OUNV6 & OUNV10 Series

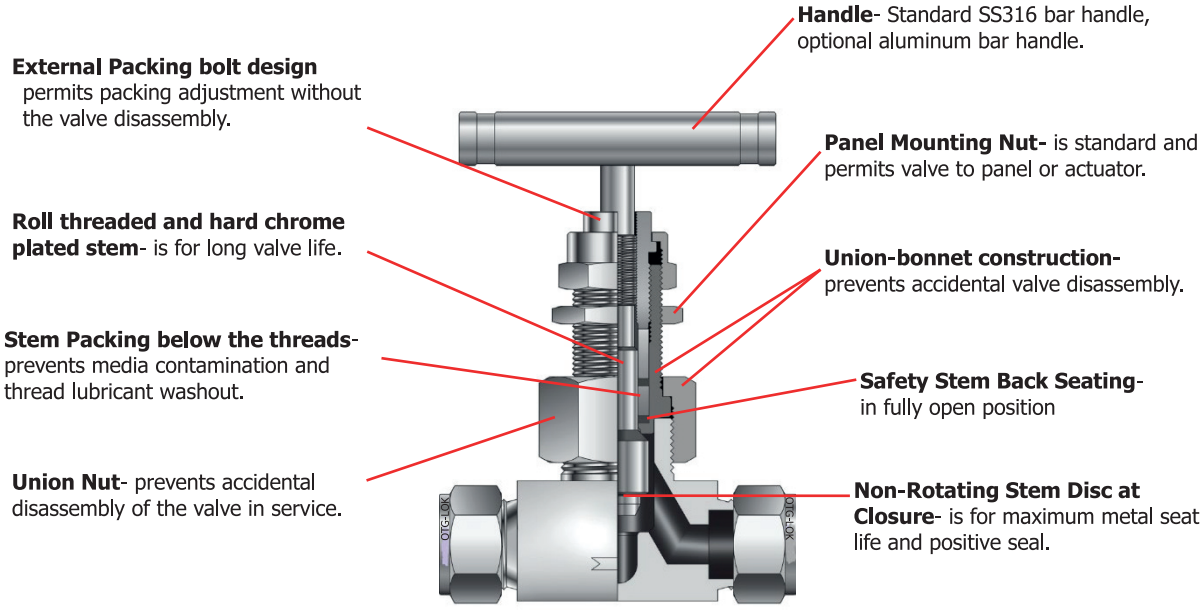
Severe-Service Union Bonnet Needle Valves

Catalog No : OUNV10 -01
Feb. 2023

Working pressure up to 6000 psig (689 bar) @ 100°F (38 °C): OUNV6 Series
Working pressure up to 10,000 psig (689 bar) @ 100°F (38 °C): OUNV10 Series

Features

- Temperatures from –65 to 450°F (–53 to 232°C) with PTFE packing; up to 1200°F (648°C) with optional Grafoil® packing
- 316 stainless steel; Alloy C276 Materials.
- 100% factory tested.

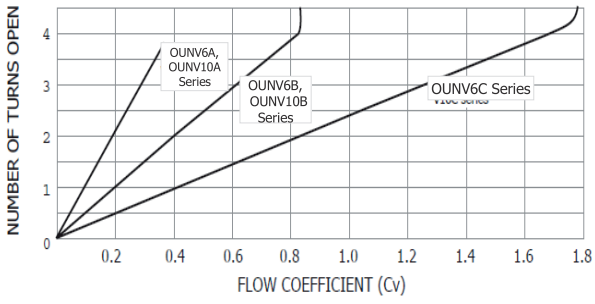


Pressure-Temperature Ratings

• Ratings are based on graphite packing.
• Max. 450 °F (232 °C) for valve with standard PTFE packing.

