

Příloha č.1 : Technická specifikace nabízených prvků

Kompaktní programovatelný automat Festo CECC:

Regulátory CECC jsou nejnovější generací kompaktních programovatelných automatů od firmy Festo. Řídicí jednotku CECC lze naprogramovat pro IL, LDR, FCH, ST, SFC a CFC pomocí Codesys® od Festo v souladu s IEC 61131-3.

EduTrainer® Compact je k dispozici s:

Festo CECC-LK

Festo CECC-LK je kompaktní a výkonné PLC. Průmyslový designový regulátor má 12 digitálních vstupů, 8 digitálních výstupů a 2 rychlé digitální vstupy. Kromě toho je k dispozici široká škála rozhraní:

- 4 x IO-Link Master
- 1 x IO-Link zařízení
- Ethernetové připojení
- USB připojení
- CANopen



Festo CECC-D

Festo CECC-D EduTrainer® Compact, jako CECC-LK, ale **bez IO-Link**.

Codesys® je vývojové prostředí pro programovatelné logické automaty (PLC) v souladu s normou IEC 61131-3 pro vývoj aplikací v průmyslové automatizaci.

Komunikace point-to-point rozhraní IO-Link umožňuje jednoduché a bezpečné třívodičové propojení mezi regulátorem, snímači nebo akčními členy a také umožňuje vzdálenou parametrizaci. Na trhu je k dispozici široká škála zařízení IO-Link. Většinou se jedná o senzory, akční členy nebo jejich kombinace a také o speciální IO-Link uzly pro zvýšení počtu vstupů/výstupů nebo pro použití standardních senzorů a aktuátorů.

!!! Pro provoz se předpokládá u zákazníka dostupnost standardního zdroje 24V /4A ss (zpravidla je součástí sady elektropneumatiky) a propojovacích kabelů s banánky o průměru 4 mm !!!

Pro pedagogy je zajištěno zaškolení, ve výukovém středisku Festo Praha, zdarma.

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Complete equipment set TP 101 in equipment tray

540710

The most important components at a glance:

1	2x 3/2-way valve with pushbutton actuator, normally closed	152860
2	1x 3/2-way valve with pushbutton actuator, normally open	152861
3	1x 5/2-way valve with selector switch	152862
4	1x 3/2-way valve with selector switch, normally closed	152863
5	2x 3/2-way roller lever valve, normally closed	152866
6	2x Proximity sensor, pneumatic, with cylinder attachment	2764815
7	1x Pneumatic timer, normally closed	540694
8	1x Pressure sequence valve	152884
9	1x 3/2-way valve, pneumatically actuated at one end	576302
10	1x 5/2-way valve, pneumatically actuated at one end	576307
11	3x 5/2-way double pilot valve, pneumatically actuated at both ends	576303
12	1x Shuttle valve (OR)	539771
13	2x Dual-pressure valve (AND)	539770
14	1x Quick-exhaust valve	539772
15	2x One-way flow control valve	193967
16	1x Single-acting cylinder	152887
17	1x Double-acting cylinder	152888
18	1x Start-up valve with filter control valve	540691
19	1x Pressure regulator valve with gauge	539756
20	2x Pressure gauge	152865
21	1x Manifold	152896
22	2x Plastic tubing, 4 x 0.75 silver 10 m	151496

Accessories, also order:

Aluminium profile plate → Page 238

Compressor → Page 240

Also order:

Workbook



Nineteen project-orientated exercises, increasing in complexity and suitable for equipment set TP 101, are the ideal introduction to pneumatics. Real problem descriptions with positional sketch, concrete project tasks and detailed aids for professional implementation provide the ideal preparation for the real-life industrial environment.

The workbook includes:

