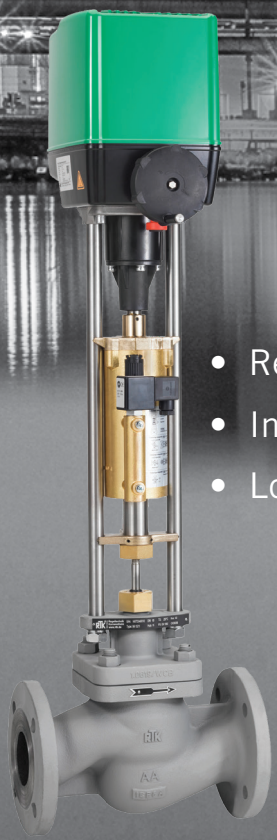
REflex

CIRCOR | RTK

Control and Shut-Off Valves | Variety of Trim Designs in Different Materials | Electric and Pneumatic Actuators as Standard

Steam Loop Pressure Regulation & Safety Shutoff

Solving Your Most Critical Steam Needs



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

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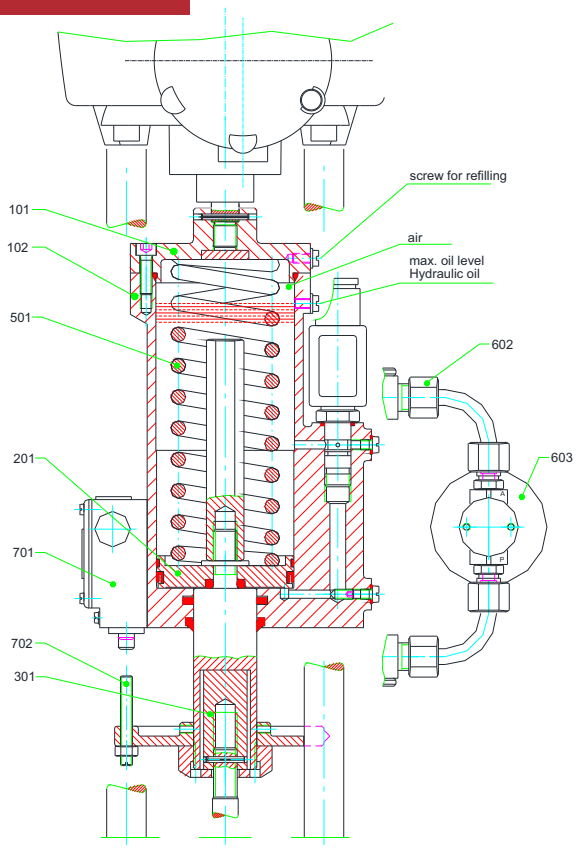
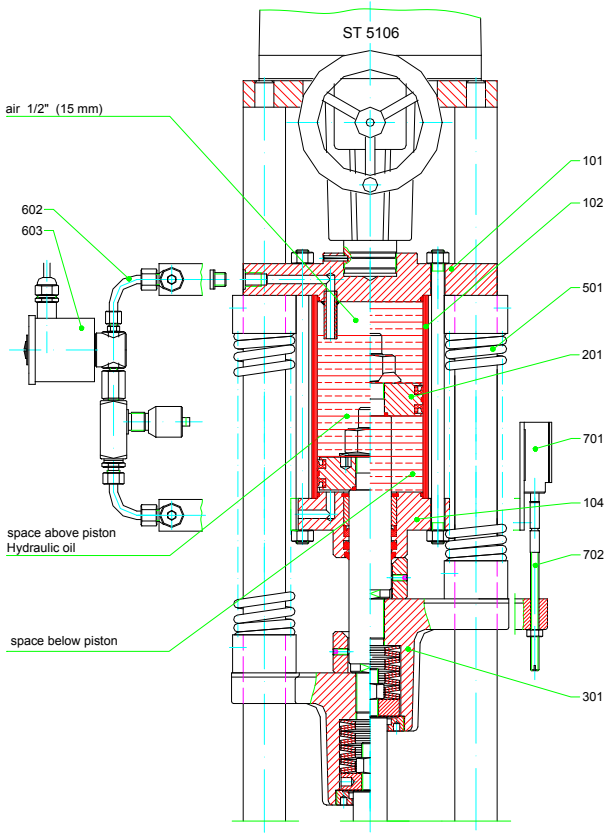
Emergency Closing Systems for Motorized Valves, Series 2ways and 3ways

