

# THERMO-COUPLE 'S' TYPE



- Measure field 0÷1600 °C (maximum limit dependant on insulation type)
- Tolerance complying with norm IEC 584.2 cl.2: +/- 1.5°C or +/- 0.25% (the highest values applies)
- High reliability
- Low cost
- Production process certificated ISO9001

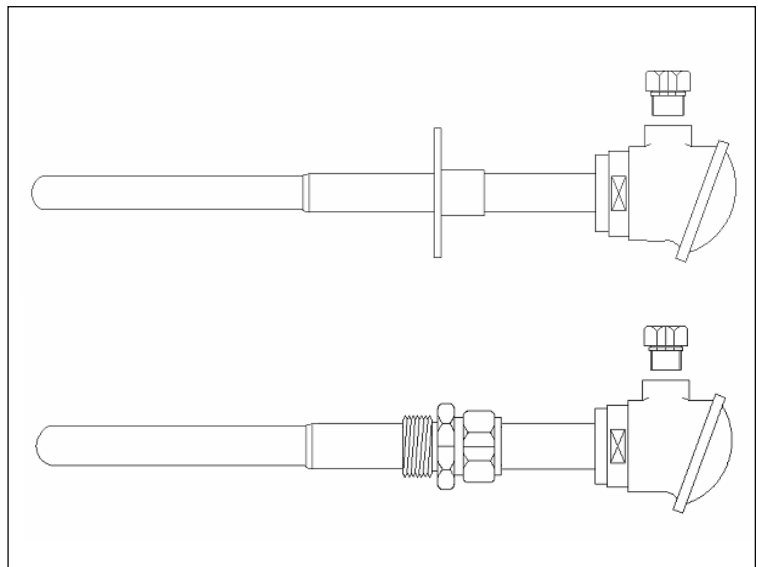
Type S thermocouple are made up of a platinum filament and of a platinum-rhodium (10%) alloy one mechanically joined at one side (hot-junction) while the other side is connected to the measure system.

On hot-junction temperature rising, it is generated an electromotive force proportional to the difference of temperatures between the two thermocouple's ends.

These sensors are typically installed within a triple ceramic sheath that grants sensor's insulation from condensation and from corrosion.

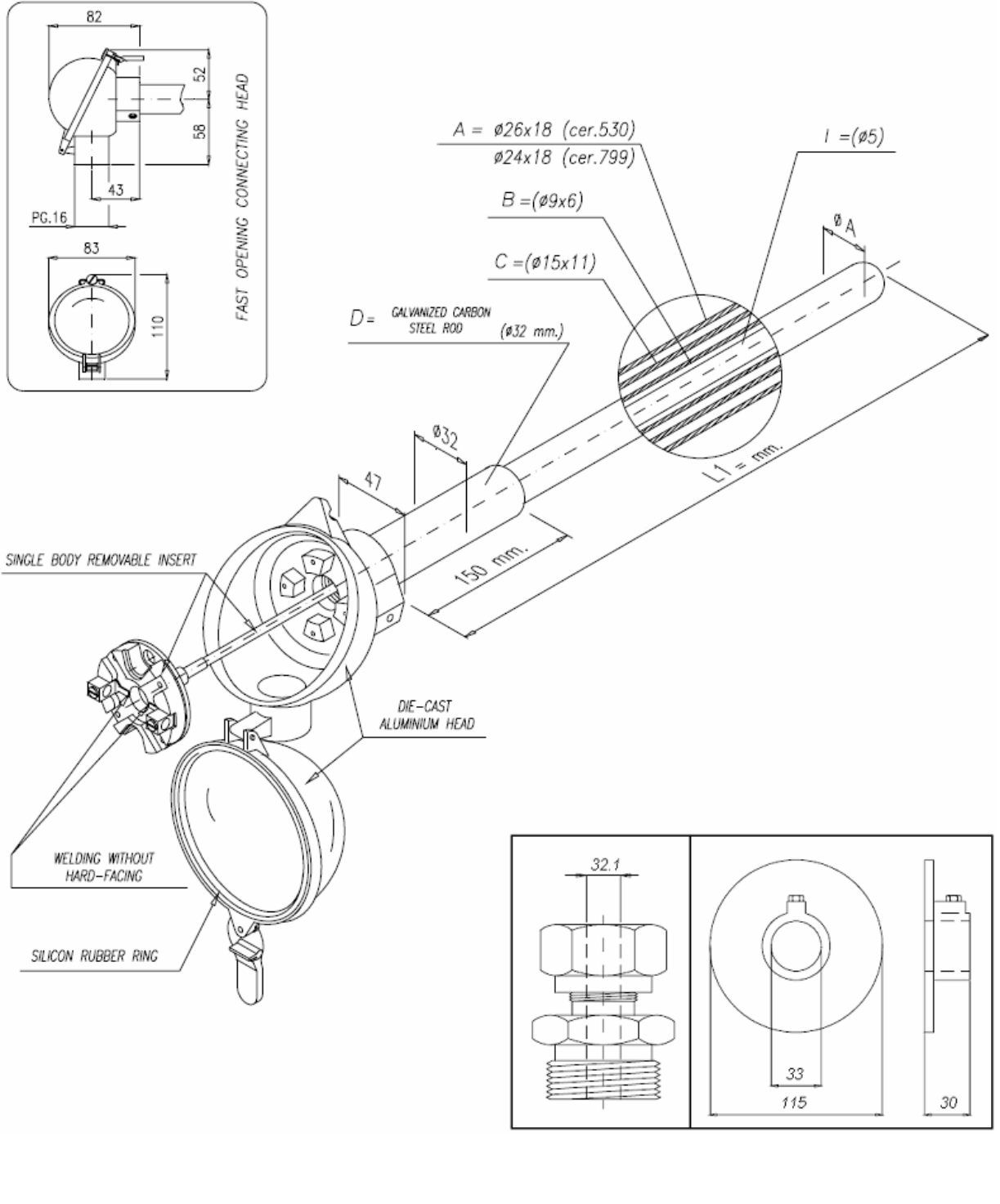
It also gives a good mechanical protection.

