

Virgin Powder Drum Feed System

Manual P/N 768 600 B
– English –

Keep for Future Reference



NORDSON (UK) LTD. • STOCKPORT



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 Virgin Powder Drum Feed System

Model Number(s) 765500, 765501, 765502, 765503 and 765529

Product Options All

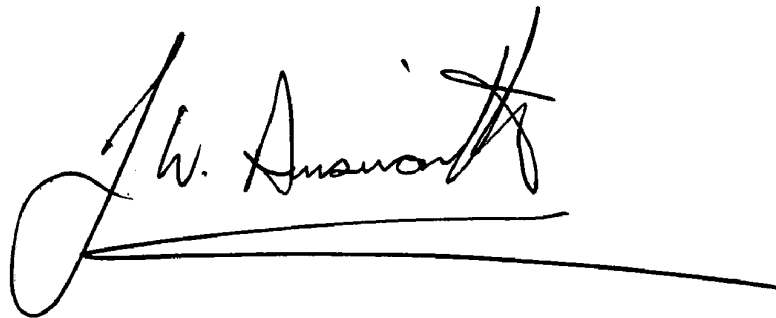
to which this declaration relates, is in conformity with the following standards and other normative documents

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

A handwritten signature in black ink, appearing to read 'J. Ainsworth', with a long horizontal line extending from the end of the signature.

Jim Ainsworth
General Manager

Nordson (U.K.) Ltd., 5th March 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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SK3 0RY

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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	<i>Hot Melt</i>	45-43-66 0123	45-43-64 1101
	<i>Finishing</i>	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	<i>Erkrath</i>	49-211-92050	49-211-254 658
	<i>Lüneburg</i>	49-4131-8940	49-4131-894 149
	<i>Düsseldorf - Nordson UV</i>	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	<i>Hot Melt</i>	47-23 03 6160	47-22 68 3636
	<i>Finishing</i>	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	<i>Hot Melt</i>	46-40-680 1700	46-40-932 882
	<i>Finishing</i>	46 (0) 303 66950	46 (0) 303 66959
Switzerland		41-61-411 3838	41-61-411 3818
United Kingdom	<i>Hot Melt</i>	44-1844-26 4500	44-1844-21 5358
	<i>Finishing</i>	44-161-495 4200	44-161-428 6716
	<i>Nordson UV</i>	44-1753-558 000	44-1753-558 100

Distributors in Eastern & Southern Europe

DED, Germany	49-211-92050	49-211-254 658
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**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
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Africa / Middle East

DED, Germany	49-211-92050	49-211-254 658
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Asia / Australia / Latin America

Pacific South Division, USA	1-440-988-9411	1-440-985-3710
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Japan

Japan	81-3-5762 2700	81-3-5762 2701
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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.

