Powder Pilot™ 4.X

Customer Product Manual
Part 6091441-01
Issued 11/22

For parts and technical support, call the Industrial Coating Systems Customer Support Center at (800) 433-9319 or contact your local Nordson representative.

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Check http://emanuals.nordson.com for the latest version.

NORDSON DEUTSCHLAND GMBH

Contact Us

Nordson Corporation welcomes requests for information, comments, and inquiries about its products. General information about Nordson can be found on the Internet using the following address: http://www.nordson.com.

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Germany

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Change Record

Revision	Date	Change

Nordson

EC DECLARATION OF CONFORMITY
ACCORDING TO MACHINERY DIRECTIVE 2006/42/ EC ANNEX II 1A

MANUFACTURER

Nordson Deutschland GmbH
Heinrich-Hertz-Strasse 42, 40699 Erkrath

DESCRIPTION

Controls for Powder-Systems
Family/ Models: PowderPilot 4.x or HD/VT
Serial number: 7070xxx (see CE Plate)
Year of manufacturing: (see CE Plate)

APPLICABLE DIRECTIVES & STANDARDS USED TO VERIFY COMPLIANCE:

2006/42/EC (Machinery) and following amendments
2014/30/EU Electromagnetic Compatibility Directive
2014/35 EEC Low Voltage Directive
EN 60204-1
VDE 0113-1

MARKING OF PRODUCT CE

The equipment delivered is generally intended to be part of a powder coating system and cannot be operated on its own.
In order to be in full compliance with the CE machinery directive and its amendments, the customer is obliged to respect the applicable regulations for his system upon incorporation of the equipment in the plant and before starting operation.

We hereby declare that the product specified conforms to the directives and standards described above and that it has been provided with a CE label. Provided the product is installed and operated in line with Nordson's manuals its operation is safe.

Name and address of the responsible person authorized to compile the technical file

Kai Flockenhaus,
Manager - Procurement & Process,
ICS Europe Industrial Coating Systems Europe
Nordson Deutschland GmbH

Erkrath, 8st August 2022

Glossary of Technical Terms

AFC Mode - Automatic Feedback Current - lets the operator set maximum current micro amps (μA) output from the spray gun to prevent excess charging of sprayed powder.

Assist Air - Conveying air supply to aid the powder movement through the powder tubing

CAN (CAN bus) - Controller Area Network. Control system communication method

Card(s) - Printed circuit board assembly

DIP Switch - *Dual Inline Packaged Switch*. A manual electric switch used to configure the controllers function.

ESD - Electrostatic Discharge

Feedback - Actual live values for KV & Air volume currently delivered by the system

Foldback - Built-in safety feature that is activated if the powder coating gun tries to pull more than 100 micro amps. During Foldback the KV is automatically reduced to protect the circuit board.

Gateway - Converts Profinet to CAN bus. Allows the PPHD (Profinet) to communicate with gun control system (CAN bus)

Gun - Powder application device

Hard Purge - Mains air pressure purge pulses. Used to thoroughly clean the powder tubing internally

HMI - Human Machine Interface (Touch Screen)

IPC - Industrial Personal Computer

KV - Kilo Volts of static charge produced by the gun

KV Card - Circuit board to control the electrostatic charge voltage to the powder gun

KV Rack - Chassis holding all KV Cards

LED - Light Emitting Diode

Lap - How many times the effective fan width passes over a certain point

Mover or Gun Mover - Generic term for Reciprocator and/or Z-Axis machine

Node - Connection point of KV Card or Pump Control Card, to the network

PP - Powder Pilot

Recip / Reciprocator - Vertical (Y axis) gun mover

Soft Purge - Initial stage of purge cleaning process. Used to gently clear the bulk of powder from powder tubing prior to Hard Purge.

Z-Axis - Horizontal mover that drives the reciprocator carrying the guns, in and out of the booth at 90 degrees to conveyor direction.

Powder Pilot™ 4.X

Safety

Read and follow these safety instructions. Tasks and equipment-specific warnings, cautions and instructions are included in the equipment documentation where appropriate.

Make sure all equipment documentation, including these instructions, is accessible to all persons operating or servicing equipment.

Qualified Personnel

Equipment owners are responsible for making sure that Nordson equipment is installed, operated, and serviced by qualified personnel. Qualified personnel are those employees or contractors who are trained to safely perform their assigned tasks. They are familiar with all relevant safety rules and regulations and are physically capable of performing their assigned tasks.

Intended Use

Use of Nordson equipment in ways other than those described in the documentation supplied with the equipment may result in injury to persons or damage to property.

Some examples of unintended use of equipment include

- using incompatible materials
- making unauthorized modifications
- removing or bypassing safety guards or interlocks
- using incompatible or damaged parts
- using unapproved auxiliary equipment
- operating equipment in excess of maximum ratings

Regulations and Approvals

Make sure all equipment is rated and approved for the environment in which it is used. Any approvals obtained for Nordson equipment will be voided if instructions for installation, operation, and service are not followed.

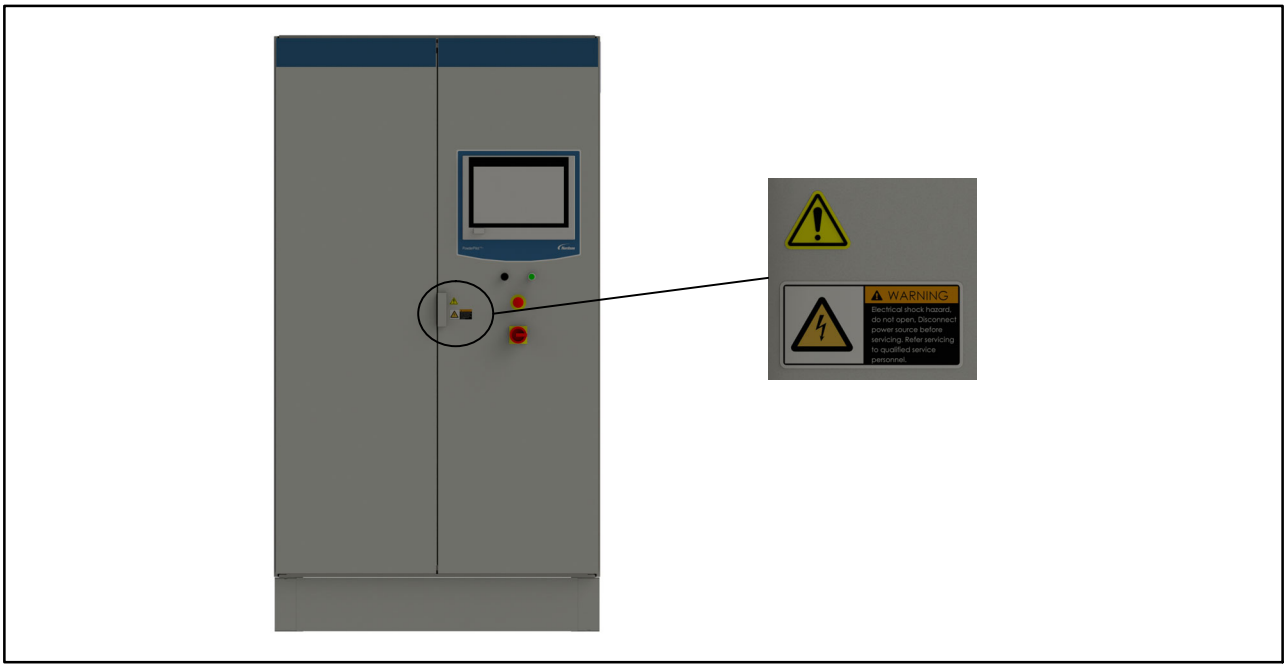
All phases of equipment installation must comply with all federal, state, and local codes.

Personal Safety

To prevent injury, follow these instructions.

- Do not operate or service equipment unless you are qualified.
- Do not operate equipment unless safety guards, doors, or covers are intact and automatic interlocks are operating properly. Do not bypass or disarm any safety devices.
- Keep clear of moving equipment. Before adjusting or servicing any moving equipment, shut off the power supply and wait until the equipment comes to a complete stop. Lock out power and secure the equipment to prevent unexpected movement.
- Relieve (bleed off) hydraulic and pneumatic pressure before adjusting or servicing pressurized systems or components. Disconnect, lock out, and tag switches before servicing electrical equipment.
- Obtain and read Safety Data Sheets (SDS) for all materials used. Follow the manufacturer's instructions for safe handling and use of materials, and use recommended personal protection devices.
- To prevent injury, be aware of less-obvious dangers in the workplace that often cannot be completely eliminated, such as hot surfaces, sharp edges, energized electrical circuits, and moving parts that cannot be enclosed or otherwise guarded for practical reasons.

WARNING: Disconnect power before carrying out maintenance.



Fire Safety

To avoid a fire or explosion, follow these instructions.

- Do not smoke, weld, grind, or use open flames where flammable materials are being used or stored.
- Provide adequate ventilation to prevent dangerous concentrations of volatile materials or vapors. Refer to local codes or your material SDS for guidance.
- Do not disconnect live electrical circuits while working with flammable materials. Shut off power at a disconnect switch first to prevent sparking.
- Know where emergency stop buttons, shutoff valves, and fire extinguishers are located. If a fire starts in a spray booth, immediately shut off the spray system and exhaust fans.
- Clean, maintain, test, and repair equipment according to the instructions in your equipment documentation.
- Use only replacement parts that are designed for use with original equipment. Contact your Nordson representative for parts information and advice.

Grounding

WARNING: Operating faulty electrostatic equipment is hazardous and can cause electrocution, fire, or explosion. Make resistance checks part of your periodic maintenance program. If you receive even a slight electrical shock or notice static sparking or arcing, shut down all electrical or electrostatic equipment immediately. Do not restart the equipment until the problem has been identified and corrected.

Grounding inside and around the booth openings must comply with EN50050-2, EN50177, EN16985, latest conditions.

- All electrically conductive objects in the spray areas shall be electrically connected to ground with a resistance of not more than 1 megohm as measured with an instrument that applies at least 500 volts to the circuit being evaluated.
- Equipment to be grounded includes, but is not limited to, the floor of the spray area, operator platforms, hoppers, photoeye supports, and blow-off nozzles. Personnel working in the spray area must be grounded.
- There is a possible ignition potential from the charged human body. Personnel standing on a painted surface, such as an operator platform, or wearing non-conductive shoes, are not grounded. Personnel must wear shoes with conductive soles or use a ground strap to maintain a connection to ground when working with or around electrostatic equipment.
- Operators must maintain skin-to-handle contact between their hand and the gun handle to prevent shocks while operating manual electrostatic spray guns. If gloves must be worn, cut away the palm or fingers, wear electrically conductive gloves, or wear a grounding strap connected to the gun handle or other true earth ground.
- Shut off electrostatic power supplies and ground gun electrodes before making adjustments or cleaning powder spray guns.
- Connect all disconnected equipment, ground cables, and wires after servicing equipment.

ESD Ground Procedures and Equipment

The best protection against ESD is to keep the ground braids as short as possible and connect them to a central point on the booth base as shown in the Star diagram. Under normal conditions making Star connections is not a problem, but in some systems, such as roll-on/roll-off booths, the ground braids required for a Star connection are too long to be effective against ESD. In this case, a Daisy Chain ground configuration is acceptable.

Always use the special flat braided copper ESD ground cables furnished with all Nordson spray gun controllers to ground them. The ESD ground cables should always be attached to the welded booth base, not to a panel, enclosure, or other component bolted to the base. Keep the cables as short as possible. If using a grounding block kit, make sure the block is installed directly to the welded base with the included self-drilling screws. An ESD grounding block kit is available for connecting the ground braids to the booth base. The kit contains two 6-position grounding blocks, fasteners, terminals, and 15 meters (50 feet) of braided ground cable. If additional kits are required, order: 1067694 Kit, ground bus bar, ESD, 6 – position, with hardware

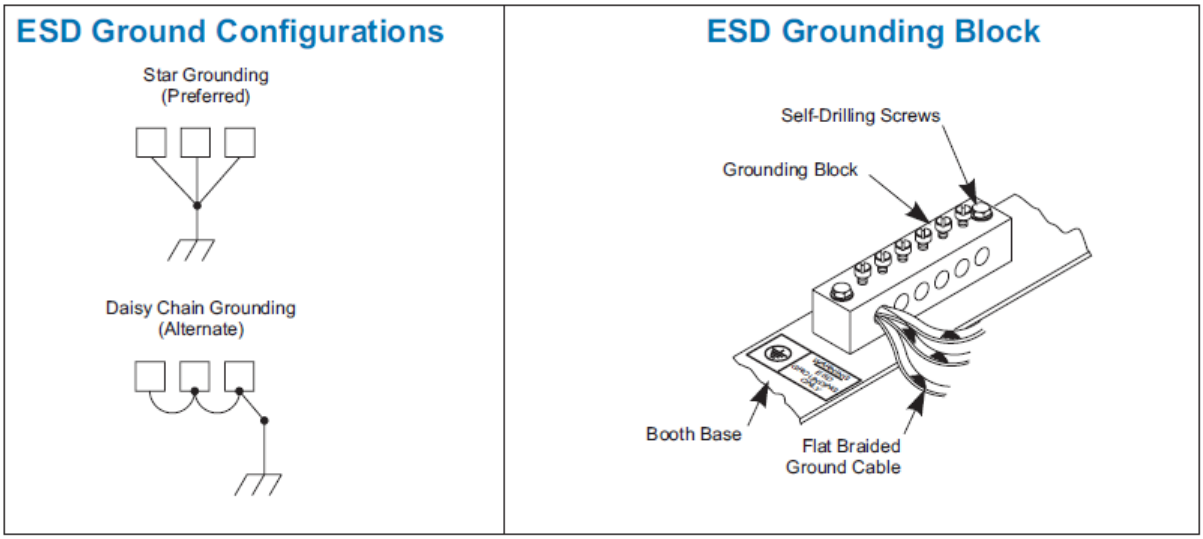


Figure 1 **ESD Ground Procedures and Equipment**

Gun Current Path

All electrical circuits need a complete path for current to make its way back to the source. Electrostatic spray guns emit current (ions) and therefore require a complete circuit. Some of the current emitted by the spray gun is attracted to the spray booth, but most is attracted to the grounded parts moving through the booth. The current attracted to the parts flows through the part hangers to the conveyor and to the building ground, back to the controller through a ground braid and back to the spray gun through the gun driver board. The current attracted to the booth is returned through the booth ground to the controller and back to the gun.

It is very important to provide a complete circuit for the gun current. A break in the circuit conductors (conveyor, booth, braided ground cables, controller) can cause voltage to build up on the conductors up to the maximum output of the spray gun voltage multiplier (up to 100 kV). The voltage will eventually discharge in a high frequency arc and cause damage to the controller electronics (gun driver board and power supply).

Action in the Event of a Malfunction

If a system or any equipment in a system malfunctions, shut off the system immediately and perform the following steps:

- Disconnect and lock out electrical power. Close pneumatic shutoff valves and relieve pressures.
- Identify the reason for the malfunction and correct it before restarting the equipment.

Disposal

Dispose of equipment and materials used in operation and servicing according to local codes.

Description

The Nordson PowderPilot ™ 4.X is an intuitive control system, with software and hardware specifically designed for automated powder coating systems. It delivers precision digital control for your paint line for easy access to all powder application and booth operating parameters. The touch screen is used for all interactions between the operator and the machine.

The system has been designed to apply powder coating to the surface of the customer's products.

The product's position is typically detected by a beam array system located before entry into the booth. The product's paint program is loaded by the operator via the touch screen. It is also possible to load the paint program remotely if desired.

Technical support is available from your local Nordson Representative.

NOTE: The shown icons/functions do not apply to all systems, they can be application specific or optional

Description(contd)

The oversprayed powder is moved towards the extraction duct via an airknife floor cleaning system, where it is extracted into the twin-cyclone. The twin-cyclone separates the good/reusable powder. This reusable powder falls into the twin-cyclone collection hopper while the waste powder is transported to the afterfilter.

A reclaim HDVL transfer pump then transports this powder to the Spectrum HD/VT feed centre, where it is sieved and transferred back into the gun powder hopper for reuse.

There is a high level powder probe located in the after filter collection hopper to detect and alarm if the powder level gets too high.

The powder feed hopper for the guns, located in the Spectrum HD/VT, is monitored and maintains the powder level via a fresh powder feed system, also located inside the Spectrum HD/VT.

3 powder level sensors, located in this powder feed hopper, control this level.

- Low level sensor - Used to alarm out that the hopper is empty
- Mid level sensor - Controls the HDLV pump on the big bag station to refill the hopper to this level
- High level sensor - To stop all fresh powder transfer pumps and prevent hopper overfill

Console dimensions

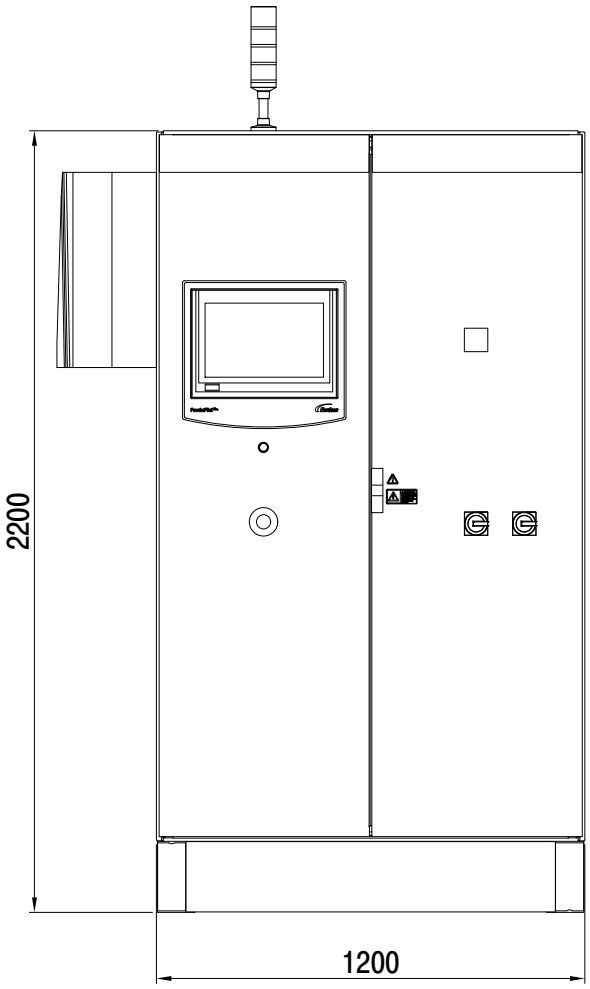


Figure 2 **PowderPilot™ Dimensions**

Specifications

Electrical supply	400VAC - 50Hz - 3 phase
Rated Power	20kVA (system specific)
Panel environmental rating	IP54
The panel must be located outside of the hazardous areas / zones	
Operating environment	
Temperature	+15°C - +40°C
Humidity	5 to 95% non-condensing
Application capacity	Max 32 powder spray guns

Installation

WARNING: Allow only qualified personnel to perform the following tasks. Follow the safety instructions in this document and all other related documentation.

WARNING: This equipment can be dangerous unless it is used in accordance with the rules stated in this manual.

Introduction

PowderPilot™ 4.X systems are configured for each customer's application and requirements. The equipment supplied with the system varies depending on the type of installation (new, upgrade, or retrofit) and the equipment furnished by the customer. Therefore, this section provides only basic installation information. Detailed information is contained in the system wiring diagrams, plan views, and other documentation furnished by Nordson engineering. Once all hardware is installed and wired and the system is powered up, the operator interface is used to configure and operate the system.

Operation

WARNING: Allow only qualified personnel to perform the following tasks. Follow the safety instructions in this document and all other related documentation.

Start-up sequence

1. Ensure the area around the booth is clear of personnel and safe to start.
2. Turn on the mains isolator (C).
3. Wait for the touch screen to boot up and display the main start screen.
4. Ensure all emergency stop buttons are pulled out, including on the PowderPilot™ 4.X (B).
5. Press the blue safety reset button (A) on PowderPilot™ 4.X. This will reset the emergency stop system and enable all control circuits.

