

### ASSEMBLY

11	HANDLE	1	STAINLESS STEEL
10	GRUB SCREW	1	STEEL PLATED
9	NUT	2	A479-316
8	OUTER FERRULE	2	A479-316
7	INNER FERRULE	2	A479-316
6	GLAND NUT	1	A479-316
5	WASHER	2	A479-316
4	PACKING	1	GRAPHOIL/TEFLON
3	STEM	1	A479-316
2	PANNEL NUT	1	A479-316
1	BODY	1	A479-316
S.NO.	DESCRIPTION	QTY.	MATERIAL

### MATERIAL OF CONSTRUCTIONS:

**FEATURES:**  
 316 SS CONSTRUCTION FOR CORROSION RESISTANCE.  
 EXCELLENT FLOW REGULATION & LEAK TIGHT.  
 SLOW OPENING PREVENTS SUDDEN PRESSURE SURGE & INSTRUMENT DAMAGE. INTERCHANGEABLE BONNET FOR 1/4", 1/2" MALE TO FEMALE PIPE ENDS. ONE PICE BODY CONSTRUCTION. NO WELDING USED.

### APPLICATION:

REFINERIES, LIQUID PETROLIUM GAS PROCESSING PLANT. PETRO DIFFICULT TO CHEMICALS PLANTS SYSTEMS DIFFICULT TO SHUT OFF DUE TO SOLIDE CONTENTS - DUST, DIRT, RUST ETC.

### TESTING:

STANDARD TEST:- EACH VALVES IS TESTED WITH NITROGEN AT 1000 PSI FOR SEAT & PACKING LEAKAGE, WITH A MAX. ALLOWABLE LEAK RATE OF 0.1 SEC. / MIN.

HYDRO TEST:- PERFORMED WITH PURE WATER AT 1-1/2 TIMES OF THE WORKING PRESSURE.

OTHER TEST:- LIKE THE VIBRATIONS, TEMPERATURES, HELIUM ETC. ARE AVAILABLE UPON REQUESTS.

### LUBRICATION:

MOLLY ANTI- SEIZE LUBRICANT.

### NOTES:-

- OPTIONAL PACKING GRAPHOIL AVAILABLE FOR HIGH TEMPERATURE WITH BALL TIP DESIGN WHICH FORMS A BEARING JOINT WITH THE STEM, ELEMENT ROTATION BETWEEN BALL & SEAT AT CLOSER. THIS PREVENTS SCORING AND GALLING UP THE VALVE SEAT & INSURE LONG LIFE IN REPETITIVE SHUT OFF SERVICE. CLEAN OUT HOLE PREVENTS CLOGGING. SERIER OF END CONNECTION LIKE A MALE, FEMALE PIPE ENDS, POWER LOCK TUBE CONNECTIONS WITH STRAIGHT & ANGLE PATTERNS. GLAND NUT OPTIONAL.
- DIMENSIONS ARE FOR REFERENCE ONLY. SUBJECT TO CHANGE.

### TECHNICAL DATA

ORITICE	Cv	Pr. Rdt.	Temp. Rdt.
5 mm.	0.65	6000 PSI	-20 to 250° F
6.5mm.	2	(41300 kpa)	(-29° to 121°C)

### TABLE OF DIMENSIONS:

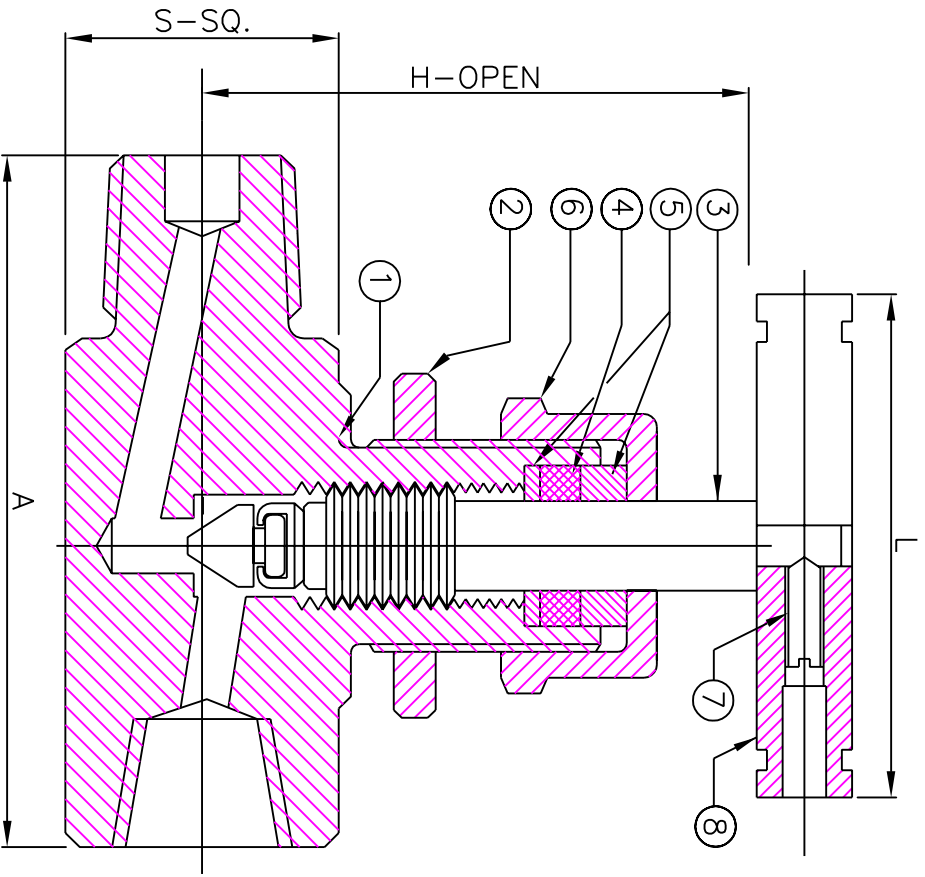
SIZE	A	H-OPEN	H-CLOSED
1/4"	50	-	-
3/8"	50	84	75
1/2"	68	108	96
3/4"	70	115	105
1"	80	120	110