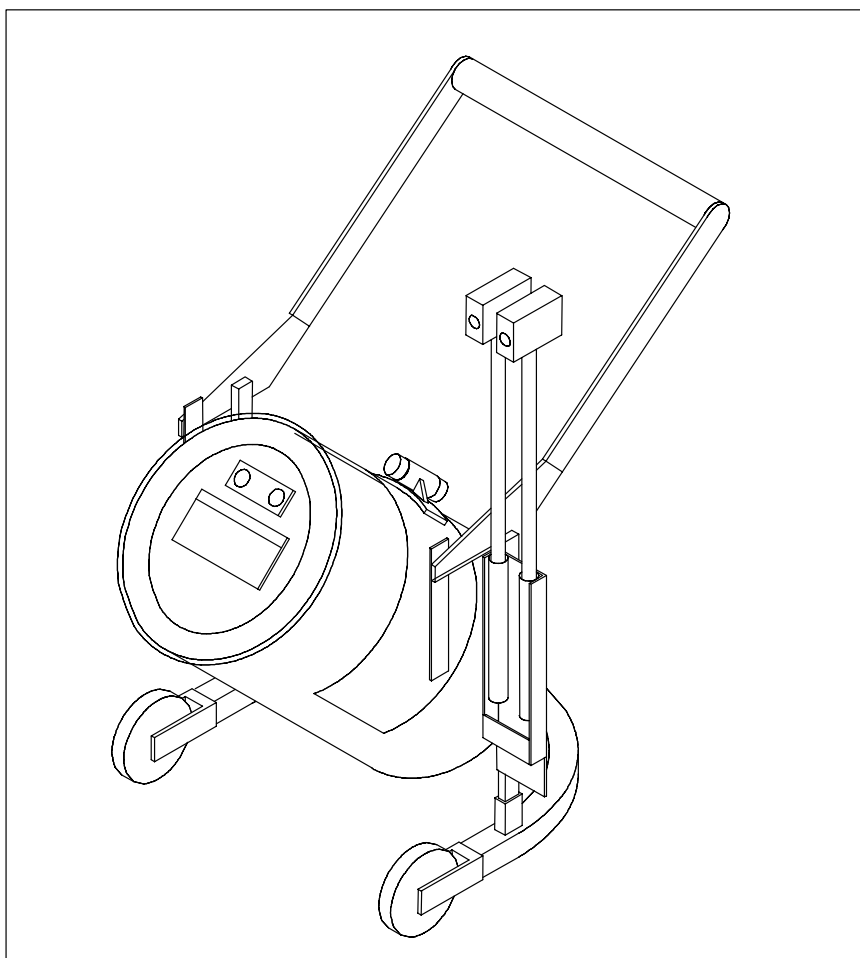
Section 2

Description

Section 2 Description

1. *Intended Use*

The Nordson Virgin Powder Drum Feed System (Drum Feeder) is designed to transfer powder coatings direct to a feed hopper.



*Fig. 2-1 Typical Virgin Powder
Drum Feed System*

2. Features

The Nordson Drum Feeder uses Nordson transfer powder pump(s) to transfer organic or porcelain enamel powder coating materials from a keg/drum to a feed hopper.

The system is mounted on wheels to allow the collection of the keg/drum from the storage point and transportation to the place of use. The keg/drum is supported by a cradle on the mobile stand.

The cradle can be tilted to ensure maximum powder utilisation.

A special lid is supplied with the unit that fits onto a standard keg/drum, which allows stainless steel lance(s) fitted with Transfer pumps to be placed through the lid into the powder.

The Transfer pump(s) operate by using compressed air, supplied through individual regulator(s) on a manifold. Mains air is supplied through a coiled pipe.

The powder is fluidised by the means of an electric vibrator, which is bolted to the keg/drum handler.

The system can be integrated with the Nordson Level Controller to provide automatic transfer of powder to allow the level of the powder in the hopper to be replenished and kept at a constant rate..

The Nordson Drum Feeder comes with one, two or three pump variants, to accommodate small and large systems.

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 dimensions and 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. 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. Setting Up the Unit



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

1. Remove the existing lid off the keg/drum and place to one side.
2. Place the Nordson supplied lid onto the keg/drum.
3. Wheel the Bulk Feeder to the keg/drum.
4. Place the cradle in the horizontal position by pulling on the locking mechanism handle and raising the handle.
5. Ensuring that the lance guides are farthest away from the handle, place the cradle around the keg/drum.
6. Adjust the bar handle until the cradle appears in the vertical centre of the keg/drum or the top lip of the cradle is just underneath the lid.
7. Using the ratchet strap, tighten the keg/drum to the cradle.
8. Push down on the handle until the keg/drum leaves the floor, ensuring the locking mechanism is in position.
9. Place the syphon tube(s) complete with pump(s) through the lance guides upon the lid.
10. Wheel the unit back to the position of use.
11. Connect the Transfer Hose(s) to the Transfer Pump(s).
12. Connect the electric vibrator to either a Nordson Level Controller or to a 240 Vac, 0.2 W single-phase supply.
13. The vibrator will be set to minimum vibration when delivered to the customer, to reset to a higher vibration rate remove the end covers from the vibrator and move the weight's till required vibration is achieved.
14. Ensure that all the ball valves upon the air manifold to the Transfer Pump(s) are turned off.
15. Connect the air supply, 1/2" BSP connection, to the coiled air line supplied with the unit.
16. Turn on the ball valves on the manifold and set the regulator(s) to 3 bar. This is a starting point for the Transfer Pump(s) air pressure. Adjust if necessary to achieve the required amount of powder output.

NOTE: The air must be clean and dry at 6.5 bar maximum, filtered to 5u and 2 C dewpoint, oil free.

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. Introduction

Turn on the electrical and air supplies. This may occur automatically when the booth is turned on.

