

iTrax® Electronic Pressure Regulator

Customer Product Manual

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**For parts and technical support, call the Industrial Coating
Systems Customer Support Center at (800) 433-9319 or
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Change Record

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Safety

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 persons operating or servicing equipment.

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.

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

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.

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 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 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 Safety Data Sheets (SDS) for all materials used. Follow the manufacturer's instructions for safe handling and use of materials, and use recommended personal protection devices.
- Make sure the spray area is adequately ventilated. 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.

High-Pressure Fluids

High-pressure fluids, unless they are safely contained, are extremely hazardous. Always relieve fluid pressure before adjusting or servicing high pressure equipment. A jet of high-pressure fluid can cut like a knife and cause serious bodily injury, amputation, or death. Fluids penetrating the skin can also cause toxic poisoning.

If you suffer a fluid injection injury, seek medical care immediately. If possible, provide a copy of the SDS for the injected fluid to the health care provider.

The National Spray Equipment Manufacturers Association has created a wallet card that you should carry when you are operating high-pressure spray equipment. These cards are supplied with your equipment. The following is the text of this card:



WARNING: Any injury caused by high pressure liquid can be serious. If you are injured or even suspect an injury:

- Go to an emergency room immediately.
- Tell the doctor that you suspect an injection injury.
- Show them this card
- Tell them what kind of material you were spraying

MEDICAL ALERT — AIRLESS SPRAY WOUNDS: NOTE TO PHYSICIAN

Injection in the skin is a serious traumatic injury. It is important to treat the injury surgically as soon as possible. Do not delay treatment to research toxicity. Toxicity is a concern with some exotic coatings injected directly into the bloodstream.

Consultation with a plastic surgeon or a reconstructive hand surgeon may be advisable.

The seriousness of the wound depends on where the injury is on the body, whether the substance hit something on its way in and deflected causing more damage, and many other variables including skin microflora residing in the paint or gun which are blasted into the wound. If the injected paint contains acrylic latex and titanium dioxide that damage the tissue's resistance to infection, bacterial growth will flourish. The treatment that doctors recommend for an injection injury to the hand includes immediate decompression of the closed vascular compartments of the hand to release the underlying tissue distended by the injected paint, judicious wound debridement, and immediate antibiotic treatment.

Fire Safety

To avoid a fire or explosion, follow these instructions.

- Ground all conductive equipment. Use only grounded air and fluid hoses. Check equipment and workpiece grounding devices regularly. Resistance to ground must not exceed one megohm.
- 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. Do not heat materials to temperatures above those recommended by the manufacturer. Make sure heat monitoring and limiting devices are working properly.
- Provide adequate ventilation to prevent dangerous concentrations of volatile particles or vapors. Refer to local codes or your material SDS for guidance.
- Do not disconnect live electrical circuits when 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.

Halogenated Hydrocarbon Solvent Hazards

Do not use halogenated hydrocarbon solvents in a pressurized system that contains aluminum components. Under pressure, these solvents can react with aluminum and explode, causing injury, death, or property damage. Halogenated hydrocarbon solvents contain one or more of the following elements:

<u>Element</u>	<u>Symbol</u>	<u>Prefix</u>
Fluorine	F	"Fluoro-"
Chlorine	Cl	"Chloro-"
Bromine	Br	"Bromo-"
Iodine	I	"Iodo-"

Check your material SDS or contact your material supplier for more information. If you must use halogenated hydrocarbon solvents, contact your Nordson representative for information about compatible Nordson components.

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 system electrical power. Close hydraulic and pneumatic shutoff valves and relieve pressures.
- Identify the reason for the malfunction and correct it before restarting the system.

Disposal

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

Description

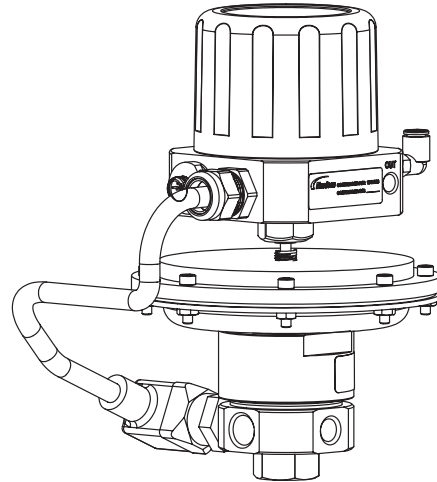
See Figure 1.

The iTrax® electronic pressure-reducing regulator (ePRR) provides the following monitoring and control capabilities:

- Controls base pressure
- Monitors pressure at the output of the regulator
- Uses network communications to control pressure output

The iTrax operator interface (OI) provides the configuration and monitoring interface for the PRx™ II module. The PRx™ II module must be configured in the OI to operate with the iTrax pressure regulator. The OI consists of an OPC server and OPC local client software, plus a USB-to-CAN network adapter, USB cable, and CAN termination resistor.

The regulator works as part of the iTrax pressure regulation system. Each gun requires an iTrax pressure regulator, a PRX II™ module, and an iTrax spray monitor module. A PRx II™ module sends base pressure set point signals to the regulator based on signals received from the iTrax spray monitor. Using these set point adjustment signals, the regulator can provide precise base pressure control to a spray gun.



Max. weight: 5.5 kg (12 lb)

Figure 1 iTrax Electronic Pressure-Reducing Regulator

The Nordson OPC server and client run on an IBM®-compatible personal or industrial computer with the Windows® 7 or XP operating system. The OPC client provides a graphical user interface for setting up and monitoring system parameters. It is referred to as the operator interface (iTrax OI). Communications between the OI and the iTrax modules is through a CAN (controller area network) and the USB-to-CAN network adapter.

Up to 63 iTrax modules can be connected to a single CAN. These modules may be a mix of spray monitors, spray controllers, and PRx II™ modules depending on the application. Because screen refresh times can become noticeably longer with greater numbers of spray monitors, it is recommended that no more than 35 spray monitors be connected to the network. This limitation does not apply to spray controllers or PRx II™ modules (if not used for pressure control).

NOTE: For systems with more than 63 modules, a CAN-to-CAN gateway is recommended to expand the CAN node capability. Contact your Nordson container representative for more information.

This manual covers installation, configuration, and parts for the iTrax electronic pressure-reducing regulator.

Pressure Regulator Features

Pressure Regulator Opinion

The iTrax spray monitor and the pressure regulator monitor and control the fluid base pressure for each spray gun.

1. The base pressure set point value is assigned by the operator and sent from the iTrax OI to the PRx II module. The PRx II module communicates this set point value to the electronic pressure regulator.
2. The spray monitor senses the actual base pressure at the spray gun and sends it to the iTrax OI and PRx II module over the CAN.
3. The iTrax OI displays the actual pressure.
4. The PRx II module compares the actual base pressure to the set point and sends commands to the iTrax pressure regulator over an RS-485 link to adjust the pressure as needed.
5. The pressure regulator adjusts the output pressure to produce the desired base pressure at the spray gun. The pressure regulator's internal control loop has a 25 msec update time. The PRx II module serves as a supervisory controller with an eight-second update time.

