

FEATURES

- Vent hole for drain
- Backelite cover on handle

APPLICATION

- Hydraulic machines
- Isolation for gauges
- Compressors

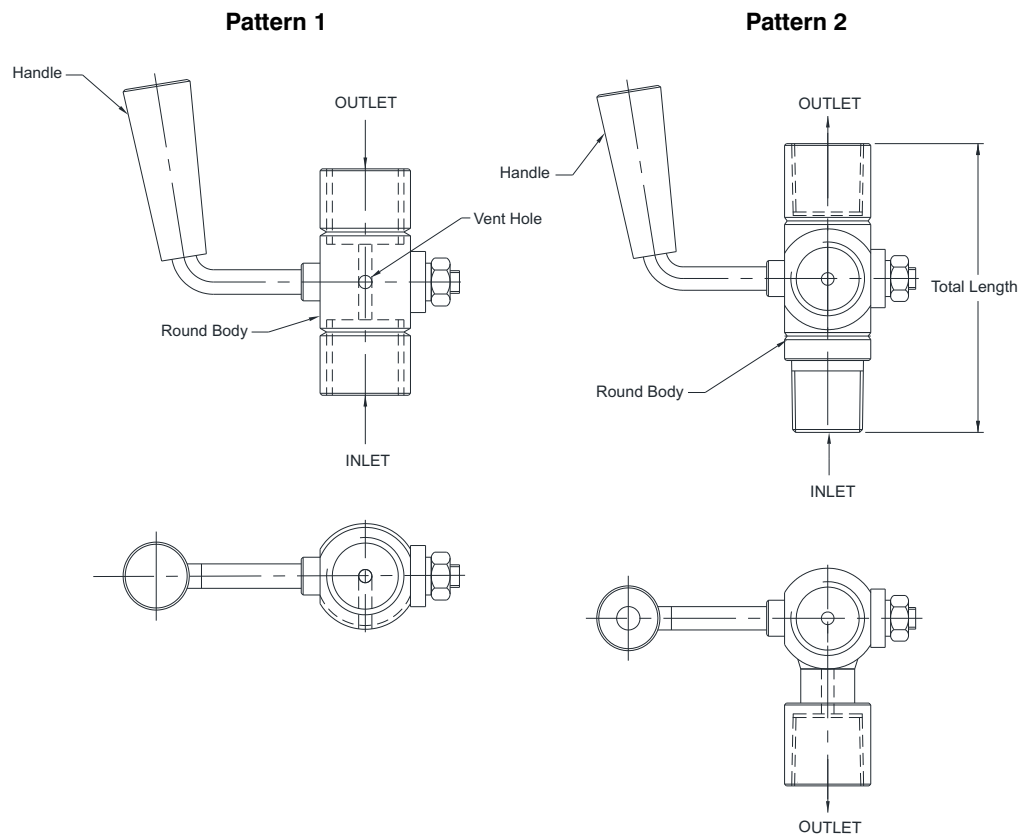
All Stainless Steel Design



STANDARD SPECIFICATIONS

Type	: Pattern 1 (2 Way)
Material	: AISI 316 SS
Instrument connection	: 1/2" NPT (F) [1/2" NPT (F) x 2 Nos for 3 Way]
	: 1/2" BSP (F) [1/2" BSP (F) x 2 Nos for 3 Way]
Process connection	: 1/2" NPT (M) / 1/2" BSP (M)
Handle	: AISI 304 SS with Backelite cover
Gaskets / Seals	: PTFE
Maximum working pressure	: 100 bar
Maximum working temperature	: 180°C

DIMENSIONAL DRAWING



ORDERING CODES

1. TYPE

- | | |
|---|-------------------|
| 1 | Pattern 1 (2 Way) |
| 2 | Pattern 2 (3 Way) |

1

2. MATERIAL

- | | |
|----|--------------|
| MC | AISI 304 SS |
| MF | AISI 316 SS |
| MG | AISI 316L SS |

MF

3. INSTRUMENT CONNECTION

- | | |
|-----|--------------|
| 12B | 1/4" BSP (M) |
| 13B | 3/8" BSP (M) |
| 14B | 1/2" BSP (M) |
| 12N | 1/4" NPT (M) |
| 13N | 3/8" NPT (M) |
| 14N | 1/2" NPT (M) |
| 02B | 1/4" BSP (F) |
| 03B | 3/8" BSP (F) |
| 04B | 1/2" BSP (F) |
| 02N | 1/4" NPT (F) |
| 03N | 3/8" NPT (F) |
| 04N | 1/2" NPT (F) |

