Pro-Meter® S-Series Coupled Dispensers with Integrated Drive

Customer Product Manual

Document Number 1606702-06
– English –
Issued 09/25

For parts and technical support, call the Industrial Coating Solutions Customer Support Center at (800) 433-9319 or contact your local Nordson representative.

This document is subject to change without notice.
Check http://emanuals.nordson.com for the latest version.

NORDSON CORPORATION • 100 NORDSON DRIVE, AMHERST, OHIO 44001• USA

Table of Contents

Contact Us
Nordson Corporation welcomes requests for information, comments, and inquiries about its products. General information about Nordson can be found on the Internet using the following address:
http://www.nordson.com

http://www.nordson.com/en/global-directory

Change Record

Revision	Date	Change
01	9/15	Initial Release
02	3/18	Removed part number 1084754, changed ft-lb spec on page 23
03	8/18	Added anti-drool dispense gun
04	10/20	Update to current product line
05	10/20	Added E-Net Dispensers
06	11/23	Admin. rev. roll only, no changes made to manual
07	8/25	Updated IMG on Figure 30, Admin rev to conversion

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.

All phases of equipment installation must comply with all federal, state, and local codes.

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.
- Obtain and read Material 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.
- 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.

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.

Grounding

WARNING: Operating faulty electrostatic equipment is hazardous and can cause electrocution, fire, or explosion. Make resistance checks part of your periodic maintenance program. If you receive even a slight electrical shock or notice static sparking or arcing, shut down all electrical or electrostatic equipment immediately. Do not restart the equipment until the problem has been identified and corrected.

Grounding inside and around the booth openings must comply with NFPA requirements for Class II, Division 1 or 2 Hazardous Locations. Refer to NFPA 33, NFPA 70 (NEC articles 500, 502, and 516), and NFPA 77, latest conditions.

- All electrically conductive objects in the spray areas shall be electrically connected to ground with a resistance of not more than 1 megohm as measured with an instrument that applies at least 500 volts to the circuit being evaluated.
- Equipment to be grounded includes, but is not limited to, the floor of the spray area, operator platforms, hoppers, photoeye supports, and blow-off nozzles. Personnel working in the spray area must be grounded.
- There is a possible ignition potential from the charged human body. Personnel standing on a painted surface, such as an operator platform, or wearing non-conductive shoes, are not grounded. Personnel must wear shoes with conductive soles or use a ground strap to maintain a connection to ground when working with or around electrostatic equipment.
- Operators must maintain skin-to-handle contact between their hand and the gun handle to prevent shocks while operating manual electrostatic spray guns. If gloves must be worn, cut away the palm or fingers, wear electrically conductive gloves, or wear a grounding strap connected to the gun handle or other true earth ground.
- Shut off electrostatic power supplies and ground gun electrodes before making adjustments or cleaning powder spray guns.
- Connect all disconnected equipment, ground cables, and wires after servicing equipment.

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 Pro-Meter® S-Series dispensing meters are designed for high-speed application of single-component materials. A closed-coupled dispense valve and electric servo controlled metering allows for accurate dispensing. Table 1 lists the major components. See Table 1 for a list of available dispensers.

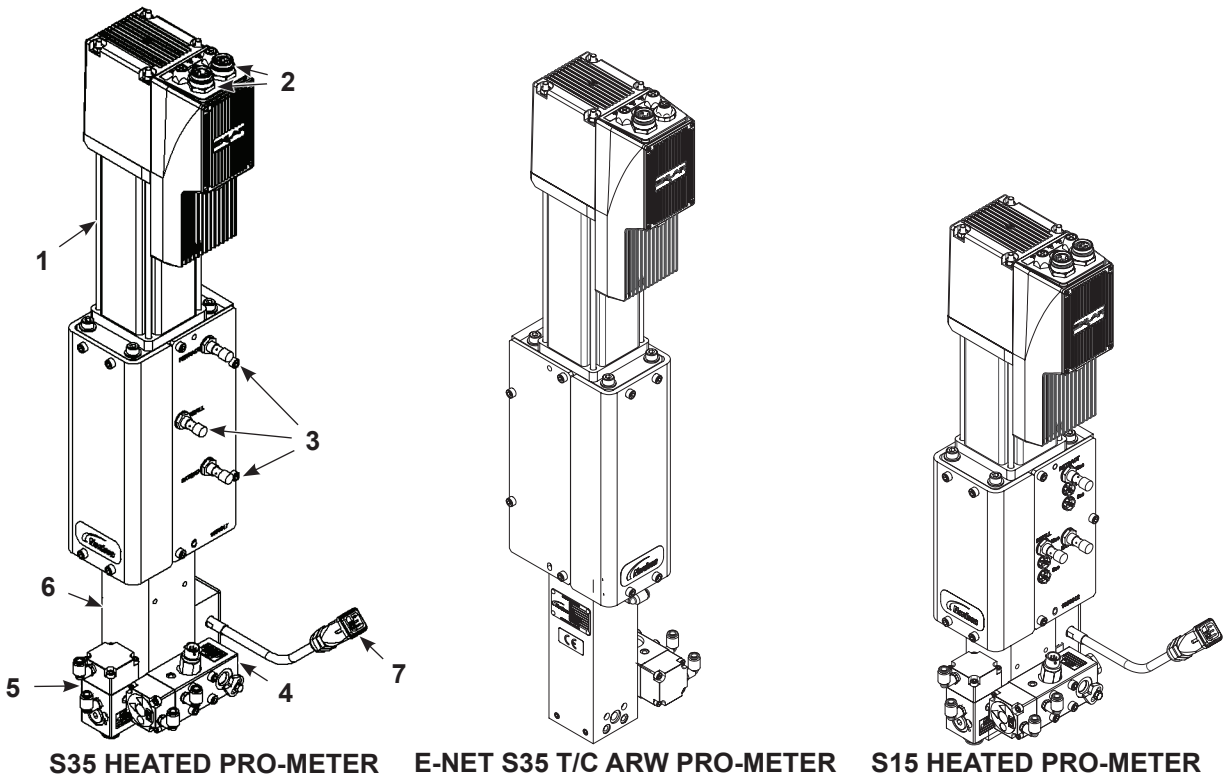


Figure 1 Typical Pro-Meter S-Series Dispensers

Table 1 Pro-Meter S-Series Dispensers

Item	Description
1	Servo-controlled linear acutator —This actuator drives the plunger rod into the cylinder cavity to displace the material.
2	Connectors — Interface connections for controller cables.
3	Proximity sensors — The proximity sensors feed positional information to the controller. Two proximity sensors serve as emergency stops and are triggered by linear actuator anti-rotation plate. One proximity sensor indicates that the metering cylinder is full. Note: E-Net dispensers do not use proximity sensors.
4, 5	Inlet (4) and outlet (5) valves — These high-cycle valves are mounted to the metering cylinder and control the flow of material into and out of the metering cylinder. The valves also serve as material inlet and outlet ports.
6	Metering cylinder — The metering cylinder mounts to the liner actuator through the use of four tie rods. Positive pressure from a Rhino® bulk unloader fills the metering cylinder. A packing gland and plunger rod is mounted to the metering cylinder. The plunger rod displaces material when the actuator extends.
7	Cord set — Cable connection to system controller or J-box for electric heater functions.

Table 2 Available Pro Meter S-Series Dispensers

Dispenser	Meter (CCs)	Packing Gland Type
Temperature Conditioned (T/C) E-Net Only	S35	Standard and ARW
	S100	Standard
	S300	Standard
120 V	S15	Standard
	S35	Standard
	S100	Standard
	S165	Standard
	S300	Standard
240V	S15	Standard
	S35	Standard
	S100	Standard
	S165	Standard
	S300	Standard

Theory of Operation

Positive pressure from the Rhino bulk unloader fills the metering cylinder. As the linear actuator retracts, hydraulic pressure extends the metering cylinder piston to its starting position. The proximity switches provide positioning information to the linear actuator and the system controller.

NOTE: The theory of operation for heated versions is identical with the exception that the system controller enables and disables the heater circuit to maintain the material setpoint temperature.

Operation consists of the 4 phases listed in Table 3.

Table 3 Inlet/Outlet Valve Positions

Operation	Valve Positions During Operation	
	Inlet Valve	Outlet Valve
Refill	Open	Closed
Idle	Closed	Closed
Pre-Pressure	Closed	Closed
Dispense/Purge	Closed	Open

Refill Phase

See Figure 2. During the refill phase, the actuator retracts. The material inlet valve opens. Material flows from the unloader and fills the metering cylinder.

When the cylinder is full, the plunger is fully retracted and is registered by the proximity switch. The inlet valve closes. The metering cylinder is full of material and the unit is ready to dispense.

Idle Phase

During the pre-pressure phase, the actuator drives the plunger into the metering cylinder and pressurizes the material to a set value. The actuator holds this position. The controller sends a Ready signal to indicate that the system is ready for the dispense phase.

Dispense/Purge Phase

See Figure 2. During the dispense phase, the drive assembly forces the metering cylinder piston into the metering cylinder. The material outlet valve opens at the same time and material extrudes proportionally to the given input signal.

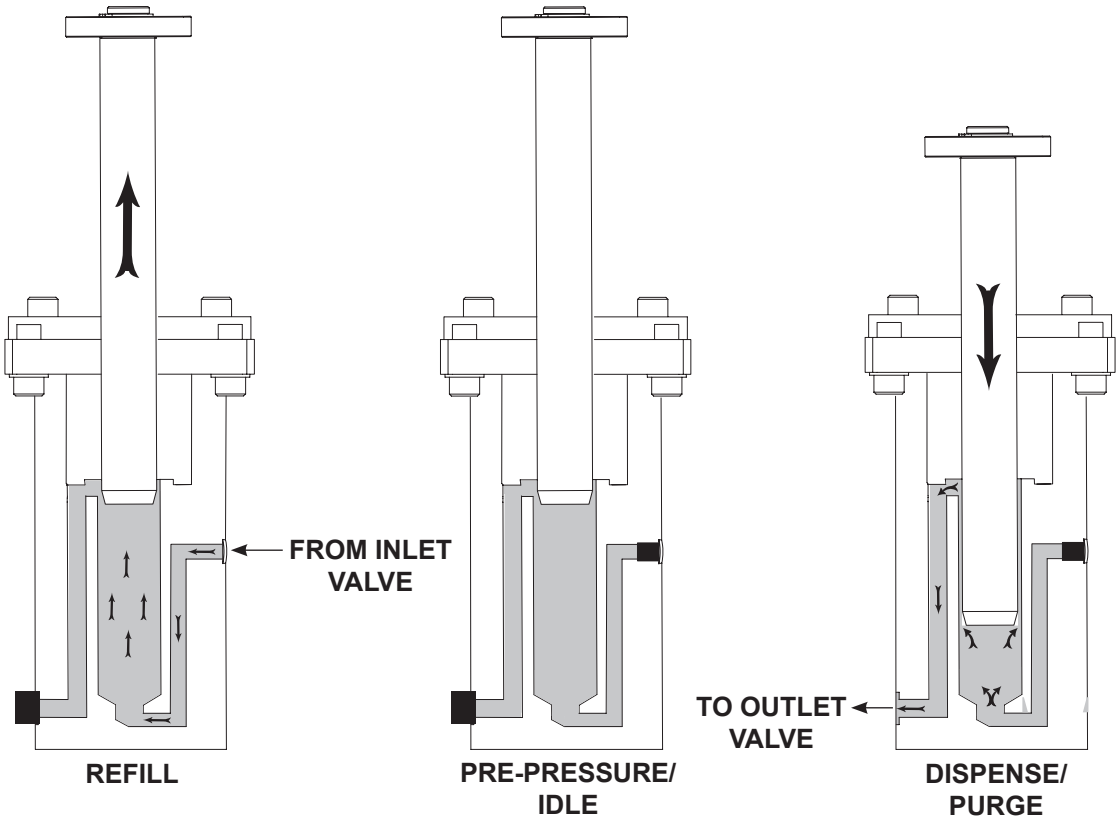


Figure 2 Metering Cylinder

Specifications

Refer to Table 4 for specifications.

Table 4 Specifications

Item	Specification				
	S15	S35	S100	S165	S300
Inlet Port Outlet Port for Remote Material Outlet Valve	3/8 SAE, Size - 06 O-ring boss, 9/16 - 18 UNF 2B thread				
Operating Air Pressure	4.1 - 7 bar (60 - 100 psi)				
Maximum Fluid Working Pressure	206 bar (3000 psi)				
Maximum Continuous Fluid Output Pressure	110 bar (1600 psi) **Note:** Contact the Nordson Automotive Systems Group Engineering department if higher fluid output pressures are required.				
Maximum Flow Rate	5 cc/sec (0.31 in. 3/sec)	10 cc/sec (0.61 in. 3/sec)	20 cc/sec (1.22 in. 3/sec)	40 cc/sec (2.44 in. 3/sec)	50 cc/sec (3.05 in. 3/sec)
Maximum Water Operating Pressure	7 bar (100 psi)	7 bar (100 psi)	7 bar (100 psi)	7 bar (100 psi)	7 bar (100 psi)
Maximum Operating Temperature Water Conditioned and Electric Heat Versions	82° C (180° F)	82° C (180° F)	82° C (180° F)	82° C (180° F)	82° C (180° F)
Metering Cylinder	15 cc (0.91 cu in.)	35 cc/sec (2.1 cu in.)	100 cc/sec (6.1 cu in.)	165 cc/sec (10 cu in.)	300 cc/sec (18.3 cu in.)
Maximum Motor RPM	207 rpm	415 rpm	300 rpm	708 rpm	884 rpm
Maximum Continouus Motor Current	RMS: 3.4 amps		RMS: 10 amps	RMS: 10.2 amps	RMS: 10.2 amps
Operating Voltages and Power Consumption for Heated Versions (Heater Circuit Only)	120V/240V 400W	120V/240V 500W	120V/240V 600W	120V/240V 1040W	120V/240V 1200W
Weight (Approximate)	24 lb (11 kg)	Standard 30 lb (14 kg) E-Net: 38.5 lb (18 kg)	Standard: 49 lb (22 kg) Stainless Steel: 63 lb (29 kg) E-Net: 71 lb (32 kg)	Standard 112 lb (51 kg) E-Net: 132 lb (60 kg)	E-Net: 136 (62 kg)
Dimensions (Approximate)	See Figure 3 through Figure 12.				
Wetted Component Materials	Aluminum, brass, carbon steel, chrome plated carbon steel, stainless steel, tungsten carbide, Viton®, UHMWPE				
Air Consumption	0.25 scf/cycle				
Instantaneous Air Flow Rate	15 scfm for quick valve response				

Pro-Meter S15 Heated Dispenser

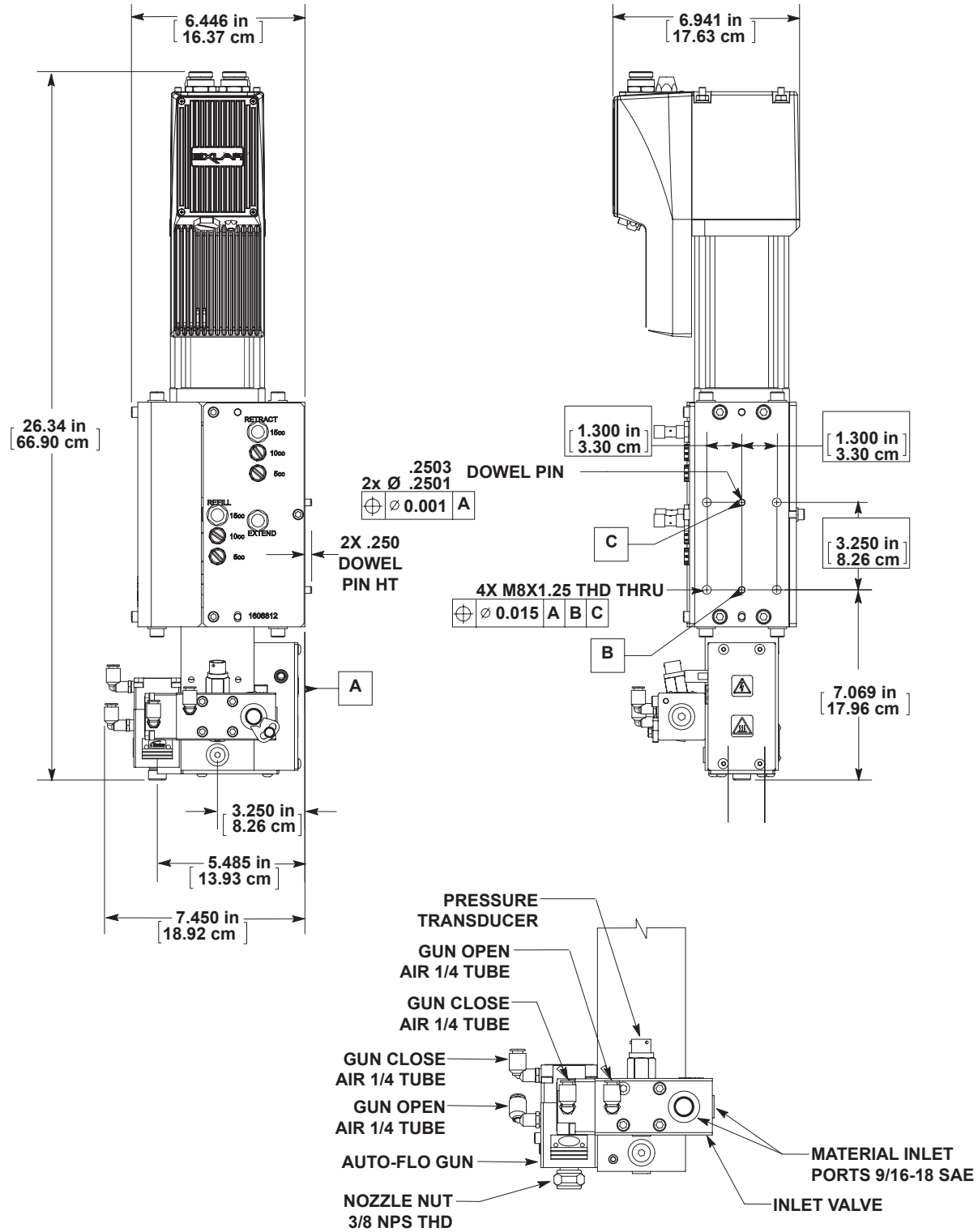


Figure 3 S15 Heated Dispenser

Pro-Meter S35 Heated Dispenser

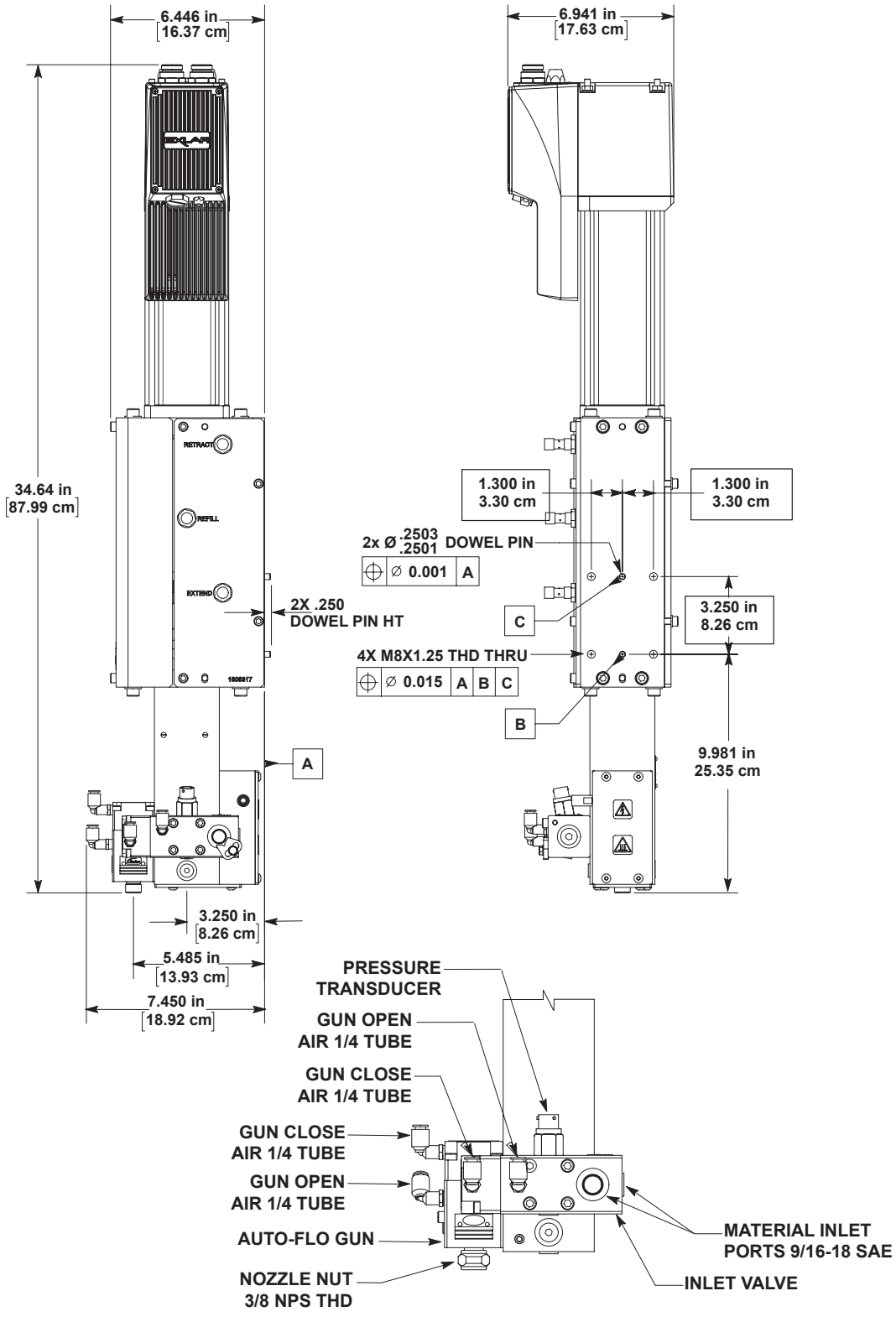


Figure 4 S35 Heated Dispenser

Pro-Meter S35 Heated E-Net Dispenser

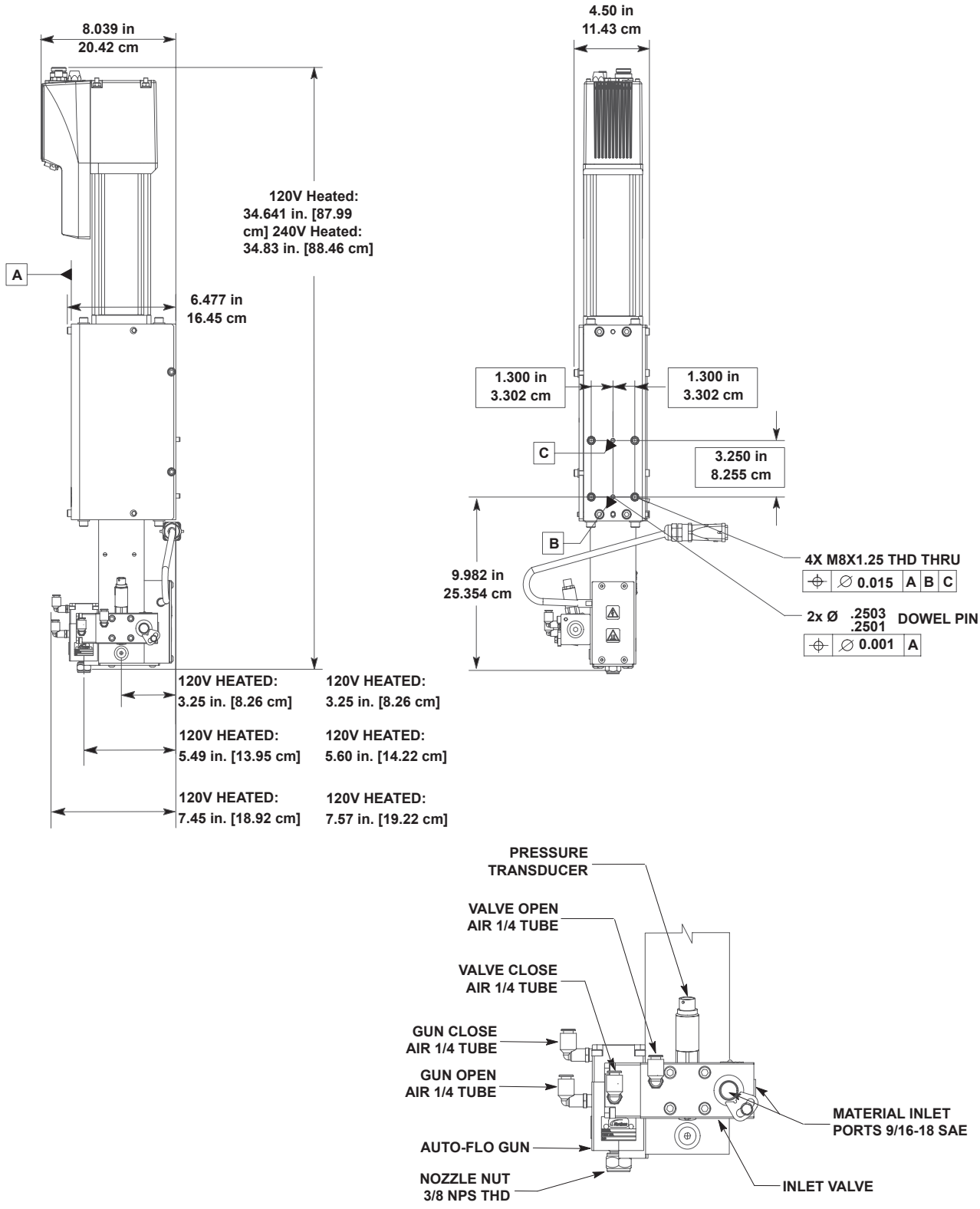


Figure 5 S35 Heated E-Net Dispenser (*240V heated dispenser shown*)

Pro-Meter S35 T/C and T/C ARW E-Net Dispensers

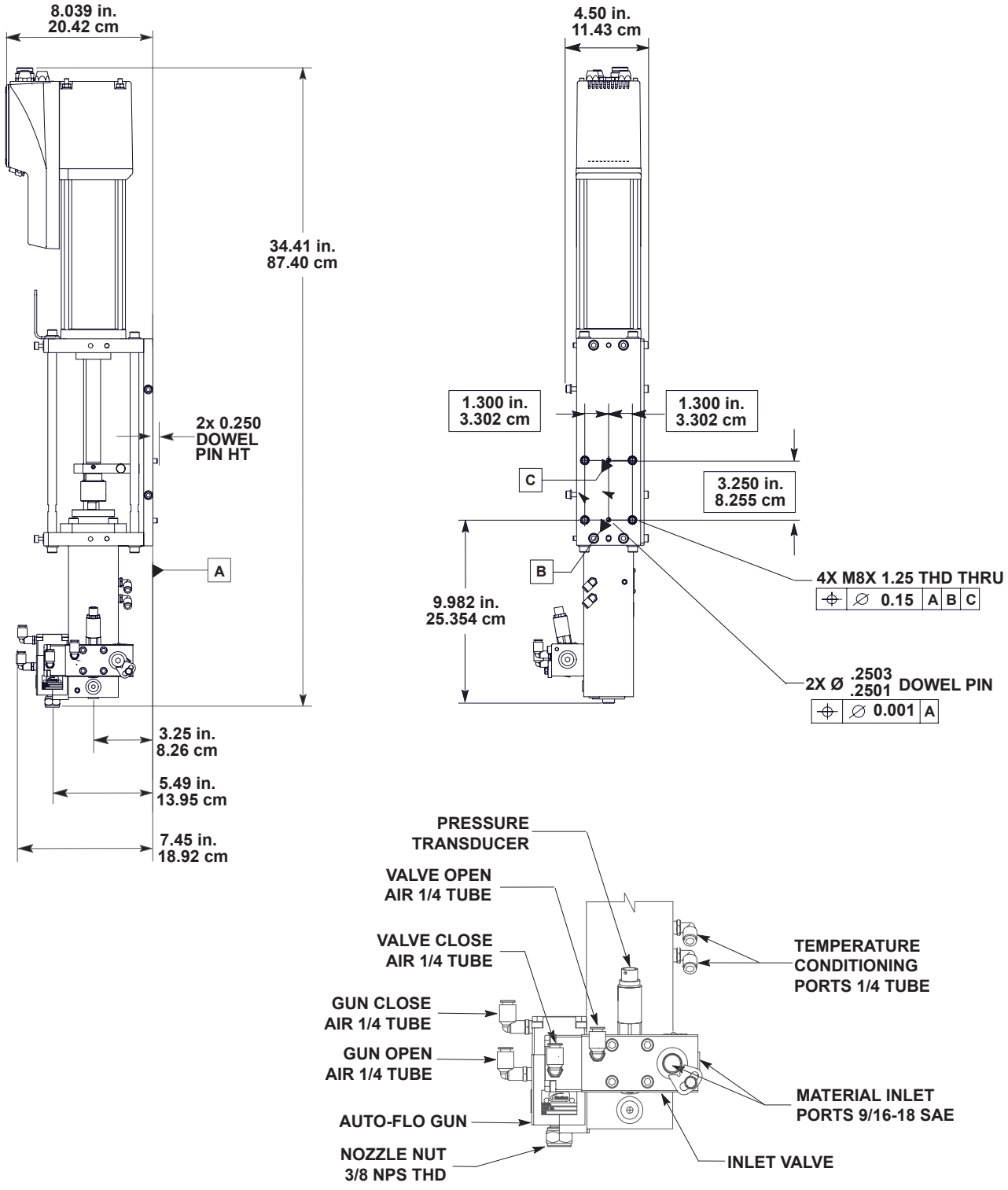


Figure 6 S35 T/C and T/C ARW E-Net Dispensers (*T/C dispenser shown*)

