Monmouth Scientific

Operating & Maintenance Manual

Ductaire® Pro
Ducted Fume Cupboard

DP700/DP1000/DP1200/DF1500/DP2000/DP3000

THE MARKET LEADER IN *CLEAN AIR SOLUTIONS*

www.monmouthscientific.co.uk

This manual is intended to provide information about the product.
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Warning

This cabinet must be used in compliance with these instructions and any repairs or maintenance carried out by qualified personnel.

For parts or service information please contact Monmouth Scientific.

SECTION 1

DESCRIPTION OF THE CABINET

The Ductaire pro range of filtration fume cabinets are designed to provide operator and environmental protection. The cabinet provides an inflow of air >0.5m/sec through the working aperture to provide operator protection and when installed and operated correctly are compliant to BS14175.

The Ductaire Pro fume cabinet working chamber is manufactured from fully welded industrial quality copolymer polypropylene, complete with an integral spillage containment area. The fully adjustable sliding vertical sash allows excellent access to the large work area and fully isolated lighting ensures the area is well lit and easy to work in. The cabinets are able to be specified with optional items such as power sockets and water/gas services.

They can be supplied on a supply only basis or complete with full installation and/or validation to BS7258 Part 4.

The system employed for airflow control is the Variable air volume (VAV) principle. This maintains a constant containment velocity into the cabinet across the sash aperture irrespective of the sash operating position.
The cabinet is able to be supplied with a variable speed fan controller for single fan per unit situations or when connected into an existing communal duct system, a variable duct damper is employed.

	DP1000PRO	DP1200PRO	DP1500PRO	DP1800PRO	DP2000PRO
External Dimensions	1000mmWide 800mmDeep 1425mm High	1200mmWide 800mmDeep 1425mm High	1500mmWide 800mmDeep 1425mm High	1800mmWide 800mmDeep 1425mm High	2000mmWide 800mmDeep 1425mm High
Internal Dimensions	800mmWide 585mmDeep 850mm High	1000mmWide 585mmDeep 850mm High	1300mmWide 585mmDeep 850mm High	1600mmWide 585mmDeep 850mm High	1800mmWide 585mmDeep 850mm High
Airflow (Max.)	790 m^3/hr	990 m^3/hr	1290 m^3/hr	1590 m^3/hr	1790 m^3/hr

SECTION 2

INSTALLATION

The cabinet installation should only be carried out by suitably qualified persons.

- The cabinet should be sited in a draught free position and in accordance with guidelines laid out in BS14175.
- The cabinet should be connected to a suitable fan/duct system with electrical connections made to fan speed controller/duct damper as appropriate.
- Connect the cabinet to a 13A outlet socket.
- Optional Aux power sockets are provided with separate power plugs.
- Optional services (water/gas etc.) are supplied with connections located inside the removable side panel. Remote valves are located on the same side as the respective services where fitted and are clearly marked.
- As standard, the system relies on Variable air volume. A 0-10v terminal is provided for connection to a VAV fan inverter drive or servo driven variable duct damper valve. Electrical connections are located under the access cover behind the front cover.

TESTING / COMMISSIONING

A test certificate will be supplied for conformity to CE marking, and electrical test.

The airflow should be checked using a vane anemometer and the results recorded.

THE CABINET MUST BE TESTED EVERY 14 MONTHS TO COMPLY WITH C.O.S.H.H REGULATIONS.

SECTION 3

GENERAL OPERATION

The main on/off switch is located on the right-hand side near the top of the cabinet. When first turned on the LCD control panel will be displayed providing operator information relating to cabinet use.

CONTROL SYSTEM

The cabinet is controlled and monitored by a microprocessor with an LCD touch screen. The touch screen provides the operator with general information about the cabinet and displays the current face velocity and status. Control of light level, fan on/off and other operating settings are all accessed via a menu system. To ensure containment is always maintained and for increased energy efficiency, a constant velocity, variable air volume (VAV) system is employed. This varies the volume of air passing through the cabinet to maintain a constant face velocity regardless of the sash position. The control system is factory set to maintain the following parameters:

Normal velocity:	0.55m/sec. (Velocity measured at the aperture)
Low velocity:	0.35m/sec.
Low airflow alarm:	0.30m/sec.

These settings can be changed by a Monmouth engineer. Please contact Monmouth Scientific for further advice.

START-UP

When first turned on the screen below is displayed providing system status.

Additional cabinet information can be displayed by pressing the key.

FACE VELOCITY

The microprocessor controls the fan speed to maintain a constant face velocity across the sash irrespective of its position. The value will fluctuate slightly during normal operation, this is normal and is an indication that the fan is operating normally and is under control. By default, the units displayed are set to M/Sec. If preferred the units displayed can be changed to ft/min. in the Supervisor Settings (see page 11).

