

Body: brass, full port, female npt connections.

Ball: hard chrome plated brass.

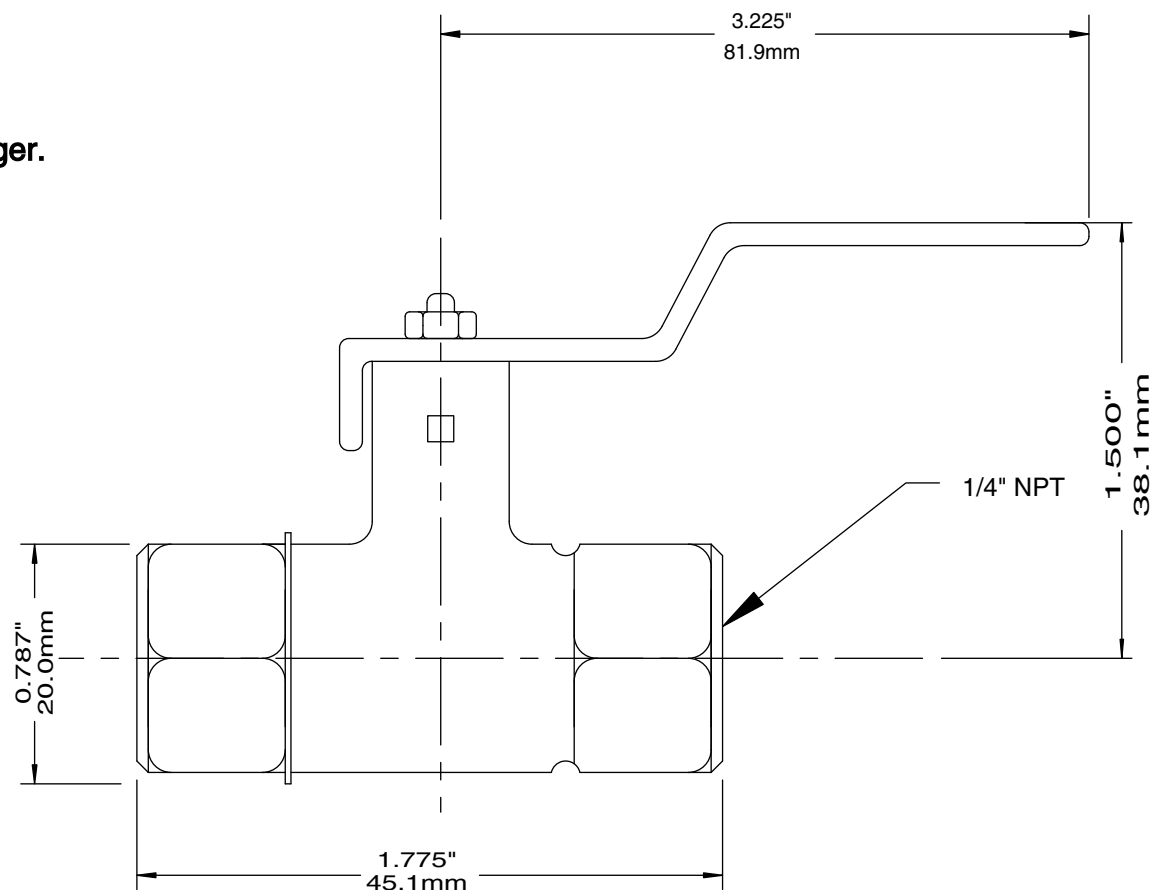
Seats: PTFE & buna.

Stem Seal: PTFE & buna.

Pressure: 150 psi (1,034kPa) steam;

600 psi (4,137 kPa) water, oil or gas.

Note: CSA approval on sizes 3/8" and larger.



WINTERS INSTRUMENTS

DRAWN BY:

CHECKED BY:

ENG. APPROVAL:

APPROVED BY:

ALL DIMENSIONS IN INCHES

TOLERANCES
(unless otherwise stated)

Fractional:	1/64"
Decimal:	0.06"

REVISION No. & DATE:

TITLE:

MINI BALL VALVE, BRASS, 1/4" NPT

DRAWING NO: AC-BALLVLV-BRASS-0.25

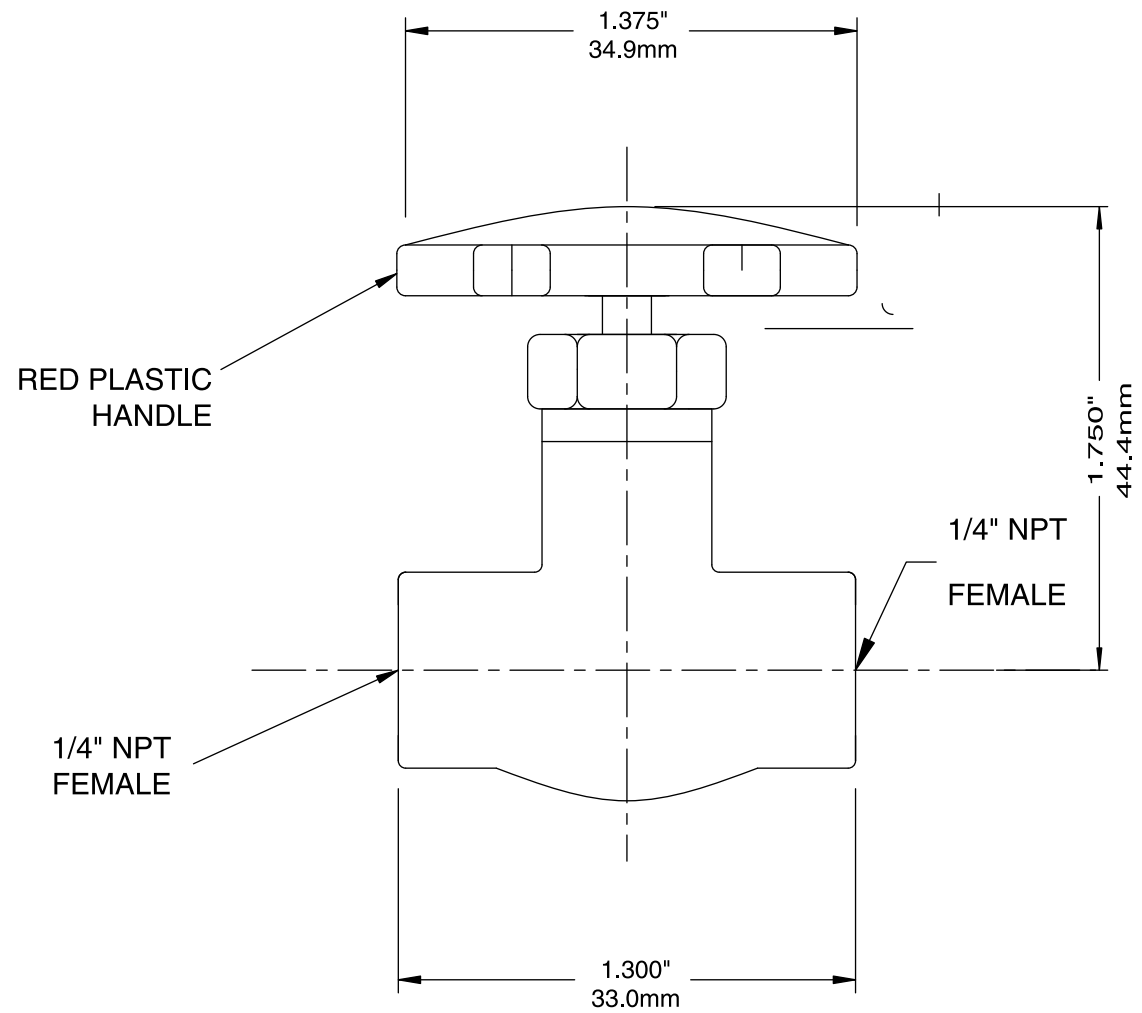
Body: #59-1 forged brass.

Handle: ABS plastic, red coloured.

