

iTrax® Electronic Pressure-Reducing Regulator Rebuild Kits

Description

The iTrax® 0–900 psi electronic pressure-reducing regulator (ePRR) reduces high primary pressures to lower secondary output pressures. It is a non-venting regulator designed for use in systems with low fluid flow rates.

Specifications

Maximum inlet pressure	207 bar (3000 psi)
Maximum outlet pressure	62 bar (900 psi)
Operating temperature	5–75 °C (41–167 °F)
Inlet/outlet ports	3/8-in. NPT
Outlet gauge ports	1/4-in. NPT
Weight	3.9 kg (8.6 lb) 4.7 kg (10.4 lb) with gauge and bracket
Power requirements	24 Vdc (22 Vdc – 28 Vdc) 340 mA (max), 190 mA (nominal)

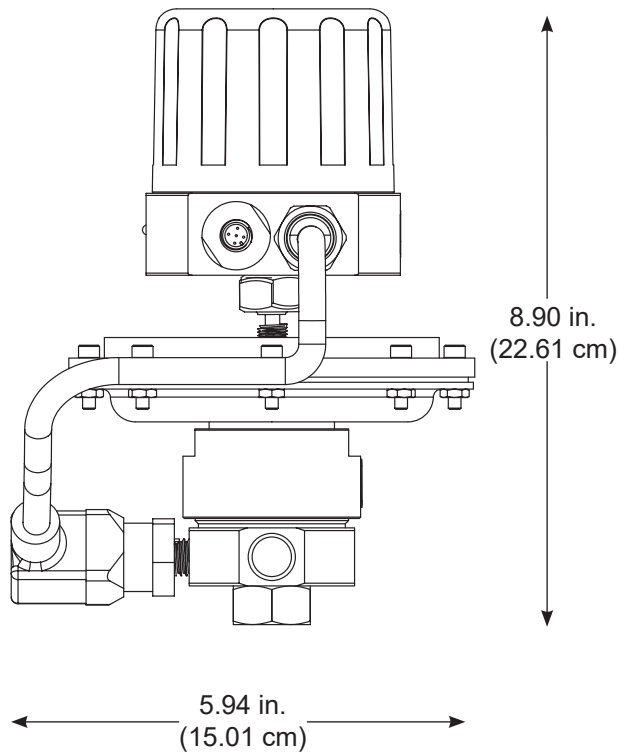


Figure 1 Electronic Pressure-Reducing Regulator Dimensions

Repair



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



WARNING: System may be pressurized. Relieve pressures. Failure to observe this warning may result in serious injury or death.

It is recommended to take the regulator offline and repair at a workbench.

Repair is limited to replacing the parts included in the service kits. See “*Repair Kits*” on page 7 for available repair parts and kits.

NOTE: It is important to replace all parts included in the kits to attain full performance and precision of the iTrax system.

Diaphragm Replacement

Use the parts contained in the “*Fluid Regulator Diaphragm Service Kit*” on page 7.

See Figure 2.

1. Shut off the hydraulic pressure by either closing the valves or powering down the pump, depending on system specifications.

NOTE: Optionally, use the iTrax and PRx I or II module to relieve the pressure by adjusting the setpoint to 0 psi on the corresponding PRx faceplate. Once pressure has been relieved, if required, use the iTrax to turn the setpoint pressure down to 0 on the corresponding faceplate. Take care to note the setpoint pressure before changing it, so that when the regulator is put back online, the correct setpoint can be set.

2. Turn off the PRx I or II module and restart the iTrax server and operator interface.

NOTE: Any time a module is powdered off, the iTrax server and operator interface will always need to be restarted.

3. Ensure all pneumatic and hydraulic pressure is shut off or depressurized.
4. Remove the pneumatic and electronic connections from the pressure controller (1).
5. Remove the hydraulic connections or hoses from the fluid regulator body (14).
6. Disconnect the transducer connection from the transducer kit (2).

NOTE: If necessary, use a marker to indicate the relative alignment of the entire assembly.

