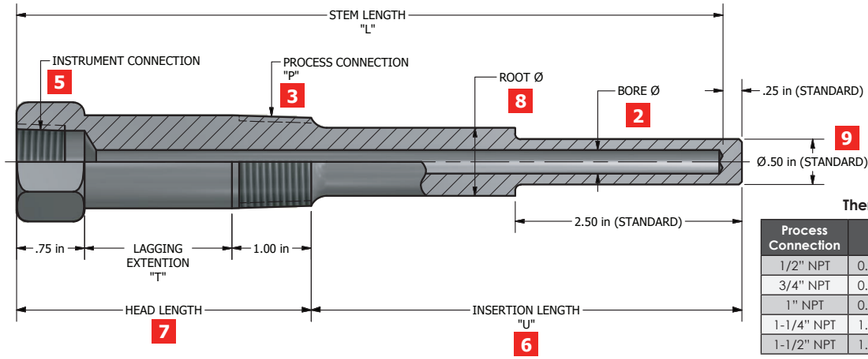
AT01 THREADED STEPPED THERMOWELL

As a pioneer and global leader in manufacturing thermowells, we ensure the highest quality and precision in every piece we manufacture. Whether they are custom-made for highly specialized measurements or they are standard configuration, each and every Thermowell is built to meet or exceed accepted standards.

Our threaded thermowells are designed and manufactured 100% in-house, and are made to accept standard and custom made thermometers, thermocouples, bulbs and RTD's.



Thermowell Dimensions

Process Connection	Root Dia.	Tip Dia.
1/2" NPT	0.625" (15.9 mm)	0.500" (12.7 mm)
3/4" NPT	0.750" (19.1 mm)	0.500" (12.7 mm)
1" NPT	0.875" (22.2 mm)	0.500" (12.7 mm)
1-1/4" NPT	1.250" (31.8 mm)	0.500" (12.7 mm)
1-1/2" NPT	1.500" (38.1 mm)	0.500" (12.7 mm)

Please note: Various configurations may not be available. American Thermowell will notify you if you have selected a incompatible part combination.

AT01	A	AB	L2	AA	04500	01750	0750	0500	I
1	2	3	4	5	6	7	8	9	10

1 Thermowell Stem Style

Code	Description
AT01	Stepped Stem
AT02	Straight Stem
AT03	Tapered Stem

2 Bore Size

Code	Description
A	0.260
B	0.385
C	0.515
D	0.203
E	0.375
F	0.390
G	0.343
M	0.406
N	0.280
O	0.302
P	0.315
R	0.276
U	0.394
V	0.354
X	0.437
K	0.703

Custom sizes, connections and materials may not be listed, contact American Thermowell today to find out more.

3 Process Connection

Code	Description
AA	1/2" NPT
AB	3/4" NPT
AC	1" NPT
AD	1-1/4" NPT
AE	1-1/2" NPT
AF	1/2" NPSM
AZ	1/2" ANPT
AR	1/4" NPT
AT	1/8" NPT
AG	1/2" BSPP
AH	3/4" BSPP
AI	1/2" BSPT
AJ	3/4" BSPT
AK	M14 x 1.5
AL	M18 x 1.5
AM	M20 x 1.5
AN	M24 x 1.5
AO	M27 x 2.0
AP	1/4" - 20 UNF
AQ	3/8" - 24 UNF
AU	1/2" - 20 UNF
AV	5/8" - 18 UNF
AW	3/4" - 16 UNF
AX	7/8" - 14 UNF
AY	1" - 14 UNF

4 Material

Code	Description
L2	316/316L
H2	304/304L
H3	304H
K2	310/310H
L3	316H
J1	317
J3	317L
M2	321/H
M3	RA330
N2	347/H
N3	410
N4	446
N5	HR160
S3	904L
S4	AL-6XN
S2	Alloy 20
S1	Alloy 200
R1	Alloy 400
P1	Alloy 600
P3	Alloy 601
P2	Alloy 625
Q3	Alloy 800/H/HT
Q1	Alloy 825
U2	Alloy B2
U3	Alloy B3
U4	Alloy C-22
U1	Alloy C-276

