



## 2.2.7. Cells with Tubes

also for measurements in extreme temperature ranges

## 2.2.7 Cell with Tubes

macro | tube Ø 8 mm, tube length 80 mm

The cells of this series are intended for applications in which the cells are exposed to extremes of temperature. They are supplied in rectangular or cylindrical form and are made of quartz. Because of the very small coefficient of thermal expansion of quartz and its marked dimensional stability under heat, these cells are suitable for use at high and low temperatures.

These cells are equipped with a quartz to Duran (Pyrex) graded seal,   
 ■ so that they can be sealed by fusing   
 ■ so that they can be fused to other parts within a glass appliance or   
 ■ for applications at extremes of temperature

Quartz cells can be exposed to temperatures of up to 900° C without any difficulty. Using them at low temperatures is not unproblematic and requires caution. On the one hand it is possible to cool an empty cell down to just a few Kelvin without destroying it. On the other hand the same cell filled with water will burst just under the freezing point even if it is not sealed. The reason for this is the expansion of water during freezing.

Using these cells successfully at low temperatures depends on the kind of sample and the forces this sample exerts, together with the forces stemming from the holder upon the cell; conditions which are known only to the user and can only be influenced by same.

For some applications of absorption measurements at low temperatures cell 221.001 can also be used. The design of this cell is described in chapter 2.3 (Fluorescence Cells).

For some applications requiring a less pronounced thermal resistance, we also offer specially designed models in which both cell body and connecting tube are made from Duran (Pyrex).

Catalogue Number	Window Material	Light Path mm	Outside Dim. H x W x D mm	Inside Width mm	Base Thickn. mm	Volume µl	Number of Windows	Remarks
220-OS	Quartz SUPRASIL	1	40 x 12.5 x 3.5	9.5	1.5	350	2	Quartz/Duran tube
		2	40 x 12.5 x 4.5	9.5	1.5	700	2	
		5	40 x 12.5 x 7.5	9.5	1.5	1750	2	
		10	40 x 12.5 x 12.5	9.5	1.5	3500	2	
220-BF	Borofloat	10	40 x 12.5 x 12.5	9.5	1.5	3500	2	Duran tube
225-OS	Quartz SUPRASIL	10	Ø 22 x 12.5	Ø 19		2800	2	Quartz/Duran tube
		20	Ø 22 x 22.5	Ø 19		5600	2	
		50	Ø 22 x 52.5	Ø 19		14000	2	
		100	Ø 22 x 102.5	Ø 19		28000	2	
225-BF	Borofloat	10	Ø 22 x 12.5	Ø 19		2800	2	Duran tube



semi-micro

Catalogue Number	Window Material	Light Path mm	Outside Dim. H x W x D mm	Inside Width mm	Base Thickn. mm	Volume µl	Number of Windows	Remarks
224-OS	Quartz SUPRASIL	10	45 x 12.5 x 12.5	4	3.2	1400	2	Quartz/Duran tube