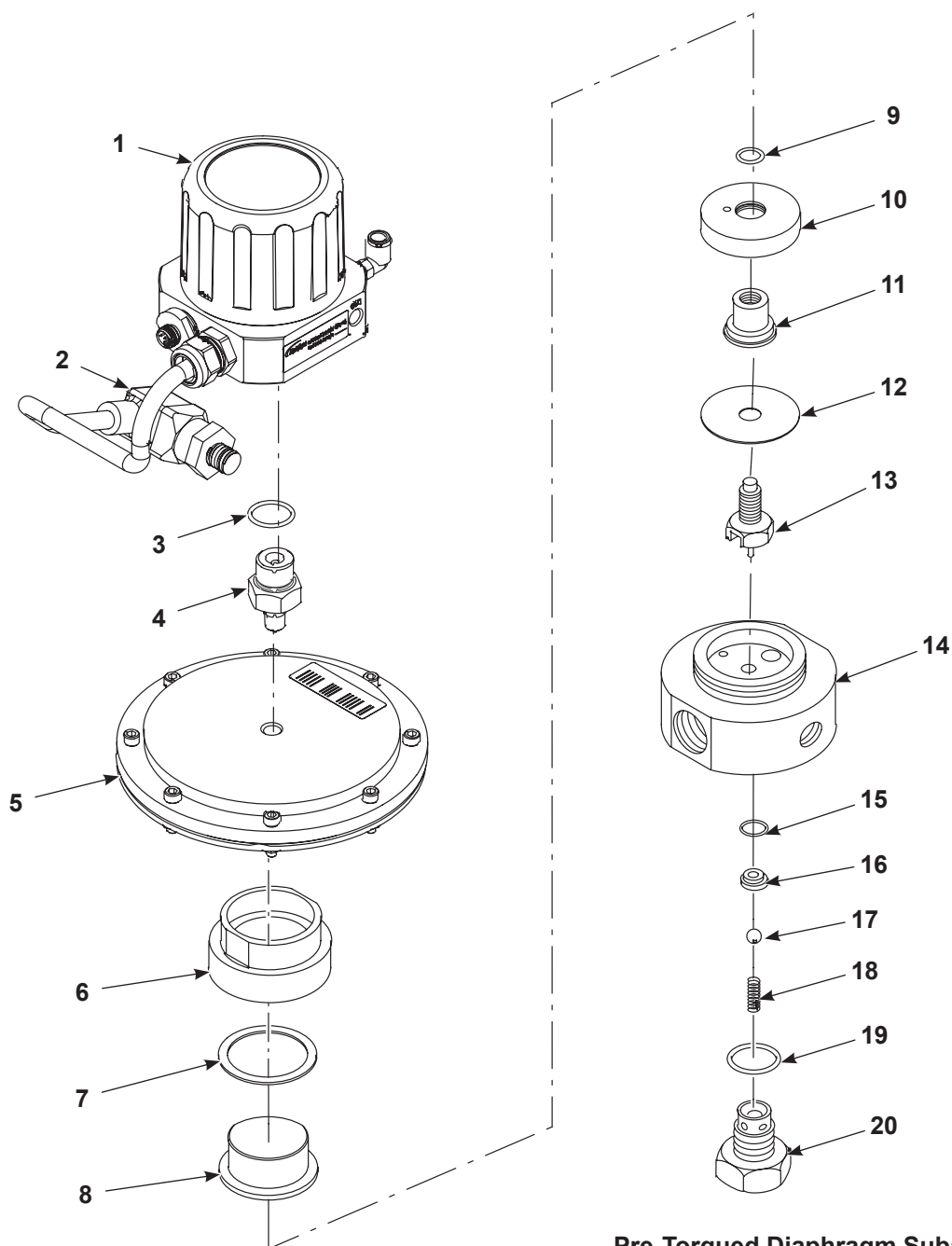
7. Place the regulator body (14) in a large vise and use a 2-¼ in. wrench to loose the bonnet ring (6).
8. Separate the regulator body (14) from the bonnet ring (6).
9. Remove the entire diaphragm kit (9, 11, 12, 13) for replacement.
10. Apply the lubricant listed in the Parts section to the O-ring (9), ID of the spacer (10), and OD of the sensor (11) on the new diaphragm kit.
11. Place the new, lubricated diaphragm kit (9, 11, 12, 13) on the regulator body (14) and reassemble in the reverse sequence.
12. Use a 2 ¼-in. wrench to tighten the bonnet ring (6) to 125–130 ft-lb (169.4–176.2 N•m) to the referenced alignment markings from step 6.

Ball and Seat Replacement

Use the parts contained in the “*Fluid Regulator Diaphragm Service Kit*” on page 7.

See Figure 2.

1. Remove the back cap (20) and replace the following parts:
 - O-rings (15, 19): Apply the lubricant listed in the Parts section.
 - Seat (16)
 - Ball (17)
 - Spring (18)
2. Reinstall the assembled back cap (20) and tighten it to 40–50 ft-lb (54.2–67.7 N•m).



