

Type AT30 Skin Type Thermocouples for Industrial Process & Explosive Environment

APPLICATIONS

- *Surface temperature measurements for steam lines in power generation processes.*
- *Wall temperature measurements for reactor vessels in chemical and petrochemical processes*
- *Flat surface temperature measurement in industrial processes.*

DESCRIPTION

The Ashcroft AT30 skin type thermocouple assembly provides accurate surface and wall temperature measurements for applications that are located in hazardous environments. Each thermocouple assembly consist of a spring loaded thermocouple, magnesium oxide, lag extension, expansion loop, and weldable sensor. The assembly may also include an optional terminal block for wiring and / or transmitters.

The Thermocouple assemblies are manufactured to either to IEC 60584-2 or ANSI MC 96.1

SPECIFICATIONS

- Ashcroft Series:** AT30
- Insert Stem Diameter:**
3 mm, 8 mm, $\frac{3}{8}$ "
- Stem Length:**
Minimum: 0.05 m / 2 in.
Maximum: 100 m / 3937 in.
- Sensor Type & Measuring Range:**
Type J -40 to +750 °C
Type K -200 to +1100 °C
- Wiring Configuration**
AT20 Thermocouple
2 wire
- Optional Approvals (pending)**
IEC 60079-1
ATEX: Ex ia IIC T6 Gb
IECEX: Ex ia IIC T6 Ga
EC 60079-11
ATEX: EX ia IIC T6 Gb
IECEX: Ex ia IIC T6 Ga
- Accuracy Class:**
Class 1
Class 2
Class 3

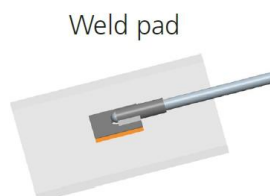
AT30 Thermocouples (IEC60584-2)

	Type J	Type K
Class 1	$\pm 1.5^{\circ}\text{C}$ or $\pm 0.0040^{\circ}\text{C} t ^{(1)}$	$\pm 1.5^{\circ}\text{C}$ or $\pm 0.0040^{\circ}\text{C} t ^{(1)}$
Class 2	$\pm 2.5^{\circ}\text{C}$ or $\pm 0.0075^{\circ}\text{C} t ^{(1)}$	$\pm 2.5^{\circ}\text{C}$ or $\pm 0.0075^{\circ}\text{C} t ^{(1)}$
Class 3	N/A	$\pm 2.5^{\circ}\text{C}$ or $\pm 0.0040^{\circ}\text{C} t ^{(1)}$

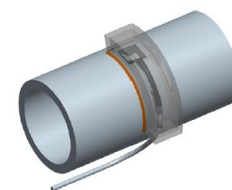
AT30 Thermocouples (ANSI MC 96.1)

	Type J	Type K
Standard	$\pm 2.2^{\circ}\text{C}$ or $\pm 0.0075^{\circ}\text{C} t ^{(1)}$	$\pm 2.2^{\circ}\text{C}$ or $\pm 0.0075^{\circ}\text{C} t ^{(1)}$
Special	$\pm 1.1^{\circ}\text{C}$ or $\pm 0.0040^{\circ}\text{C} t ^{(1)}$	$\pm 1.1^{\circ}\text{C}$ or $\pm 0.0040^{\circ}\text{C} t ^{(1)}$

⁽¹⁾ Absolute temperature in °C



Interchangeable with heat shield



Type AT30 RTDs Part Number Coding

1. TYPE

ITEM	DESCRIPTION
1	Standard
3	Ex ia IIC T6 Ga
D	Ex d IIC T6 Gb

2. STEM DIAMETER (e)

ITEM	DESCRIPTION
3	3 mm
8	8 mm
U	3/8"

3. SENSOR

ITEM	DESCRIPTION
J	Type J (-200 to +750 °C)
K	Type K (-200 to +1100 °C)

4. ACCURACY CLASS

ITEM	DESCRIPTION
1	Class 1, IEC 60584-2
2	Class 2, IEC 60584-2
3	Class 3, IEC 60584-2
A	Standard, ANSI MC 96.1
B	Special, ANSI MC 96.1

5. SENSING ELEMENT

ITEM	DESCRIPTION
U1	Insulated with weld pad 1" x 1"
V2	Insulated with weld pad 1" x 2"
W1	Grounded with curved knife edge (diameter D)
Y1	Grounded with flat knife edge

6. STEM MATERIAL

ITEM	DESCRIPTION
1	316L SS
3	Inconel 600
4	466 SS

7. HEAD TYPE

ITEM	DESCRIPTION
B	DIN B, Aluminum Alloy, IP66
D	BUZ, Aluminum Alloy, IP68
E	BUZH, Aluminum Alloy, IP68
F	Ex d, Aluminum Alloy, IP66
G	SCCI, 316S, IP67
N	SCCA, Aluminum Alloy, IP67

