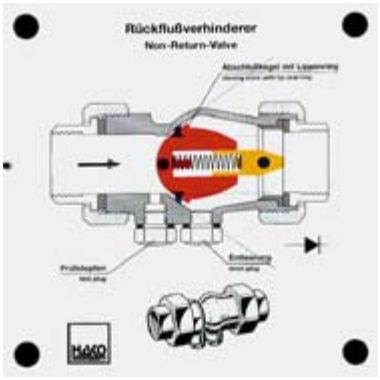
Order no. 306
Stop valves

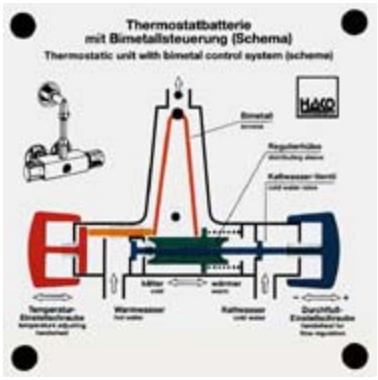
- flow control by means of a manually actuated valve plate and a solenoid operated valve cone

- opening and closing of both valves



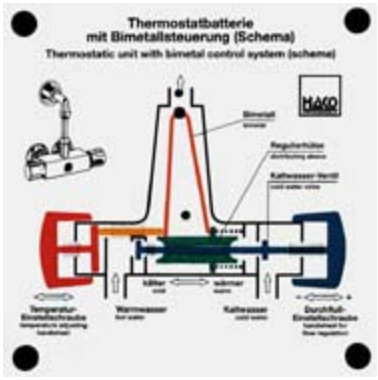
Order no. 303
Non-return valve

- function when water flows through
- shut-off effect when water flows back

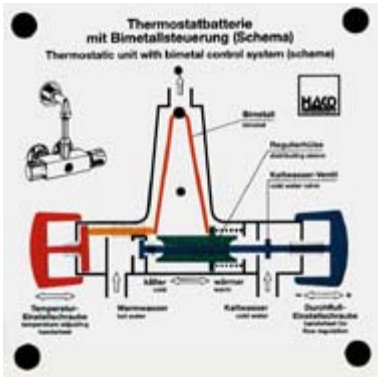


Order no. 311
Thermostatic unit with bimetal control system

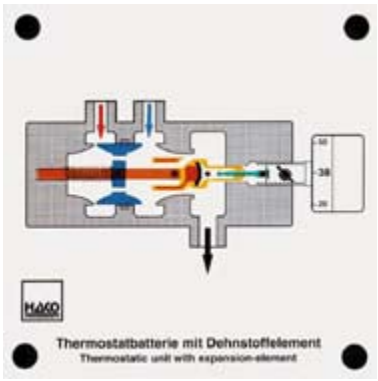
The diagram shows the operation of a thermostatic unit when the outlow of water is adjusted, and the function of the bimetallic spring.



Moving the distributing sleeve from cold to warm (and vice versa) changes the cross section of the

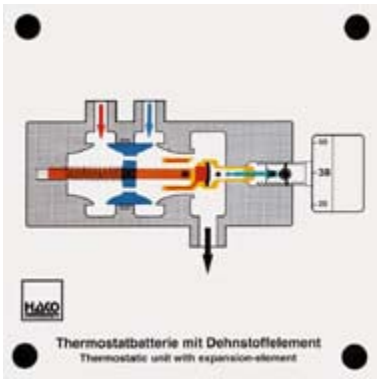


outlets and consequently the water temperature.