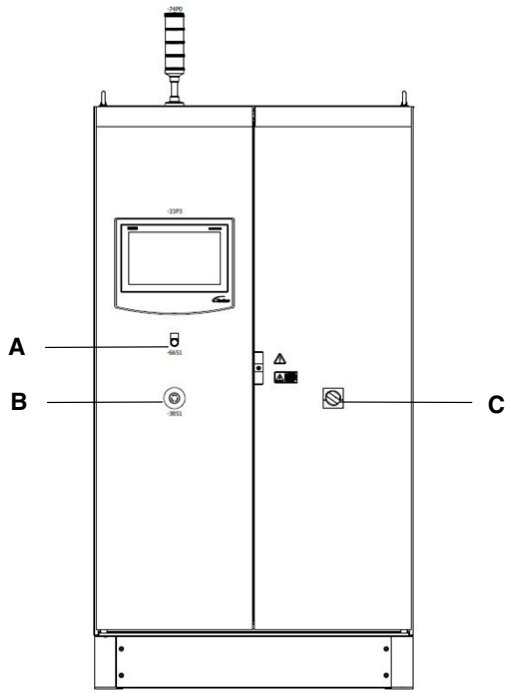


Figure 3 **Identification for Start-up**

Booth Control Home Screen

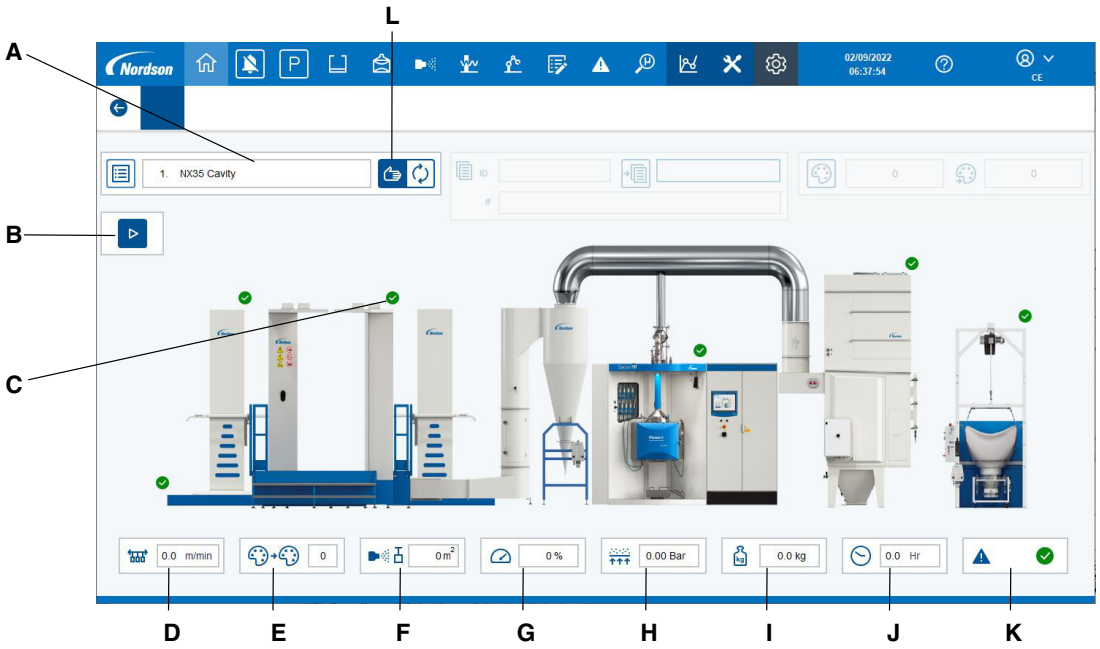


Figure 4 **Home Screen**

Descriptions

A - Displays the name and number of the current program running

B - Press to auto start or stop the booth. Each press toggles the state from stopped to running.

C - These symbols show the current health state of the associated device

All OK

Indicates a problem that will not stop its ability to produce

Indicates a problem that will stop its ability to produce

D - Current conveyor speed

E - Total number of colour changes

F - Daily total m^2 of product coated

G - System utilisation - percentage of total coating area possible

H - Hopper fluid bed pressure

I - Current powder weight in the fresh powder feeder

J - Number of hours actively producing so far today

K - Overall system health state

L - Press to select program loading mode as auto or manual. When in auto mode, the system will load the program change to each paint station individually as the change reaches them. When in manual mode, the program change is loaded immediately to all paint stations at once.Auto mode is displayed here.

Note: The shown icons/functions do not apply to all systems, they can be application specific or optional

Global Navigation

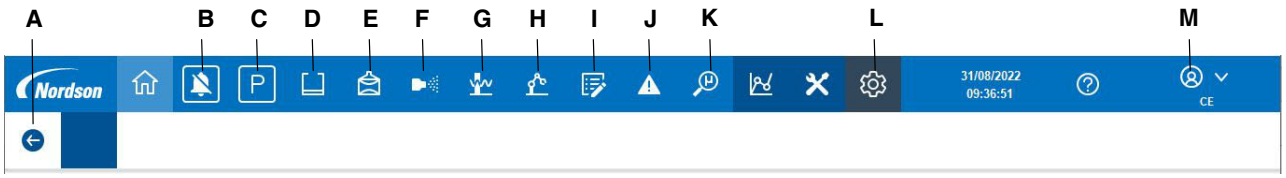


Figure 5 **Global Navigation**

A - Press to move back through previous screens openend

B - Press to mute the alarm sounder

C - Press to park or unpark the spray guns. When parked, the parts will pass through the booth without painting.

D - Press to display the booth & after filter control screens

E - Press to display the Spectrum HD screens

F - Press to display the gun control screens

G - Press to display the reciprocator control screens

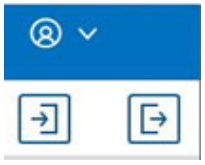
H - Press to display the robot control screens. (If the system has robots included)

I - Press to display the gun programs edit screen

J - Press to display the current alarms list

K - Press to display the paint thickness system

L - Press to enter the system configuration screens

M - Press to log the current user in or out 

Note: The shown icons/functions do not apply to all systems, they can be application specific or optional

Quick Access Bar

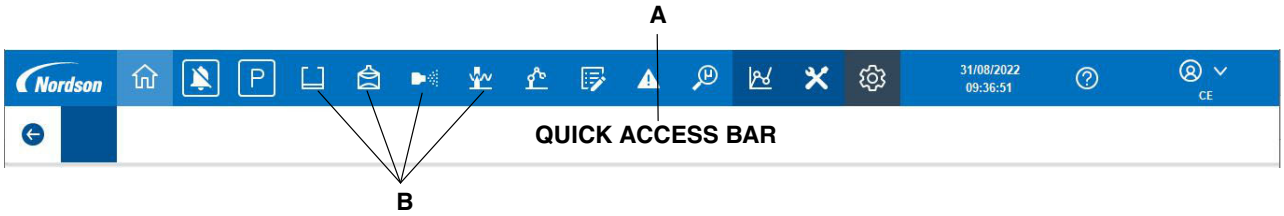


Figure 6 **Quick Access Bar**

A - The quick access bar is used to display the most commonly used functions from each control section without needing to leave the screen currently in use

B - Press and release to go directly to that control section's screen. Press and hold for a short time to display commonly used functions relevant to that control section in the quick access bar.

Figure 7 **Quick Access Bar - Home**

A - Press to return to the Home screen.

B - Press to confirm shutdown of the HMI software & Microsoft Windows.

C - Press to cancel the shutdown process.

D - Press to shutdown the HMI & return the Microsoft Windows Desktop.

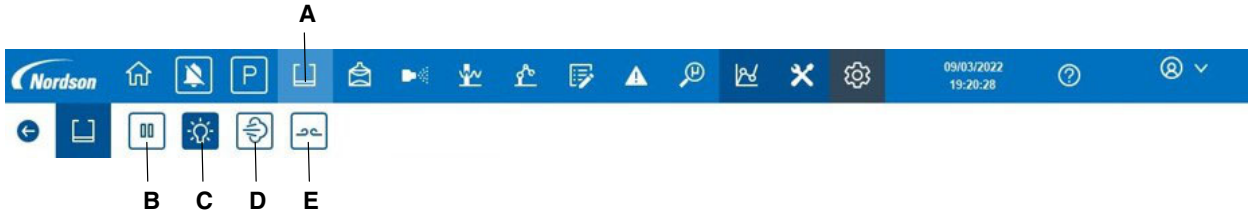


Figure 8 **Quick Access Bar - Booth**

A - Press & hold to display booth control options.

B - Press to auto start or stop the booth.

C - Press to switch the booth lights on and off.

D - Press to enable or disable the airknife floor cleaning system.

E - Press to switch the external gun cleaning system on and off.

Note: The shown icons/functions do not apply to all systems, they can be application specific or optional

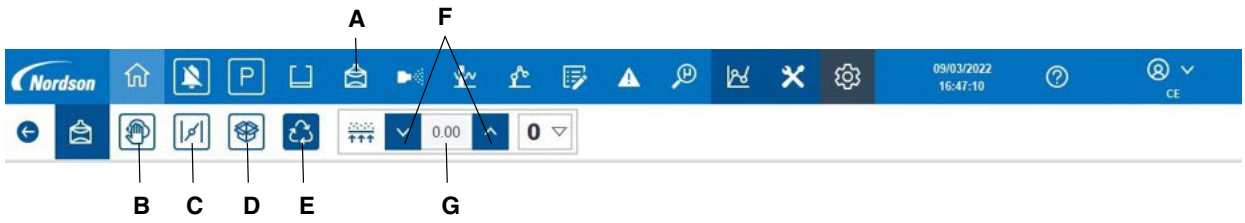


Figure 9 **Quick Access Bar - SHD**

A - Press & hold to display Spectrum HD control options

B - Press to start the cleaning sequence. The icon here shows as disabled.

C - Press to override main duct damper.

D - Press to enable or disable the fresh powder feed pump.

E - Press to enable or disable the reclaim feed pump.

F - Increase or decrease the fluid bed pressure.

G - Actual fluid bed pressure.

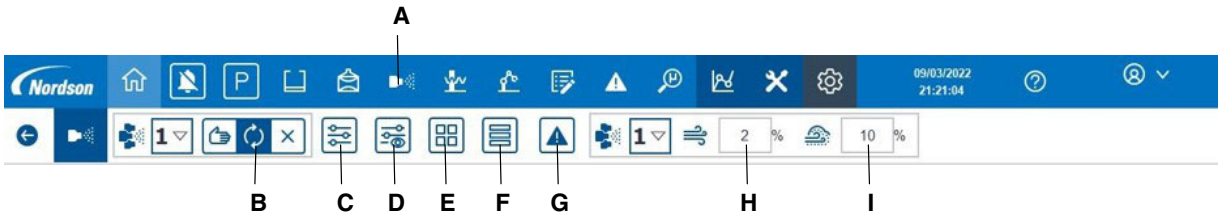


Figure 10 **Quick Access Bar - Guns**

A - Press & hold to display gun control options.

B - Press to select the required gun trigger mode. These are manual, auto or always off in that order from left to right.

C - Press to display the individual gun setpoint adjustment screen.

D - Press to display the setpoint adjustment screen for 16 guns at once.

E - Press to display the gun feedback screen for 8 guns at once.

F - Press to display the gun feedback screen for 16 guns at once.

G - Press to display the gun alarms list.

H - Press to adjust the powder output offset. Entering a value of 10% for example, will add 10% to all the current powder setpoints. Entering a value of -10% will reduce all current powder setpoints by 10%.

I - Press to adjust the atomising air offset. Entering a value of 10% for example, will add 10% to all the current atomising air setpoints. Entering a value of -10% will reduce all current atomising setpoints by 10%.

Note: The shown icons/functions do not apply to all systems, they can be application specific or optional

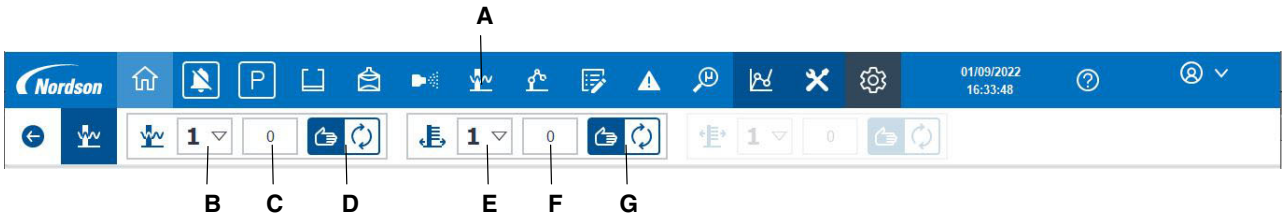


Figure 11 **Quick Access Bar - Gun Movers**

A - Press & hold to display gun mover options.

B - Press to select the reciprocator number.

C - Current position of the reciprocator, selected via button B, In this case, number 1.

D - Auto/Manual button for selected reciprocator.

E - Press to select the Z-Axis number.

F - Current position of the Z-Axis, selected via button F, In this case, number 1.

G - Auto/Manual button for selected Z-Axis.

Note: The shown icons/functions do not apply to all systems, they can be application specific or optional

Home Screen - Program Load

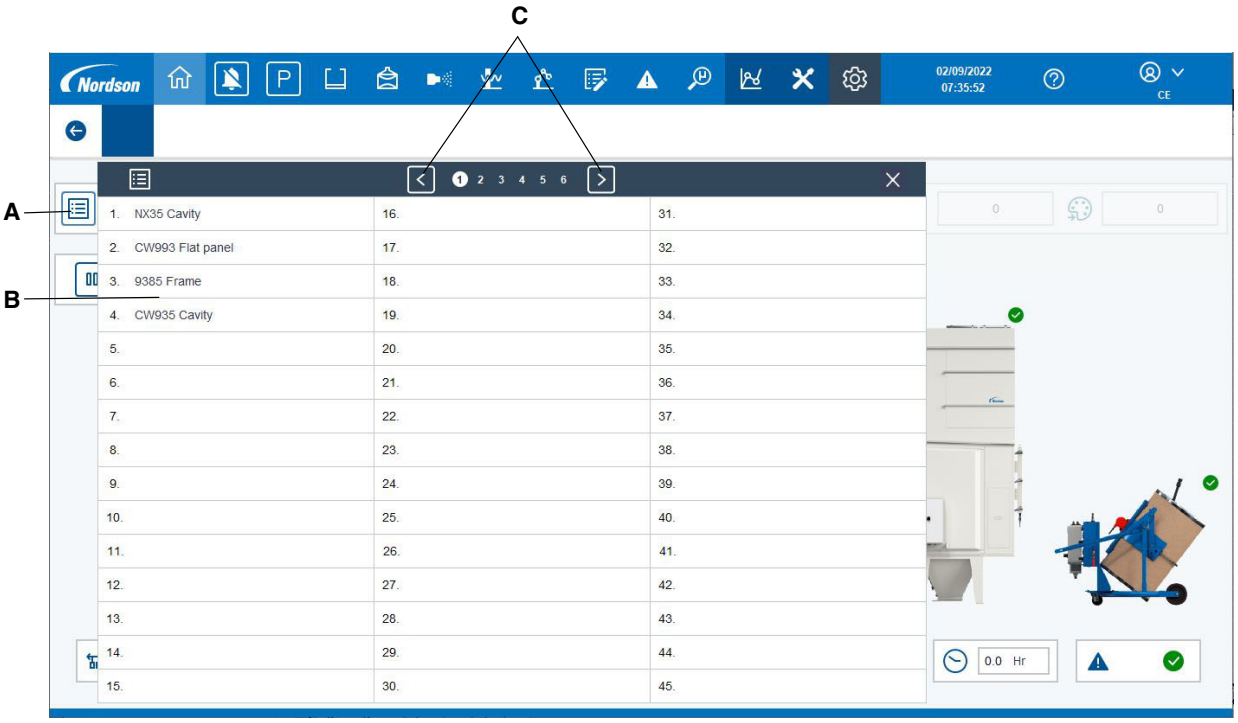


Figure 12 **Home Screen - Program Load**

A - Press the select program button to reveal the selection list (B).

B - Touch the name of the program required. The selection list will disappear again and the new program name will be displayed on the Home screen confirming that the program data has been loaded into the system.

C - Press to move backwards or forwards through the list of 255 programs available for selection.

NOTE: When a program is loaded in auto mode, the change will be attached to the conveyor at the beam array stand. As the conveyor moves, this change point will be tracked into the booth and when it reaches each spray station in turn, the new program settings will be loaded to the guns on that station.

Note: The shown icons/functions do not apply to all systems, they can be application specific or optional

Booth Control

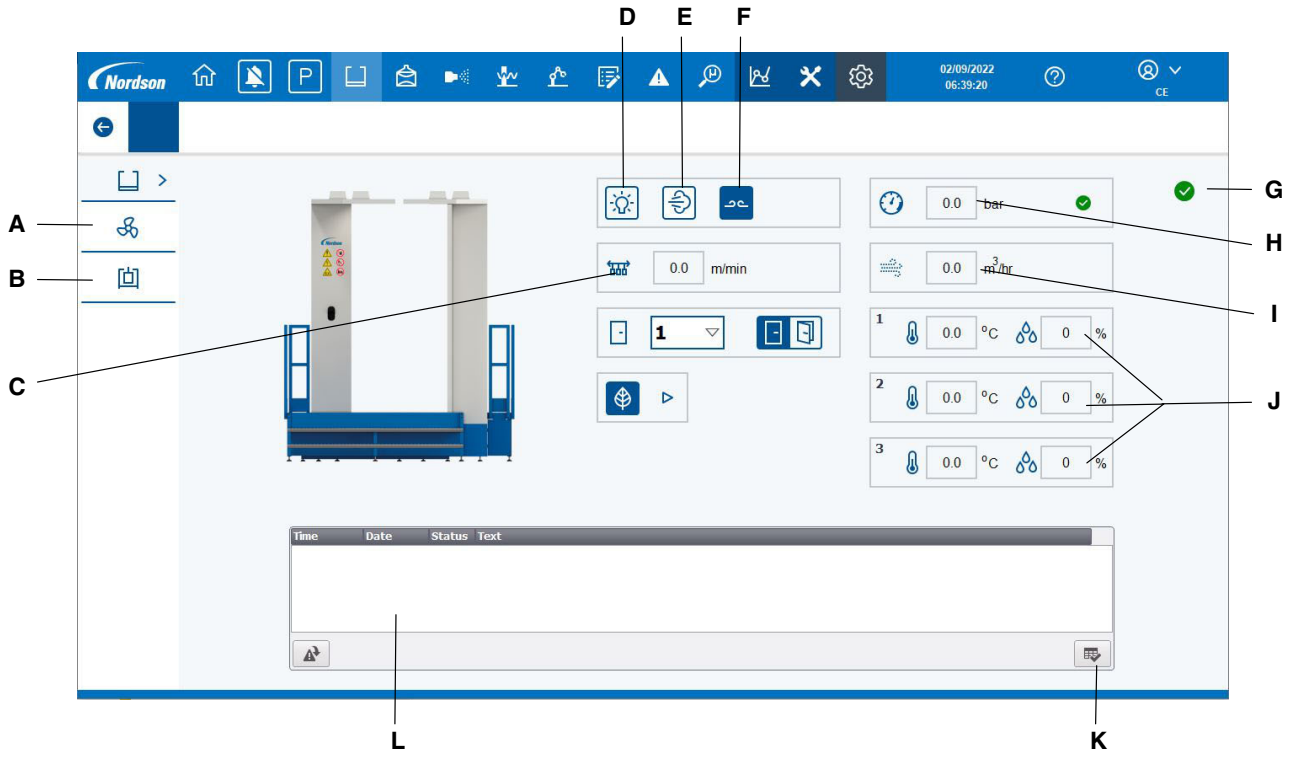


Figure 13 **Booth Control Screen**

A - Press to display the afterfilter control screen.

B - Press to display the beam array status screen.

C - Current conveyor speed.

D - Press to switch the booth lights on or off. The lights are shown as on in this screen shot.

E - Press to switch the external gun cleaning system on or off.

F - Press to switch the airknife floor cleaning system on or off. Each subsequent press toggles the cleaning between on and off.

G - Current health state of the booth system.

H - Press to acknowledge any new alarms.

I - Displays any current alarms related to the booth.