This process is continuous, allowing the pressure regulator to maintain the desired base pressure at the spray gun automatically.

Pressure Regulator Specifications

Maximum inlet pressure	207 bar (3000 psi)
Maximum outlet pressure	62 bar (900 psi)
Operating temperature	-54 to 74 °C (-65 to 165 °F)
Inlet/Outlet ports	3/8 in. NPT
Outlet gauge ports	1/4 in. NPT

Pressure Regulator Requirements

NOTE: For compliance with the European Union Electromagnetic Compatibility Directive, refer to EMC Directive Compliance.

The following customer-supplied hardware is required to install the pressure regulator:

- Power supply: 24 Vdc, 0.7 A required per PRx II module/pressure regulator combination (the PRx II module and the iTrax pressure regulator draw 0.35 A max each)
- Pressure regulator cable: Belden 3084A or equivalent
- 8-mm outside diameter air tubing for pressure regulator air input
- Filtered compressed air at 5.5 bar (80 psi) minimum for air servos inside the pressure regulator

Refer to *Parts* for part numbers, ordering information, and optional equipment.

EMC Directive Compliance

For compliance to the European Union Electromagnetic Compatibility Directive (EMC Directive):

1. Mount the PRx II module in an IP54 or better metal enclosure
2. Use a CE-labeled 24 Vdc power supply
3. For general safety fuse L1 and L2 of power supply
4. All customer-supplied cables must be shielded and terminated

Installation



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

Installation includes mounting, configuring, and wiring the pressure regulator.

NOTE: For compliance with the European Union Electromagnetic Compatibility Directive, refer to “EMC Directive Compliance” on page 8.

Conditions of Warranty

The pressure regulator must be installed and wired per the specifications provided herein. Other than technical support provided under warranty for defective equipment, Nordson will not provide complimentary post-sale technical support if the installation does not comply with the requirements stated in this manual and local electrical codes.

Furthermore, if post-sale technical services are performed and the installation is found to be non-complaint with these requirements, the customer will be invoiced and will be responsible for payment of the charges associated with the service.

Pressure Regulator Installation

See Figure 2 and Figure 3. Use this procedure to connect the pressure regulator to the PRx II module.

NOTE: When using a Belden 3084A cable, the cable length from the pressure regulator to the PRx II module must be <100 meters (300 ft).

1. Mount the regulator assembly. Refer to *Parts* for the optional mounting bracket.
2. Connect fluid lines ($\frac{3}{8}$ -in. NPT fittings) to the IN and OUT fluid ports (4).

NOTE: Carefully apply PTFE tape to fittings so that the tape will not block the fluid stream. This will prevent fragments of tape from becoming lodged at the ball/seat of the valves.

3. Run a customer-supplied cable (Belden 3084A or equivalent) (2) from the PRx II module to the cordset connector (1).

NOTE: The cordset connector is available from Nordson. A three-meter cable assembly with connector is also available. Refer to *Parts* for the part numbers and ordering information.

4. Wire the cordset connector as shown in Figure 3. Wire ferrules are recommended for connections to pins 1 thru 4.
5. Mate the cordset connector to the pressure regulator.

NOTE: The proper orientation of the receptacle keyway is the 4 o'clock position. If not positioned properly, there is a risk of damaging the wiring because the pin receptacle is not designed to be rotated.

6. Connect the RS-485 wiring to the PRx II module P1 terminal block as shown in Figure 3.
7. Connect a source of compressed air to the air inlet port (3). Input air must be filtered and supplied at 5.5 bar (80 psi) minimum.

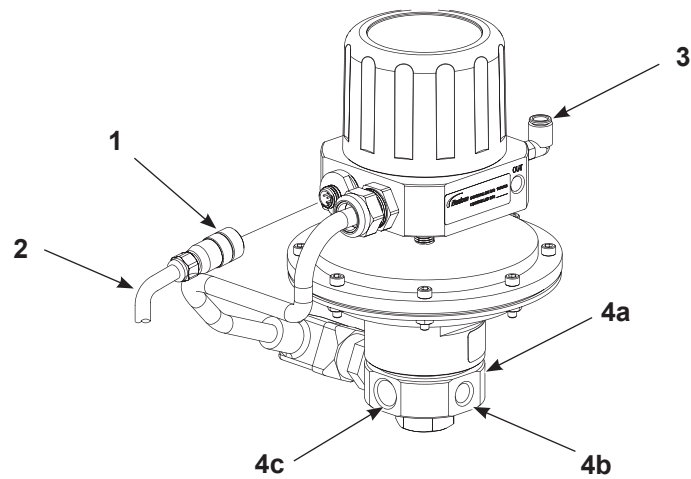
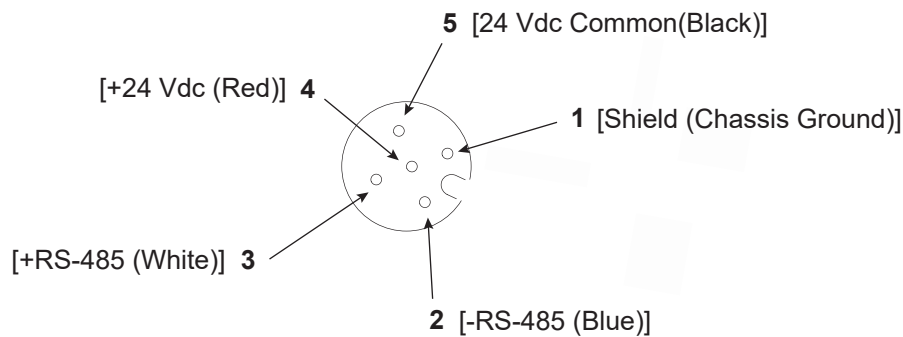
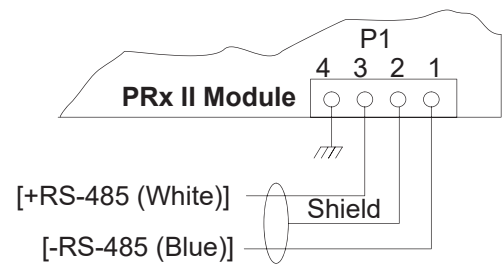


Figure 2 Pressure Regulator Installation

1. Cordset connector
2. Cable
3. Air inlet port
- 4a. Fluid inlet port
- 4b. Fluid outlet port (main)
- 4c. Fluid outlet port (optional range)



Cable/Cord Set Pin Connections (End View)



PRx II Module Pin Connections

Figure 3 Pin Connections

- NOTE:**
- See Figure 4 for a complete PRx II module wiring diagram.
 - Wire colors indicated are based upon using the recommended Belden #3084A cable.

System Wiring

NOTE: Refer to “*Conditions of Warranty*” on page 9 for important information. For compliance with the European Union Electromagnetic Compatibility Directive, refer to *EMC Directive Compliance* on page 10.

