



Simply Unique

Unique SSV DN125 and DN150

Application

Unique Single Seat Valve DN125 and DN150 is an air-operated seat valve in a sanitary and flexible design giving a wide field of application, e.g. as a stop valve with two or three ports or as change-over valve with three to five 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.

Standard Design

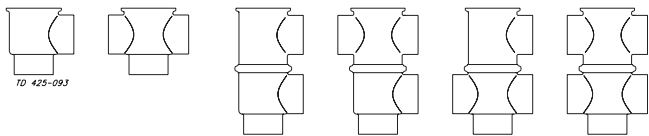
For DN125 and DN150 consists of actuator, lip seal, plug and valve bodies. All components are assembled by means of clamp rings. The piston and valve plug are screwed together. In order to facilitate installation the valve is only partly assembled when delivered. The valve has welding ends as standard.

Sizes DN125 and DN150 are very heavy. Therefore it is recommended to manufacture and use auxiliary handling equipment. Guidelines are given in IM 70007. The recommended auxiliary equipment cannot be supplied by Alfa Laval.

Actuator function

- Pneumatic downward movement, spring return (NO-lower seat)
- Pneumatic upward movement, spring return (NC-lower seat)

Valve body combinations



200

300

210

220

310

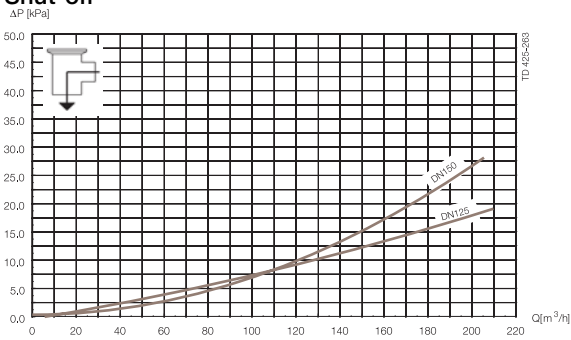
320



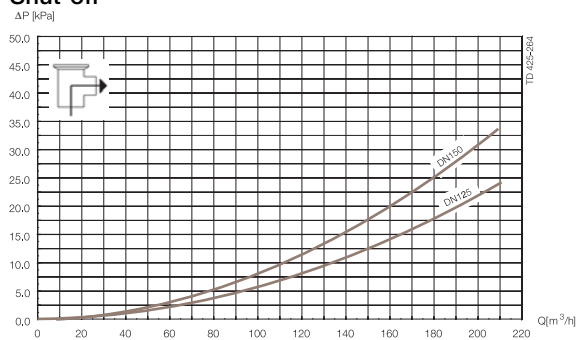
Unique Single Seat Valve Change-over.

