

Introduction



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

NOTE: Read and understand this document before performing any procedure. Contact a local Nordson representative to answer questions if necessary.

The following paragraphs provide procedures for converting a Rhino screw-together pump assembly to a Rhino SD2/XD2 pump assembly.

Make sure that the following items are on hand before performing these procedures:

- Applicable Rhino bulk unloader container change operator's card and screw-together pump manual.
- Material hose connector for the SAE-20 $1\frac{5}{8}$ -12 straight thread check valve output port
- Air line for the air motor signal supply port (Figure 4, Items 15 and 16)
- Regulated air line for the air supply port on the air motor control valve (Figure 4, Items 17 and 18)
- 500-lb (227-kg) capacity lifting device
- Torque wrench that measures up to 250 ft-lb (339 N•m)
- Loctite 242 adhesive

Remove the Screw-Together Pump Assembly

1. Remove the material container from the frame. Refer to the applicable *Rhino Container Change Operator's Card* for the procedure.



CAUTION: The hold down shoes must be removed to prevent damage to the follower plate seals.

2. See Figure 1. Remove the screws (1) and springs (2) securing the hold down shoes (3) to the brackets (4).
3. Lower the Rhino screw-together pump assembly until the Empty Drum signal activates.

(Continued on next page...)

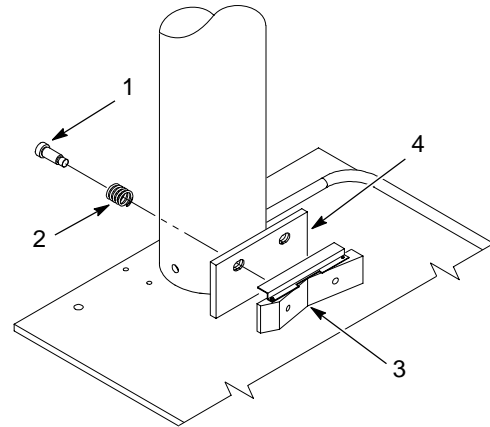


Figure 1 Removing the Hold Down Shoes

4. See Figure 2. Measure and record the distance between the bottom of the follower plate (1) and the top of the base drum rails (3).

NOTE: Use this measurement to readjust the empty drum sensor during the Rhino SD2/XD2 pump assembly installation.

5. Place blocks (2) under the follower plate (1).
6. Bleed the system material pressure.
7. Lockout and bleed the air supply to the bulk unloader.
8. Disconnect the material and air supply lines from the screw-together pump assembly.
9. See Figure 3. Remove the screws (1), lock washers (2), and flat washers (3) securing the crossover (4) to the cylinder shafts (5). Save the lock washers and flat washers for use during the installation procedure. Discard the screws.

NOTE: Have an assistant help with removing the screw-together pump assembly from the frame.

10. Attach the lifting device to the middle section of the crossover (4). Carefully remove the screw-together pump assembly from the frame (9). Secure the screw-together pump assembly to prevent it from tipping.
11. Remove the screws (11), lock washers (2), and flat washers (3) securing the crossover (4) to the screw-together pump assembly.
12. Remove the screws (8), lock washers (7), and flat washers (6) securing the mounting rods (10) to the pump assembly. Save the lock washers, flat washers, and mounting rods for use during the installation procedure. Discard the screws.

