GLOBAL FINISHING SOLUTIONS

Deluxe Control Panel

Operator Manual

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Read and keep this manual for future reference. All personnel operating the equipment described in this manual should review and understand all instructions before use.

Table of Contents

Introduction

About Global Finishing Solutions LLC

Leading the Industry in Paint Booth and Finishing System Technology

With decades of experience, Global Finishing Solutions is the leading manufacturer of paint booths and finishing systems for many industries, including automotive refinish, aerospace and defense, industrial manufacturing, woodworking, and large equipment. By combining high-quality components, strong relationships with paint manufacturers, and our experienced distribution network, GFS provides the best equipment and support to set your business up for success.

Contacting Global Finishing Solutions

General information

- Toll-free: 800-848-8738
- Fax: 715-597-2193
- Email: info@globalfinishing.com
- Online: www.globalfinishing.com

Technical support

- Toll-free: 800-848-8738
- Fax: 715-597-8818
- Email: techservices@globalfinishing.com

Parts and filters

- Toll-free: 800-848-8738
- Fax: 888-338-4584
- Email: parts@globalfinishing.com

Conventions used in this manual

This section describes how information is presented, organized, and referenced within this manual.

Safety notices

This manual uses the following standards to identify conditions related to safety hazards and equipment damage.

Table 1. Safety notices

Symbol	Description
DANGER	Indicates an imminent hazard that will result in death.
WARNING	Indicates a hazard that can result in serious personal injury or death.
CAUTION	Indicates a hazard that can result in personal injury.
NOTICE	Indicates a situation that can result in equipment or property damage, but poses no risk of personal injury.

Information notices

In addition to the safety notices described above, this manual uses a boldface keyword to identify certain other types of information.

Table 2. Information notices

Keyword	Description
NOTE	Denotes general information that provides additional context or guidance.
Important	Denotes information to which you should pay special attention.
Reference	Directs you to related content in a separate document.
Prerequisites	Specifies other tasks that must be completed or conditions that must exist before you perform the current task.
Scope	Describes limitations to the current task or conditions under which the task applies or does not apply to the procedure.

General safety

Follow all safety guidelines when assembling, operating, or servicing this product.

WARNING
There are inherent hazards associated with the operation and service of this equipment. For your personal safety, observe all safety information. Failure to observe these safety practices can result in personal injury or death.

WARNING
Operation and maintenance of this product must be performed properly by qualified personnel who observe the warnings in all documentation and notes provided with and on the product.

WARNING
Follow all general standards for installation and safety for work on installations. Follow all good practices for the proper use of lifting tackle and equipment. The use of protective equipment such as safety goggles and protective footwear must be considered.

WARNING
All persons who will operate, service, inspect, or otherwise handle this product must read and understand the safe operating practices, safety precautions, and warning messages in this documentation.

WARNING
The roofs of GFS equipment are not designed or intended to be walked upon or to support weight of any kind. As designed and manufactured, equipment roofs do not meet the minimum requirements of a safe walking and/or working surface under OSHA 1910.22. Under no circumstances should the roof be used by maintenance personnel or others for walking, standing, or storage of any kind. When necessary, roof access should be secured through the use of a properly supported platform that satisfies the minimum load requirements specified by ASCE 7 (Minimum Design Loads and Associated Criteria for Buildings and Other Structures) and ASCE 37 (Design Loads on Structures during Construction). Additionally, personnel should always utilize appropriate fall safety protocols when using an elevated platform. Use of the roof in a contrary manner may result in injury and/or death.

WARNING
Comply with OSHA guidelines and with all applicable local electrical, safety, and fire codes and standards.

WARNING
All field wiring provided must comply with local codes or, in the absence of local codes, the National Electrical Code (NFPA 70).

WARNING
Electrical installation should be completed by a qualified electrician. Installation must meet all applicable national, state, and local electrical codes.

WARNING
Ensure that all electrical components are grounded to a central ground.

WARNING
Disconnect and lock out the main electrical service before installing, adjusting, or servicing the product.

WARNING
Guards and covers that prevent contact with electrically energized or moving parts are required and must not be removed or left open during operation.

CAUTION
Read and save these instructions before attempting to install, operate, or maintain the product described. Protect yourself and others by observing all safety information. Failure to comply with instructions could result in personal injury and/or property damage. Retain these instructions for future reference.

CAUTION
This manual contains statements that relate to worker safety. Read this manual thoroughly and comply as directed. Operate this equipment in accordance with the guidelines set forth in this manual. It is impossible to list all potential hazards of this equipment. Instruct all personnel involved with this equipment in the safe conduct and operation of the system. GFS recommends that only qualified personnel operate and maintain this equipment.

CAUTION
Safety signs, panels, and labels that are normally affixed to the product must be replaced immediately if illegible or missing.