If the unit connects to a Nordson Level Control System an alarm tells you when the unit is blocked or empty of powder.

2. Changing the Keg/Drum

1. Disconnect the air supply.
2. Disconnect the power supply at base of unit.
3. Disconnect the Transfer hose(s).
4. Wheel the Bulk Feeder over to the new keg/drum and by pulling on the locking mechanism lift the handle until the existing keg/drum is placed on the floor.
5. Remove the syphon tube(s) complete with the pump(s) from the guides in the lid.
6. Release the strap around the keg/drum, and remove.
7. Refit the new keg/drum in reverse.

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

- Clean and check Transfer pump(s) and syphon tube(s).
- Vacuum any powder from the surrounding area to keep the work area free from spilt powder.

2. Weekly Maintenance

- Check and clean the locking mechanism.

3. Yearly Maintenance

- Check condition of all air hoses and replace if necessary.
- The unit should be tested for electrical safety, at intervals of not more than 12 months, according to the Electrical safety at work act 1989 or similar for non-UK countries.

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. Introduction

This section contains troubleshooting procedures. These procedures cover only the most common problems that you may encounter. If you cannot solve the problem with the information given here, contact your local Nordson representative for help.

Problem	Possible Cause	Corrective Action
No Powder is transferred	<p>Check powder is present in the keg/drum</p> <p>Air supply not present</p> <p>Blockage in pump or syphon tube</p> <p>Transfer Pump venturi is worn</p>	<p>Replace keg/drum</p> <p>Check main air supply</p> <p>Check level control system is turned on, refer to Level Controller or system manual</p> <p>Turn unit off, strip and clean</p> <p>Refer to Transfer Pump manual</p>
Powder is transferring erratically	<p>Transfer Pump venturi is worn</p> <p>Vibrator is inoperative</p> <p>Air pressure is too low</p>	<p>Refer to Transfer Pump manual</p> <p>Check power supply</p> <p>Contact your local Nordson subsidiary</p> <p>Check air line pressure</p> <p>Increase regulator pressure</p>

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 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	Quantity	Note
—	000 0000	Assembly	1	A
1	000 000	• Subassembly	2	
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. Virgin Powder Drum Feed System