J - Ambient temperature and humidity readings. Location of sensors are system specific.

K - Press to acknowledge any new alarms.

L - Displays any current alarms related to the booth.

Note: The shown icons/functions do not apply to all systems, they can be application specific or optional

Afterfilter

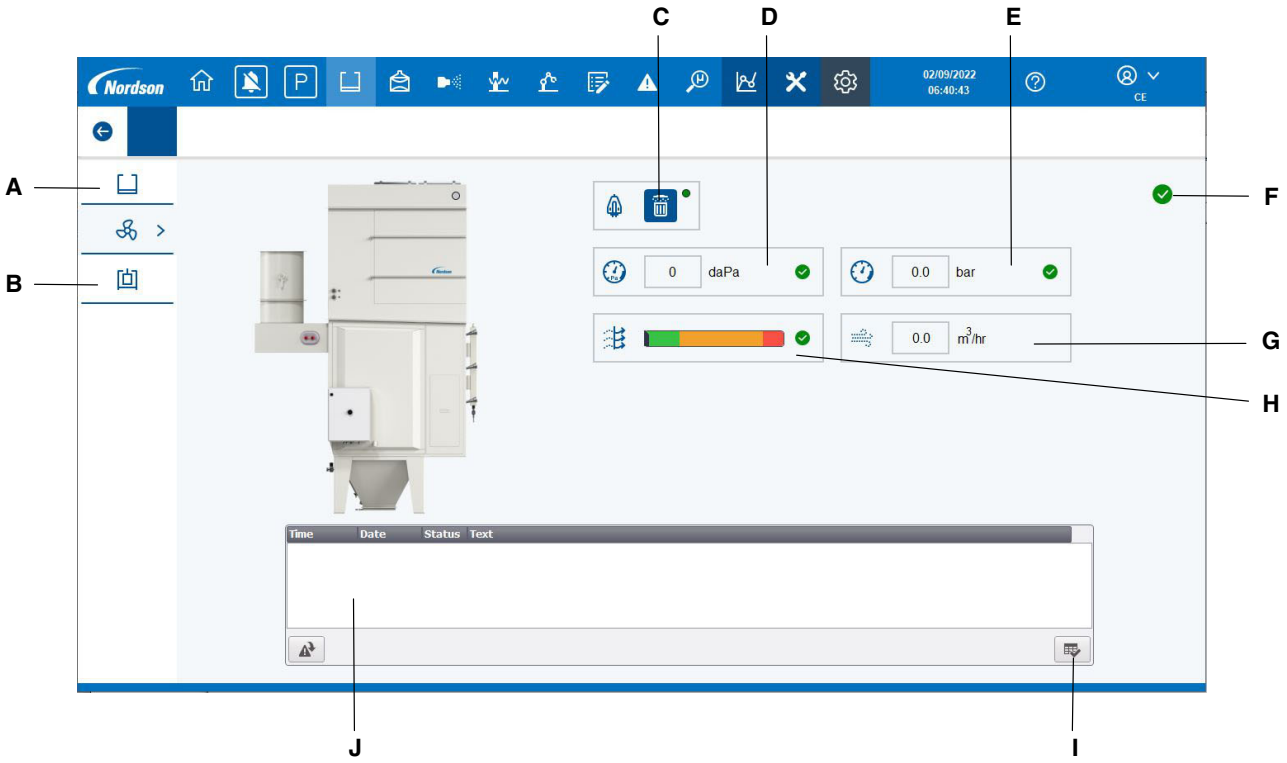


Figure 14 **Afterfilter Screen**

A - Press to display the booth control screen.

B - Press to display the beam array status screen.

C - Press to enable or disable the after filter transfer pumps. The pumps are shown as enabled in this screen shot.

D - Afterfilter cartridge DP.

E - Afterfilter air pressure.

F - Current health state of the booth system.

G - Afterfilter incoming mains air

H - This indicator shows the dust concentration in the afterfilter.

I - Press to acknowledge any new alarms.

J - Displays any current alarms related to the after filter.

Note: The shown icons/functions do not apply to all systems, they can be application specific or optional

Beam Array Status

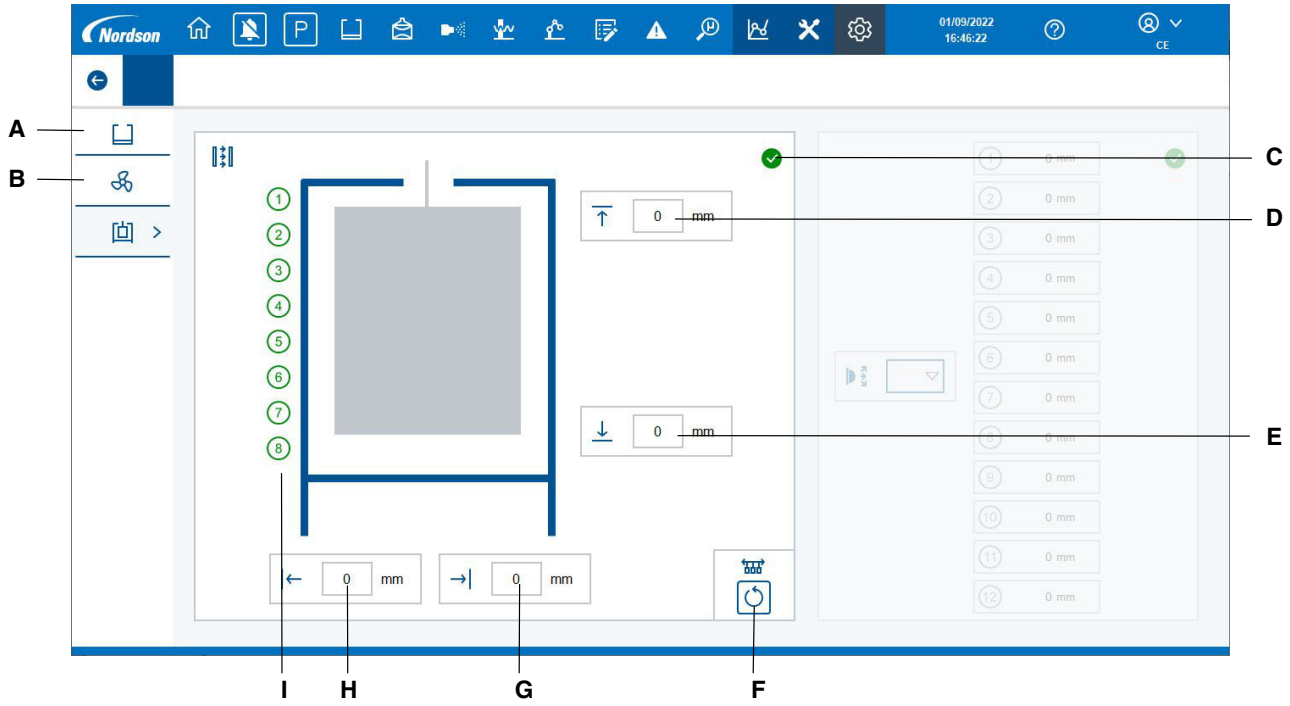


Figure 15 **Beam Array Status**

A - Press to display the booth control screen.

B - Press to display the afterfilter control screen.

C - Current health state of the beam array system.

D - Displays the top dimension of the part currently in the beam array stand. (For horizontally stacked guns)

E - Displays the bottom dimension of the part currently in the beam array stand. (For horizontally stacked guns)

F - Press to reset the part tracking memory.

G - Displays the right hand width dimension of the part currently in the beam array stand.

H - Displays the left hand width dimension of the part currently in the beam array stand.

I - Vertical zone indicator. Used for vertically stacked guns. Will be solid green when that zone is active.

Note: The shown icons/functions do not apply to all systems, they can be application specific or optional

Spectrum HD

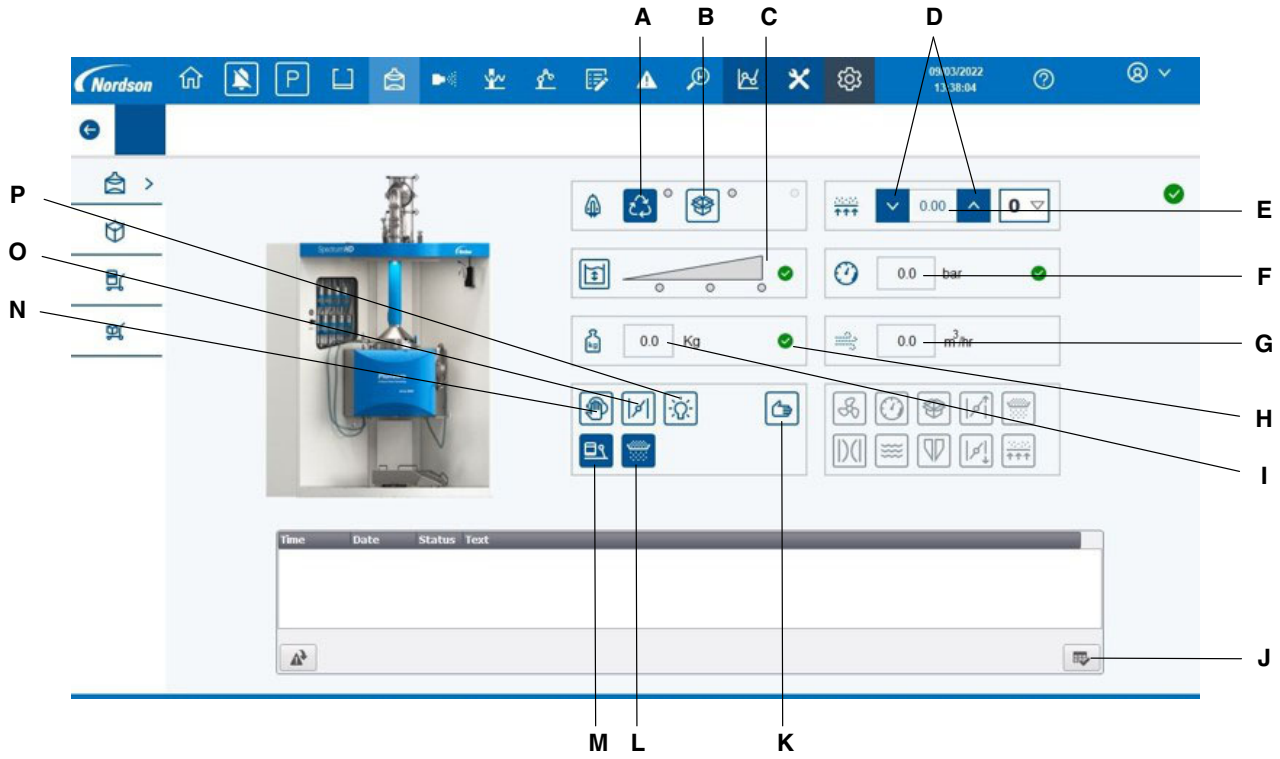


Figure 16 **Spectrum HD Home Screen Identification**

A - Press to enable or disable the reclaim feed pump. The pump are shown as enabled in this screen shot.

B - Press to enable or disable the virgin feed pump. The pumps are shown as disabled in this screen shot.

C - These icons shows the actual level of the powder in the feed centre.

D - Increase and decrease fluid bed pressure.

E - Actual fluid bed pressure.

F - Actual mains air supply pressure.

G - Actual mains air supply flow rate on feed centre.

H - Current health state of the powder weight in the feed centre.

I - Current fresh powder weight in the feed centre.

J - Press to acknowledge any new alarms.

K - Manual mode of feed centre.

L - Press to enable or disable the sieve. The icon is shown as enabled in this screen shot.

M - Press to enable or disable the hopper banger. The icon are shown as enabled in this screen shot.

N - Press to start the cleaning sequence/colour change.

O - Press to override main duct damper. The icon shows as disabled in this screen shot.

P - Feed centre light On/Off.

Note: The shown icons/functions do not apply to all systems, they can be application specific or optional

Spectrum HD (Contd)

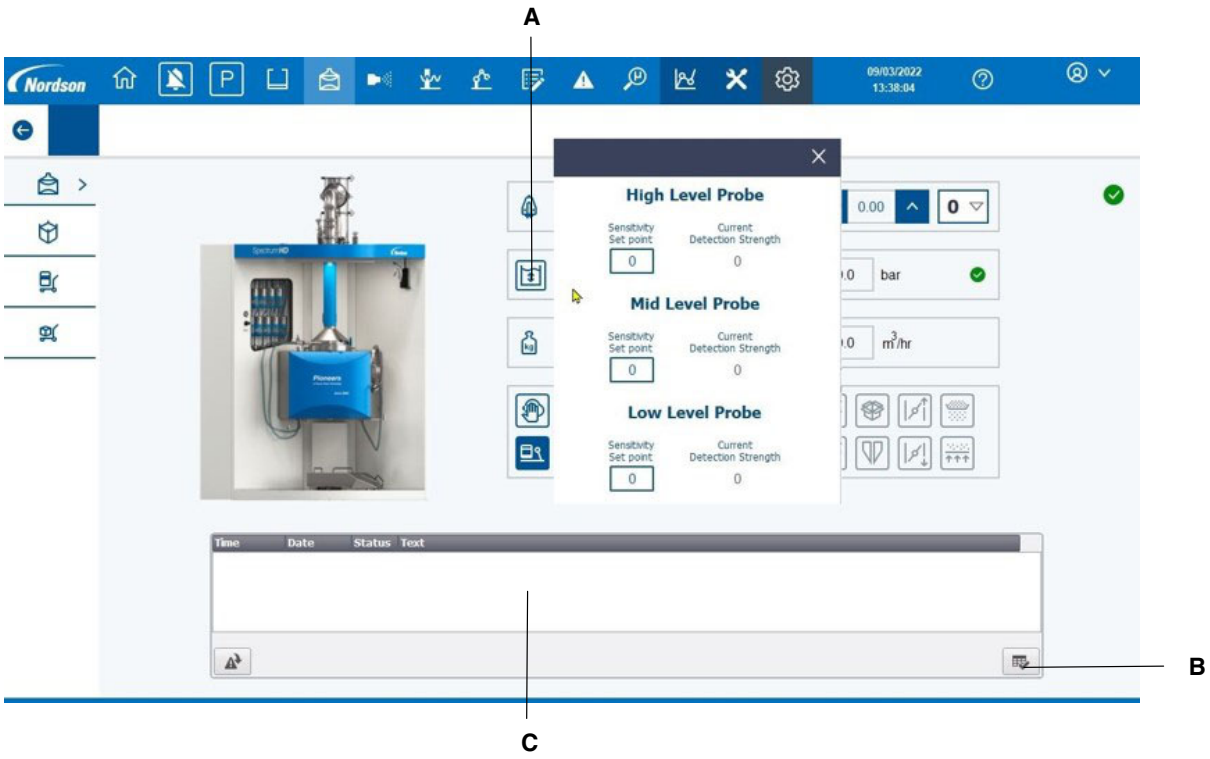


Figure 17 **Spectrum HD Level Probes**

A - Pressing this button open the pop-up from where operator can adjust the sensitivity of the level probes.

B - Press to acknowledge any new alarms.

C - Displays any current alarms related to the spectrum HD feed system.

Note: The shown icons/functions do not apply to all systems, they can be application specific or optional

Spectrum HD (Contd)

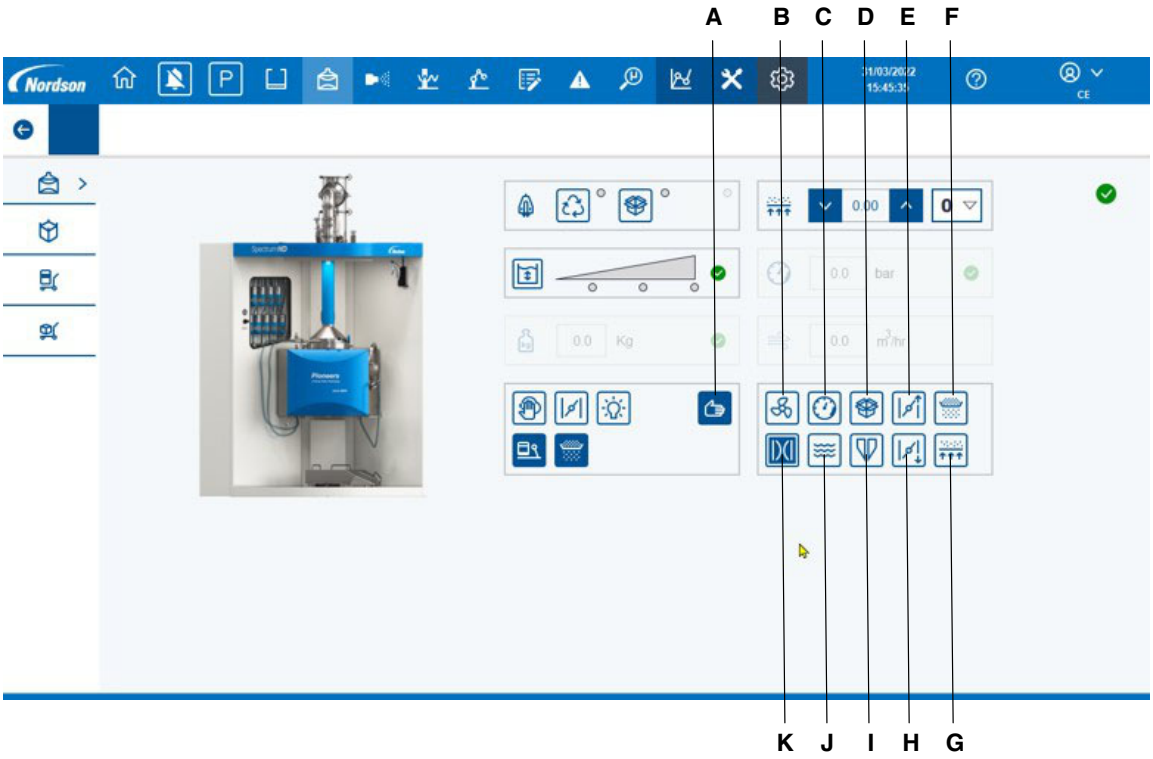


Figure 18 **Spectrum HD - Auto to Manual mode**

A - Press to put the Spectrum HD into manual mode. The icon show in this screen shot is ON . Once it's active then all disable buttons are active.

B - Afterfilter on/off.

C - Main air valve on/off.

D - Fresh powder pump on/off.

E - Top damper on/off.

F - Sieve on/off.

G - Fluidisation on/off.

H - Bottom damper on/off.

I - Reclaim powder pump on/off.

J - Table vibrator on/off.

K - Dump valve on/off.

Note: The shown icons/functions do not apply to all systems, they can be application specific or optional

Spectrum HD - Colour Change (Step 1)

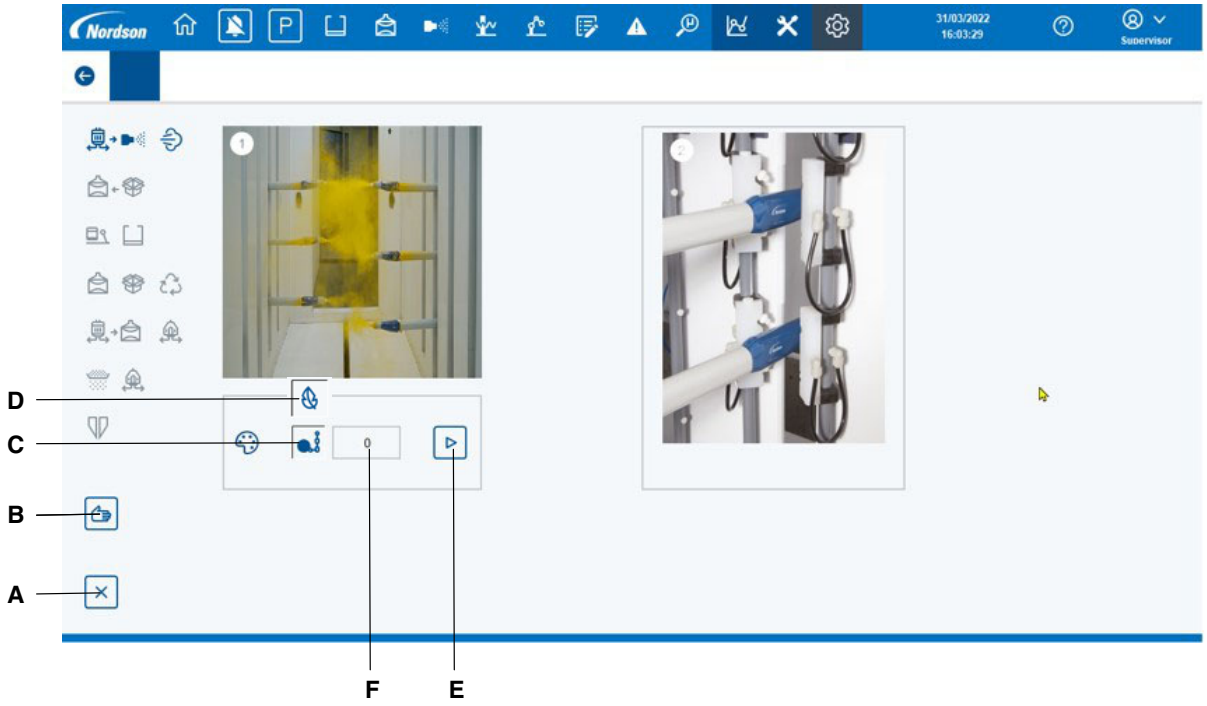


Figure 19 **Spectrum HD - Colour Change (Step 1)**

A - Abort colour change.

