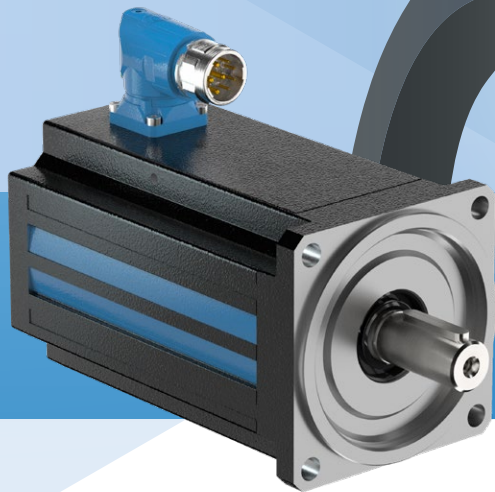


Bridge the Gap

The Bridge to Greater Efficiency

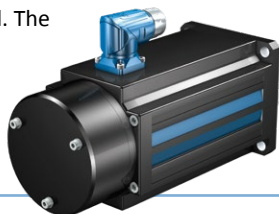


LeanMotor

It's true: Less is more! Everything is smaller with the LeanMotor – except output and energy efficiency. The consistently encoderless motor without a fan achieves efficiency levels up to 96 % and can be variably controlled from the stall speed to maximum speed with full torque control using just one standard power cable.



You have the option of receiving the motor with a rugged **spring-loaded holding brake** to hold the motor shaft when the motor is at a standstill. The holding brake activates automatically in the event of a voltage drop. Nominal voltage 24 V_{DC} ± 10 %.



Type	n_N [min ⁻¹]	P_N [kW]	η_{mot} [%] 100 %	M_0 [Nm]	I_0 [A]	M_{max} ≥1000 min ⁻¹ [Nm]	m [kg]	Dimensions □ a x length [mm]
LM401U	3000	0,71	85,37	2,43	1,82	4,51	4,42	98 x 129
LM402U	3000	1,4	88,65	4,50	3,09	9,7	6,08	98 x 168
LM403U	3000	1,9	89,96	6,19	4,23	12,8	7,62	98 x 199
LM503U	3000	3,0	93,52	10,1	6,10	20,4	10,5	115 x 202,5
LM505U	3000	4,3	94,57	15,5	15,5	32,1	15,1	115 x 272,5
LM704U	3000	6,1	95,36	21,3	11,7	41,2	20,9	145 x 255,5
LM706U	3000	8,1	96,01	29,8	29,8	61,4	28	145 x 325,5



The position and speed are determined in combination with the **STÖBER SC6 and SI6 drive controllers**. Despite not having an encoder in the motor, the speed deviation is less than 1 %, while the positioning accuracy is ±1°.



Sizes 4, 5 and 7

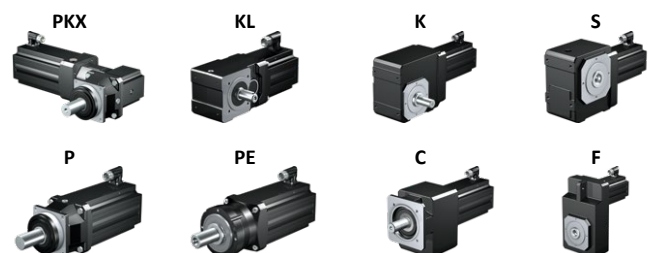
Control Method

Motor Control

- Initial position determination from 0 to 1000 rpm: Signal injection method ("anisotropy")
- Position determination from 1000 rpm: Voltage model

Speed Control

- Rugged: Balance between dynamics and radial runout
- Dynamic: Maximum dynamics



Gear unit combinations based on the LeanMotor



STÖBER

LeanMotor - The New Motor Class!

The perfect link between the worlds of asynchronous and synchronous servo motors

Do you need an inexpensive and rugged alternative to a synchronous servo motor?

Our LeanMotor offers you a world first: The new motor class is more cost-efficient and more rugged than a synchronous servo motor. It withstands high vibrations and oscillations and is therefore suitable for harsh production environments, for example. In addition to efficiency levels of up to 96 %, the STÖBER LeanMotor offers you many more advantages:

More Cost-efficient

- Up to 30 % more cost-efficient than a comparable EZ motor
- Savings due to absence of the encoder
- Only one power cable without any additional shielded wires

Simpler Commissioning

- Fewer parameters to consider
- Reduced wiring effort
- Reduced storage and logistics expenses

Rugged

- No encoder
- Simpler on-site motor and cable repairs
- Rugged spring-loaded holding brake

PRECISE
COMPACT



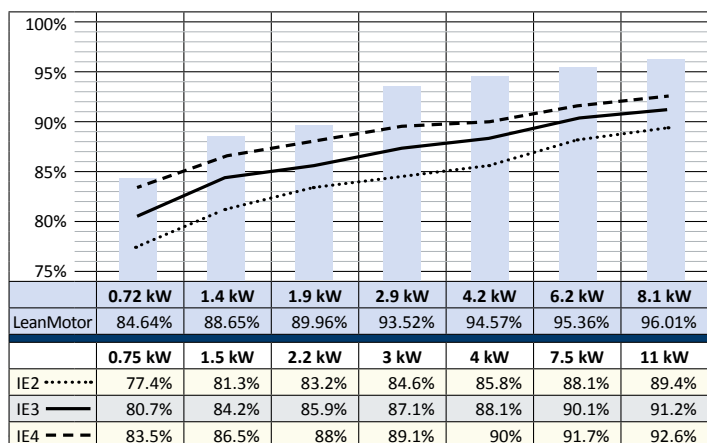
STRONG
RUGGED

Is an asynchronous motor too big and not efficient enough for you?

Our LeanMotor offers an interesting alternative. Delivering the same output, the LeanMotor is significantly smaller and, as a result, lighter than an asynchronous motor. Other advantages:

High Efficiency

- IE5 efficiency (up to 96 %)
- Future-proof product for the global market



Higher Power Density

- Lower volume + weight with the same output
- Reduction in installation space and machine size
- More freedom in the machine design
- Simple installation

Compact and Rugged

- Fanless servo-design
- No electronics in the motor since the encoder is eliminated; comparable to an asynchronous motor with incremental encoder
- Rugged spring-loaded holding brake

Greater Dynamics

- Significantly improved ratio of torque to flywheel mass
- Larger speed adjustment range
- Excellent acceleration performance
- Enables faster processes
- Dynamic regulation of speed and torque at lower speeds and when stalling without an encoder