OUNV6 Series			OUNV10 Series
ASME Class	**2500**		**N/A**
Material Group	**2.2**	**3.8**	**N/A**
Material Name	**SS316**	**C276**	**S316**
Temperature, °F(°C)	**Working Pressure** psig (bar)		
-65 to 100 (-53 to 37)	6000 (413)	6000 (413)	10 000 (689)
200 (93)	5160 (355)	6000 (413)	9290(640)
300 (148)	4660 (321)	6000 (413)	8390(578)
400 (204)	4280 (294)	5880(405)	7705(530)
500 (260)	3980 (274)	5540(381)	7165(493)
600 (315)	3760 (259)	5040(347)	6770(466)
700 (371)	3620 (249)	4730(326)	6480(446)
800 (426)	3460 (238)	4230 (291)	6230 (429)
900 (482)	3280 (225)	3745 (258)	5905 (406)
1000 (537)	3030 (208)	3030 (208)	5450 (375)
1100 (593)	2685 (184)	2685 (184)	4835 (333)
1200 (648)	1715 (118)	1545 (106)	3085 (212)

Number of Handle Turns - Cv



Globe and Ball Disc
Valve with standard globe and ball disc is designed for use in a fully open or fully closed position.
Refer to Cv in the ordering information and dimensions table on Page 3.

Cv reduction
Valve flow may be reduced by the restriction of pipe and tubing connected.

Packing and Body Materials vs Temperature and Pressure Rating

Packing Material	Body Materials	Temperature	Pressure Rating @ Max. Temp.
PTFE (Standard)	316 Stainless Steel	-65 °F ~ 450 °F (-54 °C ~ 232 °C)	4130psig (284bar)
	Alloy C276		5710psig (393bar)
PEEK	316 Stainless Steel	-65 °F ~ 600 °F (-54 °C ~ 315 °C)	3760psig (259bar)
	Alloy C276	-65 °F ~ 500 °F (-54 °C ~ 262 °C)	5540psig (381bar)
Graphite	316 Stainless Steel	-65 °F ~ 1200 °F (-54 °C ~ 648 °C)	1715psig (118bar)
	Alloy C276	-65 °F ~ 1200 °F (-54 °C ~ 648 °C)	1545psig (106bar)

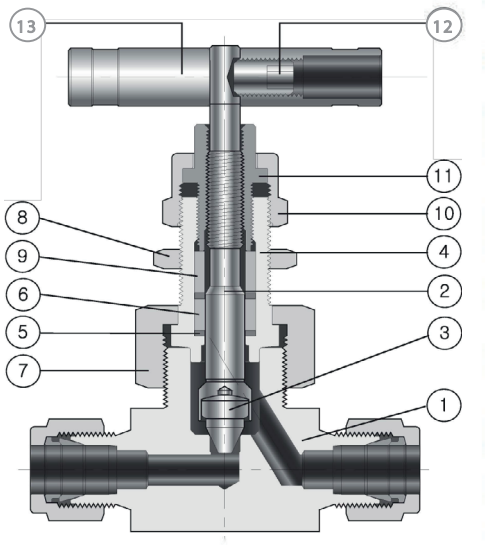
Sour Gas Valves

Valves for use in sour gas are available. Valve wetted components are selected to the requirements of NACE MR0175 for sulfide stress cracking resistant materials. To order, insert **-SG** in the basic ordering number.

Grafoil packing information

Grafoil is a high temperature packing material that requires a load on the material to generate a seal.
In air, Grafoil maximum temperature is 973°F (523°C), in steam, Grafoil goes up to the maximum temperature of 1200°F (648° C). Grafoil packing is not for use with pneumatic actuating valves.

Materials of Construction



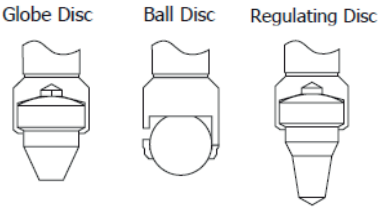
Components		Valve Body Materials	
		Stainless Steel	Alloy C276
		Material Grade/ ASTM Specification	
1	Body	SS316/A479, A276	Alloy C276/B574
2	Stem	SS316/A276 or A479 hard chrome-plated	
3	Stem tip	SS630/A564 (17-4PH)	
4	Bonnet	SS316/A276 or A479	
5	Packing Support	Glass-filled PTFE	
6	Packing	PTFE/D1710, optional Graphite	
7	Union Nut	SS316/A276 or A479	
8	Panel Nut		
9	Gland	SS316/A276	Alloy C276/B574
10	Cap Nut	SS316/A276 or A479	
11	Packing Bolt	SS316/A276	
12	Set Screw	Stainless Steel	
13	Bar Handle	SS316/A276, optional black-anodized aluminum handle	

Wetted components listed in orange color.
Lubrication:
- Wetted parts are lubricated with Nickel anti-seize lubricant.
- Ball disc: hydrocarbon-based.

