

Heavy Duty Pocket Insets for the Oil & Gas Industry

Spare connection heads,
extensions and measuring
insets for resistance
thermometers and
thermocouples



Thermometers in this range have been designed for use with thermowells

- insertion allows for measuring element change without compromising the process

Inbuilt technical features

- standardized design
- easily exchangeable during operation
- for insertion in thermowells of a wide range of design

Large range of application

- chemistry
- petrochemistry
- process and power generation
- heating and ventilation engineering
- mechanical engineering

Heavy Duty Pocket Insets for the Oil & Gas Industry

Design and Construction

Mineral Insulated Cable (MIC)

Compact filling between inner conductors and sheath with magnesium oxide powder which provides the sensor with high vibration resistance and flexibility as well as temperature loadability and electric insulation.

Terminal Block

Manufactured in ceramic with solder lugs for connecting the sensor, thus providing optimal contact for the low signal level.

Base Plate

Spring-loaded mounting of the base plate results in the measuring inset being pressed against the base of the thermowell, guaranteeing fast response times and reduction of resonance frequency as a result of bilateral fixing in the thermowell.

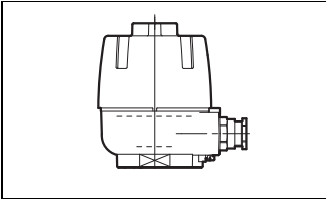
Measuring Element

The measuring element is fitted in a sleeve ensuring resistance to changes in temperature, with good heat transfer, and avoidance of resonance frequency. Also encapsulated against electrical, mechanical and corrosive influences by means of the metal sheath.



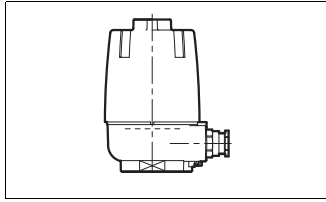
Connection Heads

Without Display



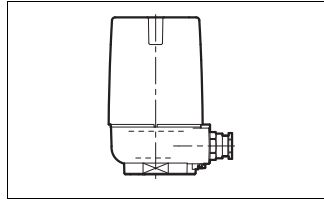
AGL Aluminium Alloy
Epoxy coating, 70µm
AGS stainless steel

Without Display



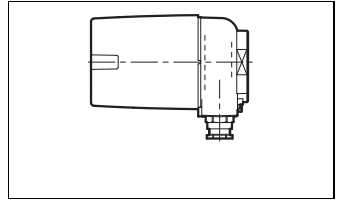
AGLH Aluminium Alloy
Epoxy coating, 70µm
AGSH stainless steel
Epoxy coating, 70µm

With Digital Display

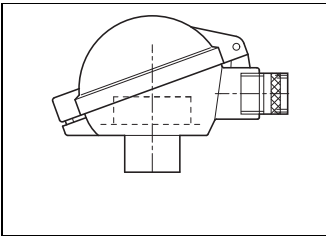


AGLHD Aluminium Alloy
AGSHD stainless steel

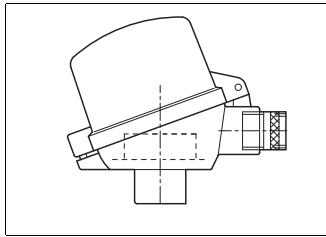
Radial Mount



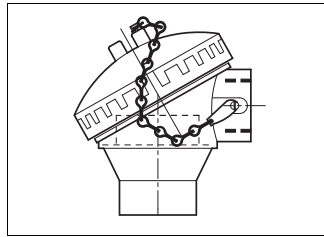
AGLFD Aluminium Alloy
Epoxy coating, 70µm
AGSFD stainless steel



