Rack and pinion gearboxes





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Framo Morat has developed a high-performance rack and pinion gearbox for lifting medium loads up to 0.26 metric tons. This rack and pinion gearbox is available in the standard stroke length of 250 mm. Other stroke lengths available upon request. The rack and pinion gearbox is designed for use outdoors. All parts are constructed of stainless steel or protected with a two-layer coating. This rack and pinion gearbox is suitable for a wide range of tasks, whether displacement of shading systems or other outdoor applications.

Framo Morat – Rack and pinion gearboxes:

- Stroke length 250 mm (other stroke lengths upon request)
- Dynamic load up to 2,600 N / static load up to 15,000 N
- Stroke speed up to 1.5 mm/s, duty cycle 50%
- Rack and pinion made of hardened stainless steel
- Housing made of coated aluminum

Dimensions





Technical data

Specification	Value
Dynamic load at stroke length 250 mm	2,600 N
Static load at stroke length 250 mm	15,000 N
Stroke length	250 mm (other stroke lengths upon request)
Stroke speed	1.5 mm/s
Duty cycle	50 %
Worm gear set's gear ratio	i= 28
Overall gear ratio	3.1 mm stroke/revolution of the motor shaft
Overall efficiency η	0.36
Lifecycle	60,000 strokes under S3 - 50% conditions
Ambient temperature	- 20 to + 80°C

Application example

Sunshades - Always ready to move



Building façade engineering

The facade louvers on the prize-winning "Kraanspoor" building in Amsterdam are able to move once again thanks to 1320 new, corrosion-resistant rack and pinion drives from Framo Morat. The 270-meter-long "Kraanspoor" office building was constructed in 2008 on a site previously belonging to a ship crane. The building has a double-layer glass facade, whose outer hull consists of electrically adjustable glass louvers with a silk-screened coating. They can be opened from between 0 and 90° with the aid of rack and pinion drives.

At least, that is how the architects imagined it – in practice, it became apparent after just one year that the rack and pinion drives that had been installed were not coping well with the rough sea climate and corroded so strongly that the glass panels could no longer be moved. Extensive renovation of the facade was ruled out; as a result, a new rack and pinion drive had to be developed with dimensions and technical specifications similar to the originally installed product.

The new drive is produced from high-quality corrosion-resistant materials. The housing consists of a salt water-resistant aluminum alloy and is further protected by two layers of a light-gray coating. The worm shaft and rack are made from hardened stainless steel. The gearbox itself is double-sealed; in addition, the pressure inside each drive has been equalized.

Due to its construction and materials, the rack and pinion gearbox is ideal for outdoor applications of all types. Stroke length can be adapted, permitting a wide variety of conceivable uses.



Your idea – Our drive.

You are at the focus of everything we do.





We offer an extensive line of products comprised of gear technology, worm gear sets, and drive engineering, covering a large range of applications. In addition to our wide selection of standard products, we also design and execute custom drive solutions. Framo Morat is your reliable partner for everything from worm and spur gears through complete gear motors to complex drive systems. We're even ready to take on your drive ideas!



Benefit from the experience and knowledge that comes from two hundred years of Black Forest industrial heritage. **www.gearvalley.com**

Gear technology

Gears with internal and external teeth. Rotor shafts, pinions, and chain sprockets according to customer specs.

Worm gear sets

Having manufactured more than one million gear sets, Framo Morat is a leading international supplier. A large number of these were custom gear sets.

Drive technology

Innovative standard drives such as the Compacta slip-on geared motor and drive solutions developed from scratch for customers are in use in countless applications.

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