Email : sales@laboratoryinstrumentindia.com

Product Name : Convective Heat Transfer In Air Flow	**Product Code :** LBNY-0005-1250003

Description :

The Convective heat transfer In Air Flowand its accessories allow studying the convective heat transfer with different geometries of the transfer surface. Typical models such as the tubebundle, the heated tube from the outside and the heated cylinder from the inside are observed. Convective heat transfer is the transfer of heat between a surface and a fluid. Theprocesses of convective heat transfer are associated with the movements of the fluidthat is to say with convection. In the case of forced convection, thefluid is fed by a pump or fan onto the transfer surfaces, whereas in the caseof free convection, the flow occurs only under the effect of the density differential of the heated fluid. The air passes in front of the model, warms itself up and leaves by a ventilation shaft. In the air duct, aflow-friendly inlet member provides a homogeneous flow for conducting thetests. The volumetric flow rate is adjusted by a butterfly valve locatedat the fan outlet. An immersion heater, which can be placed anywhere in the tubebundle, simulates a heated tube. The convective heat transfer can thus be determined according to the position of the tube. Other models areavailable as accessories. It is also possible to show the chimney effect insidea ventilation shaft during free convection. The measuring section is an airduct with fan, in which the model of heat exchanger can be fixed easily and quickly using quick couplers. To make it possible to observe the tests, the air ductis equipped with two windows. The model included in the bundle heat exchanger delivery list includes two exchangeable tubular bundles of different geometries. The heating power and the volumetric flow can beadjusted. The heating power and the temperatures of the air and the heaterare displayed numerically. A pitot tube and a pressure measuring device make it possible to determine the speed distribution in front of and behind themodels.

Technical Specification :

A ventilationshaft allows free convection tests and the demonstration of the chimney effect
Display of air temperature, heating temperature and heating power

Ã˜ 10mmimmersion heater insertable into the ventilation shaft
Immersionheaters protected against overheating
Convectiveheat transfer in case of forced convection
Exchangeabletubular bundles with two different diameters included in the delivery list
Mobile pitottube with pressure measuring device for determining a speed profile in the caseof forced convection
Immersionheater Ã˜ 10mm or Ã˜ 13mm insertable at the desired position in the tube bundle
Adjustable air volume flow
Air duct with flow-friendly inlet and windows for observation of tests.

Technical Characteristics:
Air duct:
Flow crosssection: 150x150mm
Length:1540mm

Tubular bundle:
23x tube (Ã˜10mm)
23x tube (Ã˜13mm)

Fan:
Power: 1,5kW
Volume flowrate: 2160m 3 / h

Measuring ranges:
Pressure: Â±200mbar
Temperature:2x max. 80 Â° C
Power: 0 ...400W

2 Immersion heaters:
Length: 130mm
Power: 220W(Ã˜ 10mm)
Power: 250W(Ã˜ 13mm)
Protectionagainst overheating at 80 Â° C.