Unity™ PURJet 30™ Dispensing System

Customer Product Manual
Part 1104545_06
Issued 12/13

This document contains important safety information
Be sure to read and follow all safety information in this document and any other related documentation.

NORDSON CORPORATION • DULUTH, GEORGIA • USA
www.nordson.com

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.

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Notice

Trademarks

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Unity PURJet 30 Dispensing System

Safety

Read this section before using the equipment. This section contains recommendations and practices applicable to the safe installation, operation, and maintenance (hereafter referred to as “use”) of the product described in this document (hereafter referred to as “equipment”). Additional safety information, in the form of task-specific safety alert messages, appears as appropriate throughout this document.

WARNING! Failure to follow the safety messages, recommendations, and hazard avoidance procedures provided in this document can result in personal injury, including death, or damage to equipment or property.

Safety Alert Symbols

The following safety alert symbol and signal words are used throughout this document to alert the reader to personal safety hazards or to identify conditions that may result in damage to equipment or property. Comply with all safety information that follows the signal word.

WARNING! Indicates a potentially hazardous situation that, if not avoided, can result in serious personal injury, including death.

CAUTION! Indicates a potentially hazardous situation that, if not avoided, can result in minor or moderate personal injury.

CAUTION! (Used without the safety alert symbol) Indicates a potentially hazardous situation that, if not avoided, can result in damage to equipment or property.

Responsibilities of the Equipment Owner

Equipment owners are responsible for managing safety information, ensuring that all instructions and regulatory requirements for use of the equipment are met, and for qualifying all potential users.

Safety Information

- Research and evaluate safety information from all applicable sources, including the owner-specific safety policy, best industry practices, governing regulations, material manufacturer's product information, and this document.
- Make safety information available to equipment users in accordance with governing regulations. Contact the authority having jurisdiction for information.
- Maintain safety information, including the safety labels affixed to the equipment, in readable condition.

Instructions, Requirements, and Standards

- Ensure that the equipment is used in accordance with the information provided in this document, governing codes and regulations, and best industry practices.
- If applicable, receive approval from your facility's engineering or safety department, or other similar function within your organization, before installing or operating the equipment for the first time.
- Provide appropriate emergency and first aid equipment.
- Conduct safety inspections to ensure required practices are being followed.
- Re-evaluate safety practices and procedures whenever changes are made to the process or equipment.

User Qualifications

Equipment owners are responsible for ensuring that users:

- receive safety training appropriate to their job function as directed by governing regulations and best industry practices
- are familiar with the equipment owner's safety and accident prevention policies and procedures
- receive equipment and task-specific training from another qualified individual

  NOTE: Nordson can provide equipment-specific installation, operation, and maintenance training. Contact your Nordson representative for information

- possess industry- and trade-specific skills and a level of experience appropriate to their job function
- are physically capable of performing their job function and are not under the influence of any substance that degrades their mental capacity or physical capabilities

Applicable Industry Safety Practices

The following safety practices apply to the use of the equipment in the manner described in this document. The information provided here is not meant to include all possible safety practices, but represents the best safety practices for equipment of similar hazard potential used in similar industries.

Intended Use of the Equipment

- Use the equipment only for the purposes described and within the limits specified in this document.
- Do not modify the equipment.
- Do not use incompatible materials or unapproved auxiliary devices. Contact your Nordson representative if you have any questions on material compatibility or the use of non-standard auxiliary devices.

Instructions and Safety Messages

- Read and follow the instructions provided in this document and other referenced documents.
- Familiarize yourself with the location and meaning of the safety warning labels and tags affixed to the equipment. Refer to *Safety Labels and Tags* at the end of this section.
- If you are unsure of how to use the equipment, contact your Nordson representative for assistance.

Installation Practices

- Install the equipment in accordance with the instructions provided in this document and in the documentation provided with auxiliary devices.
- Ensure that the equipment is rated for the environment in which it will be used. This equipment has not been certified for compliance with the ATEX directive nor as nonincendive and should not be installed in potentially explosive environments.
- Ensure that the processing characteristics of the material will not create a hazardous environment. Refer to the Material Safety Data Sheet (MSDS) for the material.
- If the required installation configuration does not match the installation instructions, contact your Nordson representative for assistance.
- Position the equipment for safe operation. Observe the requirements for clearance between the equipment and other objects.
- Install lockable power disconnects to isolate the equipment and all independently powered auxiliary devices from their power sources.
- Properly ground all equipment. Contact your local building code enforcement agency for specific requirements.
- Ensure that fuses of the correct type and rating are installed in fused equipment.
- Contact the authority having jurisdiction to determine the requirement for installation permits or inspections.

Operating Practices

- Familiarize yourself with the location and operation of all safety devices and indicators.
- Confirm that the equipment, including all safety devices (guards, interlocks, etc.), is in good working order and that the required environmental conditions exist.
- Use the personal protective equipment (PPE) specified for each task. Refer to *Equipment Safety Information* or the material manufacturer's instructions and MSDS for PPE requirements.
- Do not use equipment that is malfunctioning or shows signs of a potential malfunction.

Maintenance and Repair Practices

- Allow only personnel with appropriate training and experience to operate or service the equipment.
- Perform scheduled maintenance activities at the intervals described in this document.
- Relieve system hydraulic and pneumatic pressure before servicing the equipment.
- De-energize the equipment and all auxiliary devices before servicing the equipment.
- Use only new Nordson-authorized refurbished or replacement parts.
- Read and comply with the manufacturer's instructions and the MSDS supplied with equipment cleaning compounds.

  NOTE: MSDSs for cleaning compounds that are sold by Nordson are available at www.nordson.com or by calling your Nordson representative.

- Confirm the correct operation of all safety devices before placing the equipment back into operation.
- Dispose of waste cleaning compounds and residual process materials according to governing regulations. Refer to the applicable MSDS or contact the authority having jurisdiction for information.
- Keep equipment safety warning labels clean. Replace worn or damaged labels.

Equipment Safety Information

This equipment safety information is applicable to the following types of Nordson equipment:

- hot melt and cold adhesive application equipment and all related accessories
- pattern controllers, timers, detection and verification systems, and all other optional process control devices

Equipment Shutdown

To safely complete many of the procedures described in this document, the equipment must first be shut down. The level of shut down required varies by the type of equipment in use and the procedure being completed.
If required, shut down instructions are specified at the start of the procedure.
The levels of shut down are:

Relieving System Hydraulic Pressure

Completely relieve system hydraulic pressure before breaking any hydraulic connection or seal. Refer to the melter-specific product manual for instructions on relieving system hydraulic pressure.

De-energizing the System

Isolate the system (melter, hoses, applicators, and optional devices) from all power sources before accessing any unprotected high-voltage wiring or connection point.

1. Turn off the equipment and all auxiliary devices connected to the equipment (system).
2. To prevent the equipment from being accidentally energized, lock and tag the disconnect switch(es) or circuit breaker(s) that provide input electrical power to the equipment and optional devices.

   NOTE: Government regulations and industry standards dictate specific requirements for the isolation of hazardous energy sources. Refer to the appropriate regulation or standard.

Disabling the Applicators

NOTE: Adhesive dispensing applicators are referred to as “guns” in some previous publications.

All electrical or mechanical devices that provide an activation signal to the applicators, applicator solenoid valve(s), or the melter pump must be disabled before work can be performed on or around an applicator that is connected to a pressurized system.

1. Turn off or disconnect the applicator triggering device (pattern controller, timer, PLC, etc.).
2. Disconnect the input signal wiring to the applicator solenoid valve(s).
3. Reduce the air pressure to the applicator solenoid valve(s) to zero; then relieve the residual air pressure between the regulator and the applicator.

General Safety Warnings and Cautions

Table 1 contains the general safety warnings and cautions that apply to Nordson hot melt and cold adhesive equipment. Review the table and carefully read all of the warnings or cautions that apply to the type of equipment described in this manual.

Equipment types are designated in Table 1 as follows:

HM = Hot melt (melters, hoses, applicators, etc.)

PC = Process control

CA = Cold adhesive (dispensing pumps, pressurized container, and applicators)

Table 1 General Safety Warnings and Cautions

Equipment Type	Warning or Caution
HM	**WARNING!** Hazardous vapors! Before processing any polyurethane reactive (PUR) hot melt or solvent-based material through a compatible Nordson melter, read and comply with the material's MSDS. Ensure that the material's processing temperature and flashpoints will not be exceeded and that all requirements for safe handling, ventilation, first aid, and personal protective equipment are met. Failure to comply with MSDS requirements can cause personal injury, including death.
HM	**WARNING!** Reactive material! Never clean any aluminum component or flush Nordson equipment with halogenated hydrocarbon fluids. Nordson melters and applicators contain aluminum components that may react violently with halogenated hydrocarbons. The use of halogenated hydrocarbon compounds in Nordson equipment can cause personal injury, including death.
HM, CA	**WARNING!** System pressurized! Relieve system hydraulic pressure before breaking any hydraulic connection or seal. Failure to relieve the system hydraulic pressure can result in the uncontrolled release of hot melt or cold adhesive, causing personal injury.

Continued...

General Safety Warnings and Cautions (contd)

Table 1 General Safety Warnings and Cautions *(contd)*

Equipment Type	Warning or Caution
HM	**WARNING!** Molten material! Wear eye or face protection, clothing that protects exposed skin, and heat-protective gloves when servicing equipment that contains molten hot melt. Even when solidified, hot melt can still cause burns. Failure to wear appropriate personal protective equipment can result in personal injury.
HM, PC	**WARNING!** Equipment starts automatically! Remote triggering devices are used to control automatic hot melt applicators. Before working on or near an operating applicator, disable the applicator's triggering device and remove the air supply to the applicator's solenoid valve(s). Failure to disable the applicator's triggering device and remove the supply of air to the solenoid valve(s) can result in personal injury.
HM, CA, PC	**WARNING!** Risk of electrocution! Even when switched off and electrically isolated at the disconnect switch or circuit breaker, the equipment may still be connected to energized auxiliary devices. De-energize and electrically isolate all auxiliary devices before servicing the equipment. Failure to properly isolate electrical power to auxiliary equipment before servicing the equipment can result in personal injury, including death.
HM, CA, PC	**WARNING!** Risk of fire or explosion! Nordson adhesive equipment is not rated for use in explosive environments and has not been certified for the ATEX directive or as nonincendive. In addition, this equipment should not be used with solvent-based adhesives that can create an explosive atmosphere when processed. Refer to the MSDS for the adhesive to determine its processing characteristics and limitations. The use of incompatible solvent-based adhesives or the improper processing of solvent-based adhesives can result in personal injury, including death.

Continued...

Table 1 General Safety Warnings and Cautions *(contd)*

Equipment Type	Warning or Caution
HM, CA, PC	**WARNING!** Allow only personnel with appropriate training and experience to operate or service the equipment. The use of untrained or inexperienced personnel to operate or service the equipment can result in injury, including death, to themselves and others and can damage to the equipment.
HM	**CAUTION!** Hot surfaces! Avoid contact with the hot metal surfaces of applicators, hoses, and certain components of the melter. If contact can not be avoided, wear heat-protective gloves and clothing when working around heated equipment. Failure to avoid contact with hot metal surfaces can result in personal injury.
HM	**CAUTION!** Some Nordson melters are specifically designed to process polyurethane reactive (PUR) hot melt. Attempting to process PUR in equipment not specifically designed for this purpose can damage the equipment and cause premature reaction of the hot melt. If you are unsure of the equipment's ability to process PUR, contact your Nordson representative for assistance.
HM, CA	**CAUTION!** Before using any cleaning or flushing compound on or in the equipment, read and comply with the manufacturer's instructions and the MSDS supplied with the compound. Some cleaning compounds can react unpredictably with hot melt or cold adhesive, resulting in damage to the equipment.
HM	**CAUTION!** Nordson hot melt equipment is factory tested with Nordson Type R fluid that contains polyester adipate plasticizer. Certain hot melt materials can react with Type R fluid and form a solid gum that can clog the equipment. Before using the equipment, confirm that the hot melt is compatible with Type R fluid.

Other Safety Precautions

- Do not use an open flame to heat hot melt system components.
- Check high pressure hoses daily for signs of excessive wear, damage, or leaks.
- Never point a dispensing handgun at yourself or others.
- Suspend dispensing handguns by their proper suspension point.

First Aid

If molten hot melt comes in contact with your skin:

1. Do NOT attempt to remove the molten hot melt from your skin.
2. Immediately soak the affected area in clean, cold water until the hot melt has cooled.
3. Do NOT attempt to remove the solidified hot melt from your skin.
4. In case of severe burns, treat for shock.
5. Seek expert medical attention immediately. Give the MSDS for the hot melt to the medical personnel providing treatment.

Safety Labels and Tags

Figure 1 illustrates the location of the product safety labels and tags affixed to the equipment. Table 2 provides an illustration of the hazard identification symbols that appear on each safety label and tag, the meaning of the symbol, or the exact wording of any safety message.

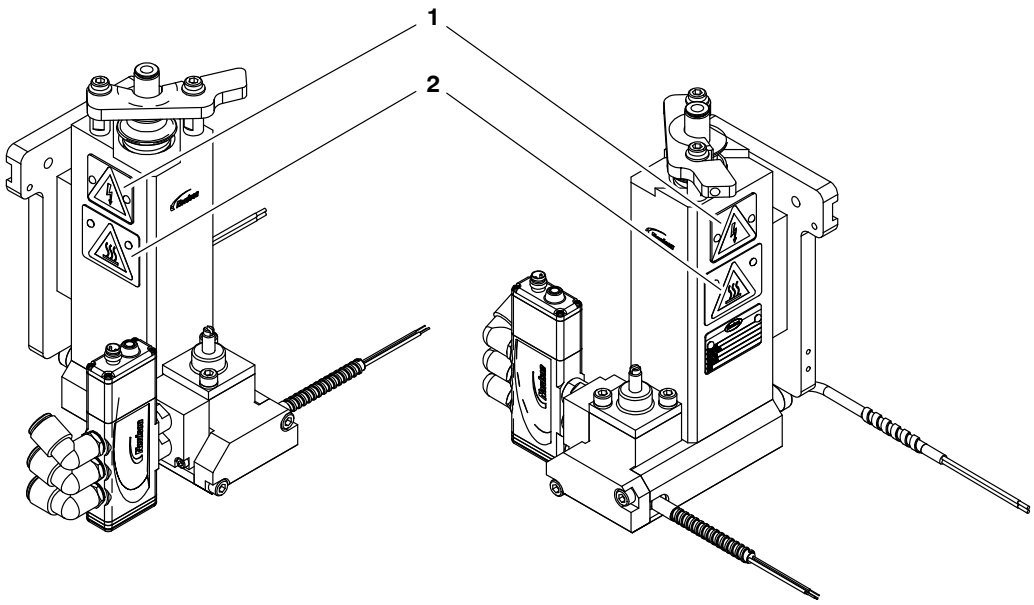
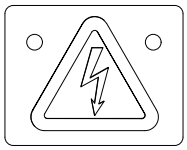
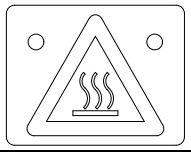


Figure 1 Safety labels and tags

Table 2 Safety Labels and Tags

Item	Part	Description
1.	- - - - - -	 Sign, power
2.	- - - - - -	 Sign, hot

Description

This manual describes the installation and use of the Nordson Unity PURJet 30 dispensing system. When necessary, the reader is referred to the documentation supplied with other Nordson products or products supplied by third parties.

The Unity PURJet 30 dispensing system liquifies solid-form polyurethane reactive (PUR) hot melt adhesive contained in 30-cc syringes and maintains the adhesive at the desired temperature. When the system is activated, it uses compressed air and jetting to dispense adhesive as a series of joined dots onto the surface of a product or into a product feature, usually in a small to mid-sized electronics assembly application. The adhesive dots may be as small as 1.0 mm (0.04 in.) in width. The system includes:

- the Unity controller
- the Unity PURJet 30 applicator
- the Unity PURJet 30 jet dispensing module
- a remote air treatment and muffler assembly (hereafter referred to as the air kit)
- a Nordson Corporation or customer-supplied robot for use with the Unity controller and applicator and the JR C-Points robot software for Windows©-based computers (if applicable)

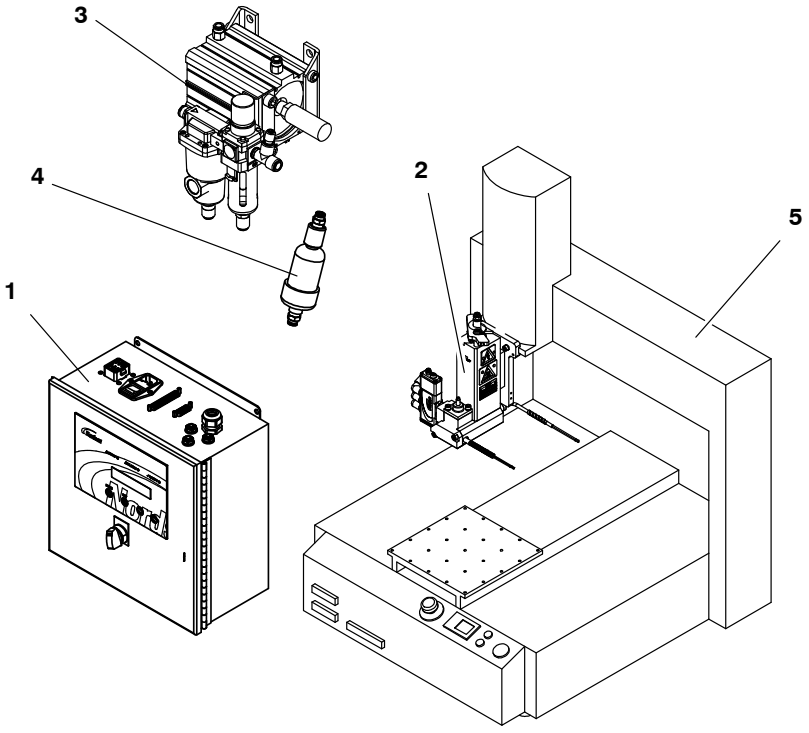


Figure 2 Unity PURJet 30 dispensing system

1. Unity controller
2. Applicator with jet module
3. Air kit
4. Air dryer
5. Robot (Nordson Corporation robot shown)

Intended Use

Unity Series dispensing systems are specifically designed to:

- Melt and pump solid-form PUR hot melt adhesives contained in syringes that are engineered to be liquified and extruded at temperatures below 121 °C (250 °F)
- Be used with compatible equipment manufactured by Nordson Corporation
- Be used in non-explosive environments

The Unity PurJet30 dispensing system is virtually complete, but is intended to be incorporated into machinery or assemblies by an integrator. The equipment must not be placed into use in a member state of the European Union until the parent machinery or assemblies have been declared by the integrator to be in conformity with the applicable directives of the European Commission.

Limitations of Use

Use Unity Series dispensing systems only for the purpose for which they are designed. Unity Series dispensing systems should not be used:

- to melt or pump any material that creates a health or safety hazard when heated
- in environments that will require the system to be cleaned using a water wash or spray

Additional Limitations of Use for PUR Adhesives

When the maximum level of harmful substance concentration is exceeded, use a gas mask and air purifying equipment.

Unit Identification

See Figure 3. You will need the model and part number of the applicator when requesting service or ordering spare parts and optional equipment. The applicator model and part number are indicated on the equipment identification plate.

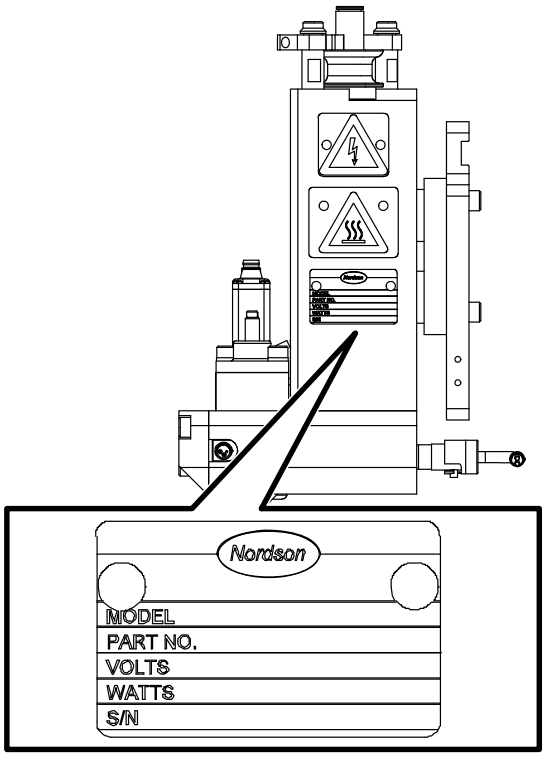


Figure 3 Applicator equipment identification plate

Key Components

Figures 4-7 provide the name and the location of key system components.

