



Aseptic Tank bottom valves



Sanitary
flow
equipment

SELF-DRAINING 10° TANK BOTTOM VALVES

RADIAL SEATED DIAPHRAGM

Designed for pharmaceutical and biopharmaceutical applications, the radial seated diaphragm valves combine the best features of a piston valve with the inherent cleanability of a standard flat diaphragm valve.

Aseptic design for pharmaceutical applications

All materials of construction conform to FDA and cGMP requirements.

The valve is completely self-draining and without dead legs.

All moving parts in the actuator are completely isolated from contact with the process.

Available Sizes: 3/4" (19,05), 1" (25,4), 1 1/2" (38,1), 2" (50,8), 3" (76,2), 4" (101,6).

Pressure directive

The bodies are designed according to PED Directive 2014/68/EU for Europe, ASME VIII Div.2 for US and F.E.M. (Finite Element Method) calculated, approved and certified by notified body. The valve body is machined from solid round bar in AISI 316L 1.4404 as standard, other materials 1.4435 or Hastelloy available upon request.

Optionals:

- ATEX certification according to the **European Directive 2014/34/EU**
- CIP / SIP connection
- Proximity switch for indication of open/close valve position
- Customized welding plate
- Integrated CIP / SIP satellite valve
- Electropolishing
- Level gear box for manual actuator
- Adjustable flow regulator/manual override
- Assembling tightening tool for locking ring
- Special materials

The diaphragms are available in:

- Silicone certified FDA
- TFM PTFE™ certified FDA and USP Class VI

The outlet connection is flush to the diaphragm to minimize hold-up volume, the standard outlet connection on the valve body is designed with a 45° angle to the horizontal axis and with an ASME BPE clamp ferrule, other optional end connections upon request include ISO/ DIN connections. The 45° angle outlet facilitates the ease of fit-up and permit using standard tubing to connect.

Available with manual thermoplastic handwheel ergonomically designed to provide ease of operation or with thermoplastic pneumatic actuator, as standard for general purpose use. Stainless steel handwheel or stainless steel pneumatic actuators are available upon request.

The welding pad of the body is conceived to be flush welded to the vessel bottom, resulting as an integral part of the tank surface, for preventing stagnation of the media.

Upon request a CIP/SIP port can be integrated into the valve body, providing access to the internal contact surfaces of the valve as well as downstream piping. With the same purpose, also a satellite valve can be integrated into the valve body.

The method of installation for both the manual and automatic bonnet assemblies is through a bonnet adapter ring which is easily tightened or loosened utilizing a standard sector wrench facilitating the maintenance.

A bright red indicator provides positive indication of closed and open position, standard for all actuators. The pneumatic actuators can be integrated with mechanical or inductive limit switch box.

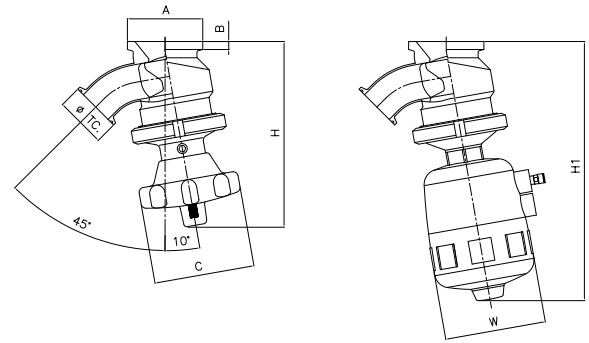
The 10° vertical angle enhances drainability while minimizing the internal cavity within the vessel. Completely cleanable and sterilizable design.

SELF-DRAINING 10° BODY

VAA - Tank Bottom Flush Welded Body



DIAPHRAGM
 # = X Silicone (till 2" only)
 # = T TFM PTFE
 ACTUATOR
 ** = MD manual thermoplastic
 ** = PB pneumatic thermoplastic n.c.



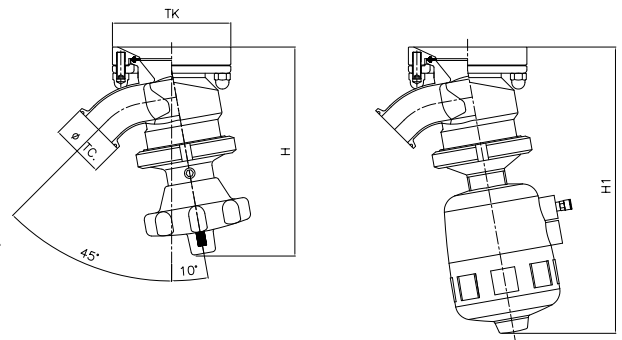
Dimensions table

CODE	INCH	DN	ØTC	ID	A	B	C	H	W	H1
VAA-075AH-***-71A	3/4"	20	25	15,75	50	6	50	86	53	145
VAA-100AJ-***-71A	1"	25	50,4	22,1	60	8	100	170	80	215
VAA-150AM-***-71A	1 1/2"	40	50,4	34,8	75	8	100	185	101	260
VAA-200AN-***-71A	2"	50	64	47,5	115	10	100	195	126	320
VAA-300AP-***-71A	3"	80	91	72,9	125	12	100	240	211	400
VAA-400AR-***-71A	4"	100	119	97,4	170	15	/	/	261	450

VAK - Removable Body for TKC/TC Connections



DIAPHRAGM
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 ** = PB pneumatic thermoplastic n.c.



