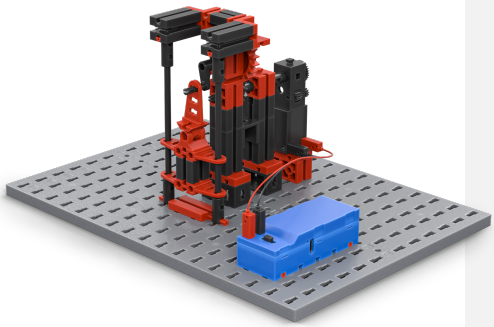
Model 17
Eccentric press



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DESIGN TASK

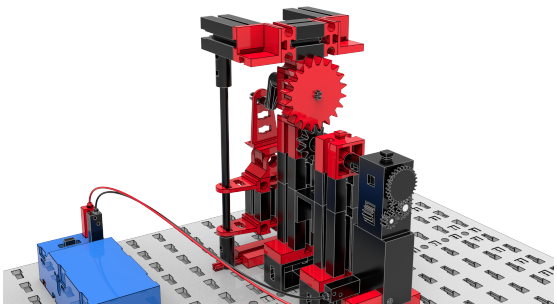
Presses come in many sizes and are used in many different areas of application: Small tablet presses form medical tablets measuring just a few millimeters, while huge hydraulic presses up to 20 meters high with forces of several hundred tons form metal parts such as lamp housings or engine hoods under high temperatures.

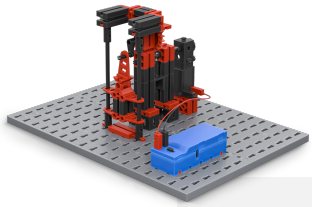
A simple design is the eccentric press. Similar to windshield wiper models, an eccentric presses the press head or "punch" vertically or horizontally against a stop. The workpiece between them is pressed.

Task: Construct the model according to the instructions. Make sure that the vertical axes are adjusted so that the press head can move up and down smoothly.

THEMATIC TASK

The motor drive is connected to the eccentric via a small gear mechanism. What is the purpose of the gear mechanism?





EXPERIMENTAL TASK

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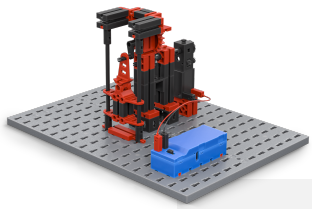
The eccentric crank and the joint in the press head convert the rotary motion into a linear up and down motion. Workpieces of different heights can be placed in the press.

Place objects of different thicknesses under the press, such as paper, modeling clay, or thin pieces of wood.

1. In which position does the press have the greatest pressing force?

2. Why is that?



APPENDICES

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Further information

[1] Wikipedia: Eccentric press