

# CONRADER

## Micro Valves Model: 316-Series



**Max Operating Pressure: 250 psig standard, higher pressures available upon request**

**Service Type: Pressurized or Vacuum**

**Operating Temperature Range: -20° to 250°F**

**Available Orifice Diameters: 1/32", 1/16" 3/32"**

**Available Flow Capacities: See Chart Below**

**Connections: 1/4" Female NPT**

**Materials of Construction:**

**Body: Anodized Aluminum or Stainless Steel**

**Valve Internals: Stainless Steel**

**Seal: Nitrile, Viton (Other materials available upon request)**

**Spring: 302 Stainless Steel**

### Operator Specifications

Operator	Straight Handle	Plastic Ball Tip	Roller Lever	Over-Ride Spring	Extended Straight Handle
<b>316 Series</b> 3-Way, 2-Position <b>Orifice Diameters</b> 1/16" (Standard) 1/32" or 3/32" <b>Connection</b> 1/4" NPT					

## Pressure and Force Specifications

<b>Orifice Size</b>	<b>Operator</b>	<b>Max. Working Pressure</b>	<b>Operating Force</b>
1/16" (Standard)	Straight Handle, Manual Return	100	22 Ounces
1/16" (Special)	Straight Handle, Manual Return	150	25 Ounces
1/32" (Standard)	Straight Handle, Manual Return	250	22 Ounces
3/32" (Standard)	Straight Handle, Manual Return	60	22 Ounces
3/32" (Special)	Straight Handle, Manual Return	100	25 Ounces

\*Valve can be supplied with different orifice sizes for specific pressure and flow requirements.

# Flow Capacity

## Gas Operating Range

316 Series Micro Valve			
Pressure (psig)	Flow Capacity (SCFH*)		
	1/16" Orifice	1/32" Orifice	3/32" Orifice
1	23.6	6.3	59.4
2	33.1	8.9	79.6
3	40.6	11	98.1
4	46.7	12.6	112.1
5	52	14	125
6	57.1	15.4	137.3
7	61.3	16.5	147.4
8	65.2	17.6	156.6
9	69.1	18.7	165.9
10	75	20	183
20	110	29	250
30	143	37	330
40	170	45	390
50	197	53	475
60	235	61	530
70	270	69	
80	305	77	
90	337.2	85	
100	369.4	93	
110		101	
120		110	
130		119	
140		128	
150		136	
160		144	
170		153	
180		161	
190		170	
200		178	
210		186	
220		194	
230		202	
240		210	
250		218	

