DIFFERENTIAL PRESSURE CONTROLLER

USER'S MANUAL

THE AUTOMATION COMPANY

www.tac.com.pk

F-453, Satellite Town, Rawalpindi, Pakistan.

Table of Contents

Introduction 1
Chick Master Recommendations 2
Features 3
Hardware Specifications 3
Wiring Diagram 4
Operating Procedure 5

F-453, Satellite Town, Rawalpindi, Pakistan.
theautomationcompany@yahoo.com | Tel: 03005011996

1

Introduction

Air pressure in hatchery plays an important role in the optimization of incubation performance as well as bio security. A hatchery needs to ensure that air moves from the cleaner area of hatchery to those areas more likely to produce harmful bacteria's and decaying organic matter. There should be a correct setting of air pressure in setter and hatcher rooms.

We must also be keenly aware of the optimum air pressure needed for the proper functioning of setters and hatchers. Understanding the optimum pressure differential (supply to exhaust) characteristic of the incubation equipment in operation is essential to obtaining maximum performance from the equipment.

Due to the importance of air pressure's role in maintaining bio security it is common to find recommendations from well-meaning ventilation engineers advising optimum air pressures settings for setter and hatcher rooms.

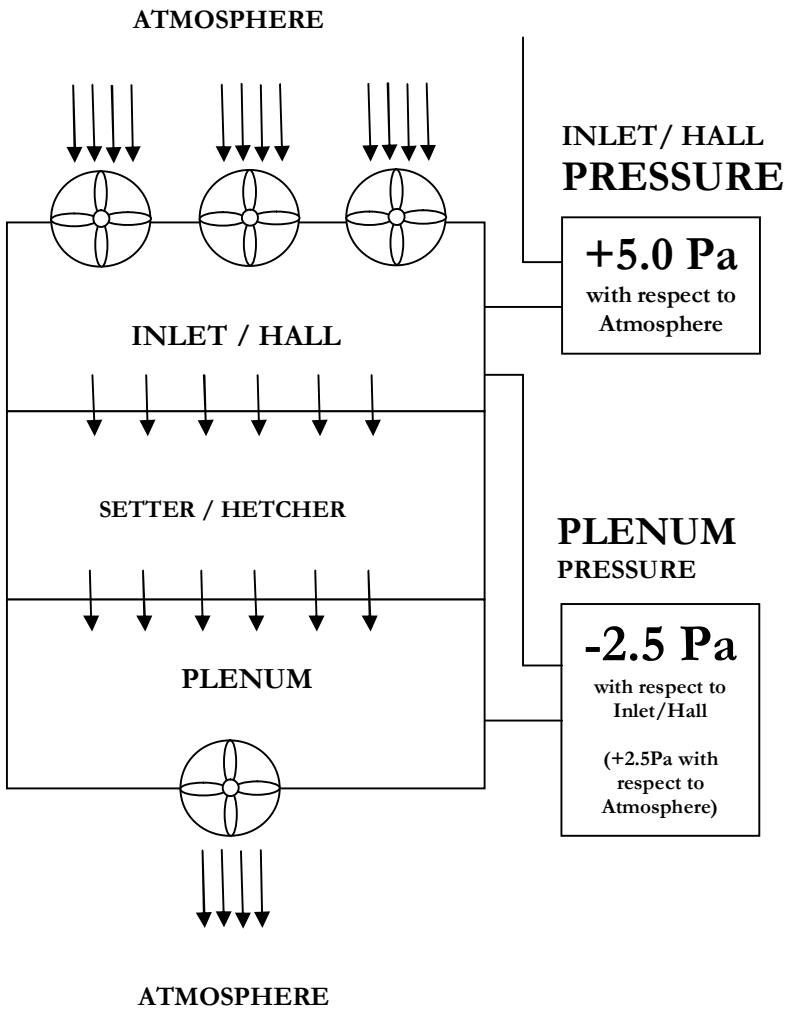
The Inlet hall pressure changes continuously depending on the number of machines flapper position. Every machine has individual environmental control system, and every flapper operates individually depending on the machine internal environment. If the Fans set at fix speed by conventional dimmer, we cannot achieve the recommended air pressure in inlet hall and outlet plenum.

