Product Research Report: Siemens 1LG6317-4AA96-Z 315L

1. Product Name

Siemens 1LG6 Series AC Induction Motor 1LG6317-4AA96-Z (315L Frame)

2. SEO Keywords

- Siemens 1LG6 motor
- 1LG6317-4AA96-Z
- Siemens 315L motor
- Siemens Simotics GP motor
- Siemens IE3 motor 185kW
- Siemens large frame motor
- Siemens industrial motor 4-pole

3. Category

[new] Motor -> Siemens

4. Product Introduction

Series#: Motor -> Siemens
- Siemens 1LG6317-4AA96-Z AC Induction Motor (315L Frame)
- We have large inventory for Siemens 1LG6 Series Large Frame AC Induction Motors, Siemens Simotics GP motors and related accessories.
- 100% Original and new, In stock by Eaton Company.
- Delivery time: Ready in stock and 1 days for ship out
- MOQ: 1pcs

5. Brand & Model

model：1LG6317-4AA96-Z
brand：Siemens

6. Service & Applications

The Siemens 1LG6317-4AA96-Z is a high-power 4-pole AC induction motor from the 1LG6 series with a 315L large frame size, delivering 185 kW (approximately 248 HP) at 400V/50Hz. As an IE3 Premium Efficiency motor, it meets the highest efficiency standards for industrial low-voltage applications. The motor features IP55 protection, IC411 self-ventilated cooling, IM B3 foot-mounted construction, and a nominal operating speed of approximately 1485-1490 rpm. With a weight of approximately 1200-1350 kg and excellent starting characteristics (starting torque ~1.9-2.2x rated, starting current ~6.5-7.5x rated), this motor is ideal for heavy-duty applications including large pumps, compressors, fans, crushers, and industrial processing equipment. The "-Z" suffix denotes factory-special options, requiring reference to the original order documentation for full specification details.

7. Specifications Table

Feature	Specification
Manufacturer	Siemens
Series	1LG6 (Simotics GP)
Frame Size	315L
Order Number	1LG6317-4AA96-Z
Number of Poles	4
Motor Type	Squirrel-Cage Induction Motor
Rated Power	185 kW (~248 HP)
Rated Voltage	400V Δ / 690V Y
Rated Current @400V	~325 A
Frequency	50 Hz (60 Hz compatible, check nameplate)
Speed (Nominal)	~1485-1490 rpm
Efficiency Class	IE3 (Premium Efficiency)
Power Factor (cos φ)	~0.87 - 0.89
Starting Current (IA/IN)	6.5 - 7.5 x Rated Current
Starting Torque (MA/MN)	1.9 - 2.2 x Rated Torque
Construction Type	IM B3 (Foot mounting, horizontal)
Shaft Height	315 mm
Shaft Diameter	~90 mm
Shaft Length	~170 mm
Footprint (A x B)	~610 mm x 500 mm
Weight	~1200 - 1350 kg
Degree of Protection	IP55
Cooling Method	IC411 (Self-ventilated, radial fan)
Insulation Class	F
Vibration Severity	Grade A (Standard) / Grade B
Noise Level	~85 dB(A)
Ambient Temperature	-20°C to +40°C
Duty Cycle	S1 (Continuous running)
Special Code	-Z: Factory specials (non-standard options)

8. FAQ

Q: What is the rated power of the Siemens 1LG6317-4AA96-Z motor?
A: The rated power is 185 kW (approximately 248 HP) at 400V/50Hz in 4-pole configuration.

Q: What does the "Z" suffix mean in 1LG6317-4AA96-Z?
A: The "-Z" indicates factory-special options that deviate from the standard catalog motor. These could include specific bearing arrangements, different voltage/frequency settings, special sealing, or specific terminal box locations. Consult the original order confirmation or motor nameplate for exact details.

Q: What are the physical dimensions of this 315L frame motor?
A: It has a 315mm shaft height, approximately 610mm x 500mm footprint, 90mm shaft diameter x 170mm shaft length, and weighs approximately 1200-1350 kg.

Q: What is the efficiency class of this motor?
A: IE3 (Premium Efficiency), which is standard for the 1LG6 series motors produced after 2015.

Q: Is this motor suitable for VFD operation?
A: Yes, with Class F insulation and IC411 cooling. For VFD applications, verify that the "-Z" factory special options include provisions for bearing currents (insulated bearings) at low speed operation.

Q: What is the starting current and torque?
A: Starting current is approximately 6.5-7.5 times rated current, and starting torque is approximately 1.9-2.2 times rated torque.

Q: What is the protection rating?
A: IP55 — dust-tight and protected against water jets, suitable for most industrial environments.

Q: Can this motor operate at 60Hz?
A: The 1LG6 series is often compatible with 60Hz operation. Check the physical nameplate for the specific 60Hz voltage and power ratings.