Simply Unique

Unique SSV Long Stroke

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 - Long Stroke is an air-operated seat valve in a sanitary and flexible design giving a wide field of applications, e.g. as a Shut-off valve with two or three ports or as a Change-over valve with three to five ports. Long-stroke is specially suited for use in applications where suspended solids or high viscosity products are processed.

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 - Long Stroke consists of one or two 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 - Long Stroke range covers the sizes from DN40 to DN100 and DN/OD 38 mm to 101.6 mm.

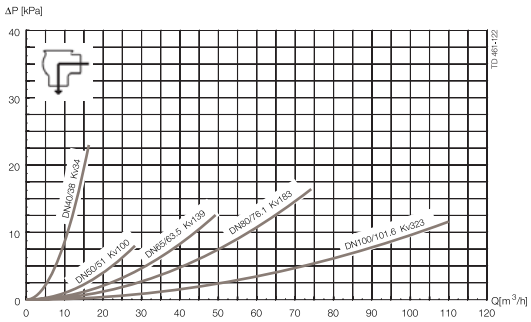
Other valves in the same basic design
- Standard Single Seat Valve
- Reverse acting valve.
- Aseptic valve.
- Manually operated valve.

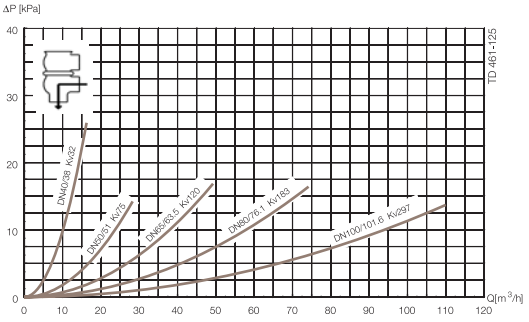
Unique Single Seat Valve is designed, tested and approved according to EHEDG guidelines.

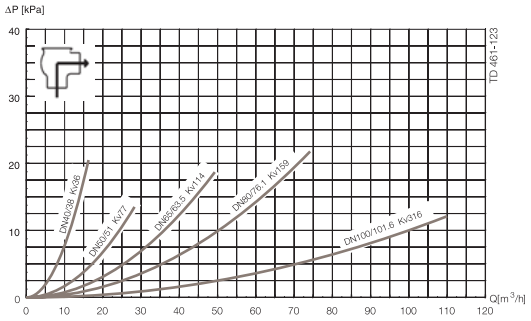
CERTIFIED HYGIENIC ENGINEERING & DESIGN EUROPEAN GROUP EHEDG TYPE EL August 2004 TD 523-152

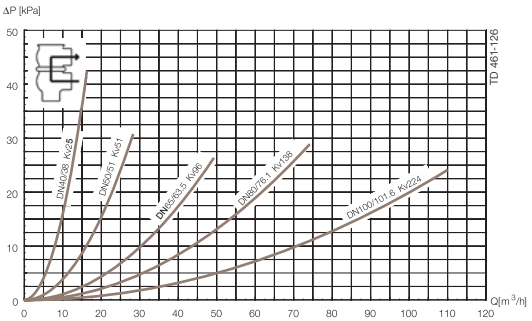
Unique Single Seat Valve Long Stroke

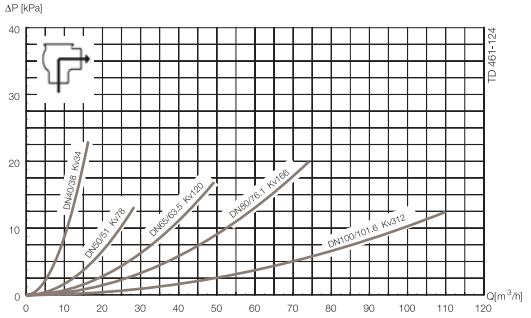
Pressure drop/capacity diagrams

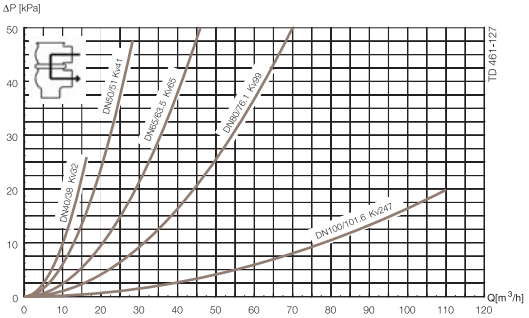












Note!

