

NHR-X-X Feed Hoppers



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



WARNING: Wear an approved respirator, protective clothing, and gloves when handling powder. Avoid skin contact with powder coating or breathing powder particles.

Description

This instruction sheet provides specifications; installation and operation instructions; and parts lists for the following hoppers:

- NHR-8-25
- NHR-8-50
- NHR-8-80
- NHR-18-150

The hoppers are shipped fully assembled with vent tubes and hopper fill plug. Pickup tube assemblies and powder pumps are sold separately or are included in configured systems.

Specifications

	NHR-8-25	NHR-8-50	NHR-8-80	NHR-18-150
Powder Capacity:	11 kg (25 lb)	23 kg (50 lb)	36 kg (80 lb)	68 kg (150 lb)
*Pump Knockouts:	8	8	8	18
Dimensions				
Height:	43 cm (17 in.)	62 cm (24.5 in.)	86 cm (33.8 in.)	91.5 cm (36 in.)
Diameter:	40.00 cm (15.75 in.)	40.00 cm (15.75 in.)	40.00 cm (15.75 in.)	57.2 cm (22.5 in.)
Weight (Empty):	8 kg (18 lb)	9.5 kg (21 lb)	11.5 kg (26 lb)	45.36 kg (100 lb)
**Weight (Full to Capacity):	19.5 kg (43 lb)	32.5 kg (71 lb)	47.5 kg (106 lb)	113.4 kg (250 lb)
Operating Fluidizing Pressure:	0.1–0.6 bar (2–8 psi)	0.1–0.6 bar (2–8 psi)	0.1–0.6 bar (2–8 psi)	1.0–2.7 bar (15–40 psi)
Fluidizing Air Tubing:	10-mm OD	10-mm OD	10 mm-OD	12-mm or 1/2-in. OD
*Pumps and additional adapters must be ordered separately.				
**Weight may vary depending on type of powder.				

Installation



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

NOTE: The NHR-8 X and the NHR-18-150 have their own unique installation instructions. Refer to the applicable section for your hopper.

NHR-8-X Installation

NHR-8-X Hopper Body

See Figure 1.

1. When assembling the body (1) on the fluidizing drum (4), make sure the body is centered on the gasket (2). Verify that there are equal amounts of the gasket exposed along the edge of the body. If exposed gasket is not equally distributed, reposition the body.
2. Lock the body (1) in place by clamping clamps A and C down together. Then, repeat for clamps B and D.
3. Re-verify that the gasket (2) is exposed equally along the inside edge of the body (1).

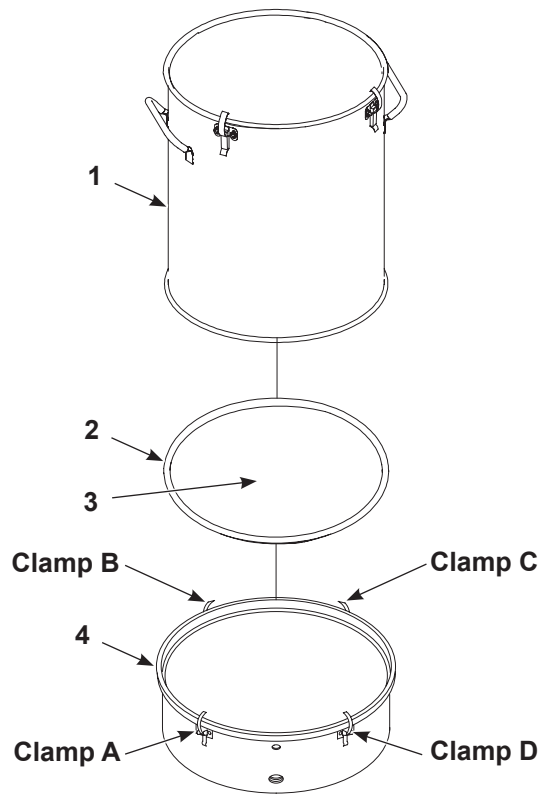


Figure 1 NHR-8-X Hopper Body Installation

1. Body

3. Fluidizing plate

4. Drum

2. Gasket

NHR-8-X Connections

See Figure 2.

