

*Liquids to Value*



Order Code fore **VESTA**<sup>®</sup> Tank Bottom Valves

Type H\_AT 2/2 Way Seat Valve

Made by GEA Tuchenhagen

**Register**



## VESTA® Tank Bottom Valve, Type H\_A/T 2/2 Way Seat Valve

VESTA® Tank Bottom Valves are designed for shut-off liquid media at vessels or tanks. The installation preferably takes place at the lowest point of the tank. The pneumatic actuators are made of high-strength, resistant synthetic material or stainless steel.

The pneumatic actuators are equipped in the standard with an optical position indicator and two air connections.

The VESTA® Tank Bottom Valve is of safe design and extremely easy to maintain.



### 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

- Reliable CIP/SIP cleaning thanks to optimised flow characteristics
- Long service life for the PTFE bellows
- Height of the valve body corresponds to that of the connecting piping
- 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

### 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

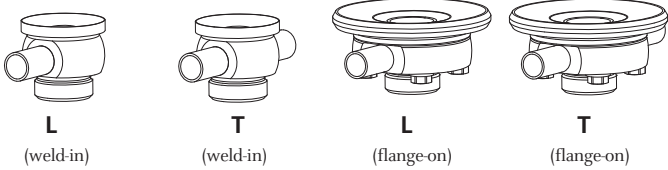
- Housing 1.4435 (AISI 316L)
- Housing socket 1.4435 (AISI 316L)
- Delta ferrite content optional
- Bellows material TFM1705 (PTFE), FDA-conformity

### Materials, non-product contact parts

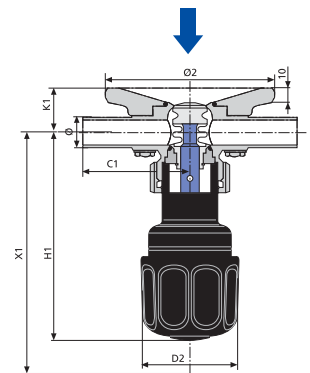
- Stainless steel actuator 1.4301 (AISI 304)
- Synthetic actuator polyphenylene sulphide (PPS)

# VESTA® Tank Bottom Valve, Type H\_A/T 2/2 Way Seat Valve

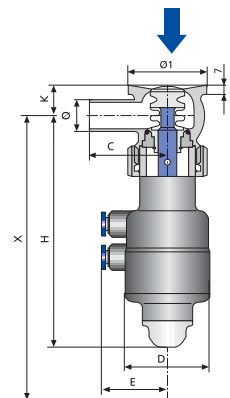
Example for an order code

Code	Code	H	L	A	T	P	NW	NW	M	Z	000	0	0	-	0	2	52	K	-
Code	Item	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
<b>H</b>	<b>1. Valve type VESTA® Tank Bottom Valve</b>																		
	<b>2. Valve body combination</b>																		
		 <p style="text-align: center;"> <span>L (weld-in)</span>      <span>T (weld-in)</span>      <span>L (flange-on)</span>      <span>T (flange-on)</span> </p>																	
<b>A</b>	<b>3. Aseptic bellows seal</b>																		
	<b>4. Housing specification</b>																		
		<p>T = weld-in housing T/F = flange-on housing</p>																	
<b>P</b>	<b>5. PTFE bellows seal</b>																		
		<p>Bellows material TFM1705 (PTFE), conforms to: FDA, 21CFR 177.150, USP class VI For documentation see Item 16</p>																	
	<b>6. Nominal width, top connection</b>																		
	<b>DIN</b>	Outside diameter acc. to DIN 11850, series II, DIN 11866, series A																	
		Ø	Ø1	Ø2	C	C1	D	D1	E	H	H1	K	K1	X	X1	Stroke			
	DN 10	13x1.5	54.9	110	55	70	50	59	40	131	114	26	31	177	162	3.6			
	DN 15	19x1.5	54.9	110	55	70	50	59	40	134	118	23	28	180	165	3.6			
	DN 20	23x1.5	79.9	130	65	85	65	59	47	144	118	29	34	201	176	4.7			
	DN 25	29x1.5	84.9	130	70	85	77	59	53	161	125	35	37	227	190	5.9			
	DN 32	35x1.5	84.9	130	70	85	77	59	53	163	130	35	37	230	193	5.9			
	DN 40	41x1.5	138	187	90	90	104	140	71	254	141	81	83	376	264	13.8			
	DN 50	53x1.5	138	187	90	90	104	140	71	260	147	75	77	382	270	13.8			
	DN 65	70x2	178	237	125	125	170	180	104	280	191	116	118	462	273	22			
	DN 80	85x2	178	237	125	125	170	180	104	287	199	109	111	469	281	22			
	DN 100	104x2	198	267	125	125	210	180	124	305	218	123	125	515	428	28.1			
	<b>ISO</b>	Outside diameter acc. to DIN EN ISO 1127, series II, DIN 11866, series B																	
		Ø	Ø1	Ø2	C	C1	D	D1	E	H	H1	K	K1	X	X1	Stroke			
	ISO 13.5	13.5x1.6	54.9	110	57	71	50	59	40	131	114	26	31	177	143	3.6			
	ISO 17.2	17.2x1.6	54.9	110	55	70	50	59	40	133	116	24	29	187	145	3.6			
	ISO 21.3	21.3x1.6	79.9	130	67	83	65	59	47	143	118	30	35	203	155	4.7			
	ISO 26.9	26.9x1.6	79.9	130	66	82	65	59	47	146	122	27	32	210	158	4.7			
	ISO 33.7	33.7x2	84.9	130	68	84	77	59	53	163	126	33	35	239	175	5.9			
	ISO 42.4	42.4x2	138	187	90	90	104	140	71	254	141	81	83	376	264	13.8			
	ISO 48.3	48.3x2	138	187	90	90	104	140	71	257	144	78	80	379	267	13.8			
	ISO 60.3	60.3x2	178	237	125	125	170	140	104	275	150	121	123	457	368	22			
	ISO 76.1	76.1x2	178	237	125	125	170	180	104	283	194	113	115	465	376	22			
	ISO 88.9	88.9x2.3	178	237	125	125	170	180	104	289	200	107	109	471	382	22			
	ISO 114.3	114.3x2.3	198	267	125	125	210	180	124	310	223	119	120	519	433	28.1			

