

## THREE-WAY HYGIENIC CONTROL VALVES V928

### DESCRIPTION

The ADCAPure V928 is a series of two or three-way hygienic control valves with angle or horizontal connections. These valves are designed to regulate and accurately control flow of liquids and gases and are suitable for hygienic applications found in the pharmaceutical, cosmetic, fine chemical and food & beverage industries. The V928 can be assembled with pneumatic, hydraulic or electric actuators, for modulating and shut-off control tasks.

### MAIN FEATURES

Completely manufactured from bar stock material.  
Body and bonnet are connected by a clamp connection, allowing fast and easy maintenance procedures.  
Cavity-free with no air trap locations.  
Metal to metal or soft sealing.

### STANDARD SURFACE FINISH

Internal wetted parts:  $\leq 0,51 \mu\text{m Ra} - \text{SF1}$ .  
External:  $\leq 0,76 \mu\text{m Ra} - \text{SF3}$ .  
Other surface conditions see TIS.GIA – General information ADCAPure.  
Ultrasonic cleaning.

OPTIONS: Soft valve sealing.  
Reduced bore trims.  
Steam barrier.

USE: Saturated steam, hot and superheated water.  
Process fluids, liquids, air and gases compatible with the construction.

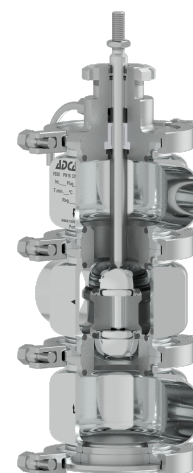
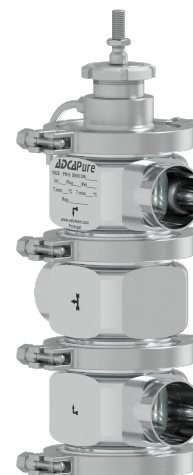
AVAILABLE MODELS: V928MV – three-way angle design.  
V928MH – three-way horizontal design.  
V928D – three-way diverting.

SIZES: DN 15 to DN 100.

CONNECTIONS: DIN threads, clamp ferrules or tube weld (ETO) ends. Others on request.

PACKAGING: Assembling and packaging in a clean room certified according to ISO 14644-1.  
The product is end capped and sealed with recyclable thermo-shrinkable plastic film, to avoid contamination.

INSTALLATION: Horizontal installation. See IMI - Installation and maintenance instructions.



CE MARKING – GROUP 2 (PED – European Directive)	
PN 16	Category
DN 15 to 50	SEP
DN 65 to 100	1 (CE Marked)

LIMITING CONDITIONS *	
Maximum allowable pressure	16 bar @ 20 °C
Maximum operating pressure	10 bar
Maximum operating pressure (steam)	6 bar
Maximum operating temperature	150 °C
Maximum operating temperature (steam and water) **	170 °C
Minimum operating temperature	-10 °C

\* Other limits on request. Maximum operating conditions may be limited by the valve end connections due to normative restrictions.

\*\* With EPDM seals.

## PLUG DESIGN

### MIXING



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

### MIXING (SOFT SEALING)



**Sealing:** EPDM, PTFE or FPM  
**Characteristic:** Linear (PL)  
**Rangeability:** 30:1  
**Leakage:** Class VI, acc. to IEC 60534-4

### DIVERTING



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

### DIVERTING (SOFT SEALING)



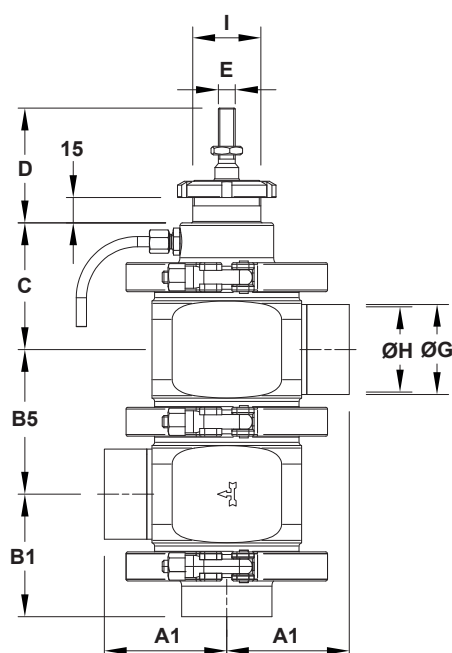
**Sealing:** EPDM, PTFE or FPM  
**Characteristic:** Linear (PL)  
**Rangeability:** 30:1  
**Leakage:** Class VI, acc. to IEC 60534-4

