



AM85xx | Synchronous Servomotors with increased rotor moment of inertia

The AM8500 series extends the servomotor range by a complete series with increased rotor moment of inertia. Due to the modified rotor geometry it is increased, depending on the length, by 100 to 300 % compared to the AM8000 servomotors. The AM8500 series covers a wide performance range with four sizes and three lengths with standstill torques from 1.37 to 41 Nm. A particular highlight, as with all servomotors from the AM8000 series, is the One Cable Technology (OCT) that combines power and feedback system in the standard motor cable.

Due to the high rotor inertia, control of the AM8500 is simplified in areas in which a high external inertia has to be moved, e.g. CNC applications in machine tools and woodworking machines. The servomotors tend to vibrate less and are much easier to adjust to the application on the servo controller. Where the ratio of external to inherent inertia has previously required a gearbox, this can now be dispensed with in some cases. Typical areas of application for the AM8500 servomotors are in woodworking machines, printing machines and machine tools as well as in film winders and feeding drive units.

In the forced cooling version the power density of the AM8500 motor series is thus increased further thanks to the external axial ventilation of the servomotors: the standstill torques can be increased by about 35 %; the rated torques at the rated speed even by up to 150 %. In this version the servomotor series offers high torques even at high speeds. Cooling takes place with a 24 V DC fan, which is actuated independently of the motor. In the forced cooling version all further options are available in accordance with the order data such as OCT or backlash-free permanent magnet holding brake. The forced cooling option is available for AM855x and AM856x.

Technical data	
Motor type	permanent magnet-excited three-phase synchronous motor
Magnet material	neodymium-iron-boron
Insulation class	thermal class F (155 °C)
Design form	flange-mounted according to IM B5, IM V1, IM V3
Protection class	IP 54, IP 65 (shaft seal)
Cooling	convection, permissible ambient temperature 40 °C, optionally: external axial ventilation
Coating/surface	dark grey powder coating, similar to RAL7016
Temperature sensor	integrated in stator winding
Connection method	round plug connector, swivelling, angled
Life span	$L_{10h} = 30,000$ hrs for ball bearings
Approvals	CE, UL
Feedback system	absolute encoder single-turn and multi-turn, OCT, resolver, multi-turn 2-cable standard

Options	AM85xx
Feather key groove	according to DIN 6885 P1
Holding brake backlash-free	permanent magnet single-surface brake, suitable only as holding brake
Shaft seal	radial shaft seal made of FPM
Feedback system option	absolute encoder multi-turn, resolver
Forced cooling option	for AM855x, AM856x

*Thanks to the external axial ventilation the servomotor series offer high torques in the forced cooling version even at high speeds. Please see [here](#) for an overview.

Accessories	
AG2300	High-end gear series for servomotors AM8000 and AM8500
AG2210	Planetary gear units for AM8000 and AM8500 servomotors
ZK45xx-8xxx	Supply cables AM8000, AM8500, AM8800