Pro-Meter S100 Heated Dispensers

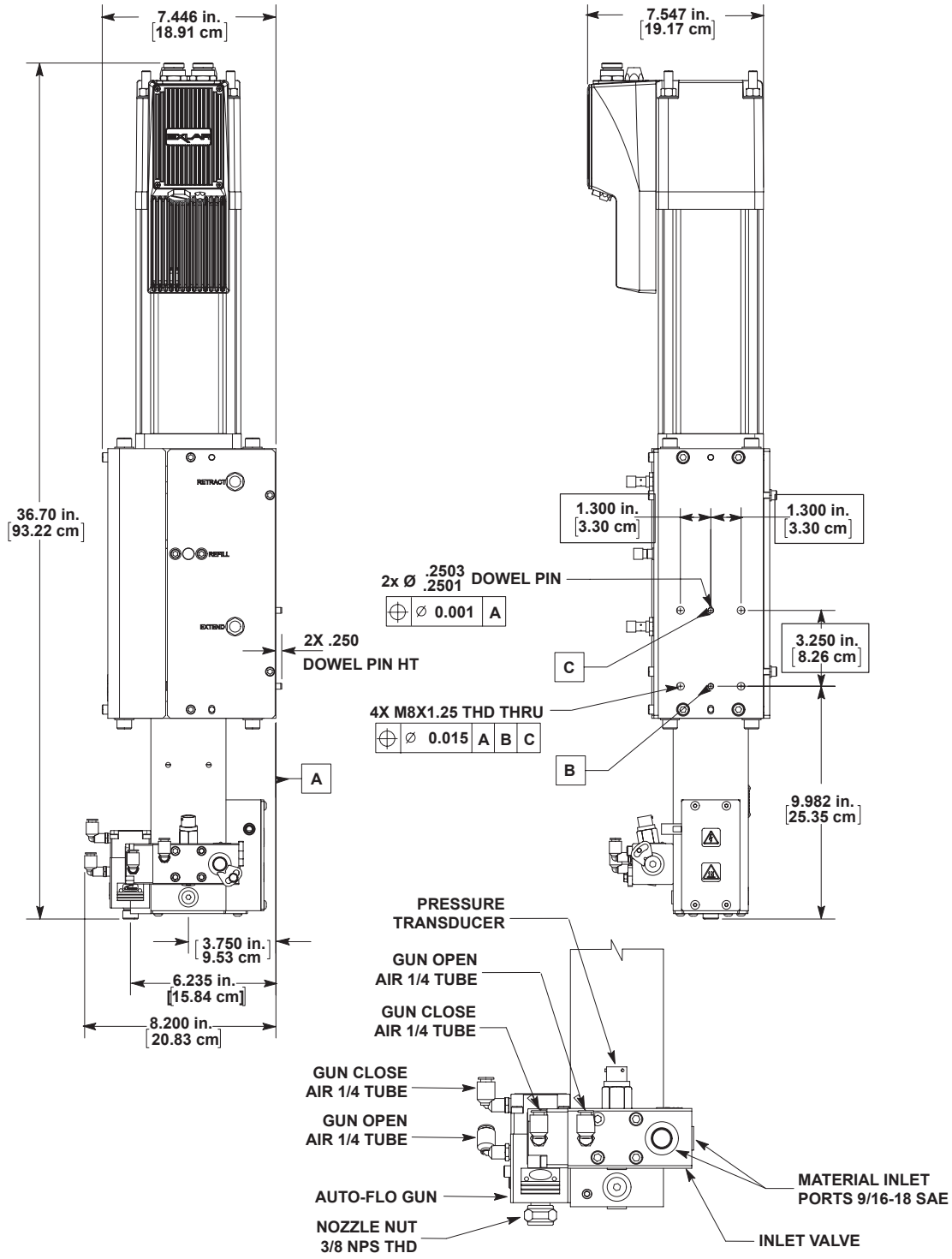


Figure 7 S100 Heated Dispenser

Pro-Meter S100 Heated E-Net Dispensers

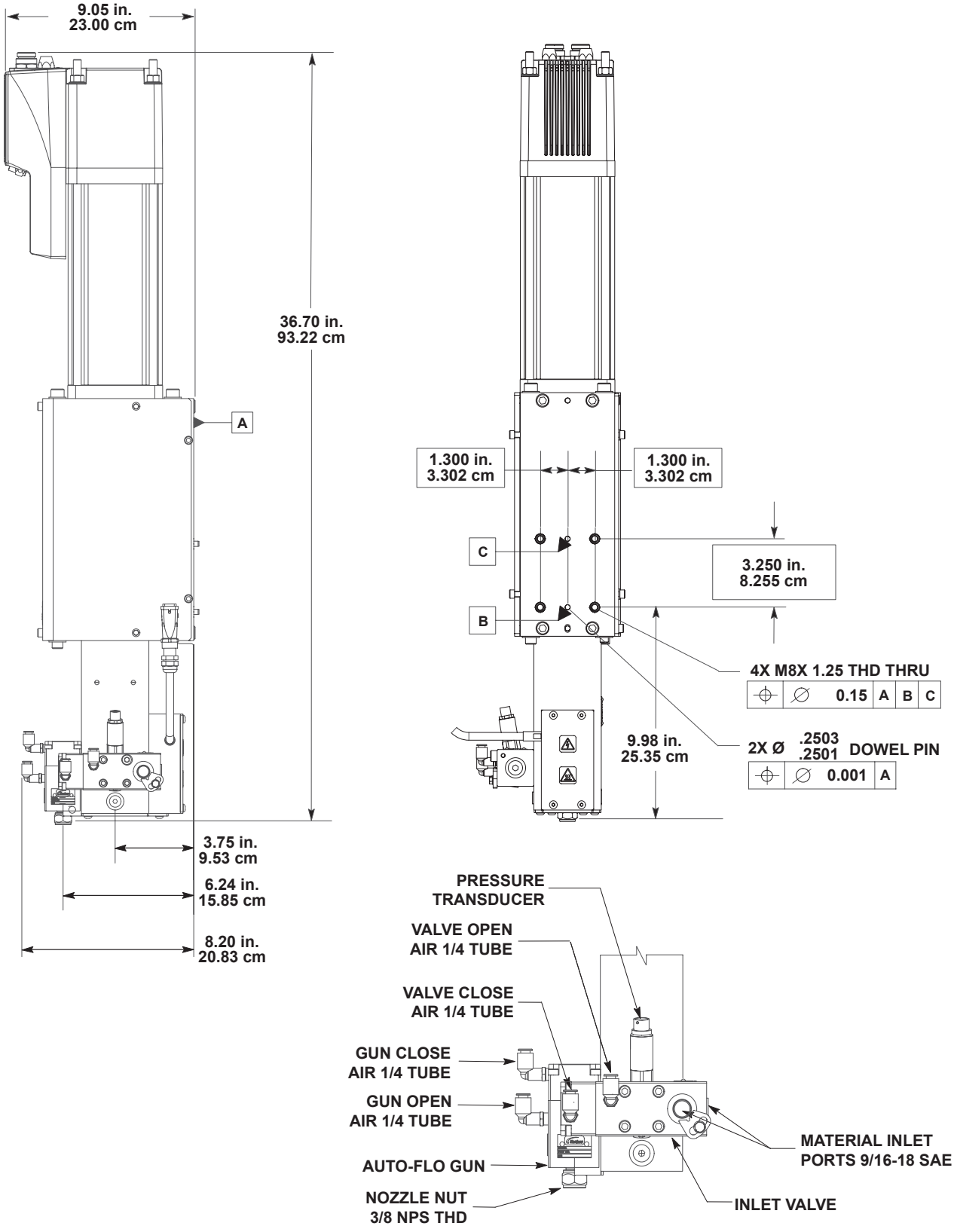


Figure 8 S100 Heated E-Net Dispenser

Pro-Meter S100 T/C N-Net Dispenser

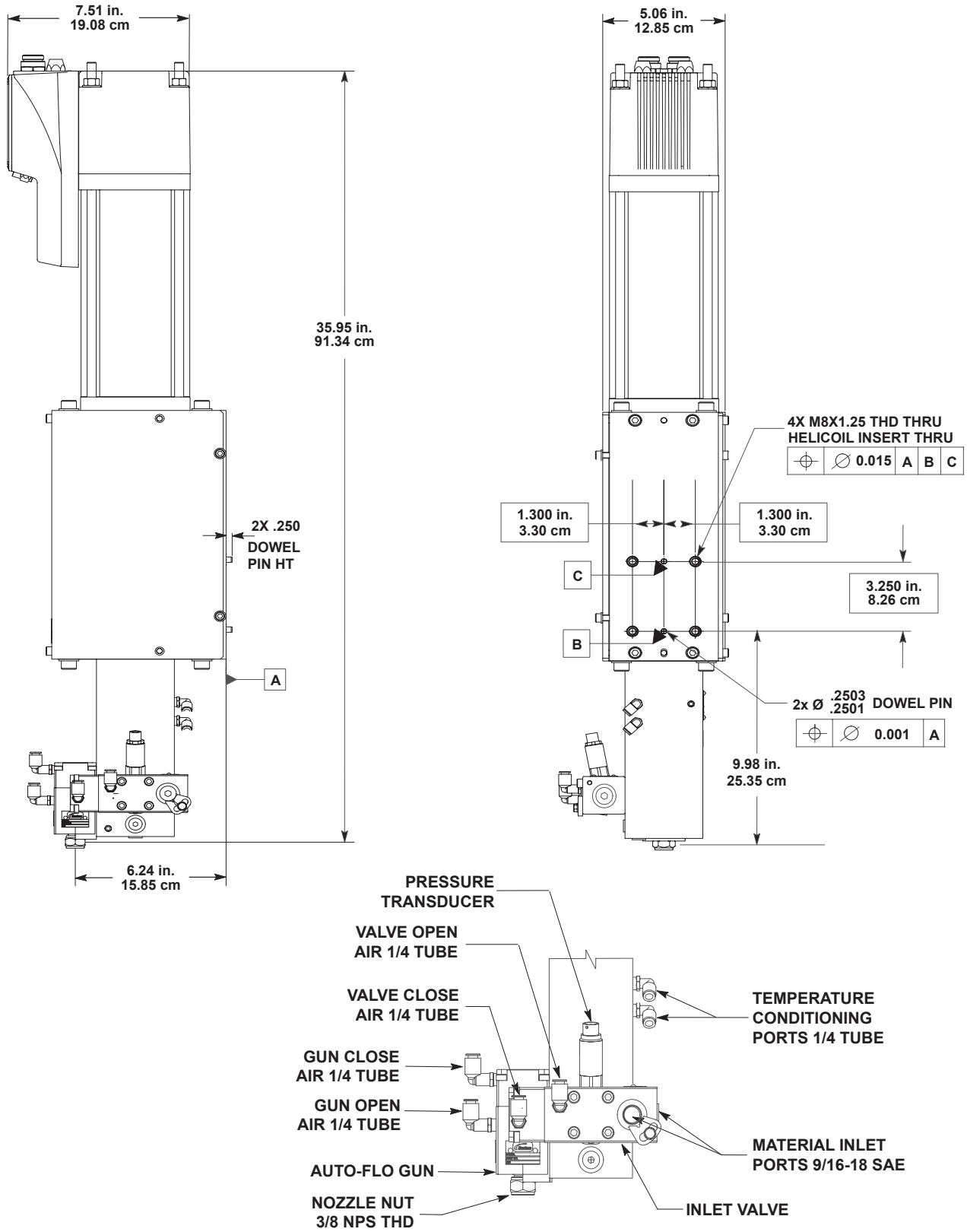


Figure 9 S100 T/C E-Net Dispenser

Pro-Meter S165 Dispensers

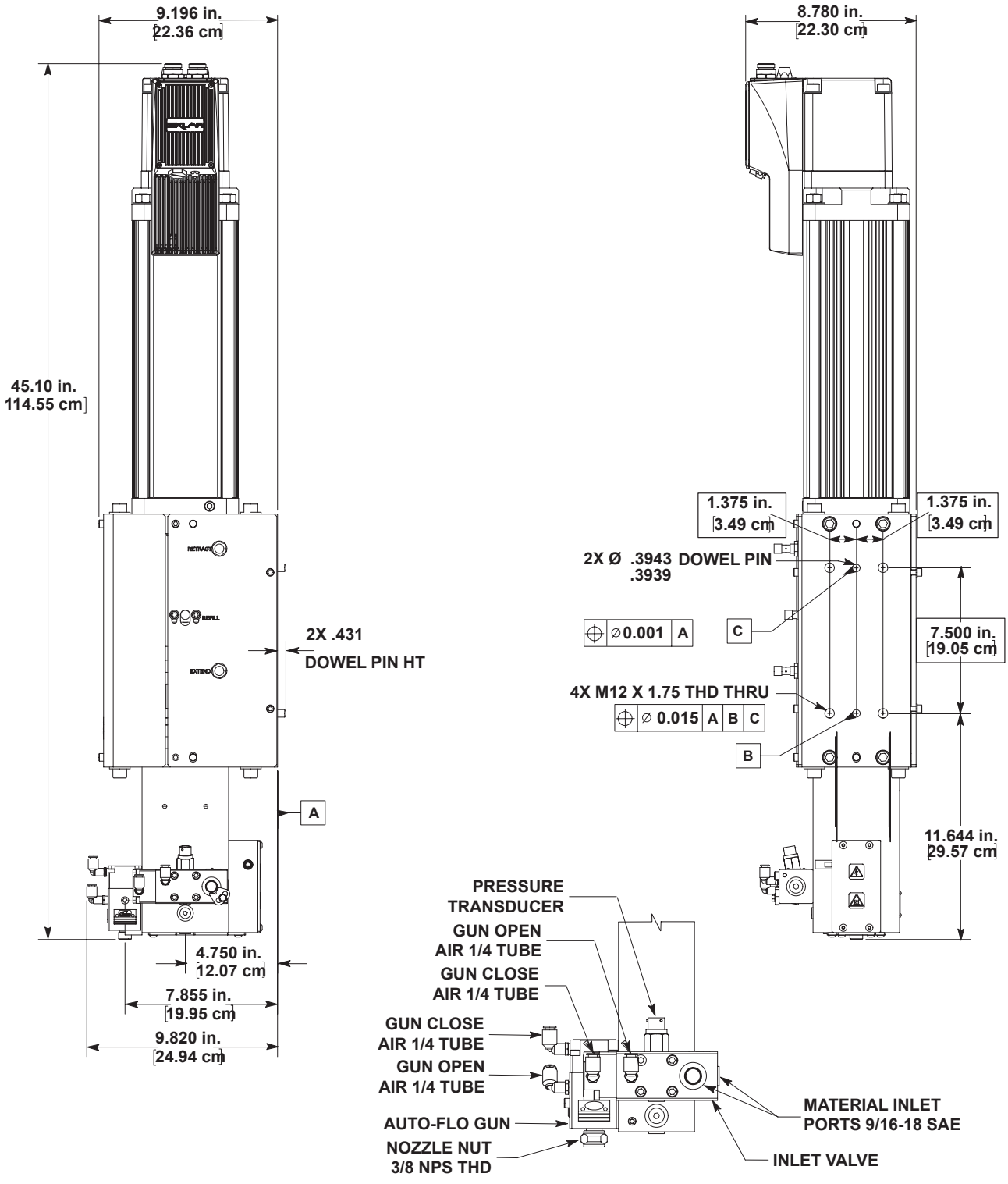


Figure 10 S165 Heated Dispenser

Pro-Meter S165 E-Net Dispensers

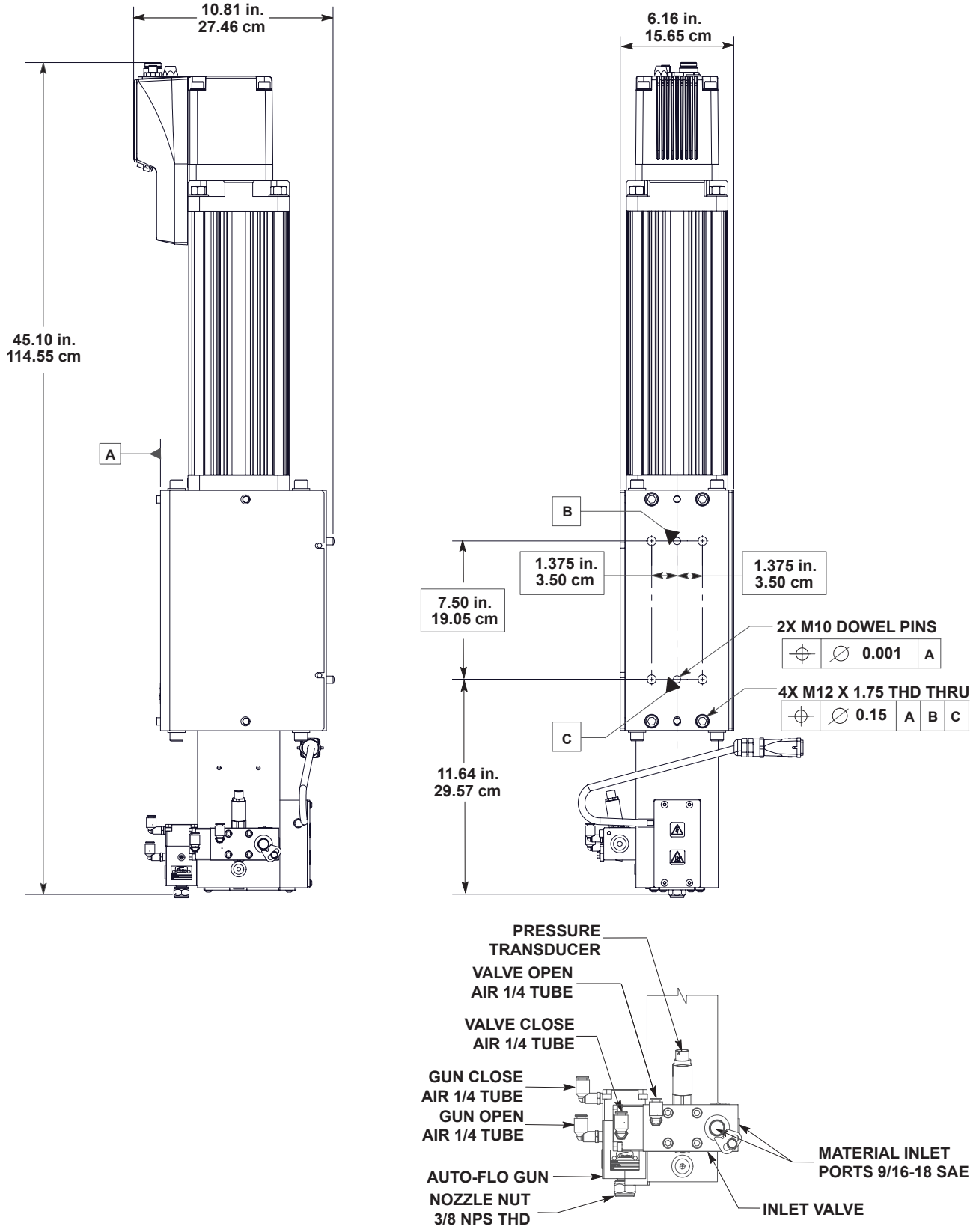


Figure 11 S165 Heated E-Net Dispensers

Pro-Meter S300 T/C E-Net Dispenser

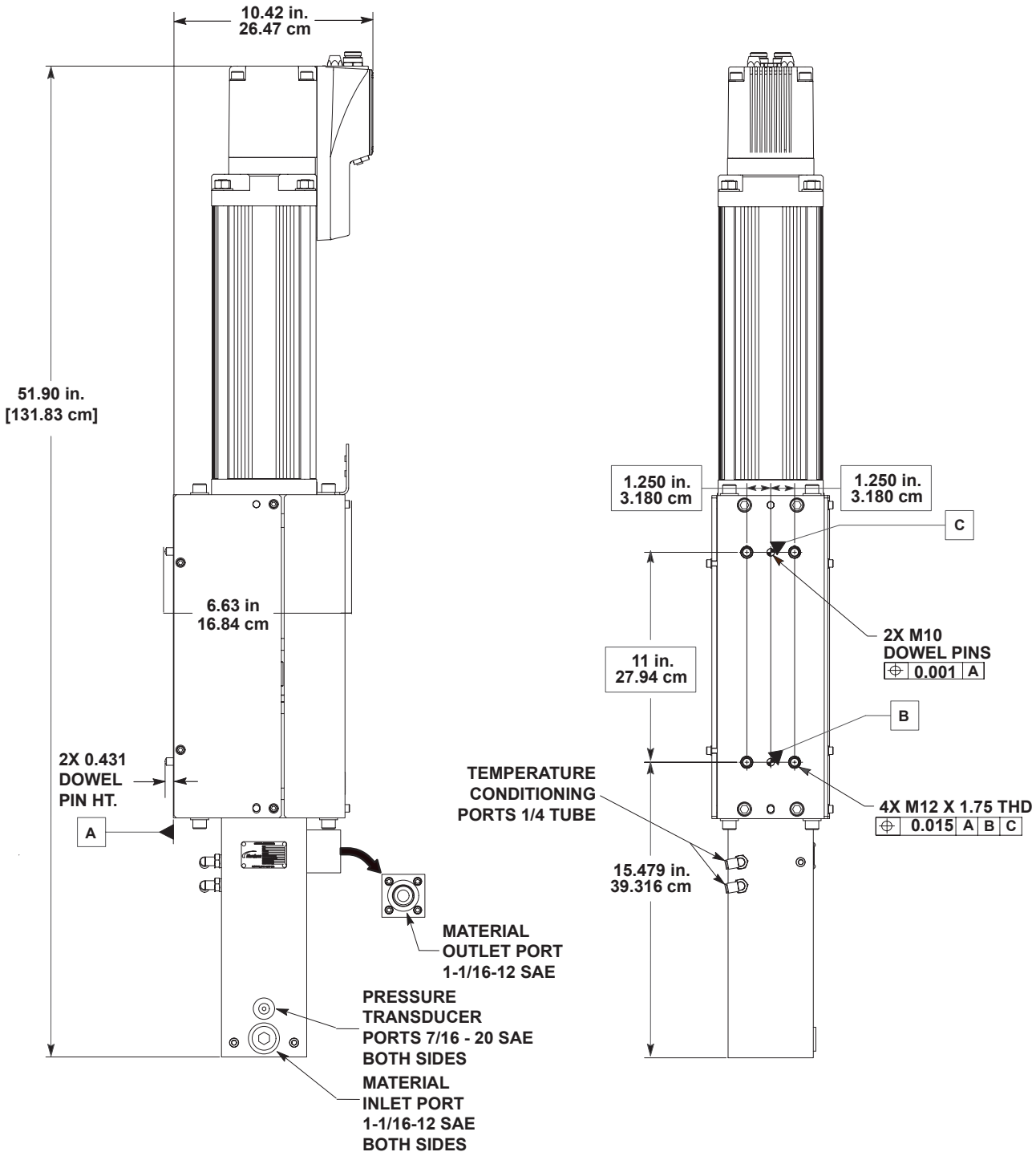


Figure 12 S300 T/C E-Net Dispenser

Installation

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 these procedures before installing a Pro-Meter S-Series dispenser into a system. Contact a local Nordson representative regarding these procedures if necessary.
- Installing a Pro-Meter S-Series meter is system-specific. Refer to the System Documentation manual that shipped with the system for controller schematics, air, water, and material circuit drawings.
- See the J-Block Schematic at the end of this manual for I/O and analog signals if necessary.
- The S15 dispenser output can be configured for 5-cc and 10-cc applications. Refer to the *How to Change the S15 Output* procedure in the *Repair* section.

Install the Pro-Meter S-Series Dispenser to a Fixture

Refer to *Specifications* for mounting dimensions if necessary.

See Figure 13 and review the following:

- The dispenser orientation can only be within the 90-degree window as shown. Contact Nordson Engineering if the dispenser needs to be oriented in a different way that's not shown.
- Do not install the dispenser with the outlet port positioned to the side. The outlet port must face upwards due to the internal passages of the plunger housing. When the plunger rod extends into the plunger rod housing, the material flows around the plunger and exits through a passage near the packing gland. Keeping this passage at the highest point in the plunger rod bore allows any air entrained in the material to pass through the plunger housing without getting trapped.
- Do not invert the dispenser.

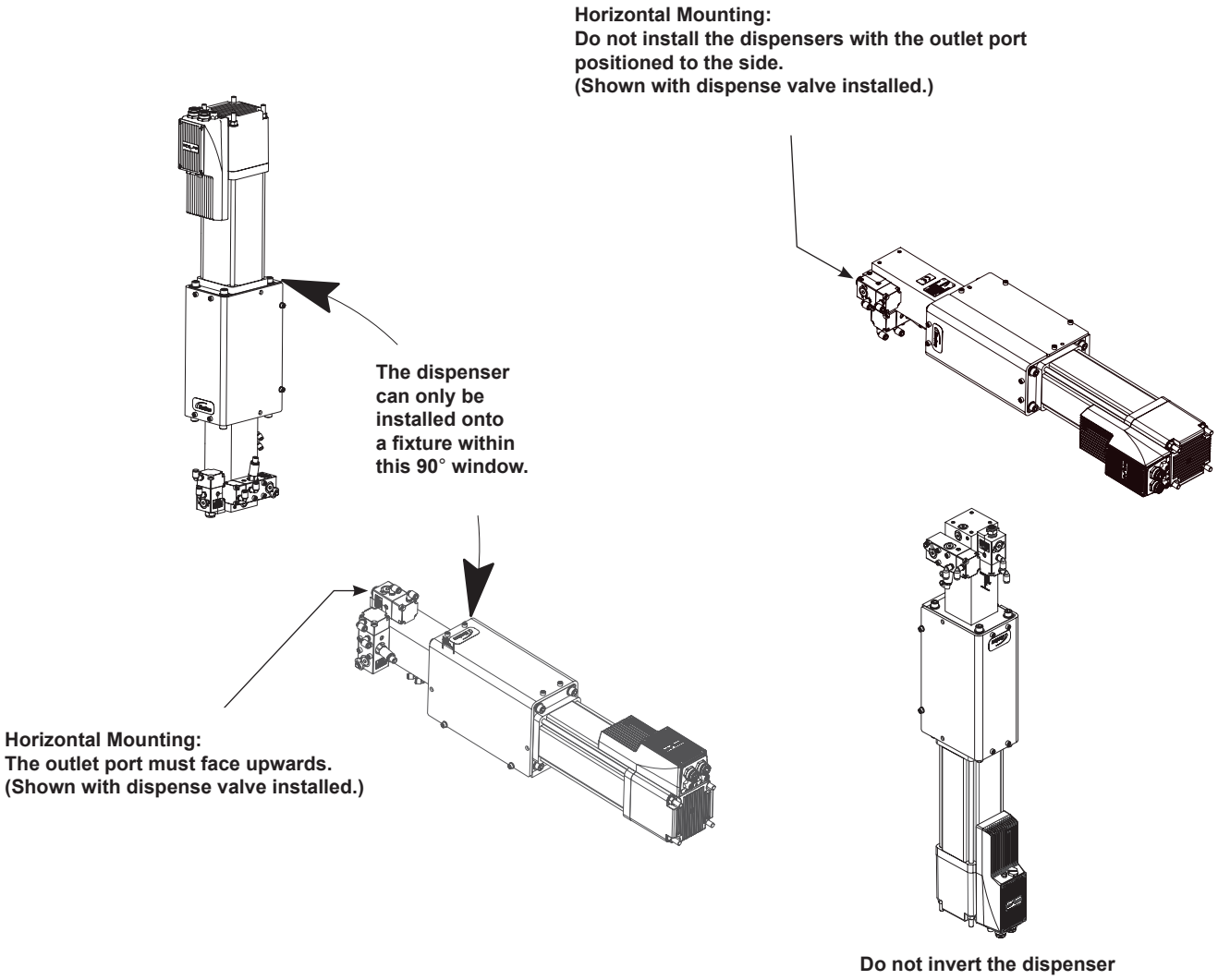


Figure 13 Mounting Guidelines

Connect the Controller Cables

1. See Figure 14. Connect the cables from the controller or RMB to the connectors (1).
2. **PROXIMITY SENSOR VERSIONS ONLY:** Connect the cables from the controller to the proximity sensors (2).
3. Connect the pressure transducer cable to the pressure transducer (3).
4. **HEATED VERSIONS ONLY:** Connect the cord set (4) to the controller.