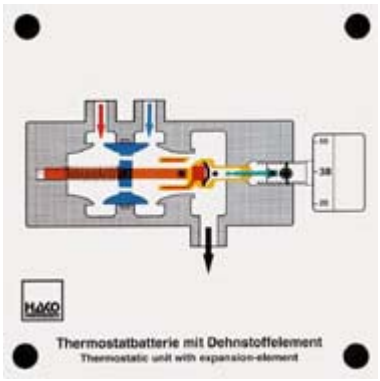


Order no. 422
Thermostat battery with expansion element

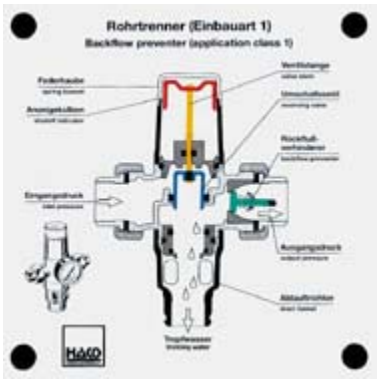
- movement of the double conical valve for the setting of the desired temperature.



- expansion of the expansion medium at increased temperatures, thus moving the double conical

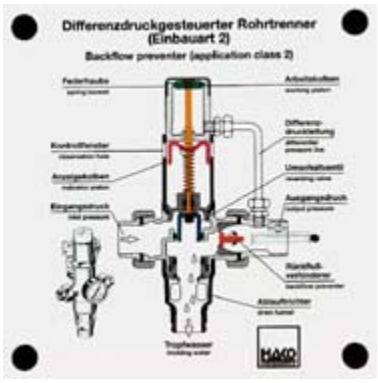


- valve to achieve regulation of the temperature set



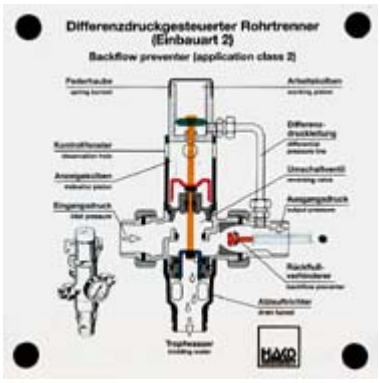
Order no. 305
Backflow preventer

Function of the safety valve at normal rate of flow and shutoff when inlet pressure is too low.

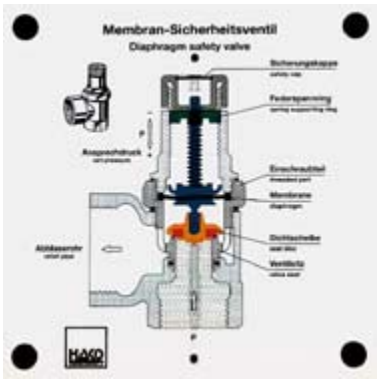


Order no. 308
Blackflow preventer

- function of the safety valve at the usual shutoff point

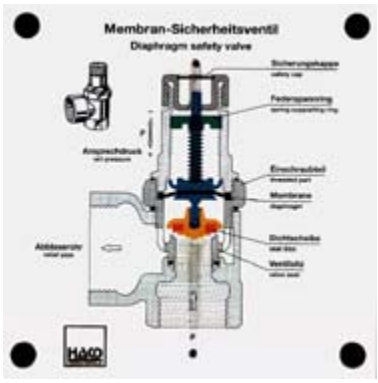


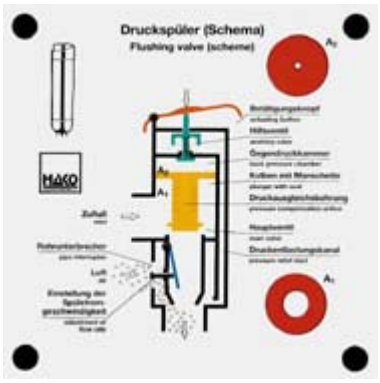
- flow-through when water is taken off, controlled by differential pressure



Order no. 307
Diaphragm safety valve

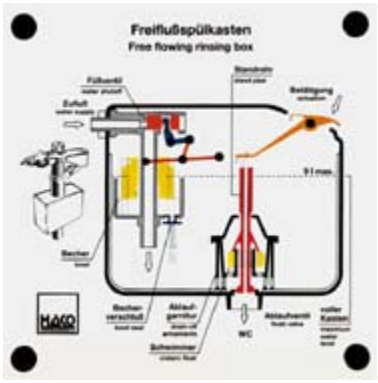
Demonstration of relief when overpressure is too high