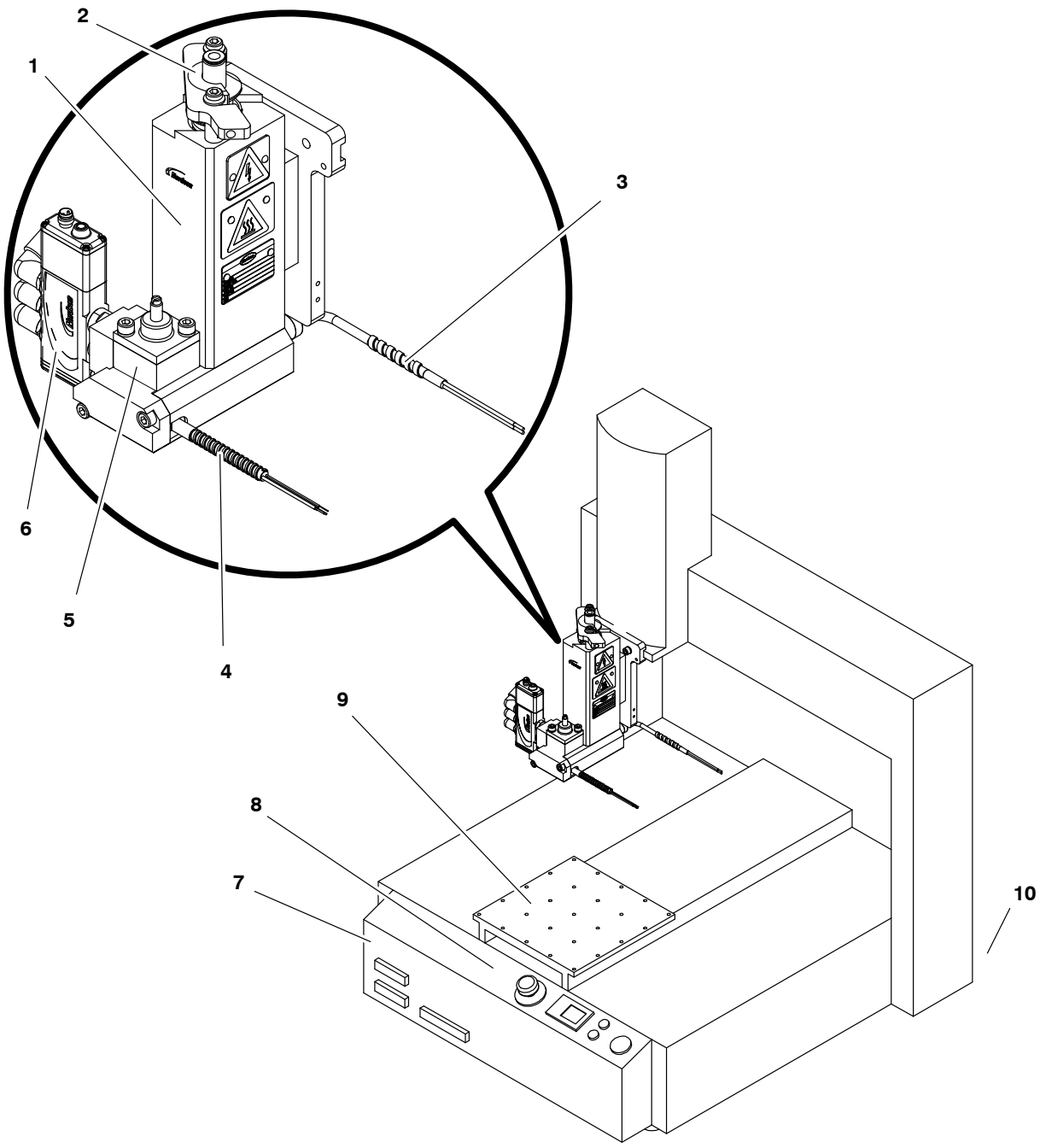


Figure 4 Key components of the applicator and robot assemblies

1. Applicator body
2. Adhesive syringe latch
3. Heater cordset
4. Sensor cordset
5. Solenoid valve
6. Jet module (nozzle not visible)
7. Robot
8. Robot controls
9. Moving plate
10. Robot power switch (on back of unit)

Key Components *(contd)*

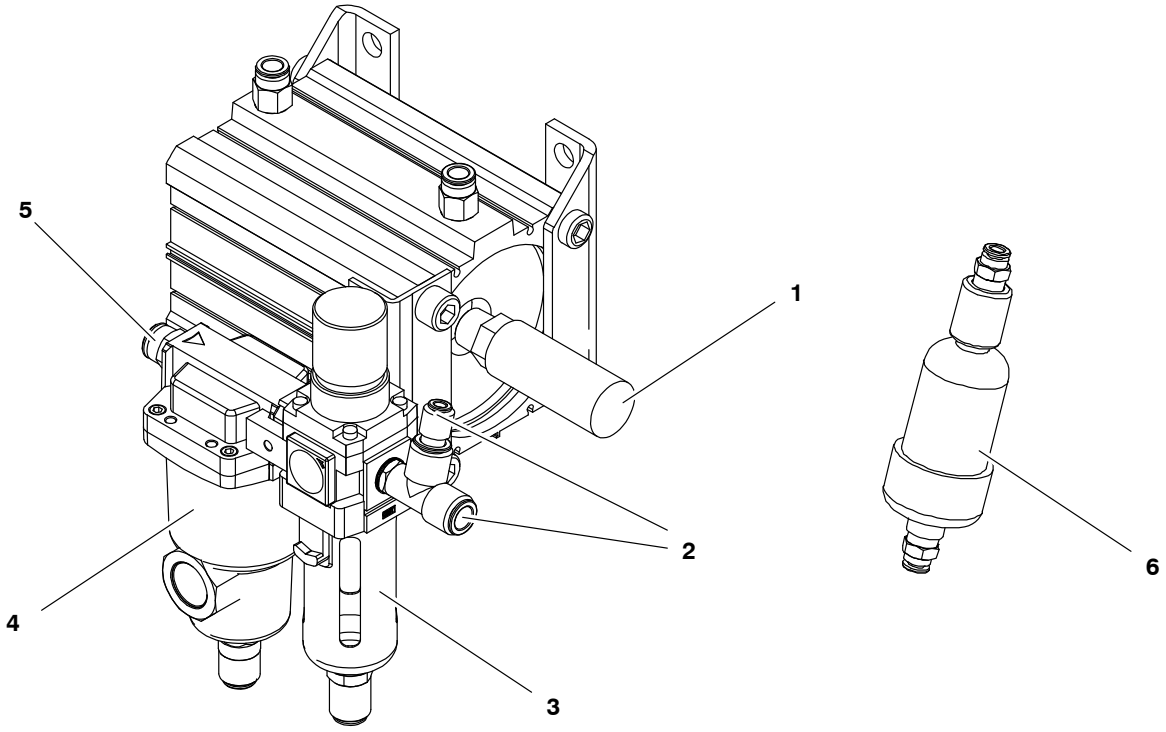


Figure 5 Key components of the air kit

1. Muffler
2. Air output ports
3. Air pressure regulator and gauge
4. Water separator filter
5. Air supply input
6. Air dryer

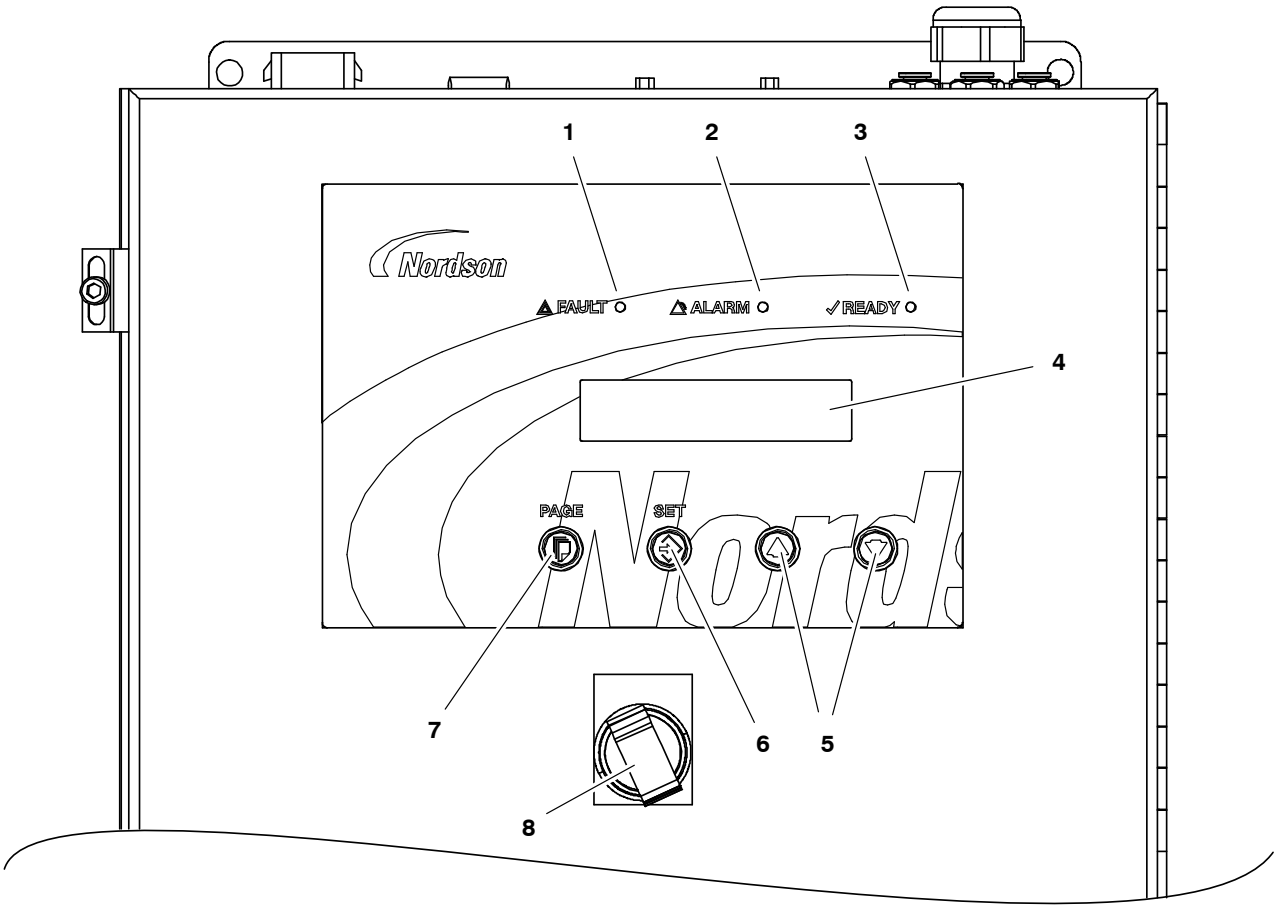


Figure 6 Key components of the Unity controller (front view)

1. FAULT LED
2. ALARM LED
3. READY LED
4. Display
5. Up/down arrow keys
6. SET key
7. PAGE key
8. Purge switch

Key Components *(contd)*

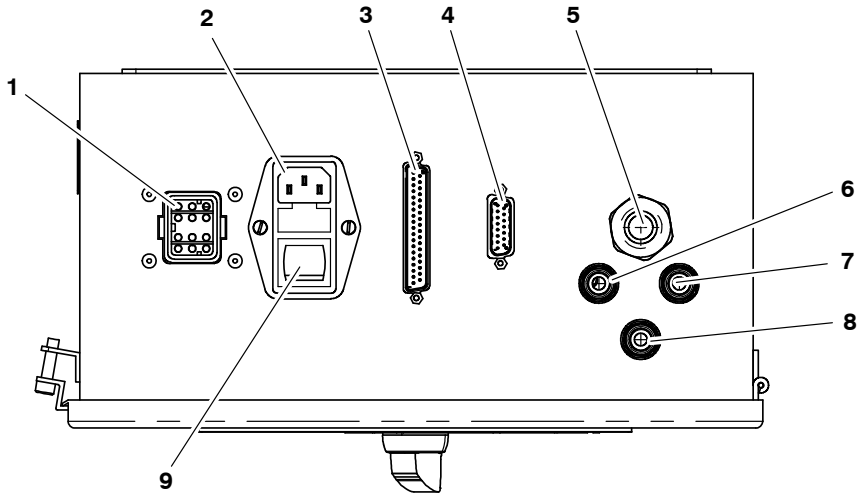


Figure 7 Key components of the Unity controller (top view)

1. Applicator connection
2. Enclosure power
3. Robot connection
4. Camera connection
5. Applicator connection
6. Connection for tubing to syringe/end cap
7. Exhaust port
8. Power switch

Installation

Installation involves placing the system in the desired location and making the electrical and hydraulic connections.

Electro-Magnetic Compliance Information

This system is classified as Class A, Group 2 under the European standard for limits and methods of measurement, EN 55011.

Experience of Installation Personnel

The instructions provided in this section are intended to be used by personnel who have experience in the following subjects:

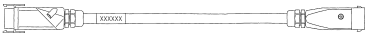
- Hot melt application processes
- Industrial power and control wiring
- Industrial mechanical installation practices
- Basic process control and instrumentation

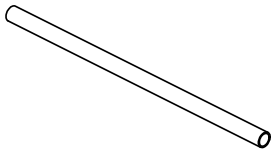
Customer-Supplied Installation Components

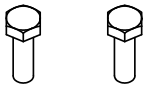
In addition to the components provided by Nordson Corporation, installation of the Unity PURJet 30 dispensing system requires the following customer-supplied components:

- 240 VAC power supply
- laptop computer
- Standard RS232 serial communication cable to connect from the robot to the laptop computer
- appropriate guarding and signage as required to prevent personal injury during operation and service activities

Contents of the Ship-With Kit

1  **P/N 164045**

2  **P/N 900586**

3  **P/N 982046**

4  **P/N 983401**

Figure 8 Contents of the ship-with kit

1. 164045, CBL,ADPTR, 12P/6S, 10FT, T-STYLE (used to connect the applicator cordset to the controller)
2. 900586, TUBING, POLTHN, 6 MM OD X 4 MM, BLUE (25 FT)
3. 982046, SCR, HEX, CAP, M5 X 14, BL (used to install the applicator on the robot)
4. 983401, WASHER, LK, M, SPT, M5, STL, ZN (used to install the applicator on the robot)

Position the Robot

1. Unpack and place the robot assembly at the desired location. Consider the following when locating the robot assembly:
   - The plant's electrical service must be rated to handle the power required by the system.
   - The operator must be able to safely reach and accurately monitor moving parts and controls.
   - The equipment must be installed near a supply of clean, dry, regulator, unlubricated compressed air.
   - The equipment must be installed away from areas with strong drafts or where sudden temperature changes occur.
   - The equipment must be installed where it will be in conformance with the ventilation requirements specified in the Material Safety Data Sheet for the hot melt being used.
2. Install appropriate guarding and signage as required to prevent personal injury (due to pressurized material, hot surfaces, pinch points, etc.) during operation and service activities.

Install the Applicator on the Robot

See Figure 9. Use the mounting block and screws supplied with the applicator to install the applicator on the robot.

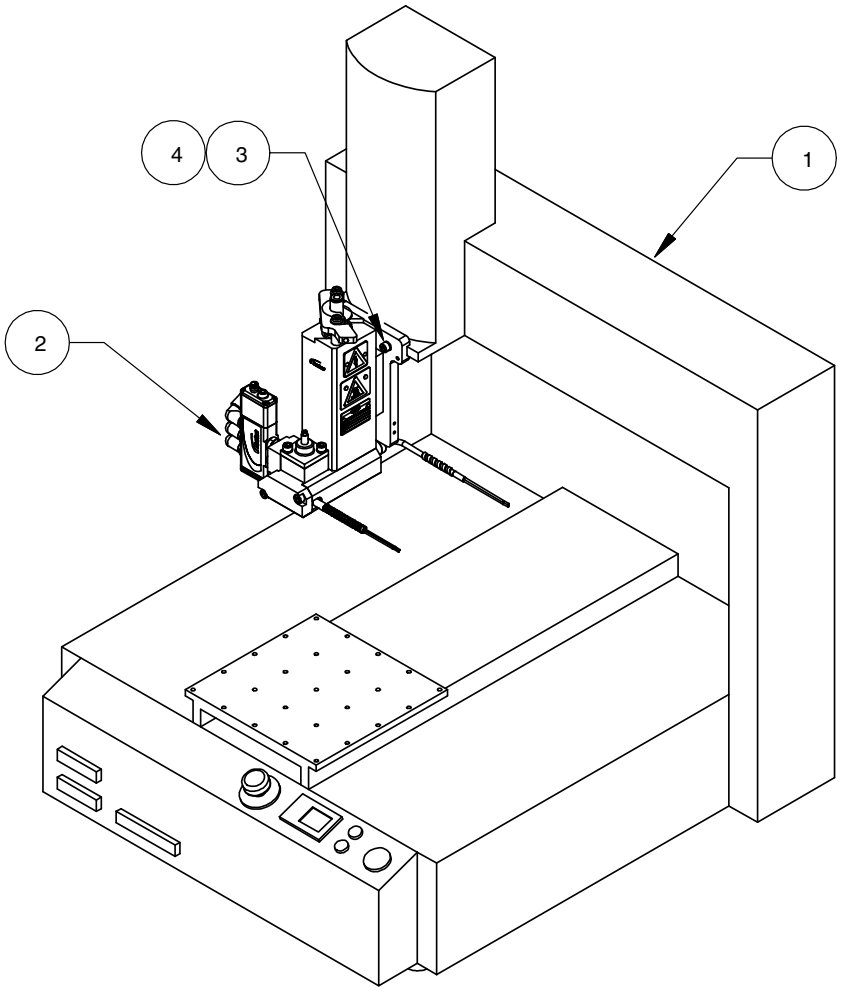


Figure 9 Installing a PJ30 applicator on a robot (gantry-style robot shown)

1. Gantry-style robot
2. PJ30 applicator
3. 983401, WASHER, LK, M, SPT, M5, STL, ZN
4. 982046, SCR, HEX, CAP, M5 X 14, BL

Mount the Unity Controller

See Figure 10. Unpack and mount the Unity controller using the four bolt holes located on the back of the enclosure.

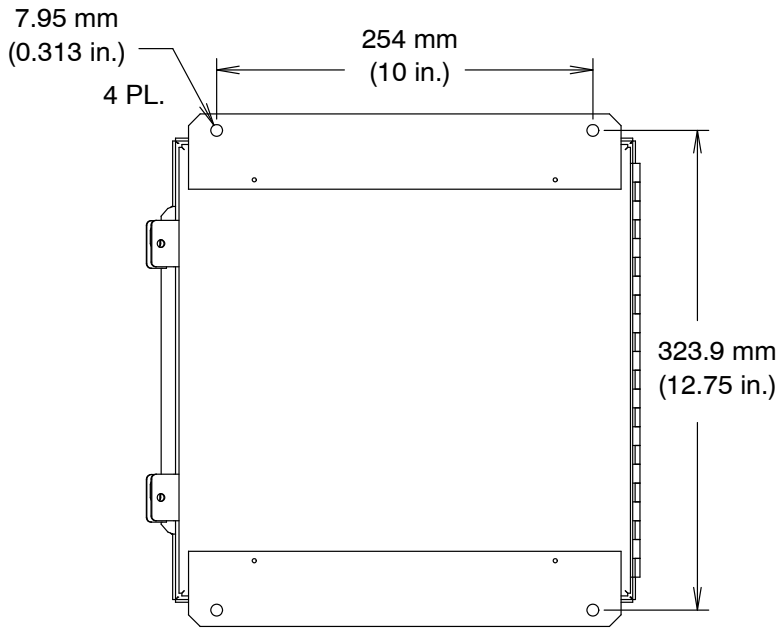


Figure 10 Unity controller bolt mounting pattern

Make the Air Supply Connections

See Figure 11. Using the air kit, make the air supply connections shown in Table 3 and Figure 11. The air supply must be clean, dry, regulated, unlubricated compressed air. Set the operating air pressure to 4.1 bar (60 psi).

Table 3 Air Supply Connections

Item No. in Fig. 11	Pneumatic Connection	Connect to...	Then connect to...
1	Main air supply input	Main air supply	Air regulator input port
2	Air supply to applicator solenoid valve	Air kit output port	Top air input port (3) on applicator solenoid valve
3	Air supply to applicator solenoid valve	Air kit output port	Bottom air input port (5) on applicator solenoid valve
4	Air supply through air dryer to controller	Air kit output port (T-fitting)	Air dryer input/output ports and controller air input port
5	Air supply to applicator solenoid valve	Air kit output port (T-fitting)	Middle air input port (1) on applicator solenoid valve
6	Air supply to applicator adhesive syringe	Air output port on top of controller	Air fitting on top of applicator adhesive syringe

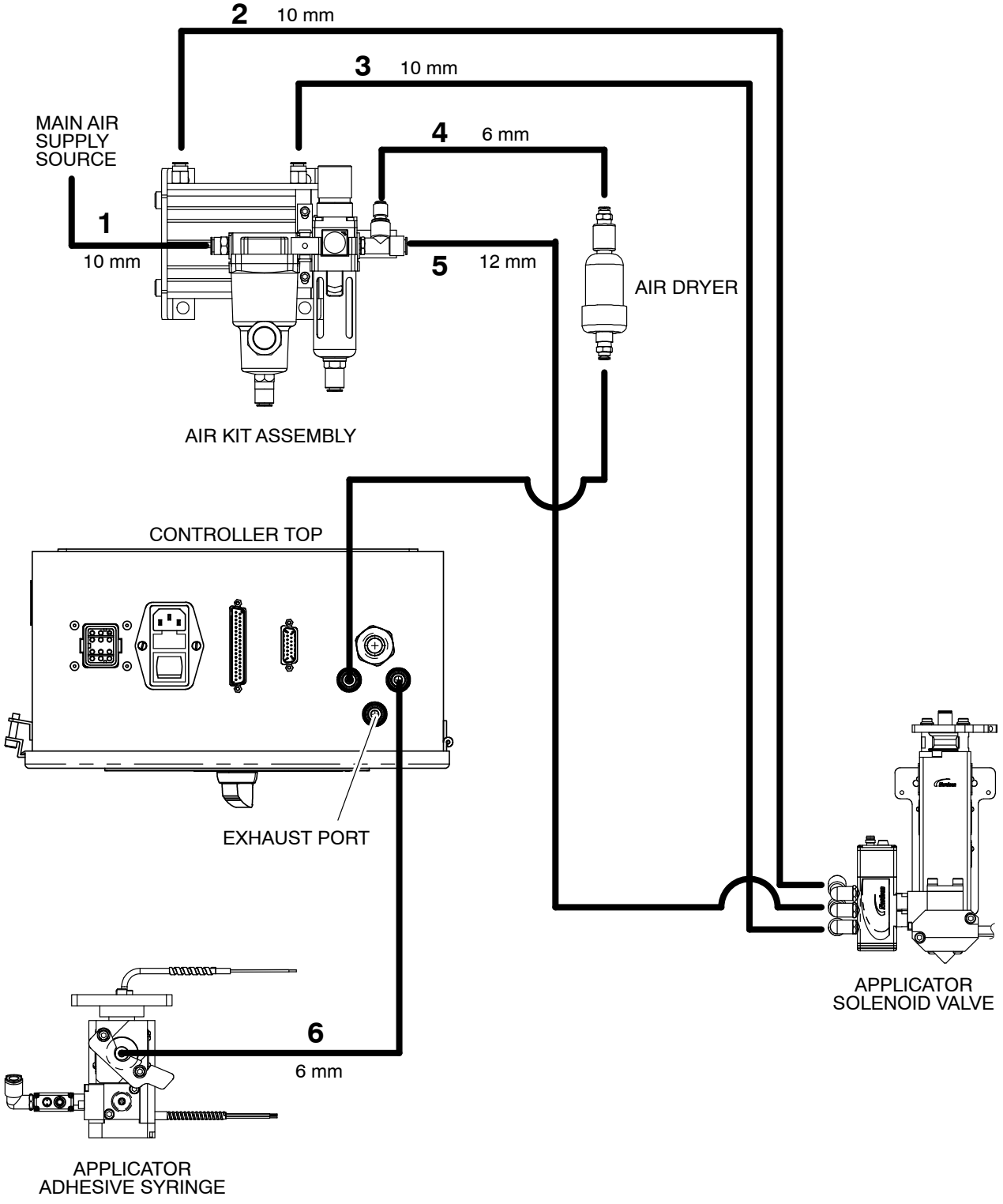


Figure 11 Air supply connections (refer to Table 3)

Connect Cables

See Figure 12. Make the cable connections shown in the following table.

