

SPECIFICATIONS

SERVICE REQUIREMENTS: Air: minimum 60/80 psig (4/5.5 bar), maximum 116 psig (8 bar) at 5.0 CFM (140 dm³/m). Clean, dry, non-lubricated.
Electrical: 115 VAC / 230 VAC (factory set) at 50/60 Hz.

CONNECTIONS: Air: ¼" NPTI

INSTALLATION INSTRUCTIONS

- 1) This filter system is equipped with one or two pneumatic double acting cylinders or a magnetically couple drive per filter station, piloted by individual 4-way solenoid valves. The linear type cylinder provides force to move the cleaning disc while a second rotary type cylinder actuates the purge valve. Connect the air supply lines (customer supplied) to the inlet port (1/4" NPTI) of the solenoid stack mounted on the control panel.
- 2) Connect the incoming single-phase electrical supply to the panel mounted disconnect switch inside the automation enclosure. Please reference the units wiring diagram for the proper terminal connections for the line and neutral wires. Ground connects to the ground \equiv terminal mounted on the face of the switch.

INSTALLATION CHECKLIST

Complete this checklist before operating the system:

- Verify that the input power wiring is attached correctly to the main disconnect switch mounted inside the enclosure.
- Verify that the incoming automation electrical supply is the proper voltage. Improper voltage will cause serious damage to the filter's electrical systems. The proper voltage is factory set at 115 volts or 230 volts (single phase VAC).

START-UP VERIFICATION and OPERATION

Before circulating fluids through the filter system, start the system dry and verify the following:

- 1) Turn the main power switch to the ON position (located on the enclosure door). Along with the illumination of the GREEN (power status) light, the display should show the main screen (image 1).
- 2) Touch the **ON/OFF** button (lower left hand corner of screen). The status box on Image 1 will change from OFF to ON.
- 3) Touch the **Clean** button. The status box should show CLEAN. At this time, the pneumatic drive assembly for the first station will send the cleaning disc down the length of the element and return the disc to the top. It will cycle thru each station and status will return to ON after the sequence is finished.
- 4) Touch the **Purge** button. The status box should now show PURGE. The optional purge header butterfly valve will open, the cleaning disc for the first station will stroke and the first station purge valve will open. The first station purge valve will close and the cleaning disc returns to the top and this sequence will continue for all remaining stations. The optional header flush valve will flush the purge header. After the cycle is complete the status box will return to ON.

BUTTON DESCRIPTIONS

Below is a description of each button function on the main screen (Image 1).

- A. **ON/OFF** button – See warning box to the right. Turns the PLC ON and OFF. In the event of power failure, the operator will have to turn the system back ON. To reset the system and clear all error messages, turn the system OFF and back ON.
- B. **CLEAN** button – Allows the operator to initiate a manual cleaning sequence. When the button is touched, CLEAN will be displayed in the status box.
- C. **PURGE** button – Allows the operator to initiate a purge sequence. When the button is touched, PURGE will be displayed in the status box.
- D. **PARAMETER ADJUST** button – Touching this button will display the parameter adjustment screen. This is where changes can be made to the clean and purge sequences.
- E. **STATION ADJUST** button – Touching this button will display the station adjustment screen. This is where stations may be enabled or disabled.

