



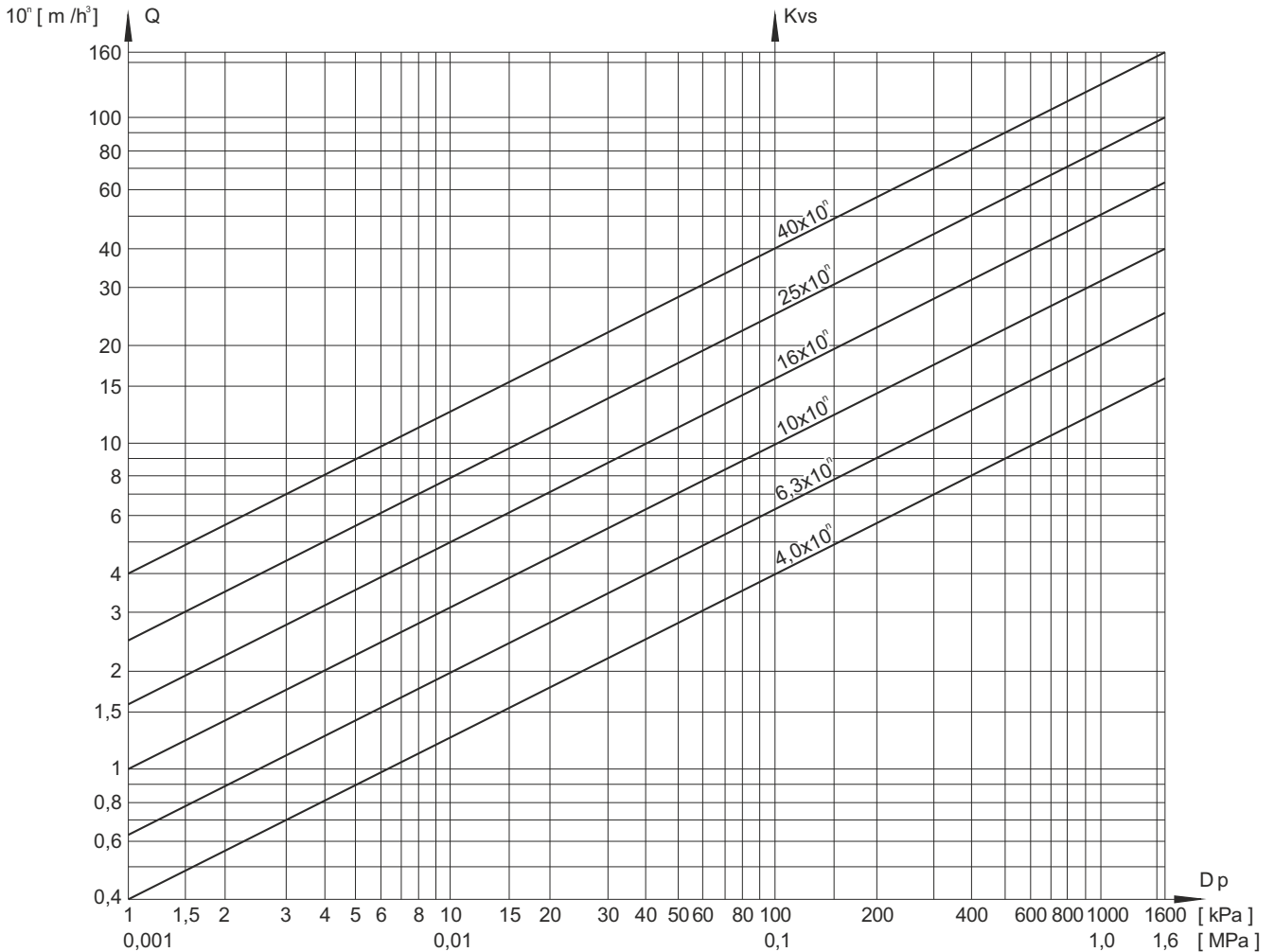
02 - 05.4  
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# CONTROL VALVES STARTING

## G 92



## Diagram for the valve Kvs value specification according to the required flow rate of water Q and the valve differential pressure Δp



The diagram serves to specify the valve Kvs value regarding to the required flow rate of water at a given differential pressure. It can be also used for finding out the differential pressure value of the existing valve in behaviour with the flow rate. The diagram applies to water with the density of 1000 kg/m<sup>3</sup>. For the value  $Q = q \cdot 10^3$ , it is necessary to calculate with  $Kvs = k \cdot 10^3$ . Example: water flow rate of  $16 \cdot 10^3 = 1,6 \text{ m}^3/\text{hour}$  corresponds to  $Kv = 2,5 = 25 \cdot 10$  when differential pressure 40kPa.