4 Material *(Continued)*

Code	Description
R2	Alloy K500
U5	Alloy X
C1	Aluminum 6061
A1	Brass
E4	Carbon Steel 1018
E3	Carbon Steel 12L14
E1	Carbon Steel ASTM A105
G1	Chrome-M-Moly F22
F1	Chrome-Moly-F11
F6	Chrome-Moly-F5
F7	Chrome-Moly-F9
F8	Chrome-Moly-F91
Y2	CPVC
F2	Duplex F51/2205
E2	LF2
B1	Naval Brass
Y1	PVC
F4	Stainless F44/254 SMO
F3	Super Duplex F53/2507
F5	Super Duplex F55
W1	Teflon
T1	Tit Gr2
T2	Tit Gr5
T3	Tit Gr7
Z1	Zirc 702

5 Instrument Connection

Code	Description
AA	1/2" NPT
AB	3/4" NPT
AC	1" NPT
AD	1-1/4" NPT
AE	1-1/2" NPT
AF	1/2" NPSM
AS	1/2" NPT TO CSA
AZ	1/2" ANPT
AR	1/4" NPT
AT	1/8" NPT
AG	1/2" BSPP
AH	3/4" BSPP
AI	1/2" BSPT
AJ	3/4" BSPT
AK	M14 x 1.5
AL	M18 x 1.5
AM	M20 x 1.5
AN	M24 x 1.5
AO	M27 x 2.0
AP	1/4" - 20 UNF
AQ	3/8" - 24 UNF
AU	1/2" - 20 UNF
AV	5/8" - 18 UNF
AW	3/4" - 16 UNF
AX	7/8" - 14 UNF
AY	1" - 14 UNF
AZ	3/8" NPT
BA	3/4" Pipe (1.05" Dia.)
BB	1" Pipe (1.315" Dia)
BC	1-1/4" OD
BD	1-1/2" OD
BE	1-3/4" OD
BF	1-1/4" Pipe (1.660" Dia.)
BG	1-1/2" Pipe (1.900" Dia.)
BH	1/2" Pipe (0.840" Dia.)

6 Insertion Length

Code	Description
xxxxx	Imperial: 6.500" = 06500 Metric: 165.1 mm = 01651
U length =>100.000" or 10,000.0mm see sales person for custom part number	

7 Head Length

Code	Description
xxxxx	Imperial: 2.25" = 02250 Metric: 57.2 mm = 00572

8 Root Diameter

Code	Description
xxxx	Imperial: 0.875" = 0875 Metric: 22.2 mm = 0222

9 Tip Diameter

Code	Description
xxxx	Imperial: 0.875" = 0875 Metric: 22.2 mm = 0222

10 Measurement

Code	Description
I	Imperial
M	Metric

Notes:

1. 316/304 thermowells with 1/2", 3/4", and 1" NPT process connections are manufactured from round bar with milled wrench hex.
   Exotic material thermowells ¾" NPT and under include a wrench hex, exotics 1" NPT are finished with 2 wrench flats.
   All thermowells with 1-1/4" and 1-1/2" NPT process connections are manufactured from round bar with 2 wrench flats.
2. Tapered length of 16 inches is standard
3. Thermowells with 1/2" NPT process connections have a hex length of 1" and external threaded area length of 3/4"

OPTIONS

- Brass Plug & Chain
- Stainless Plug & Chain
- Teflon Coating
- Stellite Overlay
- Kynar Coating
- Dye Penetrant Test
- Dye Penetrant Cap
- Dye Penetrant Root (Optional)
- Internal Hydrostatic Testing
- External Hydrostatic Testing
- Material Test Report (MTR)
- Nace MR0175
- PMI
- Tantalum Sheath (Flanged Only)
- Velocity Calculation per PTC 19.3 TW-2010
- X-Ray
- O2 Cleaning
- Post Weld Heat Treatment
- UT bore concentricity
- UT phased array
- CofC (Certificate of compliance)
- COO (certificate of origin)
- Traceability Index
- ITP (Inspection Test Plan)
- Stamping
- SS tags
- Visual dimensional report
- Electro polish
- Pickle and Passivation

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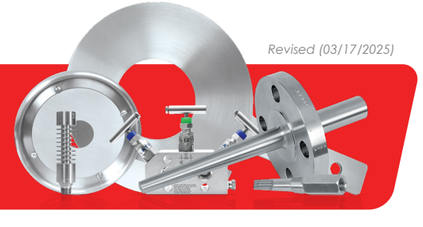
- ✓ Valves



Revised (03/17/2025)

AT02 | THREADED STRAIGHT THERMOWELL

As a pioneer and global leader in manufacturing Thermowells, we ensure the highest quality and precision in every piece we manufacture. Whether they are custom-made for highly specialized measurements or they are standard configuration, each and every thermowell is built to meet or exceed accepted standards.

