

Liquids to Value



Order Code for

VESTA[®] Mixed Matched Sterile Valves

Type HCA

Made by GEA Tuchenhagen

Register



VESTA® Mixed Matched Sterile Valve, Type HCA

The VESTA® type HCA mixed matched sterile valve is a further development of the VESTA® type C basic variant. The mixed matched type HCA is used wherever different types of connections are required in the through-flow line and the branch line. It is designed to be used as an extraction valve for pipework systems, or for distribution of media.



Shut-off takes place in the immediate vicinity of the through-flow line. This makes reliable cleaning possible. VESTA® type HCA step-down sterile valves allow the integration of large nominal pipework diameters with the extraction of small quantities in a trouble-free and cost-effective manner. Moreover the improved flow paths, as well as the integration of additional sterilisation connections, reduce the dead pockets. The significantly reduced pipework volume on the extraction side and the improved evacuation procedure are further advantages compared with conventional solutions.

Design features

- Aseptic bellows sealing system
- Pressure and vacuum resistant
- One-piece PTFE bellows for universal applications
- Defined pretension of the seal
- Self-locking groove nut connection
- Pocket-free design

Benefits

- Valve body drains completely in straight pipes
- Reliable CIP/SIP cleaning thanks to optimised flow characteristics
- Long service life for the PTFE bellows
- Minimum space requirement, low process volume
- Easy and safe maintenance
- Wide range of body variants
- Sizes up to DN 65 available, larger sizes on request

Operating media

- Operating temperature -10 °C to max. 135 °C
- Sterilisation temperature max. 150 °C for 1h
- Operating pressure 0 to 6 bar (plastic actuator ISO 60.3, max. 5 bar)

Control air

- Control air temperature min. 0 °C, max. 70 °C
 - NO function
- Control air pressure min. 5 bar, max. 6 bar
 - NC function
- Control air pressure min. 5 bar, max. 8 bar
- Valve port cross-section 100 %

Materials, product contact parts


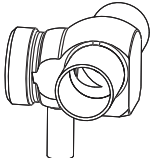
- Housing 1.4435 (AISI 316L)
- Housing socket 1.4435 (AISI 316L)
- Delta ferrite content optional
- Bellows material TFM1705 (PTFE), FDA-conformity

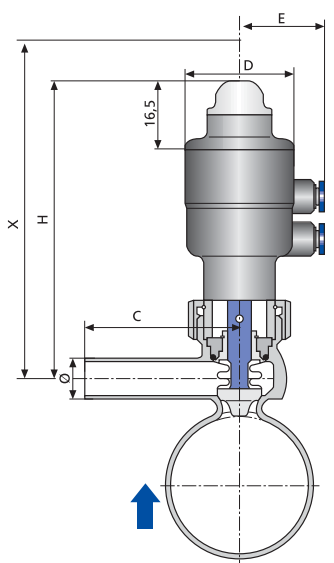
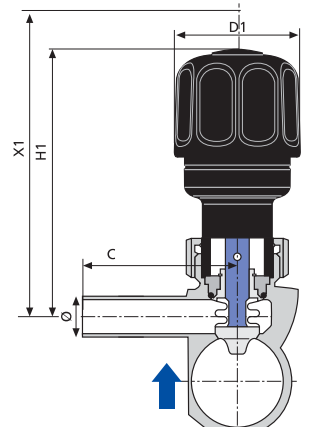
Materials, non-product contact parts


- Stainless steel actuator 1.4301 (AISI 304)
- Synthetic actuator polyphenylene sulphide (PPS)

