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Product Name :

Two Stage Compressor Test Set

Product Code :

SLE/EA/09



Science Lab
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Description :

Two Stage Compressor Test Set (Product Code: SLE/EA/09) is a self-contained, mobile two-stage reciprocating air compressor test set used to investigate compressor operation and performance in single-stage, two-stage and intercooled two-stage modes in thermodynamics laboratories. As technical educational equipment it stands out because each of its two twin-cylinder compressors has its own electronic drive, load cell and speed sensor, so true shaftpower is measured for each stage. It is made by **Jain Scientific Equipments Pvt Ltd (ScienceLab)**, an OEM manufacturer, at its own factory in Ambala, India.

Key Details

Parameter	Detail
Compressors	Two twin-cylinder, air-cooled reciprocating compressors, each drivenby an electric motor through a low-maintenance toothed belt
Operating modes	Single-stage; two-stage; two-stage with inter-cooling
Motor control	Electronic drive units control both motors independently
Electrical power	Meters show the electrical power consumption of each motor
Torque	Close-coupled load cell on each motor
Speed	Sensor on each motor, shown on a digital indicator
Shaft power	True shaft power from the product of torque and speed
Intercooler	Integral, water-cooled
Air receiver	Included
Air routing	Diverter valves direct air from the first stage to the receiver, directly to the second stage, or to the second stage through the intercooler
Controls	All controls and instrumentation on an easy-to-operate mimic panel
Construction	Self-contained, mobile
Product code	SLE/EA/09
Manufacturer	Jain Scientific Equipments Pvt Ltd (ScienceLab) — OEM
Country of origin	India (made in Ambala, Haryana)

What Is the Two Stage Compressor Test Set Used For?

Students first run one compressor as a single-stage machine delivering straight to the receiver, then route air from the first stage directly into the second, and finally pass it through the water-cooled intercooler before the second stage. Comparing shaft power and electrical input across the three set-ups shows why staged compression with inter-cooling reduces the work needed, a central idea in compressor design.

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