CAUTION
New or replacement parts that are installed during repair or maintenance must include all safety signs, panels, and labels as specified by the manufacturer. These must be affixed to the new or replacement parts as specified by the manufacturer.

CAUTION
Where applicable, use earplugs or take other safety measures for hearing protection.

NOTICE
The product must be installed and serviced only by a trained, qualified service technician. Incorrect installation may void the warranty.

NOTICE
If you have questions about the warranty, please contact your distributor prior to contacting GFS.

Product safety

For product safety information, refer to the documentation that accompanied your equipment.

Deluxe control panel

The Deluxe control panel provides pushbuttons and indicator lights for operating a wide variety of equipment while monitoring for safety and performance.

NOTE
The Deluxe control panel is available for single or three phase power circuits and all standard North American voltages. Custom voltages are available.

The control panel is mounted on the outside of the booth or on a nearby wall in a convenient position for the operator.

Figure 1. Deluxe control panel

Operating modes and controls

The front of the Deluxe control panel provides the following controls and indicator lights:

NOTE
Some of these controls are optional and may not be present on every control panel.

Table 3. Spray booth operating states and controls

Displayed Text	Description
Main Power Disconnect	Provides a means to disconnect power, along with the ability to add lockout/tagout safety devices.
Booth Lighting On/Off	Two-position selector switch that operates the booth lights.
System Start	Starts the exhaust ventilation.
System Stop	Stops the exhaust ventilation.
System Energized	Indicates that the system is energized when lit.
Exhaust Unit On	Indicates that the exhaust fan is operating when lit.
Post Purge	Indicates that the booth is running a post-spray purge cycle when lit.
AMU Burner	Two position selector switch that operates the AMU burner.
AMU Blower On	Indicates that the AMU blower is on when lit.
AMU Burner On	Indicates that the AMU burner is on when lit.
AMU Flame Failure	Indicates that the AMU burner has experienced a flame failure when lit.
AMU Dirty Filter	Indicates that the AMU filter is dirty when lit.
Fire System Fault	Indicates a fire protection system fault or alarm when lit.
Keypad with Dial	Used to set the airflow in booths with manual balance.
Airflow Controller	Pressure gauge with setpoint needles used for setting airflow in booths with Consta-Flow systems.
Booth Balance Controller	Pressure gauge with setpoint needles used for setting airflow in booths with Auto Balance systems.
Temperature Selector Dial	Used to select booth temperature.
Temperature Controller LCD Display	Used to set high and low temperature setpoints and monitor booth temperature.
Dirty Filter	Indicates that filters are loaded and air solenoid valve is disabled.

Table 4. Powder and dust booth operating states and controls

Displayed Text	Description
Main Power Disconnect	Provides a means to disconnect power, along with the ability to add lockout/tagout safety devices.
Booth Lighting On/Off	Two-position selector switch that operates the paint booth lights.
System Start	Starts the exhaust ventilation.
System Stop	Stops the exhaust ventilation.
System Energized	Indicates that the system is energized when lit.
Exhaust Unit On	Indicates that the exhaust fan is operating when lit.
Filter Fault	Indicates that the system has faulted due to redundant filter loading.

Displayed Text	Description
Intake Unit On	Indicates that the intake fan is operating when lit.
Fire System Fault	Indicates a fire protection system fault or alarm when lit.
Keypad with Dial	Used to set the airflow in booths with manual balance.
Airflow Controller	Pressure gauge with setpoint needles used for setting airflow in booths with Consta-Flow systems.
Auto/Continuous Cleaning Mode	Two-position selector switch that operates the cleaning methods for primary filters for Powder and Dust Collection Modules. See “Filter cleaning” (page 27) for more information.
Downtime Cleaning Start	Pulses primary filters in Powder and Dust Collection Modules. See “Filter cleaning” (page 27) for more information.

Optional equipment setup

Common device setup

If applicable: Manual balance setup

Scope: This task applies to spray, powder, and dust booths if the site purchased the optional manual balance system.

Prerequisites:

- Filters must be installed in the booth.
- During setup, perform measurements in an empty booth.

NOTE
A velometer is required to test the airflow and properly set up manual balance.

Deluxe control panels equipped with optional manual balance systems have a keypad with a dial that controls the variable frequency drive (VFD). You can use the keypad and dial to manually increase the fan frequency as the filters load. After filter replacement, the fan frequency should be returned to the initial setting.

Figure 2. Manual balance keypad

Perform the steps below to configure manual balance:

1. Use the keypad and dial to set the fan frequency.

   NOTE
   The typical startup frequency for the fan is 54 Hertz (Hz).

2. Press the **Set** button.
3. Enter the booth and use a velometer to test the airflow.

   NOTE
   For spray booths, refer to the paint manufacturer's recommended airflow.

