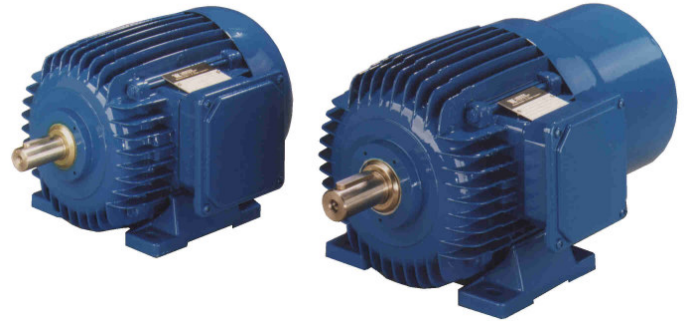




## Torque motors

Torques from 1 to 260 Nm  
Type IEC 63 - IEC 132  
Protection class IP 54/IP21S



The rugged three-phase winder drive is used as central or contact winder, as support drive.

By varying the terminal voltage lower torques can be arrived.

To adjust the clamp voltage electronic voltage regulators can be used.

The drive can be used direct traction-controlled via a traction measurement or indirectly tension controlled with a three-phase power controller W3405 or W3412.1.

The drive works torque-dependant.

From the characteristic curve results during the operation with winding diameter and speed the real drive speed of the goods.

The torque-speed characteristics of the individual types differ in the slope, so that in many cases of drive an exact interpretation is only possible by use of the characteristics curves.

The dissipated heat arising from the slip speed and the torque will be dissipated along the surface of the drive, while with bigger powers the drives are surface- or enclosed-ventilated by an external fan.

Torque motors are provided with special selected bearings for increased temperature and it is basically high-temperature grease used.

The drive corresponds to a rugged three-phase drive having no expandable parts. The maintenance can be limited on the control of the ball-bearings.



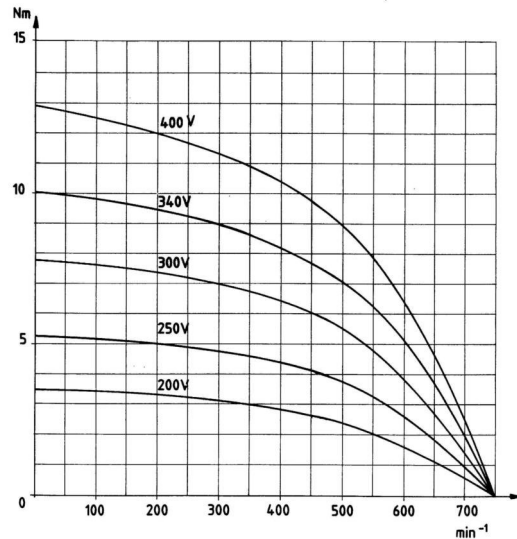
The setting of the torque and the tensile force is made via the **three-phase power controller W3405 or W3412.1**



W3405



W3412.1



Torque characteristics in case of different operating voltages

### Axial winder, center winder

The winding is driven via a winding shaft. The speed is high at the beginning with a small torque and decreases with increasing angular diameter with increasing torque.

The drive power is constant.

For interpretation the specific performance ( $P_e$ ) is required till winding ratios  $< 4$ :

$P_e =$  torque at 20% of the zero speed at 20% of stationary torque.

Ca.  $P_e = 0,8 \times$  stationary torque + zero speed

For acceleration processes appropriate reserves are to be included.