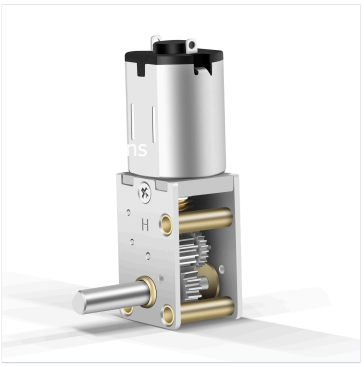
DC Worm Gear Motor GM1220EMN

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DC Worm Gear Motor GM1220EMN

Main Applications

Industrial Automation

Industrial valves, dampers, gates, low-speed rotary platforms, adjustment mechanisms, and compact actuators requiring right-angle transmission.

Focus: Match starting torque, continuous torque, duty cycle, temperature rise, lubrication, and emergency manual-release requirements. Continuous high-load operation must be validated thermally.

Smart Home & Appliances

Electric doors/windows, smart blinds, smart valves, furniture adjustment, kitchen/bathroom appliances, pet equipment, and automatic opening/closing or lifting mechanisms.

Focus: Balance low noise, current consumption, motion smoothness, and holding performance. Validate frequent start/stop, reversing, long standstill, abnormal stall, and restart in the customer's actual mechanism.

Commercial & Office Equipment

Electric lifting mechanisms, vending-machine gates, smart cabinet locking/actuation, display lifting, automatic flaps, and other compact opening/closing mechanisms.

Focus: For unattended equipment, validate long-term standstill restart, humidity, lubrication aging, jam recovery, abnormal power interruption, and reverse-holding requirements.

Medical Auxiliary Equipment

Nursing-bed, medical-chair, lifting, positioning, and adjustment mechanisms where low-speed torque or right-angle transmission is needed.

Focus: Any function related to patient safety requires system-level risk control. Reverse holding must be tested, and independent mechanical locking, limit, brake, or protection mechanisms may be required.

Smart Agriculture & Gardening

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Ventilation/adjustment mechanisms, irrigation-related actuators, greenhouse opening/closing systems, feeding mechanisms, and equipment height or angle adjustment.

Focus: Evaluate moisture, dust, corrosion, temperature change, vibration, shock, long standstill, abnormal jam, and shaft/interface protection at the complete-product level.

AI & Service Robotics

Low-speed lifting, rotary stages, compact joints, and mechanisms that benefit from right-angle packaging and position holding.

Focus: Worm gearing has sliding friction, so battery-powered systems should calculate energy consumption and temperature rise from the real motion cycle. It may not be the best choice for high-speed or high-efficiency axes.

Automotive Electronics

Window, sunroof, seat, and other actuator concepts requiring right-angle transmission and load holding, subject to automotive-grade validation.

Focus: Anti-pinch or safety functions cannot be achieved by the gearmotor alone. Current sensing, position feedback, control logic, mechanical protection, temperature testing, vibration testing, and life validation are system responsibilities.

FAQ

Q1. What applications are best suited for DC worm gear motors?

Worm gear motors are well suited for applications that require right-angle output, high reduction ratios, low-speed high-torque operation, or load-holding capability after the motor stops. Typical applications include valves, windows and doors, lifting mechanisms, opening and closing systems, adjustment mechanisms, locking devices, rotary platforms, and other low-speed actuators. If the application places a higher priority on efficiency, high-speed operation, frequent rapid reversing, or fast dynamic response, a spur gear, planetary g[illegible]er drive solution may be mo[illegible]iate.

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Q2. How do you balance output torque, efficiency, speed, and temperature rise?

A higher reduction ratio can generally provide lower output speed and higher output torque, but it can also increase sliding friction, reduce transmission efficiency, and raise operating temperature. The motor and gear ratio should therefore be selected based on the continuous load, starting load, operating time, duty cycle, and allowable current. For continuous-duty or high-load applications, temperature rise, efficiency, and service life should be validated in the complete product rather than relying only on no-load data.