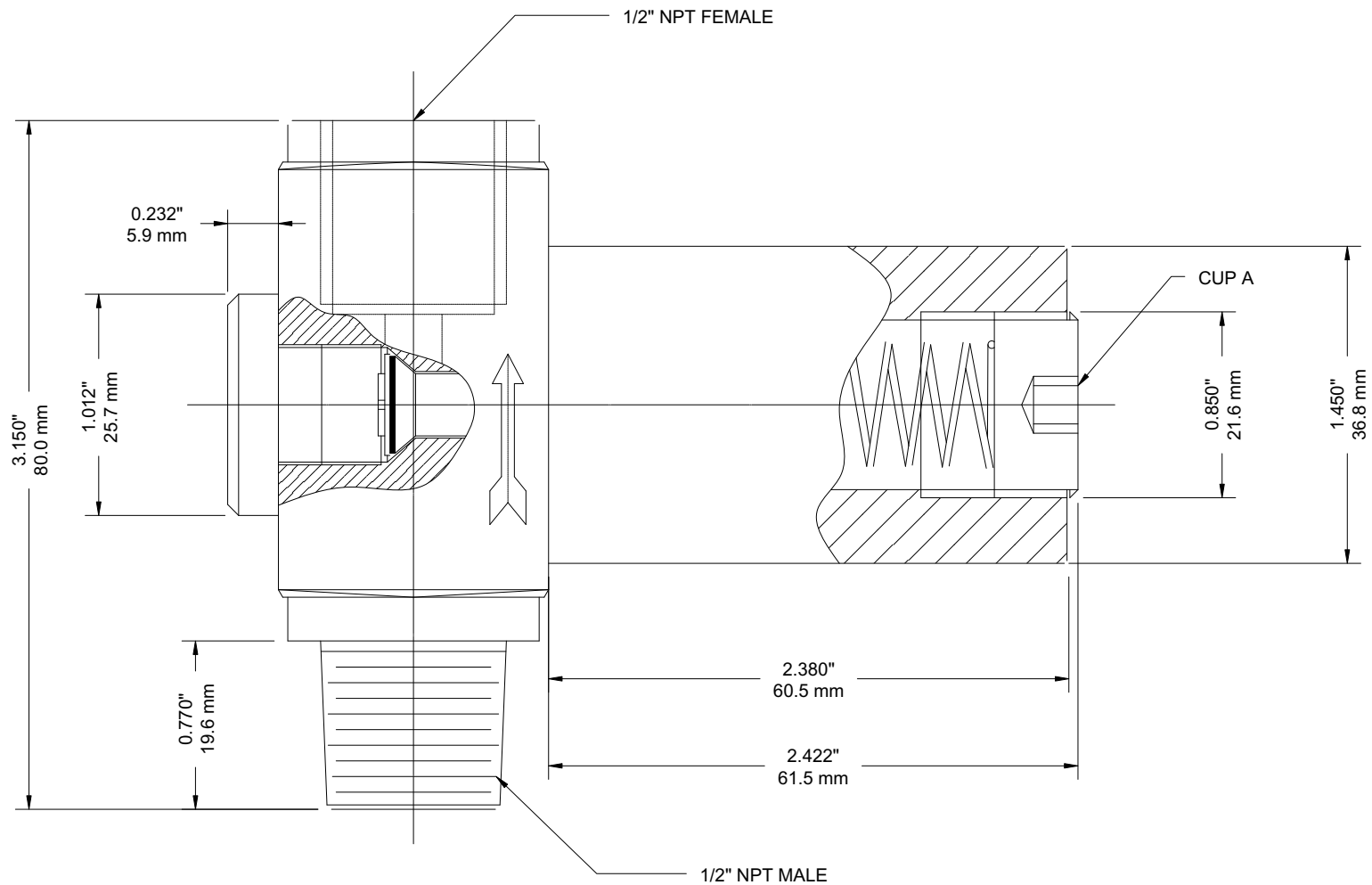
O-ring: rubber.

Shaft: #59-1 brass.

Nut: #59-1 brass.



DRAWN BY:	ALL DIMENSIONS IN INCHES	TITLE: NEEDLE VALVE, BRASS
CHECKED BY:	TOLERANCES (unless otherwise stated)	
ENG. APPROVAL:	Fractional: 1/64"	
	Decimal: 0.06"	
APPROVED BY:	REVISION No. & DATE:	DRAWING NO: AC-NEEDVLV-BRASS



WINTERS INSTRUMENTS

DRAWN BY: E. H.

CHECKED BY:

ENG. APPROVAL:

APPROVED BY:

ALL DIMENSIONS IN INCHES / mm

TOLERANCES
(unless otherwise stated)

Fractional:	1/64"	0.4 mm
Decimal:	0.06"	1.5 mm

REVISION No. & DATE: (1) DEC 06, 2002

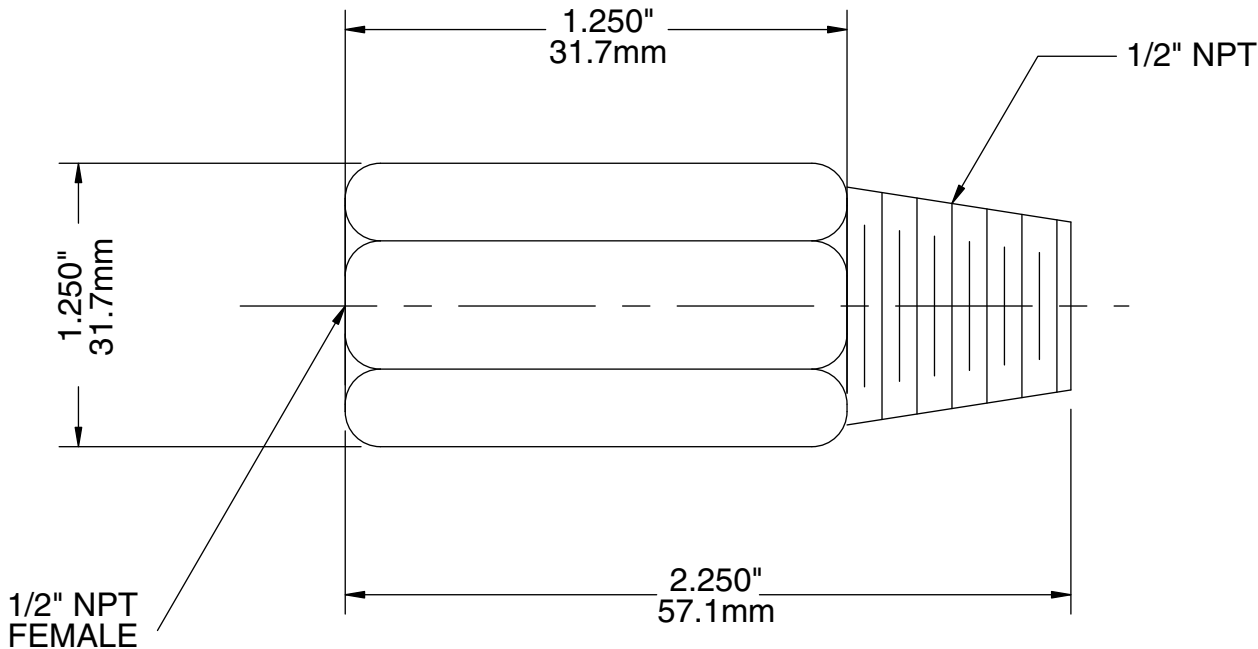
TITLE:

OVER PRESSURE PROTECTOR

DRAWING NO:AC-OPP-0.5

BRASS:
 Operating Temperature: -65°F to +650°F, -53°C to +343°C.
 Operating Pressure: Maximum 10,000 psi.
 Snubbing Element: Sintered, porous type 316 stainless steel.
 Retainer: 300 series stainless steel.
 Burst Pressure: 30,000 psi.
 Housing: Brass.

STAINLESS STEEL:
 Operating Temperature: -320°F to +1500°F, -195°C to +815°C.
 Operating Pressure: Maximum 20,000 psi.
 Snubbing Element: Sintered, porous type 316 stainless steel.
 Retainer: 300 series stainless steel.
 Burst Pressure: 60,000 psi.
 Housing: 300 series stainless steel.



WINTERS INSTRUMENTS

DRAWN BY: E. H.	ALL DIMENSIONS IN INCHES	
CHECKED BY:	TOLERANCES (unless otherwise stated)	
ENG. APPROVAL:	Fractional:	1/64"
	Decimal:	0.06"
APPROVED BY:	REVISION No. & DATE: APR. 5 2002	

TITLE:
SNUBBER, 1/2" NPT
DRAWING NO: AC-SNUBB-.5

BRASS:

Operating Temperature: -65°F to +650°F, -53°C to +343°C

Operating Pressure: maximum 10,000 psi (68,950 kPa).

Snubbing Element: sintered, porous type 316 stainless steel.

Retainer: 300 series stainless steel.

Burst Pressure: 30,000 psi (206,850 kPa).

Housing: brass.