Connect the Material, Air, and Water Lines

1. See Figure 14. Connect at least 60 psi (4.14 bar) of clean shop air to a filter regulator input.
2. Connect the material hose from the Rhino bulk unloader to the material inlet fitting (5).
3. Connect the air lines from the pneumatic control valve to the Gun Open fitting (6) and Gun Close fitting (7) on the outlet valve (9).
4. Connect the air lines from the pneumatic control valve to the Gun Open fitting (6) and Gun Close fitting (7) on the inlet valve (8).

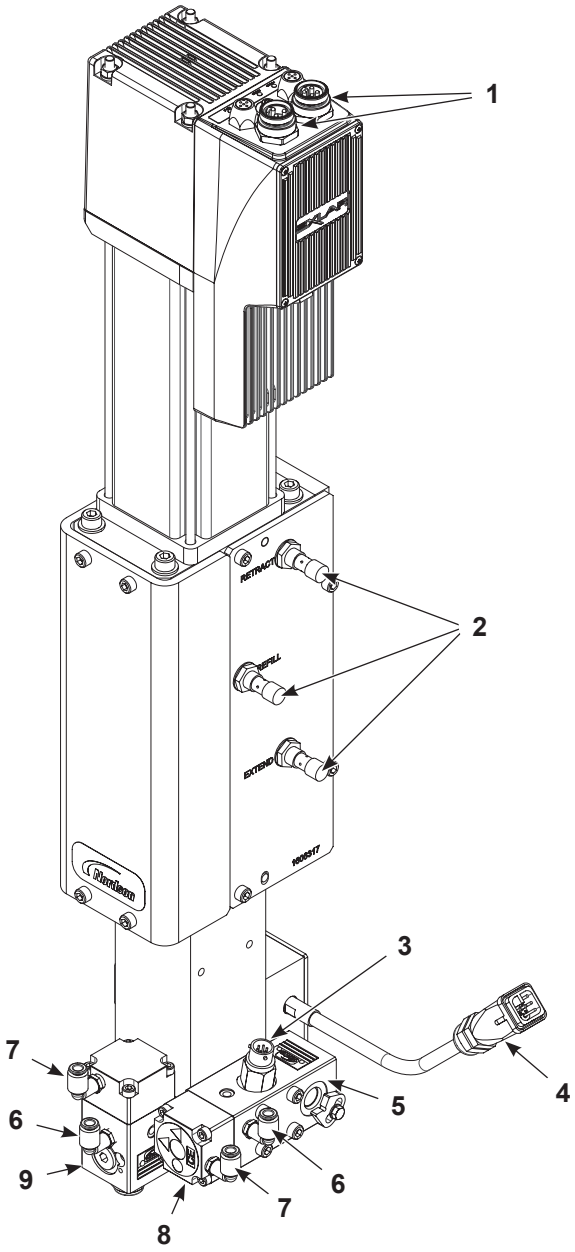


Figure 14 Typical Connections

1. Connectors
2. Proximity Sensors
3. Pressure Transducer
4. Cord set
5. Inlet fitting
6. Gun open fitting
7. Gun close fitting
8. Inlet valve
9. Outlet valve

Operation

WARNING: Read and understand this entire section before performing any procedures. Review the following:

- Allow only qualified personnel to perform the following tasks. Follow the safety instructions in this document and all other related documentation.
- Do not remove any covers during operation. The moving parts under these covers could cause injury.
- High pressure fluids are extremely dangerous. Do not place any part of your body in front of a dispensing device, drain, or leak in a high pressure system. A jet of high fluid can cause serious injury, toxic poisoning, or death.
- Relieve system and material pressure before disconnecting hoses.
- Never exceed the maximum operating temperature of 82° C (180° F).

NOTE: Operation of the Pro-Meter S-Series meter is dependent upon the system configuration. Refer to the system manual that shipped with the system or contact a Nordson representative for information about the operation of a specific component.

Startup

1. Make sure all fittings, connections, and covers are tightened securely.
2. Set the air pressure on the main air input filter to 60 psi (4.14 bar) minimum.
3. Turn on the Rhino bulk unloader and cycle the pumps. Refer to the Rhino unloader documentation for more information.
4. Start the controller. Refer to the controller manual for more information.
5. Wait until the system reaches the required material dispensing temperature.

Shutdown

1. Turn off and relieve the pressure from the Rhino bulk unloader pumps. Refer to the Rhino bulk unloader manual for more information.
2. Relieve the pressure from the material cylinder.
3. Turn off the controller. Refer to the controller manual for more information.

Maintenance

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

NOTE: It may be necessary to adjust frequencies due to the facility environment, process parameters, material being applied, or experience.

NOTE: The frequencies listed in Table 5 are only guidelines. Always perform preventive maintenance procedures according to your facility maintenance schedule.

Table 5 Preventative Maintenance Schedule

Item	Task	Completion Time	Frequency			
			Weekly	Monthly	Yearly	Cycles
Inlet and Outlet Valves (A)	Check for leakage at the weep holes. Replace cartridge if necessary.	Inspect: 5 min. Replace: 30 min.	X			
	Replace cartridge.	30 min.				400,000
Air Fittings and Tubing	Check for air leaks	5 min.	X			
Material Fittings and Hoses	Check for material leaks	5 min.	X			
Plunger Rod Packing Gland	Check for leakage and replace the gland assembly if necessary.	Inspect: 5 min. Replace: 2 hours	X			500,000
Plunger Rod	Replace if damaged or scored or after every other packing gland change.	2 hours				1,000,000
Linear Actuator	Re-grease roller screw and bearing assembly.	4 hours				1,500,000
Temperature Conditioning Water	Check water condition			X		
	Change water and chemicals				X	

NOTE: A. Small amounts of weepage may indicate a potential problem but will not affect dispensed material accuracy. Investigate and repair any weepage as soon as possible. Excessive leakage caused by blown O-rings or loose fittings will affect dispensed material accuracy and must be immediately repaired.

Troubleshooting

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

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
1. Leakage through inlet/ outlet valve weep hole	Worn packing cartridge	Replace the packing cartridge. Refer to the *Outlet Valve* procedures in the *Repair* section.
2. Leakage through the material outlet	Worn ball seat or packing cartridge ball	Replace the valve body and/or the entire valve. Refer to the *Outlet Valve* procedures in the *Repair* section.
3. Linear Actuator not responding	Loose wiring connections	Contact your Nordson representative.
	Controllers switching error	Reset the controller program, check fill/dispensing routine. Refer to your controller documentation for more information.
4. Metering cylinder not refilling	Pump ball valve closed	Check the material supply system.
	High friction in metering cylinder packing glands	Replace packing gland if necessary.
	Inlet valve did not open	Check inlet valve; rebuild or replace if necessary. Refer to the *Inlet Valve* and *Outlet Valve* procedures in the *Repair* section.
	Controller switching error	Reset controller program; check fill/dispensing routine.
5. Material flow not stopping quickly when inlet/outlet valves are cycled	Sluggish operating inlet and outlet valves	Replace the applicable valve. Refer to the *Inlet Valve* and *Outlet Valve* procedures in the *Repair* section.
6. Temperature control unstable	Heater cartridge or RTD failed	Check heater cartridge and RTD. Replace parts if necessary.

Repair

This section only covers procedures for shop repairs. Depending upon ther mounting configuration, it may be possible to make some repairs without removing the Pro-Meter S-Series dispenser from the system.

WARNING: Read and understand this entire section before performing repairs. Contact a Nordson representative regarding these procedures if necessary. Review the following:

- Allow only qualified personnel to perform the following tasks. Follow the safety instructions in this document and all other related documentation.
- High pressure fluids are extremely dangerous. Do not place any part of your body in front of a dispensing device, drain, or leak in a high pressure system. A jet of high fluid can cause serious injury, toxic poisoning, or death.
- Relieve system and material pressure before disconnecting hoses.

NOTE: Throughout this section the Pro-Meter S-Series dispenser is referred to as the dispenser.

Perform the following before making repairs:

1. Shut off and lock out power to the dispenser.
2. If used, turn off the water circulation system at the termperature control unit.
3. Relieve system, material, and fluid pressures to the dispenser.

Consumable Items

Keep the items listed in Table 6 on hand when performing repairs.

Table 6 Consumable Items

Item	Part	Application
Never-Seez	900344	Apply to threads of applicable parts.
Thread locking Adhesive	900464	
Pipe/Thread Sealant	900481	
TFE Grease	1031834	Lubricate O-rings and applicable parts.

Linear Actuator

See Figure 15 and use the following procedure to replace the linear actuator.

NOTE: The dispenser with proximity sensors is shown. The procedure for the E-Net dispenser is typical.

Remove the Linear Actuator

1. Remove the screws (3) securing the mounting plate (2) to the linear actuator (1) and housing flange (9).
2. Remove the screws (11) and washers (12) securing the shroud (13) to the linear actuator (1) and housing flange (9).
3. Remove the screws (8) securing the proximity plate (4) to the linear actuator (1) and housing flange (9).
4. Place a wrench on the shaft flats (10). Remove the screws (15) and washers (14) securing the linear actuator (1) to the dispenser.
5. Remove the coupling (16) from the anti-rotation arm (17) and shaft assembly (19). Loosen the set screws (20) and remove the anti-rotate arm from the shaft (19).

NOTE: The coupling (16) should remain connected to the plunger.

6. **FOR 15-CC METER:** If installed, remove the applicable aluminum spacers (22) from the shaft (19).
7. Remove the motor bumper (18) from the shaft (19).

Install the Linear Actuator

1. Install the motor bumper (18) onto the shaft (19). The flat face of the motor bumper (18) must face the anti-rotate arm (17).
2. **FOR 15-CC METER:** If removed, install the applicable aluminum spacers (22) onto the shaft (19).
3. Perform the following:
   a. Apply Loctite® 242 (21) to the threads of the screws (15). Install the linear actuator (1) onto the shafts (10).
   b. Place a wrench on the flats of the shafts (10). Install the washers (14) and screws (15) into the linear actuator. Tighten the screws to
      - 15 and 35-cc meters: 34 N•m (25 ft-lb)
      - 100-cc meters: 64.7 N•m (47 ft-lb)
      - 165 and 300-cc meters: 111.2 N•m (82 ft-lb)

4. Perform the following:
   a. Install the anti-rotate arm (17) onto the shaft (19) in the orientation shown. Thread the coupling (16) into the shaft. Tighten the set screws finger tight.
   b. Apply Loctite 242 (21) to the threads of the set screws (20). Install the set screws into the anti-rotate arm (17). Tighten the set screws finger tight.
   c. Tighten the coupling (16) to 13.5 N•m (10 ft-lb). FOR 165 and 300-CC METERS: Tighten the screw to 20.3 N•m (15 ft-lb).
   d. Tighten the set screws (20) to
      - 15 and 35-cc meters: 4 N•m (35 in.-lb).
      - 100-cc meters: 7.7 N•m (68 in.-lb)
      - 165 and 300-cc meters: 17.6 N•m (13 ft-lb)
5. Install the mounting plate (2) to the linear actuator (1) and housing flange (9). Install the screws (3) and tighten to:
   - 15, 35, and 100-cc meters: 33.75 N•m (25 ft-lb)
   - 165 and 300-cc meters: 111.2 N•m (82 ft-lb)
6. Install the proximity plate (4) onto the linear actuator (1) and housing flange (9) using the screws (8). Tighten the screws to 13.5 N•m (10 ft-lb).
7. Install the shroud (13) to the linear actuator (12) and screws (11). Tighten the screws securely.

How to Change the S15 Output

The S15 dispenser output can be configured for 5 cc and 10 cc applications by installing the supplied aluminum spacers and resetting the proximity sensors.

1. See Figure 15. Make sure that the linear actuator (1) is in the extend position to expose the shaft (19).
2. Remove the screws (11) and washers (12) securing the shroud (13) to the linear actuator (1) and housing flange (9).
3. Remove the coupling (16) from the anti-rotate arm (17). Loosen the set screws (20) and remove the anti-rotate arm from the shaft (19).
4. Make sure that there is an O-ring installed in each aluminum spacer (22). Install the aluminum spacers onto the shaft (19):
   - 5-cc output: Install both aluminum spacers.
   - 10-cc output: Install one aluminum spacer.
5. Perform the following:
   a. Install the anti-rotate arm (17) onto the shaft (19) in the orientation shown. Thread the coupling (16) into the shaft. Tighten the coupling finger tight.
   b. Apply Loctite 242 (21) to the threads of the set screws (20). Install the set screws into the anti-rotate arm (17). Tighten the set screws finger tight.
   c. Tighten the coupling (16) to 13.5 N•m (10 ft-lb). TIghten the set screws (20) to 4 N•m (35 in.-lb).
6. Reset each proximity sensor (7):
   a. Disconnect the cable from the proximity sensor (7).
   b. Remove the jam nut (6), lock washer (5), and proximity sensor (7) from the proximity plate (4).
   c. Remove the plugs (23) from the desired output position and install the proximity sensor (7), lock washer (5) and jam nut (6) as shown. Do not tighten the jam nut at this time.
   d. Install the plugs (23) into the open holes on the proximity plate (4).
7. Adjust the proximity sensors. Refer to the *Adjust the Retract and Extend Proximity Sensors* and *Adjust the Refill Proximity Sensor* sections for the adjustment procedures.

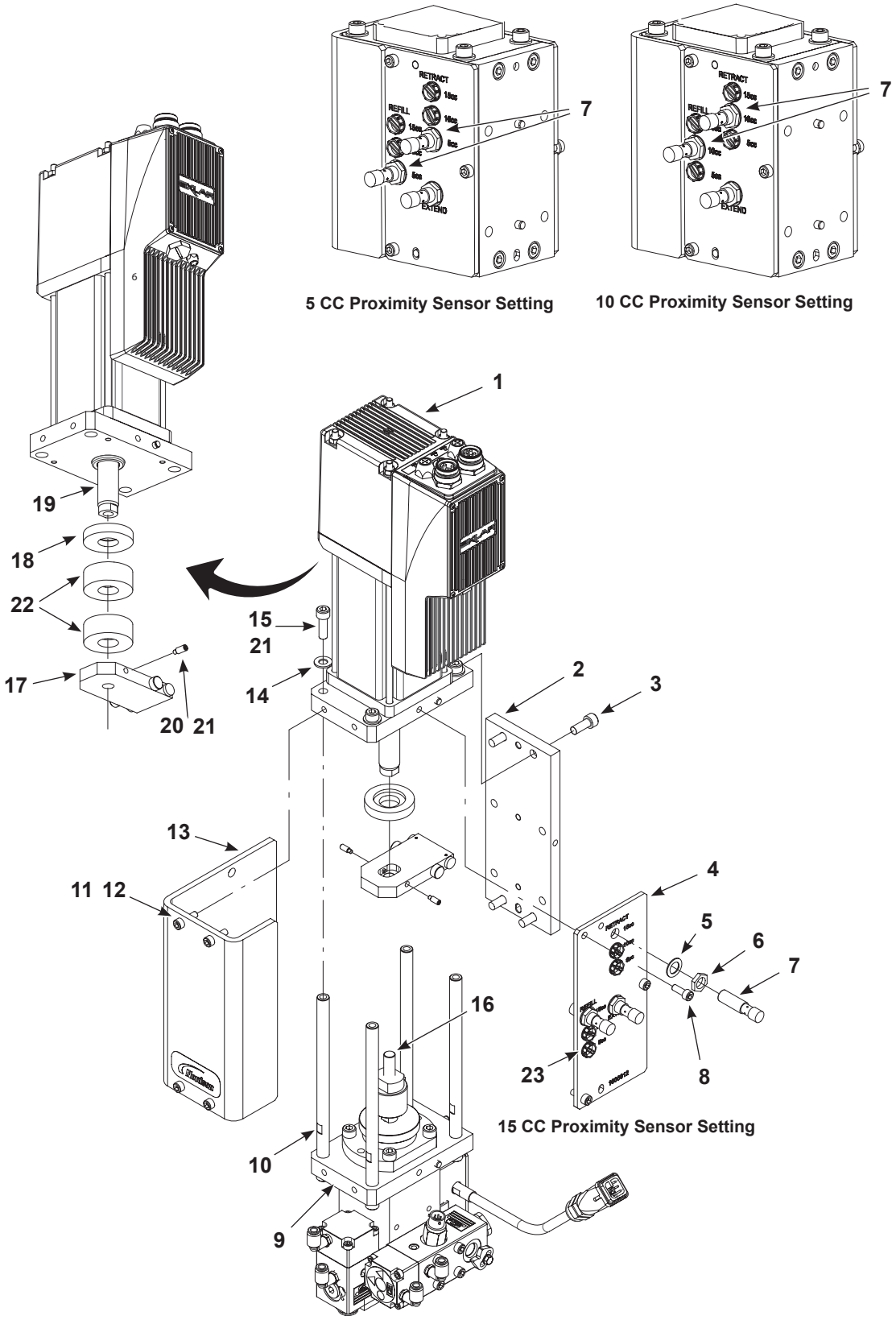


Figure 15 Linear Actuator and Proximity Sensor Repairs

NOTE: Standard dispenser shown. E-Net dispensers do not use proximity sensors.

1. Linear actuator
2. Mounting plate
3. Screws
4. Proximity plate
5. Lock washer
6. Jam nut
7. Proximity sensor
8. Screws
9. Housing flange
10. Shaft flats
11. Screws
12. Lock washers
13. Shroud
14. Washers
15. Screws
16. Coupling
17. Anti-rotate arm
18. Motor bumper
19. Shaft
20. Screws
21. Loctite 242
22. Aluminum spacer
23. Plugs

Proximity Sensors

NOTE: E-Net dispensers do not use proximity sensors.

Use the following procedure to replace and adjust a proximity sensor. The retract proximity sensor is used in this procedure. The procedures for replacing the refill and extend proximity sensors are typical.

NOTE: Depending upon the mounting configuration, the proximity sensors can be replaced without removing the dispenser from the system.

1. See Figure 15. Disconnect the cable from the proximity sensor (7).
2. Remove the screws (11) and lock washers (12) securing the shroud (13) to the linear actuator (1) and housing flange (9).
3. Loosen the jam nut (6). Remove the proximity sensor (7), jam nut (6), and lock washer (5) from the proximity plate (4).
4. Install the jam nut (6) and lock washer (5) onto the new proximity sensor (7).
5. Adjust the proximity sensor. Refer to the *Adjust the Retract and Extend Proximity Sensors* or *Adjust the Refill Proximity Sensor* sections for the adjustment procedures.

Adjust the Retract and Extend Proximity Sensors

CAUTION: To prevent damage to a proximity sensor when performing step 1, do not thread it into the proximity plate more than three turns.

1. See Figure 16. Extend or retract the linear actuator until the anti-rotate arm stop pin is directly behind the sensor.
2. Push the anti-rotate arm toward the sensor to remove any backlash.
3. Perform the following:
   a. Turn the sensor clockwise until its face makes contact with the stop pin.
   b. Turn the sensor counterclockwise 1-1½ turns. Lock the sensor in place using the lock washer and jam nut.
   c. Make sure that there is a 1.0-1.5 mm (0.040-0.060 in.) gap between the face of the sensor and the anti-rotate arm stop pin.
4. Connect the cable to the proximity sensor.
5. See Figure 15. Install the shroud (13) to the linear actuator (1) and housing flange (9) using the washers (12) and screws (11). Tighten the screws securely.

Adjust the Refill Proximity Sensor

CAUTION: To prevent damage to the proximity sensor when performing step 1, do not thread it into the proximity plate more than three turns.

1. See Figure 16. Extend the plunger assembly until the proximity disc is directly behind the proximity sensor.
2. Perform the following:
   a. Turn the sensor clockwise until its face makes contact with the proximity disc.
   b. Turn the sensor counterclockwise 1-1½ turns. Lock the sensor in place using the lock washer and jam nut.
   c. Make sure that there is a 1.0-1.5 mm (0.040 - 0.060 in.) gap between the face of the sensor and the proximity disc.
3. Connect the cable to the proximity sensor (7).
4. See Figure 15. Install the shroud (13) to the linear actuator (1) and housing flange (9) using the washers (12) and screws (11). Tighten the screws securely.

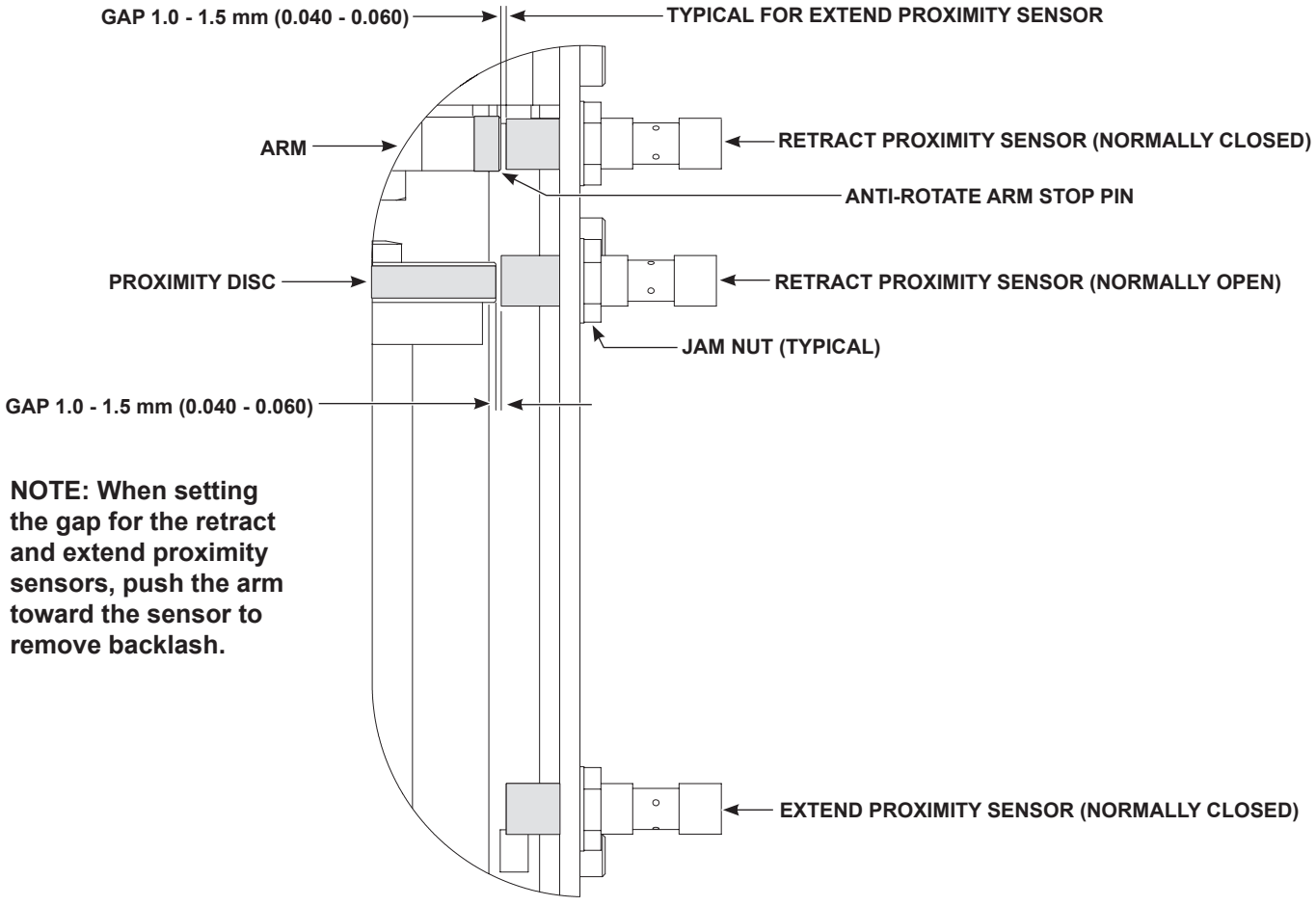


Figure 16 Proximity Sensor Adjustment

Hydraulic Section

WARNING: Depressurize the dispense system before making any repairs to the hydraulic section.

See Figure 17 and use the following procedures to make repairs to the hydraulic section.

Replace the Inlet and Outlet Valve Packing Cartridge

NOTE: The outlet valve is used as an example in the following procedure. This procedure is typical for the inlet valve.

1. See Figure 17. Remove the screws (17) securing the air cylinder cap (16) to the valve body (12). Remove the spring (15) from the valve body.
2. Using a small screwdriver, remove the packing cartridge (14) from the valve body (12).
3. Install the new packing cartridge (14) into the valve body (12).
4. Install the spring (15) onto the packing cartridge (14).
5. Install the air cylinder cap (16) using screws (17). Tighten the screws to 8.5-9 N•m (75-80 in.-lb).

Replace the Outlet Valve

See Figure 17 and use the following procedure to replace the outlet valve.

NOTE: Depending upon the mounting configuration, the outlet valve can be repaired without removing the dispenser from the system.

The outlet valve (12) and manifold (9) are application specific. This procedure only applies to configurations that have an outlet valve installed onto a dispenser (1). If a manifold (9) is installed onto the dispenser, refer to the manual that shipped with the applicable outlet valve for repair procedures.

1. Depressurize the temperature conditioning system.
2. Disconnect the lines from the fittings (11).
3. Remove the screws (10) securing the valve body (12) to the dispenser (1).
4. Remove the O-rings (13) from the dispenser (1) and check them for damage. Replace damaged O-rings.
5. Lubricate the O-rings (13) with TFE grease and install them into the housing (1).
6. Install the outlet valve (12) onto the dispenser (1) using the screws (10). Tighten the screws to 8 N•m (70 in.-lb).
7. Connect the lines to the fittings (11).

Replace the Inlet Valve

See Figure 17 and use the following procedure to replace the inlet valve.

NOTE: Depending upon the mounting configuration, the inlet valve can be repaired without removing the dispenser from the system.

1. Disconnect the following:
   - cable from the pressure transducer (2)
   - air lines from the elbow fittings (6)
   - material line from the input port (4)
2. Remove the screws (5) securing the inlet valve (7) to the dispenser (1).
3. Remove the O-ring (8) and check it for damage. Replace the O-ring if necessary.
4. Remove these parts from the old inlet valve (7) and install them onto the new inlet valve:
   - pressure transducer (2); tighten to 5-5.6 N•m (45-50 in.-lb)
   - elbow fittings (6)
5. Install the inlet valve (7) onto the dispenser (1) using the screws (5). Tighten the screws to 13.5 N•m (10 ft-lb).
6. Connect the following:
   - cable to the pressure transducer (2)
   - air lines to the elbow fittings (6)
   - material line to the input port (4)

Replace the Pressure Transducer

1. See Figure 17. Disconnect the cable from the pressure transducer (2).
2. Remove the pressure transducer (2) from the inlet valve (7).
3. Lubricate the pressure transducer O-ring (3) with TFE grease. Install the pressure transducer (2) into the inlet valve (7) and tighten to 5-5.6 N•m (45-50 in.-lb).
4. Connect the cable to pressure transducer (2).

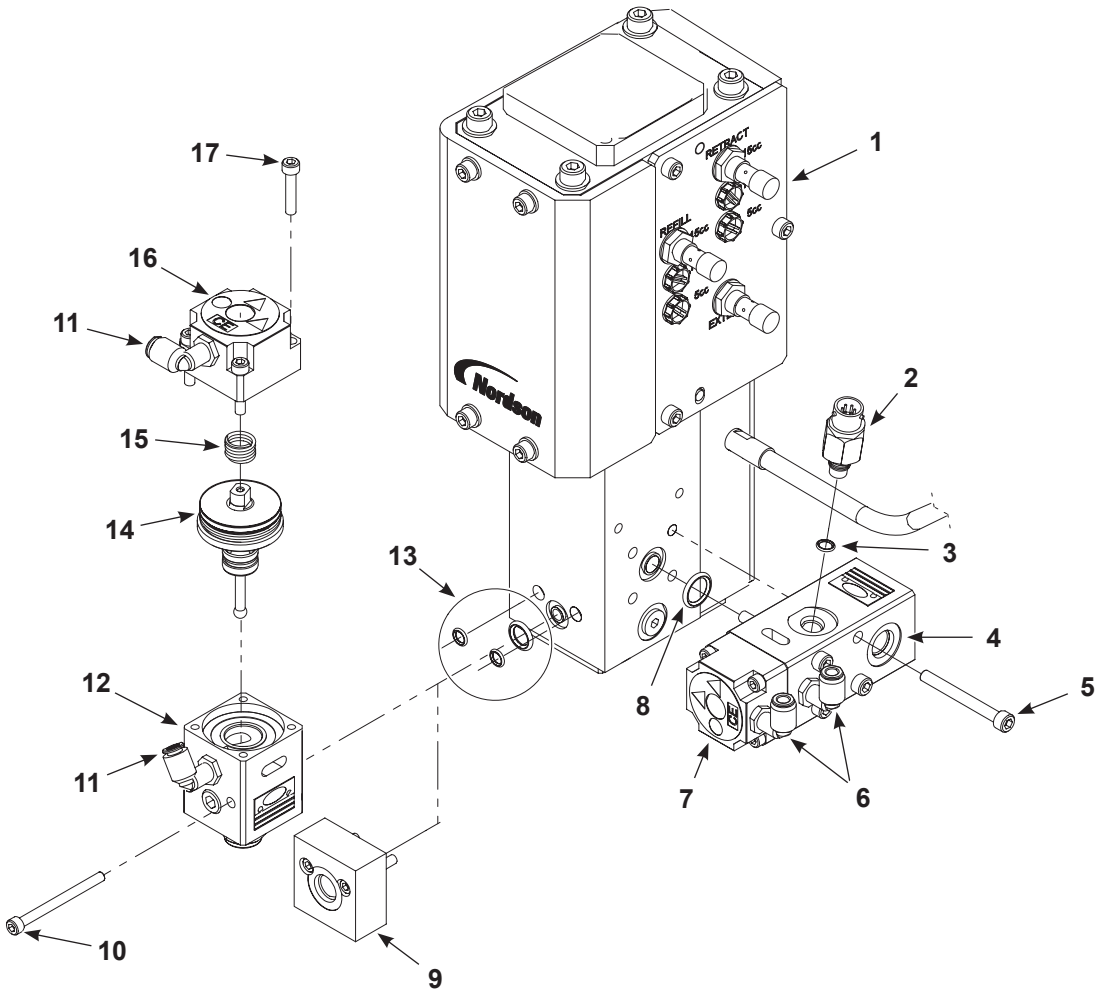


Figure 17 Inlet and Outlet Valve Repair

1. Housing
2. Pressure transducer
3. O-ring
4. Input port
5. Screws
6. Elbow fitting
7. Inlet valve
8. O-ring
9. Manifold
10. Screws
11. Fittings
12. Valve body
13. O-rings
14. Packing cartridge
15. Spring
16. Air cylinder cap
17. Screws

Remove the Gland and Plunger Assemblies

NOTE: The following procedure requires the use of an arbor press and a 3/16-in. spanner wrench.