4. Repeat steps 1-3 to adjust the fan frequency until your booth reaches the desired airflow.
5. Record the clean-filter fan frequency in Hertz.

   NOTE
   This is the setting that the VFD should be returned to every time the filters are replaced.

6. As the booth’s filters begin to load, manually increase the VFD’s frequency setting to maintain the desired airflow.

If applicable: Consta-Flow setup

Scope: This task applies to spray, powder, and dust booths if the site purchased the optional Consta-Flow system.

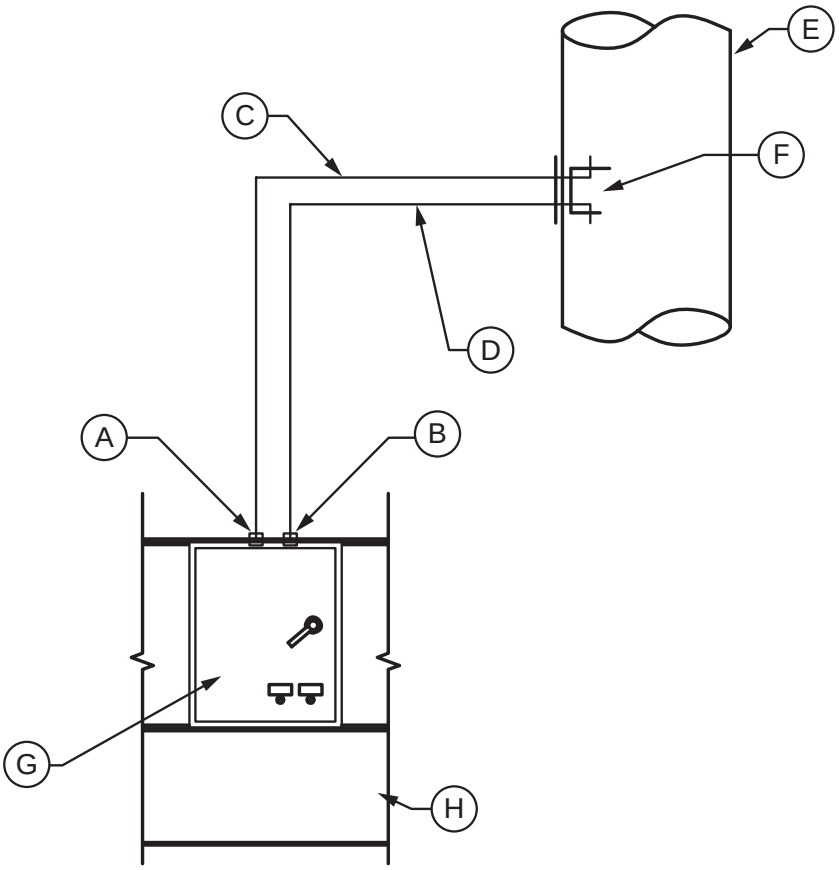
Prerequisites:

- Filters must be installed in the booth.
- During setup, perform measurements in an empty booth.

NOTE
A velometer is required to test the airflow and properly set up Consta-Flow.

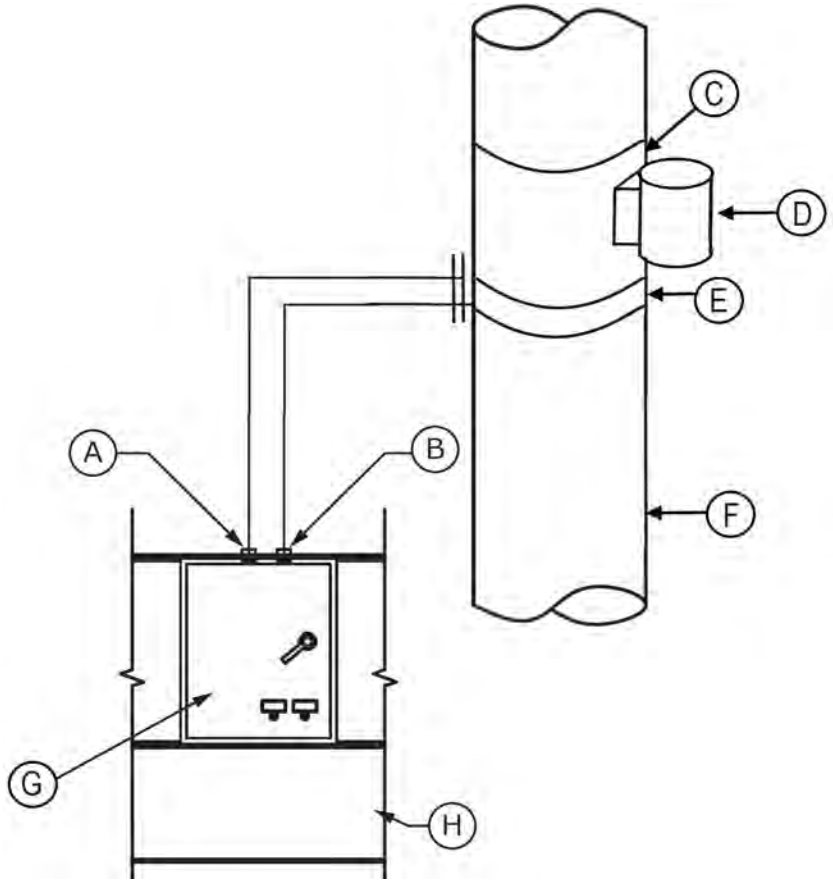
Deluxe control panels equipped with optional Consta-Flow systems automatically adjust the fan speed and maintain consistent airflow throughout the life of the filter.

