

## THREE-WAY GLOBE CONTROL VALVES V253

### DESCRIPTION

The ADCATrol V253 is a series of three-way globe control valves designed to ensure accurate control in mixing or diverting general service applications.

These valves can be assembled with pneumatic, hydraulic or electric actuators and used with the most common process fluids such as water, superheated water, thermal oil, steam, air, gas and other non corrosive fluids.

### MAIN FEATURES

Compact and cost-effective design.  
Mixing and diverting versions.

### OPTIONS AND

**ACCESSORIES:** Various stem sealing options including bellows sealed versions.

**USE:** Hot and superheated water.  
Thermal oil.  
Saturated and superheated steam.  
Air, gases and others.

### AVAILABLE

**MODELS:** V253G – SG iron.

**SIZES:** DN 15 to DN 150.

**CONNECTIONS:** Flanged EN 1092-2 PN 16 or PN 25.  
Flanged ASME B16.5 Class 150 on request (drilled from EN casting).  
Standard PN 16 DN 65 flanges are supplied with 4 holes. 8 holes, according to EN 1092-2, on request.



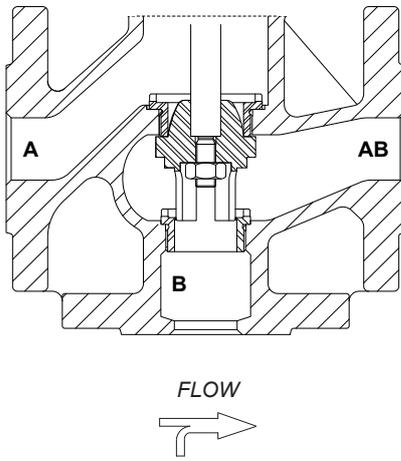
CE MARKING – GROUP 2 (PED – EUROPEAN DIRECTIVE)		
PN 16	PN 25	CATEGORY
DN 15 to 50	DN 15 to 40	SEP
DN 65 to 150	DN 50 to 125	1 (CE marked)
–	DN 150	2 (CE marked)

BODY LIMITING CONDITIONS *			
FLANGED PN 16		FLANGED PN 25	
ALLOWABLE PRESSURE	RELATED TEMPERATURE	ALLOWABLE PRESSURE	RELATED TEMPERATURE
16 bar	-10 / 120 °C	25 bar	-10 / 120 °C
15,5 bar	150 °C	24,3 bar	150 °C
14,7 bar	200 °C	23 bar	200 °C
14,3 bar	220 °C	22,5 bar	220 °C
13,9 bar	250 °C	21,8 bar	250 °C
12,8 bar	300 °C	20 bar	300 °C
11,2 bar	350 °C	17,5 bar	350 °C

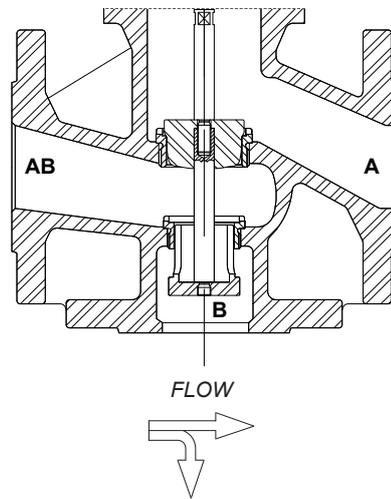
\* Rating according to EN 1092-2:2007. See "Ordering Codes" table for restrictions.

TRIM DESIGN

MIXING

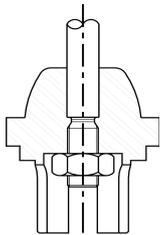


DIVERTING



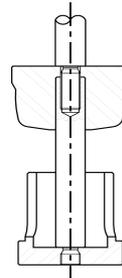
PLUG DESIGN

MIXING



**Sealing:** Metal to metal  
**Characteristic:** Linear (PL)  
**Rangeability:** 30:1 to 50:1  
**Leakage:** Class IV, acc. to IEC 60534-4

DIVERTING



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FLOW RATE COEFFICIENTS – MIXING PLUGS