X (included the clearance required for maintenance)



VESTA Tank Bottom Valve Type HTA/T/F with flange-on housing



VESTA Tank Bottom Valve Type HLA/T with weld-in housing

Recommended flow direction

# VESTA® Tank Bottom Valve, Type H\_A/T 2/2 Way Seat Valve

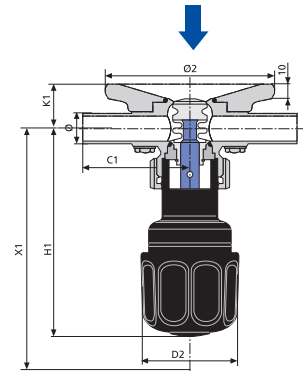
Example for an order code

Code	Code	H	L	A	T	P	NW	NW	M	Z	000	0	0	-	0	2	52	K	-
	Item	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18

## 6. Nominal width, top connection

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

	Ø	Ø1	Ø2	C	C1	D	D1	E	H	H1	K	K1	X	X1	Stroke
0.5" OD	12.7x1.65	54.9	110	55	71	50	59	40	131	114	26	31	177	143	3.6
0.75" OD	19.05x1.65	54.9	110	55	70	50	59	40	134	118	23	28	187	146	3.6
1" OD	25.4x1.65	79.9	130	65	83	65	59	47	145	118	28	33	208	157	4.7
1.5" OD	38.1x1.65	138	187	90	90	104	140	71	253	139	83	85	375	262	13.8
2" OD	50.8x1.65	138	187	90	90	104	140	71	259	146	76	78	381	269	13.8
2.5" OD	63.5x1.65	178	237	125	125	170	140	104	277	118	119	121	459	370	22
3" OD	76.2x1.65	178	237	125	125	170	180	104	283	195	113	115	465	377	22
4" OD	101.6x2.11	198	267	125	125	210	180	124	304	217	124	126	513	427	28.1



VESTA Tank Bottom Valve  
Type HTA/T/F  
with flange-on housing

## 7. Nominal width, Flange

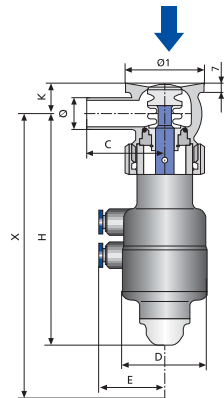
Welded flange for tank installation

## 8. Type of actuator

P = synthetic material (PPS), air/spring, up to DN 50, 2" OD, ISO 48.3

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

H = manual actuator (PPS)



VESTA Tank Bottom Valve  
Type HLA/T  
with weld-in housing

## 9. 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 [dm<sup>3</sup>N]

Function	DN 10, 1/2" OD ISO 13.5	DN 15 3/4" 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 1/2" OD ISO 42.4 / 48.3	DN 50 2" OD	ISO 60.3	DN 65 2 1/2" OD
Z (NC)	0.23	0.23	0.36	0.52
A (NO)	0.23	0.23	0.36	0.52

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	Item	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
	<p><b>10. Type/location of feedback element</b></p> <p>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-2o (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-2o (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)</p>																		
	<p><b>11. Control module type / solenoid valve</b></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><b>12. Number of feedback signals</b></p> <p>o = without (ooo)            1 = one feedback signal (INA)            2 = two feedback signals (TV1, TV2o, TP1, TP2o, TM1, INA)</p>																		
	<p><b>13. Type of sensor connection</b></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><b>14. Electrical connection (cable gland) / air connection</b></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>																		

# VESTA® Tank Bottom Valve, Type H\_A/T 2/2 Way Seat Valve

Example for an order code

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Code	Item	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18

