Cartridge Equipment

Manual P/N 768 626 A
– English –

Keep for Future Reference

NORDSON (UK) LTD. ● STOCKPORT

CE

Order number
P/N = Order number for Nordson products

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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

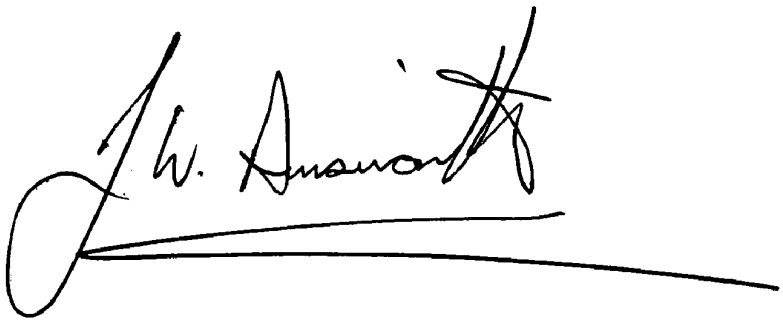
declare that under our sole responsibility for supply/manufacture of the product(s)

Product Name	Cartridge Equipment
Model Number(s)	
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 "Safety of Machinery – Electrical equipment of machines" EN 60335:Part 1:1988 "Safety of household and similar electrical appliances" BS EN 292:1991 "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., 28 October 1998

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

Nordson utilises the same proven filter technology on all their cartridge equipment. The design ensures a constant air flow on a system due to the continuous sequential cleaning of the filter cartridge unlike conventional bag filters which are mechanically shaken when turned off.

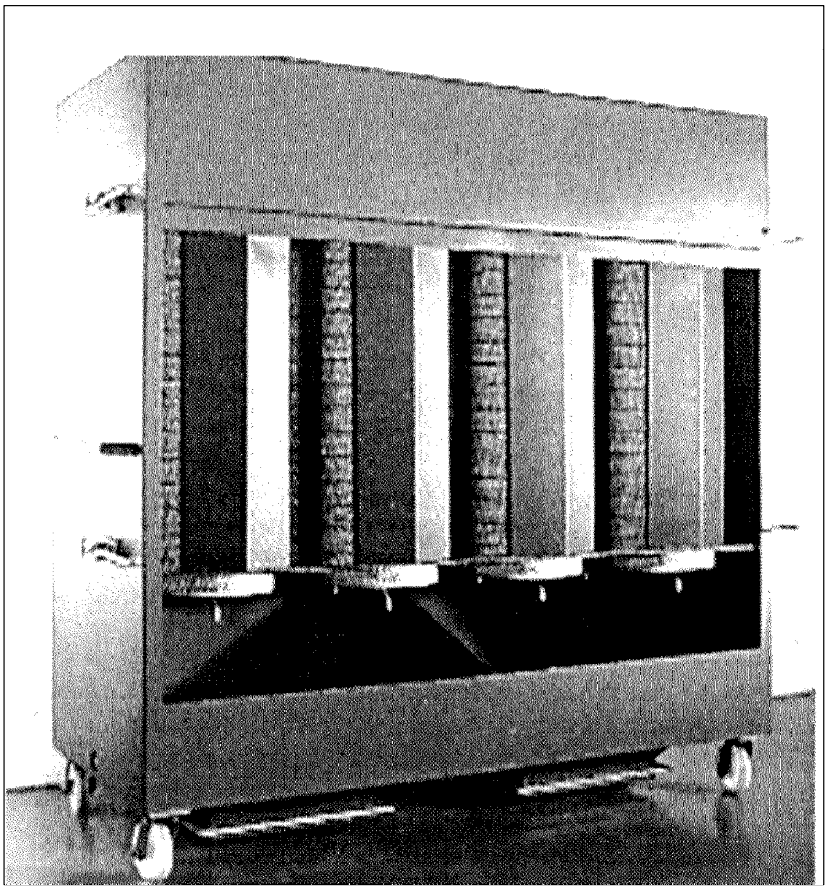


Fig. 2-1

2. Features

The systems are designed with a pre–separation (drop–out) section of generous proportions below the filter cartridge enhanced by a low velocity inlet. The filter cartridges are of a tried and tested media, each containing 31.9 m^2 of high performance filter media giving a separation efficiency of greater than 99.98% of particles of 4μ and over. This high efficiency enables the air to be safely returned to the workshop. Above the cartridges is the reverse jet cleaning equipment which utilises high speed, direct operating diaphragm valves, the shock wave so created dislodges the powder from the cartridge.

The fan set is located above the reverse jet cleaning equipment and is sized according to the system, an air volume control damper is provided, as is an air flow switch to provide a safety interlock to the powder application equipment. In this location the fan ensures the whole recovery system is under depression, thereby reducing the risk of powder loss. The fan, of course, is working in clean air to improve reliability and reduce maintenance.

Recovered powder collects within the integral powder hoppers, from which it may be recovered and recycled automatically, or pumped to a waste bucket.