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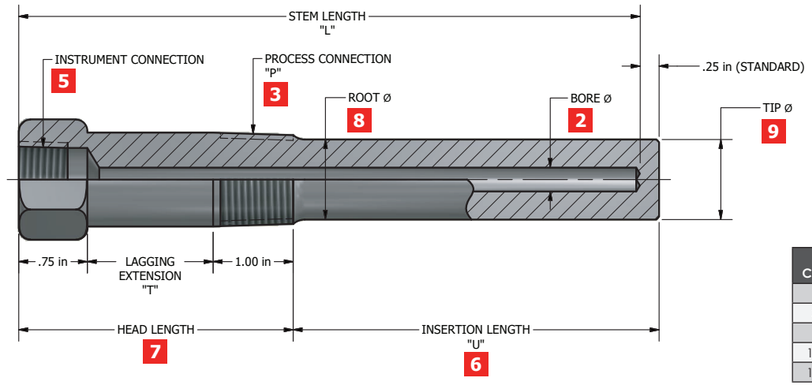

Thermowell Dimensions

Process Connection	Root Dia.
1/2" NPT	0.625" (15.9 mm)
3/4" NPT	0.750" (19.1 mm)
1" NPT	0.750" (19.1 mm)
1-1/4" NPT	1.250" (31.8 mm)
1-1/2" NPT	1.500" (38.1 mm)

Please note: Various configurations may not be available. American Thermowell will notify you if you have selected a incompatible part combination.

AT02	A	AB	L2	AA	04500	01750	0750	0750	I
1	2	3	4	5	6	7	8	9	10

1 Thermowell Stem Style

Code	Description
AT01	Stepped Stem
AT02	Straight Stem
AT03	Tapered Stem

2 Bore Size

Code	Description
A	0.260
B	0.385
C	0.515
D	0.203
E	0.375
F	0.390
G	0.343
M	0.406
N	0.280
O	0.302
P	0.315
R	0.276
U	0.394
V	0.354
X	0.437
K	0.703

Custom sizes, connections and materials may not be listed, contact American Thermowell today to find out more.

3 Process Connection

Code	Description
AA	1/2" NPT
AB	3/4" NPT
AC	1" NPT
AD	1-1/4" NPT
AE	1-1/2" NPT
AF	1/2" NPSM
AZ	1/2" ANPT
AR	1/4" NPT
AT	1/8" NPT
AG	1/2" BSPP
AH	3/4" BSPP
AI	1/2" BSPT
AJ	3/4" BSPT
AK	M14 x 1.5
AL	M18 x 1.5
AM	M20 x 1.5
AN	M24 x 1.5
AO	M27 x 2.0
AP	1/4" - 20 UNF
AQ	3/8" - 24 UNF
AU	1/2" - 20 UNF
AV	5/8" - 18 UNF
AW	3/4" - 16 UNF
AX	7/8" - 14 UNF
AY	1" - 14 UNF

4 Material

Code	Description
L2	316/316L
H2	304/304L
H3	304H
K2	310/310H
L3	316H
J1	317
J3	317L
M2	321/H
M3	RA330
N2	347/H
N3	410
N4	446
N5	HR160
S3	904L
S4	AL-6XN
S2	Alloy 20
S1	Alloy 200
R1	Alloy 400
P1	Alloy 600
P3	Alloy 601
P2	Alloy 625
Q3	Alloy 800/H/HT
Q1	Alloy 825
U2	Alloy B2
U3	Alloy B3
U4	Alloy C-22
U1	Alloy C-276

