Simply Unique Single Seat

Unique SSV Standard

General Information
The new generation that meets the highest demands of your process in terms of hygiene and safety. Unique Single Seat Valves are built on a well-proven, platform from an installed base of more than one million valves.

Application
Unique Single Seat Valve is a pneumatic seat valve in a hygienic and modular design for a wide field of applications, e.g. as a Shut-off valve with two (2) or three (3) ports or as a Change-over valve with three (3) to five (5) ports.

Working principle
The valve is remote-controlled by means of compressed air. It has few and simple moveable parts which results in a very reliable valve and low maintenance cost.

Standard design
The Unique Single Seat Standard Valve comes in a one or two body configuration. To ensure a high degree of flexibility the valve seat between the two bodies in the Change-over version is loose. The valve features an optimized life span of the seals through a defined compression design. The actuator is connected to the valve body using a yoke and all components are assembled with clamp rings.

To facilitate installation the valve is only partly assembled when delivered. The valve has welding ends as standard and is available with fittings as option.

The Unique Single Seat Valve range covers the sizes from DN25 to DN100 and DN/OD 25 mm to 101.6 mm.

The actuator comes with a 5 years warranty.

Other valves in the same basic design
The Unique SSV valve range includes several purpose built valves. Below listed are some of the valve models available, though please use the Alfa Laval computer aided selection tool (CAS) for full access to all models and options.

- Reverse acting valve.
- Long stroke valve.
- Manually operated valve.
- Tank Outlet valve.
- Two Step valve.
- Tangential valve.

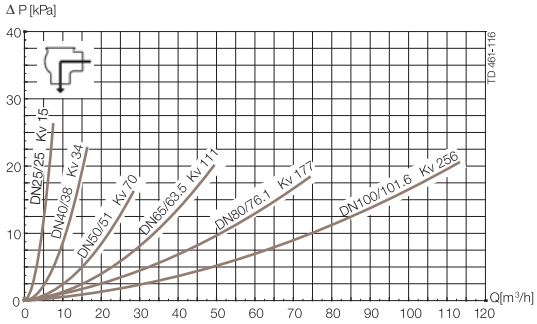
Unique Single Seat Valve is designed, tested and approved according to EHEDG guidelines.

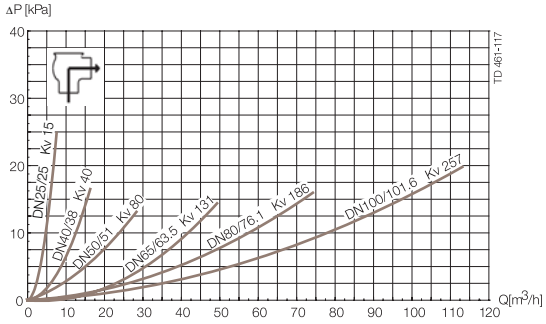


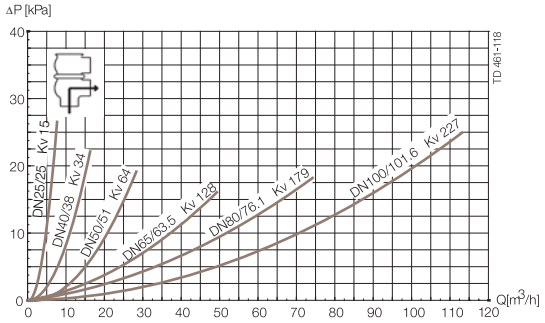
Unique Single Seat Standard Change-over and Shut-off Valve

