I Application

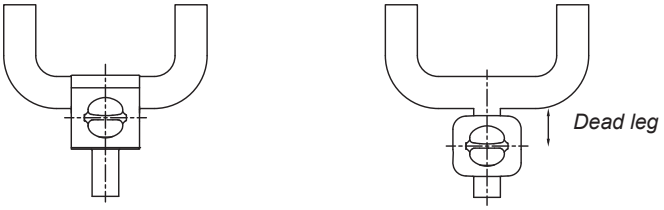
The NDL (Non Dead Leg T Valve) diaphragm valves, manually or pneumatically operated, are specially designed for use on aseptic processes in the pharmaceutical industry. The valves are widely used at points of use in the loops of purified water (PW) or water for injections (WFI).

I Operating principle

The diaphragm provides the body seal as well as the seat seal. There are no paths to the outside environment and, as such, the valve is suitable for aseptic processes. When the valve is being closed, a pressure pad which supports the diaphragm moves towards the sealing face on the body. As the pressure plate moves, the diaphragm flexes and is forced down onto the seat area in the centre of the body, thus, closing off the flow path through the body.
The valve can be actuated either manually or pneumatically and controlled by control units and solenoid valves.
A standard diaphragm valve is used to shut the flow of a line, an NDL type valve shuts only one outlet of the main line.

I Design and features

Comparing with a traditional diaphragm valve, the dead leg of an NDL valve is reduced to a minimum due to the design of the valve, and the pharmaceutical normatives like ASME BPE prioritise this condition.



Broad flexible range based upon a modular design concept with key components being common with other valves.
Autoclavable stainless steel bonnets and handles.
Handle with stroke limiter.
Hygienic design of the handles.
The valve body is machined out of a stainless steel block.
Completely drainable design.
Traceability of components.

I Technical specifications

Materials:	
Parts in contact with the product	*Stainless steel AISI 316L (1.4404)*
Other stainless steel parts	*Stainless steel AISI 304 (1.4301)*
Plastic parts	*PP + 30 GF*
Diaphragm	*EPDM (according to FDA 177.2600 and USP Class VI)*
Surface finish:	
Internal	*Ra ≤ 0,5 µm*
External	*Bright polish*
Available sizes	*DN ¾" - DN 3"*
Connections	*Clamp OD / Weld*

I Technical specifications

Operating limits:		
Max.working temperature (St.St. actuator)	*-20 ºC to +90 ºC (EPDM)*	*-4ºF to +194ºF*
	+140 ºC (SIP, max. 30 min)	*284ºF*
Max.working pressure (according to the model)	*10 bar*	*145 PSI*
Compressed air pressure	*6-8 bar*	*87-116 PSI*

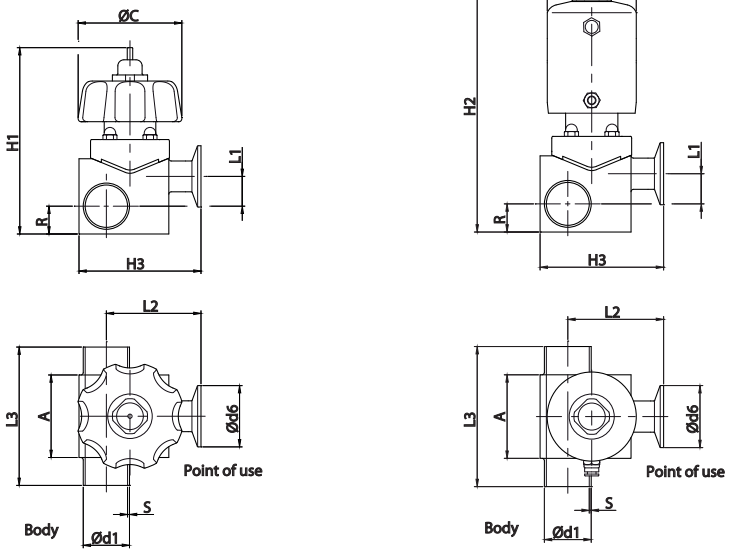
I Options

Diaphragm: FPM, VMQ (according to FDA 177.2600 and USP class VI) and PTFE / EPDM separate (according to FDA 177.2600).
Stainless steel bonnet with plastic or stainless steel handle.
Pneumatic actuator with stroke limiter.
Pneumatic actuator with external switch.
Control box with switches and solenoid valves.
Materials and roughness certificates.

I Pressure range

Size	DN	Handle		Actuator	
	Point of use	[bar]	[PSI]	[bar]	[PSI]
Nº1	½"	10	145	8	116
Nº2	¾"	10	145	8	116
	1"				
Nº3	1½"	10	145	8	116
Nº4	2"	6	87	6	87

I Dimensions



Size	DN		Ø d1	S	Ø d6	A	H1	H2	H3	Ø C	R	L1	L2	L3
	Body	Point of use												
	½"		12,7		25,4		93	149	70,5		10,5	13	53	
	¾"		19		25,4		98	154	70		12,5	16	56	
Nº1	1"	½"	25,4	1,65	50,5	38	104	160	76,5	60	15,5	19	60	86
	1 ½"		38,1		50,5		118	174	88,5		22,5	26	66	
	2"		50,8		64		131	187	92		29,5	32	72	
	¾"		19		25,4		133	189	91		13,5	14	68	
	1"	¾"	25,4	1,65	50,5	68	139	195	91	89	15	18	71	114
	1 ½"		38,1		50,5		154	210	100		23	25	77,5	
	2"		50,8		64		167	223	114		30	30	84	
Nº2	1"		25,4		50,5		139	195	90		15	18	71	
	1 ½"		38,1		50,5		154	210	100		23	25	78	
	2"	1"	50,8	1,65	64	68	167	223	114	89	30	30,5	84	114
	2 ½"		63,5		77,5		179	235	127		37	35,5	90	
	3"		76,1		91		195	251	140		46	43	97	
	1 ½"		38,1		50,5		184	292	126		25	24	102	
Nº3	2"	1½"	50,8	1,65	64	95	195	303	140	89	30	30	108	140
	2 ½"		63,5		77,5		208	317	151,5		36,5	37	115	
	3"		76,1		91		224	332	164		46	43	121	
	2"		50,8		64		252	333	155		29	35	123	
Nº4	2 ½"	2"	63,5	1,65	77,5	130	275	421	167	134	47	41	129	176
	3"		76,1		91		285	430	177,5		49	48	136	