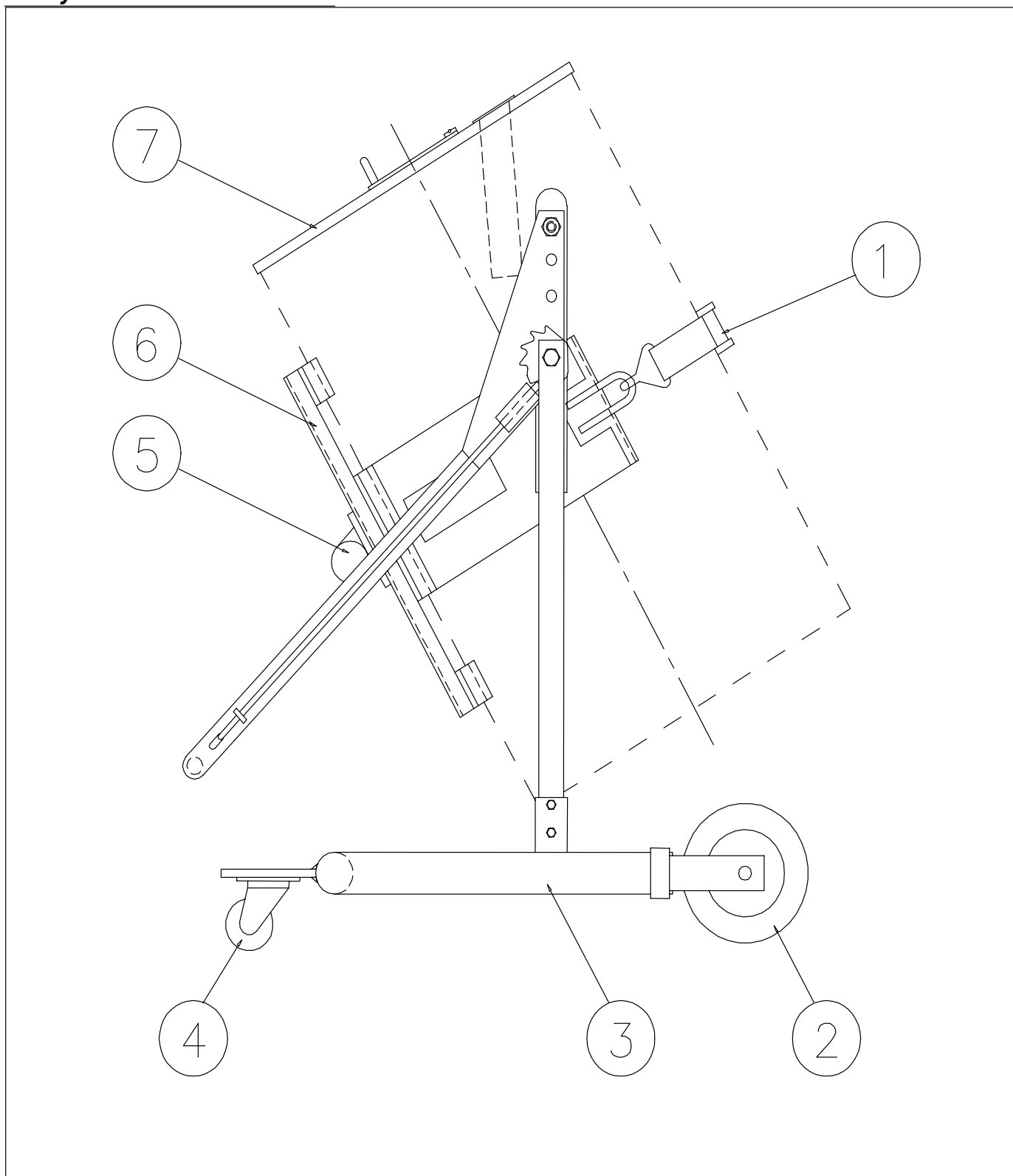


Fig. 7-1 Side Elevation

Item	Part	Description	Quantity	Note
–	765500	1 Pump Virgin Powder Drum Feed System, Organic	AR	A
–	765501	2 Pump Virgin Powder Drum Feed System, Organic	AR	A
–	765529	3 Pump Virgin Powder Drum Feed System, Organic	AR	A
–	765502	2 Pump Virgin Powder Drum Feed System, PE	AR	A
–	765503	3 Pump Virgin Powder Drum Feed System, PE	AR	A
1	765 504	• Lashing Ratchet	1	
2	767 331	• Wheel	2	
3	–	• Base Framework	1	B
4	765 521	• 3" Castor Swivel Braked	1	
5	769 057	• Vibrator	1	
6	–	• Drum Handler	1	B
7	–	• Drum Lid	1	B

