



# Small Single Seat Valve

## Unique 7000 Small Single Seat Valve

### Application

The Small Single Seat Valve with its sanitary and flexible design is applicable for a wide range of tasks either as a stop valve with two or three ports or as a change-over valve with three to five ports. The valve is suitable for use in food, beverage, dairy and pharmaceutical industries.

### Working principle

The valve can be manually or pneumatically actuated. The SSSV maintains a simple design with only a few moving parts, making it a reliable component in any flow system.

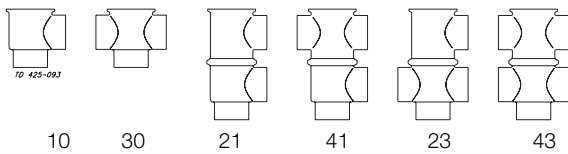
### Standard Design

The SSSV is available in 1/2" and 3/4" OD tube. The design is comprised of an actuator, lip seal, plug, and one or two valve bodies. The unique plug design is made from PVDF and the valve body interior has a 20 µinch Ra surface finish for high cleanability. The valve maintains an open yoke design and is authorized to carry the 3A Symbol. Valve bodies and actuators are connected via a clamp connection. The piston and valve plug maintain a threaded connection. Tri-Clamp or weld connections are standard.

### Actuator function

- Pneumatic downward movement, spring return (NO).
- Pneumatic upward movement, spring return (NC).
- Manually operated.

### Valve body combinations

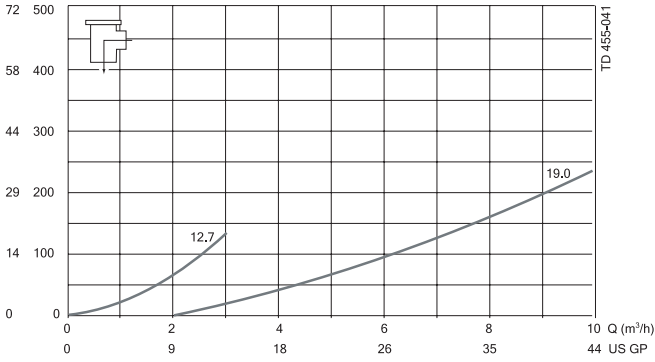


Pneumatic and manual Small Single Seat Valve.

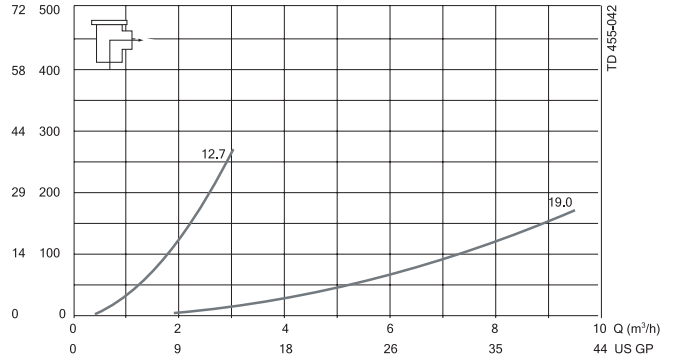
# Pressure drop/capacity diagrams

## Stop valve

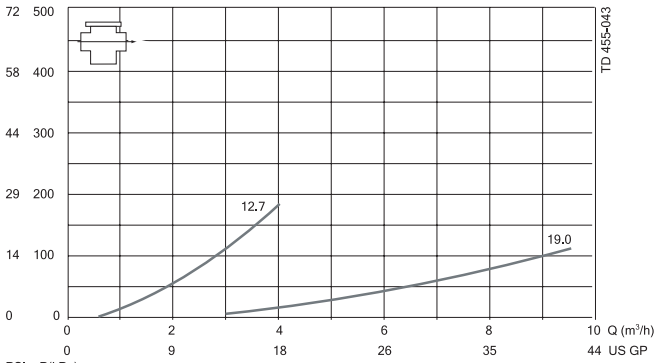
PSI  $\Delta P$ (kPa)



