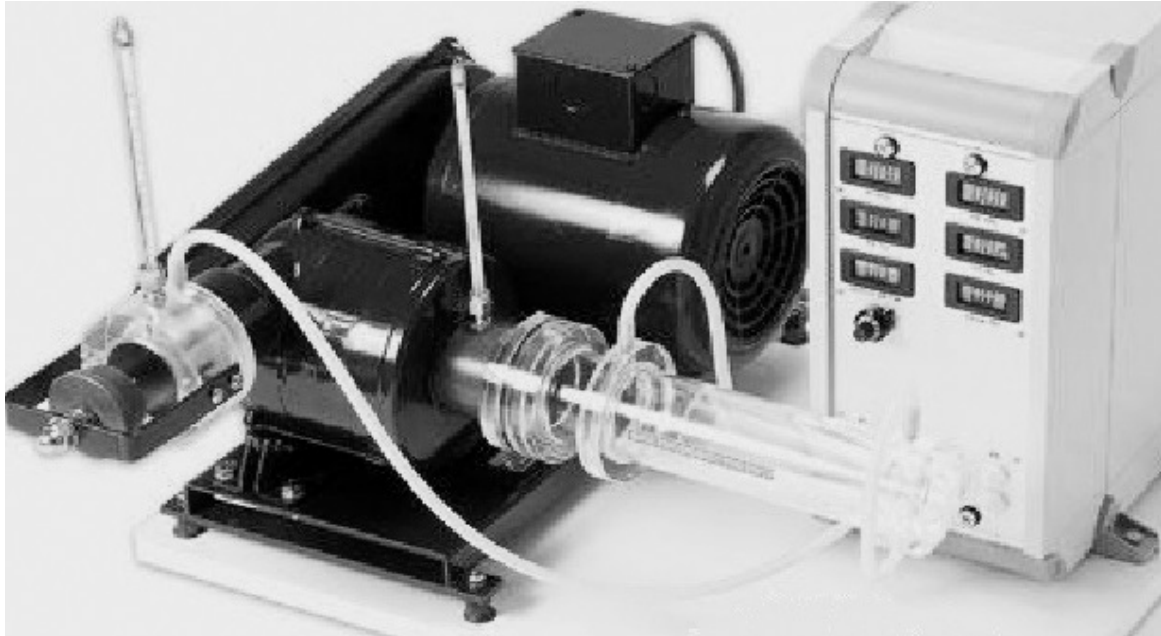


PNEUMATICS

PN74D/C – Computerized Compressible Flow Unit - Code 973814



Non-binding picture

1. General

The Didacta Computerized Compressible Flow Unit PN74D/C (code 973814) is a bench top unit designed to teach to students the basic of compressible flow; it is based on a variable speed multi-stage air compressor.

The available optional allow to increase the experiments which can be performed and to determine the characteristic curve of the compressor.

Thanks to the electronic transducers and suitable software, it is possible to display on personal computer and/or print the tables of results and diagrams of the various experiments.

The unit is supplied with manuals that describe each component of the system, installation and utilization procedures.

2. Composition and description

- Multi stage variable speed compressor.
- Three phase AC motor, controlled by an electronic frequency inverter.
- Transparent convergent-divergent test section fitted on the compressor inlet, complete with three pressure tapping
- Transparent outlet duct, complete with a throttling valve.
- No. 4 pressure sensors with analogic output
- Electric control box, complete with USB interface to Personal Computer.
- Data acquisition and analysis software

The acquisition and analysis software operates under MS-Windows and allows to capture data from the transducers located on the plant.

So it is possible to monitor the plant by displaying on the PC screen, in real time, the acquired parameters and to manage alarm signals, when a parameter goes out of range.

The software allows to display on the screen or to print the diagrams of the acquired data as a function of time. Acquired data can be saved onto disk in ASCII format. Besides it is possible to carry out simulations by introducing data through the keyboard.

Optionals

- Additional Test Sections (code 973810) composed of:
 - No. three transparent straight ducts of different diameters
 - Sudden enlargement section
 - 90° bend test section, to investigate the radial pressure difference across the bend.

- Test section with four interchangeable orifice plates
- Compressor Test Accessory (code 973811): it is a test section to measure the air flow

3. Experiments

- Chocking in a convergent-divergent duct
- Pressure flow characteristic of a convergent-divergent duct
- Effect of compressibility on flow equations
- Pipe friction (with optional code 973810)
- Friction coefficient of a compressible flow (with optional code 973810)
- Friction coefficient and Reynolds number (with optional code 973810)
- Pressure drop across an orifice and across a 90° bend (with optional code 973810)
- Pressure recovery across a sudden enlargement (with optional code 973810)
- Centrifugal compressor performance characteristics (with optional code 973811)
- Energy balance for a compressor (with optional code 973811)

4. Required PC configuration

- IBM compatible Personal Computer, min Pentium with Hard Disk, CD Rom, SVGA graphic board or higher, mouse, min 32 MB RAM.
- Graphic printer.
- Software: MS Windows 95 or later versions or NT 4.0.

5. Required services

- Electrical supply: 220V, single-phase, 50 Hz, 1.2kW

6. Weight and dimensions

- Weight: 70kg approx.
- Dimensions: 700x700x600 h mm approx.