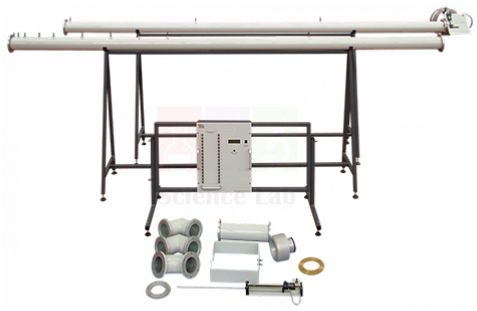
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Product Name :

Pipe Flow And Nozzle Kit

Product Code :

SLE/EFM/19



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Description :

Pipe Flow And Nozzle Kit (Product Code: SLE/EFM/19) is an air-flow accessory kit for studying pressure losses in pipes and fittings and for comparing different ways of measuring flow. The pipes connect to a fan inlet so the fan works in suction, drawing air through smooth-walled pipes fitted with many pressure tappings, a Pitot traverse, a nozzle and an orifice plate. It is intended for mechanical and aeronautical engineering practicals, and is manufactured by **Jain Scientific Equipments Pvt Ltd (ScienceLab)**, Ambala, a supplier of lab equipment for college laboratories in India.

Specifications

Parameter	Detail
Test pipes	Two long lengths of smooth-walled pipe with multiple pressuretappings
Connection	Pipes connect to the fan inlet, so the fan works in suction for pipe tests
Velocity profile	Pitot traverse fitted at the end of one long pipe
Nozzle study	Probe in an assembly that moves axially through an additional nozzle to measure its axial pressure profile
Flow comparison	Nozzle and orifice plate included for comparing measured flow
Fittings	Three: two elbows and a bend, each fitting between the long pipes
Pressure readout	Pipe tappings connect to a multiway pressure display

Kit contents as described:

- Two long smooth-walled pipes with pressure tappings
- Pitot traverse
- Additional nozzle with axially moving probe assembly
- Orifice plate
- Two elbows and one bend

Typical Use

In the first exercise, students read static pressure at each tapping along a straight pipe and plot pressure against distance; the steady gradient gives the friction loss and, with the flow rate, the friction factor. Traversing the Pitot tube across the pipe end then gives the velocity profile, which they integrate to calculate the theoretical flow and compare with the readings from the nozzle and the orifice plate. Moving the probe step by step through the additional nozzle maps its axial pressure profile, showing how pressure converts to velocity as the flow accelerates.

Inserting the two elbows and the bend in turn between the long pipes isolates the extra pressure drop each fitting causes, so students can express it as a loss coefficient. Keep tapping tubes free of kinks, seal every joint well to avoid air leaks, and let the fan settle at each setting before reading.

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