# Powder/Micro Feed Centre
# OP7 Screen

Manual P/N 768 622 E
– English –

**Keep for Future Reference**

NORDSON (UK) LTD. • STOCKPORT

CE

**Order number**
P/N = Order number for Nordson products



**COV_EN_768622E**

P/MFC
Issued 09/01

# Declaration of Conformity
# 98/37/EC
# 73/23/EEC

We,

**Nordson (U.K.) Limited**

of

**Ashurst Drive, Cheadle Heath, Stockport, Cheshire, SK3 0RY, United Kingdom**

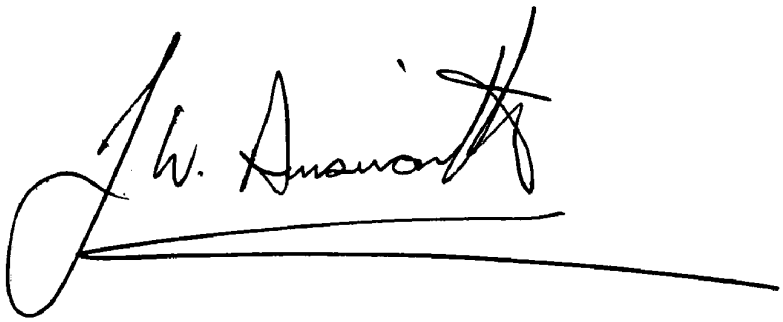
declare that under our sole responsibility for supply/manufacture of the product(s)

| | |
|---|---|
| **Product Name** | Powder/Micro Feed Centre (OP7 Controls) |
| **Model Number(s)** | 768570, 768560 |
| **Product Options** | All |

to which this declaration relates, is in conformity with the following standards and other normative documents

| | |
|---|---|
| **Safety** | BS EN 60204–1:1993<br>"Safety of Machinery – Electrical equipment of machines"<br><br>EN 60335:Part 1:1988<br>"Safety of household and similar electrical appliances"<br><br>BS EN 292:1991<br>"Safety of machinery – Basic concepts, general principles for design" |

following the provisions of 98/37/EC and 73/23/EEC Directives



Jim Ainsworth
General Manager

Nordson (U.K.) Ltd., 8th January 2001

NB ref EN45014 (BS7514)

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# Congratulations on the Purchase of Your Nordson Product

Nordson equipment is engineered and manufactured in accordance with strict specifications, using high quality components and state–of–the–art technologies that assure reliable, long–term performance. Your product was thoroughly tested for proper operation prior to shipment.

Before unpacking and installing your new equipment, please read this manual. It is your guide to safe installation, productive operation and effective maintenance. We recommend that you keep the manual available for future reference.

## *Your Safety is Important to Nordson*

Carefully read the *Safety* section. Your product is designed for safe operation when used according to the published instructions. Potential hazards exist when operating instructions are not followed.

## *Manufacturer of Equipment*

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For a list of local Nordson organisations, see *Nordson International*.

# Nordson International

## *Europe*

| Country | | Phone | Fax |
|---|---|---|---|
| **Austria** | | 43-1-707 5521 | 43-1-707 5517 |
| **Belgium** | | 31-13-511 8700 | 31-13-511 3995 |
| **Czech Republic** | | 4205-4159 2411 | 4205-4124 4971 |
| **Denmark** | *Hot Melt* | 45-43-66 0123 | 45-43-64 1101 |
| | *Finishing* | 45-43-66 1133 | 45-43-66 1123 |
| **Finland** | | 358-9-530 8080 | 358-9-530 80850 |
| **France** | | 33-1-6412 1400 | 33-1-6412 1401 |
| **Germany** | *Erkrath* | 49-211-92050 | 49-211-254 658 |
| | *Lüneburg* | 49-4131-8940 | 49-4131-894 149 |
| | *Düsseldorf - Nordson UV* | 49-211-3613 169 | 49-211-3613 527 |
| **Italy** | | 39-02-904 691 | 39-02-9078 2485 |
| **Netherlands** | | 31-13-511 8700 | 31-13-511 3995 |
| **Norway** | *Hot Melt* | 47-23 03 6160 | 47-22 68 3636 |
| | *Finishing* | 47-22-65 6100 | 47-22-65 8858 |
| **Poland** | | 48-22-836 4495 | 48-22-836 7042 |
| **Portugal** | | 351-22-961 9400 | 351-22-961 9409 |
| **Russia** | | 7-812-11 86 263 | 7-812-11 86 263 |
| **Slovak Republic** | | 4205-4159 2411 | 4205-4124 4971 |
| **Spain** | | 34-96-313 2090 | 34-96-313 2244 |
| **Sweden** | *Hot Melt* | 46-40-680 1700 | 46-40-932 882 |
| | *Finishing* | 46 (0) 303 66950 | 46 (0) 303 66959 |
| **Switzerland** | | 41-61-411 3838 | 41-61-411 3818 |
| **United Kingdom** | *Hot Melt* | 44-1844-26 4500 | 44-1844-21 5358 |
| | *Finishing* | 44-161-495 4200 | 44-161-428 6716 |
| | *Nordson UV* | 44-1753-558 000 | 44-1753-558 100 |

### *Distributors in Eastern & Southern Europe*

| | | |
|---|---|---|
| **DED, Germany** | 49-211-92050 | 49-211-254 658 |

## *Outside Europe / Hors d'Europe / Fuera de Europa*

- For your nearest Nordson office outside Europe, contact the Nordson offices below for detailed information.
- Pour toutes informations sur représentations de Nordson dans votre pays, veuillez contacter l'un de bureaux ci-dessous.
- Para obtener la dirección de la oficina correspondiente, por favor diríjase a unas de las oficinas principales que siguen abajo.

| Contact Nordson | | Phone | Fax |
|---|---|---|---|
| ***Africa / Middle East*** | | | |
| **DED, Germany** | | 49-211-92050 | 49-211-254 658 |
| ***Asia / Australia / Latin America*** | | | |
| **Pacific South Division, USA** | | 1-440-988-9411 | 1-440-985-3710 |
| ***Japan*** | | | |
| **Japan** | | 81-3-5762 2700 | 81-3-5762 2701 |
| ***North America*** | | | |
| **Canada** | | 1-905-475 6730 | 1-905-475 8821 |
| **USA** | *Hot Melt* | 1-770-497 3400 | 1-770-497 3500 |
| | *Finishing* | 1-440-988 9411 | 1-440-985 1417 |
| | *Nordson UV* | 1-440-985 4592 | 1-440-985 4593 |

*Section 1*

# *Safety*

# Section 1
# Safety

## *1. Introduction*

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

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

## *2. 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.

## *3. 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

## *4. 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.

## *5. 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.
- While operating manual electrostatic spray guns, make sure you are grounded. Wear electrically conductive gloves or a grounding strap connected to the gun handle or other true earth ground. Do not wear or carry metallic objects such as jewelry or tools.
- If you receive even a slight electrical shock, shut down all electrical or electrostatic equipment immediately. Do not restart the equipment until the problem has been identified and corrected.
- Obtain and read Material Safety Data Sheets (MSDS) 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.

## *6. Fire Safety*

To avoid a fire or explosion, follow these instructions.

- Ground all conductive equipment in the spray area. Check equipment and workpiece grounding devices regularly. Resistance to ground must not exceed one mega–ohm.
- Shut down all equipment immediately if you notice static sparking or arcing. Do not restart the equipment until the cause has been identified and corrected.
- 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 MSDS 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.
- Shut off electrostatic power and ground the charging system before adjusting, cleaning, or repairing electrostatic equipment.
- 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.

## *7. 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.

## *8. Disposal*

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

*Section 2*

# *Description*

# Section 2
# Description

## *1. Intended Use*

The Powderfeed and Microfeed Centres are used as a collector for recycled powder, containment and powder feed direct from a powder box to the automatic or manual spray guns.

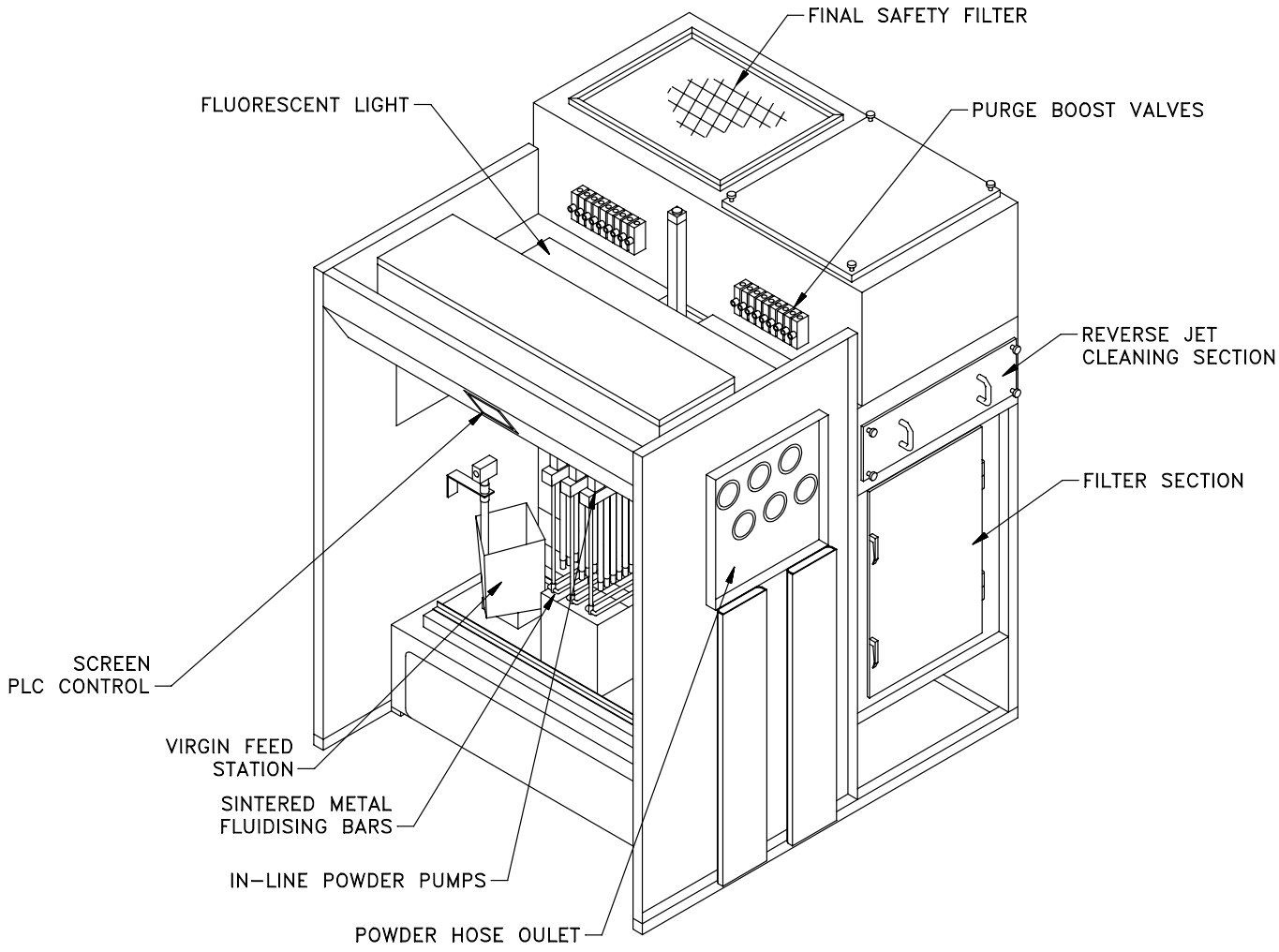


*Fig. 2-1 Typical I Powderfeed Centre*

## *1. Intended Use*
*(contd.)*

They can be used as a self contained unit as in the Powderfeed or attached to the main extract system as in the case of a Microfeed.

