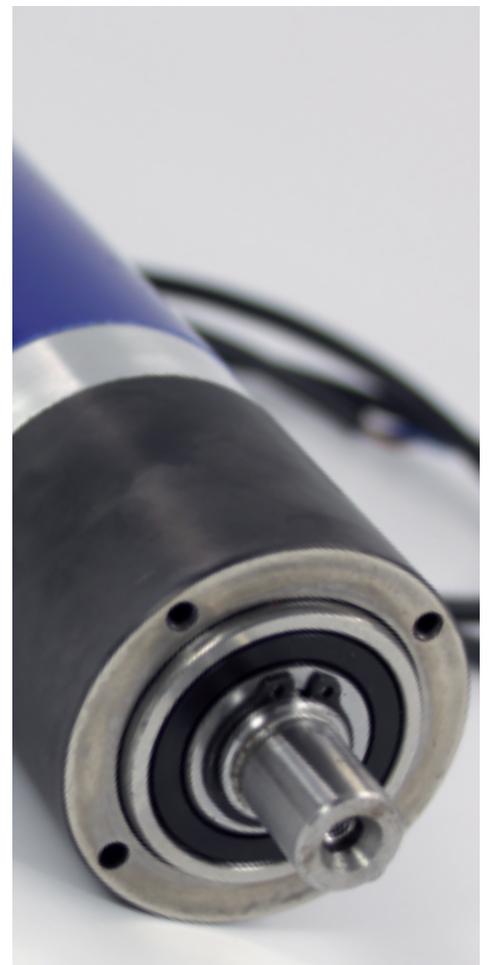
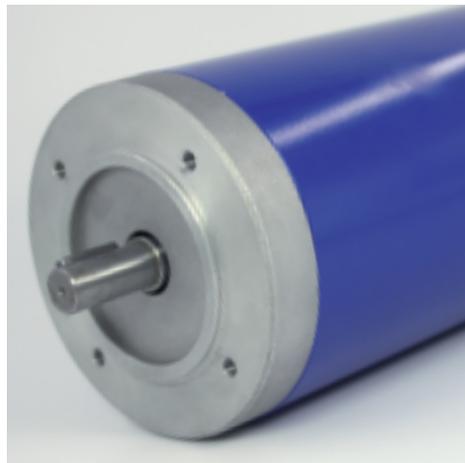
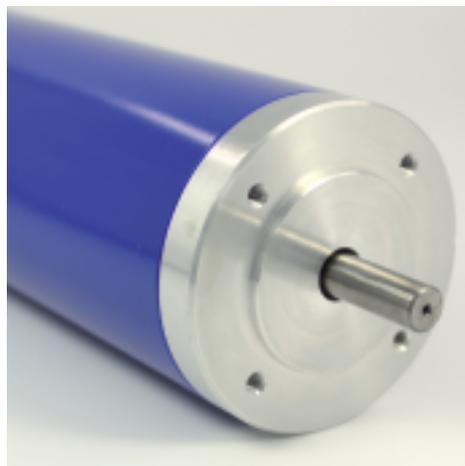


# VGM Series

DC motors with permanent magnet field

Brushed DC motors with protection class IP54 or IP65

**High Quality • Customizable • Flexible**



Your trusted partner for durable drive solutions since 1923



**ENGEL** ElektroMotoren AG

## VGM simplified DC motors

- Brushed DC motors with protection class IP54 or IP65
- Flexible/ modular designs, long service life, adaptable to customer requirements
- Three sizes, each with several lengths - depending on duty level
- Sizes VGM31../ VGM54../ VGM80..
- Rated power range (S1) of 30W - 500W (in intermittent operation up to more than 1.000W)
- Rated voltage 24V<sub>DC</sub> (modification possible as 12V<sub>DC</sub>, 42V<sub>DC</sub> and in some cases also as 180 V<sub>DC</sub>)
- Available on request with planetary gear, worm gear or spur gear

We have summarised the initial product information with the most relevant data appertaining to the standard versions to give an overview of the advantages that this series offers.

The VGM series offers DC motors with protection class IP54 and optionally IP65. These models are characterised by a closed design, meaning in this case without carbon brush windows. The various sizes can have the same windings (voltage, speed, torque) as our GNM series. We offer the standard version in 24V<sub>DC</sub>. The connection cable is connected axially to the outside via a cable gland and the flange is attached with four threads.

Similar to the GNM series, these are brushed permanent magnet DC motors.

The modular design enables the combination with various gearboxes, holding brakes, encoder systems or other attachments – all according to requirements and customer demands.

High demands on accuracy of speed and control dynamics, e.g. when using positioning control, necessitate the installation of a suitable encoder system, either incremental or absolute encoders, according to customer requirements.

Various incremental encoders with 5V<sub>TTL</sub> or 24V<sub>HTL</sub> level are available. Two or three signal tracks in the most common resolutions are possible.