- Approved by German Technical Inspectorate DIN EN 14597-2015-02 as safety functional device for steam and water in heating systems. Valid only 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

REact + ST 6151 -



ST 5106 + ST 6152 -



Pos.	Item Description	Material		Material Specs		ANSI (Equivalent)	
		ST6151 -	ST 6152	ST6151 -	ST 6152	ST6151 -	ST 6152 -
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	
602	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.

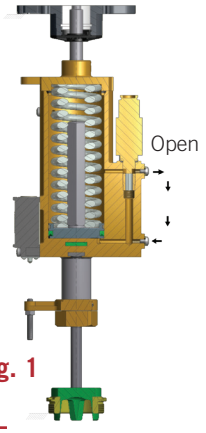


Fig. 1

When the cylinder has reached the given stroke (= valve stroke, which is determined by the length of the arrestor inside the unit), 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 required position. fig. 2.

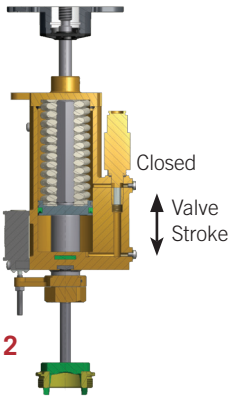


Fig. 2

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.

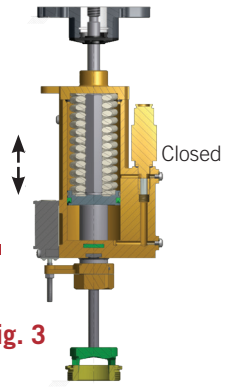


Fig. 3

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. 4.

This position is also 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.

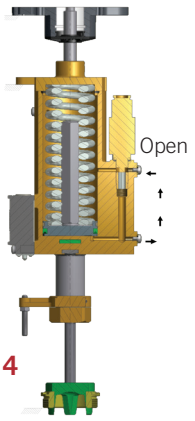
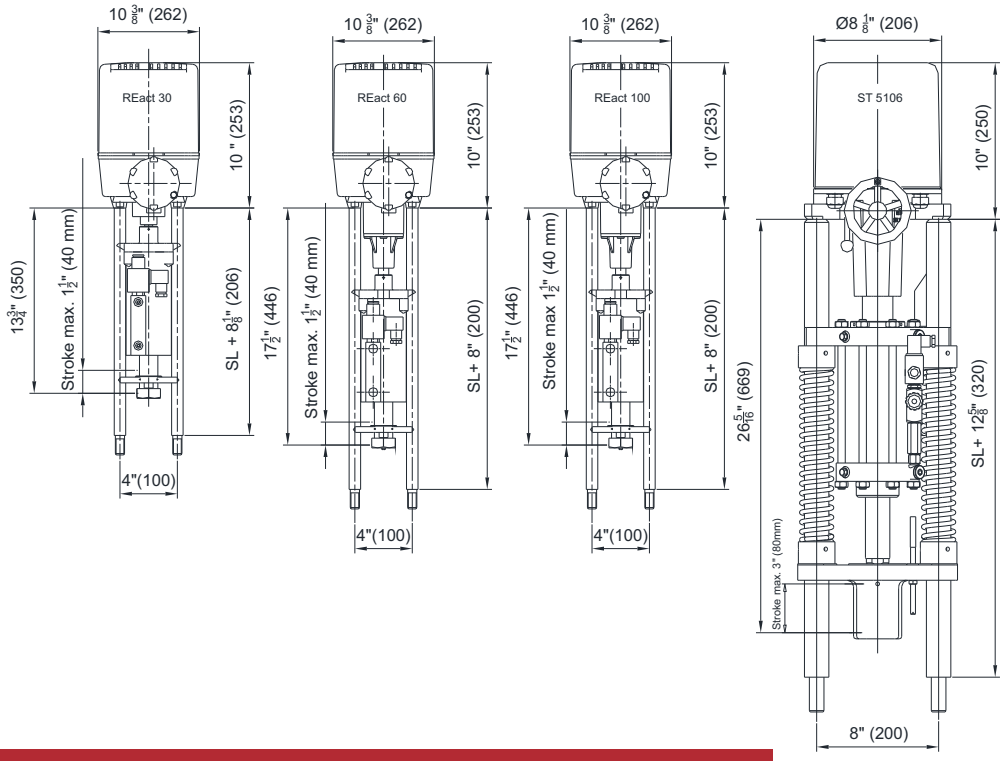