## Liquid Operating Range

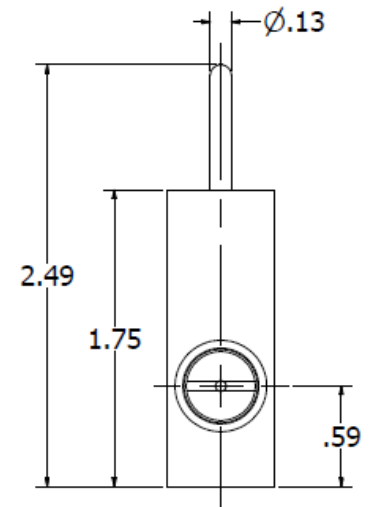
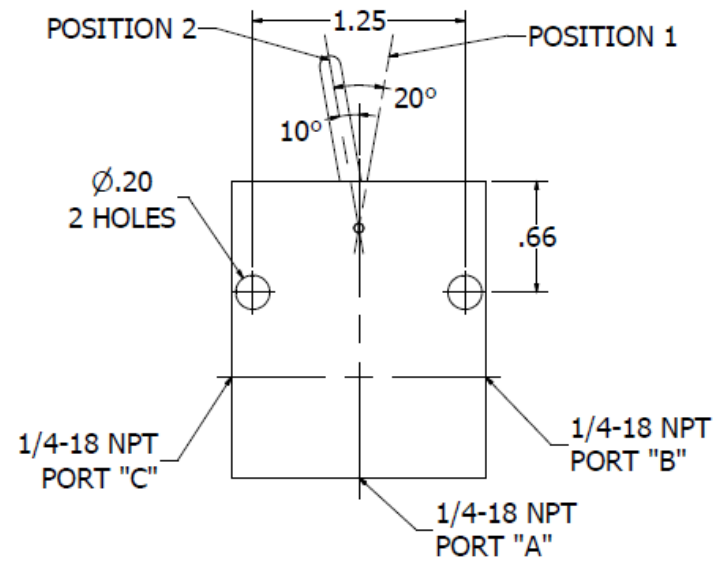
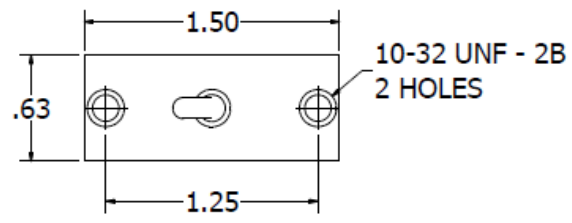
316 Series Micro Valve			
Pressure (psig)	Flow Capacity (gpm)		
	1/16" Orifice	1/32" Orifice	3/32" Orifice
1	0.09	0.02	0.2
2	0.12	0.03	0.28
3	0.15	0.04	0.35
4	0.18	0.05	0.4
5	0.2	0.05	0.45
6	0.22	0.06	0.49
7	0.23	0.06	0.53
8	0.25	0.07	0.57
9	0.26	0.07	0.6
10	0.28	0.08	0.63
20	0.39	0.11	0.89
30	0.48	0.13	1.1
40	0.56	0.15	1.26
50	0.62	0.17	1.41
60	0.68	0.19	1.55
70	0.74	0.2	
80	0.79	0.21	
90	0.83	0.23	
100	0.88	0.24	
110		0.25	
120		0.26	
130		0.27	
140		0.28	
150		0.29	
160		0.3	
170		0.31	
180		0.32	
190		0.33	
200		0.34	
210		0.35	
220		0.36	
230		0.36	
240		0.37	
250		0.38	



# CONRADER

## Ordering Information

Valve Size		Valve Type		Construction Material		Orifice Diameter		Seal Material		Options	
Option	Code	Option	Code	Option	Code	Option	Code	Option	Code	Option	Code
3/16"	316	Standard	S	Aluminium	(Blank)	1/32"	031	Nitrile (Buna-N)	N	Long Extension Spring	ES1
		Vacuum (Viton®)	V	Stainless Steel	SS	1/16"	063	Viton®	V	Short Extension Spring	ES2
				Brass	B	3/32"	094			Spring Return Lever	SR
										Roller Lever	RL
										Ball Lever	BL
										Short Lever	SL
										Long Lever	LL



**NOTES:**

- \* TEST PRESSURE: 100 psig
- \* MAX OPERATING TEMPERATURE: 250°F
- \* ORIFICE DIAMETER:  $\phi$ .062.
- \* TOGGLE POSITION 1: PORT "A" OPEN TO PORT "C". PORT "B" CLOSED.
- \* TOGGLE POSITION 2: PORT "A" OPEN TO PORT "B". PORT "C" CLOSED.
- \* VALVE WEIGHT: 0.14 lbmass

**CONRADER VALVES**  
 R. CONRADER COMPANY  
 749 EAST 18TH STREET P.O. BOX 924  
 ERIE, PA 16512-0924 (814) 898-2727

THIS DOCUMENT CONTAINS INFORMATION CONFIDENTIAL TO CONRADER. LOANED SUBJECT TO THE CONDITIONS THAT IT NOT BE USED OR CAUSED TO BE USED IN ANY WAY HARMFUL TO CONRADER AND BE RETURNED ON DEMAND.

**DESCRIPTION**  
**DIMENSIONAL OUTLINE**

VALVE MODEL  
**MV316S-063-N (316F1B)**

MATERIAL

ISSUED BY  
**NRP**

REVISED BY  
**NRP**

SCALE  
**1:1**

ISSUED  
**10/16/2018**

REVISED  
**10/16/2018**

DRAWING NO.  
**2266**

GROUP  
**MV**

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REVISION  
**A**