NOTE
Consta-Flow systems may be configured with either a sensor installed in the exhaust stack on site or with a flow ring built into the exhaust fan. Refer to the following diagrams:



A: *Low-pressure bulkhead fitting*
B: *High-pressure bulkhead fitting*
C: *Low-pressure sensing tube*
D: *High-pressure sensing tube*
E: *Exhaust stack*
F: *Consta-Flow sensor*
G: *Control panel*
H: *Outside booth (minimum 3 feet from any opening)*

Figure 3. Consta-Flow sensor



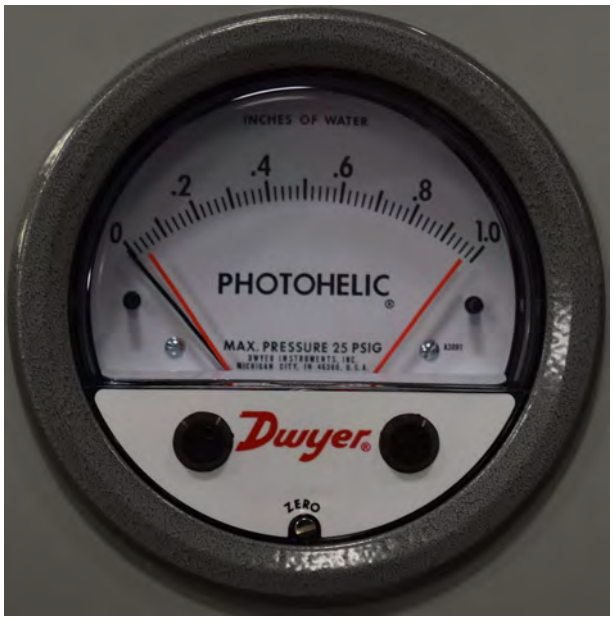
A: *Low-pressure bulkhead fitting*
B: *High-pressure bulkhead fitting*
C: *Exhaust fan*
D: *Motor*
E: *Flow ring (Sure-Aire or Piezometer)*
F: *Exhaust stack*
G: *Control panel*
H: *Outside booth (minimum 3 feet from any opening)*

Figure 4. Consta-Flow flow ring

Perform the steps below to configure the Consta-Flow airflow controller (Photohelic):

1. With the booth off, ensure that the black indicator needle on the Photohelic is set to zero.

   To adjust the indicator needle, use a small screwdriver to turn the zero adjustment screw.



2. Using the provided tool, twist the knobs on either side of the Photohelic so that the left-most orange needle is positioned all the way to the left and the right-most orange needle is positioned all the way to the right.

Figure 5. Photohelic adjustment tool

3. Start the booth.

   The VFD ramps the exhaust fan up and the black indicator needle moves into position between the two orange needles.

4. Use the velometer to test the booth's airflow.

   NOTE
   Refer to the equipment's Design Drawings to determine the recommended airflow.

5. If the airflow is acceptable, use the adjustment tool to move the orange needles to either side of the indicator needle, establishing the VFD setpoint.

6. If the airflow is unacceptable, use the adjustment tool to move the orange needles to the desired location. The indicator needle will adjust automatically to be within the setpoints.

   NOTE
   Move the orange needles lower on the Photohelic for less airflow in the booth and higher for more airflow.

The Consta-Flow system is now configured. The VFD will ramp the exhaust fan up or down to maintain consistent airflow.

Device setup for spray booths

If applicable: Auto Balance setup

Scope: This task applies only to pressurized booths if the site purchased the optional Auto Balance system.

