

Data Sheet

Stainless steel bimetal thermometer

Series Ax and Ex

according to EN 13190 or ASME B40.200

FEATURES

- Rugged all welded stainless steel construction
- Available with hermetically sealed case or bayonet ring
- Protection IP66
- Optional ATEX approved
- Brilliant readability as a result of reducing the parallax error with our Maxivision® dial for the 3" and 5" size
- External adjustment permits zero reset from outside the case
- Dry or liquid filled
- Silicone coil dampening provides vibration dampening and improves response time

APPLICATIONS

- Chemical and petrochemical industry
- Machine and apparatus construction
- Food and beverage industry
- Pulp and paper industry



Bimetal
ASME and EN Design



TECHNICAL SPECIFICATIONS

Dial Size:	Ø in mm 100 and 160 inch 3" and 5"
Accuracy:	Class 1 acc. to EN 13190 or Grade A (1 %) acc. to ASME B40.200
Connection Location:	Everyangle™, lower or back
Stem Diameter:	6 mm, 8 mm, 1/4" (6,4 mm) or 3/8" (9.6 mm)
Stem Length:	63 ... 1500 mm

MECHANICAL SPECIFICATIONS

Process Connection:	G 1/2 A Male or Female 1/2 NPT Male or Female others please see in the coding table
Weather Protection: acc. EN 60529/IEC 529	IP66/NEMA 4X
Max. Overtemperature: (Intermittent service)	Range: < 120 °C (250 °F) 100 % of span 120 ... 289 °C (251 ... 550 °F) 50 % span ≥ 290 °C (1000 °F) max. 425 °C continuously ⁽¹⁾ ⁽¹⁾ Can be used for intermittent service from 425 to 500 °C (800 to 1000 °F). Use Ashcroft S5500 or Duratemp® thermometers for ranges above and below those listed values.

MATERIAL

Process Connection:	Stainless steel 316L (1.4404) or 316Ti (1.4571)
Stem:	Stainless steel 316L (1.4404) or 316Ti (1.4571)
Case/Ring:	Stainless steel 304 (1.4301) or 316L (1.4404)
Window:	Instrument glass, Safety glass, Acrylic glass
Dial:	Aluminum, black markings on white background
Pointer:	Aluminum, black
Gaskets/Sealing:	BUNA-N (NBR)

KEY BENEFITS

- High reliability and durability
- All stainless steel
- Perfectly designed for our thermowells

ENVIRONMENTAL SPECIFICATIONS

Temperature Limits:	Ambient:	-40 °C to 93 °C (-40 °F to 200 °F)
	ATEX (Ambient):	-20 °C to 60 °C (-4 °F to 140 °F)

WEIGHTS

Weights in kg

Dial Size	Everyangle™	Dry		Liquid Filled		
		Lower	Back	Everyangle™	Lower	Back
3"	0,5	0,5	0,3	0,8	0,8	0,6
5"	0,6	0,6	0,4	0,9	0,9	0,7
100 mm	0,6	0,6	0,4	0,8	0,8	0,6
160 mm	0,9	0,9	0,7	1,2	1,0	1,0

APPROVALS

ATEX

Declaration of Conformity

CE  II 2G Ex h IIC T6...T1 Gb X
 II 2D Ex h IIIC T85°C...T450°C Db X
 Ta = -20 °C to +60 °C
 (File No. 35088073 at notified body 0044, TÜV NORD CERT)
 Directive: 2014/34/EU
 Used harmonized standards:
 DIN EN ISO 80079-36:2016
 DIN EN ISO 80079-37:2016
 DIN EN 1127-1:2019

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TABLE 1: AVAILABLE RANGES AND CODES