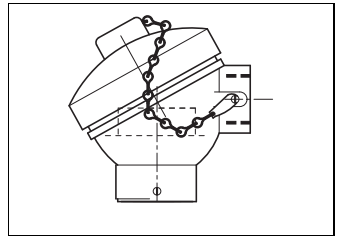
BUZ Aluminium Alloy



BUZH Aluminium Alloy

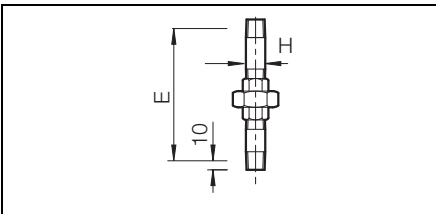


KNE Aluminium Alloy

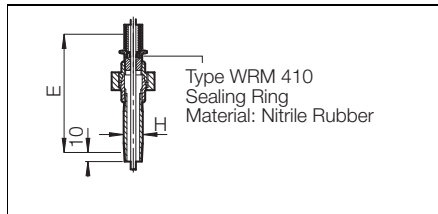


KI Cast Iron

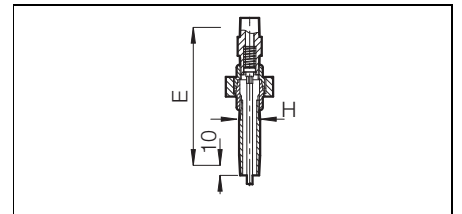
Process Extensions



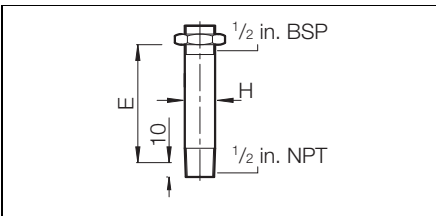
E1S nipple & union
2 x 1/2 in. NPT



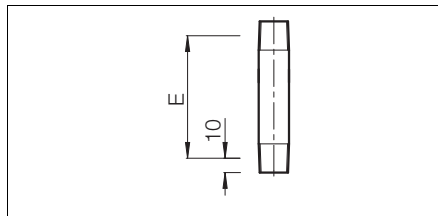
E1S nipple/union & oil seal
2 x 1/2 in. NPT



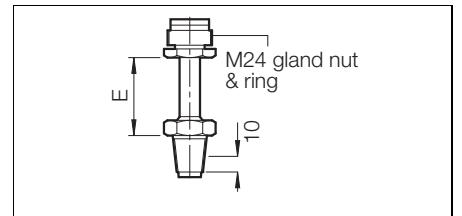
E1S nipple/union & spring
2 x 1/2 in. NPT



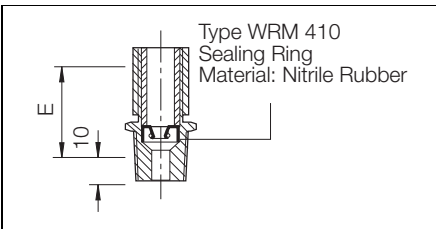
E2S or E3S nipple
1/2 in. BSP 1/2 in. NPT



E2S or E3S nipple
2 x 1/2 in. NPT



E4S Gland nut & ring
M24x 1/2 in. NPT



E7S Hex nipple & oil seal
1/2 in. BSP 1/2 in. NPT

Key
E = Extension length
H = Extension diameter

Ordering Information

Code No. PART 1

Heavy Duty Temperature Inset/Connection Head	Model No. V10687/	X	X	X	X	X	X	X
Inset Length 'U' increment 1000 mm								
0		0						
1000	(Note 1)	1						
2000	(Note 1)	2						
3000	(Note 1)	3						
4000	(Note 1)	4						
5000	(Note 1)	5						
Inset Length 'U' increment 100 mm								
0		0						
100	(Note 1)	1						
200	(Note 1)	2						
300	(Note 1)	3						
400	(Note 1)	4						
500	(Note 1)	5						
600	(Note 1)	6						
700	(Note 1)	7						
800	(Note 1)	8						
900	(Note 1)	9						
Inset Length 'U' increment 10 mm								
0					0			
10	(Note 1)				1			
20	(Note 1)				2			
30	(Note 1)				3			
40	(Note 1)				4			
50	(Note 1)				5			
60	(Note 1)				6			
70	(Note 1)				7			
80	(Note 1)				8			
90	(Note 1)				9			
Inset Length 'U' increment 1 mm								
0							0	
1	(Note 1)						1	
2	(Note 1)						2	
3	(Note 1)						3	
4	(Note 1)						4	
5	(Note 1)						5	
6	(Note 1)						6	
7	(Note 1)						7	
8	(Note 1)						8	
9	(Note 1)						9	
Sensor								
None								0
1 x Pt100, 2-wire sensor with sheath in 321 stainless steel								1
1 x Pt100, 3-wire sensor with sheath in 321 stainless steel								2
1 x Pt100, 4-wire sensor with sheath in 321 stainless steel								3
2 x Pt100, 2-wire sensor with sheath in 321 stainless steel								4
2 x Pt100, 3-wire sensor with sheath in 321 stainless steel								5
1 x Type K (Insulated Hot Junction) sensor with sheath in 321 stainless steel								A
2 x Type K (Insulated Hot Junction) sensor with sheath in 321 stainless steel								B
1 x Type K (Insulated Hot Junction) sensor with sheath in Inconel								C
2 x Type K (Insulated Hot Junction) sensor with sheath in Inconel								D
1 x Type J (Insulated Hot Junction) sensor with sheath in 321 stainless steel								E
2 x Type J (Insulated Hot Junction) sensor with sheath in 321 stainless steel								F
1 x Type T (Insulated Hot Junction) sensor with sheath in 321 stainless steel								G
2 x Type T (Insulated Hot Junction) sensor with sheath in 321 stainless steel								H
Accuracy								
No sensor	(Note 2)							0
Pt100 ohm, Class B accuracy – standard	(Note 3)							1
Pt100 ohm, Class A accuracy – specify range	(Note 3)							2
Thermocouple Class 2 – standard	(Note 4)							3
Thermocouple Class 1 – specify range	(Note 4)							4
Sensor Diameter								
6 mm standard	(Note 1)							A
3 mm	(Note 5)							B

