This document contains important safety information
Be sure to read and follow all safety information in this
document and any other related documentation.
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Section 1
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 and 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

- 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 factory-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, guns, 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 Guns

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

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

Table 1-1 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 1-1 as follows:

- **HM** = Hot melt (melters, hoses, guns, etc.)
- **PC** = Process control
- **CA** = Cold adhesive (dispensing pumps, pressurized container, and guns)

**Table 1-1 General Safety Warnings and Cautions**

<table>
<thead>
<tr>
<th>Equipment Type</th>
<th>Warning or Caution</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>HM</strong></td>
<td>![Warning Symbol] <strong>WARNING!</strong> 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.</td>
</tr>
<tr>
<td><strong>HM</strong></td>
<td>![Warning Symbol] <strong>WARNING!</strong> Reactive material! Never clean any aluminum component or flush Nordson equipment with halogenated hydrocarbon fluids. Nordson melters and guns 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.</td>
</tr>
<tr>
<td><strong>HM, CA</strong></td>
<td>![Warning Symbol] <strong>WARNING!</strong> 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.</td>
</tr>
</tbody>
</table>

Continued...
<table>
<thead>
<tr>
<th>Equipment Type</th>
<th>Warning or Caution</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>HM</strong></td>
<td><strong>WARNING!</strong> 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.</td>
</tr>
<tr>
<td><strong>HM, PC</strong></td>
<td><strong>WARNING!</strong> Equipment starts automatically! Remote triggering devices are used to control automatic hot melt guns. Before working on or near an operating gun, disable the gun’s triggering device and remove the air supply to the gun’s solenoid valve(s). Failure to disable the gun’s triggering device and remove the supply of air to the solenoid valve(s) can result in personal injury.</td>
</tr>
<tr>
<td><strong>HM, CA, PC</strong></td>
<td><strong>WARNING!</strong> 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.</td>
</tr>
<tr>
<td><strong>HM, CA, PC</strong></td>
<td><strong>WARNING!</strong> Risk of fire or explosion! Nordson adhesive equipment is not rated for use in explosive environments and 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.</td>
</tr>
</tbody>
</table>

Continued...
<table>
<thead>
<tr>
<th>Equipment Type</th>
<th>Warning or Caution</th>
</tr>
</thead>
<tbody>
<tr>
<td>HM, CA, PC</td>
<td><strong>WARNING!</strong> 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.</td>
</tr>
<tr>
<td>HM</td>
<td><strong>CAUTION!</strong> Hot surfaces! Avoid contact with the hot metal surfaces of guns, 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.</td>
</tr>
<tr>
<td>HM</td>
<td><strong>CAUTION!</strong> 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.</td>
</tr>
<tr>
<td>HM, CA</td>
<td><strong>CAUTION!</strong> 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.</td>
</tr>
<tr>
<td>HM</td>
<td><strong>CAUTION!</strong> 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.</td>
</tr>
</tbody>
</table>
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 1-1 illustrates the location of the product safety labels and tags affixed to the equipment. Table 1-2 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.

Table 1-2  Safety Labels and Tags

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td><strong>WARNING:</strong> Hazardous voltage. Disconnect all power supply connections before servicing.</td>
</tr>
<tr>
<td>2</td>
<td><strong>CAUTION:</strong> Burn hazard. Hot surfaces.</td>
</tr>
<tr>
<td>3</td>
<td><strong>WARNING:</strong> Hazardous voltage. Disconnect all power supply connections before servicing.</td>
</tr>
<tr>
<td>4</td>
<td><strong>CAUTION:</strong> Burn hazard. Hot surfaces.</td>
</tr>
<tr>
<td>NS</td>
<td>Tag, hazardous voltage [located inside the electrical cabinet on the main board—refer to Section 7, Parts, for an illustration that shows the location of the main board]</td>
</tr>
<tr>
<td></td>
<td>NS: Not Shown</td>
</tr>
</tbody>
</table>
This manual describes the installation and use of the DuraBlue 4 (D4F) adhesive melter. When necessary, the reader is referred to the documentation supplied with other Nordson products or products supplied by third parties.
**Other Sources of Information**

Refer to the following additional resources for quick-reference information, technical support, and information about getting the most out of your DuraBlue melter.

**Online Support**

Visit www.enordson/support to download melter firmware updates and Blue Series software utilities.
Product Description

See Figure 2-1. Nordson DuraBlue adhesive melters are used in conjunction with Nordson hot melt hoses and guns to create a hot melt application system.

The melter liquifies solid-form hot melt and maintains the hot melt at the desired temperature. When the guns are activated, the melter pumps the liquified hot melt through the hoses and out the gun nozzles, where it is commonly applied to the surface of a product.

Figure 2-1  System components

1. DuraBlue melter
2. Hot melt hose
3. Hot melt gun
Intended Use

DuraBlue melters are specifically designed to:

- Melt and pump solid-form hot melt materials that are engineered to be liquified and extruded at temperatures below 204 °C (400 °F)
- Be used with compatible hot melt hoses and guns that are manufactured by Nordson Corporation
- Be used in non-explosive environments

Limitations of Use

Use DuraBlue melters only for the purpose for which they are designed. DuraBlue melters should not be used:

- to melt or pump polyurethane reactive hot melt materials or any other material that creates a health or safety hazard when heated
- in environments that will require the melter to be cleaned using a water wash or spray

Modes of Operation

DuraBlue melters operate in the following modes:

**Automatic scan**—The melter automatically checks and displays the current temperature of the tank, hoses, and guns to confirm that they are within their pre-defined temperature range. By default, the melter is always in the automatic scan mode unless it is placed into another operating mode.

**Standby**—The temperatures of the tank, hoses, and guns are reduced down from their operating temperature (hereafter referred to as set-point temperature) by a pre-set number of degrees.

**Setup**—The setup mode is used to configure melter control options and features and to review stored operating data. To prevent unauthorized changes to the melter’s configuration, the melter can be password-protected.

**Fault**—The melter alerts the operator when an abnormal event occurs.
Melter Identification

See Figure 2-2. You will need the model and part number of your melter when requesting service or ordering spare parts and optional equipment. The model and part number are indicated on the equipment identification plate that is located on the front of the melter.

Figure 2-2  Equipment identification plate
Key Components

Figure 2-3 provides the name and the location of key melter components.

![Diagram of key components](image)

**Figure 2-3 Key components**

1. Motor and pump
2. Control panel (see Figure 2-4)
3. Tank lid
4. Electrical enclosure door
5. Side panel
6. Tank
7. Hose/gun receptacle
8. 25-pin input/output (I/O) receptacle
9. Power cord
10. Input air fitting
11. Filter
12. Manifold
13. I/P transducer
14. Low-level control box
15. Base assembly

*Note: The base assembly panels were removed from the left-side illustration for clarity.*
Figure 2-4  Control panel

1. Fault LED  5. Keypad  8. Left display and scroll key
3. Component keys/LEDs  7. Right display and scroll keys  10. Service LED
4. Control switch
Optional Equipment

Optional equipment may be ordered to expand the functionality of DuraBlue melters, including, but not limited to, the following:

- **Adhesive sensor** that provides an indication of the presence or absence of adhesive in the tank.

Refer to Section 7, *Parts*, for a complete list of optional equipment.
Section 3
Installation

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 damage to the equipment.

Quick-Start

If you have already installed the melter and you have no questions concerning the installation, go to Setting Up the Melter later in this section for information about how to prepare the melter to operate with your manufacturing process.

Overview

DuraBlue melters are factory-configured for each order and require only the assembly and set up tasks described in this section. If your melter was ordered as a complete system, the shipping container will also contain one or more hot melt hoses and guns.

The melter is shipped from the factory with an installation kit that contains components that must be assembled on the melter by the customer. Some additional materials must also be supplied by the customer to complete the installation.

If optional equipment was ordered with the melter, refer to the documentation provided with the optional equipment for installation and operating instructions.
Additional Information

This section presents installation procedures in their most commonly used form. Procedural variations or special considerations are explained in the additional information table that follows most procedures. Where applicable, some table entries also contain cross-reference information. Additional information tables are indicated by the symbol shown to the left.

Installation Tasks

The installation sequence is as follows:

1. Verify that the required installation conditions and utilities exist.
2. Unpack and inspect the melter.
3. Mount the melter on the parent machine or support structure.
4. Configure the electrical service.
5. Connect hot melt hoses and guns.
6. Connect an air supply.
7. Set up the melter to work with the manufacturing process.
8. Install inputs and outputs.
9. Install optional equipment.
10. (If used) Connect a gun driver, pattern controller, or timer.
11. Flush the melter.
12. Set up the pressure compensation.
13. Set up melter-to-PC communications.

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
Installation Requirements

Before installing the melter, ensure that the desired installation location provides the required clearances, environmental conditions, and utilities.

Clearances

Figure 3-1 illustrates the minimum clearances that are required between the melter and surrounding objects. Table 3-1 describes each clearance.

![Figure 3-1 Minimum installation clearances]

Table 3-1  Minimum Installation Clearances

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
<th>Required Clearance</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Width of melter at the outside of the base assembly.</td>
<td>393 mm (15.50 in.)</td>
</tr>
<tr>
<td>B</td>
<td>Clearance required between the melter and the nearest object in order to remove the filter.</td>
<td>203 mm (8.00 in.)</td>
</tr>
<tr>
<td>C</td>
<td>Clearance required between the front end of the melter (control panel) and the nearest object in order to fully open the electrical enclosure door</td>
<td>222 mm (8.75 in.)</td>
</tr>
<tr>
<td>D</td>
<td>Minimum horizontal space required for the melter when both the electrical enclosure door and tank lid are fully opened.</td>
<td>931 mm (36.66 in.)</td>
</tr>
<tr>
<td>E</td>
<td>Minimum vertical space required for the melter when the tank lid is at its highest point.</td>
<td>603 mm (23.75 in.)</td>
</tr>
</tbody>
</table>
Electrical Power

Before installing the melter, ensure that the melter will not be overloaded and that the plant’s electrical service is rated to handle the power required by the melter and the hoses and guns that you plan to use.

Refer to Appendix A, *Calculating Melter Power Requirements*, for information about how to calculate the maximum allowable hose lengths and gun wattages that can be used in your manufacturing application.

**WARNING!** Risk of electrocution! Install a lockable power disconnect switch between the electrical service and the melter. Failure to install or properly use the disconnect switch when servicing the melter can result in personal injury, including death.

Other Considerations

Consider the following additional factors when determining where to install the melter.

- The maximum distance between the melter and each gun is dictated by the power requirement of each hose. Refer to Appendix A, *Calculating Melter Power Requirements*, for information about how to determine the maximum allowable length.
- The operator must be able to safely reach the control panel and accurately monitor the control panel indicators.
- The operator must be able to safely observe the level of hot melt inside the tank.
- The melter must be installed away from areas with strong drafts or where sudden temperature changes occur.
- The melter 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.
Unpacking the Melter

Before starting the installation, remove the melter from the pallet, locate the installation kit, and inspect the melter for damaged and missing parts. Report any problems to your Nordson representative.

Contents of the Installation Kit

The installation kit provided with the melter contains the components shown in Figure 3-2.

**NOTE:** All fuses are provided as spares.

The installation kit also contains a package of safety label overlays that are printed in a variety of languages. If required by local regulations, the appropriate language overlay should be applied over the English version of the same label. Refer to Safety Labels and Tags in Section 1, Safety, for the location of each safety label.

Figure 3-2  Installation kit components

1. Connector, jumper assembly, 25-pin
2. Connector, hood, M25
3. Contact pin, female, crimp (25)
4. Fuse, fast, 10 A, 250 VAC
5. Fuse, slow, 2 A, 250 VAC
6. Fuse, fast, 5 A, 250 VAC
7. Fuse, 6.3 A, 250 VAC (2)

**Note:** Items 1, 2, and 3 are assembled to form the 25-pin I/O connector that connects to the 25-pin I/O receptacle on the back of the melter. Refer to Installing Melter Inputs/Outputs later in this section.
Customer-Supplied Materials

The following additional materials are also required to install the melter:

- 8-mm (5/16-in.) machine bolts and locking hardware for mounting the melter

Mounting the Melter

Before mounting the melter, ensure that the parent machine or support structure is level with respect to the floor, provides an even mounting surface, is not subject to extreme vibration, and is capable of supporting the weight of the melter, a full tank of hot melt, and the hoses and guns.

Refer to Section 8, Technical Data, for the weight of the melter. Refer to the technical data provided by the hot melt manufacturer for information about the volumetric weight of the hot melt.

To mount the melter

See Figure 3-3. Use 8-mm (5/16-in.) machine bolts and locking hardware to secure the melter base assembly to the mounting surface, allowing a 6-mm (1/4-in.) air gap between the base assembly and the mounting surface.
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Connecting the Electrical Service

DuraBlue melters are shipped from the factory with an attached power cord for 400/230 VAC 3-phase Wye with neutral service.

**NOTE:** DuraBlue melters with an attached power cord are not for use with residential electrical service.

**NOTE:** For melter power specifications, refer to Section 9, *Technical Data*, and Appendix A, *Calculating Melter Power Requirements*.

To connect a melter with an attached power cord

See Figure 3-4.

1. Plug the melter power cord (1) into the HAN 6-position receptacle located on the pedestal (2).

2. Select a sheathed 16 mm² (6 AWG) or larger power supply cable rated for at least 90 °C (194 °F) that meets applicable electrical codes and standards.

3. Open the side panel (3) of the pedestal and route the incoming power supply cable through the strain relief (4) to the terminal block (5) located at the base of the pedestal. Make connections to the terminal block as follows:

   **400/230 VAC 3-phase Wye with neutral service (uses pedestal P/N 735196 without a transformer)**
   - Line 1 connected to terminal block 1
   - Line 2 connected to terminal block 2
   - Line 3 connected to terminal block 3
   - Neutral connected to terminal block 4
   - PE/G connected to PE/G

All other service types require pedestal P/N 735197, which includes a transformer. The power supply can be:

- 480 VAC three-phase Delta, no neutral
- 380 VAC three-phase Delta, no neutral
- 400 VAC three-phase Delta, no neutral

**NOTE:** The pedestal with transformer is prewired for use with 480 VAC three-phase Delta, no neutral. To use a different incoming power supply voltage, the wiring connected to the the transformer must be changed to match the incoming power supply used.
Figure 3-4 Connecting the melter electrical service

1. Melter power cord
2. Pedestal
3. Pedestal side panel
4. Strain relief for incoming power supply
5. Terminal block inside pedestal for incoming power supply

Note: Position B-Ground is a ground screw inside the connector.
Connecting Hoses and Guns

DuraBlue melters use standard Nordson hoses and guns and support the connection of up to five hoses and six guns. The hose/gun capacity of each melter is determined by the number of hose/gun receptacles on the melter. Each hose/gun receptacle supports the connection of one hose/gun pair.

WARNING! Risk of fire or equipment damage. Before connecting hoses and guns to the melter, confirm that the power required by the hoses and the guns does not exceed the maximum wattages specified in Appendix A, Calculating Melter Power Requirements.

To connect hoses

Observe the following guidelines:

- For information about choosing the correct Nordson hot melt hose for your manufacturing process, refer to the latest edition of Nordson’s hot melt dispensing equipment Replacement Parts Catalog or contact your Nordson representative.
- Connect hoses to any of the hose ports provided on the manifold. The melter is shipped with five hose fittings (capped) pre-installed on the manifold.
- Refer to the user’s guide provided with each Nordson hose. The guide contains important information about routing and installing the hose.
- Save all of the plugs that were removed from the hose ports. A plug will need to be reinstalled into a hose port if a hose is later removed.
- A special hose and adapter cable that allow HHS HME500 applicators to be used with this melter are available. Refer to Section 7, Parts, for the part numbers of these components.

