

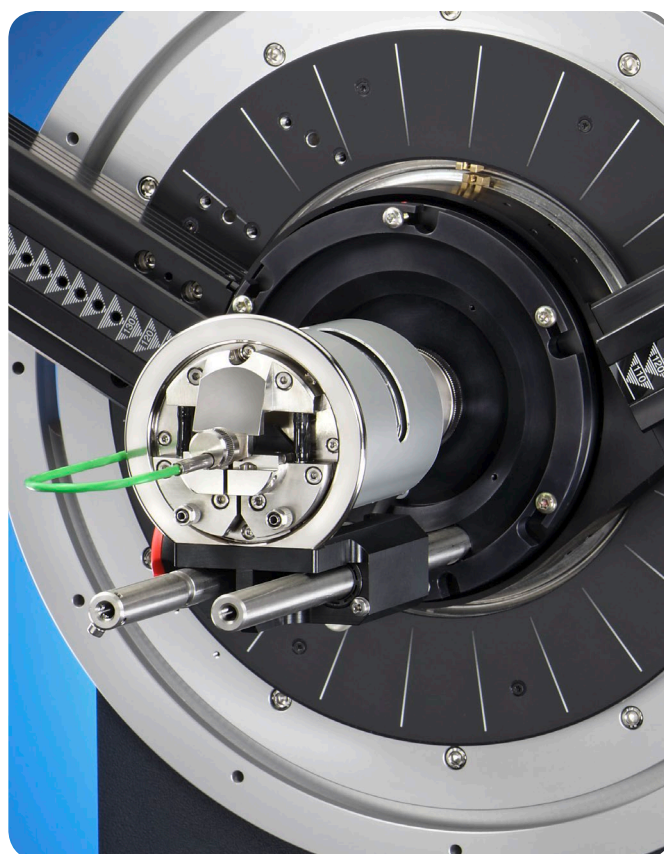
## Product Sheet XRD 44

### TC-TRANSMISSION – High Temperature Capillary Stage

The TC-TRANSMISSION is specifically designed to heat samples in capillary for high temperature XRD in transmission mode. This measurement geometry is recommended to reduce preferred orientation effects, for small sample amounts, or for samples with low X-ray absorption coefficients. In addition, a capillary could be prepared in a glove box and then sealed to protect air sensitive samples.

The compact TC-TRANSMISSION features an oven heater, completely surrounding the capillary sample holder. The Kanthal heating coil is embedded in ceramic foam. The small windows for X-ray entrance and exit are covered by a thin Al foil. This design guarantees excellent temperature homogeneity in the whole chamber. The temperature is accurately measured with a thermocouple close to the capillary.

- Furnace heater for excellent temperature homogeneity
- RT to +1000°C
- Capillary rotation for best statistics
- Goniometer head for accurate capillary alignment

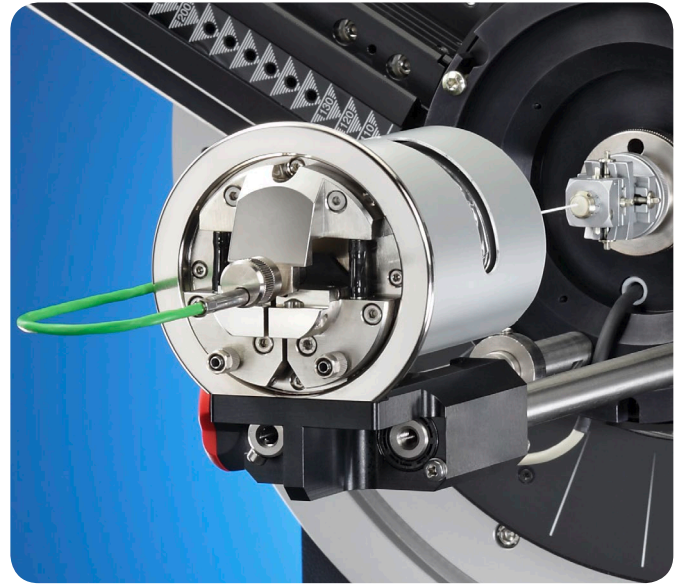


TC-TRANSMISSION

The capillary is glued in a corundum rod used as spacer and thermal insulator to the goniometer head. This goniometer head enables aligning the capillary properly in the X-ray beam. The capillary can be spun during measurement in order to enhance the crystallite statistics.

The TC-TRANSMISSION is an integral part of the DAVINCI design. The stage is mounted to the D8 goniometer through a bayonet interface, which allows fast and reproducible exchange with other sample stages. In addition, two guiding rails enable sliding the water-cooled oven housing to give free access to the capillary. This facilitates replacing the capillary and also allows using the stage as a standard capillary sample holder.

As you may expect of an integrated solution, setting up a measurement to the final data evaluation is fully supported by our DIFFRAC.SUITE software.



TC-TRANSMISSION with the oven housing in unload position

TC-TRANSMISSION - Technical Data	
<b>Temperature Range</b>	RT to +1000°C (depending on the capillary glass)
<b>Heater Material</b>	Kanthal
<b>Sample Holder Material</b>	Different glass capillaries available, e.g. borosilicate, quartz
<b>Thermocouple</b>	Type K
<b>X-Ray Window Opening</b>	7 mm wide, -10° to 190° 2Theta
<b>X-Ray Window Material</b>	Al
Required Accessories	
	Temperature controller: Control Unit TCPU1

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