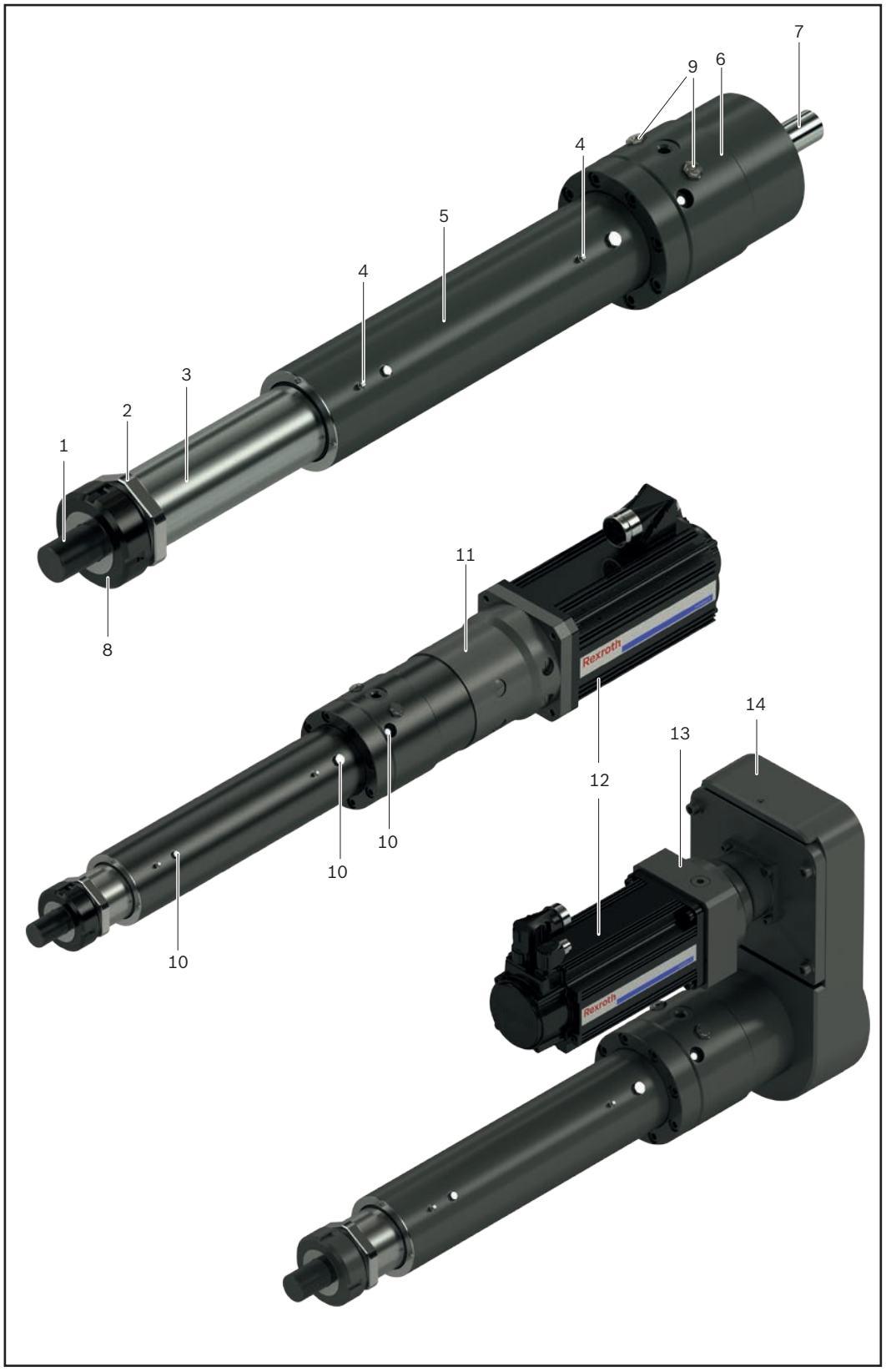
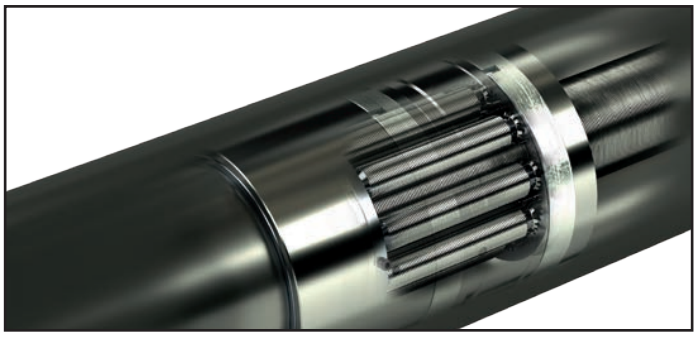
Structural design