1. Make sure the fluidizing drum (6) and cover (2) are securely clamped to the body (3), and that all gaskets are undamaged and sealing properly.
2. Connect 10-mm flexible air tubing to the fitting labeled AUX on the rear or side of the control unit, or another source of regulated fluidizing air. Connect the opposite end of the tubing to the fluidizing air connector (5).



WARNING: All electrically conductive equipment in the spray area must be grounded. Ungrounded or poorly grounded equipment can store an electrostatic charge which can give personnel a severe shock or arc and cause a fire or explosion.

3. Connect the ground wire shipped with the hopper from a true earth ground to the ground stud (4).
4. Make sure the pump adapter O-rings are installed correctly in the adapter grooves. Install the pump on the adapter with a slight twisting motion.
5. Connect the flexible vent hose shipped with the hopper to the vent hose adapter (1). Secure the hose to the adapter with a hose clamp. Connect the other end of the hose to the booth powder collector to prevent vented powder from contaminating the room air.

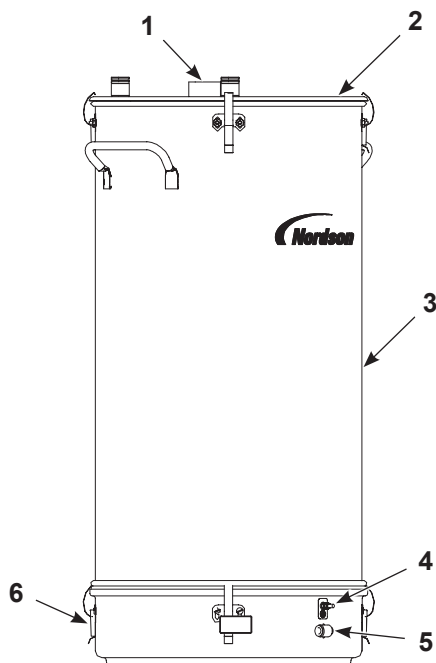


Figure 2 NHR-8-X Feed Hoppers

1. Vent hose adapter
2. Ground stud

3. Cover
4. Body

5. Fluidizing air connector
6. Fluidizing drum

NHR-18-150 Installation

See Figure 3.

1. Make sure the fluidizing drum (6) and cover (2) are securely clamped to the body (3), and that all gaskets are undamaged and sealing properly.
2. Connect 12-mm or 1/2-in. flexible air tubing to the fitting labeled AUX on the rear or side of the control unit, or another a source of regulated fluidizing air. Connect the opposite end of the tubing to the fluidizing air connector (5).

NOTE: If using 1/2-in. tubing, remove the 12-mm tube connector from the fluidizing drum. Install the 1/2-in. tube connector shipped with the hopper.



WARNING: All electrically conductive equipment in the spray area must be grounded. Ungrounded or poorly grounded equipment can store an electrostatic charge which can give personnel a severe shock or arc and cause a fire or explosion.

3. Connect the ground wire shipped with the hopper from a true earth ground to the ground stud (4).
4. Connect the flexible vent hose shipped with the hopper to the vent hose adapter (1), or to the hopper vent. Secure the hose with a hose clamp. Connect the other end of the hose to the booth powder collector to prevent vented powder from contaminating the room air.

