

SIEMENS

Geared Motors MOTOX

Applications



Features

Features	Gear motors			
	Helical gear	Parallel shaft gear	Bevel helical gear	Helical worm gear
Shaft position angle	0°	0°	90°	90°
Torque range	90 ... 20,000Nm	150 ... 20,000Nm	130 ... 20,000Nm	60 ... 1590Nm
Hollow shaft possible	No	Yes	Yes	Yes
Gear efficiency per stage	98%	98%	98%	60 ... 85%
Investment costs	Low	Average	High	Average
Operating costs	Low	Low	Low	Average / high ¹⁾

¹⁾ When comparing operating costs the gear efficiency is very significant and must always be taken into account. The helical worm gears have a high efficiency in the whole ratio spectrum whereas the efficiency of the worm gears is strongly depending on the gear actual ratio and so are the operating costs, too.

MOTOX helical geared motors

Statement	Comment
Conventional solution	MOTOX helical geared motors represent the conventional solution for a drive task. The helical geared motors belong to the group of coaxial geared units where the output shaft of the geared unit is in-line with the motor shaft.
Variable-speed solution	A solid shaft is always used as output shaft. Generally, additional components are required to transmit the force to the driven load (pinions, sprockets...). This means that the drive has a wide variable speed range with these components.
High degree of availability	MOTOX helical geared motors have an extremely simple mechanical design and have a high degree of availability.
Long lifetimes– low maintenance	MOTOX helical geared motors are designed for continuous duty. Maintenance intervals extending up to four years can be realized by using synthetic oils.

MOTOX helical geared motors

Typical applications for helical geared motors



Palm oil production: Helical geared motor in a foot-mounted version

Roller drive in the steel industry
 High temperatures
 High mechanical stress



Agitator drive in a flange-mounted version
 High shaft load

Woodworking machines
 High mechanical stress



Roller conveyor belt in a foot-mounted version
 Low height

MOTOX parallel shaft geared motors

Statement	Comment
Low weight	MOTOX parallel shaft geared motors have an extremely high power density and in the plug-in version (with hollow shaft) can be directly mounted onto the working machine shaft. This eliminates additional components to transmit the force.
Low-profile design	The low-profile design of MOTOX parallel shaft geared motors saves space in the axial direction when compared to a helical geared motor.
Easy mounting	Especially in the plug-in version, MOTOX parallel shaft geared motors are extremely easy to mount & install and can be quickly commissioned without requiring any special tools.
Wide range of types of construction	MOTOX parallel shaft geared motors are available in different versions for mounting to the gear unit: Foot/flange/centering flange/torque arm. Solid and hollow shafts are available as output shafts (with keyway / splined version / shrink-disc). Further, the gear units are available in mixer and extruder versions.

MOTOX parallel shaft geared motors

Typical applications for parallel shaft geared motors



Agitator drive in a flange-mounting version

Gear unit with high radial force load

Aggressive environment

Low-maintenance operation

Long bearing lifetime required

24h continuous duty

Agitator drive in the chemical industry

Aggressive environment

ATEX solutions

High shaft loads



MOTOX bevel helical geared motors

Statement	Comment
Space-saving angular drive	MOTOX bevel helical geared motors are angular drives (output shaft is rotated through 90° with respect to the motor shaft). They can be used everywhere to save space - and where mounting requires that an angular gear unit is used. In the plug-on version, the bevel helical geared units can also be closely mounted to the driven machine.
High power and torque	MOTOX bevel helical geared motors have a high power density and are especially suitable when it comes to high demands. The gearing is designed for high continuous output torque.
Energy saving and high gear unit efficiency	MOTOX bevel helical geared motors are energy-saving angular drives. The gear units have an extremely high efficiency.
Low-maintenance version	MOTOX bevel helical geared units are very efficient. The gear units operate with extremely low wear and have a long service lifetime.

MOTOX bevel helical geared motors

Typical applications for bevel helical geared motors



Mixer drives in a flange-mounted version

High bearing load

ATEX version

Cable lifting drive in high bay and warehouse systems

Output shaft at both ends

Safe standstill

Precise motion sequences



Cable drum drives for port cranes

Cable drum mechanical design

High wind loads

High operational safety and reliability

Travel drives for container cranes

High cycle times

Harbour environment



MOTOX bevel helical geared motors

Typical applications for bevel helical geared motors



Monorail drives

Mechanical disconnecting clutch
Distributed drive technology

Brick industry in the plug-on version
High temperatures



Airport baggage handling conveyor in a plug-on version

High switching frequency
High operational reliability

Tilting mechanism in a plug-on version



Cable drum trolley operation in a foot-mounted versions

Braking motor
High speed range

MOTOX helical worm geared motors and MOTOX worm geared motors

Statement	Comment
Compact, space-saving design	MOTOX helical worm geared motors and MOTOX worm geared motors are angular drives (the output shaft is rotated through 90° with respect to the motor shaft). They can be used to save space everywhere where the mounting space requires an angular gear unit. Versions implemented as helical worm gear units have a significantly higher efficiency than pure worm gears.
Damping torque surges	MOTOX (helical) worm geared motors are supplied with CAVEX gear wheels (concave worm gear profile). This worm gear design guarantees the ability to transfer high torques and also a low wear. Torque surges can be well absorbed as a result of the material pairs used in the worm gear stage.
Low-noise version	MOTOX worm gear stages are extremely quiet. This is the reason that these drives are, for instance, used in theatre systems where extreme quietness is required.
High ratios and low speeds	An extremely high ratio can be realized in a gear stage. This is the reason that MOTOX geared motors are optimally suited for the lower speed range.

MOTOX helical worm geared motors and MOTOX worm geared motors

Typical applications for helical worm geared motors



Shredder drives in a plug-on version
High surge/shock load capability

Diverter and small conveyor belts in a plug-on version
Low envelope dimensions



Wastewater systems – agitator – aerator
Low speed
Humid & moist environment

MOTOX helical worm geared motors and MOTOX worm geared motors

Typical applications for helical worm geared motors



Small package conveyor belts in a plug-on version

Car wash drives in a special version

High chemical stressing
Overall degree of protection IP67
High operational reliability
Simple maintenance
Non-ventilated version



Theatre technology – curtain raiser

Low-noise/quiet operation
Special theatre brake
Version with incremental encoder
Gear selection acc to theater requirements