### Valve complete specification No. for ordering G 92

		X XX	X X X	- X XXX	/ XXX	- XXX
<b>1. Valve</b>	Control valve	<b>G</b>				
<b>2. Series</b>	Control valve, starting	<b>92</b>				
<b>3. Flow direction</b>	Angle		<b>2</b>			
<b>4. Connection</b>	Weld ends		<b>2</b>			
<b>5. Actuating</b>	Adjusted for remote control		<b>5</b>			
<b>6. Material</b>	Alloy steel 1.7357			<b>2</b>		
<b>7. Nominal pressure PN</b>	Acc. to the valve execution				<b>XXX</b>	
<b>8. Max. operating temp. °C</b>	Acc. to the valve execution					<b>XXX</b>
<b>9. Nominal size DN</b>	Acc. to the valve execution					<b>XXX</b>

### Maximal permissible pressures acc. to EN 12 516-1 [MPa]

Material	PN	Temperature [ °C ]							
		200	250	300	350	400	450	500	550
Alloy steel 1.7357	400	40	40	40	37.26	34.14	31.56	24.97	10.46



# G 92 225 2400

Control valve  
starting

**DN 150**  
**PN 400**

## Description

The valve is single-seated, designed to be actuated with an electric rotating actuator. The piston type plug moves in a special control cage with holes and cross section grooves that, when the valve opens, gradually enlarge which provides a smooth regulation.

The valves are supplied with the actuators ZPA Pečky - Modact MON. On the basis of the customer's requirements, it is possible to supply the valve with the connection acc. to ISO 5210 with the actuators such as AUMA, Schiebel and so on. The actuator is mounted to the valve with the aid of adapter ZPA Pečky.

## Application

The valves serves as a control valve applicable to where it is necessary to change the flow water pressure from its maximum value to minimum or vice versa. The max. operating pressures correspond to EN 12 516-1 see page 3 of this catalogue. The possible use for higher temperature must be agreed upon with the producer.

## Process media

The valve is designed to control the flow and pressure of water and steam. The valve max. differential pressure is 20,0 MPa with respect to the concrete conditions of operation (ratio  $p_1 / p_2$ , creation of cavitation, above critical flow etc.)

## Installation

The valve can be installed only in a vertical position with the nut for the connection to the actuator being positioned up above the valve body. The valve should be piped the way so that the medium flow coincides with the arrows indicated on the valve body. With regard to the valve's dismantling, it is recommended to leave a clear space of up to 500 mm above the valve for easy approach. For safe operation, it is necessary so that there would be no bends or elbows piped at least 2000 mm behind the valve.