To connect guns

Observe the following guidelines:

- For information about choosing the most appropriate Nordson hot melt gun for your manufacturing process, refer to the latest edition of Nordson’s hot melt dispensing equipment Replacement Parts Catalog or contact your Nordson representative. Refer to Appendix A, Calculating Melter Power Requirements, for information about how to calculate the power required by Nordson hot melt guns.
- Refer to the user’s guide that is shipped with each gun for information about installing the gun and connecting a hose to the gun.

NOTE: DuraBlue melters are shipped with a 100-mesh (0.15-mm) hot melt filter installed in the pump body. Filters with 50- and 150-mesh screens (0.11 mm and 0.07 mm respectively) are also available. Order the appropriate filter based on the smallest nozzle size used in your application.
Connecting the Air Supply

Connect a supply of dry, unlubricated air that is filtered to 5 μm or less to the 6-mm input air fitting on the back of the unit. The recommended air supply range is 1–10 bar (15–145 psi).

Figure 3-5  Location of the input air fitting
Adjusting the Low-Level Sensor

The adhesive low level sensor is factory-set to the lowest level setting. Use this procedure anytime the sensor or sensor controller is replaced.

**NOTE:** The power to the low level sensor shuts off whenever the heaters are turned off.

To adjust the low-level sensor

1. Ensure that
   - the level sensor is mounted in the melter
   - the melter tank is empty (so the level sensor will work at the highest sensitivity level)

2. See Figure 3-6. Remove the control box cover

3. Select one of the following ways to adjust the level sensor:
   - open sensor
   - switch point
**Open sensor adjustment**

1. Turn the melter on.
2. Turn the potentiometer 1 (or P1) twenty turns counterclockwise. In this setting, the sensor control receives minimum input and cannot detect adhesive levels. A reading lower than the minimum input will generate a fault condition resulting in an open sensor condition (blinking LED).
3. Turn P3 clockwise until the red LED turns off and the green LED starts blinking.
4. Turn P3 counterclockwise until the green LED turns off and the red LED turns on.
5. Turn P3 one to two turns counterclockwise.
6. Reinstall the control box cover.

**Switch point adjustment**

1. Turn the melter on.
2. Turn P1 clockwise until the red LED (low) turns off and the green LED turns on.
3. Turn P1 from the switching point between the LEDs one-half turn counterclockwise and leave it in its present position.
4. Reinstall the control box cover.

---

Sensor control LEDs
1. Power (green)
2. Full (on constantly) or open sensor (blinking green)
3. Low level (red)
Setting Up the Melter

After physically installing the melter, it must be set up to support your manufacturing process. Melter setup consists of enabling or making changes to factory-set operating parameters that affect the use and function of the melter. The operating temperature (set-point) of the tank and each hose and gun is also established during melter setup.

The melter is shipped from the factory with the most commonly used operating parameters already set up. The factory setup can be modified at any time to suit your manufacturing process.

Quick Setup

Table 3-2 describes the most commonly used operating parameters and their factory settings. Review the table to determine if the factory settings for each parameter will support your manufacturing process. If the default values for each of these operating parameters are appropriate for your manufacturing process, then no melter setup is required. Go directly to Set-point Temperature of the Tank, Hoses, and Guns later in this section to complete the installation process.

If you need to make changes to the factory setup or if you want to learn about other operating parameters, go to the next part in this section, Operating Parameters.
### Table 3-2 Common Operating Parameters

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Parameter Name</th>
<th>Purpose</th>
<th>Default Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>Ready Delay Time</td>
<td>A timer that delays the activation of the ready LED for a pre-defined time period after the tank, hoses, and guns are at the desired set-point temperature. The ready delay timer will only activate if the temperature of the tank, at the time the melter is turned on, is below its assigned set-point temperature by 27 °C (50 °F) or more.</td>
<td>20 minutes</td>
</tr>
<tr>
<td>5</td>
<td>Service Interval Time</td>
<td>A timer that turns on a service LED when the value set for the timer equals the number of hours that the heaters have been on. The service LED is used to signal the need for maintenance.</td>
<td>500 hours</td>
</tr>
<tr>
<td>7</td>
<td>Motor Off Delay</td>
<td>If the switch receptacle is used, this parameter determines the amount of time the motor will remain on after the switched device is turned off.</td>
<td>0 seconds</td>
</tr>
<tr>
<td>8</td>
<td>Automatic Pump On</td>
<td>Allows the pump to start automatically when system ready is reached, provided that the pump has been enabled by pressing the pump key.</td>
<td>Enabled</td>
</tr>
<tr>
<td>11</td>
<td>Create Password</td>
<td>Sets a password that must be entered before any melter operating parameter or set-point temperature can be changed.</td>
<td>5000</td>
</tr>
<tr>
<td>20</td>
<td>Temperature Units</td>
<td>Sets the units of the temperature display to degrees Celsius (C) or to degrees Fahrenheit (F).</td>
<td>C</td>
</tr>
<tr>
<td>21</td>
<td>Over Temperature Delta</td>
<td>Sets the number of degrees that any heated component can exceed its assigned set-point temperature before an over temperature fault occurs.</td>
<td>15 °C (25 °F)</td>
</tr>
<tr>
<td>22</td>
<td>Under Temperature Delta</td>
<td>Sets the number of degrees that any heated component can drop below its assigned set-point temperature before an under temperature fault occurs.</td>
<td>25 °C (50 °F)</td>
</tr>
<tr>
<td>23</td>
<td>Standby Delta</td>
<td>Sets the number of degrees that the temperature of all heated components will be decreased when the melter is placed into the standby mode.</td>
<td>50 °C (100 °F)</td>
</tr>
<tr>
<td>26</td>
<td>Manual Standby Time</td>
<td>Sets the amount of time the melter will remain in the standby mode after the standby key is pressed.</td>
<td>Disabled</td>
</tr>
<tr>
<td>50 to 77</td>
<td>Seven-day Clock</td>
<td>A group of parameters that control the melter’s clock. The clock is used to automatically turn the heaters on and off and to place the melter into the standby mode.</td>
<td>Disabled</td>
</tr>
</tbody>
</table>
Operating Parameters

The melter uses operating parameters to store noneditable and editable values. Noneditable values are those that provide information about the historical performance of the melter. Editable values are either a numeric set-point or a control option setting. Control option settings affect the display of information or the function of the melter.

Operating parameters are stored in the melter’s firmware in the form of a sequentially numbered list. The list is organized into the logical groups described in Table 3-3.

<table>
<thead>
<tr>
<th>Group</th>
<th>Parameter Numbers</th>
<th>Group Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standard</td>
<td>0 to 8 and 10 to 14</td>
<td>Frequently used parameters</td>
</tr>
<tr>
<td>Pressure Control</td>
<td>15 to 18</td>
<td>Configure the pressure control feature</td>
</tr>
<tr>
<td>Temperature Control</td>
<td>20 to 26</td>
<td>Control heater function</td>
</tr>
<tr>
<td>Input Setup</td>
<td>30 to 32</td>
<td>Configure the standard inputs</td>
</tr>
<tr>
<td>Output Setup</td>
<td>40 to 42</td>
<td>Configure the standard outputs</td>
</tr>
<tr>
<td>Seven-day Clock</td>
<td>50 to 77</td>
<td>Configure the clock feature</td>
</tr>
<tr>
<td>Automatic Fill Timer</td>
<td>78</td>
<td>Configure the external motor control switch</td>
</tr>
<tr>
<td>PID Selection</td>
<td>80 to 91</td>
<td>Configure the PID settings</td>
</tr>
<tr>
<td>RTD Setup</td>
<td>92 to 97</td>
<td>Configure the gun RTD type</td>
</tr>
<tr>
<td>Recipe Control</td>
<td>98 to 99</td>
<td>Store and view recipes</td>
</tr>
</tbody>
</table>

In addition to the ability to read and edit parameter values, you can also save and restore the current value of every operating parameter and review a log of the last ten changes that were made to editable parameters.
Selecting Operating Parameters

Table 3-4 provides a complete list of the operating parameters. Review the list to determine which operating parameters would best support your manufacturing process. Refer to Appendix B, Operating Parameters, for detailed information about each parameter. Appendix B contains a complete description of each parameter, including its affect on the melter, default value, and format.

NOTE: Parameters that are used to configure optional equipment or that are otherwise reserved in the firmware are excluded from Table 3-4.

Reading or Editing Operating Parameters

Regardless of whether a parameter’s value is editable or not, the procedure for accessing each parameter in order to read or edit its current value is the same.

To read or edit a parameter

1. Switch the melter on.
   The melter performs a start-up check.

2. Press the Setup key.
   The left display flashes parameter 1.

3. Use the numeric keypad to enter the number of the desired parameter. Refer to Table 3-4 for a complete list of parameters.

   NOTE: If you incorrectly enter the parameter number, press the Clear/Reset key to return to parameter 1 and then re-enter the correct parameter number.

When you have finished entering the one- or two-digit parameter number, the right display indicates the parameter’s current value.
To read or edit a parameter (contd)

4. Do one of the following:
   - If the value is noneditable, refer to Monitoring the Melter in Section 4, Operation.
   - If the value is editable go to step 5.

5. Press the Enter key.

   The right display flashes.

6. Use the keypad to enter the desired numeric set-point or control option into the right display. Refer to Appendix B, Operating Parameters, for information about the numeric value or control option choices for each parameter.

   **NOTE:** If the keypad has no affect on the right display, the melter is password protected. You must enter a valid password before you can edit parameters. Refer to Entering the Melter Password in Section 4, Operation.

7. Press the Enter key.

   The melter checks that the new value or control option is acceptable.
   - If the numeric set-point or control option is accepted, the left and right displays index to the next sequential parameter number and value.
   - If the numeric set-point or control option is not accepted, the right display will indicate dashes (----) for three seconds and then it will change back to the original value.

8. Repeat step 5 through step 7 to read or change the next sequential parameter number or press the Setup key to exit the setup mode.
### Table 3-4 Operating Parameters

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Name</th>
<th>Range of Values</th>
<th>Default Value</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Standard</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>Enter Password</td>
<td>0 to 9999</td>
<td>4000</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Total Hours with Heaters On (noneditable)</td>
<td>9999</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Fault Log (noneditable)</td>
<td>—</td>
<td>_F0 (empty)</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Change History Log (noneditable)</td>
<td>—</td>
<td><em>F</em> (empty)</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Ready Delay Time</td>
<td>0 to 60 minutes</td>
<td>20 minutes</td>
<td>A</td>
</tr>
<tr>
<td>5</td>
<td>Service Interval Time</td>
<td>0 to 8736 hours</td>
<td>500 hours</td>
<td>A</td>
</tr>
<tr>
<td>6</td>
<td>Service LED Heater Hours</td>
<td>0 to 9999 hours</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Motor Off Delay</td>
<td>0 to 360 seconds</td>
<td>0 seconds</td>
<td>A</td>
</tr>
<tr>
<td>8</td>
<td>Automatic Pump On</td>
<td>0 (disabled) or 1 (enabled)</td>
<td>1 (enabled)</td>
<td>A</td>
</tr>
<tr>
<td>10</td>
<td>Enable or Disable Password</td>
<td>0 (disabled) or 1 (enabled)</td>
<td>0 (disabled)</td>
<td>A</td>
</tr>
<tr>
<td>11</td>
<td>Create Password</td>
<td>0 to 9999</td>
<td>5000</td>
<td>A</td>
</tr>
<tr>
<td>12</td>
<td>Change Hose 1 Output to Electric Gun Activation</td>
<td>0 (disabled) or 1 (enabled)</td>
<td>0 (disabled)</td>
<td>A</td>
</tr>
<tr>
<td>13</td>
<td>Change Hose 2 Output to Electric Gun Activation</td>
<td>0 (disabled) or 1 (enabled)</td>
<td>0 (disabled)</td>
<td>A</td>
</tr>
<tr>
<td>14</td>
<td>External Communications Lock-out</td>
<td>0 or 1</td>
<td>0 (disabled)</td>
<td>A</td>
</tr>
<tr>
<td><strong>Pressure Control</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>Pressure Set-Point</td>
<td>0 to 45 (bar)</td>
<td>0 (disabled)</td>
<td>A</td>
</tr>
<tr>
<td>16</td>
<td>Over Pressure Set-Point</td>
<td>0 to 10 (bar) above the pressure set-point (parameter 15)</td>
<td>0</td>
<td>A</td>
</tr>
<tr>
<td>17</td>
<td>Under Pressure Set-Point</td>
<td>0 to 10 (bar) below the pressure set-point (parameter 15)</td>
<td>0</td>
<td>A</td>
</tr>
<tr>
<td>18</td>
<td>Pressure Compensation</td>
<td>-20 to +20</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td><strong>Temperature Control</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>20</td>
<td>Temperature Units (degrees °C or °F)</td>
<td>C (degrees Celsius) or F (degrees Fahrenheit)</td>
<td>C (degrees Celsius)</td>
<td>A</td>
</tr>
<tr>
<td>21</td>
<td>Over Temperature Delta</td>
<td>5 °C (10 °F) to 60 °C (110 °F)</td>
<td>15 °C (25 °F)</td>
<td>A</td>
</tr>
<tr>
<td>22</td>
<td>Under Temperature Delta</td>
<td>5 °C (10 °F) to 60 °C (110 °F)</td>
<td>25 °C (50 °F)</td>
<td>A</td>
</tr>
<tr>
<td>23</td>
<td>Standby Delta</td>
<td>5 °C (10 °F) to 190 °C (350 °F)</td>
<td>50 °C (100 °F)</td>
<td>A</td>
</tr>
<tr>
<td>24</td>
<td>Automatic Standby Timeout</td>
<td>0 to 1440 minutes</td>
<td>0 (disabled)</td>
<td>A</td>
</tr>
<tr>
<td>25</td>
<td>Automatic Heaters Off Time</td>
<td>0 to 1440 minutes</td>
<td>0 (disabled)</td>
<td>A</td>
</tr>
<tr>
<td>26</td>
<td>Manual Standby Time</td>
<td>0 to 180 minutes</td>
<td>0 (disabled)</td>
<td>A</td>
</tr>
<tr>
<td><strong>Input Setup</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>30</td>
<td>Standard Input 1</td>
<td>0–14</td>
<td>10 (Automatic Standby)</td>
<td>A</td>
</tr>
<tr>
<td>31</td>
<td>Standard Input 2</td>
<td>0–14</td>
<td>1 (Standby On/Off)</td>
<td>A</td>
</tr>
<tr>
<td>32</td>
<td>Standard Input 3</td>
<td>0–9, 11–14</td>
<td>2 (Heaters On/Off)</td>
<td>A</td>
</tr>
<tr>
<td><strong>Output Setup</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>40</td>
<td>Standard Output 1</td>
<td>0–6</td>
<td>1 (Ready)</td>
<td>A</td>
</tr>
<tr>
<td>41</td>
<td>Standard Output 2</td>
<td>0–6</td>
<td>3 (Fault)</td>
<td>A</td>
</tr>
<tr>
<td>42</td>
<td>Standard Output 3</td>
<td>0–6</td>
<td>4 (Not used)</td>
<td>A</td>
</tr>
</tbody>
</table>

*Continued...*
### Table 3-4 Operating Parameters (contd)

