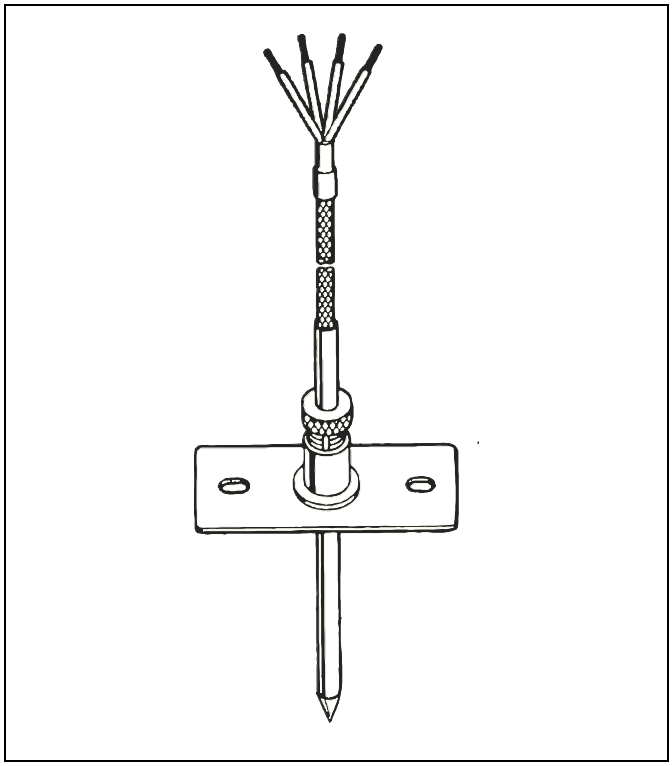
AGF1

WASTE GAS TEMPERATURE SENSOR

PRODUCT DATA



FEATURES

The waste gas temperature sensor AGF1 is suitable for measuring waste gas in the flue gas pipe.#

The measured waste gas temperature can for instance be used for the following functions:

- **Monitoring of waste gas temperature**
- **Determining switching on/off times of the burner**
- **Determining fuel consumption**
- **Calculating waste gas loss from the heat generator**
- **Metering the running time of the burner**

In order to find out which of the above functions are possible, consult the instructions of the controller to which the waste gas sensor is connected.

The AGF 1 is designed as a conduit sensor to measure the waste gas temperature.

SPECIFICATION

Temperature measurement and range of application	0...320 °C (short-time upper limit 400 °C)
Sensor element	PT 1000 (1000 Ω at 0 °C) according to DIN 43 760
Construction	Rod sensor with fitting for mounting on waste gas pipe
Dimensions	Sensor shaft ∅ 5 mm Length 180 mm Length of terminal cable 1 m
Max. cable length	100 m at ∅ 1.5 mm²

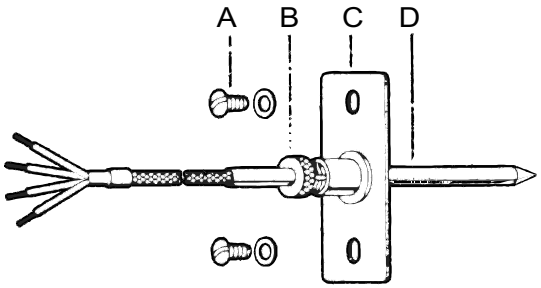
The resistance of the waste gas temperature sensor AGF 1 depends on the temperature (according to DIN 43 760):

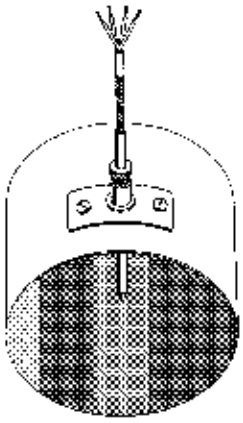
°C	0	20	50	100	110	120	130	140	150	160
Ω	1000	1078	1194	1385	1423	1461	1498	1536	1573	1610

°C	170	180	190	200	210	220	230	250	300	320
Ω	1648	1685	1722	1758	1795	1832	1868	1941	2120	2191

MOUNTING

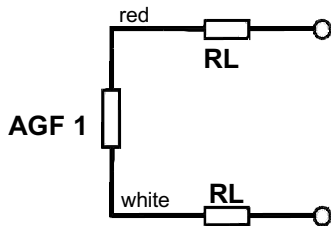
1. Loosen locking screw B and pull out the sensor element D from the guiding pipe.
2. Drill a 10 mm Þ hole at the position chosen on the gas pipe. Take care that the hole for the sensor element is near the heat generator (ca. 10 – 40 cm behind supports for the boiler waste gas).
3. Fit the plate C of the waste pipe so that it lies on the pipe.
4. Mark and drill the holes 3.0 mm Þ for the screws supplied.
5. Insert the sensor element into the guiding pipe.
6. Adjustment
   The measurement of the waste gas temperature must be carried out in the core of the waste gas stream (hottest zone). Furthermore, it must be ensured that the swirling of waste gas in the pipe has taken place. By inserting the sensor elelment D at various depths and by repeated measuring of the waste gas temperature, the hottest zone will be found. The temperatures can be read in the display on the digital controller (see instructions).
7. When then hottest zone has been found, the sensor shaft is fixed into position by tightening the locking screw B.





ELECTRICAL CONNECTION

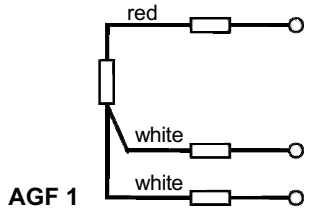
There is a three-prong connection in the controller.
The wiring of the temperature sensor has to be in accordance with the overall wiring circuit diagram.



Advantage: only two cables

Disadvantage: the cable resistance RL distorts the measurement.

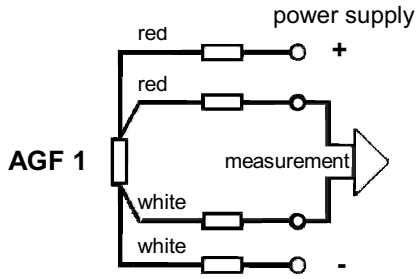
Three cable connection



Advantage: the cable resistance is taken into account by the electronic evaluation and there is no distorbtion in the measurement.

Disadvantage: three cables are necessary and all must have the same resistance.

Four cable connection



Advantage: the cable resistance has no bearing on the results due to the electronic compensation (current demand and high ohmic voltage level). The measurement is not distorted and the cables can have different resistances.

Disadvantage: four cables are necessary

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