CONTROL BUTTONS


Light On / Off


Reduce Brightness


Increase Brightness


Fan On

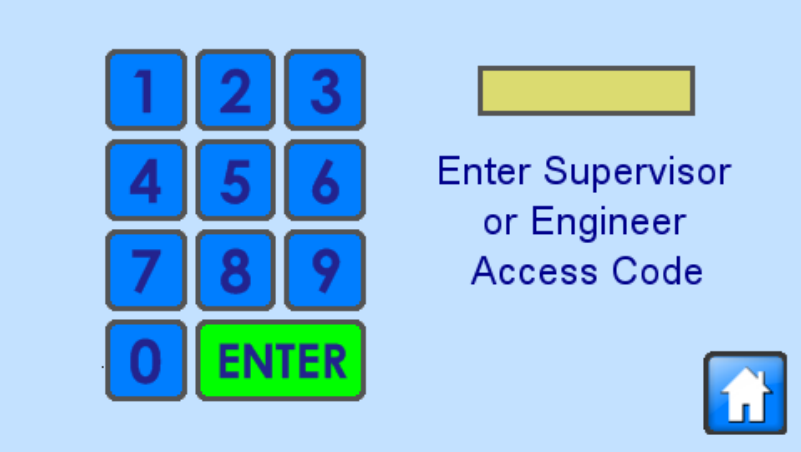

Fan Off


Settings - access to settings menu


Information - Cabinet and filter information

SETTINGS

Pressing the key on the main screen enters the Set-Up menu access screen.



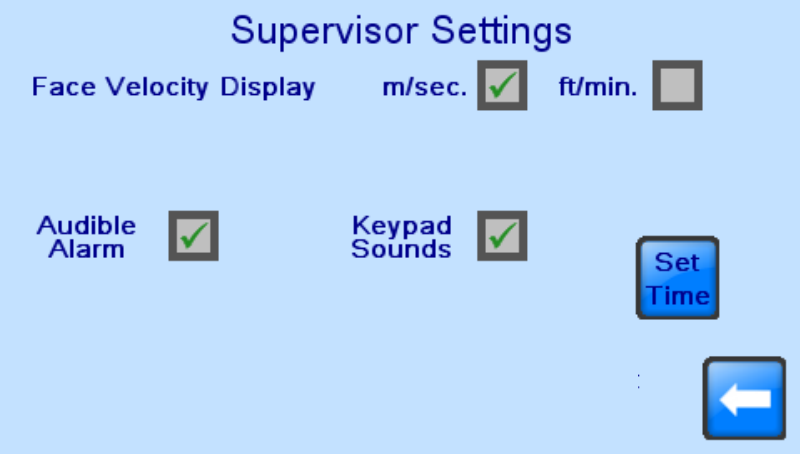
The supervisor access code is supplied with the cabinet and allows access to change operating preferences.

The engineer access code is reserved for service personnel to carry out maintenance procedures.

The key returns to the normal display screen.

SUPERVISOR SETTINGS

When the correct Supervisor code is entered the screen below is displayed allowing for various options to be configured.



Face Velocity Display - Select preferred velocity units.

Audible Alarm - Turns the audible low airflow alarm on/off.

Keypad Sounds - Turns the audible key beeps on/off.

Set Time - Displays a time / date setup screen, use the +/- keys to set the correct date and time.

Pressing the key returns to the previous screen.

INFORMATION SCREEN

Pressing the key on the main screen will display the information screen below.

Service information is reset by a Monmouth engineer during a service visit. When a service becomes due a warning screen will be displayed momentarily on start-up during the preceding month.

SECTION 5

MAINTENANCE

The cabinet should be isolated from the electricity supply before carrying out any maintenance procedures.

CLEANING

Proprietary glass cleaner can be used on the sash glazing.

All other surfaces should be cleaned with warm soapy water, and rinsed with fresh water to remove residues using a soft cloth or sponge.

FUSES

The main fuses are located in the mains inlet socket on the top of the cabinet.
Always replace fuses with the correct type and rating.

LIGHTING

The high efficiency, low voltage LED light tubes are fitted to the inside of the front cover. They should provide many years of service without requiring replacement. Spare tubes are available from Monmouth Scientific.