Q3. How can reliability risks from stalling, reverse loads, and long-term operation be reduced?

Normal operating torque, starting torque, stall torque, and external reverse-impact loads should all be evaluated during selection and validation. For mechanisms that may jam or overload, protection methods such as current detection, action timeout, limit switches, reverse-recovery logic, or mechanical buffering should be considered. For long-term use, testing should also cover gear wear, lubrication condition, bearing load, temperature rise, reversing impact, and restart performance after extended periods of inactivity.

Q4: What information should I provide for a faster quotation and technical evaluation?

Please provide the operating voltage, torque, and target speed. If complete parameters are not available, an existing motor sample, prototype, or mechanism drawing can be used for initial evaluation.

Q5： How do I place an order with Shunli Motor?

Please send us your application requirements or motor specifications. Our engineering team will develop a suitable solution, confirm the technical details, and provide samples for evaluation. [illegible] samples are approved, [illegible] nge mass production. Shipping methods can [illegible]

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selected based on your delivery requirements.

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Product Overview

The GM1220 is a DC worm gear motor offering high reduction ratio, high output torque, and self-locking right-angle output. It suits smart valves, door locks, automatic curtains, vending machines, lifting devices, and industrial actuators that require compact packaging and position holding.

Model Information

Model	Motor Platform	Rated Voltage	Product Category
GM1220EMN20-95K	1220 PMDC Motor	4.5 VDC	DC Gear Motor
GM1220EMN30-1007K	1220 PMDC Motor	12 VDC	DC Gear Motor

Main Parameters

Technical Data

Gearmotor Model	Rated Voltage	No-Load Speed (RPM)	No-Load Current (mA)	Rated Speed (RPM)	Rated Current (mA)	Rated Torque*
GM1220EMN20-95K (1:95)	4.5 VDC	145	≤70	122	≤200	8 / 80
GM1220EMN30-1007K (1:1007)	12 VDC	25	≤90	22	≤230	120 / 1200

Technical Data

Series Parameter	Specification
Reference Models	GM1220EMN20-95K / GM1220EMN30-1007K
Reduction Ratio	1:95 / 1:1007
Rated Voltage	4.5 VDC / 12 VDC
Rated Torque	8 mN·m / 80 gf·cm to 120 mN·m / 1200 gf·cm

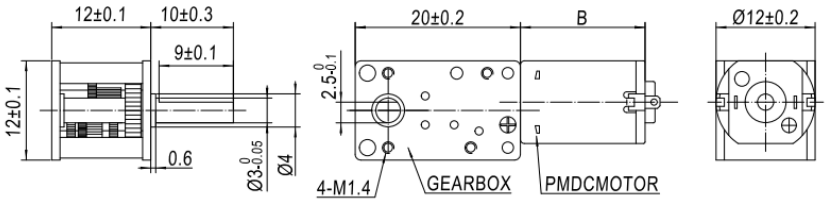
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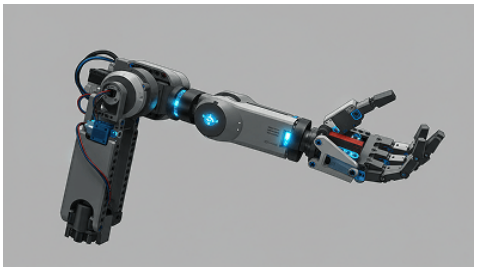
Stall Torque	75 mN·m / 750 gf·cm to 420 mN·m / 4200 gf·cm

Dimension Drawing

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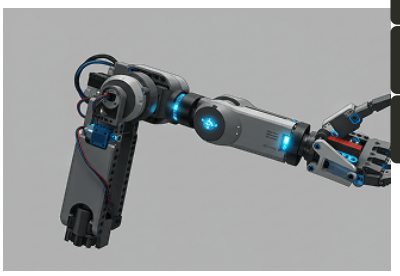


Main Applications



Industrial Automation

Industrial valves, dampers, gates, low-speed rotary platforms, adjustment mechanisms, and



Industrial Automation

Industrial valves, dampers, gates, low-sp rotary platforms, adjustment mechanisms

Customization Range

- **Electrical Configuration**

  Rated voltage, motor platform, winding configuration, rotation direction, lead wire, terminal, and connection requirements.