Section 3

Installation

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. Do not throw the unit. Use suitable packaging materials and sturdy cartons. See *Specifications* section for weight.

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. Setting Up

Protect the unit from humidity, excessive dust and vibrations.

For dimensions see *Specifications* section.

4. Removing

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

5. Storage

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

6. Disposal

Dispose of properly according to local regulations.

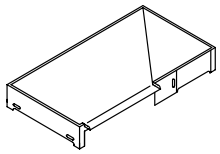
7. Setting Up the Unit

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

Site Preparation

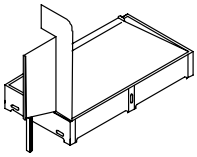
NOTE: Booths are generally delivered pre–assembled, where this is not practical due to shipping requirements or at the customers request that booth be supplied ”flat pack” for on–site assembly.

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

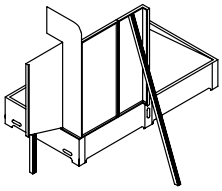


- Choose a level site on which to install the booth.
- Seal concrete floors with a suitable material to avoid dust. Other floor surfaces should be of a type that is easy to keep clean.

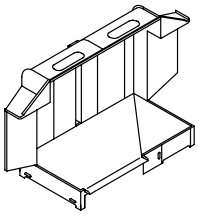
NOTE: Bolts should only be finger tight until assembly is complete.



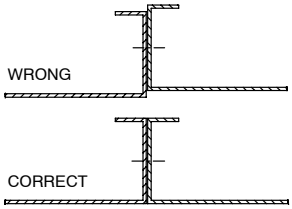
- Position base frame and level using jacking bolts supplied.
- Commence assembly with a corner panel.



- Continue by adding other panels, support as necessary.



- Fit the roof panel. If roof panels are in more than one piece, pre–assemble first.



- Ensure all panels are correctly aligned and then tighten nuts and bolts.
- Fit mating frame where applicable.
- Finally, seal all internal joints using acrilic sealant (NOT SILICONE). Clean excess sealant to leave a smooth joint.

8. 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, 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. Check operation of solenoid.

9. Pneumatic

Before operating the spray booth, 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 spray booth.

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. Commissioning

To start up the system, follow the following steps in sequence.

- Close the fan damper down to leave only a 25mm (1") gap.
- Isolate the system and check all electrical connections.
- Check motor overload is set at, or preferably below, the maximum current rating of the motor.
- Switch off the fan breaker and check operation of the contactor having re–connected the power to the system.
- Switch on the fan breaker and check the fan rotation by rapidly turning the fan on and then off, rotation can be observed on the fan motor cooling fan.
- Start the fan again and set the air volume control damper to give the designed face velocity.
- Check the operation of the air flow switch. This is normally used to interlock the application equipment supply and should be on only when the fan is running if the air flow switch functions correctly.
- Open the compressed air isolation valve and check for air leaks, remedy as necessary, set the pulse pressure to 6.4 bar (95 p.s.i.).
- Turn on the cartridge cleaning sequence switch (pulsing or pulse) and set the interval and duration of pulse to give at least 20 seconds between pulses to allow the pulse manifold to fully recharge, minimise the pulse duration sufficient to give a short, sharp bang, longer pulse durations only waste air. Turn off the cartridge sequencer.
- Check the operation of the booth light.

1. Commissioning (contd.)

It may be necessary to open the air volume control damper to maintain the booth face velocity, as the filter cartridges gradually build a stable powder cake, after about 160–200 hours running this should be established.

The unit comes complete with an electrical control panel, but if not it should be supplied via a wall mounted starter which should be labelled accordingly. In the event of a power loss, the starter should be wired not to start–up on re–connection of power, but will require the start button to be re–pressed.

2. Daily Operation

- Turn air supply to air reservoir on and adjust via air regulator to at least 90–95 p.s.i. (recommended).

- Turn on fan assembly. At initial start–up, visually check fan rotation to ensure it is correct. (Anti–clockwise viewed at impellor intake).

Operating Checks

- Monitor exhaust discharge, exhaust should remain visually clean, if a leak develops it will be first noticed as a puff of dust immediately after a cleaning pulse.

NOTE: On request, after filter units can be supplied at time of manufacture with filters situated in the acoustic hood, in which case, as is common with all other cartridge equipment, unless this final filter is removed, the above will not be observed.

- Monitor pressure drop. Equilibrium dP is generally 3–4” on minihelic gauge.

Operating Adjustments

- Compressed air is specified at a pressure of 90–95 p.s.i. The integral timer is pre–set to clean a segment of cartridge elements approximately every 20 seconds, depending on powder loading.

- Higher than design dP (pressure drop across filter elements) can often be lowered by increasing the frequency of cleaning, minimum dwell time between pulses should not be less than 10 seconds.

DO NOT increase the length of each pulse duration beyond the nominal 50 milliseconds factory settings, longer pulses do not aid cleaning (in fact long pulses are detrimental to operation), they simply waste compressed air. A low dP can be raised to design levels by increasing the time between pulses. (Pressure switch control may be added to clean only when dP reaches design level).