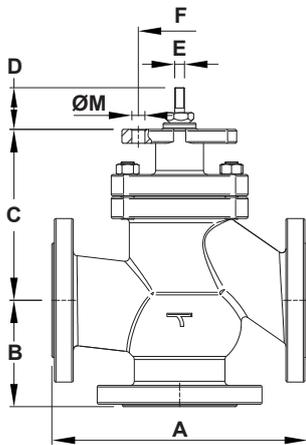
SIZE	DN 15	DN 20	DN 25	DN 32	DN 40	DN 50	DN 65	DN 80	DN 100	DN 125	DN 150
<b>Kvs (m³/h)</b>	4	6,3	10	16	25	40	63	100	160	230	330
<b>SEAT Ø *</b>	20 / 15	20 / 15	25 / 20	32 / 25	40 / 32	50 / 40	65 / 50	80 / 65	100 / 80	125 / 120	150 / 140
<b>STROKE (mm)</b>	20						30			35	40

\* Upper and lower seat diameters respectively.  
For conversion  $Kvs = Cv (US) \times 0,865$ .

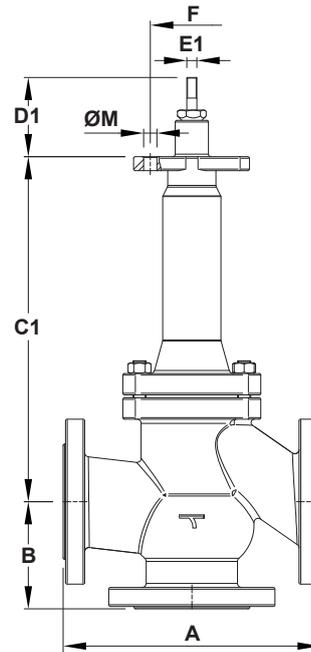
FLOW RATE COEFFICIENTS – DIVERTING PLUGS

SIZE	DN 32	DN 40	DN 50	DN 65	DN 80	DN 100	DN 125	DN 150
<b>Kvs (m³/h)</b>	12	20	27	50	83	123	190	250
<b>SEAT Ø *</b>	32 / 25	40 / 32	50 / 40	65 / 50	80 / 65	100 / 80	100 / 100	120 / 120
<b>STROKE (mm)</b>	20			30			35	40

\* Upper and lower seat diameters respectively.  
For conversion  $Kvs = Cv (US) \times 0,865$ .