Pressure drop/capacity diagrams

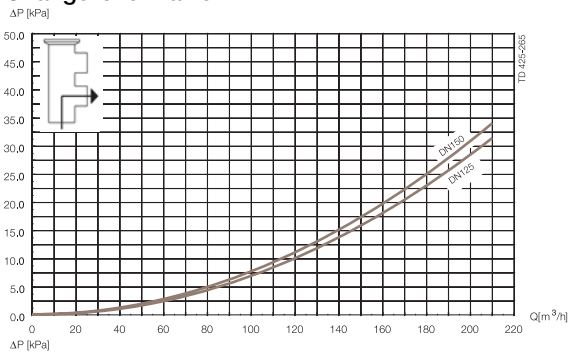
Shut-off



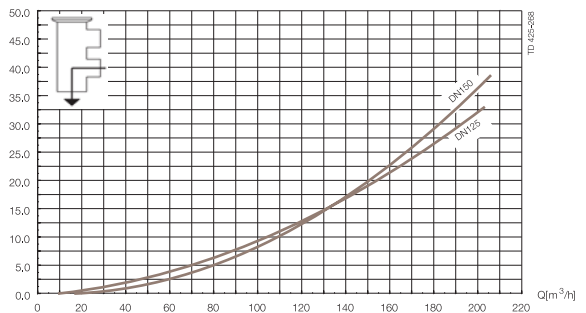
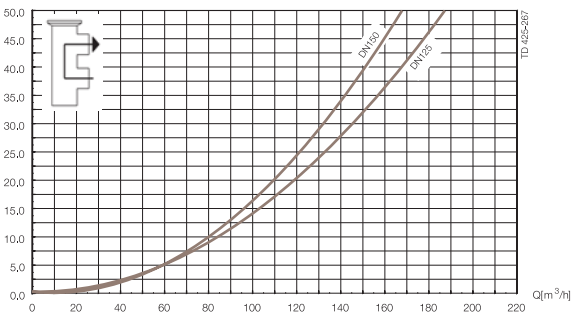
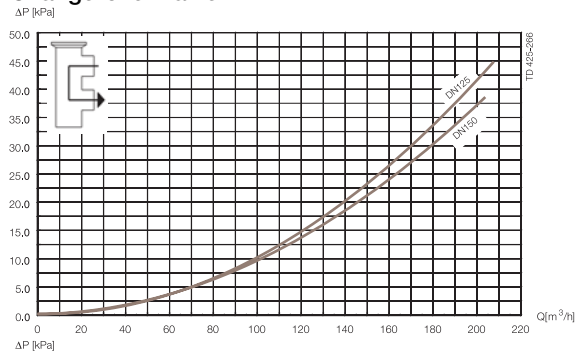
Shut-off



Change-over valve



Change-over valve



NOTE!

For the diagrams the following applies:

Medium: Water (20°C).

Measurement: In accordance with VDI 2173

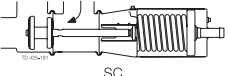
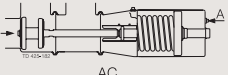
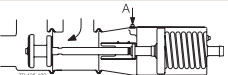
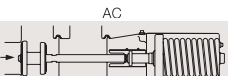
Pressure data for Unique Single Seat Valve DN125 and DN150

Actuator type / function

10. Pneumatic downward movement, spring return (NO-lower seat)

20. Pneumatic upward movement, spring return (NC-lower seat)

Table 1: Stop and change-over valves - Max. pressure without leakage at the valve seat

Actuator / Valve body combination and direction of pressure	Air pressure (bar)	Actuator type/function	Valve Size	
			Type	DN 125-150
		10(NO)		5.2
	5	10(NO)	DIN	8.7
	6	10(NO)	DIN	4.4
	5	20(NC)		8.1*
	6	20(NC)		3.7
		70(NC)	DIN	5.2

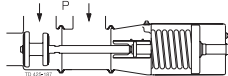
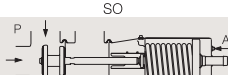
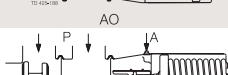
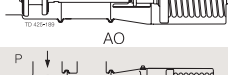
AC = Air closes

SC = Spring closes

* = Values are valid for 8 bar air pressure

— = Actual product pressure

Table 2: Stop and change-over valves. The table shows the approx. static pressure (P) in bar against which the valve can open.