To maintain the recommended air pressure in hall and plenum, we have developed this differential pressure controller. It will automatically control the speed of hall and plenum fans to maintain the recommended air pressure by continuous monitoring. This controller has built-in highly accurate differential pressure sensor up to o.1 pascal's. Moreover this controller can control multiple fans simultaneously by connecting them in parallel configurations up to 2.2kW.

2

Chick Master's Recommendation:

According to Chick Master's recommendations the inlet hall pressure should be +5.0 Pascal's with respect to atmosphere. The plenum pressure should be -2.5Pa with respect to inlet hall and +2.5Pa with respect to atmosphere to maintain the proper and cleaner Air flow.



3

Features and Specifications:

FEATURES:

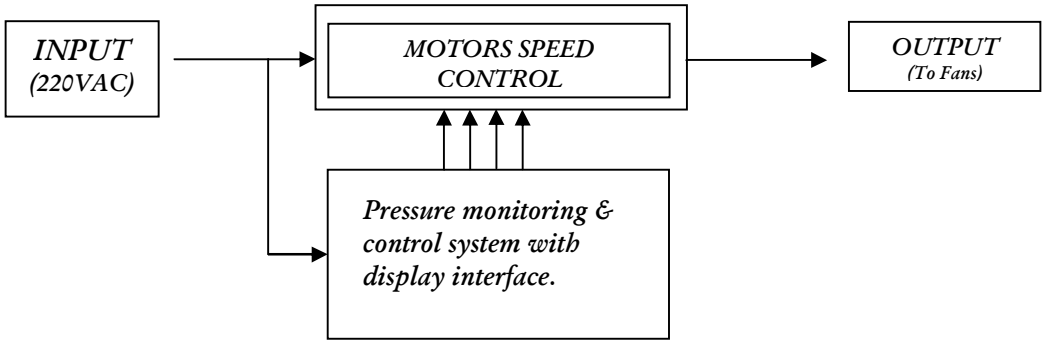
1. Measure pressure from -50Pa to +50Pa.
2. Easily programmable to use in INLET/HALL Mode or PLENUM Mode.
3. Pressures set points can be easily adjusted from -20Pa to +20Pa.
4. Speed of Parallel interconnected Motor Fans can be controlled automatically up to 2.2KW.
5. Alarm conditions activated if pressure set points cannot be achieved by controller.
6. HATCH OUT Mode available during the hatch out period.

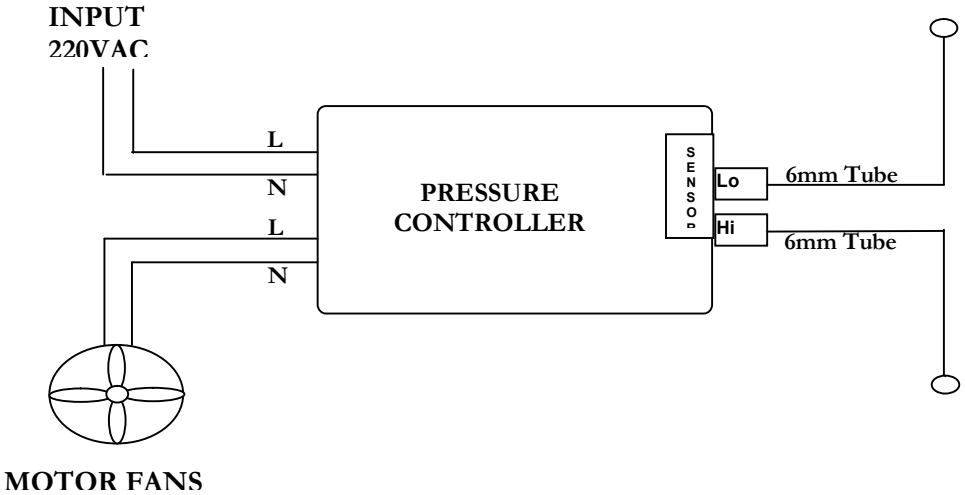
SPECIFICATIONS:

1. Operating Voltage: 220VAC
2. Rating: 2.2KW
3. Pressure Range: +/-50 Pascal's.
4. Operating Temperature: -10°C to +70°C.
5. Operating Humidity: 35 to 85 %RH.