For the diagrams the following applies:

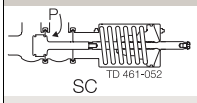
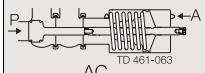
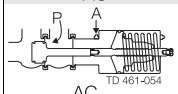
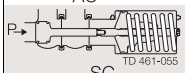
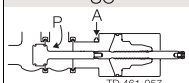
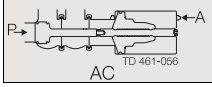
Medium: Water (20° C)

Measurement: In accordance with VDI2173

Pressure data for Unique Single Seat Valve Long Stroke

Table 1 - Shut-off and Change-over valves

Max. pressure in bar without leakage at the valve seat

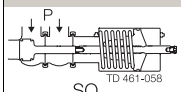
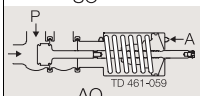
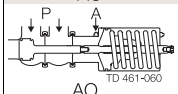
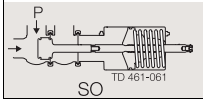
Actuator / Valve body combination and direction of pressure	Air Pressure (bar)	Plug position	Valve size				
			DN 40 DN/OD 38 mm	DN50 DN/OD51 mm	DN 65 DN/OD 63.5 mm	DN 80 DN/OD 76.1 mm	DN 100 DN/OD 101.6 mm
 SC		NO	10.0	8.9	4.8	7.1	4.6
 AC	6	NO	10.0	8.6	5.0	6.8	4.4
 AC	6	NC	10.0	9.9	5.4	7.2	4.6
 SC		NC	10.0	7.6	4.4	6.7	4.4
 AC	6	A/A	10.0	10.0	10.0	10.0	10.0
 AC	6	A/A	10.0	10.0	10.0	10.0	10.0

A = Air
P = Product pressure

AC = Air closes
SC = Spring closes

Table 2 - Shut-off and Change-over valves

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

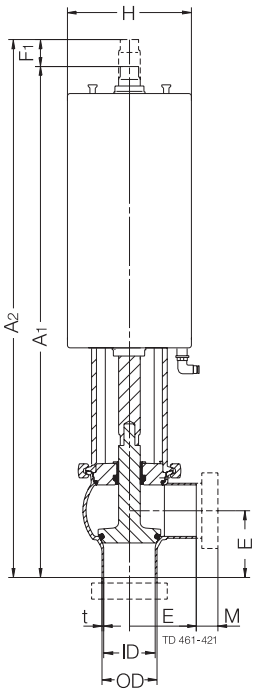
Actuator / Valve body combination and direction of pressure	Air Pressure (bar)	Plug position	Valve size				
			DN 40 DN/OD 38 mm	DN50 DN/OD 51 mm	DN 65 DN/OD 63.5 mm	DN 80 DN/OD 76.1 mm	DN 100 DN/OD 101.6 mm
 SO		NO	10.0	10.0	8.1	10.0	6.7
 AO	6	NO	10.0	10.0	8.0	9.7	6.5
 AO	6	NC	10.0	10.0	8.7	10.0	6.7
 SO		NC	10.0	10.0	7.5	9.6	6.4

P = Product pressure

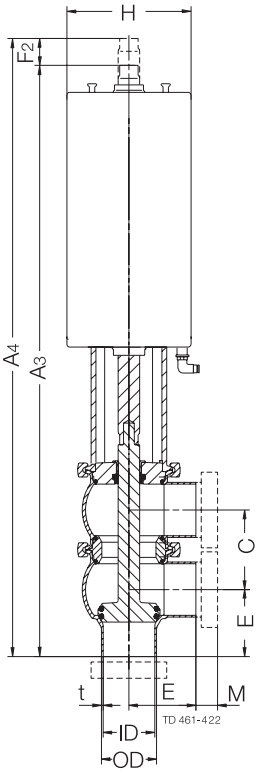
AO = Air opens (6 bar)
SO = Spring Opens