B - Colour change in manual mode.

C - This button has a toggle function. Press once for hard purging of difficult/heavy powders, symbol C. Press again for hard purging of easy/light powders, symbol D.

D - This is the icon for hard purging easy powders and will appear in position C as you toggle. (Indicted above here, only for illustration purposes)

E - Press the button to start the colour change.

F - Number of Hard purges for the powder type selected

Note: The shown icons/functions do not apply to all systems, they can be application specific or optional

Spectrum HD - Colour Change (Step 2)

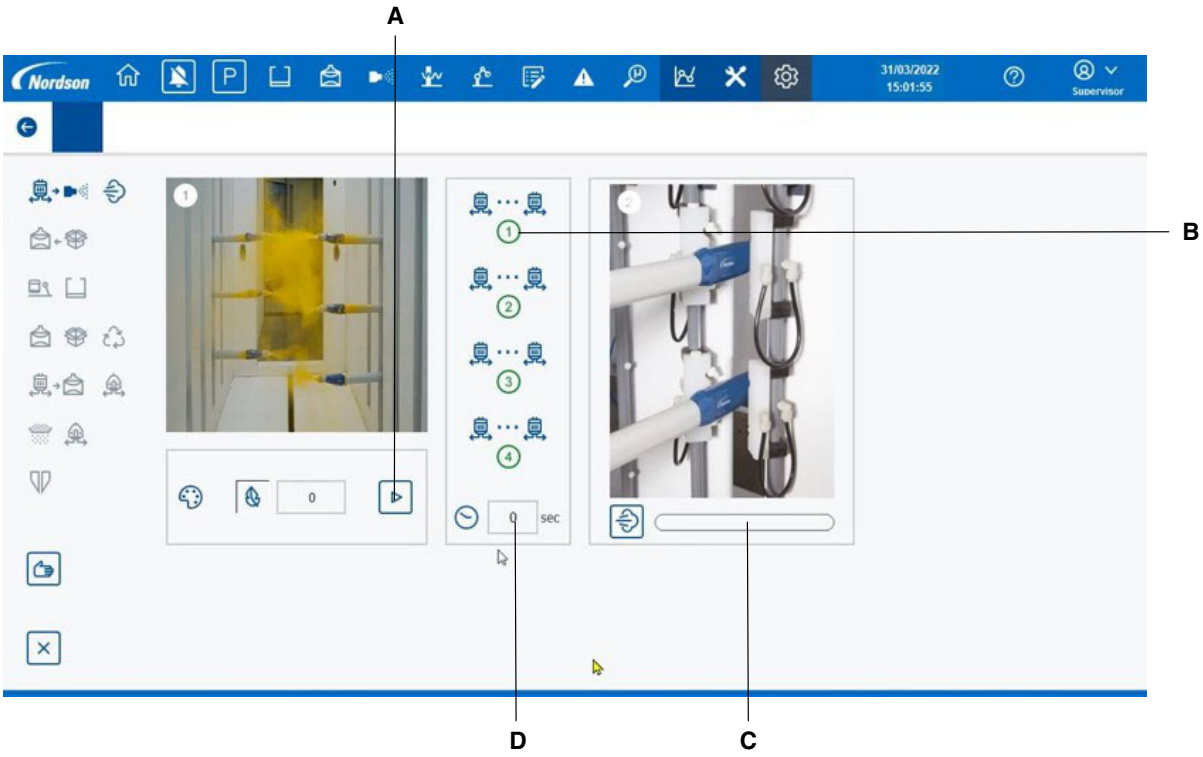


Figure 20 **Spectrum HD - Colour Change (Step 2)**

A - When you start the colour change then it will start pump to gun cleaning sequence.

B - In the following picture the button is active.

C - External gun cleaning progress bar. When it is completely blue, the guns are out of booth.

D - Remaining time left for the pump to gun sequence.

Note: The shown icons/functions do not apply to all systems, they can be application specific or optional

Spectrum HD - Colour Change (Step 3)

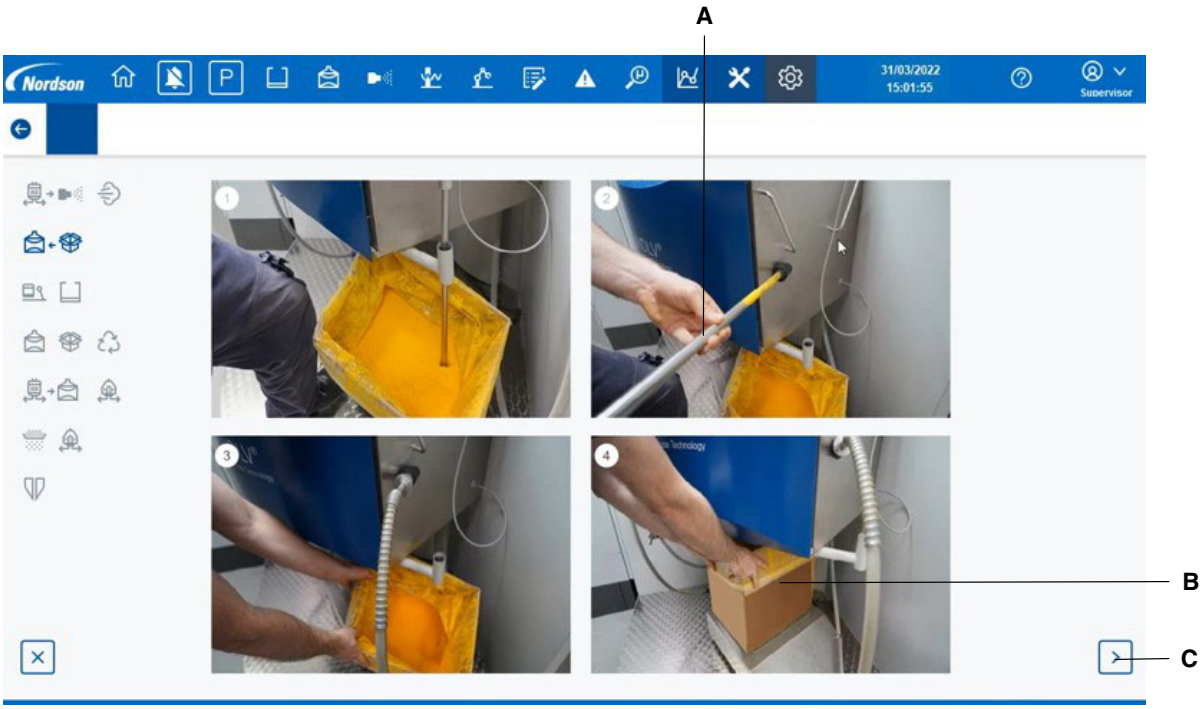


Figure 21 **Spectrum HD - Colour Change (Step 3)**

A - Once the pump to gun step has been finished the screen will automatically move to the next step. This screen is only informative, operator must remove dip leg out of the powder box and place it to the purge location.

B - The powder box must be moved under the hopper as shown above.

C - When the operator completed all steps, they can press this button for next step.

Note: The shown icons/functions do not apply to all systems, they can be application specific or optional

Spectrum HD - Colour Change (Step 4)

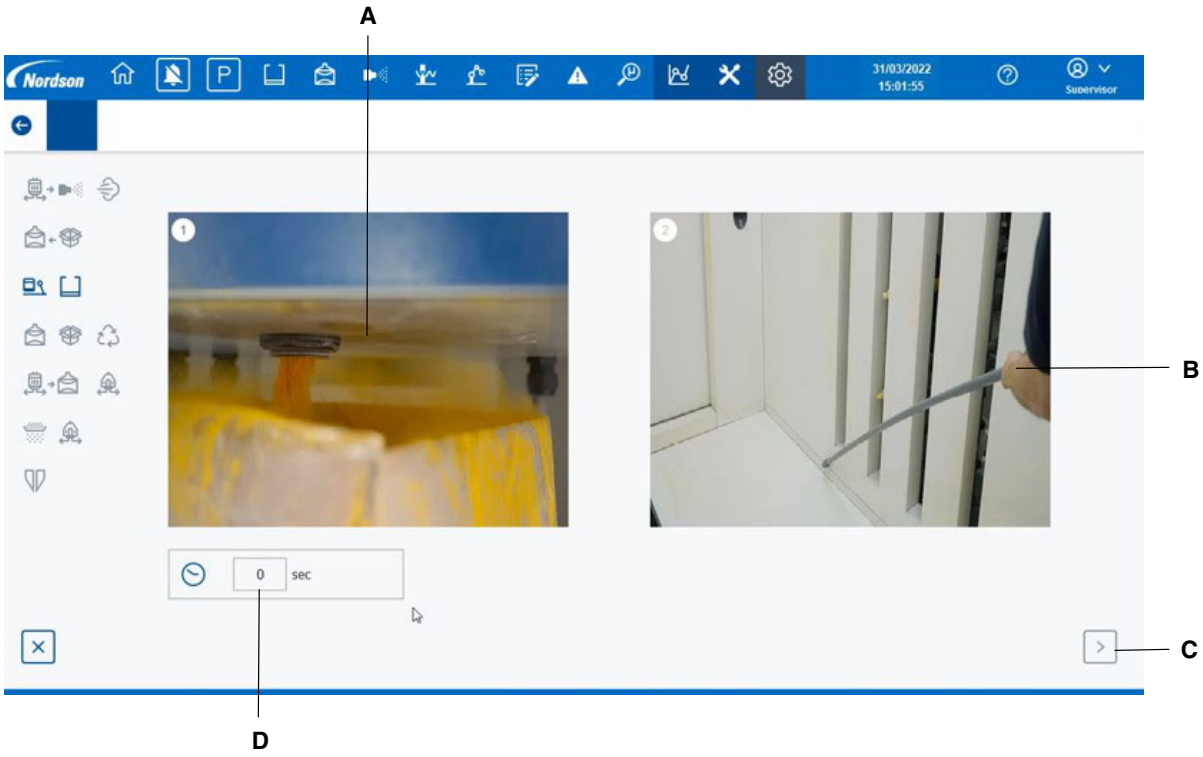


Figure 22 **Spectrum HD - Colour Change (Step 4)**

A - In this step we open the dump valve and empty the old powder back into the box.

B - The operator must clean the booth and canopy during this step.

C - This button will be enabled only after the remaining time is set to 0.

D - This shows the remaining time for dump valve.

Note: The shown icons/functions do not apply to all systems, they can be application specific or optional

Spectrum HD - Colour Change (Step 5)

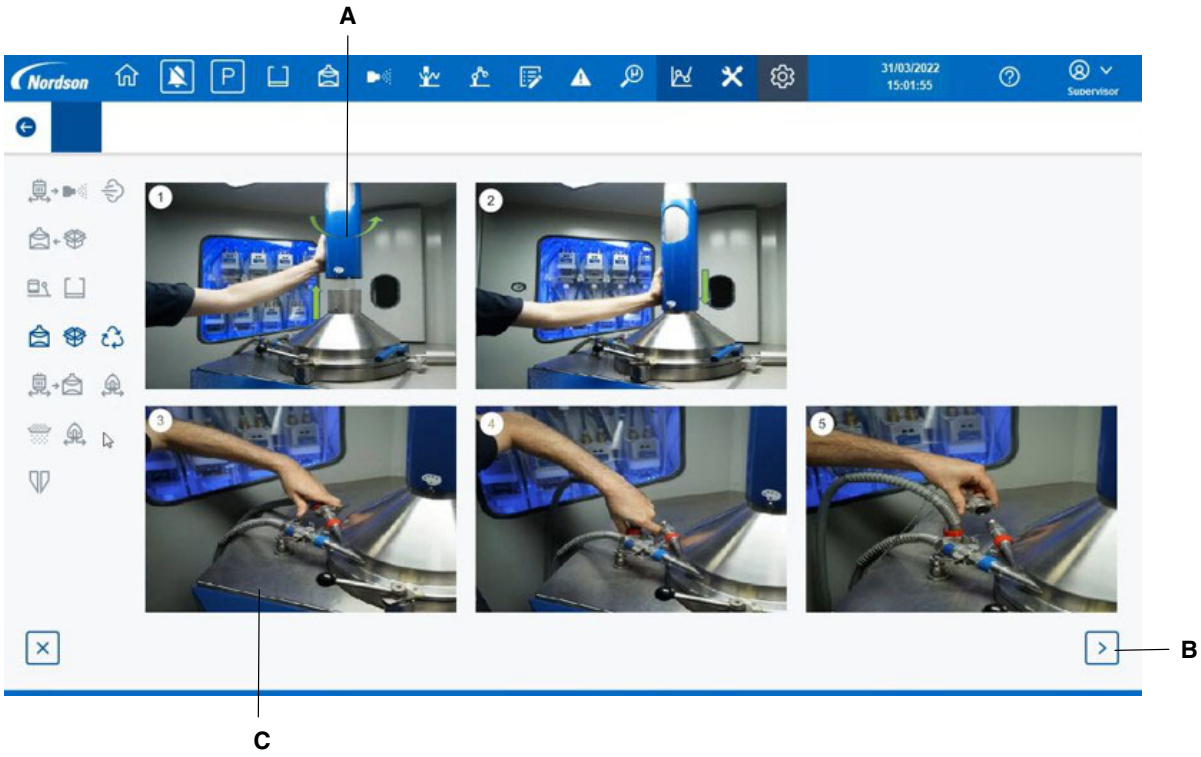


Figure 23 **Spectrum HD - Colour Change (Step 5)**

A - Turn around the purge tube as shown above.

B - When the operator has completed all steps, they can press this button for next step.

C - Remove the powder delivery hoses and put into correct location for purging from pump to hopper.

Note: The shown icons/functions do not apply to all systems, they can be application specific or optional

Spectrum HD - Colour Change (Step 6)

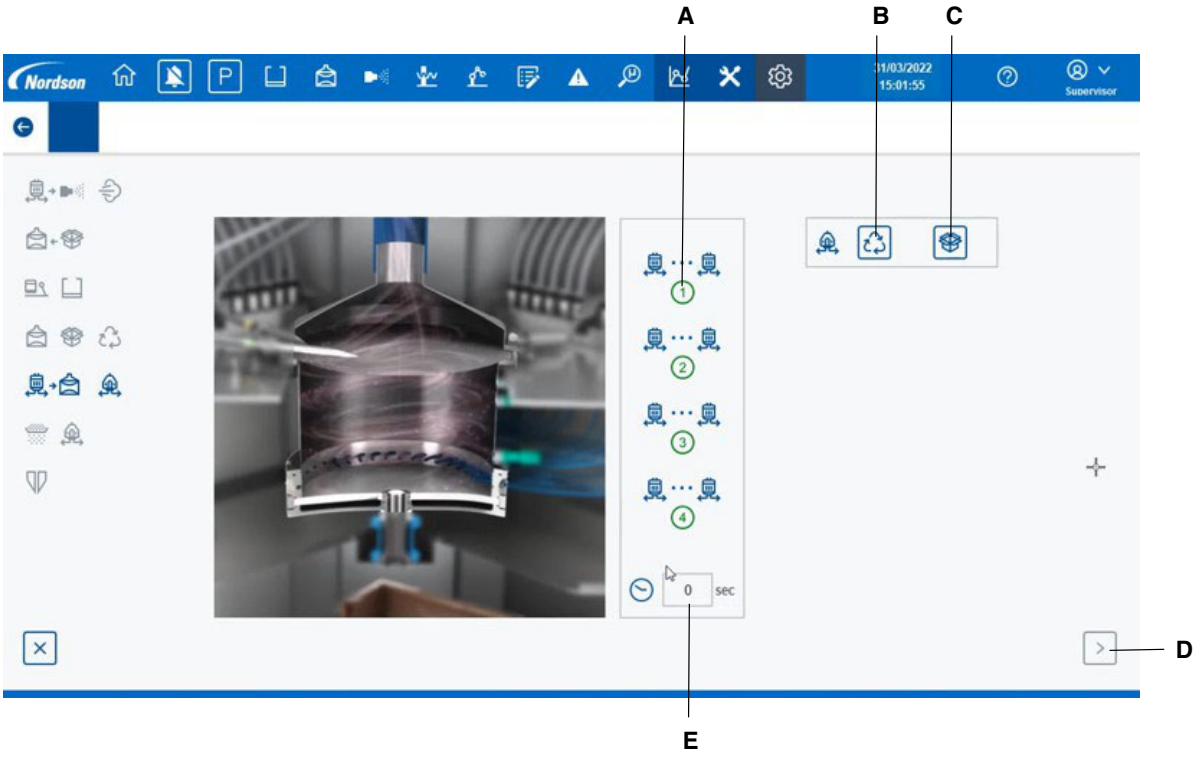


Figure 24 **Spectrum HD - Colour Change (Step 6)**

A - .The background of this symbol will be green when that group of guns is purging. Maximum number of guns is 32, split into 4 groups.

B - Operator can select if they want to purge the reclaim powder transfer pump.

C - Operator can select if they want to purge the fresh powder transfer pump.

D - This button will enable when the sequence has been completed, the operator can then press to move to the next step.

E - Remaining time left for the pump to hopper sequence.

Note: The shown icons/functions do not apply to all systems, they can be application specific or optional

Spectrum HD - Colour Change (Step 7)

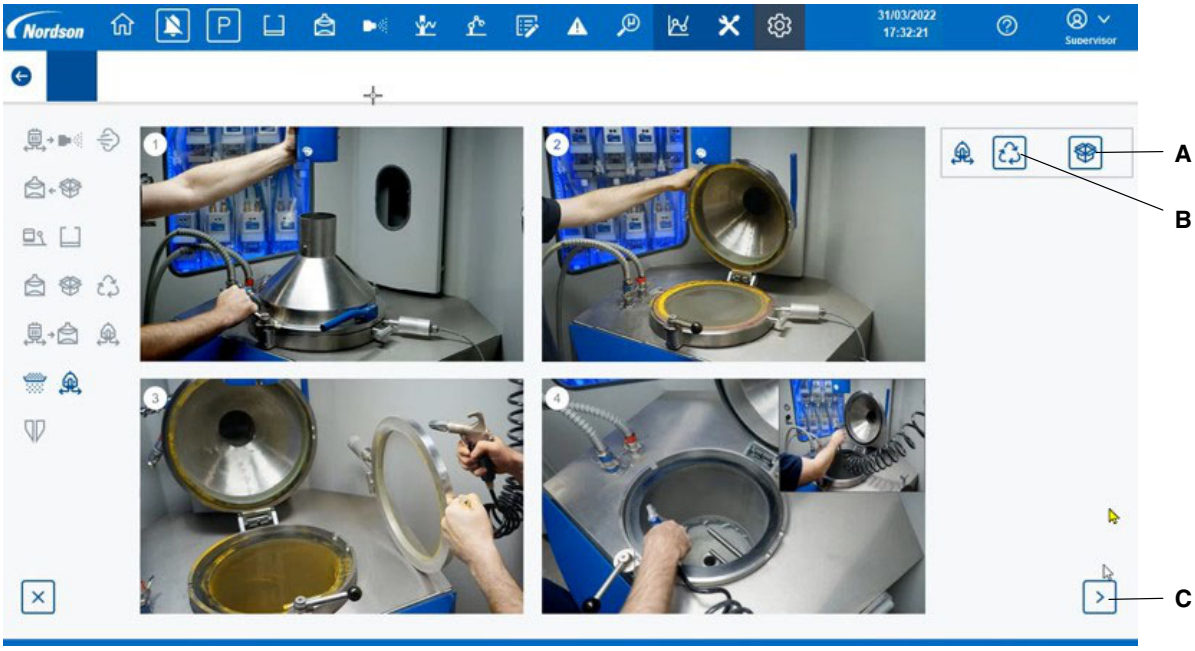


Figure 25 **Spectrum HD - Colour Change (Step 7)**

The operator needs to clean any remaining powder, following each step shown above.