- As the pulse duration and interval is adjustable, they can be finely adjusted for efficient operation to overcome the differences experienced with powder types.

Section 5

Maintenance

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

- Every four– (4) hours, with the fan operation, clean the booth interior with a rubber squeegee, or other non–sparking cleaning device, pulling the powder into the recovery section of the booth. Pay particular attention to remove any powder building up on the vibrator(s).
- Every four– (4) hours check the collector bin levels – if the bin is above half full, empty it.
- Every four– (4) hours or less check the feeder hopper for powder level. Before adding powder use the vacuum cleaner to prevent powder dust from getting out into the room.
- Every four– (4) hours check the powder pump and gun, clean according to the product manual.
- Every four– (4) hours clean UV detector cleaning sequencer for at least ten (10) minutes, longer if necessary, to maintain air flow.

2. Maintenance

Routine

- Check the hopper for foreign materials, empty and clean if necessary.

Motor

- 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.
- 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.

Seals

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

Cyclones

- Check the seals regularly on the cyclone doors and surge hopper, air leaks will adversely effect efficiency.
- Check for impact fusion and mechanically or chemically remove because again efficiency will be affected.

Explosion Relief

- Relief's should be checked daily, make sure that they open freely and that all obstructions are removed.

Cartridges

- 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.
- Cartridges and final filters cannot be manually cleaned but 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.

Transfer 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 transfer pumps refer to the product manual.

Final Filters

- This is an added feature to protect against powder escaping to the immediate area in case of a cartridge leak.

Compressed Air

- Open the dip 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.

Grounding

- Continually check for grounding of parts to hangers. Clean/strip hangers regularly.

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 booth base and walls to avoid unnecessary contact with the powder.
- Relieve all air pressure in the system. Turning off the air supply and operating the pulsing can do this. Or by releasing the pressure safety valve attached to the air manifold.
- Lock out and disconnect services to the booth.
- Unbolt and remove the diverter vanes fitted in front of the cartridges.
- Each cartridge is held in place by a crank rod. Remove the cartridge by unscrewing the crank rod about 50mm. Lift the cartridge up and push the top of the crank rod towards the back of the booth. The top of the crank has a square end, which locates in the hanger. The action of lifting and pushing back releases the nut from its location.
- 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 cartridges not specially designed to Nordson standards could seriously affect the operation and performance of your Nordson Cartridge Booth.

3. Cartridge Replacement
(contd.)

- Ensure before fitting cartridges that each cartridge has two crank halves, seal washer and earthing strip.
- Take the lower crank with the handle and with the handle at the bottom place on the crank the earthing strip.
- 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.

Section 6

Troubleshooting

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
Fan will not start	Power off	Switch on power
	Overload operated	Re–set overload
	Breaker tripped	Investigate cause
	Wiring fault	Repair of replace
	Motor failure	Investigate cause Replace
	Contactor fault	Repair or replace Check push button wiring.

2. Table of Troubleshooting
(contd.)

Problem	Possible Cause	Corrective Action
Loss of extract	Damper vibrated closed	Reset and lock
	Cartridges not clean	Run cleaning sequence for thirty (30) minutes
	Low pulse pressure	Set pressure at 6.4 bar (95 p.s.i.)
	Cleaning valve fault	Repair or replace
	Sequence card fault	Replace, try other output
Powder escaping	Door seal	Tighten star knobs
	Cartridge leak	Replace seal
	Explosion relief panel not seated (after filter units only)	Check cartridge seal
	Powder pump not on spigot	Tighten or replace cartridge
	Powder hose leak	Check seal and catches Replace seal or catches if defective
		Replace, but check ”0” Ring condition and replace if necessary
		Replace hose and clip if necessary
(Waste Bucket Systems)	Bucket faces not sealing	Re–seat
Powder not transferred to hopper	Transfer pumps not operating	Check pump air supply
	Transfer pump venturi worn	Replace venturi
	Hose fault	Check hoses for leaks and blockages
	Fluidising fails	Check fluidising air supply
		Check conditions of fluid beds

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	P/N	Description	Quantity	Note
—	000 000	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.