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Name</th>
<th>Range of Values</th>
<th>Default Value</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><strong>Seven-day Clock</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>50</td>
<td>Current Day</td>
<td>1 to 7 (1 = Monday)</td>
<td>—</td>
<td></td>
</tr>
<tr>
<td>51</td>
<td>Current Hour</td>
<td>0000 to 2359</td>
<td>—</td>
<td></td>
</tr>
<tr>
<td>55</td>
<td>Schedule 1 Heaters On</td>
<td>0000 to 2359</td>
<td>06:00</td>
<td></td>
</tr>
<tr>
<td>56</td>
<td>Schedule 1 Heaters Off</td>
<td>0000 to 2359</td>
<td>17:00</td>
<td></td>
</tr>
<tr>
<td>57</td>
<td>Schedule 1 Enter Standby</td>
<td>0000 to 2359</td>
<td>—</td>
<td></td>
</tr>
<tr>
<td>58</td>
<td>Schedule 1 Exit Standby</td>
<td>0000 to 2359</td>
<td>—</td>
<td></td>
</tr>
<tr>
<td>60</td>
<td>Schedule 2 Heaters On</td>
<td>0000 to 2359</td>
<td>—</td>
<td></td>
</tr>
<tr>
<td>61</td>
<td>Schedule 2 Heaters Off</td>
<td>0000 to 2359</td>
<td>—</td>
<td></td>
</tr>
<tr>
<td>62</td>
<td>Schedule 2 Enter Standby</td>
<td>0000 to 2359</td>
<td>—</td>
<td></td>
</tr>
<tr>
<td>63</td>
<td>Schedule 2 Exit Standby</td>
<td>0000 to 2359</td>
<td>—</td>
<td></td>
</tr>
<tr>
<td>65</td>
<td>Schedule 3 Heaters On</td>
<td>0000 to 2359</td>
<td>—</td>
<td></td>
</tr>
<tr>
<td>66</td>
<td>Schedule 3 Heaters Off</td>
<td>0000 to 2359</td>
<td>—</td>
<td></td>
</tr>
<tr>
<td>67</td>
<td>Schedule 3 Enter Standby</td>
<td>0000 to 2359</td>
<td>—</td>
<td></td>
</tr>
<tr>
<td>68</td>
<td>Schedule 3 Exit Standby</td>
<td>0000 to 2359</td>
<td>—</td>
<td></td>
</tr>
<tr>
<td>71</td>
<td>Schedule for Monday</td>
<td>0–7</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>72</td>
<td>Schedule for Tuesday</td>
<td>0–7</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>73</td>
<td>Schedule for Wednesday</td>
<td>0–7</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>74</td>
<td>Schedule for Thursday</td>
<td>0–7</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>75</td>
<td>Schedule for Friday</td>
<td>0–7</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>76</td>
<td>Schedule for Saturday</td>
<td>0–7</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>77</td>
<td>Schedule for Sunday</td>
<td>0–7</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Automatic Fill Timer</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>78</td>
<td>Automatic Fill Timer</td>
<td>0–99 seconds</td>
<td>0 (Disabled)</td>
<td>A</td>
</tr>
<tr>
<td></td>
<td><strong>PID Selection</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>80–91</td>
<td>PID Selection for Hose/Gun Receptacles</td>
<td>0–3</td>
<td>0 or 1</td>
<td>A</td>
</tr>
<tr>
<td></td>
<td><strong>RTD Setup</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>92</td>
<td>Gun 1 RTD Type</td>
<td>0 (nickel 120) or 1 (platinum 100)</td>
<td>0 (nickel 120)</td>
<td>A</td>
</tr>
<tr>
<td>93</td>
<td>Gun 2 RTD Type</td>
<td>0 (nickel 120) or 1 (platinum 100)</td>
<td>0 (nickel 120)</td>
<td>A</td>
</tr>
<tr>
<td>94</td>
<td>Gun 3 RTD Type</td>
<td>0 (nickel 120) or 1 (platinum 100)</td>
<td>0 (nickel 120)</td>
<td>A</td>
</tr>
<tr>
<td>95</td>
<td>Gun 4 RTD Type</td>
<td>0 (nickel 120) or 1 (platinum 100)</td>
<td>0 (nickel 120)</td>
<td>A</td>
</tr>
<tr>
<td>96</td>
<td>Gun 5 RTD Type</td>
<td>0 (nickel 120) or 1 (platinum 100)</td>
<td>0 (nickel 120)</td>
<td>A</td>
</tr>
<tr>
<td>97</td>
<td>Gun 6 RTD Type</td>
<td>0 (nickel 120) or 1 (platinum 100)</td>
<td>0 (nickel 120)</td>
<td>A</td>
</tr>
<tr>
<td></td>
<td><strong>Recipe Control</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>98</td>
<td>Store Recipe</td>
<td>0–3</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>99</td>
<td>Display Active Recipe</td>
<td>0–3</td>
<td>0</td>
<td></td>
</tr>
</tbody>
</table>

**NOTE A:** These parameter settings are saved when a recipe is stored.
You can exit the setup mode at any time by pressing the **Setup** key.

Parameter numbers that are not applicable are skipped when you scroll through the operating parameter list in the left display.

When the right display is flashing, you can quickly set the value of the current parameter to its lowest possible value by simultaneously pressing both of the right-display scroll keys.

While in the setup mode, if no key is pressed for two minutes, the melter will return to the automatic scan mode.

You can also use the right-display scroll keys to enter or change a parameter’s value or control option. After entering the parameter’s number in the left display, press either of the right-display scroll keys to change the value or control option.

Using a personal computer that is connected to the melter through the serial port, you can view and change all of the operating parameters from a single computer screen.

If password protection is enabled, the melter will return to the password protected mode whenever you exit the setup mode.

All parameter settings are retained when the melter is switched off.
Set-point Temperature of the Tank, Hoses, and Guns

The melter is shipped from the factory with the tank set-point temperature at 175 °C (350 °F) and the hose and gun set-point temperatures at 0 degrees (turned off).

Before the melter can be used, a set-point temperature must be assigned to the tank, hoses, and guns. Assign set-point temperatures using any of the following methods:

- **Global**—The tank and all hoses and guns are set to the same set-point temperature.
- **Global-by-component group**—All of the hoses or all of the guns are set to the same set-point temperature.
- **Individual Component**—The set-point temperature of the tank and each hose and gun is set individually.

Since most manufacturing processes will require the tank, hoses, and guns to be set to the same temperature, only the global method of assigning set-point temperatures is described in this section. For information about the other two methods of assigning set-point temperatures, refer to Section 4, *Adjusting Component Temperatures*.

As with operating parameters, you can also save and restore set-point temperatures and review past changes that were made to set-point temperatures.
To assign a global set-point temperature

1. Press and hold the **Tank** key for three seconds.
   The left display flashes 1.

2. Scroll the left display to 0.
   The right display indicates all dashes (----) and the LEDs on the tank, hose, and gun keys turn green.

3. Press the **Enter** key.
   The right display flashes.

4. Use the numeric keypad to enter the set-point temperature recommended by the manufacturer of the hot melt.
   Refer to the technical data sheet provided by the manufacturer of the hot melt to determine the optimal set-point temperature.

5. Press the **Tank** key.
   Each component begins to heat or cool to the new global set-point temperature and the melter returns to the automatic scan mode.
   When all of the components reach the global set-point temperature, the ready LED turns on (green).
Save and Restore Melter Settings

The current value of all editable operating parameters and the set-point temperature of each component can be saved and, if necessary, restored at a later time. When saved settings are restored, they overwrite the settings that are presently in use.

This save-restore feature is useful in instances where the settings that are in use are deliberately or accidentally changed and you need to return the melter to its pre-change setup.

**To save current settings**

With the melter in the automatic scan mode, simultaneously press the number 1 key and the **Setup** key.

S-1 appears momentarily in the right display.

**To restore saved settings**

**CAUTION!** All melter settings will be deleted! Before restoring saved settings, ensure that use of the restored settings will not disrupt the current process or create an unsafe operating condition.

With the melter in the automatic scan mode, simultaneously press the number 2 key and the **Setup** key.

S-2 appears momentarily in the right display.

If you use the restore feature before the save feature is used for the very first time, the factory default set-point temperatures will be restored. This will cause the hoses and guns to stop heating.

You can transfer melter settings from one melter to another using the Nordson Configuration Manager software utility. Refer to Appendix C, Melter Communications.
Review Parameter and Set-point Temperature Changes

The melter stores in a change history log, a record of the last ten changes that were made to either operating parameters or set-point temperatures. Since the log only stores ten changes, old log entries are overwritten beginning with the first log entry, by the eleventh and following log entries.

To review the change history log

1. Press the **Setup** key.
   Operating parameter 1 flashes in the left display.

2. Press the left-display scroll key to change the display to parameter 3 (the change history log).
   The following occurs:
   - If the last change was to an editable parameter, all of the component key LEDs remain off.
     
     or
     
   - If the last change was to a set-point temperature, the LED on the associated component key(s) turns on.
     
     and
     
   - The right display indicates the four-digit log entry associated with the last change that was made.

Table 3-5 provides the meaning, from left to right, of each digit in the log entry. Following the table are two example log entries.

3. Press a right-display scroll key to review each of the remaining nine log entries. Each press of a scroll key displays a progressively older log entry.

4. Press the **Setup** key to return to the automatic scan mode.
### Table 3-5 Change History Log

<table>
<thead>
<tr>
<th>First Digit</th>
<th>Second Digit</th>
<th>Third and Fourth Digits</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>P</strong> (Parameter)</td>
<td>–</td>
<td>Indicates the number of the parameter that was changed.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Are used in conjunction with the LEDs on the component keys to indicate the location and method of a set-point temperature change.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>When this LED is on..</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Change History Log Examples

**Example 1:**

![P-4](image)

Parameter 4 (ready delay) was changed.

**Example 2:**

![S-0](image)

If the LED on the gun key is on, then this display would indicate that the global-by-component method was used to change the temperature of the guns.

Unused log entries in the change history log are indicated by "P-" in the right display.

To view how many heater hours have elapsed since a specific change (displayed) was made, simultaneously press both of the right-display scroll keys.
This page intentionally left blank.
Installing Melter Inputs/Outputs

About inputs
DuraBlue melters are equipped with three inputs that can be set up to provide one of the following control options:

- Place the melter into the standby mode
- Turn the heaters on and off
- Turn the motor on and off
- Enable or disable a specific hose or gun
- Lock out the control panel
- Enable automatic standby (first input only)
- Enable an automatic fill timer

Two additional inputs allow you to store and display up to four different recipes. A recipe is a selection of parameter settings (such as temperature set points, pressure set points, etc.) for a given application.

The inputs require a 10 to 30 VDC signal voltage. The inputs are not polarity-sensitive.

⚠️ WARNING! The operator can override the melter inputs by using the control panel function keys. Ensure that the control logic for any external device that sends an input signal to the melter is programmed to prevent the creation of an unsafe condition in the event that the operator overrides an external input to the melter.

About outputs
The melter is also equipped with four outputs. Outputs are used to communicate with user-supplied production equipment or control hardware, such as a programmable logic controller.

Three outputs can be set up in the melter’s firmware to provide one of the following outputs:

- The melter is ready
- The melter is ready and the motor is on
- A fault has occurred
- The hot melt level is low
- The service LED is on

An additional output can be used to indicate that the output pressure is at the pressure set point or within a correct pressure range

All outputs contacts are rated at 240 VAC 2 A or 30 VDC 2 A. All contacts are normally open when the melter is turned off.
To ensure correct melter operation

If you are not going to connect any inputs or outputs, assemble the 25-pin I/O connector (the connector assembly and hood shown in Figure 3-7) from the installation kit and connect the assembly to the 25-pin I/O receptacle on the melter. The 25-pin I/O connector must be installed for correct melter operation (pressure buildup/emergency stop).

**NOTE:** Do not remove the preinstalled jumper from the connector assembly. The jumper should be removed only if you want to replace it with a switch in the parent machine.

To wire inputs and outputs to the melter

See Figure 3-7.

1. Use the crimp pins from the installation kit to connect the inputs/outputs you wish to use to the connector assembly.
   
   **NOTE:** Do not remove the preinstalled jumper from the connector assembly.

2. Assemble the connector assembly and hood to create the 25-pin I/O connector.

3. Connect the 25-pin I/O connector to the 25-pin I/O receptacle on the melter.
Figure 3-7 Connecting inputs and outputs

1. Crimp pin
2. 25-pin connector assembly with jumper
3. Connector hood
4. Assembled 25-pin I/O connector
5. 25-pin I/O receptacle

Note: Items 1, 2, and 3 are assembled to form the 25-pin I/O connector (4) that connects to the 25-pin I/O receptacle (5).

Note: The pressure control output signal looks for the settings of the pressure control parameters (parameters 15–17).
Installing Melter Inputs/Outputs (contd)

To set up an input or output

Set up the parameter control option for each input and output that you connected to the melter. Tables 3-6 and 3-7 list the available control options. Refer to Setting Up the Melter, earlier in this section, for information about how to select operating parameters and edit parameter control options.

With the exception of the pump enable/disable control option, all inputs are transition-based.

Table 3-6 Input Data

<table>
<thead>
<tr>
<th>Input</th>
<th>Operating Parameter</th>
<th>Control Option</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>30</td>
<td>0 - Input Disabled&lt;br&gt;1 - Standby On/Off&lt;br&gt;2 - Heaters On/Off&lt;br&gt;3 - Motor 1 Enable/Disable&lt;br&gt;4 - Hose/Gun 1 Enable/Disable&lt;br&gt;5 - Hose/Gun 2 Enable/Disable&lt;br&gt;6 - Hose/Gun 3 Enable/Disable&lt;br&gt;7 - Hose/Gun 4 Enable/Disable&lt;br&gt;8 - Hose/Gun 5 Enable/Disable&lt;br&gt;9 - Hose/Gun 6 Enable/Disable&lt;br&gt;10 – Automatic Standby (Default)&lt;br&gt;11 - Motor 2 Enable/Disable&lt;br&gt;12 - Panel Lock-out&lt;br&gt;13 – Automatic Fill Timer No. 1&lt;br&gt;14 – Automatic Fill Timer No. 2</td>
<td></td>
</tr>
</tbody>
</table>

Continued...
Table 3-6 Input Data (contd)

<table>
<thead>
<tr>
<th>Input</th>
<th>Operating Parameter</th>
<th>Control Option</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>31</td>
<td>0 - Input Disabled&lt;br&gt;1 - Standby On/Off (Default)&lt;br&gt;2 - Heaters On/Off&lt;br&gt;3 - Motor Enable/Disable&lt;br&gt;4 - Hose/Gun 1 Enable/Disable&lt;br&gt;5 - Hose/Gun 2 Enable/Disable&lt;br&gt;6 - Hose/Gun 3 Enable/Disable&lt;br&gt;7 - Hose/Gun 4 Enable/Disable&lt;br&gt;8 - Hose/Gun 5 Enable/Disable&lt;br&gt;9 - Hose/Gun 6 Enable/Disable&lt;br&gt;11 - Motor 2 Enable/Disable&lt;br&gt;12 - Panel Lock-out&lt;br&gt;13 - Automatic Fill Timer No. 1&lt;br&gt;14 - Automatic Fill Timer No. 2</td>
<td>A</td>
</tr>
<tr>
<td>3</td>
<td>32</td>
<td>0 - Input Disabled&lt;br&gt;1 - Standby On/Off&lt;br&gt;2 - Heaters On/Off (Default)&lt;br&gt;3 - Motor Enable/Disable&lt;br&gt;4 - Hose/Gun 1 Enable/Disable&lt;br&gt;5 - Hose/Gun 2 Enable/Disable&lt;br&gt;6 - Hose/Gun 3 Enable/Disable&lt;br&gt;7 - Hose/Gun 4 Enable/Disable&lt;br&gt;8 - Hose/Gun 5 Enable/Disable&lt;br&gt;9 - Hose/Gun 6 Enable/Disable&lt;br&gt;11 - Motor 2 Enable/Disable&lt;br&gt;12 - Panel Lock-out&lt;br&gt;13 - Automatic Fill Timer No. 1&lt;br&gt;14 - Automatic Fill Timer No. 2</td>
<td>B</td>
</tr>
</tbody>
</table>

**NOTE A:** If control option 1 is selected, the input must be driven by 24 VDC. If 24 VDC is not present, the melter will enter the standby mode.