Packing adjustment and actuation torque

Extreme temperature fluctuations while valve in service may require packing adjustment. Valves that have not been actuated for a period of time may have a higher initial actuation torque.

Non-Rotating Stem tip Design:



Testing

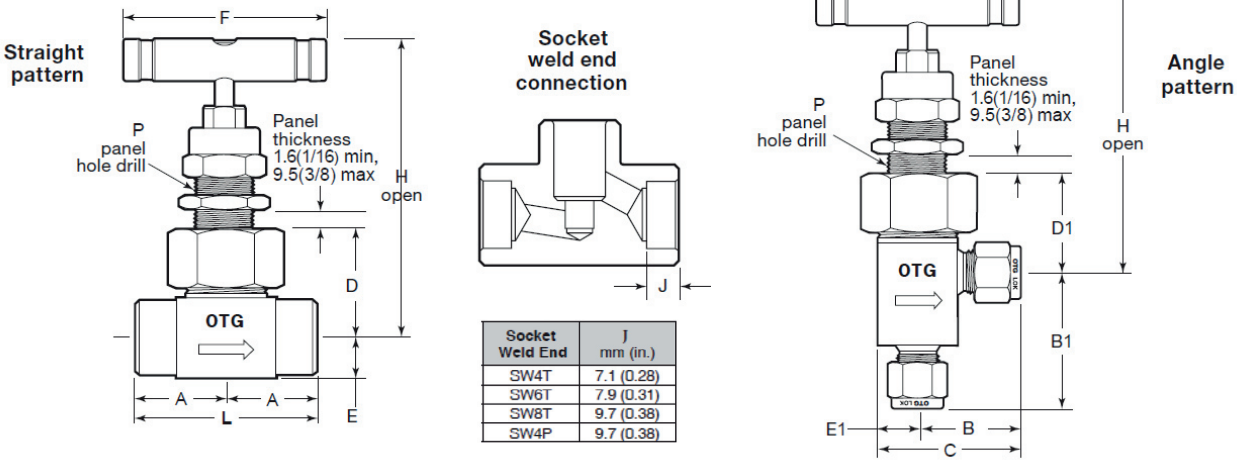
Every OUNV6 series and OHUNV10 series needle valve is factory tested with nitrogen at 1000 psig (69 bar). Seats have a maximum allowable leak rate of 0.1 std cm3/min. Shell testing is performed to a requirement of no detectable leakage with a liquid leak detector.

Cleaning

Every valve is cleaned and packaged in accordance with OTG cleaning standard OCS-01.

SAFETY in VALVE SELECTION

Proper installation, material compatibility, operation and maintenance of the valve is the responsibility of the user. The total system design must be taken into consideration to ensure optimal performance and safety.



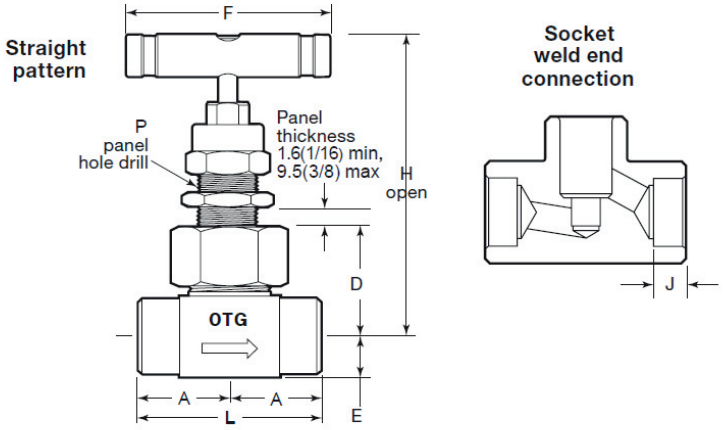
Socket Weld End	J mm (in.)
SW4T	7.1 (0.28)
SW6T	7.9 (0.31)
SW8T	9.7 (0.38)
SW4P	9.7 (0.38)