See Figure 4 for wiring diagram.

Table 1 PRx II Module Pinouts

Function	Pin Number	Signal Designation	Signal Specification
Electronic pressure serial communication	P1-1	RS-485 (-)	RS-485 specification
	P1-2	Shield	
	P1-3	RS-485 (+)	RS-485 specification
	P1-4	Chassis ground	

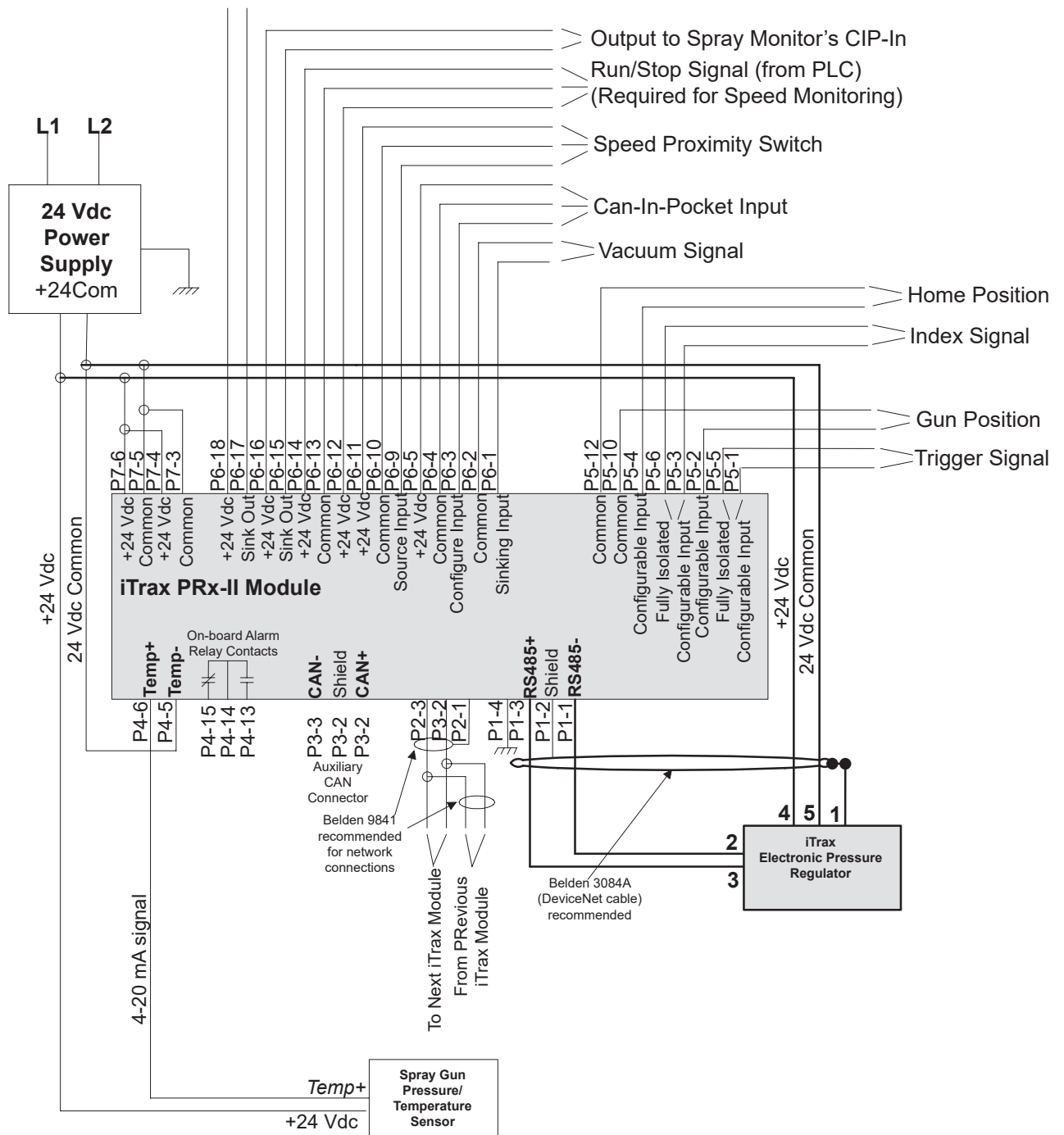


Figure 4 PRx II System WiringRepair

Rebuild the iTrax Pressure Regulator

See Figure 5.

Diaphragm Replacement

1. Remove the pressure controller (1), the transducer kit (3), and other input/output port fittings from the fluid regulator kit (2).
2. Remove the back cap assembly (16) and set aside. The back cap assembly (16) contains the spring (19), ball (18).
3. Use a marker to indicate the relative alignment of the bonnet ring (8), brass bonnet washer (9), and bonnet (7) inside of the regulator body (15).
4. Hold the flats on the bonnet ring (8) with a wrench or vice and loosen the regulator body (15).
5. Remove the regulator body (15) to expose the diaphragm assembly.
6. Apply the lubricant listed in the Parts section to all O-rings, the circumference of the diaphragm (12), and both ends of the diaphragm button (14).
7. Replace all components of the diaphragm assembly. The diaphragm assembly includes the diaphragm button (14), diaphragm (12), sensor (13), spacer (11), and O-ring (10).
8. Reassemble in reverse sequence.
9. Perform a leak test on the loader nipple. See *Loader Nipple Leak Test* for instructions.

Ball and Seat Replacement

1. Remove the back cap (16) and replace the following parts:
 - O-rings (10, 20): Apply the lubricant listed in the *Parts* section.
 - Seat (17)
 - Ball (18)
 - Spring (19)
2. Reinstall the assembled back cap (16) and tighten it to 40–50 ft-lb (54.2–67.N•m).