Dimensions table

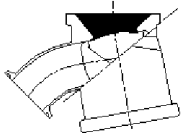
CODE	INCH	DN	ØTC	ID	TK	ØTK	H	H1
VAK-075AH-***-71A	3/4"	20	25	15,75	1 1/2"	85	100	160
VAK-100AJ-***-71A	1"	25	50,4	22,1	2"	100	185	226
VAK-150AM-***-71A	1 1/2"	40	50,4	34,8	2 1/2"	112	200	270
VAK-200AN-***-71A	2"	50	64	47,5	4"	170	210	335
VAK-300AP-***-71A	3"	80	91	72,9	4"	170	255	415
VAK-400AR-***-71A	4"	100	119	97,4	6"	220	/	470

NET VOLUME OF VALVE BODY CAVITY WITH PTFE DIAPHRAGM INSTALLED

Tank bottom valve body available in the following type:

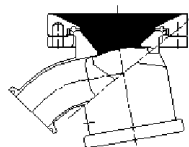
VAA

10° Angled body to be welded



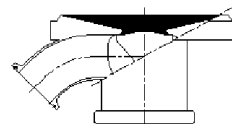
VAK

10° Angled TK removable body



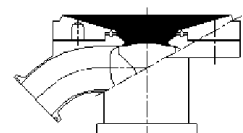
VAF

Straight body to be welded



VAR

Removable flanged body



Net volume in ml

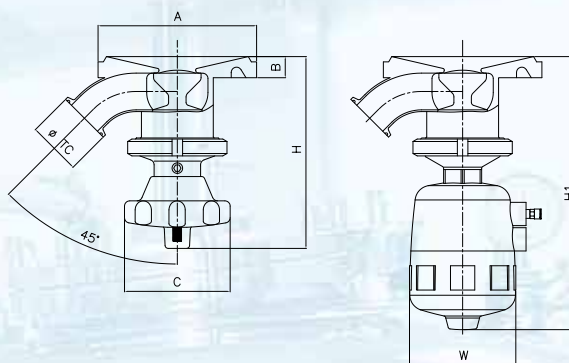
Valve Code/Size	INCH	DN	VAA	VAK	VAF	VAR
VA...-100AJ...	1"	25	14	50	25	30
VA...-150AM...	1 1/2"	40	27	72	75	105
VA...-200AN...	2"	50	92	235	85	150
VA...-300AP...	3"	80	170	310	320	Not available
VA...-400AR...	4"	100	515	Available on specific request only		

STRAIGHT BODY

VAF - Tank Bottom Flush Welded Body



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 ACTUATOR
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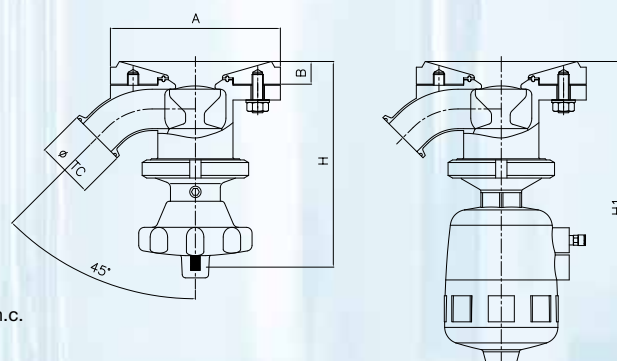
Dimensions table

CODE	INCH	DN	ØTC	ID	A	B	C	H	W	H1
VAF-100-025AJ-***-71A	1"	25	50,4	22,1	100	25	100	175	80	220
VAF-150-030AM-***-71A	1 1/2"	40	50,4	34,8	150	30	100	210	101	270
VAF-200-030AN-***-71A	2"	50	64	47,5	180	30	100	210	126	330
VAF-300-035AP-***-71A	3"	80	91	72,9	200	35	100	245	211	405
VAF-400-040AR-***-71A	4"	100	119	97,4	250	40	/	/	261	435

VAR - Removable Flanged Body



DIAPHRAGM
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 # = T TFM PTFE
 ACTUATOR
 ** = MD manual thermoplastic
 ** = PB pneumatic thermoplastic n.c.