## 15. Surface finish

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

## 16. Valve tag

52 = adhesive plate

## 17. 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

## 18. Accessories

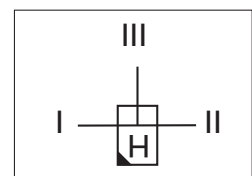
20 = stroke limiter open  
 21 = seal adjuster close  
 22 = 5 pin connector/junction box  
 29 = quick release handle (for nominal size up to DN 32, 1" OD, ISO 33.7)  
 43 = VESTAMID®\* - UV resistant material; for oil and fat containing control air

\*) VESTAMID® is registered as a trademark of the Degussa AG

# VESTA® Tank Bottom Valve, Type H\_A/T 2/2 Way Seat Valve

## Key figures

Ø	Stroke [mm]	Kv-Value [m³/h]			Weight acc. to actuator [kg]						
		I-II	I-III	III-I	Typ H A/T			Typ H A/T/F			
					Synthetic	Stainless Steel	Manual	Synthetic	Stainless Steel	Manual	
<b>DIN</b> Outside socket diameter, acc. to DIN11866, series A / DIN11850, series II											
DN10	13x1.5	3.6	2	2.3	2.1	0.86	1.32	0.86	2.07	2.53	2.08
DN15	19x1.5	3.6	6.4	6.5	5.9	0.84	1.3	0.84	2.05	2.51	2.06
DN20	23x1.5	4.7	10.4	11.8	11.8	1.85	2.64	1.75	3.81	4.59	3.71
DN25	29x1.5	5.9	15.2	16.7	16.9	2.47	3.52	2.61	4.43	5.47	4.18
DN 32	35x1.5	5.9									
DN 40	41x1.5	13.8									
DN 50	53x1.5	13.8									
DN 65	70x1.5	22									
DN 80	85x2	22									
DN 100	104x2	28.1									
<b>Inch OD</b> Outside socket diameter, acc. to DIN EN ISO1127, DIN11866, series B											
0.5" OD	12.7x1.65	3.6	2.1	2.2	2.2	0.86	1.32	0.86	2.07	2.53	2.08
0.75" OD	19.05x1.65	3.6	6.6	6.9	6	0.84	1.3	0.84	2.05	2.51	2.06
1" OD	25.4x1.65	4.7	12.4	12.9	12.7	1.85	2.64	0.75	3.81	4.59	3.71
1.5" OD	38.1x1.65	13.8									
2" OD	50.8x1.65	13.8									
2.5" OD	63.5x1.65	22									
3" OD	76.2x1.65	22									
4" OD	101.6x2.11	28.1									
<b>ISO</b> Outside socket diameter, acc. to DIN, ASME-BPE 2000, DIN11866, series C											
ISO 13.5	13.5x1.6	3.6	2.4	2.8	2.5	0.86	1.32	0.86	2.07	2.53	2.07
ISO 17.2	17.2x1.6	3.6	4.1	5.2	4.5	0.84	1.3	0.84	2.06	2.52	2.05
ISO 21.3	21.3x1.6	4.7	8.2	9.1	8.8	1.85	2.64	1.75	3.81	4.59	3.71
ISO 26,9	26.9x1.6	4.7	13.7	14.3	13.7	1.84	2.63	1.75	3.8	4.58	3.7
ISO 33.7	33.7x2	5.9	20.2	22.3	21.8	2.47	3.25	2.21	4.43	5.47	4.18
ISO 42.4	42.4x2	13.8									
ISO 48.3	48.3x2	13.8									
ISO 60.3	60.3x2	22									
ISO 76.1	76.1x2	22									
ISO 88.9	88.9x2.3	22									
ISO 114.3	114.3x2.3	28.1									



Kv- flow direction

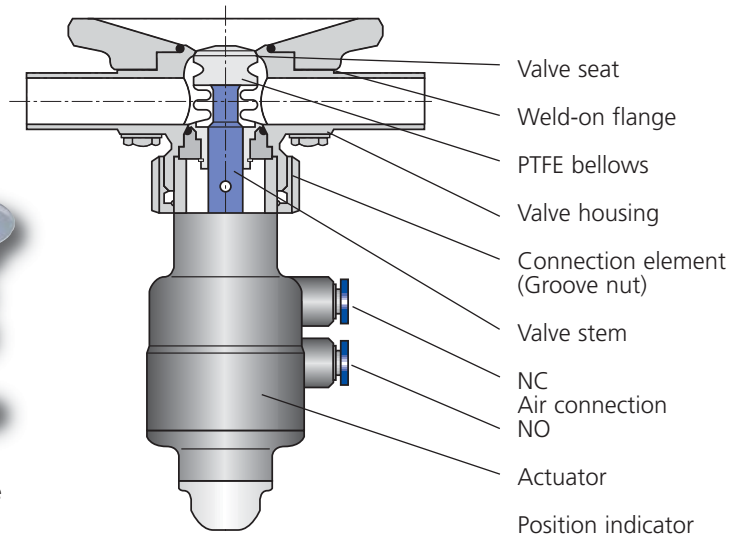
# VESTA® Tank Bottom Valve, Type H\_A/T 2/2 Way Seat Valve



VESTA® Tank Bottom Valve with weld-in housing



VESTA® Tank Bottom Valve with flange-on housing



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