A - Operator can select if they want to purge the fresh powder transfer pump.

B - Operator can select if they want to purge the reclaim powder transfer pump.

C - When the operator has completed all steps, they can press this button for next step.

Note: The shown icons/functions do not apply to all systems, they can be application specific or optional

Spectrum HD - Colour Change (Step 8)

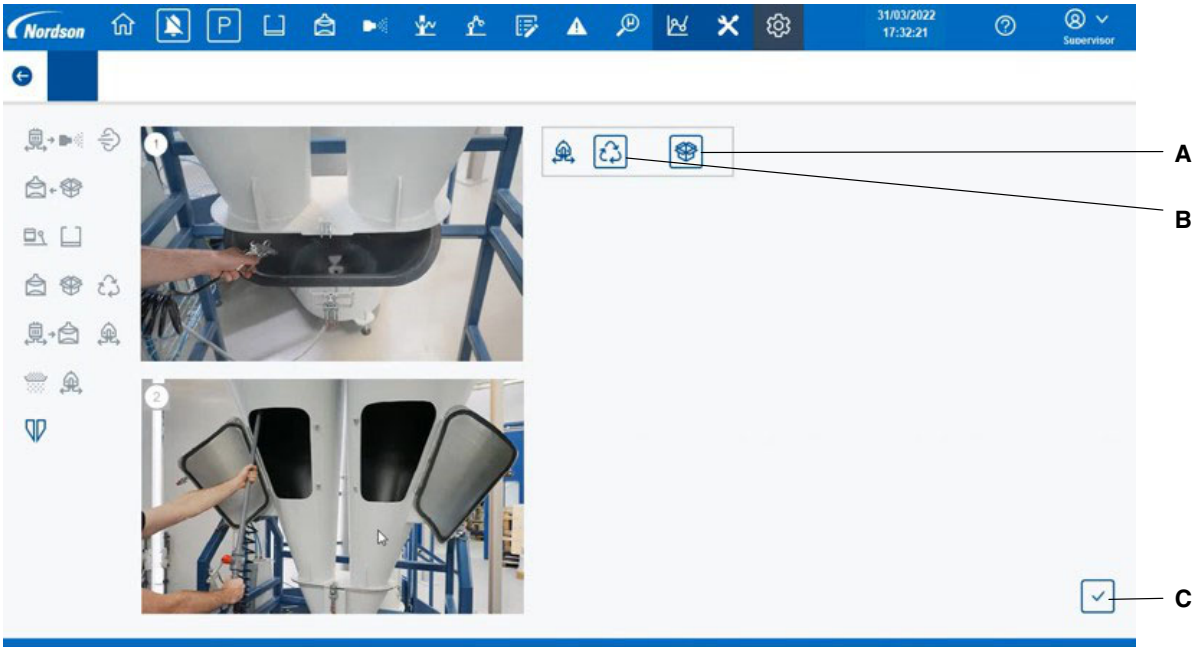


Figure 26 **Spectrum HD - Colour Change (Step 8)**

The operator needs to clean any remaining powder, following each step shown above.

A - Operator can select if they want to purge the fresh powder transfer pump.

B - Operator can select if they want to purge the reclaim powder transfer pump.

C - When the operator has completed all steps, press this button to confirm cleaning sequence finished.

Note: The shown icons/functions do not apply to all systems, they can be application specific or optional

Spectrum HD - Colour Change (Manual Control)

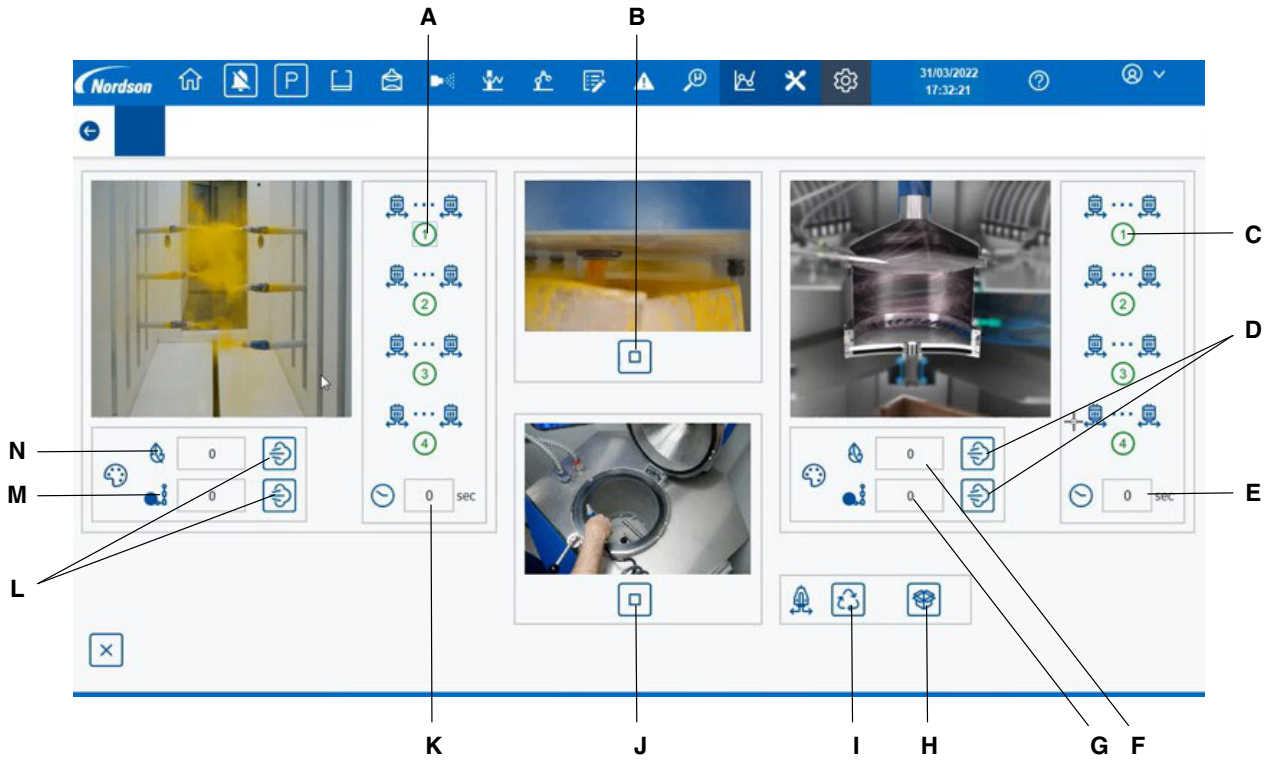


Figure 27 **Spectrum HD - Colour Change (Step 9)**

The following explains the buttons/icons for carrying out colour change in manual mode.

A - The background of this symbol will be green when that group of guns is purging. Maximum number of guns is 32, split into 4 groups.

B - Open close the dump valve.

C - The background of this symbol will be green when that group of guns is purging. Maximum number of guns is 32, split into 4 groups.

D - Start the gun to hopper purging sequence - top button if for easy cleaning powders - bottom button is for difficult powders

E - Remaining time for the gun to hopper cleaning sequence.

F - Display the number of pulses for the soft purge.

G - Display the number of pulses for the hard purge.

H - Start/Stop the fresh powder feed pump purging.

I - Start/Stop the reclaim powder feed pump purging.

J - Start/Stop the assist air.

K - Remaining time left for the pump to gun sequence.

L - Start the pump to gun purging sequence.

M - Display the number of pulses for difficult to clean powders.

N - Display the number of pulses for easy to clean powders.

Note: The shown icons/functions do not apply to all systems, they can be application specific or optional

Big Bag Bulk Feed

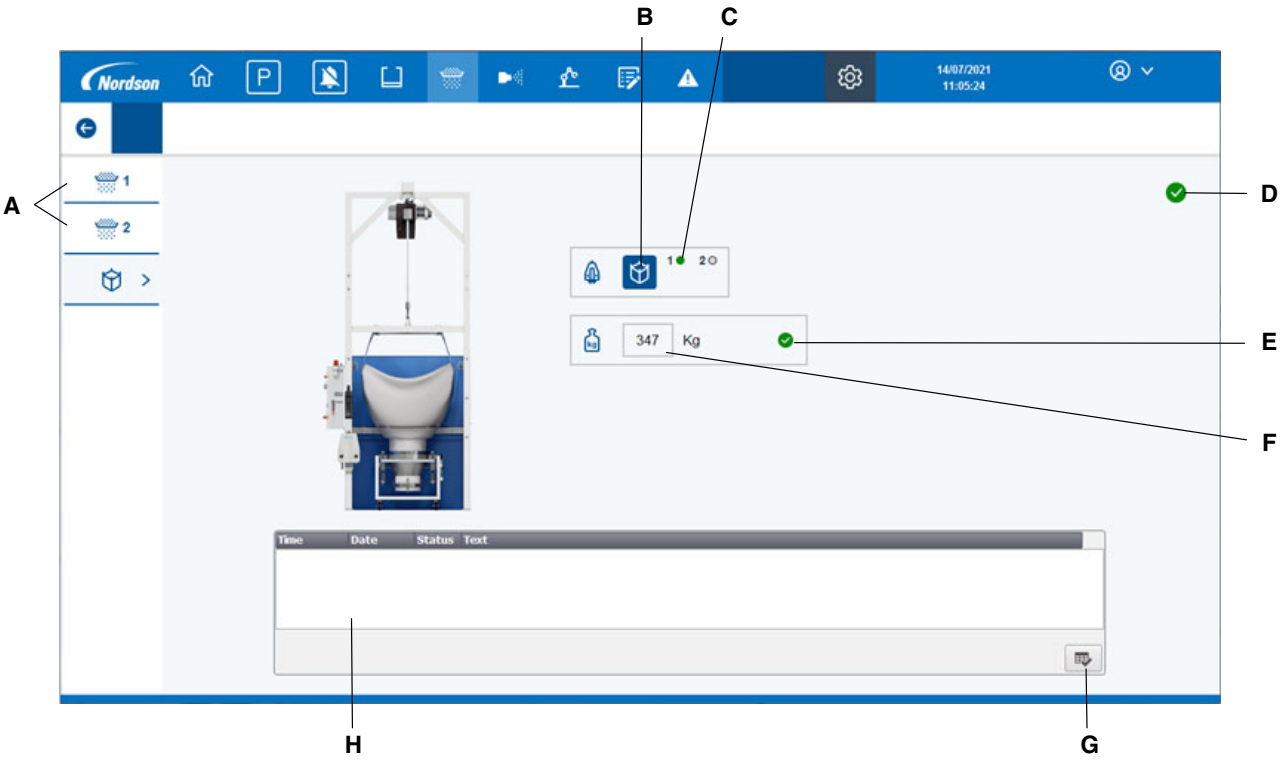


Figure 28 **Big Bag Bulk Feed Screen**

A - Press to display the desired rotary sieve control screen.

B - Press to enable or disable the big bag bulk feed pumps. The pumps are shown as enabled in this screen shot.

C - This icon lights in green when the pumps are actually pumping powder back to the rotary sieve.

D - Current health state of the big bag feed system.

E - Current health state of the powder weight in the big bag.

F - Current powder weight in the big bag.

G - Press to acknowledge any new alarms.

H - Displays any current alarms related to the big bag feed system.

Note: The shown icons/functions do not apply to all systems, they can be application specific or optional

Gun Control

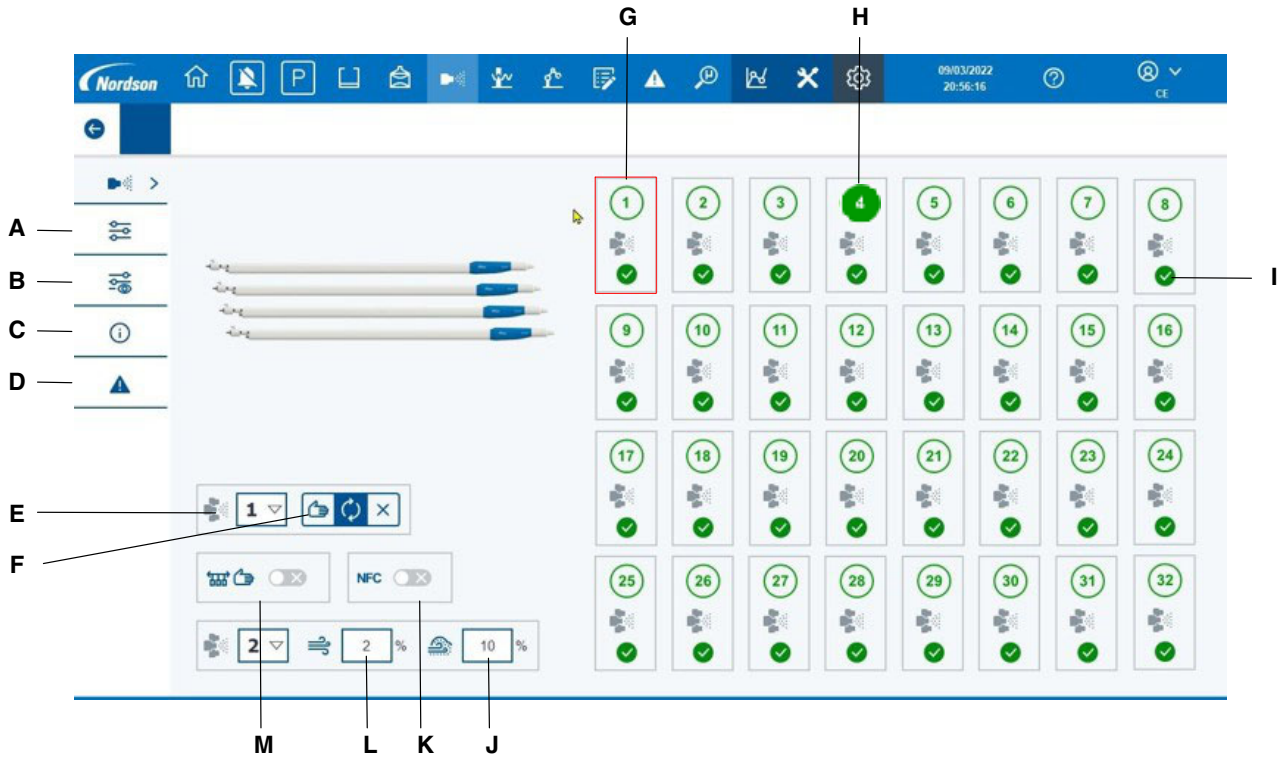


Figure 29 **Gun Control Screen**

A - Press to display the single gun setpoint screen.

B - Press to display the 16 gun setpoint screen.

C - Press to display the gun process feedback screen.

D - Press to display the gun alarm list screen.

E - Gun group selection.

F - Press to select the required gun trigger mode. These are manual, auto or always off, in that order from left to right. Auto mode triggers the guns on part detect. Manual mode triggers the guns all the time.

G - Press in this area to display the setpoint screen for that gun.

H - Current triggered state for the gun. Gun 4 is shown here as triggered and the rest as not triggered.

I - Current health state of the individual gun.

J - Press to adjust the atomising air offset. The % value entered, will increase all of the current atomising air setpoints by that amount. Entering a -% will reduce all of the current atomising air setpoints.

K - NFC Mode controls the electrostatic lower-limit range output for both kV and µA. NFC allows the user to control both kV and µA independently. NFC mode allows the user to adjust the µA setting in increments of 0.1 µA below the value of 10.0 µA.

L - Press to adjust the powder output offset. The % value entered, will increase all of the current powder setpoints by that amount. Entering a -% will reduce all of the current powder setpoints.

M - If selected as on, the guns will stop triggering in manual mode when the conveyor stops.

Note: The shown icons/functions do not apply to all systems, they can be application specific or optional

Gun Control - Single Gun Setpoints

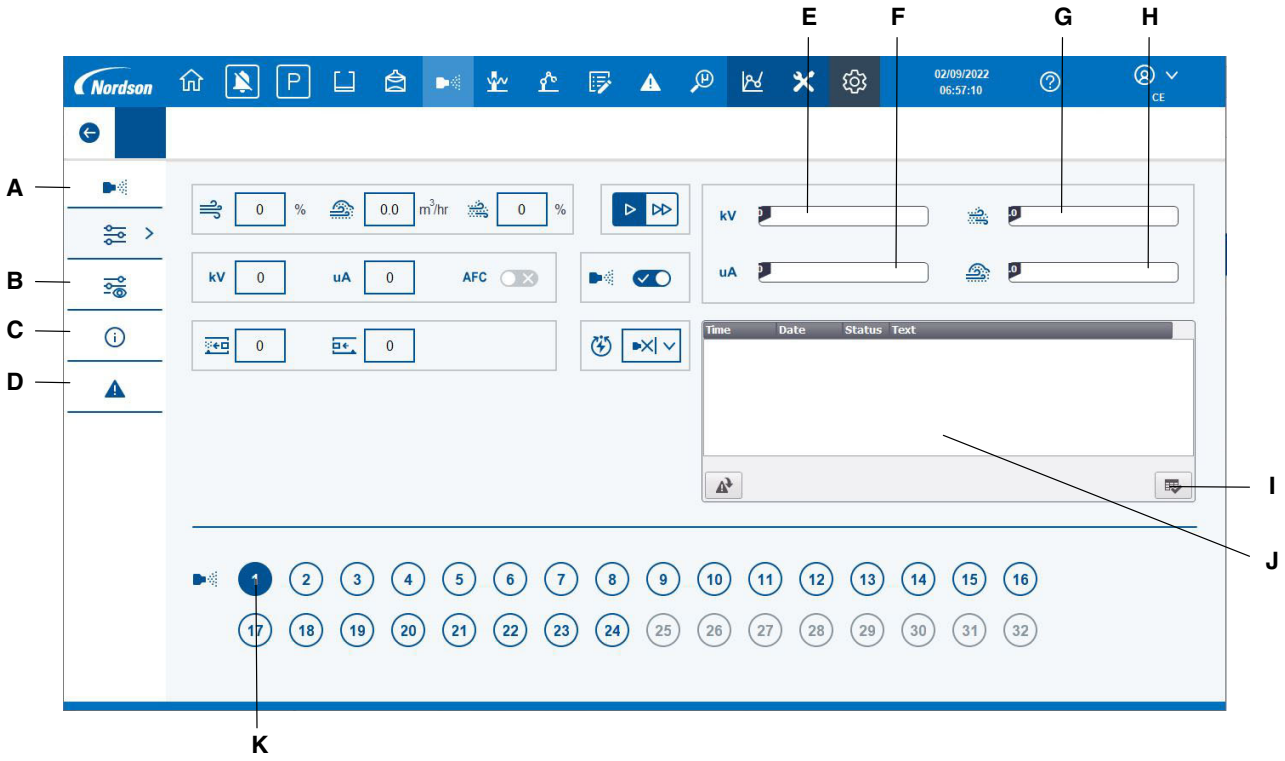


Figure 30 **Single Gun Setpoint Control Screen**

A - Press to display the gun overview screen.

B - Press to display the 16 gun setpoint screen.

C - Press to display the gun process feedback screen.

D - Press to display the gun alarm list screen.

E - KV feedback for the gun selected.

F - uA feedback for the gun selected.

G - Flow air feedback for the gun selected.

H - Atomising air feedback for the gun selected.

I - Press to acknowledge any new alarms.

J - Displays any current alarms for the gun selected.