**B:** If control option 3 is selected, the motor will not turn on—even if you press the pump key—if voltage is not present on the input’s contacts.

**C:** If control option 10 is selected for input 1, a time must be set in parameter 24.

**D:** If this control option is selected, this input must be driven by 24 VDC to activate the panel lock-out function.

**E:** Refer to Storing and Retrieving Recipes in Section 4, Operation, for instructions on using these parameters.
Installing Melter Inputs/Outputs (contd)

To set up an input or output (contd)

Table 3-7  Output Data

<table>
<thead>
<tr>
<th>Output</th>
<th>Operating Parameter</th>
<th>Control Options</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>40</td>
<td>0 - Output Disabled</td>
<td>A</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1 - Ready (Default)</td>
<td>A</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2 - Ready and the Motor is On</td>
<td>A</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3 - Fault</td>
<td>B</td>
</tr>
<tr>
<td></td>
<td></td>
<td>4 - Tank Low Level</td>
<td>B</td>
</tr>
<tr>
<td></td>
<td></td>
<td>5 - Service LED is On</td>
<td>A</td>
</tr>
<tr>
<td></td>
<td></td>
<td>6 - Alert</td>
<td>C</td>
</tr>
<tr>
<td>2</td>
<td>41</td>
<td>Same as parameter 40 (Default=3)</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>42</td>
<td>Same as parameter 40 (Default=4)</td>
<td></td>
</tr>
<tr>
<td>Pressure Correct</td>
<td>–</td>
<td>Noneditable</td>
<td>D</td>
</tr>
</tbody>
</table>

NOTE A: When control option condition occurs, contacts close. Contacts are normally open when power is off.

B: When control option condition occurs, contacts open. Contacts are normally open when power is off.

C: Control option 6 provides an output signal when a potential fault is detected. If control option 3 and 6 are both used, then both a fault output and an alert output signal will be present when the fault LED turns on.

D: This contact is closed when the output pressure is within the correct pressure range as set up in parameters 16 and 17.
Installing Optional Equipment

Each item of optional equipment is shipped with instructions for installing and operating the equipment. Refer to Section 7, Parts, for equipment part numbers.

Connecting a Gun Driver, Pattern Controller, or Timer

If applicable, complete the melter installation by connecting the guns to the desired gun driver, pattern control, or timer. Refer to the product manual provided with the device for information about installing and operating the equipment.

Flushing the Melter

WARNING! Risk of Burns! New melters contain a small quantity of low-viscosity test fluid. Test fluid may splatter when discharged under high pressure. Before flushing the melter, ensure that the pressure control valve is set to low pressure.

Before using the melter for production, it should be flushed to remove any residue left over from factory-testing. Flushing the melter is accomplished by processing a minimum of one tank volume of hot melt through the melter, hoses, and guns.

Refer to Section 4, Operation, for information about filling the tank and operating the melter.
Setting Up the Pressure Compensation

The melter has a pressure control feature that allows you to specify a specific output pressure. For this feature to operate properly, you must follow this procedure to ensure that the actual melter output pressure equals the pressure set-point you enter. This procedure needs to be performed only as part of the installation process.

When this setup is complete, you can use parameter 15 (Pressure Set-Point) to enter a specific melter output pressure. The actual pressure is displayed on the control panel after the last gun temperature: the left display shows a P (for pressure) and the right display shows the pressure reading.

1. Place the melter into operation. Refer to Section 4, Operation, for information about filling the tank and operating the melter.

2. Enter a Pressure Set-Point (parameter 15) of 5 and record in Table 3-8 the actual pressure reading shown on the control panel for a pressure set-point of 5. Repeat this step for each of the pressure set-points shown in Table 3-8.

3. Calculate the difference between the “Pressure Set-Point” values and the “Actual Pressure” values record the value the “Pressure Compensation” column of Table 3-8

**EXAMPLE:** When parameter 15 is set to 5, the actual pressure shown on the control panel is 8. The difference between these two values is −3. This is the value that must be entered for parameter 18 (Pressure Compensation) to allow the melter to achieve an actual pressure of 5 when parameter 15 is set to 5.

<table>
<thead>
<tr>
<th>Pressure Set-Point</th>
<th>Actual Pressure</th>
<th>Pressure Compensation</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td></td>
<td></td>
</tr>
<tr>
<td>15</td>
<td></td>
<td></td>
</tr>
<tr>
<td>20</td>
<td></td>
<td></td>
</tr>
<tr>
<td>25</td>
<td></td>
<td></td>
</tr>
<tr>
<td>30</td>
<td></td>
<td></td>
</tr>
<tr>
<td>35</td>
<td></td>
<td></td>
</tr>
<tr>
<td>40</td>
<td></td>
<td></td>
</tr>
<tr>
<td>45</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
4. Enter the “Pressure Compensation” values shown in Table 3-8 into parameter 18 (Pressure Compensation) for each corresponding Pressure Set-Point value of parameter 15 (5, 10, 15, etc.).

   **EXAMPLE:** Set parameter 15 to 5, then set parameter 18 to the corresponding required pressure compensation value calculated in Table 3-8. Next, set parameter 15 to 10, then set parameter 18 to the calculated value, and so on.

5. When this procedure is complete, set parameter 15 to the desired output pressure set-point.

---

**Setting Up Melter Communications**

You can view and change all melter settings, transfer settings between melters, and upgrade or downgrade the melters operating firmware by using a personal computer that is connected to your melter’s serial port.

Refer to Appendix C, *Melter Communications*, for information about downloading, installing, and using the software that is required in order to connect a personal computer to your melter.
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 damage to the equipment.

This section provides information about the following operator-level tasks:

- Filling the melter tank
- Starting the melter
- Monitoring melter operation
- Adjusting the operating temperature of heated components
- Storing and retrieving recipes
- Using the melter function keys
- Shutting the melter down

Most of the controls described in this section are located on the control panel. Refer to Key Components in Section 2, Introduction, for the location of the controls and indicators described in this section.

Additional Information

This section presents operating procedures in their most commonly used form. Procedural variations or special considerations are explained in the additional information table that follows most procedures. Where applicable, some table entries also contain cross-reference information. Additional information tables are indicated by the symbol shown to the left.
More about Heated Components

The melter contains three groups of heated components. These are the tank group, which contains the tank and the pump, the hose group, and the gun group. Component groups are represented on the control panel by the component keys shown to the left.

Heated components within each group are identified by their position number. The position of the tank and pump is fixed at 1. Hose and gun position numbers are automatically assigned based on the hose/gun receptacle they are connected to. For example, the position numbers of a hose/gun pair that is connected to the second receptacle would be hose position 2 and gun position 2.

**NOTE:** In some installations, auxiliary devices (such as a heated air manifold) may be connected to a hose/gun receptacle. In such cases, you should label (or otherwise identify) the auxiliary device as to the hose or gun position number that represents the device. The control panel will identify such devices as a hose or gun, regardless of what the device actually is.
Filling the Tank

Before filling the tank, confirm that the hot melt material is compatible with the melter. Refer to *Intended Use* in Section 2, *Introduction*, for information about hot melt materials that should not be used in DuraBlue melters.

To fill the tank

**WARNING!** Hot! Risk of burns! Use a scoop to fill the tank with hot melt. Never use your bare hands. Using your bare hands to fill the tank may result in personal injury.

1. Open the tank lid.
2. Use a scoop to fill the tank with hot melt. Table 4-1 lists the tank capacity of each DuraBlue melter.

   **NOTE:** Nordson Corporation recommends that the tank be kept at least one-half full while the melter is operating.

3. Close the tank lid when you are finished filling the tank.

Table 4-1  Tank Capacity

<table>
<thead>
<tr>
<th>Model</th>
<th>Capacity*</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>D4F</td>
<td>Liters</td>
<td>Kilograms</td>
<td>Pounds</td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>4</td>
<td>9</td>
</tr>
</tbody>
</table>

*Assumes a hot melt with a specific gravity of 1
Starting the Melter

Before starting the melter for the first time, confirm that the

- melter is fully installed including any required inputs and outputs, gun drivers, pattern controllers, or timers.
- melter’s operating parameters are set up to support the current manufacturing process.

Refer to Section 3, Installation, if any of the items listed above are not complete.

To start the melter

1. Switch the melter on.
   
   The melter:
   - Tests the control panel LEDs
   - Turns on the heaters (the heaters LED turns green)
   - Begins to automatically scan through and display the actual temperature of the tank and each hose and gun that has a set-point temperature that is greater than zero degrees. The sequence of the automatic scan is: tank, each hose and gun pair, and then back to the tank.
   - Turns on the ready LED (green) when the tank and all of the hoses and guns are within 3 °C (5 °F) of their assigned set-point temperature.

2. Press the pump key to enable the pump.
   - If the system has not reached the system-ready state at the time that the pump key is pressed, the LED on the pump key will turn yellow, indicating that the pump is enabled, but not started. The pump will start automatically when the system-ready state is reached.
   - If the system has reached the system-ready state at the time that the pump key is pressed, the pump will start and the LED on the pump key will turn green, indicating that the pump is running.
   - If the melter is set up for manual pump activation, the pump LED will not turn on and the pump will not start until the pump is manually started using the switching device.

   **NOTE:** You can change the way the pump key operates by changing parameter 8 (automatic pump on). Refer to Appendix B, Operating Parameters.
If the melter is switched on when the temperature of the tank is 27 °C (50 °F) or greater below its assigned set-point temperature (cold start condition), the ready LED will not turn on until the ready delay (defined when the melter was set up) has elapsed.

The time remaining on the ready delay (in minutes) appears in the right display at the end of every scan cycle. When only one minute remains in the ready delay time, the right display counts down in seconds.

You can by-pass the ready delay time by pressing the **Heaters** key twice.

The appearance of F4 in the right display immediately after the melter is switched on indicates a problem with the melter's processor or main board.

The appearance of F1 in the right display immediately after starting the melter indicates that a hose or gun cordset may be loose or disconnected.

If the melter is set up for manual pump activation and parameter 7 (motor off delay) has been changed from the default, the pump will not stop until a user-specified amount of time has elapsed.

The condition of one or more inputs, may prevent the heaters from turning on.

If the seven-day clock feature was set up and turned on when the melter was last switched off, the clock will automatically turn on the next time the melter is switched on.

If a power failure occurs, the melter will restart in the currently selected recipe and in its normal heat-up cycle, even if the heaters were off or the melter was in standby prior to the power failure. If the seven-day clock was on prior to the power failure, the melter will restart in the mode dictated by the clock schedule at the time the melter restarts.
Monitoring the Melter

The melter provides indicators that allow you to:

- Quickly confirm that the melter is operating correctly
- Monitor the actual temperature of the tank group and each hose and gun
- Identify melter faults
- Determine when service is required

The melter automatically determines the number and location of all hoses and guns that are connected to it. Refer to More About Heated Components earlier in this section for information about hose/gun capacity and the identification of heated components.

You can also use a personal computer to monitor the melter. Refer to Appendix C, Melter Communications, for information about connecting a personal computer to the melter and installing the required software.

Confirm that the Melter is Operating Correctly

The ready LED turns on (green) when all of the heated components are within 3 °C (5 °F) of their set-point temperature.

The ready LED will not turn on, or will turn off, if any of the following events occur:

- The ready delay is still counting down.
- The operator or a remote input places the melter in the standby mode.
- The seven-day clock places the melter in the standby mode.
- There is a fault (the fault LED will turn on).

Refer to Monitor Melter Faults and Using Melter Function Keys later in this section for information about melter faults and using the seven-day clock and standby functions. Refer to Parameter 4 in Appendix B for information about the ready delay.
Heated components with a set-point temperature of zero degrees are skipped during the automatic scan cycle.

The set-point temperature of the tank and the pump cannot be set independently.

The time remaining on the ready delay appears in the right display at the end of each scan cycle.

You can override the seven-day clock at any time. If the clock has turned the heaters off, pressing the heaters key will turn the heaters back on. If the clock has placed the melter into the standby mode, pressing the standby key will return the heated components to their assigned set-point temperature.

Appendix B, parameter 4

Section 4, Using Melter Function Keys

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Monitor Component Temperatures

You can check the actual temperature of each heated component—the tank and each hose and gun—using the automatic scan mode or by manually selecting and checking each component.

By default, the melter remains in the automatic scan mode except when:

- The melter is placed into the setup mode
- The set-point temperature of all hoses and guns is set to zero degrees
- A fault occurs

To check component temperatures using the automatic scan mode

1. When the ready LED is on, observe the LEDs on the component keys.
2. When the LED on the key that represents the desired component group (tank, hose, or gun) turns on, observe the left display until it indicates the position number of the specific component you want to check.
3. When the position number of the desired component appears in the left display, observe the right display to determine the component's actual temperature.
Monitor Component Temperatures (contd)

To manually check a component’s temperature

1. Press the key (tank, hose, or gun) that represents the component group you want to check.

   The automatic scan stops and the left display indicates the number of the first sequential component in the selected component group. The right display indicates the component’s actual temperature.

   NOTE: When the tank key is pressed, the left display does not indicate a component number (blank display).

2. If the first sequential component is not the component you want to check, use the left-display scroll key to change to the correct component number.

   The right display indicates the actual temperature of the selected component.

3. Press the Setup key twice to return to the automatic scan mode.

When you scroll the left display past the number of the last sequential component in a component group, the number of the first sequential component in the next component group appears in the left display.

The melter will return to the automatic scan mode two minutes after the last key is pressed.

When you press the Tank key, it is the pump temperature that is actually indicated in the right display. To check the actual temperature of the tank, simultaneously press the Tank key and the left-display scroll key.

The default unit for temperature display is degrees Celsius (°C). This may be changed to degrees Fahrenheit using operating parameter 20.

Appendix B, Parameter 20

The LEDs on each component key will change from green to yellow if any component in the component group drops more than 3 °C (5 °F) below its assigned set-point temperature.

You can check the set-point temperature of a component at any time, by pressing the right-display UP scroll key. Holding down the scroll key while the melter is in the automatic scan mode reveals the set-point of each component that is scanned.
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Monitor Melter Faults

The melter alerts the operator to the faults listed in Table 4-2. Faults affect the melter in one of three ways: the heaters turn off; the heaters remain on, but the fault condition persists; or the melter stops functioning.

When a fault occurs, you must diagnose and correct the fault condition and then place the melter back into operation. You can use the fault log to determine the type, order, and relative time of the last ten faults.