- **Performance Matching**

  Target output speed, reduction ratio, continuous/starting/peak torque, current limit, duty cycle, and operating pattern.

- **Mechanical Interface**

  Output direction, shaft shape and length, mounting holes/interface, bracket, bearing/sleeve selection, and gear material.

- **Feedback & Functional Options**

  Encoder, Hall/position feedback, limit switch, or related functional modules can be evaluated according to the control architecture.

- **Noise, Thermal & Reliability Optimization**

  Gear meshing, lubrication, transmission clearance, temperature rise, stall/overload, reversing, long standstill restart, and target service life ca nized and validat for the complete product.

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Holding & Emergency Requirements

Reverse-holding behavior and manual-release requirements can be evaluated. Safety locking should be handled with appropriate system-level mechanical and control protection.

FAQ

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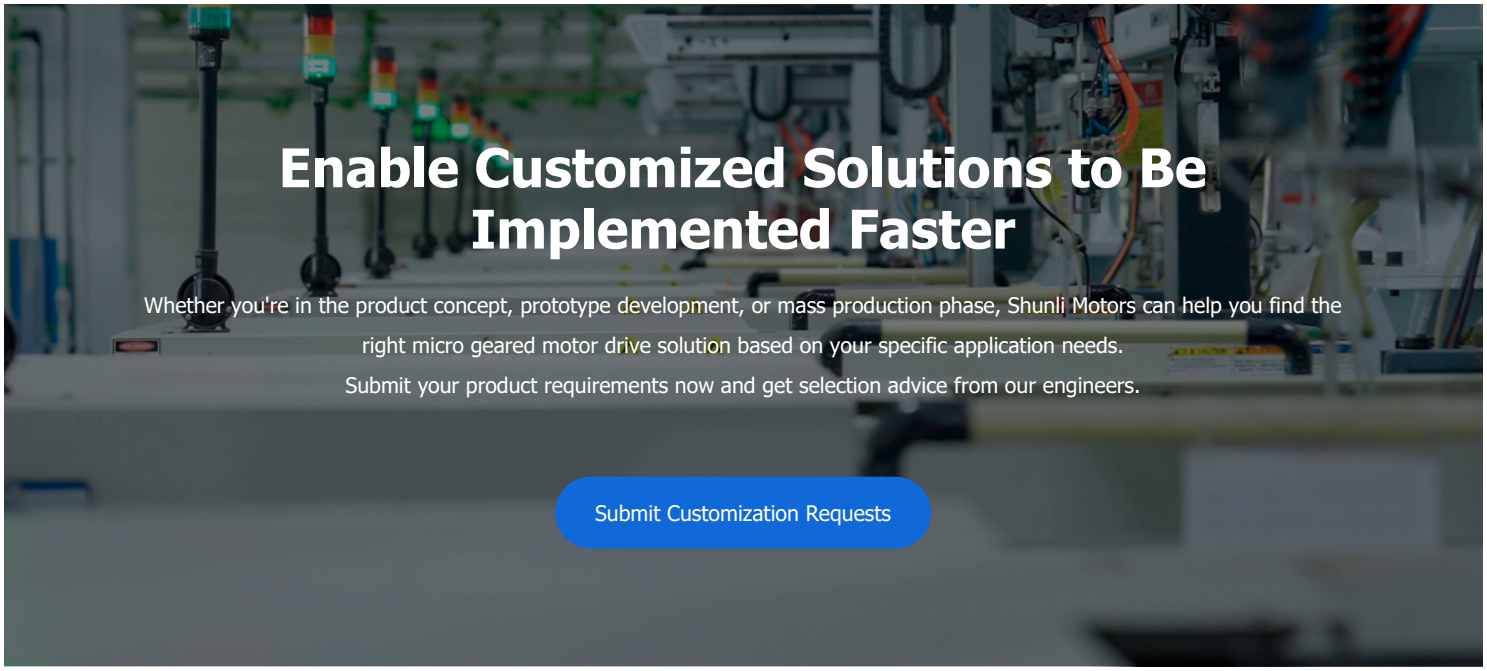
Q1: What types of projects are best suited to the GM58EM DC Worm Gear Motor?