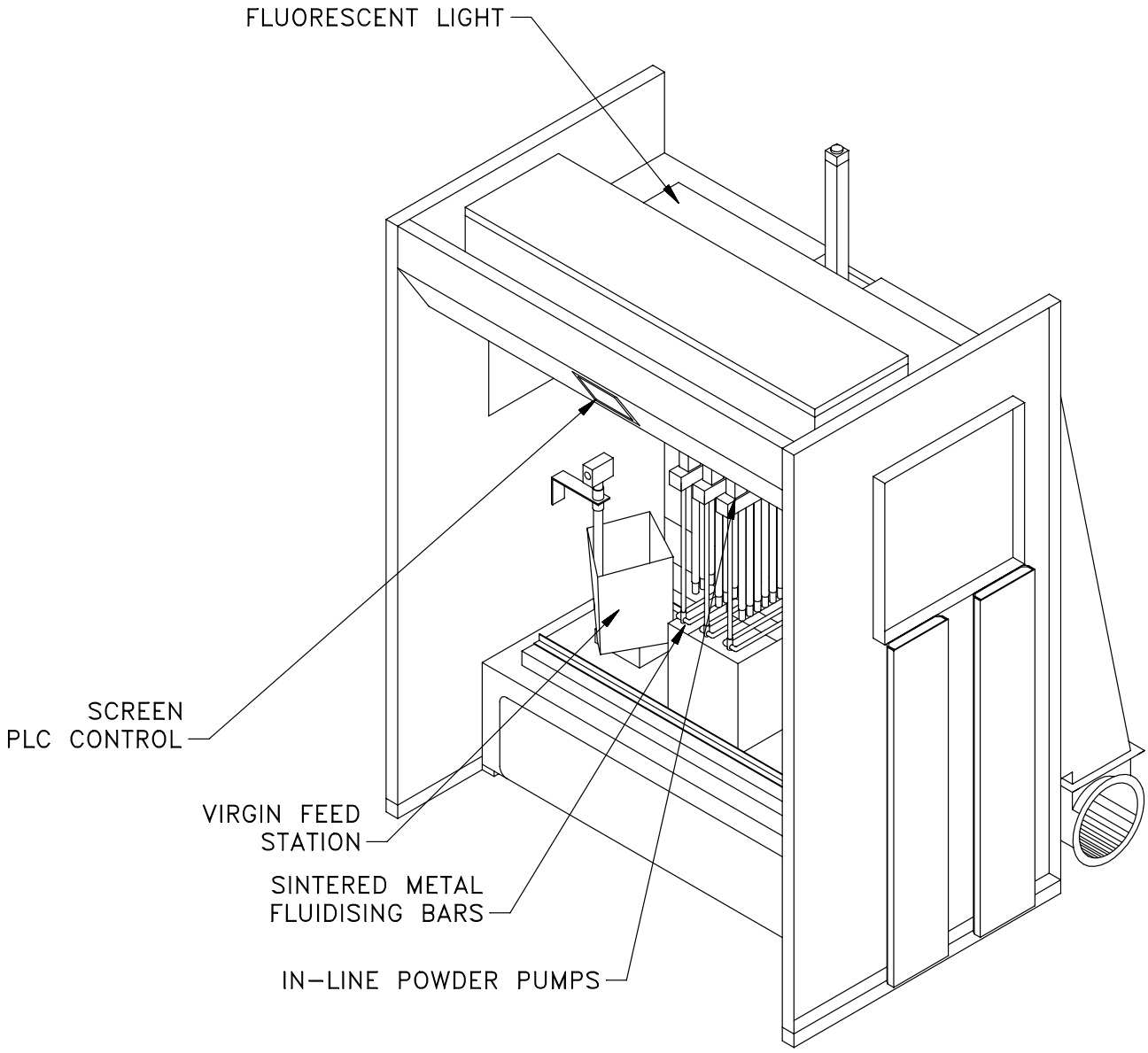


*Fig. 2-2 Typical Microfeed Centre*

## *2. Features*

The Powderfeed anf Microfeed Centres minimise colour change time, powder loss and environmental contamination on multi–gun automatic powder system.

The operator places a box of powder on a vibratory table housed in an open face ventilated enclosure. The feed assembly is lowered into the powder to a depth of approximately 50 mm. This is automatically maintained as the powder level falls. For longer runs, powder level may be restored by auto or manual addition. If required, recycled powder can be continuously returned to the original box through a sieve assembly.

To initiate colour change, the operator simply follows the menus on the PLC screen; raises the feed assembly clear of the powder box, which can be discarded or resealed and removed. The operator by following a simple set of instructions, can automatically clean both the powder feed system and the recycle system, with very little disassembly of any components

The principle of the system is to dramatically reduce colour change times, through automation.

The system is available in two types. The Powderfeed Centre is a self contained system with its own extraction, were the Microfeed Centre must be linked into the booth extraction. They both can feed up to 27 guns from one box or a dedicated plastic box is available, which will hold up to 50 kg of powder. Light and dark manifolds are also available for speed of colour change together with two sets of hoses.

*Section 3*

# *Installation*



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**P/N 768622E**

# Section 3
# Installation

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

## *1. Transport*

Transport the unit so as to avoid damage. Use suitable packaging materials and sturdy cartons.

Protect the unit from exposure to humidity, dust and vibrations.

## *2. Unpacking*

Carefully unpack the unit to avoid damaging it. Check for damage caused during transport.

Save packing materials for possible later use. Otherwise recycle or dispose of properly according to local regulations.

## *3. Removing*

Switch off the mains supply, then disconnect all electrical connections from the unit.

## *4. Storage*

Pack the unit in suitable packing materials and sturdy cartons. Protect from humidity, dust and large temperature fluctuations (condensation).

## *5. Disposal*

Dispose of properly according to local regulations.

## 6. Electrical

**WARNING:** Allow only qualified personnel to perform electrical connections.

A single supply cable is required to the control panel. The supply should be fed from a suitable disconnect device. Introduce the cable into the panel using an IP6X cable gland. Ensure that all the electrical wires are suitably sized for the fan motor loading and adequate fuse/circuit protection is provided at the source of supply.

**NOTE:** The fan motor is designed to be switched ”direct–on–line” (refer to the electrical circuit schematic supplied with the unit, for power requirements before installation).

On starting the fan motor (where fitted), check for correct rotation, normally clockwise looking at the motor from the impeller end, (air is pushed out of the exhaust on the fan scroll). Do this by starting and immediately stopping the fan motor. Proper fan rotation is extremely important. With the fan running in the wrong direction, it will deliver approximately 40% of its rated air volume. Correct by reversing any two leads on the load side of the fan motor starter.

## 7. Pneumatic

Before operating the feed centre, ensure that the air supply has reached a suitable quality and that air has been drawn off the system through the drain leg. This will ensure that any materials left in the line during installation do not enter the feed centre.

**WARNING:** The regulated air supply to reverse purge manifold has been pre–set to 4 bar (max) and under no circumstances should it be altered without prior consultation with Nordson.

## 8. Setting Up the Unit

**WARNING:** Allow only qualified personnel to perform the installation. Observe safety instructions.

### Site Preparation

**NOTE:** Feed centres are generally delivered pre-assembled, where this is not practical due to shipping requirements or at the customers request that feed centre can be supplied ”flat pack” for on-site assembly.

**NOTE:** Installation of the feed centre should not be undertaken without the presence of a Nordson representative or a suitably qualified person.

- Choose a level site on which to install the Feed Centre, preferably as near to the powder booth as practically possible.

- Seal concrete floors with a suitable material to avoid dust. Other floor surfaces should be of a type that is easy to keep clean.

*Section 4*

# *Operation*

# Section 4
# Operation

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

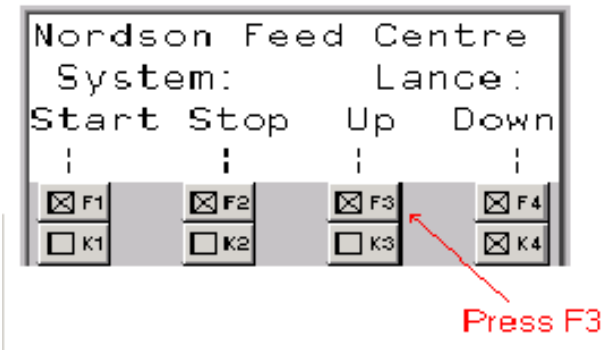
## *1. Daily Operation*

Procedure for Cleaning Booth and Application equipment with Micro/Powder Feed Centre.

In order to successfully Colour change the Booth and Application system follow the procedure outlined below.

### *Pre–Clean Down Procedure*

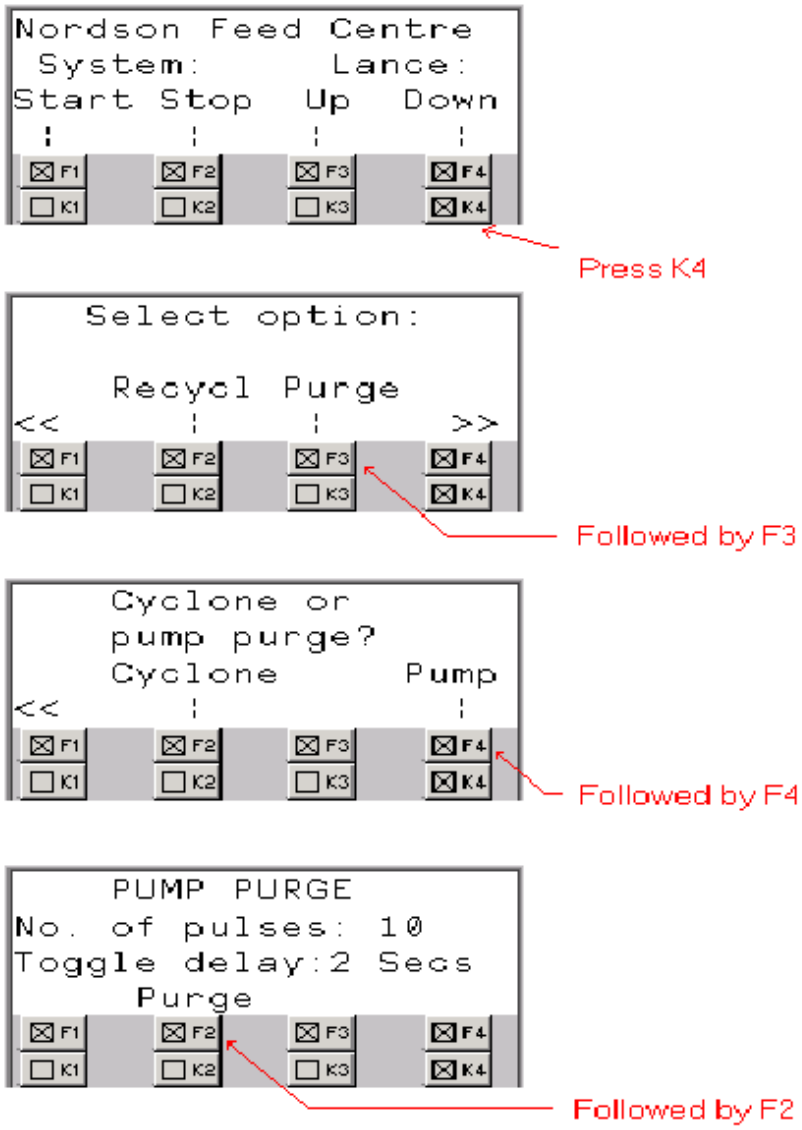
- Move the Lance assembly up up and out of the box with the guns still spraying. (Where an autogun purge system is fitted, this is not required).