1 Threaded bolt (steel, burnished)
2 Wrench flats, only for version “round piston rod” (steel, galvanized)
3 Piston rod (steel, chrome-plated)
4 Lube nipple (steel, galvanized)
5 Housing (steel, black painted)
6 Bearing housing (steel, black painted or galvanized)
7 Drive journal (steel)
8 Lock nut (steel, black galvanized)
9 Air compensation (bronze)
10 Mounting thread for switch (with locking screw steel, galvanized)

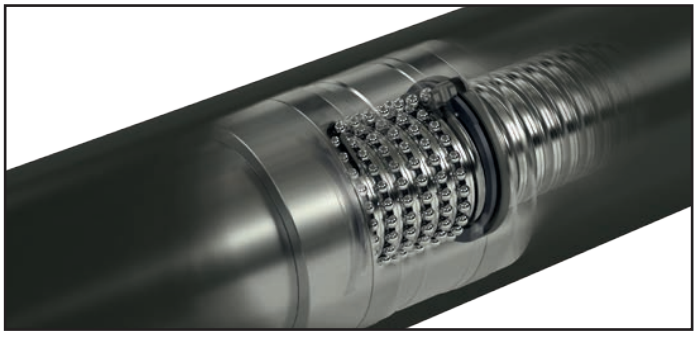
Attachment parts
11 Motor mount and coupling
12 Motor
13 Gear
14 Timing belt side drive



Version with Planetary Screw Assembly PLSA



Version with Ball Screw Assembly BASA



Guide with round piston rod

Guide with integrated anti rotation feature

Screw drive

The EMC-HD is available with a planetary or ball screw assembly.

- In the case of planetary screw assemblies, several planets are positioned in a rotationally symmetrically manner inside a nut. They rotate parallel to the axis of a screw and generate linear motion. The numerous contact areas inherent in this system design result in high axial rigidity and load-bearing capacity and thus provide for a long service life. Planetary screw assemblies achieve very high positioning accuracy and repeatability even in case of minimal traversing movements.
- In ball screw assemblies, balls provide the rolling contact. The high leads allow for highly dynamic applications while assuring high mechanical efficiency so that little heat is generated. The low lubricant consumption ensures service intervals are long. The use of multi-start screws and a large number of ball track turns in the nut of the ball screw results in high load ratings and therefore a long service life.

Anti rotation feature

The EMC-HD is available with or without a piston rod anti rotation feature.

- On the cost-optimized basic version with round piston rod, the piston rod can still rotate during installation and as a result easily extended and retracted manually. To ensure correct linear motion in operation, the piston rod must be secured externally against rotation (e.g. by fastening it to a linear guide). The torque to be absorbed corresponds to the drive torque at the drive journal of the screw drive (see the “Design calculations” section).

- The integrated anti rotation feature is used if external absorption of the torque is not possible (e.g. when space is limited or if the piston rod extends freely into the working zone). The anti rotation feature is realized by means of four guide surfaces on the piston rod and a sliding guide at the head end of the housing.