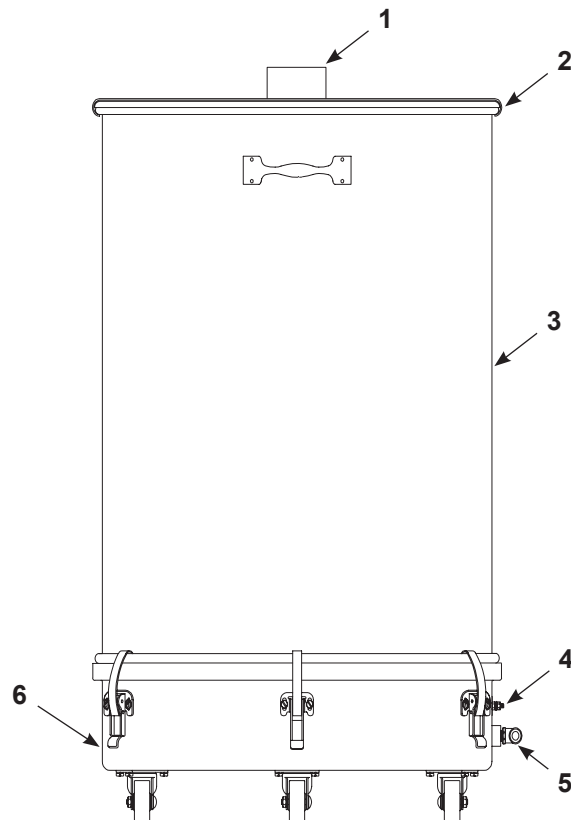


Figure 3 NHR-18-150 Powder Feed Hopper

- | | | |
|----------------------|----------------|-----------------------------|
| 1. Vent hose adapter | 3. Body | 5. Fluidizing air connector |
| 2. Cover | 4. Ground stud | 6. Fluidizing drum |

NHR-18-150 Transfer Hose Fitting

Clean and reclaimed powder can be pumped into the hopper through 3/4-in. transfer hoses connected to the barbed elbow fittings shipped with the hopper.

See Figure 4.

1. Install one of the sealing washers (2) over the threaded end of one of the barbed elbow fittings (1).
2. Insert the threaded end of the fitting into an unused knockout in the cover (4), and secure it to the cover with one of the black plastic 3/4-in. NPT hex nuts (3).

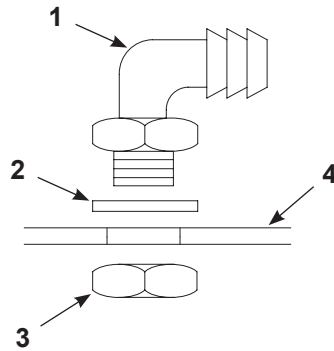


Figure 4 Installing a Transfer Hose Fitting

1. Barbed elbow fitting
2. Sealing washer

3. Hex nut

4. Cover

Adding Additional Pumps for NHR-X-X Hoppers

Order a pump pickup tube with adapter for each pump. Install the adapter and pickup tube in one of the knockouts in the cover.

Maximum pumps per hopper:

Hopper	Pumps
NHR-8-25	8
NHR-8-50	8
NHR-8-80	8
NHR-18-150	18

Operation



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



WARNING: Wear an approved respirator, protective clothing, and gloves when handling powder. Avoid skin contact with powder coatings, or breathing powder particles.

1. Verify that the hopper has been properly grounded.
2. Fill the hopper half full of powder, to provide room for expansion as the powder is fluidized. Do not overfill. Overfilling may prevent powder from being fully fluidized, clog the pumps, and affect coating performance.
3. Turn on the fluidizing air, and adjust the regulator until the powder is gently “boiling.” The air mixed with the powder will cause it to increase in volume. Fluidize the powder for five or ten minutes to make sure it is evenly fluidized and no clumps are left before spraying.

Maintenance

Periodically, empty the hopper and clean the interior. Clean the fluidizing plate and inspect it for signs of air contamination. If the plate is discolored and appears to be contaminated, replace it. Check your air supply and correct any contamination problems.

NOTE: Inspect and verify hopper ground connection periodically.

Item	Part	Description	Quantity	Note
—	1623589	HOPPER, NHR-8-25	1	
—	1623590	HOPPER, NHR-8-50		
—	1623591	HOPPER, NHR-8-80		
1	1008082	• HOSE, flexible, 3 m (10 ft)	1	
2	970966	• CLAMP, hose	1	
3	-----	• COVER, hopper, NHR-8-X	1	B
4	-----	• BODY, hopper, NHR, assembly	1	
5	UA	• • SCREW, truss, unslotted, 10-32 x 0.375 in.	8	
6	UA	• • NUT, hex, 10-32	8	
7	164064	• • LATCH, hopper, curve base	4	
8	1623691	• KIT, fluidizing plate with gasket, NHR-8-X, diameter 405/406	1	
9	-----	• • PLATE, fluidizing	1	
10	-----	• • GASKET, U-channel	1	
11	1074531	• DRUM, fluidizing	1	A
12	UA	• ELBOW, male, 3/8-in. RPT x 10-mm tube		

NOTE: A. Refer to *NHR-8-X Fluidizing Drum* parts list for full assembly.