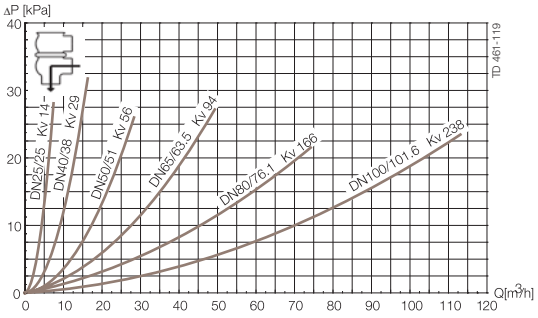
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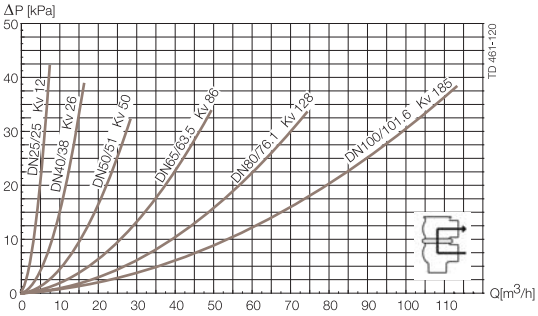
Pressure drop/capacity diagrams

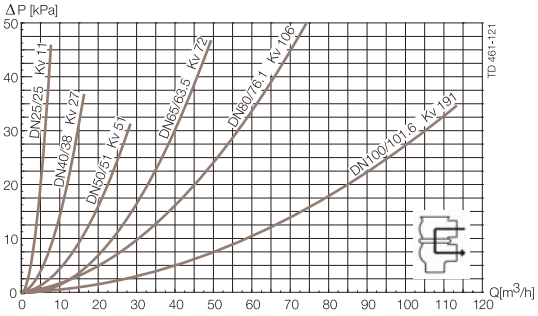












Note!

For the diagrams the following applies:

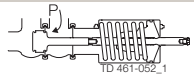
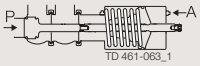
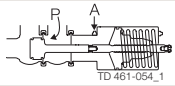
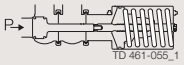
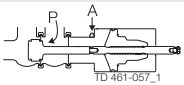
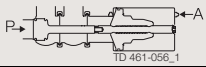
Medium: Water (20° C)

Measurement: In accordance with VDI2173

Pressure data for Unique Single Seat Valve

Table 1 - Shut-off and Change-over valves

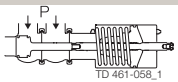
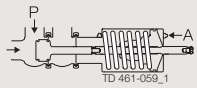
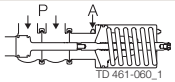
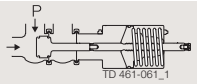
Max. pressure in bar without leakage at the valve seat

Actuator / Valve body combination and direction of pressure	Air pressure (bar)	Plug position	Valve size					
			DN 25 DN/OD 25 mm	DN 40 DN/OD 38 mm	DN50 DN/OD 51 mm	DN 65 DN/OD 63.5 mm	DN 80 DN/OD 76.1 mm	DN 100 DN/OD 101.6 mm
		NO	10.0	8.2	8.4	4.5	6.8	4.4
	5	NO	9.2	4.4	5.9	3.4	4.4	2.9
	6		10.0	7.6	9.6	5.6	7.2	4.8
	7		10.0	10.0	10.0	7.8	10.0	6.7
	5	NC	10.0	5.7	6.8	3.7	4.7	3.0
	6		10.0	9.8	10.0	6.1	7.7	5.0
	7		10.0	10.0	10.0	8.5	10.0	6.9
		NC	10.0	6.3	7.2	4.2	6.4	4.2
	5	A/A	10.0	10.0	10.0	10.0	10.0	9.4
	6		10.0	10.0	10.0	10.0	10.0	10.0
	7		10.0	10.0	10.0	10.0	10.0	10.0
	5	A/A	10.0	10.0	10.0	10.0	10.0	9.1
	6		10.0	10.0	10.0	10.0	10.0	10.0
	7		10.0	10.0	10.0	10.0	10.0	10.0

A = Air
P = Product pressure

Table 2 - Shut-off and Change-over valves

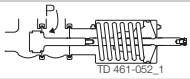
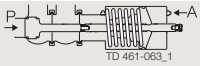
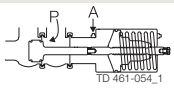
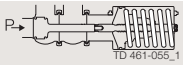
Max. pressure in bar against which the valve can open.