- Close the booth doors and move the powder box away from the lance assembly and under the sieve.
- Remove the guns out of the booth till the tip of the gun is level with the inside of the booth.
- Turn off the application equipment.

### *Clean Down Procedure: Pumps and Guns*

- Manually clean down the lance assembly with a blowgun.
- Activating “Pump Purge”. will automatically lower the lance arm and start the purge sequence.

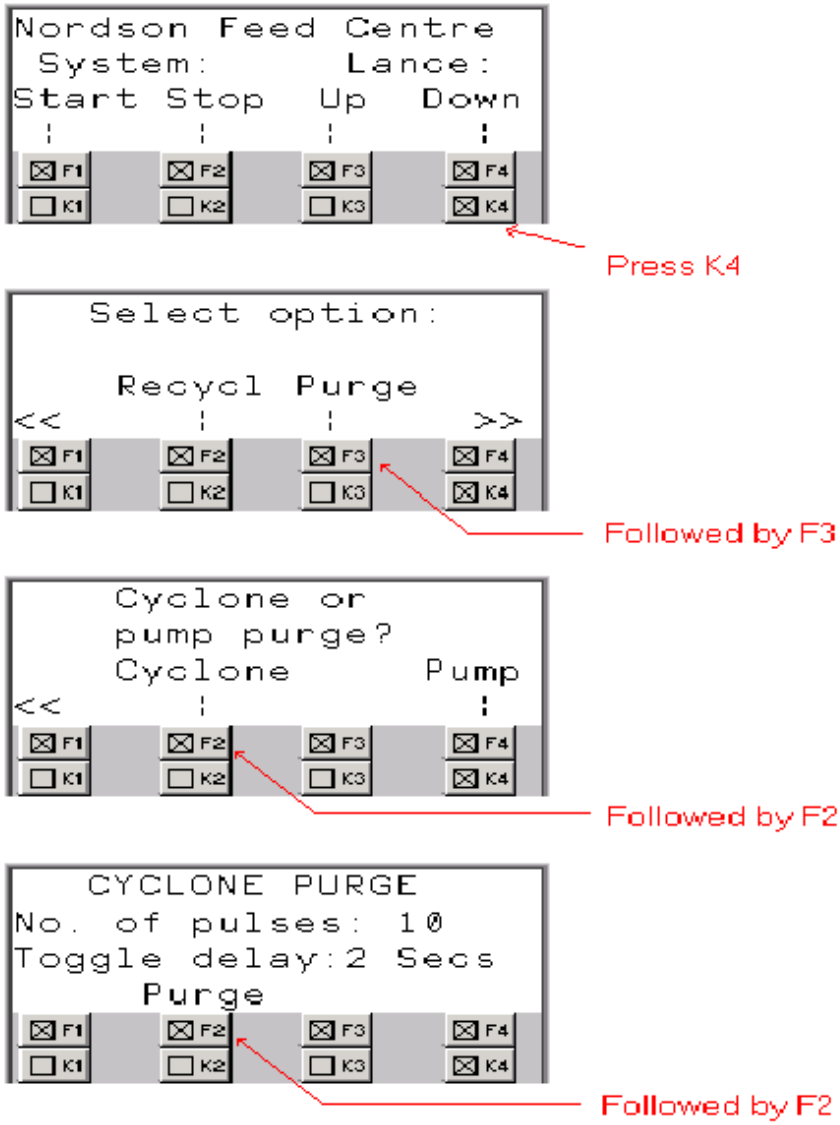



- After the lance assembly has been purged, manually clean the outside of the guns with a blowgun.
- Clean down all remaining powder inside of the booth.
- Wait for the completion of the reclaimed powder to return through the sieve.

## Daily Operation
*(contd.)*

### Clean Down Procedure: Recycle System

- Open the cyclone inspection doors and unclamp the surge hopper from the twin cyclone (where applicable) so that there is a gap between the cyclone and the hopper.
- Remove the recycle hose from the sieve assembly and locate in the cyclone purge block, twist the nozzle through 90 degrees to lock into position, activate Cyclone Purge.

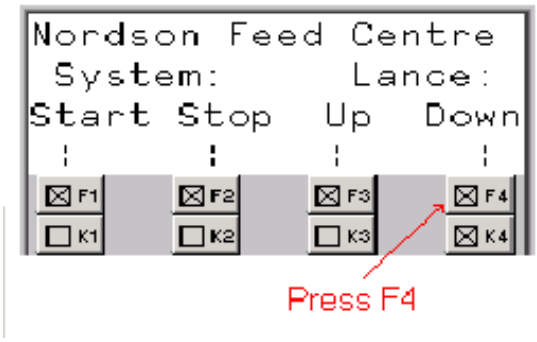



- Manually clean down the cyclone surge hopper with the blowgun.
- Remove the powder box from the Feed Centre and store.

## *Daily Operation*
*(contd.)*

### *Clean Down Procedure: Recycle System* *(contd.)*

- Clean the sieve assembly and the mini–cyclone (where applicable) with the blowgun and vacuum.
- The lance arm will now move automatically to it's up position.
- Finally manually clean down the lance assembly with the blowgun.
- Connect the recycle hose to the rear of the Feed Centre.
- Refit the surge hopper to the twin cyclone
- Place a new powder box in position and move the lance assembly down into the powder box.



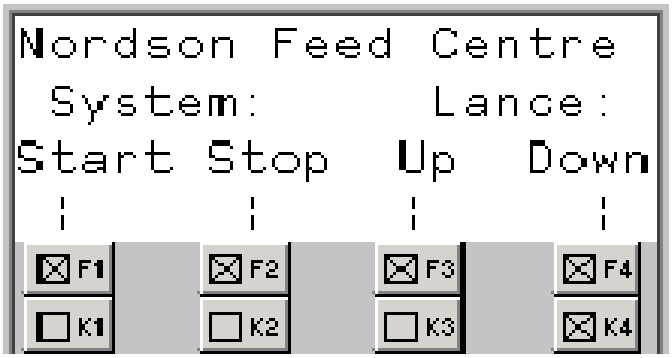

- The system is now ready for operation with new powder.
- After approximately two minutes, re–connect the recycle hose to the sieve assembly.

## *2. Screen Key Identification*

Listed below is all the touch screen icon identification and operation procedures.

### *Initial Start up Screen*

The screen illustrated below is the initial screen, when the feed centre is powered up.




Press Key F1 to power up the Feed Centre.

Press Key F2 to power down the Feed Centre.

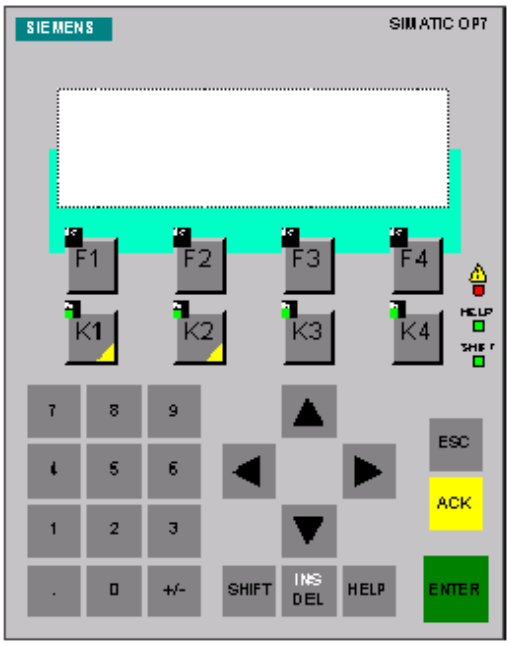
Press Key F4 to move the lance arm down.

Press Key F3 to move the lance arm up.

Press the shift and K1 key simultaneously to enter the Nordson configuration screens. NB: These screens should only be accessed by qualified Nordson Representative.

Press Key K4to take you to other system functions available.

### *Data Entry Screen*

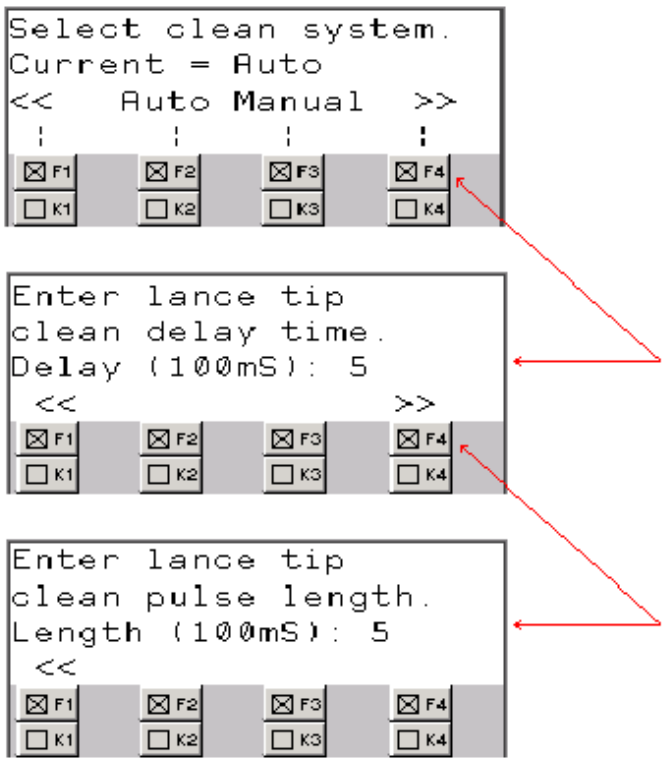



To modify a process variable, firstly use the arrow keys illustrated above to move the cursor onto the number required, then use the numerical keys to type in the new values followed by the enter key to finish.

### *System Configuration Screens*

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

Press the shift and K1 keys simultaneously to access the system configuration pages.




On entering the configuration screen, the first selection to make is the type of clean mode required.

Press Key F2 for automatic pump purge. If Z–Axis movers are installed, this will allow the feed centre to interface with the main booth system

Press Key F3 for manual pump purge. The pump purge is required to be operated manually through the appropriate screens

Press Key F4 to move onto the external lance tip cleaning page. This page allows you to enter the delay time in 100 millisecond units before the purge manifold pulses to clean the outside of the lance

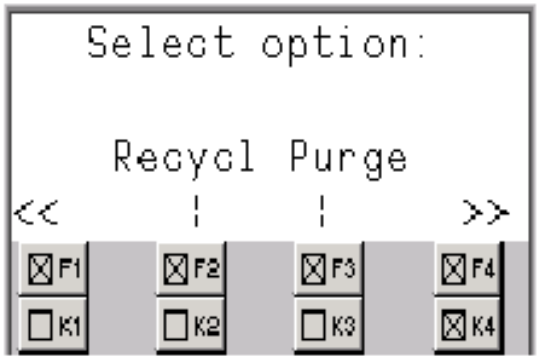
Press Key F4 again allows you to enter the lance clean pulse width in 100 millisecond units.

Press Key F1 to back up through the screens and out.

PV = Pinch Valve Recycle

### *Setting Up and Operation of Purge and Recycle Sequences*

Illustration below shows the Initial Purge/Recycle Set Up Screen. This is accessed by pressing Key F4 on the start up screen.