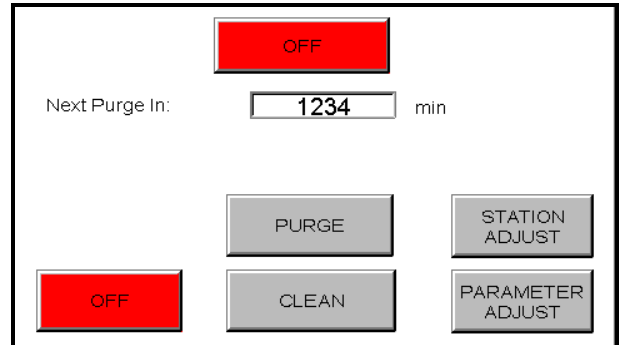


Image 1: Display showing main screen

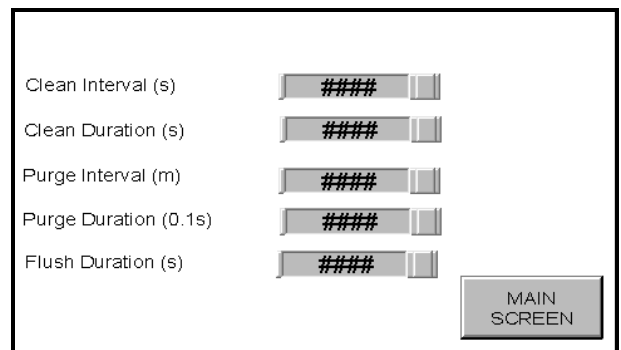


Image 2: Display showing parameter adjustment screen

ON	Controller is On
CLEAN	Cleaning Cycle is running
PURGE	Purging Cycle is running
HIGH DP	Fault Due to High DP
PHV FAULT	Fault Due to Purge header valve failure
OFF	Controller is Off (See warning box below)

Table 1: Status states that can be display on main screen. (For the Siemen's Controller the states have their own display box that is grayed out when not in use.)



WARNING: When the PLC is off, only the PLC control is disabled. The green power light will still be illuminated to indicate that all electrical circuits are powered. Use caution when working on the system in this mode to prevent electrical shock. The ON/OFF button is not intended to be a replacement for following proper lockout procedures.

FAILURE TO FOLLOW THIS WARNING MAY LEAD TO DEATH OR SEVERE INJURY.

Below is a description of each button function on the Parameter Adjustment screen (Image 2).

- A. **Clean Interval (s)** – The Clean Interval is the amount of time between cleaning strokes. Clean strokes will automatically occur based on this. Units are in seconds. **Setting this value to zero (0) will disable the timed clean function.**
- B. **Clean Duration (s)** – The Clean Duration is the amount of time the linear actuator will be energized to allow the cleaning disc to travel along the element. This time will be dependent on air and process pressure. Units are in seconds.
- C. **Station Pause (s) (optional)** – Station Pause allows the disc to reach the top of the body tube prior to the next station starting Clean or Purge sequence. Typically, this value is a few seconds longer than the Clean Stroke time.
- D. **Purge Interval (m)** – Sets the amount of time between automatic purge intervals. Units are in minutes. **Setting this value to zero (0) will disable the timed purge function.**
- E. **Purge Duration (0.1s)** – Determines the amount of time that the purge valve is open during the purge sequence. Units are in 0.1 seconds.
- F. **Flush Duration (s) (optional)**– The flush time determines the amount of time the flush valve is open at the end of purge sequence to flush the purge header.
- G. **Main Screen** button – Touching this button will return the user to the Main Screen (Image 1).

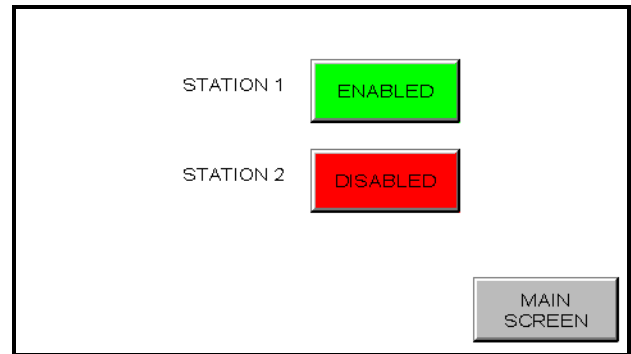


Image 3: Station Status screen

The Station Status screen (Image 3) allows the operator to place station online and offline. Pressing the DISABLED/ENABLED button for the station to be modified will enable and disable that station. Pressing the Main Screen button will return to the Main screen and pressing Next Screen or Previous Screen button will cycle to the next or previous set of stations.

FAULT MESSAGES

Below is a description of each fault message on the Eaton HMi operator interface. To reset the system and clear all fault messages and outputs, turn the system OFF and back ON.

- A. **HIGH DP** – When the system initiates more than 2 cleanings due to differential pressure within 30 minutes, a fault is set and the message **HIGH DP** will flash on the display. Possible causes: plugged elements, insufficient clean duration or insufficient inlet pressure to properly clean the element.
- B. **PHV FAULT** – When equipped, the purge header valve is monitored using a limit switch. A fault is set in the event of valve failure. Possible causes: Poor air supply, faulty actuator, faulty solenoid valve or failed limit switch. Note: The purge sequence is disabled when this fault is present.