Table 4 Cable Connections

Item No. in Fig. 12	Cable	Connect to...	Then connect to...
1	Robot controller cable	Already connected to controller	I/O SYS port on the back of the robot
2	Robot system interlock cable	I/O-S port on the back of the robot	Customer system-ready interlock
3	Unity controller power cable	Power input on top of Unity controller	240 VAC power outlet **NOTE:** Do not use the power outlet on the back of the robot.
4	Robot power cable	240V cordset connector on back of robot	240 VAC power outlet
5	Robot communications cable (customer-supplied)	COM1 connector on the front of the robot	Serial port on Windows-based computer
6	Applicator cordset	6-pin connector on the extension cable (P/N 164045) from the ship-with kit	12-pin connector on the top of the Unity controller
7	Solenoid valve	Solenoid valve connector on top of Unity controller	Quick-disconnect on solenoid valve connector

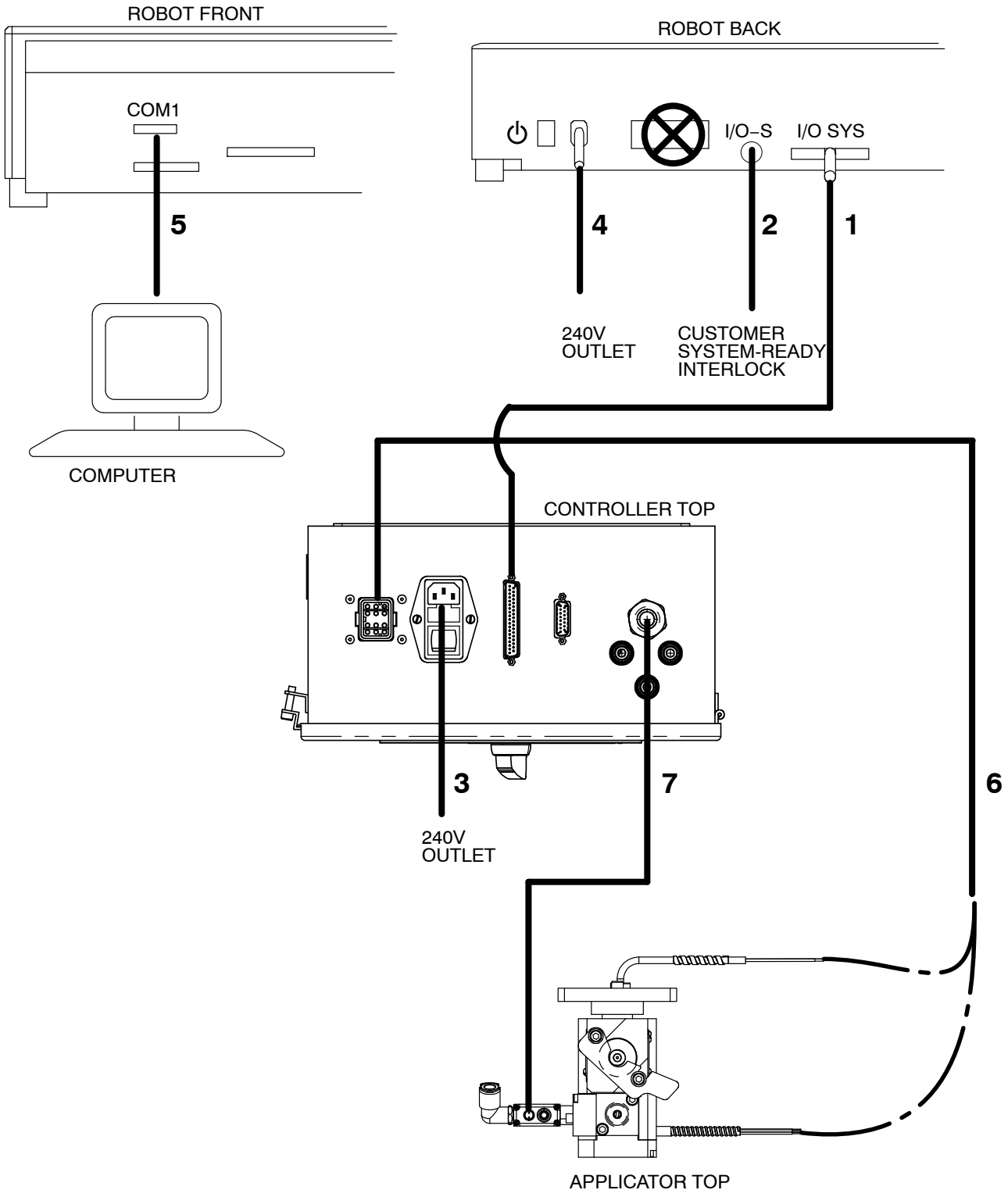


Figure 12 Cable connections (refer to Table 4)

Install Software

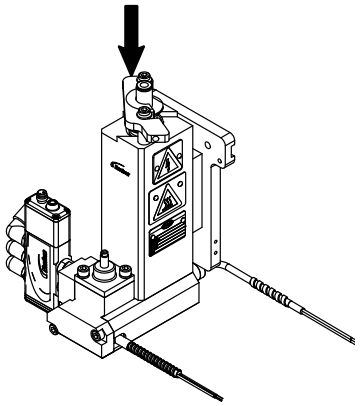
Install any required software. Refer to the robot manual and/or any other applicable documentation.

If your system includes a Nordson Corporation robot, install the JR C-Points robot software using the supplied software installation CD.

Perform Initial System Power On

See Figures 4-7 as needed for the location of controls.

1. Turn on the robot.
2. Turn on the controller. The controller display will go through the startup screens.
3. Turn on the air supply.
4. If a flush syringe is not already installed, load a flush syringe in the applicator as follows:
   a.. Open the adhesive syringe latch and remove the air cap.
   b.. Remove the caps from both ends of the flush syringe and insert the syringe into the applicator.
   c.. Reinstall the air cap and close the latch.
5. If a cured adhesive warning exists at startup, reset the Elapsed Time parameter to 0. Refer to *Changing a Parameter in the User Mode* under *Setup*.
6. Continue to the next section, *Setup*, to set up the system for your application.



Adhesive syringe latch

Setup

Setup involves customizing the controller, robot, and applicator settings for your application.

Set Up the Unity Controller

The controller settings may be changed in two modes: user mode and administrator mode. Use the following procedures to change the controller settings as needed for your application.

Setting the Controller to PJ30 Operation

On the UNIT TYPE page, select the PJ30 parameter. Refer to *Changing a Parameter in the Administrator Mode* for the procedure for changing a parameter.

Changing a Parameter in the User Mode

1. Press **PAGE** until the desired parameter is displayed. Refer to Table 5 for the parameters that can be accessed in the user mode.
2. Press **SET** to change the parameter.
3. Press the **Up/Down** arrows to scroll to the desired value.
4. Press **SET** to save the setting.

   The display will briefly flash “Data successfully stored to memory.”

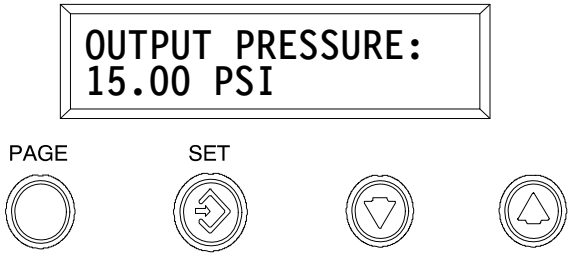


Figure 13 Unity controller display and keys

Changing a Parameter in the Administrator Mode

1. Simultaneously press and hold the **Up/Down** arrows for at least 5 seconds.

   The display will briefly flash “Administrator Mode Enabled.”

2. Press **PAGE** until the desired parameter is displayed. Refer to Tables 5 and 6 for the parameters that can be accessed in the administrator mode.
3. Press **SET** to change the parameter.
4. Press the **Up/Down** arrows to scroll to the desired value.
5. Press **SET** to save the setting.
6. Simultaneously press and hold the **Up/Down** arrows for at least 5 seconds to exit the administrator mode.

   The display will briefly flash “Administrator Mode Disabled.”

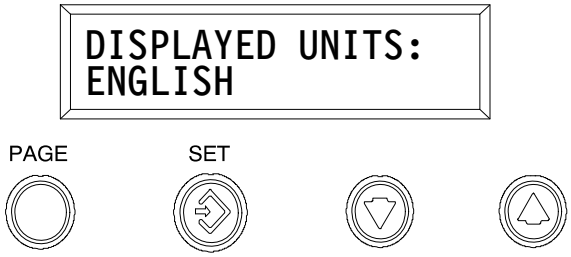


Figure 14 Unity controller display and keys

NOTE: Refer to *Changing a Parameter in the User Mode* under *Set Up the Unity Controller* for the procedure for changing a parameter.

Table 5 Unity Controller User and Administrator Mode Parameters

Page	Function/Description
NO ALARMS OR MESSAGES	Displayed when no alarms or messages exist.
OUTPUT PRESSURE: XX.XX PSI	Displays the pressure setpoint and allows you to enter a pressure setpoint. Example: 3.45 PSI
TEMPERATURE: XXX F SETPOINT: XXX F	Displays the heater temperature and allows you to enter a temperature setpoint. Example: 250 F
ELAPSED TIME: X HR, X MIN	Displays how long a syringe has been heated and allows you to reset the timer. Example: 1 HR 10 MIN
TIMER MODE:	Allows you to place the controller in the Run or Pause mode. Values: RUNNING or PAUSED!
PRODUCT COUNT:	Displays the number of products processed. This value is accurate only if the BEAD PER PRODUCT parameter is set correctly. To reset this parameter, press the SET key. Example: 3427
TEMPERATURE MODE:	Allows you to place the system into the setback mode. The setback mode reduces the temperature of the heaters by the amount entered in the TEMP SETBACK AMOUNT parameter. Values: NORMAL and SETBACK
GUN ON TIME: (see Notes)	Allows you to enter the amount of the time (in ms) the applicator will open to dispense adhesive dots when the signal from the robot is active. This parameter is used only when the GUN OFF TIME parameter is a value greater than 0. Values: 0-500 (ms) Example: 7 (ms)
GUN OFF TIME: (see Notes)	Allows you to enter the amount of the time (in ms) the applicator will close when the signal from the robot is active. This parameter is used only when the GUN ON TIME parameter is a value greater than 0. Values: 0 (STITCHING OFF) to 500 (ms) Example: 30 (ms)
NOTE: To preserve solenoid life, Nordson Corporation recommends setting the values for GUN ON TIME and GUN OFF TIME at 7 ms or greater. **NOTE:** As long as the signal from the robot is active, the applicators will open for the amount of time set in GUN ON TIME and will close for the amount of time set in GUN OFF TIME. These on/off cycles will stop only when the signal from the robot is stopped. **NOTE:** An adhesive bead is defined as the series of adhesive dots dispensed during one applicator on-off cycle.	

Set Up the Unity Controller *(contd)*

NOTE: Refer to *Changing a Parameter in the Administrator Mode* under *Set Up the Unity Controller* for the procedure for changing a parameter.

Table 6 Unity Controller Administrator Mode Only Parameters

Page	Function/Description
UNIT TYPE:	Used to set the controller for PURJet 30 or IC30/IC300 dispensing system operation. Values: PURJet30 and IC30 (default)
TEMP SETBACK AMOUNT:	Allows you to enter a temperature setback amount. When the system is placed in the setback mode, the temperature setpoint will be reduced by the number of degrees entered for this parameter. Example: 100 F
DISPLAYED UNITS:	Used to display pressure in metric units (bar). Pressure values must be set in English (psi) and are internally calculated in psi. Values: ENGLISH or METRIC
MAXIMUM PRESSURE:	A warning is generated when the pressure is greater than this value. Example: 40 PSI
BEADS PER PRODUCT: (see Note)	Used to specify the number of adhesive beads applied to a product. This number is then used to calculate the product count that is displayed in the PRODUCT COUNT parameter. Example: 2
NOTE: An adhesive bead is defined as the series of adhesive dots dispensed during one applicator on-off cycle.	

Set Up the Robot Using JR C-Points

NOTE: This section applies only if you are using a Nordson Corporation robot.

NOTE: The JR C-Points software does not allow you to undo or redo steps. Save your work often.

Set the Robot Communications Cable Port

See Figure 15.

1. Open Device Manager.
2. Expand **Ports (COM & LPT)**.
3. Determine which port the robot communications cable is connected to, select that port, right-click on the selection, and select **Properties**.
4. In the *Communications Port (COM1) Properties* dialog box, select the **Port Settings** tab and then select **Advanced**.
5. Select the correct **COM Port Number**. Only ports COM1 to COM4 are compatible with the JR C-Points software.

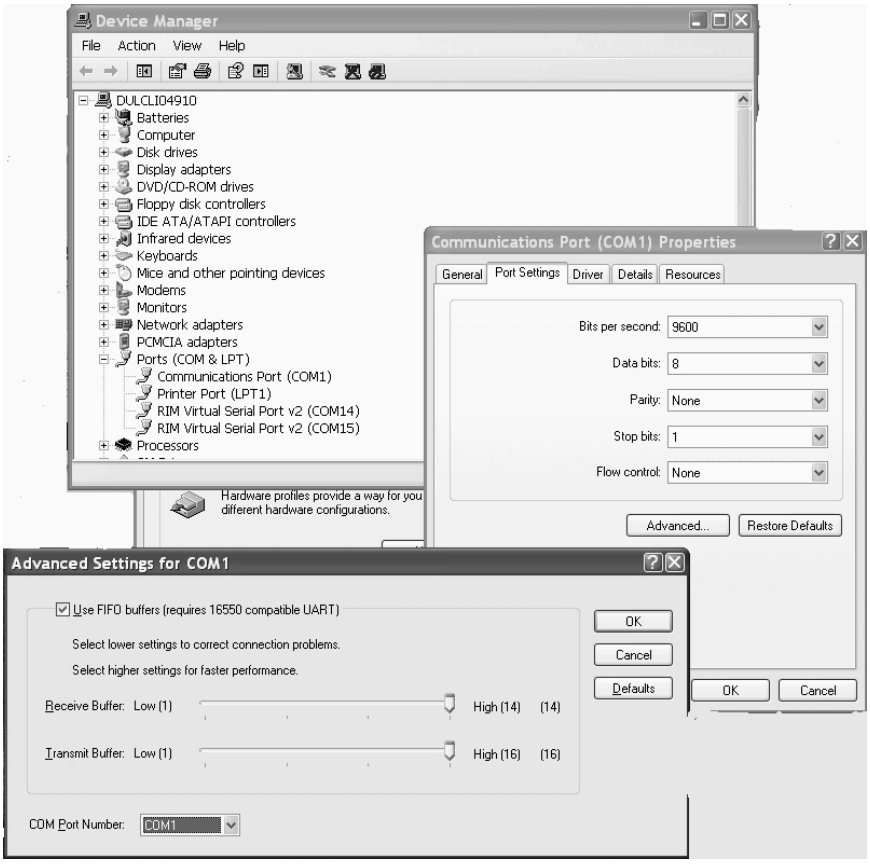


Figure 15 Screens used to set the COM port

Set Up the Computer Communications Link with the Robot

1. Select **Robot** > **Com Status**.
2. In the *COM Status* dialog box, select:
   - Port: COM1 (or the port set up in the previous procedure)
   - Parity: Non
   - Stop bits: 1

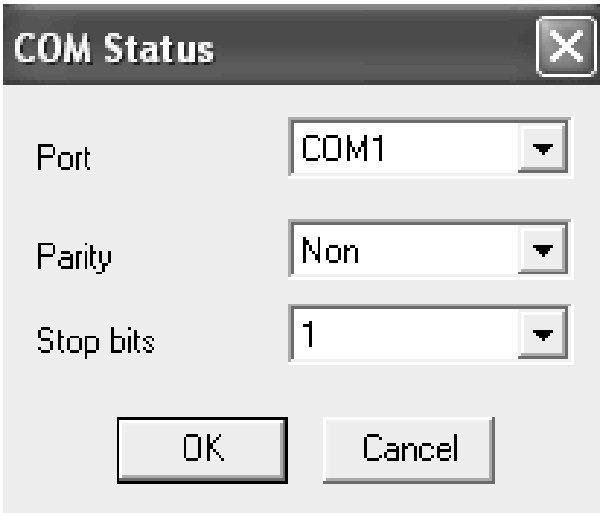


Figure 16 *COM Status* dialog box

Initialize the Robot (As Needed)

Select **Robot** > **Meca Initialize**. Initializing the robot resets the X and Y axes to (0,0).

Open a Robot Program File

1. Open JR C-Points by double-clicking on the *JR C-Points for Dispensing* Icon.
2. Select **File** > **Open**.

NOTE: For detailed JR C-Points software programming information, refer to the robot product manual.

Set Up Views

1. Select **View** > **Change View** > **Longitudinal View**.
2. Select **View** > **Visual Display**.

   The display looks like Figure 17.

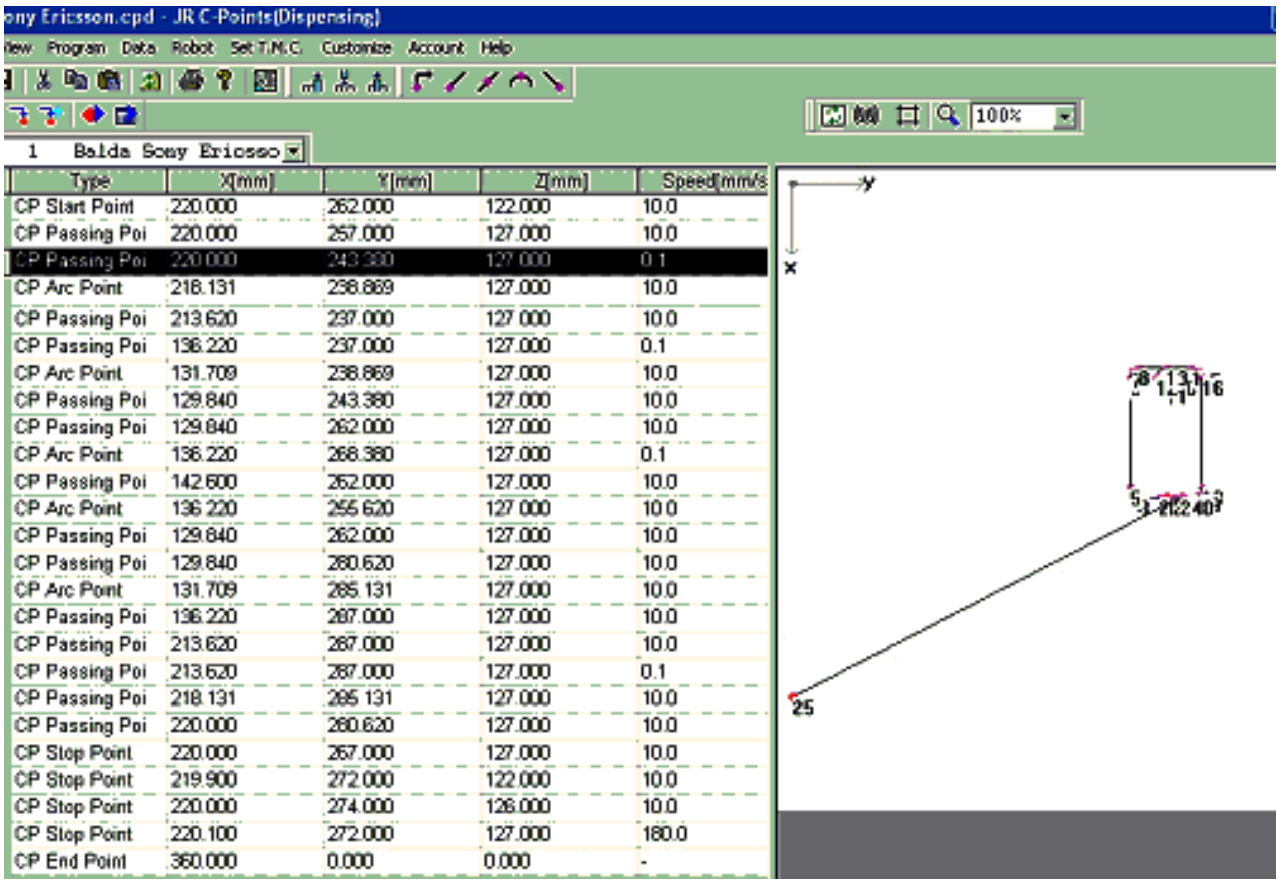


Figure 17 JR C-Points screen in longitudinal view

Adjust the Adhesive Pattern Using the Zoom Function (As Needed)

See Figure 18.

1. Use the following methods to zoom in on and fine-tune the adhesive pattern:
   - Use the **Magnifier** icon to zoom in on a particular location. To pan, deselect the Magnifier icon and then click and hold with the cursor to move the image.
   - Use the **Graph Grid** icon to grid the graph.

   NOTE: Double-click in the white area next to a point to center the display on that point.
2. Click on the **Refresh** icon after using any of these functions to update the display.

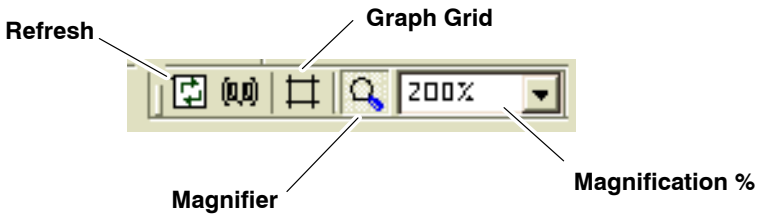


Figure 18 Zoom tool bar

Move (Jog) the Robot (As Needed)

See Figure 19.

1. Select **Robot** > **Jog**.
2. Use any of following methods to move the robot:
   - Select any position button
   - Press the corresponding key on the computer keyboard

   NOTE: Do not click on Register or use the Enter key. Doing so will register the point.