04N

4. PROCESS CONNECTION

- | | |
|-----|--------------|
| 12B | 1/4" BSP (M) |
| 13B | 3/8" BSP (M) |
| 14B | 1/2" BSP (M) |
| 12N | 1/4" NPT (M) |
| 13N | 3/8" NPT (M) |
| 14N | 1/2" NPT (M) |
| 02B | 1/4" BSP (F) |
| 03B | 3/8" BSP (F) |
| 04B | 1/2" BSP (F) |
| 02N | 1/4" NPT (F) |
| 03N | 3/8" NPT (F) |
| 04N | 1/2" NPT (F) |

14N

5. OTHER OPTIONS

- | | |
|----|----------------------------------|
| TC | Material test certificate 3.1 |
| TM | Material test certificate 2.2 |
| TO | Certification for Oxygen service |
| XM | Marking by engraving |
| XL | Marking by laser |

XM

Ordering Example : A101-1-MF-04N-14N-XM

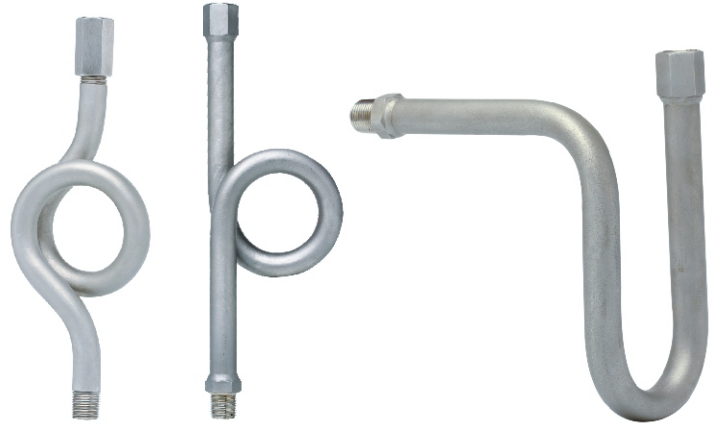
FEATURES

- 3 different loop designs
- Tig welded & hydro-tested
- Seamless pipes construction
- Threads welded
- Max working pressure 160 bar
- Max working temperature 400°C

