

PUMPS AND COMPRESSORS: INDISPENSABLE IN PROCESS ENGINEERING



Pumps and compressors are work machines and key components of process engineering systems. Exact knowledge of the design and functionality of these components is therefore a vital part of the training of future specialists and engineers.

Pumps serve to convey incompressible fluids. Based on their operating principle, they can be divided into centrifugal pumps and positive displacement pumps.

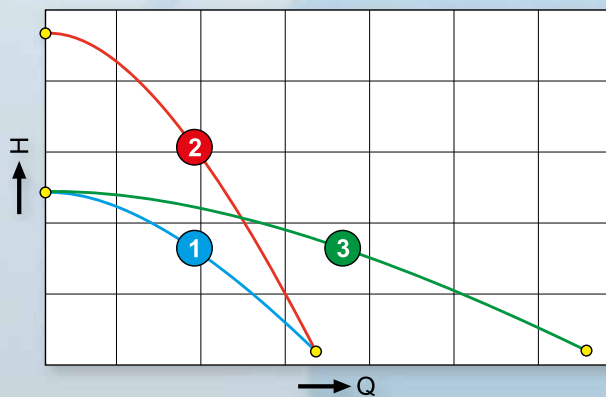
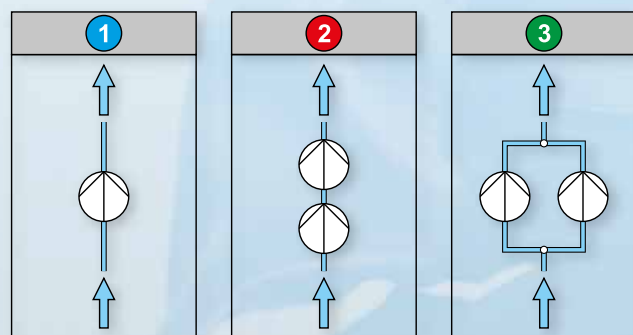
Compressors serve to convey and compress gaseous substances. Based on the level of generated pressure, they can be divided into:

- ventilators $p < 1,1 \text{ bar}$
- fans $p = 1,1 - 3,0 \text{ bar}$
- compressors $p > 3,0 \text{ bar}$

A very common variant are piston compressors. Piston compressors can have one or more stages.

The ET 500 serves to demonstrate the principle of operation of a two-stage piston compressor in a straightforward manner. The provided software enables you to record measured values and analyse the experiments.

Our devices serve to demonstrate all important aspects of pumps in a clear and practical manner. This includes, for example, recording the characteristics of a centrifugal pump.



Typical characteristics of centrifugal pumps

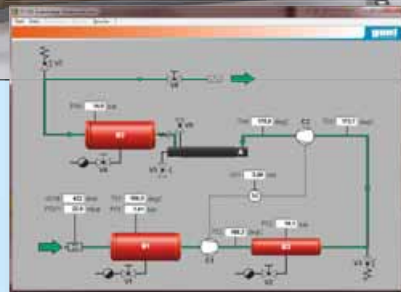
1 individual pump, 2 series connection, 3 parallel connection

Q flow rate, H head



ET 500 Two-Stage Piston Compressor

ET 500 software

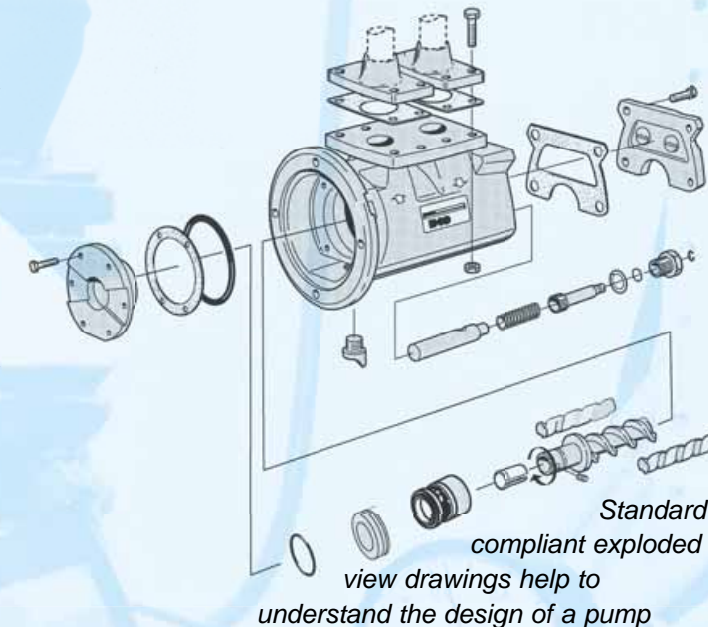


INSTALLATION AND MAINTENANCE

If a pump or compressor is not working correctly, there is a risk of production and supply interruptions. Replacing a pump is often significantly less economic than proper preventive maintenance. Maintenance is to ensure that a component remains functional and/or restore its functionality.

This section therefore presents training systems to demonstrate installation and maintenance of typical system components in a practical manner.

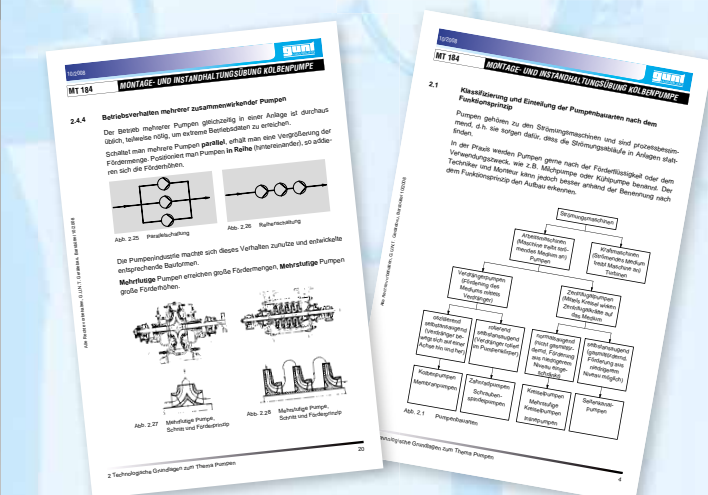
To ensure that the students are optimally prepared for their job, we have placed great emphasis on a practical character of the exercises. This includes manual skills and a systematic way of working as well as reading and understanding engineering drawings.



Standard-compliant exploded view drawings help to understand the design of a pump



MT 184 Assembly & Maintenance Exercise: Piston Pump



Instructional material

Our comprehensive instructional material supports you ideally when planning and performing the exercises. The instructional material is provided on paper and as a PDF file on CD.