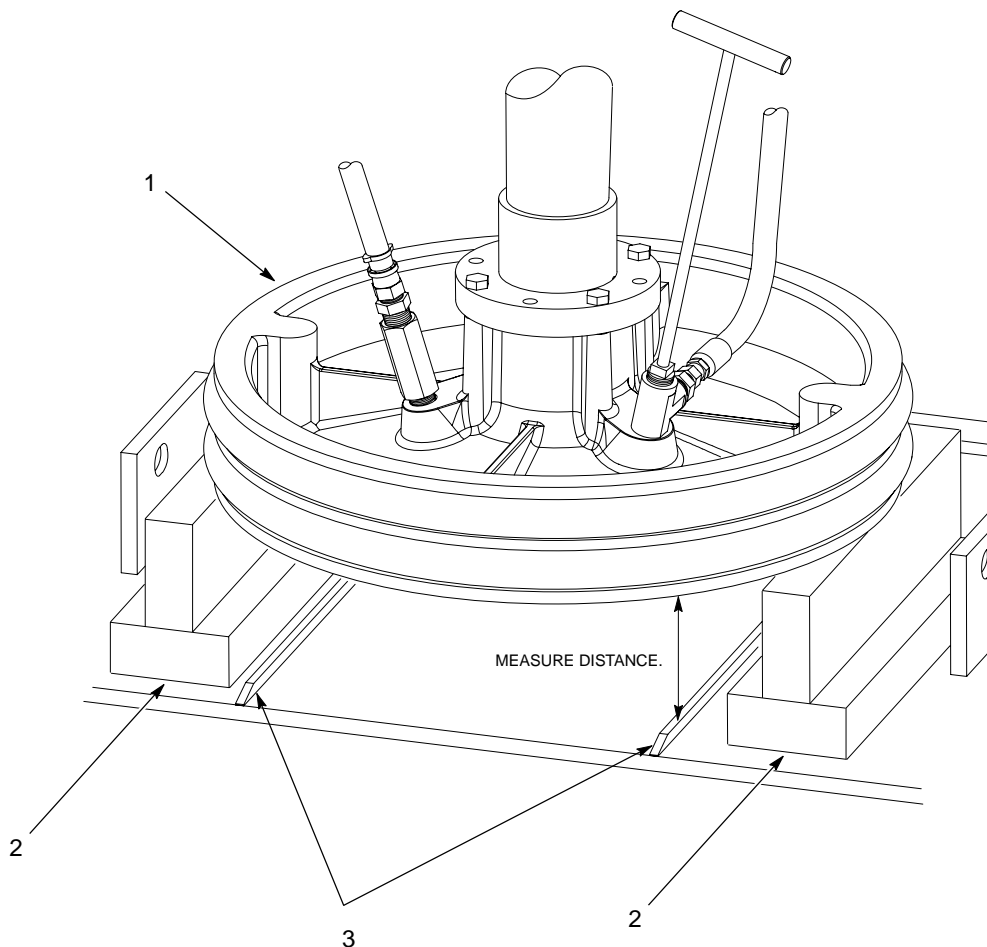


Figure 2 Follower Plate Measurement

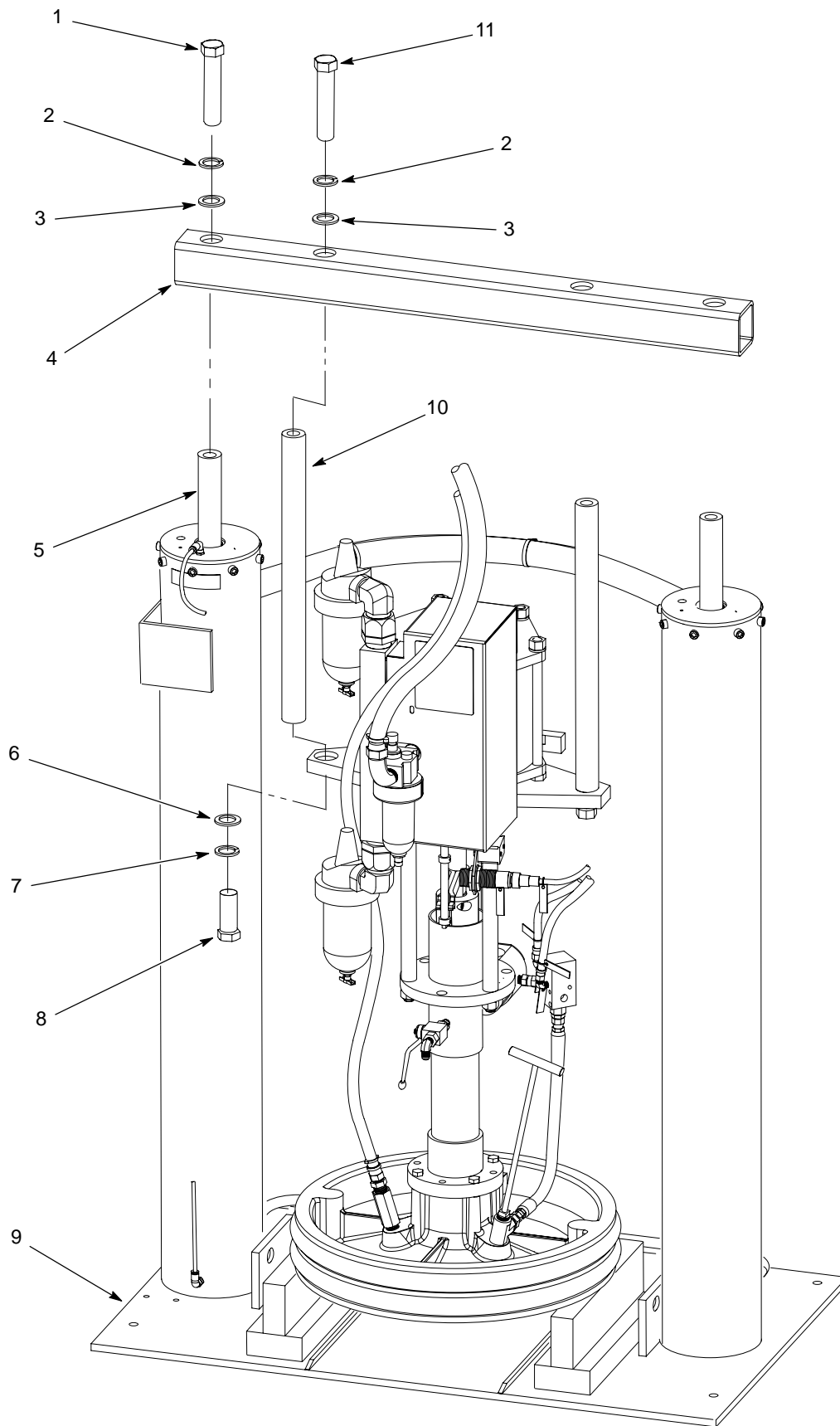


Figure 3 Screw-Together Pump Assembly

Install the SD2/XD2 Pump Assembly

NOTE: The following procedure requires the use of the 2.75- and 8-inch screws that are included in the kit.

1. See Figure 4. Perform the following:
 - a. Apply Loctite 242 to the threads of the 2.75-inch screws (8).
 - b. Install the mounting rods (10) to the SD2/XD2 pump assembly using the flat washers (6), lock washers (7), and screws (8).
 - c. Tighten the screws to 250 ft-lb (339 N•m).
2. Perform the following:
 - a. Apply Loctite 242 to the threads of the screws (11).
 - b. Install the crossover (4), to the mounting rods (10) using the lock washers (2), flat washers washers (3), and screws.
 - c. Tighten the screws to 250 ft-lb (339 N•m).
3. Using the lifting device, carefully position the SD2/XD2 pump assembly onto the frame (9). Use the blocks (19) if necessary to prevent the SD2/XD2 pump assembly from tipping.
4. Perform the following:
 - a. Apply Loctite 242 to the threads of the 8-inch screws (1).
 - b. Install the spacers (12) onto the cylinder shafts (5) as shown.
 - c. Secure the spacers and crossover (4) to the cylinder shafts using the lock washers (2), flat washers washers (3), and 8-inch screws (1).
 - d. Tighten the screws to 250 ft-lb (339 N•m).
 - e. Remove the blocks (19) if used.

5. Perform the following:
 - a. Connect the material line to the check valve output port (13).
 - b. Connect an air line (16) from a supply source to the air signal supply port (15).
 - c. Connect a regulated air line to the air supply port (17) on the air motor control valve (18).
6. Only apply supply air to the bulk unloader frame. Do not apply air to the SD2/XD2 pump assembly at this time.
7. Adjust the empty drum sensor to activate the Empty Drum signal. use the distance recorded during removal of the the screw-together pump assembly.

NOTE: The factory setting to activate the Drum Empty signal is 1.5 inches from the bottom of the follower plate to the top of the drum rails.

8. See Figure 1. Install the hold down shoes to the brackets (4) using the screws (1) and springs (2) Tighten the screws securely.
9. Load a new material container. Refer to the applicable *Rhino Container Change Operator's Card* for the procedure.
10. Prime and bleed all air from the SD2/XD2 pump assembly and material lines. The SD2/DX2 pump assembly is ready for service.