## FLOW RATE COEFFICIENTS – MIXING AND DIVERTING PLUGS

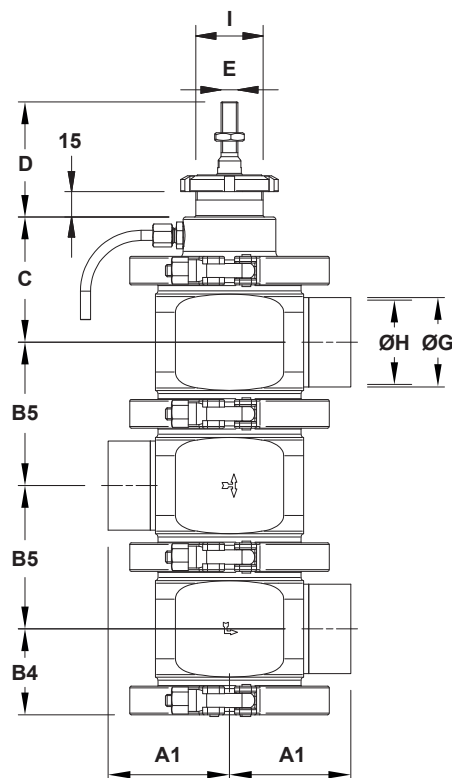
SIZE	DN 15	DN 20	DN 25	DN 32	DN 40	DN 50	DN 65	DN 80	DN 100
Kvs (m³/h)	4	6,3	10	16	25	40	63	100	160
SEAT Ø *	15	19,2	25	32	38	50	65	76	96
STROKE (mm)	20						30		

For conversion, Kvs = Cv (US) x 0,865.

## DIMENSIONS



V928MV



V928MH / V928D

**DIMENSIONS (mm)**

DIMENSION	SIZE								
	DN 15	DN 20	DN 25	DN 32	DN 40	DN 50	DN 65	DN 80	DN 100
A1	49	49	55	64	64	72	84	92	119
A2	61	61	55	77	77	83	89	92	118
A3	54	57	63	73	74	82	101	137	124
B1	45	45	55	62	64	72	86	109	119
B2	63	65	66	72	74	80	92	105	125
B3	66	69	84	94	97	107	126	154	173
B4	34	36	36	43	45	51	64	71	84
B5	51	55	55	68	73	85	110	125	144
C	57	59	59	66	69	75	91	99	108
D	67 / 77 *						70 / 77 *		
E	M10 / M10 x 1 *								
F	34	34	50,5	50,5	50,5	64	91	106	119
ØG	19	23	29	35	41	53	70	85	104
ØH	16	20	26	32	38	50	66	81	100
I	M40 x 1,5						M45 x 1,5		
WGT. (kg) **	2,4	2,5	2,6	4,3	4,4	4,7	10,8	11,8	17,1

Remarks: Face to face dimensions are not standardized. Other dimensions and standards on request.

Configurations with overlapped connections are only possible for tube weld (ETO) versions.

A1 and B1 – Tube weld (ETO) according to DIN 11866-A (DIN 11850-2).

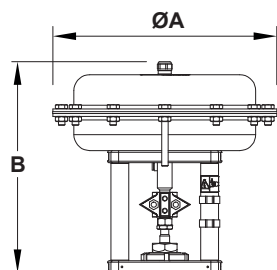
A2, B2 and F – Clamp ferrules according to DIN (DIN 32676-A). Dimension “F” refers to the ferrule flange diameter.

A3 and B3 – Hygienic male threads according to DIN (DIN 11851) for pipes according to DIN 11866-A (DIN 11850-2).

Alternative: Aseptic male threads according to DIN (DIN 11864 -1 Form A) for pipes according to DIN 11866-A (DIN 11850-2).

\* When ordering without actuator specify the preferred dimension, if any.