Press Key F3 to take you to the purge type selection screen

Press Key F2 to take you to the pinch valve set up screen

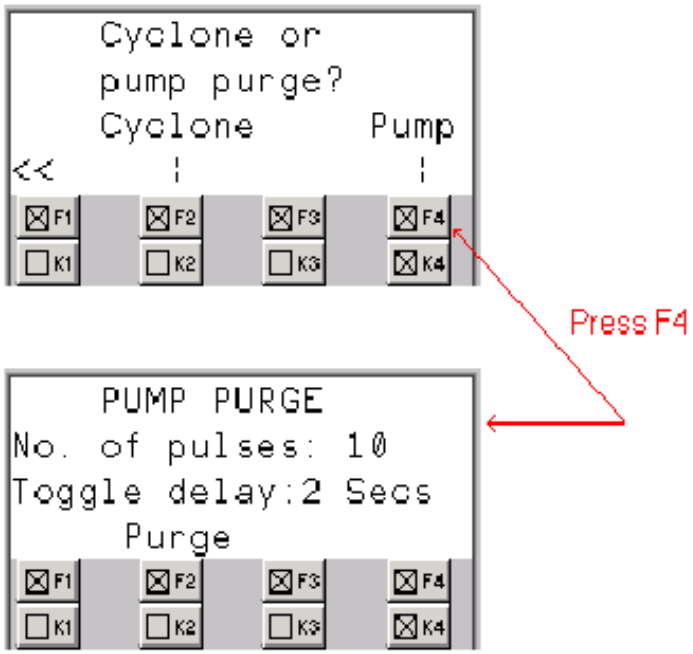
Press Key F1 to take you back to the the initial start up screen.

Press Key F4 to take you to cartridge pulsing, hopper empty and virgin feed initial screen.

### *Pump Purge Set Up and Operation Screen*

Pressing Key F3 on the Initial Purge/Recycle Screen takes you to the purge selection screen

Pressing Key F4 as shown below will then take you to the pump purge set up screen.




The “no. of pulses” data entry allows you to set how many pump purges are required.

The “toggle delay” data entry allows you to set the delay time between purges in seconds.

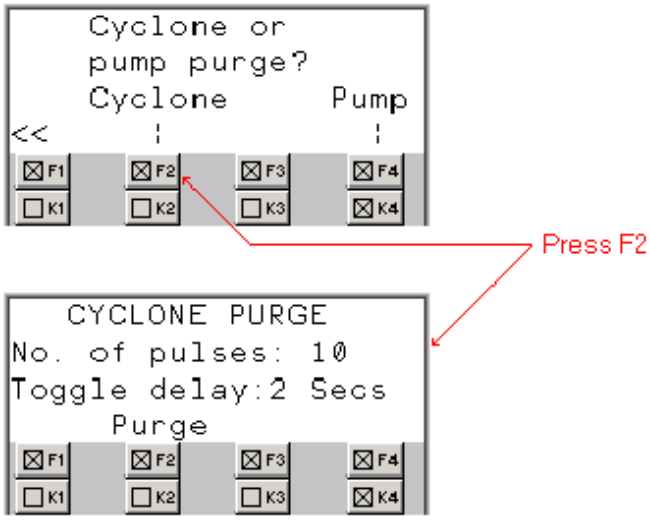
When Complete press Key F2 to action the purge.

A set of progress messages will then appear, collimating in the request to exit when the purge is complete. Press Key F3 to exit back to the main screen.

### *Cyclone Purge Set Up Screen*

Pressing Key F3 on the Initial Purge/Recycle Screen takes you to the purge selection screen.

Pressing Key F2 as shown below will then take you to the cyclone purge setup screen.




The “no. of pulses” data entry allows you to set how many pump purges are required.

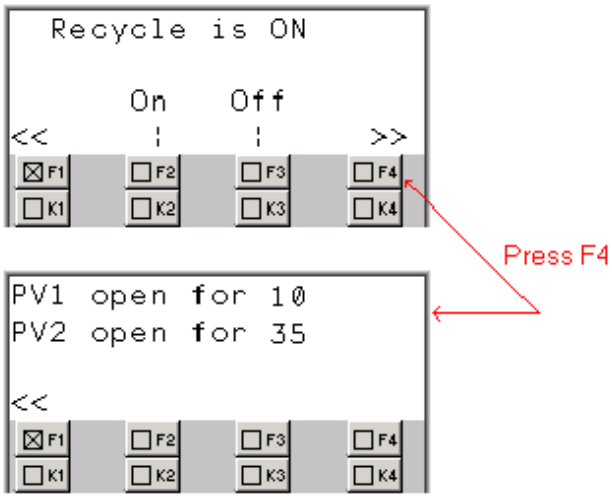
The “toggle delay” data entry allows you to set the delay time between purges in seconds.

When Complete press Key F2 to action the purge.

A set of progress messages will then appear culminating in the request to exit when the purge is complete. Press Key F3 to exit back to the main screen.

### *Pinch Valve Recycle Set up Screen*

Pressing Key F2 on the Initial Purge/Recycle Screen takes you to the pinch valve recycle set up screen




Pressing Key F4 will take you to the recycle data entry screen as shown above. The entry “PV1 open” allows you to set the top pinch valve opening time. This should be set between 10–30 (x100 milliseconds).

The entry “PV2 open” allows you to set the push air and PV2 open time. This should not be set less than 35 (x100mS).

Pressing Key F1 will take you back to the recycle control screen.

Pressing Key F2 will run the recycle system.

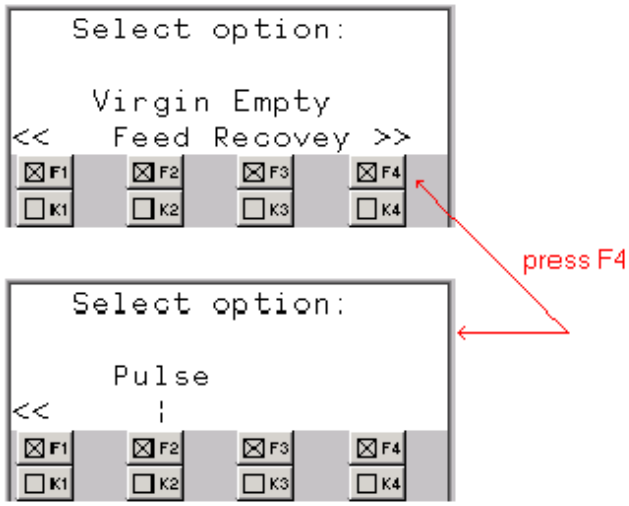
Pressing Key F3 will stop the recycle system.

Pressing Key F1 takes you back to the previous screen

**NOTE:** The recycle defaults to run, each time the feed centre is started.

### *Cartridge Pulsing, Hopper Empty and Virgin Feed Initial Screen*

The illustration below shows the Initial Screen to control cartridge pulsing, hopper empty and virgin feed. This is accessed by pressing Key F4 on the Purge/Recycle Selection Screen.




Press Key F4 and then Key F2 as shown above to take you to the Cartridge purge set up screen.

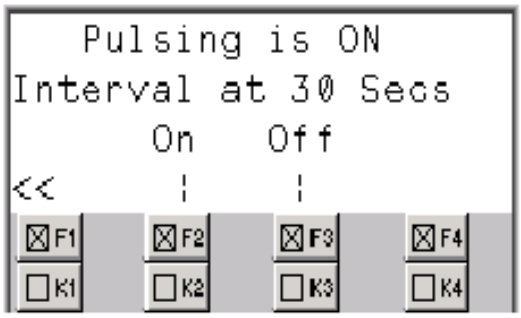
Press Key F2 to take you to the Empty Waste Hopper Screen. This is only accessible when a fluid hopper is fitted to the rear of the Feed Centre.

Press Key F2 to take you to the Virgin Feed Screen. This is only accessible when virgin feed is fitted.

Press Key F1 to take you back to the Purge/Recycle Initial selection screen.

### *Cartridge Pulse Cleaning Operation and Set Up Screen*

Illustration below shows the cartridge pulse cleaning operation and set up screen (where applicable). This is accessed by pressing Key F2 as illustrated on page 4–11.




Press Key F2 to power up the cartridge cleaning sequence.

**NOTE:** Cartridge cleaning sequence defaults ON, each time the feed centre is started.

Press Key F3 to power down the cartridge cleaning sequence.

“Interval at” data entry allows you to set the cartridge pulse sequence delay in seconds. it must not be set lower than 15.

Pressing Key F1 takes you back to the previous screen

### *Hopper Empty Operation Screen*

Illustration below shows the hopper empty operation screen. This is accessed by pressing Key F3 as illustrated on page 4–11.

**NOTE:** This only applies to feed centres fitted with a fluid bed hopper


Press Key F2 to switch on the transfer pump and fluid bed, which empties the rear waste hopper, when fitted.

Press Key F3 to switch off the transfer pump and fluid bed.

Press Key F1 to take you back to the previous screen

### *Virgin Feed Operation Screen*

Illustration below shows the virgin feed operation screen. (where applicable). This is accessed by pressing Key F2 as illustrated on page 4–11.


Press Key F2 to switch on virgin feed transfer system where fitted.

Press Key F3 to switch off the virgin feed transfer system.

Press Key F1 to take you back to the previous screen.

*Section 5*

# *Maintenance*



P/MFC
Issued 09/01

**P/N 768622E**

# Section 5
# Maintenance

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

**WARNING:** Breathing in certain airborne dusts (including finishing powders) may be hazardous to health. Ask the powder manufacturer for a Material Safety Data Sheet (MSDS) for information. Use appropriate respiratory protection.

## *1. Daily Maintenance*

**NOTE:** When maintaining or cleaning the sieve ensure that the screen mesh does not become damaged. If the screen mesh shows signs of damage replace immediately.

- At intervals depending on volume of powder used but not less than once per eight hour shift, inspect the sieve screen for damage, remove any build up of material that does not pass through the sieve by either a vacuum cleaner, or by disassembly of the sieve and cleaning the screen with low pressure compressed air.
- Once every eight–(8)–hour shift, disassemble the sieve and mini–cyclone, clean each item removing any excess powder, wipe with a lint free cloth and then reassemble.
- Inspect seals for damage and replace as necessary.
- Check vent hoses for blockages, clean and refit.
- Check all external cables and hoses for damage, replace or repair as necessary.
- Visually check the complete system for leaks, rectify where necessary.
- Check the operations of the powder transfer systems.

## *1. Daily Maintenance (contd.)*

- Every four– (4) hours check the collector bin levels (where fitted)– if the bin is above half full, empty it (where applicable).
- Every four– (2) hours or less check the powder box for powder level.
- Every four– (4) hours check the powder pump and gun, clean according to the product manual.

## *2. Routine Maintenance*

### *Fan Assembly*

- Changes in vibration and noise levels are easily identified as an indication to possible problems.
- Current readings taken at regular intervals over the equipment lifetime forms a reliable indicator and record of its condition and performance.
- A fan has inherent vibration; the wiring of ALL connections must be checked for integrity and tightness once a year.

### *Seals*

- Any sign of leakage of powder around a seal means either the seal is not sound or the covers are not properly fastened. Check weekly and any time traces of powder are noticed.

### *Airflow*

- Record the airflow at regular intervals; thus charted, any degradation of system performance will become immediately apparent.