B. Refer to *NHR-8-X Hopper Cover* parts list for full assembly.

UA: Unavailable for purchase through Nordson. Contact local distributor or local source.

NS: Not Shown

AR: As Required

NHR-8-X Hopper Cover

See Figure 6 and the following parts list.

NOTE: Use with Venturi or HD hoppers.

Item	Part	Description	Quantity	Note
—	1074575	COVER, hopper, NHR-8	1	
1	142342	• PLUG, button	8	
2	-----	• COVER, hopper, NHR-8, assembly	1	
3	1008080	• • GASKET, vent stack	1	
4	UA	• • FITTING, pvc, 1 1/4 in., male adapter	1	
5	1070199	• • PLUG, hopper fill, NHR	1	
6	UA	• • NUT, conduit, 1.25 in.	1	

UA: Unavailable for purchase through Nordson. Contact local distributor or local source.

NS: Not Shown

AR: As Required

Gasket Cover Kit

Item	Part	Description	Quantity	Note
—	1074539	SERVICE KIT, gasket, hopper, NHR	1	
7	-----	• GASKET, cover, hopper, NHR	1	
NS	-----	• ADHESIVE, Scotch-Grip 847, 5 oz	1	

NS: Not Shown

AR: As Required

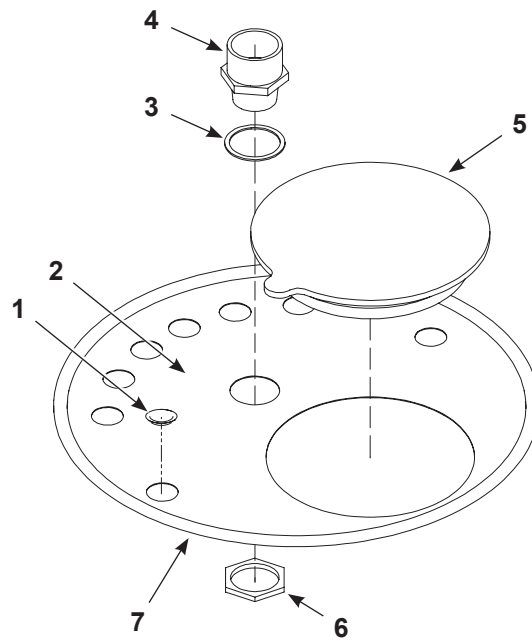


Figure 6 NHR-8-X Hopper Cover

NHR-8-X Fluidizing Drum

See Figure 7. The fluidizing drum is common to all NHR-8-X hoppers.

Item	Part	Description	Quantity	Note
—	1074531	DRUM, fluidizing	1	
1	UA	• WASHER, flat, 0.219 x 0.500 x 0.049 in.	7	
2	UA	• LOCK WASHER, split, M5, steel, zinc	11	
3	UA	• NUT, hex, M5, steel, zinc	8	
4	UA	• SCREW, pan head, M5 x 25, brass	1	
5	UA	• NUT, hex, M5, brass	2	
6	UA	• WASHER, flat, 0.203 x 0.405 x 0.040 in., brass	1	
7	UA	• ELBOW, male, 3/8-in. RPT x 10-mm tube	1	
8	UA	• TAG, ground	1	
9	164064	• LATCH, hopper, curve base	4	
10	UA	• SCREW, pan head, M5 x 10, zinc	8	
UA: Unavailable for purchase through Nordson. Contact local distributor or local source.				
NS: Not Shown				
AR: As Required				