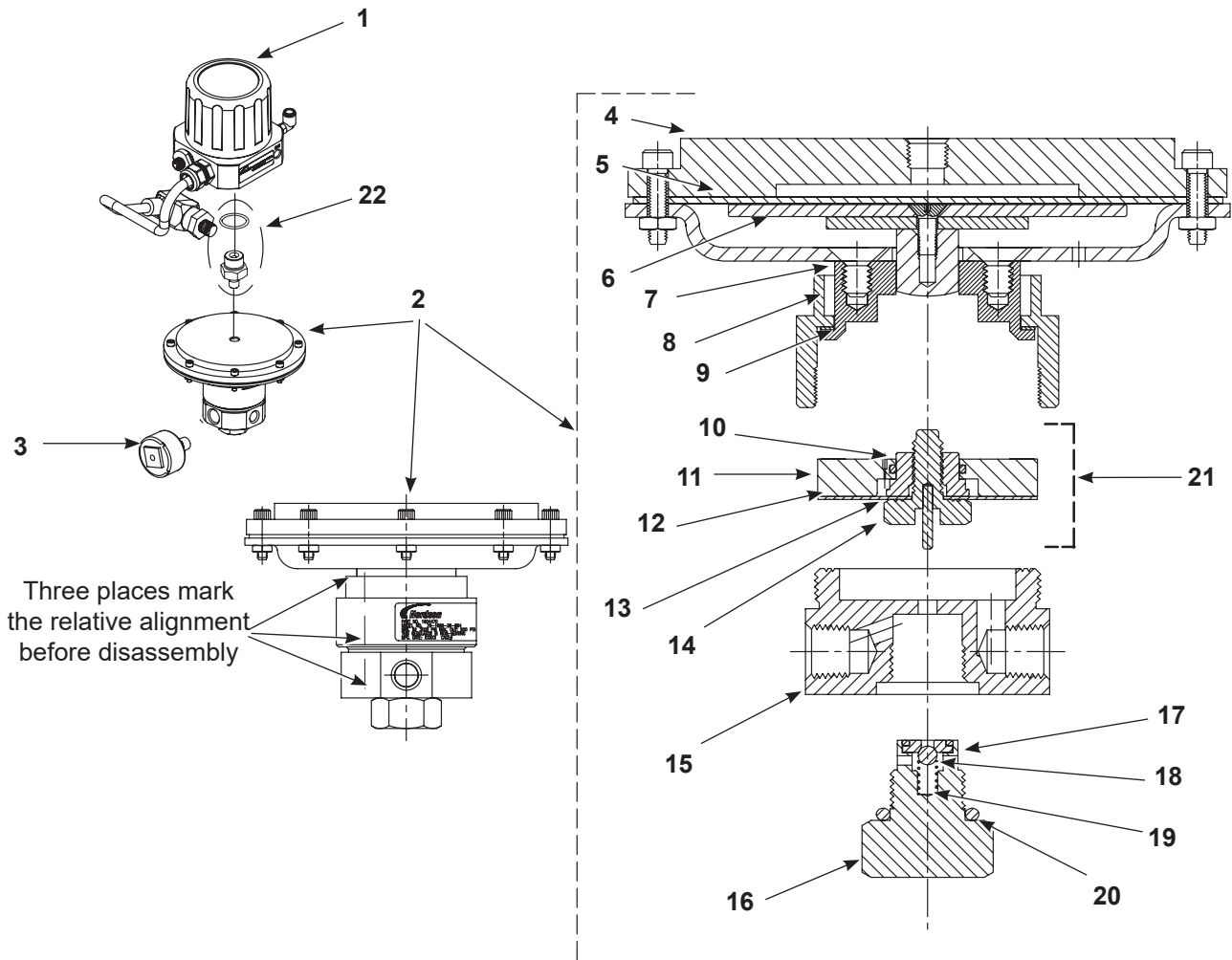


Figure 5 Pressure Regulator

- | | | |
|------------------------------|------------------------|--|
| 1. Pressure controller | 9. Brass bonnet washer | 16. Back cap assembly |
| 2. Fluid regulator kit | 10. O-ring (PTFE) | 17. Seat |
| 3. Transducer kit | 11. Spacer | 18. Ball |
| 4. Diaphragm upper shell | 12. Diaphragm | 19. Spring |
| 5. Rubber diaphragm | 13. Sensor | 20. O-ring (PTFE) |
| 6. Diaphragm piston assembly | 14. Diaphragm button | 21. Diaphragm service kit |
| 7. Bonnet | 15. Regulator body | 22. Loader nipple (located under the pressure controller). |
| 8. Bonnet ring | | |

Servo Valve Replacement

See Figure 6.



CAUTION: All electrical power, air pressure, and fluid pressure must be removed from the regulator before beginning the procedure for replacing the servo valves.

1. Remove the top cover of the pressure controller by unscrewing it from the threads and the O-ring seal.



CAUTION: Exercise proper ESD grounding practices when handling the circuit boards.

2. Remove the circuit board from the pressure controller by unplugging the connector and removing the three mounting screws.
3. On the black servo valves, use a 3/32 in. hex socket key (Allen key) to remove the screws mounting the valves and remove both servo valves. On the white servo valves, use a T-10 Torx ® screwdriver to remove the screws mounting the valves and remove both servo valves. Before installing the new servo valves, apply rubbing alcohol to a lint-free cloth to clean the surface where the O-rings orient upward. Be careful not to push contaminant into the cross holes in the base.
4. Mount the new valves with the screws, paying attention to the orientation of the contact pins. The contact pins must be in the proper place to properly reconnect to the circuit board.
5. Use the lubricant listed in the Parts section. Apply a very small and even amount of O-ring lubricant to the O-rings at the bottom of the new solenoids to achieve a proper seal. The lubricant must be kept out of the air passages.
6. On the black servo valves, gradually tighten each screw using a 3/32 in. Allen key, switching between the two, and finally hand-tighten them with the same torque. On the white servo valves, gradually tighten each screw using a T-10 Torx screwdriver, switching between the two, and finally hand-tighten them with the same torque.

NOTE: If the plastic underneath the head of the screw begins to deform, the screw is being over-tightened.

7. Place the circuit board over the electrical terminals of the servo valves and push the board down onto the contact pins of the servo valves. Mount the circuit board using the three mounting screws and then plug in the connector.
8. Ensure the O-ring seal is in place and not damaged, then screw the top cover back onto the pressure controller.

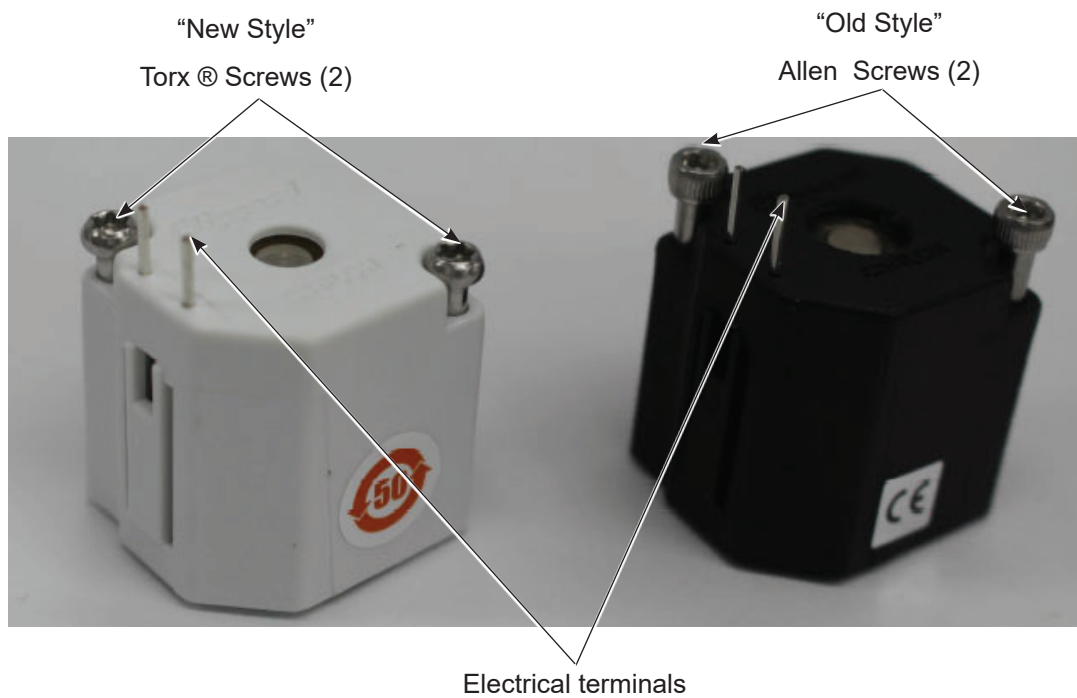


Figure 6 Air Servo Valves (O-rings Located At Bottom)

Troubleshooting

Loader Nipple Leak Test

See Figure 7.