RANGE °C	NOTES	RANGE °F	NOTES
-50 ... 50 °C		-100 ... 100 °F	
-50 ... 100 °C	Min. stem length 100 mm	-80 ... 120 °F	
-50 ... 250 °C	Min. stem length 100 mm	-40 ... 120 °F	
-40 ... 40 °C	Min. stem length 100 mm	-40 ... 160 °F	
-40 ... 60 °C		-20 ... 120 °F	Min. stem length 100 mm
-40 ... 100 °C	Min. stem length 100 mm	0 ... 100 °F	Min. stem length 100 mm
-40 ... 160 °C		0 ... 150 °F	Min. stem length 100 mm
-30 ... 50 °C	Min. stem length 100 mm	0 ... 200 °F	
-30 ... 70 °C		0 ... 250 °F	
-30 ... 170 °C		0 ... 300 °F	Min. stem length 100 mm
-25 ... 25 °C	Min. stem length 100 mm	0 ... 350 °F	
-20 ... 40 °C	Min. stem length 100 mm	0 ... 500 °F	Min. stem length 100 mm
-20 ... 60 °C	Min. stem length 100 mm	20 ... 120 °F	Min. stem length 100 mm
-20 ... 80 °C		30 ... 130 °F	Min. stem length 100 mm
-20 ... 100 °C		30 ... 240 °F	Min. stem length 100 mm
-20 ... 120 °C		30 ... 400 °F	
-20 ... 180 °C		50 ... 300 °F	
-10 ... 50 °C	Min. stem length 100 mm	50 ... 400 °F	
-10 ... 110 °C		50 ... 550 °F	Min. stem length 100 mm
0 ... 50 °C	Min. stem length 100 mm	100 ... 800 °F	
0 ... 60 °C	Min. stem length 100 mm	160 ... 360 °F	
0 ... 80 °C	Min. stem length 100 mm	200 ... 400 °F	
0 ... 100 °C		200 ... 700 °F	Min. stem length 100 mm
0 ... 120 °C		200 ... 1000 °F	Min. stem length 100 mm
0 ... 150 °C			
0 ... 160 °C			
0 ... 200 °C			
0 ... 250 °C	Min. stem length 100 mm		
0 ... 300 °C	Min. stem length 100 mm		
0 ... 350 °C			
0 ... 400 °C	Min. stem length 100 mm		
0 ... 500 °C	Min. stem length 100 mm		
10 ... 150 °C			
50 ... 300 °C	Min. stem length 100 mm		
50 ... 450 °C	Min. stem length 100 mm		
100 ... 500 °C	Min. stem length 100 mm		



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ORDERING CODE		EXAMPLE:	100	AM	=	074	E	325	0/100°C	XNH
Dial Size										
100	100 mm									
160	160 mm									
30	3"									
50	5"									
Case Style										
AE	EN 13190 Case with boynett ring, Stem Ø 8 mm									
AI	EN 13190 Case with boynett ring, Stem Ø 6,4 mm (1/4")									
AM	EN 13190 Case with boynett ring, Stem Ø 6 mm									
A3B	EN 13190 Case with boynett ring, Stem Ø 9,5 mm									
EE	ASME B40.200 hermetically sealed case, Stem Ø 8 mm									
EI	ASME B40.200 hermetically sealed case, Stem Ø 6,4 mm (1/4")									
EM	ASME B40.200 hermetically sealed case, Stem Ø 6 mm									
E3B	ASME B40.200 hermetically sealed case, Stem Ø 9,5 mm									
Case fill										
	Dry, no filling									
L	Silicone filling max. 300 °C (process) and max. 65 °C (ambient)									
Process Connection										
040	Plain (no thread)									
042	1/2 NPT Male - Union outlet									
060	1/2 NPT Male - Fixed									
061	G 1/2 A Male - Fixed									
070	1/2 NPT Male - Adjustable union									
071	G 1/2 A Male - Adjustable union									
072	3/4 NPT Male - Adjustable union									
074	1/2 NPT Female - Adjustable union									
080	G 1/2 A Male - Swivel nut									
081	G 1/2 Female - Swivel nut									
Connection Style										
E	Everyangle™ (360°)									
L	Lower									
R	Rear									
Stem Length										
63 ... 1500 mm in 1 mm steps										
e.g. "325" - 325 mm stem length										
Range										
see page 2										
Options (If choosing an option(s) must include a "X")										
Approval										
ATEX	ATEX approval (only admissible in combination with SG)									
Case Option										
EA	External adjustment mechanism									
YW	Stainless steel 316L (1.4404)									
Window/Pointer										
SH	Stationary red set hand pointer									
SG	Safety glass									
Marking/Tagging										
DM	Dial marking (Text only)									
#XXX	Special design scale (Customer logo or other colorized markings)									
NH	Stainless steel tagging, wired									
NN	Paper tag									
Material Certificate										
CD2	Certificate according to EN 10204/2.2									
MQ	Positive Material Identification (PMI)									
Calibration Certificate										
C4	Standard calibration certificate									



