled{H}$ | 5   | 5 | 5                  | M20 | 504 | 685         | 915         | 1060 |      |     |     |     |  |  |  |  |  |  |  |  |  |  |     |      |
| 200L       | 1LG0206...1LG0207 |               | 65    |                                                          |                                                          |             |                                                     |                                                     |                                                            |      |     |                                                          |                                                          |                 |           |                    |                                       |     |   |                    |     | 140 | $\pm 0.500$ |             |      |      |     |     |     |  |  |  |  |  |  |  |  |  |  |     | 1060 |
| 225S       | 1LG0220           | FF400         | 4     | 60                                                       |                                                          |             | 18                                                  |                                                     | 53                                                         |      |     |                                                          |                                                          |                 |           |                    |                                       |     |   |                    |     |     |             |             |      |      |     |     |     |  |  |  |  |  |  |  |  |  |  |     |      |
|            |                   |               | 2     | 55                                                       |                                                          |             |                                                     | 16                                                  |                                                            | 49   |     |                                                          |                                                          |                 |           |                    |                                       |     |   |                    |     |     |             |             |      |      |     |     |     |  |  |  |  |  |  |  |  |  |  |     |      |
| 225M       | 1LG0223           | FF500         | 4、6   | 60                                                       |                                                          |             |                                                     |                                                     | 53                                                         |      |     |                                                          |                                                          |                 |           |                    |                                       |     |   |                    |     |     |             |             |      |      |     |     |     |  |  |  |  |  |  |  |  |  |  |     |      |
|            |                   |               | 2     |                                                          |                                                          |             |                                                     | 18                                                  |                                                            |      |     |                                                          |                                                          |                 |           |                    |                                       |     |   |                    |     |     |             |             |      |      |     |     |     |  |  |  |  |  |  |  |  |  |  |     |      |
| 250M       | 1LG0253           | FF500         | 4、6   | 65                                                       |                                                          |             |                                                     |                                                     | 58                                                         |      |     |                                                          |                                                          |                 |           |                    |                                       |     |   |                    |     |     |             |             |      |      |     |     |     |  |  |  |  |  |  |  |  |  |  |     |      |
|            |                   |               | 2     |                                                          |                                                          |             |                                                     |                                                     |                                                            | 67.5 |     |                                                          |                                                          |                 |           |                    |                                       |     |   |                    |     |     |             |             |      |      |     |     |     |  |  |  |  |  |  |  |  |  |  |     |      |
| 280S       | 1LG0280           |               | 4、6   | 75                                                       |                                                          |             |                                                     |                                                     |                                                            | 67.5 |     |                                                          |                                                          |                 |           |                    |                                       |     |   |                    |     |     |             |             |      |      |     |     |     |  |  |  |  |  |  |  |  |  |  |     |      |
|            |                   |               | 2     | 65                                                       |                                                          |             |                                                     |                                                     |                                                            | 58   |     |                                                          |                                                          |                 |           |                    |                                       |     |   |                    |     |     |             |             |      |      |     |     |     |  |  |  |  |  |  |  |  |  |  |     |      |
| 280M       | 1LG0283           |               | 4、6   | 75                                                       |                                                          |             |                                                     |                                                     | 67.5                                                       |      |     |                                                          |                                                          |                 |           |                    |                                       |     |   |                    |     |     |             |             |      |      |     |     |     |  |  |  |  |  |  |  |  |  |  |     |      |
|            |                   |               |       |                                                          |                                                          |             |                                                     |                                                     | 67.5                                                       |      |     |                                                          |                                                          |                 |           |                    |                                       |     |   |                    |     |     |             |             |      |      |     |     |     |  |  |  |  |  |  |  |  |  |  |     |      |

1) G=D-GE, GE limit deviations for frame size 80M 1LG0080...1LG0083 are (+<sup>0</sup><sub>-0.10</sub>), others are (+<sup>0</sup><sub>-0.10</sub>).  
2) S hole's positional tolerance is based on the central line of shaft extension  
3) Dimension of P is the maximum limit.  
4) R is the distance from the flange to the drive shaft end.

# Dimension drawings



Vertically-mounted, Frame without feet and with flange (with through holes) on the end shield, shaft extension downwards mm