Fig. 4

REact 30 + ST 6151	REact 60 + ST 6151	REact 100 + ST 6151	ST 5106 + ST 6152



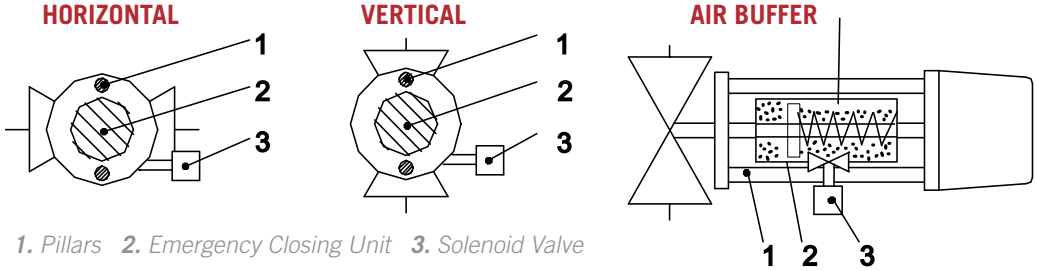
Dimensions for Emergency Closing Units with Control Valves

Series	"Actuator + Emergency Closing Unit"	"Max. Stroke Inch (mm)"	"Closing Speed Inch (mm)/S"	"Pillar Length Inch (mm)"	"Weight lbs (kg)"
MV 52..	REact 30 + ST 6151-5	1½ (40)	0.26 (6.7)	PL = F + 8⅛ (206)	24 (11)
MV 53..	REact 60 + ST 6151-5	1½ (40)	0.26 (6.7)	PL = F + 8 (200)	35 (16)
	REact 60 + ST 6151-6	1½ (40)	0.26 (6.7)	PL = F + 8 (200)	35 (16)
	REact 100 + ST 6151-6	1½ (40)	0.26 (6.7)	PL = F + 8 (200)	37.5 (17)
MV 54..	ST 5106 + ST 6152-1	3 (80)	0.15 (3.8)	PL = F + 12⅝ (320)	141 (64)
	ST 5116 + ST 6152-1	3 (80)	0.15 (3.8)	PL = F + 12⅝ (320)	141 (64)

The dimension F comes from the Reflex Technical Brochure (PL = Pillar length)

Mounting Position Emergency Closing Unit

Important: The solenoid valve must always be placed below the emergency closing system.



1. *Pillars* ***2.*** *Emergency Closing Unit* ***3.*** *Solenoid Valve*

CIRCOR is a market-leading, global provider of integrated flow control solutions, specializing in the manufacture of highly engineered valves, instrumentation, pumps, pipeline products and services, and associated products, for critical and sever service applications in the oil and gas, power generation, industrial, process, maritime, aerospace, and defense industries.

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