Valve with standard bonnet



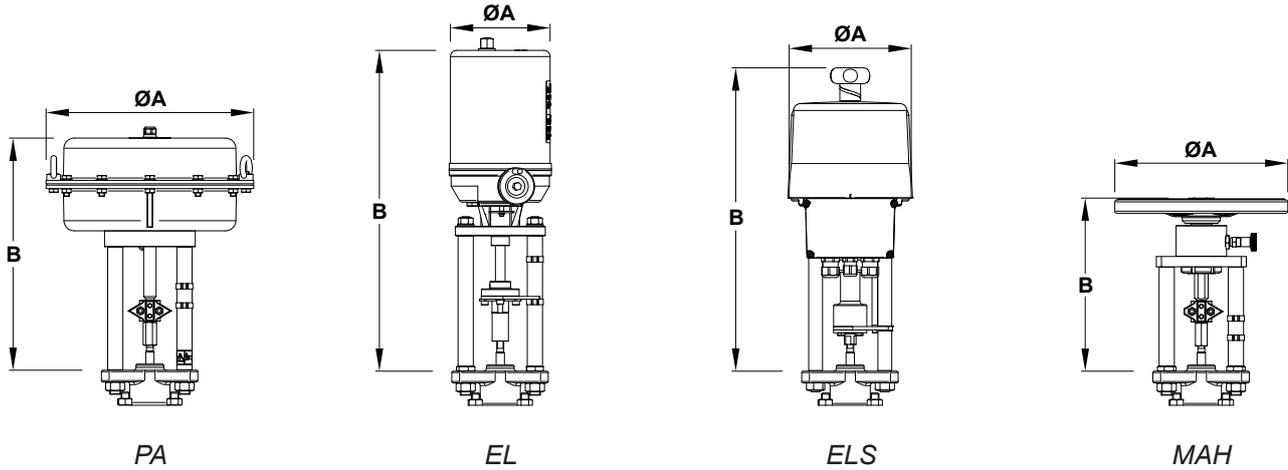
Bellows sealed valve

DIMENSIONS (mm)											
DIMENSION	SIZE										
	DN 15	DN 20	DN 25	DN 32	DN 40	DN 50	DN 65	DN 80	DN 100	DN 125	DN 150
A	130	150	160	180	200	230	290	310	350	400	480
B	65	70	75	80	90	100	120	130	150	200	210
C	143	157	151	158	163	166	209	209	217	319	334
C1	265	279	273	280	285	288	418	418	426	529	544
D	56										
D1	96										
E	M10										
E1	M12										
F	100										
ØM	17										

Remark: Standard PN 16 DN 65 flanges are supplied with 4 holes. 8 holes, according to EN 1092-2, on request.

WEIGHTS (kg)											
	DN 15	DN 20	DN 25	DN 32	DN 40	DN 50	DN 65	DN 80	DN 100	DN 125	DN 150
STANDARD	8	9	10	12,5	14	16	32	36	51	107	130
BELLOWS	10	11	11,5	14,5	16	19	36	40	54	95	125

MAXIMUM PERMISSIBLE ACTUATING FORCES (kN)											
	SIZE										
	DN 15	DN 20	DN 25	DN 32	DN 40	DN 50	DN 65	DN 80	DN 100	DN 125	DN 150
STANDARD	12										
BELLOWS	16										



DIMENSIONS – PA SERIES PNEUMATIC ACTUATORS (mm)		
DIMENSION	PA25	PA40
ØA	250	300
B	298,5	338
WEIGHT (kg)	10,1	18,7

For more information, please consult IS PA.010 – PA Linear pneumatic actuators.

DIMENSIONS – EL SERIES ELECTRIC ACTUATORS (mm)						
DIMENSION	EL12	EL20	EL45	EL80	EL120	EL250
ØA	129	148	148	188	188	216
B	315	474	474	572	572	668
WEIGHT (kg)	2,1	8	8	13	13	19

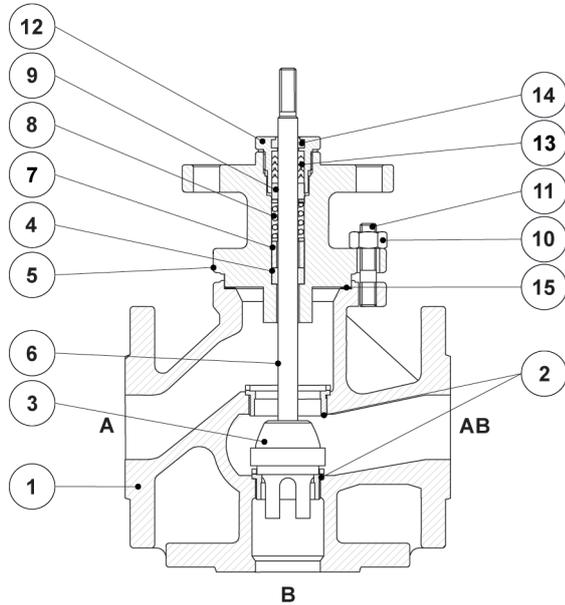
For more information, please consult IS EL.012 – EL Linear electric actuators.