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Example for a order code

Code	Code	H	C	A	P	NW bottom	NW top	P	Z	TV1	P	1	P	D	1	52	0	20
Code	Item	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	-
H	1. Valve type VESTA® Sterile Valve																	
	2. Valve body combination, mixed matched																	
	  <p style="text-align: center;">C C/T (tangential)</p>																	
A	3. Aseptic bellows seal																	
P	4. PTFE bellows seal																	
	Bellows material TFM1705 (PTFE), conforms to: FDA, 21CFR 177.150, USP class VI For documentation see Item 16																	
	5. Nominal width, bottom connection																	
	DIN 10 / 15 / 20 / 25 / 40 / 50 / 65 / 80 / 100																	
	ISO 13.5 / 17.2 / 21.3 / 26.9 / 33.7 / 42.4 / 48.3 / 60.3 / 76.1 / 88.9 / 114.3																	
	OD 0.5" / 0.75" / 1" / 1.5" / 2" / 2.5" / 3" / 4"																	
	6. Nominal width, top connection																	
	DIN Outside diameter acc. to DIN 11850, series II, DIN 11866, series A																	
	Nominal width Ø C E D D1 H H1 X X1 Stroke																	
	DN 10 13x1.5 50 40 50 59 131 114 177 160 2.1																	
	DN 15 19x1.5 50 40 50 59 134 118 187 171 4																	
	DN 20 23x1.5 55 47 65 59 144 118 204 178 4.8																	
	DN 25 29x1.5 60 53 77 59 161 125 230 194 5																	
	DN 32 35x1.5 60 53 77 59 165 130 240 204 6.8																	
	DN 40 41x1.5 90 71 104 140 254 141 290 210 11.5																	
	DN 50 53x1.5 90 71 104 140 260 147 300 225 14																	
	DN 65 70x2 125 104 169.5 180 280 191 330 295 18																	
	ISO Outside diameter acc. to DIN EN ISO 1127, series II, DIN 11866, series B																	
	Nominal width Ø C E D D1 H H1 X X1 Stroke																	
	ISO 13.5 13.5x1.6 50 40 50 59 131 114 177 160 2.1																	
	ISO 17.2 17.2x1.6 50 40 50 59 133 116 187 170 2.9																	
	ISO 21.3 21.3x1.6 55 47 65 59 143 118 203 178 3.2																	
	ISO 26.9 26.9x1.6 55 47.5 62 59 146 122 210 186 5																	
	ISO 33.7 33.7x2 60 53 75 59 163 126 239 202 6.8																	
	ISO 42.4 42.4x2 90 71 104 140 254 141 290 210 11.5																	
	ISO 48.3 48.3x2 90 71 104 140 257 144 300 220 9.5																	
	ISO 60.3 60.3x2 90 83.5 129 140 263 150 305 230 14																	



 Recommended flow direction

X (included the clearance required for maintenance)

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6. Nominal width, top connection

Inch OD Outside diameter acc. to ASME-BPE 1997, DIN 11866, series C

Nominal width Ø	C	E	D	D1	H	H1	X	X1	Stroke	
0.5" OD	12.7x1.65	50	40	50	59	131	114	177	160	2.1
0.75" OD	19.05x1.65	50	40	50	59	134	118	187	171	4
1" OD	25.4x1.65	55	47	65	59	145	118	203	181	4.5
1.5" OD	38.1x1.65	90	71	104	140	253	139	290	210	8.5
2" OD	50.8x1.65	90	71	104	140	259	146	300	225	11
2.5" OD	63.5x1.65	125	104	169.5	180	277	188	330	290	12

7. Type of actuator

P = synthetic material (PPS), air/spring, up to DN 50, 2" OD, ISO 60.3

M = stainless steel (1.4301/316), air/spring

H = manual actuator (PPS)

8. Non-actuated position

Z = air-to-open/spring-to-close // and manual actuator

A = air-to-close/spring-to-open

J = air-to-open/air-to-close

Control air volume [dm³N]

Function	DN 10, 0.5" OD ISO 13.5	DN 15 0.75" OD	ISO 17.2	DN 20 1" OD	ISO 21.3	ISO 26.9	DN 25/32 ISO 33.7
Z (NC)	0.011	0.013	0.014	0.020	0.019	0.020	0.038
A (NO)	0.026	0.026	0.028	0.044	0.044	0.044	0.068

Function	DN 40, 1.5" OD ISO 42.4 / 48.3	DN 50 2" OD	ISO 60.3	DN 65 2.5" OD
Z (NC)	0.23	0.23	0.36	0.52
A (NO)	0.23	0.23	0.36	0.52

9. Type/location of feedback element

TV1 = position indicator / control module type T.VIS® V-1 (for nominal size up to DN 32, 1" OD, ISO 33.7)

TV2 = position controller type T.VIS® V-20 (for nominal size from DN 40, 1.5" OD, ISO 42.4)

TM1 = control module T.VIS® M-1 (for nominal size from DN 40, 1.5" OD, ISO 42.4)

TP1 = position controller T.VIS® P-1 (for nominal size up to DN 32, 1" OD, ISO 33.7)