8. HEAD MOUNTING CONNECTION

ITEM	DESCRIPTION
2	½ NPT Female
9	¾ NPT Female

9. CABLE GLAND

ITEM	DESCRIPTION
D	PG 16 with cable gland
J	½ NPT, without cable gland
N	¾ NPT, without cable gland
L	½ NPT, with Ex d cable gland for non-shielded cable
M	½ NPT, with Ex d cable gland for shielded cable
R	M20 x 1.5 with cable gland

10. LENGTH TO EXPENSION LOOP (B)

ITEM	DESCRIPTION
B	(min. 0.2 – max. 45 m) M (min. 7.9 – max. 1771 in.) E

11. LENGTH TO WELD PAD (A)

ITEM	DESCRIPTION
A	(min. 0.05 – max. 10 m) M (min. 2 – max. 393 in.) E

12. KNIFE EDGE DIAMETER (D)*

ITEM	DESCRIPTION
D	(min. 0.05 – max. 0.254 m) M (min. 2 – max. 10 in.) E

*Diameter of pipe AT30 will be welded to.

13. LAG EXTENSION TYPE

ITEM	DESCRIPTION
W	Nipple, ½ NPT male, 316 SS T = 0.10 m
U	Nipple-Union-Nipple, ½ NPT male, 316 SS, T = 0.12 m
N	Nipple, ¾ NPT male, 316 SS T = 0.10 m
L	Nipple-Union-Nipple, ¾ NPT male, 316 SS, T = 0.12 m
0	No lag extension T = 0.0 m

14. FIXING CLAMPS

ITEM	DESCRIPTION
00	None
K	1 clamp
L	2 clamps
M	3 clamps

15. PROZESS CONNECTION

ITEM	DESCRIPTION
00	None
VZ	Threaded 1 ½ NPT
2E	Flanged, ANSI 1", 150 lbs
2F	Flanged, ANSI 1", 300 lbs
2G	Flanged, ANSI 1", 600 lbs
2H	Flanged, ANSI 1.5", 150 lbs
2J	Flanged, ANSI 1.5", 300 lbs
2K	Flanged, ANSI 1.5", 600 lbs
2L	Flanged, ANSI 2", 150 lbs
2M	Flanged, ANSI 2", 300 lbs
2N	Flanged, ANSI 2", 600 lbs

16. SENSOR MOUNTING BLOCK

ITEM	DESCRIPTION
0	Ceramic terminal block
1	Transmitter
2	Ceramic terminal with transmitter
3	No terminal block with flying leads

17. APPROVALS

ITEM	DESCRIPTION
0	None
A	ATEX
X	IECEx

18. CALIBRATION REPORT

ITEM	DESCRIPTION
00	None
3P	3 point report for single sensor
5P	5 point report for single sensor
3D	3 point report for double sensor
5D	5 point report for double sensor

19. OPTIONS

ITEM	DESCRIPTION
NH	Metal Tag

AT30	1	6	J	1	U1	1	B	2	M	B8E	A12E	D0E	V	00	00	0	0	00	00
	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	[14]	[15]	[16]	[17]	[18]	[19]
Model Type	Type	Stem Diameter	Sensor	Accuracy Class	Sensing Element	Stem Material	Head Type	Head Mounting	Cable Gland	Lag Extension Length	Length to Weld Pad	Knife Edge Diameter	Lag Extension Type	Fixing Clamps	Process Connection	Sensor Mounting Block	Approvals	Calibration Report	Options
(AT30)	(1) (2) (D)	(6) (8) (U)	(J) (K)	(1) (2) (3) (A) (B)	(U1) (V2) (W1) (Y1)	(1) (2) (4)	(B) (D) (E) (F) (G) (N)	(2) (9)	(D) (J) (N) (L) (M) (R)	(B)	(A)	(D)	(V) (W) (T) (M) (N) (K) (L) (00)	(00)	(00), (VZ), (2E), (2F), (2G), (2H), (2J), (2K), (2L), (2M), (2N)	(0) (1) (2) (3)	(O) (A) (X)	(00) (3P) (5P) (3D) (5D)	(RH)

Ashcroft Instruments GmbH

Germany
 Max-Planck-Str. 1,
 D-52499 Baesweiler
 P.O. Box 11 20, D-52490 Baesweiler
 Tel.: +49 (0) 2401 808-0

France
 „206“ ZA du Mandinet, 1/3 Rue des Cam-
 panules,
 F-77185 Lognes
 Tel.: +33 (0) 1 60 37 25 30

