



PRESSURE SOLUTIONS

C302: Dry-block Ranges (VK)

The following ranges are available in the Jofra range of dry-block calibrators. In many cases, physics dictates these ranges. The highest range available across the mainstream model families is 650°C. This is the effective limit of an RTD, and precision PRTs are used as the reference in most Jofra dry-blocks.

The exception is the CTC 1 200 which goes up to 1 200°C, with a starting range of 300°C. This uses a noble metal thermocouple to measure the reference temperature. Since the accuracy is only 2°, this range is only offered in the CTC compact range.

At the bottom end, the below-ambient temperatures are generated with Peltier thermo-electric semiconductors. These have a limiting temperature, which is 155°C for current generation devices. Earlier generation devices were limited to 140 or 123°C, and these devices are much cheaper. That's why the ETC only goes to 125°C and the CTC to 140°C. The minimum temperature available depends on the Peltier element design, as well as the ambient temperature. The ATC-157 is the super-cooler in the range, which will cool to -45°C from an ambient of 23°C.

A new addition is the ATC125 which uses thermodynamic technology to go much lower than the thermoelectric models can, to -90°C.

Between these extremes, we have the mainstream heating only models, which are limited to 650°C as described above, but also have an intermediate range of 320°C. Starting points are moot. It takes forever to cool to ambient, so a rather arbitrary figure is taken as the minimum temperature, to which cooling times are realistic.

The picture is muddled somewhat by the introduction of the dual mode wet/dry calibrators which offer the option of a wet kit. These are compromise solutions, useful for bulky or multiple sensors, but with reduced range and accuracy.

The product range is summarised as follows:

ATC125	-90 + 125°C	ETC400R	28 to 400°C
ETC125A	-10 + 125°C	ATC650	33 to 650 °C
CTC140A	-17 + 140°C	ITC650	33 to 650 °C
ATC140	-18 + 140°C	CTC650A	33 to 650 °C
ITC155	-23 + 155°C	CTC650B	33 to 650 °C
ATC156	-24 + 155°C	CTC1200	300 to 1 205°C
ATC157	-45 + 155°C		
ATC250	28 to 250°C		
ATC320	33 to 320°C		
ITC320	33 to 320°C		
CTC320A	33 to 320°C		
CTC320B	33 to 320°C		
ETC400A	28 to 400°C		

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