4

Wiring Diagram

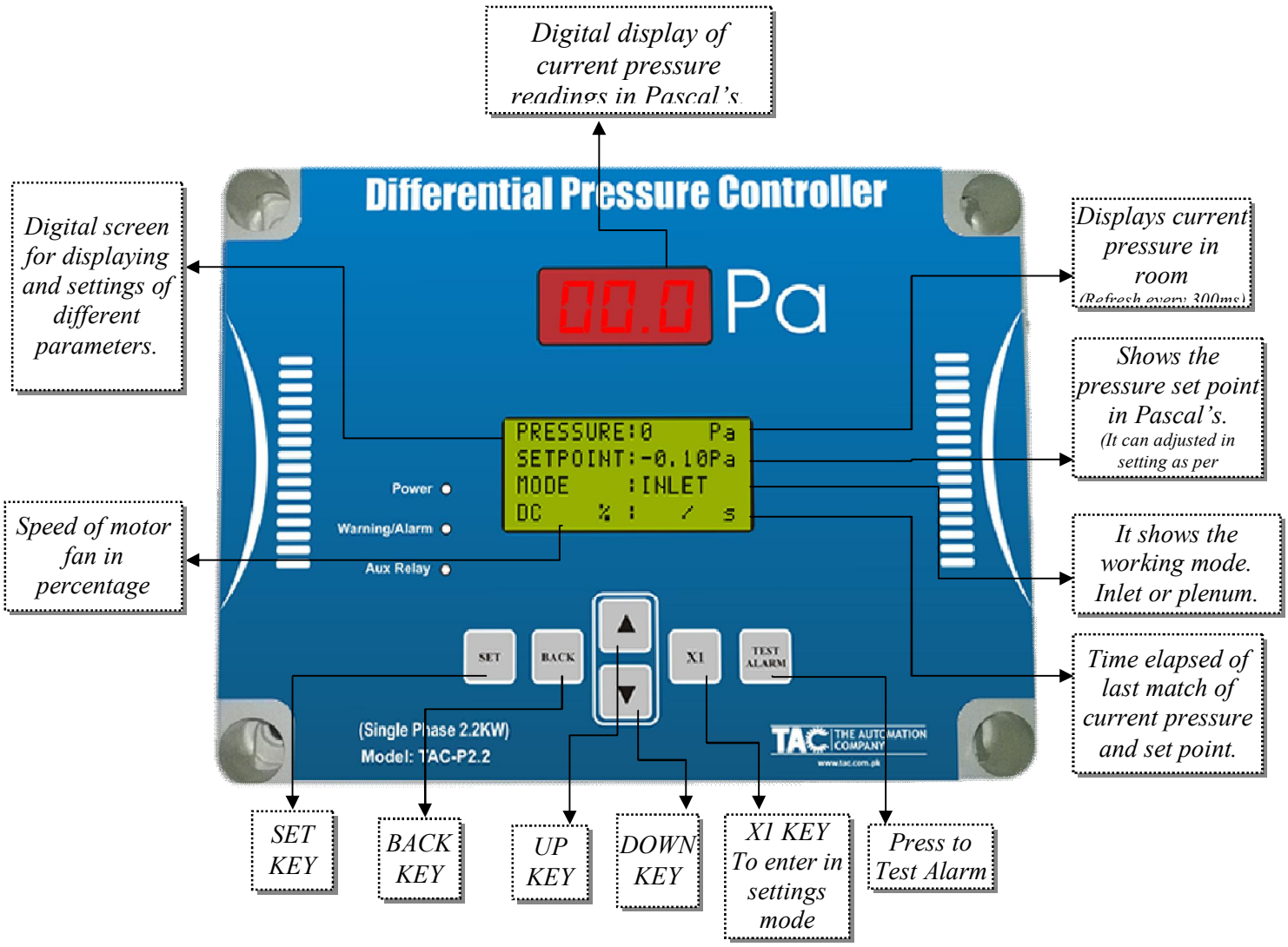




F-453, Satellite Town, Rawalpindi, Pakistan.
theautomationcompany@yahoo.com | Tel: 03005011996