<table>
<thead>
<tr>
<th>Display Code/Sub-code</th>
<th>Name</th>
<th>Affect on Melter</th>
<th>Cause</th>
<th>Corrective Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>F1/None</td>
<td>RTD</td>
<td>Heaters turn off</td>
<td>The RTD for the component indicated has failed or the component was disconnected from the melter.</td>
<td>Replace RTD&lt;br&gt;Check hose/gun connections&lt;br&gt;See flowchart T.2</td>
</tr>
<tr>
<td>F2/None</td>
<td>Under temperature</td>
<td>Heaters turn off</td>
<td>The actual temperature of the component indicated has dropped below the under temperature delta, which was set using parameter 22.</td>
<td>Check for conditions that may cause a drop in ambient temperature&lt;br&gt;Replace RTD&lt;br&gt;See flowchart T.2</td>
</tr>
<tr>
<td>F3/None</td>
<td>Over temperature</td>
<td>Heaters turn off</td>
<td>The actual temperature of the component indicated has increased beyond the over temperature delta, which was set using parameter 21.</td>
<td>Replace RTD&lt;br&gt;See flowchart T.2</td>
</tr>
<tr>
<td>F4/1</td>
<td>RAM test</td>
<td>Melter stops functioning</td>
<td>Internal RAM failure</td>
<td>Replace CPU</td>
</tr>
<tr>
<td>F4/2</td>
<td>Internal Clock time</td>
<td>Heaters remain on, but fault condition persists</td>
<td>Internal clock failure</td>
<td>Replace CPU</td>
</tr>
<tr>
<td>F4/3</td>
<td>RAM backup battery</td>
<td>Clock does not function</td>
<td>Insufficient voltage from RAM backup battery</td>
<td>Replace CPU</td>
</tr>
<tr>
<td>F4/4</td>
<td>Internal clock battery backed RAM</td>
<td>Heaters remain on, but fault condition persists</td>
<td>Battery-backed RAM failure</td>
<td>Replace CPU</td>
</tr>
<tr>
<td>F4/5</td>
<td>Internal clock battery</td>
<td>Heaters remain on, but fault condition persists</td>
<td>Battery-backed RAM battery dead</td>
<td>Replace CPU</td>
</tr>
<tr>
<td>F4/6</td>
<td>Analog-to-digital</td>
<td>Melter stops functioning</td>
<td>RTD analog-to-digital converter failed</td>
<td>Replace main board or CPU</td>
</tr>
</tbody>
</table>

Continued...
<table>
<thead>
<tr>
<th>Display Code/Sub-code</th>
<th>Name</th>
<th>Affect on Melter</th>
<th>Cause</th>
<th>Corrective Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>F4/7</td>
<td>Analog-to-digital calibration</td>
<td>Melter stops functioning</td>
<td>Failed hose or gun RTD analog-to-digital converter could not be calibrated (grounded RTD in system)</td>
<td>Replace hose or gun. Note: Set set-point to zero to avoid F1 fault. Replace main board or ribbon cable, or CPU</td>
</tr>
<tr>
<td>F4/8</td>
<td>Main board feedback</td>
<td>Melter stops functioning</td>
<td>Communication failure between main board and CPU</td>
<td>Replace main board, ribbon cable, or CPU</td>
</tr>
<tr>
<td>F4/9</td>
<td>Expansion board feedback</td>
<td>Melter stops functioning</td>
<td>Communication failure between expansion board and main board</td>
<td>Check the ribbon cable connections between the expansion board and the main board.</td>
</tr>
<tr>
<td>F4/A</td>
<td>Thermostat</td>
<td>Melter stops functioning</td>
<td>Tank or manifold thermostat is open</td>
<td>Replace thermostat, XP6 harness, or main board</td>
</tr>
<tr>
<td>F4/b</td>
<td>Not used</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>F4/C</td>
<td>Expansion board connection</td>
<td>Melter stops functioning</td>
<td>Ribbon cable not connected at J1 on the main board and/or at J2 on the expansion board</td>
<td>Check the ribbon cable connections and make connections as applicable.</td>
</tr>
<tr>
<td>F4/d</td>
<td>Communications with optional I/O card</td>
<td>Heaters remain on, but fault condition persists</td>
<td>Communication failure between CPU and the optional I/O card</td>
<td>Replace the I/O card or CPU</td>
</tr>
<tr>
<td>F4/E</td>
<td>Fieldbus communications failure</td>
<td>Alert output (if output option 6 is selected). Melter continues to operate normally.</td>
<td>Fieldbus card failure.</td>
<td>Replace the Fieldbus card</td>
</tr>
<tr>
<td>F5</td>
<td>Mismatched gun RTD</td>
<td>Heaters turn off</td>
<td>The gun RTD type selected in one or more of parameters 92–97 does not match the RTD type of the corresponding gun</td>
<td>Change parameters 92–97 to match the connected guns.</td>
</tr>
<tr>
<td>F6</td>
<td>Under pressure</td>
<td>Output pressure correct switches off. Melter continues to operate normally.</td>
<td>The actual output pressure of the melter dropped below the under pressure set point (parameter 17).</td>
<td></td>
</tr>
<tr>
<td>F7</td>
<td>Over pressure</td>
<td>Output pressure correct switches off. Melter continues to operate normally.</td>
<td>The actual output pressure of the melter exceeded the over pressure set point (parameter 16).</td>
<td></td>
</tr>
</tbody>
</table>
How F1, F2, and F3 Faults are Handled

When the melter detects an F1, F2, or an F3 fault:

1. The automatic scan stops and the melter begins to monitor the potential fault for up to two minutes. The ready and heater LEDs remain on during the two-minute time period. If, at any time during the two-minute period, the melter detects that the fault condition no longer exists, the melter will return to the automatic scan mode.

2. The LED on the affected component key (tank, hose, or gun) turns on to indicate the type of component that has, or is, failing.

3. The right display indicates the type of fault (F1, F2, or F3).

4. The left display indicates, as follows, the component that has, or is, failing.
   - If the LED on the tank key is on, the left display will indicate either 1 for the tank or 2 for the pump.
   - If the LED on the hose or gun key is on, the left display will indicate the number of the affected hose or gun.

5. If the fault condition still exists at the end of the two-minute monitoring period, the ready LED will turn off, the red fault LED will turn on, the heaters turn off, and the melter records the fault in the fault log. Refer to To review the fault log later in this section.
Monitor Melter Faults  (contd)

_How F4 Faults are Handled_

When the melter detects an F4 fault:

1. The ready LED turns off and the red fault LED turns on.

2. All of the component key LEDs (tank, hose, and gun) turn off.

3. The right display indicates F4.

4. The left display indicates a sub-code. Sub-codes classify the fault as being fatal or nonfatal. The affect on the melter of each of these two classes of F4 faults is:

   **Fatal**—The fault LED turns on and stays on and the melter stops functioning completely.

   **Nonfatal**—The fault LED turns on for five seconds, but the heaters and pump continue to operate normally. Nonfatal faults affect the internal clock and the optional I/Os.

   Refer to Section 6, *Troubleshooting*, for information about diagnosing F4 faults.

5. The melter records the fault in the fault log. Refer to _To review the fault log_ later in this section.
Monitor Melter Faults (contd)

To put the melter back into operation

1. Diagnose and correct the fault condition. Refer to Section 6, Troubleshooting, for information about diagnosing and correcting fault conditions.

   **NOTE:** When a fatal F4 fault exists, the control switch will not function. Remove power to the melter at the local disconnect switch.

2. Return the melter to the automatic scan mode by pressing the **Setup** key twice.

3. Press the **Clear/Reset** key.

4. Press the **Heater** key to turn on the heaters.

   To view the temperature of a heated component when an F2 or F3 fault exists, simultaneously press and hold both of the right-display scroll keys.

   You can temporarily dismiss an F1 fault (RTD) and return to the automatic scan mode by pressing the **Clear/Reset** key. The heaters will, however, remain off. If the fault condition still exists two minutes after pressing the clear/reset key, the fault LED will turn back on.

   When an F1 fault code appears, you can determine whether the fault was caused by an open or a shorted RTD by simultaneously pressing both of the right-display scroll keys. If the right display indicates OP, the RTD is open, if it indicates SH, the RTD has shorted.

   If, for any reason, a component reaches 235 °C (458 °F), an immediate F3 fault will occur (no two-minute monitoring period).

   If F4 appears in the right display when you press the clock key, the internal clock function has failed.
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To review the fault log

1. Press and hold the **Setup** key.
   The automatic scan stops and operating parameter 1 appears in the left display.

2. Scroll the left display to parameter 2 (the fault log).
   The right display indicates the last fault that occurred as follows:
   - If the last fault was an F1, F2, or F3 fault, then the LED on the affected component key turns yellow.
   - If the last fault to occur was an F4 fault, then the LEDs on all of the component keys turn off.
   - The right display indicates the log entry for the last fault to occur. Table 4-3 provides the meaning of each digit in the log entry. Following the table are two example fault log entries.

3. Press the right-display scroll key to review each of the remaining nine log entries. Each press of the scroll key displays a progressively older log entry.
   **NOTE:** The fault log only stores the last ten faults. After ten faults occur, the existing log entries are overwritten, beginning with the oldest entry, by the eleventh and following log entries.

4. Press the **Setup** key to return to the automatic scan mode.

<table>
<thead>
<tr>
<th>Component:</th>
<th>Second and Third Digits</th>
<th>Fourth Digit</th>
<th>Type of fault:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 = Tank or hose/gun 1</td>
<td>- F</td>
<td>0 = Unused log entry</td>
<td></td>
</tr>
<tr>
<td>2 = Pump or hose/gun 2</td>
<td></td>
<td>1 = RTD (open or short)</td>
<td></td>
</tr>
<tr>
<td>3 = Hose 3 or gun 3</td>
<td></td>
<td>2 = Component under temperature</td>
<td></td>
</tr>
<tr>
<td>4 = Hose 4 or gun 4</td>
<td></td>
<td>3 = Component over temperature</td>
<td></td>
</tr>
<tr>
<td>5 = Hose 5 or gun 5</td>
<td></td>
<td>4 = Processor or electrical failure</td>
<td></td>
</tr>
<tr>
<td>6 = Hose 6 or gun 6</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Fault Log Examples

Example 1:

An unused log entry.

Example 2:

If the LED on the tank key were on, this log entry would indicate that the tank is under temperature. If the LED on the hose key were on, this log entry would indicate that hose 1 is under temperature.

To view the number of heater hours that have elapsed since a log entry was created, simultaneously press both of the right-display scroll keys. The hours are indicated in the right display.

The melter will return to the automatic scan mode if the fault log is left open for a period of two minutes without any key being pressed.

When an F1 fault is the result of a hose/gun pair being disconnected from the melter, two fault log entries are created. The first entry is for the gun and the second entry is for the hose.
Monitor the Service Interval

The melter can be set up so that the service LED located on the left side of the control panel turns on after a customer-defined time period has elapsed. The service LED may be used to signal the need to change the hot melt filter or to complete any other customer-specified maintenance activity. Once the specified maintenance is performed, the service LED must be reset.

To reset the service LED

With the melter in the scan mode, press the **Clear/Reset** key to turn off the service LED and reset the service interval time.

The default setting for the service interval time is 500 hours.
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Adjusting Component Temperatures

You can adjust the set-point temperature of heated components using the following methods:

- **Global**—The tank and all hoses and guns are set to the same set-point temperature.
- **Global-by-component group**—All of the hoses or all of the guns are set to the same set-point temperature.
- **Individual Component**—The set-point temperature of the tank and each hose and gun is adjusted independently.

Before adjusting set-point temperatures, confirm that each hose/gun pair is connected to the correct hose/gun receptacle. For example, hose/gun pair 1 should be connected to the receptacle 1. Refer to More About Heated Components earlier in this section for information about hose/gun positions.

To adjust set-point temperatures using the global method

1. Press and hold the **Tank** key for three seconds.
   The left display flashes 1.

2. Scroll the left display to 0 (flashing).
   The right display indicates all dashes (----) and the LEDs on all of the component keys turn green.

3. Press the **Enter** key.
   The right display flashes.

4. Use the keypad to enter the set-point temperature recommended by the manufacturer of the hot melt. Refer to the technical data sheet provided by the manufacturer of the hot melt to determine the optimal set-point temperature.
   
   **NOTE:** If the keypad or the right-display scroll keys have no affect on the right display, the melter is password protected. You must enter a valid password before you can change set-point temperatures. Refer Enter the Melter Password, later in this section.

5. Press the **Tank** key.
   All components begin to heat or cool to the new global set-point temperature. When all of the components reach their set-point temperature, the ready LED turns on (green).
To adjust the set-point temperature using the global-by-component method

1. Press and hold the **Hose** or **Gun** key for three seconds.
   The left display indicates the number of the first sequential hose or gun. The right display indicates the current set-point temperature of the hose or the gun.

2. Scroll the left display to 0.
   The right display indicates all dashes (- - - -).

3. Press the **Enter** key.
   The right display flashes.

4. Use the keypad to enter the set-point temperature recommended by the manufacturer of the hot melt. Refer to the technical data sheet provided by the manufacturer of the hot melt to determine the optimal set-point temperature.

   **NOTE:** If the keypad or the right-display scroll keys have no affect on the right display, the melter is password protected. You must enter a valid password before you can change set-point temperatures. Refer to *Entering the Melter Password* later in this section.

5. Press the **Enter** key.
   The hoses or the guns begin to heat or cool to their new set-point temperature.
Adjusting Component Temperatures (contd)

To adjust the set-point temperature of an individual component

1. Press and hold the **Tank, Hose, or Gun** key for three seconds.
   If the tank key was pressed, the left display indicates 1 (Flashing). If a hose or gun key was pressed, the left display indicates the number of the first sequential hose or gun (Flashing). The right display indicates the current set-point temperature of the component indicated in the left display.

2. Scroll the left display to the number of the desired component.
   The right display indicates the current set-point temperature of the component that you selected in the left display.

3. Press the **Enter** key.
   The right display flashes.

4. Use the keypad to enter the set-point temperature recommended by the manufacturer of the hot melt. Refer to the technical data sheet provided by the manufacturer of the hot melt to determine the optimal set-point temperature.
   **NOTE:** If the keypad or the right-display scroll keys have no affect on the right display, the melter is password protected. You must enter a valid password before you can change set-point temperatures. Refer to *Entering the Melter Password* later in this section.

5. Do **one** of the following:
   - To register the new set-point temperature and then move on to change the set-point temperature of the next sequential component, press the **Enter** key and then repeat steps 4 and 5.
   - To register the new set-point temperature and return to the automatic scan mode, go to step 6.

6. Press any component key (tank, hose, or gun).
   The selected component begins to heat or cool to its new set-point temperature.
If you enter a valid set-point temperature for a hose/gun that is not connected to the melter or if you enter a set-point temperature that is out of range, the right display will indicate dashes (----) for three seconds and then change back to the original set-point temperature.

When the right display is flashing, you can quickly change the current set-point temperature to 0 degrees (off) by simultaneously pressing both of right-display scroll keys.

After removing a hose or a gun, use the individual component method of set-point temperature adjustment to set the component’s temperature to zero degrees (off). This will avoid causing an F1 fault when a hose or gun is added, use the individual component method to set the desired temperature.

The factory set-point temperature of the tank is 175 °C (350 °F). The factory set-point temperature of all others components is zero degrees (off).

When the units of temperature is set to degrees Celsius, the minimum and maximum set-point temperatures are 40 °C and 204 °C. When the units of temperature are set to degrees Fahrenheit, the minimum and maximum set-point temperatures are 100 °F and 400 °F.

When using the right-display scroll keys to adjust a set-point temperature, the right display automatically increments between 0, 175, and 204 °C or between 0, 350, and 400 °F.

If you make a mistake while you are changing a set-point temperature, but you have not yet pressed the enter key, press the Clear/Reset key to reset the right display to the original temperature.

The melter will exit the setup mode and return to the automatic scan mode two minutes after the last key is pressed.

A global set-point temperature of zero degrees (Celsius or Fahrenheit) turns all components off.

When scrolling through component numbers in the left display, component numbers that are associated with unused hose/gun receptacles are skipped.

