



Simply Unique

Unique Single Seat Valve - 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 Valve is an air-operated seat valve in a hygienic and flexible design giving a wide field of applications, e.g. as a Shut-off valve with two to four ports or as a Change-over valve with three to six 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 Valve - Reverse Acting consists of two or three bodies, which are clamped together. To ensure a high degree of flexibility the valve seat between the two bodies in the Change-over version is loose. To reduce the wear of sealings there is a controlled compression of seals by metal to metal contact. The actuator comes with a 5 years warranty. 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 - Reverse Acting range covers the sizes from DN25 to DN100 and DN/OD 25 mm to 101.6 mm.

Other valves in the same basic design

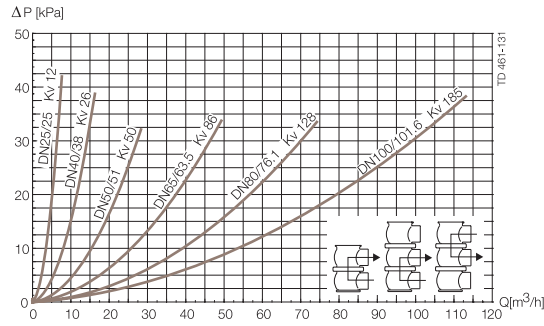
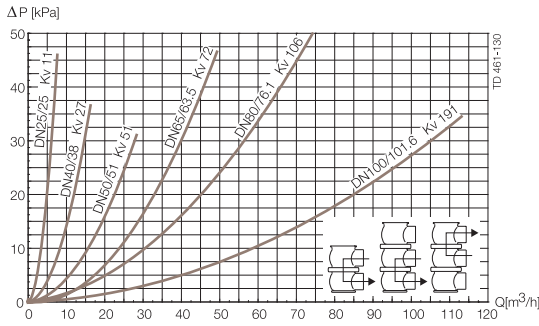
- Long stroke valve.
- Manually operated valve.

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



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

Unique Single Seat Valve - Reverse Acting Pressure Drop 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	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
TD 462-026	6	NC	10.0	8.2	8.4	4.5	6.8	4.4
TD 462-029		NC	10.0	7.6	9.6	5.6	7.2	4.8
TD 462-028		NO	10.0	6.3	7.2	4.2	6.4	4.2
TD 462-027		NO	10.0	10.0	10.0	6.1	7.7	5.0
TD 462-018		A/A	10.0	10.0	10.0	10.0	9.0	5.8
TD 462-019		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.

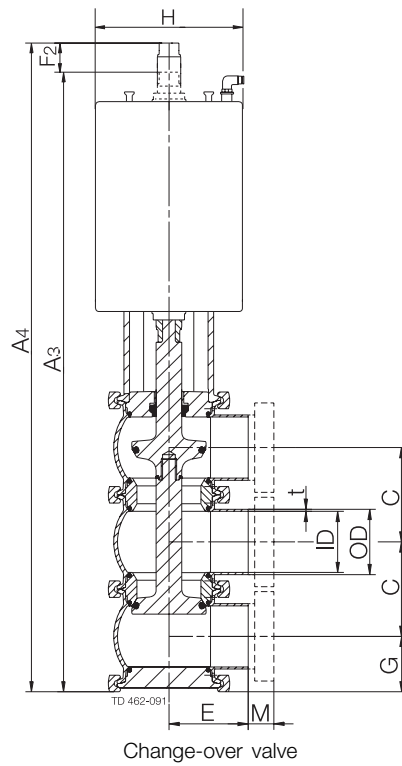
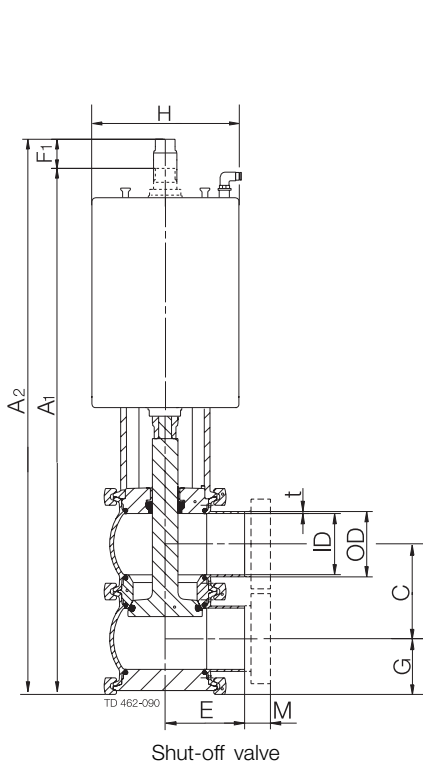
Actuator/valve body combination and direction of pressure	Air pressure (bar)	Plug position	Valve size					
			DN25 DN/OD 25 mm	DN40 DN/OD 38 mm	DN50 DN/OD 51 mm	DN65 DN/OD 63.5 mm	DN80 DN/OD 76.1 mm	DN100 DN/OD 101.6 mm
TD 462-022	6	NO	10.0	9.7	10.0	6.8	4.6	3.1
TD 462-021		NC	10.0	10.0	10.0	8.3	9.9	6.6
TD 462-023		NC	10.0	10.0	10.0	7.4	4.9	3.2
TD 462-020		NO	10.0	10.0	10.0	9.0	10.0	6.9

A = Air
AC = Air closes
AO = Air opens

P = Product pressure
SC = Spring closes
SO = Spring opens

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	4.6	4.7	7.8	9.4	15.7	19.5	5.1	4.9	7.8	9.7	16.6	22.0
Change-over valve	5.5	5.7	9.2	11.5	18.3	23.8	6.1	6.0	9.2	11.9	19.7	26.3



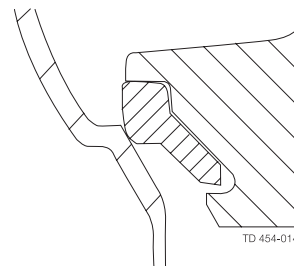
Caution, opening/closing time:

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.

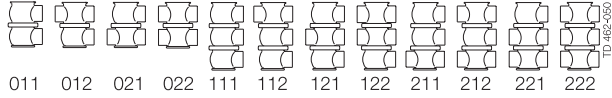


PTFE plug seal (TR2)

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



Actuator function

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

Size	Air consumption (litres free air) for one stroke		
	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 parts1.4301 (304)
 Plug seal:EPDM
 Optional plug seal:PTFE (TR2)
 Other product wetted seals:EPDM (standard)
 Optional product wetted seals:HNBR and FPM
 Other sealNBR

Options

- a. Male parts or clamp liners in accordance with required standard.
- b. Control and Indication: IndiTop, ThinkTop and ThinkTop Basic.
- c. Product wetted seals in HNBR or FPM
- d. 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.

How to contact Alfa Laval

Contact details for all countries
 are continually updated on our website.
 Please visit www.alfalaval.com to
 access the information direct.