DIMENSIONS – ELS SERIES ELECTRIC ACTUATORS (mm)					
DIMENSION	ELS20	ELS45	ELS80	ELS100	ELS140
ØA	180	180	180	180	180
B	453	453	490	490	563
WEIGHT (kg)	4,5	4,5	7,2	7,2	8

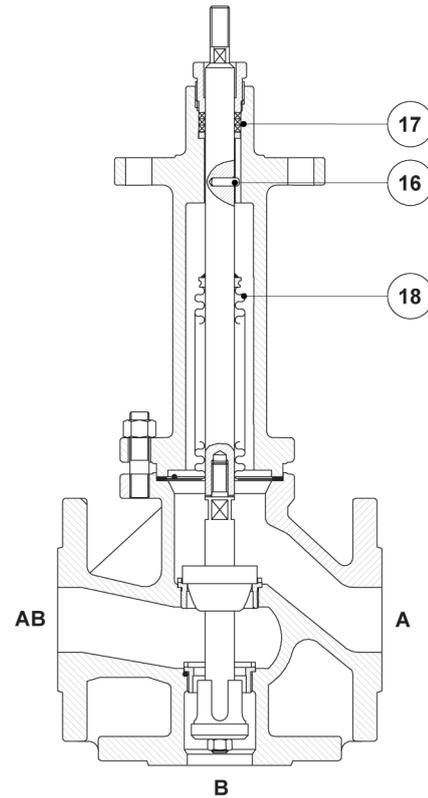
For more information, please consult IS ELS.020 – ELS Linear electric actuators.

DIMENSIONS – MAH SERIES MANUAL OPERATED ACTUATORS (mm)	
DIMENSION	MAH180
ØA	180
B	260
WEIGHT (kg)	4,8

For more information, please consult IS MAH.010 – MAH Manual operated linear actuators.



Mixing valve with standard bonnet



Diverting bellows sealed valve

MATERIALS		
POS. No.	DESIGNATION	MATERIAL
1	Body	GJS-400-18-LT / 5.3103
2	* Seat	AISI 420 / 1.4021
3	* Valve plug	AISI 420 / 1.4021
4	Lower stem guide	Graphite filled PTFE
5	Bonnet	GJS-400-18-LT / 5.3103
6	* Stem	AISI 420 / 1.4021
7	Packing spacer	AISI 303 / 1.4305
8	Spring	AISI 301 / 1.4310
9	Upper stem guide	Graphite filled PTFE
10	Nut	C35E / 1.1181
11	Stud	C35E / 1.1181
12	Packing nut	AISI 303 / 1.4305
13	* Chevron packing set	Graphite filled PTFE
14	Scraper ring	FPM
15	* Gasket	Stainless steel / Graphite
16	Locking pin	Stainless steel A2-70
17	* Safety packing set	Stainless steel / Graphite
18	* Metal bellows	AISI 316Ti / 1.4571

\* Available spare parts.



ORDERING CODES V253 (a)								
<b>VALVE MODEL</b>	<b>V.23</b>	<b>G</b>	<b>M</b>	<b>1</b>	<b>7</b>	<b>L</b>	<b>15</b>	
V253 – Globe valve, three-way, straight body	<b>V.23</b>							
<b>BODY MATERIAL</b>								
GJS-400-18-LT / 0.7043 SG iron		<b>G</b>						
<b>TRIM DESIGN</b>								
Mixing <b>(b)</b>			<b>M</b>					
Diverting (only available for size DN 32 and above)			<b>D</b>					
<b>STEM SEALING</b>								
PTFE/GR V-Rings / Standard bonnet – Tmax. 220 °C				<b>1</b>				
Graphite / Standard bonnet				<b>3</b>				
Stainless steel bellows with graphite safety packing				<b>8</b>				
<b>VALVE PLUG</b>								
Linear (PL) – metal to metal (class IV)					<b>7</b>			
<b>PIPE CONNECTIONS</b>								
Flanged EN 1092-2 PN 16						<b>L</b>		
Flanged EN 1092-2 PN 25						<b>M</b>		
Flanged ASME B16.5 Class 150						<b>U</b>		
<b>SIZE</b>								
DN 15							<b>15</b>	
DN 20							<b>20</b>	
...								
<b>SPECIAL CONSTRUCTION / ADDITIONAL OPTIONS</b>								
A full description must be provided and validated in case of a non-standard construction								<b>E</b>

**(a)** Codification for valve only. For actuator codes, refer to the respective datasheet.

**(b)** May also be used for diverting service in sizes up to DN 25. If required for this purpose, please indicate it when ordering so the valve can be supplied with the appropriate flow direction marking.