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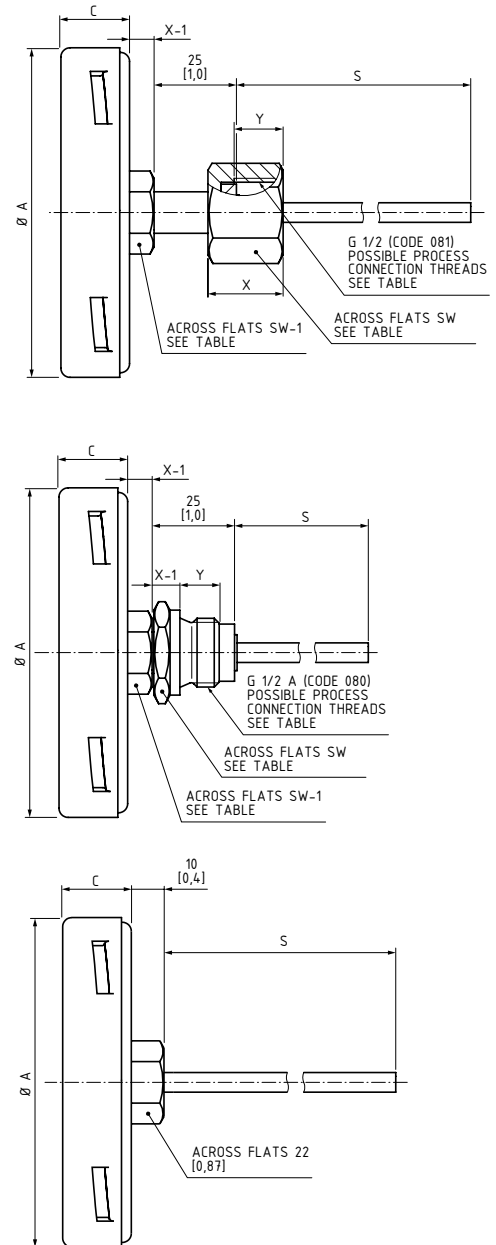
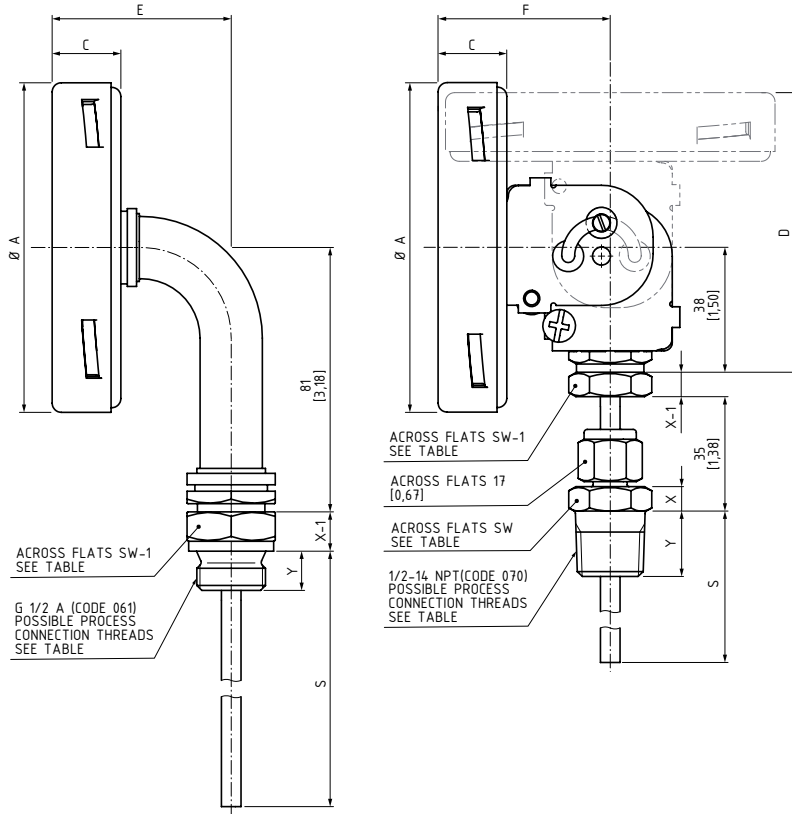
Series Ax

according to EN 13190

DIMENSIONS IN MM [INCH]