The melter stores a record of the last ten changes made to the set-point temperatures (and operating parameters) in the change history log.

You can save set-point temperature changes by simultaneously pressing the 1 key and the Setup key.
Storing and Retrieving Recipes

If input/output wiring is connected, you can retrieve up to four recipes. A recipe is a selection of parameter settings for a given application. When a recipe is stored, all temperature settings are saved along with the settings of the parameters noted in Table 3-4 in Section 3, Installation.

**NOTE:** Refer to Installing Melter Inputs/Outputs in Section 3, Installation, to connect input/output wiring.

To store a recipe
1. Set up the melter parameters for the application.
   Refer to Setting Up the Melter in Section 3, Installation, as needed.
2. Set parameter 98 to 0, 1, 2, or 3.
3. Press the Enter key.
   The current melter settings will be stored as that recipe number.
4. Repeat steps 1–3 for each recipe to be saved.

To retrieve a recipe
Use your remote I/O device to apply or remove 24 VDC to or from the Bit 0 and Bit 1 inputs as shown in Table 4-4.

<table>
<thead>
<tr>
<th>Input Bit 0</th>
<th>Input Bit 1</th>
<th>Recipe</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 VDC</td>
<td>0 VDC</td>
<td>0</td>
</tr>
<tr>
<td>24 VDC</td>
<td>0 VDC</td>
<td>1</td>
</tr>
<tr>
<td>0 VDC</td>
<td>24 VDC</td>
<td>2</td>
</tr>
<tr>
<td>24 VDC</td>
<td>24 VDC</td>
<td>3</td>
</tr>
</tbody>
</table>

To display the current recipe
Display parameter 99, which shows the number of the active recipe.

If no input/output wiring is connected, you can still store up to four recipes, but the melter will default to recipe 0.

All parameter settings are retained when the melter is switched off.
**Entering the Melter Password**

If the melter is password protected, a valid password must be entered before any set-point temperature or melter parameter can be changed.

**To enter a melter password**

1. Press the **Setup** key.
   
   The left display indicates parameter 0 (flashing) and the right display indicates 4000.

2. Press the **Enter** key.
   
   The right display begins flashing.

3. Use the keypad to enter the melter password.

4. Press the **Enter** key.
   
   One of the following occurs:
   
   - If the password is correct, the left display indicates parameter 1.
   - If the password is incorrect, the left display remains at 0 and the right display momentarily indicates dashes (----) and then returns to 4000.

   If the password is incorrect, re-enter it and then press the **Enter** key.

The melter will automatically revert back to the password-protected mode two minutes after the last key press (any key). To force the melter back into the password protected mode before two minutes has elapsed, press the **Setup** key twice.

The melter password is created and enabled/disabled during system setup. Setting Up the Melter in Section 3, Installation
Using Melter Function Keys

The control panel provides the following standard and special function keys:

*Standard function keys*
- Heater
- Pump
- Setup

*Special function keys*
- Seven-day clock
- Standby

**CAUTION:** Unintentionally activating function keys can, under the correct circumstances, have undesirable effects on the melter or the manufacturing process. Only personnel who are familiar with the melter’s setup and its connection with the manufacturing process should use the function keys. Improper use of the function keys can result in erratic process behavior or personal injury.

**Heater Key**

Use the heater key to manually turn the component heaters on and off. Pressing the heater key overrides the control (on or off) of the heaters by either the seven-day clock feature or a remote input. The LED on the heater key illuminates when the heaters are on.

When a fault occurs (refer to Monitor Melter Faults earlier in this section) the heaters automatically turn off. The heater key is used to turn the heaters back on after correcting a fault condition.

**Pump Key**

Use the pump key to enable, start, and stop the pump. The LED on the pump key is yellow when the pump is enabled (not running) and is green when the pump is running.

If the automatic pump on feature (parameter 8) is disabled, then the pump key must be used to start the pump when the melter is ready.

If any of the inputs are set up to use the pump enable/disable control option, the pump motor will not start until the pump is enabled and the correct voltage is applied to the input contacts. If the pump is enabled, but the input voltage is not present, the pump LED will flash green.
Setup Key

Use the setup key to place the melter into and take the melter out of the setup mode. When the melter is placed into the setup mode, the automatic scan stops and the left and right displays are used to select and read or edit operating parameters.

Seven-day Clock Key

Use the seven-day clock key to turn the melter’s clock feature on and off. When the clock is on, the temperature of each heated component is automatically regulated based on a set of user-defined schedules.

To accommodate daily shift work and non-working days, four clock schedules are available. Schedules 1, 2, and 3 are used to specify when the heaters should turn on and off or when the melter should enter and exit the standby mode. Schedule 0 is used to keep the melter in the last condition dictated by the clock (heaters on or off, or standby).

When a clock schedule calls for the heaters to be on, the heaters are regulated at their pre-assigned set-point temperatures. When the clock activates the standby mode, the set-point temperature of each component is temporarily reduced by a pre-set standby delta.

Refer to Appendix B, Operating Parameters, Seven-day Clock, for information about setting up the seven-day clock and the standby delta.

If the melter is switched off while the clock is on, the clock will automatically turn back on the next time the melter is switched back on.

If the heaters are manually turned off at the time that a clock schedule calls for the heaters to be on, the heaters will not turn back on until the next clock schedule calls for them to be on.

The clock will still operate when the melter is faulting or is in the setup mode.

If F4 appears in the right display when you press the clock key, the internal clock function has failed.
Using Melter Function Keys (contd)

Standby Key

Use the standby key to manually place the melter into, and take it out of, the standby mode. Using the standby mode during periods of time when the melter is inactive helps conserve energy and allows heated components to quickly return to their set-point temperatures when the melter is once again needed.

When the melter is placed into the standby mode, the temperatures of all components are reduced down from their set-point temperature by a pre-set standby delta. The melter will remain in the standby mode until the standby key is pressed or the function of one of the operating parameters takes the melter out of the standby mode.

If the melter was set up to use the manual standby timer (parameter 26), pressing the standby key will place the melter in the standby mode for the period of time specified by the timer. After the manual standby time has elapsed, the melter will once again begin heating all of the components to their assigned set-point temperature.

Using the standby key overrides the control of the melter (on or off) by the seven-day clock or a remote input.

Refer to Section 3, Installation, Setting Up the Melter, and to Appendix B, Operating Parameters, for information about setting the standby delta and the standby timer.

The melter may also be set up to automatically enter the standby mode using a variety of operating parameters. Appendix B, Parameters 25, 26, 57, 30–33, 62, and 67

Whenever manual standby is enabled, the standby LED blinks. Appendix B, Parameter 26
**Shutting Down the Melter**

Shut the melter down when it will not be used for an extended period of time.

**To shut the melter down**

1. Switch the melter off.
2. Disable the guns as follows:
   - Air-operated guns: Turn off the air supply to the guns.
   - Electric guns: Turn off the gun driver, pattern controller, or timer.
Section 5
Maintenance

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 damage to the equipment.

Table 5-1 describes the preventive maintenance tasks required to keep DuraBlue melters operating within their specified limits and to prevent equipment malfunctions. For information about maintaining optional equipment that was supplied by Nordson, refer to the instructions provided with the equipment.

If the melter stops operating or is operating incorrectly, refer to Section 6, Troubleshooting, for information about diagnosing common problems and performing corrective maintenance.

<table>
<thead>
<tr>
<th>Task</th>
<th>Frequency</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Relieving system pressure</td>
<td>Before performing any maintenance task that requires opening a hydraulic connection or port</td>
<td>Relieving System Pressure</td>
</tr>
<tr>
<td>Cleaning the exterior of the melter, hoses, and guns</td>
<td>Daily</td>
<td>Cleaning the Melter</td>
</tr>
<tr>
<td>Replacing the filter</td>
<td>As needed</td>
<td>Replacing the Filter</td>
</tr>
<tr>
<td></td>
<td>When changing the type or grade of hot melt</td>
<td>Instruction sheet provided with replacement filter</td>
</tr>
<tr>
<td>Cleaning the tank</td>
<td>When changing the type or grade of hot melt</td>
<td>Cleaning the Tank</td>
</tr>
<tr>
<td></td>
<td>When excessive charring occurs</td>
<td></td>
</tr>
</tbody>
</table>

Continued...
Table 5-1 Preventive Maintenance Tasks *(contd)*

<table>
<thead>
<tr>
<th>Task</th>
<th>Frequency</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tightening the pump screws</td>
<td>• When leakage occurs</td>
<td><em>Tightening the Pump Screws</em></td>
</tr>
<tr>
<td></td>
<td>• When the pump screws become loose</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• At scheduled service intervals</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Whenever the pump gland is tightened (if applicable)</td>
<td></td>
</tr>
<tr>
<td>Tightening the pump gland bolt (if present)</td>
<td>• When leakage occurs</td>
<td><em>Tightening the Pump Gland Bolt</em></td>
</tr>
<tr>
<td></td>
<td>• At scheduled service intervals</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Whenever the pump screws are tightened</td>
<td></td>
</tr>
</tbody>
</table>
Relieving System Pressure

Before disconnecting any hydraulic fitting or opening any pressurized port, always complete the following procedure to safely relieve hydraulic pressure that may be trapped inside the melter, hoses, and guns.

To relieve system pressure

1. Press the Pump key to stop the pump.
2. Trigger the guns until hot melt no longer flows from the guns.

Locking Out External Communications

WARNING! Disable external inputs and fieldbus communications with the melter before performing maintenance. Failure to disable external inputs or fieldbus communications with the melter can result in personal injury due to unexpected operation of the melter while performing maintenance.

To lockout external communications with the melter

- Set the control option for operating parameter 14 to 1 (enabled).

Refer to Setting Up the Melter in Section 3, Installation, for information about changing operating parameters.
Cleaning the Melter

To prevent components from overheating due to heat build-up or loss of air circulation, regularly remove any hot melt that collects on the exterior of the melter, hoses, and guns.

If hot melt inadvertently spills inside the melter’s interior spaces, the side panels can be removed in order to clean out the spilled hot melt.

**WARNING!** Risk of electricution and fire! Do not clean the melter with a direct stream of water or steam. Use only water or an appropriate, non-flammable cleaning solution that is applied using a clean cloth. Cleaning the melter using a direct stream of water or steam or a flammable solvent can result in property damage and personal injury, including death.

To clean the exterior of the melter

- Apply cleaning compounds using a soft cloth.
- Do not use pointed or sharp tools to clean the exterior surface.

To open the electrical enclosure

See Figure 5-1. To open the electrical enclosure, you must first open the tank lid.
To remove and replace the exterior panels

See Figure 5-2. The left and right side panels split into two panels: front and rear. The rear side panels have one 1/2-turn fastener and the left, right, and front base panels have two 1/2-turn fasteners. The front side panels have two M5 socket-head cap screws. The rear side panels must be removed before the front side panels can be removed. The rear panel has M4 hex nuts and M5 screws for its various sections.

**NOTE:** The bottom panel is structurally loose once the side base panels are removed, but it is still attached to harnesses and tubing.

1. De-energize the melter. Refer to Section 1, *Safety*.
2. Loosen the M5 socket-head cap screws and M4 hex nuts as applicable.
3. Use a 4 mm (5/32-inch) hex-head wrench to turn the 1/2-turn fastener(s) counterclockwise.
4. Lift the panels out of the melter’s frame.
5. Reverse steps 2 and 3 to reinstall each panel.

![Figure 5-2 Removing the exterior panels](image_url)
Replacing the Filter

Some DuraBlue melters are equipped with a 100-mesh (0.15-mm) disposable hot melt filter. The filter removes debris and char from the hot melt as it flows from the tank. Hot melt flows from the inside to the outside of the filter, trapping contaminants inside the filter. There is no need to back-flush or clean the filter.

When the filter reaches the end of its service life, it should be replaced. The factors that determine the service life of the filter are:

- the type, grade, and purity of the solid-form hot melt
- the set point temperature of the tank
- the period of time that the hot melt remains in the tank

The filter should also be replaced when making the change to a different type or grade of hot melt.

To determine the optimal service life for the filter, monitor and compare the total number of hours that the heaters are on with observations of:

- the purity of the dispensed hot melt
- increases in operating pressure
- the frequency of gun nozzle replacement or cleaning

As an aid to ensuring that the filter is replaced at the end of its service life, the melter is equipped with a service LED that turns on at the end of a customer-defined time period. Refer to Setting Up the Melter in Section 3, Installation, for information about the service interval time.
To replace the filter

1. Relieve the system pressure. Refer to *Relieving System Pressure* at the beginning of this section.
2. See Figure 5-2. Remove the base assembly guard panels.
3. See Figure 5-3. Use an 8 mm (5/16-inch) hex-head wrench or an adjustable wrench to loosen (counterclockwise) and then remove the filter.
4. Properly dispose of the old filter.
5. Confirm that the O-ring on the new filter is in good condition (100-mesh filter is P/N 1028305).

   **NOTE:** 50- and 150-mesh filters are also available (P/Ns 1021941 and 1034720).

6. Screw the filter into the pump body and then tighten the filter to 4.5 N•m (40 in.-lb).
7. Resume normal operation.

![Figure 5-3 Loosening the filter](image-url)
Cleaning the Tank

To avoid the problems that can occur when different hot melt materials are mixed or when hot melt char forms in the tank, clean the tank when:

- changing to a different type of hot melt
- excessive char builds up inside the tank

**NOTE:** The tank cleaning procedures provided in this section require that an appropriate flushing material be used. The flushing material should be compatible with both the previous adhesive and the new adhesive, if applicable.

**To clean the tank when changing hot melt**

1. Operate the melter normally until the tank is empty.
2. Press the **Pump** key to stop the pump.
3. Allow the melter to heat or cool to the temperature recommended by the manufacturer of the flushing material.
4. While wearing the appropriate protective equipment, wipe any residual hot melt from the inside of the tank.
5. Add the appropriate type and quantity of flushing material to the tank.
6. Press the **Pump** key to start the pump.
7. Pump all of the flushing material from the tank and through the hoses and guns.
8. Return the melter to normal operation and pump a minimum of one tank volume of fresh hot melt through the tank, hoses, and guns.
To clean the tank of excessive char

1. Remove the old hot melt and loose char as follows:
   a. Operate the melter normally until the tank is empty.
   b. Press the Pump key to stop the pump.
   c. Allow the melter to heat or cool to the temperature recommended by the manufacturer of the flushing material.
   d. While wearing the appropriate protective equipment, wipe any residual hot melt and loose char from the inside of the tank.
   e. Remove the tank strainer, clean it with an appropriate flushing material, and then reinstall it.

2. Add the appropriate type and quantity of hot melt solvent to the tank.
3. Disconnect a hose from a gun and direct the hose into a waste container.
4. Set the pressure (parameter 15) to 45 bar.

**WARNING!** Risk of burns! Wear protective equipment and use caution when pumping hot material into a waste container.

5. Press the Pump key to start the pump.
6. When the tank is empty, stop the pump.
7. Fill the tank with fresh hot melt.
8. Repeat steps 5 and 6 to pump all of the hot melt out of the tank.
9. Reconnect the disconnected hose to its gun.
10. Replace the filter. Refer to Replacing the Filter earlier in this section.
11. Fill the tank with fresh hot melt and then purge all of the hoses and guns with the fresh hot melt.
12. Restore the system to normal operation.
Tightening the Pump Screws

The warming and cooling of the melter can cause the pump screws to loosen. Tighten the pump screws as needed. You will need the following items:

- heat-protective gloves
- 4-mm nut driver
- flat-head screwdriver
- 4-mm hex key
- replacement high-temperature wire tie, 4.8 x 188 mm
- sturdy blocks (approximately 12 x 12 x 45 cm)

To prepare for pump maintenance
1. Heat the system to application temperature.
2. Turn off the melter. Disconnect and lock out power.
3. Shut off the air pressure to the melter.
4. Relieve system pressure. Refer to Relieving System Pressure earlier in this section as needed.
5. Disconnect all hoses and move the melter to a maintenance area with a sturdy work surface.
To access the pump

1. Using a 4-mm hex key, remove the side panels from both sides of the unit.

   See Figure 5-4.