\*\* Based on the standard valve V928L with tube weld (ETO) connections. For other versions, consult manufacturer.

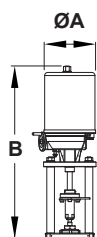


**DIMENSIONS – PA SERIES PNEUMATIC ACTUATORS (mm)**

DIMENSION	PA10	PA206	PA25	PA281	PA40	PA341	PA436	PA80
ØA	170	209	250	275	300	336	430	405
B	251	236	260	243	325	288	316 / 336 *	505
WEIGHT (kg)	6,3	6,2	10,1	9,6	18,7	14,3	24,4 / 28 *	50,4

\* For actuators with spring ranges 1 - 2 bar; 1,5 - 3 bar and 2 - 4 bar.

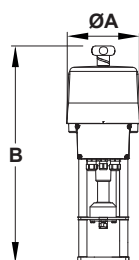
For more information, please consult IS PA.100 and IS PA.140 – PA Linear pneumatic actuators.



**DIMENSIONS – EL SERIES ELECTRIC ACTUATORS (mm)**

DIMENSION	EL12	EL20	EL45	EL80	EL120
ØA	129	148	148	188	188
B	333	485	485	587	587
WEIGHT (kg)	2,1	8	8	13	13

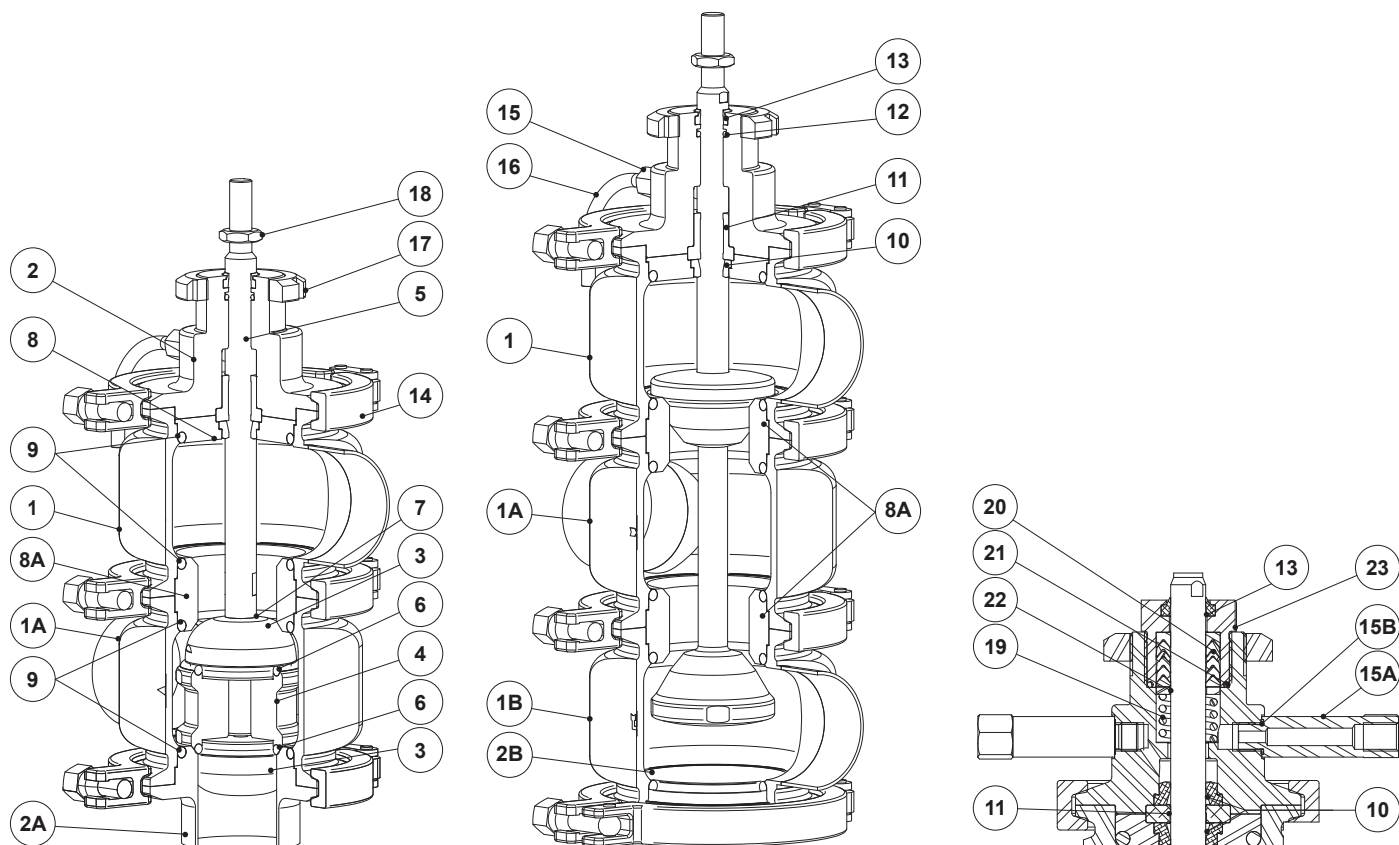
For more information, please consult IS EL.012 – EL Linear electric actuators.



