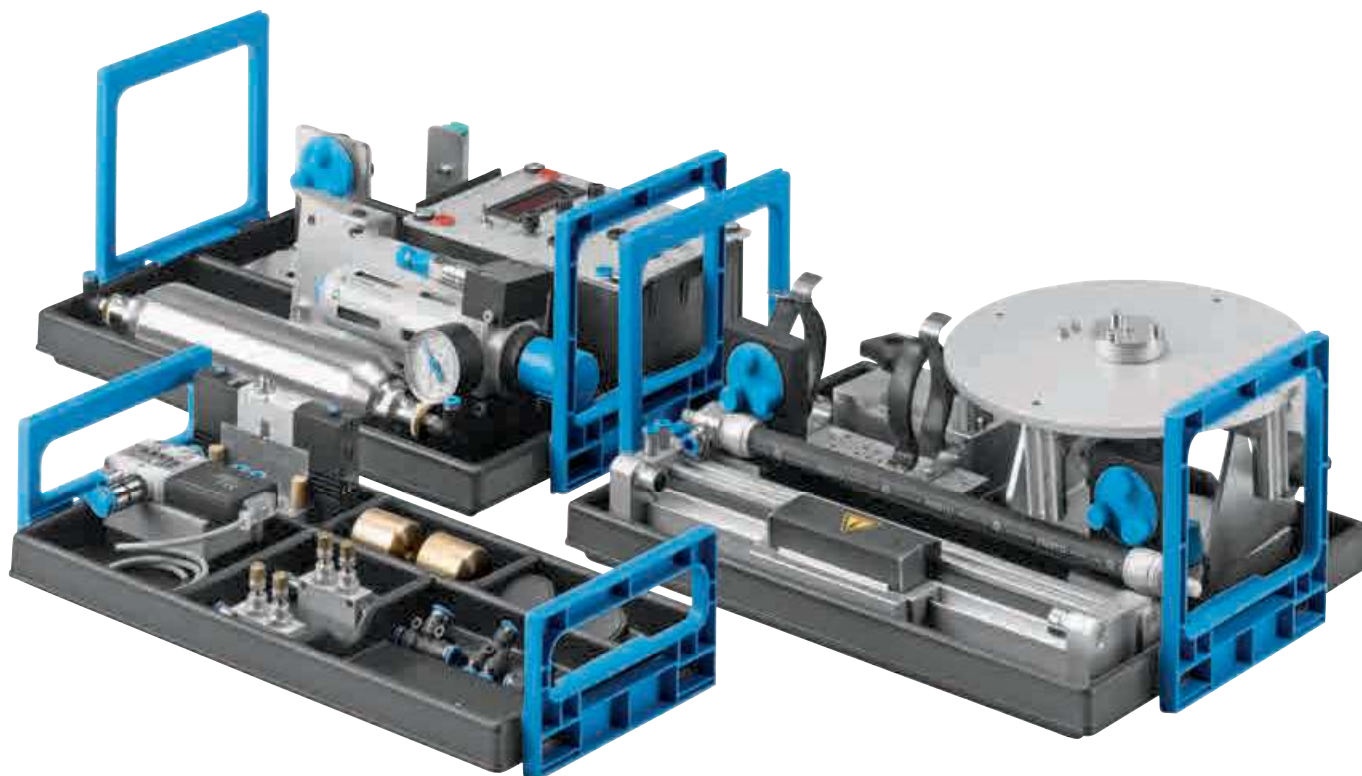


Equipment set TP 220 – Advanced level

Drives in pneumatics



Optimum drive

The TP 220 supplements the TP 201 training package by teaching the basics of pneumatic drives. The training content features the selection and sizing of various state-of-the-art drive types, taking into account their individual properties, as well as commercial and safety considerations. Each drive unit remains clearly defined as an individual design, meeting the needs of the various entry levels. Use of industrial components throughout emphasizes the essential practicality and ensures rapid transfer of knowledge from training into practice.

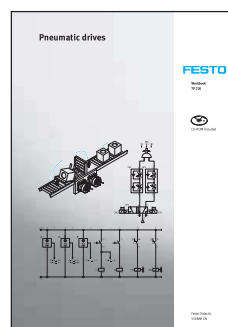
We recommend connection to a compressed air system delivering approx. 100 l/min.