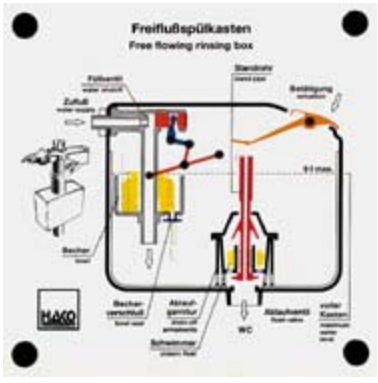
Order no. 315
Flushing valve

- actuating the minimum flow
- function of the backflow preventer
- automatic shutoff
- adjustment of flow rate

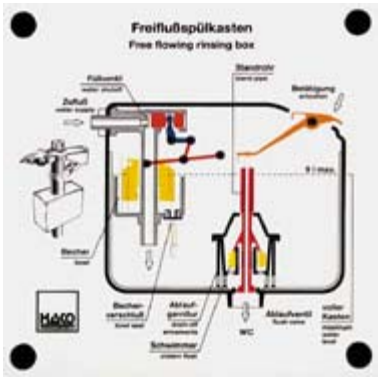


Order no. 310
Free-flowing rinsing box

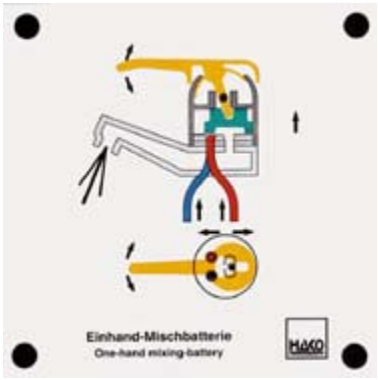
- cyrle of movement while filling or flushing
- function of the two floats



- function of water shutoff and flush valve

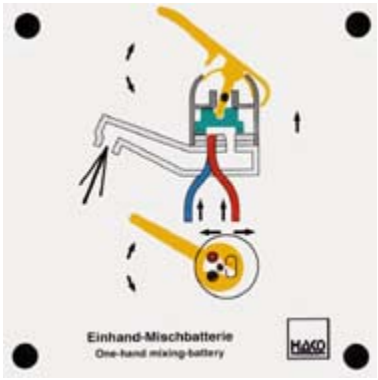


- function of the safety valve

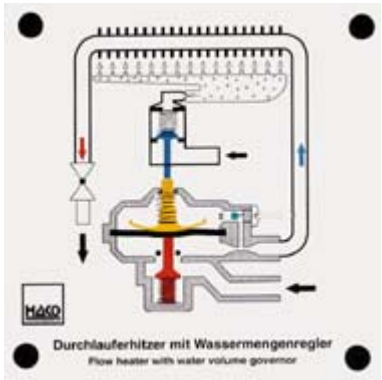


Order no. 423
Single-handed mixer tap

- setting the desired water volume by moving the lever up and down and turning the movable ring (upper part)

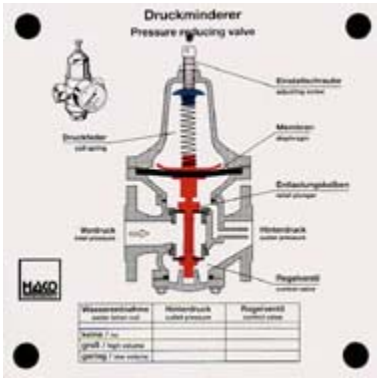


- setting the desired temperature by turning the lever and the movable ring (lower part)



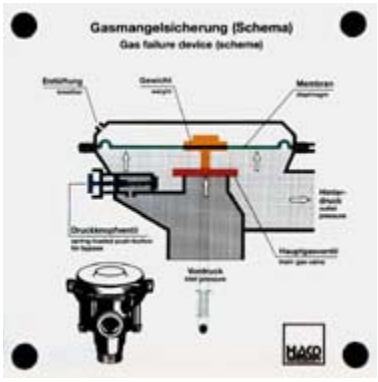
Order no. 425
Instant water heater with water volume control