Actuator / Valve body combination and direction of pressure	Air pressure (bar)	Plug position	Valve size					
			DN 25 DN/OD 25 mm	DN 40 DN/OD 38 mm	DN50 DN/OD 51 mm	DN 65 DN/OD 63.5 mm	DN 80 DN/OD 76.1 mm	DN 100 DN/OD 101.6 mm
		NO	10.0	10.0	10.0	7.4	9.7	6.3
	5	NO	10.0	7.8	10.0	6.1	7.1	4.7
	6		10.0	10.0	10.0	8.3	9.9	6.6
	7		10.0	10.0	10.0	10.0	10.0	8.5
	5	NC	10.0	10.0	10.0	6.6	7.5	4.9
	6		10.0	10.0	10.0	9.0	10.0	6.9
	7		10.0	10.0	10.0	10.0	10.0	8.8
		NC	10.0	9.7	10.0	6.8	9.1	6.1

A = Air
P = Product pressure

Table 3 - Shut-off and Change-over valves with high pressure actuator option

Max. pressure in bar without leakage at the valve seat

Actuator / Valve body combination and direction of pressure	Air pressure (bar)	Plug position	Valve size					
			DN 25 DN/OD 25 mm	DN 40 DN/OD 38 mm	DN50 DN/OD 51 mm	DN 65 DN/OD 63.5 mm	DN 80 DN/OD 76.1 mm	DN 100 DN/OD 101.6 mm
		NO	10.0	10.0	10.0	10.0	-	-
	6	NO	10.0	10.0	10.0	10.0	-	-
	6	NC	10.0	10.0	10.0	10.0	5.0	3.0
		NC	10.0	10.0	10.0	9.6	10.0	7.0

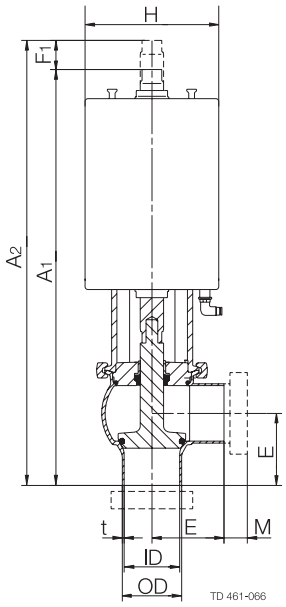
A = Air
P = Product pressure

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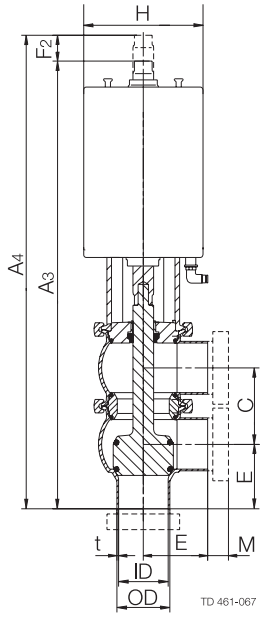
Dimensions (mm)