   - Enter the point number and select **GO**
   - Enter the coordinates in the X and Y field and then select **GO**
   - Select **Robot** > **Jog**; for a fast jog, press **SHIFT** + the corresponding key on the keyboard (E, R, etc.)
   - Select the point number and then select **Robot** > **Go Move** or **Go Move Plus**

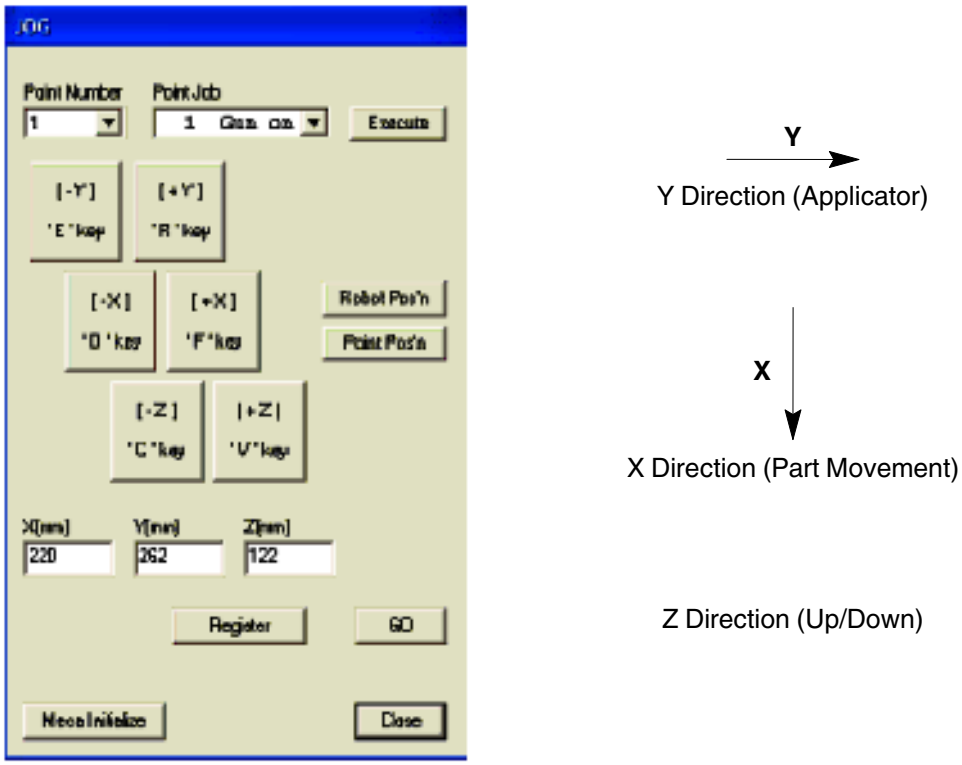


Figure 19 Jog screen

Robot menu

Reprogram or Change the Adhesive Path (As Needed)

NOTE: If the robot has a program or a modification is desired, the information can be downloaded from the robot.

1. Select **Robot** > **Receive C&T Data** > **Receive**.
2. Select **Robot** > **Changing Mode** > **Teaching Mode**.
3. Make the desired changes to the adhesive path.

To modify the type of point:

a.. Click on the point to be changed (9, 10, or 11 in the example shown).

b.. Select **CP Passing Point**, then right click and select an option.

c.. Click on the **Refresh** icon view the new path.

Example: Figure 20 shows a before and after diagram of the *Change to ARC Point* option.

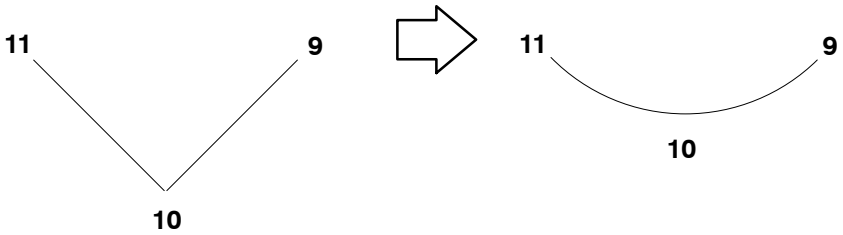


Figure 20 Example of the *Change to ARC Point* option

To offset points:

a.. Select the desired points and then select **Edit** > **Offset Move**.

b.. Enter values for X, Y, and Z in the *Offset Move* dialog box.

To insert or add a point:

- To add a point in a selected position, select the position, then select **Edit** > **Insert Point**.
- To add a point at end of the program, select **Edit** > **Add Point**.

4. Select **Robot** > **Send C&T Data** > **Send**.
5. Select **Robot** > **Changing Mode** > **Switch Mode** to change back to the robot mode.

Set Up the Unity PURJet 30 Applicator

1. Refer to *Set Up the Unity Controller* earlier in this section as needed to enter the following parameters:
   - GUN ON TIME: 7 (ms)
   - GUN OFF TIME: 30 (ms)
   - TEMP SETBACK AMOUNT: 250 °F
2. Program the robot movement and set the robot speed for less than 40 mm/s. Refer to the robot documentation as needed.
3. If the dispensing module is adjustable, set the needle stroke as follows:
   a.. De-energize the solenoid valve.
   b.. Turn the needle adjustment screw clockwise just until the adjustment contacts the needle assembly.
   c.. Turn the needle adjustment screw counterclockwise two (2) full turns, which will result in a 1 mm setting.
4. Test the system by running a product.
5. If adjustments are needed, the following steps are recommended:
   a.. Change the GUN OFF TIME to 7 (ms).
   b.. Program the robot movement and set the robot speed for greater than 40 mm/s. Refer to the robot documentation as needed.
   c.. Test a product.
   d.. Decrease the robot speed as needed until the desired adhesive bead weight is achieved.
6. Repeat the steps in this procedure as needed, making the necessary adjustments in values, until the applicator is performing as desired.

Operation

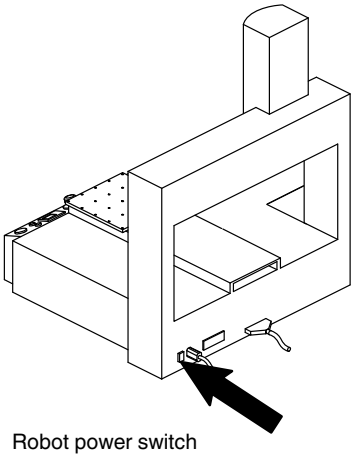
Before operating the system for the first time, ensure that you have completed the procedures in the *Installation* and *Setup* sections.

Special Operating Considerations for PUR Adhesive

Because the viscosity of PUR adhesive increases significantly when the system is at operating temperature, the applicator should be heated only for operation or cleaning. If the applicator is held at operating temperature longer than the life of the PUR adhesive, then the risk of cured material inside the applicator increases.

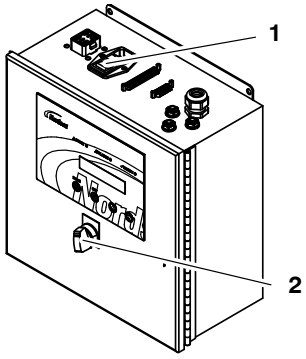
However, even in the best operating scenario it is still likely that over time the PUR will occlude the inner adhesive passages, requiring the applicator to be cleaned. When the applicator is cleaned, is it critical to remove cured PUR adhesive from all adhesive passages (see Figure 26), not just the adhesive passages inside the module. Refer to *Applicator Cleaning* under *Maintenance*.

Daily Startup and Operation



Robot power switch

1. Turn on the robot.

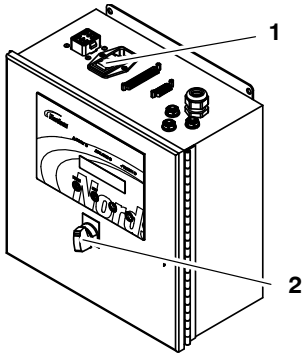


1. Controller power switch
2. Controller purge switch

2. Turn on the controller. The controller display will go through the startup screens.

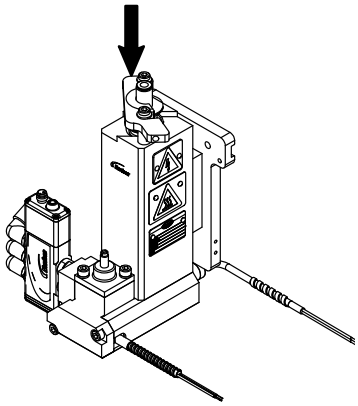
   NOTE: The controller always powers on in the user mode.

3. Turn on the air supply.
4. Allow the system to reach application temperature.
5. If a cured adhesive warning exists at startup, reset the Elapsed Time parameter to 0. Refer to *Changing a Parameter in the User Mode* under *Setup*.
6. Verify that the temperature settings are at the desired value. Refer to *Set Up the Unity Controller* under *Setup* as needed.
7. When the READY light turns on, place the controller purge switch in the on position until the rest of the material in the flush syringe (used during shut down) is dispensed.



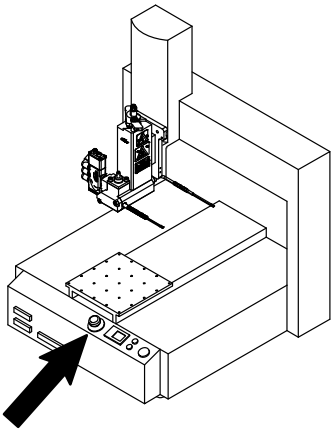
1. Controller power switch
2. Controller purge switch

Daily Startup and Operation *(contd)*



Adhesive syringe latch

8. Load an adhesive syringe in the applicator as follows:
   a.. Open the adhesive syringe latch and remove the air cap.
   b.. Remove the caps from both ends of the adhesive syringe and insert the syringe into the applicator.
   c.. Reinstall the air cap and close the latch.



Robot START button

9. Place the product on the moving plate and press the START button on the robot to run products.

Responding to Alarms

Refer to *Troubleshooting* for a list of alarms and recommended corrective actions.

Placing the System in Setback

If the system will be operated again within the next 48 hours, place the system in setback during nonoperational periods.

- To place the system in setback, change the Temperature Mode parameter to SETBACK.
- To take the system out of setback, change the Temperature Mode parameter to NORMAL.

Refer to *Changing a Parameter in the User Mode* under *Setup* as needed. If the system will not be used in next 48 hours, it should be shut down. Refer to *Shutdown*.

Monitoring the System

Several parameters available on the controller are useful for system monitoring, including, but not limited to, the following:

- OUTPUT PRESSURE
- TEMPERATURE/SETPOINT
- ELAPSED TIME
- PRODUCT COUNT

Refer to *Set Up the Unity Controller* under *Setup* for a description of all controller parameters and the procedure for viewing or changing a parameter.

Shutdown

Because PUR adhesive reacts with moisture in the air, exposure of the PUR adhesive in the system to air must be minimized. The procedures below represent the best practices for overnight or long-term (longer than overnight) shutdown.

Overnight Shutdown

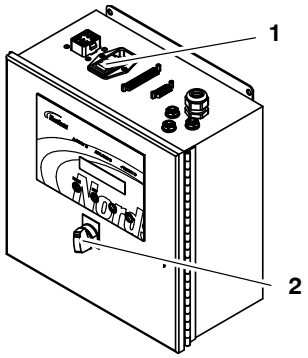
1. Shut down the system and allow the applicator to cool, leaving the current syringe in the applicator. This will retain the seal and minimize the exposure to air.
2. The next morning, follow the *Daily Startup and Operation* procedure earlier in this section to install a new syringe.

Long-Term Shutdown

1. Place a large collection pan under the applicator.

WARNING! Risk of burns. When the last drops of adhesive are being purged, the pressurized air will cause some adhesive spray. Ensure that the collection pan is large enough to shield the operator from the spray.

2. Place the controller purge switch in the on position until all adhesive is dispensed from the syringe, then place the switch in the off position.



1. Controller power switch
2. Controller purge switch

3. Open the applicator latch and, without putting pressure on the syringe, remove the air cap.
4. Use a pick to remove any hardened adhesive from the syringe.
5. Install the air cap and close the latch
6. Remove the applicator nozzle and purge again to ensure that all adhesive is dispensed.

CAUTION! Ensure that the flushing material is compatible with the PUR adhesive being used. Refer to the MSDS for both the adhesive and the flushing material.

7. Load a flush syringe into the applicator.
8. Purge again until a clean flow of flush material is achieved. Leave some flush material in the syringe.
9. Reinstall the nozzle and purge the system again to flush all PUR adhesive out of the nozzle. Leave some flush material in the syringe.
10. Turn off the air supply.
11. Turn off the controller.
12. Turn off the robot.

Maintenance

This section contains a recommended maintenance schedule and procedures. Attempting any other maintenance procedures can result in equipment damage, improper system operation, or personal injury.

Recommended Maintenance Schedule

Table 7 provides recommended maintenance activities and a schedule for performing those activities. Base how often you perform maintenance on your operating conditions.

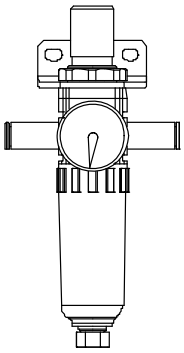
Table 7 Recommended Maintenance

Component	Activity	Interval	Procedure
Robot and applicator	Inspect for external damage	Daily	When damaged parts pose a risk to the operational safety of the unit and/or safety of personnel, switch off the system and have the damaged parts replaced by qualified personnel. Use only original Nordson spare parts.
	Clean the exterior	Daily	Remove adhesive residue only with a cleaning agent recommended by the adhesive supplier. Heat with an air heater if necessary. Remove dust, flakes, etc. with a vacuum cleaner or a soft cloth. Do not damage or remove warning labels. Replace any damaged or removed warning labels.
	Replace the air supply desiccant tube	When all material inside the tube has turned pink	Relieve system pressure (refer to *System Pressure Relief* in this section) and replace the used desiccant tube, ensuring that all fittings are secure. Refer to *Parts* for the replacement desiccant tube part number.
Unity controller	Upgrade the firmware	As needed	Refer to *Unity Controller Firmware Upgrade* in this section.

System Pressure Relief

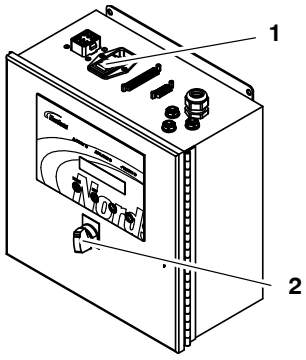
System pressure must be relieved before you can safely proceed with many troubleshooting and service-related activities. Follow this procedure whenever you need to relieve system pressure.

WARNING! Risk of burns. Failure to relieve system pressure can cause hot material to spray from a connecting point. Relieve system pressure before loosening or removing a hose, module, or any other part of a hot melt system. Wear heat-protective clothing, safety goggles (ANSI Z87.1 or equivalent), and safety gloves.



Air pressure regulator

1. Shut off the main air supply or set the air pressure regulator to zero (0).



1. Controller power switch
2. Controller purge switch

2. Momentarily activate the purge switch on the controller.
3. When the service activity is completed, restore the system to normal operation.

Nozzle Cleaning

Nozzles should be cleaned weekly or as needed to prevent clogging. You will need the following items:

- Appropriate tools, including a torque wrench
- Cleaning supplies (refer to Table 8)
- Drain pans and disposable rags

1. To ease nozzle removal, ensure that the adhesive in the system is heated at least to the softening point.
2. Stop the melter and applicator pumps.
3. Shut off the module-actuating air.
4. Relieve system pressure. Refer to the melter manual as needed.
5. Remove the nozzle.
6. Clean the nozzle using one of the Nordson-recommended methods shown in Table 8. Use only cleaning agents recommended by the adhesive supplier.

WARNING! Risk of explosion or fire. Follow the safety guidance and heating recommendations on the Material Safety Data Sheets (MSDSs) for your adhesives and nozzle-cleaning solutions.

WARNING! Risk of explosion or fire. Use a controlled heating device, such as a thermostatically controlled hot plate, to heat cleaning fluid, including Nordson Type-R fluid.

CAUTION! Risk of equipment damage. Do not use a wire brush (or a brush with bristles harder than the nozzle) to clean nozzles.

Table 8 Nozzle Cleaning Methods

Cleaning Method	Procedure
Electric heat gun/hot air knife **NOTE:** This is the most thorough method.	a. Heat the nozzles with a flameless electric heat gun or hot air knife. b. Scrub the nozzles with a soft, non-metallic brush to remove debris.
Ultrasonic tank	a. Place the nozzles in an alkaline solution heated to the appropriate temperature (refer to the MSDS) in an ultrasonic tank. Soak the nozzles for approximately 10 minutes. b. Scrub the nozzles with a soft, non-metallic brush to remove debris. c. Gently blow air through the nozzle orifices from the mounting side of the nozzle.
Oven **NOTE:** This method will cause discoloration of unplated brass nozzles. This discoloration is cosmetic only and will not adversely affect nozzle performance. **NOTE:** This method is not recommended for color-coded nozzles (such as Saturn and CF steel unibody nozzles) because it will remove the color from the nozzles.	**WARNING**: Risk of explosion, fire, or toxic vapor release. Depending on the type of adhesive and/or organic solvent used with the nozzles, heating them in an oven can cause a hazardous event. Before using an oven to clean nozzles, consult with the oven manufacturer about the viability of this method and the safety risks. Follow the manufacturer's recommendations. **WARNING**: Use the oven heating controls to keep the oven at the desired temperature. Do not use an oven that does not have heating controls. **WARNING**: The heating temperature and time may need to be adjusted based on the oven type, the adhesive type, and the amount of char buildup on the nozzles. Nordson Corporation recommends testing this procedure on discarded nozzles prior to using it on good nozzles. **CAUTION:** Risk of equipment damage. Remove O-rings before cleaning nozzles in an oven. Failure to do so can cause a chemical reaction that will permanently damage the nozzles. a. Ensuring that O-rings have been removed from the nozzles, place them in an electric oven heated to approximately 385 °C (725 °F). Allow the nozzles to bake for approximately 3-4 hours. b. Turn off the oven and allow the nozzles to cool; then remove the nozzles. **WARNING**: Risk of fire. Use a heat-proof cloth to clean nozzles. Even cotton can burn in high-temperature conditions. **WARNING**: Risk of equipment damage. Handle nozzles carefully to avoid denting the orifices, which can degrade the adhesive pattern. c. Wipe the nozzles with a soft cloth and then gently blow air through the nozzle orifices from the mounting side of the nozzle.

Nozzle Cleaning *(contd)*

7. If there is any remaining char buildup on the nozzles, gently scrape the char from the nozzle.
8. Reinstall the nozzles.
9. Restore the system to normal operation.

Applicator Cleaning

The applicator adhesive passages should be cleaned as needed to prevent clogging. You will need the following items:

- Appropriate tools, including a torque wrench
- Flush syringe
- Heater lubricant
- High-temperature grease
- Drain pans, disposable shop rags, and cotton swabs

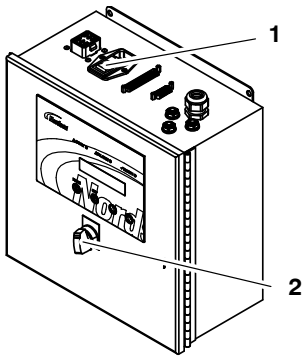
NOTE: Visit http://www.youtube.com/user/NordsonAdhesiveSyst/videos to view a video of the applicator cleaning procedure.

Prepare for Applicator Cleaning

1. To ease component removal, ensure that the adhesive in the system is heated at least to the softening point.
2. Stop the melter and applicator pumps.
3. Relieve system pressure. Refer to the melter manual as needed.
4. Place a large drain pan under the applicator.

WARNING! Risk of burns. When the last drops of adhesive are being purged, the pressurized air will cause some adhesive spray. Ensure that the collection pan is large enough to shield the operator from the spray.

5. Place the controller purge switch in the on position until all adhesive is dispensed from the syringe, then place the switch in the off position.



1. Controller power switch
2. Controller purge switch

6. Open the applicator latch and, without putting pressure on the syringe, remove the air cap.
7. Use a pick to remove any hardened adhesive from the syringe.
8. Install the air cap and close the latch
9. Remove the applicator nozzle and purge again to ensure that all adhesive is dispensed.

CAUTION! Ensure that the flushing material is compatible with the PUR adhesive being used. Refer to the MSDS for both the adhesive and the flushing material.

10. Load a flush syringe into the applicator.
11. Purge again until a clean flow of flush material is achieved (at least one minute).
12. Remove the flush syringe.
13. Shut off the module-actuating air.
14. Engage the purge switch one last time to remove any remaining system pressure.
15. Disconnect the air supply and cable connections from the applicator solenoid valve.

Remove the Module

1. If you have not already done so, remove the nozzle from the module and clean it. Refer to *Nozzle Cleaning*.

See Figure 21.

2. Loosen the screws that secure the front plate (3) and remove the module (2) from the applicator.
3. Remove the pins that secure the solenoid assembly (1) to the module and then separate the solenoid assembly from the module.

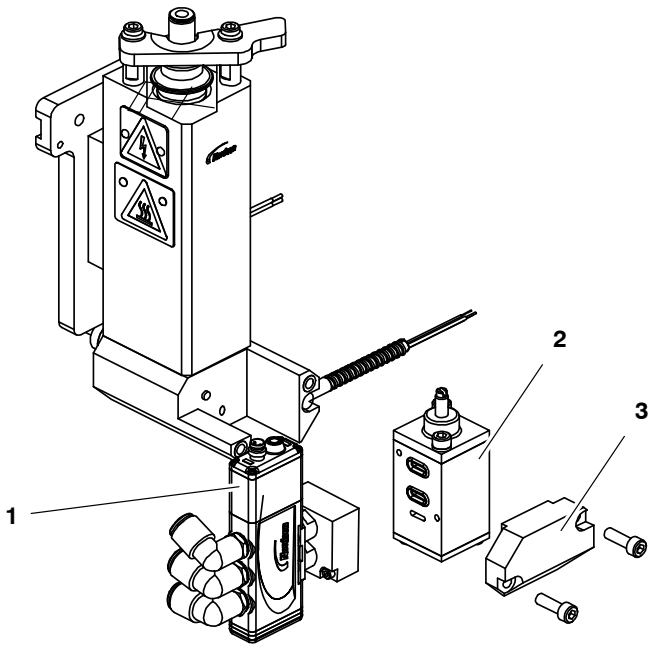


Figure 21 Removing the module

1. Solenoid assembly
2. Module
3. Front plate

Disassemble and Clean the Module

See Figure 22.