STAINLESS STEEL:

Operating Temperature: -320°F to +1500°F, -195°C to +815°C

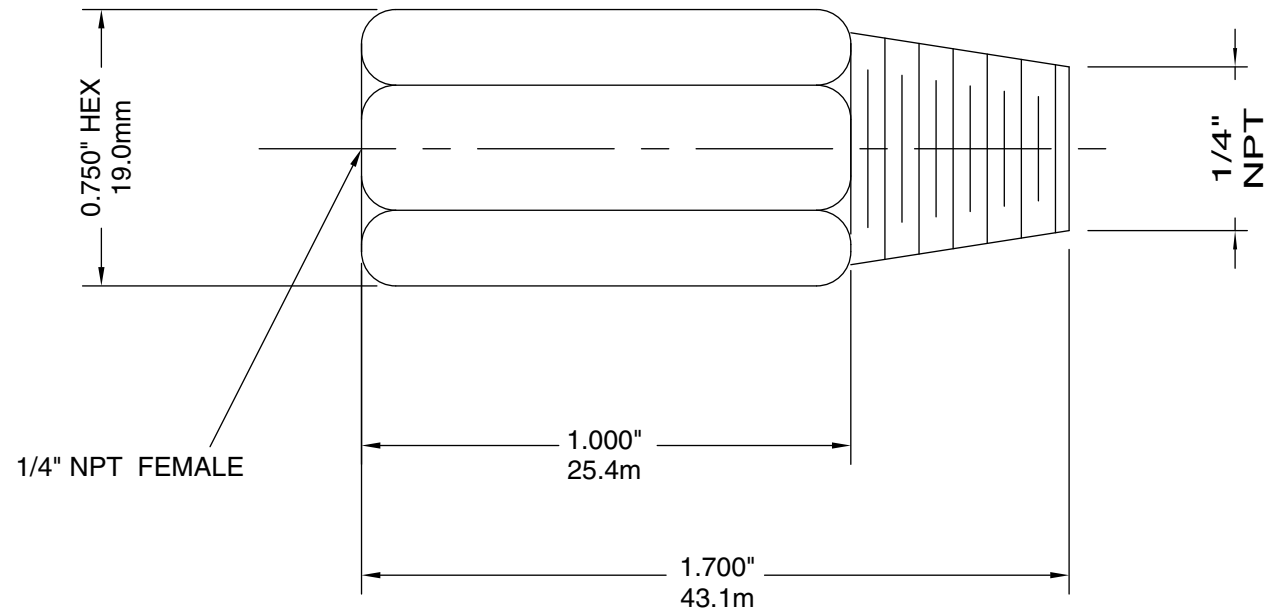
Operating Pressure: maximum 20,000 psi (137,900 kPa).

Snubbing Element: sintered, porous type 316 stainless steel.

Retainer: 300 series stainless steel.

Burst Pressure: 60,000 psi (413,700 kPa).

Housing: 300 series stainless steel.



WINTERS INSTRUMENTS

DRAWN BY:

CHECKED BY:

ENG. APPROVAL:

APPROVED BY:

ALL DIMENSIONS IN INCHES

TOLERANCES
(unless otherwise stated)

Fractional:

1/64"

Decimal:

0.06"

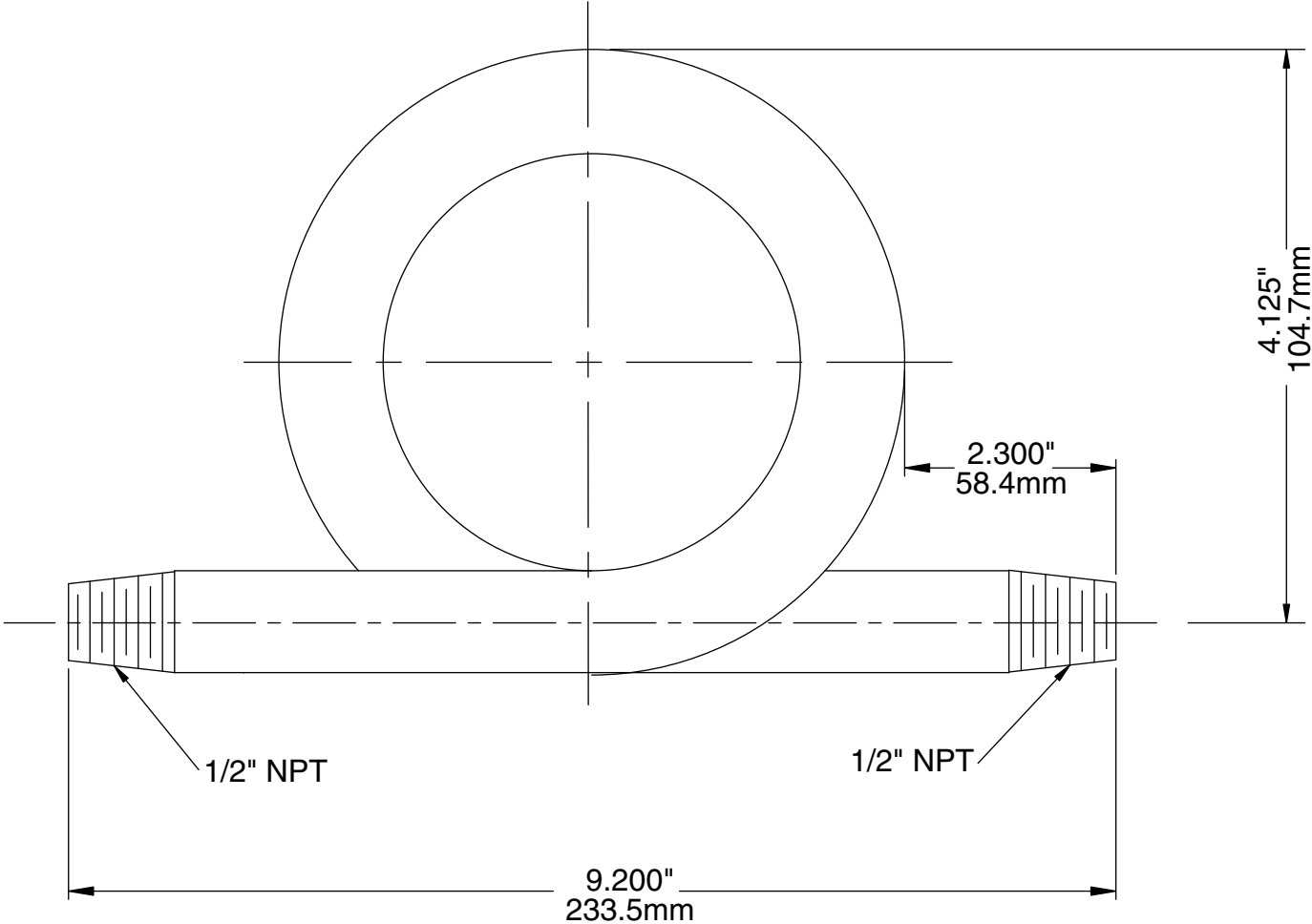
REVISION No. & DATE:


TITLE:

SNUBBER, 1/4" NPT

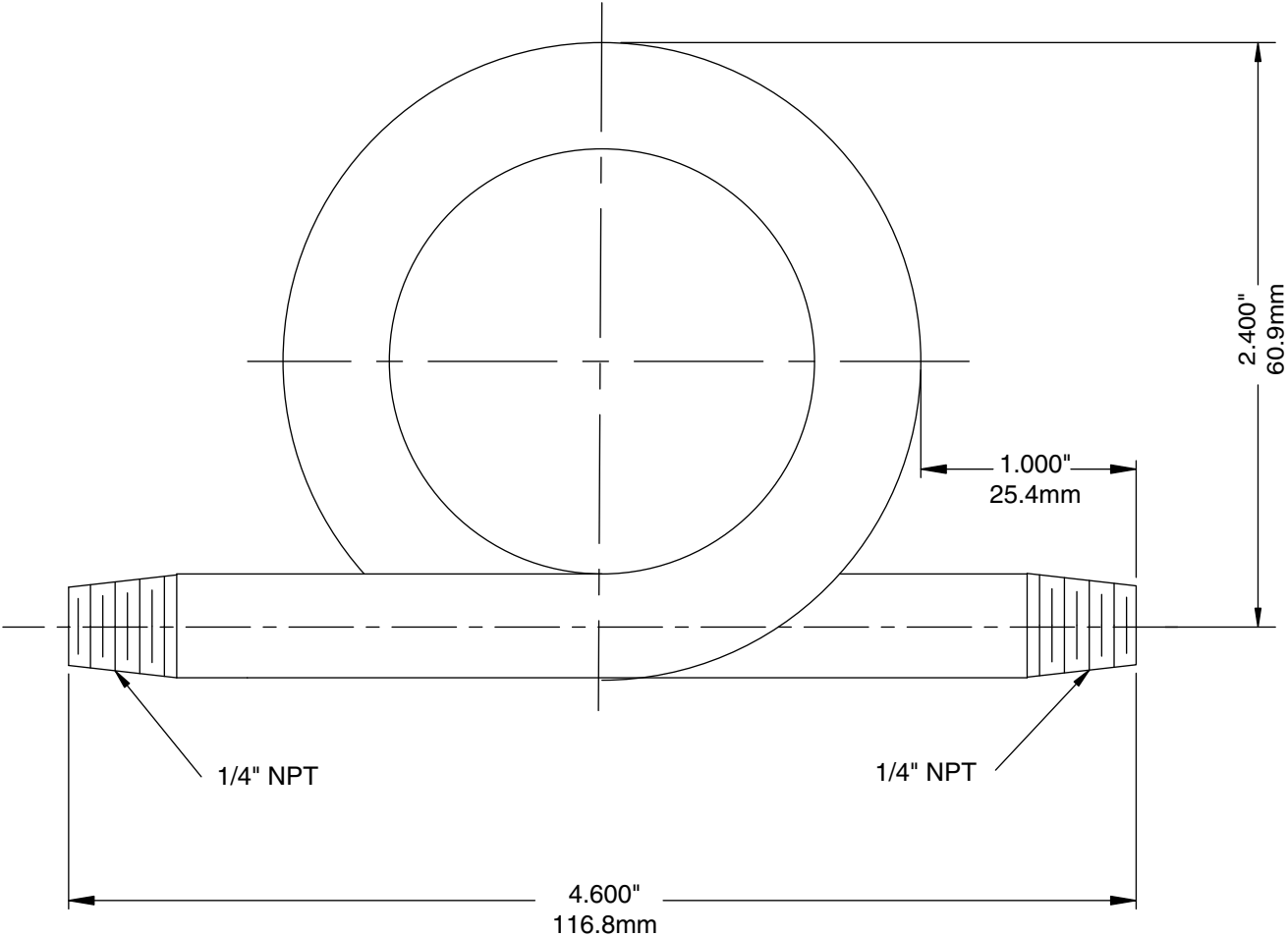
DRAWING NO: AC-SNUBB-.25

Schedule 40 steel coil (welded and seamless) or 304 stainless steel (seamless).
Style: 180° coil.
Maximum Pressure: 500 psi at 360°C (680°F) for seamless; 175 psi at 171°C (340°F) for welded.



 WINTERS INSTRUMENTS	DRAWN BY: E. H.	ALL DIMENSIONS IN INCHES		TITLE: SYPHON, SCHEDULE 40, 1/2" NPT
	CHECKED BY:	TOLERANCES (unless otherwise stated)		
	ENG. APPROVAL:	Fractional:	1/64"	
		Decimal:	0.06"	
	APPROVED BY:	REVISION No. & DATE: APR. 5 2002		DRAWING NO: AC-SYPH-40-.5

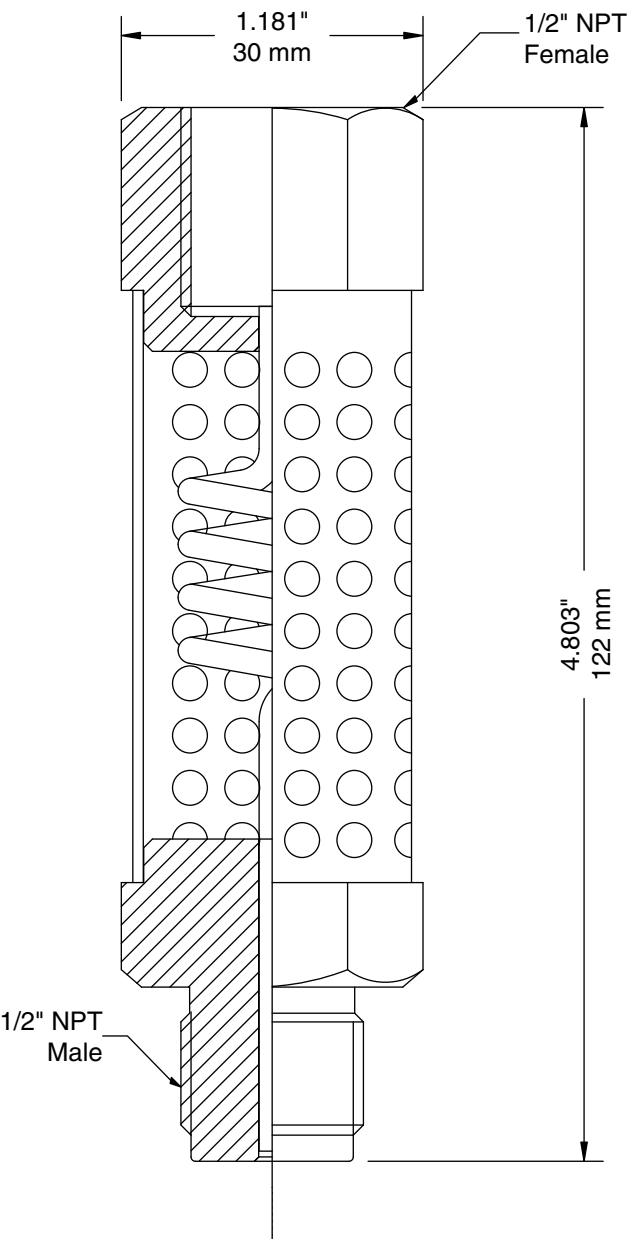
1/4" NPT, schedule 40, any seamless material is
good for a working pressure of 500 psi (3,447 kPa) at 680°F, 360°C.



WINTERS INSTRUMENTS

DRAWN BY:	ALL DIMENSIONS IN INCHES		TITLE: SYPHON, SCHEDULE 40, 1/4" NPT
CHECKED BY:	TOLERANCES (unless otherwise stated)		
ENG. APPROVAL:	Fractional:	1/64"	
	Decimal:	0.06"	
APPROVED BY:	REVISION No. & DATE:		DRAWING NO: AC-SYPH-40-.25

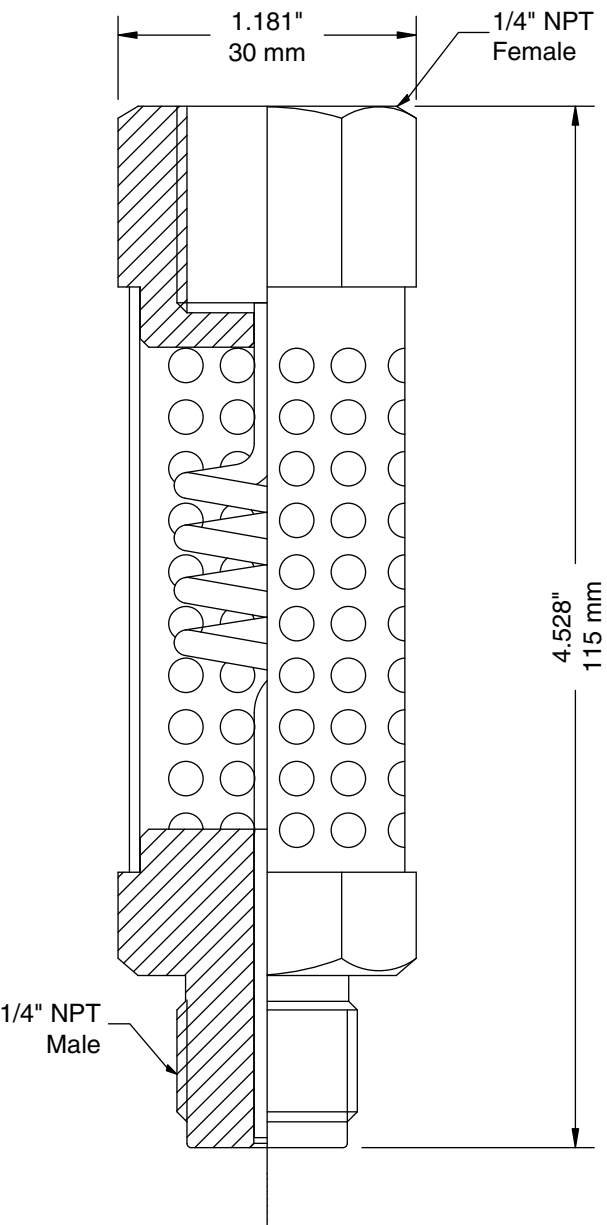
Process Temperature:
Material: Stainless Steel
Welding: Tig



WINTERS INSTRUMENTS

DRAWN BY:	ALL DIMENSIONS IN INCHES	TITLE: Cooling Tower, 1/2"
CHECKED BY:	TOLERANCES (unless otherwise stated)	
ENG. APPROVAL:	Fractional: 1/64"	
	Decimal: 0.06"	
APPROVED BY:	REVISION No. & DATE: Month Day, Year	DRAWING NO: DWG No. CT-12

Process Temperature:
Material: Stainless Steel
Welding: Tig



WINTERS INSTRUMENTS

DRAWN BY:

CHECKED BY:

ENG. APPROVAL:

APPROVED BY:

ALL DIMENSIONS IN INCHES

TOLERANCES
(unless otherwise stated)

Fractional:

1/64"

Decimal:

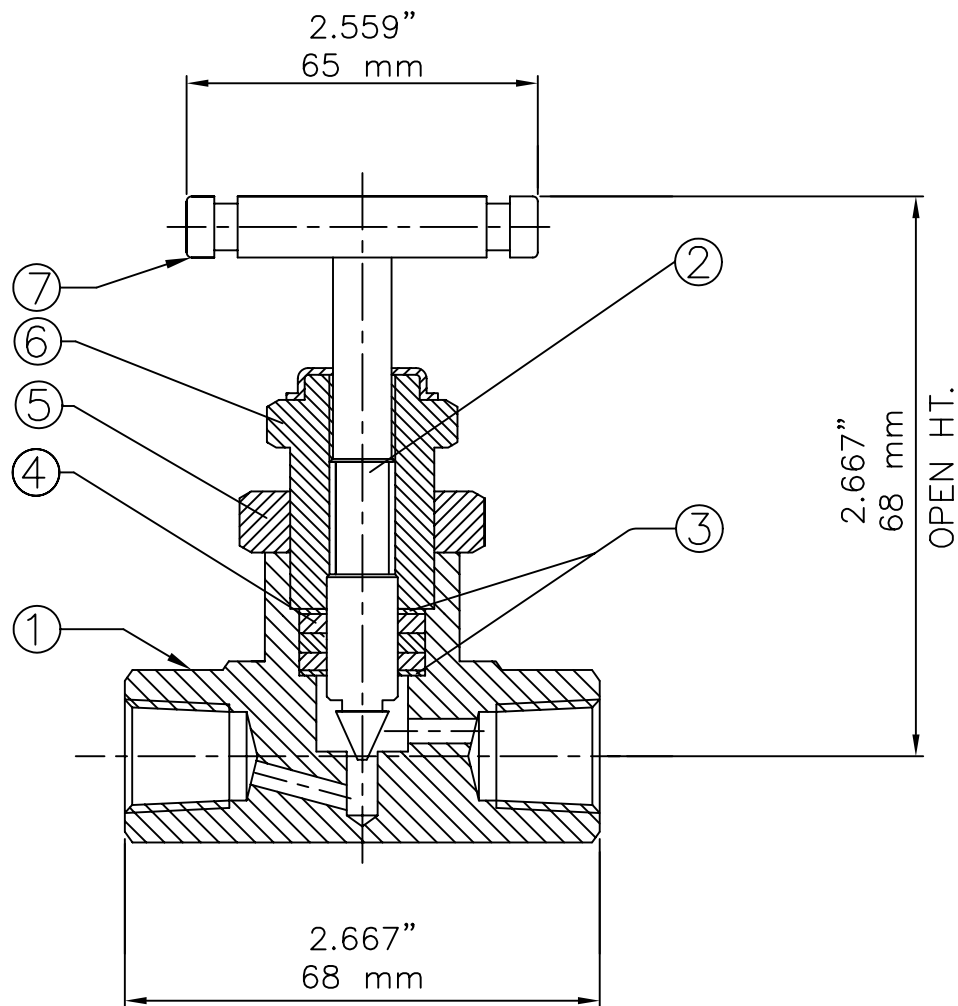
0.06"

REVISION No. & DATE: Month Day, Year

TITLE:

Cooling Tower, 1/4"

DRAWING NO: DWG No. CT-14



MATERIAL OF CONSTRUCTION

S.NO.	PART NAME	QTY.	MATERIAL
1	BODY	1	SS316/SS304/A105 CADMIUM PLATED
2	STEM	1	SS316 STELLITED V TIP
3	PACKING WASHER	2	SS316/SS304
4	GLAND PACKING	3	GLASS FILLED PTFE/GRAFHOIL
5	LOCK NUT	1	SS316/SS304/A105 CADMIUM PLATED
6	GLAND RETAINER	1	SS316/SS304/A105 CADMIUM PLATED
7	HANDLE	1	SS316/SS304/A105 ALU.COATED
7	DUST COVER	1	PLASTIC

TECHNICAL DATA

ORITICE	Cv	Pr. Rat.	Temp.Rat.
5 mm.	0.65	10000 PSI (700 BAR)	-20 to 250° F
6.5mm.	2		(-29° to 121°C)



WINTERS INSTRUMENTS

DRAWN BY: E. H.

CHECKED BY:

ENG. APPROVAL:

APPROVED BY:

ALL DIMENSIONS IN INCHES / MM

TOLERANCES
(unless otherwise stated)

Fractional:	1/64" 0.4 mm
Decimal:	0.06" 1.5 mm

REVISION No. & DATE: (1) MAR. 11, 2003

TITLE:

H.P. NEEDLE VALVE - 1/2" FF STRIGHT PATTERN

DRAWING NO: PE-NV-HP-8FF

MATERIAL OF CONSTRUCTION

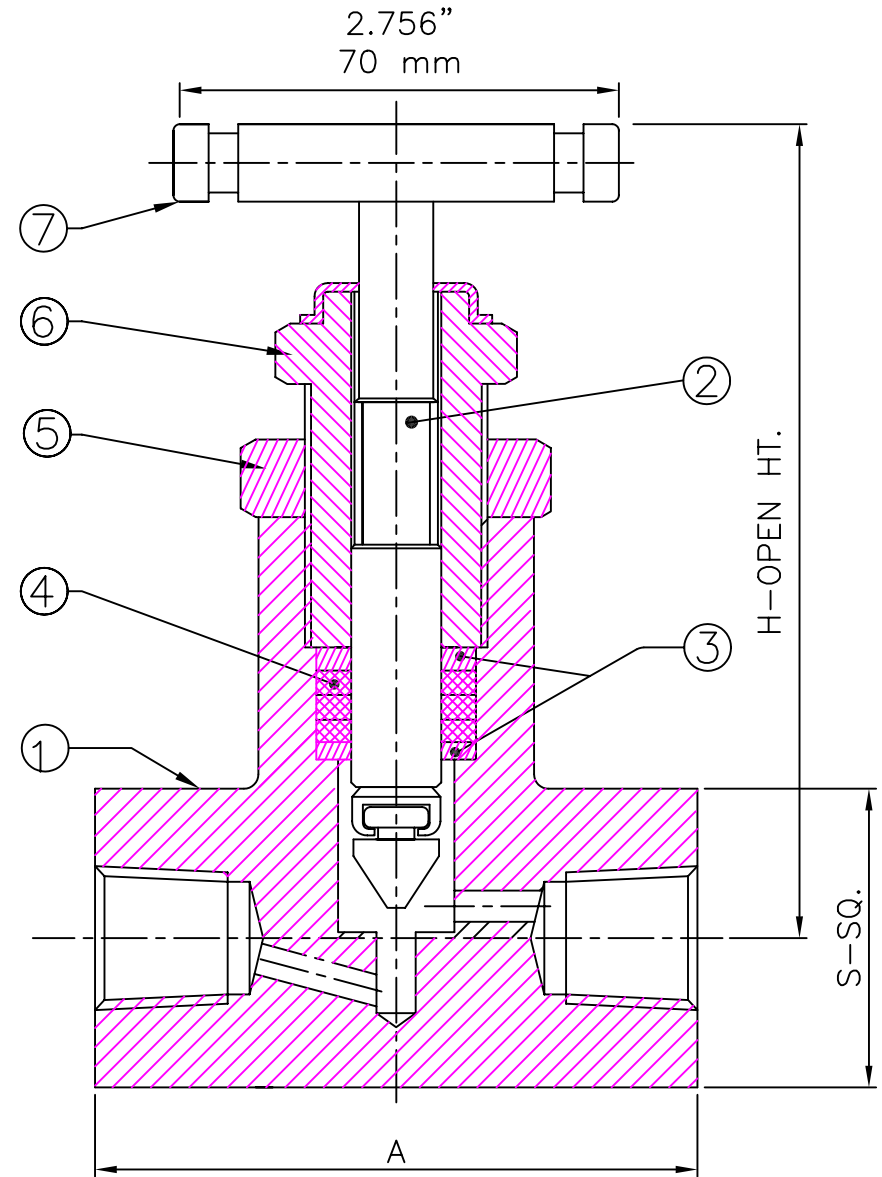
S.NO.	PART NAME	QTY.	MATERIAL
1	BODY	1	AISI316
2	STEM	1	AISI316 - STELLITED V TIP
3	PACKING WASHER	2	AISI316
4	GLAND PACKING	3	GLASS FILLED PTFE
5	LOCK NUT	1	AISI316
6	GLAND RETAINER	1	AISI 316
7	HANDLE	1	AISI304
7	DUST COVER	1	PLASTIC

TABLE OF DIMENSION

SIZE	A	S-SQ.	H-OPEN HT.	A
1/4"	55 mm 2.165"	25 mm 0.984"	86 mm 3.386"	60 mm 2.362"
1/2"	75 mm 2.953"	34 mm 1.339"	98 mm 3.858"	70 mm 2.756"

TECHNICAL DATA

ORIFICE	Cv	Pr. Rat.	Temp.Rat.
5 mm.	0.22	10000 PSI (700 BAR)	-65 to 200° F (-50° to 93°C)



WINTERS INSTRUMENTS

DRAWN BY: E. H.