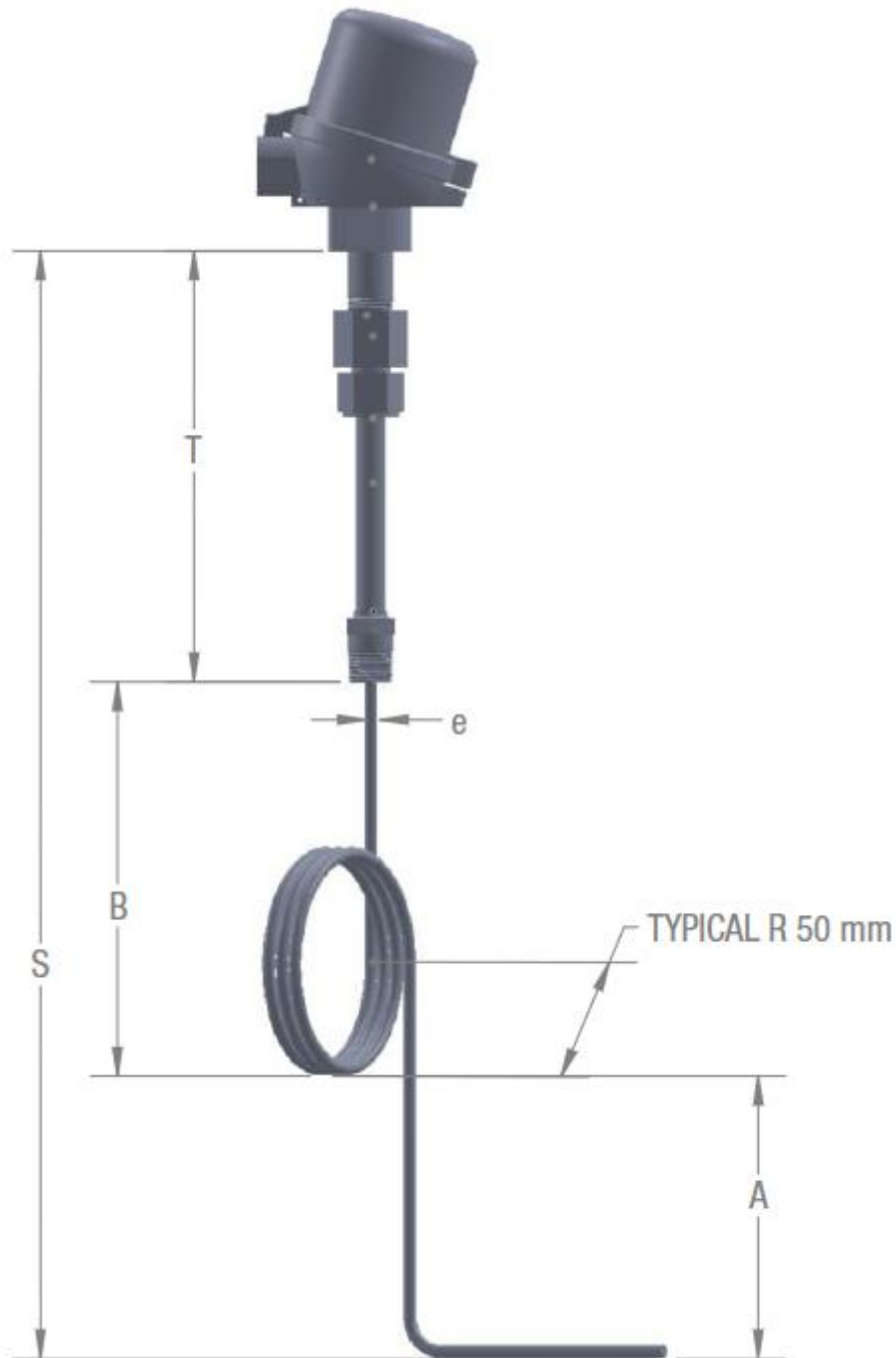
Website: www.ashcroft.eu

Ashcroft Instruments Ltd.
 Unit 17 & 18 William James House
 Cowley Road,
 Cambridge CB4 0WX
 Tel.: +44 (0) 12 23 39 55 00

e-Mail: sales@ashcroft.com

Ashcroft ISTANBUL
 Gayrettepe Mah. Yildiz Posta Cad.
 Yildiz Residence No:24 K:1 D:4
 34349 Besiktas –Istanbul
 Tel.: +90 (0)212 3270847

Type AT30 Thermocouples



e = Stem Diameter
T = Lag Extension Length
S = Nominal Length
B = Length to Expansion Loop
A = Length to Weld Pad