1. Remove the air cap (1) and its attached O-ring(s). Use shop rags or towels to wipe the air cap clean of any adhesive residue.
2. Holding the module body (2), push the piston assembly components (4) and seal pack (5) out through the bottom of the module.
3. Use a clean shop rag to wipe the interior and exterior of the module clear of any adhesive residue.
4. Clean the exterior of the seal pack with shop rags and cotton swabs and wipe the piston clean of any adhesive.
5. Clear any adhesive residue from the module's adhesive feed hole (3).

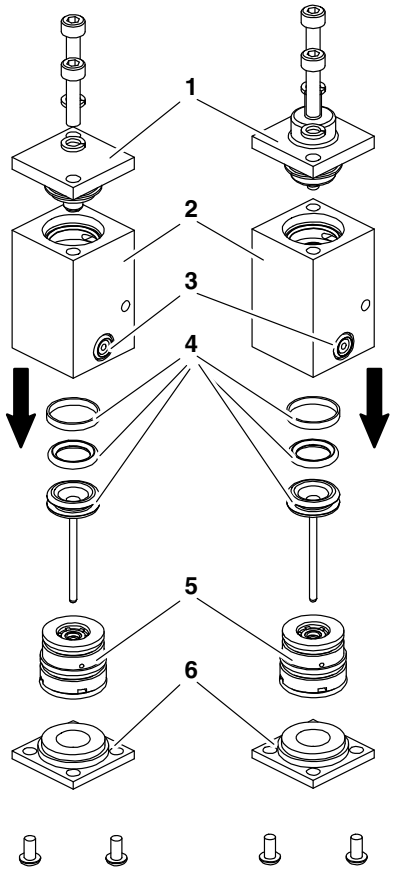
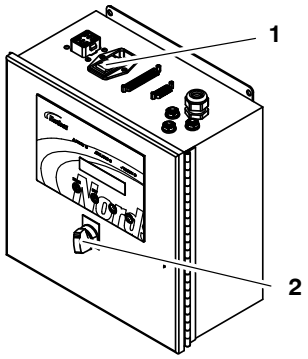


Figure 22 Module disassembly (left-side image: fixed module; right-side image: adjustable module)

1. Air cap
2. Module body
3. Adhesive feed hole
4. Piston assembly components
5. Seal pack
6. Nozzle cap



1. Controller power switch
2. Controller purge switch

Clean the Applicator Manifold

1. Turn off the controller and disconnect the heater cable from the controller or heater block.

See Figure 23.

2. Remove the screws that secure the heater block (2) to the manifold and remove the heater block.
3. Clear the heater block adhesive feed passage of any residue. Use a shop rag to wipe off the heater block.
4. Gently remove the seal insert (1) from the manifold and wipe the seal clean with a rag or towel.
5. Insert a clean shop rag or cloth into the top of the manifold to clean the interior chamber and accessible surfaces.
6. Reinstall the seal insert (1) in the bottom of the manifold.
7. Dip the heater block screws into a lubricant and reinstall the heater block (2) on the manifold.

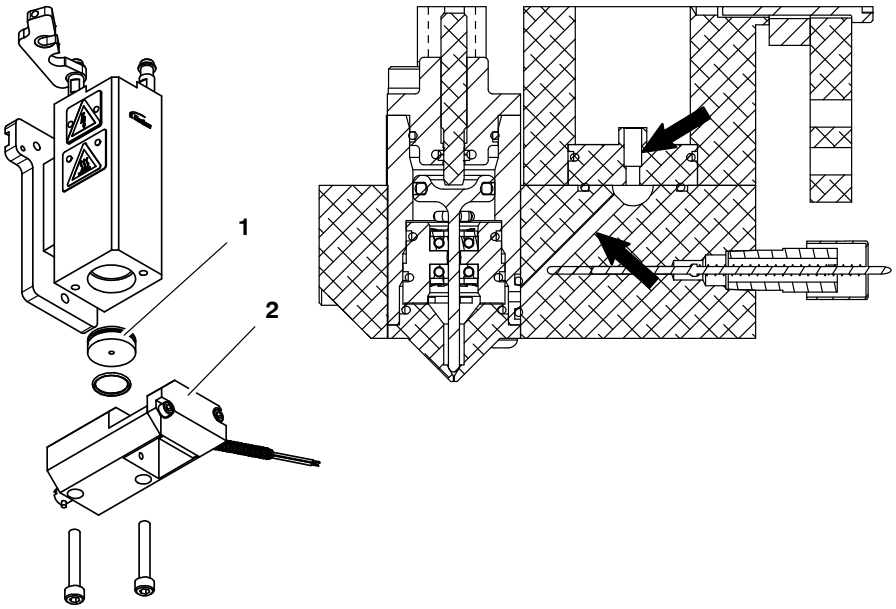


Figure 23 Heater block components and location of adhesive passages

1. Heater block and O-ring
2. Seal insert

Reassemble the Module

See Figure 24.

1. Insert the piston (2) into the seal pack (4) and use a syringe and small needle to fill the seal pack with high-temperature grease just until the grease starts coming out the hole on the opposite side of the seal pack. Wipe off the excess grease.
2. Remove the piston from the seal pack.
3. Push the seal pack (4) into the bottom of the module body (3) until it stops against the bottom of the piston bore.
4. Ensure that the nozzle cap O-ring (5) is attached to the nozzle cap (6) and reinstall the nozzle cap.
5. Insert the piston into the seal pack through the top of the module, being careful to keep the piston at a 90-degree angle with the seal pack, and screw the air cap (1) onto the module.

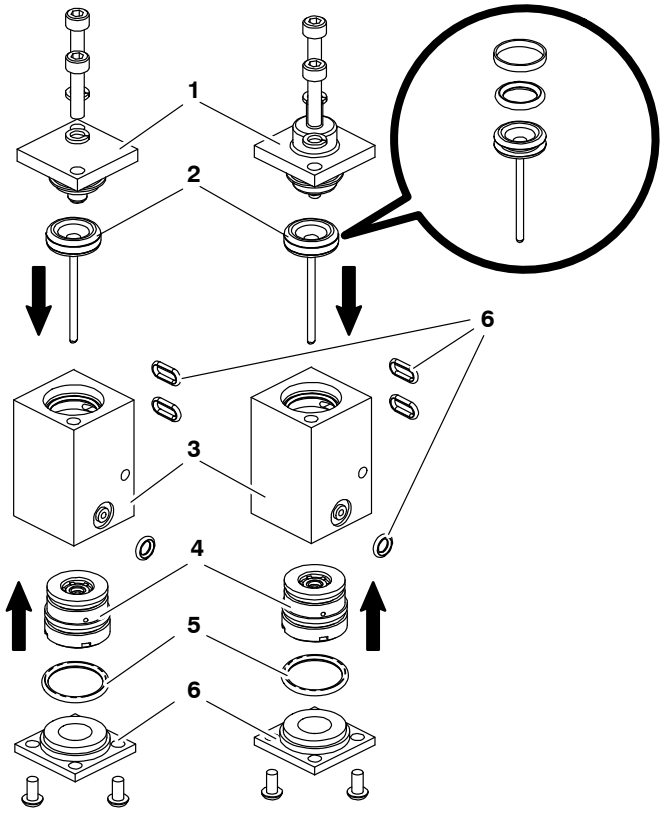


Figure 24 Module assembly (left-side image: fixed module; right-side image: adjustable module)

1. Air cap
2. Piston
3. Module body
4. Seal pack
5. Nozzle cap O-ring
6. Nozzle cap

Reinstall the Solenoid and Module

See Figure 25.

1. Reinstall the solenoid assembly (1) on the module, ensuring that the pins are fully inserted for a secure connection between the module and solenoid.
2. Position the module (2) on the the heater block dowel pin (4) and secure the front plate (3) to the heater block, tightening the screws evenly.

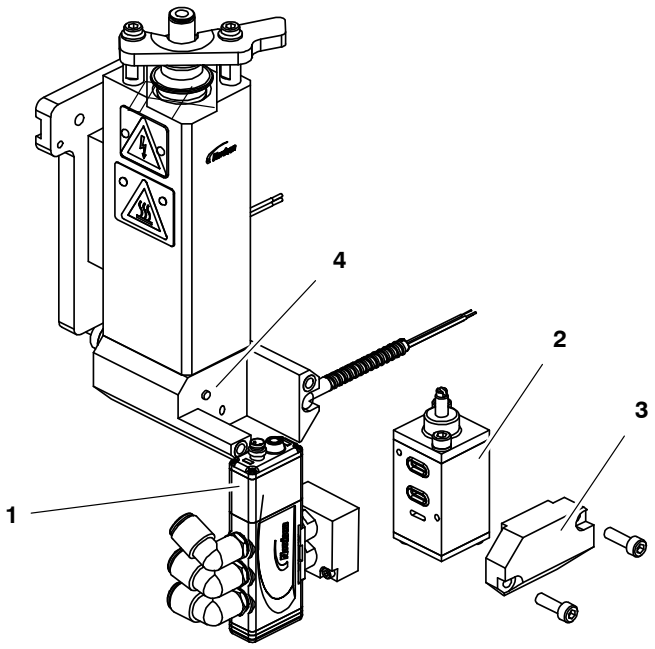
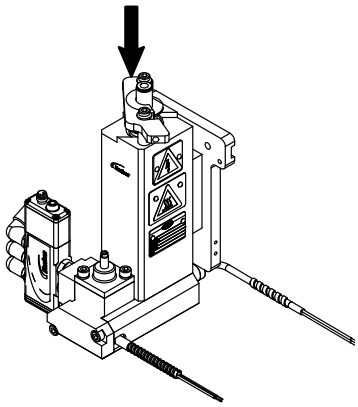


Figure 25 Reassembling the applicator

1. Solenoid assembly
2. Module
3. Front plate
4. Heater block dowel pin

3. Reconnect the air supply and cable connections to the applicator solenoid valve.
4. Load an adhesive syringe in the applicator as follows:
   a.. Open the adhesive syringe latch and remove the air cap.
   b.. Remove the caps from both ends of the adhesive syringe and insert the syringe into the applicator.
   c.. Reinstall the air cap and close the latch.
5. Restore the system to normal operation.



Adhesive syringe latch

Unity Controller Firmware Upgrade

Visit www.enordson/support to download firmware updates, software utilities, and applicable instructions.

NOTE: The Unity controller displays the current software version at startup.

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Troubleshooting

Troubleshooting begins when the flow of adhesive from the applicator stops or diminishes unexpectedly or when a control system alerts you of a problem through an alarm or visual display. This section covers only the most common problems you may encounter. If you cannot solve a problem with the information given here, contact your local Nordson representative for help.

For additional troubleshooting information, refer to the manuals provided with the other equipment used in the hot melt system.

Unity Controller Alarm Troubleshooting

Refer to this table to troubleshoot the alarms generated by the controller. Refer to the next table for general troubleshooting.

Alarm	Cause	Corrective Action
NO ALARMS OR MESSAGES	No	None.
WARNING! ADHESIVE MAY BE CURED.	Timer has passed 16 hours.	Check the adhesive quality and replace the adhesive syringe as needed. Refer to *Daily Startup and Operation* as needed. Reset the timer. Refer to *Set Up the Unity Controller* under *Setup* as needed.
TIMER PAUSED!	Timer has been paused	Restart the timer. Refer to *Set Up the Unity Controller* under *Setup* as needed.
SHORTED RTD FAULT!	Applicator sensor shorted	Replace the sensor.
OPEN RTD FAULT!	Applicator sensor open	Replace the sensor.
TEMPERATURE TOO HIGH!	Heater temperature is more than -12 °C (10 °F) above the temperature setpoint	Allow time for the system to adjust to the temperature setpoint. Correct the problem causing the excessive heat. Refer to *Set Up the Unity Controller* under *Setup* as needed.

General Troubleshooting

Refer to this table for general system troubleshooting. For troubleshooting based on the alarms generated by the Unity controller, refer to the previous table, *Unity Controller Alarm Troubleshooting*

Problem	Possible Cause	Corrective Action
1. Applicator does not heat	System power not on	Verify that the system power is turned on.
	Loose electrical connection	Verify that all electrical connections (cordsets and cables) at the controller and the applicator are secure.
	Broken or missing electrical pins	Check for broken or missing pins at all electrical connections. Repair or replace damaged components.
	Applicator temperature setpoint too low	Increase the temperature setpoint. Do not exceed 116 °C (240 °F). Refer to *Set Up the Unity Controller* under *Setup* as needed.
	Incorrect configuration switch settings	Ensure that the configuration switches on the Unity controller board are set as shown in Figure 41 under *Technical Data*.
2. Applicator underheats or overheats	System in setback (standby) mode	Take the system out of the setback mode.
	Applicator temperature setpoints too low or too high	Increase or decrease the temperature setpoint. Do not exceed 116 °C (240 °F). Refer to *Set Up the Unity Controller* under *Setup* as needed.
	Failed heater or sensor	Check the applicator heater or sensor. Refer to *Checking the Applicator Heater* or *Checking the Applicator Sensor* later in this section.
	Incorrect configuration switch settings	Ensure that the configuration switches on the Unity controller board are set as shown in Figure 41 under *Technical Data*.

Continued...

Problem	Possible Cause	Corrective Action
3. Erratic bead width (from part to part)	Nozzle size incorrect	Change the nozzle size to the appropriate diameter for the bead width.
	Applicator temperature setpoint too low	Increase the temperature setpoint. Do not exceed 116 °C (240 °F). Refer to *Set Up the Unity Controller* under *Setup* as needed.
	Old PUR adhesive in system	Clean or replace the nozzle, clean the adhesive passages (see Figure 26), and/or replace the module. Refer to *Nozzle Cleaning* and/or *Applicator Cleaning* under *Maintenance*.
	Adhesive leaking under the syringe flange	Check the syringe seal and clean the interface as needed.
	Top of adhesive syringe plugged	Remove the cured layer of adhesive from the top of the adhesive syringe.
4. Bead too small	Low input air supply	Ensure that the input air pressure is greater than 3.4 bar (50 psi).
	Old PUR adhesive in system	Clean or replace the nozzle, clean the adhesive passages (see Figure 26), and/or replace the module. Refer to *Nozzle Cleaning* and/or *Applicator Cleaning* under *Maintenance*.
	Applicator temperature setpoint too low	Increase the temperature setpoint. Do not exceed 116 °C (240 °F). Refer to *Set Up the Unity Controller* under *Setup* as needed.
	Damaged parts	Clean, inspect, and replace parts as needed.

Continued...

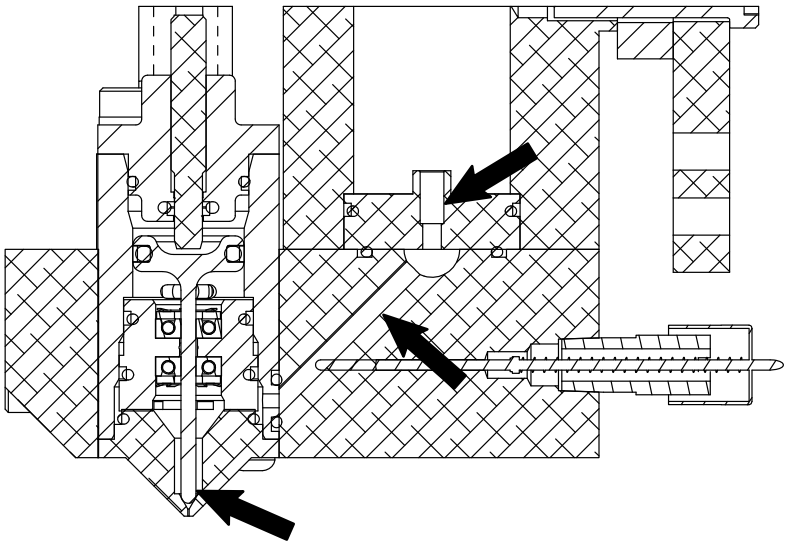

Figure 26 Location of adhesive passages

General Troubleshooting *(contd)*

Problem	Possible Cause	Corrective Action
5. Bead width changes on the part	Robot speed inconsistent	Check the program speed settings. Refer to the robot documentation.
	Applicator position too high/low	Check the program height settings and/or check the height of the product. Refer to the robot documentation.
6. No adhesive output	Low or no input air supply	Ensure that the input air pressure is greater than 3.4 bar (50 psi).
	No signal from robot	Test the signal using the robot purge switch. If the applicator purges, the problem is in the robot. Refer to the robot documentation to troubleshoot the robot. If the applicator does not purge, check the setup. Refer to *Installation* as needed.
	Solenoid connection lost	Check the red light on the solenoid valve. If the red light is not illuminated, replace the solenoid.
	Old PUR adhesive in system	Clean or replace the nozzle, clean the adhesive passages (see Figure 26), and/or replace the module. Refer to *Nozzle Cleaning* and/or *Applicator Cleaning* under *Maintenance*.
	Cured material inside of applicator	Clean or replace the nozzle, clean the adhesive passages (see Figure 26), and/or replace the module. Refer to *Nozzle Cleaning* and/or *Applicator Cleaning* under *Maintenance*.
	Applicator temperature setpoint too low	Increase the temperature setpoint. Do not exceed 116 °C (240 °F). Refer to *Set Up the Unity Controller* under *Setup* as needed.
	Module needle stroke too short	Increase the needle stroke to 2 mm (4 turns). Refer to the needle stroke adjustment steps in *Set Up the Unity PURJet 30 Applicator* under *Setup* as needed.
7. Leaks at bleed hole on module	Adhesive seal failure	Replace the module.
8. Controller does not power on	Open fuse	Replace the open fuse. Refer to *Parts* for fuse part numbers.

Continued...

Problem	Possible Cause	Corrective Action
9. Air leakage through the exhaust when the valve is idle	Piston shifted (pinched by housing)	Test the piston seal as follows: 1 See Figure 27. Connect a pressure gauge to the lower exhaust on the solenoid valve. 2 Close (de-energize) the solenoid valve and observe the pressure change. The pressure change should be less than 0.14 MPa/min (20 psig/min) at a gauge fixture volume of 13 mL (0.8 $in.^3$) to 16 mL (1.0 $in.^3$). Replace the blue piston seal as needed. Refer to the instruction sheet provided in the seal pack service kit. Refer to *Parts* for the service kit part number.
10. Dots jetting in random directions	Applicator temperature setpoint too low	Increase the temperature setpoint. Do not exceed 116 °C (240 °F). Refer to *Set Up the Unity Controller* under *Setup* as needed.
	Nozzle obstructed	Clean the nozzle. Refer to *Nozzle Cleaning* under *Maintenance*.
11. Adhesive building up on nozzle	Applicator temperature setpoint too low	Increase the temperature setpoint. Do not exceed 116 °C (240 °F). Refer to *Set Up the Unity Controller* under *Setup* as needed.
	Nozzle obstructed	Clean the nozzle. Refer to *Nozzle Cleaning* under *Maintenance*.
	Module needle stroke too short	Increase the needle stroke to 2 mm (4 turns). Refer to the needle stroke adjustment steps in *Set Up the Unity PURJet 30 Applicator* under *Setup* as needed.

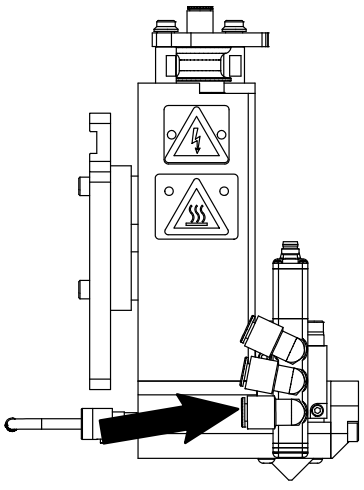

Figure 27 Location of solenoid valve air port used for piston seal test procedure

Checking the Applicator Heater

NOTE: Cordsets for applicators with a platinum sensor are customer-supplied. Refer to other documentation as needed.

1. Disconnect and lock out electrical power to the system.
2. Disconnect the applicator cordset.
3. See Figure 28 for nickel-sensor cordsets. Use an ohmmeter to check the heater resistance and continuity at the heater pins on the cordset:
   - If you measure low resistance, the heaters are operating normally. Return to the procedure that referenced this check.
   - If you measure high resistance or if an open circuit is indicated, there may be a broken wire, a loose connection, or a defective heater. Continue to the next step.

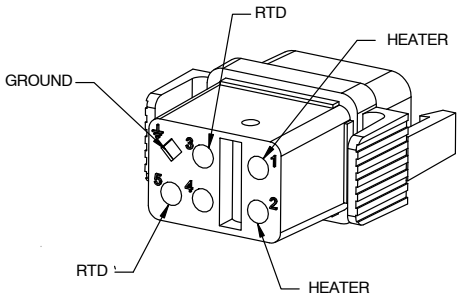

Figure 28 Pin positions on a nickel applicator cordset

4. Remove the appropriate cordset connector hood and inspect the heater wiring. Make sure there are no broken wires or loose connections and that the heaters are wired correctly.
   - If any wiring problems are found, correct the problems and restore the system to normal operation.
   - If no wiring problems are found, the heater is probably defective. Replace the heater.

Checking the Applicator Sensor

NOTE: Cordsets for applicators with a platinum sensor are customer-supplied. Refer to other documentation as needed.

NOTE: You will need to know the temperature of the sensor to properly perform this check.

1. Disconnect and lock out electrical power to the system.
2. Disconnect the applicator cordset.
3. See Figure 28 for nickel-sensor cordsets. With the sensor at a known temperature, use an ohmmeter to measure the sensor resistance at the sensor pins on the cordset.
4. See Figure 29 (for nickel sensors) or Figure 30 (for platinum sensors) to determine the correct resistance of the sensor based on its temperature:
   - If the measured resistance is correct, the sensor is operating properly. Return to the procedure that referenced this check.
   - If the measured resistance indicates an open circuit, continue to the next step.
5. Remove the appropriate cordset connector hood and check for loose sensor wires or wire connections. Tighten any loose connections.
6. Check the sensor resistance again. If the resistance is normal, the sensor is now operating properly. If it is not, continue to the next step.
7. Disconnect the sensor wires, measure the resistance across them, and compare the results to Figure 29:
   - If the measured resistance is within the appropriate range, reconnect the sensor wires, reinstall the cordset connector hood, and return to the procedure that referenced this check.
   - If the measured resistance is not within the appropriate range, replace the sensor.