For reference only, consult Ashcroft for specific dimensional drawings

BIMETALL SERIES AX



NG	A	C	D	E	F
100 mm	101 [3,98]	21 [0,83]	86 [3,37]	55 [2,16]	53 [2,09]
160 mm	162 [6,38]	28 [1,1]	93 [3,66]	61 [2,41]	60 [2,36]

LOWER / EVERY ANGLE CONNECTION					
CODE	SW	X	Y	SW-1	X-1
040	-	-	-	22 [0,87]	7,5 [0,3]
042	-	-	-	22 [0,87]	10 [0,39]
060	22 [0,87]	9,8 [0,39]	20 [0,79]	-	-
061	27 [1,06]	12 [0,47]	12 [0,47]	-	-
070	22 [0,87]	7,5 [0,3]	20 [0,79]	22 [0,87]	7,5 [0,3]
071	27 [1,06]	12 [0,47]	12 [0,47]	22 [0,87]	7,5 [0,3]
072	27 [1,06]	9 [0,35]	20 [0,79]	22 [0,87]	7,5 [0,3]
074	27 [1,06]	31 [1,22]	15,4 [0,61]	22 [0,87]	7,5 [0,3]
080	27 [1,06]	8 [0,31]	12 [0,47]	22 [0,87]	7,5 [0,3]
081	27 [1,06]	23 [0,91]	15 [0,59]	22 [0,87]	7,5 [0,3]

BACK CONNECTION					
CODE	SW	X	Y	SW-1	X-1
040	-	-	-	22 [0,87]	10 [0,39]
042	-	-	-	22 [0,87]	7,5 [0,3]
060	22 [0,87]	7,5 [0,3]	20 [0,79]	-	-
061	27 [1,06]	12 [0,47]	12 [0,47]	-	-
070	22 [0,87]	7,5 [0,3]	20 [0,79]	22 [0,87]	10 [0,39]
071	27 [1,06]	12 [0,47]	12 [0,47]	22 [0,87]	10 [0,39]
072	27 [1,06]	9 [0,35]	20 [0,79]	22 [0,87]	10 [0,39]
074	27 [1,06]	31 [1,22]	15,4 [0,61]	22 [0,87]	10 [0,39]
080	27 [1,06]	8 [0,31]	12 [0,47]	22 [0,87]	7,5 [0,3]
081	27 [1,06]	23 [0,91]	15 [0,59]	22 [0,87]	7,5 [0,3]