2. Typical After Filter Assembly

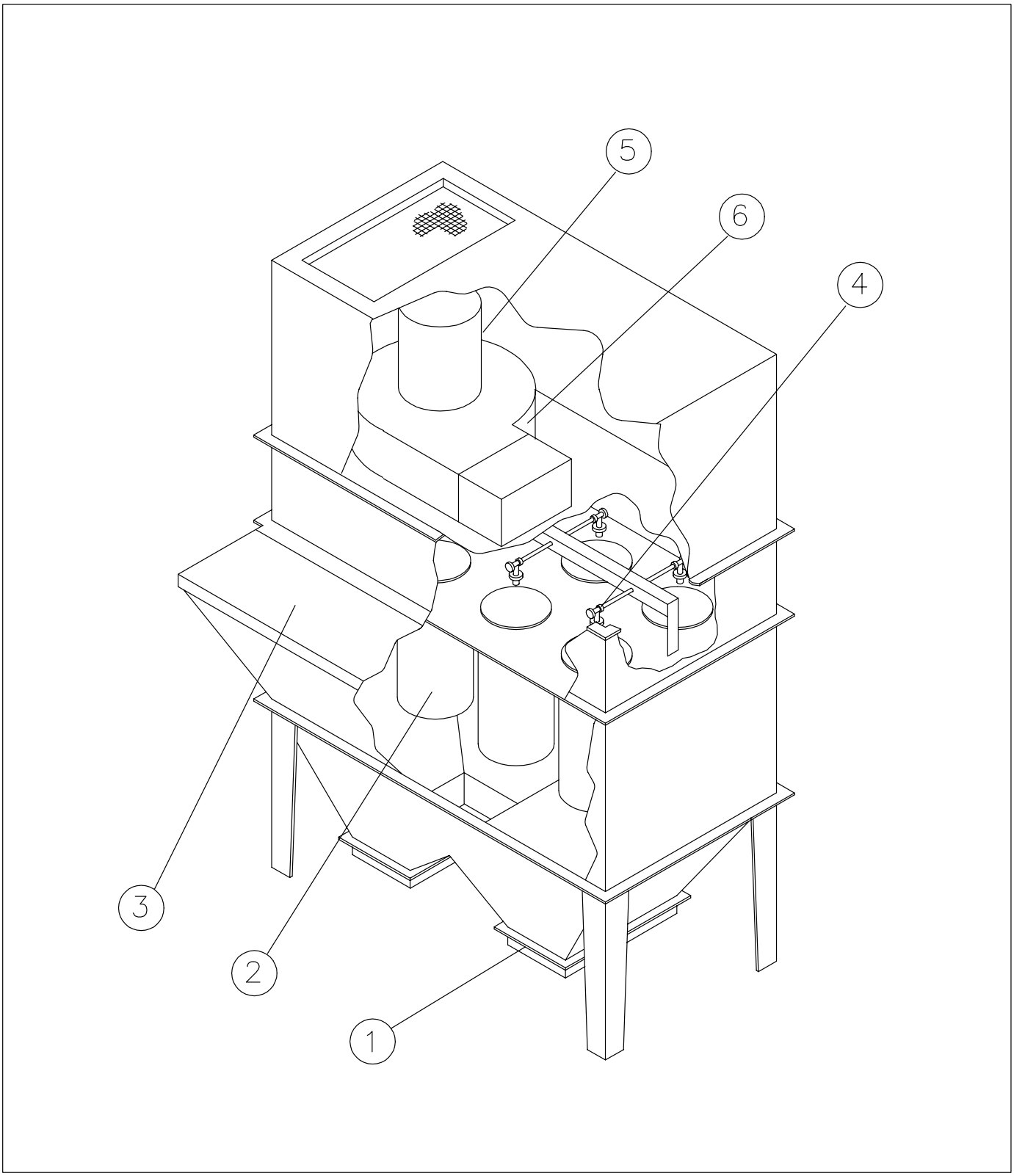


Fig. 7-1

After Filter Parts

Item	P/N	Description	Note
1	AR	Fluid Bed	
	900 725	Transfer Hose	
	768 251	Air Hose	
	244 721	Powder Transfer Pump	
2	767 001	Filter Cartridge	
	767 003	Crank	
	767 009	Earth Strip	
	767 010	Seal, Washer	
3	767 141	Explosion Relief Catch	
	767 211	Door Seal (per metre)	
4	767 011	Hanger Bracket	
	768 408	Blow Down Nozzle	
	768 405	Pulse Valve, 24V dc	
5	–	Fan & Motor Assembly	See Fan Details
6	AR	Fan Damper	
	769 055	Air Flow Switch	
AR: As Required			

Fan Details

C.F.M.	m3/hr	kW	Cartridges	Motor	Motor & Fan
1000	1700	3	2	A040011	766213
2000	3400	3	4	A040011	766214
3000	5000	5.5	6	A040012	766215
4000	6700	7.5	8	A040013	A071049
5000	8400	11	10	A040003	A071048
6000	10000	15	12	–	A071068

