

# J Series Refractometer Temperature Boost Option Technical Bulletin

## J Series Refractometer with Temperature Boost Option

### General Description

The Rudolph Research Analytical J Series of refractometers are able to control temperature accurately and reproducibly to the range mentioned in the relevant technical bulletin. However, for certain applications beyond that range, particularly in petroleum, pharmaceutical, plastics, speciality chemical or food industries, the TB (temperature boost) option can be fitted to a standard Jx57 series refractometer as shown in the photographs below:



This option consists of different, more extensive, control elements and (in the case of the J457) extra excess heat radiation devices.

The TB option has two effects:

#### J457

- The maximum temperature of the refractometer to be increased to 120°C for a period of 60 minutes. At the end of 60 minutes the temperature control will shut off and the instrument will cool down to ambient temperature for a period of 1 hour
- The minimum temperature is changed from 10°C to 5°C (note that the ambient limit still applies)

#### J157, J257, J357

- The minimum temperature is changed from 10°C to 5°C (note that the ambient limit still applies)
- The maximum temperature is increased to that of the model above, for example a J157WR-PLUS which normally stops at 85°C will go to 100°C (J257 temperature)

### **Applications**

The Jx57 series of refractometers conform to the stringent requirements expected in a modern analytical laboratory, including the 21CFR part 11 and data integrity aspects of pharmaceutical research and quality control environments. The increased temperature boost option combined with a wide RI range from 1.26 to 1.72 make the Jx57 series of refractometers the best choice for those applications which require one to measure refractive index at higher temperatures, including crude oil and petrochemical applications, a diverse array of polymers, vegetable oils, boiling confectionary and food products, flavors and extracts, and specialty chemicals under a wide range of conditions.

When a specific application calls for measuring RI at over 100 C, the Jx57 series of refractometers also has pertinent safety built into the system. Peltier cells control the temperature both above and below the sample prism, yet the sample cover remains cool to the touch. Depending on the prism's configuration only a minimal volume of sample (200 µL – 1 mL) is required for an accurate measurement.

### **Ordering Details**

The TB Option can be ordered with all models of the J Series from the J157 up with the exception of flow through / pour through models.

### **Part Number**

J157 – Use A27186  
J157 PLUS – Use A27187  
J257 – Use A27188  
J357 – Use A27189  
J457 – Use A24423

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**Rudolph Research Analytical** 55 Newburgh Road, Hackettstown, NJ 07840 • 973-584-1558  
Fax: 973-584-5440 • Email: [info@rudolphresearch.com](mailto:info@rudolphresearch.com) • Internet: [www.rudolphresearch.com](http://www.rudolphresearch.com)