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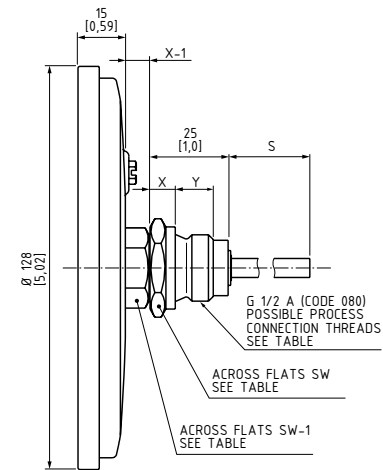
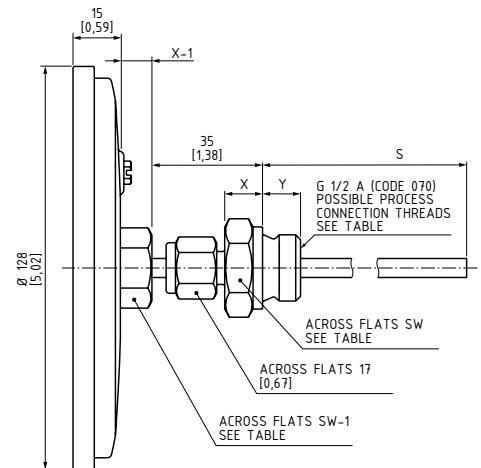
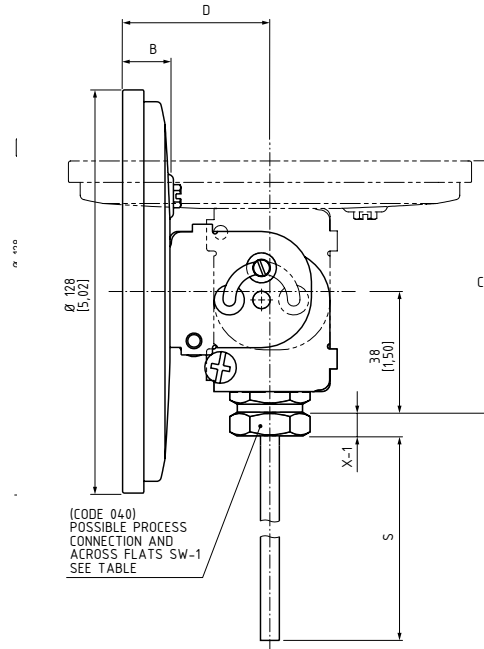
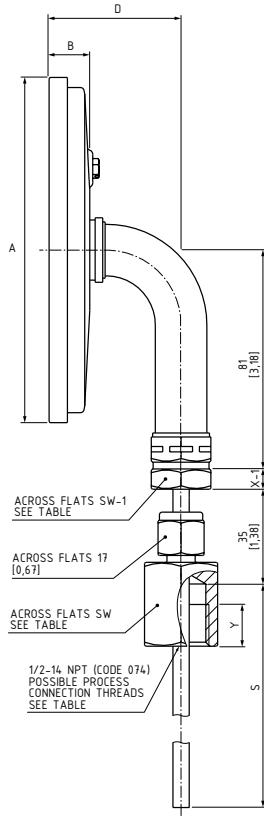
Series Ex

according to ASME B40.200

DIMENSIONS IN MM [INCH]

For reference only, consult Ashcroft for specific dimensional drawings

BIMETALL SERIES EX



NG	A	C	D	E	F
3"	80 [3,13]	13 [0,50]	47 [1,85]	45 [1,77]	78 [3,07]
5"	128 [5,02]	15 [0,59]	80 [3,13]	49 [1,92]	47 [1,84]

LOWER / EVERY ANGLE CONNECTION					
CODE	SW	X	Y	SW-1	X-1
040	-	-	-	22 [0,87]	7,5 [0,3]
042	-	-	-	22 [0,87]	10 [0,39]
060	22 [0,87]	10 [0,39]	20 [0,79]	-	-
061	27 [1,06]	12 [0,47]	12 [0,47]	-	-
070	22 [0,87]	7,5 [0,3]	20 [0,79]	22 [0,87]	7,5 [0,3]
071	27 [1,06]	12 [0,47]	12 [0,47]	22 [0,87]	7,5 [0,3]
072	27 [1,06]	9 [0,35]	20 [0,79]	22 [0,87]	7,5 [0,3]
074	27 [1,06]	31 [1,22]	15,4 [0,61]	22 [0,87]	10 [0,39]
080	27 [1,06]	8 [0,31]	12 [0,47]	22 [0,87]	7,5 [0,3]
081	27 [1,06]	23 [0,91]	15 [0,59]	22 [0,87]	7,5 [0,3]

BACK CONNECTION					
CODE	SW	X	Y	SW-1	X-1
040	-	-	-	22 [0,87]	10 [0,39]
042	-	-	-	22 [0,87]	7,5 [0,3]
060	22 [0,87]	7,5 [0,30]	20 [0,79]	-	-
061	27 [1,06]	12 [0,47]	12 [0,47]	-	-
070	22 [0,87]	7,5 [0,3]	20 [0,79]	22 [0,87]	10 [0,39]
071	27 [1,06]	12 [0,47]	12 [0,47]	22 [0,87]	10 [0,39]
072	27 [1,06]	9 [0,35]	20 [0,79]	22 [0,87]	10 [0,39]
074	27 [1,06]	31 [1,22]	15,4 [0,61]	22 [0,87]	10 [0,39]
080	27 [1,06]	8 [0,31]	12 [0,47]	22 [0,87]	7,5 [0,3]
081	27 [1,06]	23 [0,91]	15 [0,59]	22 [0,87]	7,5 [0,3]