3. Typical NCB Assembly

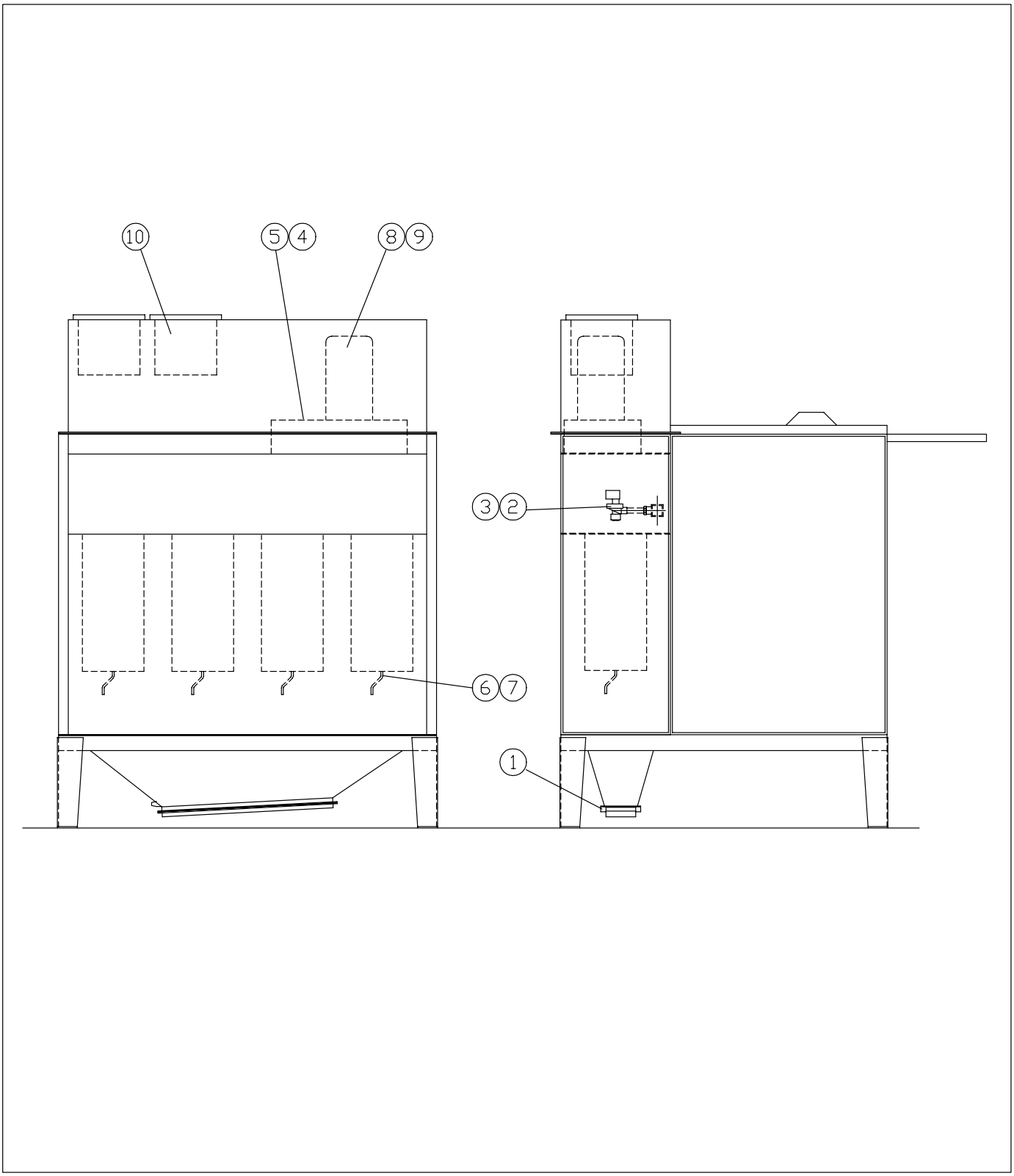


Fig. 7-2

Item	P/N	Description
1	767 027	Fluid Bed
	900 725	Transfer Hose
	768 251	Air Hose
	244 721	Transfer pump
2	768 405	Blow Down Valve
3	768 408	Blow Down Nozzle
4	769 055	Air Flow Switch
5	A075 033	Paddle
6	767 001	Filter Cartridge
7	767 003	Crank
	767 010	Seal Washer
	767 009	Earth Strip
8	766 213	Fan Assembly, NCB–1800
	766 214	Fan Assembly, NCB–2400
	A070 007	Fan Assembly, NCB–3600
9	A040 011	Motor, Fan, NCB–1800
	A040 011	Motor, Fan, NCB–2400
	A040 012	Motor, Fan, NCB–3600
10	767 022	Filter, Final, NCB–1800
	767 023	Filter, Final, NCB–2400
	767 023	Filter, Final, NCB–3600

