

# Steam Loop Pressure Regulation & Safety Shutoff

## Solving Your Most Critical Steam Needs

- Reduce Overall Equipment Footprint
- Integrate Building Management System
- Lower Your Total Costs

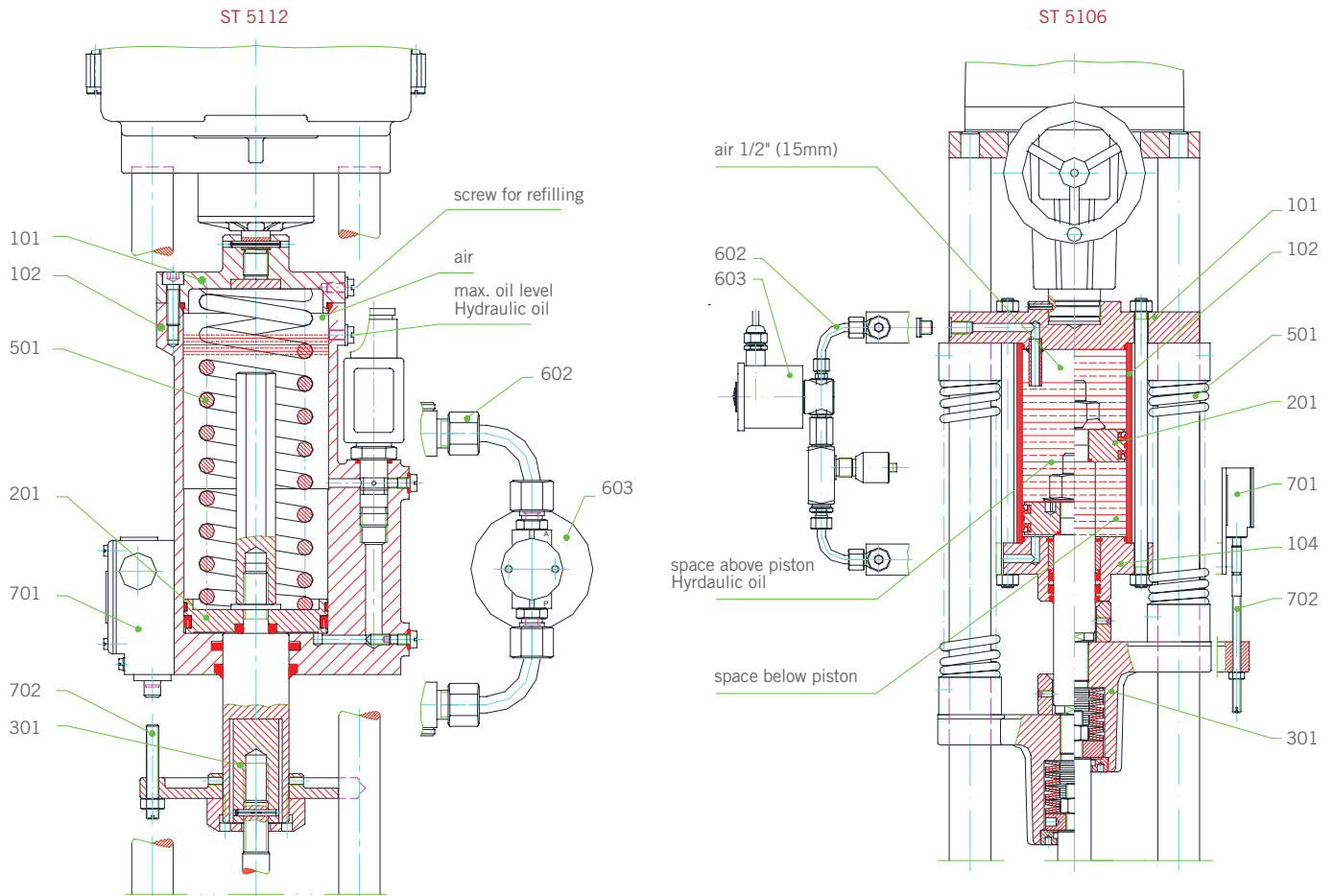


RTK

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## Emergency Closing System for Motorized Valves, Series 2way and 3way

- > Approved by German Technical Inspectorate DIN EN 14597-2005-12 as safety functional device for steam and water in heating systems. Valid only in combination with (ST 6151-5).
- > Closes at power failure.
- > Closes smoothly even at large differential pressures.
- > Adjustable closing time for ST 6152-1.
- > Automatic return to closed loop control possible without any external components or wiring.