APPLICATION

- Heat dispenser for gauges, switches & transmitters
- Boilers

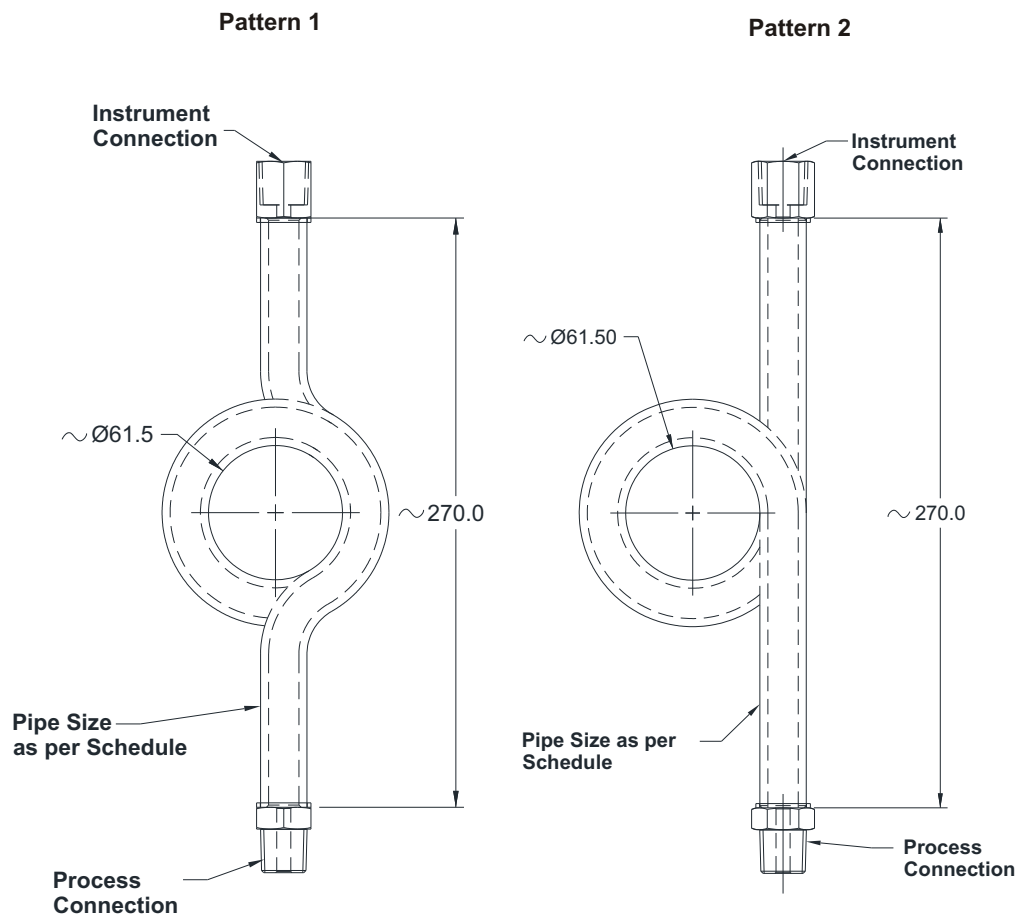
Rigid Construction



STANDARD SPECIFICATIONS

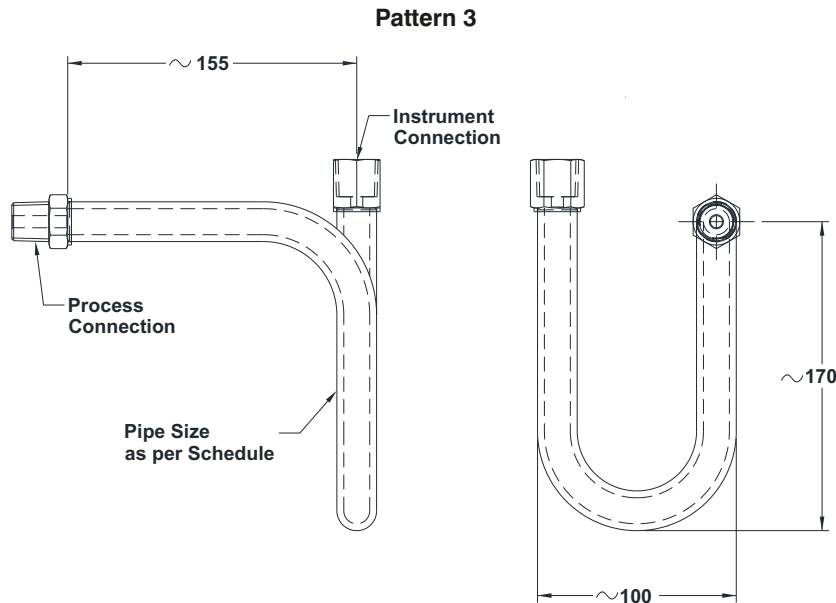
Type	: Pattern 1 (Coiled type)
Material	: AISI 316 SS
Instrument connection	: 1/2" Pipe-end
Pipe size & schedule	: Pipe 1/2" Sch 40
Connection type	: Weld-in connection
Process connection	: 1/2" Pipe-end
Maximum working pressure	: As per PT chart
Maximum working temperature	: As per PT chart

DIMENSIONAL DRAWING



All dimensions are in mm.

DIMENSIONAL DRAWING



All dimensions are in mm.

