

Data Sheet

81 Bolt-thru Isolation Ring

FEATURES

- 360° Instrument rotation with SQR™ option
- Selection of 1" through 10" nominal pipe size
- Non-clogging/low maintenance
- Complete instrument protection
- Ensure reliable/accurate pressure readings
- Optional retrofit end plates to replace competitive units
- NSF-61 Compliant (316L Stainless steel / EPDM Only)

TYPICAL USES

- Water and wastewater
- Mining

SPECIFICATIONS

Sizes:	1" to 10"
Instrument Connection Size:	¼ NPT Female, ½ NPT Female
Pressure Rating (MAWP):	Per customer flanges: ASME B16.5 150 or 300 Class Pressures
Fill:	Glycerin: 0 °F to 400 °F (-18 °C to 204 °C) Silicone (10Cst): -40 °F to 500 °F (-40 °C to 260 °C) Silicone (50Cst): -40 °F to 600 °F (-40 °C to 316 °C) Halocarbon®: -70 °F to 300 °F (-57 °C to 149 °C)
Instrument Removal:	Direct-mount, Needle valve, Safe Quick Release (SQR™), Needle valve and SQR™ (O2T conn.)
Added Tolerance:	±0.5% typical
Approvals:	CRN, NSF-61 (316L Stainless steel/EPDM Only)

WETTED COMPONENTS

End Plate Material	Flexible Liner
Carbon steel, 316L Stainless steel, PVDF, Acetal, CPVC	Buna-N, PTFE, EPDM, Natural rubber, and Viton™

NON-WETTED COMPONENTS

Body	Instrument Fittings
Carbon Steel, 316 Stainless steel	Adapters: 316L Stainless steel Needle Valve: 316L Stainless steel SQR: Zinc-plated carbon steel

MIN/MAX TEMPERATURE LIMITS

Liner	Temperature Limits
Buna-N	-30 °F to 225 °F (-34 °C to 107 °C)
PTFE	-15 °F to 350 °F (-25 °C to 177 °C)
Viton™	-15 °F to 350 °F (-25 °C to 177 °C)
Natural Rubber	-30 °F to 225 °F (-34 °C to 107 °C)
EPDM	-40 °F to 300 °F (-40 °C to 149 °C)



81 Bolt-thru Isolation Ring

Nominal Size: 1" to 36"



Certified to
NSF/ANSI/CAN 61

KEY BENEFITS

- Reliable when continuous pressure measurements are needed
- Non-clogging and low maintenance
- Complete instrument protection

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ORDERING CODE	Example:	81	02	E	B	B	02T	N	300	XCK	H3	NH
Seal Type												
81 - Bolt-thru isolation ring		81										
Process Connection Size												
02 - 2" (see table 2 on page 3)			02									
Inner Flexible Wall												
E - Buna-N				E								
T - PTFE (available in 2" to 10")												
Y - Viton™												
R - Natural rubber												
P - EPDM (NSF-61 Compliant)												
End Plate Material												
A - Acetal, (150-class only)												
B - Carbon steel					B							
S - 316L Stainless steel (NSF-61 Compliant)												
K - CPVC (available in 1", 1.5" and 2" sizes), (150-class only)												
F - PVDF, (150-class only)												
Body Material												
B - Carbon steel						B						
S - 316L Stainless steel												
Instrument Connection Size												
02T - ¼ NPT Female							02T					
04T - ½ NPT Female (ring body tapped with ¼ NPT connection; 04T connection utilizes ¼-½ NPT adapter)												
Instrument Removal Option												
N - Direct-mount (1" to 8")								N				
V - Needle valve (1" to 8")												
Q - Safe Quick Release (SQR™)												
Z - Needle valve and SQR												
Pressure Class												
150 - 150-class ASME												
300 - 300-class ASME									300			
Options (if choosing option(s) must include an "X")												
CG - Glycerin										X__		
CK - Silicone 50cSt											CK	
CF - Halocarbon®												
CT - 50/50 Ethylene Glycol/water												
Multiple Instrument Assemblies												
H3 - ¼ NPT gauge/ ¼ NPT Male transducer/ 02T isolation ring												H3
H5 - ½ NPT gauge/ ½ NPT Male switch/ 04T isolation ring												
H6 - ½ NPT gauge/ 2 ½ NPT Male switches/ 02T isolation ring												
H7 - ¼ NPT gauge/ ¼ NPT Female switch/ 02T isolation ring												
Refer to Assembly Guide for additional assembly options												
Optional Features												
IR - Retrofit end plates (custom end plates widths for drop-in replacements)												
NH - Stainless steel tag wired to ring												NH
Q8 - Elbow for vertical pipe installation												