Pos.	Item Description	Material		Material Specs		(ANSI Equivalent)	
		ST6151 -	ST6152 -	ST6151 -	ST6152 -	ST6151 -	ST6152 -
101	Upper cover	Copper Alloy	Carbon Steel	GK-CuZn38AL	ST52.3		A633 gr A,C,D
102	Body	Copper Alloy	Carbon Steel	GK-CuZn38AL	ST52.3		A633 gr A,C,D
104	Lower cover		Carbon Steel		ST52.3		A633 gr A,C,D
201	Piston	Copper Alloy	Carbon Steel	Ms 58 (CuZn39Pb3)	ST52.3	C38500	A633 gr A,C,D
301	Coupling group	Copper Alloy	Ductile Iron	GM-CuAl10fe5ni5-c	GGG40	C95500	A 536-80 Grade 60-40-18
501	Spring	Spring Steel		DIN2076			
602	Screw fittings	Stainless Steel		1.4571			AISI 316 Ti
603	Solenoid valve	Copper Alloy		Ms 58 (CuZn39Pb3)			C38500
701	Indicator switch	Aluminium Alloy		GD-ALSi12Cu1			A413
702	Actuating pin	Carbon Steel		8.8			ASTM 325

A hydraulic cylinder with integral spring, and filled with oil, is mounted between the actuator and valve. The actuator depresses the cylinder as shown in fig. 1. Due to the cylinder being pushed down, a space is created under the piston head. This space is filled with oil from the upper chamber, which is forced through the normally open solenoid valve.

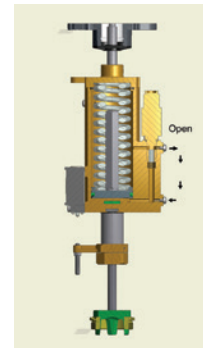


Figure 1

When the cylinder has reached the given stroke (= valve stroke which is determined by the length of the arrestor), the actuator limit switch (closed position) is activated. This in turn, energizes the solenoid valve via the logic PCB, closing it and preventing any oil from flowing between the upper and lower chambers, therefore, keeping the piston head in the position fig. 2.

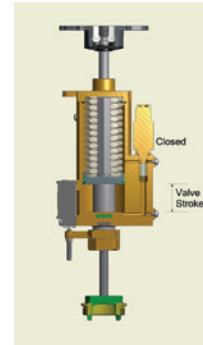


Figure 2

The hydraulic cylinder is now 'loaded', and the valve can be used in normal operation. The hydraulic cylinder moves up and down with the valve stem. fig. 3.

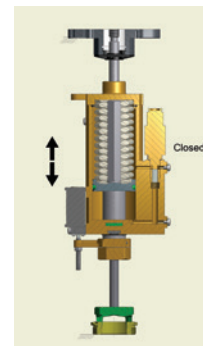


Figure 3

When the power supply to the solenoid valve is removed (safety switch operates or loss of power), the solenoid valve opens, allowing oil to flow from one chamber to the other. The spring pushes the piston head (and the valve plug) down, and the oil flows from the lower chamber into the upper chamber until the piston head is at the bottom of the cylinder, as shown in fig. 1.

This position is the starting position for the 'loading' Process, which is started as soon as the actuator is driven closed and the end limit switch is operated.

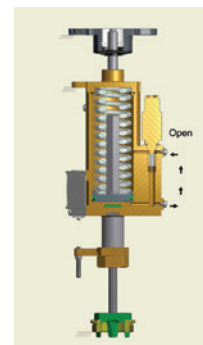


Figure 4

