

Compact servo motors with inductive encoders.

Four new types in the performance range 30 to 90 W.

maxon's brushless flat motors are used today in many demanding applications: In pumps for diesel emission control, in valve positioners for aircraft, in lift door drives, in humanoid and industrial robots and much more.

The abbreviation MILE stands for "maxon's Inductive Little Encoder". The operating principle is based on measurement of high-frequency inductive fields, which generate eddy currents in an electrically conductive target disk. The advantages of a high-frequency inductive measuring method in comparison with classic encoders are:

- High robustness against dust or oil vapors. This means that no additional protective measures, such as covers, are necessary.
- High speed.
- High resistance to interference pulses (for example resulting from PWM controllers or motor magnets).

These properties make the flat motors with MILE encoders an ideal solution for positioning tasks or high-precision speed control. A significant advantage is provided by the small size of the encoder: the encoder disappears almost invisibly into the motor.

This system has been built into flat motors with success for the past two years. A new type has been added to the portfolio and there are now three performance classes available: The motors with 45 mm diameter provide a respectable 30 to 70 W, depending on the length (between 15 and 28.4 mm). These drive units can be used both for high speeds of up to 10,000 rpm, and for direct drive with a continuous torque of up to 130 mNm. If required, the motor can be combined with a GS 45 spur gearhead or a GP 42 C high-torque planetary gearhead. The offer is rounded off by the ESCON servo amplifiers and EPOS2 positioning motor controllers.

The larger 90 W flat brushless motor (EC 90 flat) is now available with eight different impulse counts with up to 6400 counts per turn. The drive is characterized by high repetition accuracy thanks to the 6400 counts per turn of the sensor. Newly available are versions of the EC 90 flat MILE encoder with binary resolution. Binary resolution has the advantage that digital controllers can be manufactured with simpler processors, and thus with faster commands.

Versatility, power and robustness are the key characteristics of maxon's flat motor series.

The various possible combinations of the brushless motors (BLDC) make them suitable for use in many different fields of application. The user is free to decide whether the main focus should be on a high continuous torque rating, positioning tasks with high dynamics and repetition accuracy, or on robustness and resistance to external influences. Plus, due to its flat construction, the drive is ideal for use in narrow spaces.

Length of the media release: 2686 characters, 524 words. Download pictures of this media release in print and web resolutions [here](#).

This media release is available on the Internet at: www.maxonmotor.com

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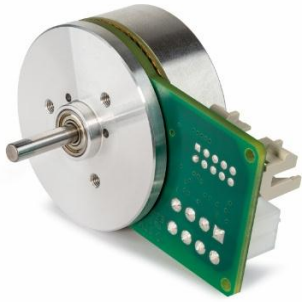


Figure 1: EC 45 flat brushless motor with MILE encoder.



Figure 2: EC 90 flat brushless motor with MILE encoder.