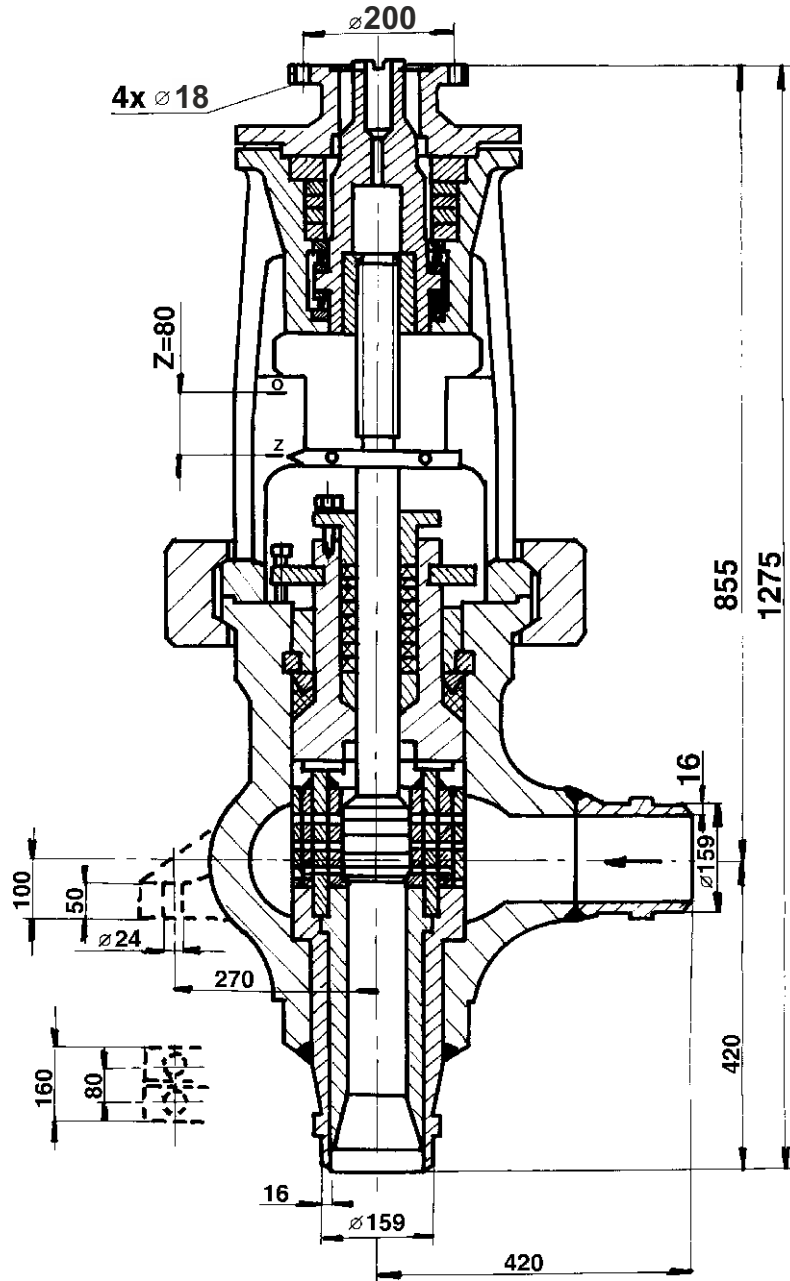
## Technical data

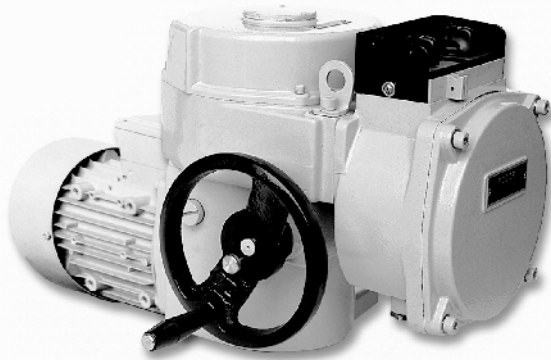
<b>Series</b>	<b>G 92 225 2400</b>
<b>Type of valve</b>	<b>Control valve (starting), weld ends, angle</b>
<b>Nominal size</b>	150
<b>Nominal pressure</b>	400
<b>Body material</b>	Alloy steel 1.7357
<b>Weld ends material</b>	Alloy steel 1.7335
<b>Process media temp. range</b>	-20 to 550 °C
<b>Connection *)</b>	ČSN 13 1070
<b>Type of trim</b>	Special cage - piston type plug
<b>Flow characteristic</b>	Equal-percentage acc. to ČSN 13 4509-1
<b>Flow area <math>F_s</math> [cm<sup>2</sup>]</b>	63
<b>Kvs value</b>	191
<b>Leakage rate</b>	Class II. acc. to ČSN EN 1349 (5/2001)

\*) After the agreement with the producer, it is possible to make the connection acc. to the valid ČSN 13 1075 (3/1991) or ČSN EN 12 627 (8/2000)