***Cartridges (where applicable)***

- Record the airflow at regular intervals; thus charted, any degradation of system performance due to cartridge blocking will become immediately apparent.
- Signs of powder leakage may be due to the cartridge seal leaking. Tighten up the crank after ensuring seal integrity. Replace Cartridge if necessary.
- Cartridges and final filters cannot be manually cleaned they must be replaced.
- On units with final filters, powder leakage may not be noticed, but if adequate records have been kept, the faults will be apparent.

***Fluid Beds***

- These will be damaged if they are stood on or allowed to become damp. They must be replaced; SMOOTH SIDE UP.

***Powder Pumps***

- Within the pump is a venturi, which by the very nature of powder will wear. The diminishing efficiency will be noticed by the loss in returned powder. Remove pumps from the collectors. Remove the discharge hose and blow through with a safety compressed air gun. Disassemble the pump and clean all parts with an air gun and a soft clean cloth. Replace worn or damaged parts.
- For further information on servicing powder pumps refer to the appropriate product manual.

***Final Filters***

- This is an added feature to protect against powder escaping to the immediate area in case of a cartridge leak. They can not be manually cleaned.

***Compressed Air***

- Open the drop leg. Using a clean white cloth check for water, oil or other contaminates. Correct as necessary.

**NOTE:** The air drier, if fitted, should remain on at all times to prevent moisture from accumulating in the system components.

## *2. Maintenance (contd.)*

### *Electrical Safety*

- The unit should be tested for electrical safety, at intervals of not more than 12 months, according to the Electricity at Work regulations 1989 (as revised) or similar for non–UK installations.

## *3. Cartridge Replacement*

Nordson will be pleased to advise on action necessary in case of any mishap, fault or any other enquiry relating to the equipment.

**WARNING:** Ensure Personal Protective Equipment is worn while carrying out this procedure.

The following steps cover the removal of spent cartridge filters and their replacement with new filters.

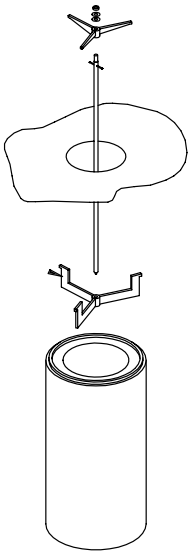
**WARNING:** Ensure that all services are turned off and locked out after cleaning the booth.

**WARNING:** A powder laden cartridge filter can be heavy. It may be necessary for two persons to be available to remove the cartridge filter.

- Clean the internal walls of the feed centre to avoid unnecessary contact with the powder.
- Relieve all air pressure in the system. This can be done by turning off the air supply and operating the pulsing. Or by releasing the pressure safety valve attached to the air manifold.
- Lock out and disconnect services to the Feed Centre.
- Each cartridge is held in place by a nut. Remove the cartridge by unscrewing the nut. Remove the cartridge through the access doors on the side.

## *3. Cartridge Replacement*
*(contd.)*

- Each cartridge is held in place by a nut. Remove the cartridge by unscrewing the nut. Remove the cartridge through the access doors on the side.



- Inspect the cartridges for damage. Do not fit damaged cartridges.

**NOTE:** Do not use any cartridge filters other than those approved by Nordson. The use of the filters not specially designed to Nordson standards could seriously affect the operation and performance of your Feed Centre.

- Ensure before re–fitting cartridges that each cartridge has a rod, centre bracket, holding bracket and nut.

- Replace the cartridge as before. Do not overtighten. The seal should compress by half its thickness.

*Section 6*

# *Troubleshooting*



P/MFC
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**P/N 768622E**

# Section 6
# Troubleshooting

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

## *1. Important Hints for Troubleshooting*

The following tables provide general information for the troubleshooting of basic problems. Sometimes more detailed information, circuit diagrams or measuring devices are also needed for troubleshooting.

It must be noted that a fault can occur for several reasons. It is advisable to check all possible causes for a given fault. Obvious causes of malfunction such as broken wires, missing fasteners etc., should be noted during visual inspections and corrected immediately.

The Unit does not contain any user serviceable parts; approved parts available from Nordson must replace any parts that fail.

## *2. Table of Troubleshooting*

| Problem | Possible Cause | Corrective Action |
|---|---|---|
| **Sieve vibrator fails to run** | No input power | Check power supply |
| | | Check cable |
| | Vibrator capacitor failed (when fitted) | Replace vibrator |
| | Vibrator failed | Replace vibrator |

| Problem | Possible Cause | Corrective Action |
|---|---|---|
| **Powder builds up on sieve mesh** | Mesh not cleaned at frequent enough intervals | Clean mesh at more frequent intervals |
| | Mesh size too small for powder | Increase mesh size |
| | Rate of powder supply too high | Reduce rate of powder supply |
| **Powder in box contaminated** | Sieve mesh damaged | Replace sieve mesh |
| | Sieve mesh not thoroughly cleaned before refitting | Ensure mesh is clean and is inserted with same face uppermost |
| **Excessive sieve noise in operation** | Lid or base insecure | Check and re–tighten fixings |
| **Powder leaks from lid or base** | Seals damaged | Replace seals |
| | Lid clamps too tight, lid distorted | Reduce tension on clamps and replace lid seal |
| **Fan will not start. (where applicable)** | Power Off | Switch on Power |
| | Overload operated | Re–set overload |
| | Wiring fault | Repair or replace |
| | Motor failure | Investigate cause. Replace if necessary |
| | Contactor fault | Repair or replace. Check push button wiring |
| **Loss of extraction** | Damper vibrated shut | Reset and lock |
| | Cartridges filters not clean | Check cleaning sequence and run for thirty (30) minutes |
| | Low pulse pressure | Set pressure at 6.4 bar (95p.s.i.) |
| | Cleaning valve fault | Repair or replace |
| **Powder escaping** | Door seals | Tighten star knobs. Check and replace seal if necessary. |
| | Cartridge leak | Check cartridge mounting seal. Tighten or replace cartridge. |
| | | Check cartridges for punctures. Replace if any pdamage found. |
| | Powder hose leak | Check, replace or refit hose. |
| | Powder pump leak | Check all “O” rings. Replace if necessary |

*Section 7*

# *Parts*

# Section 7
# Parts

## *1. Introduction*

To order parts, call the Nordson Customer Service Center or your local Nordson representative. Use this five-column parts list, and the accompanying illustration, to describe and locate parts correctly.

### *Using the Illustrated Parts List*

Numbers in the Item column correspond to numbers that identify parts in illustrations following each parts list. The code NS (not shown) indicates that a listed part is not illustrated. A dash (—) is used when the part number applies to all parts in the illustration.

The six-digit number in the Part column is the Nordson Corporation part number. A series of dashes in this column (- - - - - -) means the part cannot be ordered separately.

The Description column gives the part name, as well as its dimensions and other characteristics when appropriate. Indentions show the relationships between assemblies, subassemblies, and parts.

| Item | Part | Description | Quanity | Note |
|---|---|---|---|---|
| — | 000 0000 | Assembly | 1 | |
| 1 | 000 000 | Subassembly | 2 | A |
| 2 | 000 000 | • • Part | 1 | |

- If you order the assembly, items 1 and 2 will be included.
- If you order item 1, item 2 will be included.
- If you order item 2, you will receive item 2 only.

The number in the Quantity column is the quantity required per unit, assembly, or subassembly. The code AR (As Required) is used if the part number is a bulk item ordered in quantities or if the quantity per assembly depends on the product version or model.

Letters in the Note column refer to notes at the end of each parts list. Notes contain important information about usage and ordering. Special attention should be given to notes.

- On top of the earthing strip fit the seal washer with the rubber face uppermost. Failure to do this will cause the cartridge not to seal and powder will leak past the cartridges.