### TITLE:- NEEDLE VALVES TUBE OD

DRN.	CDC	SCALE	N.T.S.
CHD.	ET	DATE	30.07.2001
APPD.	JP	DRG.NO :	PNV-1B-0DT

**PANAM ENGINEERS**

MUMBAI



8	HANDLE	1	SS/CS
7	GRUB SCREW	1	STEEL PLATED
6	GLAND NUT	1	A 479-316/CS
5	WASHER	2	A 479-316/CS
4	PACKING	1	TEFLON/GRAPHOIL
3	STEM	1	A 479-316 + 17-4PH
2	PANNEL NUT	1	A 479-316/CS
1	BODY	1	A 479-316/CS
S.NO.	DESCRIPTION	QTY	MATERIAL

**MATERIAL OF CONSTRCTIONS:**

**FEATURES:**

316 SS CONSTRUCTION FOR CORROSION RESISTANCE.  
 EXCELLENT FLOW REGULATION & LEAK TIGHT.  
 SLOW OPENING PREVENTS SUDDEN PRESSURE SURGE & INSTRUMENT DAMAGE.  
 ONE PIECE BODY CONSTRUCTION. NO WELDING USED.

**APPLICATION:**

REFINERIES, LIQUID PETROLEUM GAS PROCESSING PLANT, PETROCHEMICALS PLANTS WHERE SYSTEMS DIFFICULT TO SHUT OFF DUE TO SOLIDE CONTENTS - DUST, DIRT, RUST ETC.

**TESTING:**

STANDARD TEST: - EACH VALVES IS TESTED WITH NITROGEN AT 1000 PSI FOR SEAT & PACKING LEAKAGE, WITH A MAX. ALLOWABLE LEAK RATE OF 0.1 SEC. / MIN.

HYDRO TEST: - PERFORMED WITH PURE WATER AT 1-1/2 TIMES OF THE WORKING PRESSURE.

OTHER TEST: - VIBRATIONS, TEMPERATURES, HELIUM ETC. ARE AVAILABLE UPON REQUEST.

**LUBRICATION:**

MOLLY ANTI-SEIZE LUBRICANT.

**NOTES:-**

OPTIONAL GRAPHOIL PACKING WITH BALL TIP DESIGN AVAILABLE FOR HIGH TEMPERATURE APPLICATION WHICH ENSURE LONG LIFE IN REPETITIVE SHUT OFF SERVICE. SERIES OF END CONNECTIONS LIKE MALE/FEMALE NPT,BSP PIPE THREADED ENDS WITH STRAIGHT AND ANGLE PATTERNS. GLAND NUT OPTIONAL.

VALVE CAN BE SUPPLIED TO MEET CURRENT REVISION OF NACE MR-01-75. (SOURGAS SERVICE)

DIMENSIONS ARE FOR REFERENCE ONLY. SUBJECT TO CHANGE.

**TECHNICAL DATA**

ORIFICE	Cv	P. Rot.	Temp.Rot.
5 mm.	0.65	6000 PSI	-20 to 250° F
6.5mm.	2	(41300 kpo)	(-29° to 121°c)