## Rozměry a hmotnost ventilu G 92 225 2400

Hmotnost ventilu je 617 kg





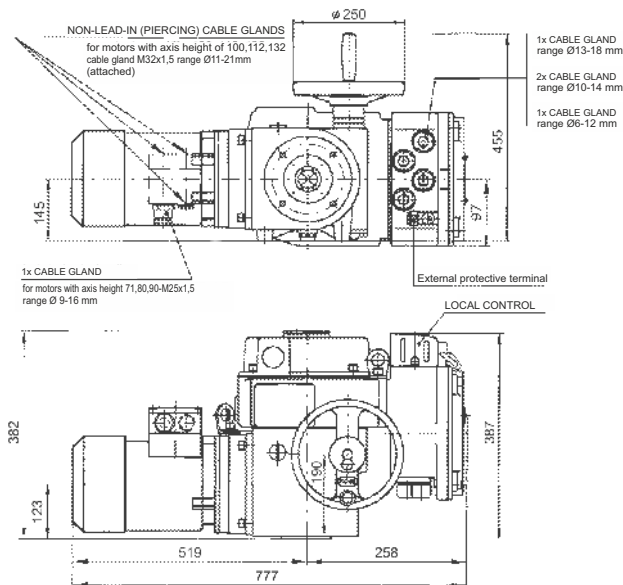
# Electric actuators ZPA Pečky

**Modact MON**  
**Modact MON Control**

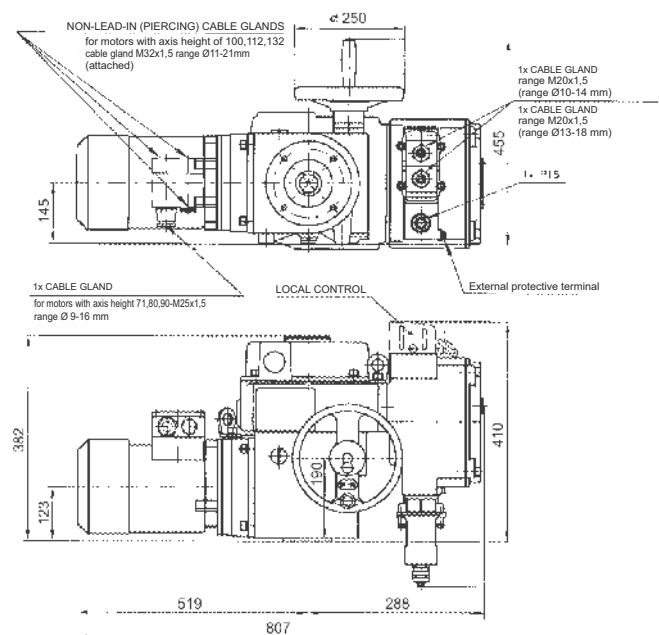
Technical data		
Type	52 034 MON	52 034 MON Control
Voltage	3x 230/400 V	
Frequency	50 Hz	
Motor power	viz specifikační tabulka	
Control	3-point or continuous	
Torque range	320 - 630 Nm	
Running speed	see specification table	
Enclosure	IP 55	
Process medium max. temperature	acc. to used valve	
Ambient temperature range	acc. to ČSN 33 2000-3, třídy AA7, AB7, AC1, AD5, AE5, AF2, AG2, AH2, Ak2, AL2, AM2, AN2, AP3, BA4, BC3	
Working mode	load S2 acc. to ČSN EN 60 034-1	
Weight	100 kg	