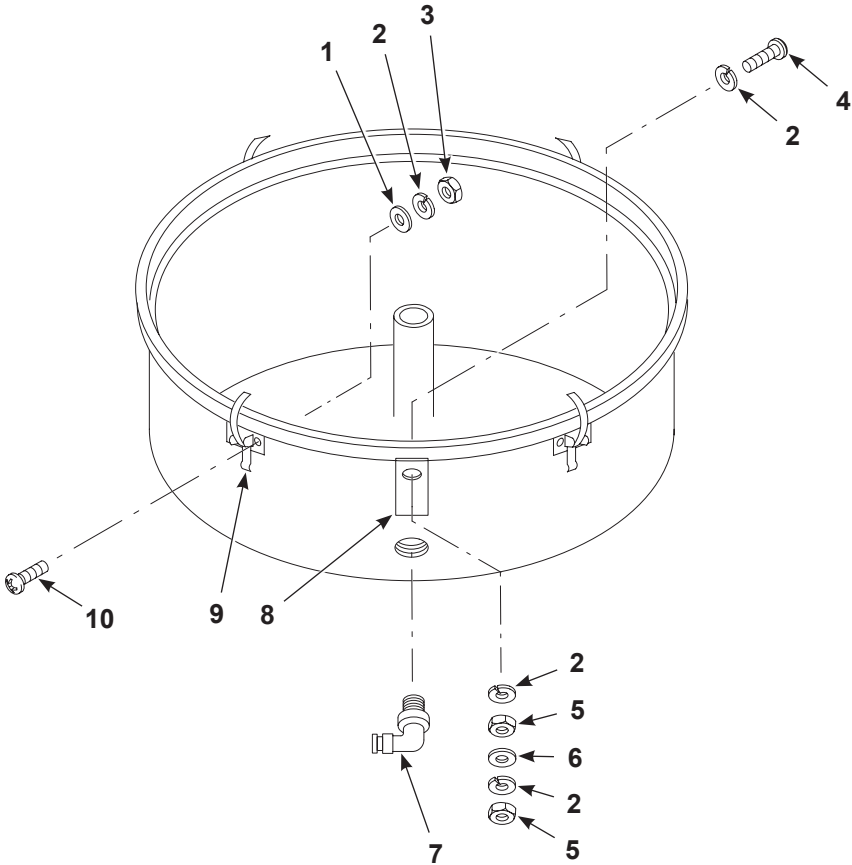


Figure 7 NHR-8-X Fluidizing Drum

NHR-8-25 and NHR-8-80 Pickup Tube

See Figure 8 and the following parts list.

Item	Part	Description	Quantity	Note
—	1623682	TUBE, pickup, 25 lb	1	
—	1105689	TUBE, pickup, 50 lb		
—	1105687	TUBE, pickup, 80 lb	1	
1	1082198	• ADAPTER, pump	1	
2	941145	• O-RING, silicone, conductive, 0.625 x 0.812 in.	2	A
3	939613	• LOCKNUT, conduit, 3/4-in. NPS	1	
4	983055	• WASHER, pump mount	1	
5	164063	• MOUNT, pump	1	
6	-----	• TUBE, pickup	1	

NOTE: A. Do not replace with non-conductive O-rings.

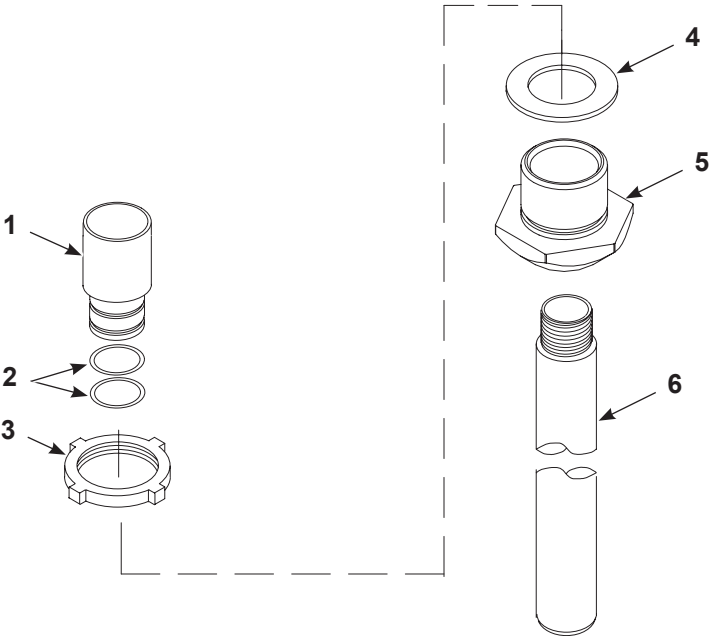


Figure 8 NHR-8-25 and NHR-8-80 Pickup Tube and Pump Adapter

NHR-8-X Pickup Tube for Encore HD Manual Dolly Systems

See Figure 9 and the following parts list.