CHECKED BY:

ENG. APPROVAL:

APPROVED BY:

ALL DIMENSIONS IN INCHES / MM

TOLERANCES
(unless otherwise stated)

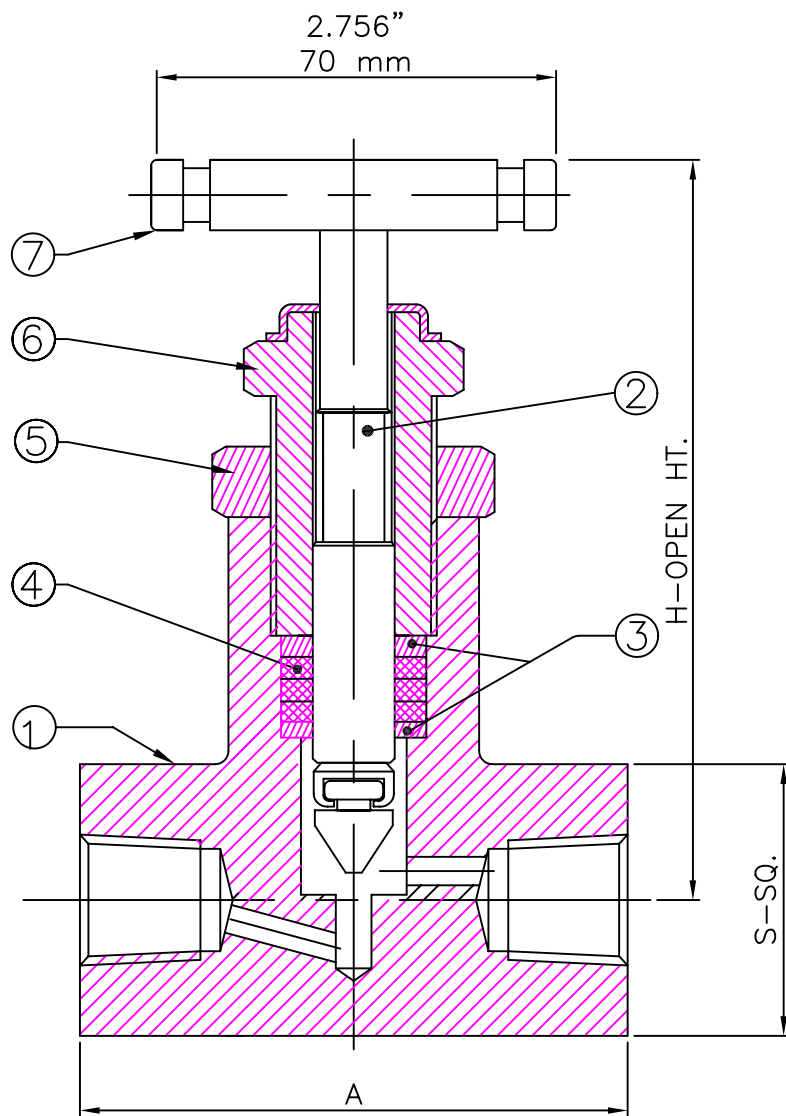
Fractional:	1/64" 0.4 mm
Decimal:	0.06" 1.5 mm

REVISION No. & DATE: (1) JAN. 29, 2003

TITLE:

H.P. NEEDLE VALVE STRAIGHT PATTERN

DRAWING NO: PE-NV-HP-FF



MATERIAL OF CONSTRUCTION

S.NO.	PART NAME	QTY.	MATERIAL
1	BODY	1	CARBON STEEL
2	STEM	1	AISI316 - STELLITED V TIP
3	PACKING WASHER	2	AISI316
4	GLAND PACKING	3	GLASS FILLED PTFE
5	LOCK NUT	1	CARBON STEEL
6	GLAND RETAINER	1	CARBON STEEL
7	HANDLE	1	ALUMINIUM BLACK ANODISED
7	DUST COVER	1	PLASTIC

TABLE OF DIMENSION

TECHNICAL DATA				SIZE	A	S-SQ.	H-OPEN HT.	A
ORIFICE	Cv	Pr. Rat.	Temp.Rat.	1/4"	2.165" 55 mm	0.984" 25 mm	3.386" 86 mm	2.362" 60 mm
5 mm.	0.22	10000 PSI (700 BAR)	-65 to 200° F (-50° to 93°C)	1/2"	2.953" 75 mm	1.339" 34 mm	3.858" 98 mm	2.756" 70 mm



WINTERS INSTRUMENTS

DRAWN BY: E. H.

CHECKED BY:

ENG. APPROVAL:

APPROVED BY:

ALL DIMENSIONS IN INCHES / MM

TOLERANCES
(unless otherwise stated)

Fractional:	1/64" 0.4 mm
Decimal:	0.06" 1.5 mm

REVISION No. & DATE: (1) FEB. 12, 2003

TITLE:

H. P. NEEDLE VALVE STRAIGHT PATTERN

DRAWING NO: PE-NV-HP-FF-CS-10000PSI

MATERIAL OF CONSTRUCTION

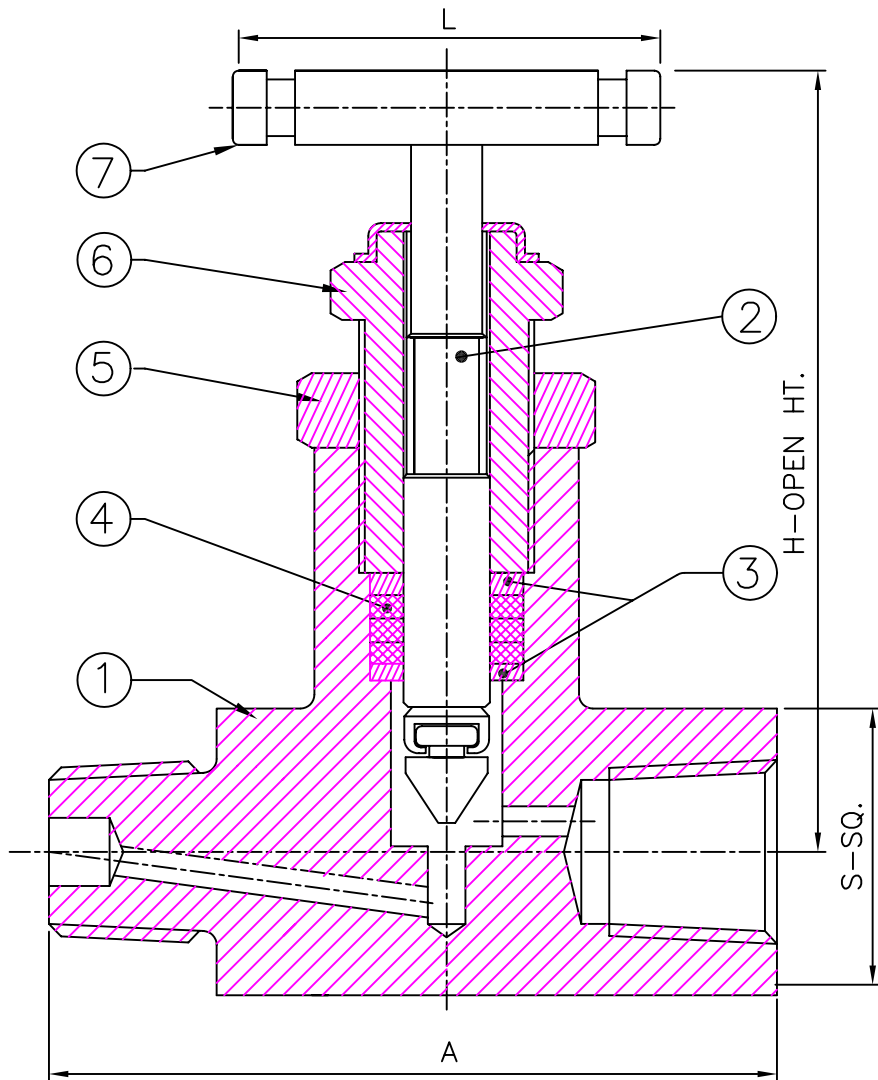
S.NO.	PART NAME	QTY.	MATERIAL
1	BODY	1	AISI316
2	STEM	1	AISI316
3	PACKING WASHER	2	AISI316
4	GLAND PACKING	3	GLASS FILLED PTFE
5	LOCK NUT	1	AISI316
6	GLAND RETAINER	1	AISI 316
7	HANDLE	1	AISI304
7	DUST COVER	1	PLASTIC

TABLE OF DIMENSION

SIZE	A	S-SQ.	H-OPEN HT.	L
1/4"	60 mm 2.362"	25 mm 0.984"	86 mm 3.386"	60 mm 2.362"
1/2"	82 mm 3.228"	34 mm 1.339"	98 mm 3.858"	70 mm 2.756"

TECHNICAL DATA

ORIFICE	Cv	Pr. Rat.	Temp.Rat.
5 mm.	0.22	10000 PSI (700 BAR)	-65 to 200° F (-50° to 93°C)



WINTERS INSTRUMENTS

DRAWN BY: E. H.