- water volume control in the water volume control unit by means of pistons and springs
- function of the Venturi nozzle
- regulation of the gas volume by means of a connecting rod to the water volume control unit



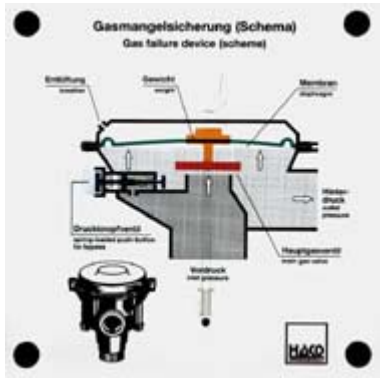
Order no. 318
1 Pressure-reducing valve

- if the pressure is too high, the vlave closes
- if the pressure decrease, the valve opens
- reduction of inlet pressure.

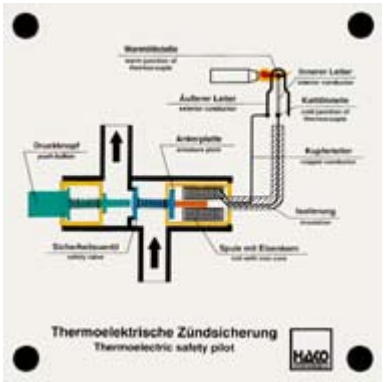


Order no. 316
Gas failure device

- safety function when line divisions are not closed
- after actuation of the spring loaded push-button

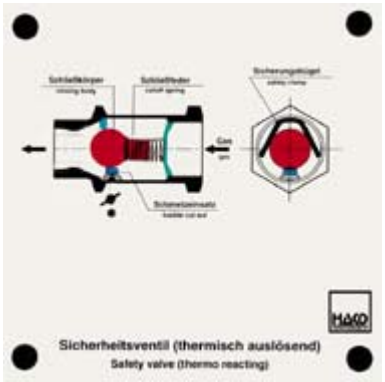


- for bypass, the main gas-valve is lifted and rest pressure increases



Order no. 377
Thermoelectric safety pilot

When the flame is alight, the safety valve is pulled back by the coil, and the gas can flow. If the flame is extinguished, the safety valve is imme-diately closed by the spring, as there is no longer any magnetism

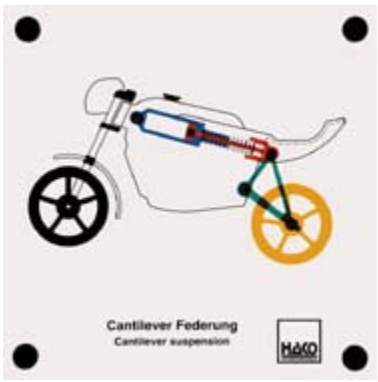


Order no. 380
Safety valve

The closing body is held in the back position by a fuse, and the gas is able to flow.
If the fusible cut out melts, e.g. because of fire, the fuse body is pushed forwards by the spring, and the gas flows is interrupted.

Order no. 424
Fuel oil hold-back system

-Function of the float on ingress of waste water or the ingress of heating oil
- Function of the backpressure flap and the backpressure seal
- The inflow of the waste water can be demonstrated by three movable slide bars



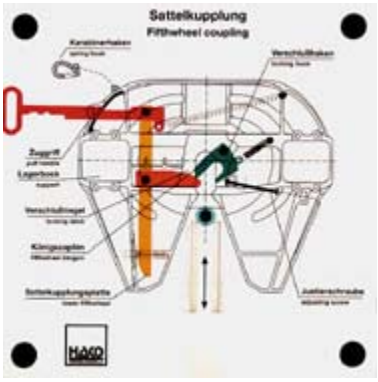
Order no. 342
Cantilever suspension

- function of the central suspension strut
- function of suspension and damping during compression and rebounding

- spring progression via power deflection

Order no. 343
Rear swinging fork

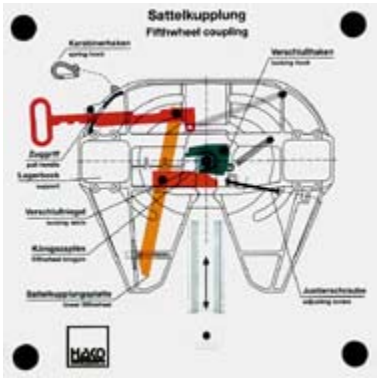
- function of a conventional rear swinging fork
- function of suspension and damping during compression and rebounding