4. Typical Module (Type M1) for NQCB System Assembly

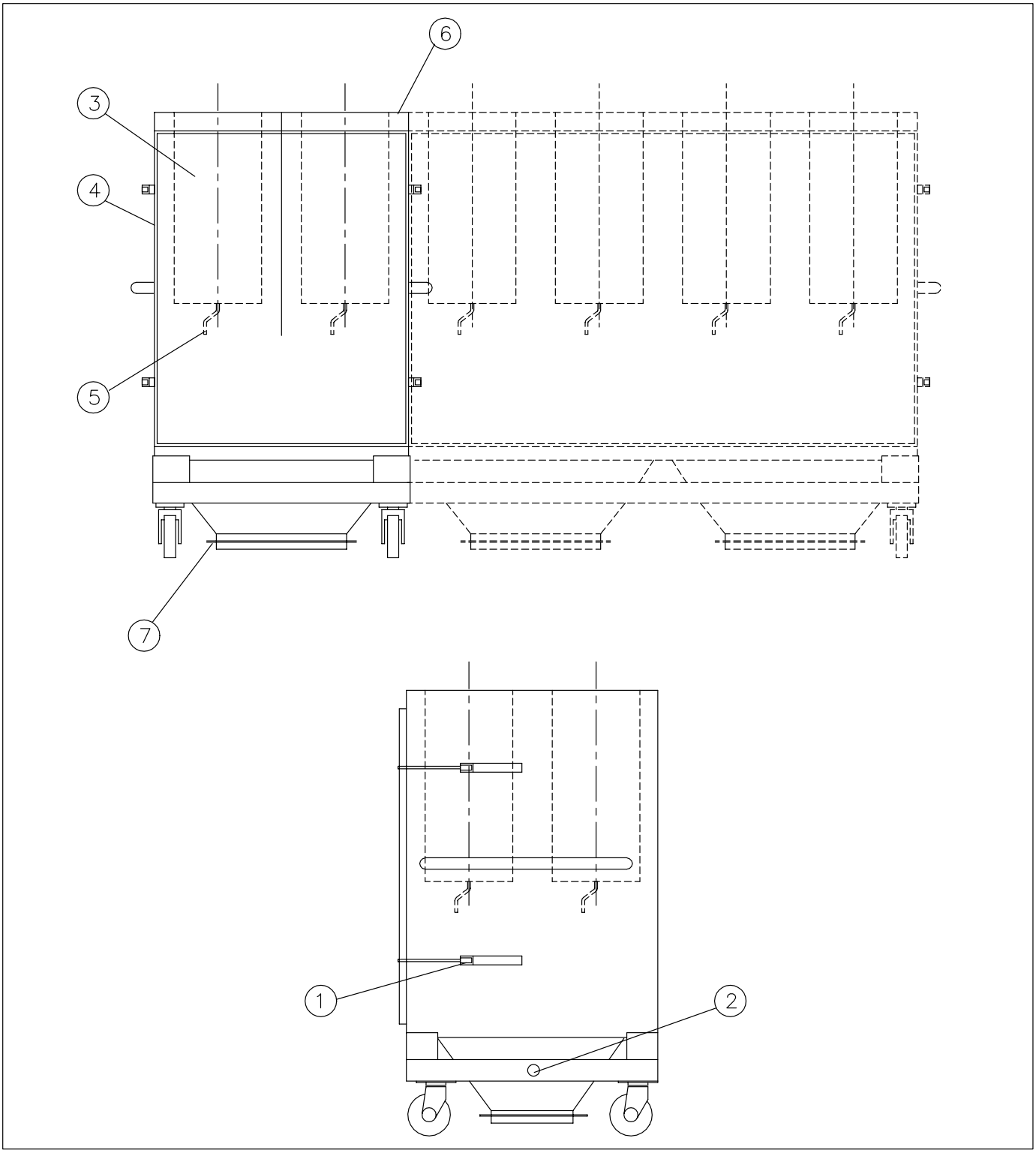


Fig. 7-3

Item	P/N	Description
1	766 065	Latch
2	768 219	Connector, Multi, 16–Way
3	767 001	Filter Cartridge
4	767 207	Seal Strip
	769 816	Adhesive, Seal
5	767 003	Crank
	767 010	Seal Washer
	767 009	Earth Strip
6	766 050	Cover, NQCB–1000
	766 051	Cover, NQCB–2000
	766 052	Cover, NQCB–3000
	766 053	Cover, NQCB–4000
	766 054	Cover, NQCB–5000
	766 055	Cover, NQCB–6000
7	766 063	Fluid bed, NQCB–1000
	766 063	Fluid bed, NQCB–2000
	245 479	Fluid bed, NQCB–3000
	766 063	Fluid bed, NQCB–4000
	245 479	Fluid bed, NQCB–5000
	766 063	Fluid bed, NQCB–6000

