

RT 395

Maintenance of valves and fittings and actuators



Description

- **trainer for maintenance work on industrial valves and fittings**
- **comparison of 4 different actuators**

Various types of valves and fittings are used in industry. They are suitable for gaseous and liquid media.

A distinction is made between valves, plug valves, gates and butterfly valves. Plug valves isolate a pipeline quickly, acting transverse to the flow. A quarter revolution is sufficient for full actuation. Valves adjust the flow rate and require several turns of the spindle for full opening or closing. Gates are not intended to seal off the pipeline completely, but serve to restrict the flow. When one of these valves and fittings is combined with a driving mechanism, the resulting control device is known as an actuator.

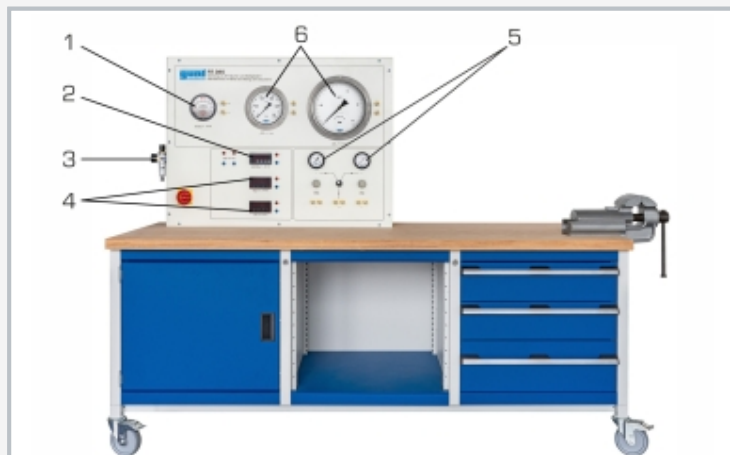
RT 395 presents various types of valves and fittings. The trainer investigates the operating response of a spherical segment valve, a shut-off butterfly valve, a pneumatic control valve and a pressure reducing valve. The switch cabinet allows the necessary electrical and pneumatic parameters to be set to test and calibrate the valves and fittings. Instruments indicate pneumatic pressures, voltage and current. There is a vice on the workbench for maintenance and assembly work. The workbench also incorporates the necessary tools, and small parts such as seals, for the carrying out of testing procedures.

Learning objectives/experiments

- function and mode of operation of various valves and fittings
 - ▶ pneumatic shut-off butterfly valve
 - ▶ pneumatic spherical segment valve
 - ▶ pneumatic control valve with electro-pneumatic positioner
 - ▶ pressure reducing valve
- pneumatic connection
- electrical connection
- familiarisation with linear and equal-percentage valve characteristics
- planning, execution and assessment of maintenance and repair operations
- reading and understanding engineering drawings and operating instructions

RT 395

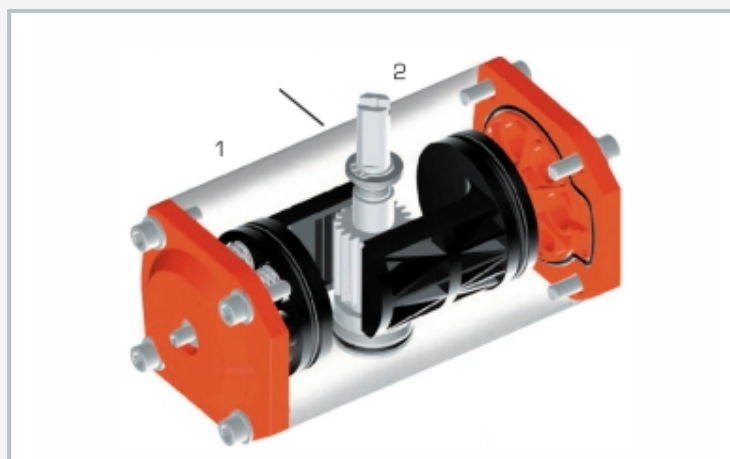
Maintenance of valves and fittings and actuators



1 differential pressure meter, 2 digital display of adjustable current source, 3 compressed air maintenance unit, 4 digital displays for voltage and current, 5 fine pressure regulator with manometer, 6 manometer



1 pneumatic control valve with electro-pneumatic positioner DN25/PN16, 2 pressure reducing valve DN15/PN16, 3 shut-off butterfly valve with swivel drive DN100/PN16, 4 spherical segment valve with swivel drive DN40/PN16



Principle of a swivel drive
1 spring-return, 2 dual-action

Specification

- [1] maintenance work on industrial valves and fittings
- [2] pneumatic control valve with electro-pneumatic positioner DN25 / PN16
- [3] shut-off butterfly valve with swivel drive DN100 / PN16
- [4] pressure reducing valve DN15 / PN16
- [5] spherical segment valve with swivel drive DN40 / PN16
- [6] 2 compressed air ranges, adjustable by fine pressure regulator
- [7] instrumentation: analogue pressure meter, digital ammeter and voltmeter
- [8] electric signal transmitter for positioner in the form of an adjustable current source
- [9] the trainer forms part of the GUNT assembly, maintenance and repair training line

Technical data

Pneumatic swivel drive

- single-action with spring return

Measuring ranges

- pressure (bourdon tube manometer)
 - ▶ 0...1,0bar (D=160mm)
 - ▶ 0...1,6bar (D=60mm, fine pressure regulator)
 - ▶ 0...2,5bar (D=250mm)
 - ▶ 0...6,0bar (D=60mm, fine pressure regulator)
- differential pressure: 0...10kPa
- current (digital display): 0...20mA
- voltage (digital display): 0...20VDC

230V, 50Hz, 1 phase

230V, 60Hz, 1 phase

120V, 60Hz, 1 phase

UL/CSA optional

LxWxH: 2200x750x1590mm

Weight: approx. 320kg

Required for operation

compressed air connection: 6bar

Scope of delivery

- 1 workshop trolley with cabinets under and switch cabinet
- 1 shut-off butterfly valve
- 1 pneumatic control valve
- 1 pressure reducing valve
- 1 spherical segment valve
- 1 manometer
- 1 set of cables
- 1 set of compressed air hoses
- 1 set of tools and small parts (bolts, seals etc.)
- 1 set of instructional material