Torque Values

Item 6 to 14: 169.4–176.2 N•m (40–50 ft-lb)

Item 14 to 20: 54.2–67.7 N•m (125–130 ft-lb)

Pre-Torqued Diaphragm Subassembly

Items 11 to 13

Figure 2 Electronic Pressure Reducing Regulator

- | | |
|------------------------|----------------------|
| 1. Pressure controller | 8. Bonnet |
| 2. Transducer kit | 9. O-ring (spacer) |
| 3. O-ring | 10. Spacer |
| 4. Fitting | 11. Sensor |
| 5. Fluid regulator | 12. Diaphragm |
| 6. Bonnet ring | 13. Diaphragm button |
| 7. Brass bonnet washer | 14. Regulator body |

- 15. O-ring
- 16. Seat
- 17. Ball
- 18. Spring
- 19. O-ring
- 20. Back cap

Parts

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

Electronic Pressure-Reducing Regulator Assembly

See Figure 3 and refer to the following parts list.

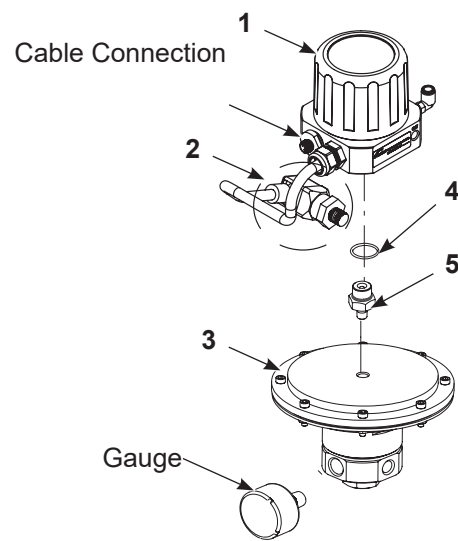


Figure 3 Electronic Pressure-Reducing Regulator Assembly

Item	Part	Description	Quantity	Note
—	1604921	REGULATOR, assembly, iTrax, pressure	1	
1	1604469	• PRESSURE CONTROLLER, without pressure transducer	1	
NS	1600439	• • VALVE, solenoid, control, 12 Vdc, PCB-mounted	2	
2	1077144	• KIT, transducer	1	
3	1604470	• KIT, fluid regulator, iTrax	1	
4	1610164	• O-RING, adapter	1	
5	1610163	• FITTING, adapter, SAE to NPTF	1	
NS: Not Shown				

Repair Kits

NOTE: It is important to replace all components of the kit to ensure proper function of the fluid regulator. The diaphragm is not sold separately. It must be pre-formed to its mating surfaces at the factory.

Fluid Regulator Diaphragm Service Kit

See Figure 4 and refer to the following parts list.

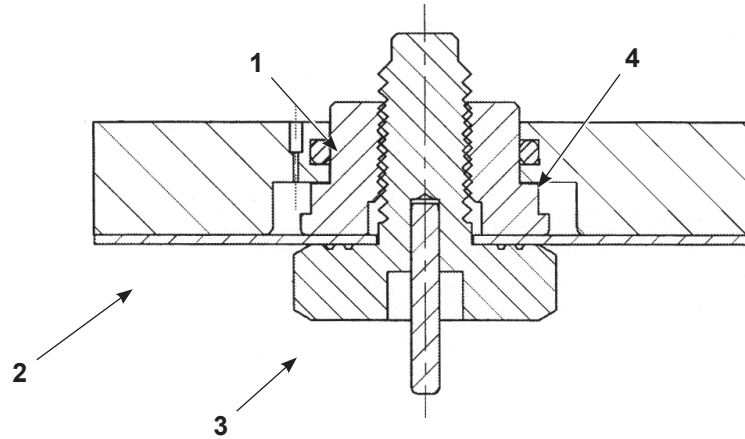


Figure 4 Fluid Regulator Diaphragm Service Kit

Item	Part	Description	Quantity	Note
—	1080888	KIT, service, diaphragm, fluid regulator	1	
1	-----	• SENSOR, diaphragm, regulator	1	
NS	-----	• DIAPHRAGM	1	
2	-----	• BUTTON, diaphragm	1	
3	940164	• O-RING, Buna N, 0.625 x 0.750 x 0.063, black	1	
4	1610165	• LUBRICANT, synthetic, 2 oz tube	AR	A

NOTE: A. Lubricant sold separately.

NS: Not Shown

Fluid Regulator Rebuild Kit

Refer to the following parts list.

Part	Description	Quantity	Note
1610196	KIT, rebuild, fluid regulator, iTrax	1	
-----	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	
1610165	LUBRICANT, synthetic, 2 oz tube	AR	A

NOTE: A. Lubricant sold separately.

NS: Not Shown

Circuit Board Assembly Kit

Refer to the following parts list.

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

Maintenance Material

Refer to the following parts list.

Part	Description	Note
1610165	LUBRICANT, synthetic, 2-oz tube	

Options

Refer to the following parts list.

Part	Description	Note
1078125	KIT, mounting bracket	
1080570	ASSEMBLY, filter, regulator, gauge	
901256	GAUGE, pressure, 0–1000 psi	
1612466	ASSEMBLY, cable, 3 m	

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