## *2. Micro/Powder Feed Centre Front Elevation*

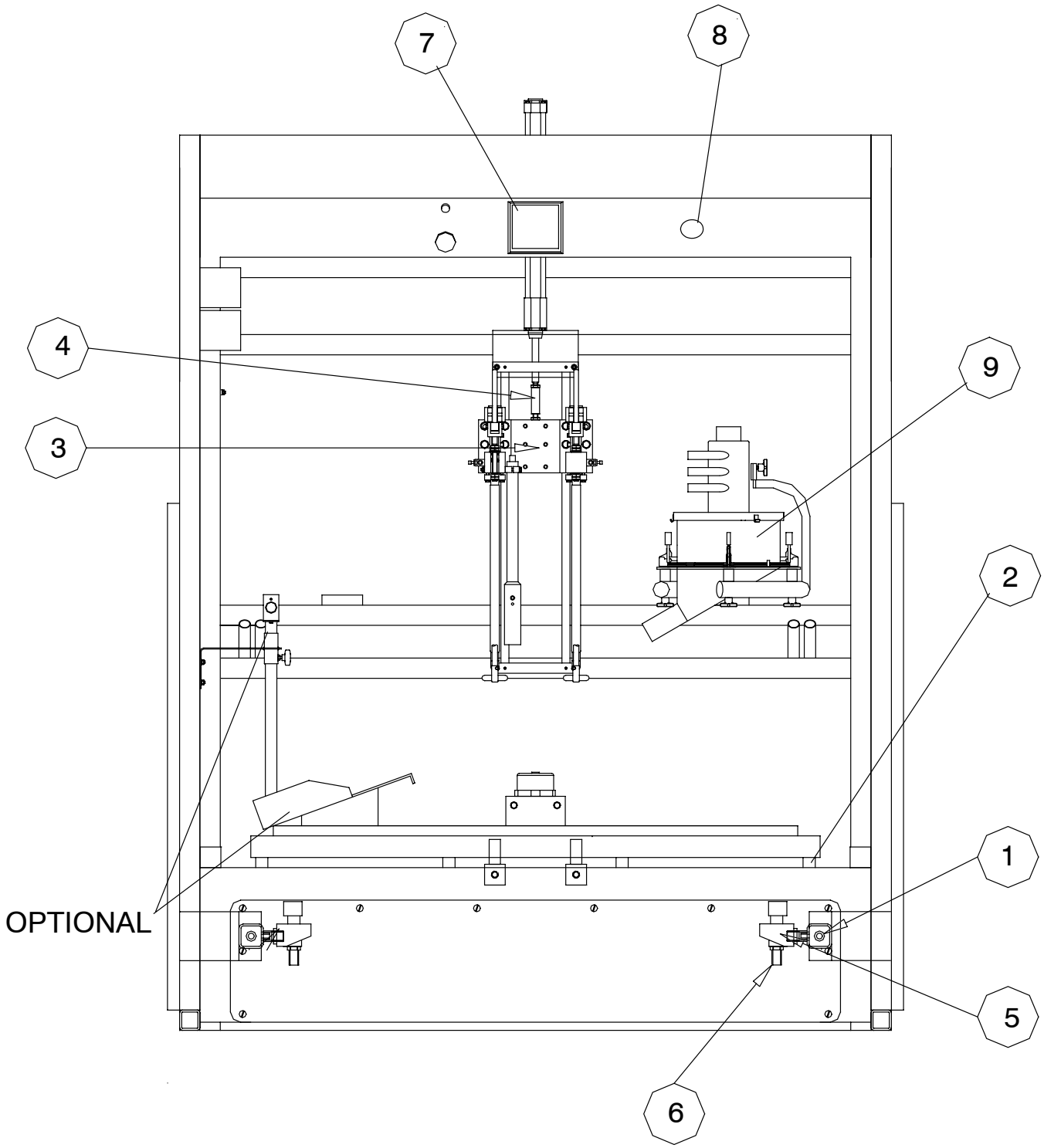


*Fig. 7-1 Micro/Powderfeed Centre Front Elevation*

| Item | Part | Description | Quanity | Note |
|---|---|---|---|---|
| 1 | 767 956 | MANIFOLD,POWDER CLEANING TO CYCLONE | 1 | AB |
| 2 | 765 749 | MOUNT, ANTI–VIBRATION, EASY–SCREEN | 8 | AB |
| 3 | 767 949 | SLIDER,TRIPLE ARM,C/FEED | 1 | AB |
| 4 | 768 564 | CYLINDER,CONN ROD,SMALL. | 1 | AB |
| 5 | 768 405 | VALVE,SOLENOID,2/2,3/4",24VDC | AR | AB |
| 6 | 767 996 | HOSE TAIL 3/4" | AR | AB |
| 7 | – | OP7 SCREEN, SIEMENS | AR | AB |
| 8 | 768 002 | GAUGE, MINI HELIC | 1 | C |
| 9 | 736 713 | SIEVE ASSEMBLE, FEED CENTRE | 1 | A |
| NS | 767 997 | HOSE,AIR,3/4" | AR | AB |
| | 768 135 | VALVE,SAFETY RELIEF | AR | AB |
| | 768 405 | VALVE,PULSE,2/2,3/4"BSP,24V | AR | AB |
| | 768 282 | REGULATOR,3/4" BSP,c/w 11 BAR GAUGE | AR | AB |
| | 769 514 | CLIP,JUBILEE,25–30MM | AR | AB |
| | 767 988 | CAP,MALE,BLACK,3/4" | AR | AB |
| | 768 251 | TUBING,POLY,6MM OD,BLUE,/MTR | AR | AB |
| | 768 252 | TUBING,POLY,8MM OD,BLUE,/MTR | AR | AB |
| | 768 262 | TUBING,POLY,10MM OD,BLUE,/MTR | AR | AB |
| | 769 814 | SEALANT,ACRYLIC,TUBE,WHITE | AR | AB |
| | 768 411 | GUN,AIR,SAFETY BLOW | 1 | AB |
| | 768 253 | HOSE 5/16 (PER METRE) | AR | AB |
| | 765 800 | FABRICATION,HOOK,GUN | 1 | AB |

NOTE A: ALL PARTS LISTED ABOVE ARE USED UPON POWDER FEED CENTRES
B: ALL PARTS LISTED ABOVE ARE USED UPON MICRO FEED CENTRES
C: OPTIONAL SIEVE ASSEMBLY. SEE SEPARATE MANUAL FOR DETAILS
AR: As Required
NS: Not Shown

## *3. Powder Feed Centre Side Elevation*

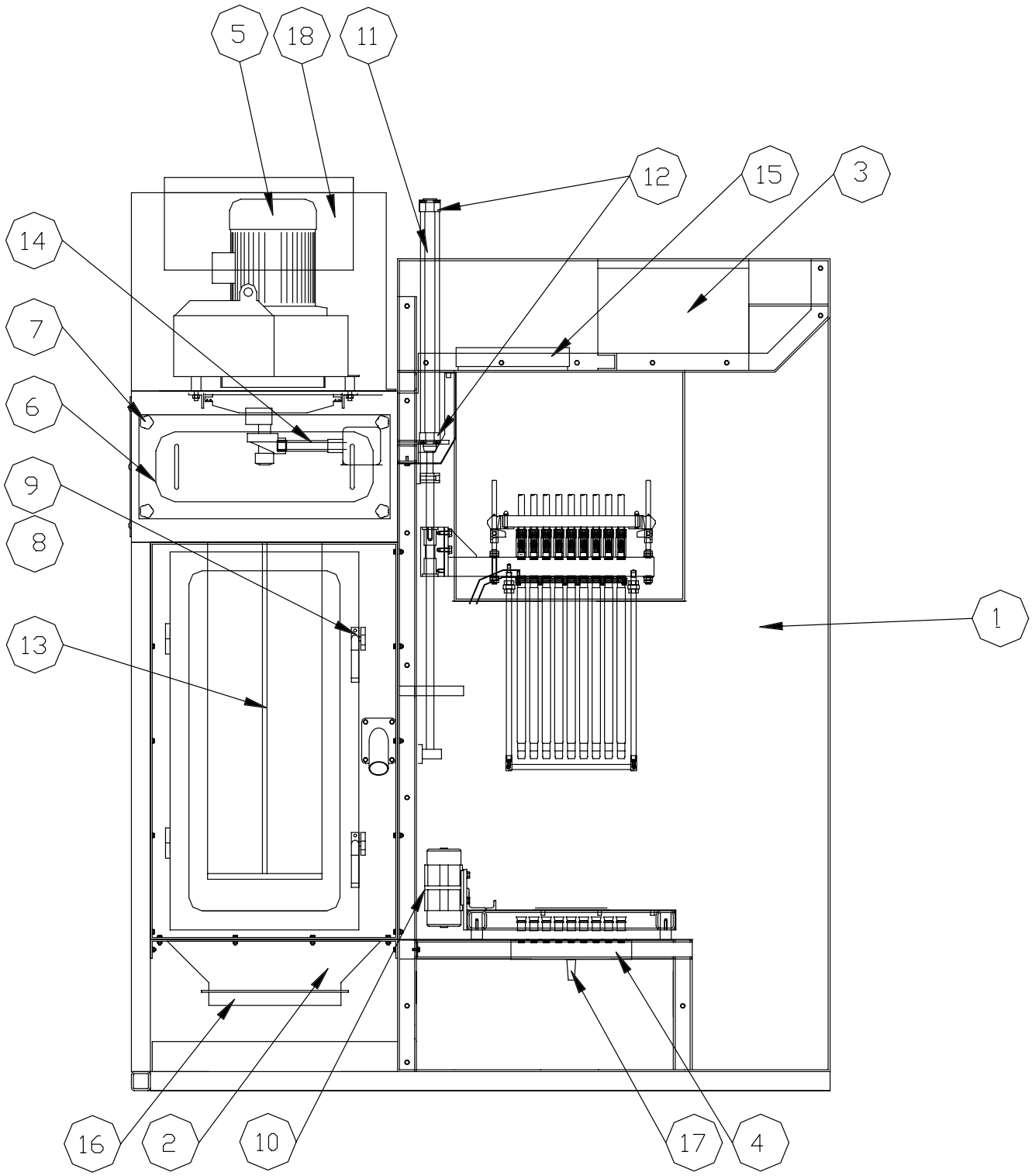


*Fig. 7-2 Powderfeed Centre Side Elevation*

| Item | Part | Description | Quanity | Note |
|---|---|---|---|---|
| 1 | 768 578 | FAB,FEED CENTRE,BASE,GEN 3 | 1 | |
| 2 | 768 578 | FAB,FLAT FLOOR OPTION | 1 | |
| | 768 581 | FAB,FLUID BED OPTION | 1 | |
| 3 | 768 805 | CONTROL PANEL,POWDERFEED | 1 | |
| 4 | 767 925 | BRACKET,MANIFOLD SUPPORT,C/FEED | AR | |
| 5 | 766 201 | FAN,2000 CFM,6” SWG | 1 | |
| | 769 055 | SWITCH, AIRFLOW | 1 | |
| 6 | 767 211 | SEAL,SIDE,KNOCK–ON,MTR | AR | |
| 7 | 769 511 | KNOB,STAR,M8 | AR | |
| 8 | 767 145 | HOOK,BOOTH DOOR | 4 | |
| 9 | 767 143 | HANDLE,BOOTH (ROLLER ON LEFT) | 2 | |
| | 767 144 | HANDLE,BOOTH (ROLLER ON RIGHT) | 2 | |
| 10 | 765 765 | VIBRATOR, ELECTRIC, 3–PHASE | 1 | |
| 11 | 767 932 | CYLINDER DNU–40–550–PPV–A | 1 | |
| 12 | 767 935 | RESTRICTOR,CYLINDER MOUNT,1/4 x 6mm | AR | |
| 13 | 174 722 | BRACKET,CENTERING,FILTER | 3 | |
| | 176 278 | ROD,FILTER MOUNT,32IN | 3 | |
| | 174 720 | SUPPORT,FILTER MOUNT | 3 | |
| | 180 772 | FILTER,32,HVY–DUTY,CENTER–MNT | 3 | |
| 14 | 768 100 | NIPPLE,BARREL,1” BSP,180MM LG | 3 | |
| | 165 726 | NOZZLE,CARTRIDGE PULSE | 3 | |
| | 768 406 | VALVE,PULSE,2/2,1”BSP,24V | 3 | |
| 15 | 767 300 | LIGHT ASSEMBLY | 1 | |
| | 767 303 | PERSPEX,LIGHT PANEL | 1 | |
| | 767 304 | WEATHER SEAL / METRE | 3 | |
| 16 | 766 094 | FLUID BED,HOPPER,MODULE,958 x 533 | 1 | A |
| 17 | 767 966 | HOSE TAIL 3/4”, PER LANCE | AR | |
| 18 | 767 046 | FILTER,FINAL | 1 | B |
| NS | 244 721 | PUMP,POWDER,TRANSFER .75OUTLET | 1 | A |
| | 769 048 | TERMINAL BLOCK,10A,12 WAY | AR | |
| | 769 000 | ENCLOSURE,TERMINAL,8 WAY,PLASTIC | AR | |
| | 768 003 | REGULATOR,AIR,1/4” | AR | |
| | 766 606 | BUCKET,WASTE,ASSY. | 1 | A |