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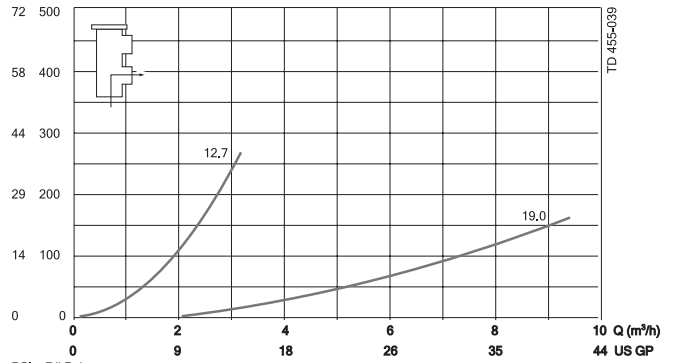


PSI  $\Delta P$ (kPa)

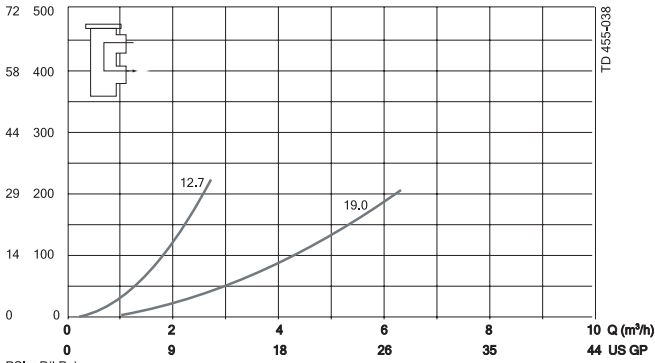


## Change-over valve

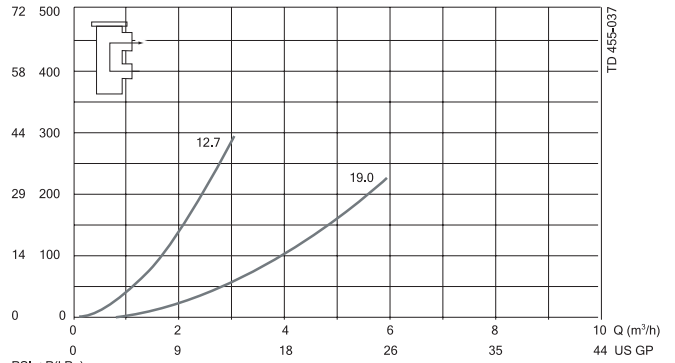
PSI  $\Delta P$ (kPa)



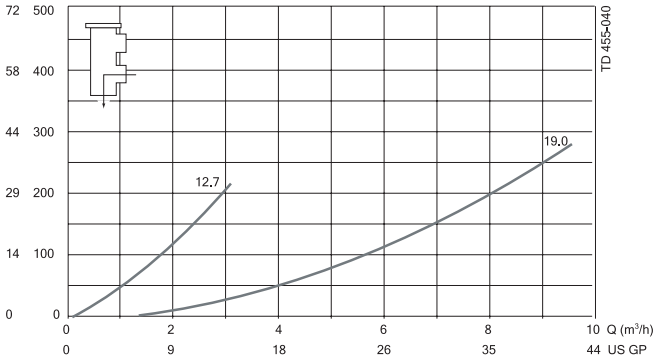
PSI  $\Delta P$ (kPa)



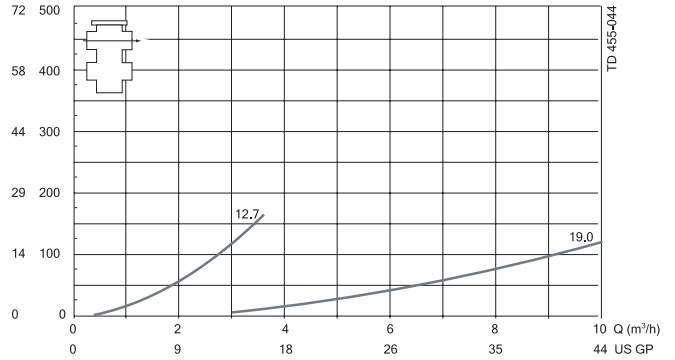
PSI  $\Delta P$ (kPa)



PSI  $\Delta P$ (kPa)



PSI  $\Delta P$ (kPa)



### NOTE!

For the diagrams the following applies:

Medium: Water (68 °F).