K - Press the gun that the setpoints above are to be displayed for. Gun 1 is selected in this screenshot.

Note: The shown icons/functions do not apply to all systems, they can be application specific or optional

Gun Control - Single Gun Setpoints(contd)

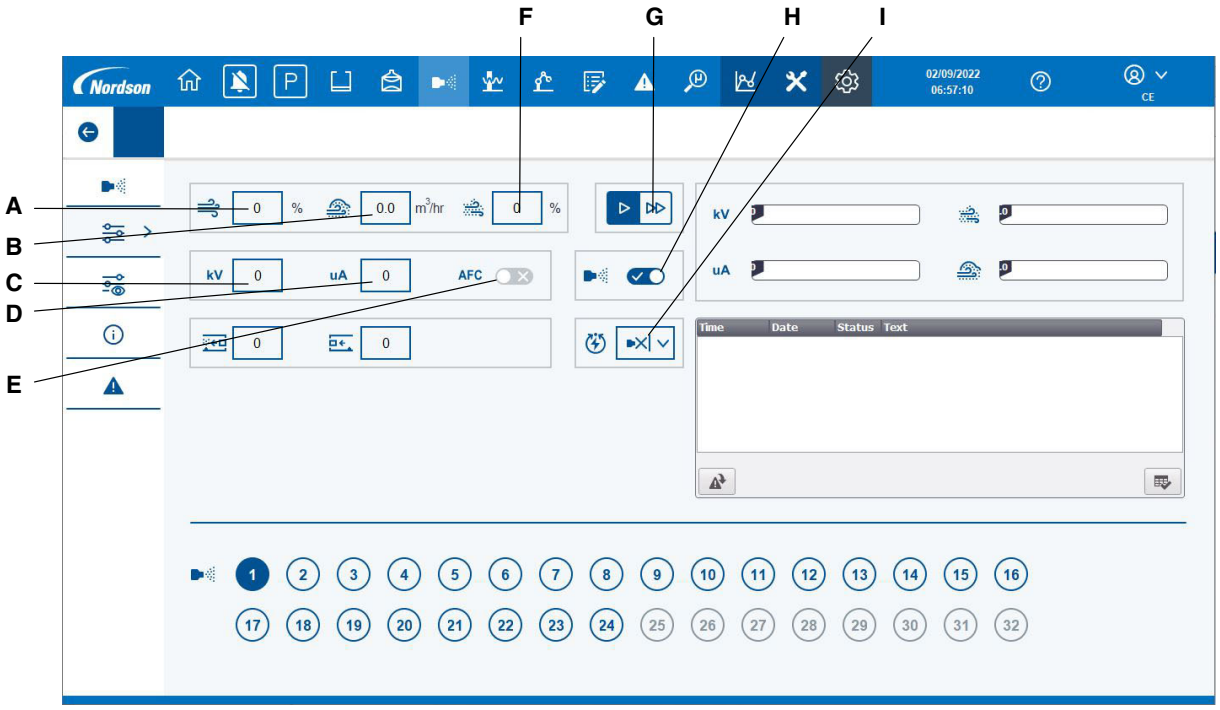


Figure 31 **Single Gun Setpoint Control Screen (Contd)**

A - Touch to set the flow rate of air.

B - Touch to set the atomising rate of air.

C - Touch to set the KV.

D - Touch to set the uA.

E - Press to set AFC mode on or off.

F - Adjust the assist air compensation value.

G - Pump in Standard or Fast mode. (Standard mode is selected here)

H - Trigger enable or disable for the gun selected.

I - Press the arrow to set the select charge mode from the drop down list.

The options are as follows

	Mode off
	Recoat
	Special powders
	Deep Cavities
	User programmable

Note: The shown icons/functions do not apply to all systems, they can be application specific or optional

Gun Control - 16 Gun Setpoints

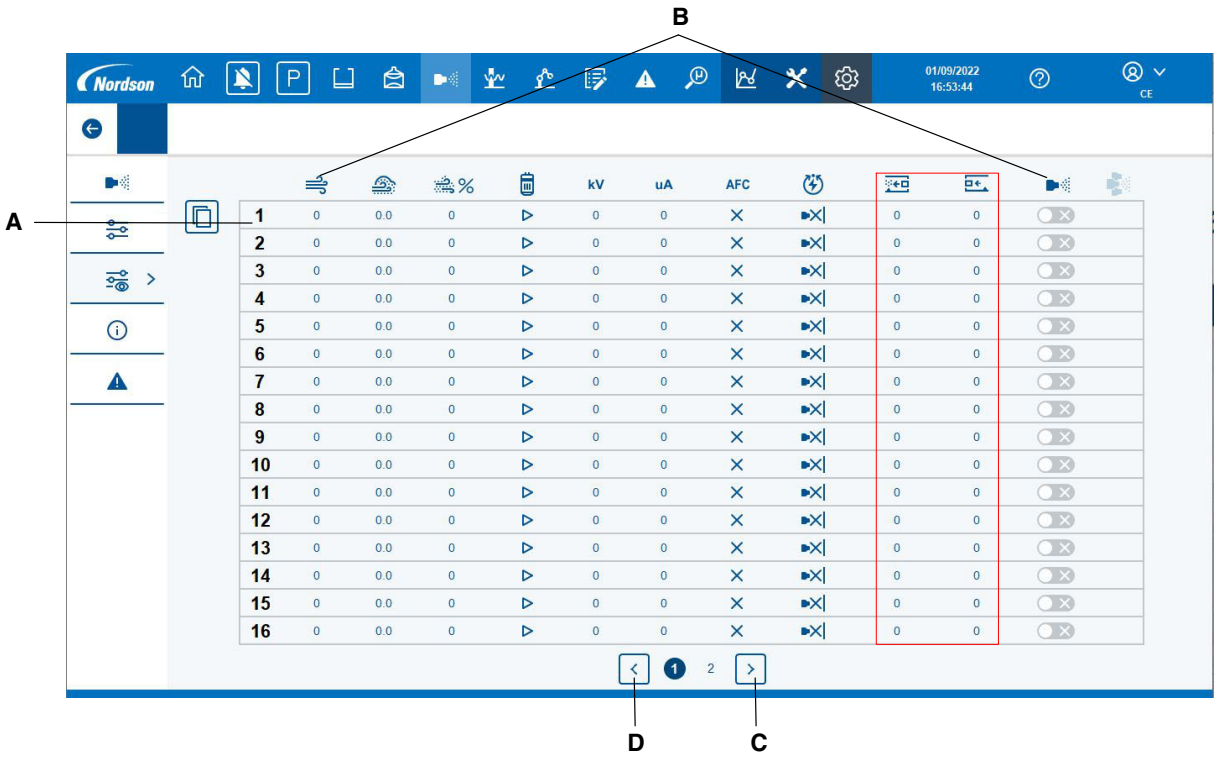


Figure 32 **16 Gun Setpoint Control Screen**

This screen allows the overview and adjustment of the setpoints for 16 guns at a time. Touch any icon or value in the table to make a change.

A - Gun number. All setpoints for that gun are in one row.

B - Setpoints as described on the previous page.

C - Move to next group of 16 guns.

D - Move to previous group of 16 guns.

The columns highlighted in red set the before spray & after spray dimensions for each gun. The before spray dimension sets how many millimetres before the part reaches the gun that it will turn on. The after spray dimension sets how many millimetres after the part has passed the gun before it will turn off.

Note: The shown icons/functions do not apply to all systems, they can be application specific or optional

Gun Control - 16 Gun Setpoints(contd)

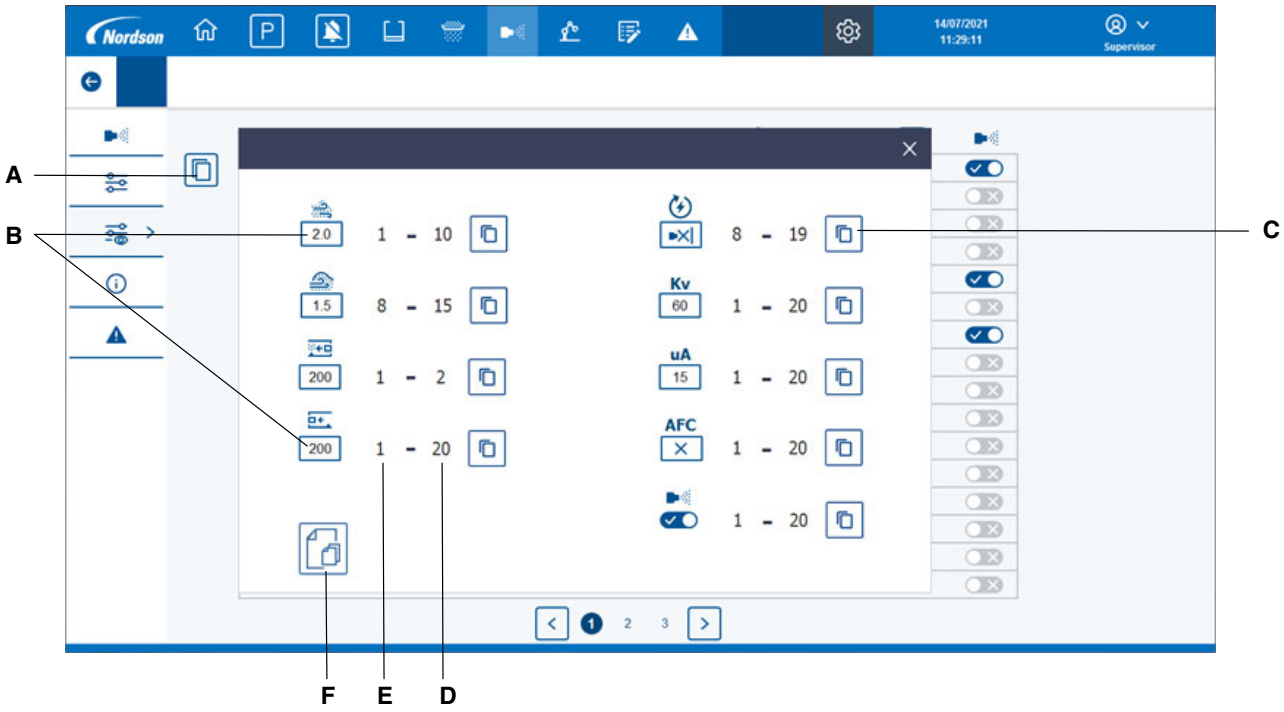


Figure 33 **16 Gun Setpoint Control Screen - Contd.**

A - Press to display the group setting pop up window as shown. This is used to send setpoints to multiple guns at the same time.

B - Setpoint to send to multiple guns.

C - Press to copy that single setpoint to its range of guns.

D - Ending gun of the range to copy the setpoint to.

E - Starting gun of the range to copy the setpoint to.

F - Press to copy 16 setpoints at the same time.

Note: The shown icons/functions do not apply to all systems, they can be application specific or optional

Gun Control - 16 Gun Feedback

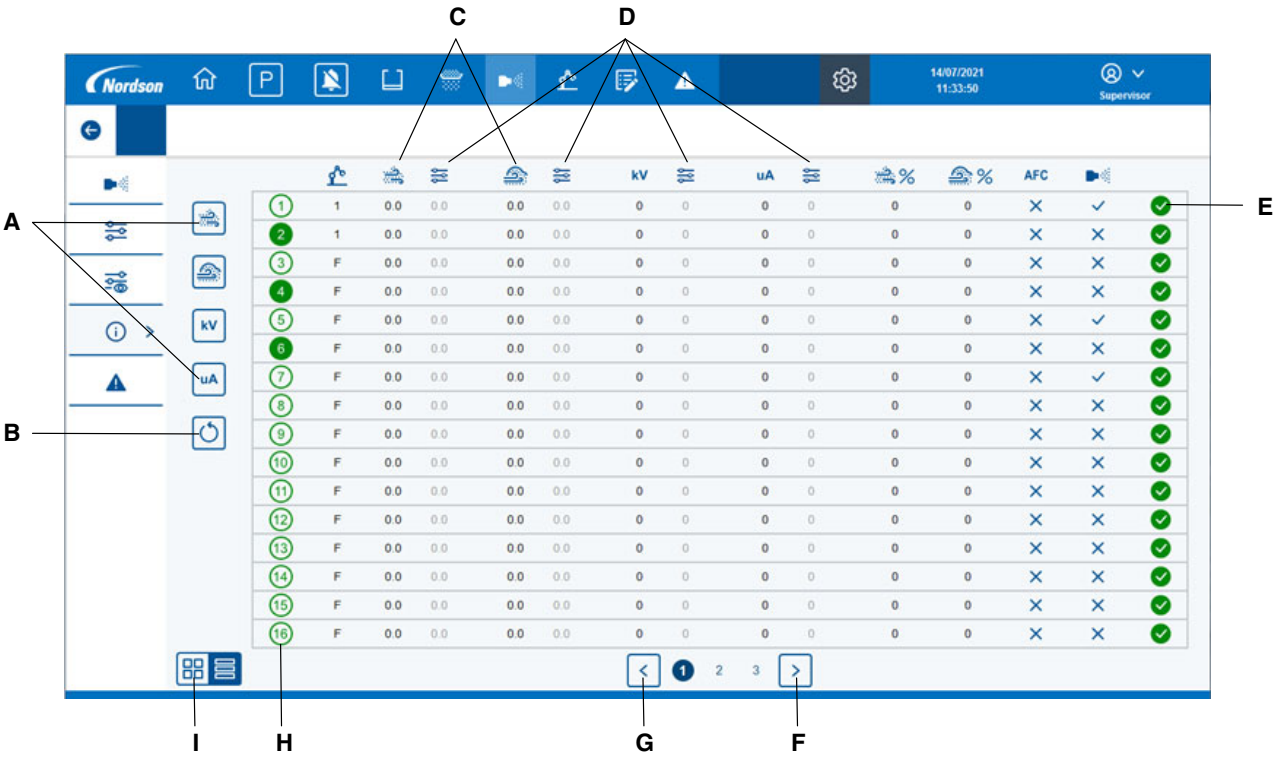


Figure 34 **16 Gun Feedback Screen**

This screen displays the process feedback values for a group of 16 guns at a time.

A - Hides all other feedback values except the one selected.

B - Resets the filter and displays all feedback values.

C - Current feedback values.

D - Current setpoints requested.

E - Current health state of the gun.

F - Move to next group of 16 guns.

G - Move to previous group of 16 guns.

H - Current triggered states.

I - Display feedback for 8 guns at a time.

Note: The shown icons/functions do not apply to all systems, they can be application specific or optional

Gun Control - 8 Gun Feedback

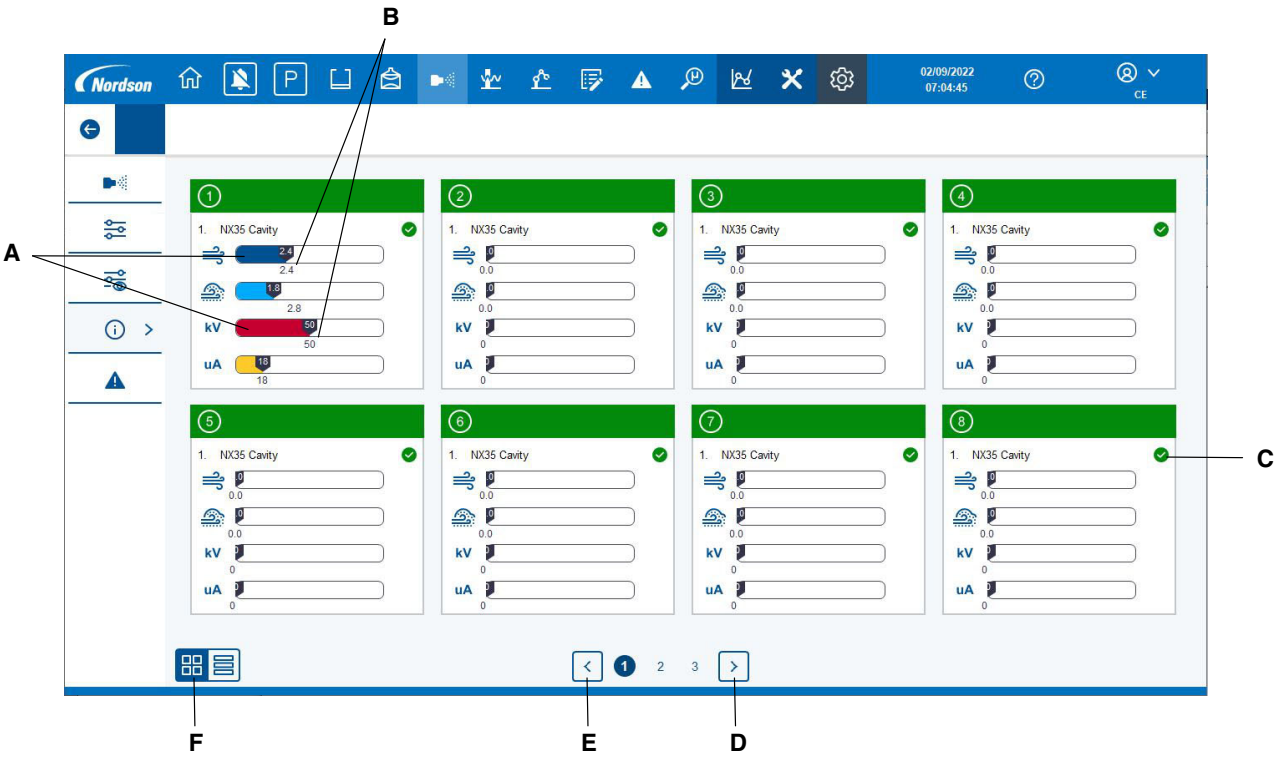


Figure 35 **8 Gun Feedback Screen**

This screen displays the process feedback values for a group of 8 guns at a time.

A - Current feedback values.

B - Setpoints requested.

C - Current health state of this gun.

D - Move to next group of 8 guns.

E - Move to previous group of 8 guns.

F - Display feedback for all guns at once.

Note: The shown icons/functions do not apply to all systems, they can be application specific or optional

Gun Control - Gun Alarm List

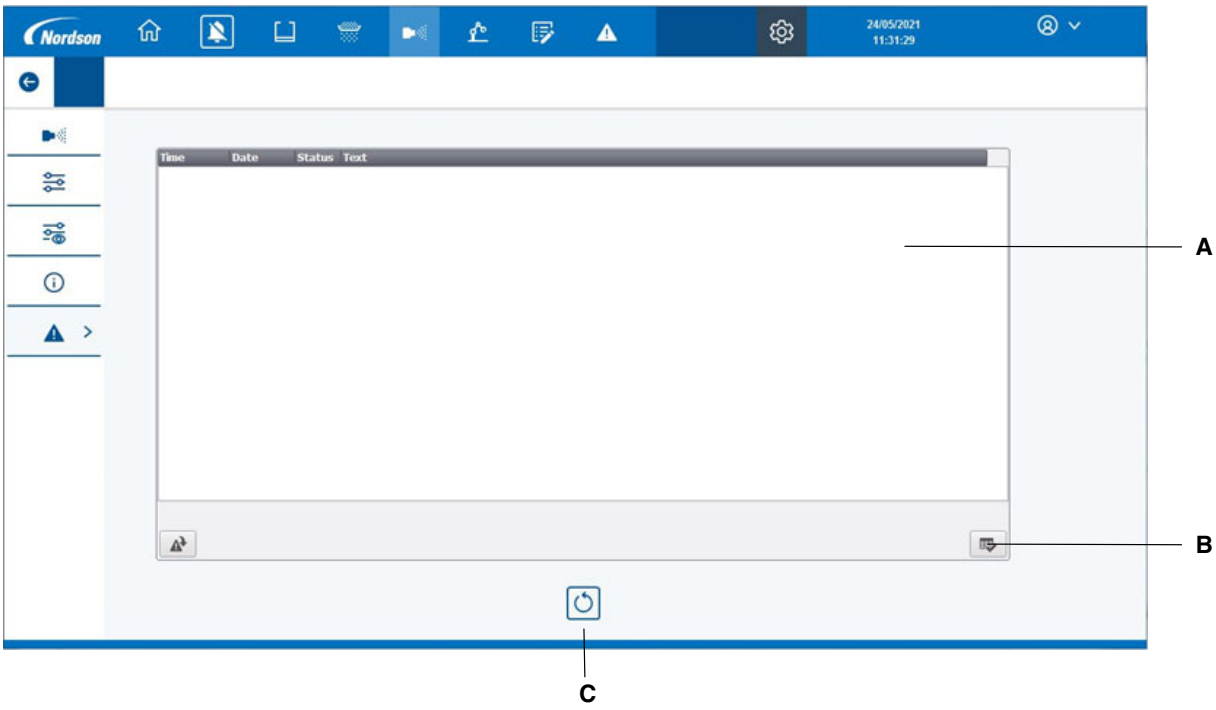


Figure 36 **Gun Alarm List Screen**

This screen displays alarms associated with any of the guns. See Appendix A for detailed information.

