

# MP 111 MULTI STAGE CENTRIFUGAL AIR COMPRESSOR DEMONSTRATION UNIT, Computer Interface



## GENERAL DESCRIPTION

This is a bench top unit for studying the multi stage centrifugal air compressor characteristics with data analysis by computer. The unit consists of a small multi stage air compressor with a motor on a steel base, inlet and outlet ducts, sensors and software. Speed control is by a variac. Instruction manual is also included.

## EXPERIMENT CAPABILITIES

- Flow rate vs pressure.
- Compressor input, output, and overall efficiency.
- Effect of speed on compressor performance.

Test No.	Damper Opening (%)	N (r/min)	ΔP (mm H <sub>2</sub> O)	PF (mm H <sub>2</sub> O)	T1 (°C)
0	31	1010	2003	22.452	16.96
10	31	1010	2006	22.749	16.96
20	31	1010	2004	22.559	17.248
30	31	1010	2010	21.959	17.248
40	31	1010	2004	21.04	17.413
50	31	1010	1995	20.051	17.284

## TECHNICAL DATA

- Compressor
  - Type : 2 stage, centrifugal
  - Rated maximum flow rate : 0.03 m<sup>3</sup>/s
  - Rated maximum pressure : 25 kPa
- Inlet duct : Transparent with orifice
- Outlet duct : Transparent with damper
- Speed control : Variac
- Sensors with digital display : Differential pressure across the fan  
: Differential pressure at the orifice  
: Temperature of inlet air  
: Compressor speed  
: Input power
- Computer interface unit
- Software for data display and analysis by computer (separately supplied).
- Accessory : Barometer
- Power supply : 220 V, 1 Ph, 50 Hz. Other power supply is available on request.

Net (unpacked) shipping dimensions WxLxH : 55 x 82 x 35 cm  
Net weight : Approx. 23 kg