Checking the Applicator Sensor *(contd)*

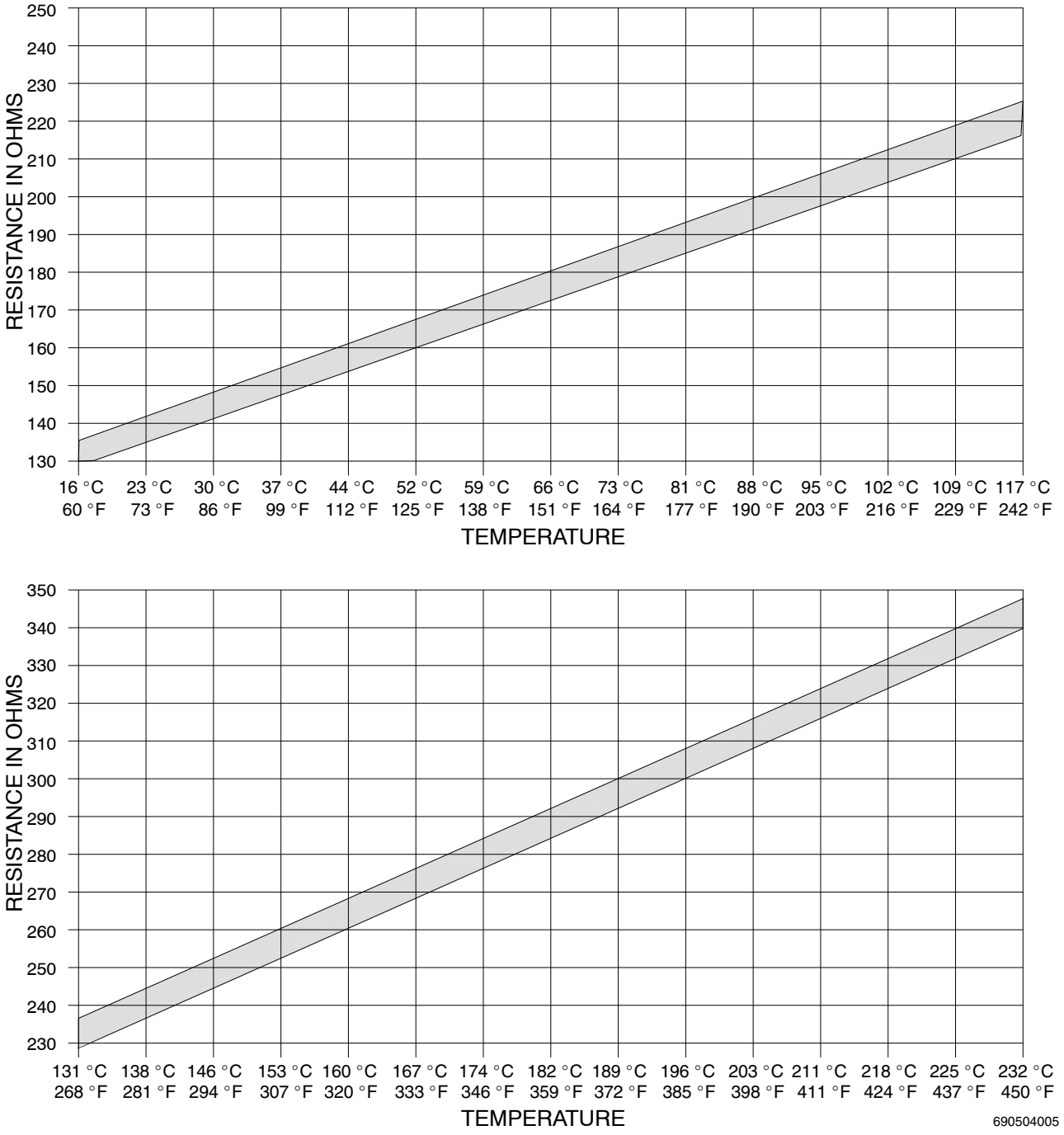

Figure 29 Nickel sensor resistance vs. sensor temperature

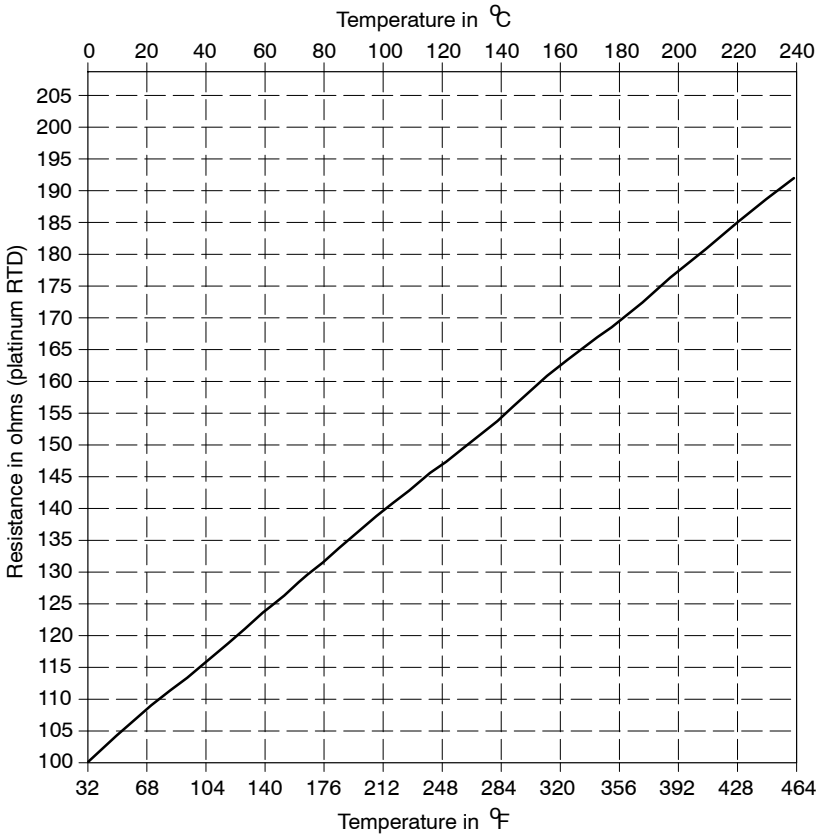

Figure 30 Platinum sensor resistance vs. sensor temperature

Note: Cordsets for applicators with a platinum sensor are customer supplied. Refer to other equipment documentation as needed.

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Parts

To order parts, call the Nordson Customer Service Center or your local Nordson representative. Use these five-column parts lists, and the accompanying illustrations, to describe and locate parts correctly. The following chart provides guidance for reading the parts lists.

The number in the *Item* column corresponds to the circled item number in the parts list illustration. A dash in this column indicates that the item is an assembly.

The number in the *Part* column is the Nordson part number you can use to order the part. A series of dashes indicates that the part is not saleable. In this case, you must order either the assembly in which the part is used or a service kit that includes the part.

The *Description* column describes the part and sometimes includes dimensions or specifications.

The *Note* column contains letters that refer to notes at the bottom of the parts list. These notes provide important information about the part.

The *Quantity* column tells you how many of the part is used to manufacture the assembly shown in the parts list illustration. A dash or AR in this column indicates that the amount of the item required in the assembly is not quantifiable.

Item	Part	Description	Quantity	Note
—	0000000	Assembly A	—	
1	000000	• Part of assembly A	2	A
2	- - - - - -	• • Part of item 1	1	
3	0000000	• • • Part of item 2	AR	
NS	000000	• • • • Part of item 3	2	

NOTE A: Important information about item 1

AR: As Required

NS: Not Shown

Unity PURJet 30 Dispensing System Assemblies

See Figure 31.

NOTE: Refer to *Cable Part Numbers* later in this section for a list of all cables that may be used with the Unity PURJet 30 system.

Item	Part	Description	Quantity	Note
1	1099056	APPLICATOR, UNITY, PURJET 30, Ni120	1	A
	1107462	APPLICATOR, UNITY, PURJET 30, PT100	1	A
2	1107104	• KIT,REG,SEP,FILTER,COMBO,AIR KIT, PURJET30		B
3	1120213	MODULE,JET,ADJUSTABLE,PJ30 7MIL	—	C
	1104347	MODULE,JET,PURJET30,FIXED	—	C
4	1120887	ENCLOSURE ASSY,UNITY	1	
5	1094180	ROBOT,JR2303N, 300MM X 320MM X 100MM	1	D
NS	1010791	ROBOT, JR2403, 400MM X 400MM X 150MM	1	D
NS	1120888	KIT, SHIP WITH, PJ30	1	E

NOTE A: Refer to *Unity PURJet 30 Applicator Parts* later in this section.

B: Refer to *Air Kit Parts* later in this section.

C: Refer to *Jet Module Parts* later in this section.

D: Refer to the robot product manual for parts information.

E: Refer to *Contents of the Ship-With Kit* under *Installation* for an illustration and parts list.

NS: Not Shown

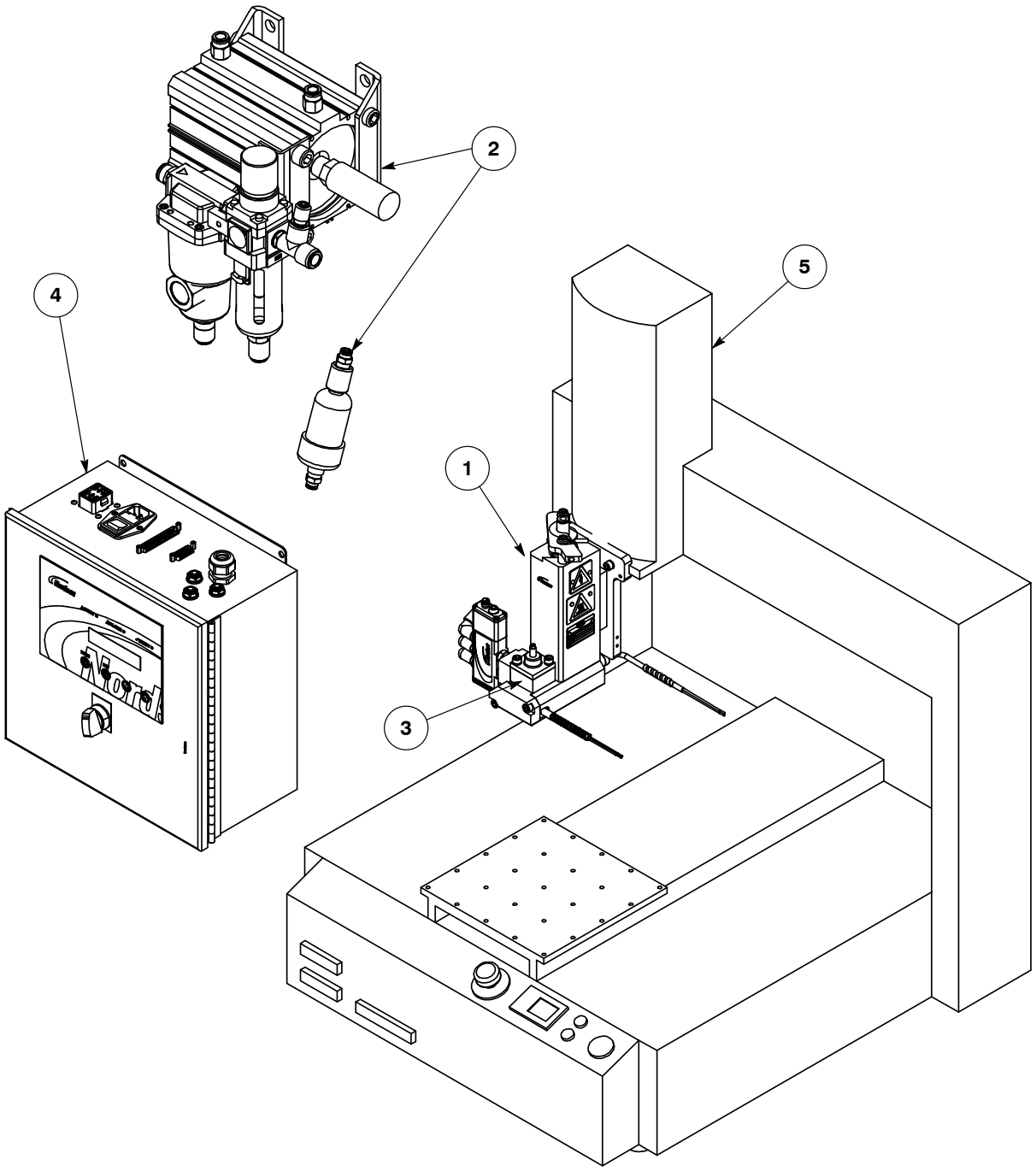


Figure 31 Unity PURJet 30 dispensing system assemblies

Unity PURJet 30 Applicator Parts

See Figure 32.

Item	Part	Description	Quantity	Note
—	1099056	APPLICATOR, UNITY, PURJET 30, Ni120	—	A
—	1107462	APPLICATOR, UNITY, PURJET 30, PT100	—	A
01	1104308	• MANIFOLD,30CC SYRINGE,PJ30	1	
02	1104309	• BLOCK,HEATER,PJ30	1	
03	940191	• O RING,VITON, .813X .938X.063	1	
04	815950	• SCR,SKT,M5X30,ZN	2	
05	1104310	• PLATE,FRONT,HEATER BLOCK,PJ30	1	
06	982166	• SCR,SKT,M5X16,BL	2	
07	1104311	• INSERT,SEAL,30CC SYRINGE,PJ30	1	
08	940211	• O RING,VITON, .938X1.063X.063-021	1	
10	1038151	• SCR,SKT,M6X30,SSTL	2	
11	1086856	• STANDOFF, SWING LATCH,3M SYRINGE	2	
12	1050984	• CORDSET,UA,T-STYLE,NI120,240V,200W (120-ohm nickel applicators)	1	B
	1050987	• CORDSET,UA,M-STYLE,PT100,240V,200W, SQR (100-ohm platinum applicators)	1	C
13	1086857	• LATCH,SWING,3M SYRINGE	1	
14	1086859	• SETSCRM,M4 X 9,BALL,SPRING PLUNGER,STL	1	
15	1086896	• INSULATOR,MANIFOLD/BRACKET,3M SYRINGE	1	
16	1097793	• BRACKET, GUN MOUNT, JR2403	1	
17	184799	• INFORMATION PLATE	1	
18	181862	• PLATE,CF,WARNING,CE,HOT	2	
19	290083	• SIGN,DANGEROUS VOLTAGE	2	
20	1094222	• CAP,AIR,3M 30CC SYRINGE	1	
21	7103784	• PLUG-TYPE THREAD-IN FTG. -G-D06-G1/8-0000	1	
22	941161	• O RING,VITON, .750X .938X.094, -116	1	
23	985267	• PIN,DOWEL,.250X1.000,H&G	2	
24	142278	• ADAPTER,BAYONET,1/8NPT,1.0-IN	1	
25	1086870	• CAPSCRM,SOC HD/FLANGED,M5X10,STL, BLK	2	
28	1104316	• INSULATOR,G1/8,15MM,JETTING,VALVE	1	
29	1121957	• CONN,MALE,6MM T X 1/8 UNI	2	
30	982611	• SCR,SKT,M3.0.5X18,ZN	2	
31	1120858	• FITTING,TUBE,STEM,G1/8 TO 6MM	2	
32	- - - - - -	• SOLENOID,SATURN PLAT,BARE,4WAY, 24VDC	1	D
33	981905	• SCR,DRIVE,RD,2X .187,ZN	10	
34	1121958	• CONN,MALE,ELBOW,8MM T X 1/8UNI	3	
35	331450	• PIN,DOWEL,M4X10MM,H&G	1	
37	1005078	• TUBING,PFA,6MM ODX 1 MM WALL	3 ft	
38	1108369	• SEALANT,PASTE, NSF-H1,FOOD GRADE	1	
39	1108371	• LUBRICANT,NEVER-SEEZ,NSF-H1,FOOD GRADE	1	

Continued...

Item	Part	Description	Quantity	Note
40	900298	• COMPOUND,HEAT SINK,5 OZ TUBE,11281	1	
41	1108372	• LUBRICANT,O-RING,NSF-H1,FOOD GRADE, 4L	1	
44	971790	• UNION,STRAIGHT,6MM T	1	
46	900470	• ADHESIVE,LOCTITE 272,RED,HI TEMP,50ML	1	
NS	1107104	• KIT,REG,SEP,FILTER,COMBO,AIR KIT,PJ30	1	E
NS	1121330	• CABLE, SOLENOID,M8,3-WIRE,5METERS	1	F

NOTE A: Modules are sold separately. Refer to *Jet Module Parts* later in this section.

B: To replace this cordset, order service kit part 1108616.

C: To replace this cordset, order service kit part 1108617.

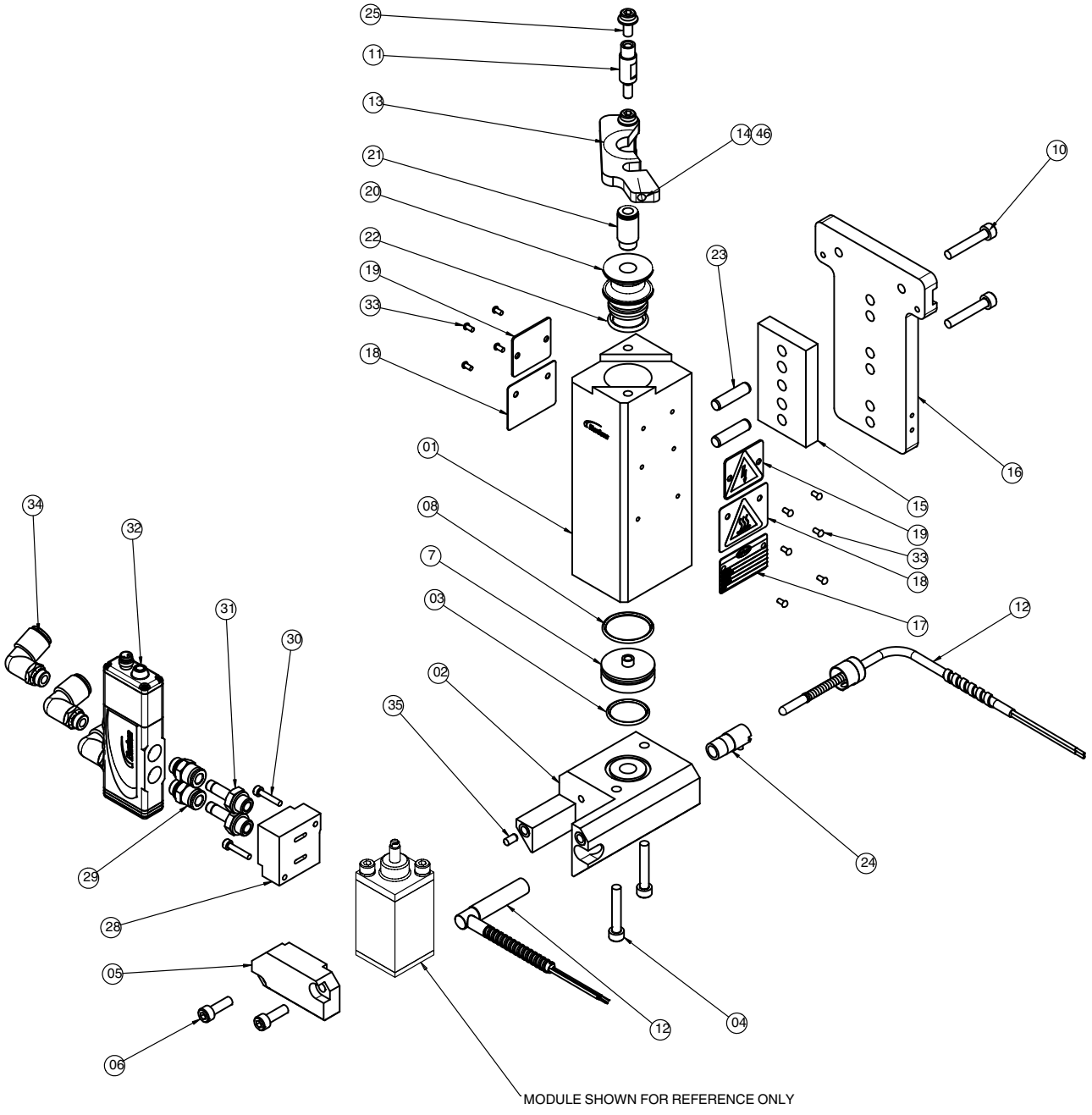
D: To replace this solenoid, order service kit part 1121358.

E: Refer to *Air Kit Parts* later in this section.

F: This cable is used to connect the applicator solenoid valve to the controller.

NS: Not Shown

Unity PURJet 30 Applicator Parts *(contd)*



NOTES:
1) APPLY THREAD LUBRICANT (ITEM 39) TO ALL STRIGHT THREADS
2) APPLY THREAD SEALANT (ITEM 38) TO SILENCER (ITEM 27)
3) APPLY HEATER LUBE (ITEM 42) TO HEATERS
4) APPLY HEAT SINK (ITEM 40) TO SENSOR
5) APPLY ORING LUBE(ITEM 41) TO ALL ORINGS

Figure 32 Unity PURJet 30 applicator parts

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Air Kit Parts

See Figure 33.

Item	Part	Description	Quantity	Note
—	1107104	KIT,REG,SEP,FILTER,COMBO,AIR KIT, PURJET30	—	
01	1107101	• ACCUMULATOR,MUFFLER,PJ30	1	
02	971105	• CONN,MALE,12MM X 3/8UNI	1	
03	971102	• CONN,MALE,10MM T X 3/8UNI	2	
04	1107125	• CONN,MALE,RUN TEE,12MM T X 3/8UNI	1	
05	1107126	• REDUCER,12MM STEM X 6MM T	1	
06	1107102	• FILTER REG,3/8 PORTS,W/GAUGE	1	
07	1107127	• FILTER,WATER SEPARATOR,3/8NPT, MODULAR	1	
08	1107103	• BRACKET,CAST,REGULATOR,Y30T	1	
09	1082141	• MUFFLER,R1/2,40 dB	1	
10	1107100	• BRACKET,L-SHAPE,AIR KIT,PJ30	1	
11	1064886	• SCR,SKT,M6x14,ZN	2	
12	1051220	• SCR,SKT,1/2-13X1.000,BL	2	
NS	1107130	• TUBING,SOFT NYLON,12MMX1.5MM,BLUE	3 m	A
NS	1107128	• ADAPTER,8MM OD TUBE TO 9MM ID BARBED	1	A
NS	1107131	• TUBING,SOFT NYLON,10MMX1.25MM,BLUE	6 m	A
NS	1107129	• ADAPTER,8MM OD TUBE TO 7.5MM ID BARBED	2	A
NS	1094186	• DRYER,AIR,DESICCANT,INLINE,1/4NPT	1	A
NS	971100	• CONN,MALE,6MM T X 1/4UNI	2	A
NS	973500	• COUPLING,PIPE,HYD,1/4,STL,ZN	1	A

NOTE A: These items are shipped with the air kit and installed when the air supply connections are made.