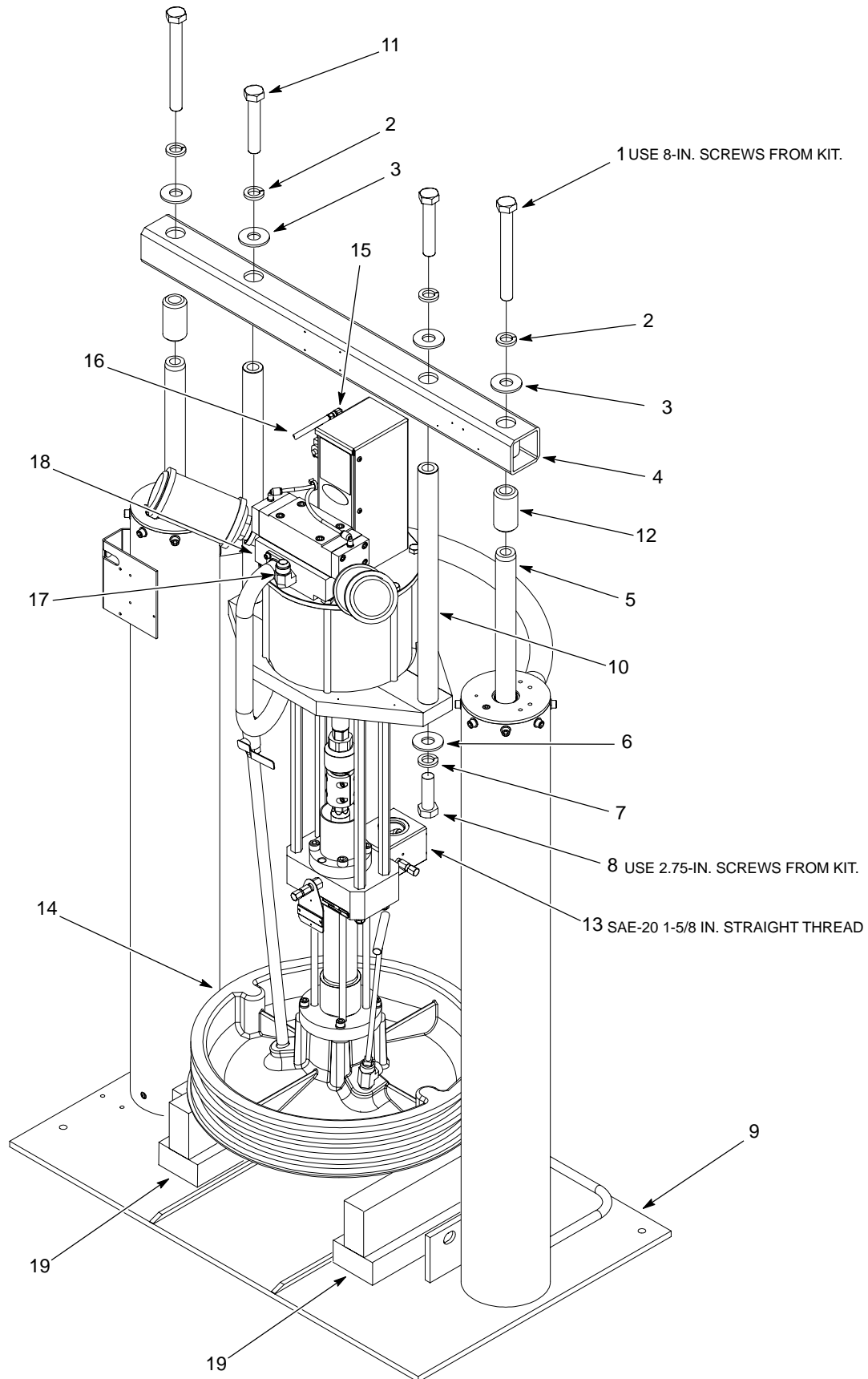


Figure 4 Installing the SD2/XD2 Pump Assembly

Parts

See Figure 5 and the following parts lists.