NOTE A: ONLY USED ON FLUID BED OPTIONS
B: FITTED IF OPTION REQUIRED
AR: As Required
NS: Not Shown

## *4. Micro Feed Centre Side Elevation*

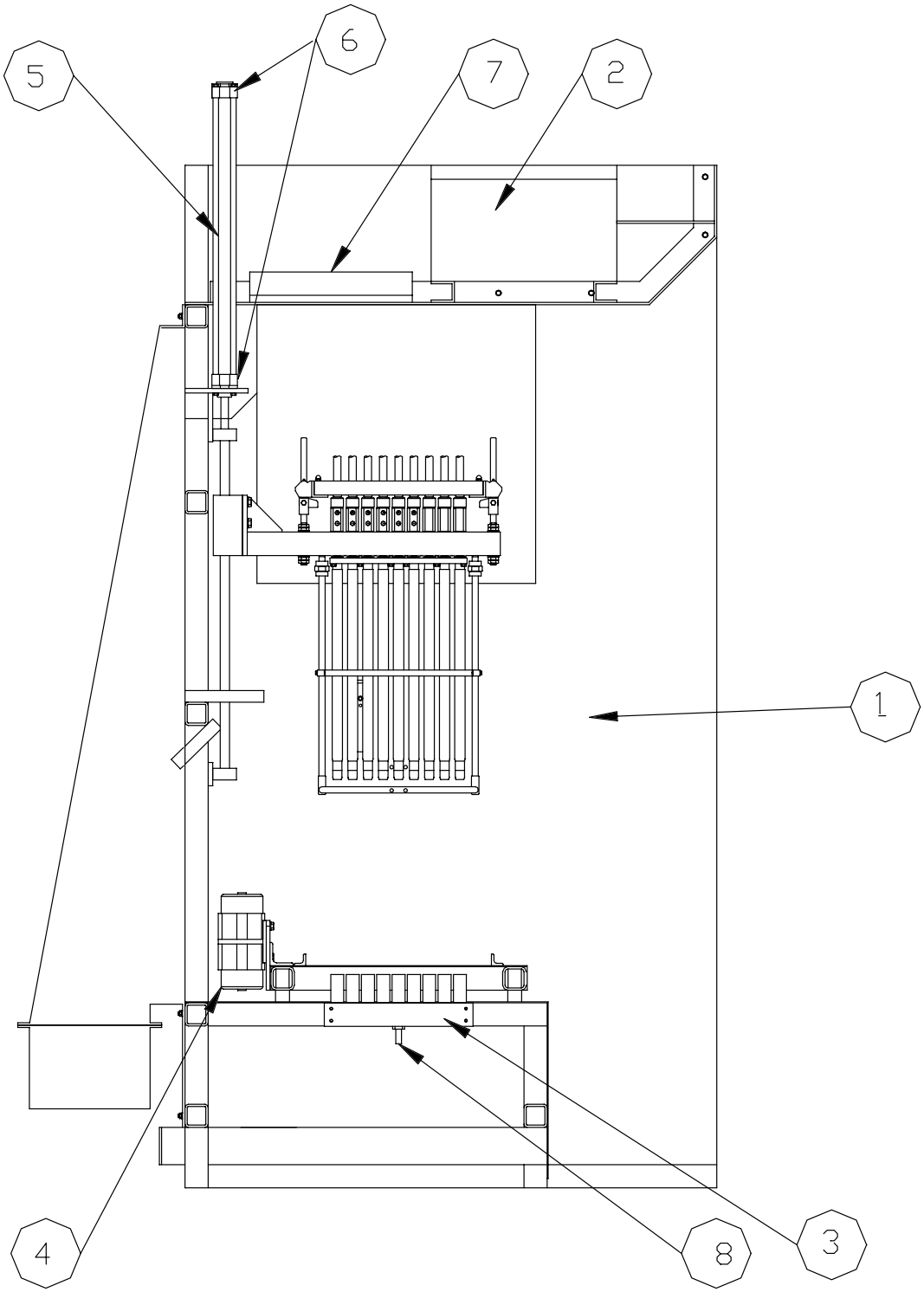


*Fig. 7-3 Micro Feed Centre Side Elevation*

| Item | Part | Description | Quanity | Note |
|---|---|---|---|---|
| 1 | 768 565 | FABRICATION KIT,MICRO FEED CENTRE,BASE | 1 | |
| 2 | 768 806 | CONTROL PANEL,MICRO FEED | 1 | |
| 3 | 767 925 | BRACKET,MANIFOLD SUPPORT,C/FEED | AR | |
| 4 | 765 765 | VIBRATOR, ELECTRIC, 3–PHASE | 1 | |
| 5 | 767 932 | CYLINDER DNU–40–550–PPV–A | 1 | |
| 6 | 767 935 | RESTRICTOR,CYLINDER MOUNT,1/4 x 6mm | AR | |
| 7 | 767 300 | LIGHT ASSEMBLY | 1 | |
| | 767 303 | PERSPEX,LIGHT PANEL | 1 | |
| | 767 304 | WEATHER SEAL / METRE | 3 | |
| 8 | 767 966 | HOSE TAIL 3/4”, PER LANCE | AR | |
| NS | 769 048 | TERMINAL BLOCK,10A,12 WAY | AR | |
| NS | 769 000 | ENCLOSURE,TERMINAL,8 WAY,PLASTIC | AR | |
| NS | 768 003 | REGULATOR,AIR,1/4” | AR | |

AR: As Required
NS: Not Shown

## *5. Straight Through Pump Lance Assembly*

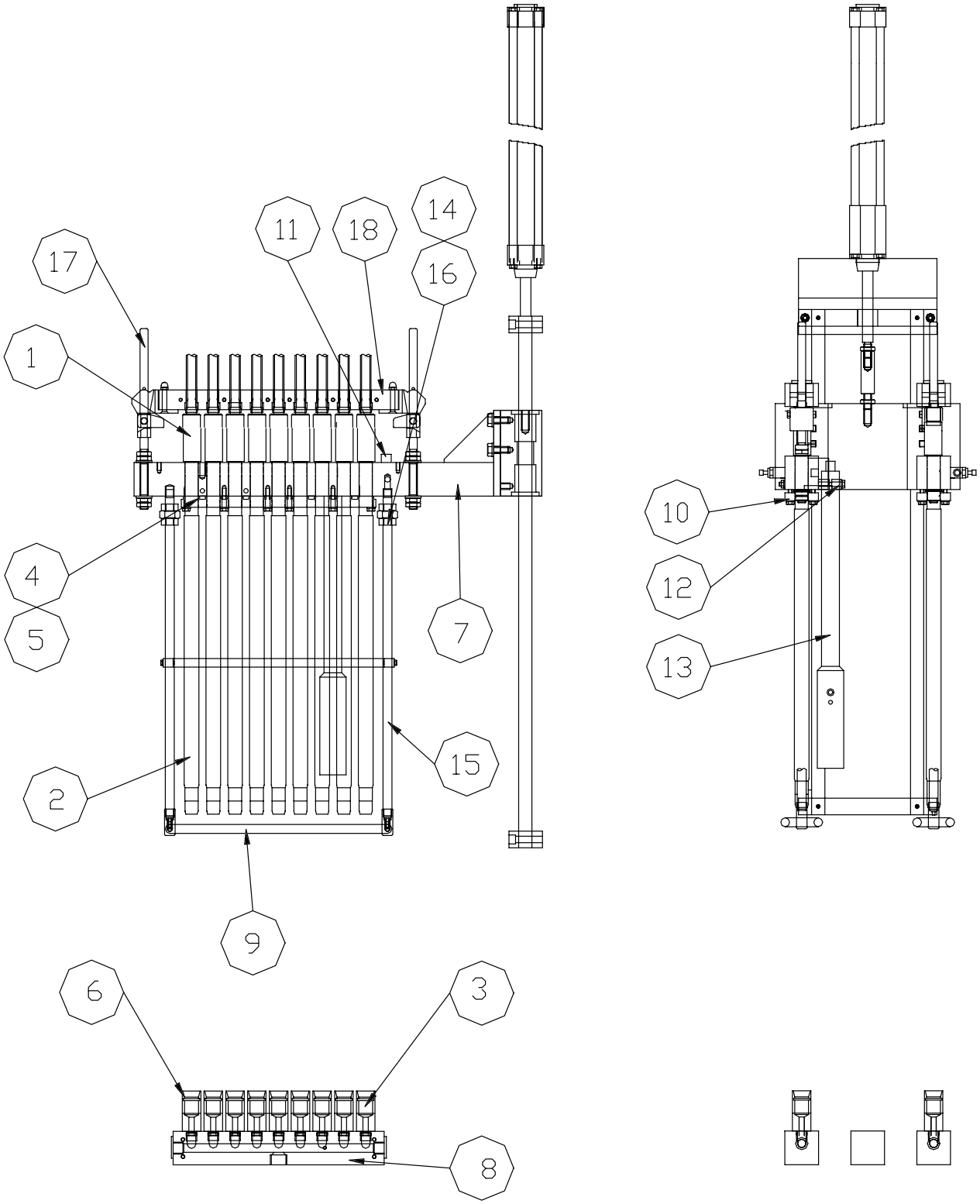


*Fig. 7-4 Straight Through Pump Lance Assembly*

| Item | Part | Description | Quanity | Note |
|---|---|---|---|---|
| 1 | 100 3918 | PUMP,INLINE,POWDERFEED EUROPE | AR | |
| 2 | 768 595 | DIP LEG,STRAIGHT THROUGH,PUMP | AR | |
| 3 | 768 800 | NOZZLE,PURGE,MANIFOLD | AR | |
| 4 | 768 802 | CIRCLIP,EXT,ST/ST,20MM | AR | |
| 5 | 768 803 | O–RING,CONDUCTIVE, 2 PER DIP LEG | AR | |
| 6 | 768 804 | O–RING,CONDUCTIVE, 1 PER PURGE NOZZLE | AR | |
| 7 | 768 587 | LANCE ARM | AR | A |
| 8 | 768 582 | MANIFOLD,PUMP PURGE, PER LANCE | AR | |
| 9 | 768 801 | RING,FLUIDISATION, PER LANCE | AR | |
| 10 | 768 586 | KEEP PLATE,DIP LEG, PER LANCE | AR | |
| 11 | 768 422 | REGULATOR,FLOW,1/4 – 6mm, PER LANCE | AR | |
| 12 | 768 579 | CLAMP,LEVEL,PROBE, | 1 | |
| 13 | 767 926 | LEVEL PROBE | 1 | |
| 14 | 768 294 | UNION,1/4” BSP,ST/ST, 2 OFF PER LANCE | AR | |
| 15 | 768 818 | PIPE,1/4”BSP,ST/ST,MEDIUM, 2 OFF PER LANCE | AR | |
| 16 | 768 116 | NIPPLE,BARRELL,1/4BSP, 2 OFF PER LANCE | AR | |
| 17 | 768 568 | KIT,LIGHT/DARK MANIFOLD,S/T PUMP, PER LANCE | AR | |
| 18 | 768 813 | CLAMPING PLATE, HI FLO HOSE, PER LANCE | AR | C |
| | 768 812 | CLAMPING PLATE, LO FLO HOSE, PER LANCE | AR | C |
| NS | 767 937 | PLUG,BLANKING,1/2”BSP 2 OFF PER LANCE | AR | |
| | 768 588 | PANEL,FRONT SECTION,S/THROUGH PUMP | 1 | |
| | 768 590 | TUBE SUPPORT, S/THROUGH PUMP | AR | B |
| | 768 593 | BLANK,TUBE SUPPORT, S/T PUMP | AR | B |
| | 768 583 | MANIFOLD,BLANK,PUMP PURGE | AR | |
| | 768 594 | PLUG,PURGE,MANIFOLD | AR | |

NOTE A: 1 LANCE: UPTO 9 PUMPS,2 LANCES: 10–18 PUMPS, 3 LANCES: 19–27 PUMPS
B: AS REQUIRED DEPENDENT UPON HOW MANY LANCES
C: THESE CAN BE ORDERED SEPARATELY FOR LIGHT/DARK MANIFOLD SETS
AR: As Required
NS: Not Shown