A - Displays any current alarms associated with the guns.

B - Press to acknowledge any new alarms.

C - Press to reset any gun control card faults.

Note: The shown icons/functions do not apply to all systems, they can be application specific or optional

Reciprocator Control

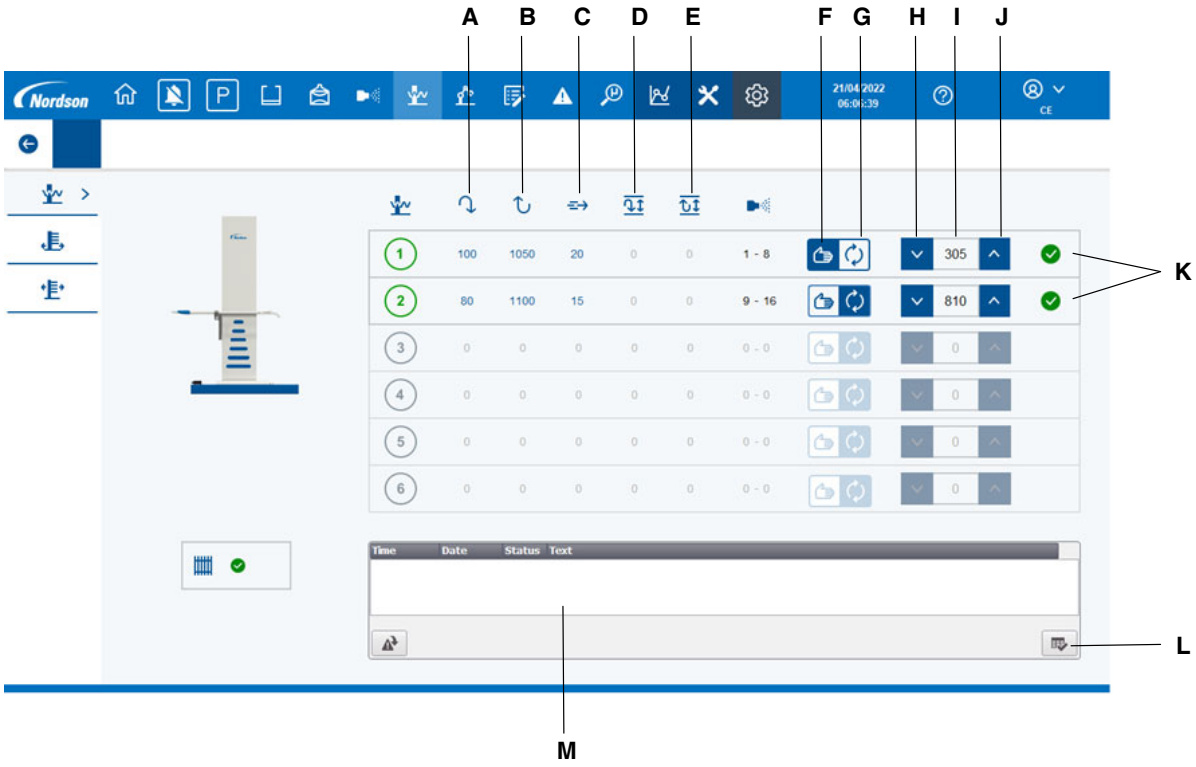


Figure 37 **Reciprocator Control Screen**

A - Reciprocator top turn around point

B - Reciprocator Bottom turn around point

C - Reciprocator speed

D - Variable stroke over stroke distance

E - Variable stroke under stroke distance

F - Reciprocator manual mode

G - Reciprocator automatic mode

H - Reciprocator Manually move down

I - Reciprocator current position

J - Reciprocator Manually move up

K - Current health state of the reciprocator control system

L - Press to acknowledge any new alarms, related to the reciprocators

M - Displays any current alarms

Note: The shown icons/functions do not apply to all systems, they can be application specific or optional

Z-Axis Control

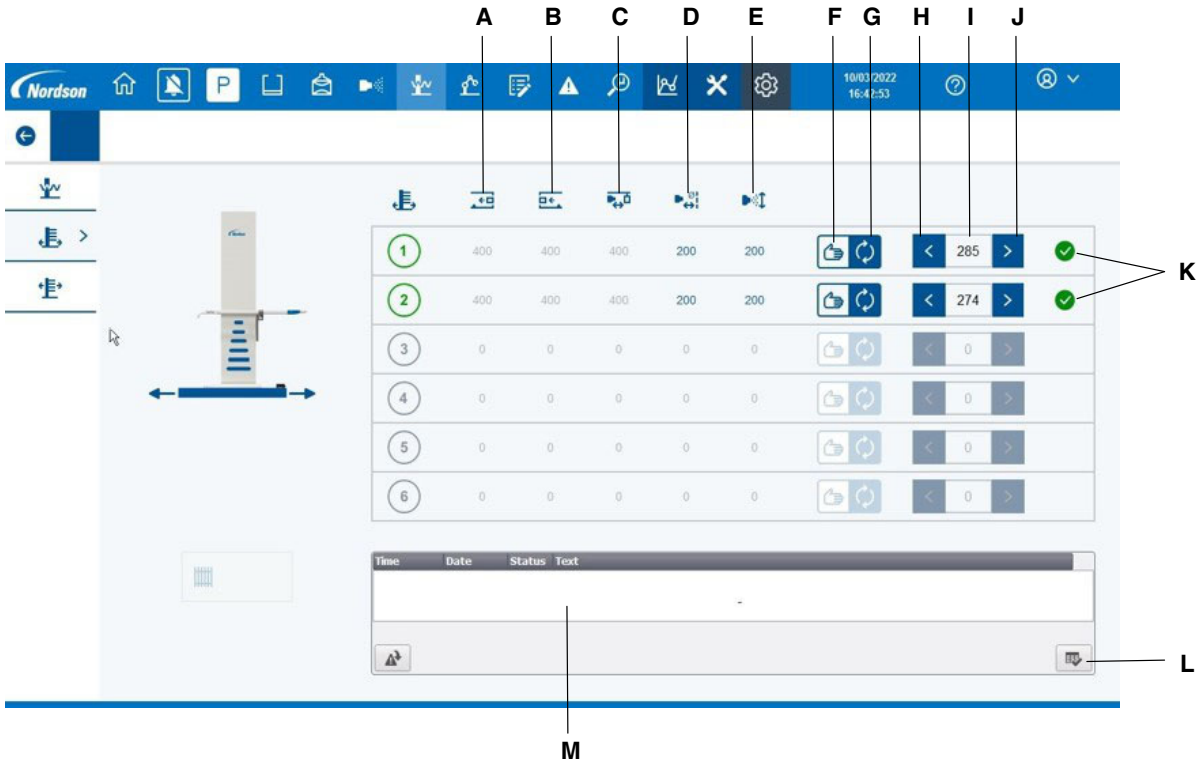


Figure 38 **Z-Axis Control Screen**

A - Distance to move before the part

B - Distance to move after the part

C - Distance from gun to part

D - Fixed mode gun position

E - Fan pattern width

F - Reciprocator manual mode (currently shown in automatic mode)

G - Reciprocator automatic mode

H - Reciprocator manually move out

I - Reciprocator current position

J - Reciprocator Manually move in

K - Current health state of the reciprocator control system

L - Press to acknowledge any new alarms

M - Displays any current alarms

Note: The shown icons/functions do not apply to all systems, they can be application specific or optional

Program Edit

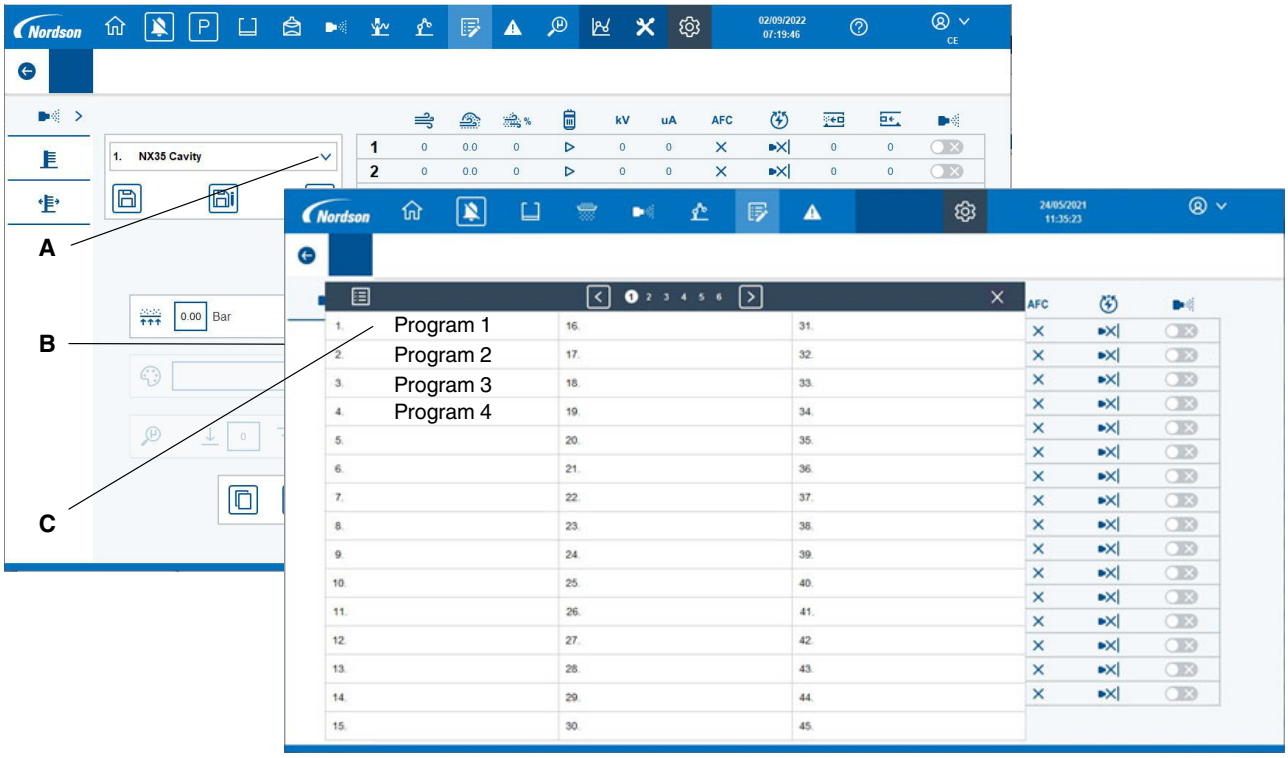


Figure 39 **Program Edit Screen**

The system has 255 programs available for use. Follow these steps to edit a program:

- Press the drop down arrow (A) to display a program selection screen (B)
- Touch on the program number or name of the program to be edited (C)

Note: The shown icons/functions do not apply to all systems, they can be application specific or optional

Program Edit(contd)

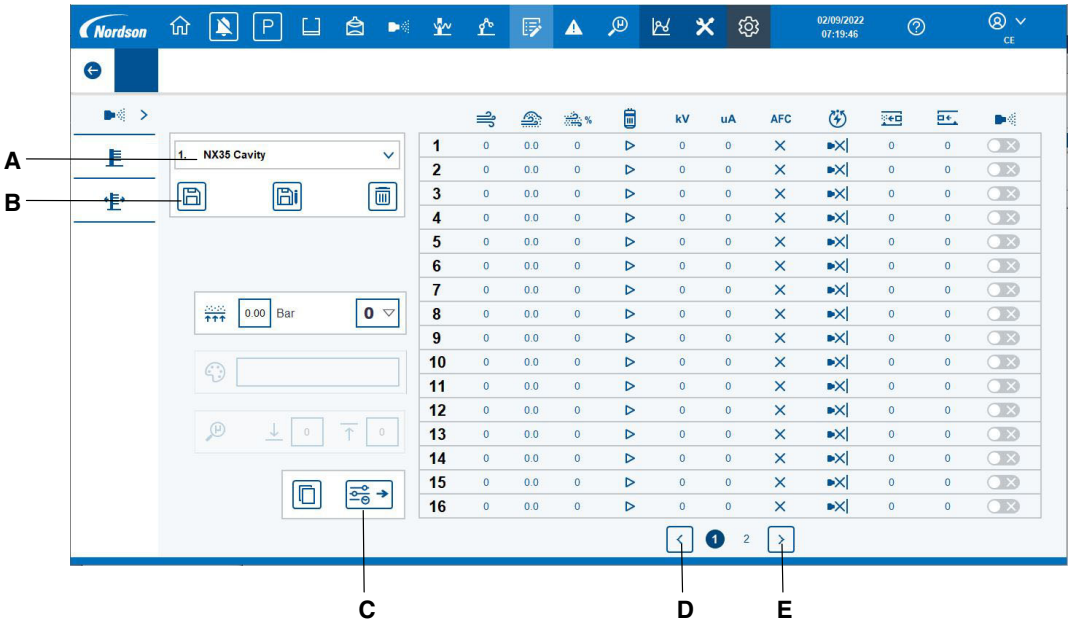


Figure 40 **Program Edit Screen - Contd.**

- The data previously stored in this program will now be displayed. Touch any value to adjust it. This includes the program name. Touch the name area (A) and enter the program name required.
  - Alternatively, press button (C) to copy the current settings being used by the guns into the program edit table
- Press the Save button (B) to store the changes.

D - Display the previous 16 guns.

E - Display the next 16 guns.

Note: The shown icons/functions do not apply to all systems, they can be application specific or optional

Program Edit(contd)

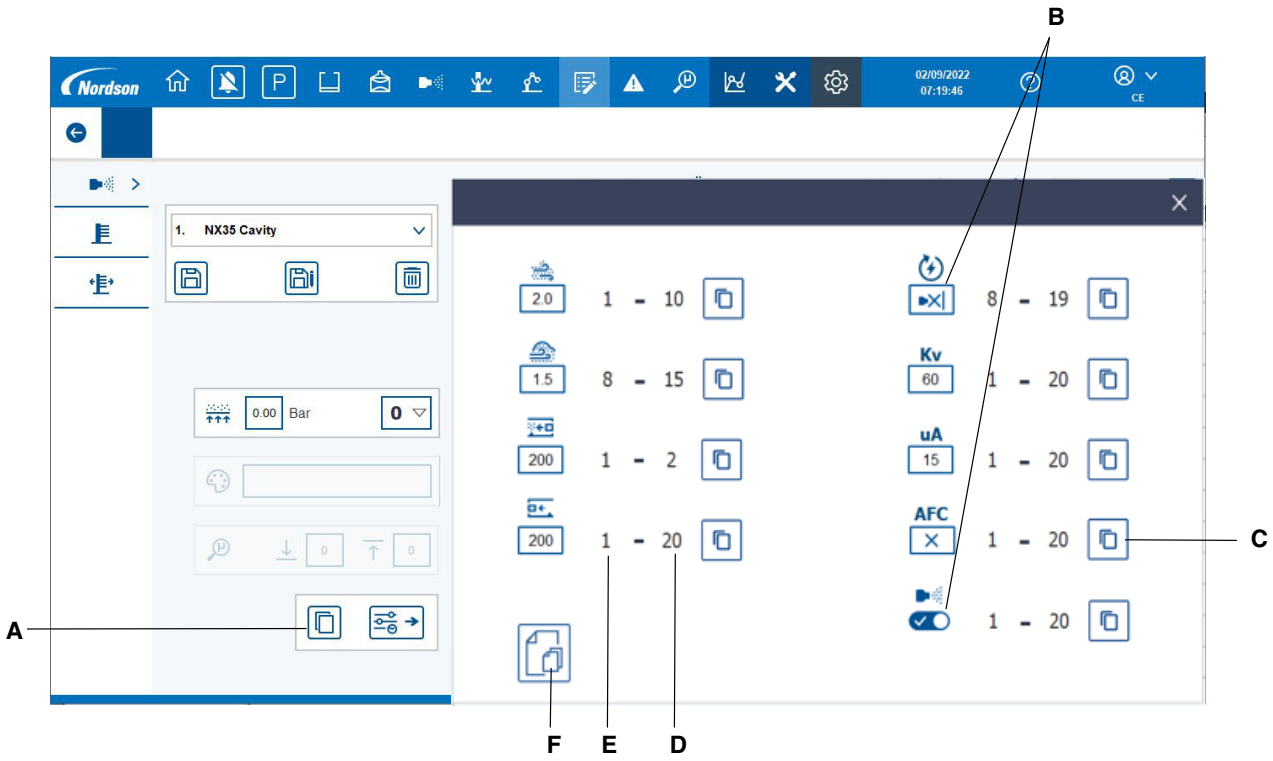


Figure 41 **Program Edit Screen (Contd) - Group Setting**

A - Press this button to display the group setting pop up window as shown. This is used to send setpoints to multiple guns at the same time.

B - Setpoint to send to multiple guns.

C - Press to copy that single setpoint to its range of guns.

D - Ending gun of the range to copy the setpoint to.

E - Starting gun of the range to copy the setpoint to.

F - Press to copy all setpoints at the same time.

Note: The shown icons/functions do not apply to all systems, they can be application specific or optional

Program Edit(contd)

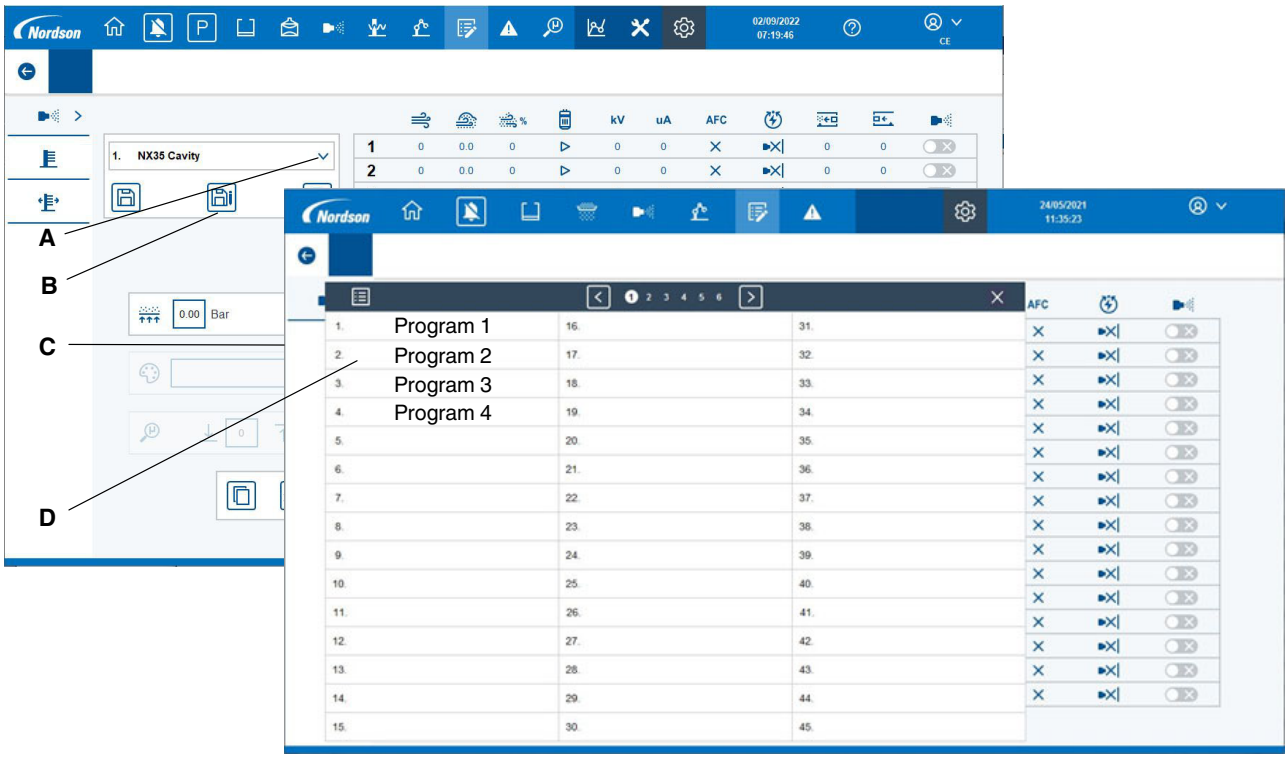


Figure 42 **Program Edit Screen (Contd) - Save As Another Program**

To save the data in a program into a different program follow these steps:

- Press button (A) to load the program to be copied as described on page 32.
- Press the Save As button (B) to display the program selection window (C).
- Touch the program number (D) to copy into. All data including the program name will be copied into the new program loaction.