4 Material *(Continued)*

Code	Description
R2	Alloy K500
U5	Alloy X
C1	Aluminum 6061
A1	Brass
E4	Carbon Steel 1018
E3	Carbon Steel 12L14
E1	Carbon Steel ASTM A105
G1	Chrome-M-Moly F22
F1	Chrome-Moly-F11
F6	Chrome-Moly-F5
F7	Chrome-Moly-F9
F8	Chrome-Moly-F91
Y2	CPVC
F2	Duplex F51/2205
E2	LF2
B1	Naval Brass
Y1	PVC
F4	Stainless F44/254 SMO
F3	Super Duplex F53/2507
F5	Super Duplex F55
W1	Teflon
T1	Tit Gr2
T2	Tit Gr5
T3	Tit Gr7
Z1	Zirc 702

5 Instrument Connection

Code	Description
AA	1/2" NPT
AB	3/4" NPT
AC	1" NPT
AD	1-1/4" NPT
AE	1-1/2" NPT
AF	1/2" NPSM
AS	1/2" NPT TO CSA
AZ	1/2" ANPT
AR	1/4" NPT
AT	1/8" NPT
AG	1/2" BSPP
AH	3/4" BSPP
AI	1/2" BSPT
AJ	3/4" BSPT
AK	M14 x 1.5
AL	M18 x 1.5
AM	M20 x 1.5
AN	M24 x 1.5
AO	M27 x 2.0
AP	1/4" - 20 UNF
AQ	3/8" - 24 UNF
AU	1/2" - 20 UNF
AV	5/8" - 18 UNF
AW	3/4" - 16 UNF
AX	7/8" - 14 UNF
AY	1" - 14 UNF
AZ	3/8" NPT
BA	3/4" Pipe (1.05" Dia.)
BB	1" Pipe (1.315" Dia)
BC	1-1/4" OD
BD	1-1/2" OD
BE	1-3/4" OD
BF	1-1/4" Pipe (1.660" Dia.)
BG	1-1/2" Pipe (1.900" Dia.)
BH	1/2" Pipe (0.840" Dia.)

6 Insertion Length

Code	Description
xxxxx	Imperial: 6.500" = 06500 Metric: 165.1 mm = 01651

**U length =>100.000" or 10,000.0mm see sales person for custom part number*

7 Head Length

Code	Description
xxxxx	Imperial: 2.25" = 02250 Metric: 57.2 mm = 00572

8 Root Diameter

Code	Description
xxxx	Imperial: 0.875" = 0875 Metric: 22.2 mm = 0222

9 Tip Diameter

Code	Description
xxxx	Imperial: 0.875" = 0875 Metric: 22.2 mm = 0222

10 Measurement

Code	Description
I	Imperial
M	Metric

Notes:

1. 316/304 thermowells with 1/2", 3/4", and 1" NPT process connections are manufactured from round bar with milled wrench hex.
   Exotic material thermowells ¾" NPT and under include a wrench hex, exotics 1" NPT are finished with 2 wrench flats.
   All thermowells with 1-1/4" and 1-1/2" NPT process connections are manufactured from round bar with 2 wrench flats.
2. Tapered length of 16 inches is standard
3. Thermowells with 1/2" NPT process connections have a hex length of 1" and external threaded area length of 3/4"

OPTIONS

- Brass Plug & Chain
- Stainless Plug & Chain
- Teflon Coating
- Stellite Overlay
- Kynar Coating
- Dye Penetrant Test
- Dye Penetrant Cap
- Dye Penetrant Root (Optional)
- Internal Hydrostatic Testing
- External Hydrostatic Testing
- Material Test Report (MTR)
- Nace MR0175
- PMI
- Tantalum Sheath (Flanged Only)
- Velocity Calculation per PTC 19.3 TW-2010
- X-Ray
- O2 Cleaning
- Post Weld Heat Treatment
- UT bore concentricity
- UT phased array
- CofC (Certificate of compliance)
- COO (certificate of origin)
- Traceability Index
- ITP (Inspection Test Plan)
- Stamping
- SS tags
- Visual dimensional report
- Electro polish
- Pickle and Passivation

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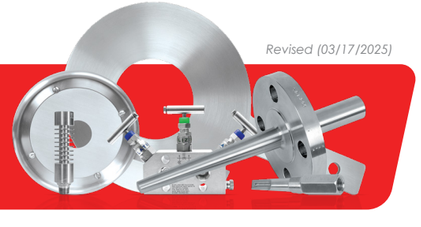