Heavy Duty Pocket Insets
for the Oil & Gas Industry

		Code No. PART 1							PART 2					
Heavy Duty Temperature Inset/Connection Head		Model No. V10687/	X	X	X	X	X	X	X	X	X	X	X	X
No inset fitted		(Note 2)									0			
Head Mounted Transmitters														
Without (Terminal Block fitted)											0			
4...20 mA Fixed Range Pt100 ohm only TR-04-Eco		(Note 6)									1			
4...20 mA Fixed Range Pt100 ohm only TR-04-Ex (EEx ia Zone 0)		(Note 6)									A			
Programmable Range Hart Protocol & 4...20 mA TTH200											9			
Programmable Range Hart Protocol & 4...20 mA TTH200-Ex (EEx ia Zone 0)											J			
Profibus PA only (No indication) TF-12											K			
Profibus PA only (No indication) TF-12-Ex (EEx ia Zone 0)											L			
Foundation Fieldbus only (No indication) TF-02											M			
Foundation Fieldbus only (No indication) TF-02-Ex (EEx ia Zone 0)											N			
Programmable Range Hart Protocol TTH300											P			
Programmable Range Hart Protocol TTH300-Ex (EEx ia Zone 0)											R			
Fixed Transmitter Ranges														
No Transmitter		(Note 7)									0			
Standard Fixed Range -30...60 °C (-22...140 °F)		(Note 8)									A			
Standard Fixed Range -20...40 °C (-4...104 °F)		(Note 8)									B			
Standard Fixed Range 0...40 °C (32...104 °F)		(Note 8)									C			
Standard Fixed Range 0...60 °C (32...140 °F)		(Note 8)									D			
Standard Fixed Range 0...100 °C (32...212 °F)		(Note 8)									E			
Standard Fixed Range 0...120 °C (32...248 °F)		(Note 8)									F			
Standard Fixed Range 0...150 °C (32...302 °F)		(Note 8)									G			
Standard Fixed Range 0...200 °C (32...392 °F)		(Note 8)									H			
Standard Fixed Range 0...250 °C (32...482 °F)		(Note 8)									J			
Standard Fixed Range 0...300 °C (32...572 °F)		(Note 8)									K			
Standard Fixed Range 0...400 °C (32...752 °F)		(Note 8)									L			
Standard Fixed Range 0...600 °C (32...1112 °F)		(Note 8)									M			
Non-standard Range (Fixed)		(Note 8)									X			
Default Factory Settings (Pt100 ohm, 0...100 °C [32...212 °F] 4-wire)		(Notes 9, 10)									O			
Defined Flange (Specify from ... to ...)		(Note 9)									P			
Certification														
EEx d														D
EEx n														N
EEx ia														A
Safe		(Note 11)												S
Connection Head														
Not required														0
BUZ Connection Head in Aluminium Alloy with M20 single cable entry IP65		(Notes 12, 13)												A
BUZH Connection Head in Aluminium Alloy with M20 single cable entry IP65		(Note 12)												B
KNE Connection Head in Aluminium Alloy with M20 single cable entry IP66		(Note 12)												C
KI Connection Head in Cast Iron with single cable entry IP66		(Note 12)												D
AGL Connection Head in Aluminium Alloy with single cable entry IP66														G
AGLH Connection Head in Aluminium Alloy with single cable entry IP66														H
AGLFD (not with TF-12 transmitter) Radial mount Connection Head in Aluminium Alloy with single cable entry IP66 with HMI		(Note 14)												V
AGLFD (not with TF-12 transmitter) Radial mount Connection Head in Aluminium Alloy with single cable entry IP66 with Display		(Note 14)												W
AGLHD (not with TF-12 transmitter) Radial mount Connection Head in Aluminium Alloy with single cable entry IP66 with Display		(Note 14)												K
AGLHD (not with TF-12 transmitter) Radial mount Connection Head in Aluminium Alloy with single cable entry IP66 with HMI		(Note 14)												R
AGS Connection Head in Stainless Steel with single cable entry IP66														L
AGSH Connection Head in Stainless Steel with single cable entry IP66														M
AGSFD (not with TF-12 transmitter) Radial mount Connection Head in Stainless Steel with single cable entry IP66 with HMI		(Note 14)												Y
AGSFD (not with TF-12 transmitter) Radial mount Connection Head in Stainless Steel with single cable entry IP66 with Display		(Note 14)												Z
AGLSD (not with TF-12 transmitter) Connection Head in Stainless Steel with single cable entry IP66 with Display		(Note 14)												N
AGLSD (not with TF-12 transmitter) Connection Head in Stainless Steel with single cable entry IP66 with HMI		(Note 14)												T