CHECKED BY:

ENG. APPROVAL:

APPROVED BY:

ALL DIMENSIONS IN INCHES / MM

TOLERANCES
(unless otherwise stated)

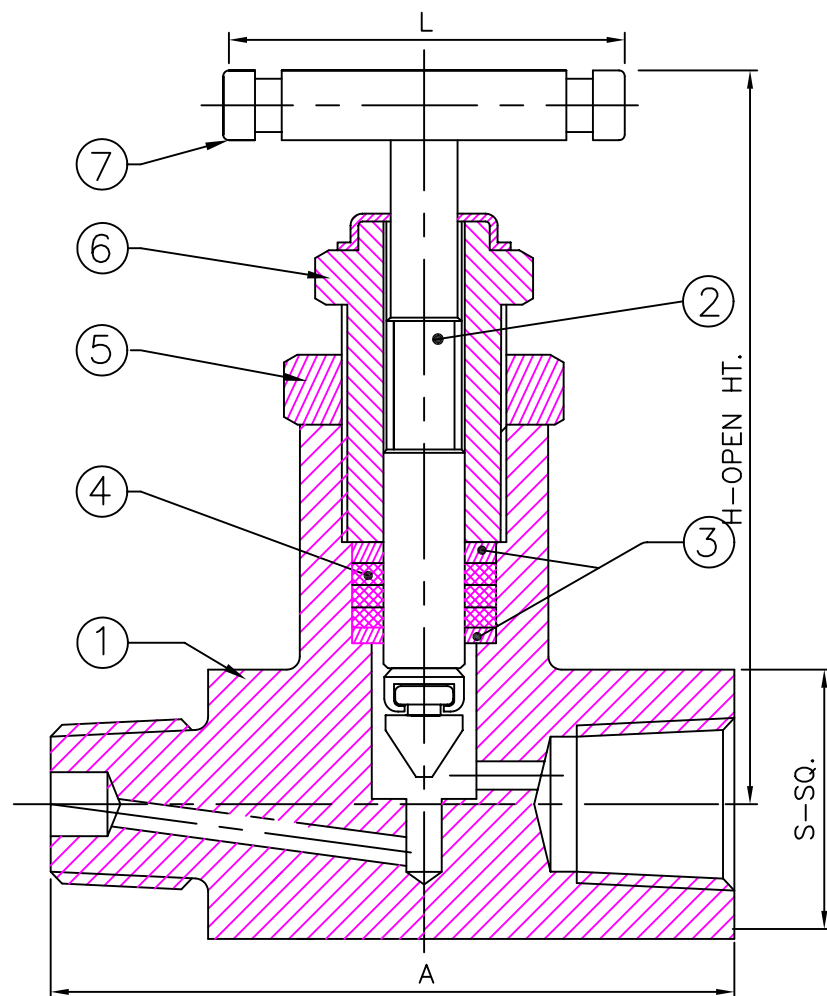
Fractional:	1/64" 0.4 mm
Decimal:	0.06" 1.5 mm

REVISION No. & DATE: (1) JAN. 29, 2003

TITLE:

H.P. NEEDLE VALVE STRAIGHT PATTERN

DRAWING NO: PE-NV-HP-MF



MATERIAL OF CONSTRUCTION

S.NO.	PART NAME	QTY.	MATERIAL
1	BODY	1	CARBON STEEL
2	STEM	1	AISI316
3	PACKING WASHER	2	AISI316
4	GLAND PACKING	3	GLASS FILLED PTFE
5	LOCK NUT	1	CARBON STEEL
6	GLAND RETAINER	1	CARBON STEEL
7	HANDLE	1	ALUMINIUM BLACK ANODISED
7	DUST COVER	1	PLASTIC

TABLE OF DIMENSION

TECHNICAL DATA			
ORIFICE	Cv	Pr. Rat.	Temp.Rat.
5 mm.	0.22	10000 PSI (700 BAR)	-65 to 200° F (-50° to 93°C)

SIZE	A	S-SQ.	H-OPEN HT.	L
1/4"	2.362" 60 mm	0.984" 25 mm	3.386" 86 mm	2.362" 60 mm
1/2"	3.228" 82 mm	1.339" 34 mm	3.858" 98 mm	2.756" 70 mm



WINTERS INSTRUMENTS

DRAWN BY: E. H.

CHECKED BY:

ENG. APPROVAL:

APPROVED BY:

ALL DIMENSIONS IN INCHES / MM

TOLERANCES
(unless otherwise stated)

Fractional:	1/64" 0.4 mm
Decimal:	0.06" 1.5 mm

REVISION No. & DATE: (1) FEB. 12, 2003

TITLE:

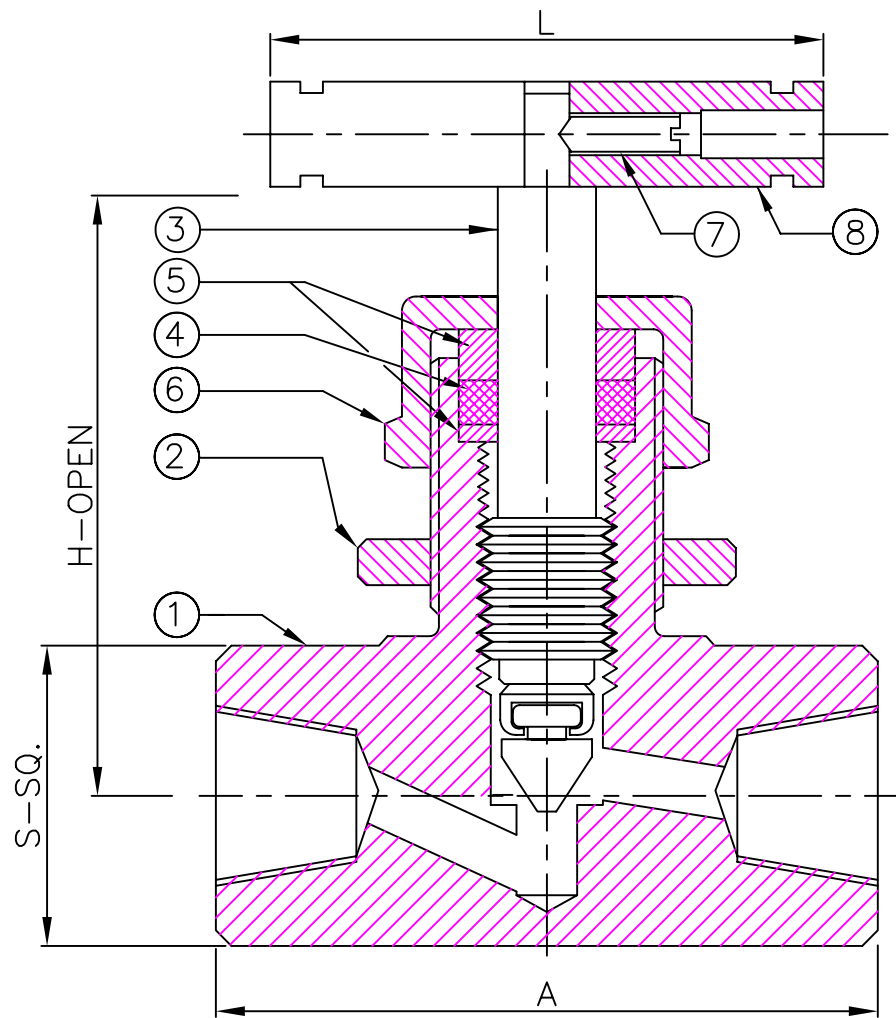
H.P. NEEDLE VALVE STRAIGHT PATTERN

DRAWING NO: PE-NV-HP-MF-CS-10000PSI

8	HANDLE	1	AISI304 ALU.COATED
7	GRUB SCREW	1	STEEL PLATED
6	GLAND NUT	1	AISI316
5	WASHER	2	AISI316
4	PACKING	1	TEFLON/GRAPHOIL
3	STEM	1	AISI316
2	PANNEL NUT	1	AISI316
1	BODY	1	AISI316
S.NO.	DESCRIPTION	QTY	MATERIAL

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

TABLE OF DIMENSIONS:				
SIZE	A	S-SQ.	H-OPEN	L
1/4"	50 mm 1.969"	22 mm 0.866"	69 mm 2.717"	50 mm 1.969"
1/2"	68 mm 2.677"	30 mm 1.181"	83 mm 3.268"	60 mm 2.362"



WINTERS INSTRUMENTS

DRAWN BY: E. H.