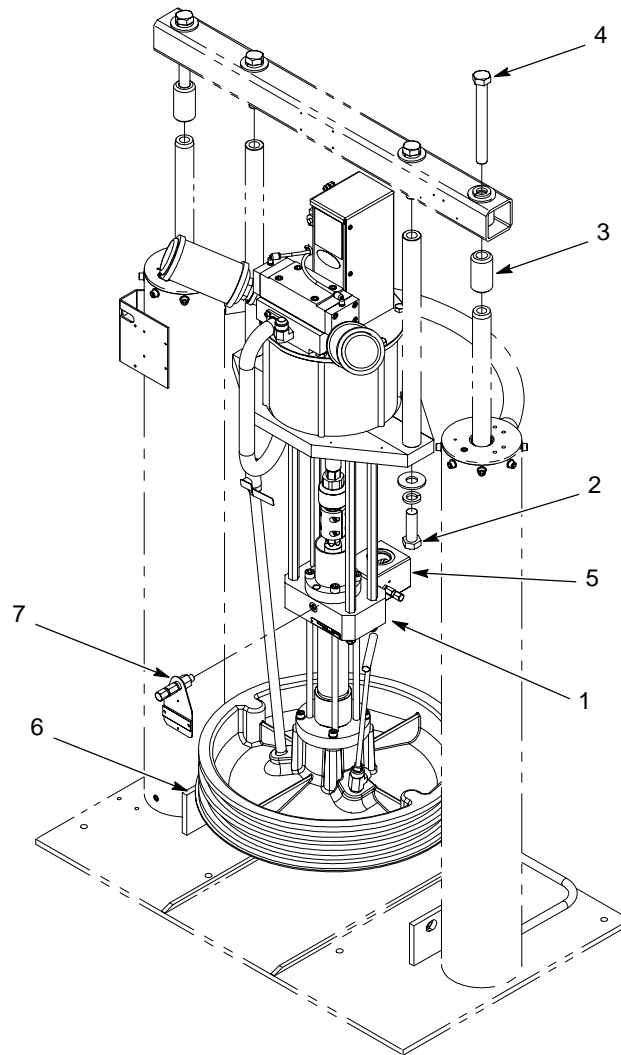


Figure 5 Rhino SD2/XD2 Conversion Kit Parts

Common Parts

The following Parts are common to all conversion kits.

Item	Part	Description	Qty
—	1073703	Kit, 65:1 screw-together pump to 65:1 XD2, urethane	1
—	1073872	Kit, 65:1 screw-together pump to 65:1 XD2	1
—	1073873	Kit, 65:1 screw-together pump to 65:1 SD2	1
—	1073874	Kit, 48:1 screw-together pump to 48:1 XD2	1
—	1073875	Kit, 48:1 screw-together pump to 48:1 SD2	1
2	345719	• Screw, hex $\frac{7}{8}$ -14 x 2.75 in.	2
3	1073705	• Spacer	2
4	1073709	• Screw, hex $\frac{7}{8}$ -14 x 8 in.	2
5	1039692	• Check valve	1
7	1042481	• Bleed valve	1

Specific Parts

The following parts are specific to each kit.

Urethane 65:1 Screw-Together Pump to 65:1 XD2

Item	Part	Description	Qty
—	1073703	Kit, 65:1 screw-together pump to 65:1 XD2, urethane	1
1	1069352	• Pump air motor assembly, 65:1 XD2	1
6	1070060	• Follower, 55-gallon, 2.375 throat, ring, SD2	1

65:1 Screw-Together Pump to 65:1 XD2

Item	Part	Description	Qty
—	1073872	Kit, 65:1 screw-together pump to 65:1 XD2	1
1	1069352	• Pump air motor assembly, 65:1 XD2	1
6	1069703	• Follower, 55-gallon, 2.375 throat, SD2	1

65:1 Screw-Together Pump to 65:1 SD2

Item	Part	Description	Qty
—	1073873	Kit, 65:1 screw-together pump to 65:1 SD2	1
1	1069321	• Pump air motor assembly, 65:1 SD2	1
6	1069703	• Follower, 55-gallon, 2.375 throat, SD2	1

48:1 Screw-Together Pump to 48:1 XD2

Item	Part	Description	Qty
—	1073874	Kit, 48:1 screw-together pump to 48:1 XD2	1
1	1069354	• Pump air motor assembly, 48:1 XD2	1
6	1037813	• Follower, 55-gallon, 2.75 throat	1

48:1 Screw-Together Pump to 48:1 SD2

Item	Part	Description	Qty
—	1073875	Kit, 65:1 screw-together pump to 65:1 XD2, urethane	1
1	1069322	• Pump air motor assembly, 48:1 SD2	1
6	1037813	• Follower, 55-gallon, 2.75 throat	1

Issued 10/06

Nordson, the Nordson logo, and Rhino are registered trademarks of Nordson Corporation.
All other trademarks are the property of their respective owners.