ORDERING CODES

1. TYPE

- 1 Pattern 1 (Coiled type)
- 2 Pattern 2 (Pigtail type)
- 3 Pattern 3 ("U" type)

1

2. MATERIAL

- MB ASTM A105 / Carbon Steel²
- MC AISI 304SS
- MF AISI 316 SS
- MG AISI 316L SS

MF

3. INSTRUMENT CONNECTION

- | | |
|-------------------|--------------------|
| 12B 1/4" BSP (M) | 13B 3/8" BSP (M) |
| 14B 1/2" BSP (M) | 12N 1/4" NPT (M) |
| 13N 3/8" NPT (M) | 14N 1/2" NPT (M) |
| 02B 1/4" BSP (F) | 03B 3/8" BSP (F) |
| 04B 1/2" BSP (F) | 02N 1/4" NPT (F) |
| 03N 3/8" NPT (F) | 04N 1/2" NPT (F) |
| I14 1/4" Pipe-end | I38 3/8" Pipe-end |
| I12 1/2" Pipe-end | 04M M20x1.5 mm (F) |

I12

4. PIPE SIZE & SCHEDULE

- | | |
|----------------------|---------------------|
| U3 Pipe 3/8" Sch 40 | U4 Pipe 3/8" Sch 80 |
| U5 Pipe 1/2" Sch 40 | U6 Pipe 1/2" Sch 80 |
| UA Pipe 1/4" Sch 40 | UB Pipe 1/4" Sch 80 |
| UC Pipe 1/2" Sch 160 | |

U5

5. CONNECTION TYPE

- C0 Weld-in connections
- C1 Thread on pipe, male
- C2 Connection through adaptors
- C3 Swivel female

C0

6. PROCESS CONNECTION

- | | |
|--------------------|-------------------|
| 12B 1/4" BSP (M) | 13B 3/8" BSP (M) |
| 14B 1/2" BSP (M) | 12N 1/4" NPT (M) |
| 13N 3/8" NPT (M) | 14N 1/2" NPT (M) |
| 02B 1/4" BSP (F) | 03B 3/8" BSP (F) |
| 04B 1/2" BSP (F) | 02N 1/4" NPT (F) |
| 03N 3/8" NPT (F) | 04N 1/2" NPT (F) |
| I14 1/4" Pipe-end | I38 3/8" Pipe-end |
| I12 1/2" Pipe-end | |
| 14M M20x1.5 mm (M) | |

I12

7. OTHER OPTIONS

- TC Material test certificate 3.1
- TM Material test certificate 2.2
- TN Tested to NACE standards
- TO Certification for Oxygen service
- TI IBR Certification
- XM Marking by engraving
- XL Marking by laser
- P8 Epoxy coating

XM

Ordering Example : A102-1-MF-I12-U5-C0-I12-XM

NOTES:

1. Other process connections are available through adaptors.
2. Red oxide painted.
3. General Tolerance in total length : ±10 mm, Ø : ±2 mm
4. NACE testing is applicable upon minimum quantity, please contact factory.

FEATURES

- Economical version
- 2 different loop designs
- ERW pipes construction

APPLICATION

- Heat dispenser for gauges, switches & transmitters
- Boilers

Thread On Pipe

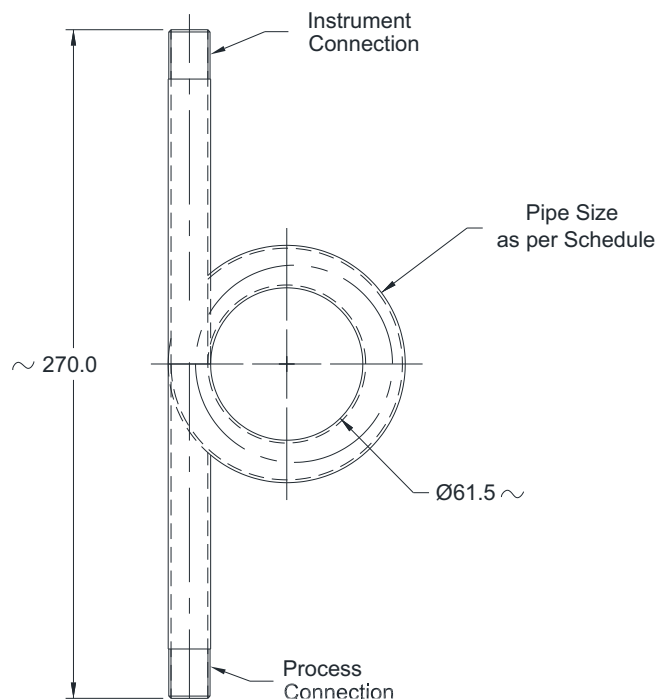


STANDARD SPECIFICATIONS

Type	: Pattern 1 (Coiled type)
Material	: Steel (Plated)
Instrument connection	: 3/8" BSP (M)
Pipe size & schedule	: Pipe 3/8" Sch 40
Connection type	: Thread on pipe, Male
Process connection	: 3/8" BSP (M)
Maximum working pressure	: 16 bar
Maximum working temperature	: 120°C

