



Email : sales@laboratoryinstrumentindia.com

**Product Name :**  
Plain Tube and Tube Bundle in Cross Flow

**Product Code :**  
LBNY-0005-10200014



#### **Description :**

The Plain Tube and Tube Bundle in Cross Flow accessory includes two clear plastic plates that are designed to fit the aperture in the Cross Flow Heat Exchanger duct. Using the single tube plate the active element may be used to investigate the variation in heat transfer, temperature difference and surface heat transfer variation with air stream velocity. An electrically heated cylindrical active element with an integral surface thermocouple is supplied which may be inserted in the apertures in each of the two plates. One plate has a single central hole and the other consists of a six row tube bank with a removable tube in the centre of each row.

#### **Exeperimental Capabilities:**

Determination of the mean surface heat transfer coefficient for cross flow heat exchangers with one to six rows. Deduction of the relationship between Nusselt, Reynolds and Prandtl Numbers for each of the six tube rows. Steady state determination of heat transfer, temperature difference and surface heat transfer coefficient for a single tube in a transversely flowing air stream at speeds of up to 30m/s.

#### **Technical Specification :**

The cylindrical active element plugs directly into the Cross Flow Heat Exchanger instrumentation console and this allows measurement of the low voltage power supplied to the heater and the surface temperature. Using the single tube plate the active element may be used to investigate the variation in heat transfer, temperature difference and surface heat transfer variation with air stream velocity. An electrically heated cylindrical active element with an integral surface thermocouple is supplied which may be inserted in the apertures in each of the two plates. One plate has a single central hole and the other consists of a six row tube bank with a removable tube in the centre of each row.

---

Replacing the removable tube in each row in turn in the tube bundle allows the variation in heat transfer coefficient in a tube bundle to be investigated.



**Laboratory Instrument India**