1. To remove the gland and plunger assemblies without removing the cylinder assembly, purge the metering cylinder:
   a. Lockout and relieve system, material, and fluid pressures to the dispenser.
   b. From the system controller, perform the meter purge routine. The following occurs:
      • The meter will not refill after the purge routine because the supply pump is locked out and material pressure is relieved.
      • The linear actuator retracts and the controller displays a Refill Fault.
2. See Figure 18. Remove the screws (21) and washers (20) securing the shroud (22) to the linear actuator (1) and housing flange (17).
3. Remove the screws (15) securing the proximity plate (16) to the linear actuator (1) and housing flange (17).
4. Remove the coupling (2) from the actuator (1) shaft.
5. Remove the screws (10) securing the mounting plate (12) to the actuator (1).
6. Remove the screws and washers (23, 24) securing the actuator (1) to the shafts (19).
7. Remove the actuator (1).
8. Remove the screws (7) securing the gland assembly (11) to the housing flange (17). Perform the following if the gland assembly cannot be removed from the housing flange:
   a. Insert two screws (7) into the threaded holes (9) of the gland assembly.
   b. Alternate tightening the screws to remove the gland assembly from the housing flange.
9. Remove the O-ring (13) from the gland assembly (11). Discard the O-ring.
10. Using an arbor press, remove the plungerassembly (4) from the gland assembly (11).
11. Disassemble the plunger assembly (4):
    a. Remove the plunger bumper (8) from the plunger (5).
    b. Insert the spanner wrench pin into the hole on the plunger (5). Remove the coupling (2) securing the proximity disc (3) to the plunger (5).
12. Clean the parts with a compatible solvent.
13. Inspect the parts for wear and damage. Replace parts if necessary.

Install the Gland and Plunger Assemblies

NOTE: The following procedure requires the use of an arbor press and a 3/16-in. spanner wrench.

1. See Figure 18. Lubricate the gland assembly O-ring (13) and the inner diameter of the gland assembly (11) with TFE grease (14).
2. Assemble the plunger assembly (4):
   a. Install the proximity disc (3) onto the plunger (5).
   b. Thread the coupling (2) into the plunger. Insert the spanner wrench pin into the hole on the plunger and tighten the screw to 13.5 N•m (10 ft-lb).
   c. Install the plunger bumper (11) into the plunger. Make sure that the plunger bumper makes contact with the proximity disc.
   d. Apply TFE grease (14) to the shaft of the plunger.
3. Using an arbor press, insert the plunger assembly (4) into the gland assembly (11).
4. Install the gland assembly (11) onto the housing flange (17) using the screws (7). Tighten the screws in a cross-pattern to
   - 15- and 35-cc meters: 13.5 N•m (25 ft-lb)
   - 100-cc meters: 64.7 N•m (47 ft-lb)
   - 165- and 300-cc meters: 111.2 N•m (82 ft-lb)
5. Install the actuator (1) onto the shafts (19) using the screws and washers (23, 24). With a wrench on the shaft flats (18), tighten the screws to
   - 15- and 35-cc meters: 34 N•m (25 ft-lb)
   - 100-cc meters: 64.7 N•m (47 ft-lb)
   - 165- and 300-cc meters: 111.2 N•m (82 ft-lb)
6. Install the screws (10) securing the mounting plate (12) to the actuator (1). Tighten the screws to 33.75 N•m (25 ft-lb).
7. Install the coupling (2) into the actuator shaft (1). Torque to 13.5 N•m (10 ft-lb).
8. Install the proximity plate (16) onto the linear actuator (1) and housing flange (17) using the screws (15). Tighten the screws to 13.5 N•m (10 ft-lb).
9. Install the shroud (22) to the linear actuator (1) and housing flange (17) using the lock washers (20) and screws (21). Tighten the screws securely.

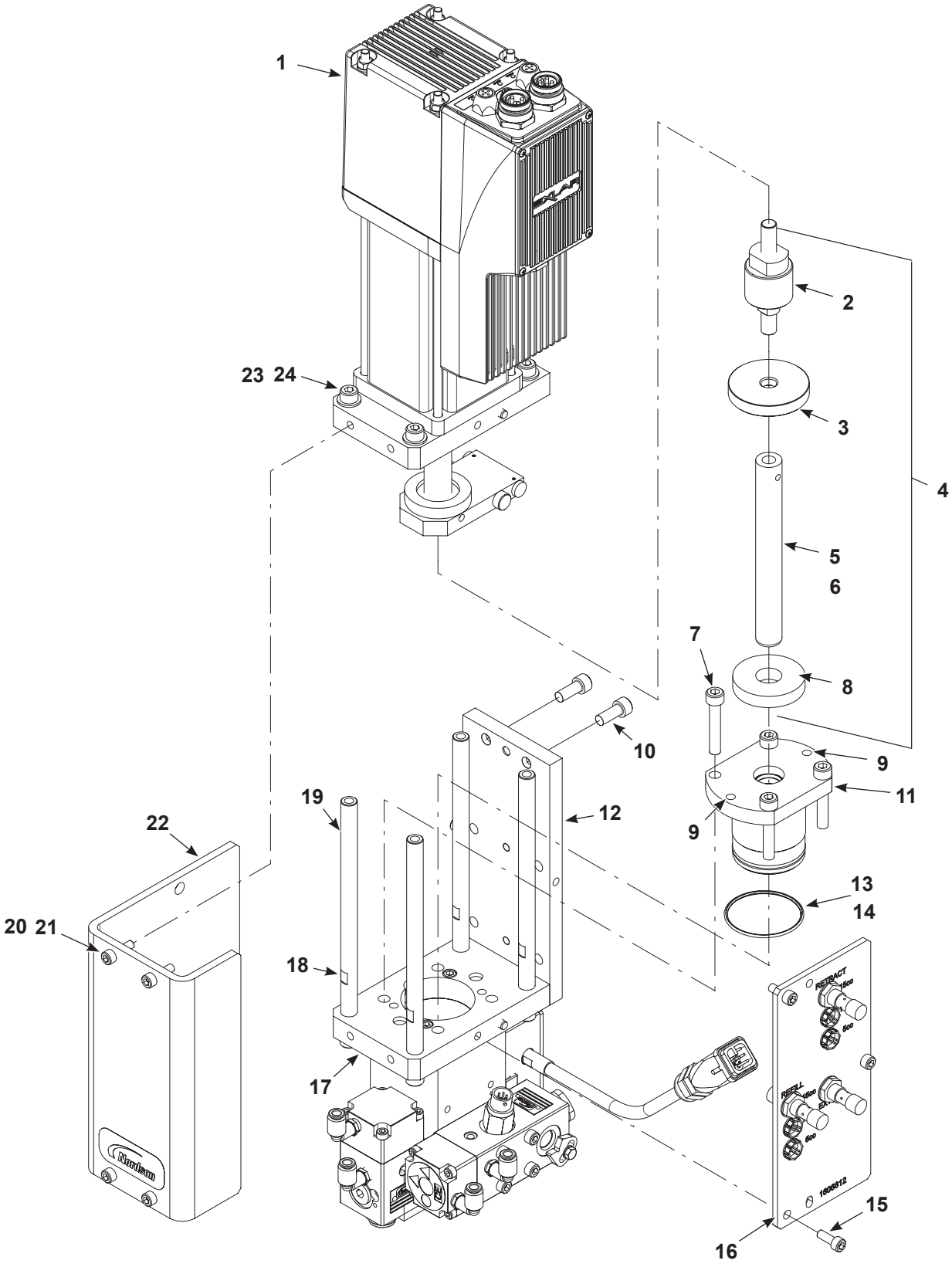


Figure 18 Plunger and Gland Assembly Repairs

NOTE: Standard dispenser shown. E-Net dispensers do not use proximity sensors.

1. Linear actuator
2. Coupling
3. Proximity disc
4. Plunger assembly
5. Plunger
6. Proximity plate
7. Screws
8. Plunger bumper
9. Threaded holes
10. Screws
11. Gland assembly
12. Mounting plate
13. O-ring
14. TFE grease
15. Screws
16. Proximity plate
17. Housing flange
18. Shaft flats
19. Shafts
20. Lock washers
21. Screws
22. Shroud
23. Screws
24. Washers

Rebuild the Packing Gland

NOTE: This procedure requires the use of either a hydraulic or an arbor press to remove the internal parts of the packing gland.

1. See Figure 19. Place the packing gland housing (9) on a fixture (7).

NOTE: During removal of the internal parts, the retainer groove will break the O-ring (6).

2. Insert the removal arbor (10) into the packing gland housing. Using the press, push out the internal parts (3).
3. Thoroughly clean the packing gland housing in a compatible solvent to remove all sealant material and O-ring debris.
4. Coat the bore (2) of the packing gland housing with O-ring lubricant (8).
5. Insert the scaper ring (4), sharp edge down, into the packing gland (2).
6. Using the insertion tool (1) and press, insert the new internal parts into the packing gland housing (2). Make sure that the brass seal retainer or backup washer (5) is flush or slightly below the packing gland housing as shown.

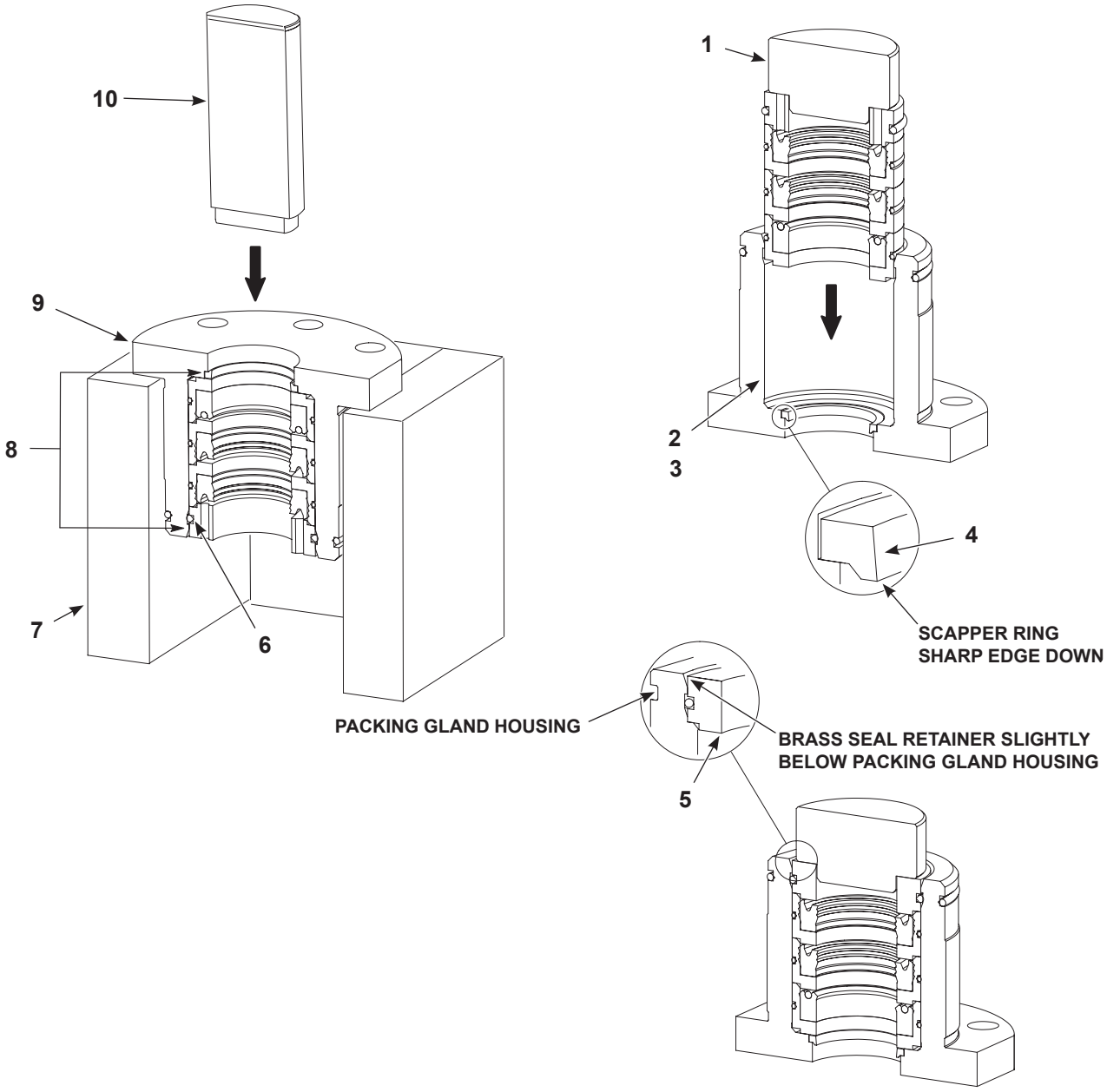


Figure 19 Replacing the Internal Parts of the Packing Gland

1. Insertion tool
2. Packing gland
3. Internal parts
4. Scaper ring
5. Backup washer
6. O-ring
7. Fixture
8. O-ring lubricant
9. Packing gland housing
10. Removal arbor

Replace the Thermostat

1. See Figure 20. Remove the screws (1) securing the side cover (2) to the heater box (6).
2. Loosen the screw (8) on the connector (9) and remove the thermostat wires.
3. Remove the screws (3) and lock washers (4) securing the thermostat (5) to the housing (7).
4. Apply heat sink compound (10) to the thermostat (5). Install the thermostat using the lock washers (4) and screws (3). Tighten the screws securely.
5. Crimp new ferrules onto each wire.
6. Insert the thermostat wires into the connector (9) and tighten the screw (8). See Figure 21 for wiring diagram if necessary.
7. Install the side cover (1) to the heater box (6) using the screws (2). Tighten the screws securely.

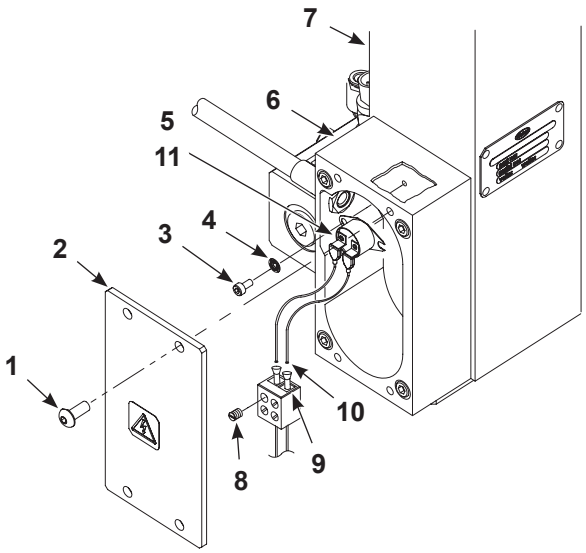


Figure 20 Replacing the Thermostat

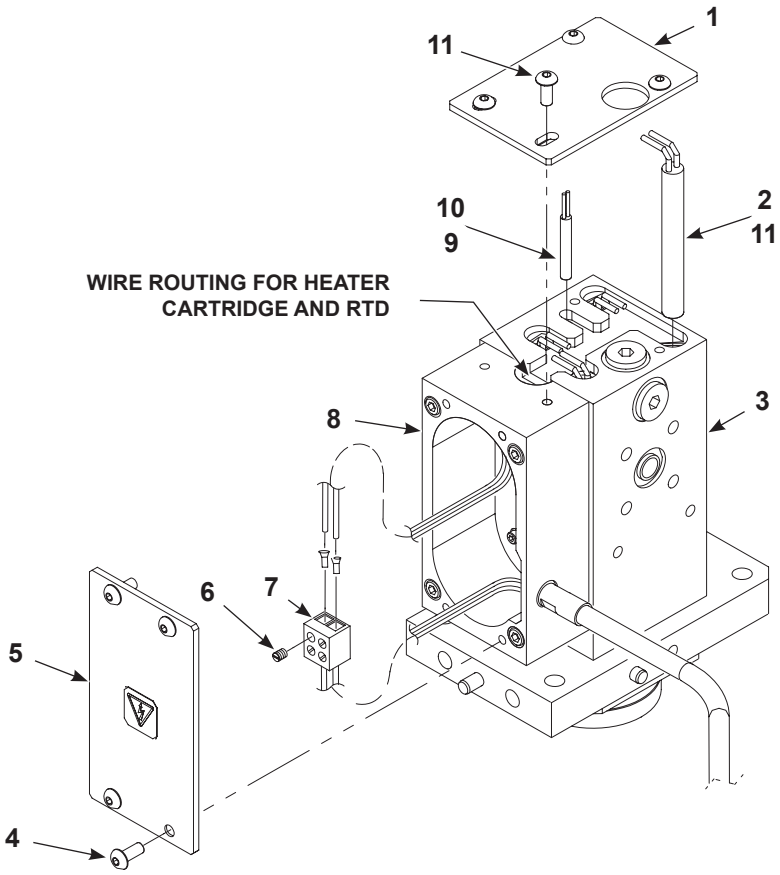
1. Screws
2. Side cover
3. Screws
4. Lock washers
5. Thermostat
6. Heater box
7. Housing
8. Screw
9. Connector
10. Heat sink compound

Replace a Heater Cartridge

1. See Figure 21. Remove the screws (12) securing the bottom cover (1) to the heater box (9) and the housing (3).
2. Remove the screws (5) securing the side cover (6) to the heater box (9).
3. Cut the applicable heater wires from the crimp connections.
4. Carefully remove the heater cartridge (2) from the housing (3).
5. Apply heat sink compound (10) to the heater cartridge. Install the heater cartridge into the housing (3). Route the heater wires through the housing (3) and heater box (9) as shown.
6. Strip back the wire insulation on all of the cut wires. Crimp new ferrules onto each wire. See Figure 21 for wiring diagram if necessary.
7. Install the side cover (6) onto the heater box (9) using the screws (5). Tighten the screws securely.
8. Install the bottom cover (1) onto the housing (3) and heater box (9) using the screws (12) tighten the screws securely.

Replace the RTD

1. See Figure 21. Remove the screws (12) securing the bottom cover (1) to the heater box (9) and the housing (3).
2. Remove the screws (5) securing the side cover (6) to the heater box (9).
3. Loosen the screws (7) on the connector (8) and remove the RTD wires.
4. Carefully remove the RTD (10) from the housing (3).
5. Apply heat sink compound (11) to the RTD (10). Install the RTD into the housing (3). Route the RTD wires through the housing (3) and heater box (9) as shown.
6. Crimp new ferrules onto each wire.
7. Insert the RTD wires to the connector (8). Tighten the screw (7).
8. Install the bottom cover (1) onto the housing (3) and heater box (9) using the screws (12) tighten the screws securely.
9. Install the side cover (6) onto the heater box (9) using the screws (5). Tighten the screws securely.



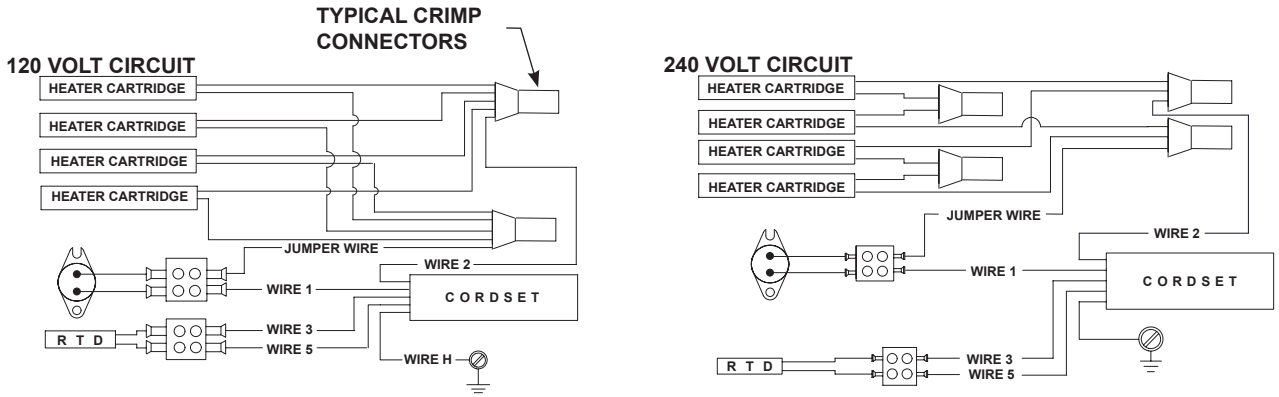


Figure 21 Heater and RTD Repairs

1. Bottom cover
2. Heater cartridge
3. Housing
4. Screws
5. Side cover
6. Screw
7. Connector
8. Heater box
9. RTD
10. Heat sink compound
11. Screws

Parts

To order parts, call the Nordson Customer Service Center or your local Nordson representative.

NOTE: E-Net dispenser parts begin on page 52.

Standard Dispensers

The following standard dispensers are available.

S15 120 Volt Heated Dispenser

See Figure 22 and Figure 23. Refer to the parts list that begins on page 45.

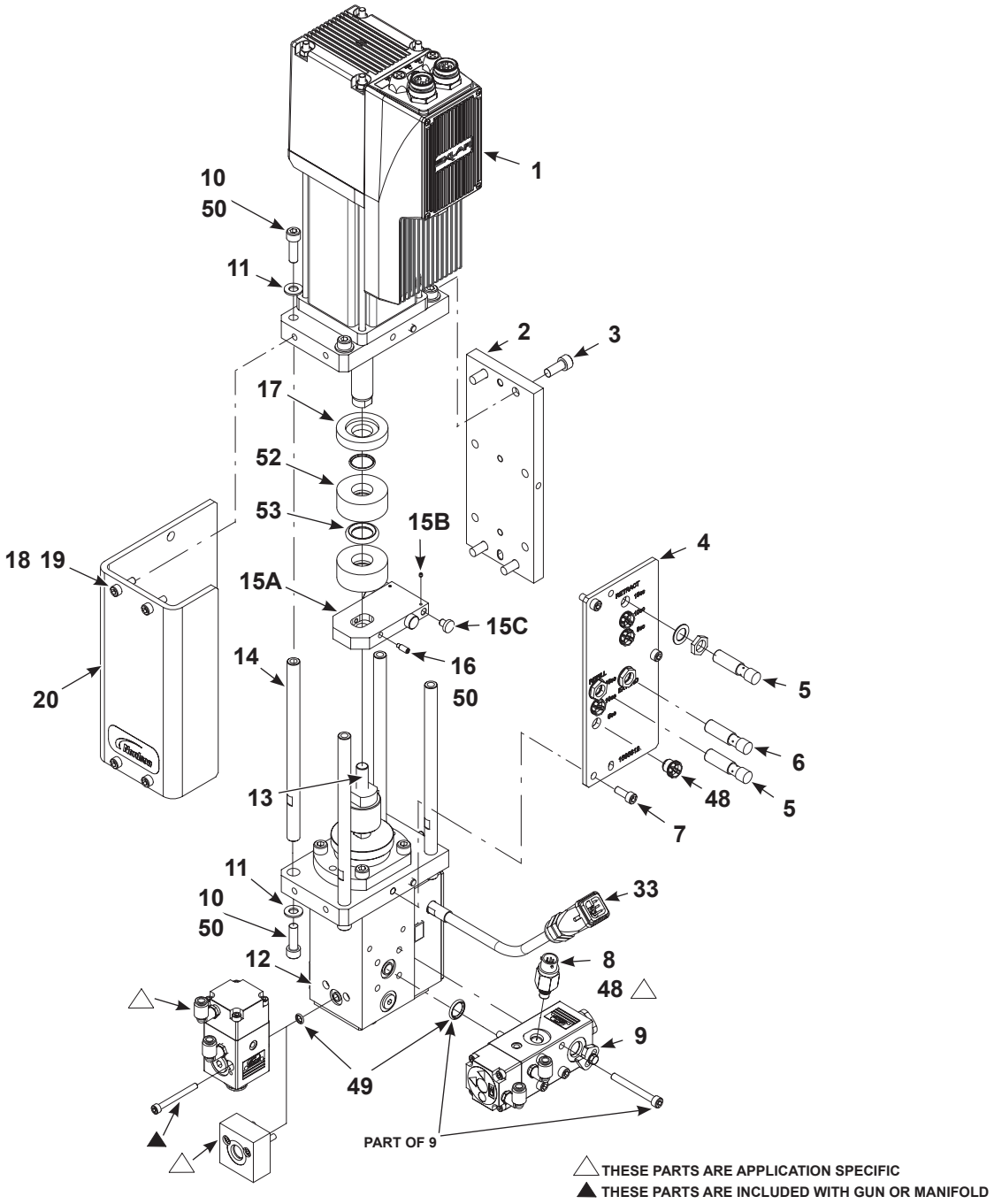


Figure 22 S15 120 Volt Heated Dispenser Parts

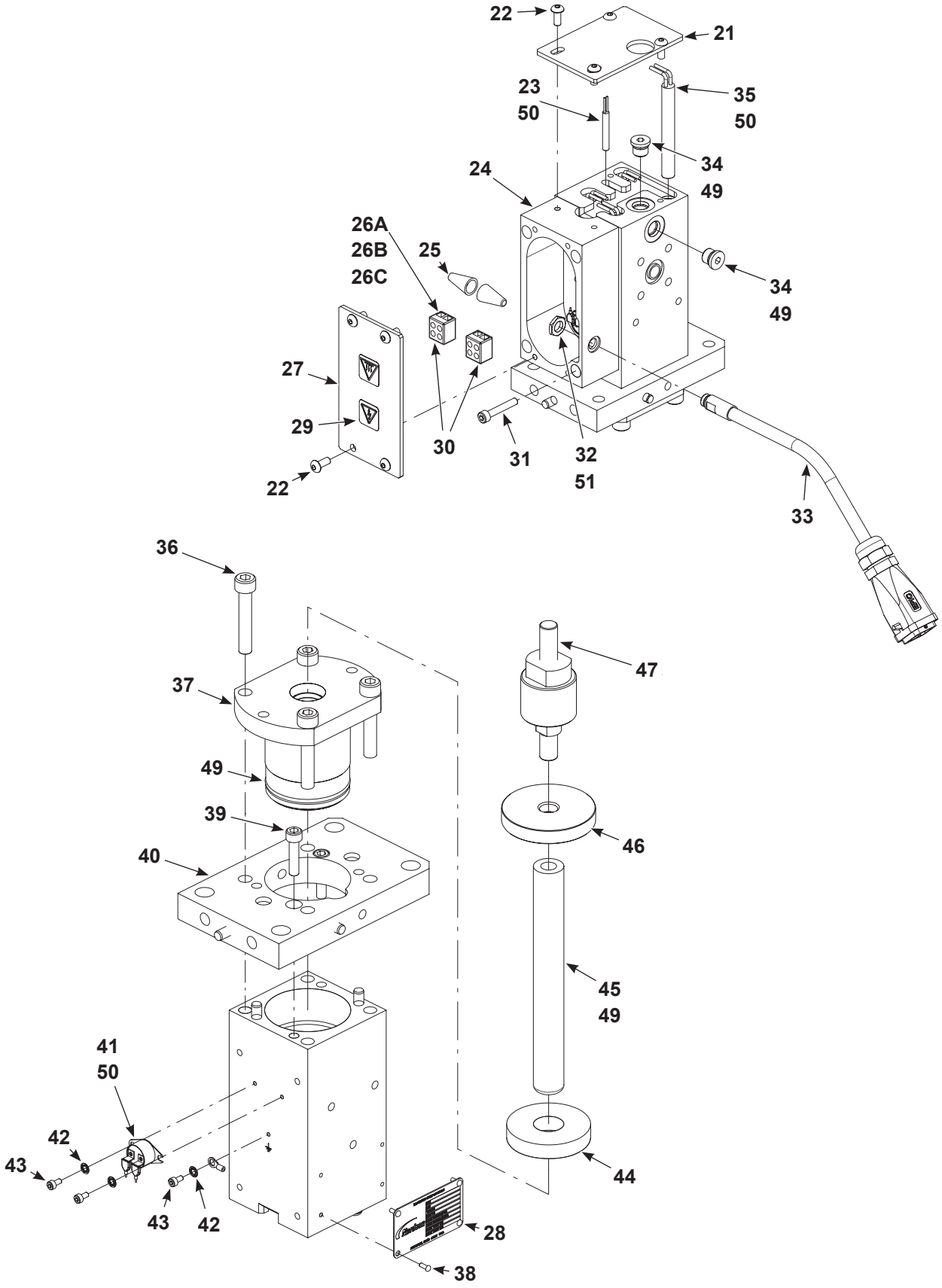


Figure 23 S120 Volt Heated Dispenser Parts *(Continued)*

Item	Part	Description	Qty	Note
—	1606305	DISPENSER, assembly, Pro-meter S15, coupled, electric heat, 120V	1	
1	1606831	• ACTUATOR, assembly, linear, 3.0 stroke, T2M090	1	
2	1108017	• PLATE, mount	1	
3	982006	• SCREW, socket, M8 x 20	4	
4	1606812	• PLATE, proximity	1	
5	1074051	• SENSOR, proximity, PNP, N.C., M12	2	
6	346188	• SENSOR, proximity, PNP, N.O., M12	1	
7	982176	• SCREW, socket, M6 x 16	3	
8	- - - - - -	• TRANSDUCER, pressure	1	A
9	1089569	• VALVE, inlet, A-F, Pro-Meter S	1	
10	982395	• SCREW, socket, M8 x 1.25 x 25	8	
11	983051	• WASHER, flat, 0.344 x 0.688 x 0.065	8	
12	1083507	• HOUSING	1	
14	- - - - - -	• ROD, tie	4	
15A	- - - - - -	• ARM ASSEMBLY, anti-rotate	1	
15B	982020	• SET SCREW, M3 x 3	2	B
15C	1068802	• PIN, stop, 12 mm OD plastic	2	B
16	1074040	• SCREW, set, M5 x 10	2	
17	- - - - - -	• BUMPER, motor	1	
18	983410	• WASHER, flat, M, narrow, M6	4	
19	982264	• SCREW, socket, cap, M6 x 1 x 18 mm	4	
20	1108018	• SHROUD	1	
21	- - - - - -	• COVER, heater	1	
22	982636	• SCREW, socket, M5 x 12	8	
23	186199	• SENSOR, temp RTD, 24 in.	1	
24	- - - - - -	• COVER, heater, dispenser	1	
25	939515	• CONNECTOR, crimp, wire 22-14	2 or 4	
26A	1082457	• FERRULE, wire, non-insulating, 22-26 AWG	2 or 4	C
26B	1078929	• FERRULE, wire, non-insulating, 18 AWG	2	C
26C	939934	• FERRULE, wire, non-insulating, 20 AWG	2	C
27	1080850	• COVER, top, heater, dispenser	1	
28	- - - - - -	• PLATE	1	
29	242867	• TAG, warning	1	
30	939586	• CONNECTOR, plastic, 2 station	2	
31	982029	• SCREW, socket, M5 x 30	4	
32	984155	• NUT, panel mounting	1	
33	1606153	• CORD SET, armored	1	
34	973543	• PLUG, O-ring, 7/16-20	2	
35	1080773	• HEATER CARTRIDGE, 0.38 d x 3, 120 v, 100 w	4	
36	1058878	• SCREW, drive, 4 x 0.250	4	
37	- - - - - -	• GLAND ASSEMBLY, tri-lip, 0.75 d	1	D
38	981907	• SCREW, drive, 4 x 0.250	4	
39	982031	• SCREW, socket, M6 x 25	2	
40	1070490	• FLANGE, housing, plunger	1	

Continued...