The nipple (23) should be checked for air leaks after the pressure regulator has been installed or handled for maintenance purposes. The loader nipple connects the controlled air pressure generated by the pressure controller (via the inlet and exhaust servo valves) to the rubber diaphragm (5). The loader nipple is the pneumatic mechanism which physically moves the diaphragm assembly button (14) of the fluid regulator.

Use the following procedure to perform a leak test around the loader nipple.

1. While the pressure regulator is in operation, apply a few drops of liquid leak detector (soapy water) to the threaded sections of the loader nipple (23). If any bubbles appear in these areas continue on to Step 2.
2. Shut off any supply pressure (air and fluid) to the regulator. Shut down power to the pressure controller.
3. Remove the pressure controller (1) and the loader nipple (23) from the fluid regulator (2).
4. Apply a thin uniform coat of thread sealant to both the pipe and straight threads of the nipple. Then, apply PTFE tape over the coated threads, followed by another thin coat of pipe sealant.

NOTE: This method minimizes the chance of the PTFE tape shredding and contaminating the pneumatic section.

5. Reassemble the nipple (23) into the pressure controller (1) first, then thread the pressure controller (with the loader nipple) into the fluid regulator (2) until it is hand-tight. Do not over tighten.
6. Remount the pressure regulator, taking care not to put any stress on the nipple.

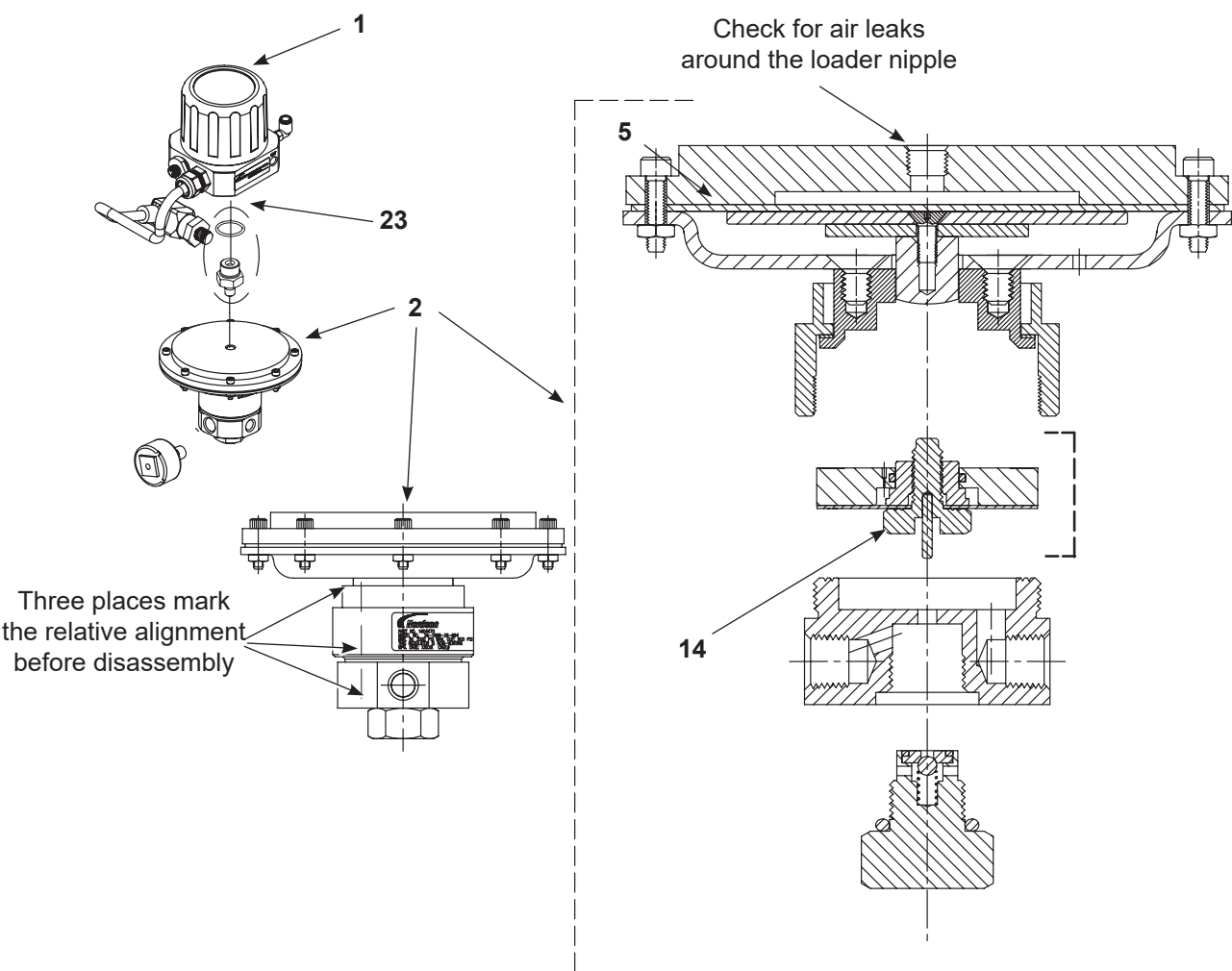


Figure 7 Pressure Regulator

1. Pressure regulator
2. Fluid regulator
5. Rubber diaphragm
14. Diaphragm button
23. Loader nipple (located under the pressure controller)

NOTE: Lubricate both ends (contact points) of the diaphragm button (14) and all O-rings during reassembly. Use the lubricant specified in the Parts section.

Part	Description	Quantity	Note
1621929	KIT, regulator, controller, printed circuit assembly	1	

Servo Valve Leak Test

See Figure 8 through Figure 10.

The two pneumatic servo valves of the pressure controller should be periodically checked for air leaks, especially after two years of accumulated usage and/or if increasingly erratic pressure control is observed.

The servo valve leak test requires the ER3000 or ER5000 software utility, which is available from your Nordson Container Specialist.

Test Preparations

Complete the following tasks before beginning the leak test.