Dimensions (mm)

Size	Inch tubes DN/OD					DIN tubes DN				
	38	**51**	**63.5**	**76.1**	**101.6**	**40**	**50**	**65**	**80**	**100**
A_1	415	423	442	539	592	414	422	439	535	591
A_2	440	460	486	597	656	442	461	488	597	657
A_3	458	488	533	645	718	456	487	531	641	717
A_4	484	527	569	689	777	485	528	572	697	779
C	60.8	73.8	86.3	98.9	123.6	64	76	92	107	126.4
OD	38	51	63.5	76.1	102	41	53	70	85	104
ID	34.8	47.8	60.3	72.9	97.6	38	50	66	81	100
t	1.6	1.6	1.6	1.6	2	1.5	1.5	2	2	2
E	49.5	62	82	87	120	49.5	62	78	87	120
F_1	25	37	44	58	64	28	39	49	62	66
F_2	26	39	36	44	59	29	41	41	56	62
H	85	115	115	154	154	85	114.9	114.9	154.3	154.3
M (ISO clamp)	21	21	21	21	21	-	-	-	-	-
M (/DIN clamp)	-	-	-	-	-	21	21	28	28	28
M (DIN male)	-	-	-	-	-	22	23	25	25	30
M (SMS male)	20	20	24	24	35	-	-	-	-	-
Weight (kg)										
Shut-off valve	6.1	6.6	7.5	14.8	17.2	6.2	6.6	7.6	15.3	17.2
Change-over valve	6.8	7.9	9.8	17.9	22.2	7	7.9	10.1	18.8	22.1



Shut-off valve.



Change-over valve.

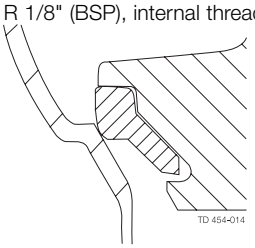
Caution, opening/closing time:

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).

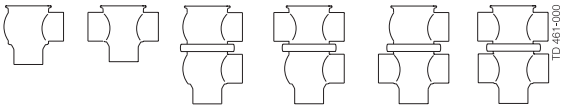
Technical data

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)

Max. size of solids (mm)	Valve size (DN/OD)				
	38 mm	51 mm	63.5 mm	76.1 mm	101.6 mm
Shut-off valve	21	32	40	54	58
Change-over valve (plug up/lower body)	22	35	32	43	54
Change-over valve (plug down)	12	15	23	30	40

Max. size of solids (mm)	Valve size (DN/OD)				
	DN40	DN50	DN65	DN80	DN100
Shut-off valve	24	34	45	62	61
Change-over valve (plug up/lower body)	25	37	37	52	57
Change-over valve (plug down)	12	15	23	30	40

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 (AA).

Air consumption (litres free air) for one stroke		
Size	DN40-65 DN/OD 38-63.5 mm	DN80-100 DN/OD 76.1-101.6 mm
NO and NC	0.8 x air pressure [bar]	2 x air pressure [bar]
A/A	1.4 x air pressure [bar]	3.9 x air pressure [bar]

Materials

Product wetted steel parts: 1.4404 (316L)
Internal surface finish: . . . . . .Ra 0.8 µ m
External surface finish: . . . . . .Blasted
Other steel parts: 1.4301 (304)
Product wetted seals: . . . . . .EPDM
Other seals: . . . . . .NBR

Options

a. Male parts or clamp liners in accordance with required standard.
b. Control and Indication: ThinkTop and ThinkTop Basic.
c. Product wetted seals in HNBR or FPM
d. TR2 plug (floating PTFE design)
e. Service tool for plug seals
f. 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.

ESE00174EN 0801

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