Item	Part	Description	Qty	Note
—	1606305	DISPENSER, assembly, Pro-Meter S15, coupled, electric heat, 120V	1	
41	1078561	• THERMOSTAT, open on rise, 190 deg, 10 amp	1	
42	983520	• WASHER, lock, M, internal, M3	3	
43	308586	• SCREW, socket, M3 x 6	3	
44	1070466	• BUMPER, plunger 0.75 dia	1	
45	- - - - - -	• PLUNGER	1	
46	1108014	• DISC, proximity	1	
47	- - - - - -	• COUPLING ASSEMBLY	1	
48	1073898	• PLUG, screw, M12 x 1 x 9 mm	4	
49	1031834	• LUBRICANT, TFE grease, 5 lb, 1 gallon	AR	
50	900298	• COMPOUND, heat sink, 5-oz tube, 11281	AR	
51	900464	• ADHESIVE, Loctite Thread lock Blue 242, removable, 50 ml	AR	
52	1606813	• SPACER, motor, Pro-Meter, int drive	2	
53	1606811	• O-RING, Viton, 20 mm ID x 2.0 mm w	2	
NS	931316	• WIRE, jumper, 18 AWG	1	E

NOTE: A. The pressure transducer is application specific:

1000 psi: Order 1084753

3000 psi: Order 1084752

5000 psi: Order 346088 (Used on earlier systems; no longer recommended)

B. These parts are included with 15A but can be ordered separately.

C. Refer to the applicable wiring diagram to order these parts.

D. Refer to the *Kits* section to order this part.

E. See Figure 21 for jumper wire location.

NS: Not Shown

AR: As Required

S35 120 Volt Heated Dispenser

See Figure 24 and Figure 25. Refer to the parts list that begins on page 49.

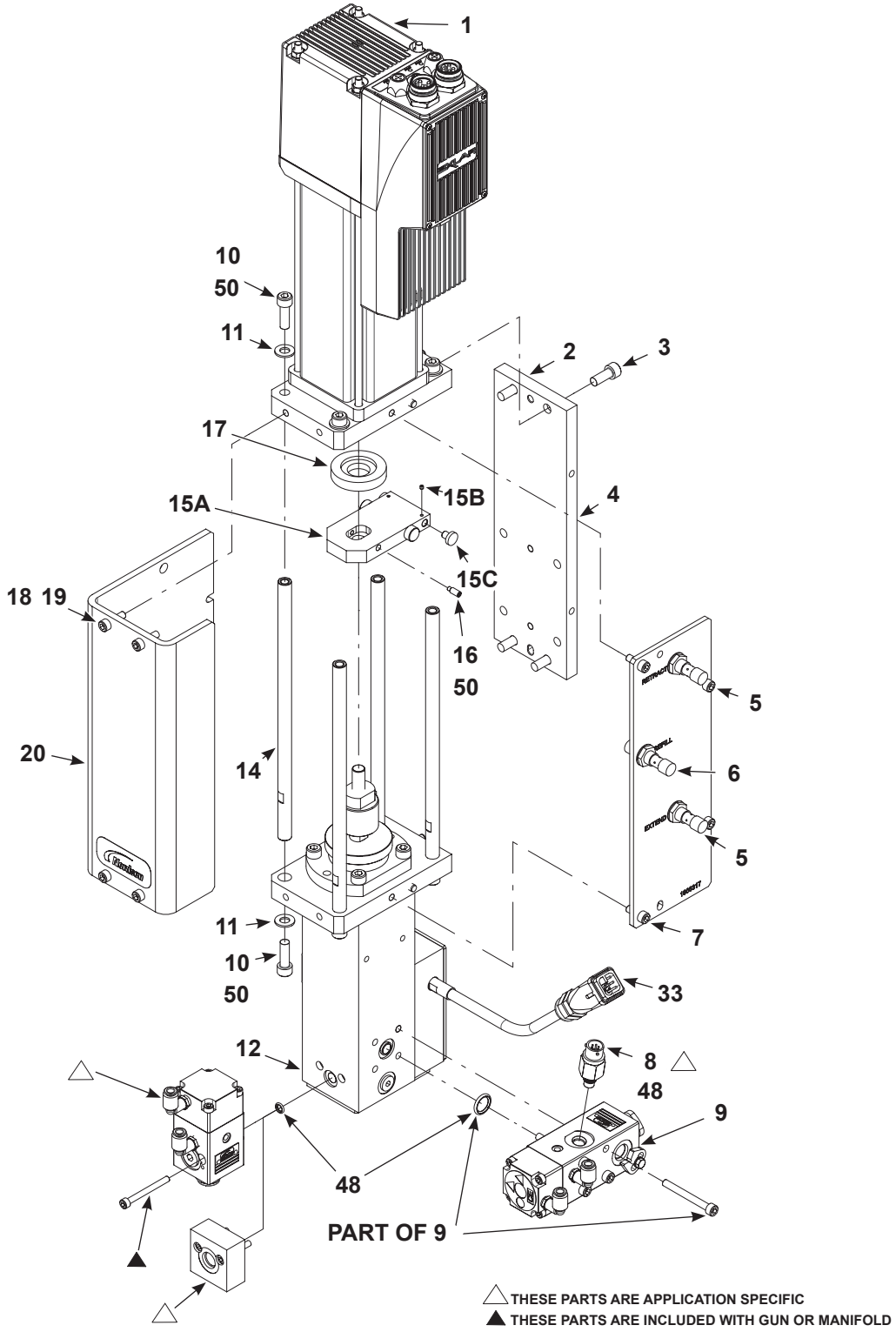


Figure 24 S35 120 Volt Heated Dispenser Parts

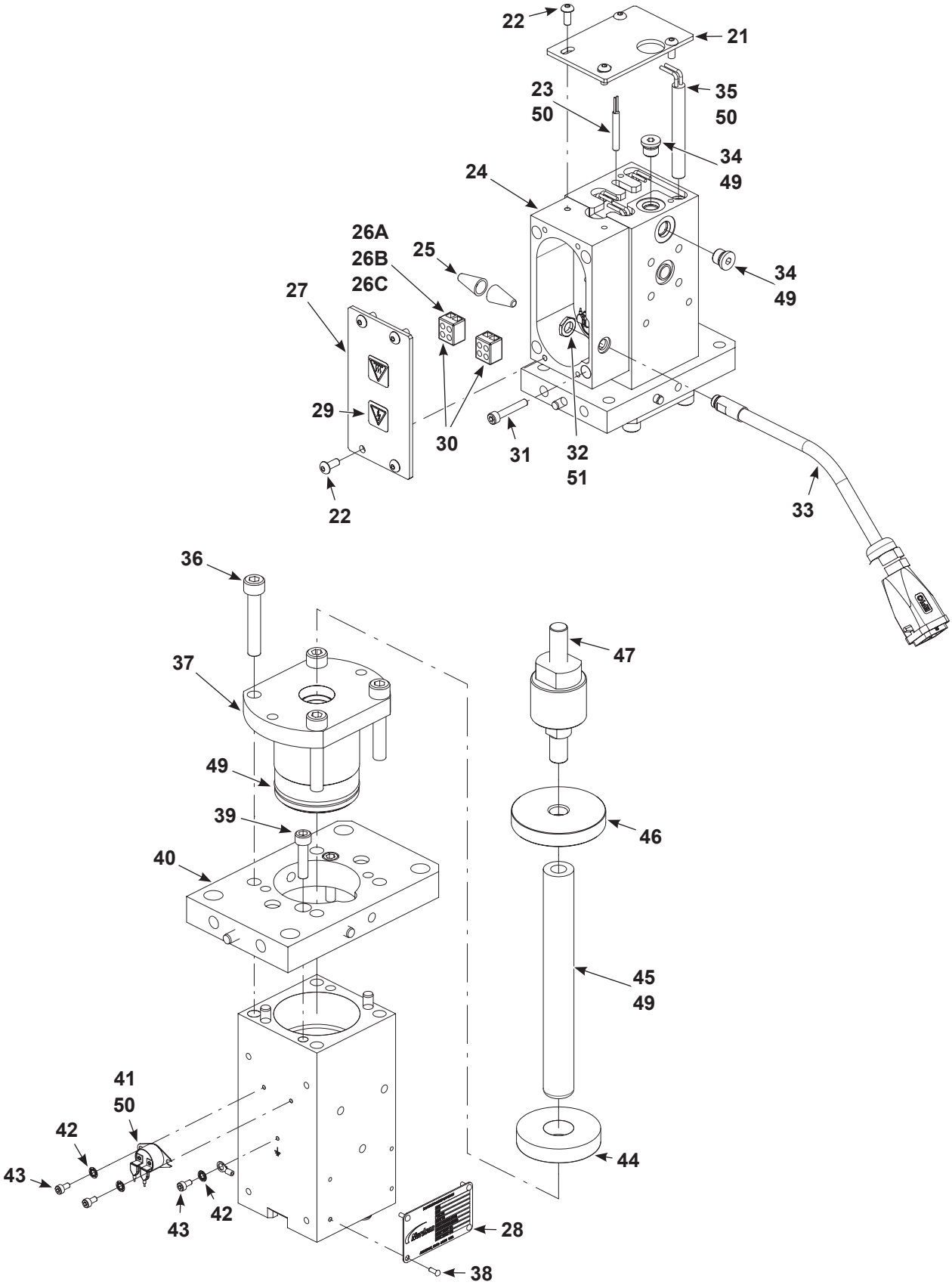


Figure 25 S35 120 Volt Heated Dispenser Parts *(Continued)*

Item	Part	Description	Qty	Note
—	1606306	DISPENSER, assembly, Pro-Meter S35, coupled, electric heat, 120V, ID	1	
1	1606309	• ACTUATOR, linear	1	
2	- - - - - -	• PLATE, mount	1	
3	982006	• SCREW, socket, M8 x 20	4	
4	1606317	• PLATE, proximity	1	
5	1074051	• SENSOR, proximity, PNP, N.C., M12	2	
6	346188	• SENSOR, proximity, PNP, N.O., M12	1	
7	982176	• SCREW, socket, M6 x 16	3	
8	- - - - - -	• TRANSDUCER, pressure	1	A
9	1089569	• VALVE, inlet, A-F, Pro-Meter S	1	
10	982395	• SCREW, socket, M8 x 1.25 x 25	8	
11	983051	• WASHER, flat, 0.344 x 0.688 x 0.065	8	
12	1082529	• HOUSING	1	
14	- - - - - -	• SHAFT	4	
15A	- - - - - -	• ARM ASSEMBLY, anti-rotate	1	
15B	982020	• SCREW, set, M3 x 3	2	B
15C	1068802	• PIN, stop, 12 mm OD plastic	2	B
16	1074040	• SCREW, set, M5 x 10	2	
17	- - - - - -	• BUMPER, motor	1	
18	983410	• WASHER, flat, M, narrow, M6	4	
19	982264	• SCREW, socket, cap, M6 x 1 x 18 mm	4	
20	1600738	• SHROUD	1	
21	- - - - - -	• COVER, heater	1	
22	982636	• SCREW, socket, M5 x 12	8	
23	186199	• SENSOR, temp RTD, 24 in.	1	
24	1078367	• COVER, heater, dispenser	1	
25	939515	• CONNECTOR, crimp wire, 22-14	2 or 4	
26A	1082457	• FERRULE, wire, non-insulating, 22-16 AWG	2 or 4	C
26B	1078929	• FERRULE, wire, non-insulating, 18 AWG	2	C
26C	939934	• FERRULE, wire, non-insulating, 20 AWG	2	C
27	1080850	• COVER, top, heater, dispenser	1	
28	- - - - - -	• PLATE	1	
29	242867	• TAG, warning	1	
30	939586	• CONNECTOR, plastic, 2 station	2	
31	982029	• SCREW, socket, M5 x 30	4	
32	984155	• NUT, panel mounting	1	
33	1606153	• CORD SET, armored	1	
34	973543	• PLUG, O-ring, 7/16-20	2	
35	1080772	• HEATER CARTRIDGE, 0.38 d x 5.75, 120 v, 125 w	4	
36	1058878	• SCREW, socket, M8 x 45	4	
37	- - - - - -	• GLAND ASSEMBLY, tri-lip, 0.75 d	1	D
38	981907	• SCREW, drive, 4 x 0.250	4	
39	982031	• SCREW, socket, M6 x 25	2	
40	1070490	• FLANGE, housing, plunger	1	

Continued...

Item	Part	Description	Qty	Note
—	1606306	DISPENSER, assembly, Pro-Meter S35, coupled, electric heat, 120V, ID	1	
41	1078561	• THERMOSTAT, open on rise, 190 deg, 10 amp	1	
42	983520	• WASHER, lock, M, internal, M3	3	
43	308586	• SCREW, socket, M3 x 6	3	
44	1070466	• BUMPER, plunger, 0.75 dia	1	
45	- - - - - -	• PLUNGER	1	
46	1108014	• DISC, proximity	1	
47	- - - - - -	• COUPLING ASSEMBLY	1	
48	1031834	• LUBRICANT, TFE grease, 5 lb, 1 gallon	4	
49	900464	• ADHESIVE, Loctite Thread lock blue 242, removable, 50 ml	AR	
50	900298	• COMPOUND, heat sink, 5-oz tube, 11281	AR	
NS	931316	• WIRE, jumper, 18 AWG	1	E

NOTE: A. The pressure transducer is application specific:

1000 psi: Order 1084753

3000 psi: Order 1084752

5000 psi: Order 346088 (Used on earlier systems; no longer recommended)

B. These parts are included with 15A but can be ordered separately.

C. Refer to the applicable wiring diagram to order these parts.

D. Refer to the *Kits* section to order this part.

E. See Figure 21 for jumper wire location.

NS: Not Shown

AR: As Required

S100 120 Volt Heated Dispenser

See Figure 26 and Figure 27. Refer to the parts list that begins on page 53.

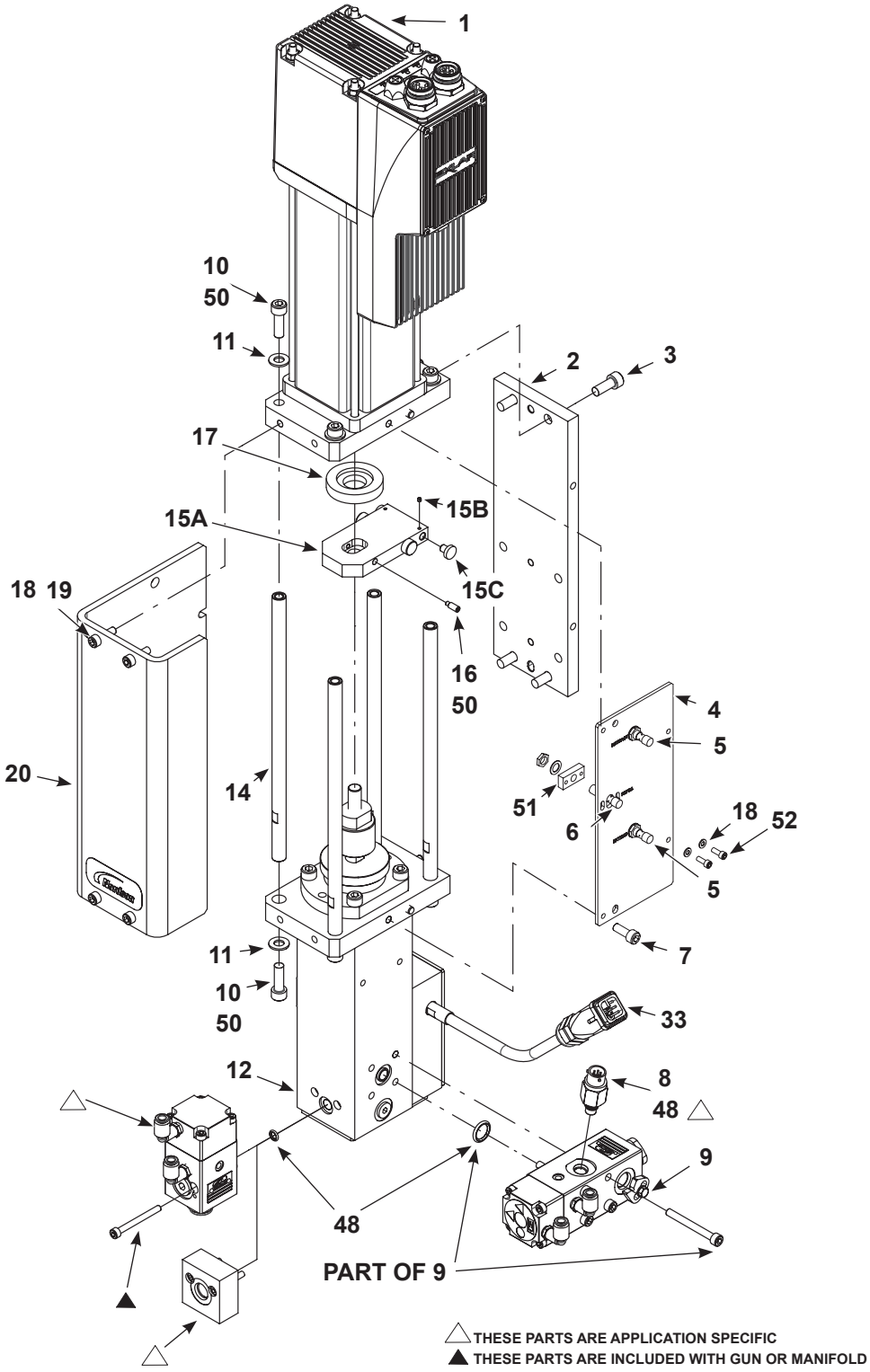


Figure 26 S100 120 Volt Heated Dispenser Parts

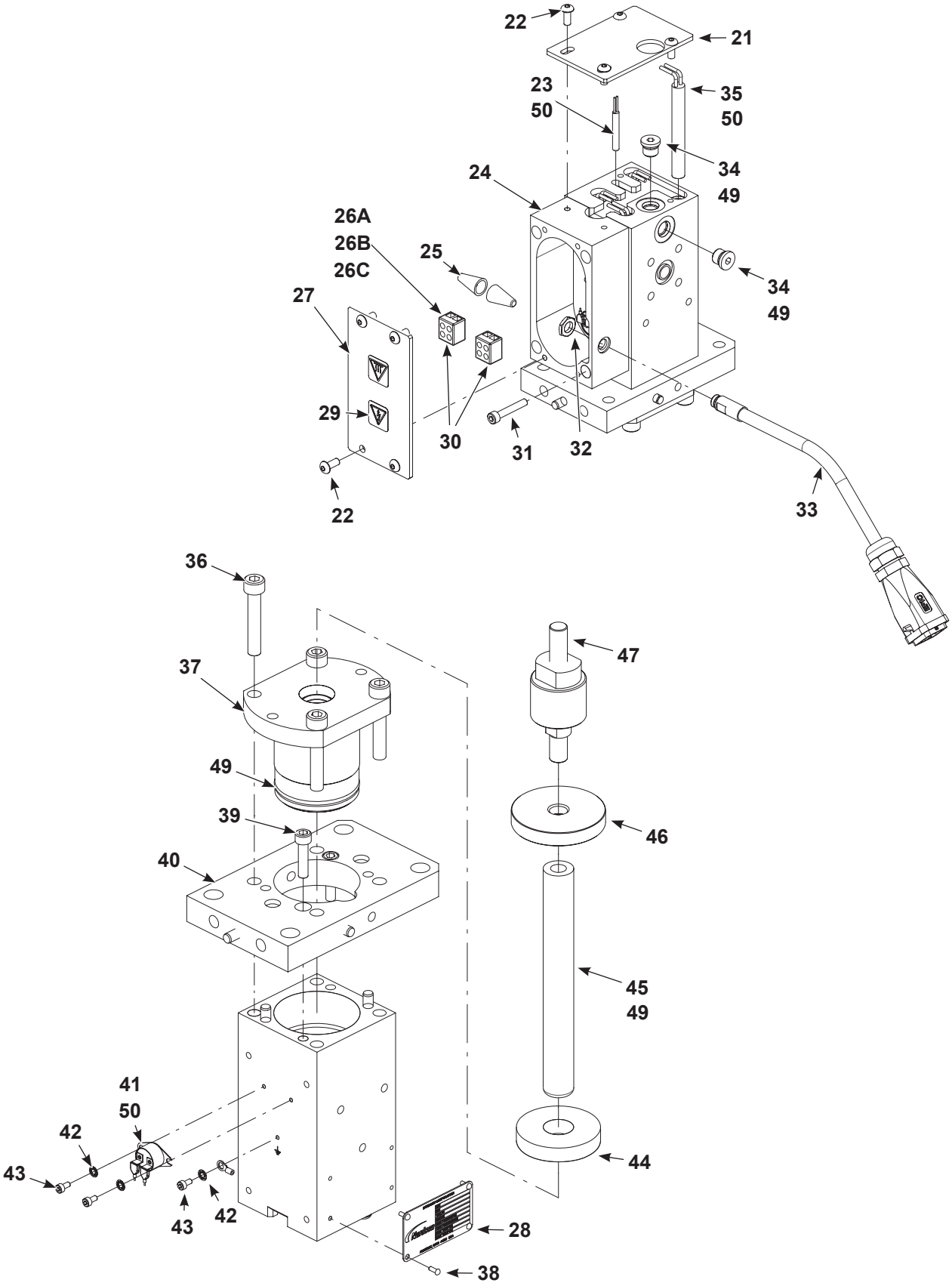


Figure 27 S100 120 Volt Heated Dispenser Parts *(Continued)*

Item	Part	Description	Qty	Note
—	1606307	DISPENSER, assembly, Pro-Meter S100, coupled, electric heat, 120V, ID	1	
1	1606310	• ACTUATOR, linear	1	
2	- - - - - -	• PLATE, mount	1	
3	982006	• SCREW, socket, M8 x 20	4	
4	1606325	• PLATE, proximity	1	
5	1074051	• SENSOR, proximity, PNP, N.C., M12	2	
6	346188	• SENSOR, proximity, PNP, N.O., M12	1	
7	982176	• SCREW, socket, M6 x 16	4	
8	- - - - - -	• TRANSDUCER, pressure	1	A
9	1089569	• VALVE, inlet, A-F, Pro-Meter S	1	
10	982491	• SCREW, socket, M10 x 25	8	
11	983061	• WASHER, flat, 0.406 x 0.812 x 0.065	8	
12	1082570	• HOUSING	1	
14	- - - - - -	• SHAFT	4	
15A	- - - - - -	• ARM ASSEMBLY, anti-rotate	1	
15B	982020	• SCREW, set, M3 x 3	2	B
15C	168802	• PIN, stop, 12 mm OD plastic	2	B
16	1002697	• SCREW, set, M6 x 8	2	
17	- - - - - -	• BUMPER, motor	1	
18	983410	• WASHER, flat, M, narrow, M6	6	
19	982264	• SCREW, socket, cap, M6 x 1 x 18 mm	4	
20	1606326	• SHROUD	1	
21	1080781	• COVER, heater	1	
22	982636	• SCREW, socket, M5 x 12	8	
23	186199	• SENSOR, temp RTD, 24 in.	1	
24	1078367	• COVER, heater, dispenser	1	
25	939515	• CONNECTOR, crimp wire, 22-14	2 or 4	
26A	1082457	• CONNECTOR, wire, set screw	2 or 4	C
26B	1078929	• CONNECTOR, wire, set screw	2	C
26C	939934	• CONNECTOR, wire, set screw	2	C
27	1080850	• COVER, top, heater, dispenser	1	
28	- - - - - -	• Not used on this configuration	—	
29	242867	• TAG, warning	1	
30	939586	• CONNECTOR, plastic, 2 station	2	
31	982029	• SCREW, socket, M5 x 30	4	
32	984155	• NUT, panel mounting	1	
33	1606153	• CORD SET, 120V	1	
34	973543	• PLUG, O-ring, 7/16-20	2	
35	1078538	• HEATER CARTRIDGE, 0.38 d x 5.75, 120 v, 150 w	4	

Continued...

Item	Part	Description	Qty	Note
—	1606307	DISPENSER, assembly, Pro-Meter S100, coupled, electric heat, 120V, ID	1	
36	982392	• SCREW, socket, M10 x 45	4	
37	1069486	• GLAND ASSEMBLY, tri-lip	1	
38	981907	• SCREW, drive, 4 x 0.250	4	
39	982031	• SCREW, socket, M6 x 25	2	
40	1606321	• FLANGE, housing, plunger	1	
41	1078561	• THERMOSTAT, open on rise, 190 deg, 10 amp	1	
42	983520	• WASHER, lock, M, internal M3	3	
43	308586	• SCREW, socket, M3 x 6	3	
44	1068798	• BUMPER, plunger	1	
45	- - - - - -	• PLUNGER	1	
46	1107178	• DISC, proximity	1	
47	- - - - - -	• COUPLING ASSEMBLY	1	
48	1031834	• LUBRICANT, TFE grease, 5 lb, 1 gallon	AR	
49	900298	• COMPOUND, heat sink, 5-oz tube, 11281	AR	
50	900464	• ADHESIVE, Loctite thread lock Blue 242, removable, 50 ml	AR	
51	1079371	• PAD, sensor mounting	1	
52	982176	• SCREW, socket, M6 x 16	2	
NS	931316	• WIRE, jumper, 18 AWG	1	D

NOTE: A. The pressure transducer is application specific:

1000 psi: Order 1084753

3000 psi: Order 1084752

5000 psi: Order 346088 (Used on earlier systems; no longer recommended)

B. These parts are included with 15A but can be ordered separately.

C. Refer to the applicable wiring diagram to order these parts.

D. See Figure 21 for jumper wire location.

AR: As Required

S165 120 Volt Heated Dispenser

See Figure 28 and Figure 29. Refer to the parts list that beings on page 57.