1. Complete the *Loader Nipple Leak Test* to make sure there is no loader nipple leak.
2. Check that the pressure controller is connected to +24 Vdc power, and connected through the RS-485 to a laptop running Windows 2000, XP, Vista, or Windows 7. This step assumes that the RS-485 interface is configured and functional.
3. Check that the air pressure applied to the inlet of the pressure regulator is between 95 and 100 psi.

Configure Windows ER3000 or ER5000 Application

1. Start the Windows ER3000 or ER5000 application.
2. See Figure 8. At the main menu, drop down the *Windows* menu, and select *Tuning*.

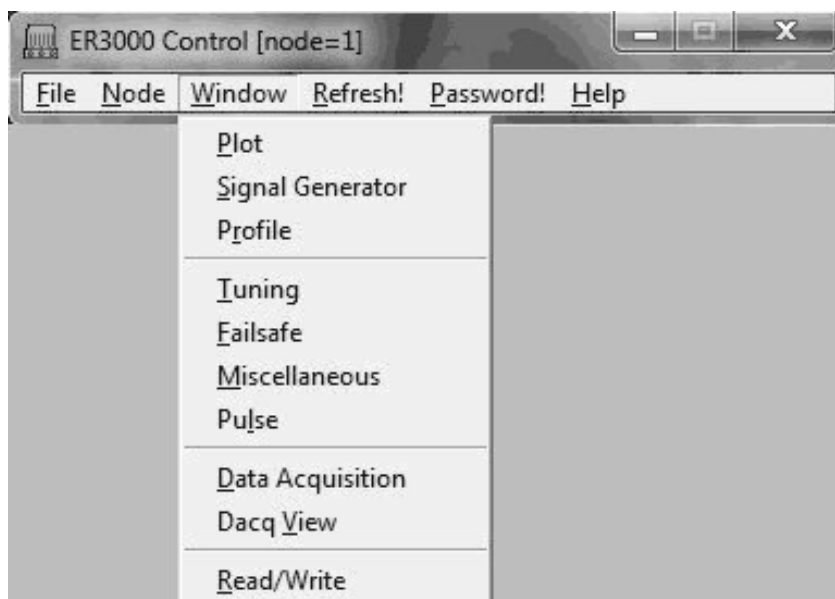


Figure 8 Window Drop Down Menu

3. See Figure 9. In the *Tuning* window, adjust the setting as follows:
 - Control Mode: Manual
 - Sensor Range Minimum: 0
 - Sensor Range Maximum: 100
4. Close the *Tuning* window. From the *Windows* menu select *Signal Generator*.
5. In the *Signal Generator* window, adjust the settings as follows:
 - Signal Type: Toggle
 - Setpoint 1 (psi): 0
 - Setpoint 2 (psi): 50
6. Leave the *Signal Generator* window open. From the *Windows* menu, select *Miscellaneous*.

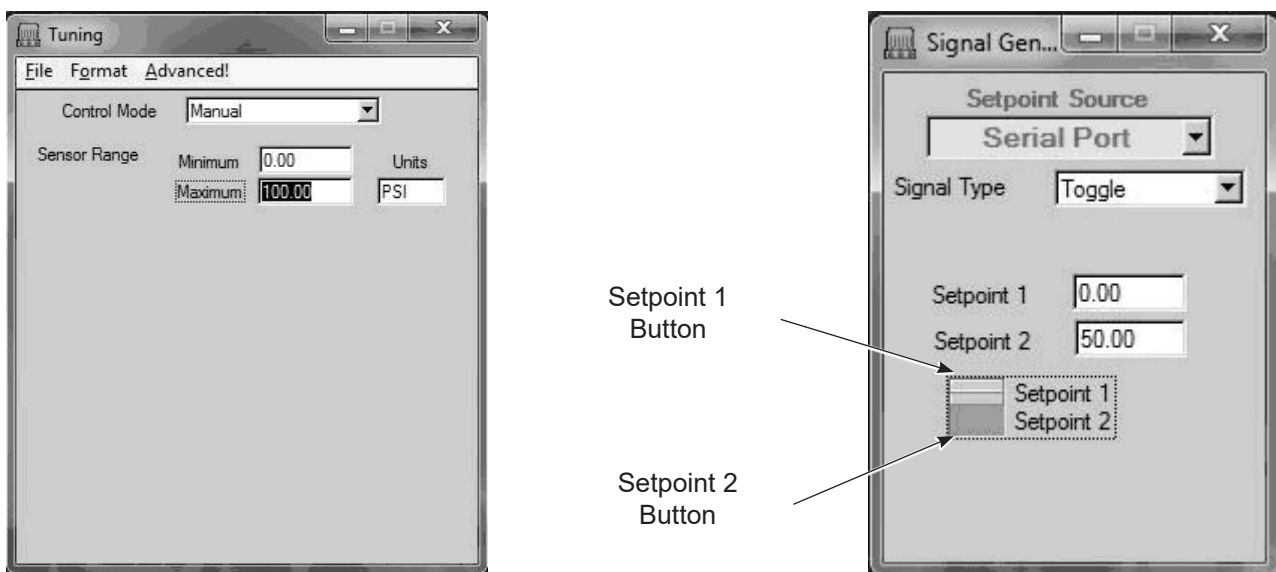


Figure 9 Tuning and Signal Generator Windows

7. See Figure 10. In the *Miscellaneous* window, adjust the settings as follows:

- Span: 100
- Zero: 0

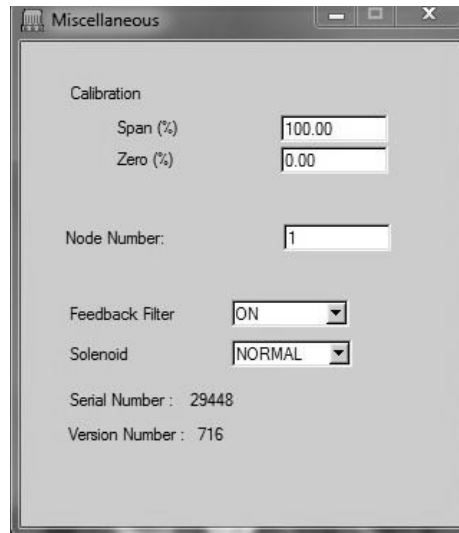


Figure 10 Miscellaneous Table

8. Close the *Miscellaneous* window. From the *Windows* menu, select *Plot*. Then, select *Axis* from the menu bar.

9. In the *Axis* window, configure the axis settings as follows:

- Axis Time (seconds): 10
- Vertical Axis Minimum: -5
- Vertical Axis Maximum: 105

10. Close the *Axis* window, but leave the *Plot* window open.

Running the Servo Valve Leak Test

NOTE: Before running the servo valve leak test, the procedures under “*Test Preparations*” on page 19 must be completed.

NOTE: See Figure 11. The dotted red line in the graph is the setpoint value, and the yellow line is the actual feedback value. A solid red vertical line sweeps across the *Plot* window, acting as a time cursor.

