SCIENTICO INDIA
Manufacturer & Exporter · Ambala, Haryana, India

PRODUCT DATA SHEET
Catalogue reference for product evaluation

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Advance Multi Pump Test Rig | FluidoSurge-X 342

Category: Fluid Mechanics · **Country of Origin:** India

Product Overview

A CE-certified pump test unit for investigating flow-head characteristics, efficiency at various speeds, and pump performance curves, manufactured by Scientico India to ISO 9001:2015 standards. Supplied with calibration certificate, operation manual, and complete export documentation. Designed for Fluid Mechanics laboratories in engineering colleges and technical institutions.

View this product online: https://scienticoindia.com/product/advance-multi-pump-test-rig-fluidosurge-x-342/



Request a model-specific quotation
Include quantity and delivery country.

Technical Specifications

Parameter	Specification
Apparatus Type	Multi pump performance test rig
Standard Pumps Supplied	Centrifugal pump, axial flow pump, gear pump, turbine pump
Optional Pumps (not included)	Flexible impeller, diaphragm, plunger, additional centrifugal pump
Drive System	Individual motors for each pump
Speed Control	Frequency converter, computer controlled (optional)
Water Circuit	Closed loop with storage and volumetric tanks
Pressure Measurement	Pressure sensors at pump inlet and outlet
Flow Measurement	Level sensor and graduated volumetric tank
Torque Measurement	Direct torque measurement at motor shaft
Frame Material	Anodized aluminum frame, painted steel panels
Wetted Parts	Stainless steel
Mobility	Mounted on wheels

Key Features

Key Features

- Study of operating characteristics of multiple pump types in one system
- Direct measurement of pressure, flow, torque, and speed
- Determination of manometric head, hydraulic power, mechanical power, and efficiency
- Individual motor drive for accurate torque measurement
- Variable speed control via frequency converter
- Closed water recycling system with dual tanks
- Modular design supporting optional pump integration

Applications

- Fluid mechanics and hydraulic machinery laboratories
- Performance testing of pumps
- Comparative study of pump technologies
- Teaching dimensional analysis and similarity laws
- Advanced engineering education and training

Construction & Design Details

The rig is mounted on a rigid structure with a working surface protected by a plastic sheet. It consists of two main sections: the pump assembly area with motors, flexible hoses, valves, and sensors, and the water storage and measurement section with upper volumetric and lower storage tanks. The volumetric tank includes weirs, level sensors, a transparent indicator tube, graduated scale, and safety overflow to prevent misuse. All main metallic components are corrosion-resistant, ensuring durability and consistent operation in laboratory environments.

Experiments

General Experiments

- Determination of dimensional characteristic curves of different pump types
- Determination of specific speed
- Verification of pump similarity rules
- Sensor calibration

Axial Pump

- Q vs speed characteristics
- Head vs flow at different speeds
- Mechanical power vs flow
- Efficiency vs flow
- Characteristics map

Centrifugal Pump

- Q vs speed characteristics
- Head vs flow at different speeds
- Mechanical power vs flow
- Efficiency vs flow
- Characteristics map

Flexible Impeller Pump (optional)

- Q vs speed characteristics
- Head vs flow at different speeds
- Mechanical power vs flow

- Efficiency vs flow
- Characteristics map

Turbine Pump

- Q vs speed characteristics
- Head vs flow at different speeds
- Mechanical power vs flow
- Efficiency vs flow
- Characteristics map

Diaphragm Pump (optional)

- Q vs speed characteristics
- Head vs flow at different speeds
- Mechanical power vs flow
- Efficiency vs flow
- Characteristics map

Gear Pump

- Q vs speed characteristics
- Head vs flow at different speeds
- Mechanical power vs flow
- Efficiency vs flow
- Characteristics map

Plunger Pump (optional)

- Q vs speed characteristics
- Head vs flow at different speeds
- Mechanical power vs flow
- Efficiency vs flow
- Characteristics map

Software (Optional)

The optional DAQ Software is developed in the NITM LabVIEW™ environment. It enables data acquisition, processing, visualization, and reporting on Windows systems. Measured and calculated parameters can be displayed as tables and graphs, with export of comprehensive CSV reports for documentation and analysis.

Export & Supply Capability

SCIENTICO manufactures the Advance Multi Pump Test Rig FluidoSurge-X 342 for engineering institutions, universities, and research laboratories. The system is suitable for domestic and international supply. Export packing, documentation, and electrical configuration are provided according to destination requirements.

Ordering & Delivery

- Send the product name, quantity, delivery country and destination with your enquiry.
- Production schedule, freight, payment terms and export documents are confirmed in the written quotation.

Frequently Asked Questions

Q1. How many pumps are included in the standard supply?
Four pumps are included: centrifugal, axial flow, gear, and turbine pumps.

Q2. Can additional pump types be added later?
Yes. Several optional pumps can be connected using valves and flexible hoses.

Q3. How is pump speed controlled?
Pump speed is controlled using a frequency converter, with optional computer control.

Q4. What parameters can be measured directly?
Pressure, flow rate, torque, speed, and water level are measured directly.

Q5. Is the system suitable for advanced laboratory courses?
Yes. The rig supports advanced experiments on pump performance, similarity laws, and efficiency analysis.

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