Ordering Information and Dimensions

OUNV6 Series

Basic Ordering Number		End Connection Inlet/Outlet	Orifice mm (in)	Cv	Dimensions, in. (mm) L	A	B	B1	C	D	D1	E	E1	F	P	H
OUNV6A-	O-4T	1/4" OTG-Lok	4.0 (0.156)	0.30	61.0(2.40)	30.5 (1.20)	29.5(1.16)	37.6 (1.48)	39.1 (1.54)	27.7 (1.09)	27.7 (1.09)	9.7 (0.38)	9.7 (0.38)	44.4 (1.75)	15.1 (19/32)	77.2 (3.04)
	O-6M	6mm OTG-Lok					—	—	—		—					
	O-8M	8mm OTG-Lok														
	F-2N	1/8" Female NPT			50.8(2.00)	25.4(1.00)	22.6(0.89)	25.4 (1.00)	32.3 (1.27)		32.5 (1.28)					
	F-4N	1/4" Female NPT			52.3(2.06)	26.2(1.03)										
	M-4N	1/4" Male NPT			50.8(2.00)	25.4(1.00)	25.4(1.00)		35.1 (1.38)		27.7 (1.09)					
	MF-4N	1/4" Male to Female NPT			51.6(2.03)	25.8(1.16)	22.6(0.89)		32.3 (1.27)		32.5 (1.28)					
	SW-4T	1/4" Tube Socket weld			46.2(1.82)	23.1(0.91)	22.4(0.88)	30.2 (1.19)	31.8 (1.25)		27.7 (1.09)					
OUNV6B-	O-6T	3/8" OTG-Lok	6.4 (0.250)	0.86	71.9(2.83)	35.8(1.41)	32.8(1.29)	42.2 (1.66)	45.5 (1.79)	34.0 (1.34)	31.0 (1.22)	12.7 (0.50)	12.7 (0.50)	63.5 (2.50)	19.8 (25/32)	94.0 (3.70)
	O-8T	1/2" OTG-Lok			77.2(3.04)	38.6(1.52)	35.6(1.40)	41.9 (1.65)	48.3 (1.90)		34.0 (1.34)					
	O-10M	10mm OTG-Lok			72.4(2.85)	36.1(1.42)	33.0(1.30)	39.4 (1.55)	45.7 (1.80)		34.3 (1.35)					
	O-12M	12mm OTG-Lok			77.2(3.04)	38.6(1.52)	35.6(1.40)	41.9 (1.65)	48.3 (1.90)		34.0 (1.34)					
	F-4N	1/4" Female NPT			57.2(2.25)	28.4(1.12)	25.4(1.00)	28.4 (1.12)	38.1 (1.50)		37.3 (1.47)					
	F-6N	3/8" Female NPT														
	SW-6T	3/8" Tube Socket weld						38.1 (1.50)			34.0 (1.34)					
	SW-8T	1/2" Tube Socket weld									35.6 (1.40)					
	SW-4P	1/4" Pipe Socket weld									37.3 (1.47)					
OUNV6C-	O-8T	1/2" OTG-Lok	11.1 (0.437)	2.10	99.6(3.92)	49.8(1.96)	42.7(1.68)	52.8 (2.08)	60.2 (2.37)	46.2 (1.82)	47.8 (1.88)	15.7 (0.62)	17.5 (0.69)	88.9 (3.50)	26.2 (1 1/32)	121 (4.78)
	O-12T	3/4" OTG-Lok		2.40	104.0(4.09)	51.8(2.04)	—	—	—	47.8 (1.88)	—	17.5 (0.69)	—			
	O-16T	1" OTG-Lok		1.90	99.6(3.92)	49.8(1.96)	42.7(1.68)	52.8(2.08)	60.2 (2.37)	46.2 (1.82)	47.8 (1.88)	15.7 (0.62)	17.5 (0.69)			
	O-12M	12mm OTG-Lok		2.40	79.2(3.12)	39.6(1.56)	33.3(1.31)	39.6 (1.56)	50.8 (2.00)	46.2 (1.82)	50.8 (2.00)					
	F-8N	1/2" Female NPT			82.6(3.25)	41.1(1.62)	—	—	—	48.5 (1.91)	—	19.8 (0.78)	—			124 (4.88)
	F-12N	3/4" Female NPT			91.9(3.62)	46.0(1.81)	—	—	—	54.1 (2.13)	—	25.4 (1.00)	—			129 (5.10)
	F-16N	1" Female NPT		1.90	79.2(3.12)	39.6(1.56)	33.3(1.31)	39.6 (1.56)	50.8 (2.00)	46.2 (1.82)	50.8 (2.00)	15.7 (0.62)	17.5 (0.69)			121 (4.78)
	MF-8N	1/2" Male to Female NPT			82.6(3.25)	41.1(1.62)	—	—	—	48.5 (1.91)	—	19.8 (0.78)	—			124 (4.88)
	MF-12N	3/4" Male to Female NPT			91.9(3.62)	46.0(1.81)	—	—	—	54.1 (2.13)	—	25.4 (1.00)	—			129 (5.10)
	MF-16N	1" Male to Female NPT		2.20	79.2(3.12)	39.6(1.56)	33.3(1.31)	42.9 (1.69)	50.8 (2.00)	46.2 (1.82)	47.8 (1.88)	15.7 (0.62)	17.5 (0.69)			121 (4.78)
	SW-8T	1/2" Tube Socket weld					—	—	—		—		—			
	SW-12T	3/4" Tube Socket weld		2.40			33.3(1.31	39.6 (1.56)	50.8 (2.00)	47.8 (1.88)	50.8 (2.00)	17.5 (0.69)	17.5 (0.69)			123 (4.85)
	SW-8P	1/2" Pipe Socket weld														