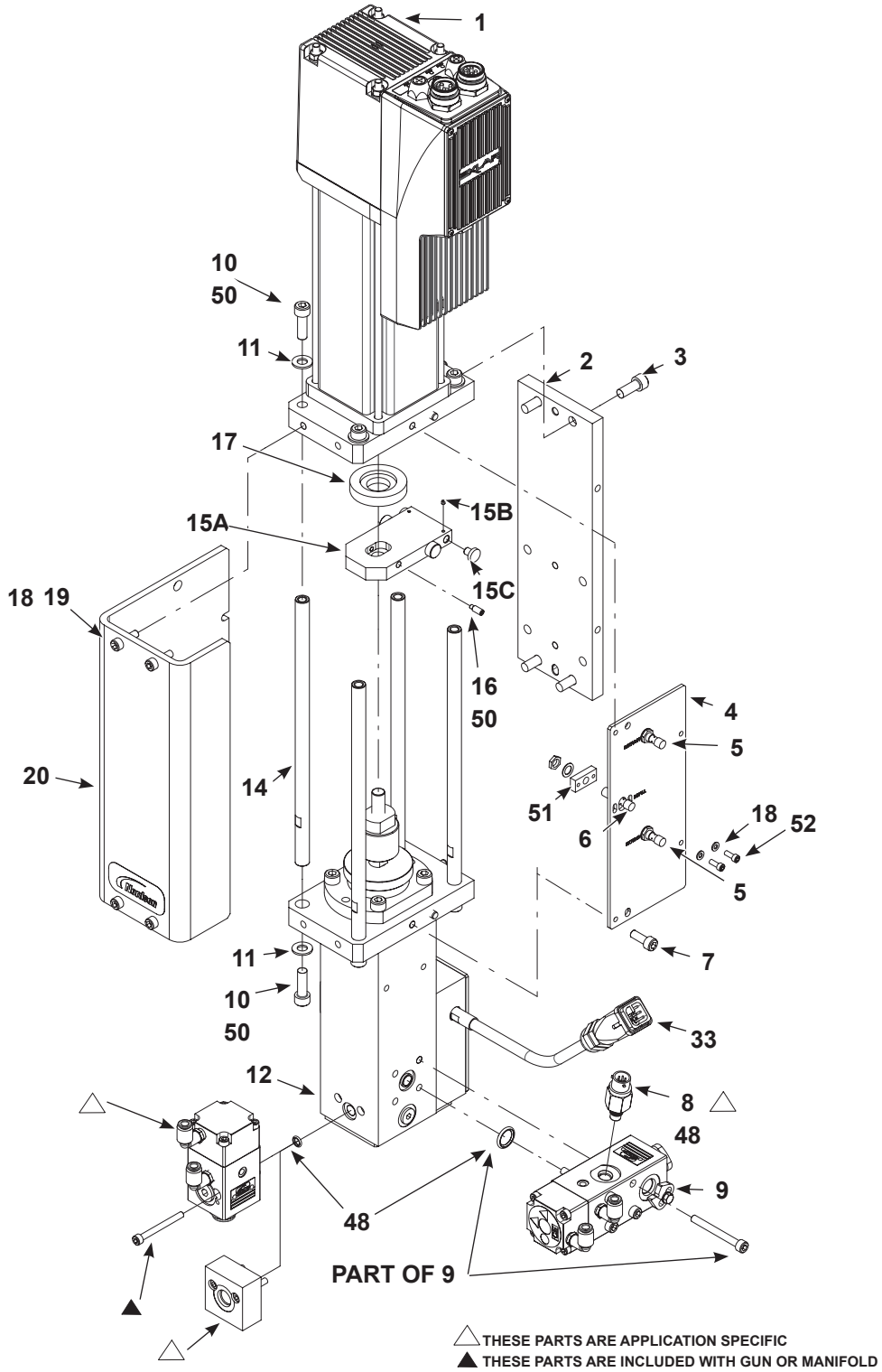


Figure 28 S165 120 Volt Heated Dispenser Parts

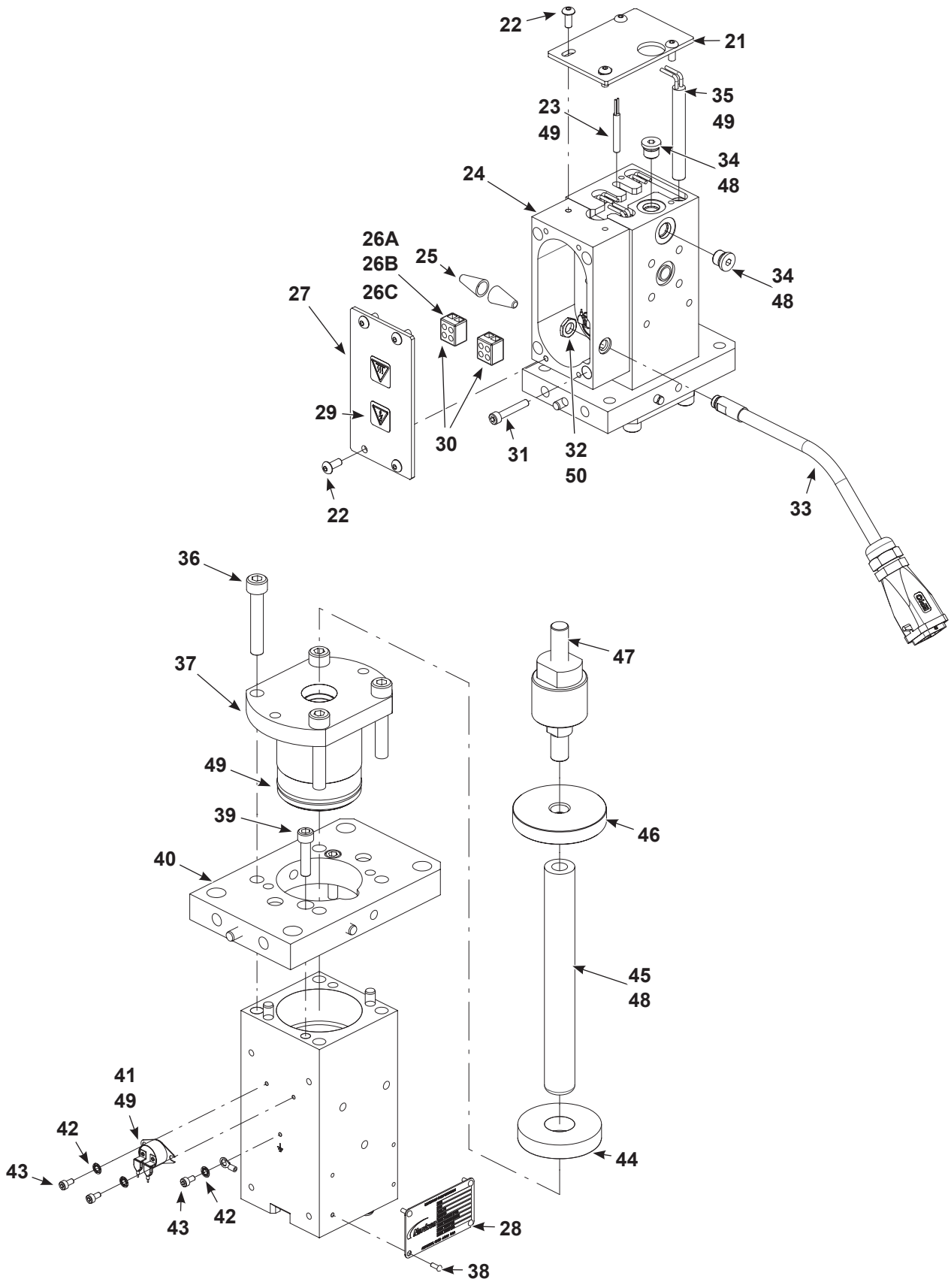


Figure 29 S165 120 Volt Heated Dispenser Parts *(Continued)*

Item	Part	Description	Qty	Note
—	1606422	DISPENSER, assembly, Pro-Meter S165, coupled, electric heat, 120V, ID	1	
1	1606423	• ACTUATOR, linear	1	
2	- - - - - -	• PLATE, mount	1	
3	982387	• SCREW, socket, M8 x 20	4	
4	1601330	• PLATE, proximity	1	
5	1074051	• SENSOR, proximity, PNP, N.C., M12	2	
6	346188	• SENSOR, proximity, PNP, N.O., M12	1	
7	982176	• SCREW, socket, M6 x 16	4	
8	- - - - - -	• TRANSDUCER, pressure	1	A
9	1089569	• VALVE, inlet, A-F, Pro-Meter S	1	
10	228431	• SCREW, socket, M10 x 25	8	
11	983194	• WASHER, flat, 0.406 x 0.812 x 0.065	8	
12	1601331	• BODY	1	
14	- - - - - -	• ROD, tie	4	
15A	- - - - - -	• ARM ASSEMBLY, anti-rotate	1	
15B	982020	• SCREW, SET, M3 x 3	2	B
15C	1068802	• PIN, stop, 12 mm OD plastic	2	B
16	1074944	• SCREW, set, M6 x 8	2	
17	- - - - - -	• BUMPER, motor	1	
18	983410	• WASHER, flat, M, narrow, M6	6	
19	982264	• SCREW, socket, cap, M6 x 1 x 18 mm	4	
20	1601329	• SHROUD	1	
21	- - - - - -	• COVER, heater	1	
22	982636	• SCREW, socket, M5 x 12	8	
23	186199	• SENSOR, temp RTD, 24 in.	1	
24	1078367	• COVER, heater, dispenser	1	
25	939515	• CONNECTOR, crimp, wire, 22-14	2 or 4	
26A	1082457	• CONNECTOR, wire, set screw	2 or 4	C
26B	1078929	• CONNECTOR, wire, set screw	2	C
26C	939934	• CONNECTOR, wire, set screw	2	C
27	1080850	• COVER, top, heater, dispenser	1	
28	- - - - - -	• Not used on this configuration	—	
29	242867	• TAG, warning	1	
30	939586	• CONNECTOR, plastic, 2 station	2	
31	982029	• SCREW, socket, M5 x 30	4	
32	984155	• NUT, panel mounting	1	
33	1606153	• CORD SET, 120V	1	
34	973543	• PLUG, O-ring, 7/16-20	2	
35	129642	• HEATER CARTRIDGE, 0.38 d x 5.75, 120 v, 150 w	4	

Continued...

Item	Part	Description	Qty	Note
—	1606422	DISPENSER, assembly, Pro-Meter S165, coupled, electric heat, 120V, ID	1	
36	982405	• SCREW, socket, M10 x 45	4	
37	1087531	• GLAND ASSEMBLY, tri-lip	1	
38	981907	• SCREW, drive, 4 x 0.250	4	
39	982031	• SCREW, socket, M6 x 25	2	
40	1074595	• FLANGE, housing, plunger	1	
41	1078561	• THERMOSTAT, open on rise, 190 deg, 10 amp	1	
42	983520	• WASHER, lock, M, internal, M3	3	
43	308586	• SCREW, socket, M3 x 6	3	
44	1074601	• BUMPER, plunger	1	
45	- - - - - -	• PLUNGER	1	
46	1602040	• DISC, proximity	1	
47	- - - - - -	• COUPLING ASSEMBLY	1	
48	1031834	• LUBRICANT, TFE grease, 5 lb, 1 gallon	AR	
49	900298	• COMPOUND, heat sink, 5-oz tube, 11281	AR	
50	900464	• ADHESIVE, Loctite thread lock Blue 242, removable, 50 ml	AR	
51	1079371	• PAD, sensor mounting	1	
52	982176	• SCREW, socket, M6 x 16	2	
NS	931316	• WIRE, jumper, 18 AWG	1	D

NOTE: A. The pressure transducer is application specific:

1000 psi: Order 1084753

3000 psi: Order 1084752

5000 psi: Order 346088 (Used on earlier systems; no longer recommended)

B. These parts are included with 15A but can be ordered separately.

C. Refer to the applicable wiring diagram to order these parts.

D. See Figure 21 for jumper wire location.

AR: As Required

E-Net Dispensers

S35 120/140 Volt Heated E-Net Dispensers

See Figure 30, Figure 31, Figure 32, and the following parts list that begins on page 61.

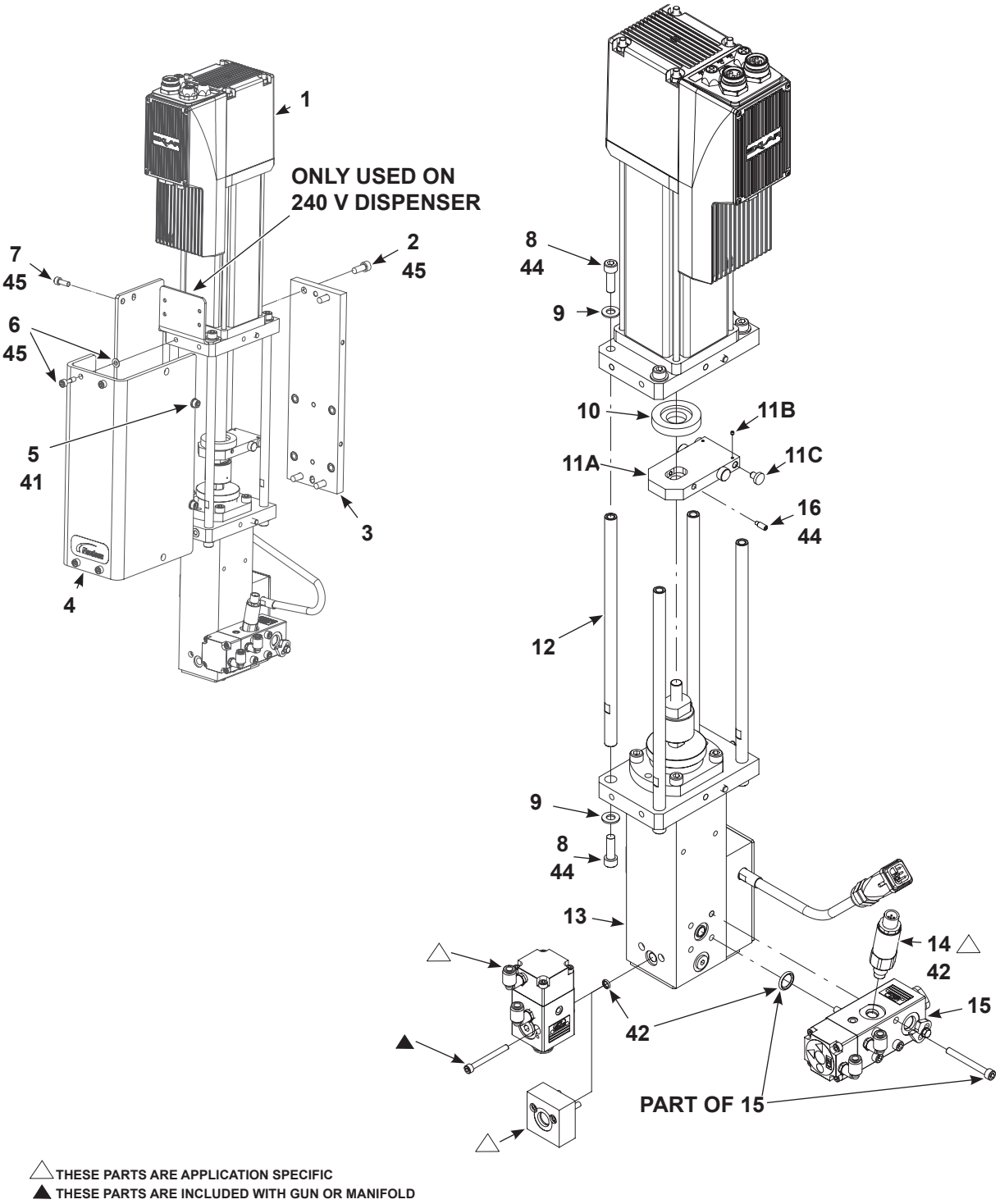


Figure 30 S35 120/140 Heated E-Net Dispenser Parts

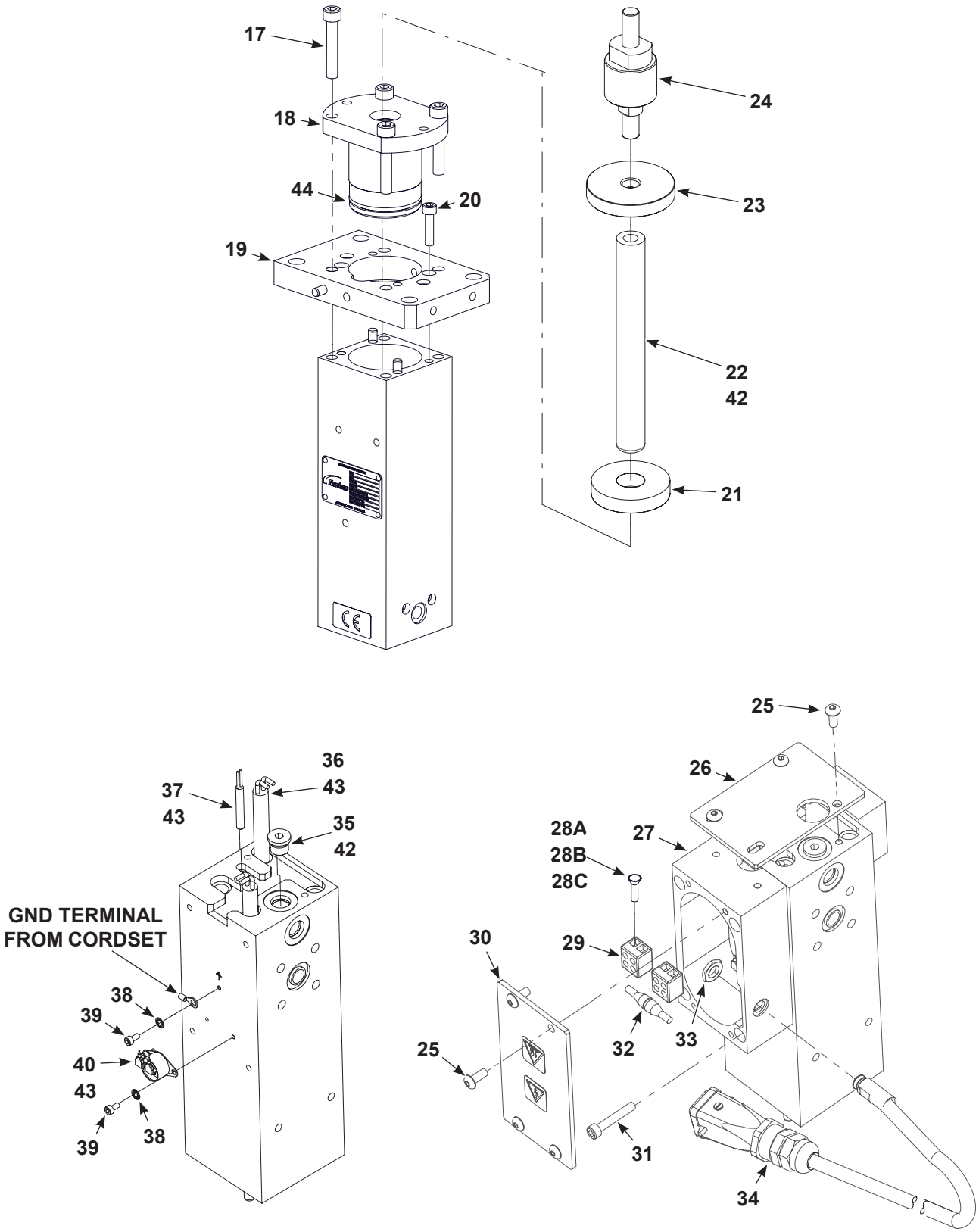


Figure 31 S35 120/140 Volt Heated E-Net Dispenser Parts *(Continued)*

Item	Part	Part	Description	Qty	Note
—	16113963		DISPENSER, assembly, Pro-Meter S35, coupled, 120V, E-Net	1	
—		1614522	DISPENSER, assembly, Pro-Meter S35, coupled, electric heat, 240 V, E-Net	1	
1	1612825	1612825	• ACTUATOR, linear	1	
2	- - - - - -	- - - - - -	• SCREW, socket, M8 x 20, per ISO 4017	4	
3	- - - - - -	- - - - - -	• PLATE, mount	1	
4	1600738	1600738	• SHROUD	1	
5	- - - - - -	- - - - - -	• SCREW, cap, socket, M6 x 1 x 18 mm, per ISO 4762	2	
6	- - - - - -	- - - - - -	• SCREW, socket, captive, M6 x 15 stainless steel, per ISO 4762	4	
7	- - - - - -	- - - - - -	• SCREW, socket M6 x 16, black, per ISO 4762	4	
8	- - - - - -	- - - - - -	• SCREW, socket M6 x 1.25 x 25, per ISO 4762	8	
9	- - - - - -	- - - - - -	• WASHER, flat, 0.344 x 0.688 x 0.065, per ISO 7089	8	
10	- - - - - -	- - - - - -	• BUMPER, motor	1	
11A	- - - - - -	- - - - - -	• ARM ASSEMBLY, anti-rotate	1	
11B	982020	982020	• SCREW, set, M3 x 3, per ISO 4026	2	
11C	1068802	1068802	• PIN, stop, 12 mm OD plastic	2	
12	- - - - - -	- - - - - -	• SHAFT	4	
13	1082529	1082529	• HOUSING	1	
14	- - - - - -	- - - - - -	• TRANSDUCER, pressure	1	
15	1089569	1089569	• VALVE, inlet, Auto-Flo II, 1K	1	
16	- - - - - -	- - - - - -	• SCREW, set, M5 x 10, dog point, per ISO 4028	2	
17	- - - - - -	- - - - - -	• SCREW, socket, M8 x 45	4	
18	- - - - - -	- - - - - -	• GLAND ASSEMBLY, tri-lip, 0.75 d	1	
19	1070490	1070490	• FLANGE, housing, plunger	1	
20	- - - - - -	- - - - - -	• SCREW, socket, M6 x 25, per ISO 4762	2	
21	1070466	1070466	• BUMPER, plunger 0.75 dia	1	
22	- - - - - -	- - - - - -	• PLUNGER	1	
23	- - - - - -	- - - - - -	• DISC, proximity	1	
24	- - - - - -	- - - - - -	• COUPLING ASSEMBLY	1	
25	- - - - - -	- - - - - -	• SCREW, button, M5 x 12, zinc, per ISO 7380	8	
26	- - - - - -	- - - - - -	• COVER, heater	1	
27	1078367	1078367	• COVER, heater, dispenser	1	
28A	- - - - - -	- - - - - -	• FERRULE, wire, non-insulating, 18 AWG	2	
28B	- - - - - -	- - - - - -	• FERRULE, wire, non-insulating, 18 AWG, 90° C	2	
28C	- - - - - -	- - - - - -	• FERRULE, wire, non-insulating, 20 AWG	4	
29	939586	939586	• CONNECTOR, plastic, 2 station	2	
30	1080850	1080850	• COVER, top, heater, dispenser	1	
31	- - - - - -	- - - - - -	• SCREW, socket, M5 x 30, per ISO 4762	4	
32	939515	939515	• CONNECTOR, crimp wire, 22-14	4	
33	984155	984155	• NUT, panel mounting	1	
34	1606153		• CORD SET, armored, 120V	1	
34		1060683	• CORD SET, automatic, 240V	1	
35	973543	973543	• PLUG, O-ring, 7/16-20	2	
36	1612854	1612854	• HEATER CARTRIDGE, 0.375 diameter x 5.75, 120 v, 85 w	4	

Continued...

Item	Part	Part	Description	Qty	Note
37	186199	186199	• SENSOR, temp RTD, 24 in.	1	
38	- - - - - -	- - - - - -	• WASHER, lock, M, internal, M3, per ISO 7079	3	
39	- - - - - -	- - - - - -	• SCREW, socket, M3 x 6, per ISO 4762	3	
—	1611393		DISPENSER, assembly, Pro-Meter S35, coupled, 120V, E-Net	1	
—		1614522	DISPENSER, assembly, Pro-Meter S35, coupled, electric heat, 240V, E-Net	1	
40	1078561	1078561	• THERMOSTAT, open on rise, 190 deg, 10 amp	1	
41	- - - - - -	- - - - - -	• WASHER, flat, M, narrow, M6, per ISO 7089	6	
42	1031834	1031834	• LUBRICANT, TFE grease, 5 lb, 1 gallon	AR	
43	900298	900298	• COMPOUND, heat sink, 5-oz tube, 11281	AR	
44	900464	900464	• ADHESIVE, Loctite, blue 242, removable, 50 ml	AR	
45	900344	900344	• LUBRICANT, Never-Seez, 8-oz. can	AR	

NOTE: A. These parts are included with 11A but can be ordered separately.

B. The pressure transducer is application specific:

1000 psi: Order 1084753

3000 psi: Order 1084752

C. Refer to the *Kits* section to order this part.

D. See Figure 32 for ferrule location.

AR: As Required

NS: Not Shown

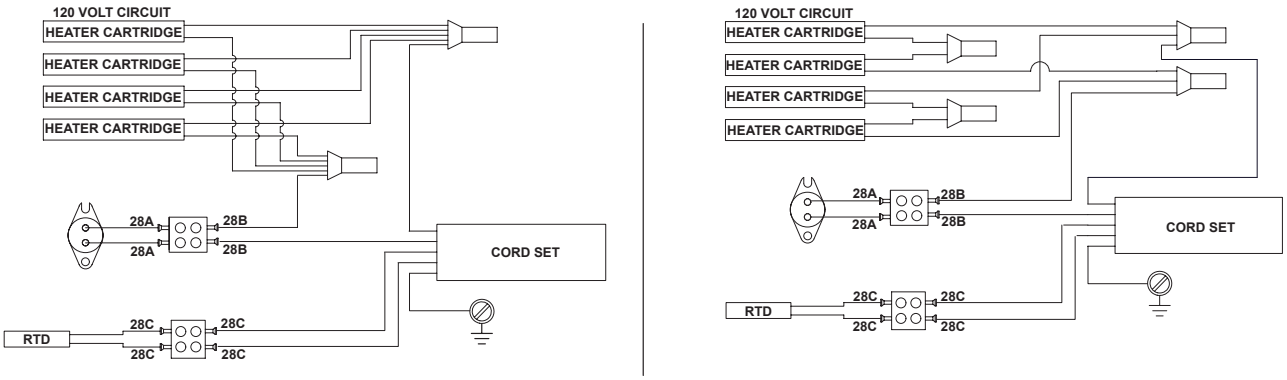


Figure 32 S35 120/240 Volt Heated E-Net Dispenser Parts *(Continued)*

S35 Temperature Controlled E-Net Dispenser

See Figure 33 and the following parts list.