Item	Part	Description	Quantity	Note
—	1608300	TUBE, pickup, HDLV hopper	1	
1	941145	• O-RING, silicone, conductive, 0.625 x 0.812 in.	2	

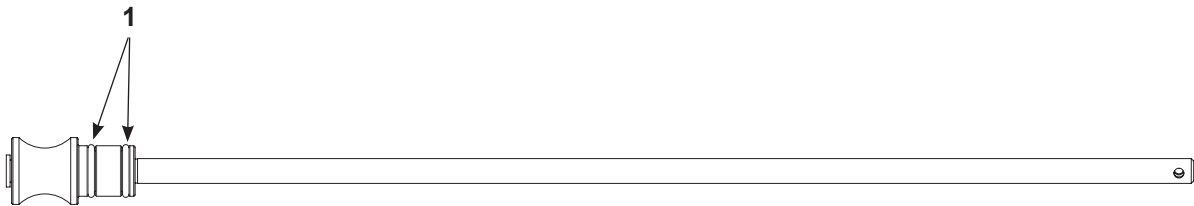


Figure 9 NHR-8-50 Pickup Tube and Pump Adapter

3-Wheel Dolly for 25-, 50-, and 80-lb Hoppers

See Figure 10 and the following parts list.

Item	Part	Description	Quantity	Note
—	1072226	DOLLY ASSEMBLY, 3-wheel	1	

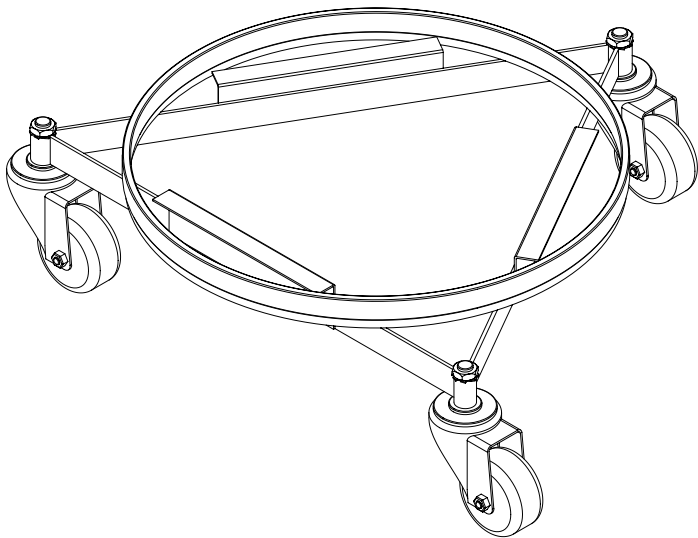


Figure 10 3-Wheel Dolly

NHR-18-150 Hopper

See Figure 11 and the following parts list.

