

MT 140.02

Assembly exercise: Piston compressor



The illustration shows the tool box with parts set. The compartment insert for tools and small parts is shown in the foreground.

Description

- **practical assembly of an industrial compressor, using simple tools and jigs**
- **broad scope of learning with interdisciplinary problems**
- **comprehensive and well-structured instructional material**

The MT 140.02 kit contains all the parts required to construct the compressor. The compressor fits are designed so as to allow the complete assembly process to be carried out by hand. All parts are clearly laid out and well protected in a sheet-steel tool box. Small parts and tools are contained in a box with a transparent plastic lid.

The nature of this assembly exercise permits wide-ranging, and in particular, interdisciplinary work to be carried out by the students. The exercise is particularly well suited to action-based teaching, in conjunction with students working both independently and in teams.

The well-structured instructional materials set out comprehensive and in-depth technical information which forms the basis for the teaching process. The teaching material included consists of a complete set of drawings with parts lists, individual part drawings, an exploded view and assembly drawing. All drawings are to standard, and dimensioned in line with production requirements. The comprehensive set of transparencies for the overhead projector is another very useful feature.

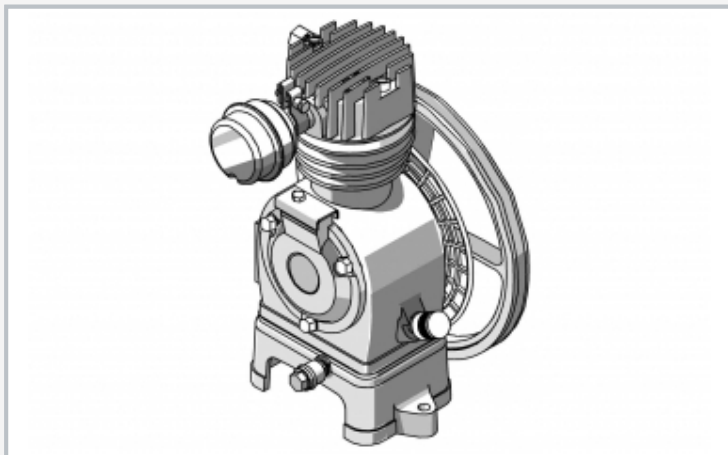
The fully assembled compressor can be tested for functionality using the optionally available MT 140.01 test bed unit.

Learning objectives/experiments

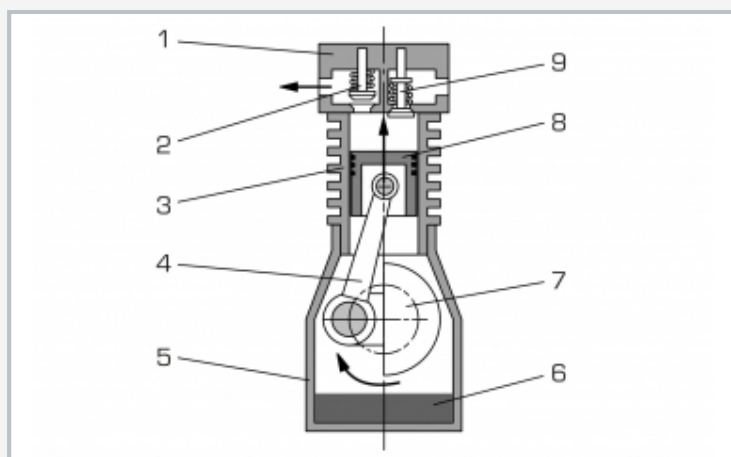
- design and function of a compressor
- reading and understanding engineering drawings
- familiarisation with components and assemblies, their design features and functions
- dimensioning exercises, gauging of parts
- work planning, particularly planning and presentation of the assembly process
- familiarisation with assembly aids and jigs
- assembly exercises: component and complete unit assembly
- analysis of faults and damage, in conjunction with maintenance and repair steps
- material selection criteria
- in conjunction with MT 140.01
 - ▶ functional testing of the assembled compressor

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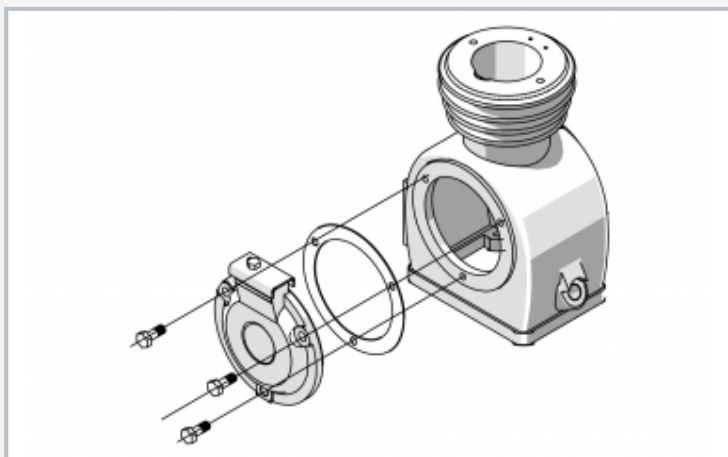
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Three-dimensional view of the assembled compressor



1 cylinder cover, 2 pressure valve, 3 cylinder, 4 connecting rod, 5 crankcase, 6 oil sump, 7 crankshaft, 8 piston, 9 intake valve



Assembly of the side cover

Specification

- [1] assembly exercise for engineering training
- [2] complete, disassembled piston compressor with small parts set and 6 assembly jigs in a storage case
- [3] single-stage compressor, air-cooled, with fan fly-wheel, intake filter and pipe unions
- [4] compressor consisting of piston and cylinder, housing, driving gear, cylinder cover with valves
- [5] the kit forms part of the GUNT assembly, maintenance and repair practice line

Technical data

Air-cooled single-cylinder piston compressor

- cylinder bore: 50mm
- stroke: 32mm
- displacement volume: 63cm³
- speed: 1850min⁻¹
- max. pressure: 10bar
- intake capacity: 115L/min
- drive power output: 700W
- dimensions, assembled, LxWxH: 223x256x314mm

LxWxH: 720x360x310mm (tool box)

Weight: approx. 28kg

Scope of delivery

- 1 complete set of compressor parts
- 1 box for small and loose parts (e.g. bolts, circlips, washers)
- 1 set of gaskets
- 6 assembly jigs
- 1 set of assembly / disassembly tools
- 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 sequences, set of transparencies for overhead projector

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Optional accessories

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| 051.14001 | MT 140.01 | Assembly exercise piston compressor: Functional test |
| 051.14010 | MT 140.10 | Cutaway model piston compressor |