NS: Not Shown

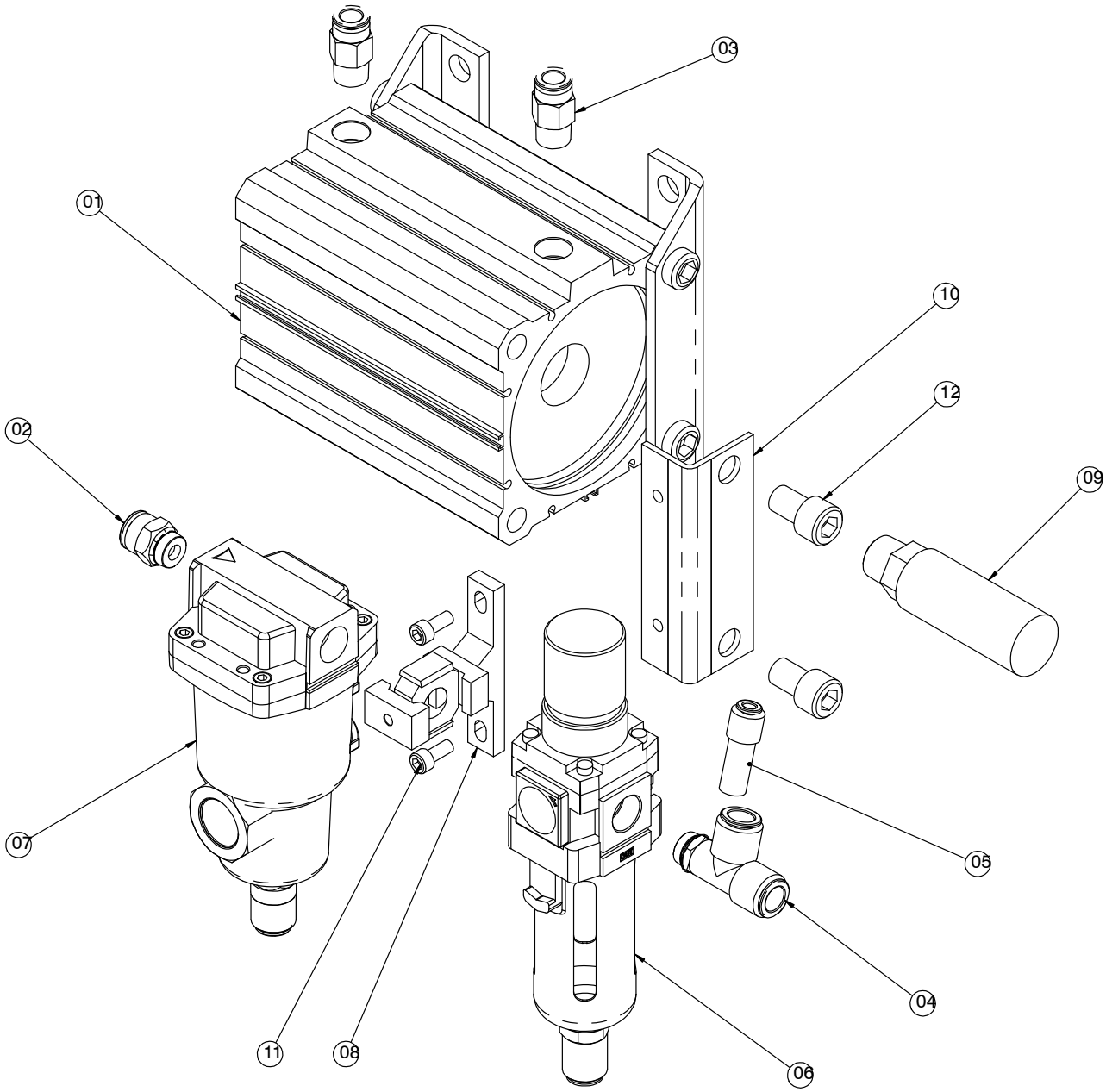

Figure 33 Air kit parts

Jet Module Parts

One of two module types may be present on the applicator: fixed or adjustable. Refer to the correct parts list for your applicator.

Fixed Module

See Figure 34.

Item	Part	Description	Quantity	Note
—	1104347	MODULE,JET,PURJET30,FIXED	—	
1	1106972	• MODULE BODY,PURJET30	1	
2	1106951	• AIR CAP,FIXED,1.5MM,PURJET30	1	
3	940111	• O RING,VITON,.301ID X .070W,BR, 10411 SB	2	
4	940090	• O RING,VITON,.208ID X .070W,BR,10409	1	
5	1104314	• SEAL,PISTON,0.75OD,TURCON,113	1	A
6	941123	• O RING,VITON, .500X .688X.094	1	A
7	1104313	• NEEDLE,PISTON,SINGLE PART,PURJET30	1	A
8	1104348	• SEAL PACK,PURJET30	1	A
9	940191	• O RING,VITON, .813X .938X.063	1	
10	- - - - - -	• NOZZLE,0.008IN DIA,SST,PURJET30	1	B
11	1101669	• SCREW,SHCS M4X10,GD12.9,ZN	2	
12	940172	• O RING,VITON,.676ID X .070W,BR	1	
13	983401	• WASHER,LK,M,SPT,M5,STL,ZN	2	
14	815945	• SCR,SKT,M5X20,ZN	2	
15	—	• Item no. not used	—	
16	—	• Item no. not used	—	
17	1108371	• LUBRICANT, NEVER-SEEZ, NSF-H1,FOOD GRADE	1	
18	1108372	• LUBRICANT,O-RING,NSF-H1,FOOD GRADE, 4L	1	
19	783959	• HIGH-TEMP. GREASE GLS 595/N2 TUBE: 250G	1	

NOTE A: This item is available in a service kit that includes replacement instructions. Refer to *Service Kit Parts* later in this section.

B: For a replacement 0.008-in. nozzle, order service kit part 1120499. An optional 0.007-in. nozzle size is also available. For a 0.007-in. nozzle, order service kit part 1120498.

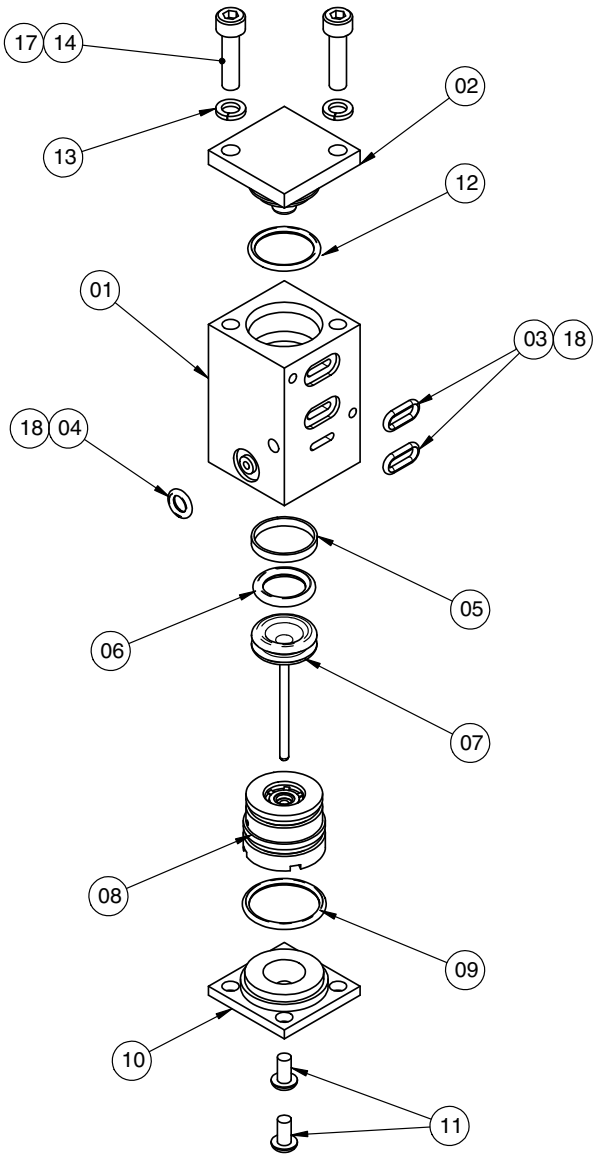

Figure 34 Fixed jet module parts

Adjustable Module

See Figure 35.

Item	Part	Description	Quantity	Note
—	1120213	MODULE,JET,ADJUSTABLE,PJ30 7MIL	—	
1	1106972	• MODULE BODY,PURJET30	1	
2	1120404	• AIR CAP,ADJUSTABLE,PURJET30	1	
3	940111	• O RING,VITON,.301ID X .070W,BR, 10411 SB	2	
4	940090	• O RING,VITON,.208ID X .070W,BR,10409	1	
5	1104314	• SEAL,PISTON,0.75OD,TURCON,113	1	A
6	941123	• O RING,VITON, .500X .688X.094	1	A
7	1104313	• NEEDLE,PISTON,SINGLE PART,PURJET30	1	A
8	1104348	• SEAL PACK,PURJET30	1	A
9	940191	• O RING,VITON, .813X .938X.063	1	
10	- - - - -	• NOZZLE,0.008IN DIA,SST,PURJET30	1	B
11	1101669	• SCREW,SHCS M4X10,GD12.9,ZN	2	
12	940172	• O RING,VITON,.676ID X .070W,BR	1	
13	983401	• WASHER,LK,M,SPT,M5,STL,ZN	2	
14	815945	• SCR,SKT,M5X20,ZN	2	
15	1106950	• PIN,ADJUSTMENT,STROKE,PURJET30	1	
16	940081	• O RING,VITON, .188X.313X.063, 10408	1	
17	1108371	• LUBRICANT, NEVER-SEEZ, NSF-H1,FOOD GRADE	1	
18	1108372	• LUBRICANT,O-RING,NSF-H1,FOOD GRADE, 4L	1	
19	783959	• HIGH-TEMP. GREASE GLS 595/N2 TUBE:250G	1	

NOTE A: This item is available in a service kit that includes replacement instructions. Refer to *Service Kit Parts* later in this section.

B: For a replacement 0.008-in. nozzle, order service kit part 1120499. An optional 0.007-in. nozzle size is also available. For a 0.007-in. nozzle, order service kit part 1120498.

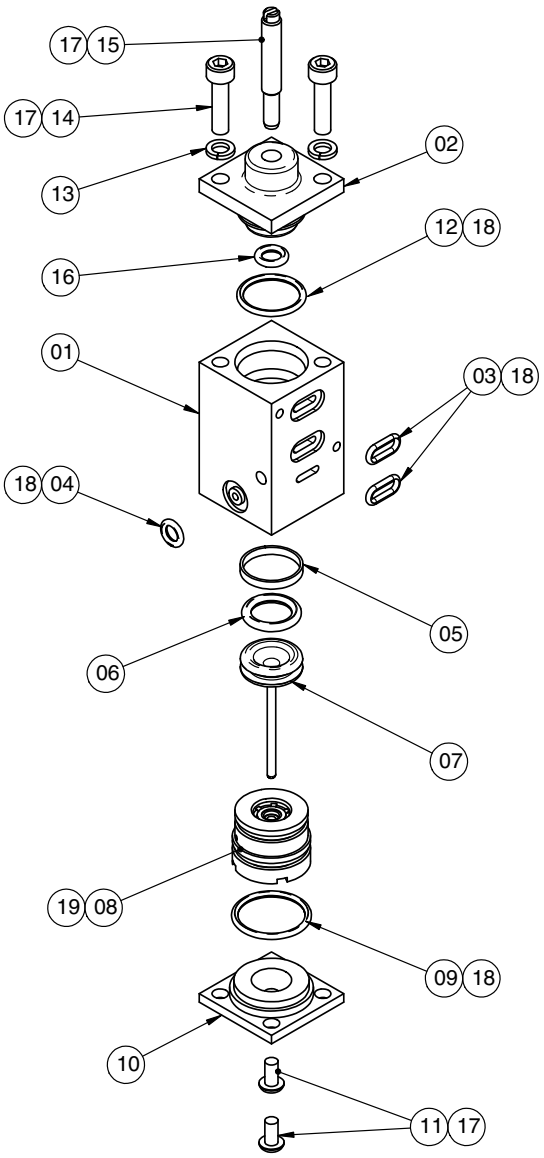

Figure 35 Adjustable jet module parts

Cable Part Numbers

The cables shown below are for use only in systems using 120-ohm nickel sensors. Cables for systems using 100-ohm platinum sensors are customer-supplied.

Part	Description	Note
1075062	CABLASSY,3COND,18AWG,IEC,PWR,NO PLUG (Unity controller power cable)	
1121438	CABLE ASSY,SHIELDED,37,D SHELL (robot-to-controller cable)	
1023676	CABLE,PWR,3-COND,IEC,9FT10-IN,BR/BLU/G-Y (robot power cable)	
1121330	CABLE, SOLENOID,M8,3-WIRE,5METERS (PJ30 applicator solenoid)	
164045	CBL,ADPTR, 12P/6S, 10FT, T-STYLE	A
1121906	CABLE ASSY,SERIAL MALE TO USB,6FT,UNITY (robot-to-PC cable)	
NOTE A: This extension cable may be used to connect an applicator cordset to the controller. The following additional lengths are available: 117123 (6 ft), 108946 (16 ft), 135972 (24 ft), 753462 (30 ft).		

Optional Accessories

Part	Description	Note
1010793	Teaching pendant, robot	
1108193	Preheater, adhesive cartridge	

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Service Kit Parts

Module Seal Pack Replacement Kit

See Figure 36.

Item	Part	Description	Quantity	Note
—	1108614	KIT,SERVICE,MODULE,SEAL PACK REPL.	—	
—	1104348	• SEAL PACK,PJ30	1	A
1	1104320	• • HOUSING,SEAL PACK,ULTEM,PURJET30	1	
2	1071968	• • SEAL, SPRING, .100 X .442 X .130	2	
3	983012	• • DISC,SEAL SUPPORT	2	
4	986502	• • RETAINING RING,INT, 43,PUSHON	2	
5	940172	• • O RING,VITON,.676ID X .070W,BR	1	
6	940181	• • O RING,VITON,.739ID X .070W,BR,10418	1	
NS	1108372	• • LUBRICANT,O-RING,NSF-H1,FOOD GRADE, 4L	1	
NS	1120252	• GREASE, HIGH TEMP, PTFE, NSF	1	
NS	1120021	• INSTRUCTIONS,PISTON REPL.,SEAL PACK REPL.	1	B
—	1108618	KIT,SPARES,SEAL,MULTIPACK	—	A
2	1071968	• SEAL, SPRING, .100 X .442 X .130	10	
3	983012	• DISC,SEAL SUPPORT	10	
4	986502	• RETAINING RING,INT, 43,PUSHON	10	
5	940172	• O RING,VITON,.676ID X .070W,BR	5	
6	940181	• O RING,VITON,.739ID X .070W,BR,10418	5	
NS	1120201	• LUBRICANT,O-RING,NSF-H1,10 ML TUBE	1	
NS	1120021	• INSTRUCTIONS,PISTON REPL., SEAL PACK REPL.	1	B

NOTE A: Refer to *Applicator Component Expected Life* under *Technical Data* for the expected life of these components.

B: Refer to http://emanuals.nordson.com/ for instruction sheets.

NS: Not Shown

Module Piston Replacement Kit

See Figure 36.

Item	Part	Description	Quantity	Note
—	1108615	KIT,SERVICE,PISTON REPL. PJ30	—	
7	1104314	• SEAL,PISTON,0.75OD,TURCON,113	1	
8	941123	• O RING,VITON, .500X .688X.094	1	
9	1104313	• NEEDLE,PISTON,SINGLE PART,PJ30	1	A
NS	1120201	• LUBRICANT,O-RING,NSF-H1,10 ML TUBE	1	
NS	1120021	• INSTRUCTIONS,PISTON REPL.,SEAL PACK REPL.	1	B

NOTE A: Refer to *Applicator Component Expected Life* under *Technical Data* for the expected life of these components.

B: Refer to http://emanuals.nordson.com/ for instruction sheets.

NS: Not Shown

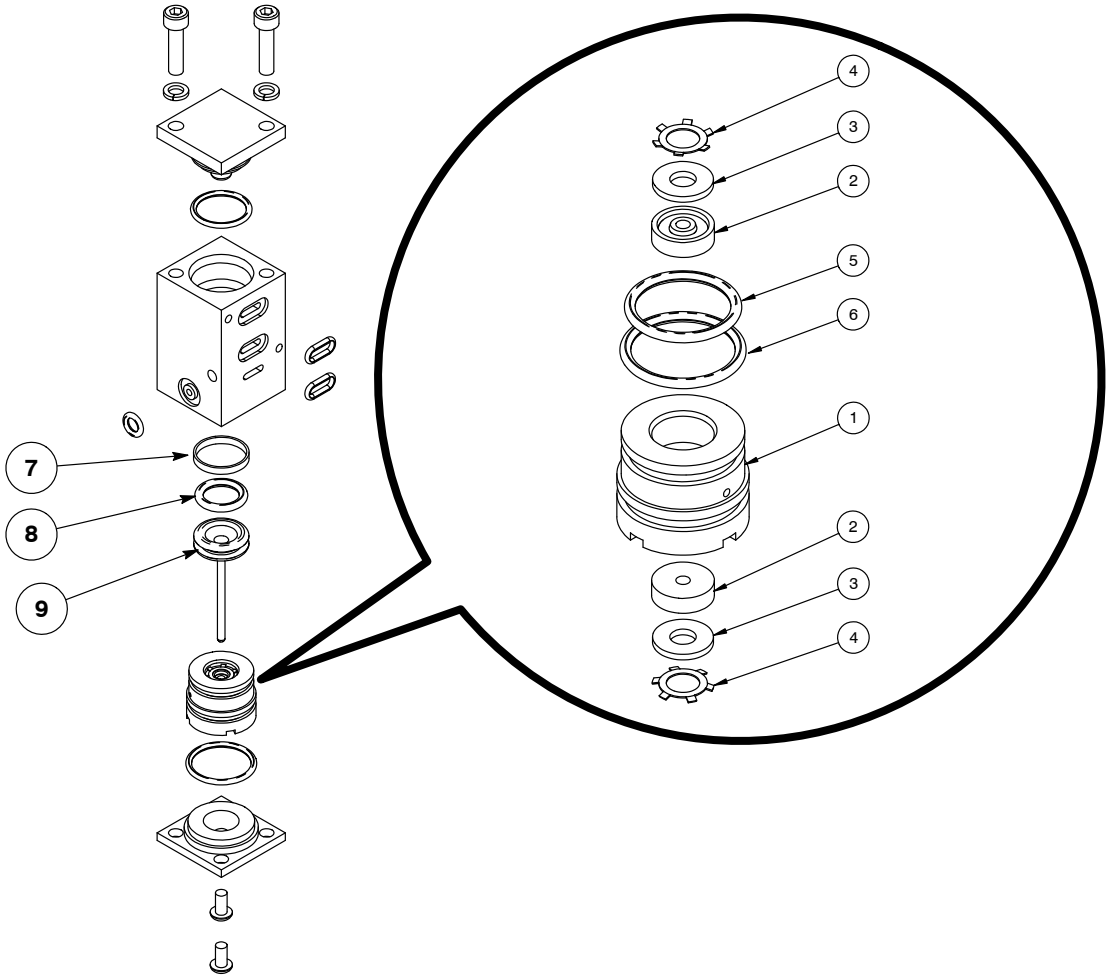


Figure 36 Module service kit parts

Recommended Spare Parts and Supplies

Equipment	Parts	Item	Note
Unity controller	1122069	KIT, CONTROLLER,UNITY (includes circuit boards and control panel)	
	320613	FUSE, 250V, 5A, PC-MOUNT (3 required)	
	939306	FUSE, 5X20, 250V, 3.15A (2 required)	
	1041036	STDBTRY,LITH,COIN,3.0V,225MA (battery)	
PURJet 30 applicator	1050984	CORDSET,UA,T-STYLE,NI120,240V,200W	
	1050987	CORDSET,UA,M-STYLE,PT100,240V,200W, SQ	
	1121358	KIT,SOLENOID,PURJET, REPLACEMENT	A
	1121330	CABLE, SOLENOID,M8,3-WIRE,5METERS	
	940191	O RING,VITON, .813X .938X.063	
	940211	O RING,VITON, .938X1.063X.063	
	941161	O RING,VITON, .750X .938X.094, -116	
	940111	O RING,VITON,.301ID X .070W,BR, 10411 SB	
	1108369	SEALANT, PASTE, NSF-H1, FOOD GRADE	
	1108371	LUBRICANT, NEVER-SEEZ, NSF-H1,FOOD GRADE	
	900298	COMPOUND,HEAT SINK,5 OZ TUBE,11281	
	1120201	LUBRICANT, O-RING, NSF-H1, 10 ML TUBE	
Air kit	1082141	MUFFLER,R1/2,40 dB	
	1094186	DRYER,AIR,DESICCANT,INLINE,1/4NPT	
Jet module	1104347	MODULE,JET,PURJET30,FIXED	B
	1120213	MODULE,JET,ADJUSTABLE,PJ30 7MIL	B
	1108614	KIT, SERVICE, MODULE, SEAL PACK REPL.	A, C
	1108615	KIT, SERVICE, PISTON REPL. NC30	A, C
	1120499	KIT, NOZZLE, .008 DIA, SST, PURJET30 (standard)	A, B
	1120498	KIT, NOZZLE, .007 DIA, SST, PURJET30 (optional)	A, B
	1104314	SEAL,PISTON,0.75OD,TURCON,113	A
	940111	O RING,VITON,.301ID X .070W,BR, 10411 SB	
	940090	O RING,VITON,.208ID X .070W,BR,10409	
	941123	O RING,VITON, .500X .688X.094	
	940191	O RING,VITON, .813X .938X.063	
	940081	O RING,VITON, .188X.313X.063, 10408	
	1106950	PIN,ADJUSTMENT,STROKE,NC30	A
Supplies	1108369	SEALANT, PASTE, NSF-H1, FOOD GRADE	
	1108371	LUBRICANT, NEVER-SEEZ, NSF-H1,FOOD GRADE	
	900298	COMPOUND,HEAT SINK,5 OZ TUBE,11281	
	1120201	LUBRICANT, O-RING, NSF-H1, 10 ML TUBE	
	783959	HIGH-TEMP. GREASE GLS 595/N2 TUBE:250G	

NOTE A: Refer to *Applicator Component Expected Life* under *Technical Data* for the expected life of these components.

