Water-cooled suction pyrometer

Figure 1 Case with water-cooled suction pyrometer, injector stainless steel (316), calibrated thermometer, type R thermocouple (max. 1500°C), type N thermocouple (max. 1250°C, but works up to 1300°C with reduced life time), ceramic shields and tools.

Figure 2 Platinum type R thermocouple protected in a 3 mm diameter ceramic tube is inserted from the rear end through ø4 mm hole (care: ceramics is fragile, i.e. do not bend or hit anything). Push thermocouple forward until tip is approx. 14-16 cm in front of the water-cooled probe. A small leak of air through the tube where the thermocouple is inserted to prevent dirt to stick on cable a sensor in the water-cooled part of the probe.

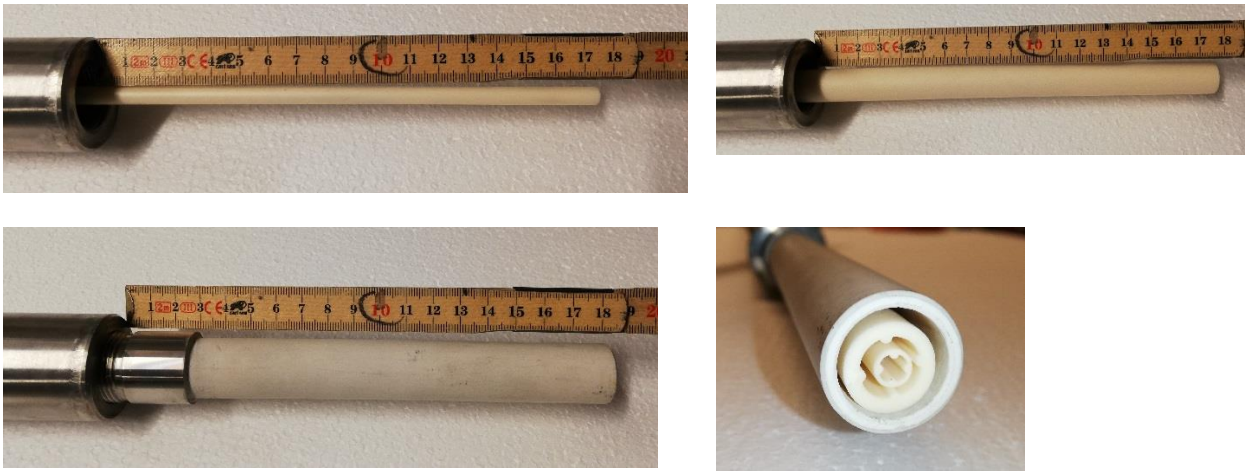

Figure 3 Mount 1. and 2. ceramic radiation shield and finally the 3. radiation shield using 3/4” thread. Do not use force to mount parts. A plier might be used to demount the 3. radiation shield after use (only use force on stainless steel mount as ceramic becomes fragile after use).

Figure 4 The injector is shown mounted on water-cooled suction pyrometer. Adjust nozzle position of injector to obtain max gas flow (test with a finger at tip of ceramics).

Remove 1” cap from rear end of suction pyrometer to clean the suction pyrometer if it is needed.

Note: The gas flow can be reduced or blocked by dirt or molten particles at high gas temperatures (pulverized flames). Try to limit the measurement time in zones with high particle load at high gas temperature, i.e. stop suction if measurements are not sampled and move tip of suction pyrometer to a region with less demanding conditions.

Use type N thermocouples instead of type R with ceramic protection tube (type N is less fragile, but type R might be needed at T_{gas} > 1250-1300°C).

List of delivery

1) 1 piece complete suction pyrometer with SS (316) injector.
2) 2 pieces type R platinum thermocouples.
3) Calibration certificate on temperature instrument and type R thermocouples.
4) Cement “GUN GUM” for mounting of outer ceramic shield is not included or needed.
5) 3 sets of ceramic shields.
6) Manual of suction pyrometer (English).
7) Spare fitting parts in plastic bag, hose for pressurised air supply.
8) 3-5 m compensation cable type N.
9) 3 pieces type N thermocouples.
10) Tools typical needed.
11) Transport case.

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