Ashcroft Instruments GmbH

Germany
Max-Planck-Str. 1,
D-52499 Baesweiler
P.O. Box 11 20, D-52490 Baesweiler
Tel.: +49 (0) 2401 808-0

France
„206“ ZA du Mandinet, 1/3 Rue des Cam-
panules,
F-77185 Lognes
Tel.: +33 (0) 1 60 37 25 30

Website: www.ashcroft.eu

Ashcroft Instruments Ltd.
Unit 17 & 18 William James House
Cowley Road,
Cambridge CB4 0WX
Tel.: +44 (0) 12 23 39 55 00

e-Mail: sales@ashcroft.com

Ashcroft ISTANBUL
Gayrettepe Mah. Yildiz Posta Cad.
Yildiz Residence No:24 K:1 D:4
34349 Besiktas -Istanbul
Tel.: +90 (0)212 3270847

Type AT30 Thermocouple

World Headquarters

Ashcroft Inc.
250 E. Main Street
Stratford, CT 06614-5145 U.S.A
Tel: +1 (203) 378-8281
Fax: +1 (203) 385-0408
E-Mail: info@ashcroft.com
www.ashcroft.com

International Operations

Brazil

Willy Instrumentos de Medicao e
Controle Ltda.
Rua Joao Pessoa, 620
09520-000
Sao Caetano Do Sul-Sao Paulo Brazil
Tel: +55-11-4224-7402
Fax: +55-11-4224-7477
E-Mail: contato@ashcroft.com
www.ashcroft.com.br

China

Ashcroft instruments (Suzhou) Co., Ltd.
1508 Lin-hu Avenue
Ascendas Lin-hu Industrial Square
Wujiang Fenhui Economic Zone
Wujiang China, 215211
Tel: +11-86-512-6326-9101
Fax: +11-86-512-6326-9106
www.ashcroft.com

Germany

Ashcroft Instruments GmbH
Postfach 11 20, D-52490
Baesweiler, Germany
Max-Planck-Straße 1, D-52499
Baesweiler, Germany
Tel: +49-2401-8080
Fax: +49-2401-808125
E-Mail: sales@ashcroft.com
www.ashcroft.eu

Mexico

Ashcroft Instruments Mexico, S.A. de C.V
General Mariano Arista No. 54 Nave 8
Col. Argentina Poniente
Deleg. Miguel Hidalgo
11230 Mexico City, Mexico
Tel. +52-5550-82-3030
Fax: +52-5550-82-3027
E-Mail: jmendieta@ashcroft.com.mx

Saudi Arabia

AARICO
P.O. Box 12031
Jubail Industrial City 31961
Kingdom of Saudi Arabia
Tel: +966-3-341-0278
Fax: +966-3-341-7624
E-Mail: anil@aarico.net
www.ashcroft-alrushaid.com

Singapore

Ashcroft instruments Singapore Pte. Ltd
Block 1004 Toa Payoh North
#07-15/17
Singapore 318995
Tel: +65-6252-6602
Fax: +65-6252-6603
E-Mail: John.Wong@ashcroft.com.sg

United Kingdom

Ashcroft Instruments Limited
Cambridge Office
Unit 17 & 18 William James House
Cowley Road
Cambridge CB4 0WX
Tel: +44-0-1223-395500
Fax: +44-0-1223-395501

Venezuela

Manufacturas Petroleras Venezolanas S.A.
KM7 Carretera A
El Mojan Calle 18
#15B355 Zona
Ind. Norte Sector Canchancha
Maracaibo Edo Zulia Venezuela
Tel: +58-261-757-9070
Tel: +58-261-742-4372
Fax: +58-261-742-4372
E-Mail: contactenos@mapvensa.com
www.mapvensa.com



Ashcroft Instruments GmbH

Germany
Max-Planck-Str. 1,
D-52499 Baesweiler
P.O. Box 11 20, D-52490 Baesweiler
Tel.: +49 (0) 2401 808-0

France
„206“ ZA du Mandinet, 1/3 Rue des Cam-
panules,
F-77185 Lognes
Tel.: +33 (0) 1 60 37 25 30

Website: www.ashcroft.eu

Ashcroft Instruments Ltd.
Unit 17 & 18 William James House
Cowley Road,
Cambridge CB4 0WX
Tel.: +44 (0) 12 23 39 55 00

e-Mail: sales@ashcroft.com

Ashcroft ISTANBUL
Gayrettepe Mah. Yildiz Posta Cad.
Yildiz Residence No:24 K:1 D:4
34349 Besiktas -Istanbul
Tel.: +90 (0)212 3270847