NOTE A: Complete Assemblies

B: Part of Fabrication Kit

AR: As Required

NS: Not Shown

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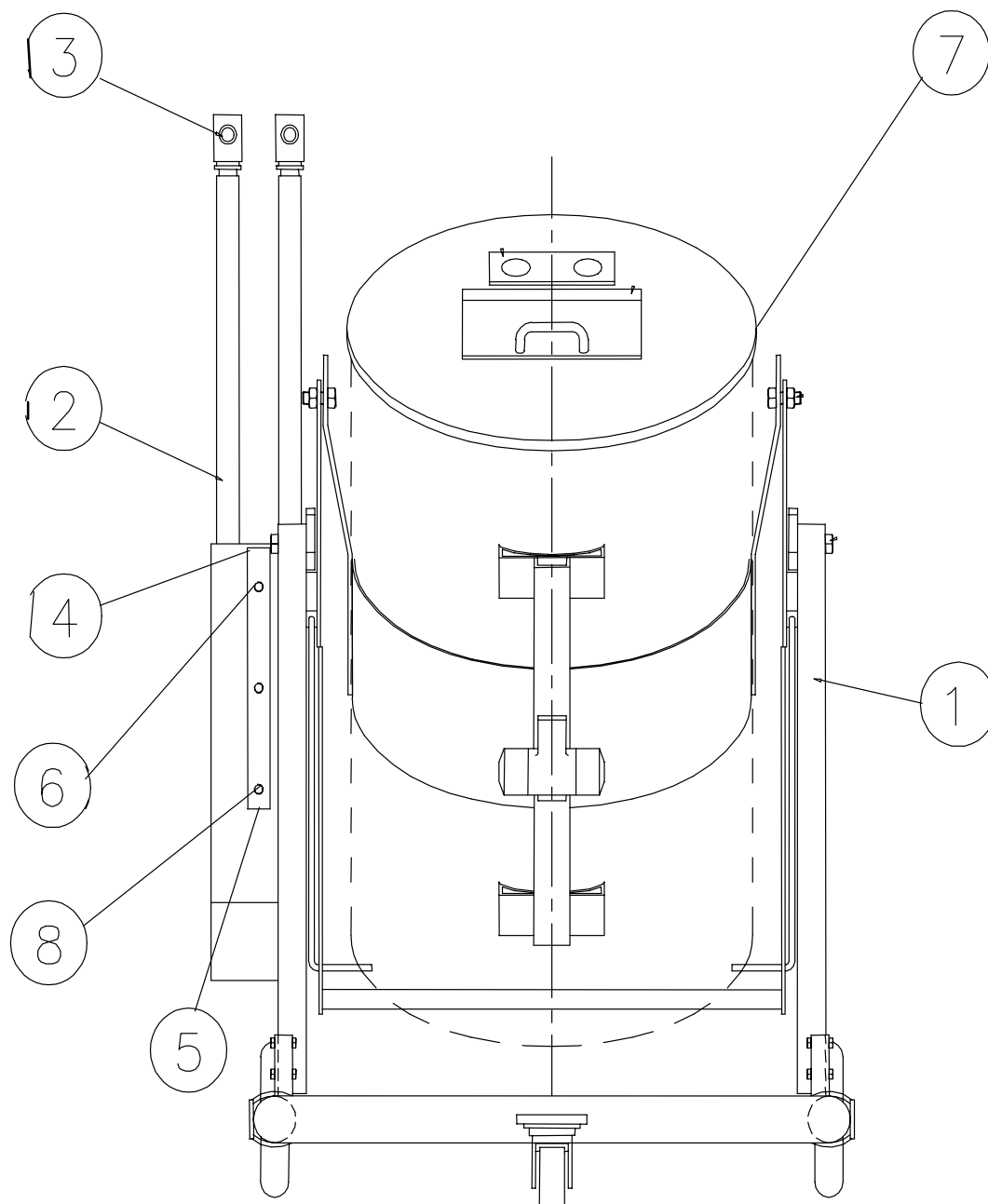


Fig. 7-2 Front Elevation

Item	Part	Description	Quantity	Note
1	765 542	• Fabrication Kit	1	
2	765 505	• Lance	AR	
3	244 721	• Pump, Transfer, Organic	AR	A
	226 708	• Pump, Transfer, Porcelain Enamel	AR	A
4	768 228	• Fitting, Q/D, Male & Female	1	
	768 115	• Elbow, 3/8 BSP	1	
	768 123	• 3/8 BSP Plug	2	
5	765 520	• Manifold	1	
6	768 106	• Bush	AR	
	768 119	• Nipple	AR	
	768 118	• 1/4 BSP Nipple	AR	
	768 130	• 1/4 BSP Ball, Valve	AR	
	768 003	• Regulator	AR	
	768 001	• Gauge, 0–10 Bar	AR	
7	765 746	• Gasket, Lid	1	
	767 203	• Protector, Edge	3m	
8	768 255	• Plug, Blanking	AR	
NS	769 035	• Connector, Surf	1	
	769 034	• Connector, Socket	1	
	768 253	• Hose, Rubber, 5/16 Bore (Per Metre)	AR	
	768 217	• Fitting, Hose End 1/4 BSP (2 off per hose)	AR	
	768 200	• Connector, Hose	AR	
	765 519	• Hose Coiled	1	
	900 551	• Transfer Tubing, Per Foot	AR	
	769 107	• Cable	6m	
	769 132	• Cable Gland	1	
	769 137	• Pipe-Clip, Type NX2	AR	
	769 141	• Wire, Earth	AR	
	765 628	• Clip, Earth, PK of 2	AR	
NOTE A: Refer to Transfer Pump manual for details AR: As Required NS: Not Shown				

Specifications

Section 8 Specifications

1. Dimensions and Weights

Part No	All
Height (mm)	1100
Width (mm)	1000
Length (mm)	1100
Weight (kg)	70kg approx.

2. Noise

Less than 70 db(A). Measured at a distance of 1 m from the surface of the unit.

