

Always the optimum press force drive!

No compromises: With the four drive types pneumohydraulics, electromechanics, pneumatics and hydraulics, TOX® PRESSOTECHNIK provides customers with energy- and processing-efficient solutions for every application

The TOX®-Powerpackage drive system

With the development of the TOX®-Powerpackage, the technology company established the principle of pneumohydraulics for industrially and universally usable drive units for combined displacement/force operations at the end of the seventies. Today, there is a broad range of standard and special versions, which are used in all areas of the manufacturing and assembling industries. The two series line-Q and line-X cover press force ranges between 10 and 1700 kN, whereby the applications span various fields such as sheet metal forming, insertion of assembly and functional elements or punching of packaging as well as applications in the food industry. Within the period of almost 40 years, more than 150,000 units of the TOX®-Powerpackage drive cylinders have been produced and installed worldwide. The benefits of the pneumohydraulic drive technology are the comparatively simple design of the compact and extremely robust cylinder systems, the simple control, low energy consumption with very high power density, and finally the proven reliability across millions of working strokes.

1000 and 1 configuration options

Furthermore, the drive cylinders are characterized by a closed oil and working circuit, and they are simply operated by the already present compressed air and not via an elaborate hydraulic aggregate. They can be easily integrated in constructions, are easy to install, only require minimum maintenance, can work with very high stroke frequencies as required and operate reliably. They can be monitored and readjusted with optional accessories with regard to the own parameters (pressure, stroke) as well as the relevant result parameters (force, displacement, positions). Both series already yield a broad range of around 5,000 designs, not including mounting versions, which means that for literally every thinkable application, the ideal press force drive can be provided.

The TOX®-ElectricDrive drive system

The growing demands from series production, e.g. from the automotive industry, resulted in the development of electromechanical servo drives of the TOX®-ElectricDrive series at the beginning of the 21st century. Based on a progressive electrification in the production facilities as well as the demands for verifiable process reliability for a maximum and documented product quality, the force/displacement operations for press force drives must be regulated and controlled sensitively to be able to represent reproducible process sequences. Electromechanics provide the ideal basis for this, as the interfaces can now to be clearly defined via the E-motors and

their power supply/servo controller plus software, thus ensuring integration in superordinated control systems, quality assurance and communication networks. The drives TOX[®]-ElectricDrive are available today in the proven standard design EPMS, the compact version EPMK (optionally also with safety brake) and EPMR (designed as short robot tongs drives). The series EQ-K and EX-K (with or without safety brake), EX-F (speed up to 800 mm/s) and EPMR 500 + 700 (specifically designed for clinching/riveting operations) are new. Depending on the design and capacity, the mechanical part of the drive is based on a ball screw or a planetary threaded spindle, and is coupled via a belt drive and a gearbox with the servo motor. The electromechanical drives TOX[®]-ElectricDrive are available in the force range between 2 and 100 kN (EQ-K) or 10 and 200 kN (EX-K) or also with press forces up to 1000 kN (EPMK). Depending on the design, they are used as press, machine or tongs drives.

Always topical: Pneumatic or hydraulic drives

The purely pneumatic drives from TOX[®] PRESSOTECHNIK are more than complementary, as they are designed and built according to the respective requirements. Sometimes, less is sufficient to be able to work reliably and process-reliably as well as economically. For this reason, the bench top presses TOX[®]-FinePress of the type PFHL have pneumatic drives, and the same applies to the combined clamping and machining unit TOX[®]-PowerKurver, with which two sheet metal parts can be fixed, clamped as well as punched for example in one working stroke. The product range of TOX[®] PRESSOTECHNIK also includes hydraulic cylinders as still relevant drive alternative. These are available individually or integrated into TOX[®]-KT-Systems. It is often beneficial to choose a separate arrangement of working part (cylinder) and aggregate for a required hydraulic drive, for example in very confined assembly spaces or due to structural conditions. With the TOX[®]-X-KT-System, TOX[®] PRESSOTECHNIK provides practical solutions for which the cylinder and the aggregate are to be installed separately, while at the same time not compromising the full capacity and working dynamics. Not least, it is the mentioned drive technology portfolio – pneumohydraulics, electromechanics, pneumatics, hydraulics – which makes it possible to provide customers with optimum systems with regard to design and capacity.