| Frame size |                   | Flange number | Poles   | Mounting Dimensions and Tolerance |    |   |                                                     |                                                    |                 |                                                          |     |           |                 | Contour Dimensions                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 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|            |                   |               |         | D                                 | E  |   | F                                                   |                                                    | G <sup>1)</sup> |                                                          | M   | N         | P <sup>3)</sup> | R <sup>4)</sup>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | S <sup>2)</sup> |  | T | Flange hole number |
| 80M        | 1LG0080...1LG0083 | FF165         | 2, 4, 6 | 19                                | 40 | 6 | $\begin{smallmatrix} 0 \\ -0.099 \end{smallmatrix}$ | $\begin{smallmatrix} 0 \\ -0.19 \end{smallmatrix}$ | 165             | $\begin{smallmatrix} -0.014 \\ -0.011 \end{smallmatrix}$ | 200 | $\pm 1.5$ | 12              | $\phi 1.0 \text{ } \text{ } \text{ } \text{ } \text{ } \text{ } \text{ } \text{ } \text{ } \text{ } \text{ } \text{ } \text{ } \text{ } \text{ } \text{ } \text{ } \text{ } \text{ } \text{ } \text{ } \text{ } \text{ } \text{ } \text{ } \text{ } \text{ } \text{ } \text{ } \text{ } \text{ } \text{ } \text{ } \text{ } \text{ } \text{ } \text{ } \text{ } \text{ } \text{ } \text{ } \text{ } \text{ } \text{ } \text{ } \text{ } \text{ } \text{ } \text{ } \text{ } \text{ } \text{ } \text{ } \text{ } \text{ } \text{ } \text{ } \text{ } \text{ } \text{ } \text{ } \text{ } \text{ } \text{ } \text{ } \text{ } \text{ } \text{ } \text{ } \text{ } \text{ } \text{ } \text{ } \text{ 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1) G=D-GB limit deviations for frame size 80M 1LG0080...1LG00183 are (<sup>+0.10</sup>/<sub>0</sub>), others are (<sup>+0.10</sup>/<sub>0</sub>). 2) K, S hole's positional tolerances are based on the central line of shaft extension  
3) Dimension of P is the maximum limit. 4) R is the distance from the flange to the drive shaft end.

# Certificate



## CERTIFICATE FOR CHINA COMPULSORY PRODUCT CERTIFICATION

No. : 2006010401192408

### NAME AND ADDRESS OF THE APPLICANT

Siemens Standard Motors Ltd.  
No.110 West Street, Qingshan Town, Yizheng city, Jiangsu prov.

TRADE MARK: SIEMENS

### NAME AND ADDRESS OF THE MANUFACTURER

Siemens Standard Motors Ltd.  
No.110 West Street, Qingshan Town, Yizheng city, Jiangsu prov.

### NAME AND ADDRESS OF THE FACTORY

Siemens Standard Motors Ltd.  
No.110 West Street, Qingshan Town, Yizheng city, Jiangsu prov.

### NAME, MODEL AND SPECIFICATION

1LG0 Series Three-Phase Asynchronous Motors  
1LG0系列 220V/380V 50Hz 0.75-2.2kW 2P 0.55-1.1kW 4P 0.55-0.75kW 6P;  
Insulation class:F

### THE STANDARDS AND TECHNICAL REQUIREMENTS FOR THE PRODUCTS

GB14711-2006

THIS IS TO CERTIFY THAT THE ABOVE MENTIONED PRODUCTS HAVE QUALIFIED FOR  
THE REQUIREMENTS OF IMPLEMENTATION RULES FOR COMPULSORY CERTIFICATION

ISSUED DATE:Aug. 12, 2008

THE VALIDITY OF THE CERTIFICATE DEPEND ON THE FOLLOW UP INSPECTION BY THE  
CERTIFICATION BODY AT REGULAR INTERVALS

(ORIGINAL ISSUED DATE: Jul24,2006)



President:

Wang Kejiao

CHINA QUALITY CERTIFICATION CENTRE

Section 9, No.188, Nansihuan Xilu, Beijing 100070 P.R.China

<http://www.cqc.com.cn>



Q 0003378

# Certificate



## ATTESTATION OF CONFORMITY WITH EUROPEAN DIRECTIVE

Order No. 75053

A sample of the following product has been tested and is stated by Nemko to be in conformity with the applicable European safety- and EMC standards referred below.

|                     |                                                                                                                       |
|---------------------|-----------------------------------------------------------------------------------------------------------------------|
| Manufacturer        | Siemens Standard Motors Ltd.<br>110 West Street, Qingshan Town<br>Yizheng City<br>P.R. CHINA                          |
| Product             | Three-phase Induction Motors                                                                                          |
| Model/type          | 1LG0abc                                                                                                               |
| Data                | 220/380V~ alt. 380/660V~, 50Hz or 440V~, 60Hz; 0.55kW-315kW                                                           |
| Other specification | IP55, 2/4/6P; Frame size 80-355mm                                                                                     |
| Standards applied   | Safety std.: EN 60034-1:2004<br>EN 60034-5:2001<br><br>EMC std.: EMC is based on self-declaration by the manufacturer |
| Statement reference | 75053                                                                                                                 |

It may therefore be presumed that the tested sample of the product is in conformity with the technical provisions of the following European Directives including the latest amendments, and with national legislation implementing these Directives:

- Low Voltage Directive 73/23/EEC
- EMC Directive 89/336/EEC

On this basis, the manufacturer (or the European authorized representative), may draw up an EC/EEA Declaration of Conformity and affix the CE-marking as indicated below to each conforming product.

Additional information Description of type reference:  
abc = frame size: 080-355

Date of issue 02 November 2006

signature

Magne Løvaas  
Head of section



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