## *6. Modular Pump Lance Assembly*

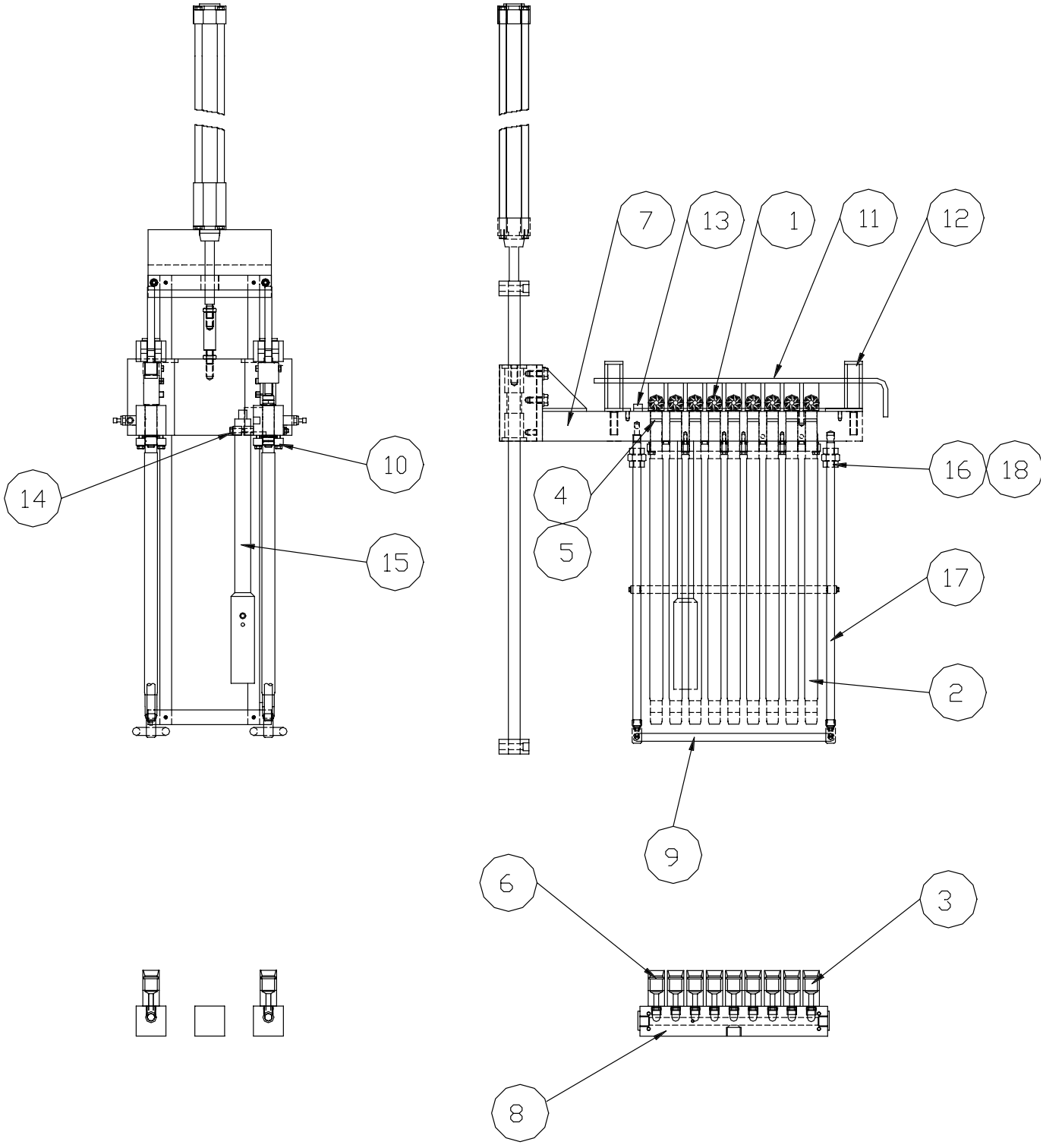


*Fig. 7-5 Modular Pump Lance Assembly*

| Item | Part | Description | Quanity | Note |
|---|---|---|---|---|
| 1 | 767 911 | PUMP,MODULAR,CORONA, FEED CENTRE | AR | |
| | 767 910 | PUMP,MODULAR,TRIBO 2, FEED CENTRE | AR | |
| | 631 434 | PUMP POWDER TRIBO 1, FEED CENTRE | AR | |
| 2 | 768 596 | DIP LEG,MODULAR,PUMP | AR | |
| 3 | 768 800 | NOZZLE,PURGE,MANIFOLD | AR | |
| 4 | 768 802 | CIRCLIP,EXT,ST/ST,20MM | AR | |
| 5 | 768 803 | O–RING,CONDUCTIVE, 2 PER DIP LEG | AR | |
| 6 | 768 804 | O–RING,CONDUCTIVE, 1 PER PURGE NOZZLE | AR | |
| 7 | 768 587 | LANCE ARM | AR | A |
| 8 | 768 582 | MANIFOLD,PUMP PURGE, PER LANCE | AR | |
| 9 | 768 801 | RING,FLUIDISATION, PER LANCE | AR | |
| 10 | 768 586 | KEEP PLATE,DIP LEG, PER LANCE | AR | |
| 11 | 768 527 | PUMP,RETAINING ROD, MODULAR, PER LANCE | AR | |
| 12 | 768 528 | BLOCK,PUMP RETAINER, 2 OFF PER LANCE | AR | B |
| 13 | 768 422 | REGULATOR,FLOW,1/4 – 6mm, PER LANCE | AR | |
| 14 | 768 579 | CLAMP,LEVEL,PROBE, | 1 | |
| 15 | 767 926 | LEVEL PROBE | 1 | |
| 16 | 768 294 | UNION,1/4” BSP,ST/ST, 2 OFF PER LANCE | AR | |
| 17 | 768 818 | PIPE,1/4”BSP,ST/ST,MEDIUM, 2 OFF PER LANCE | AR | |
| 18 | 768 116 | NIPPLE,BARRELL,1/4BSP, 2 OFF PER LANCE | AR | |
| NS | 767 937 | PLUG,BLANKING,1/2”BSP 2 OFF PER LANCE | AR | |
| | 768 591 | PANEL,FRONT SECTION,MODULAR PUMP | 1 | |
| | 768 592 | HOSE SUPPORT PLATE | AR | D |
| | 768 593 | BLANKING PLATE,HOSE OUTLET | AR | D |
| | 768 525 | 2nd BLOCK,PUMP RETAINER, 2 OFF PER LANCE | AR | C |
| | 768 526 | 3nd BLOCK,PUMP RETAINER, 2 OFF PER LANCE | AR | C |
| | 768 519 | 2nd LANCE PUMP ADAPTOR, 1 OFF PER PUMP | AR | C |
| | 768 526 | 3rd LANCE PUMP ADAPTOR, 1 OFF PER PUMP | AR | C |
| | 765 634 | O–RING, CONDUCTIVE, 2 OFF PER PUMP ADAPTOR | AR | C |
| | 768 583 | MANIFOLD,BLANK,PUMP PURGE | AR | |
| | 768 594 | PLUG,PURGE,MANIFOLD | AR | |

NOTE A: 1 LANCE: UPTO 9 PUMPS,2 LANCES: 10–18 PUMPS, 3 LANCES: 19–27 PUMPS

B: 1 & 2 LANCE(S) USE : BLOCK PUMP RETAINER. ONLY

C: 3 LANCES USES 1ST, 2ND AND 3RD BLOCK, PUMP RETAINERS, PLUS 2ND & 3RD ADAPTORS (2 X O–RINGS REQUIRED PER ADAPTOR)

D: AS REQUIRED DEPENDANT UPON HOW MANY LANCES

AR: As Required

NS: Not Shown

## *7. Modular Pump Light Dark Manifold (OPTIONAL)*

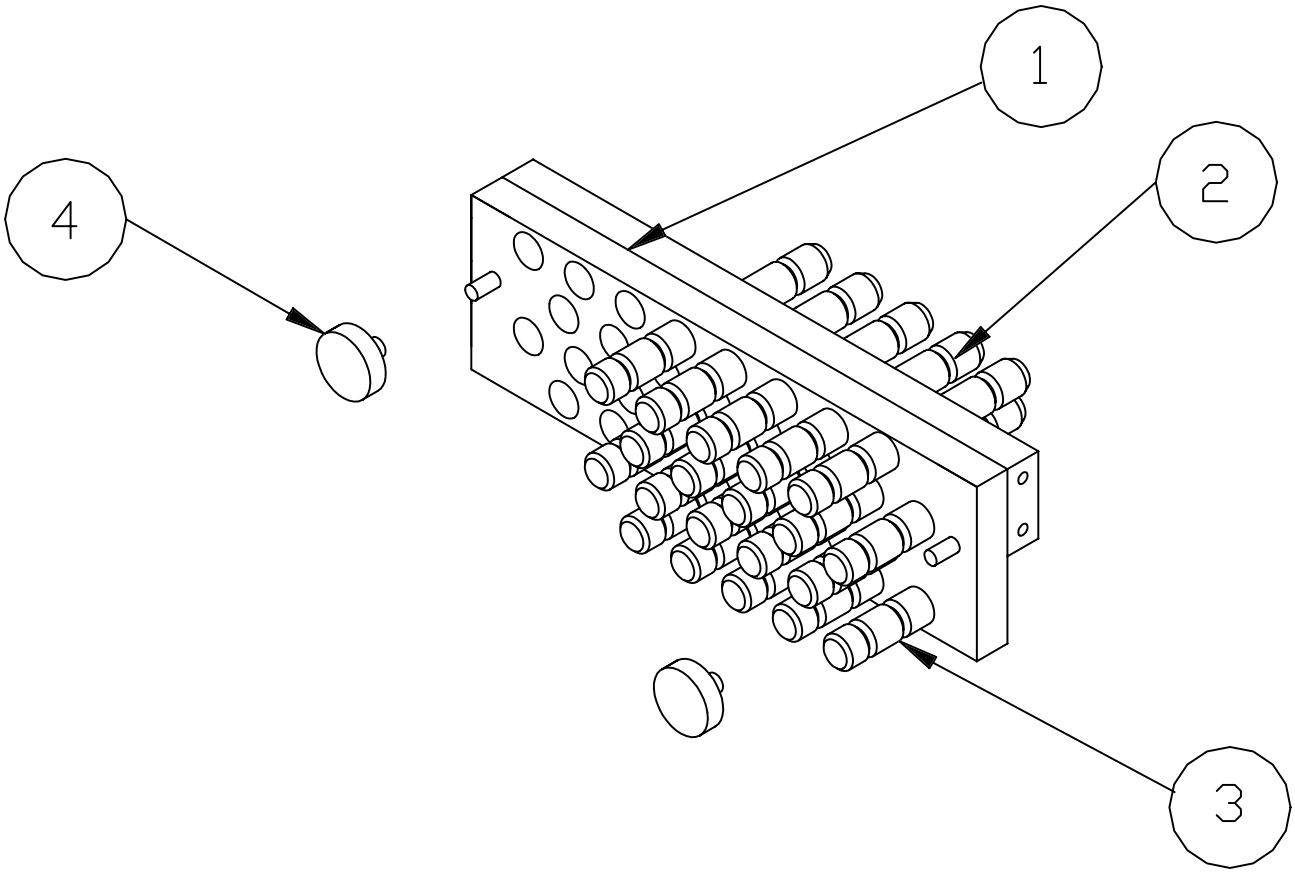


*Fig. 7-6 Light/Dark Manifold (Modular Pump)*

| Item | Part | Description | Quanity | Note |
|---|---|---|---|---|
| 1 | 768 569 | KIT,FAB.,LIGHT/DARK MANIFOLD,PER LANCE | AR | |
| 2 | 768 816 | CONNECTOR,MALE,2 OFF PER PUMP | AR | |
| 3 | 768 815 | CONNECTOR FEMALE, 1 OFF PER PUMP | AR | |
| 4 | 769 511 | KNOB,STAR,M8 | 2 | |
| NS | 940 163 | O–RING (PER CONNECTOR) | AR | |
| AR: As Required<br>NS: Not Shown | | | | |

*Section 8*

# *Specifications*

# Section 8
# Specifications

## *1. Technical Data*

***Electrical Requirements***

380/415V, 3–phase + Neutral 50Hz, star/delta, IP55

Other voltages and starters are supplied on request, check on your circuit diagrams.

***Pneumatic Requirements***

Dry, clean air at 90–95 p.s.i., filtered to 5$\mu$, or dried to 2 degree C dew point, oil free.

## *2. Weights and Dimensions*

| Part No. | Description | Dimensions mm (L x W x H) | Weight (Kgs) |
|---|---|---|---|
| 768560 | Micro Feed Centre | 1510 x 1750 x 2370 | 445 |
| 768570 | Powder Feed Centre (c/w Flat Floor) | 1850 x 1750 x 2415 | 520 |
| 768571 | Powder Feed Centre (c/w Fluid Bed) | 1850 x 1750 x 2415 | 525 |