Dimensions table

CODE	INCH	DN	ØTC	ID	A	B	H	H1
VAR-100AJ-***-71A	1"	25	50,4	22,1	100	20	180	225
VAR-150AM-***-71A	1 1/2"	40	50,4	34,8	150	25	195	275
VAR-200AN-***-71A	2"	50	64	47,5	180	30	220	340
VAR-300AP-***-71A	3"	80	91	72,9	200	35	250	415
VAR-400AR-***-71A	4"	100	119	97,4	300	40	/	465

AVAILABLE RADIAL DIAPHRAGMS



STANDARD

Material: SILICONE
 Code: MVA-X
 Available size: 3/4"-2"

Regulatory compliance:

- FDA 21CFR177.1550
- USP Class VI<87> and <88> (70°C and 121° C)
- ADIF animal derived ingredient free



Material: TFM PTFE™
 Code: MVA-T
 Available size: 3/4"-4"



BELLOWS ON REQUEST

Material: TFM PTFE™
 Code: MSVA-T

Double stroke for high viscosity media



Material: TFM+INOX
 Code: MSVA-T INOX

Aisi 316L safety coating cap with unique O-Ring in FEP for save the TFM from abrasive crystal

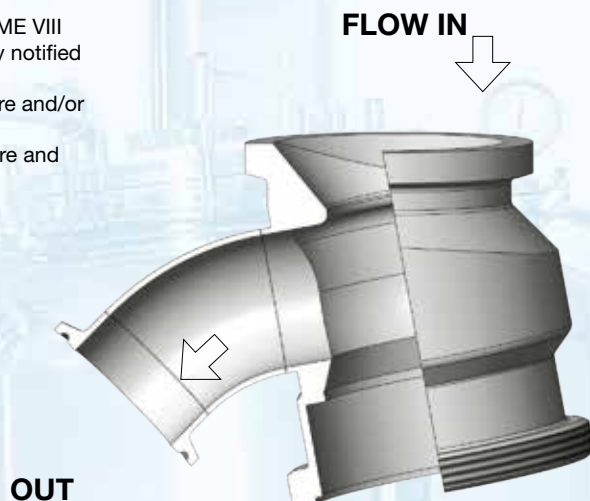
SELF-DRAINING 10° TANK BOTTOM VALVES BODY – INFORMATION

Design temperature, valve body: -10°C to 200°C (-14°F to 392°F)
Design pressure, valve body: 10 bar (145 psi)

The valve body are designed according to PED Directive 2014/68/EU for Europe, ASME VIII Div.2 for US and F.E.M. (Finite Element Method) calculated, approved and certified by notified body.

Warning: the applied diaphragm and actuator may have a different design temperature and/or pressure.

The weakest part in the assembled product set the final, permitted design temperature and pressure limits.



Available configurations

STANDARD DESIGN

The valves is composed of three following main parts:

- **Actuator** - either manual or pneumatic
- **Diaphragms** - available in Silicone and TFM
- **Valve body** - in line, zero static, tank bottom

The modular design ensures a wide flexibility and you can combine the three parts in almost any combination.

The manual / pneumatic actuators and body are assembled by a locking ring

MI
STAINLESS
STEEL
HANDLE



MD
STANDARD
THERMO PLASTIC
HANDLE



Manual actuator

MECHANICAL /
INDUCTIVE
POSITION INDICATOR
OPEN-CLOSED



IS
STAINLESS
STELL
PNEUMATIC
ACTUATOR

MECHANICAL /
INDUCTIVE
POSITION INDICATOR
OPEN-CLOSED

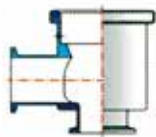


PB
THERMO PLASTIC
PNEUMATIC
ACTUATOR

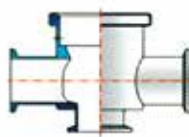
Pneumatic actuator

Diaphragms

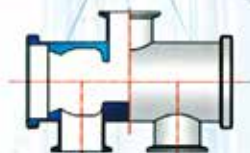
MVA-X Silicone
MVA-T TFM PTFE



VAL
IN-LINE "L" VALVE BODY



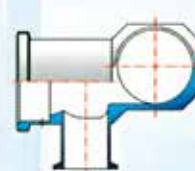
VAT
IN-LINE "T" VALVE BODY



VA DV DIVERT VALVE
VALVE BODY

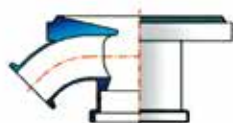


VA SHUT OFF 180°
VALVE BODY

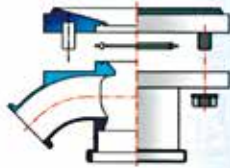


VZA
ZERO STATIC VALVE BODY

In line valve body



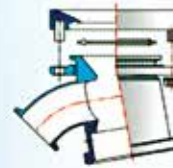
VAF
WELDED BODY



VAR
FLANGED BODY
REMOVABLE



VAA
WELDED BODY
10° ANGLED



VAK
REMOVABLE BODY
10° ANGLED

Tank bottom