Dimensions are for reference only, subject to change.



OUNV10 Series

Basic Ordering Number		End Connection Inlet/Outlet	Orifice mm (in)	Cv	Dimensions, mm (in) L	A	D	E	F	P	H	J
OUNV10A-	O-4T	1/4" OTG-Lok	4.0 (0.156)	0.35	71.6 (2.82)	35.8 (1.41)	35.1 (1.38)	12.7 (0.50)	63.5 (2.50)	20.6 (0.81)	84.1 (3.31)	—
	F-2N	1/8" Female NPT			57.2 (2.25)	28.7 (1.13)						
	F-4N	1/4" Female NPT										
	M-4N	1/4" Male NPT										
	MF-4N	1/4" Male to Female NPT										
	SW-4T	1/4" Tube Socket Weld										7.1(0.28)
OUNV10B-	F-4N	1/4" Female NPT	6.4 (0.250)	0.86	79.5 (3.13)	39.6 (1.56)	16.0 (0.63)	16.0 (0.63)	88.9 (3.50)	26.9 (1.06)	105 (4.13)	—
	F-8N	1/2" Female NPT			82.6 (3.25)	41.4 (1.63)	19.8 (0.78)	19.8 (0.78)			108 (4.25)	
	M-8N	1/2" Male NPT			79.5 (3.13)	39.6 (1.56)	16.0 (0.63)	16.0 (0.63)			105 (4.13)	
	MF-8N	1/2" Male to Female NPT			82.6 (3.25)	41.4 (1.63)	19.8 (0.78)	19.8 (0.78)			108 (4.25)	

Ordering Information

To complete your ordering number, insert the designator of options into the basic ordering number.

OUNV6 — O — 4T — A — GF — R — AH — SG — SS

- **Valve Series**
- **Connection Type**
- **Connection Size**
- **Flow Pattern**
  - Nil: Straight Pattern
  - A: Angle Pattern
- **Packing Material**
  - Nil: Standard
  - PK: PEEK Packing
  - GF: Grafoil
- **Stem Type**
  - Nil: Standard Glove Stem
  - R: Regulating Stem
  - B: Ball
- **Handle**
  - Nil: SS316 Bar Handle
  - AH: Aluminum Bar Handle
- **Option**
  - Nil: Standard
  - SG: Sour Gas Service
- **Body Material**
  - SS: SS316
  - HC: Alloy C-276