DIMENSIONAL DRAWING

Pattern 1

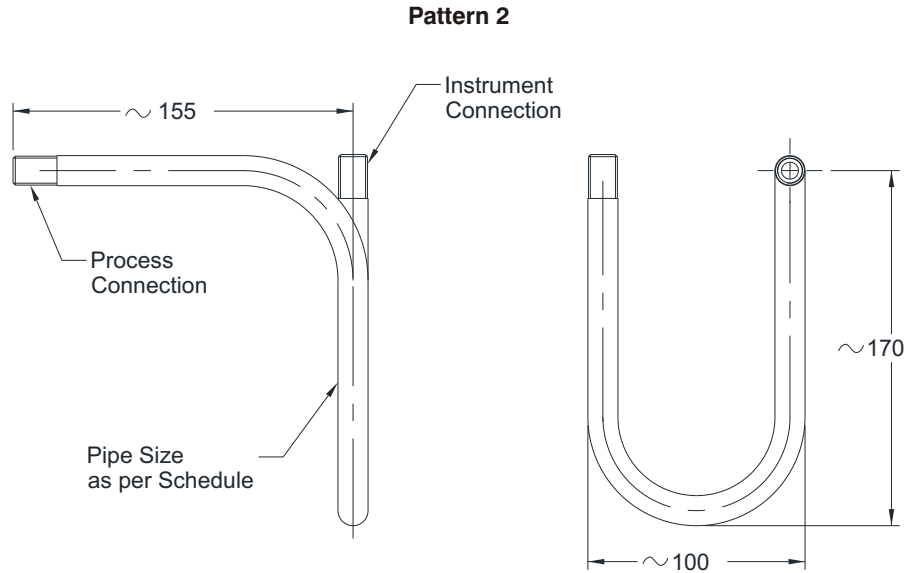


All dimensions are in mm.

NOTES:

1. Picture shown are for reference purpose, the actual product may vary in appearance.

DIMENSIONAL DRAWING



All dimensions are in mm.

ORDERING CODES

1. TYPE

- 1 Pattern 1 (Pigtail type)
- 2 Pattern 2 ("U" type)

1

2. MATERIAL

- M9 Steel (Plated)

M9

3. INSTRUMENT CONNECTION

- 13B 3/8" BSP (M)
- 14B 1/2" BSP (M)
- 13N 3/8" NPT (M)
- 14N 1/2" NPT (M)

13B

4. PIPE SIZE & SCHEDULE

- U3 Pipe 3/8" Sch 40
- U5 Pipe 1/2" Sch 40

U3

5. CONNECTION TYPE

- C1 Thread on pipe, Male

C1

6. PROCESS CONNECTION

- 13B 3/8" BSP (M)
- 14B 1/2" BSP (M)
- 13N 3/8" NPT (M)
- 14N 1/2" NPT (M)

13B

Ordering Example : A103-1-M9-13B-U3-C1-13B

NOTES:

1. Minimum order quantity shall be 100 Nos.

FEATURES

- Economical version

APPLICATION

- Hydraulic machines
- Isolation for gauges
- Compressors

Brass

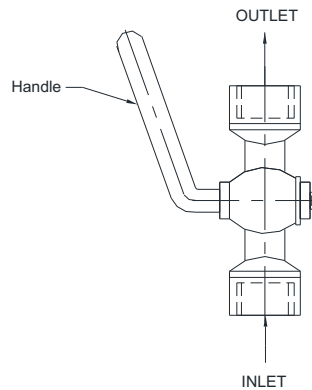


STANDARD SPECIFICATIONS

Type	:	Pattern 1 (2 Way)
Material	:	Brass
Instrument connection	:	3/8" BSP (F)
Process connection	:	3/8" BSP (F)
Maximum working pressure	:	16 bar
Maximum working temperature	:	120°C