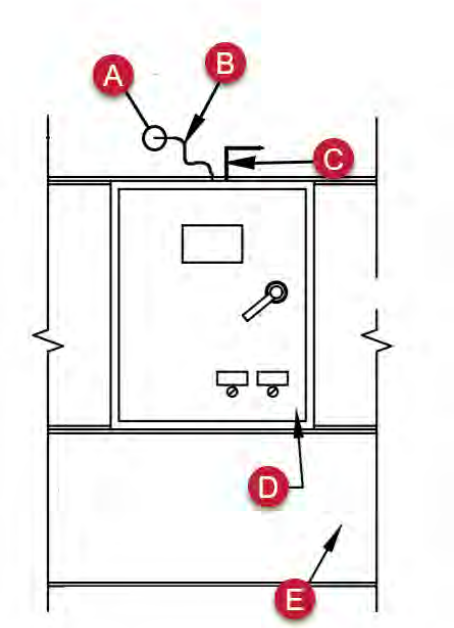
Prerequisites:

- Filters must be installed in the booth.
- During setup, perform measurements in an empty booth.

NOTE
A velometer is required to test and properly set up intake airflow.

Deluxe control panels equipped with optional Auto Balance systems automatically adjust the fan speed and maintain consistent airflow throughout the life of the filter.

NOTE
The Auto Balance system should be installed as shown in the Electrical Drawings and in the following diagram.



A: *High-pressure air-sensing pressure tip (Locate inside the booth a minimum of 84 inches from the floor at at least 24 inches from any corner.)*
B: *High-pressure air-sensing tube*
C: *Low-pressure air-sensing pressure tip (factory installed)*
D: *Control panel*
E: *Outside booth*

Perform the steps below to configure the booth balance controller (Photohelic):

1. With the booth off, ensure that the black indicator needle on the Photohelic is set to zero.

   To adjust the indicator needle, use a small screwdriver to turn the zero adjustment screw.

2. Using the provided tool, twist the knobs on either side of the Photohelic so that the left-most orange needle is positioned at zero and the right-most orange needle is positioned at positive 0.03 inches w.c.
3. Start the booth.
4. Use the velometer to test the booth's airflow.

   NOTE
   Refer to the equipment's Design Drawings to determine the recommended airflow.
5. If the airflow is unacceptable, adjust the intake or air make-up unit fan speed accordingly. The indicator needle will adjust automatically to maintain the booth pressure within the setpoints.

   NOTE
   Move the orange needles on the Photohelic lower for a more negative booth pressure and higher for a more positive booth pressure.

The Auto Balance system is now configured. The VFD will ramp the exhaust fan up or down to maintain consistent airflow and booth pressure.

If applicable: Air proving switch setup

Scope: This task applies to spray booths if the site purchased the optional air proving switch.

Prerequisites:

- The air solenoid valve must already be installed.
- Filters must be installed in the booth.
- During setup, perform measurements in an empty booth.

NOTE
A velometer is required to test and properly set up the air proving switch.

The optional air proving switch is part of the booth's ventilation system and is used to prove airflow across the exhaust fan. Loss of exhaust airflow causes the air solenoid valve to shut off, turning off spray air in the booth.

Figure 6. Air proving switch

NOTE
The desired mounting location of the switch is near the fan(s) being monitored. If necessary, the switch can be mounted remotely and a maximum of 50 feet of tubing can be used to connect the fan(s) to the switch.

Perform the steps below to configure the air proving switch(es):

1. Ensure that the ventilation system is in operation at the airflow referenced in the Design Drawings.
2. Remove the cover from the air proving switch and locate the adjustment screw. Carefully turn the screw until it is fully counterclockwise.
3. Slowly turn the adjustment screw clockwise until the switch trips.

   NOTE
   When the switch is closed, you will measure zero volts across the switch. When the switch trips, the voltage will go to 24 volts DC or 120 volts AC.
4. Carefully rotate the adjustment screw 1-1/2 turns counterclockwise from the trip point.

The air proving switch is now set.

If applicable: Dirty filter alert setup

Scope: This task applies only to spray booths if the site purchased the optional dirty filter alert.

Prerequisites:

- The air solenoid valve must already be installed.
- Filters must be installed in the booth.

The optional dirty filter alert will sense the differential pressure across the exhaust filters. When properly set up, this alert will light the dirty filter light and prevent any additional spraying if the differential pressure exceed the specification.

Figure 7. Differential pressure switch

Perform the steps below to configure the dirty filter alert:

1. In the junction box, carefully turn the differential pressure switch adjustment screw fully counterclockwise.

   NOTE
   A manometer or similar device should be used to adjust the switch correctly.

2. Turn the adjusting screw four complete turns clockwise to engage the spring.

   NOTE
   Refer to the filter manufacturer’s recommendations for filter loading. This example uses a typical paint arrest filter with a recommended final filter load pressure of 1/2-inch w.c. when the filter is dirty. Actual filter loading values vary based on manufacturer, material, and performance.

3. Set the pressure switch trip point equal to the desired final filter pressure loading.

TIP

For each 0.1 inch w.c., turn the adjustment screw a half turn clockwise. For example, a final filter pressure of 1/2-inch w.c. requires an additional five half turns clockwise.