Yes. Provide the product structure, space, load, and motion requirements, and our engineering team can assist with parameter conversion and solution evaluation.

Q2: What types of projects are best suited to the GM58EM DC Worm Gear Motor?

Q3: What types of projects are best suited to the GM58EM DC Worm Gear Motor?

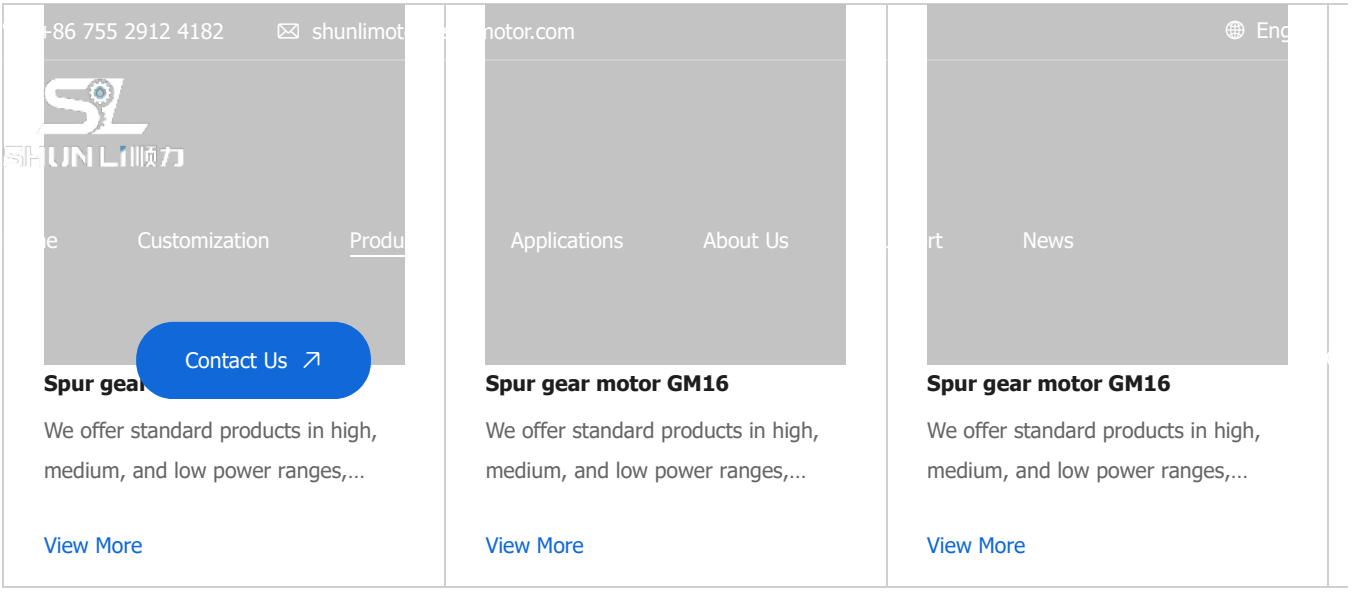
Q4: What types of projects are best suited to the GM58EM DC Worm Gear Motor?



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