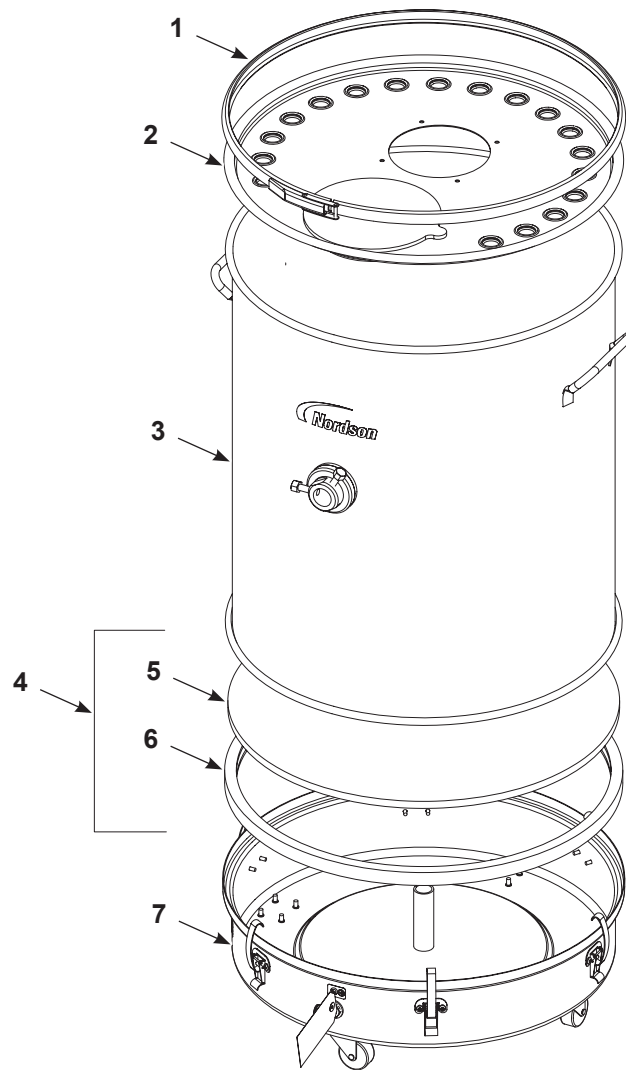


Figure 11 NHR-18-150 Hopper

Item	Part	Description	Quantity	Note
—	1623592	HOPPER, NHR-18-150	1	
1	7402008	• LATCH, lever, closing ring, 600-mm.	1	
2	-----	• COVER assembly, 150-lb hopper	1	A
3	-----	• BODY, hopper, assembly, NHR-X-150, w/sensor		
4	1623693	• KIT, fluid plate, with gasket, NHR-18-150	1	
5	-----	• • PLATE, fluidizing, 150-lb hopper	1	
6	-----	• • GASKET, U-channel, 150-lb hopper	1	
7	-----	• DRUM, fluidizing, assembly, 150-lb hopper	1	B
NS	970970	• CLAMP, hose, No. 52	2	
NS	939459	• CLAMP, hose	2	
NS	243052	• HOSE, flexible	AR	C
NS	134575	• WIRE, ground	1	
NS	972184	• ELBOW, male, 1/2-in. tube x 1/2-in. NPT	1	
NS	972171	• ELBOW, male, HDPE, 3/4-in. hose x 3/4-in. NPT	2	
NS	983554	• WASHER, sealing, 3/4-in. pipe	2	
NS	984085	• NUT, nylon, 3/4-in. NPT	2	

NOTE: A. Refer to *NHR-18-150 Cover with Vent Adapter* parts list for full assembly.

B. Refer to *NHR-18-150 Fluidizing Drum* parts list for full assembly.

C. Order length needed in increments of one foot.

AR: As Required

NS: Not Shown

NHR-18-150 Cover with Vent Adapter

See Figure 12 and the following parts list.

Item	Part	Description	Quantity	Note
—	1623694	KIT, cover with vent adapter, NHR-18-150	1	
1	-----	• COVER, hopper, assembly, NHR-18-150, sieve mount	1	
2	142342	• • PLUG, button	18	
3	1070199	• • PLUG, hopper fill, NHR	1	
4	1623594	• ADAPTER, vent, 150 lb hopper	1	A
5	1623593	• GASKET, hopper, ring adapter	1	A
6	UA	• SCREW, flanged head, M6 x 16 mm	4	A
7	UA	• NUT, lock, hex, M6, steel, nylon insert, zinc	4	A

NOTE: A. Shipped with components.
UA: Unavailable for purchase through Nordson. Contact local distributor or local source.

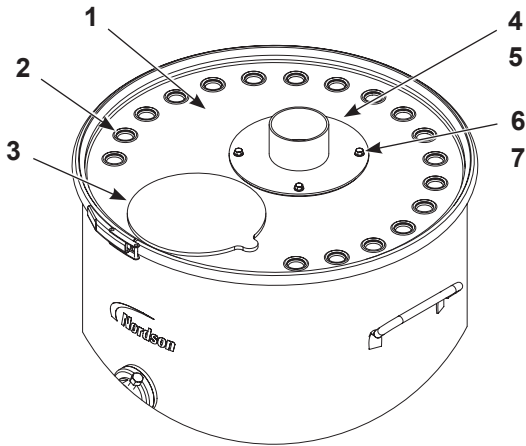


Figure 12 NHR-18-150 Cover with Vent Adapter Kit

NHR-18-150 Fluidizing Drum

See Figure 13 and the following parts list.