Image descriptions:

Image 1 shows the setup of the TOX[®]-Powerpackage

Image 2 shows the complete pneumohydraulic drive family TOX[®]-Powerpackage

Image 3 shows the TOX[®]-ElectricDrive system configuration

Image 4 shows the TOX[®]-ElectricDrive family

Image 5 shows a pneumatic press TOX®-FinePress PFHL

Image 6 shows a TOX®-Pneumohydraulic Aggregate X-KT system type with an X-ES intensifier and two TOX®-Hydraulic Cylinders HZL

Image 1 shows the setup of the TOX®-Powerpackage

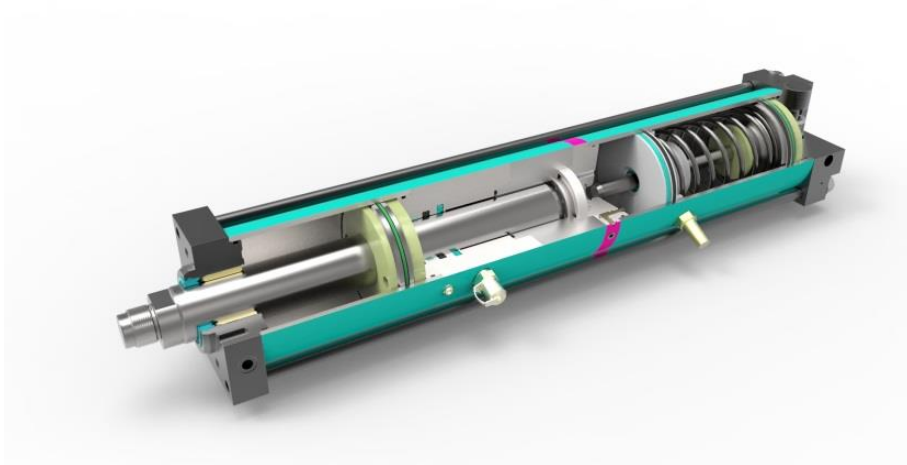