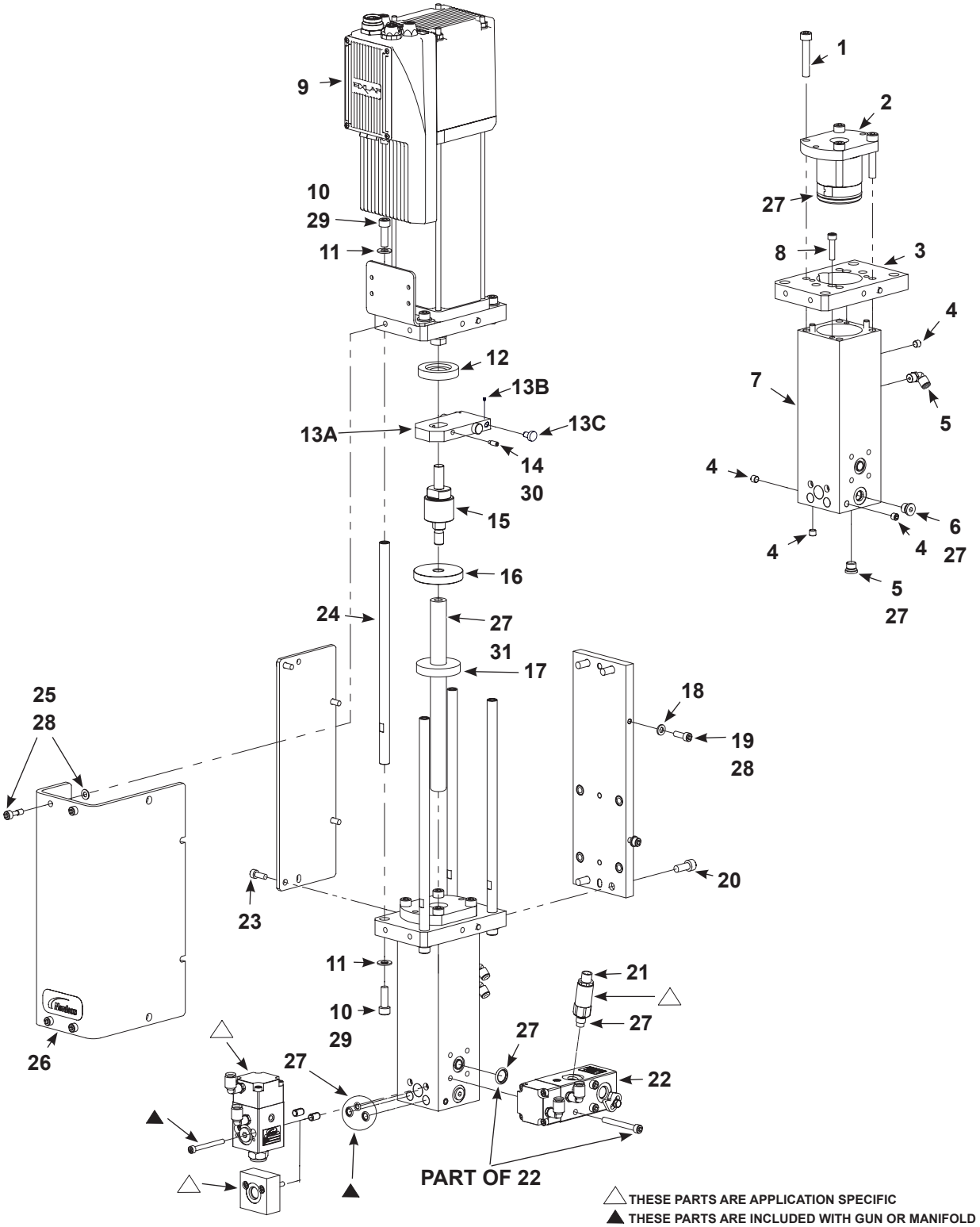


Figure 33 S35 Temperature Controlled E-Net Dispenser Parts

Item	Part	Description	Qty	Note
—	1613343	DISPENSER, Pro-Meter S35, coupled, temperature controlled, E-Net	1	
1	- - - - - -	• SCREW, socket, M8 x 45, black, per ISO 4762	4	
2	- - - - - -	• GLAND ASSEMBLY, 0.75 diameter	1	A
3	1070490	• FLANGE, housing, plunger, Pro-Meter S	1	
4	973466	• PLUG, pipe, flush 1⁄16 with sealant	8	
5	972119	• ELBOW, male, ¼ tube x ⅛ NPT	2	
6	973543	• PLUG, O-ring, straight thread, 7⁄16-20	2	
7	1084794	• HOUSING, plunger, 0.75 diameter, Pro-Meter S, CE	1	
8	- - - - - -	• SCREW, socket, M6 x 25, black, per ISO 4762	2	
9	1612825	• ACTUATOR, assembly, linear, S35, E-Net	1	
10	- - - - - -	• SCREW, socket, M8 x 1.25 x 25, black, per ISO 4762	8	
11	- - - - - -	• WASHER, flat, 0.344 x 0.688 x 0.065, zinc, per ISO 7089	8	
12	- - - - - -	• BUMPER, motor	1	
13A	- - - - - -	• ARM ASSEMBLY, anti-rotate	1	
13B	982020	• SET SCREW, M3 x 3	2	B
13C	1068802	• PIN, stop, 12 mm OD plastic	2	B
14	- - - - - -	• SCREW, set M5 x 10, dog point, per ISO 4028	2	
15	- - - - - -	• COUPLING ASSEMBLY	1	
16	- - - - - -	• DISC, proximity, Pro-Meter	1	
17	1070466	• BUMPER, plunger, 0.75 diameter, Pro-Meter	1	
18	- - - - - -	• WASHER, flat, narrow, M6, steel zinc, per ISO 7089	6	
19	- - - - - -	• SCREW, socket, cap, M6 x 1 x 18 mm	6	
20	- - - - - -	• SCREW, socket, M8 x 20, zinc, per ISO 4762	4	
21	- - - - - -	• TRANSDUCER, pressure	1	C
22	1089569	• VALVE, inlet, Auto-Flo II, 1K	1	
23	- - - - - -	• SCREW, socket, M6 x 16, black, per ISO 4762	4	
24	- - - - - -	• SHAFT	4	
25	- - - - - -	• SCREW, socket, M6 x 15, stainless steel, per ISO 4762	4	
26	1600738	• SHROUD	1	
27	1031834	• LUBRICANT, TFE grease, 5 lb, 1 gallon	AR	
28	900344	• LUBRICANT, Never-Seez, 8-oz. can	AR	
29	900464	• ADHESIVE, Loctite, blue 242, removable, 50 ml	AR	
30	900439	• ADHESIVE, Loctite, red 271, high strength, 50 ml	AR	
31	- - - - - -	• PLUNGER	1	

NOTE: A. Refer to the *Kits* section to order this part.

B. These parts are included with 13A but can be ordered separately.

C. The pressure transducer is application specific:

1000 psi: Order 1084753

3000 psi: Order 1084752

AR: As Required

NS: Not Shown

S35 ARW Temperature Conditioned E-Net Dispenser

See Figure 34 and the following parts list.

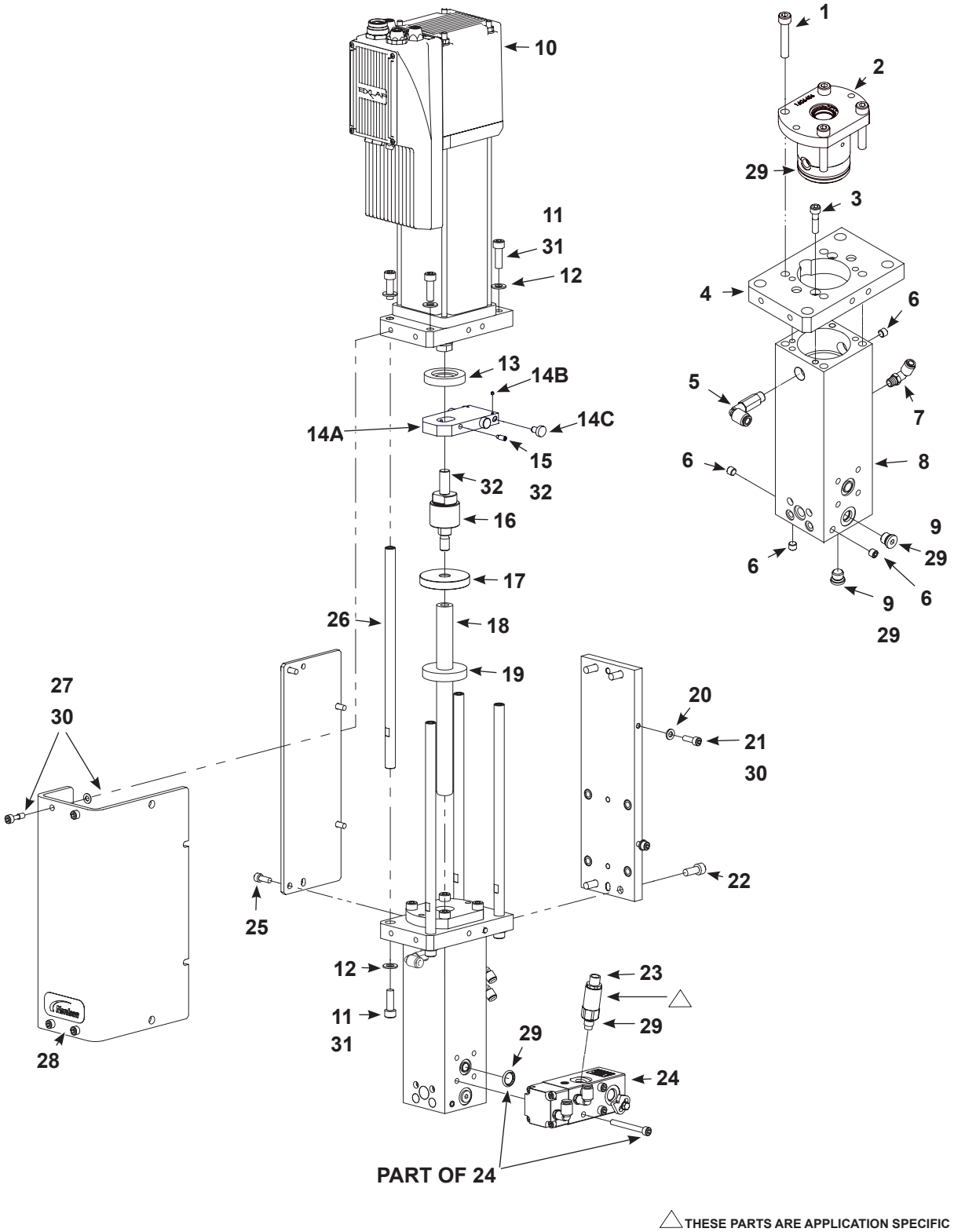


Figure 34 S35 ARW E-Net Dispenser Parts

Item	Part	Description	Qty	Note
—	1614566	DISPENSER, Pro-Meter S35, coupled, temperature conditioned, ARW, E-Net	1	
1	- - - - - -	• SCREW, socket, M8 x 45, black, per ISO 4762	4	
2	- - - - - -	• GLAND ASSEMBLY, 0.75 diameter, ARW	1	A
3	- - - - - -	• SCREW, socket, M6 x 25, black, per ISO 4762	2	
4	1070490	• FLANGE, housing, plunger, Pro-Meter S	1	
5	972889	• ELBOW, male, ¼ T x ⅛ NPT	2	
6	973466	• PLUG, pipe, socket, flush 1⁄16, stainless steel	8	
7	972119	• ELBOW, male, ¼ tube x ⅛ NPT	2	
8	1600177	• HOUSING, plunger, 0.75 diameter, Pro-Meter S, ARW, CE	1	
9	- - - - - -	• PLUG, O-ring, straight thread, 7⁄16-20, stainless steel	2	
10	1612825	• ACTUATOR, assembly, linear, S35, E-Net	1	
11	- - - - - -	• SCREW, socket, M8 x 1.25 x 25, black, per ISO 7089	8	
12	- - - - - -	• WASHER, flat, 0.344 x 0.688 x 0.065, zinc, per ISO 7089	8	
13	- - - - - -	• BUMPER, motor	1	
14A	1606311	• ARM ASSEMBLY, anti-rotate	1	
14B	982020	• SET SCREW, M3 x 3	2	B
14C	1068802	• PIN, stop, 12 mm OD plastic	2	B
15	- - - - - -	• SCREW, set, M5 x 10, dog point, per ISO 4028	2	
16	- - - - - -	• COUPLING ASSEMBLY	1	
17	- - - - - -	• DISC, proximity, Pro-Meter	1	
18	- - - - - -	• PLUNGER, 0.75 diameter	1	
19	1070466	• BUMPER, plunger, 0.75 diameter, Pro-Meter	1	
20	- - - - - -	• WASHER, flat, narrow, M6, steel zinc, per ISO 7089	6	
21	- - - - - -	• SCREW, socket, cap, M6 x 1 x 18 mm	6	
22	- - - - - -	• SCREW, socket, M8 x 20, zinc, per ISO 4762	4	
23	- - - - - -	• TRANSDUCER, pressure	1	C
24	1099703	• VALVE, inlet, Auto-Flo II, 1K, stainless steel	1	
25	- - - - - -	• SCREW, socket, M6 x 16, black, per ISO 4762	4	
26	- - - - - -	• SHAFT	4	
27	- - - - - -	• SCREW, socket, M6 x 15, stainless steel, per ISO 4762	4	
28	1600738	• SHROUD	1	
29	1031834	• LUBRICANT, TFE grease, 5 lb, 1 gallon	AR	
30	900344	• LUBRICANT, Never-Seez, 8-oz, can	AR	
31	900464	• ADHESIVE, Loctite, blue 242, removable, 50 ml	AR	
32	900439	• ADHESIVE, Loctite, red 271, high strength, 50 ml	AR	

NOTE: A. Refer to the *Kits* section to order this part.

B. These parts are included with 14A but can be ordered separately.

C. The pressure transducer is application specific:

1000 psi: Order 1084753

3000 psi: Order 1084752

AR: As Required

NS: Not Shown

S100 120/240 Volt Heated E-Net Dispensers

See Figure 35, Figure 36, Figure 37, and the parts list that begins on page 69.

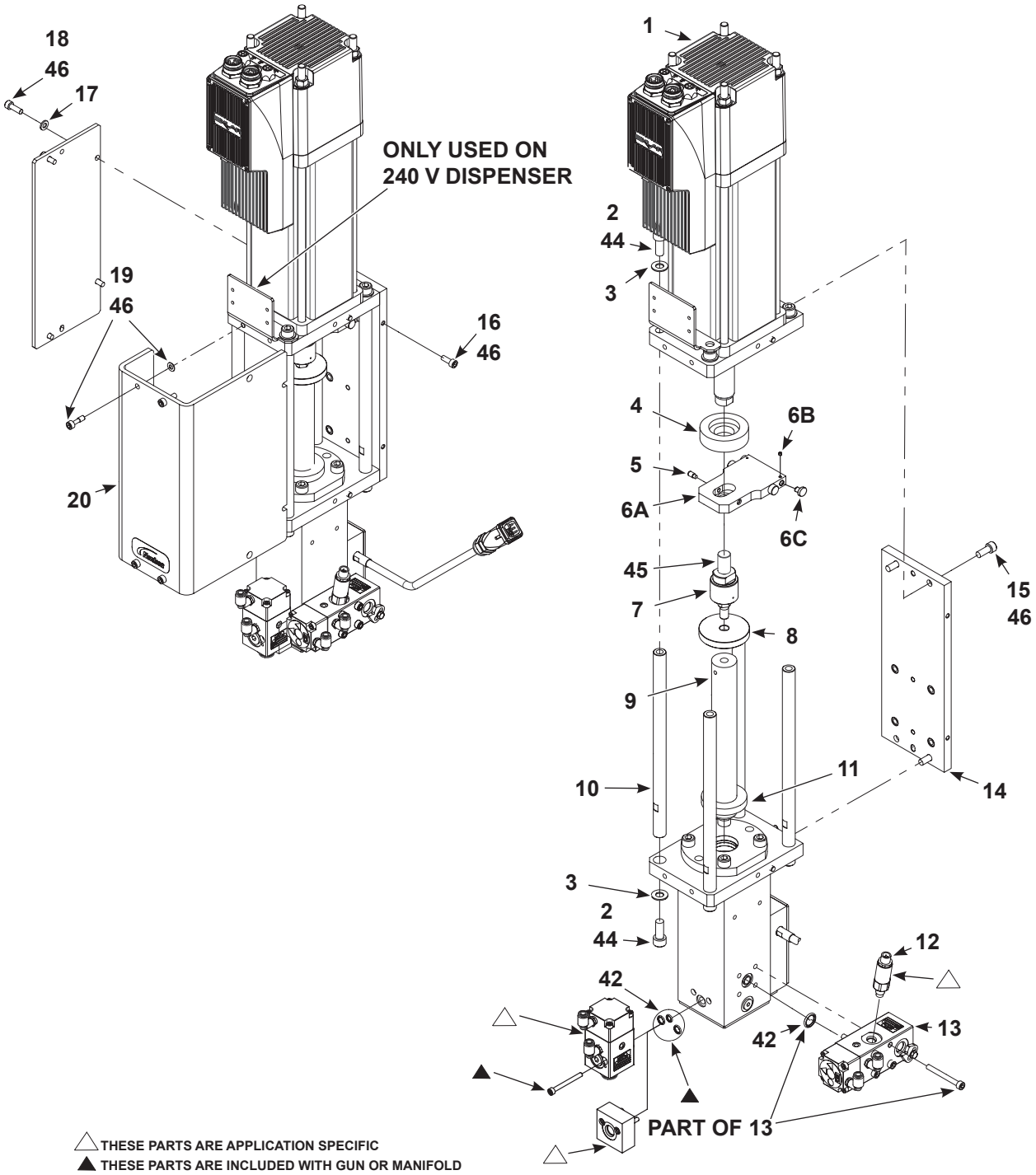


Figure 35 S100 120/240 V Heated E-Net Dispenser Parts

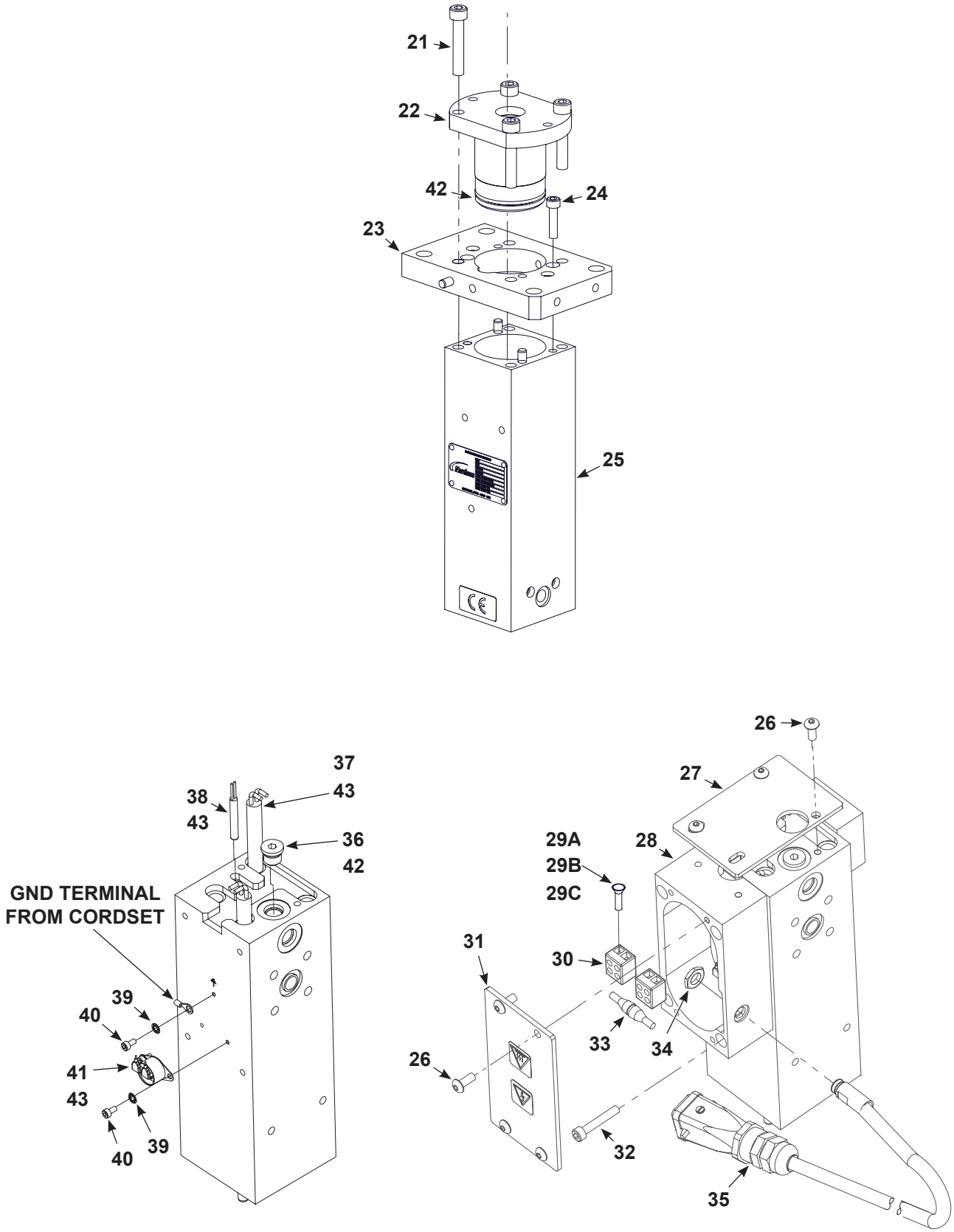


Figure 36 S35 120/240 Volt Heated E-Net Dispenser Parts *(Continued)*

Item	Part	Part	Description	Qty	Note
—	1612828		DISPENSER, Pro-Meter S100, coupled, 120V, E-Net	1	
—		1614553	DISPENSER, assembly, Pro-Meter S100, coupled, electric heat, 240V, E-Net	1	
1	1612830	1612830	• ACTUATOR, linear	1	
2	- - - - - -	- - - - - -	• SCREW, socket, M10 x 25, per ISO 4017	4	
3	- - - - - -	- - - - - -	• WASHER, flat, 0.406 x 0.812 x 0.065, per ISO 7089	8	
4	- - - - - -	- - - - - -	• BUMPER, motor	1	
5	- - - - - -	- - - - - -	• SCREW, set, M5 x 10, dog point, per ISO 4028	2	
6A	1606312	1606312	• ARM ASSEMBLY, anti-rotate	1	
6B	982020	982020	• SCREW, set, M3 x 3, per ISO 4026	2	A
6C	1068802	1068802	• PIN, stop, 12 mm OD plastic	2	A
7	- - - - - -	- - - - - -	• COUPLING ASSEMBLY	1	
8	- - - - - -	- - - - - -	• DISC, proximity	1	
9	- - - - - -	- - - - - -	• PLUNGER	1	
10	- - - - - -	- - - - - -	• SHAFT	4	
11	1068798	1068798	• BUMPER, plunger 1.25 diameter	1	
12	- - - - - -	- - - - - -	• TRANSDUCER, pressure	1	B
13	1089569	1089569	• VALVE, inlet, Auto-Flo II, 1K	1	
14	- - - - - -	- - - - - -	• PLATE, mount	1	
15	- - - - - -	- - - - - -	• SCREW, M8 x 20, zinc, per ISO 4762	4	
16	- - - - - -	- - - - - -	• SCREW, socket, M6 x 16, per ISO 4762	2	
17	- - - - - -	- - - - - -	• WASHER, flat, M, narrow, M6, steel zinc	6	
18	- - - - - -	- - - - - -	• SCREW, socket, captive, M6 x 1 x 18 mm	6	
19	- - - - - -	- - - - - -	• SCREW, socket, captive, M6 x 15 stainless steel, per ISO 4762	4	
20	1606326	1606326	• SHROUD	1	
21	- - - - - -	- - - - - -	• SCREW, socket, M10 x 45	4	
22	- - - - - -	- - - - - -	• GLAND ASSEMBLY, tri-lip, 1.25 diameter	1	C
23	1606321	1606321	• FLANGE, housing, plunger	1	
24	- - - - - -	- - - - - -	• SCREW, socket, M6 x 25, per ISO 4762	2	
25	1082570	1082570	• HOUSING	1	
26	- - - - - -	- - - - - -	• SCREW, button, M5 x 12, per ISO 7380	8	
27	1080781	1080781	• COVER, bottom, heater	1	
28	1078367	1078367	• COVER, heater, dispenser	1	
29A	- - - - - -	- - - - - -	• FERRULE, wire, non-insulating, 18 AWG	2	D
29B	- - - - - -	- - - - - -	• FERRULE, wire, non-insulating, 18 AWG, 90° C	2	D
29C	- - - - - -	- - - - - -	• FERRULE, wire, non-insulating, 20 AWG	4	D
30	939586	939586	• CONNECTOR, plastic, 2 station	2	
31	1080850	1080850	• COVER, top, heater, dispenser	1	
32	- - - - - -	- - - - - -	• SCREW, socket, M5 x 30, per ISO 4762	4	
33	939515	939515	• CONNECTOR, crimp wire, 22-14	4	
34	984155	984155	• NUT, panel mounting	1	
35	1606153		• CORD SET, armored, 240V	1	
		1060683	• CORD SET, automatic, 240V	1	
36	973543	973543	• PLUG, O-ring, 7/16-20	2	

Continued...

Item	Part	Part	Description	Qty	Note
37	1612829	1612829	• HEATER CARTRIDGE, 0.375 X 5.75, 120 v, 110 w	4	
38	186199	186199	• SENSOR, temp RTD, 24 in.	1	
39	- - - - - -	- - - - - -	• WASHER, lock, M, internal, M3, per ISO 7079	3	
40	- - - - - -	- - - - - -	• SCREW, socket, M3 x 6, black, per ISO 4762	3	
—	1612828		DISPENSER, Pro-Meter S100, coupled, 120V, E-Net	1	
—		1614553	DISPENSER, assembly, Pro-Meter S100, coupled, electric heat, 240V, E-Net	1	
41	1078561	1078561	• THERMOSTAT, open on rise, 190 deg, 10 amp	1	
42	1031834	1031834	• LUBRICANT, TFE grease, 5 lb, 1 gallon	AR	
43	900298	900298	• COMPOUND, heat sink, 5-oz tube, 11281	AR	
44	900464	900464	• ADHESIVE, Loctite, blue 242, removable, 50 ml	AR	
45	900439	900439	• ADHESIVE, Loctite, red 271, high strength, 50 ml	AR	
46	900344	900344	• LUBRICANT, Never-Seez, 8-oz. can	AR	

NOTE: A. These parts are included with 6A but can be ordered separately.

B. The pressure transducer is application specific:

1000 psi: Order 1084753

3000 psi: Order 1084752

C. Refer to the *Kits* section to order this part.

D. See Figure 37 for ferrule location.

AR: As Required

NS: Not Shown

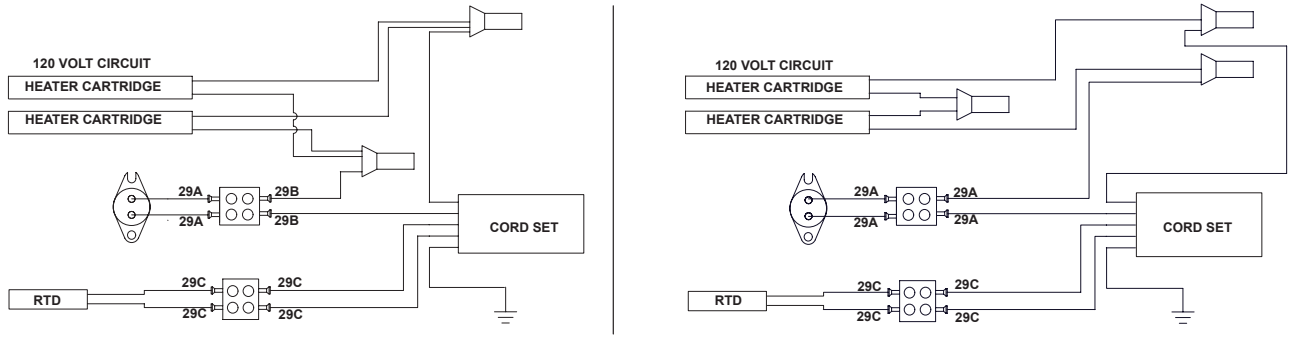


Figure 37 S35 120/240 Volt Heated E-Net Dispenser Parts *(Continued)*

S100 Temperature Conditioned E-Net Dispenser

See Figure 38 and the following parts list.