B: As applicable for your system.

C: Refer to *Service Kit Parts* earlier in this section for the parts included in this kit.

Technical Data

Unity PURJet 30 Dispensing System Specifications

Component	Item	Specification
System	Transport temperature	-45-75 °C (-49-167 °F)
	Storage temperature	-45-75 °C (-49-167 °F)
	Ambient temperature	0-50 °C (32-122 °F)
	Humidity	10-95% non-condensing
Unity robot	Weight	35 kg (77 lb)
	Dimensions (l x w x h)	560 mm (W) x 529 mm(D) x 649 mm (H)
Unity controller	Operating air pressure	4-8 bar (60-120psi)
	Weight	7.2 kg (15.9 lb)
	Dimensions (l x w x h)	264 mm (W) x 152 mm (D) x 264 mm (H)
Unity PURJet 30 applicator	Weight	1.6 kg (3.4 lb)
	Material compatibility	Rated for use with all commercially available pressure sensitive and EVA hot melt adhesives and polyurethane reactive (PUR) adhesives, excluding any compound that contains polyamides
	Adhesive viscosity	Varies depending on nozzle size and flow rate
	Solenoid valve air flow	15 scfm minimum

Electrical Specifications

Component	Item	Specification
Unity robot	Supply voltage	180-250 VAC, 1-phase, 50/60 Hz, 200 W
Unity controller	Supply voltage	200-240 VAC, 1-phase, 50/60 Hz, 290 W
	Heating zones	One (applicator), 1200 W maximum
	Control temperature range	Ambient to 120 °C (ambient to 250 °F)
	Control temperature stability	±0.5 °C (±1 °F)
Unity PURJet 30 applicator	Supply voltage	200-240 VAC, 1-phase, 50/60 Hz, 250 W (supplied from controller)
	Sensor type	120-ohm nickel or 100-ohm platinum

Applicator Component Expected Life

Applicator Component	Expected Life (number of cycles)
Solenoid valve (see Note)	50 million
Stroke adjustment pin (adjustable module only)	100 million
Module body	100 million
Piston needle	50 million
Piston seal	30 million
Seal pack	10 million
Nozzle	100 million
NOTE: To preserve solenoid life, Nordson Corporation recommends setting the values for GUN ON TIME and GUN OFF TIME at 7 ms or greater.	

Dimensions

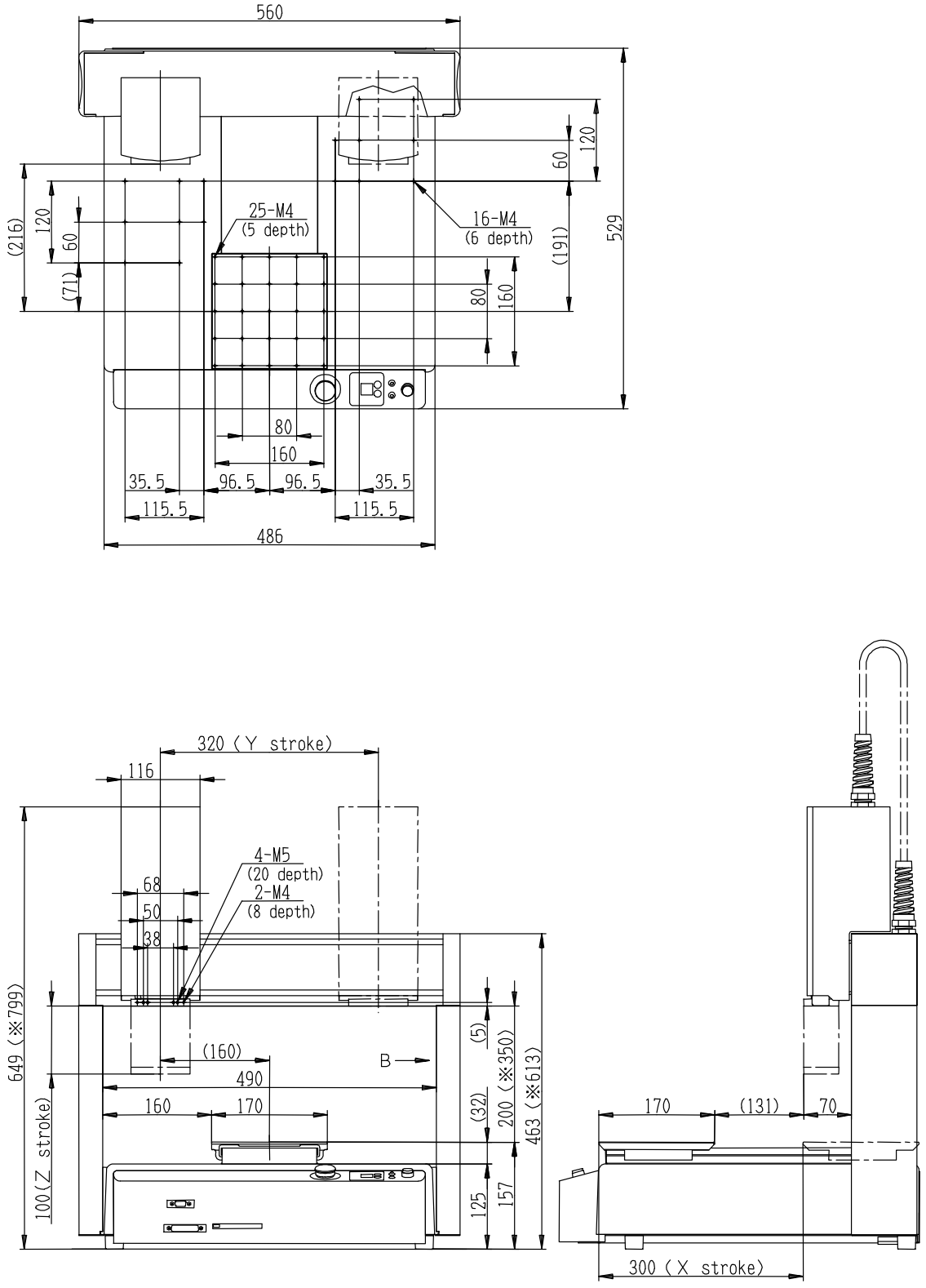


Figure 37 Robot dimensions (robot part 1094180 shown)

Applicator Dimensions

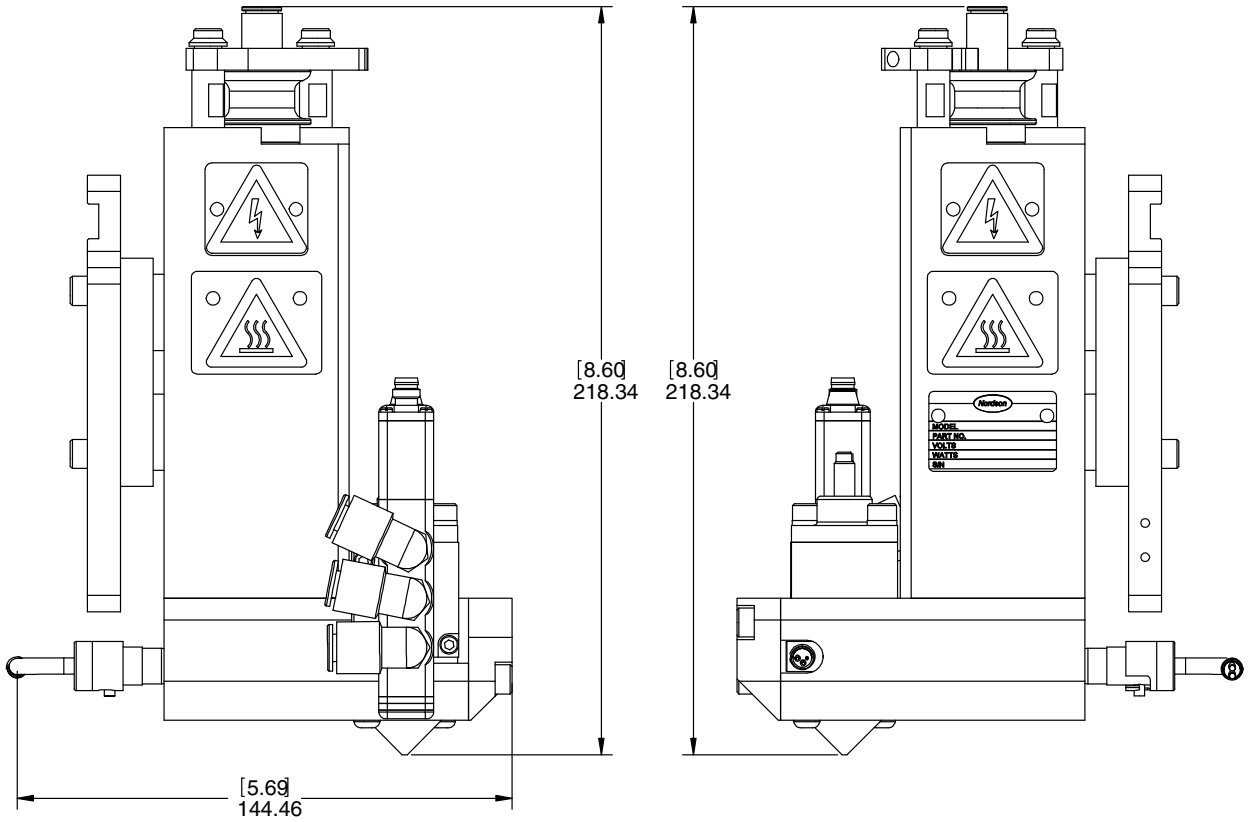


Figure 38 Unity PURJet 30 applicator dimensions

Applicator Cordset Pin Positions

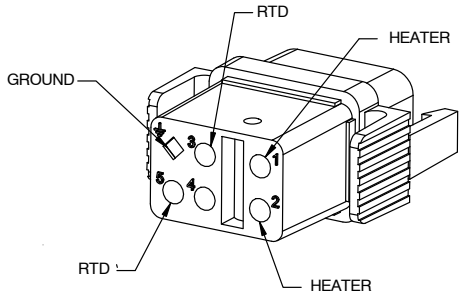


Figure 39 Pin positions on a nickel applicator cordset

Diagram of Internal Pneumatic Connections

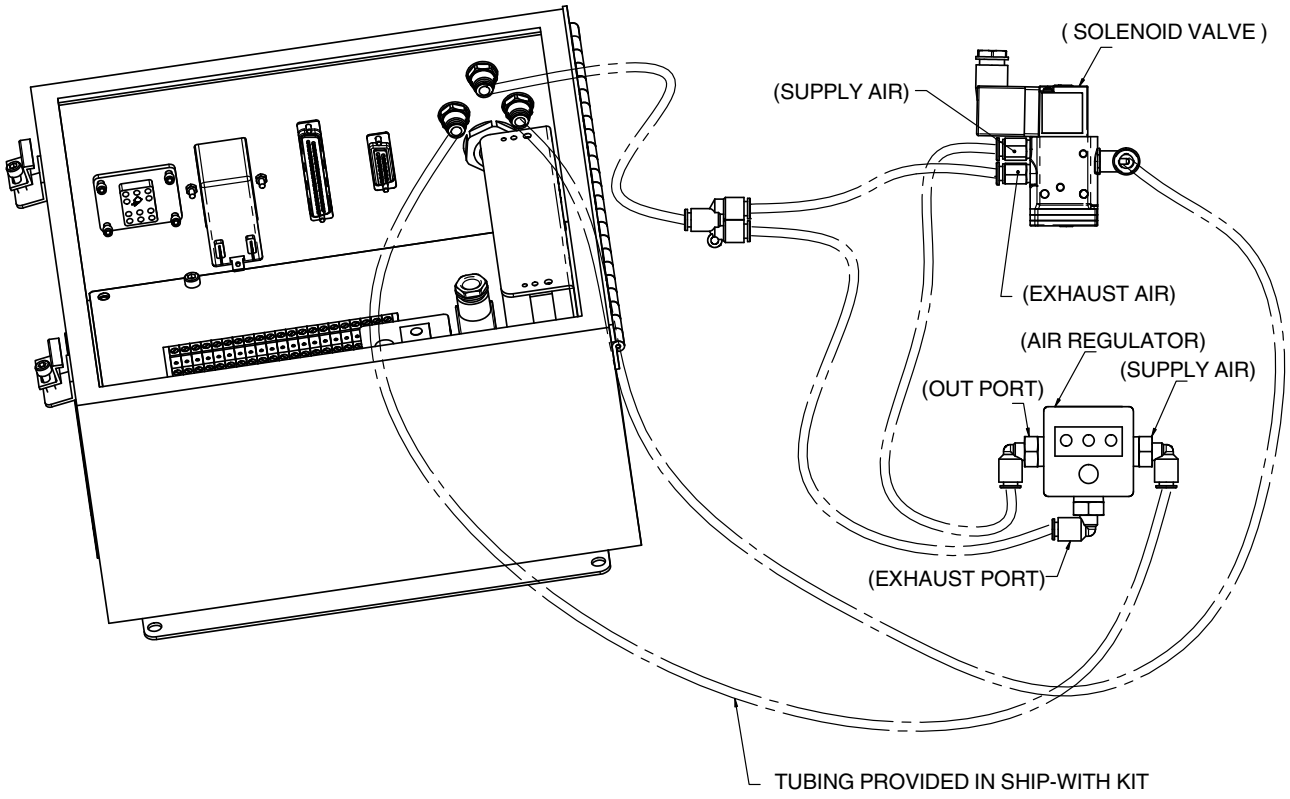
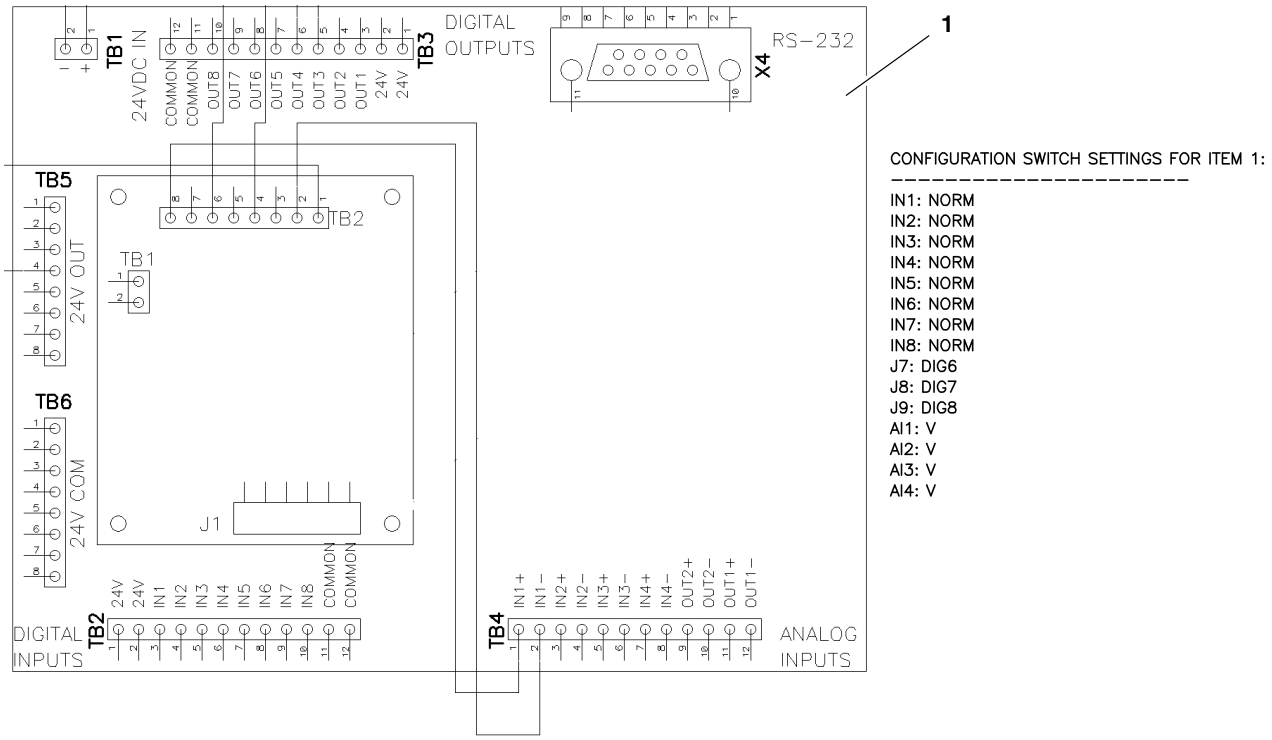


Figure 40 Diagram of internal pneumatic components

Unity Controller Board Configuration Switch Settings



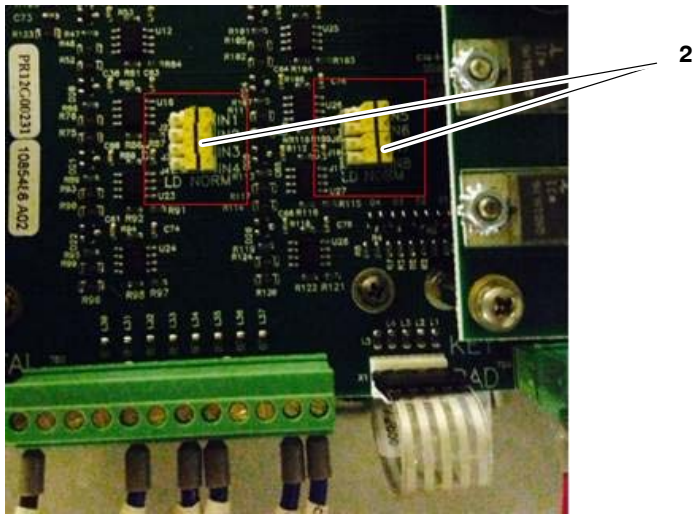


Figure 41 Unity controller board configuration switch settings

1. Unity controller board
2. Location of the IN configuration switches

Schematic

The schematic on the next page is provided for your reference as needed.

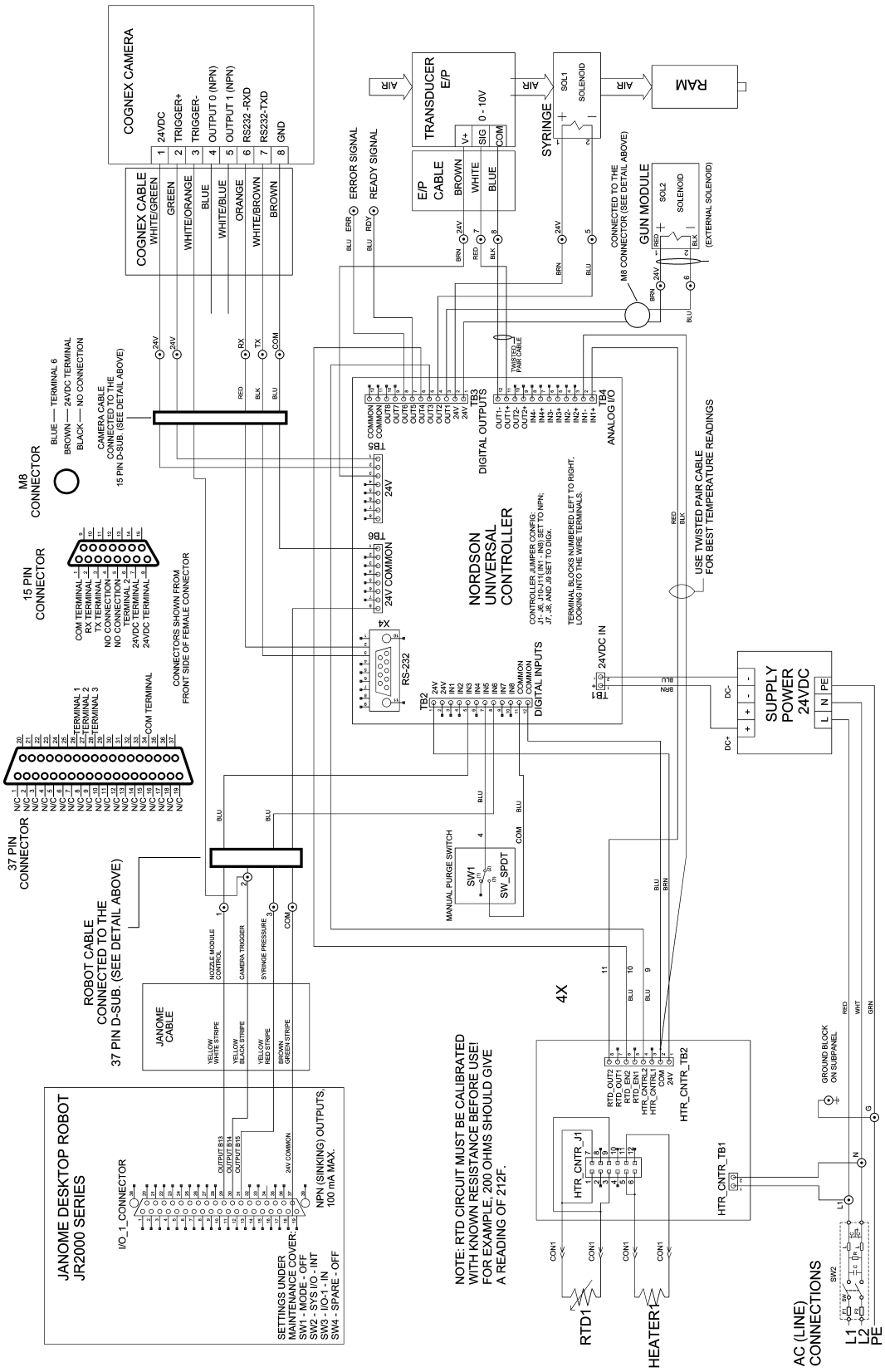


Figure 42 Unity system schematic