TP2 = position controller T.VIS® P-20 (for nominal size from DN 40, 1.5" OD, ISO 42.4)

Ex = SEE / ATEX (only stainless steel actuator)

INA = proximity switch holder

ooo = visual indication (standard), (manual/pneumatic actuator)

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Code	Code	H	C	A	P	NW bottom	NW top	P	Z	TV1	P	1	P	D	1	52	0	20
Code	Item	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	-
	<p>10. Control module type / solenoid valve</p> <p>N = without solenoid valve (TV1, TV2o) P = one solenoid valve (TV1, TM1, SEE) I = two solenoid valves (TV1, TM1, TP1, TP2o) o = without solenoid valve (INA, ooo)</p>																	
	<p>11. Number of feedback signals</p> <p>o = without (ooo) 1 = one feedback signal (INA) 2 = two feedback signals (TV1, TV2o, TP1, TP2o, TM1, INA)</p>																	
	<p>12. Type of sensor connection</p> <p>A = AS Interface (TV1, TV2o, TM1) B = 24 V DC, 3-wire, PNP (TV1, TV2o, TM1, INA) N = 24 V DC, 3-wire, NPN (TM1, INA) D = DeviceNet (TV1, TV2o, TM1) E = EEX / ATEX (SEE, INA) P = 24 V DC, programmable (TP1, TP2o) X = proximity switch acc. to customer's specification</p>																	
	<p>13. Electrical connection (cable gland) / air connection</p> <p>o = without D = 5-pin connector M 12 / Ø 6/4 mm (TV1, TP1, TM1, TV2o, TP2o) K = 5-pin connector M 12 / Ø 6.35/4.35 mm, 0.25" OD - (TV1, TP1, TM1, TV2o, TP2o) M = connection for air hose Ø 6/4 mm, proximity switch with terminal box and cable terminals (INA, ooo, manual actuator) Z = connection for air hose 0.25" OD (6.35/4.35 mm), proximity switch with terminal box and cable terminals (INA, ooo)</p>																	
	<p>14. Surface finish</p> <p>1 = inside surfaces $R_a \leq 0.8 \mu\text{m}$, socket welds unpolished, body electrochemically cleaned 2 = inside surfaces $R_a \leq 0.4 \mu\text{m}$, socket welds polished, body electropolished</p>																	
	<p>15. Valve tag</p> <p>52 = adhesive plate</p>																	

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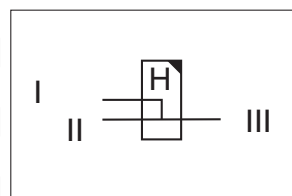
Example for a order code

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	Item	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	-
	16. Certificates																	
	o = without Z = certificate acc. to EN10204-3.1 W = factory test certificate EN10204-2.2 F = ferrite content certificate O = surface test certificate K = certificate of FDA conformity U = certificate of USP class VI conformity X = acceptance acc. to customer's specification																	
	17. Accessories																	
	20 = stroke limiter open 21 = seal adjuster close 22 = 5 pin connector/junction box 29 = quick release handle (for nominal size up to DN 32, 1" OD, ISO 33.7) 43 = VESTAMID®* - UV resistant material; for oil and fat containing control air																	
	*) VESTAMID® is registered as a trademark of the Degussa AG																	