4. Start the ventilation system and note the differential pressure shown on the manometer or similar device.
5. Slowly add material (such as cardboard or plastic) over the exhaust filters to simulate filter loading.

   Cover the filter area until the manometer or similar device reads the final filter pressure, in this case 1/2-inch w.c.
6. Slowly turn the adjustment screw clockwise until the switch trips.

The differential pressure switch is now set. The dirty filter alert will light when the filters are loaded and the spray solenoid will shut off.

Device setup for powder and dust booths

If applicable: Pulse control board setup

Scope: This task applies only to powder and dust booths.

Prerequisites: Filters must be installed in the booth.

Reference: Refer to the Electrical Drawings.

The pulse control board is supplied to operate cleaning of the filter cartridges, including reverse pulse-jet controller with an On/Off selector switch for on-demand or continuous filter cleaning. The board is located in the remote pulse control box attached to the collection module.

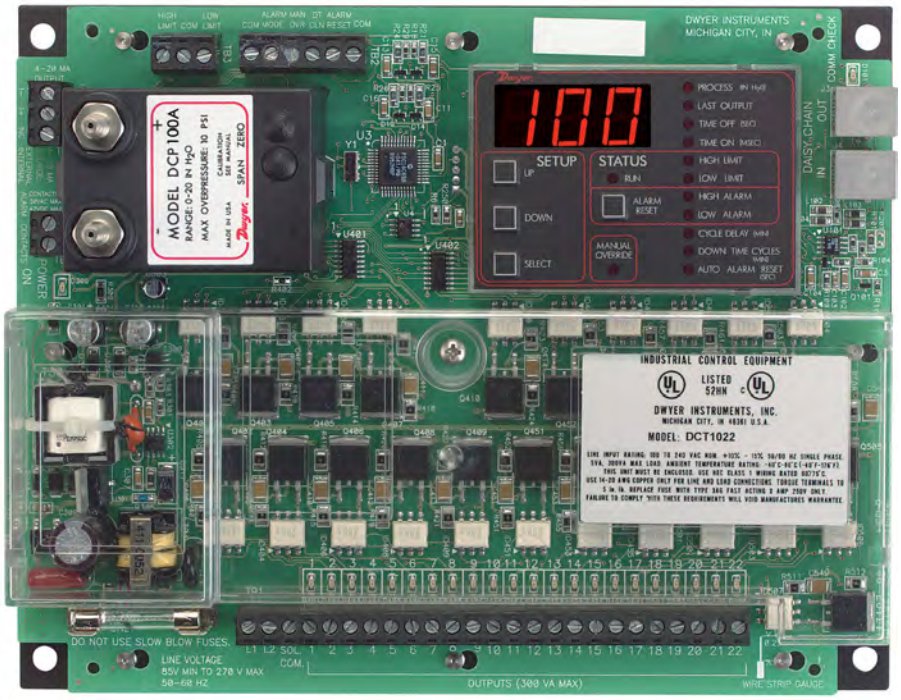


Figure 8. Pulse control board

NOTE

Initial parameters for the pulse control board are configured prior to product shipment. Refer to settings in the Electrical Drawings for more information. If the filters are continuously pulsing and not achieving the low limit, the high and low limit ranges must be increased.

Verify that the airflow is adequate and meets the specifications shown on the Design Drawings. Dust Collection Booths include a photohelic that requires additional configuration. Refer to “Photohelic setup for Dust Collection Booths” (page 22).

Photohelic setup for Dust Collection Booths

Dust Collection Booths include a photohelic that works in conjunction with the pulse control board to measure the differential pressure across the cartridge filter to aid filter cleaning. The black needle indicates the pressure drop across the cartridge filters and should be positioned between the two orange needles. As the filters load, the pressure drop will increase and the black needle will move right. The right orange needle represents the high limit, and is the point at which the pulse cleaning starts. The left orange needle represents the low limit, and is the point at which the pulse cleaning stops.

NOTE

If the black needle is too close or outside of the orange needles, the range can be adjusted for your specific booth. A range of approximately 1 inch w.c. between the orange needles must be maintained.

Perform the steps below to configure the booth balance controller (Photohelic) to enable proper filter cleaning:

1. With the booth off, ensure that the black indicator needle on the Photohelic is set to zero.

   To adjust the indicator needle, use a small screwdriver to turn the zero adjustment screw.

2. Using the provided tool, twist the knobs on either side of the Photohelic so that the left-most orange needle is positioned at 2 inches w.c. and the right-most orange needle is positioned at 3 inches w.c.
3. Start the booth.

If applicable: Redundant filter alert setup

Scope: This task applies only to powder and dust booths.

Prerequisite: Filters must be installed in the booth.