Revised (03/17/2025)

AT03 | THREADED TAPERED THERMOWELL

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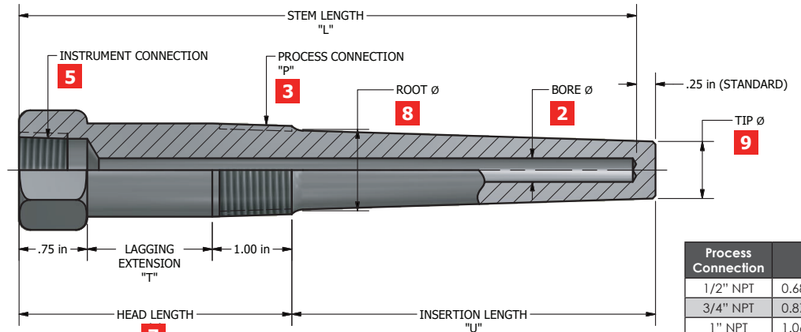

Thermowell Dimensions

Process Connection	Root Diameter	TIP Diameter (For 0.260 Bore)	TIP Diameter (For 0.385 Bore)
1/2" NPT	0.680" (17.3 mm)	0.625" (15.9 mm)	0.625" (15.9 mm)
3/4" NPT	0.875" (22.2 mm)	0.625" (15.9 mm)	0.750" (19.1 mm)
1" NPT	1.063" (27.0 mm)	0.625" (15.9 mm)	0.750" (19.1 mm)
1-1/4" NPT	1.375" (34.9 mm)	0.625" (15.9 mm)	0.750" (19.1 mm)
1-1/2" NPT	1.625" (41.3 mm)	0.625" (15.9 mm)	0.750" (19.1 mm)

Please note: Various configurations may not be available. American Thermowell will notify you if you have selected a incompatible part combination.

AT03	A	AB	L2	AA	04500	01750	0875	0625	I
1	2	3	4	5	6	7	8	9	10

1 Thermowell Stem Style

Code	Description
AT01	Stepped Stem
AT02	Straight Stem
AT03	Tapered Stem

2 Bore Size

Code	Description
A	0.260
B	0.385
C	0.515
D	0.203
E	0.375
F	0.390
G	0.343
M	0.406
N	0.280
O	0.302
P	0.315
R	0.276
U	0.394
V	0.354
X	0.437
K	0.703

Custom sizes, connections and materials may not be listed, contact American Thermowell today to find out more.

3 Process Connection

Code	Description
AA	1/2" NPT
AB	3/4" NPT
AC	1" NPT
AD	1-1/4" NPT
AE	1-1/2" NPT
AF	1/2" NPSM
AZ	1/2" ANPT
AR	1/4" NPT
AT	1/8" NPT
AG	1/2" BSPP
AH	3/4" BSPP
AI	1/2" BSPT
AJ	3/4" BSPT
AK	M14 x 1.5
AL	M18 x 1.5
AM	M20 x 1.5
AN	M24 x 1.5
AO	M27 x 2.0
AP	1/4" - 20 UNF
AQ	3/8" - 24 UNF
AU	1/2" - 20 UNF
AV	5/8" - 18 UNF
AW	3/4" - 16 UNF
AX	7/8" - 14 UNF
AY	1" - 14 UNF

4 Material

Code	Description
L2	316/316L
H2	304/304L
H3	304H
K2	310/310H
L3	316H
J1	317
J3	317L
M2	321/H
M3	RA330
N2	347/H
N3	410
N4	446
N5	HR160
S3	904L
S4	AL-6XN
S2	Alloy 20
S1	Alloy 200
R1	Alloy 400
P1	Alloy 600
P3	Alloy 601
P2	Alloy 625
Q3	Alloy 800/H/HT
Q1	Alloy 825
U2	Alloy B2
U3	Alloy B3
U4	Alloy C-22
U1	Alloy C-276