2. Disconnect the ground wire from the base tray (1).
3. Disconnect the air line from the pressure control valve (PCV) (2).
4. Disconnect the air line from the input air fitting (3).

Figure 5-4  Disconnecting the ground wire and air lines

1. Ground stud on base tray
2. PCV
3. Input air fitting
To access the pump (contd)

See Figure 5-5.

5. On the opposite side of the unit, remove one of the high-temperature wire ties that secures the pressure transducer (1).

6. Using a 4-mm hex key, remove the two M5 screws that secure the pressure transducer bracket (2).

7. Remove the two screws that secure the aluminum cover (3).

8. Using a 4-mm nut driver, remove the two nuts that secure the aluminum box to the lower panel (inside aluminum box, not shown).

![Figure 5-5 Removing pressure transducer components](image)

1. Pressure transducer
2. Pressure transducer bracket
3. Aluminum cover
See Figure 5-6.

9. Elevate the melter 10–15 cm (4–6 in.). The lower panel will drop free below the unit.

Figure 5-6   Elevating the melter
To tighten the pump screws

1. Ensure that the melter is turned off and that power has been disconnected and locked out.

2. Ensure that the melter, tank, manifold, and pump are cold.

3. Access the pump as described earlier in this procedure.

4. Lower the melter to the work surface and rotate it on its side to access the pump screws, as shown in Figure 5-7.

![Figure 5-7 Accessing the pump screws](image)

5. See Figure 5-8. Tighten the screws to 25 N•m (222 in.-lb).

![Figure 5-8 Tightening the pump screws](image)

6. Rotate the unit back upright. Reverse the procedure for accessing the pump (provided earlier) to reinstall the components and restore the system to normal operation.
**Tightening the Pump Gland Bolt**

**NOTE:** This procedure applies only to pumps with a gland bolt.

On pumps with a gland bolt, adhesive may leak from the self-sealing pump shaft packing at regular intervals. When leakage occurs, tighten the pump gland bolt. You will need the following items:

- heat-protective gloves
- 4-mm nut driver
- flat-head screwdriver
- replacement high-temperature wire tie, 4.8 x 188 mm
- 24-mm short-handle, open-end wrench (with a 15-degree offset)
- sturdy blocks (approximately 12 x 12 x 45 cm)

**To tighten the pump gland bolt**

1. Complete the following two procedures under *Tightening the Pump Screws* earlier in this section:
   - To prepare for pump maintenance
   - To access the pump

   Return here to continue.

2. Heat the pump to application temperature using a heated air blower.

3. See Figure 5-9. Using a 24-mm short-handle, open-end wrench (with a 15-degree offset), tighten the pump gland bolt approximately 1/4 of a turn clockwise (in the direction of pump rotation). When the bolt can no longer be tightened, replace the pump.

4. Reverse the procedure for accessing the pump (provided earlier) to reinstall the components and restore the system to normal operation.
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 damage to the equipment.

This section provides quick-reference information for diagnosing melter faults and pump operating variables as well as comprehensive melter diagnostic information that is provided in flowchart format.

If you cannot resolve the problem using the troubleshooting flowchart, contact your Nordson representative for technical assistance.

Safety

- Never disconnect cables from, or reconnect cables to, any circuit board while the melter is energized.
- Before breaking any hydraulic connection, always relieve system pressure. Refer to Relieving System Pressure in Section 5, Maintenance.
- Refer to the safety information provided with optional equipment.
# Melter Faults

Table 6-1 lists the four types of melter faults, potential causes, and expected corrective actions.

<table>
<thead>
<tr>
<th>Display Code/Sub-code</th>
<th>Name</th>
<th>Affect on Melter</th>
<th>Cause</th>
<th>Corrective Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>F1/None</td>
<td>RTD</td>
<td>Heaters turn off</td>
<td>The RTD for the component indicated has failed or the component was disconnected from the melter.</td>
<td>Replace RTD, Check hose/gun connections, See flowchart T.2</td>
</tr>
<tr>
<td>F2/None</td>
<td>Under temperature</td>
<td>Heaters turn off</td>
<td>The actual temperature of the component indicated has dropped below the under temperature delta, which was set using parameter 22.</td>
<td>Check for conditions that may cause a drop in ambient temperature, Replace RTD, See flowchart T.2</td>
</tr>
<tr>
<td>F3/None</td>
<td>Over temperature</td>
<td>Heaters turn off</td>
<td>The actual temperature of the component indicated has increased beyond the over temperature delta, which was set using parameter 21.</td>
<td>Replace RTD, See flowchart T.2</td>
</tr>
<tr>
<td>F4/1</td>
<td>RAM test</td>
<td>Melter stops functioning</td>
<td>Internal RAM failure</td>
<td>Replace CPU</td>
</tr>
<tr>
<td>F4/2</td>
<td>Internal Clock time</td>
<td>Heaters remain on, but fault condition persists</td>
<td>Internal clock failure</td>
<td>Replace CPU</td>
</tr>
<tr>
<td>F4/3</td>
<td>RAM backup battery</td>
<td>Clock does not function</td>
<td>Insufficient voltage from RAM backup battery</td>
<td>Replace CPU</td>
</tr>
<tr>
<td>F4/4</td>
<td>Internal clock battery backed RAM</td>
<td>Heaters remain on, but fault condition persists</td>
<td>Battery-backed RAM failure</td>
<td>Replace CPU</td>
</tr>
<tr>
<td>F4/5</td>
<td>Internal clock battery</td>
<td>Heaters remain on, but fault condition persists</td>
<td>Battery-backed RAM battery dead</td>
<td>Replace CPU</td>
</tr>
<tr>
<td>F4/6</td>
<td>Analog-to-digital</td>
<td>Melter stops functioning</td>
<td>RTD analog-to-digital converter failed</td>
<td>Replace main board or CPU</td>
</tr>
</tbody>
</table>

*Continued...*
<table>
<thead>
<tr>
<th>Display Code/Sub-code</th>
<th>Name</th>
<th>Affect on Melter</th>
<th>Cause</th>
<th>Corrective Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>F4/7</td>
<td>Analog-to-digital calibration</td>
<td>Melter stops functioning</td>
<td>Failed hose or gun. RTD analog-to-digital converter could not be calibrated (grounded RTD in system)</td>
<td>Replace hose or gun. Note: Set set-point to zero to avoid F1 fault. Replace main board or ribbon cable, or CPU</td>
</tr>
<tr>
<td>F4/8</td>
<td>Main board feedback</td>
<td>Melter stops functioning</td>
<td>Communication failure between main board and CPU</td>
<td>Replace main board, ribbon cable, or CPU</td>
</tr>
<tr>
<td>F4/9</td>
<td>Expansion board feedback</td>
<td>Melter stops functioning</td>
<td>Communication failure between expansion board and main board</td>
<td>Check the ribbon cable connections between the expansion board and the main board.</td>
</tr>
<tr>
<td>F4/A</td>
<td>Thermostat</td>
<td>Melter stops functioning</td>
<td>Tank or manifold thermostat is open</td>
<td>Replace thermostat, XP6 harness, or main board</td>
</tr>
<tr>
<td>F4/b</td>
<td>Not used</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>F4/C</td>
<td>Expansion board connection</td>
<td>Melter stops functioning</td>
<td>Ribbon cable not connected at J1 on the main board and/or at J2 on the expansion board</td>
<td>Check the ribbon cable connections and make connections as applicable.</td>
</tr>
<tr>
<td>F4/d</td>
<td>Communications with optional I/O card</td>
<td>Heaters remain on, but fault condition persists</td>
<td>Communication failure between CPU and the optional I/O card</td>
<td>Replace the I/O card or CPU</td>
</tr>
<tr>
<td>F4/E</td>
<td>Fieldbus communications failure</td>
<td>Alert output (if output option 6 is selected). Melter continues to operate normally.</td>
<td>Fieldbus card failure.</td>
<td>Replace the Fieldbus card</td>
</tr>
<tr>
<td>F5</td>
<td>Mismatched gun RTD</td>
<td>Heaters turn off</td>
<td>The gun RTD type selected in one or more of parameters 92–97 does not match the RTD type of the corresponding gun</td>
<td>Change parameters 92–97 to match the connected guns.</td>
</tr>
<tr>
<td>F6</td>
<td>Under pressure</td>
<td>Output pressure correct switches off. Melter continues to operate normally.</td>
<td>The actual output pressure of the melter dropped below the under pressure set point (parameter 17).</td>
<td></td>
</tr>
<tr>
<td>F7</td>
<td>Over pressure</td>
<td>Output pressure correct switches off. Melter continues to operate normally.</td>
<td>The actual output pressure of the melter exceeded the over pressure set point (parameter 16).</td>
<td></td>
</tr>
</tbody>
</table>
### Pump Operating Variables

When diagnosing apparent melter malfunctions, it is helpful to understand the following variables that control the status of the pump—enabled, disabled, running—and the associated indication that is provided by the pump LED.

- Use/activation of a remote input to control the motor
- Use of parameter 8, *Automatic Pump On*
- Ready status of the melter
- Activation of the pump key

Table 6-2 provides the status of the pump LED for each combination of the pump operating variables.

<table>
<thead>
<tr>
<th>Pump LED Status</th>
<th>Remote Motor Input Assigned (See Note A)</th>
<th>Remote Motor Input Status (See Note B)</th>
<th>Automatic Pump On (Parameter 8)</th>
<th>Unit Ready Status</th>
<th>Pump Key Press Status (See Note D)</th>
<th>Motor Rotating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Single green flash, then off</td>
<td>Not Assigned</td>
<td>N/A</td>
<td>Disabled</td>
<td>No</td>
<td>Ignored</td>
<td>No</td>
</tr>
<tr>
<td>Off</td>
<td>Not Assigned</td>
<td>N/A</td>
<td>Disabled</td>
<td>Yes</td>
<td>Off</td>
<td>No</td>
</tr>
<tr>
<td>Green</td>
<td>Not Assigned</td>
<td>N/A</td>
<td>Disabled</td>
<td>Yes</td>
<td>On</td>
<td>Yes</td>
</tr>
<tr>
<td>Off</td>
<td>Not Assigned</td>
<td>N/A</td>
<td>Enabled</td>
<td>No</td>
<td>Off</td>
<td>No</td>
</tr>
<tr>
<td>Yellow</td>
<td>Not Assigned</td>
<td>N/A</td>
<td>Enabled</td>
<td>No</td>
<td>On</td>
<td>No</td>
</tr>
<tr>
<td>Off</td>
<td>Not Assigned</td>
<td>N/A</td>
<td>Enabled</td>
<td>Yes</td>
<td>Off</td>
<td>No</td>
</tr>
<tr>
<td>Green</td>
<td>Not Assigned</td>
<td>N/A</td>
<td>Enabled</td>
<td>Yes</td>
<td>On</td>
<td>Yes</td>
</tr>
<tr>
<td>Single green flash, then off</td>
<td>Assigned</td>
<td>On/Off</td>
<td>Disabled</td>
<td>No</td>
<td>Ignored</td>
<td>No</td>
</tr>
<tr>
<td>Off</td>
<td>Assigned</td>
<td>On</td>
<td>Disabled</td>
<td>Yes</td>
<td>Off</td>
<td>No</td>
</tr>
<tr>
<td>Flashing Green</td>
<td>Assigned</td>
<td>Off</td>
<td>Disabled</td>
<td>Yes</td>
<td>On</td>
<td>No</td>
</tr>
<tr>
<td>Green</td>
<td>Assigned</td>
<td>On</td>
<td>Disabled</td>
<td>Yes</td>
<td>On</td>
<td>Yes</td>
</tr>
<tr>
<td>Off</td>
<td>Assigned</td>
<td>On/Off</td>
<td>Enabled</td>
<td>No</td>
<td>Off</td>
<td>No</td>
</tr>
<tr>
<td>Off</td>
<td>Assigned</td>
<td>On/Off</td>
<td>Enabled</td>
<td>Yes</td>
<td>Off</td>
<td>No</td>
</tr>
<tr>
<td>Yellow</td>
<td>Assigned</td>
<td>On/Off</td>
<td>Enabled</td>
<td>Yes</td>
<td>Off</td>
<td>No</td>
</tr>
<tr>
<td>Flashing Green</td>
<td>Assigned</td>
<td>Off</td>
<td>Enabled</td>
<td>Yes</td>
<td>On</td>
<td>No</td>
</tr>
<tr>
<td>Green</td>
<td>Assigned</td>
<td>On</td>
<td>Enabled</td>
<td>Yes</td>
<td>On</td>
<td>Yes</td>
</tr>
</tbody>
</table>

**NOTE**

A: If any of Parameters 30–33 are set to 3, then the remote motor input is assigned.
B: If the remote motor input is assigned, then its status is described in this column.
C: Manual mode is for handgun and footswitch applications.
D: “On” means the pump key was pressed and the unit accepted the key press. “Ignored” means that the pump key will not respond to a key press.
Using the Troubleshooting Flow Chart

The flowchart, which is provided at the end of this section, is designed to assist you in diagnosing and correcting a complete or partial stop in hot melt output from the guns. The chart is organized in a simple question-action block format. If your response to a question is yes (Y), continue downward in the chart to the next question or action block. If you response is no (N), continue to the right to the next question or action block. All diagnostic paths within the chart end with an action block that specifies one of the following three courses of action:

- Refer to information provided elsewhere in this manual
- Replace a component

To return your melter to service as quickly as possible, the chart is designed under the assumption that it is preferable to immediately replace a faulty assembly as opposed to conducting detailed diagnostics and repair of the assembly while the melter is out of service.

Use of the chart assumes that the melter is installed correctly and that it is set up to support the current manufacturing process. Refer to Section 3, Installation, for information about installing and setting up the melter.

Troubleshooting Quick-checks

Before using the troubleshooting charts confirm:

- whether or not service was recently performed on the melter or the melter’s settings were recently adjusted.
- the correct voltage plug is installed on terminal J1. Refer to Section 3, Installation, for information about selecting the correct voltage plug.
- external inputs (if used) are functioning properly.
- the standby or clock functions are not turned on (if not required or expected at the current time).
Returning the Melter Setup to Factory Settings

By returning the melter to its factory setting many common melter problems can be isolated to either a problem with the melter settings or the melter hardware.

To return the melter to its factory settings, simultaneously press and hold the Setup key and the right-display UP arrow key, and then, while holding down these keys, cycle the melter control switch off and on. When the melter restarts, release the two keys.

To activate the special D4F software features, simultaneously press and hold the left-display scroll key and the gun key and then, while holding down these keys, cycle the melter control switch off and on. When the melter restarts, release the two keys.