5

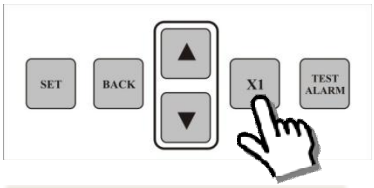
Operating Procedure



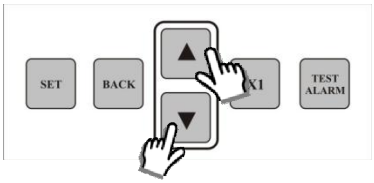
6

1.0 ENTERING SETUP MODE

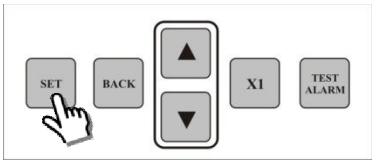
Press 'X1' to enter in settings menu.



Scroll to the desire settings by using 'UP' and 'DOWN' keys.



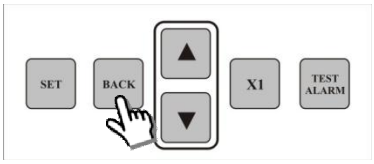
Press 'SET' button to open the setting and then change the parameters by using 'UP' and 'DOWN' keys.



Again press 'SET' button to save the settings.

OR

Press 'BACK' to discard settings.



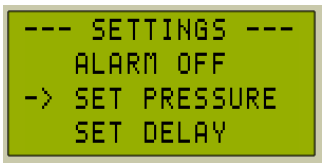
7

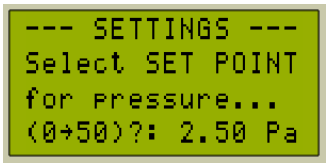
1.1 PRESSURE SETTINGS

Select **'SET PRESSURE'** from settings menu and press **'SET'** button .

Adjust the Pressure Set Point using 'UP' and 'DOWN' keys.

And press 'SET' Button to save settings or press 'BACK' to discard settings.



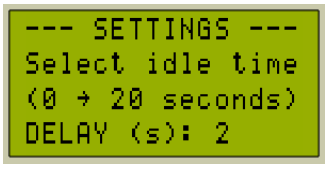


1.2 DELAY SETTINGS

Select **'SET DELAY'** from settings menu and press **'SET'** button .

Adjust the Pressure Set Point using **'UP'** and **'DOWN'** keys.

And press **'SET'** Button to save settings or press **'BACK'** to discard settings.

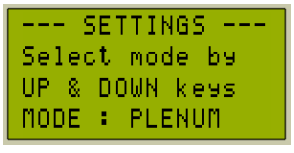


1.3 MODE SELECTION

Select **'SELECT MODE'** from settings menu and press **'SET'** button.

Select **'INLET'** mode to used in Setter room, Or select '**PLENUM'** to use in Plenum using **'UP'** and **'DOWN'** keys.

And press 'SET' Button to save settings or press 'BACK' to discard settings.



8

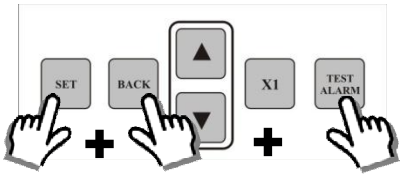
1.4 TURN OFF ALARM

Select **'ALARM OFF'** from settings menu and press **'SET'** button .

Press 'SET' Button again to switched off Alarm

1.5 HETCH OUT MODE

Press **'SET' + 'BACK' + 'TEST ALARM'** keys simultaneously to enter in HETCH OUT MODE.



Press **'X1'** to back to Normal automatic control mode.

In Hetch Out Mode you can control speed using **'UP' & 'DOWN'** Keys.(0 ~ 9) Steps.

0- Minimum, 9- Maximum.