DIMENSIONAL DRAWING

Pattern 1



ORDERING CODES

1. TYPE

1 Pattern 1 (2 Way)

2. MATERIAL

MA Brass

3. INSTRUMENT CONNECTION

02B 1/4" BSP (F)

04B 1/2" BSP (F)

03B 3/8" BSP (F)

4. PROCESS CONNECTION

02B 1/4" BSP (F)

04B 1/2" BSP (F)

03B 3/8" BSP (F)

Ordering Example : A104-1-MA-03B-03B

NOTES:

1. Picture shown are for reference purpose, the actual product may vary in appearance.
2. Minimum order quantity shall be 100 Nos.

FEATURES

- Compact design
- Tig welded & hydro-tested
- Seamless pipes construction
- Threads welded

APPLICATION

- Heat dispenser for gauges, switches & transmitters
- Boilers

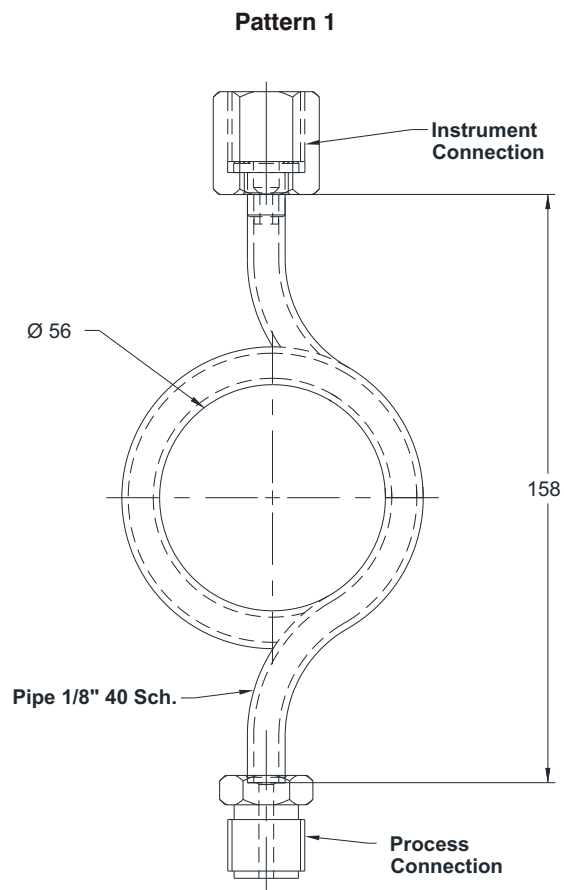
Compact



STANDARD SPECIFICATIONS

Type	: Pattern 1 (Coiled type)
Material	: AISI 316 SS
Instrument connection	: 1/2" BSP (F)
Pipe size & schedule	: Pipe 1/8" Sch 40
Connection type	: Swivel female
Process connection	: 1/2" BSP (M)
Maximum working pressure	: As per PT chart
Maximum working temperature	: As per PT chart

DIMENSIONAL DRAWING



All dimensions are in mm.

ORDERING CODES

1. TYPE

1	Pattern 1 (Coiled type)	1
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2. MATERIAL

MC	AISI 304 SS	MF
MF	AISI 316 SS	

3. INSTRUMENT CONNECTION

04B	1/2" BSP (F)	04B
04M	M20x1.5 mm (F)	

4. PIPE SIZE & SCHEDULE

UG	Pipe 1/8" Sch 40	UG
UH	Pipe 1/8" Sch 80	

5. CONNECTION TYPE

C3	Swivel female	C3
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6. PROCESS CONNECTION

14B	1/2" BSP (M)	14B
14N	1/2" NPT (M)	
14M	M20x1.5 mm (M)	

7. OTHER OPTIONS

TO	Certification for Oxygen service	XM
XM	Marking by engraving	

Ordering Example : A105-1-MF-04B-UG-C3-14B-XM

NOTES:

1. Other process connections are available through adaptors.