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TABLE 2 – PROCESS CONNECTION TABLE

Process Connection Code (Nominal Size)	Type 81 (Ordering Code)
1"	01
1.5"	15
2"	02
3"	03
4"	04
5"	05
6"	06
8"	08
10"	10

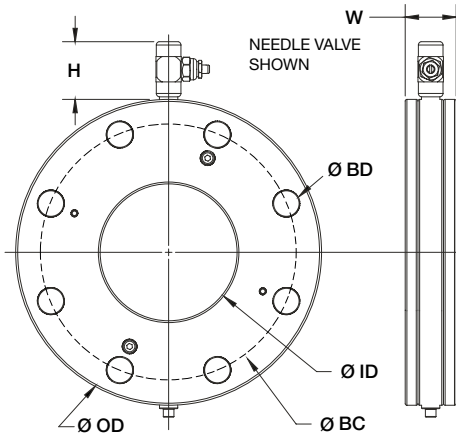
Consult factory for larger sizes

TABLE 3 – FILL FLUID TABLE

Fill Fluid	Temperature Range	Code
Glycerin	0 °F to 400 °F (-18 °C to 204 °C)	CG
Silicone 10cSt	-40 °F to 500 °F (-40 °C to 260 °C)	DJ
Silicone 50cSt	-40 °F to 500 °F (-40 °C to 260 °C)	CK
Halocarbon®	-80 °F to 390 °F (60 °C to 200 °C)	CF
50/50 Ethylene Glycol/Water	-25 °F to 190 °F (-32 °C to 88 °C)	CT

DIMENSIONS in inches

For reference only, consult Ashcroft for specific dimensional drawings



ANSI ASME Class	Nom. Pipe Size	Inner Dia. (ID)	Outer Dia. (OD)	Width (W) Metallic Endplates	Width (W) Non Metallic Endplates	Width (W) XIR Endplates	Bolt Circle (BC)	Bolt Dia. (BD)	No. Of Bolt Holes	Instrument Removal (H)			Weight Lbs. (metal end plates)
										Direct	Safe Quick Release	Needle Valve	
150	1"	1.05	4.25	2.00	2.13	2.13	3.12	0.625	4	0	2.04	1.70	5.7
	1.5"	1.61	5.00	2.00	2.13	2.13	3.88	0.625	4	0	2.04	1.70	7.9
	2"	2.07	6.00	2.00	2.13	2.13	4.75	0.75	4	0	2.04	1.70	12.0
	3"	3.07	7.50	2.00	2.13	2.13	6.00	0.75	4	0	2.04	1.70	18.4
	4"	4.03	9.00	1.50	2.13	2.13	7.50	0.75	8	0	2.04	1.70	18.6
	5"	5.05	10.00	1.50	2.25	2.25	8.50	0.88	8	0	2.04	1.70	21.0
	6"	6.07	11.00	1.50	2.25	2.25	9.50	0.88	8	0	2.04	1.70	23.9
	8"	7.98	13.50	1.50	2.50	2.50	11.75	0.88	8	0	2.04	1.70	34.5
	10"	10.02	16.00	1.50	2.75	2.75	14.25	1.00	12	0	2.04	1.70	44.5
	300	2"	2.07	6.50	2.00	2.13	2.13	5.00	0.75	8	0	2.04	1.70
3"		3.07	8.25	2.00	2.13	2.13	6.62	0.88	8	0	2.04	1.70	22.0
4"		4.03	10.00	1.50	2.13	2.13	7.88	0.88	8	0	2.04	1.70	24.5
5"		5.05	11.00	1.50	2.25	2.25	9.25	0.00	8	0	2.04	1.70	32.0
6"		6.07	12.50	1.50	2.25	2.25	10.62	0.88	12	0	2.04	1.70	34.9
8"		7.98	15.00	1.50	2.50	2.50	13.00	1.00	12	0	2.04	1.70	47.1
10"		10.02	17.50	1.50	2.75	2.75	15.25	1.13	16	0	2.04	1.70	58.8

When selecting an instrument, refer to the [Diaphragm Seal Pressure & Temperature Min/Max Guide](#) for compatibility with this isolation ring or scan the QR code to the right.



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