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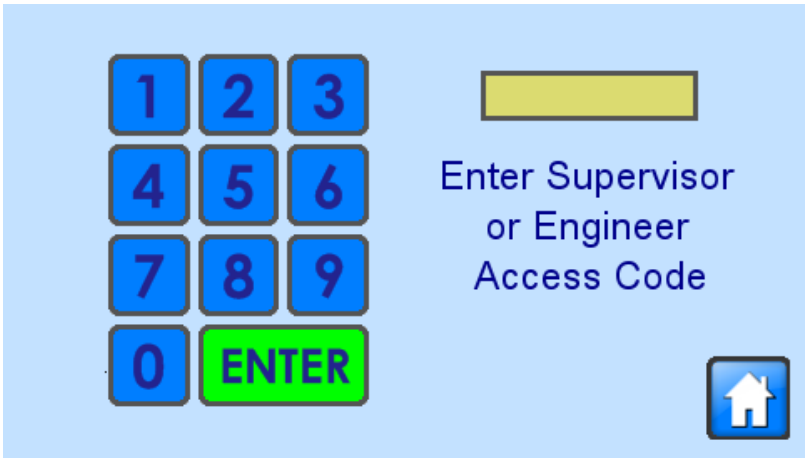
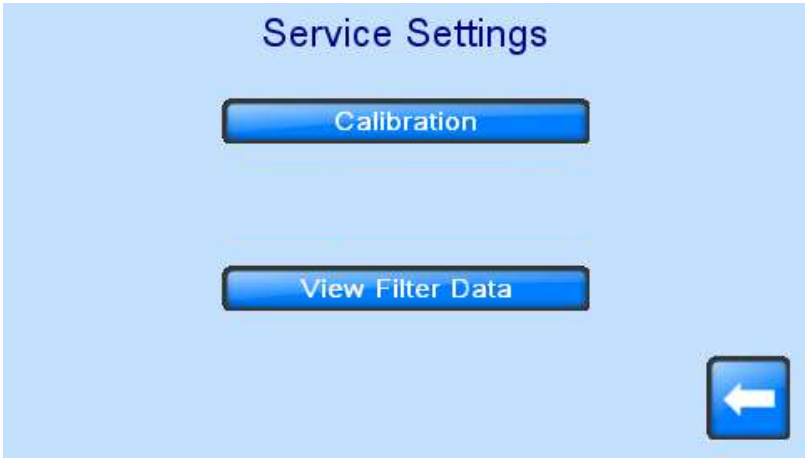
ENIGINEER MENU

Pressing the  key on the main screen enters the Setup menu access screen.



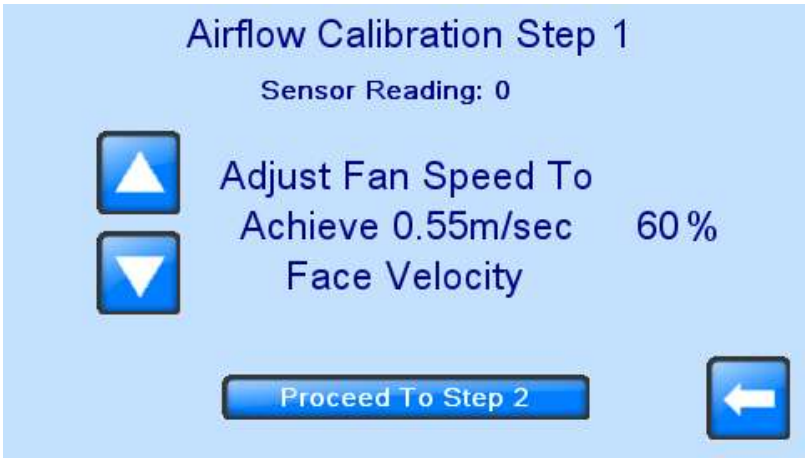
Enter the engineer access code to enter the Engineer Settings menu.



The Calibration key navigates to a further screen where all calibration options are accessed.

AIRFLOW DISPLAY

This is a two stage procedure to calibrate the airflow display to the actual airflow. A calibrated, rotating vane anemometer should be used. Follow the on screen instructions.



The back key returns to the calibration menu without changing any settings.

AIRFLOW ALARM SETPOINT

The alarm point should normally be set to 0.35m/sec but may be changed if required. The alarm point should not be set too close to the target airflow to avoid unwanted alarms. The back key stores the set point and returns to the calibration menu.

MAIN AIRFLOW TARGET

Main Airflow Target is the face velocity the cabinet is trying to maintain. This should normally be set to 0.50m/sec. but may be changed if required. The back key stores the set point and returns to the calibration menu.

LOW FAN SPEED TARGET

Low Fan Speed Target airflow is the face velocity the cabinet is trying to maintain while in low fan speed mode. This should normally be set to 0.35m/sec. but may be changed if required. The back key stores the set point and returns to the calibration menu.

SCREEN CALIBRATION

This should only be used if the touch screen requires calibration. This is usually indicated by touch sensitive areas of the screen not lining up with the buttons. Follow the on-screen instructions to carry out screen calibration.

LOG SERVICE VISIT

The date of last service and service due date (displayed on the information screen) are updated using this screen. Selecting the service interval and pressing the Yes key stores this information and returns to the service settings menu. The back key returns to the calibration menu without updating the information.

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5 year warranty* *Terms & Conditions Apply

British Design & Manufacture

nqa ISO 9001 QUALITY MANAGEMENT

UKAS MANAGEMENT SYSTEMS 015