MT 158 Assembly Exercise: Ball Valve and Globe Valve

The illustration shows the tool box with parts sets and tools. The valve fittings as they are assembled from the parts sets are shown in the foreground.

*** Practical exercise based on the assembly of a ball valve and a globe valve**

*** Comprehensive and well-structured instructional material**

Technical Description

Globe valves, of the design presented here, are used to shut off and restrict the flow of media. They must be capable of complete flow shut-off. Closure of the valve should be such that the volumetric flow does not suddenly drop to zero in order to prevent shock loads. The valve taper is moved by the spindle and makes a metallic seal against the seating ring pressed into the housing. The spindle is sealed by a packing gland. The joint between the housing and the clamp cover is sealed by a flat seal. Ball valves are used where media flows or pressures in pipelines need to be stopped quickly and easily, e.g. when fittings are to be removed from a pressurised pipeline. They have a very low flow resistance when open, require little space due to the compact design, and have a self-cleaning sealing face. The sealing body is a ball with a cylindrical bore for straight-line flow throughput when the valve is fully open. The ball is rotated through 90° by way of a lever with spindle, enabling it to open or close the valve fully.

The practice kit MT 158 forms part of the GUNT assembly, maintenance and repair practice line designed for training at technical colleges and in company training centres. A close link between theory and practice is key to the learning content.

MT 158 enables two typical shut-off valves to be assembled and disassembled. Students become familiar with all the components and their modes of operation. The parts are clearly laid out and well protected in a tool box. Systematic assembly and disassembly of a globe valve is practiced. The accompanying material details the individual steps involved, and provides additional information on the areas of application, mode of operation and design of the fittings.

Learning Objectives / Experiments

- Design and function of a ball valve
- Design and function of a globe valve
- Assembly and disassembly, including for the purposes of maintenance and repair
- Replacing components (e.g. seal)
- Comparison of 2 different shut-off devices
- Reading and understanding engineering drawings and operating instructions
- Leak testing (together with hydraulic fittings test stand MT 162)

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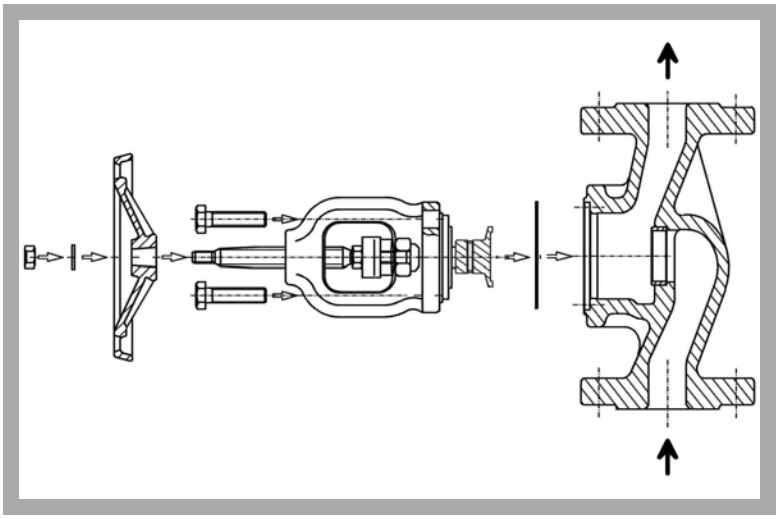
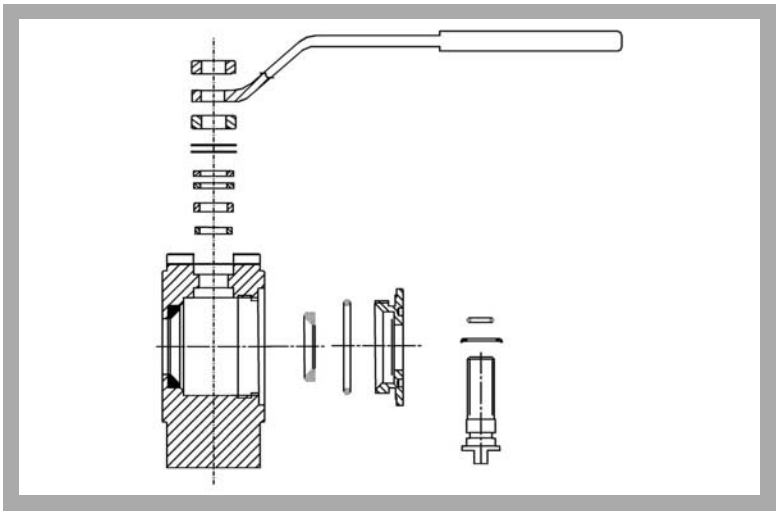


Assembly drawing of the globe valve



Assembly drawing of the ball valve

Specification

[1] Learning concept for assembly exercises on shut-off fittings
[2] Globe valve, as set of parts
[3] 2-way ball valve, as set of parts
[4] Complete assembly tool kit
[5] Valve parts and tools housed in a sheet-steel tool box
[6] The kit forms part of the GUNT assembly, maintenance and repair practice line

Technical Data

Globe valve with flange connections:
- DN 25, PN 16
- housing, hand wheel, clamp cover, packing gland frame: grey cast iron
- taper, seating ring, spindle, ring segment etc.: stainless steel

Ball valve with flange connections:
- DN 25, PN 16
- housing: C22
- ball: brass
- spindle, lever, disks etc.: galvanized steel

Dimensions and Weight

l x w x h : 690 x 360 x 315 mm (box)
Weight : approx. 35 kg

Scope of Delivery

1 complete set of globe valve parts
1 set of replacement parts, consisting of:
- 2 packing glands for spindle sealing
- 16 steel balls for seating ring assembly
- 2 seals

1 complete set of ball valve parts
1 set of replacement parts, consisting of:
- 2 seal sets

1 set of tools, consisting of:
- 2 single-end wrenches: size 13, 17
- 1 Allen key, size 3
- 1 pin-type face wrench, adjustable
- 1 slotted screwdriver 5.5x1
- 1 punch
- 1 soft-faced hammer

1 set of nuts and bolts
2 rectangular boxes for small parts
1 sheet-steel tool box with foam inlay
1 set of instructional material, consisting of:
technical description of system, complete set of drawings with individual parts and parts list, description of assembly and disassembly processes, also in relation to repair operations

Order Details

051.15800 MT 158 Assembly Exercise: Ball Valve and Globe Valve

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Available Accessories:

Product no.	Order text
051.16200	MT 162 Hydraulic Fittings Test Stand