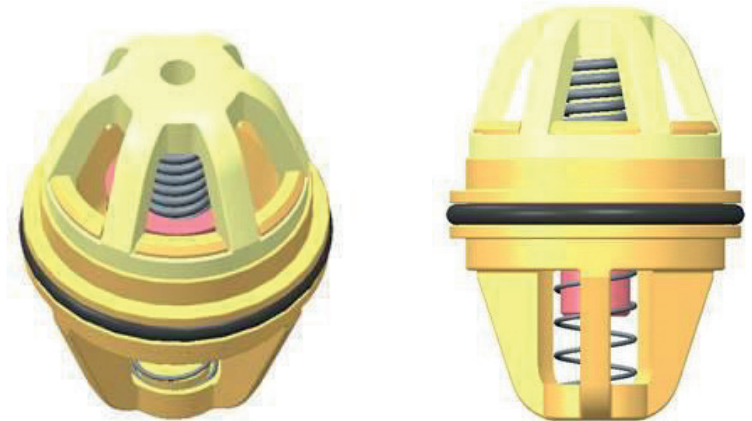


## THERMO VALVE WITH SMA-ACTUATOR

INDEPENDENT, FAILURE-FREE  
AND FAST RESPONSIVE  
WORKING TEMPERATURE-  
CONTROLLED VALVES WITH  
SHAPE-MEMORY-ALLOY  
ACTUATORS - CALLED  
SMA-ACTUATORS



Thermo valves of the latest generation are increasingly working with SMA-actuators. SMA-actuator-valves are already frequently used in oil- and cooling circuits, steering dampers, cold start regulations in automobiles as well as in modern brewing units of coffee machines, in brewing protection systems of mixing valves in households, within unlocking systems, in actuators, thrust pieces/valves, temperature compensation, sensors, in divers types of security systems and many more applications.

Thermo valves are preferably activated by liquids at a defined switching temperature. Alternatively triggered by air and electricity.

These valves provide significant benefits in comparison to other systems as for example:

- **Fast reaction time**
- **Compact, simple design**
- **Simple, cost-effective installation**

- **Both lightest forces in the range of 1N for delicate requirements as well as extreme forces in a high double-digit Newton-range per actuator are possible**
- **Complete electricity independent function is possible**
- **High reliability**
- **Wide thermal activation range from ~ -20°C up to 100°C**
- **Noiseless**

Alternative application examples with SMA-actuators: damping elements, household fuses, locking systems.

G.RAU is one of the worldwide leading suppliers of SMA-products and offers the whole spectrum of shape-memory-alloys and actuators from material development, material production, construction of actuators supported by cycle tests, technical consulting up to the production of SMA-actuators and valves/assemblies according to customers' design.