

# NEEDLE VALVES



**1** INTEGRAL BONNET



**2** SCREWED BONNET



**3** UNION BONNET

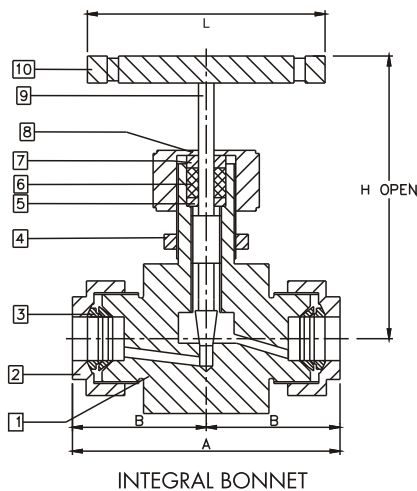
**MIC** Needle valves are widely used for severe service operation as regulating and shut-off valves in many critical high pressure as well as vacuum applications on fluid line connections like

- Natural gas lines, Gas sampling lines
- Test benches, Control panels,
- Instrument Air lines
- Hydraulic power systems
- Flow meters, Manifolds
- Drain, Vents, Pressure gauges and Transmitters Etc.

## DESIGN FEATURES

1. Pressure up to 6000psi (412 )bar.
2. Temperature from 70°F (21°C) to 450°F(232°C) with standard TFE packing and up to 1200°F with optional Grafoil packing.
3. Orifice sizes of 0.156”(3.962) to 0.437”(11.0998).
4. Choice of soft seat ,V and Ball Tip stem design.
5. Straight and angle pattern.
6. Many combinations of end connections.
7. Full raw material traceability, Testing & Identification.

**1**



## INTEGRAL BONNET NEEDLE VALVE

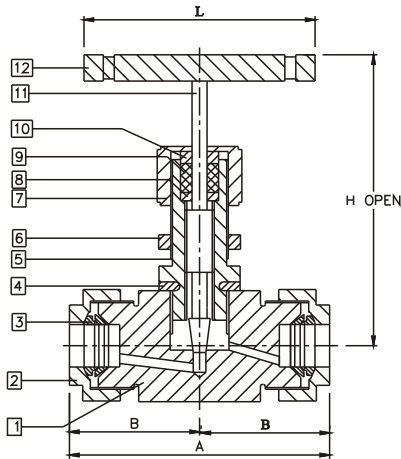
NO.	DESCRIPTION	QTY	MATERIAL OF CONSTRUCTION	
			STAINLESS STEEL	CARBON STEEL
1	Body	1	SS	CS
2	Nut	2	SS	CS
3	Ferrule	2	SS	CS
4	Lock Nut	1	SS	CS
5	Back Up Ring	1	SS	SS
6	Packing	1	PTFE/GRAPHOIL	PTFE/GRAPHOIL
7	Gland	1	SS	SS
8	Nut	1	SS	CS
9	Stem	1	SS	SS
10	Handle	1	SS	CS

# NEEDLE VALVES

## INTEGRAL BONNET NEEDLE VALVES

MIC NUMBER	ORIFICE		CONNECTION SIZE		DIMENSIONS			
	in	mm	INLET	OUTLET	A	B	H OPEN	L
1INVIB2F2F	0.08	2	1/8 Female NPT		1.88	0.94	2.29	1-3/4
1INVIB2M2M			1/8 Male NPT		1.50	0.75		
1INVIB2M2T			1/8 Male NPT	1/8 Tube	1.72			
1INVIB2T2T			1/8 Tube		1.94	0.97		
1INVIB3T3T			3mm Tube					
2INVIB2F2F	0.172	4.4	1/8 Female NPT		1.62	0.81	2.34	1-3/4
2INVIB2M2M			1/8 Male NPT		1.96	0.98		
2INVIB4M4M			1/4 Male NPT		2.11			
2INVIB4M4T			1/4 Male NPT	1/4 Tube				
2INVIB6T6T			6mm Tube		2.26	1.13		
2INVIB4T4T			1/4 Tube		2.34	1.17		
2INVIB8T8T	8mm Tube							
3INVIB4F4F	0.250	6.4	1/4 Female NPT		2.12	1.06	2.81	2-1/2
3INVIB4F14FI			1/4 ISO Female Tapered					
3INVIB4M4F			1/4 Male NPT	1/4 Female NPT	2.19			
3INVIB4M6T			1/4 Male NPT	3/8 Tube	2.42			
3INVIB6T6T			3/8 Male NPT		2.26	1.13		
3INVIB6M6T			3/8 Male NPT	3/8 Tube	2.42			
3INVIB6M8T			3/8 Male NPT	1/2 Tube	2.53			
3INVIB10T10T			10mm Tube		2.60	1.30		
3INVIB6T6T			3/8 Tube		2.58	1.29		
3INVIB12T12T			12mm Tube		2.80	1.40		
3INVIB8T8T			1/2 Tube					
4INVIB6F6F	0.375	9.5	3/8 Female NPT		3	1.50	3.91	3-1/4
4INVIB6F16FI			3/8 ISO Female Tapered					
4INVIB8F8F			1/2 Female NPT					
4INVIB8F18FI			1/2 ISO Female Tapered					
4INVIB8M8M			1/2 Male NPT		3.80	1.90		
4INVIB8M8F			1/2 Male NPT	1/2 Female NPT				
4INVIB8T8T			1/2 Tube					
4INVIB12T12T			3/4 Tube					

2



SCREWED BONNET

## SCREWED BONNET NEEDLE VALVE

NO.	DESCRIPTION	QTY	MATERIAL OF CONSTRUCTION	
			STAINLESS STEEL	CARBON STEEL
1	Body	1	SS	CS
2	Nut	2	SS	CS
3	Ferrule	2	SS	CS
4	Washer	1	SS	CS
5	Bonnet	1	SS	CS
6	Check Nut	1	SS	CS
7	Cap Nut	1	SS	CS
8	Back Up Ring	1	SS	SS
9	Packing	2	PTFE/GRAPHOIL	PTFE/GRAPHOIL
10	Gland	1	SS	SS
11	Stem	1	SS	SS
12	Handle	1	SS	CS

## SCREWED BONNET NEEDLE VALVES

MIC NUMBER	ORIFICE	CONNECTION SIZE	DIMENSIONS			L
			INLET/OUTLET	A	B	
1INVSB2T2T	0.082	1/8 Tube	2.28	1.14	2.31	1-3/4
2INVSB2T2T	0.094				1.87	
3INVSB2M2M	0.125	1/8 Male NPT	1.76	0.88	2.31	
3INVSB2M4T	0.125	1/8 Male NPT/ 1/4 Tube			2.31	
4INVSB2M4T	0.156	1/4 Tube	2.34	1.17	2.31	
4INVSB4M4M	0.156				1/4 Male NPT	
4INVSB4MI4MI	0.156	1/4 Male BSP/ISO Tapered			2.31	
4INVSB4F4F	0.156	1/4 Female NPT	2.41	1.21	1.87	
4INVSB4M4F	0.156	1/4 Male NPT   1/4 Female NPT				
4INVSB6T6T	0.156	3/8 Tube				

**MATERIALS**  
 USE: ■ SS FOR STAINLESS STEEL ■ B FOR BRASS ■ CS FOR CARBON STEEL  
 ■ M FOR MONEL ■ HS FOR HESTALLOY

All dimensions are in inches (except where mm is mentioned) for reference purpose only & subject to change.