Order no. 299
Fifthwheel (semitrailer) coupling

- coupling ready for drive in
- driving in the tractor
- latch locks automatically

"Ready for running in"



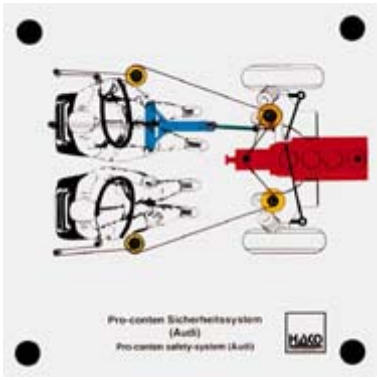
- the spring hook serves as a safety device
- opening the spring hook, pulling out the pull handle, releasing the locking latch, driving out tractor

"Coupling inserted"

Order no. 410
Fully-automatic trailer coupling

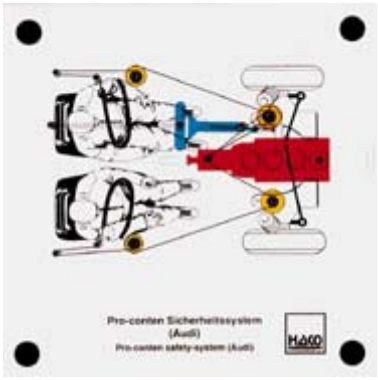
- opening the trailer coupling by means of the hand lever
- inserting the trailer drawbar eye
- releasing the automatic locking of the trailer coupling

- securing the locked trailer coupling
- function of the control pin



Order no. 185
Procon-ten safety system (Audi)

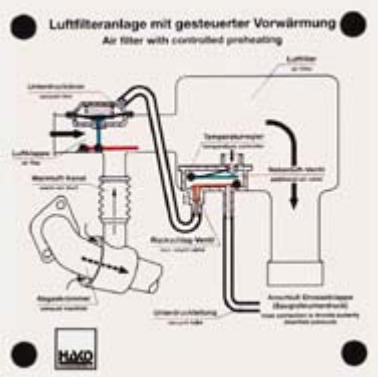
- engine can be moved backwards (simulating a frontal collision)
- the steering wheel is pulled out of the passenger compartment, and the pretensioning device



- tension shoulder and lap belt of driver and passenger simultaneously
- automatic resetting

Order no. 360
Power test

Design and function of a power analyser. The rotor is turned by the drive wheel. The flyweights make contract with the stator. The stator lever presses on the balance. This actuates the force indicator by means of a lever and gear rack. A DC supply from 0 to 12V is required.



Order no. 257
Air filter with controlled preheating

- controlling the air flap by means of the vacuum box
- function of the temperature controller depending on the temperature of the inlet air
- function of the non-return valve
- interaction of all elements in different operating conditions

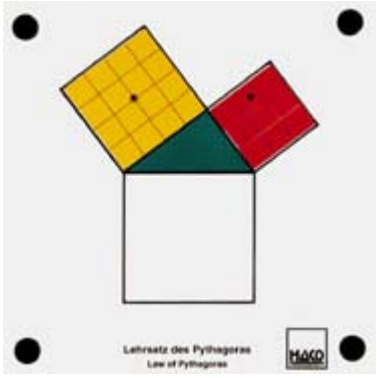
Order no. 249
Measuring bearing clearance

- the plastic gauge can be applied
- you can insert different journals with different diameters
- the bearing cover is pressed down
- different bearing clearances can be evaluated by comparing the width of gauge with imprinted scales