Item	Part	Description	Quantity	Note
—	1623699	DRUM, fluidizing, assembly, NHR-18-150	1	
1	-----	• DRUM, fluidizing, assembly, 150-lb hopper	1	
2	UA	• • WASHER, flat, E, 0.219 x 0.500 x 0.049, zinc	11	
3	UA	• • WASHER, lock, split, M5, steel, zinc	31	
4	UA	• • NUT, hex, M5, steel, zinc	12	
5	UA	• • SCREW, pan head, slotted, M5 x 25, brass	1	
6	UA	• • NUT, hex, M5, brass	2	
7	UA	• • WASHER, flat, 0.203 x 0.406 x 0.040 in., brass	1	
8	UA	• • CONNECTOR, male, elbow, 12-mm tube x 1/2-in. uni	1	
9	1080412	• • CASTER, swivel, 50 mm	4	
10	UA	• • TAG, ground	1	
11	174496	• • CLAMP, drawlatch, large	6	
12	UA	• • SCREW, pan head, M5 x 12, steel, zinc plated	28	

UA: Unavailable for purchase through Nordson. Contact local distributor or local source.

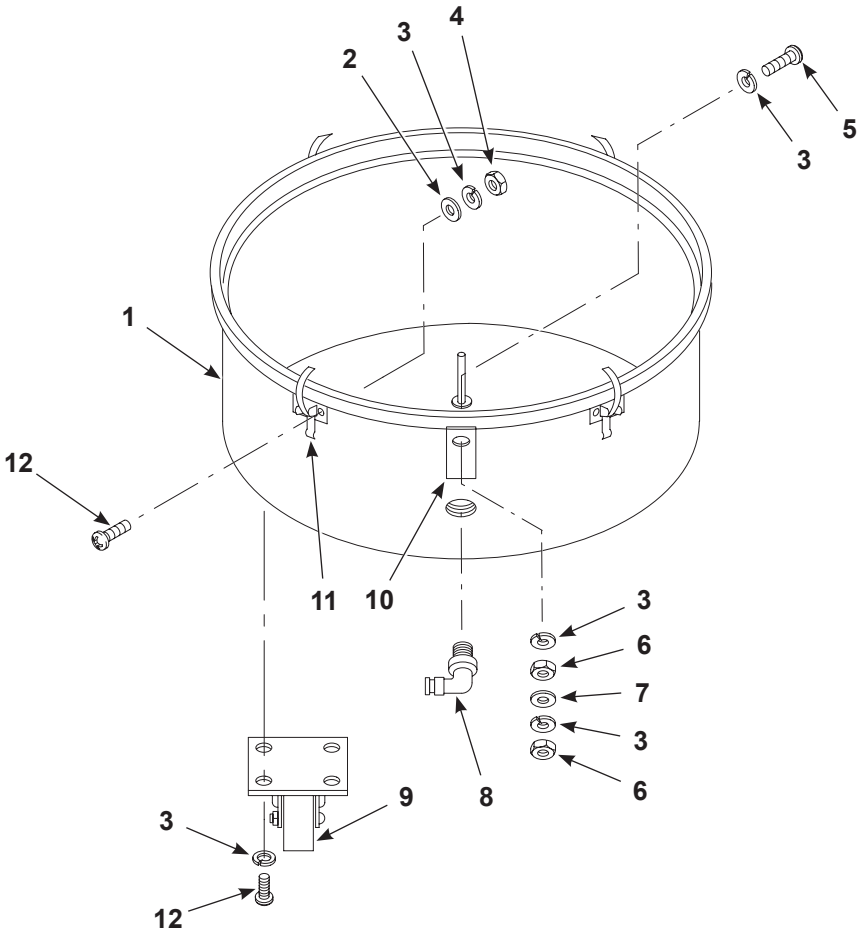


Figure 13 NHR-18-150 Fluidizing Drum Kit

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