1. With the *Signal Generator* and *Plot* windows in view, click on the *Setpoint 1* button in the *Signal Generator* window (see Figure 9), and wait until the feedback reaches 0 psi.
2. Click on the *Setpoint 2* button. Then, in the *Plot* window (see Figure 11), observe the feedback plot, represented by the yellow line, for 25 seconds, and verify that it remains at 0.
3. Any feedback plot change indicates that the inlet servo valve is leaking.
4. In the *Signal Generator* window, change the *Setpoint 1* value to 90 psi.
5. Click on the *Setpoint 1* button in the *Signal Generator* window. The feedback value will now rise and stabilize after about ten seconds at the 90 psi level. Verify that the pressure (the red line) in the *Plot* window has stabilized before proceeding.
6. Click on the *Setpoint 2* button in the *Signal Generator* window. Observe the feedback plot for 25 seconds and verify that it remains at 90. If there is any decrease in the feedback plot it means the exhaust servo valve is leaking.
7. If either of the servo valves have tested positive for leaks, both should be replaced. Use the procedure for “*Servo Valve Replacement*” on page 15 to replace the servo valves.

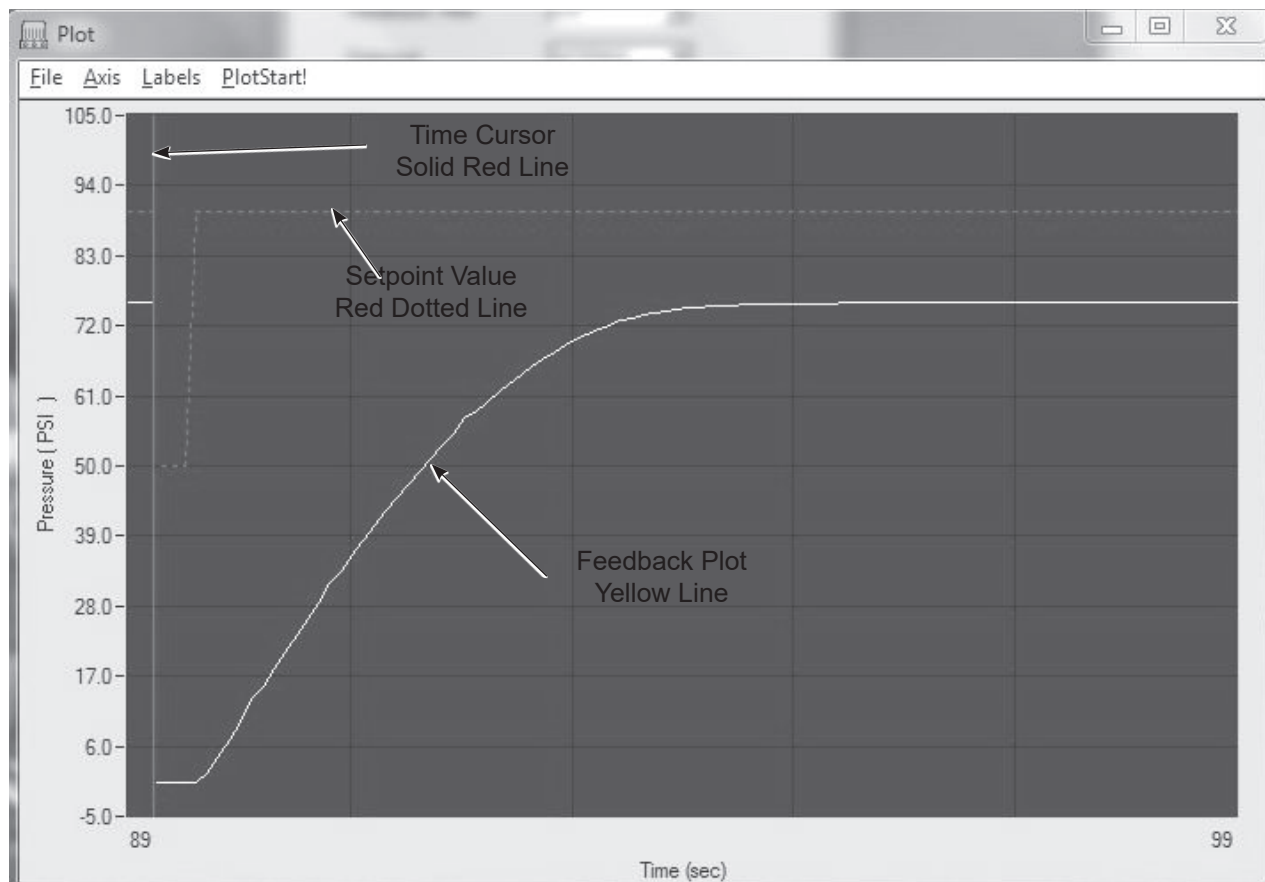


Figure 11 Plot Window Bypass Operation of the ePRR

Description

In the event of an electronic or pneumatic failure, the ePRR may be operated in the bypass mode so production can continue to run. In bypass mode, the electrical closed-loop controls and pneumatic valves are not used to control base pressure; instead, a manual air regulator applies air pressure directly to the main diaphragm.

To operate in bypass mode, the pneumatic fittings of the controller's IN and OUT ports must be switched. In bypass mode, the air supply is connected to the OUT port of the electronic section.

Bypass Operation Procedure

See Figure 12. The following procedure describes how to safely covert the ePRR to bypass mode.

Required Tools:

- ½-in. wrench
- ⅜-in. Hex key
- PTFE tape or pipe dope

NOTE: Do not disconnect the main air supply without adjusting the air pressure to 0 psi. Failure to comply may cause excess air pressure to the electronic regulator.

1. Manually adjust the air pressure down to 0 psi through the main air supply regulator. 0 psi must be applied to the air inlet before the next step can be complete.
2. Disconnect the air tubing from the right angle fitting.
3. Using the wrench, disconnect the right angle fitting from the IN port.
4. Using the hex key, remove the plug from the OUT port.

NOTE: PTFE tape or pipe dope can contaminate the airway if applied improperly. Be sure to carefully apply PTFE tape or pipe dope to the threads of the fitting or plug only.

5. Apply PTFE tape or pipe dope to the plug and insert in the IN port.
6. Apply PTFE tape or pipe dope to the right angle fitting and tighten it to the OUT port.
7. Reconnect the air tubing to the right degree fitting.
8. Slowly turn on the air supply by adjusting the air regulator until the desired fluid back pressure is achieved.

NOTE: Depending on the cause of the original ePRR failure, an external gauge may be needed to verify the line pressure in bypass mode.