CHECKED BY:

ENG. APPROVAL:

APPROVED BY:

ALL DIMENSIONS IN INCHES / MM

TOLERANCES
(unless otherwise stated)

Fractional:	1/64" 0.4 mm
Decimal:	0.06" 1.5 mm

REVISION No. & DATE: (1) JAN. 29, 2003

TITLE:

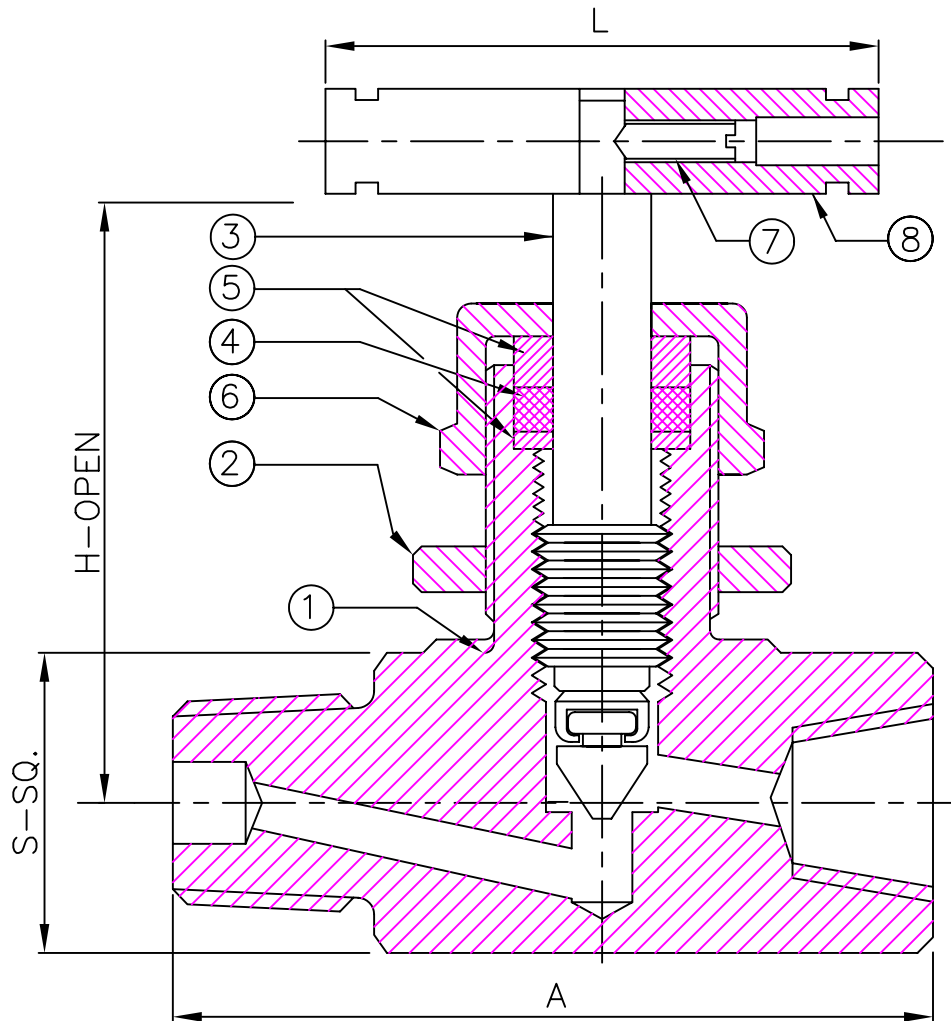
NEEDLE VALVE INTEGRAL BONNET

DRAWING NO: PE-NV-IB-FF

8	HANDLE	1	AISI304
7	GRUB SCREW	1	STEEL PLATED
6	GLAND NUT	1	AISI316
5	WASHER	2	AISI316
4	PACKING	1	TEFLON
3	STEM	1	AISI316
2	PANNEL NUT	1	AISI316
1	BODY	1	AISI316
S.NO.	DESCRIPTION	QTY.	MATERIAL

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

TABLE OF DIMENSIONS:				
SIZE	A	S-SQ.	H-OPEN	L
1/4"	55 mm 2.165"	22 mm 0.866"	69 mm 2.717"	50 mm 1.969"
1/2"	73 mm 2.874"	30 mm 1.181"	83 mm 3.268"	60 mm 2.362"



WINTERS INSTRUMENTS

DRAWN BY: E. H.

CHECKED BY:

ENG. APPROVAL:

APPROVED BY:

ALL DIMENSIONS IN INCHES / MM

TOLERANCES
(unless otherwise stated)

Fractional:	1/64" 0.4 mm
Decimal:	0.06" 1.5 mm

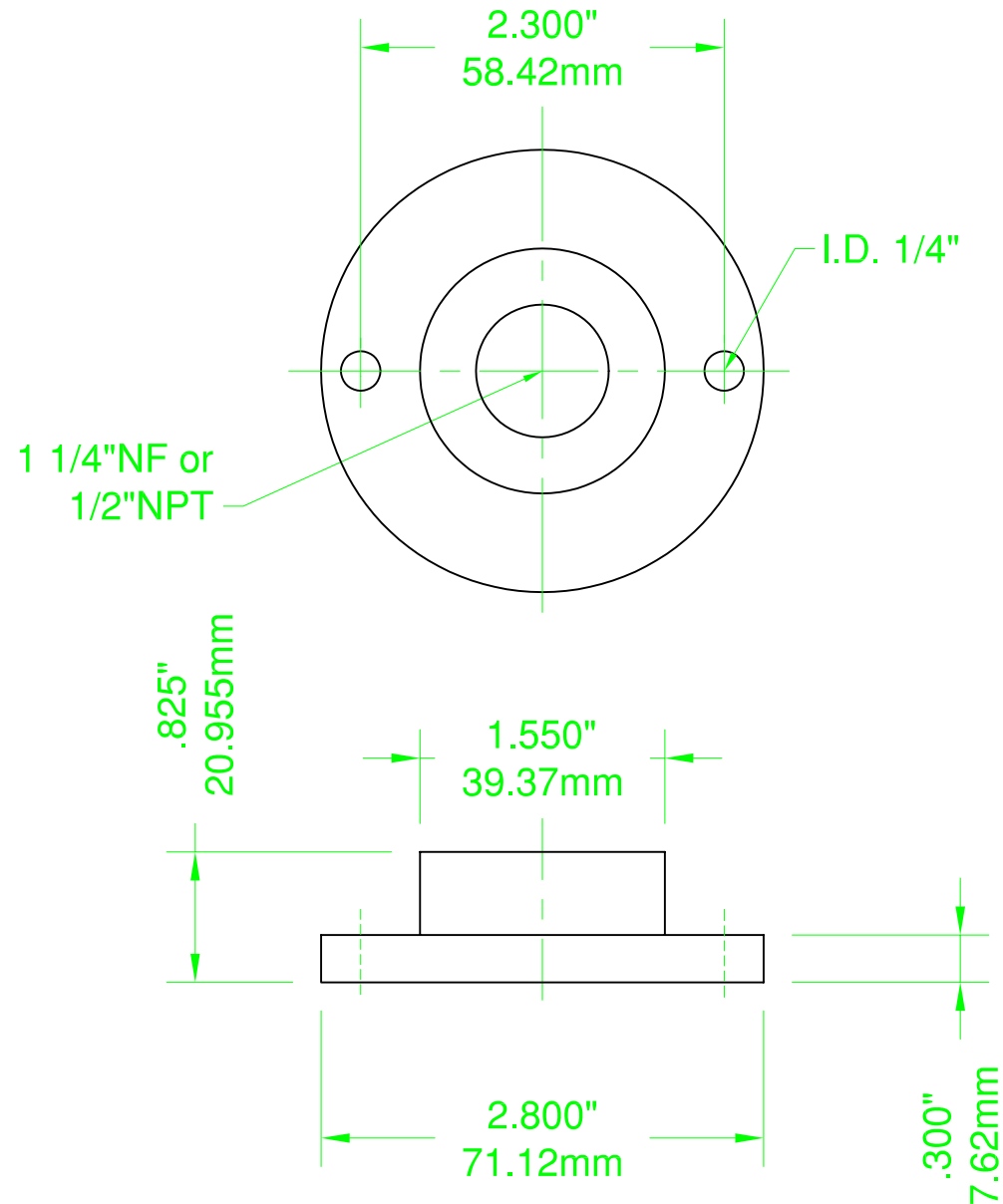
REVISION No. & DATE: (1) JAN. 29, 2003

TITLE:

NEEDLE VALVE INTEGRAL BONNET

DRAWING NO: PE-NV-IB-MF

Material: Aluminum.



WINTERS INSTRUMENTS

DRAWN BY: E.H.

CHECKED BY:

ENG. APPROVAL:

APPROVED BY:

ALL DIMENSIONS IN INCHES / MM

TOLERANCES
(unless otherwise stated)

Fractional:	1/64"	.4mm
Decimal:	0.06"	1.5mm

REVISION No. & DATE: (1) MAY 20, 2002.

TITLE:

DUCT FLANGE

DRAWING NO: T-DUCTFLANGE