Simply Unique

Unique 7000 - Manually Operated/Manually Regulating Valves

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
The sanitary and flexible design of the manual operated Unique Single Seat Valve can be used in a wide range of applications , eg. as a shut-off valve with two or three ports or as a change-over valve with 3-5 ports.
The manual regulated Unique Single Seat Valve is a regulating valve used for manual control of pressure and flow.

Working principle
The valves permit gradual opening and the few and simple moving parts result in very reliable valves easy to dismantle. The plug can be fixed in the adjusted position with a lock screw. The valve is based on the modular platform of the Unique Single Seat Valve.

Standard Design
The manual operated valve can easily be converted to a pneumatic operated valve by replacing the crank mechanism with an Unique SSV actuator. The other parts are identical.

Sanitary Unique Single Seat Valve, pneumatic:
- Shut-off valve
- Change-over valve
- Reverse acting valve
- Aseptic valve
- Long stroke version

Manually Operated and Manually Regulating Valves

Tri-Clover®

Authorized to carry the 3A symbol

Manually Operated Valve

Pressure drop/capacity diagrams:

The same as Unique Single Seat Valve.

Valve body combinations

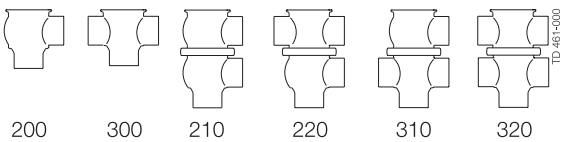
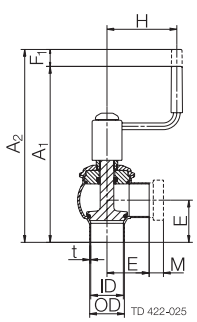


Fig. 1. Valve body combinations

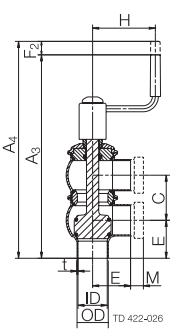
Dimensions

Dimensions (inch) - Unique Manually Operated Valves

Size	1 inch	1,5 inch	2 inch	2,5 inch	3 inch	4 inch
A1	9.65	9.65	10.2	11.22	11.46	13.27
A2	10.24	10.43	11.18	12.2	12.64	14.45
A3	11.46	12.09	13.07	14.61	15.35	18.11
A4	11.93	12.76	13.94	15.47	16.42	19.17
C	1.88	2.39	2.91	3.4	3.89	4.87
OD	0.98	1.5	2.01	2.5	3	4
ID	0.86	1.37	1.88	2.37	2.87	3.84
t	0.06	0.06	0.06	0.06	0.06	0.08
E1	1.97	1.95	2.44	3.23	3.43	4.72
E2	1.97	1.95	2.44	3.23	3.43	4.72
F1	0.59	0.79	0.98	0.98	1.18	1.18
F2	0.47	0.67	0.87	0.87	1.06	1.06
H	4.13	4.13	4.13	4.13	4.13	4.13
M/ clamp	0.5	0.5	0.5	0.5	0.5	0.63
Weight (kg)						
Shut off valve:	1.8	2	2.6	3.6	4.6	7
Change-over valve	2.6	3	4.2	5.6	7.3	11.4



a. Shut off valve.



b. Change-over valve.

Fig. 2. Dimensions.

Kv-Factors

Valve size	Kv
1.5"	14*/44
2.0"	75
2.5"	113
3.0"	171
4.0"	250

* optional

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:

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

Where
Q = Flow in m^3/h.
Cv = See above.
Δ p = Pressure drop in bar over the valve.

Example:

Plug Kv 75

Q to be calculated at Δp = 2 bar:
$Q = 75 \times \sqrt{2} = 106$ m^3/h
or at 50% stroke:
$Q = 0.5 \times 75 \times \sqrt{2} = 53$ m^3/h

Pressure drop/capacity diagram:

The plugs have linear characteristics. This means that a certain amount of throttling, by reducing the stroke, results in a proportional reduction of the flow if the pressure drop remains unchanged.

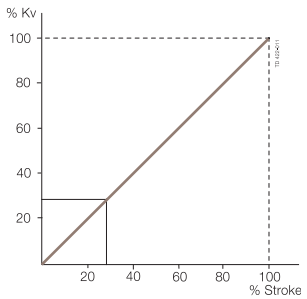


Fig. 3. The flow in % of the total flow at a pressure drop of 1 bar.

Dimensions (inch) - Unique Manually Regulating Valve

Size	1.5" mm	2" mm	2.5" mm	3" mm	4" mm
A1	6.93	7.48	8.50	8.74	10.60
A2	7.72	8.46	9.49	9.92	11.70
OD	1.50	2.01	2.50	3.00	4.00
ID	1.37	1.88	2.37	2.87	3.84
t	0.06	0.06	0.06	0.06	0.08
E1	19.50	2.44	3.23	3.43	4.72
E2	19.50	2.44	3.23	3.43	4.72
F1	0.79	0.98	0.98	1.18	1.18
H	3.15	3.15	3.15	3.15	3.15
M/ISO clamp	0.83	0.83	0.83	0.83	0.83
M/DIN clamp					
M/DIN male					
M/SMS male	0.79	0.79	0.95	0.95	1.38
Weight (kg)					
Shut off valve:	2.1	2.9	4.0	5.4	8.2

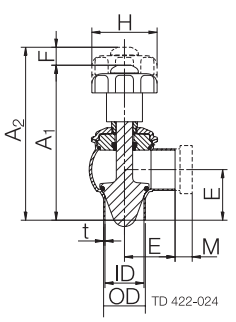


Fig. 4. Dimensions

Materials

Product wetted steel parts: . . . . . AISI 316L (internal Ra < 0.8 µm)
Other steel parts . . . . . AISI 304
Plug seal: . . . . . EPDM
Optional plug seal: . . . . . PTFE (TR2)
Other product wetted seals . . . . . EPDM (standard)
Optional product wetted seals: . . . . . HNBR and FPM

Technical data

Max product pressure: . . . . . 145 psi (1000 kPa (10 bar)).
Min. product pressure: . . . . . Full vacuum.

Temperature range: . . . . . +14°C to +284°C (+57.2°F to +543°F) (EPDM).

Options

A. Weld ends or connection types other than Tri-Clamp.
B. Product wetted seals in HNBR or FPM.
C. Replacable elastomer plug seals (only for Manual Operated Valve).
D. External surface finish blasted.

Ordering

Please state the following when ordering:

- Connections.
- Size.
- Valve body combination.
- Options.

Note

For further details, see instruction ESE00504ENUS.

ESE00276ENUS 0705

Authorized to carry the 3A symbol