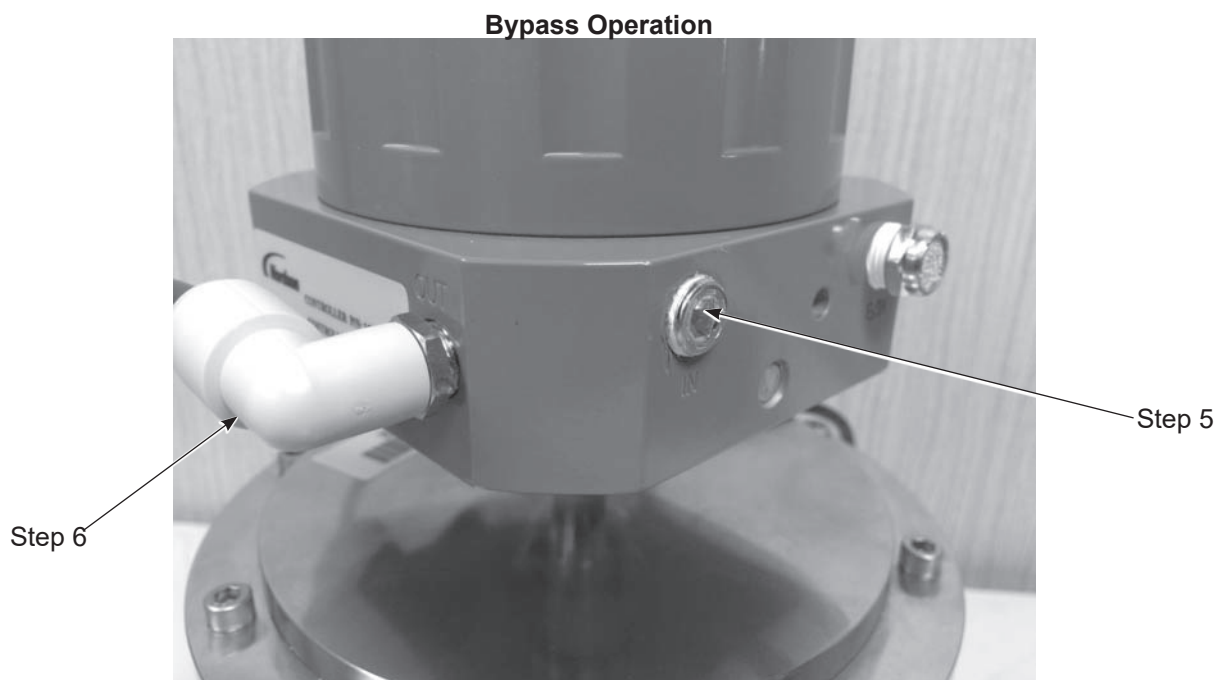


Figure 12 ePRR Pneumatic Plumbing in Standard Operating Mode and Bypass Operating Mode

NOTE: Figure 12 shows the current version of the ePRR. Older versions of the ePRR function the same as the current version but the ports may be configured slightly different on the unit.

Parts

To order parts, call the Nordson Finishing Customer Support Center at (800) 433-9319 or contact your local Nordson representative.

Pressure Regulator Assembly

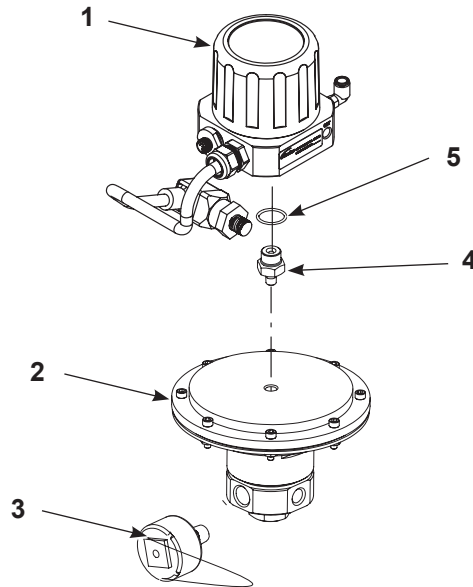


Figure 13 Pressure Regulator Assembly

Item	Part	Description	Quantity	Note
—	1604921	REGULATOR, assembly, iTRAX, pressure	1	
1	1604469	• PRESSURE controller, without fluid regulator	1	
NS	1600439	• • VALVE, solenoid, control, 12Vdc, PCB mounted	2	A
2	1604470	• KIT, fluid regulator, iTRAX	1	
3	1077144	• KIT, transducer	1	
4	1610163	• FITTING, adapter, SAE to NPTF	1	
5	1610164	• O-RING, adapter	1	
NS	1610165	• LUBRICANT, regulator	AR	

NOTE: A. See Figure 6 on page 16.

B. See Figure 7 on page 18.

NS: Not Shown

Circuit Board Assembly

Part	Description	Quantity	Note
1621836	KIT, regulator, controller, printed circuit assembly	1	

Options

Part	Description	Quantity	Note
1078125	KIT, mounting bracket	—	
1080570	ASSEMBLY, filter, regulator, gage	1	
1600090	GAUGE, pressure, 0–1000 psi	1	
1612466	ASSEMBLY, cable, 3 m	1	

Repair Kits

Fluid Regulator Diaphragm Service Kit

Item	Part	Description	Quantity	Note
—	1080888	KIT, service, diaphragm, fluid regulator	—	
1	-----	• DIAPHRAGM	1	
2	-----	• SPACER, diaphragm	1	
3	940164	• O-RING, Buna N, 0.625 x 0.750 x 0.063, black	1	
4	-----	• SENSOR, diaphragm, regulator	1	
5	-----	• BUTTON, diaphragm	1	

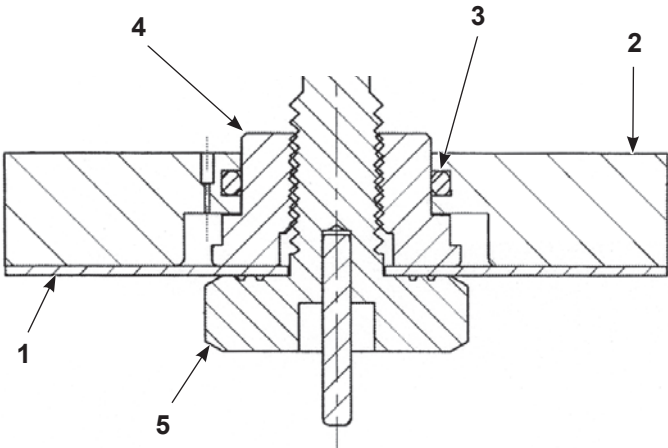


Figure 14 Regulator Diaphragm Service Kit

NOTE: It is important to replace all components of the kit to ensure proper function of the fluid regulator. The diaphragm is pre-formed to its mating surfaces during assembly and should not be replaced separately.

Fluid Regulator Rebuild Kit

Part	Description	Quantity	Note
1610196	KIT, rebuild, fluid regulator, iTRAX, ePRR	—	
-----	• SEAT	1	
-----	• BALL	1	
-----	• SPRING	1	
-----	• O-RING, seat seal, PTFE	1	
-----	• O-RING, back cap seal, PTFE	1	
940164	• O-RING, Buna N, 0.625 x 0.750 x 0.063, black	1	

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