Training aims

- Designing a compressed air network
- Sizing the pneumatic power section
- Influence of tubes and fittings on speed
- Reducing cost by using different pressures for advance and return strokes
- Reducing cost by avoiding leakage
- Operating behavior of linear drives
- Calculation of mass moment of inertia
- Operating characteristics of rotary drives
- Function, control, and selection of the fluidic muscle
- Comparison between standard cylinders and the fluidic muscle
- Response of pneumatic controls to power failure

Also order:

Workbook



Describes in detail the issues and projects in 16 exercises closely linked to industrial practice, each comprising a problem description and work assignment. Worksheets support the students through the required stages of planning, execution, and monitoring.

The workbook includes:

- Sample solutions
- Training notes
- Multimedia CD-ROM with graphics, photos of industrial applications
- Exercise sheets for trainees

Campus license (→ Page 19):

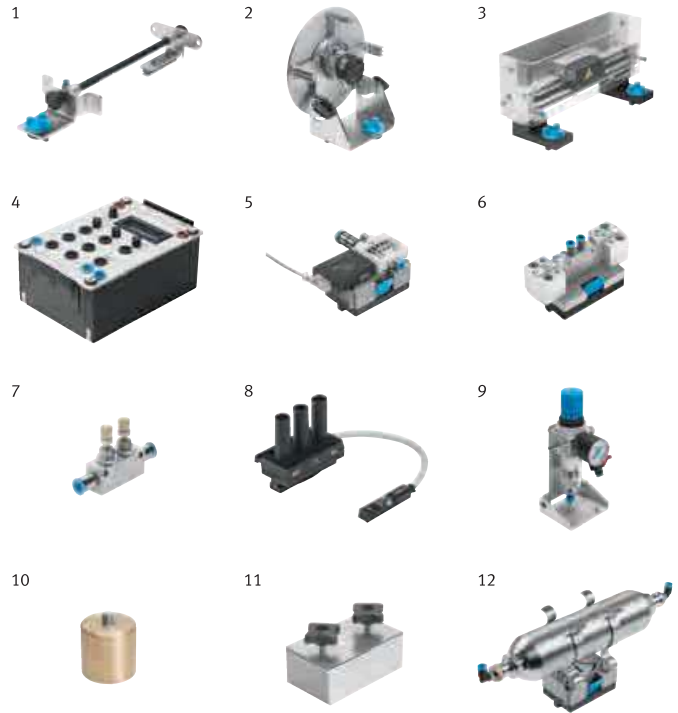
de	549982
en	559880
es	559881
fr	559882

Complete equipment set TP 220 in equipment tray

541184

The most important components at a glance:

1	1x Fluidic muscle, size 10	544311
2	1x Semi-rotary drive, size 16, 180°	544313
3	1x Linear drive, size 18, 170 mm stroke	548641
4	1x Function generator/counter/stopwatch	544315
5	1x 3/2-way fast-switching solenoid valve, normally closed	544312
6	1x 5/3-way solenoid valve, mid position closed	567201
7	2x One-way flow control valve	548634
8	1x Proximity sensor, electronic	2342009
9	1x Start-up valve with filter control valve	540691
10	2x Weight, 175 g	548581
11	1x Weight, 2 kg	548582
12	1x Air pressure reservoir, 0.4 l	152912

**Fluidic muscle**

The fluidic muscle is a pull actuator which imitates the action of a biological muscle. Shudder free, it offers up to 10 times the initial force of normal cylinders of the same diameter. You will learn how the muscle can be deployed as a single-acting actuator.

**Semi-rotary drive**

In a semi-rotary drive the force is transmitted directly to the drive shaft via a rotary vane. The swivel angle is freely adjustable from 0 to 180°. You will learn the significance of the mass moment of inertia to a semi-rotary drive, and how its operating behavior under load can be influenced in various mounting positions.

**Linear drive**

The rodless cylinder is mechanically coupled to the slide unit, which directly supports loads. You will learn the steps needed to attain optimum operating behavior, and which applications are most suited to the various options.