Note: The shown icons/functions do not apply to all systems, they can be application specific or optional

Program Delete

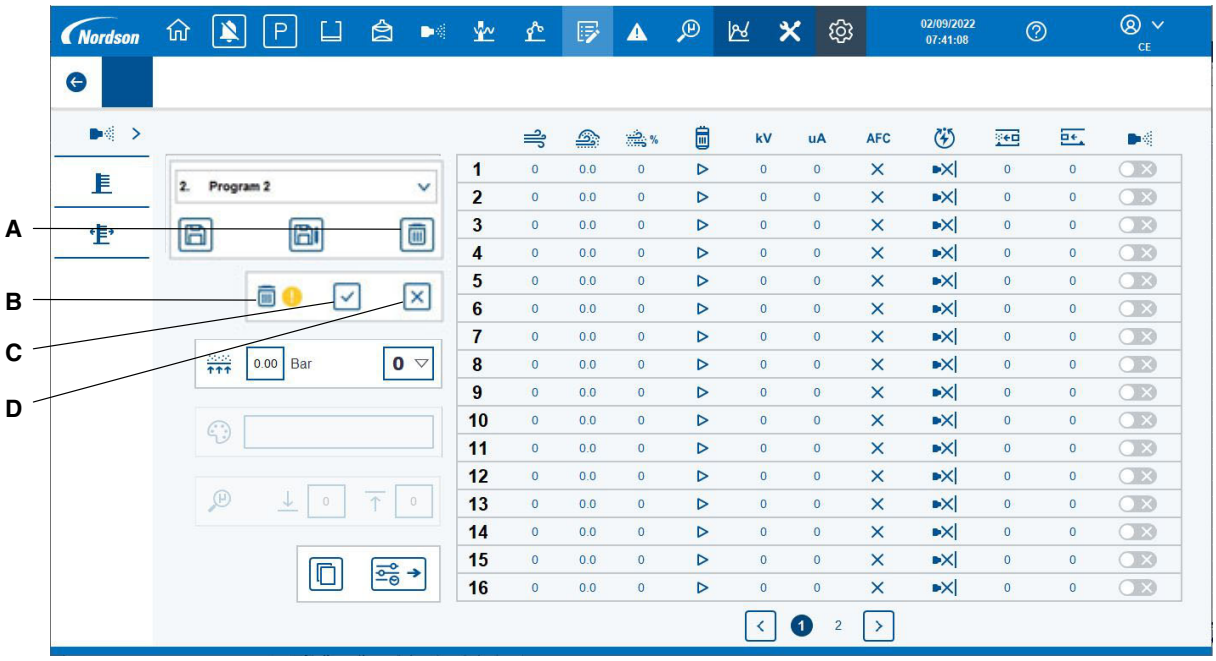


Figure 43 **Program Delete Screen**

To delete one of these program's data, follow these steps:

- Select the program to delete as shown on page 32.
- Press the delete button (A). A confirmation window will appear (B).
- Press the button (C) to delete the program data.
- Or, press the button (D) to cancel the delete process.
- When the delete process is complete, the name window will be empty and all table entries will show zero.

Note: The shown icons/functions do not apply to all systems, they can be application specific or optional

System Alarm List

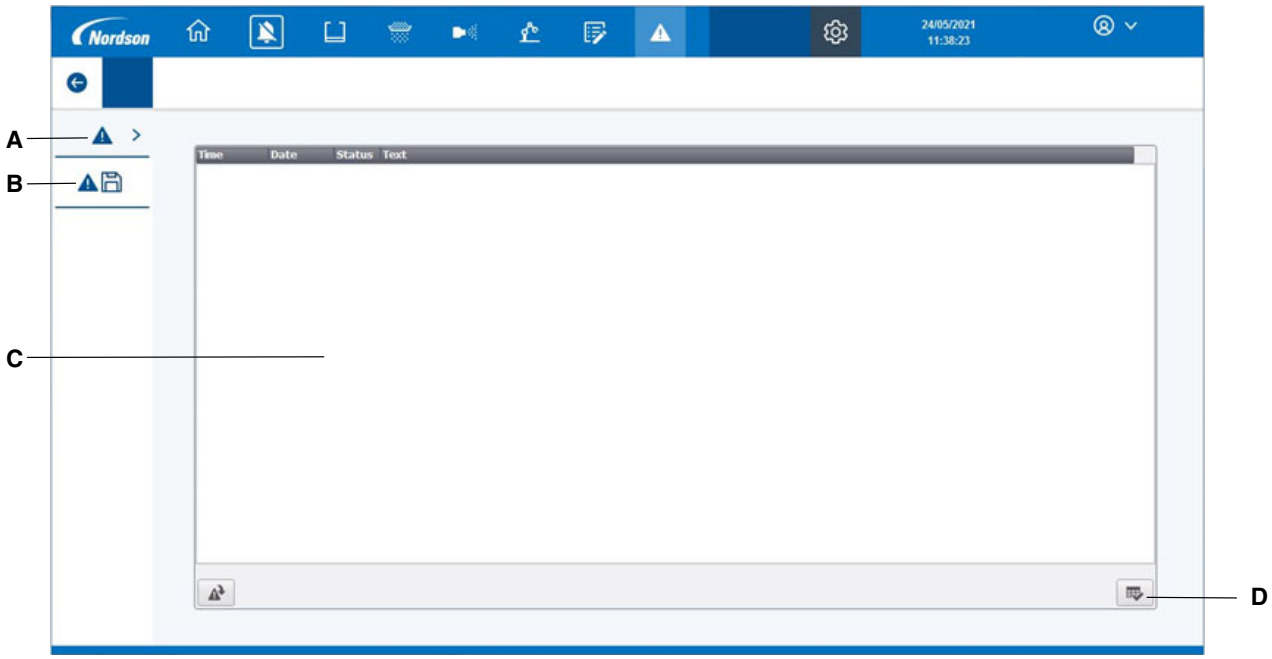


Figure 44 **System Alarm List Screen**

This screen displays alarms associated with the system. See Appendix A for detailed information.

A - Press to display current active alarms.

B - Press to display historical alarms.

C - This ares will display any current or historical alarms.

D - Press to acknowledge any new alarms.

Note: The shown icons/functions do not apply to all systems, they can be application specific or optional.

Maintenance

The PowderPilot™ 4.X has been tested according to the following Standards:

DIN VDE 0113 / EN 60204 / BGV A3

As part of your annual maintenance program, the PowderPilot™ 4.X should be tested to the same Standards by your chosen qualified engineer.

NOTE: Information regarding maintenance can also be found in other product specific technical manuals.

Troubleshooting

WARNING: Allow only qualified personnel to perform the following tasks. Follow the safety instructions in this document and all other related documentation.

If you cannot solve a problem with the information given on the Alarm List, contact your local Nordson representative for help.

Alarm Code & Message	Corrective Action
Afterfilter	
AF-1 After filter fault. See local filter panel for detail	Check the after filter control panel for alarms. Is the cartridge cleaning active? Is the DP value above its limit? Are cartridges properly cleaned?
AF-2 The after filter controller is not responding to run / stop command	Check if the fan is running after the booth start button has been pressed. Check for any alarms on the filter panel.
AF-3 After filter primary cartridge differential pressure is high	Check if cartridge filters are blocked and replace as required.
AF-4 After filter dust emissions are high	Check filters integrity and replace as required. Also check seals are in tact.
AF-5 Incoming mains air pressure to the after filter is low	Check local supply regulator & gauge. Adjust to 6 bar dynamic pressure.
Part Detection	
BA-1 Communication lost to the left hand horizontal beam array	Check the Ethernet cable from the Powder Pilot to the faulty part detection beam array is connected correctly at both ends and not damaged in any way.
BA-2 Communication lost to the right hand horizontal beam array	
BA-3 Communication lost to the upper vertical beam array	
BA-4 Communication lost to the lower vertical beam array	
Booth	
BO-1 Part collision warning. Booth doors are closed	Open the booth doors fully and restart the conveyor.
BO-2 Extraction flow switch is not detecting flow	Check if there is enough extraction and the flow switch is working properly. Check the flow switch inside the duct for impact fusion or dirt etc. Always check booth extraction when adjusting the flow switch. Check the after filter cartridges for excessive powder build up.
BO-3 Incoming mains air pressure to booth base is low	Check the compressor supplying mains air pressure to the booth.
BO-4 A mover safety gate has been opened	Ensure all personnel are removed from within the safety cage area and close the safety gate. Then press the safety reset button on the Powder Pilot panel.
BO-5 Mover safety light barrier 1 has been tripped	Ensure all personnel are removed from within the mover safety area. Then press the safety reset button on the Powder Pilot panel.
BO-6 Mover safety light barrier 2 has been tripped	
Colour Change	

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Alarm Code & Message	Corrective Action
CC-1 The movers are not ready for colour change	Ensure all reciprocator and Z-axis are set to automatic mode.
CC-2 Insufficient booth airflow to continue colour change. Colour change was aborted	Ensure all ductwork & cyclone hatches & hoppers are closed until instructed to open at the last step of the colour change sequence.
Emergency Stop	
ES-1 Emergency stop system needs to be reset	Pull out emergency stop button and press the blue reset button on Powder Pilot.
Feed Centre	
FC-1 Mains air pressure to feed centre is low or off	Check local supply regulator and gauge. Adjust to 6 bar dynamic pressure.
FC-2 Ultrasonic sieve not responding as commanded	The sieve is either not running when started or running after being stopped. Check the sieve controller for any error indicators lit.
FC-3 Ultrasonic sieve Error	Check the sieve controller for any error indicators lit.
FC-4 Ultrasonic sieve tripped	Reset the relevant circuit breaker identifiable from the system drawings provided.
FC-5 The powder hopper level probe signals are implausible	Check the sensitivity setting on each level probe.
FC-6 Low powder level. Check the bulk feeder	Ensure the fresh powder big bag system is set to automatic mode. Check the fresh powder big bag is not empty.
FC-7 Table vibrator tripped	Reset the relevant circuit breaker identifiable from the system drawings provided.
FC-8 Mains air pressure to the feed centre is low	Check local supply regulator and gauge. Adjust to 6 bar dynamic pressure.
FC-9 Powder low level in feed centre box	Replace the powder box with a new one.
FC-10 Powder level probes did not initialise correctly	Check the Ethernet cable from the Powder Pilot to the level probe control block on the rotary sieve is connected correctly at both ends and not damaged in any way.
FC-11 Powder level probes did not receive setpoints correctly	
Fire Detection	
FD-1 STS minor fault detected	Check the STS system is on: check for low battery and/or dirty flame detectors, also inside the feedcenter duct, check for loss of extinguishing agent and weight of the CO2 bottle.

Continued...

Alarm Code & Message	Corrective Action
All Guns	
GN-1 Gun control KV rack tripped	Reset the relevant circuit breaker, identifiable from the system drawings provided.
GN-2 Pump rack panel supply has tripped	Reset the relevant circuit breaker, identifiable from the system drawings provided.
GN-3 Gun controller gateway communication has been lost	Ensure the Ethernet cable between the Powder Pilot and the gun control console is not damaged and properly connected at both ends.
GN-4 Communication to the gun control cards is lost	Ensure the gateway card located in slot 9 of the gun control card rack is fully inserted.
GN-5 Mains air pressure to stand alone pump panel is low or off	Check local supply regulator & gauge. Adjust to 6 bar dynamic pressure.
Gun Specific - # will be replaced with specific gun number	
GN# -1 Gun # uA out of range alarm	Check gun cable is connected and in good condition. Check multiplier in gun. (see associated gun manual for details)
GN# -2 Gun # over current fault detected. Foldback enabled	Check the gun nozzle is not clogged with powder. Check the electrode is intact and straight.
GN# -3 Gun # feedback fault. No uA feedback detected	Check the gun cable is connected to the gun correctly and not damaged.
GN# -4 Gun # multiplier open circuit detected	Check the gun cable is connected to the gun correctly and not damaged. If ok, replace the gun multiplier.
GN# -5 Gun # multiplier short circuit detected	Check the gun cable is connected to the gun correctly and not damaged. If ok, replace the gun multiplier.
GN# -6 Gun # controller hardware fault detected	Replace the dual gun control card located in the gun control console.
GN# -7 Gun # spray gun not detected	Check the gun cable is properly connected at the gun control console.
GN# -8 Gun # KV card 24V supply lost	Check the DC power supply unit located in the gun control console.
GN# -9 Gun # communication lost to the pump control card	Ensure the CAN IN and CAN OUT connectors on the relevant pump control board are located properly.
GN# -10 Gun # Pump control card 24V supply lost	Check the DC power supply unit located in the pump control cabinet.
GN# -11 Gun # pump general alarm	Contact your Nordson technical representative.
GN# -12 Gun # Reserved pump alarm	
GN# -13 Gun # pump assist air is higher than setpoint	Replace the relevant pump control board.
GN# -14 Gun # pump pattern air is higher than setpoint	Replace the relevant pump control board.
GN# -15 Gun # pump assist air is lower than setpoint	Check the incoming mains air supply is above 6 Bar. Check that the powder tube from the pump to the gun is not kinked or trapped at any point along its length.

Continued...

Alarm Code & Message	Corrective Action
GN# -16 Gun # pump pattern air is lower than setpoint	Check the incoming mains air supply is above 6 Bar. Check that pattern air pneumatic tubing from pump control cabinet to the gun is not kinked or trapped at any point along its length.
GN# -17 Communication lost to Guns 1 & 2 KV control card	Ensure the relevant KV control card is fully located in its slot.
GN# -18 Communication lost to Guns 1 & 2 pump control card	Ensure the CAN IN and CAN OUT connectors on the relevant pump control board are located properly.
GN# -19 Gun pump # inspection is now due	Perform the required preventative maintenance inspection of the pump.
GN# -20 Gun # communication lost to the pump control card	Ensure the multicore connector cable in and out of the pump control board is located properly.
GN# -21 Gun # Pump control card 24V supply lost	Check the DC power supply unit located in the gun control cabinet.
GN# -22 Gun # pump general alarm	Contact your Nordson technical representative.
GN# -23 Gun # flow air output is lower than the setpoint requested	Check the incoming mains air supply is above 6 Bar. Check that the pneumatic tubing from gun console to the pump is not kinked or trapped at any point along its length.
GN# -24 Gun # atomising air output is lower than the setpoint requested	Check the incoming mains air supply is above 6 Bar. Check that the pneumatic tubing from gun console to the pump is not kinked or trapped at any point along its length.
GN# -25 Gun # reserved alarm	
GN# -26 Gun # atomising air control valve fault	Replace the relevant iFlow module located in the gun control console.
GN# -27 Gun # flow air control valve fault	Replace the relevant iFlow module located in the gun control console.

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Alarm Code & Message	Corrective Action
Reciprocators - # will be replaced with specific reciprocator number	
RC# -1 Reciprocator # has not initialised	Check if the safety cages are open and if so, close them. Try to power off the system, wait 10 seconds and switch on again.
RC# -2 Reciprocator # inverter drive fault	
RC# -3 Reciprocator # has over travelled its top limit	Set the reciprocator to manual mode and bring it back into range in the middle of its stroke.
RC# -4 Reciprocator # has over travelled its bottom limit	
RC# -5 Reciprocator # is not sensed as moving on command	Check reciprocator encoder is functioning. Check drive system is not restricted.
RC# -6 Reciprocator # inverter drive has tripped	Check relevant circuit breaker, identifiable from the system drawings provided.
RC# -7 Reciprocator # turn around limits are too close or inverted	Open out the turn around limits to make the stroke longer. If running a short stroke, reduce the speed.
RC# -8 Reciprocator # stroke requested is out of range. Default limits being applied	In variable stroke mode, check the hangers are being detected and adjust the hanger filter values on the booth configuration screen.
RC# -9 Reciprocator # calculated speed is too high. Default speed is being applied	In variable speed mode the speed required for the reciprocators is calculated from the conveyor speed. This calculation has violated the speed limits of the reciprocators. Reduce the conveyor speed, the number of laps from the booth configuration or the stroke.
Z-Axis - # will be replaced with specific Z-axis number	
ZA# -1 Z-axis # has not initialised	Check if the safety cages are open and if so, close them. Try to power off the system, wait 10 seconds and switch on again.
ZA# -2 Z-axis # inverter drive fault	
ZA# -3 Z-axis # has over travelled its front limit	Set the mover to manual and try to drive it out and off the limit switch, watch the yellow limit switch icon on the screen. If the problem persists check the limit switch and cabling are in good working order.
ZA# -4 Z-axis # has over travelled its back limit	
ZA# -5 Z-axis # is not sensed as moving on command	Check z-axis encoder is functioning. Check drive system is not restricted.
ZA# -6 Z-axis # inverter drive has tripped	Check relevant circuit breaker, identifiable from the system drawings provided.

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HMI Restore Procedure

If the HMI screens need to be restored for any reason, contact Nordson and a file called **“pdata.fwc”** will be emailed to you.

1 - Refer to Figure 7 for instructions to access Windows Desktop.

2 - Copy the new file into the root directory of a USB Flashdrive and insert it into the USB port on the back of the touch screen.

3 - Open File Explorer

4 - Select the removable disc from the left hand window.

5 - Touch once but do not open the new file from the right hand window.

6 - Select *“Move To”* in the ribbon menu at the top.

7 - Select “*Choose Location*” at the bottom of the drop down menu.

8 - Select C drive, then the HMI folder.

9 - Touch the *“Move”* button and the file will be moved here.

10 - Close File Explorer and restart the screen.

Repair

WARNING: Allow only qualified personnel to perform the following tasks. Follow the safety instructions in this document and all other related documentation.

CAUTION: Do not turn off console power without first performing a program shutdown. Doing so could corrupt the PowderPilot™ 4.X program and operating system on the program PC. See Figure 8 for instructions.

WARNING: Hazardous voltages exist within the Spectrum^{HD} console. Unless power must be on to test circuits, always shut off and lock out power before opening the console to make repairs. All repairs should be made by a qualified electrician. Failure to observe this warning could result in personal injury or death. Repair consists of removing malfunctioning components and replacing them with new ones. There are no components inside the cabinet that can be repaired by the customer. Refer to the wiring diagrams in Section 7 for connections.

WARNING: Whenever replacing a component that interfaces with the exterior of the cabinet, such as a gun harness receptacle, make sure that the dust-tight integrity of the cabinet is intact by installing the correct gaskets and seals. Failure to maintain the dust-tight integrity of the cabinet could invalidate agency approvals and create a hazardous condition.

Parts

To order parts, call the Nordson Industrial Coating Systems Customer Support Center at (800) 433-9319 or contact your local Nordson representative.

Part	Description	Note
7035383	TOUCH-SCREEN,15",P.PILOT4.X,W/SW - WITH LICENCE	A
7035384	TOUCH-SCREEN,15",P.PILOT4.X,W/SW - WITHOUT LICENCE	B

NOTE A: For customers that require a HMI to plug and play straight out of the box. All licenses are pre-installed.

B: For customers that are able to take the license off the old HMI back onto the original USB stick and transfer them to the new HMI.
For more information, contact: ics-eu-technical-support@nordson.com

NOTE: For all control panel components, see the associated diagrams for your system.
For other product specific technical manuals, go online to: http://emanuals.nordson.com/finishing/