Image 2 shows the complete pneumohydraulic drive family TOX®-Powerpackage

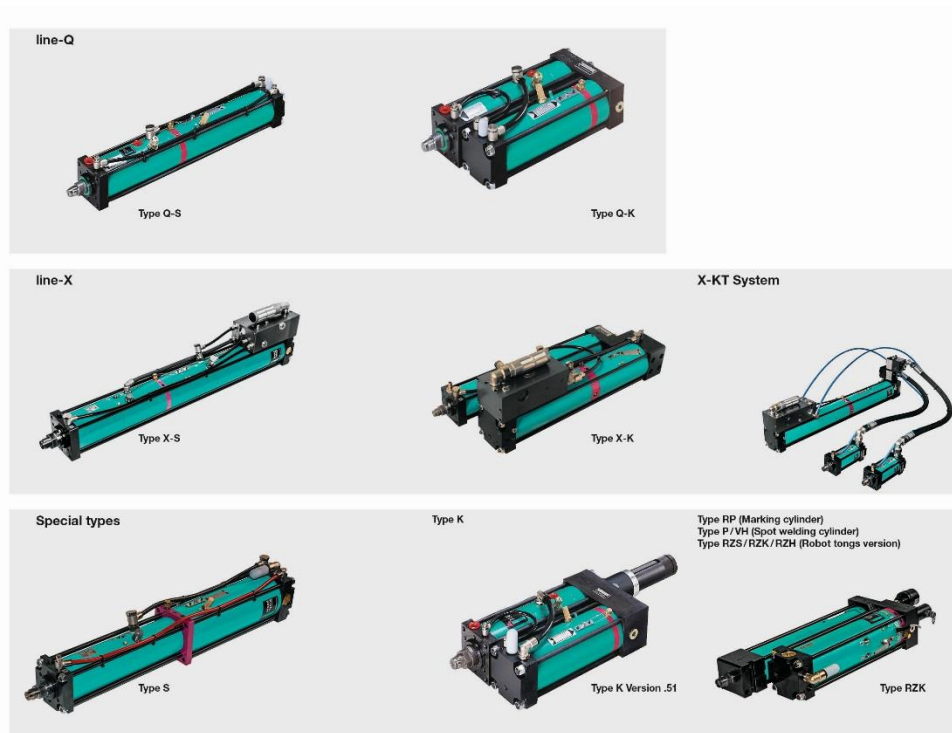


Image 3 shows the TOX[®]-ElectricDrive system configuration

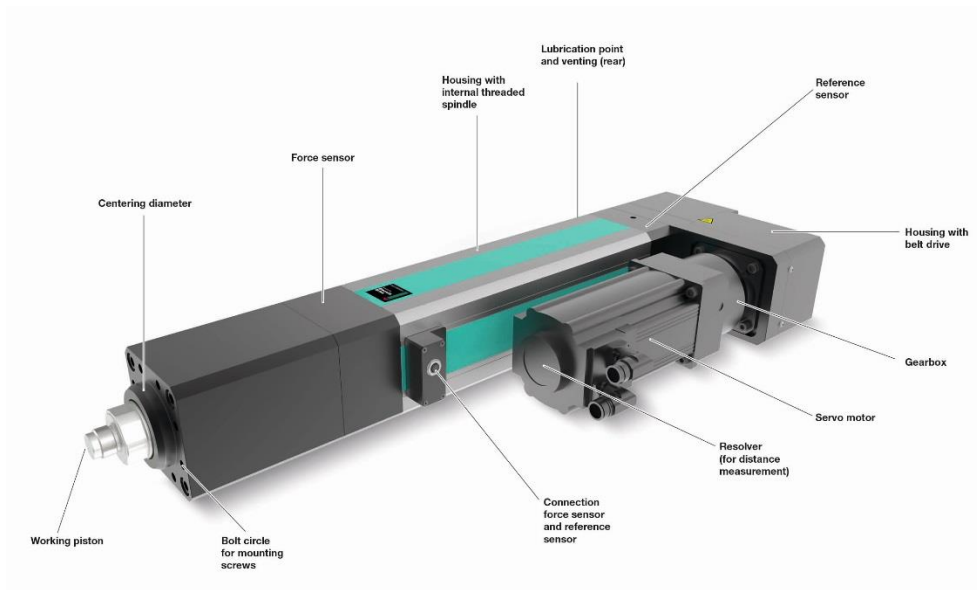


Image 4 shows the TOX[®]-ElectricDrive family

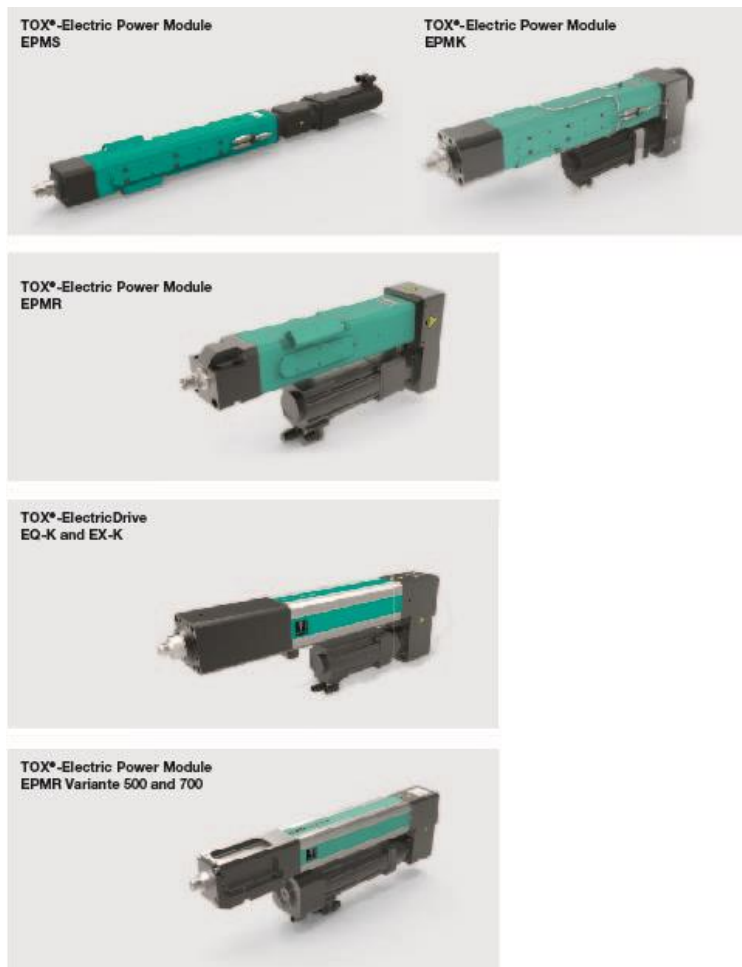


Image 5 shows a pneumatic press TOX®-FinePress PFHL



Image 6 shows a TOX®-Pneumohydraulic Aggregate X-KT system type with an X-ES intensifier and two TOX®-Hydraulic Cylinders HZL