## Dimensions of actuators

DIMENSIONAL DRAWING OF ACTUATORS MODACT MON  
52 034 EXECUTION WITH TERMINAL BOARD

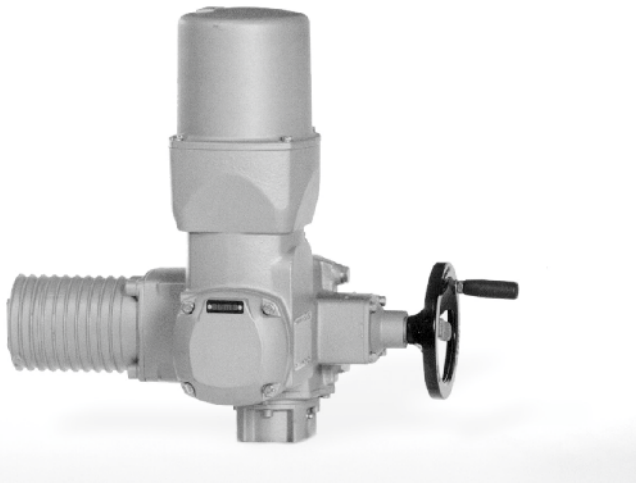


DIMENSIONAL DRAWING OF ACTUATORS MODACT MON  
52 034 EXECUTION WITH CONECTOR





			XX XXX	X	X	X	X	X	
<b>Signalization, position transmitter, blinker</b>									
<b>Only for actuators Modact MOP Control</b>	<b>Complete equipment Sch P-0781</b>	Position transmitter						<b>A</b>	
		Signalization switches and position transmitter						<b>B</b>	
		Position transmitter, blinker						<b>C</b>	
		Signalization switches, position transmitter and blinker						<b>D</b>	
	<b>Without positioner</b>	Without signalization, without posit. transmitter and blinker							<b>E</b>
		Position transmitter							<b>F</b>
		Signalization switches							<b>G</b>
		Signalization switches and position transmitter							<b>H</b>
		Blinker							<b>I</b>
		Position transmitter, blinker							<b>J</b>
		Signalization switches, blinker							<b>K</b>
		Signalization switches, position transmitter and blinker							<b>L</b>
	<b>Without positioner and brake BAM</b>	Without signalization, without position transm. and blinker							<b>M</b>
		Position transmitter							<b>N</b>
		Signalization switches							<b>O</b>
		Signalization switches and position transmitter							<b>P</b>
		Blinker							<b>R</b>
		Position transmitter, blinker							<b>S</b>
Signalization switches, blinker								<b>T</b>	
Signalization switches, position transmitter and blinker							<b>U</b>		
This mark is valid for the the types of the actuators								<b>N</b>	



# Electric actuators

## Auma

**SAR**  
**16.1**

Technical data	
Type	<b>SAR 16.1</b>
Voltage	400 V
Frequency	50 Hz
Motor power	see specification table
Control	3-point or with signal 4 - 20 mA
Nominal torque	500 - 1000 Nm
Stroke	see specification table
Enclosure	IP 67
Process medium max. temperature	acc. to used valve
Ambient temperature range	-25 to 60 °C
Ambient humidity limit	100 %
Weight	75 - 86 kg

Specification of Auma actuators					
Type		SA	X	XX.X	
Function	control	SA	R		
Actuator size	16.1			<b>16.1</b>	
<b>Output shaft drive C - flange F16</b>					
Output speed	Tripping torque	SAR 16.1	500-1000 Nm	Motor power [ kW ]	SAR 16.1
					0,75
					0,75
					1,50
					1,50
					3,00
					3,00
					5,50
5,50					

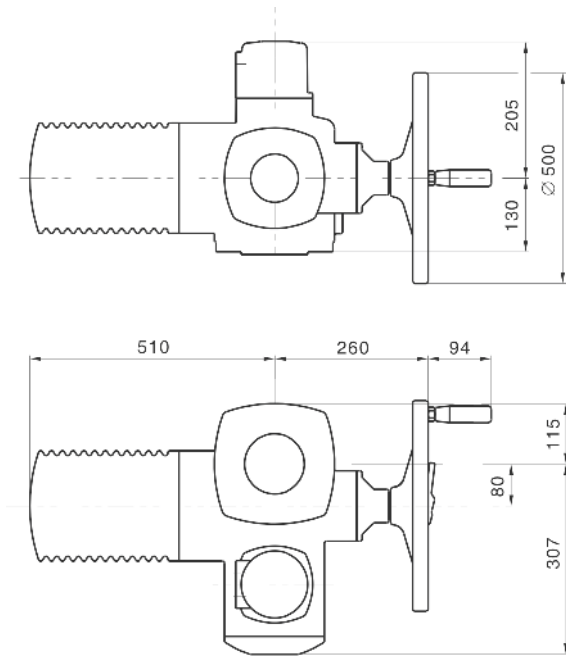
### Accessories

- 2 TANDEM switches
- Gearing for signalisation of position
- Mechanical position indicator
- Potentiometer 1x200 Ω
- Electronic position transmitter RWG (potentiometer included), 4 - 20 mA, 2-wire
- Electronic position transmitter RWG (potentiometer included), 4 - 20 mA, 3/4-wire
- Inductive position transmitter IWG, 4 - 20 mA
- AUMATIC - for continuous control (specification of accessories acc. to catalogue of producer)
- AUMA MATIC - for continuous control (specification of accessories acc. to catalogue of producer)