Nominal size	Inch tubes DN/OD						DIN tubes DN					
	25	38	51	63.5	76.1	101.6	25	40	50	65	80	100
A_1	313	314	364	390	423	468	315	315	365	389	427	470
A_2	328	334	389	415	453	498	330	335	390	414	457	500
A_3	360*	374	437	476	522	592	367*	379	440.6	481	534	596
A_4	372*	391	459	498	549	619	379*	396	463	503	561	623
C	47.8	60.8	73.8	86.3	98.9	123.6	52	64	76	92	107	126
OD	25	38	51	63.5	76.1	101.6	29	41	53	70	85	104
ID	21.8	34.8	47.8	60.3	72.9	97.6	26	38	50	66	81	100
t	1.6	1.6	1.6	1.6	1.6	2	1.5	1.5	1.5	2	2	2
E	50	49.5	62	82	87	120	50	49.5	62	78	87	120
F_1	15	20	25	25	30	30	15	20	25	25	30	30
F_2	12*	17	22	22	27	27	12*	17	22	22	27	27
H	85	85	114.9	114.9	154.3	154.3	85	85	114.9	114.9	154.3	154.3
H (high pressure)	85	114.9	154.3	154.3	154.3	154.3	85	114.9	154.3	154.3	154.3	154.3
M (ISO clamp)	21	21	21	21	21	21	-	-	-	-	-	-
M (DIN clamp)	-	-	-	-	-	-	21	21	21	28	28	28
M (DIN male)	-	-	-	-	-	-	22	22	23	25	25	30
M (SMS male)	20	20	20	24	24	35	-	-	-	-	-	-
Weight (kg)												
Shut-off valve	3.1	3.3	5.5	6.5	11.3	13.6	3.2	3.4	5.5	6.6	11.8	13.6
Change-over valve	3.9	4.2	7.1	8.5	14	18	4.1	4.5	7.2	8.8	14.9	17.9

* = only available with replaceable elastomer plug seal.



Shut-off valve



Change-over valve

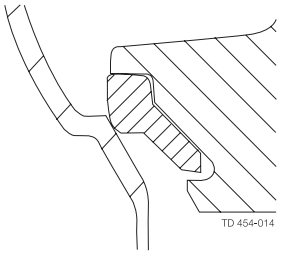
Caution, opening/closing time:

Opening/closing time will be effected by the following:

- The air supply (air pressure).
- The length and dimensions of the air hoses.
- Number of valves connected to the same air hose.
- Use of single solenoid valve for serial connected air actuator functions.
- Product pressure.

Air Connections Compressed air:

R 1/8" (BSP), internal thread.

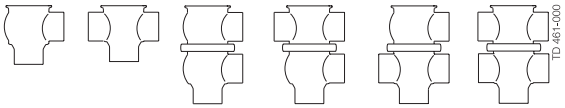


PTFE plug seal (TR2)

Technical Data

Max. product pressure (depending on valve specifications) . . . . . .1000 kPa (10 bar).
Min. product pressure . . . . . .Full vacuum.
Temperature range . . . . . .-10°C to +140°C (EPDM).
Air pressure . . . . . .500 to 700 kPa (5 to 7 bar)

Valve Body Combinations



200 300 210 220 310 320

Actuator function

- Pneumatic downward movement, spring return.
- Pneumatic upward movement, spring return.
- Pneumatic upward and downward movement (A/A).

Air consumption (litres free air) for one stroke			
Size	**DN25-40** **DN/OD 25-38 mm**	**DN50-65** **DN/OD 51-63.5 mm**	**DN80-100** **DN/OD 76.1-101.6 mm**
NO and NC	0.2 x air pressure [bar]	0.5 x air pressure [bar]	1.3 x air pressure [bar]
A/A	0.5 x air pressure [bar]	1.1 x air pressure [bar]	2.7 x air pressure [bar]

Materials

Product wetted steel parts: . . . . . .1.4404 (316L) (internal Ra < 0.8 µm)
Other steel parts 1.4301 (304)
Plug seal: . . . . . .EPDM
Other product wetted seals: . . . . . .EPDM (standard)
Other seals . . . . . .NBR

Options

A. Male parts or clamp liners in accordance with required standard.
B. Control and Indication: IndiTop, ThinkTop or ThinkTop Basic.
C. Product wetted seals in HNBR or FPM.
D. Plug seals HNBR, FPM or TR2 plug (floating PTFE design).
E. High pressure actuator.
F. Maintainable actuator.
G. External surface finish bright.

Ordering

Please state the following when ordering:

- Size.
- Connections if not welding ends.
- Valve body combination.
- NC, NO or A/A.
- Options.

Note!

For further details, see instruction ESE00202.

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The information contained herein is correct at the time of issue, but may be subject to change without prior notice.

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