Measurement: In accordance with VDI 2173

## Pressure data for Small Single Seat Valve

### 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 divert valve. The table shows the approx. static pressure (p) in psi without leakage at the valve seat.

| Actuator / Valve body combination and direction of pressure | Air pressure (psi) | Actuator type/function | Valve size |         |
|---|--------------------|------------------------|------------|---------|
|   |                    |                        | OD 1/2"    | OD 3/4" |
| <p>SC<br/>Spring Closes</p>                                 |                    | 10(NO)                 | Min.145    | Min.145 |
| <p>AC<br/>Air Closes</p>                                    | 29                 | 10(NO)                 | 29         | -       |
|   | 43.5               | 10(NO)                 | Min.145    | 43.5    |
|   | 58                 | 10(NO)                 |            | Min.145 |
| <p>AC<br/>Air Closes</p>                                    | 29                 | 20(NC)                 | 130.5      | -       |
|   | 43.5               | 20(NC)                 | Min.145    | Min.145 |
| <p>AC<br/>Spring Closes</p>                                 |                    | 20(NC)                 | Min.145    | Min.145 |

-> = Actual product pressure.

Table 2: Stop and divert valves.

The table shows the approx. static pressure (p) in psi against which the valve can open.

| Actuator / Valve body combination and direction of pressure | Air pressure (psi) | Actuator type/function | Valve size |            |
|---|--------------------|------------------------|------------|------------|
|   |                    |                        | DN/OD 1/2" | DN/OD 3/4" |
| <p>SO<br/>Spring Opens</p>                                  |                    | 10(NO)                 | Min.145    | Min.145    |
| <p>AO<br/>Air Opens</p>                                     | 29                 | 10(NO)                 | 130.5      | -          |
|   | 43.5               | 10(NO)                 | Min.145    | 87         |
|   | 58                 | 10(NO)                 |            | Min.145    |
| <p>AO<br/>Air Opens</p>                                     | 29                 | 20(NC)                 | Min.145    | Min.145    |
| <p>SO<br/>Spring Opens</p>                                  |                    | 20(NC)                 | Min.145    | Min.145    |

A = Air

Dimensions (inch)

| Nominal Size                   | Remote-controlled |          |
|--------------------------------|-------------------|----------|
|                                | OD<br>½"          | OD<br>¾" |
| A <sup>1</sup>                 | 6.78              | 6.74     |
| A <sup>2</sup>                 | 7.06              | 7.17     |
| A <sup>3</sup>                 | 7.88              | 8.24     |
| A <sup>4</sup>                 | 8.16              | 8.67     |
| C                              | 1.27              | 1.50     |
| OD                             | 0.50              | 0.75     |
| ID                             | 0.37              | 0.62     |
| t                              | 0.06              | 0.06     |
| E <sup>1</sup>                 | 1.17              | 1.18     |
| E <sup>2</sup>                 | 1.77              | 1.77     |
| F <sup>1</sup>                 | 0.28              | 0.43     |
| F <sup>2</sup>                 | 0.28              | 0.43     |
| H                              | 2.24              | 2.24     |
| Weight (lbs) Stop valve        | 2.36              | 2.43     |
| Weight (lbs) Change-over valve | 3.00              | 3.11     |

(900-233)

\*Dimensions valid for both welding ends and clamp ends.

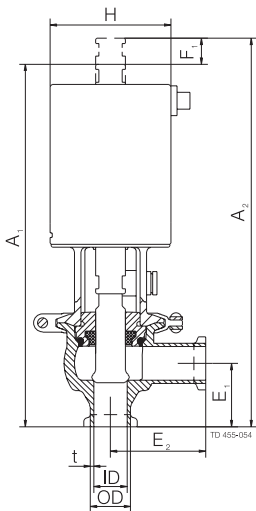
**Caution, opening/closing time:**

Opening/closing time will be effected by the following:

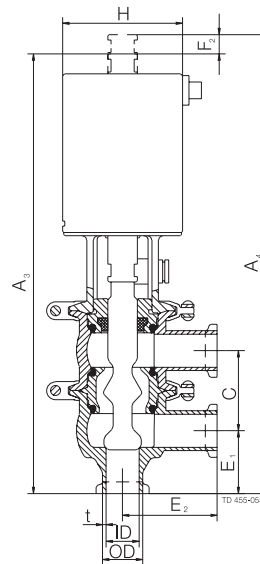
- The air supply (air pressure).
- The length and dimensions of the air hoses.
- Number of valves connected to the same air hose.
- Use of single solenoid valve for serial connected air actuator functions.
- Product pressure.