4 Material *(Continued)*

Code	Description
R2	Alloy K500
U5	Alloy X
C1	Aluminum 6061
A1	Brass
E4	Carbon Steel 1018
E3	Carbon Steel 12L14
E1	Carbon Steel ASTM A105
G1	Chrome-M-Moly F22
F1	Chrome-Moly-F11
F6	Chrome-Moly-F5
F7	Chrome-Moly-F9
F8	Chrome-Moly-F91
Y2	CPVC
F2	Duplex F51/2205
E2	LF2
B1	Naval Brass
Y1	PVC
F4	Stainless F44/254 SMO
F3	Super Duplex F53/2507
F5	Super Duplex F55
W1	Teflon
T1	Tit Gr2
T2	Tit Gr5
T3	Tit Gr7
Z1	Zirc 702

5 Instrument Connection

Code	Description
AA	1/2" NPT
AB	3/4" NPT
AC	1" NPT
AD	1-1/4" NPT
AE	1-1/2" NPT
AF	1/2" NPSM
AS	1/2" NPT TO CSA
AZ	1/2" ANPT
AR	1/4" NPT
AT	1/8" NPT
AG	1/2" BSPP
AH	3/4" BSPP
AI	1/2" BSPT
AJ	3/4" BSPT
AK	M14 x 1.5
AL	M18 x 1.5
AM	M20 x 1.5
AN	M24 x 1.5
AO	M27 x 2.0
AP	1/4" - 20 UNF
AQ	3/8" - 24 UNF
AU	1/2" - 20 UNF
AV	5/8" - 18 UNF
AW	3/4" - 16 UNF
AX	7/8" - 14 UNF
AY	1" - 14 UNF
AZ	3/8" NPT
BA	3/4" Pipe (1.05" Dia.)
BB	1" Pipe (1.315" Dia)
BC	1-1/4" OD
BD	1-1/2" OD
BE	1-3/4" OD
BF	1-1/4" Pipe (1.660" Dia.)
BG	1-1/2" Pipe (1.900" Dia.)
BH	1/2" Pipe (0.840" Dia.)

6 Insertion Length

Code	Description
xxxxx	Imperial: 6.500" = 06500 Metric: 165.1 mm = 01651

**U length =>100.000" or 10,000.0mm see sales person for custom part number*

7 Head Length

Code	Description
xxxxx	Imperial: 2.25" = 02250 Metric: 57.2 mm = 00572

8 Root Diameter

Code	Description
xxxx	Imperial: 0.875" = 0875 Metric: 22.2 mm = 0222

9 Tip Diameter

Code	Description
xxxx	Imperial: 0.875" = 0875 Metric: 22.2 mm = 0222

10 Measurement

Code	Description
I	Imperial
M	Metric

Notes:

1. 316/304 thermowells with 1/2", 3/4", and 1" NPT process connections are manufactured from round bar with milled wrench hex.
   Exotic material thermowells ¾" NPT and under include a wrench hex, exotics 1" NPT are finished with 2 wrench flats.
   All thermowells with 1-1/4" and 1-1/2" NPT process connections are manufactured from round bar with 2 wrench flats.
2. Tapered length of 16 inches is standard
3. Thermowells with 1/2" NPT process connections have a hex length of 1" and external threaded area length of 3/4"

OPTIONS

- Brass Plug & Chain
- Stainless Plug & Chain
- Teflon Coating
- Stellite Overlay
- Kynar Coating
- Dye Penetrant Test
- Dye Penetrant Cap
- Dye Penetrant Root (Optional)
- Internal Hydrostatic Testing
- External Hydrostatic Testing
- Material Test Report (MTR)
- Nace MR0175
- PMI
- Tantalum Sheath (Flanged Only)
- Velocity Calculation per PTC 19.3 TW-2010
- X-Ray
- O2 Cleaning
- Post Weld Heat Treatment
- UT bore concentricity
- UT phased array
- CofC (Certificate of compliance)
- COO (certificate of origin)
- Traceability Index
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- Stamping
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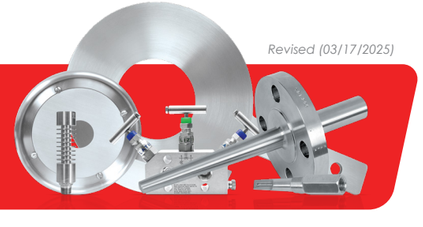
- ✓ Bleed & Flush Rings
- ✓ Valves



Revised (03/17/2025)