Thermocouples have a head containing the terminals for electrical connections where it is also possible to install a signal transducer with 4÷20mA output.



They are available models with single or double sensible element, with length from 50 to 2000 mm and with process connection through threaded connector or sliding flange.

## DIMENSIONAL DRAWING



## CHOOSING GUIDE

Element type	
1	Single element (2 wires)
2	Double element (4 wires)

Inserted filaments diameters	
25	Ø 0.25 mm (max. suggested temperature for continuous use: 1100° C)
35	Ø 0.35 mm (max. suggested temperature for continuous use: 1300° C)
50	Ø 0.50 mm (max. suggested temperature for continuous use: 1400° C)

Sheath and insulator materials	
<p><i>SIL – Ceramic material type DIN VDE 0335 ( SILLIMANTIN – 60 )</i>                      It is a refractory porous material that can be used for general purposes up to 1600° C.                      Free from iron presence, it joins a very good thermal shocks resistance to a structural elasticity due to a 72% of Al2O3 content, with 12% absorption.</p>	
<p><i>PYT – Ceramic material type DIN VDE 0335 ( PYTHAGORAS )</i>                      It is the cheapest impervious material, and can be normally used continuously up to 1500° C.                      It has a very good resistance against gas free from Hydrofluoric acid.                      The 60% Al2O3 content and the absorption less than 0.2% give to this material a good dimensional stability, ( referred to horizontally inserted sheaths ), and a good thermal shock resistance (TSR rate).</p>	
<p><i>ALS – Ceramic material type DIN VDE 0335 ( ALSINT )</i>                      Very high refractory material, due to 99.7 Al2O3 content (0.3 balance being MgO).                      Refractoriness and thermal stability up to 1700° C, good thermal shock resistance due to high thermal conductivity. Very good electrical resistance and impermeableness to multi-crystalline materials and to aggressive gas ( Nitrogen and other reducing gas ).                      Very good resistance to compressive and flexural strength, good to tensile stress.                      Resistant to acids/alkali, nuclear radiations, X-rays, UV-rays.                      Chemically inert and not degassing under vacuum state.                      Hardness at diamond grade.</p>	

Insulators combinations				
A: external sheath	SIL 1600° C	SIL 1600° C	SIL 1600° C	ALS 1700° C
C: intermediate sheath	PYT 1500° C	PYT 1500° C	ALS 1700° C	ALS 1700° C
B: internal sheath	PYT 1500° C	ALS 1700° C	ALS 1700° C	ALS 1700° C
I: insulator	PYT 1500° C	ALS 1700° C	ALS 1700° C	ALS 1700° C
	83	84	85	90

Length (L1)	
04	200 mm
05	250 mm
06	300 mm
07	350 mm
08	400 mm
09	450 mm
10	500 mm
11	550 mm
12	600 mm
13	650 mm
14	700 mm
15	750 mm
16	800 mm
17	850 mm
18	900 mm
19	950 mm
20	1000 mm
21	1050 mm
22	1100 mm
23	1150 mm
24	1200 mm
25	1250 mm
26	1300 mm
27	1350 mm
28	1400 mm
29	1450 mm
30	1500 mm
31	1550 mm
32	1600 mm
33	1650 mm
34	1700 mm
35	1750 mm
36	1800 mm
37	1850 mm
38	1900 mm
39	1950 mm
40	2000 mm