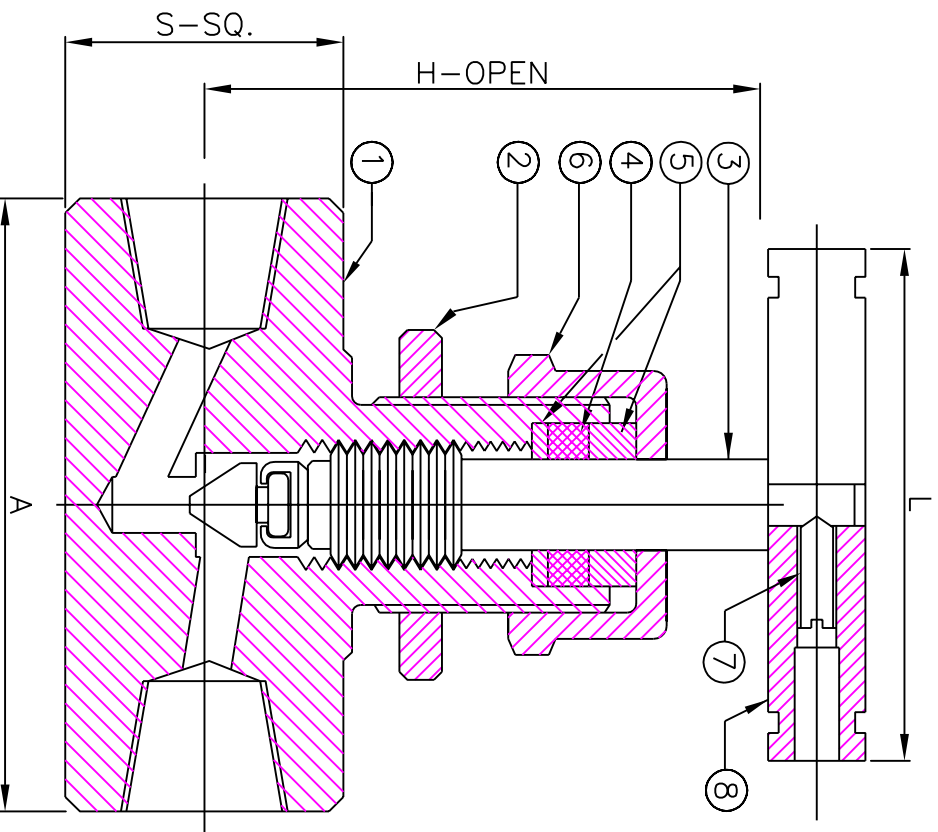
**TABLE OF DIMENSIONS:**

SIZE	A	S-SQ.	H-OPEN	L
1/4"	55	22	69	50
3/8"	55	25	69	50
1/2"	73	30	83	60
3/4"	80	36	89	70
1"	88	45	102	70

**TITLE: -" IB " SERIES NEEDLE VALVES ( M X F )**

DRN.	CDC	SCALE	N.T.S.
CHD.	ET	DATE	01.07.2001
APPD.	JP	DRG.:	PNV-IB-MF

**PANAM ENGINEERS**  
 AN ISO 9001 : 2000 COMPANY  
 MUMBAI - INDIA



8	HANDLE	1	SS / CS
7	GRUB SCREW	1	STEEL PLATED
6	GLAND NUT	1	A479-316/CS
5	WASHER	2	A479-316/CS
4	PACKING	1	TEFLON/GRAPHOIL
3	STEM	1	A479-316 + 17-4PH
2	PANNEL NUT	1	A479-316/CS
1	BODY	1	A479-316/CS
S.NO.	DESCRIPTION	QTY	MATERIAL

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OTHER TEST:- VIBRATIONS, TEMPERATURES, HELIUM ETC. ARE AVAILABLE UPON REQUEST.

**LUBRICATION:**  
 MOLLY ANTI-SEIZE LUBRICANT.

**NOTES:-**  
 OPTIONAL GRAPHOIL PACKING WITH BALL TIP DESIGN AVAILABLE FOR HIGH TEMPERATURE APPLICATION WHICH ENSURE LONG LIFE IN REPETITIVE SHUT OFF SERVICE. SERIES OF END CONNECTIONS LIKE MALE/FEMALE NPT,BSP PIPE THREADED ENDS WITH STRAIGHT AND ANGLE PATTERNS. GLAND NUT OPTIONAL.  
 VALVE CAN BE SUPPLIED TO MEET CURRENT REVISION OF NACE MR-01-75. (SOURGAS SERVICE)  
 DIMENSIONS ARE FOR REFERENCE ONLY. SUBJECT TO CHANGE.

TECHNICAL DATA			
ORIFICE	Cv	Pr. Rot.	Temp. Rdt.
5 mm.	0.65	6000 PSI	-20 to 250° F
6mm	2	(41300 kpo)	(-29° to 121°C)

TABLE OF DIMENSIONS:					
SIZE	A	S-SQ.	H-OPEN	L	ORIFICE
1/4"	50	22	69	50	5mm
3/8"	50	25	69	60	6mm
1/2"	68	30	83	70	8mm
3/4"	70	36	89	70	9.5mm
1"	80	45	102		

TITLE:- "IB" SERIES NEEDLE VALVE (FXF)			
DRN.	CDC	SCALE	N.T.S.
CHD.	ET	DATE	01.07.2001
APPD.	JP	DRG.:	PNV-IB-PF

**PANAM ENGINEERS**  
 AN ISO 9001 : 2000 COMPANY  
 MUMBAI - INDIA