**Air Connections Compressed air:**

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



a. Stop valve



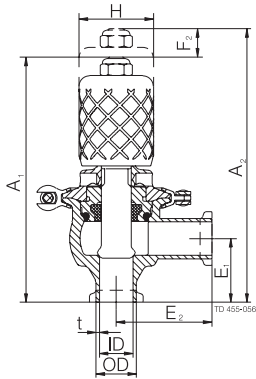
b. Divert valve

Dimensions (inch)

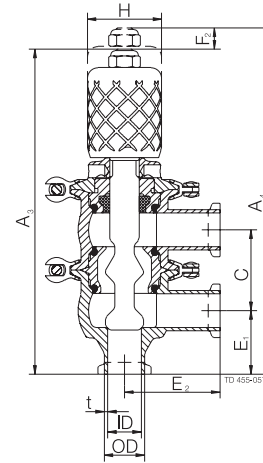
| Nominal size                   | Manually operated |      |
|--------------------------------|-------------------|------|
|                                | OD                | OD   |
|                                | ½"                | ¾"   |
| A <sup>1</sup>                 | 4.32              | 4.44 |
| A <sup>2</sup>                 | 4.59              | 4.87 |
| A <sup>3</sup>                 | 5.58              | 5.93 |
| A <sup>4</sup>                 | 5.85              | 6.37 |
| C                              | 1.27              | 1.50 |
| OD                             | 0.50              | 0.75 |
| ID                             | 0.37              | 0.62 |
| t                              | 0.06              | 0.06 |
| E <sup>1</sup>                 | 1.17              | 1.18 |
| E <sup>2</sup>                 | 1.77              | 1.77 |
| F <sup>1</sup>                 | 0.28              | 0.43 |
| F <sup>2</sup>                 | 0.28              | 0.43 |
| H                              | 1.38              | 1.38 |
| Weight (lbs) Stop valve        | 1.10              | 1.17 |
| Weight (lbs) Change-over valve | 1.76              | 1.87 |

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\* Dimensions valid for both welding ends and clamp ends.



a. Manual stop valve



b. Manual divert valve

## Technical data

Max. product pressure: . . . . .145 psi (1000 kPa).  
Min. product pressure: . . . . .Full vacuum.  
Temperature range: . . . . .14°F to + 284°F (EPDM).  
Air pressure: . . . . .14.5 to 101.5 psi (100 to 700 kPa).

| Air consumption (litres free air) for one stroke |                            |
|--|----------------------------|
| Size   | 1/2" and 3/4"              |
| Stop valve/Divert valve                          | 0.004 x Air pressure (psi) |
| Actuator function                                | NO and NC                  |

Product wetted steel parts: . . . . .Acid-resistant steel AISI 316L (1.4404) .  
Finish outside: . . . . .Semi bright.  
Finish inside: . . . . .≤ 20 µinch Ra.  
Other steel parts: . . . . .Stainless steel AISI 304L (1.4307).  
Plug: . . . . .PVDF  
Product wetted seals: . . . . .EPDM rubber.  
Actuator seals: . . . . .Nitrile (NBR)  
Alternative product wetted seals: . . . . .HNBR, FPM.

## Options

- A. Material certification (3.1.B).
- B. Adapter for ThinkTop®.
- C. Automation: See chapter in Product Catalogue.
- D. Product wetted seals of HNBR or fluorinated rubber (FPM).
- E. Surface finish external ≤ 32 µinch Ra.

## Ordering

Please state the following when ordering:

- Size.
- Body with welding ends or clamp ends.
- Actuator function, NC or manual.
- Options.




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

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