The redundant filter alert will sense the differential pressure across the redundant filters. When properly set up, this alert will light the Filter Fault indicator light and shut down the system. The Filter Fault light remains illuminated until the Stop pushbutton is pressed. If the fault reoccurs, see “Troubleshooting” (page 29).

Figure 9. Differential pressure switch

Perform the steps below to configure the redundant filter alert:

1. Ensure that the ventilation system is in operation.
2. Remove the cover from the differential pressure switch and locate the adjustment screw. Carefully turn the screw until it is fully counterclockwise.
3. Slowly turn the adjustment screw clockwise until the switch trips.

   NOTE
   This can be observed by measuring the resistance across the common contacts using an electrical meter set to ohms. When the switch trips, the resistance will go to zero.
4. Carefully rotate the adjustment screw 1-1/4 turns counterclockwise from the trip point.

The redundant filter alert is now set.

Using the spray booth

This section describes how to operate a spray booth that has a Deluxe control panel.

Starting the booth

Perform the following steps to apply power to the booth:

1. *If required:* Turn on booth power at the Main Power Disconnect.
2. At the control panel, turn the **Booth Lighting On/Off** selector switch to the on position to turn on the booth lights.
3. Press the **Start** pushbutton to turn on the ventilation, initiating the booth and AMU, if applicable.

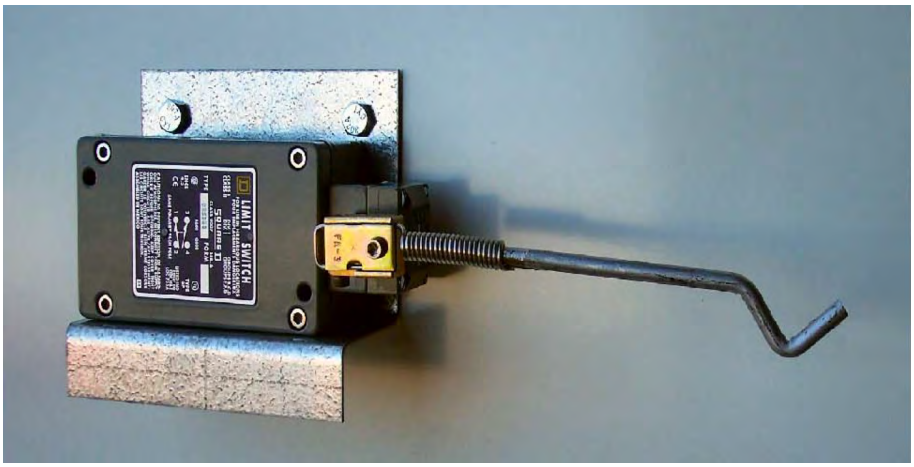
The ventilation system is running. If all safety interlocks are met, the spray permissive signal will be active. Typically, a compressed air solenoid valve is also active, supplying process air to the spray gun.

If applicable: Economy mode

Deluxe control panels equipped with optional Economy mode will reduce the exhaust airflow to conserve energy when the spray gun is not in use. There are two options for Economy Mode activation:

- **Compressed airflow switch:** A flow switch mounted in the compressed air line senses the flow of compressed air to the spray gun. If compressed airflow is not detected for the configured amount of time, the exhaust system enters Economy mode. When compressed airflow is detected, full exhaust airflow resumes.

- **Gun hanger switch:** A hanger mounted on the side of the booth enables the spray gun to be hung up when not in use. This hanger is equipped with a switch that detects the presence of the spray gun. When the spray gun is on the hanger for the configured amount of time, the exhaust system enters Economy mode. When the spray gun is removed from the hanger, full exhaust airflow resumes.



A timer in the control panel must be configured before Economy mode is activated. Set the desired time by rotating the dial so that the red indicator needle is at the desired time setting. The dial is configurable in minutes or seconds with a numerical time range of zero through ten.

Figure 10. Economy Mode timer

Shutting down the booth

Perform the following steps to shut down the booth:

1. Press the red **System Stop** pushbutton at the front of the control panel.
2. Switch off the **Booth Lighting On/Off** selector switch to turn off the booth lights.
3. *If required:* Turn off the booth power at the Main Power Disconnect.

Using the dust or powder booth

This section describes how to operate powder and dust booths that have a Deluxe control panel.

Starting the booth

Perform the following steps to apply power to the booth:

1. *If required:* Turn on booth power at the Main Power Disconnect.
2. At the control panel, turn the **Booth Lighting On/Off** selector switch to the On position to turn on the booth lights.
3. Press the **Start** pushbutton to turn on the ventilation, initiating the booth.

The ventilation system is running. If all safety interlocks are met, the equipment interlock will be active.

Filter cleaning

There are three types of filter cleaning available on powder and dust booths to ensure that the airflow through the booth is adequate and consistent.

Auto cleaning

Automatic Cleaning (set on the selector switch at the front of the Deluxe control panel), pulses filters with compressed air when the pressure drop is within the set range when the pressure drop reaches the high limit setpoint.