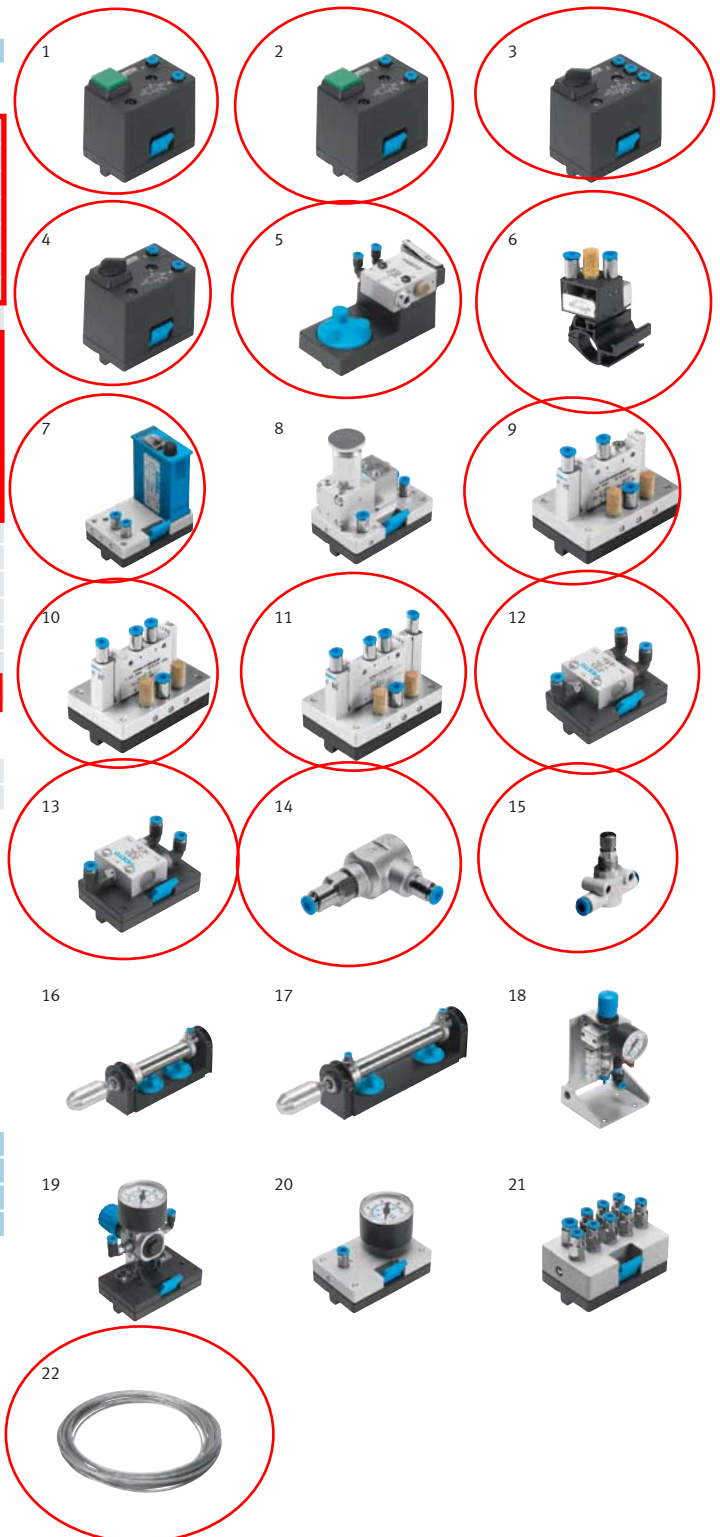
- Sample solutions
- Training notes
- Multimedia CD-ROM with graphics, photos of industrial applications, animations and FluidSIM® circuit diagrams
- Exercise sheets for trainees

Campus licence (→ Page 53):

de	540671
en	541088
es	542503
fr	542507

Supplementary media

- Design and simulation using FluidSIM®
- WBT Pneumatics
- Textbook Basic principles of pneumatics and electropneumatics
- Cutaway model case



Complete equipment set TP 201 in equipment tray 540712

The most important components at a glance:

1	1x Signal input, electrical	162242
2	2x Relay, three-fold	162241
3	1x Limit switch, electrical, left-actuated	183322
4	1x Limit switch, electrical, right-actuated	183345
5	1x Proximity sensor, optical, M12	572744
6	2x Proximity sensor, electronic, with cylinder mounting	2344752
7	1x 2 x 3/2-way solenoid valve with LED, normally closed	567198
8	1x 5/2-way solenoid valve with LED	567199
9	2x 5/2-way double solenoid valve with LED	567200
10	1x Pressure sensor with display	572745
11	4x One-way flow control valve	193967
12	1x Single-acting cylinder	152887
13	2x Double-acting cylinder	152888
14	1x Start-up valve with filter control valve	540691
15	1x Manifold	152896
16	1x Plastic tubing, 4 x 0.75 silver 10 m	151496

Accessories, also order:

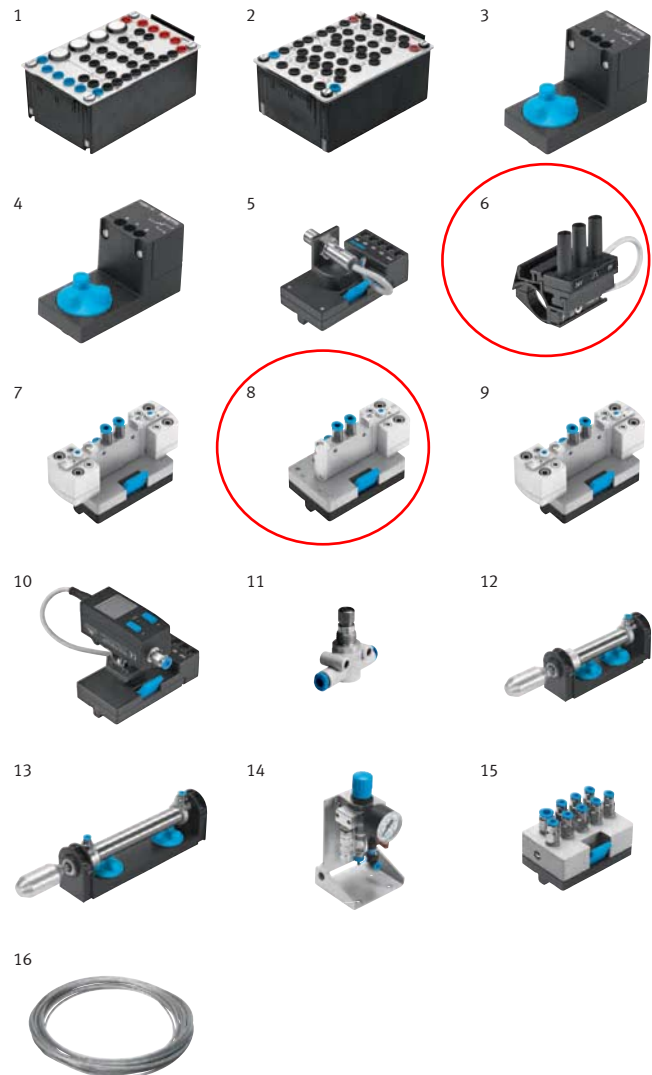
Aluminium profile plate → Page 238

Compressor → Page 240

Tabletop power supply unit → Page 239

Power supply unit for mounting frame → Page 239

4 mm Safety laboratory cables → Page 247

**Supplementary equipment set to upgrade from Pneumatics, Basic level TP 101 to Electropneumatics, Basic level TP 201**

Supplements the Pneumatics, Basic level TP 101 equipment set to form a complete Electropneumatics, Basic level TP 201 equipment set.

Recommended training media and accessories: See TP 201

Complete supplementary equipment set TP 101 – TP 201 in equipment tray 540717

The most important components at a glance:

1	1x Signal input, electrical	162242
2	2x Relay, three-fold	162241
3	1x Limit switch, electrical, left-actuated	183322
4	1x Limit switch, electrical, right-actuated	183345
5	1x Proximity sensor, optical, M12	572744
6	2x Proximity sensor, electronic, with cylinder mounting	2344752
7	1x 2 x 3/2-way solenoid valve with LED, normally closed	567198
8	1x 5/2-way solenoid valve with LED	567199
9	2x 5/2-way double solenoid valve with LED	567200
10	1x Pressure sensor with display	572745
11	2x One-way flow control valve	193967
13	1x Double-acting cylinder	152888

Complete equipment set TP 202 in equipment tray

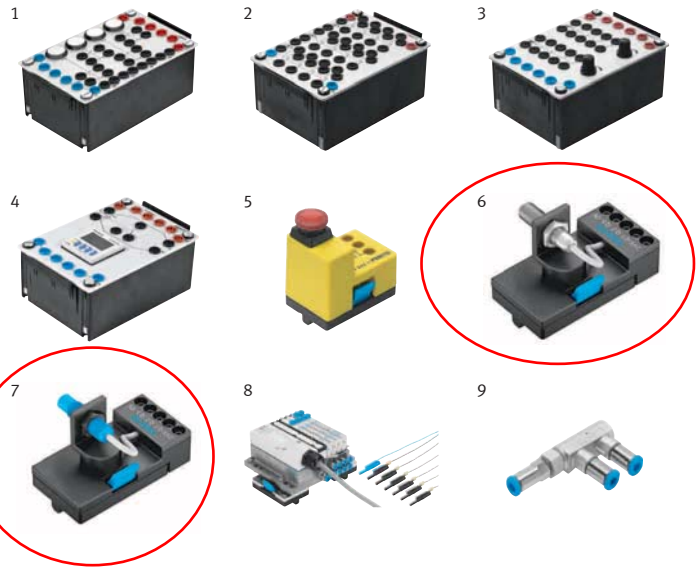
540713

The most important components at a glance:

1	1x Signal input, electrical	162242
2	2x Relay, three-fold	162241
3	1x Time relay, two-fold	162243
4	1x Preset counter, electronic	1677856
5	1x Emergency stop pushbutton, electrical	183347
6	1x Proximity sensor, inductive, M12	548643
7	1x Proximity sensor, capacitive, M12	548651
8	1x Valve terminal with 4 valve slices (MMJ)	540696
9	2x Non-return valve, delockable	540715

Accessories, also order:

Aluminium profile plate →	Page 238
Compressor →	Page 240
Tabletop power supply unit →	Page 239
Power supply unit for mounting frame →	Page 239
4 mm Safety laboratory cables →	Page 247



Also order:

Workbook



As a continuation of the basic level for electropneumatics, the advanced level includes twelve additional, challenging tasks which are suitable for the TP 202 equipment set. The documents are targeted at experienced pneumatics technicians. New features of this revised and updated edition include revised exercise sheets for practical use during instruction.

The workbook includes:

- Sample solutions
- Training notes
- Multimedia CD-ROM with graphics, photos of industrial applications, animations and FluidSIM® circuit diagrams
- Exercise sheets for trainees

Campus licence (→ Page 53):

de	540674
en	541091
es	542506
fr	542510

Supplementary media

- Design and simulation using FluidSIM®
- WBT Electropneumatics
- DVD Electropneumatics/ Electrohydraulics

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, 184°	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 On-off valve with filter regulating valve	152894
10	2x Weight, 175 g	548581
11	1x Weight, 2 kg	548582
12	1x Air pressure reservoir, 0.4 l	152912

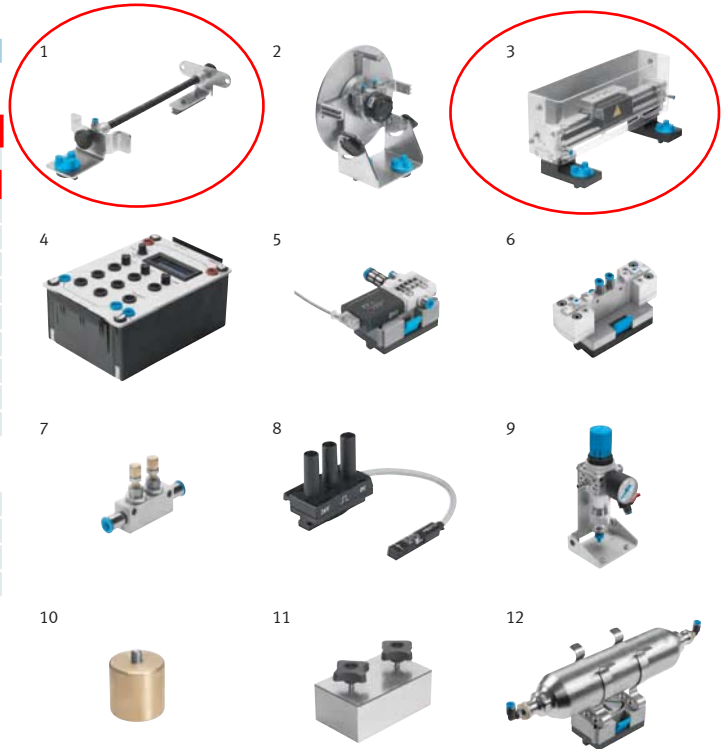
Accessories, also order:

Aluminium profile plate → Page 238

Tabletop power supply unit → Page 239

Power supply unit for mounting frame → Page 239

4 mm Safety laboratory cables → Page 247

**Fluidic muscle**

The fluidic muscle is a pull actuator which imitates the action of a biological muscle. Judder 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 184°. You will learn the significance of the mass moment of inertia to a semi-rotary drive, and how its operating behaviour 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 behaviour, and which applications are most suited to the various options.