**DIMENSIONS – ELS SERIES ELECTRIC ACTUATORS (mm)**

DIMENSION	ELS20	ELS45	ELS80	ELS100
ØA	180	180	180	180
B	518	518	555	555
WEIGHT (kg)	4,5	4,5	7,2	7,2

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



V928MV

V928MH / V928D

Optional steam barrier

**MATERIALS**

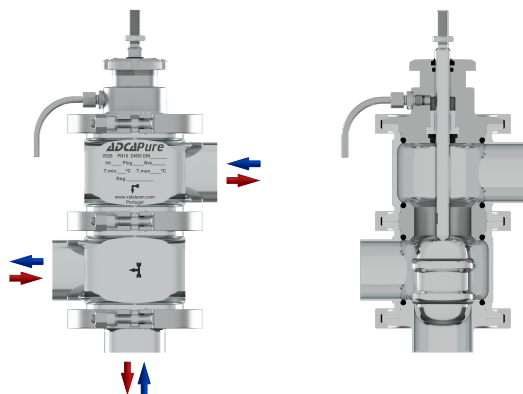
POS. N°	DESIGNATION	MATERIAL	POS. N°	DESIGNATION	MATERIAL
1	Upper valve body	AISI 316L / 1.4404	11	* Guide bushing	PTFE
1A	Intermediate valve body	AISI 316L / 1.4404	12	* O-ring	EPDM; FPM
1B	Lower valve body	AISI 316L / 1.4404	13	* Scraper ring	FPM; NBR
2	Bonnet	AISI 316L / 1.4404	14	Clamp	AISI 316 / 1.4401
2A	Bottom connection	AISI 316L / 1.4404	15	Compression fitting	AISI 304 / 1.4301
2B	Bottom cover	AISI 316L / 1.4404	15A	Nipple	AISI 316L / 1.4404
3	* Valve plug	AISI 316L / 1.4404	15B	* O-ring	FPM
4	* Plug disc	AISI 316L / 1.4404	16	Discharge pipe	AISI 316 / 1.4401
5	* Stem	AISI 316L / 1.4404	17	Lock nut	CF8 / 1.4308
6	* Valve plug seal	** EPDM; PTFE; FPM	18	Lock nut	Stainless steel A2-70
7	* O-ring	EPDM	19	* Spring	AISI 302 / 1.4310
8	Centering ring	AISI 316L / 1.4404	20	* Chevron packing set	PTFE
8A	Seat retainer	AISI 316L / 1.4404	21	* O-ring	EPDM
9	* O-ring	** EPDM; PTFE; FPM	22	* Washer	AISI 304 / 1.4301
10	* Shaft seal	** EPDM; PTFE; FPM	23	Packing nut	AISI 316L / 1.4404

\* Available spare parts; \*\* Others on request.

Remarks: FDA / USP Class VI seals certificate on request.

All valves have a serial number. In case of non-standard valves, this number must be supplied if spare parts are ordered.