5. Typical Module (Type M2) for NQCB System Assembly

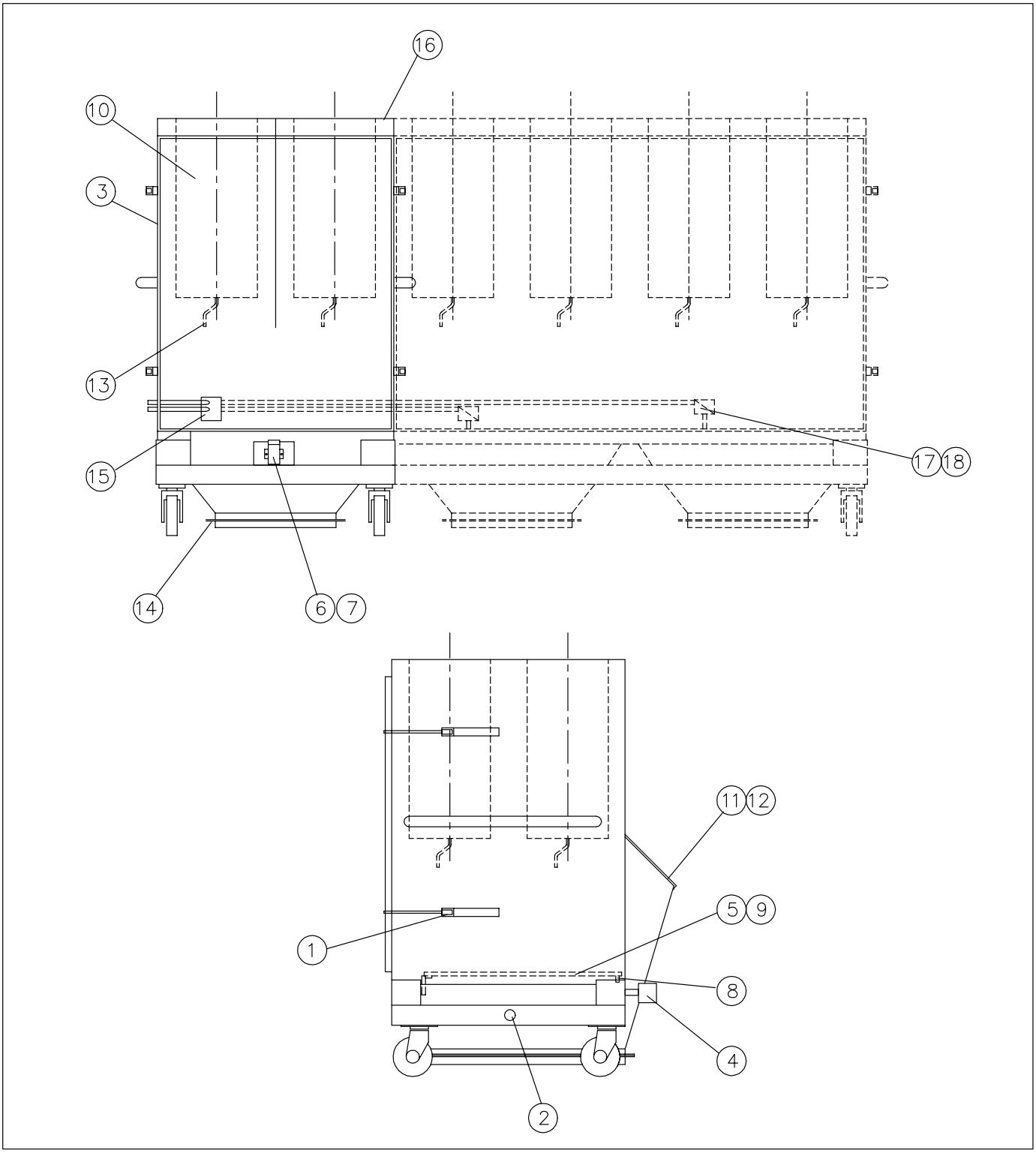


Fig. 7-4

Item	P/N	Description
1	766 065	Latch
2	768 219	Connector, Multi, 16–Way
3	767 207	Seal Strip
	769 816	Adhesive, Seal
4	768 900	Probe, Level (optional)
5	767 211	Seal, Sieve Frame
6	765 744	Diaphragm, Vibrator
7	769 057	Vibrator, Electric
8	A024 002	Mount, a.v.
9	767 040	Screen, 308µ, Sieve
10	767 001	Filter Cartridge
11	767 320	Handle
12	A071 003	Catch
13	767 003	Crank
	767 010	Seal Washer
	767 009	Earth Strip
14	766 060	Fluid bed, NQCB–1000
	766 060	Fluid bed, NQCB–2000
	766 062	Fluid bed, NQCB–3000
	766 061	Fluid bed, NQCB–4000
	766 061	Fluid bed, NQCB–5000
	766 061	Fluid bed, NQCB–6000
15	766 056	Cyclone, Mini, NQCB–1000
	766 056	Cyclone, Mini, NQCB–2000
	766 057	Cyclone, Mini, NQCB–3000
	766 058	Cyclone, Mini, NQCB–4000
	766 058	Cyclone, Mini, NQCB–5000
	766 059	Cyclone, Mini, NQCB–6000
16	766 050	Cover, NQCB–1000
	766 051	Cover, NQCB–2000
	766 052	Cover, NQCB–3000
	766 053	Cover, NQCB–4000
	766 054	Cover, NQCB–5000
	766 055	Cover, NQCB–6000
17	244 721	Pump, Transfer, NQCB–3000
	244 721	Pump, Transfer, NQCB–4000
	244 721	Pump, Transfer, NQCB–5000
	244 721	Pump, Transfer, NQCB–6000
18	766 068	Tube, Syphon, NQCB–3000
	766 068	Tube, Syphon, NQCB–4000
	766 068	Tube, Syphon, NQCB–5000
	766 068	Tube, Syphon, NQCB–6000