Auto cleaning only occurs while the booth is in operation.

Continuous cleaning

Set the selector switch to Continuous Cleaning to pulse the filters continuously while the ventilation system is running. The pulse-jet continues as long as the switch is on.

Downtime cleaning

Press the **Downtime Cleaning Start** pushbutton to pulse the filters at any time.

- **If the ventilation system is off:** The cycle will pulse clean at each filter bank one time before shutting off.
- **If the ventilation system is on:** The pulse jet cleaning cycle will remain on until the pressure gauge senses that the differential pressure is at the lower setpoint. The cycle will continue to pulse clean at each filter bank before shutting down.

Redundant filter monitoring

Monitors the pressure drop across the redundant filters. If these filters become loaded, the Filter Fault indicator lights and the booth subsequently shuts down. See “Troubleshooting” (page 29) for more information.

Shutting down the booth

Perform the following steps to shut down the booth:

1. Press the red **System Stop** pushbutton at the front of the control panel.
2. Switch off the **Booth Lighting On/Off** selector switch to turn off the booth lights.
3. *If required:* Turn off the booth power at the Main Power Disconnect.

Troubleshooting

WARNING

Some of the troubleshooting procedures may require access to live circuitry. Dangerous accidental contact with line voltage may be possible. Only qualified service personnel should perform these procedures.

NOTE

If fault and warning codes recur after troubleshooting or you need additional assistance, contact Global Finishing Solutions at 800-848-8738 to speak to a Technical Service Representative.

Table 5. Troubleshooting spray booth issues

Symptom	Probable Cause	Remedy
Air Solenoid Valve Disabled/No Compressed Air	Fire suppression	Verify that the wiring from the building fire suppression to the control panel is correct.
	Door switches indicate product or personnel doors are open.	1. Verify all doors are closed. 2. Verify there is no obstruction for the doors. 3. Check switches for normal operation. 4. Check for possible overspray on switches.
	Light lens is loose or has been removed.	1. Verify correct orientation of light lens. 2. Verify that the wiring is correct.
	Exhaust air proving switch faulted	1. Make sure filters are not loaded. 2. Check fans for normal operation. • Check for belt failures. • Check all pneumatic connections. 3. Check for obstructions within the ventilation system.
Fire System Fault	The fire alarm input is indicating alarm conditions.	1. Verify fire alarm system is not tripped. 2. Check relay for fire alarm. 3. Verify that the wiring is correct. 4. Verify fire suppression is normal.
Dirty Filter	Filters are loaded and the air solenoid valve is disabled.	Inspect and replace all filters.
Ventilation Fault	Variable frequency drive (VFD) faulted	1. Check and note if a fault code is displayed on the VFD, press reset on VFD or power cycle control panel to clear the fault. 2. Verify all motor wiring is correct, in good condition, and terminal connections are tight. 3. Check fan and motor condition.

Symptom	Probable Cause	Remedy
	Motor starter tripped	1. Reset the motor start overload. 2. Verify all motor wiring is correct, in good condition, and terminal connections are tight. 3. Check fan and motor condition.

Table 6. Troubleshooting powder and dust booth issues

Symptom	Probable Cause	Remedy
If applicable: **High Alarm**	Powder Collection Booth setting when the system emits a high pressure alarm. **NOTE** The High Alarm light is visible on the pulse control board.	Primary filters may be overloaded. Check the settings for the pulse cleaning system.
If applicable: **Low Alarm**	Powder Collection Booth setting when the system emits a low pressure alarm. **NOTE** The Low Alarm light is visible on the pulse control board.	Make sure primary filters are seated properly and have no leaks, breaches, or holes in the filter cartridges.
The filter pulse solenoid valve will not open or close	The filter pulse solenoid valve is dirty or worn.	1. De-pressurize the system. 2. Check the valve for dirt or wear. 3. Clean or replaced the valve as needed.
	The filter pulse solenoid valve is continuously energized.	Disconnect the electrical source to the valve to ensure that the coil is not continuously energized.
	One or more of the equipment interlocks is not met.	Check wiring and condition of safety interlocks.
The application equipment compressed air solenoid valve will not open or close	The compressed air solenoid valve is dirty or worn.	1. De-pressurize the system. 2. Check the valve for dirt or wear. 3. Clean or replaced the valve as needed.
	The compressed air solenoid valve is continuously energized.	Disconnect the electrical source to the solenoid valve to ensure that the coil is not continuously energized.
	One or more of the equipment interlocks is not met.	Check wiring and condition of safety interlocks.
Filter Fault	The booth shuts down because the primary filters have failed and the redundant filters are loaded.	1. Inspect the cartridge and redundant filters to ensure that they are properly seated. 2. Replace all filters if needed.