Heavy Duty Pocket Insets
for the Oil & Gas Industry

		Code No. PARTS 1 & 2												PART 3				
Heavy Duty Temperature Inset/Connection Head		Model No. V10687/	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	XX
Cable Entry Thread/Glands																		
Not required																	A	
Standard (M20 x 1.5)																	0	
2 x M20 x 1.5																	1	
(Note 15)																	2	
1/2 in. NPT (by adaptor from M20)																	3	
1 x 1/2 in. NPT (by adaptor from M20)																	(Note 15)	
Process Entry – Connection Head																		
Not required																	0	
1/2 in. BSP Female Thread																	A	
1/2 in. NPT Female Thread																	B	
M24 x 1.5 Female Thread																	C	
(Note 16)																		
Extension Type																		
Not required																	0	
E1S-2 Nipple & 1 Union – 1/2 in. NPT Head with 1/2 in. NPT Thermowell E = 150 mm stainless steel																	(Note 17)	D
E1S-2 Nipple & 1 Union (Oil seals fitted) – 1/2 in. BSP Head with 1/2 in. NPT Thermowell E = 150 mm stainless steel																	(Note 18)	F
E1S Spring version – 1/2 in. NPT Head with 1/2 in. NPT Thermowell E = 150 mm stainless steel																	(Note 17)	H
E2S Nipple with locknut – 1/2 in. BSP Head with 1/2 in. NPT Thermowell E = 75 mm stainless steel																	(Note 18)	J
E3S Nipples with locknut – 1/2 in. BSP Head with 1/2 in. NPT Thermowell E = 50 mm stainless steel																	(Note 18)	L
E4S Fabricated – M24 x 1.5 head with 1/2 in. NPT Thermowell E = 30 mm stainless steel																	(Note 19)	M
E5S Nipple with locknut – 1/2 in. BSP Head with 1/2 in. NPT Thermowell E = 34 mm stainless steel																	(Note 18)	N
E7S Hexagon (Oil Seal fitted) – 1/2 in. BSP Head with 1/2 in. NPT Thermowell E = 34 mm stainless steel																	(Note 18)	T

Heavy Duty Pocket Insets

for the Oil & Gas Industry

Notes.

1. Not available with Sensor code 0
2. Not available with Sensor code 1, 2, 3, 4, 5, A, B, C, D, E, F, G, H
3. Not available with Sensor code 0, A, B, C, D, E, F, G, H
4. Not available with Sensor code 0, 1, 2, 3, 4, 5
5. Not available with Sensor code 0, 5
6. Not available with Sensor code A, B, C, D, E, F, G, H
7. Not available with Head Mounted Transmitter code 1, A, 6, F, 9, J, K, L, M, N
8. Not available with Head Mounted Transmitter code 0, 6, F, 9, J, K, L, M, N
9. Not available with Head Mounted Transmitter code 0, 1, A
10. Not available with Sensor code 0, 1, 2, 4, 5, A, B, C, D, E, F, G, H
11. Not available with Head Mounted Transmitter code 0, 1, 6, 9, K, M
12. Not available with Certification code D
13. Not available with Head Mounted Transmitter code K, L
14. Not available with Head Mounted Transmitter code K, L, M, N
15. Not available with Connection Head code 0. A, B, C, D, V, W, Y, Z
16. Not available with Connection code C, D
17. Not available with Process Entry – Connection Head code A, C
18. Not available with Process Entry – Connection Head code B, C
19. Not available with Process Entry – Connection Head code A, B

Contact us

ABB Limited

Process Automation

Salterbeck Trading Estate
Workington, Cumbria
CA14 5DS
UK

Tel: +44 (0)1946 830 611

Fax: +44 (0)1946 832 661

ABB Inc.

Process Automation

125 E. County Line Road
Warminster
PA 18974
USA

Tel: +1 215 674 6000

Fax: +1 215 674 7183

www.abb.com

Note

We reserve the right to make technical changes or modify the contents of this document without prior notice. With regard to purchase orders, the agreed particulars shall prevail. ABB does not accept any responsibility whatsoever for potential errors or possible lack of information in this document.

We reserve all rights in this document and in the subject matter and illustrations contained therein. Any reproduction, disclosure to third parties or utilization of its contents in whole or in parts – is forbidden without prior written consent of ABB.

Copyright© 2011 ABB

All rights reserved

3KXT111101R1001