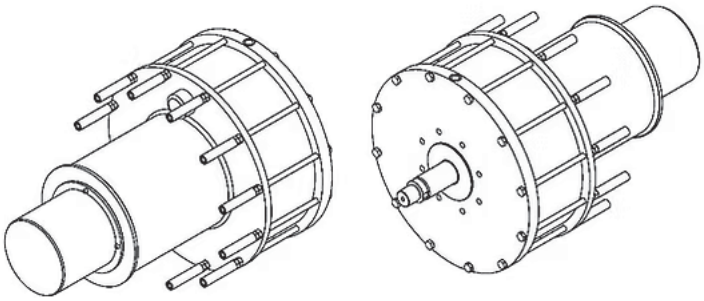
Pneumatic cylinders

Pneumatic piston cylinder as synchronous or differential cylinders, single or double acting, with or without spring return, optionally with position feedback and limit switches.

Pneumatic piston cylinder
Characterized by their long service life.

This is guaranteed by using of high-quality materials for guide and sealing elements.



Cylinder design:

- Synchronous cylinder
- Differential cylinder
- single or double acting
- with or without spring return
- Optionally with position feedback and limit switches

Our position measuring systems are non-contact according to the state of the art. Pneumatic cylinders in special designs are also part of our delivery program.

Pneumatic piston cylinder
Type PZ16C-500/70x190 D-SO (nominal pressure: 16 bar)

Application:
Pneumatic actuation of a LP (low pressure) steam control valve

Execution:

- double-acting
- with an electro-pneumatic positioner with an integrated position measuring system
- with 2 pieces mechanical limit switches (end position OPEN and CLOSE)
- with a control cabinet with a built-in signal failure detection (all electrical components are wired up to the control cabinet.)
- with a hydraulic cylinder (mounted on the top of the pneumatic cylinder) and the associated hand pump for emergency operation

The following functions are implemented:

- Continuous control (with positioner) with an operating time of 8 to 30 seconds for the complete stroke
- Quick closing with an operating time of ≤ 2 seconds
- Quick opening with an operating time of ≤ 4 seconds
- safety locking in the case of a power, signal and air failure

Pneumatic double piston cylinder
Type PZ16C-2x450/50x105-SO (nominal pressure: 16 bar)

Application:
Pneumatic actuation of a steam reducing valve (outdoor installation)

Execution:

- double-acting double piston cylinder
- with an electro-pneumatic positioner with explosion protection (EEx i) and with an integrated position measuring system
- with a hydraulic cylinder (mounted on the top of the pneumatic cylinder) and the associated hand pump for emergency operation

The following functions are implemented:

- Continuous control with an operating time of < 10 seconds for the complete stroke
- Safety closing in the case of a power failure
- Switchover to N2 emergency supply in the case of a main air supply failure

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Pneumatic piston cylinder
Types PZ16C-600/80 x 205 ESC (nominal pressure: 16 bar)

Application:
Pneumatic actuation of in each case one flare valve (medium gas).

Execution:

- single-acting
- with a spring cylinder with a built-in and preloaded disc spring package (for a quick-closing function)
- with 2 pieces mechanical limit switches (end position OPEN and CLOSE)
- with an air filter regulator
- with an electro-pneumatic positioner
- with a 3/2 way solenoid valve for quick closing function

The following functions are implemented:

- Continuous control (with positioner) with an operating time of 15 seconds for the complete stroke
- Safety closing with an operating time of approx. 10 seconds

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Pneumatic double piston cylinder
Types PZ16C-2x500/56 x 55 D (top) and PZ16C-2x500/56 x 55 E (bottom) (nominal pressure: 16 bar)

Application:
Pneumatic actuation of a steam reducing valve

Execution of the upper cylinder:
- double-acting double piston cylinder
- with an attached safety damper

Execution of the lower cylinder:
- single-acting double piston cylinder

Execution of the pneumatic control system:
- with an pneumatic positioner (control signal: 0,2 - 1,0 bar)
- with 3/2-way seat valves for a controlled quick opening function, which is implemented, among other things, with the help of the spring cylinder between the two pneumatic double piston cylinders

The following functions are implemented:
- Continuous control (with positioner) with an operating time of approx. 30 seconds for the complete stroke
- controlled quick opening with an operating time of ≤ 0.6 seconds for the complete stroke

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Pneumatic piston cylinders according to DIN EN ISO 4126-5 (formerly TRD 421)

These pneumatic piston cylinders, which are mounted with the associated control components on the steam valves, are together with the steam testing units the components of the electro-pneumatically safety valve control system for the controlling of pneumatically operated main valves in accordance with DIN EN ISO 4126-5 (formerly TRD 421), for which the asfa-Antriebssysteme has a component sample test from the VdTÜV (Germany) with the type test approval mark TÜV.SV.18-1093.

Pneumatic piston cylinder
Type PZ16C-400/50x115 ESC (nominal pressure: 16 bar)

Application:
Pneumatic actuation of a steam reducing valve with safety quick closing function

Execution:
- single-acting
- with a built-in and preloaded disc spring package (for a quick closing function)
- with a digital positioner with an integrated position measuring system
- with 3 pieces 3/2-way solenoid valves for the safety quick closing function

The following functions are implemented:
- Continuous control (with positioner) with an operating time of approx. 30 seconds for the complete stroke
- Safety quick closing according to DIN EN ISO 4126-5 (formerly TRD 421) of the steam reducing valve with an operating time of ≤ 2 seconds
- Triggering of the safety quick closing function via the steam testing unit of the asfa-Antriebssysteme with the use of the 3 pieces pressure switches installed there in a 1 out of 3 selection.

Pneumatic piston cylinder
Type PZ16C-550/70X70 ESO-SO (nominal pressure: 16 bar)

Application:
Pneumatic actuation of a HP (high pressure) steam bypass valve with safety quick opening function

Execution:
- single-acting
- with a built-in and preloaded disc spring package (for a quick opening function)
- with an electro-pneumatic positioner with an integrated position measuring system
- with 3 pieces 3/2-way solenoid valves for the safety quick opening function
- with 1 piece 3/2-way solenoid valve for an additional safety quick opening function

The following functions are implemented:
- Continuous control (with positioner) with an operating time of approx. 10 seconds for the complete stroke
- Safety quick opening according to DIN EN ISO 4126-5 (formerly TRD 421) of the HP (high pressure) steam bypass valve with an operating time of approx. 2 seconds
- Triggering of the safety quick opening function via the steam testing unit of the asfa-Antriebssysteme with the use of the 3 pieces pressure switches installed there in a 1 out of 3 selection.
- additional quick opening with an operating time of approx. 2 seconds