# Simply Unique

## Unique Single Seat Valve - Aseptic

Unique Single Seat - Aseptic Change-over and Shut-off valve

## 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 - Aseptic is a seat valve with a one-piece diaphragm to ensure hermetic sealing towards the atmosphere.
The valve is designed for aseptic processing and it is available in Shut-off and Change-over versions.

## 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.
The valve is based on the modular platform of the Unique Single Seat Valve. Sterile stem sealing towards the atmosphere is ensured by a special designed PTFE/elastomer diaphragm.

## Standard Design

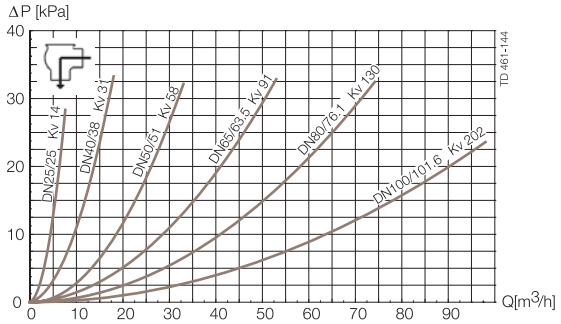
The Unique Single Seat Valve - Aseptic consists of one or two bodies, which are clamped together. To ensure a high degree of flexibility the valve seat between the two bodies in the Change-over version is loose. An integrated valve plug/diaphragm secures aseptic operation. To reduce the wear of sealings 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 - Aseptic range covers the sizes from DN25 to DN100 and DN/OD 25 mm to 101.6 mm.

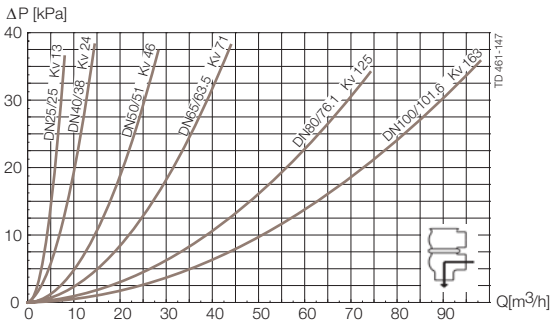
## Other valves in the same basic design

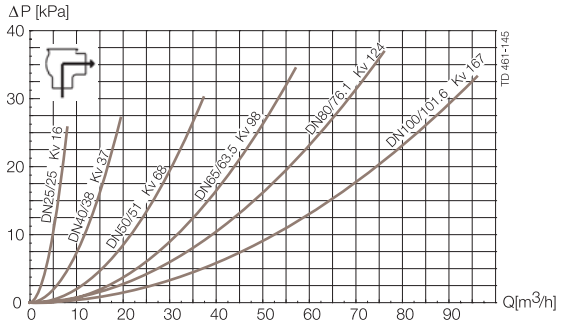
Sanitary Unique Single Seat Valve
- Shut-off valve
- Change-over valve
- Reverse acting valve
- Long stroke version
- Manual operated valve

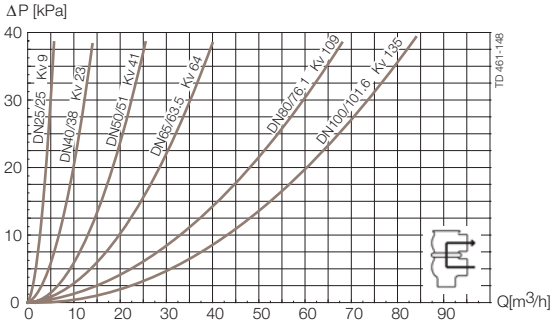
Unique Single Seat Valve - Aseptic is designed, tested and approved according to EHEDG guidelines.

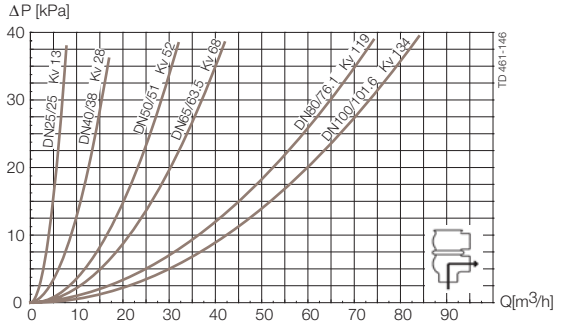
## Pressure drop/capacity diagrams

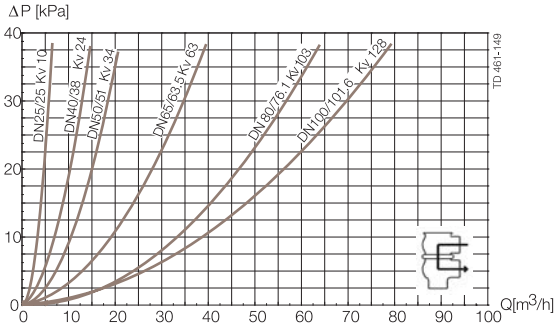



**Note!**

For the diagrams the following applies:

Medium: Water (20° C)

Measurement: In accordance with VDI2173

Kv = $m^3/h$ at a pressure drop of 1 bar.

For other pressure drops than 1 bar the flow can be calculated with the following formula:

$Q = Kv \times \sqrt{\Delta p}$

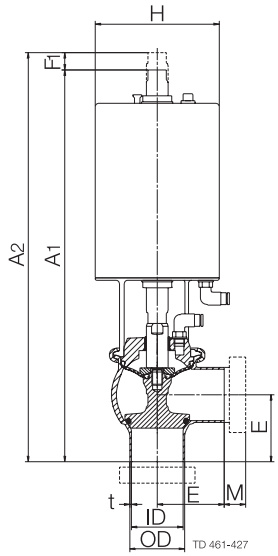
Where
Q = Flow in $m^3/h$.
Kv = See above.
$\Delta$ p = Pressure drop in bar over the valve.

## Pressure data for Unique Single Seat Valve - Aseptic

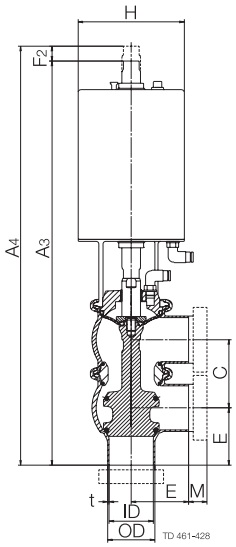
For further information, please contact AlfaLaval.

Dimensions (mm)

| Nominal size | DN/OD | | | | | | DIN 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 |
| $E_1$ | 50 | 49.5 | 62 | 82 | 87 | 120 | 50 | 49.5 | 62 | 78 | 87 | 120 |
| $E_2$ | 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 |
| 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 | 5,6 | 6,6 | 11,5 | 14 | 3,2 | 3,4 | 5,6 | 6,8 | 11,9 | 13,9 |
| Change-over valve | 3,9 | 4,2 | 7,2 | 8,7 | 14,2 | 18,4 | 4,1 | 4,5 | 7,1 | 9 | 15,1 | 18,3 |



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:**

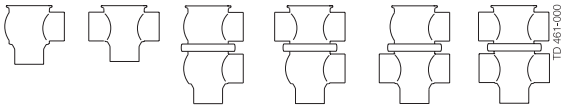
R 1/8" (BSP), internal thread.

## Technical data

Pressure range: . . . . . .0-800 kPa (0-8 bar).
Temperature range: . . . . . .-10°C to +140°C (EPDM).
Max. sterilization temperature (steam - short time): . . . . . .150°C/380 kPa (3.8 bar).
Air pressure: . . . . . .500-800 kPa (5-8 bar).

**Note!** Vacuum is not recommended in aseptic applications.

## Valve body combinations




200 300 210 220 310 320

## Actuator function

- Pneumatic downward movement, spring return (NO).
- Pneumatic upward movement, spring return (NC).
- Pneumatic upward and downward movement (A/A).

| Air consumption (litres free air) for one stroke | | | |
|---|---|---|---|
| **Size** | **DN25-40**<br>**DN/OD 25-38 mm** | **DN50-65**<br>**DN/OD 51-63.5 mm** | **DN80-100**<br>**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)
Other steel parts: . . . . . .1.4301 (304)
Internal surface finish: . . . . . .Ra 0.8 µ m
External surface finish: . . . . . .Blasted
Product wetted seals: . . . . . .EPDM (standard)
Diaphragm . . . . . .PTFE(Product wetted side)/EPDM
Optional product wetted seals: . . . . . .HNBR and FPM
Other seals: . . . . . .NBR

## 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. High pressure actuator.
E. Maintainable actuator.
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 ESE00304.

ESE00176EN 0606



**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.