**Customized modifications are also among our core strengths in this series!**



VGM3150



VGM5480



VGM8070

| Type    | Size      | Voltage (V <sub>DC</sub> ) | Nominal data    |             |                     | Housing |             | Shaft  |             |
|---------|-----------|----------------------------|-----------------|-------------|---------------------|---------|-------------|--------|-------------|
|         |           |                            | Rated power (W) | Speed (rpm) | Nominal torque (Nm) | Ø (mm)  | Length (mm) | Ø (mm) | Length (mm) |
| VGM31.. | VGM3125   | 24                         | 30              | 3000        | 0,096               | 55      | 97          | 8      | 30          |
|         | VGM3150   | 24                         | 55              | 3000        | 0,175               | 55      | 122         | 8      | 30          |
|         | VGM3175   | 24                         | 75              | 3000        | 0,239               | 55      | 148         | 8      | 30          |
| VGM54.. | VGM5440   | 24                         | 150             | 3000        | 0,477               | 83      | 162         | 11     | 32          |
|         | VGM5480   | 24                         | 250             | 3000        | 0,796               | 83      | 202         | 11     | 32          |
| VGM80.. | VGM8035/4 | 24                         | 280             | 3000        | 0,900               | 110     | 147         | 14     | 30          |
|         | VGM8070/4 | 24                         | 500             | 3000        | 1,600               | 110     | 202         | 14     | 30          |

## VGM simplified DC gear motors

Two planetary gears in different sizes are available as attachments, adapted to the special features of these motors. The gearboxes are built to be particularly robust. The output shaft is mounted on ball bearings. Most of the planetary gear wheels are mounted on roller bearings. It is possible to achieve peak torques of up to 110 Nm. ENGEL planetary gears are used in applications where high torques are required in a compact design.

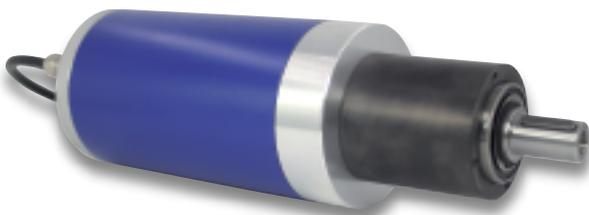
Power is transmitted from the toothed motor shaft directly to the planetary gearbox, a coupling is not required. As an option, a smooth shaft and adaptation by means of a clamping ring or coupling can be supplied on request.



VGM3175 - GP55



VGM5480 - GP75



VGM8070 - GP75

The standard DC Motors series VGM31 and VGM54 are equipped with plain shaft and round output flange in model B14. The VGM80 series, however, is equipped as standard with a shaft, key and round output flange, likewise in model B14.

### Features:

- High acceleration enabled by low mass moments of inertia
- Long brush lifetime due to optimised brush system
- Robust mechanical structure in tubular steel housing with aluminium bearing shields and tension rod fixing

### Gearbox configuration

The planetary gears of the GP75 series branch the torques to be transmitted into three symmetrical partial torques. This, together with the one-piece, internally toothed gearbox housing and the combination of output bearing and centring collar, allows for an optimally compact design. All gear parts are made of high-strength steel and heat-treated. The gearbox features synthetic grease lubrication.

All planetary gears are equipped with needle bearings. The gearbox output shaft has double roller bearings and can therefore withstand high axial and radial loads. The GP75 series gearboxes are ideally suited for industrial use as a result of their extremely robust structure.

| Type         | Rated voltage (V <sub>DC</sub> ) | Output speed from - to (rpm) | Gear reduction from - to (i) | Gearbox limiting load       |                           |
|--------------|----------------------------------|------------------------------|------------------------------|-----------------------------|---------------------------|
|              |                                  |                              |                              | Max. continuous torque (Nm) | Max. starting torque (Nm) |
| VGM31 – GP55 | 24                               | 750 - 61                     | 4:1 - 49:1                   | 10 - 28                     | 15 - 50                   |
| VGM54 – GP75 | 24                               | 750 - 61                     | 4:1 - 49:1                   | 30 - 75                     | 45 - 110                  |
| VGM80 – GP75 | 24                               | 750 - 61                     | 4:1 - 49:1                   | 30 - 75                     | 45 - 110                  |

**We are glad to answer your questions promptly and are always available for a personal consultation. Contact us via email at [kontakt@engel-elektromotoren.de](mailto:kontakt@engel-elektromotoren.de) or by telephone under +49 (6123) 994-400.**



This flyer only presents an excerpt from our product range. Further information and the data sheets for the complete product range can be found at [www.engel-elektromotoren.de](http://www.engel-elektromotoren.de)

Alternatively please use our personal consultation service.



## We will find the most optimum drive for your requirements.

We offer a wide range of standard versions of brushed and brushless electric motors, gearboxes and drive controllers, as well as technical advice on special designs. Our technically experienced employees will develop the best possible drive solution. While always with a focussing on achieving the best possible savings potential in your application.



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