Simply Unique Single Seat

Unique SSV Reverse Acting

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 Reverse Acting 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) to four (4) ports or as a Change-over valve with three (3) to six (6) 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 Reverse Acting Valve comes in a two or three 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 Reverse Acting 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.

- Long stroke valve.
- Manually operated valve.

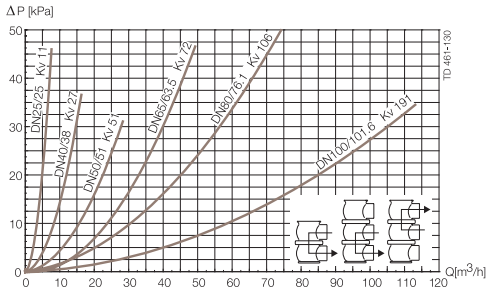
Unique Single Seat Valve is designed, tested and approved according to EHEDG guidelines.

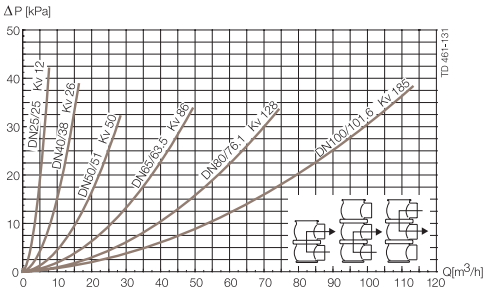


Unique Single Seat Reverse Acting Change-over and Shut-off Valve

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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 Reverse Acting

Table 1 - Shut-off and Change-over valves. Max. pressure in bar without leakage at the valve seat

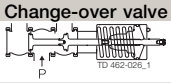
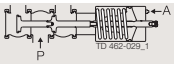
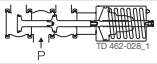
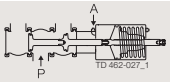
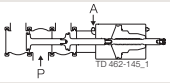
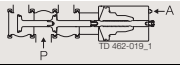
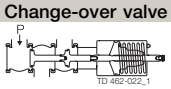
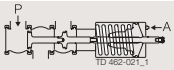
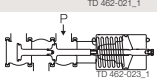
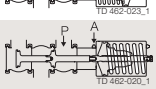
Actuator/valve body combination and direction of pressure Change-over valve	Air pressure (bar)	Plug position	Valve size DN25 DN/OD 25 mm	DN40 DN/OD 38 mm	DN50 DN/OD 51 mm	DN65 DN/OD 63.5 mm	DN80 DN/OD 76.1 mm	DN100 DN/OD 101.6 mm
		NC	10.0	8.2	8.4	4.5	6.8	4.4
	6	NC	10.0	7.6	9.6	5.6	7.2	4.8
		NO	10.0	6.3	7.2	4.2	6.4	4.2
	6	NO	10.0	10.0	10.0	6.1	7.7	5.0
	6	A/A	10.0	10.0	10.0	10.0	9.0	5.8
	6	A/A	10.0	10.0	10.0	10.0	8.5	5.6

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 Change-over valve	Air pressure (bar)	Plug position	Valve size DN25 DN/OD 25 mm	DN40 DN/OD 38 mm	DN50 DN/OD 51 mm	DN65 DN/OD 63.5 mm	DN80 DN/OD 76.1 mm	DN100 DN/OD 101.6 mm
		NO	10.0	9.7	10.0	6.8	4.6	3.1
	6	NC	10.0	10.0	10.0	8.3	9.9	6.6
		NC	10.0	10.0	10.0	7.4	4.9	3.2
	6	NO	10.0	10.0	10.0	9.0	10.0	6.9

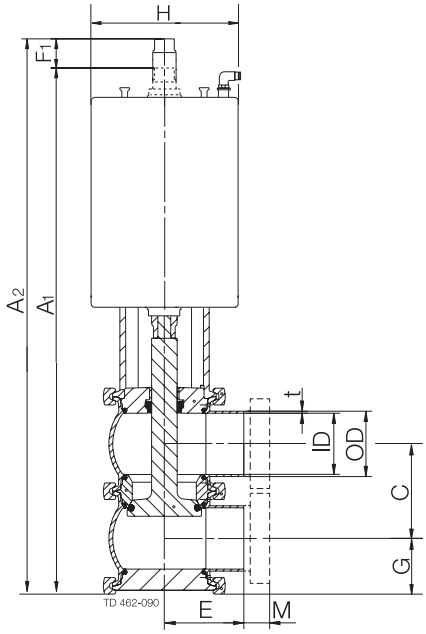
A = Air

P = Product pressure

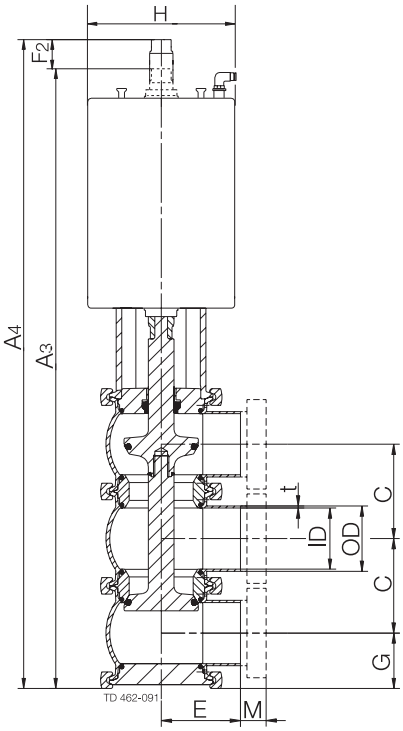
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Dimensions (mm)

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	338	355	412	437	484	533	346	361	416	448	500	538
A_2	350	376	438	463	515	564	358	382	442	474	531	569
A_3	386	420	490	527	587	661	398	429	496	544	611	668
A_4	397	436	512	549	614	688	409	445	518	566	638	695
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	12	21	26	26	31	31	12	21	26	26	31	31
F_2	11	16	22	22	27	27	11	16	22	22	27	27
G	23.9	30.4	36.9	43.15	49.45	62	26	32	38	46	53.5	63
H	85	85	114.9	114.9	154.3	154.3	85	85	114.9	114.9	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	4.3	4.4	7.3	8.9	14.4	18.3	4.4	4.6	7.3	9.2	15.3	18.2
Change-over valve	5.2	5.4	8.7	11.0	17.1	22.6	5.4	5.7	8.7	11.4	18.5	22.5



Shut-off valve



Change-over valve

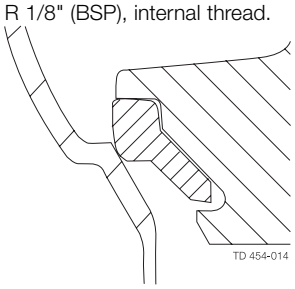
Caution, opening/closing time:

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.

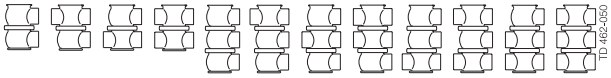


PTFE plug seal (TR2)

Technical data

Max. product pressure: . . . . . .1000 kPa (10 bar).
Min. product pressure: . . . . . .Full vacuum.
Temperature range, standard lip seal: . . . . . .-10°C to +140°C (EPDM)
Air pressure: . . . . . .500 to 700 kPa (5 to 7 bar).

Valve Body Combinations



011 012 021 022 111 112 121 122 211 212 221 222

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 seal . . . . . .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.

ESE00178EN 1001

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