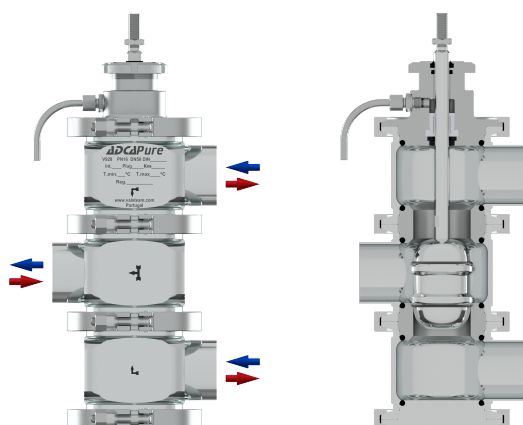


#### V928MV

Three-way design with two valve bodies (upper and lower) and a bottom vertical connection.

The valve can be used for mixing or diverting duty.

Remark: Configurations with overlapped connections are only possible for tube weld (ETO) versions.

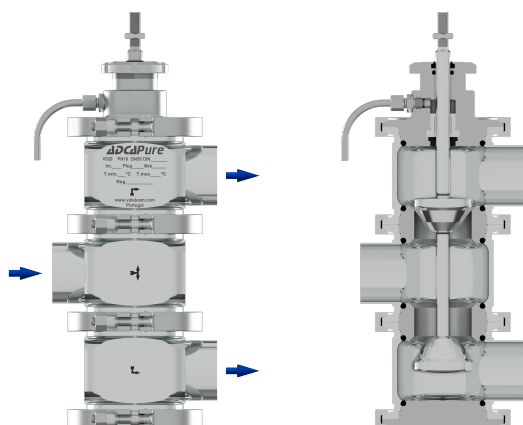


#### V928MH

Three-way design with three valve bodies (upper, intermediate and lower) and all the connections in the horizontal plain.

The valve can be used for mixing or diverting duty.

Remark: Configurations with overlapped connections are only possible for tube weld (ETO) versions.



#### V928D

Three-way design with three valve bodies (upper, intermediate and lower) and all the connections in the horizontal plain.

The valve is exclusively meant for diverting duty.

Remark: Configurations with overlapped connections are only possible for tube weld (ETO) versions.

ORDERING CODES V928 a)

Valve model	V8V	1	S	U	E	M	L	FD	X	FX	015
V928MV - AISI 316L hygienic control valve, three-way, angle	V8V										
V928MH - AISI 316L hygienic control valve, three-way, horizontal	V8M										
V928D - AISI 316L hygienic control valve, three-way, horizontal, diverting	V8D										
Valve series											
Series 1		1									
Bonnet design											
Standard			S								
With steam barrier			B								
Flow direction											
Flow under the plug				U							
Stem and body sealing b)											
EPDM					E						
PTFE					T						
FPM / Viton (USP Class VI on request)					V						
Valve sealing											
Metal to metal (class IV)					M						
Soft sealed with EPDM (class VI)					E						
Soft sealed with PTFE (class VI)					T						
Soft sealed with FPM/Viton (USP Class VI on request) (class VI)					V						
Characteristic											
Linear (PL)							L				
Flow rate coefficient											
Kvs 4								FD			
See table below for other Kvs value codes											
Surface finish c)											
Standard surface finish									X		
Mirror mechanical polished external surfaces (SF1)									P		
Electropolished internal wetted parts (SF5)									E		
Pipe connection											
Clamp ferrule DIN (DIN 32676-A)										FX	
Hygienic male threads DIN (DIN 11851)										G1	
Aseptic male threads DIN (DIN 11864-1 Form A)										G2	
Tube weld (ETO) according to DIN 11866-A (DIN 11850-2)										FI	
Size											
DN 15											015
DN 20											020
...											
Special construction / Additional options											
Full description or additional codes have to be added in case of a non-standard combination											E

a) Codification for valve only. For actuator codes, refer to the appropriate information sheet. b) When the bonnet with heating chamber is selected the stem sealing is achieved through a PTFE V-Rings/chevron packing set. In which case this field only specifies the body sealing material. c) Consult TIS.GIA – General information ADCAPure – for further details and other surface finish options.

FLOW RATE COEFFICIENT CODES

Kvs	4	6,3	10	16	25	40	63	100	160
Code	FD	FE	FF	FG	FH	FI	FJ	FL	FM