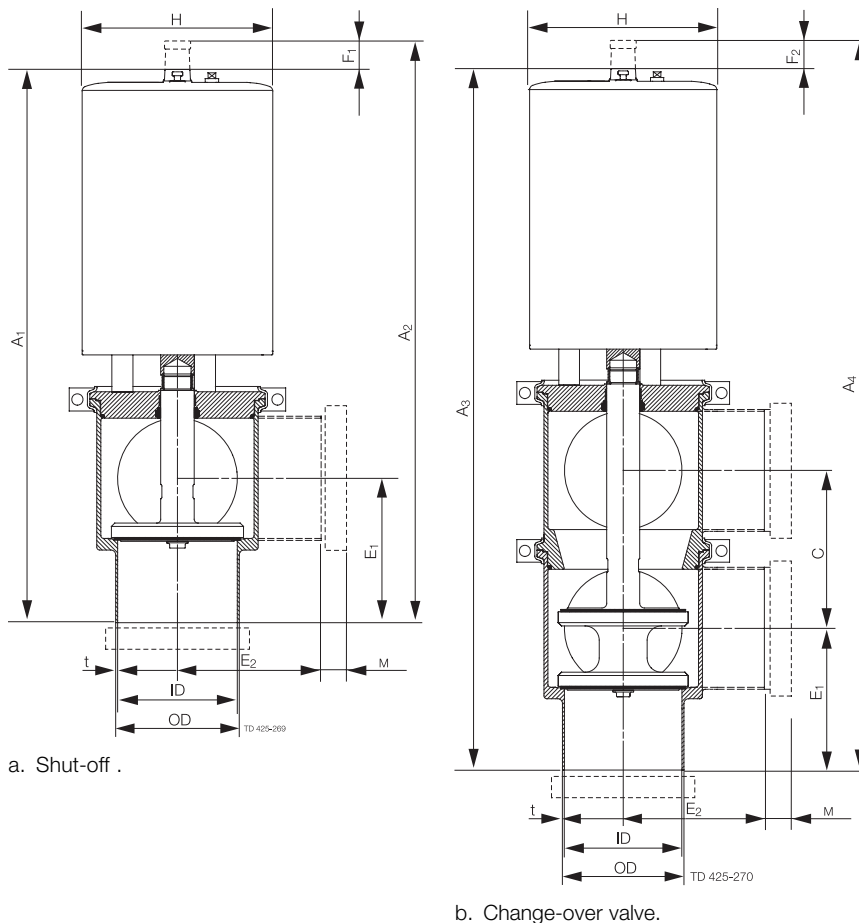
Actuator / Valve body combination and direction of pressure	Air pressure (bar)	Actuator type/function	Type	DN 125-150
		60(NO)	DIN	8.8
	6	10(NO)		8.1
	6	60(NO)		min. 10**
	6	70(NC)	DIN	7.8
		20(NC)		8.9

AO = Air opens

SO = Spring opens

Dimensions (mm)

Nominal size	DIN DN			
	125		150	
	NC	NO	NC	NO
A ₁	571	573	584	586
A ₂	614	618	627	631
A ₃	740	737	777	775
A ₄	781	778	818	816
C	167	167	192	192
OD	129	129	154	154
ID	125	125	150	150
t	2.0	2.0	2.0	2.0
E ₁	150	150	150	150
E ₂	150	150	150	150
F ₁	43	45	43	45
F ₂	41	41	41	41
H	199	199	199	199
M/DIN male	46	46	50	50
Weight (kg) - Shut-off valve	40.3	40.3	40.9	40.9
Weight (kg) - Change-over valve	50	50	51.3	51.3



Caution, opening/closing time:

Opening/closing time will be affected 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.

Fig 2. Dimensions.

Technical data

Max. product pressure:1000 kPa (10 bar).
 Min. product pressure:Full vacuum.
 Temperature range, standard lip seal:-10°C to +100°C (EPDM)
 Temperature range, special lip seal:-10°C to +140°C (EPDM)

Air pressure, actuator

- Sizes DN125-150600 to 800 kPa (6 to 8 bar)

Air consumption (litres free air) for one stroke		
Size	DN 125-150	DN 125-150
Shut-off / Change-over valve	1.5 x Air pressure (bar)	2.2 x Air pressure (bar)
Actuator function	NC	NO
Shut-off / Change-over valve	3.6 x Air pressure (bar)	2.9 x Air pressure (bar)
Actuator function	NC (Support air for closing)	NO (Support air for opening)

Materials

Product wetted steel parts:Acid-resistant steel 1.4401 (316L).
 Finish:Semi bright.
 Other steel parts:Stainless steel 1.4301 (304).
 Plug stem

- Sizes DN125-1501.4401 (316L)

Product wetted sealsEPDM (standard)

Other sealsNitrile (NBR)

Alternative product wetted sealsNitrile (NBR) and Fluorinated rubber (FPM), PTFE/FEP

Options

- A. Male parts in accordance with required standard.
- B. Control and Indication (see chapter in Product Catalogue).
- C. Surface roughness, product wetted parts: Ra 0.8 µm.
- D. Product wetted seals of Nitrile (NBR), Fluorinated rubber (FPM) or PTFE.
- E. Service tools for actuator.

Ordering

Please state the following when ordering:

- Size.
- Connections if not welding ends.
- Valve body combination.
- Actuator function, NC, NO.
- Options.

ESE00250EN 0801

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

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.