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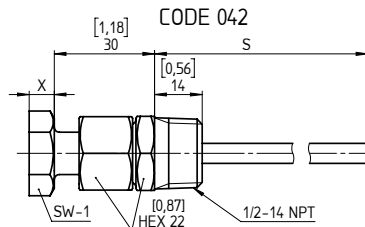
DIMENSIONS IN MM [INCH]

For reference only, consult Ashcroft for specific dimensional drawings

Union outlet code 042

Length S is fixed, but orientation can be adjusted with union connection.

Code 042 1/2 NPT male



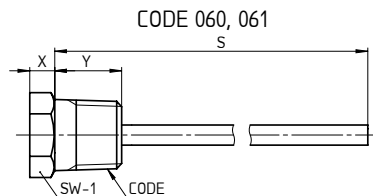
CODE 042	SW-1	X
L		9,8 [0,39]
E	22 [0,87]	9,8 [0,39]
R		7,5 [0,30]

Fixed connection code 060 and 061

Length S is fixed.

Code 060 1/2 NPT male

Code 061 G 1/2 A male



CODE 060 1/2-14 NPT	SW-1	X	Y
L		9,8 [0,39]	20 [0,79]
E	22 [0,87]	9,8 [0,39]	20 [0,79]
R		7,5 [0,30]	20 [0,79]
CODE 061 G 1/2 A L/R	27 [1,06]	12 [0,47]	12 [0,47]

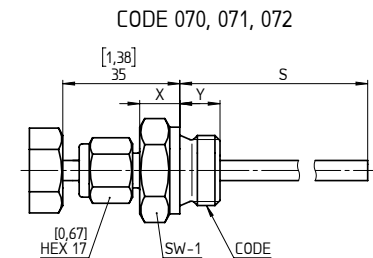
Adjustable union connection code 070, 071 and 072

Length S and orientation can be adjusted with union connection.

Code 070 1/2 NPT male

Code 071 G 1/2 A male

Code 072 3/4 NPT male

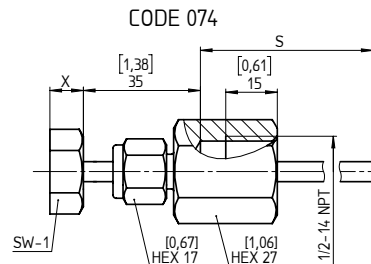


L/R	SW-1	X	Y
CODE 070 1/2-14 NPT	22 [0,87]	7,5 [0,30]	20 [0,79]
CODE 071 G 1/2 A	27 [1,06]	12 [0,47]	12 [0,47]
CODE 072 3/4-14 NPT	27 [1,06]	9 [0,35]	20 [0,79]

Adjustable union connection code 074

Length S and orientation can be adjusted with swivel nut.

Code 074 1/2 NPT female

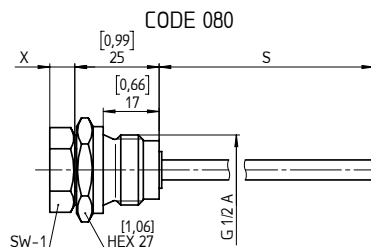


CODE 074	SW-1	X
L		7,5 [0,30]
E	22 [0,87]	7,5 [0,30]
R		10 [0,39]

Swivel nut connection code 080

Length S is fixed, but orientation can be adjusted with swivel nut.

Code 080 G 1/2 A male

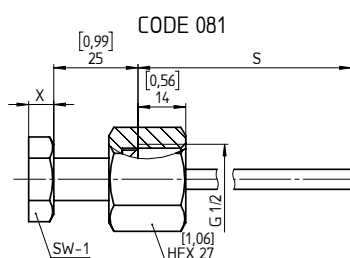


CODE 080	SW-1	X
L/R	22 [0,87]	7,5 [0,30]

Swivel nut connection code 081

Length S is fixed, but orientation can be adjusted with union connection.

Code 081 G 1/2 female



CODE 081	SW-1	X
L/R	22 [0,87]	7,5 [0,30]