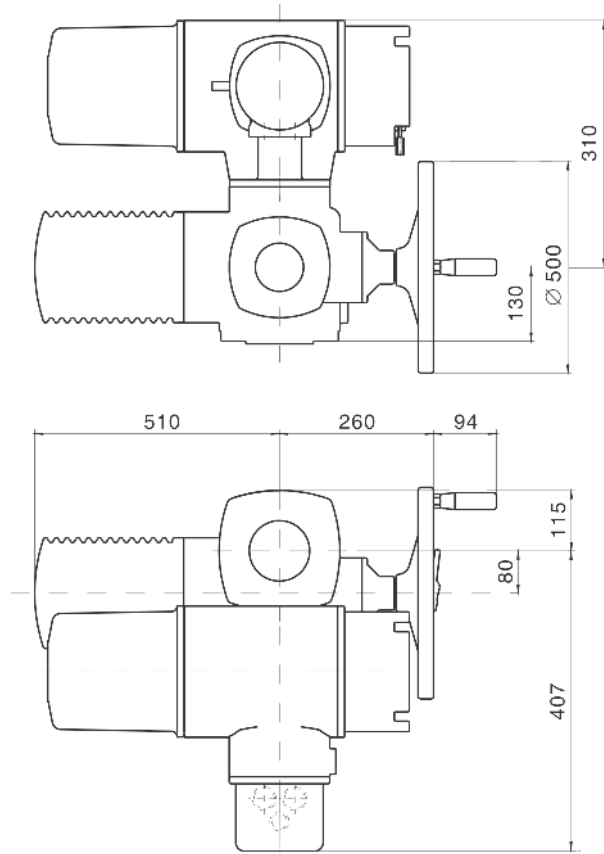


## Dimensions of actuators Auma

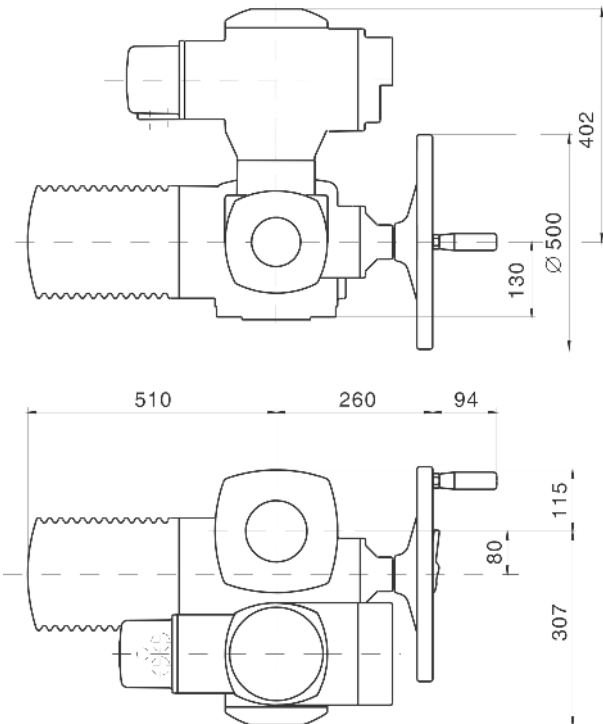
### Normal version



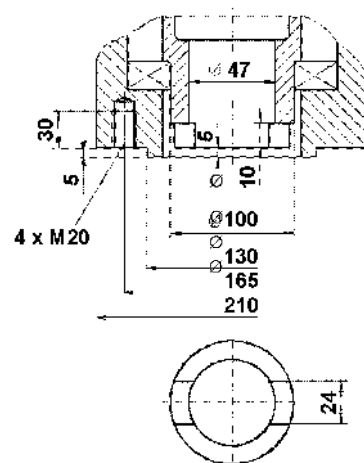
### Version AUMATIC



### Version AUMA MATIC



### Output drive shaft C





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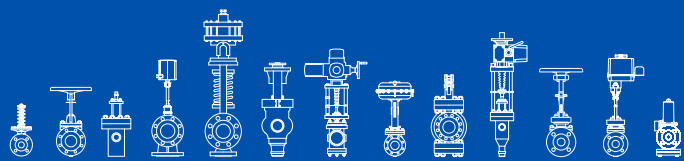
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