Order no. 397
Vertical force control of windscreen wipers

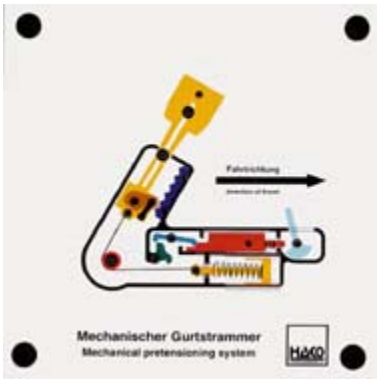
- function of a windscreen wiper linkage
- function of the vertical force control by means of an electric motor, rack and pinion

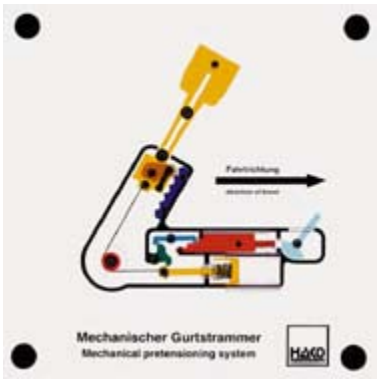
- demonstration of the wiper blade pressed down and raised



Order no. 160
Pythagoras' Theorem of

- the theorem of Pythagoras can be shown by converting the squares above the catheters into the square above the hypotenuse



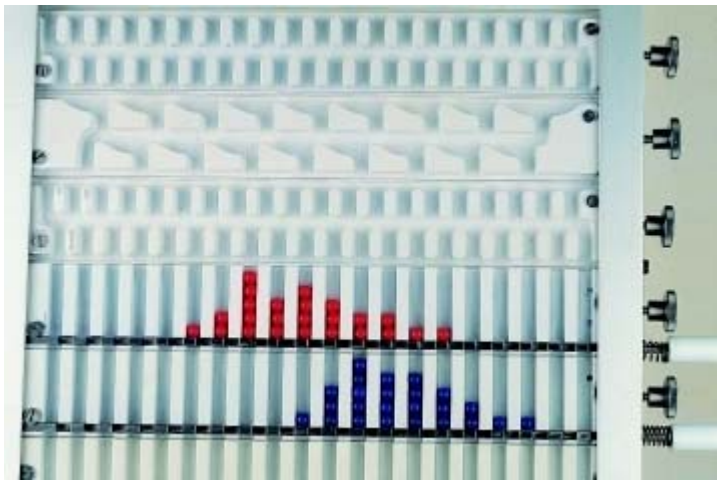


Order no. 415
Mechanical pretensioning device

- release of the pretensioning device by the sensor mass
- release of the spring and pretensioning of the belt, holding it in this position by the locking plate
- switching off the pretensioning device

Order no. 1074
Distribution and SPC simulator

Increased use of statistical process control (SPC) in many areas of production requires an increasing level of expertise in the field of statistical random distributor.
The assessment capability of the quality management specialist is increasingly called for in various random distribution processes and their mathematical description.
Using the distribution and SPS simulator, numerous random processes can be simulated realistically and represented graphically. Real random results can be compared immediately with the ideal mathematical distribution curves.
Due to the modular construction of the simulator, the processes of formation of various distribution forms can be reconstructed.
The simulator can be used by teachers for clarification or by trainees for random experiments in a statistics laboratory.



Structure:

A baseplate with side guides, a stand and a ball outlet form the basic-system which is used to locate individual modules in desired combinations:

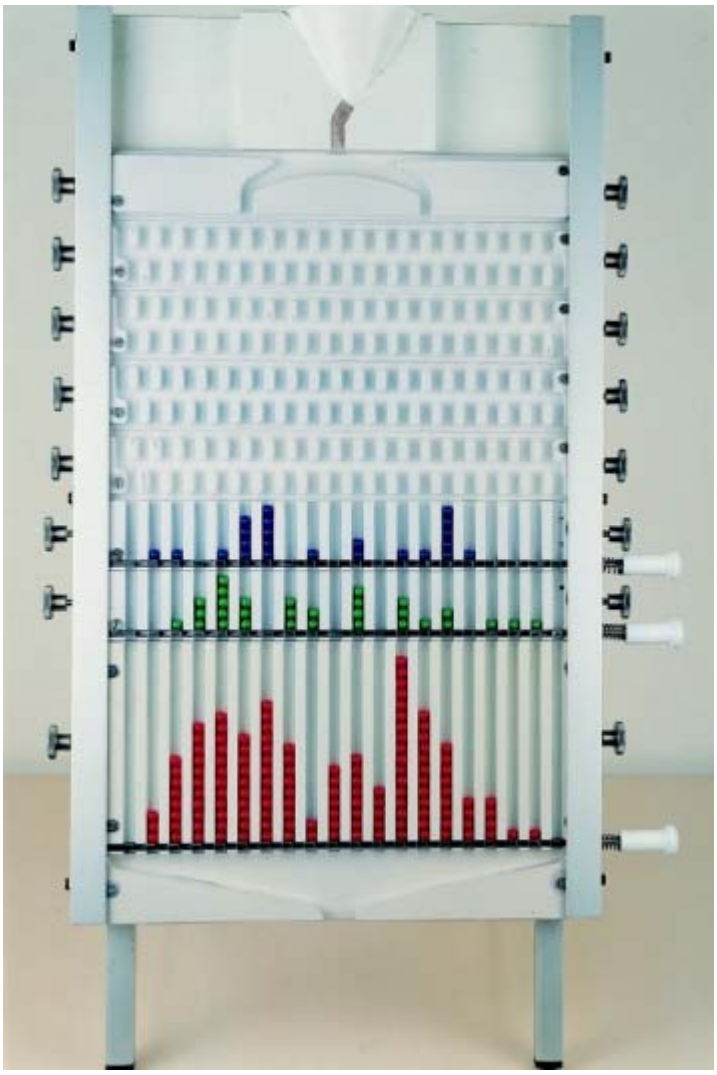
1. "Centralised module"
This is used to receive and display large sample sizes (up to approx. n=120). Many small individual samples can be combined with it to obtain overall distribution.
Machine-capability and preliminary studies can thus be simulated.

2. "Random sampling module"
This is used to receive and display random samples up to approx. n=20. Two such modules are supplied, thus always allowing the comparison of two random samples, before the are added to the overall distribution by opening the blocking slides. It also enable the centralised module to be extended, if the blocking slides of the random sampling module are opened.

3. "Normal distribution module"
Two rows of oval lugs are located on this component which distribute the arriving balls using the random sampling principle. So that the

balls always impinge on the next series of lugs perpendicularly, they are made to continue rolling perpendicularly after each distribution in an oblong hole.
5 standard distribution modules are supplied. Depending on the quantity of these modules, each of which simulates two random events, the scatter can be varied.

4. "Asymmetrical distribution module"
The arriving balls are distributed at different distances to the left or right on two series of lugs. Different asymmetrical can be simulated by combination with several standard distribution modules.



5. "Coarse distribution module"
The arriving balls are distributed to the far left and right on a greatly enlarged distribution lug. In combination with some standard distribution modules, typical arbitrary distribution occurs for processes with parameters having a wide scatter. The deviation probabilities can be varied to the left or right by fine horizontal adjustment.

The horizontal position of all modules can be finely adjusted and set by means of adjusting screws on the side guides.

1Scope of supply:
1. Baseplate with side guides, ball outlet and folding stands.
2. One central module with blocking slide.
3. Two random sampling modules with blocking slides
4. Five standard distribution modules
5. One asymmetric distribution module
6. One coarse distribution module
7. 300 red balls
8. 50 balls each colour; green, blue, yellow and black
9. Collection and storage box for the balls

Order no. 1075
Random sample simulator

The AQL system according to DIN 40 080 can be simulated using the random sample simulator.
In a total population of n=1000 balls, 0,5%, 1%, 2%, 5%, 10% and 20% of the balls are of different colours.
This symbolizes the quantity of "bad" parts. Only the appropriate colour is considered and evaluated, depending on the AQL value assumed.
A random sample of n=100 can be taken and evaluated by simply tilting the simulator.
The balls roll in ten channels. The random sample is thus shows clearly and the evaluation is simplified. Smaller random samples can also be simulated by evaluating only one part of the channel.