Optional DIFFERENTIAL PRESSURE SWITCH ADJUSTMENT

The differential pressure switch senses a difference in pressure between the inlet and outlet piping. When the factory pressure preset has been reached, it triggers a cleaning sequence. The factory preset is 15 PSID (1 bar).

To adjust the preset, remove the DP switch cover and turn the hex-adjusting nut. Turn it clockwise to decrease the allowable differential pressure between the inlet and outlet piping. Turn the hex nut counterclockwise to increase the allowable differential pressure between the inlet and outlet piping. One flat turn (1/6th of a turn) of the hex-adjusting nut changes the setting by approximately 2 PSID (0.14 bar).

CUSTOMER INTERFACE

- A. **GENERAL FAULT (RL1)** – This relay is energized during normal operation. It will de-energize to indicate power loss, system is OFF, purge header valve failure or if an excess differential pressure condition exists (purge is disabled if there are more than two differential pressure purge sequences in 30 minutes). See electrical schematic for connection details. The contact rating is 7A at 30 VDC or 110 VAC.
- B. **REMOTE CLEAN START** – Supplying a momentary 24VDC signal to input I:0/1 will start a clean sequence.
- C. **REMOTE PURGE START** – Supplying a momentary 24VDC signal to input I:0/2 will start a purge sequence.
- D. **CLEAN IN PROCESS** – Output O:0/1 will be set during the clean sequence.
- E. **PURGE IN PROCESS** – Output O:0/2 will be set during the purge sequence.

This Page Intentionally Left Blank

WARRANTY

All products manufactured by Seller are warranted against defects in material and workmanship under normal use and service for which such products were designed for a period of eighteen (18) months after shipment from our factory or twelve (12) months after start up, whichever comes first. OUR SOLE OBLIGATION UNDER THIS WARRANTY IS TO REPAIR OR REPLACE, AT OUR OPTION, ANY PRODUCT OR ANY PARTS OR PARTS THEREOF FOUND TO BE DEFECTIVE. SELLER MAKES NO OTHER REPRESENTATION OR WARRANTY, EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. WE SHALL NOT BE LIABLE FOR CARTAGE, LABOR, CONSEQUENTIAL DAMAGES OR CONTINGENT LIABILITIES. OUR MAXIMUM LIABILITY SHALL NOT IN ANY EVENT EXCEED THE CONTRACT PRICE FOR THE PRODUCT.

If you are interested in ordering spare parts or having service performed on your filter, please contact Customer Service.

Eaton reserves the right to change specifications, dimensions and model designations without prior notice.

North America - HQ

44 Apple Street,
Tinton Falls, NJ 07724
Toll Free: 800 656-3344
(North America only)
Voice: +1 732 212-4700

Europe/Africa/Middle East

Auf der Heide 2
53947 Nettersheim, Germany
Voice: +49 2486 809-0

Internormen Product Line

Friedensstraße 41
68804 Altussheim, Germany
Voice: +49 6205 2094-0

Begerow Product Line

An den Nahewiesen 24
55450 Langenlonsheim, Germany
Voice: +49 6704 204-0

China

No. 7 Lane 280 Linhong Road,
Changning District,
Shanghai 200335, China
Voice: +86 21 5200 0422

Singapore

4 Loyang Lane #04-01/02
Singapore 508914
Voice: +65 6825 1668

Brazil

Av. Julia Gaioli, 474 - Bonsucesso
07251-500 – Guarulhos Brazil
Voice: +55 11 2465 8822

For more information, please e-mail us at

filtration@eaton.com
or visit www.eaton.com/filtration

© 2016 Eaton Corporation.

All rights reserved. All trademarks and registered trademarks are the property of their respective owners. All information and recommendations appearing in this brochure concerning the use of products described herein are based on tests believed to be reliable. However, it is the user's responsibility to determine the suitability for his own use of such products. Since the actual use by others is beyond our control, no guarantee, expressed or implied, is made by Eaton as to the effects of such use or the results to be obtained. Eaton assumes no liability arising out of the use by others of such products. Nor is the information herein to be construed as absolutely complete, since additional information may be necessary or desirable when particular or exceptional conditions or circumstances exist or because of applicable laws or government regulations.