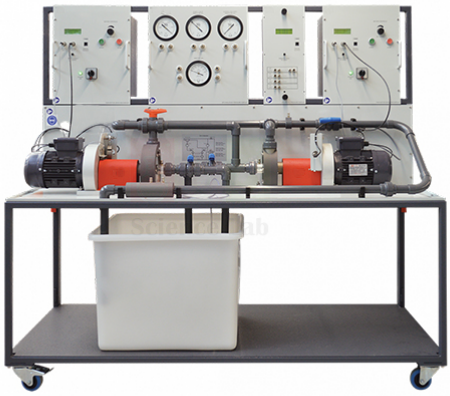
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Product Name :

Two Stage (Series And parallel)

Product Code :

SLE/EFM/08



Description :

The **Two Stage (Series And parallel)** apparatus (Product Code: SLE/EFM/08) is a two-pump centrifugal test rig in which students run each pump alone, or both together in series or in parallel, and measure how the combined system behaves. Each pump has its own motor, speed control, torque load cell and speed sensor, and flow is found from the differential pressure across a Venturi meter. It is manufactured by **Jain Scientific Equipments Pvt Ltd (ScienceLab)**,Ambala, and forms part of our engineering lab equipment in India for mechanical and civilengineering departments.

Specifications

Parameter	Detail
Pumps	Two centrifugal pumps, working alone, in series or in parallel
Drive	Two bearing-mounted motors, one driving each pump independently
Per-pump instrumentation	Electronic Motor Drive for speed control, load cell for torque, sensor for pump speed
Configuration	Two-way valve selects single, parallel or series operation;each pump has its own inlet valve
Water circuit	Integral reservoir ? strainers ? series of valves ? Venturi meter ? back to reservoir for re-use
Flow measurement	Differential pressure across the Venturi meter
Layout	Instrument and control modules fit into a frame above and behind the pumps

Typical Use

Students usually begin with one pump, plotting head, power and efficiency against flow. They then switch the two-way valve to series and see the heads add at a given flow, before changing to parallel and seeing the flows add at a given head — the two classic results every engineer needs when designing a pumping station or booster system. Because each motor has its own speed control and torque measurement, the pumps can also be run at different speeds to show what happens when mismatched machines share a system.

Closing an inlet valve progressively lets the class see cavitation begin and hear the change in pump noise, giving a vivid lesson in suction conditions. The same rig teaches flow measurement: students convert the Venturi differential pressure into flow rate and compare the result with theory. Since water returns to the reservoir for re-use, water consumption stays low, which makes the rig well suited as lab equipment for college buildings without large drainage facilities. Clean the strainers regularly and refill the reservoir with clean water.

Manufacturer

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