6. Typical Module (Type M4) for NQCB System Assembly

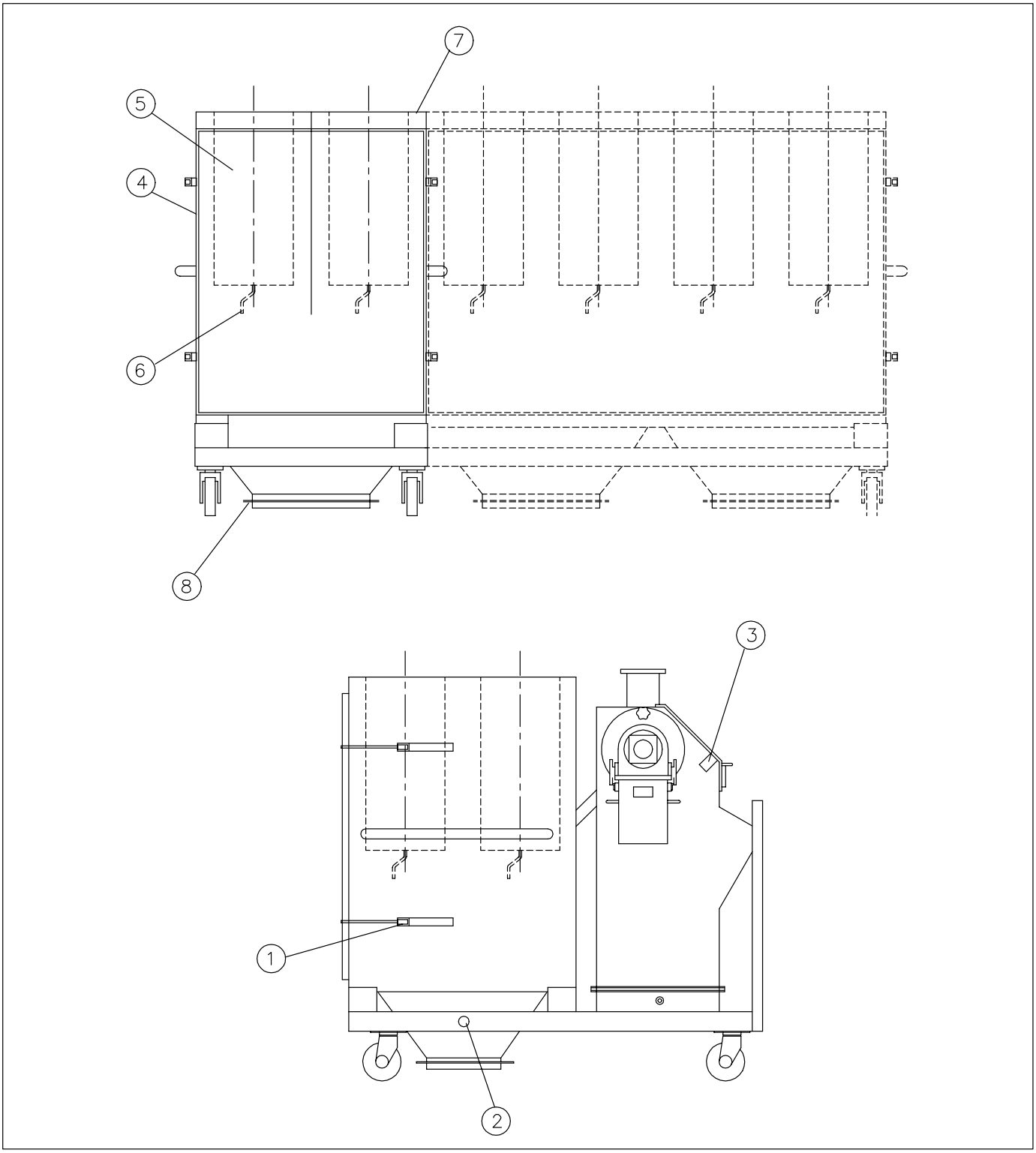


Fig. 7-5

Item	P/N	Description
1	767210	Seal Strip
	769816	Adhesive, Seal
2	766065	Latch
3	768219	Connector, Multi, 16–Way
4	765436	Sieve, Rotary
5	767207	Seal Strip
	769816	Adhesive, Seal
6	767001	Filter Cartridge
7	767003	Crank
	767010	Seal Washer
	767009	Earth Strip
8	766050	Cover, NQCB–1000
	766051	Cover, NQCB–2000
	766052	Cover, NQCB–3000
	766053	Cover, NQCB–4000
	766054	Cover, NQCB–5000
	766055	Cover, NQCB–6000
9	766063	Fluid bed, NQCB–1000
	766063	Fluid bed, NQCB–2000
	245479	Fluid bed, NQCB–3000
	766063	Fluid bed, NQCB–4000
	245479	Fluid bed, NQCB–5000
	766063	Fluid bed, NQCB–6000

Section 8

Specifications

Section 8
Specifications

1. Electrical Requirements

380/415V, 3–phase, 50/60Hz, direct–on–line, IP55.

Other voltages and starters are supplied on request, check on the circuit diagram.

2. Pneumatic

Dry, clean air at 90–95 p.s.i., filtered to 5μ, or dried to 2 ˚C dew point, oil free.