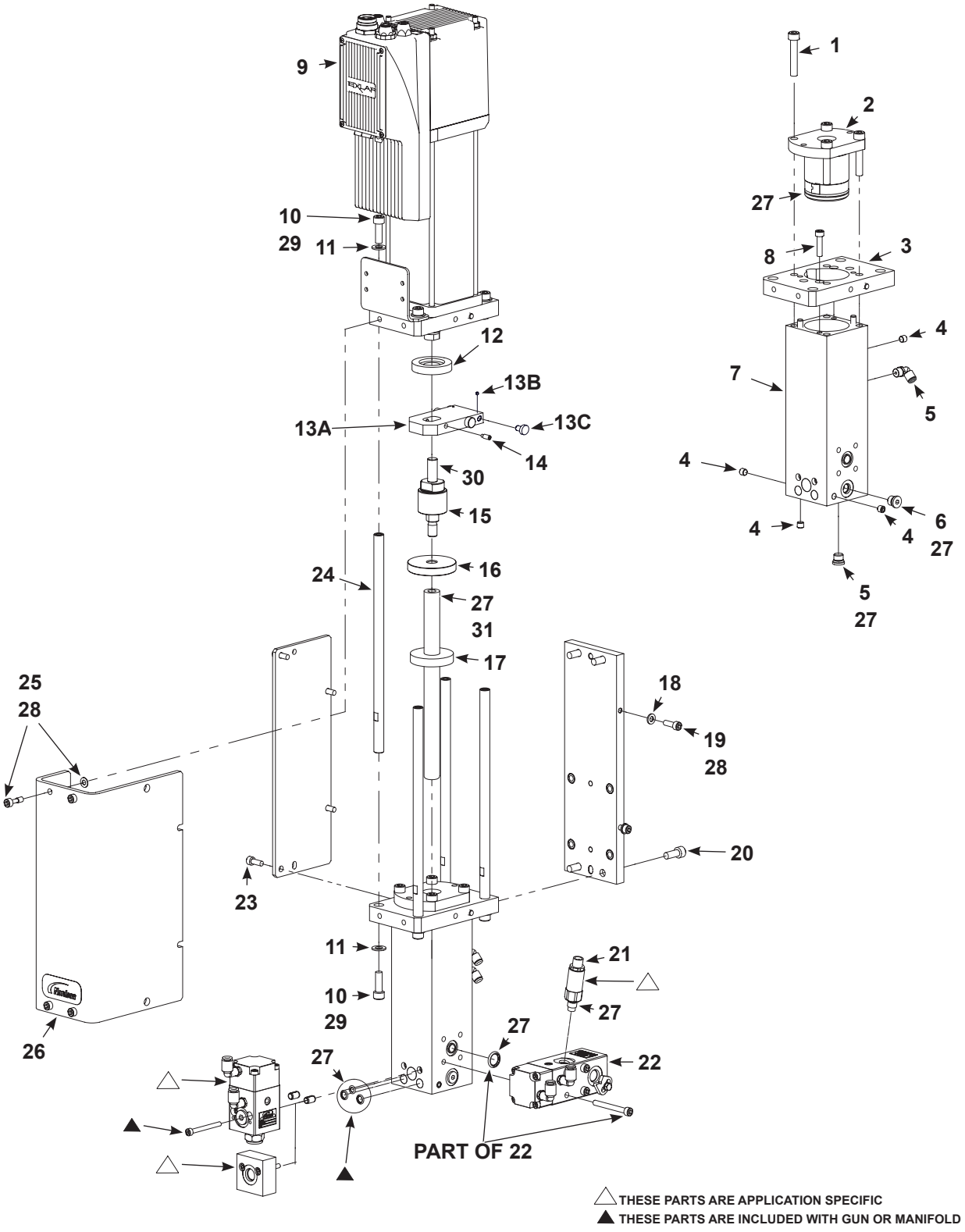


Figure 38 S100 Temperature Conditioned E-Net Dispenser Parts

Item	Part	Description	Qty	Note
—	1613344	DISPENSER, Pro-Meter S100, coupled, temperature conditioned, E-Net	1	
1	- - - - - -	• SCREW, socket, M10 x 45, black, per ISO 4762	4	
2	- - - - - -	• GLAND ASSEMBLY, 1.25 diameter	1	A
3	1606321	• FLANGE, housing, plunger, Pro-Meter S	1	
4	973466	• PLUG, pipe, flush 1⁄16 with sealant	8	
5	972119	• ELBOW, male, ¼ tube, x ⅛ NPT	2	
6	973543	• PLUG, O-ring, straight thread, 7⁄16-20	2	
7	1084787	• HOUSING, plunger, 1.25 diameter, Pro-Meter S, CE	1	
8	- - - - - -	• SCREW, socket, M6 x 25, black, per ISO 4762	2	
9	1612830	• ACTUATOR, assembly, linear, S100, E-Net	1	
10	- - - - - -	• SCREW, socket, M10 x 25, black, per	8	
11	- - - - - -	• WASHER, flat, 0.406 x 0.817 x 0.065, zinc, per ISO 7089	8	
12	- - - - - -	• BUMPER, motor	1	
13A	1606312	• ARM ASSEMBLY, anti-rotate	1	
13B	982020	• SET SCREW, M3 x 3	2	B
13C	1068802	• PIN, stop, 12 mm OD plastic	2	B
14	- - - - - -	• SCREW, set, M6 x 8, dog point, per ISO 4028	2	
15	- - - - - -	• COUPLING ASSEMBLY	1	
16	- - - - - -	• DISC, proximity, Pro-Meter	1	
17	1068798	• BUMPER, plunger, 1.25 diameter, Pro-Meter	1	
18	- - - - - -	• WASHER, flat, narrow, M6, steel zinc, per ISO 7089	6	
19	- - - - - -	• SCREW, socket, cap, M6 x 1 x 18 mm	6	
20	- - - - - -	• SCREW, socket, M8 x 20, zinc, per ISO 4762	4	
21	- - - - - -	• TRANSDUCER, pressure	1	C
22	1089569	• VALVE, inlet, Auto-Flo II, 1K	1	
23	- - - - - -	• SCREW, socket, M6 x 16, black, per ISO 4762	4	
24	- - - - - -	• SHAFT	4	
25	- - - - - -	• SCREW, socket, M6 x 15, stainless steel, per ISO 4762	4	
26	1606326	• SHROUD	1	
27	1031834	• LUBRICANT, TFE grease, 5 lb, 1 gallon	AR	
28	900344	• LUBRICANT, Never-Seez, 8-oz. can	AR	
29	900464	• ADHESIVE, Loctite, blue 242, removable, 50 ml	AR	
30	900439	• ADHESIVE, Loctite, red 271, high strength, 50 ml	AR	
31	- - - - - -	• PLUNGER	1	

NOTE: A. Refer to the *Kits* section to order this part.

B. These parts are included with 13A but can be ordered separately.

C. The pressure transducer is application specific:

1000 psi: Order 1084753

3000 psi: Order 1084752

AR: As Required

NS: Not Shown

S165 120/240 Volt Heated E-Net Dispensers

See Figure 39, Figure 40, Figure 41, and the parts list that begins on page 75.

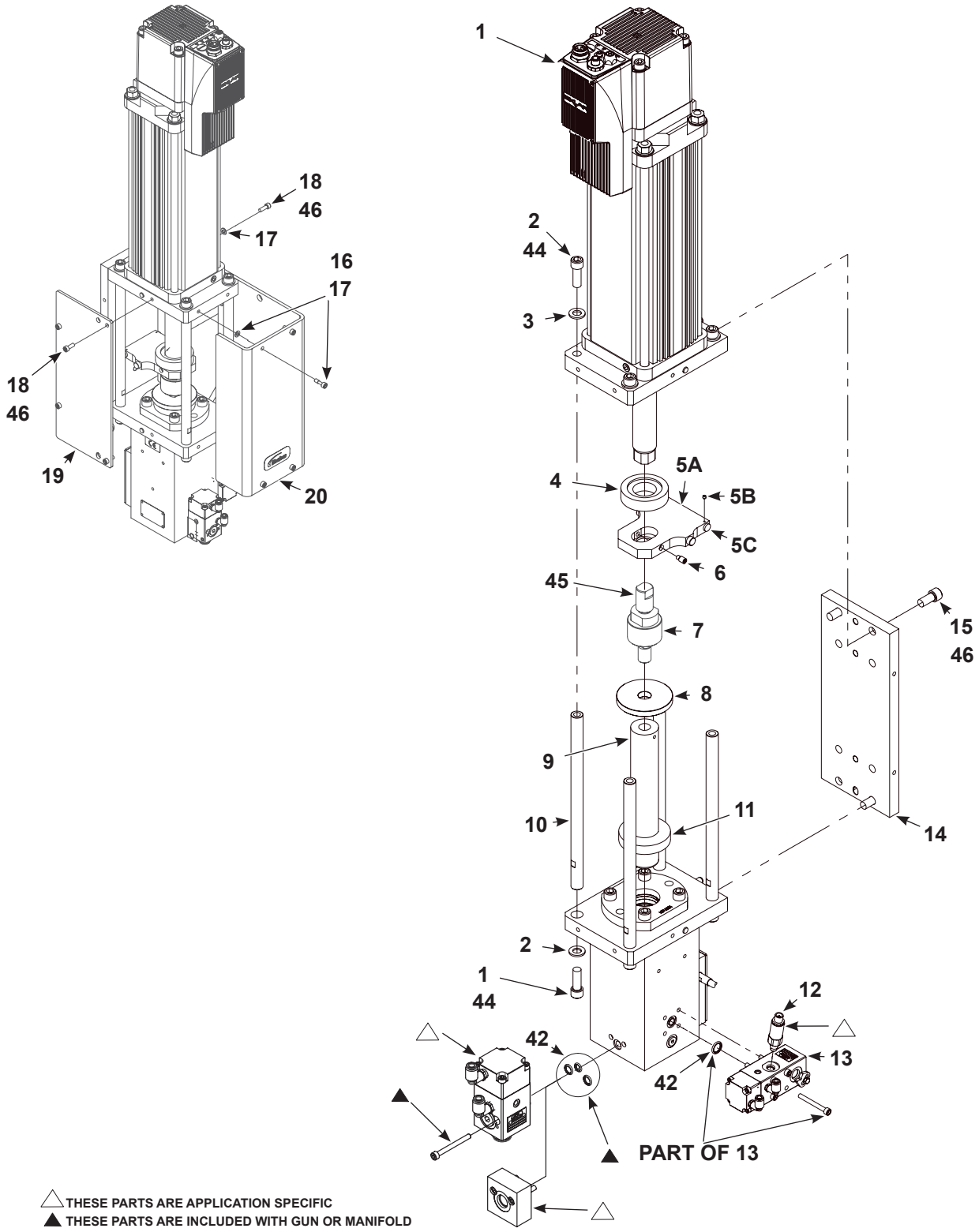


Figure 39 S165 120/240 V Heated E-Net Dispenser Parts

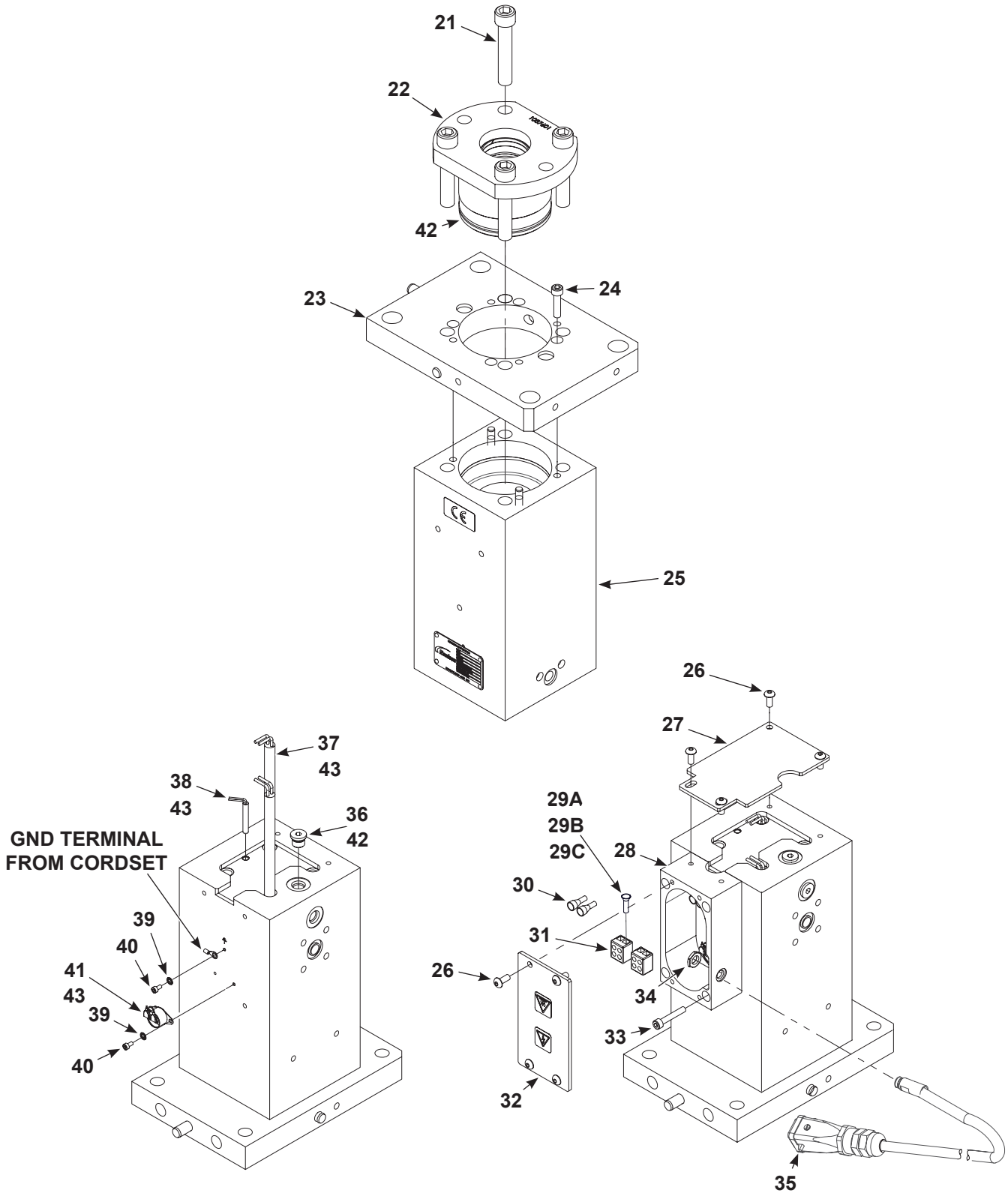


Figure 40 S165 120/240 V Heated E-Net Dispenser Parts *(Continued)*

Item	Part	Part	Description	Qty	Note
—	1612833		DISPENSER, Pro-Meter S165, coupled, 120V, E-Net	1	
—		1614558	DISPENSER, assembly, Pro-Meter S165, coupled, electric heat, 240V, E-Net	1	
1	1612747	1612747	• ACTUATOR, linear, 165/300 cc	1	
2	- - - - - -	- - - - - -	• SCREW, socket, M12, per ISO 4017	4	
3	- - - - - -	- - - - - -	• WASHER, flat, M12, per ISO 7089	8	
4	- - - - - -	- - - - - -	• BUMPER, motor	1	
5A	- - - - - -	- - - - - -	• ARM ASSEMBLY, anti-rotate	1	
5B	982020	982020	• SCREW, set, M3 x 3, per ISO 4026	2	A
5C	1068802	1068802	• PIN, stop, 12 mm OD plastic	2	A
6	- - - - - -	- - - - - -	• SCREW, set, M8 x 10, dog point, per ISO 4028	2	
7	- - - - - -	- - - - - -	• COUPLING ASSEMBLY	1	
8	- - - - - -	- - - - - -	• DISC, proximity	1	
9	- - - - - -	- - - - - -	• PLUNGER	1	
10	- - - - - -	- - - - - -	• ROD, tie, S165	4	
11	1074601	1074601	• BUMPER, plunger 1.625 diameter	1	
12	- - - - - -	- - - - - -	• TRANSDUCER, pressure	1	B
13	1089569	1089569	• VALVE, inlet, Auto-Flo II, 1K	1	
14	- - - - - -	- - - - - -	• PLATE, mount	1	
15	- - - - - -	- - - - - -	• SCREW, M12 x 25, zinc, per ISO 4762	4	
16	- - - - - -	- - - - - -	• SCREW, socket, cap, M6 x 1 x 18 mm	6	
17	- - - - - -	- - - - - -	• WASHER, flat, M, narrow, M6, steel zinc	8	
18	- - - - - -	- - - - - -	• SCREW, socket, M6 x 16, per ISO 4762	6	
19	- - - - - -	- - - - - -	• PLATE, side cover	1	
20	1601329	1601329	• SHROUD	1	
21	- - - - - -	- - - - - -	• SCREW, socket, M12 x 55, per ISO 4762	4	
22	- - - - - -	- - - - - -	• GLAND ASSEMBLY, tri-lip, 1.625 diameter	1	C
23	1074595	1074595	• FLANGE, housing, plunger	1	
24	- - - - - -	- - - - - -	• SCREW, socket, M6 x 25, per ISO 4762	2	
25	1601331	1601331	• HOUSING	1	
26	- - - - - -	- - - - - -	• SCREW, button, M5 x 12, per ISO 7380	8	
27	- - - - - -	- - - - - -	• COVER, bottom, heater	1	
28	1078367	1078367	• COVER, heater, dispenser	1	
29A	- - - - - -	- - - - - -	• FERRULE, wire, non-insulating, 18AWG	2	D
29B	- - - - - -	- - - - - -	• FERRULE, wire, non-insulating, 18AWG, 90° C	2	D
29C	- - - - - -	- - - - - -	• FERRULE, wire, non-insulating, 20AWG	4	D
30	939515	939515	• CONNECTOR, crimp wire, 22-14	3 or 4	
31	939586	939586	• CONNECTOR, plastic, 2 station	2	
32	1080850	1080850	• COVER, top, heater, dispenser	1	
33	- - - - - -	- - - - - -	• SCREW, socket, M5 x 30, per ISO 4762	4	
34	984155	984155	• NUT, panel mounting	1	
35	1606153		• CORD SET, armored, 120V	1	
		1060683	• CORD SET, armored, 240V	1	
36	973543	973543	• PLUG, O-ring, 7/16-20	2	

Continued...

Item	Part	Part	Description	Qty	Note
37	1612835	1612835	• HEATER CARTRIDGE, 0.375 x 6.13, 120v, 180w	4	
38	186199	186199	• SENSOR, temp RTD, 24 in.	1	
39	- - - - - -	- - - - - -	• WASHER, lock, M, internal, M3, per ISO 7079	3	
40	- - - - - -	- - - - - -	• SCREW, socket, M3 x 6, black, per ISO 4762	3	
—	1612823		DISPENSER, assembly, Pro-Meter S165, coupled, 120V, E-Net	1	
—		1614558	DISPENSER, assembly, Pro-Meter S165, coupled, electric heat, 240V, E-Net	1	
41	1078561	1078561	• THERMOSTAT, open on rise, 190 deg, 10 amp	1	
42	1031834	1031834	• LUBRICANT, TFE grease, 5 lb, 1 gallon	AR	
43	900298	900298	• COMPOUND, heat sink, 5-oz tube, 11281	AR	
44	900464	900464	• ADHESIVE, Loctite, blue 242, removable, 50 ml	AR	
45	900439	900439	• ADHESIVE, Loctite, red 271, high strength, 50 ml	AR	
46	900344	900344	• LUBRICANT, Never-Seez, 8-oz. can	AR	

NOTE: A. These parts are included with 5A but can be ordered separately.

B. The pressure transducer is application specific:

1000 psi: Order 1084753

3000 psi: Order 1084752

C. Refer to the *Kits* section to order this part.

D. See Figure 41 for ferrule location.

AR: As Required

NS: Not Shown

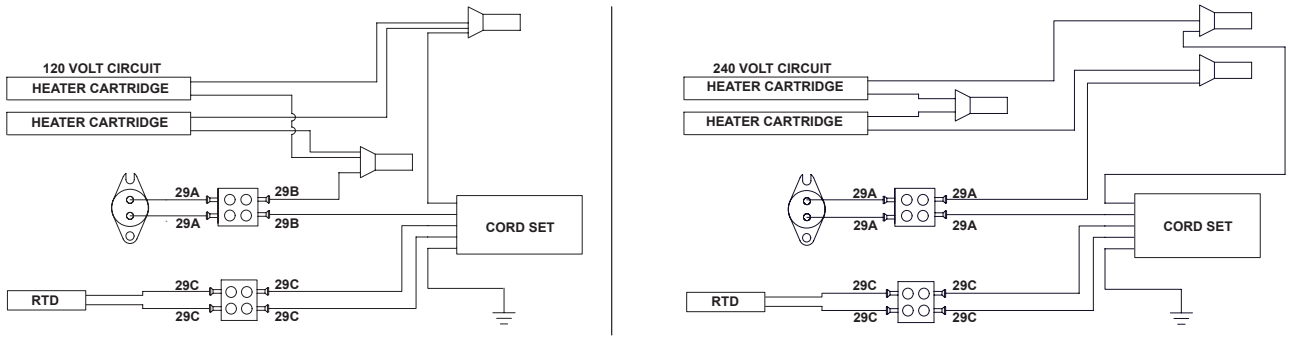


Figure 41 S165 120/240 Volt Heated E-Net Dispenser Parts *(Continued)*

S300 Temperature Conditioned E-Net Dispenser

See Figure 42 and the following parts list.

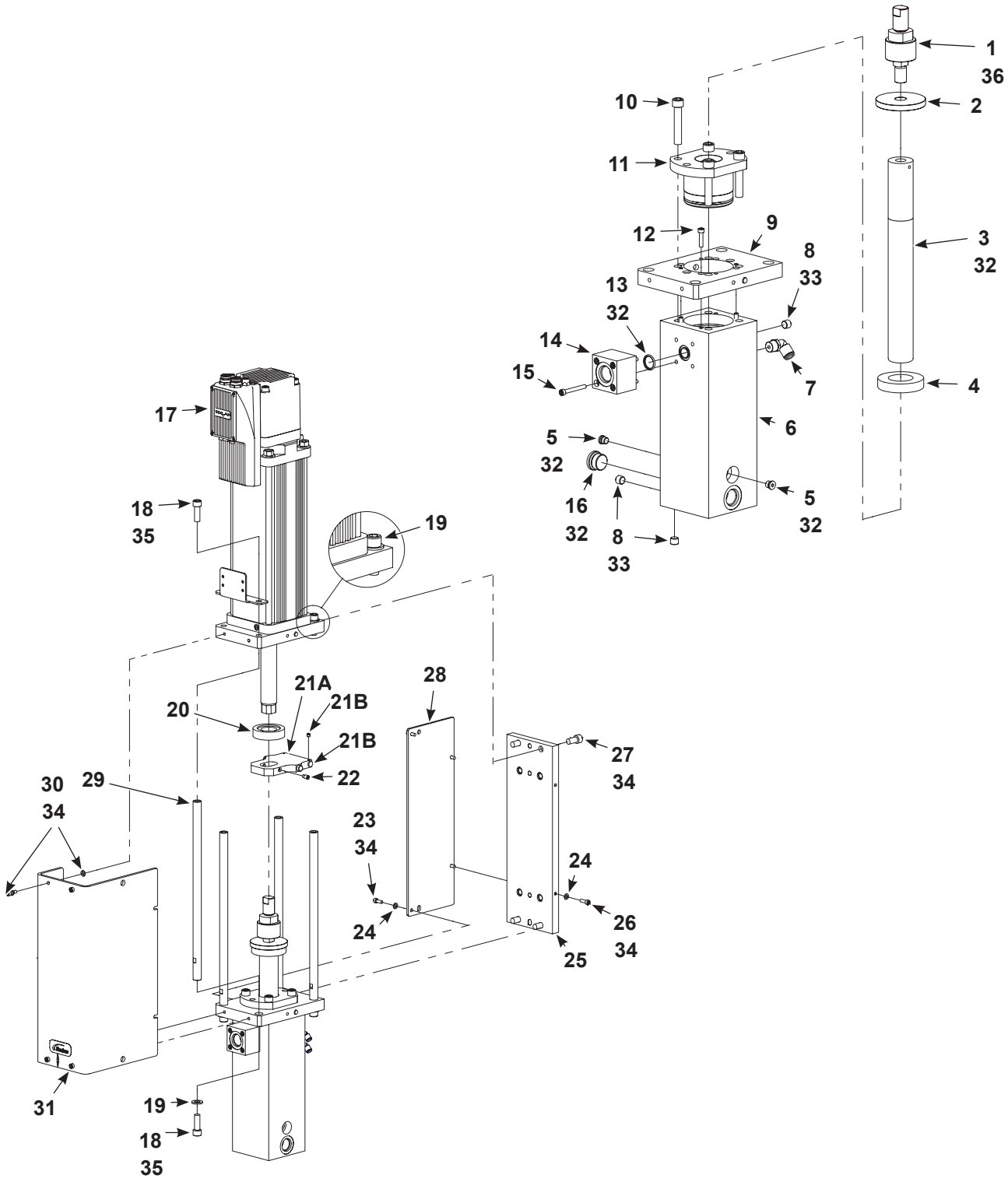


Figure 42 S300 Temperature Conditioned E-Net Dispenser Parts

Item	Part	Description	Qty	Note
—	1614030	DISPENSER, Pro-Meter S300, coupled, temperature conditioned, E-Net		
1	- - - - - -	• COUPLING ASSEMBLY		
2	1602040	• DISC, proximity, Pro-Meter		
3	- - - - - -	• PLUNGER		
4	1074601	• BUMPER, plunger, 1.625 diameter, Pro-Meter		
5	973543	• PLUG, O-ring, straight thread, 7/16-20		
6	1084792	• HOUSING, plunger, 1.625 diameter, Pro-Meter S, CE		
7	972216	• ELBOW, male, ¼ tube x ⅜ NPT		
8	973466	• PLUG, pipe, socket, flush, ¼ zinc		
9	1074595	• FLANGE, housing, plunger		
10	- - - - - -	• SCREW, socket, M12 x 65, black, per ISO 4762		
11	- - - - - -	• GLAND ASSEMBLY, 1.625 diameter, tri-lip		
12	- - - - - -	• SCREW, socket, M6 x 25, black, per ISO 4762		
13A	941172	• O-RING, Viton, 0.813 x 1.00 x 0.094, 10517		
14	1074681	• MANIFOLD, outlet, ¾ tube		
15	- - - - - -	• SCREW, socket, M6 x 50, black, per ISO 4762		
16	973591	• PLUG, O-ring, straight thread, 1 1/16-12		
17	1612747	• ACTUATOR, assembly, linear, 165/300 cc		
18	- - - - - -	• SCREW, socket, M12 x 35, black, per ISO 4762		
19	- - - - - -	• WASHER, flat, M12, zinc, per ISO 7089		
20	- - - - - -	• BUMPER, motor		
21A	- - - - - -	• ARM ASSEMBLY, anti-rotate		
21B	982020	• SET SCREW, M3 x 3		
21C	1068802	• PIN, stop, 12 mm OD plastic		
22	1074944	• SCREW, set, M8 x 10, dog point, black, per ISO 4028		
23	- - - - - -	• SCREW, socket, M6 x 16, black, per ISO 4762		
24	- - - - - -	• WASHER, flat, narrow, M6, steel zinc, per ISO 7089		
25	- - - - - -	• PLATE, mount		
26	- - - - - -	• SCREW, socket, cap, M6 x 1 x 18 mm		
27	- - - - - -	• SCREW, socket, M12 x 25, black, per ISO 4762		
28	- - - - - -	• PLATE, side cover		
29	- - - - - -	• SHAFT		
30	- - - - - -	• SCREW, captive, M6 x 20, stainless steel, per ISO 4762		
31	- - - - - -	• SHROUD		
32	1001849	• GREASE, Mobil SHC 100, 12.5-oz		
33	900481	• ADHESIVE, pip/thread sealant		
34	900344	• LUBRICANT, Never-Seez, 8-oz. can		
35	900464	• ADHESIVE, Loctite, blue 242, removable, 50 ml		
36	900439	• ADHESIVE, Loctite, red 271, high strength, 50 ml		

NOTE: A. Refer to the *Kits* section to order this part.

B. These parts are included with 21A but can be ordered separately.

AR: As Required

NS: Not Shown

Kits

The following kits are available for a remote-mount outlet valve.

Packing Glands

Part	Description
1080997	KIT, plunger rod packing gland complete, 15 cc & 35 cc meter
1080998	KIT, plunger rod packing gland internal components only, 15 cc & 35 cc meter
1080992	KIT, plunger rod packing gland complete, 100 cc meter
1080993	KIT, plunger rod packing gland internal components only, 100 cc meter
1087601	KIT, plunger rod packing gland complete, 165 cc meter

Plunger Rods

Part	Description
1601971	KIT, plunger rod, 15 cc meter, 0.750-inch plunger, coupled
1607350	KIT, plunger rod, 35 cc meter, 0.75-inch plunger, coupled
1601972	KIT, plunger rod, 100 cc meter, 1.250-inch plunger, coupled
1601411	KIT, plunger rod, 165 cc meter, 1.625-inch plunger, coupled

Inlet Valves

Part	Description
1073402	KIT, inlet valve complete, 15 cc, 35 cc, 100 cc meter
238345	KIT CARTRIDGE, Auto-Flo, UHMWPE

Application-Specific Components

The following application-specific items are available.

Dispense Gun and Packing Cartridges for Standard Auto-Flo Type Guns

Part	Description
1073405	GUN, Auto-Flo, manifold-mount, Pro-Meter S, UHMWPE
1016122	GUN, Auto-Flo, Standalone, UHMWPE
238345	KIT, cartridge, Auto-Flo, UHMWPE
1614361	GUN, inlet, Pro-Meter S, Auto-Flo, anti-drool

Dispense Gun and Packing Cartridges for Zero-Cavity Auto-Flo Type Guns

Part	Description
1085559	GUN, Auto-Flo, manifold-mount, Zero-Cavity 3 mm, Pro-Meter S, Polymyte
308510	KIT CARTRIDGE, Auto-Flo, Zero-Cavity 3 mm, Polymyte
1085600	GUN, Auto-Flo, manifold-mount, Zero-Cavity 4 mm, Pro-Meter S, UHMWPE
1034260	KIT CARTRIDGE, Auto-Flo, Zero-Cavity 4 mm, UHMWPE

Remote Gun Mounting Adapter Block

Part	Description
1080984	KIT, adapter block, Pro-Meter S, remote gun

Transducers

Part	Description
346088	TRANSDUCER, 5000 psi (Used on earlier systems; no longer recommended)
1084752	TRANSDUCER, 3000 psi
1084753	TRANSDUCER, 1000 psi

Tools

Keep the applicable tools on hand to aid in repairing the Pro-Meter S-Series dispensers.

Part	Description
1080991	REMOVAL ARBOR, packing gland internal parts, 0.75-inch plunger
1070474	INSERTION TOOL, packing gland internal parts, 0.75-inch plunger
1080990	REMOVAL ARBOR, packing gland internal parts, 1.25-inch plunger
1069487	INSERTION TOOL, packing gland internal parts, 1.25-inch plunger
1074034	SPANNER WRENCH, 3⁄16-inch pin, 0.75-inch to 2-inch