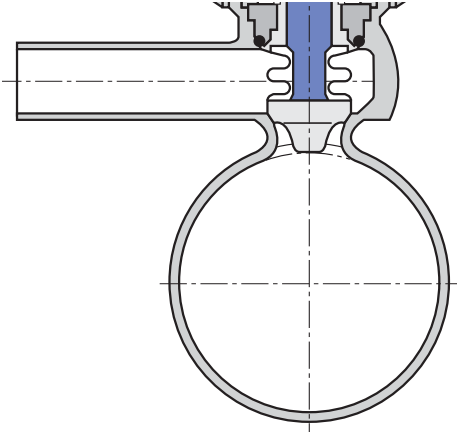
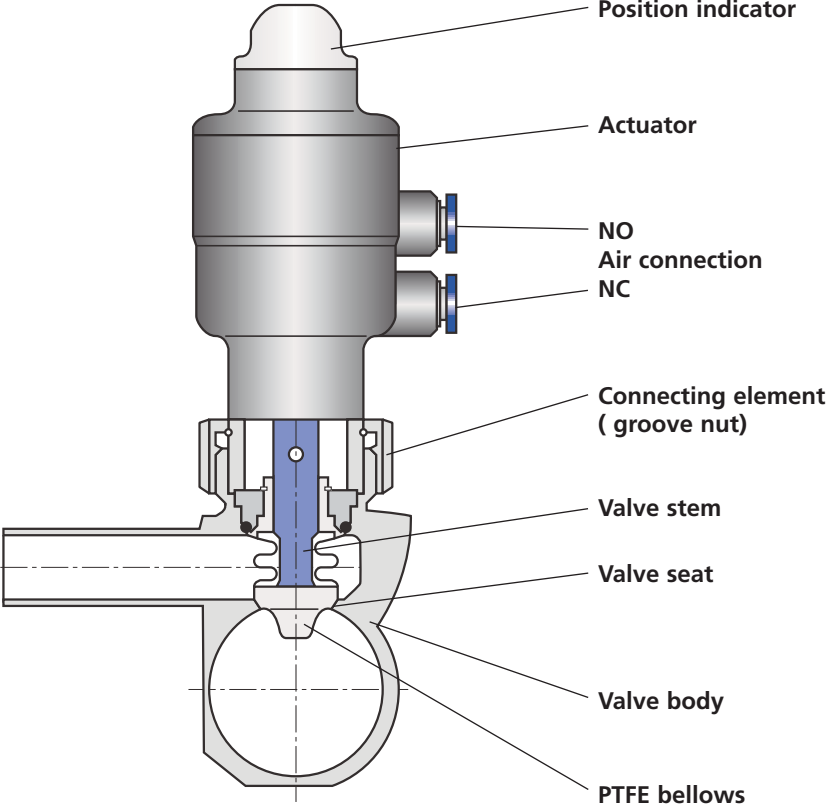
Key figures

	Ø	Stroke [mm]	Kv value [m³/h]			Weight acc. to actuator [kg]		
			I-II	I-III	III-I	Synthetic Stainless Steel	Manual	
DIN Outside socket diameter, acc. to DIN11866, series A / DIN11850, series II								
DN 10	13x1.5	2.1	2	2.3	2.1	0.48	1.04	0.56
DN 15	19x1.5	4	6.4	6.5	5.9	0.64	1.10	0.62
DN 20	23x1.5	4.8	10.4	11.8	11.8	1.03	1.82	0.93
DN 25	29x1.5	5	15.2	16.7	16.9	1.59	2.63	1.36
DN 40	41x1.5	11.5	45.96	44.05	43.37	5.2	6.6	3.3
DN 50	53x1.5	13.5	61.53	67.66	70.00	5.5	6.9	3.5
DN 65	70x2	18	120.22	120.28	133.22	-	15.6	9.3
Inch OD Outside socket diameter, acc. to ASME-BPE, DIN11866, series C								
0.5" OD	12.7x1.65	2.1	2.1	2.2	2.2	0.48	1.04	0.56
0.75" OD	19.05x1.65	4	6.5	6.9	6.0	0.64	1.1	0.62
1" OD	25.4x1.65	4.5	12.4	12.9	12.7	1.08	1.87	0.98
1.5" OD	38.1x1.6	8.5	42.58	37.42	37.25	5.2	6.6	3.3
2" OD	50.8x1.6	11	66.89	63.59	65.26	5.5	6.9	3.5
2.5" OD	63.5x1.6	12	106.88	99.49	93.70	-	15.6	9.3
ISO Outside socket diameter, acc. to DIN EN ISO1127, DIN11866, series B								
ISO 13.5	13.5x1.6	2.1	2.4	2.8	2.5	0.48	1.04	0.56
ISO 17.2	17.2x1.6	2.9	4.1	5.2	4.5	0.63	1.09	0.61
ISO 21.3	21.3x1.6	3.2	8.2	9.1	8.8	1.02	1.81	0.92
ISO 26.9	26.9x1.6	5	13.7	14.3	13.7	1.1	1.88	0.99
ISO 33.7	33.7x2.0	6.8	20.2	22.3	21.8	1.85	2.7	1.45
ISO 42.4	42.2x2	11.5	48.12	46.35	43.84	5.2	6.6	3.3
ISO 48.3	48.3x2	9.5	53.15	60.56	57.24	5.5	6.9	3.5
ISO 60.3	60.3x2	14	92.37	84.60	88.19	5.6	8.6	3.7

Kv- flow direction



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