Identifying Electrical Components

Tables 6-3 through 6-5 provide detailed descriptions of the circuit board indicators, connection points, and test points that are referred to in the troubleshooting chart. Figure 6-1 illustrates the location of each of these circuit board components.
## Table 6-3  Main Board Components

<table>
<thead>
<tr>
<th>Item Number</th>
<th>Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Indicators</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DS2</td>
<td>Neon</td>
<td>Power to tank heater</td>
</tr>
<tr>
<td>DS3</td>
<td>Neon</td>
<td>Power to pump heater</td>
</tr>
<tr>
<td>DS4</td>
<td>Neon</td>
<td>Power to 5 VDC and 24 VDC power supplies</td>
</tr>
<tr>
<td>DS5</td>
<td>Neon</td>
<td>Power to hose/gun 1 heaters</td>
</tr>
<tr>
<td>DS6</td>
<td>Neon</td>
<td>Power to hose/gun 2 heaters</td>
</tr>
<tr>
<td>DS7</td>
<td>Neon</td>
<td>Power to motor</td>
</tr>
<tr>
<td>DS8</td>
<td>LED</td>
<td>Control signal for hose 1 heater</td>
</tr>
<tr>
<td>DS9</td>
<td>LED</td>
<td>Control signal for gun 1 heater</td>
</tr>
<tr>
<td>DS10</td>
<td>LED</td>
<td>Control signal for tank heaters</td>
</tr>
<tr>
<td>DS11</td>
<td>LED</td>
<td>Control signal for motor</td>
</tr>
<tr>
<td>DS12</td>
<td>LED</td>
<td>Control signal for gun 2 heater</td>
</tr>
<tr>
<td>DS13</td>
<td>LED</td>
<td>Control signal for hose 2 heater</td>
</tr>
<tr>
<td>DS14</td>
<td>LED</td>
<td>Control signal for pump heater</td>
</tr>
<tr>
<td>DS15</td>
<td>LED</td>
<td>+5 VDC control voltage present</td>
</tr>
<tr>
<td>DS17</td>
<td>LED</td>
<td>Trigger closure present at XP3 or XP4</td>
</tr>
<tr>
<td><strong>Fuses</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>F1/F2</td>
<td>--</td>
<td>Tank heaters (10 A, 250 V, fast-acting)</td>
</tr>
<tr>
<td>F3/F4</td>
<td>--</td>
<td>5 VDC and 24 VDC power supplies (2A, 250 V, slow-blow)</td>
</tr>
<tr>
<td>F5/F6</td>
<td>--</td>
<td>Pump heater (5 A, 250 V, fast-acting, 5 x 20 mm)</td>
</tr>
<tr>
<td>F7/F8</td>
<td>--</td>
<td>Hose/gun 1 heaters (6.3 A, 250 V, 5 x 20 mm)</td>
</tr>
<tr>
<td>F9/F10</td>
<td>--</td>
<td>Hose/gun 2 heaters (6.3 A, 250 V, 5 x 20 mm)</td>
</tr>
<tr>
<td>F11/F12</td>
<td>--</td>
<td>Motor power (6.3 A, 250 V, 5 x 20 mm)</td>
</tr>
<tr>
<td><strong>Connection Points</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>XT1</td>
<td>Input</td>
<td>High-voltage power connection to board</td>
</tr>
<tr>
<td>J1</td>
<td>Input/output</td>
<td>Signal ribbon cable between main board and CPU</td>
</tr>
<tr>
<td>XP1</td>
<td>Output</td>
<td>+ 24 VDC power supply to I/P transducer</td>
</tr>
<tr>
<td>XP2</td>
<td>Output</td>
<td>+ 24 VDC power supply to I/P transducer</td>
</tr>
<tr>
<td>XP3</td>
<td>Input</td>
<td>+ 24 VDC power supply to I/P transducer</td>
</tr>
<tr>
<td>XP4</td>
<td>Input</td>
<td>+ 24 VDC power supply to I/P transducer</td>
</tr>
<tr>
<td>XP5</td>
<td>Output</td>
<td>Control voltage to pump RTD</td>
</tr>
<tr>
<td>XP6</td>
<td>Output</td>
<td>Control voltage to tank RTD and tank overtemperature thermostat</td>
</tr>
<tr>
<td>X1</td>
<td>Output</td>
<td>High-voltage to pump heater</td>
</tr>
<tr>
<td>X2</td>
<td>Output</td>
<td>High-voltage to tank heaters</td>
</tr>
<tr>
<td>X3</td>
<td>Output</td>
<td>High-voltage to motor</td>
</tr>
<tr>
<td>X4</td>
<td>Output</td>
<td>High-voltage and control voltage out to hose/gun 1</td>
</tr>
<tr>
<td>X5</td>
<td>Output</td>
<td>High-voltage and control voltage out to hose/gun 2</td>
</tr>
<tr>
<td>X6</td>
<td>Output</td>
<td>24 VDC to expansion board</td>
</tr>
<tr>
<td>X7</td>
<td>Input</td>
<td>Unit on/off control switch</td>
</tr>
<tr>
<td><strong>Test Points</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TP7</td>
<td>Contact</td>
<td>+5 VDC control voltage present</td>
</tr>
<tr>
<td>TP2</td>
<td>Contact</td>
<td>Circuit common of low-voltage power supply</td>
</tr>
</tbody>
</table>
## Identifying Electrical Components (contd)

### Table 6-4  Expansion Board Components

<table>
<thead>
<tr>
<th>Item Number</th>
<th>Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>DS1</td>
<td>LED</td>
<td>24 VDC present at X3</td>
</tr>
</tbody>
</table>

**Connection Points**

<table>
<thead>
<tr>
<th>Item Number</th>
<th>Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>XT1</td>
<td>Output</td>
<td>AC power into board</td>
</tr>
<tr>
<td>XT2</td>
<td>Output</td>
<td>AC power out to power module (Hose/Guns 3 and 4)</td>
</tr>
<tr>
<td>XT3</td>
<td>Input</td>
<td>AC power out to main board</td>
</tr>
<tr>
<td>XT7</td>
<td>Output/Input</td>
<td>Positions 1–6 are control outputs; Positions 7–14 are control inputs</td>
</tr>
<tr>
<td>X1/X2</td>
<td>Jumper</td>
<td>Input voltage configuration plugs</td>
</tr>
<tr>
<td>X3</td>
<td>Input</td>
<td>24 VDC in from main board</td>
</tr>
<tr>
<td>X4</td>
<td>Input/output</td>
<td>Ribbon cable connection between expansion board and power module (Hose/gun 3 and 4)</td>
</tr>
<tr>
<td>J2</td>
<td>Input/output</td>
<td>Ribbon cable connection between expansion board and main board</td>
</tr>
</tbody>
</table>

### Table 6-5  Power Module Components

<table>
<thead>
<tr>
<th>Item Number</th>
<th>Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>N1</td>
<td>Neon</td>
<td>Hose 4 is turned on</td>
</tr>
<tr>
<td>N2</td>
<td>Neon</td>
<td>Gun 4 is turned on</td>
</tr>
<tr>
<td>N3</td>
<td>Neon</td>
<td>Hose 3 is turned on</td>
</tr>
<tr>
<td>N4</td>
<td>Neon</td>
<td>Gun 3 is turned on</td>
</tr>
</tbody>
</table>

**Connection Points**

<table>
<thead>
<tr>
<th>Item Number</th>
<th>Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>J1</td>
<td>Input/output</td>
<td>Ribbon cable connection between power module and expansion board</td>
</tr>
<tr>
<td>J2</td>
<td>Input/output</td>
<td>Connection point for the wire harness between hose/gun 4 and the power module</td>
</tr>
<tr>
<td>J3</td>
<td>Input/output</td>
<td>Connection point for the wire harness between hose/gun 3 and the power module</td>
</tr>
<tr>
<td>J4/J5</td>
<td>Input</td>
<td>AC power input from XT2 on the expansion board</td>
</tr>
</tbody>
</table>

**Fuses**

<table>
<thead>
<tr>
<th>Item Number</th>
<th>Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>F1, F2</td>
<td>--</td>
<td>Hose 4 and gun 4</td>
</tr>
<tr>
<td>F3, F4</td>
<td>--</td>
<td>Hose 3 and gun 3</td>
</tr>
</tbody>
</table>
Figure 6-1  Location of electrical components (refer to Table 6-6 for part numbers)
### Identifying Electrical Components (contd)

#### Table 6-6  Part Numbers of Cable and Boards in Figure 6-1

<table>
<thead>
<tr>
<th>Identifier</th>
<th>Component</th>
<th>Connection One</th>
<th>Connection Two</th>
<th>Part Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>B1</td>
<td>Expansion board</td>
<td>Not applicable</td>
<td>Not applicable</td>
<td>1031201</td>
</tr>
<tr>
<td>B2</td>
<td>Main board</td>
<td>Not applicable</td>
<td>Not applicable</td>
<td>1031200</td>
</tr>
<tr>
<td>B3</td>
<td>Analog I/O board</td>
<td>Not applicable</td>
<td>Not applicable</td>
<td>1063740</td>
</tr>
<tr>
<td>B4</td>
<td>CPU board</td>
<td>Not applicable</td>
<td>Not applicable</td>
<td>1028325</td>
</tr>
<tr>
<td>B5</td>
<td>Power module</td>
<td>Not applicable</td>
<td>Not applicable</td>
<td>1031202</td>
</tr>
<tr>
<td>B6</td>
<td>Power module</td>
<td>Not applicable</td>
<td>Not applicable</td>
<td>1031202</td>
</tr>
<tr>
<td>C1</td>
<td>Cable</td>
<td>Tank heaters</td>
<td>X2 (TANK CONN) on main board</td>
<td>1067487</td>
</tr>
<tr>
<td>C2</td>
<td>Cable</td>
<td>Tank thermostat and RTD</td>
<td>XP6 (TANK RTD) on main board</td>
<td>1026024</td>
</tr>
<tr>
<td>C3</td>
<td>Cable</td>
<td>Pump RTD</td>
<td>XP5 (PUMP RTD) on main board</td>
<td>1026025</td>
</tr>
<tr>
<td>C4</td>
<td>Cable</td>
<td>Pump heater</td>
<td>X1 (PUMP CONN) on main board</td>
<td>1062003</td>
</tr>
<tr>
<td>C5</td>
<td>Cable</td>
<td>Motor</td>
<td>X3 (MOTOR CONN) on main board</td>
<td>1055958</td>
</tr>
<tr>
<td>C6</td>
<td>Cable</td>
<td>Remote I/O connector</td>
<td>TB1 on analog I/O board or XT7 (STANDARD I/O) on expansion board</td>
<td>1067481</td>
</tr>
<tr>
<td>C7</td>
<td>Cable</td>
<td>XT2 on expansion board</td>
<td>J4/J5 on power modules</td>
<td>1067485</td>
</tr>
<tr>
<td>C8</td>
<td>Cable</td>
<td>XT3 on expansion board</td>
<td>XT1 on main board</td>
<td>1027341</td>
</tr>
<tr>
<td>C9</td>
<td>Cable</td>
<td>J3 on analog I/O board</td>
<td>Hose/gun receptacles on back panel</td>
<td>1067483</td>
</tr>
<tr>
<td>C10</td>
<td>Cable</td>
<td>J4 on analog I/O board</td>
<td>X6 on main board and X3 on expansion board</td>
<td>1067484</td>
</tr>
<tr>
<td>C11</td>
<td>Cable</td>
<td>TB2 on analog I/O board</td>
<td>I/P transducer or XP2 on main board</td>
<td>1067480</td>
</tr>
<tr>
<td>C12</td>
<td>Cable</td>
<td>TB3 on analog I/O board</td>
<td>Pressure transducer</td>
<td>1067482</td>
</tr>
<tr>
<td>C13</td>
<td>Cable</td>
<td>X7 (PWR SWITCH INPUT) on main board</td>
<td>Control switch on electrical cabinet door</td>
<td>1026663</td>
</tr>
<tr>
<td>RC1</td>
<td>Ribbon cable</td>
<td>X4 on expansion board</td>
<td>J1 on power module (B6)</td>
<td>100372</td>
</tr>
<tr>
<td>RC2</td>
<td>Ribbon cable</td>
<td>X5 on expansion board</td>
<td>J1 on power module (B6)</td>
<td>121430</td>
</tr>
<tr>
<td>RC3</td>
<td>Ribbon cable</td>
<td>J1 on CPU board</td>
<td>J1 on main board and J2 on expansion board</td>
<td>1068549</td>
</tr>
<tr>
<td>RC4</td>
<td>Ribbon cable</td>
<td>J3 on CPU board</td>
<td>RS232 connector on electrical cabinet door</td>
<td>1029938</td>
</tr>
</tbody>
</table>

**NOTE:** This harness does not include the motor cable that connects the motor to the bulkhead connector in the base assembly. The motor cable is included with the motor and is not available separately.
No adhesive output from one or more guns

Is the control panel illuminated?

Do dashes appear in both the left and right display?

Do the words UP LOAD appear across the displays?

Upload new software. Refer to Appendix C.

Turn the control switch on. Does the melter start?

Is the wire harness that is connected to terminal X7 on the main board loose?

Replace the control switch. P/N 1017947.

Is the fault LED illuminated?

Is the ready LED illuminated?

Has glue output stopped from all guns?

Replace the control switch.

Turn the control switch off, secure the harness to terminal X7, and then turn the control switch back on.

Stop.

Go to T.1

Go to T.2

Go to T.3

Go to T.4

Go to T.5

<< Start
Control panel is not illuminated

Is the power on the plant side of the disconnect switch that is serving the melter?
- Check/repair the plant wiring.

Is the power disconnect switch that is serving the melter turned on?
- Turn the disconnect switch on.

Is there power at terminal block XT1 on the expansion board?
- See Figure 6-1.
  - Check the plant wiring between the disconnect switch and the melter.
  - Replace/secure the voltage plug.

Is the correct voltage plug securely attached to connectors X1/X2 on the main board? Refer to Table 3-4, Section 3, Installation.
- Replace both fuse F3 and fuse F4.
P/N 1031203

Is there power at terminal XT1 on the main board?
- Check the wire harness between connector XT3 on the expansion board and terminal block XT1 on the main board. See Figure 6-1.

Have fuses F3/F4 on the main board blown?
- See Figure 6-1.
- Replace both fuse F3 and fuse F4.
P/N 1031203

Is indicator DS4 on the main board illuminated?
- See Figure 6-1.

Replace the main board.
P/N 1031200

Is the power on the plant side of the disconnect switch that is serving the melter?
- Check/repair the plant wiring.

Go to T.1.1
This page intentionally left blank.
Is the green power LED on the CPU board illuminated? See Figure 6-1.
Replace the main board. P/N 1031200

Is the voltage across TP7 (+) and TP2 (-) on the main board between 4.75 and 5.25 VDC? See Figure 6-1.
Replace the main board. P/N 1031200

Is the green power LED on the CPU board illuminated? See Figure 6-1.
Replace the main board. P/N 1031200

Is the voltage across TP2 (+) and TP4 (-) on the CPU board between 4.75 and 5.25 VDC? See Figure 6-1.
Check the ribbon cable or replace the CPU board. CPU - P/N 1028325

Is the red CPU fault LED illuminated? See Figure 6-1.
Replace the CPU board. P/N 1028325

Does changing the main board correct the problem? P/N 1031200

Is the ribbon cable between the main board and the CPU board loose or visibly damaged? See Figure 6-1.
Replace the CPU board. P/N 1028325

Does changing the main board correct the problem? P/N 1031200

Replace the main board. P/N 1031200

Secure or replace the cable. P/N 1026662

Replace the CPU board. P/N 1028325

Contact Nordson for technical assistance.

Is LED DS15 on the main board illuminated? See Figure 6-1.

Does changing the CPU board correct the problem? P/N 1028325

Stop.

Is the ribbon cable between the main board and the CPU board loose or visibly damaged? See Figure 6-1.

Contact Nordson for technical assistance.

Does changing the CPU board correct the problem? P/N 1028325

Stop.

Replace the main board. P/N 1031200

Secure or replace the cable. P/N 1026662

Replace the CPU board. P/N 1028325

Contact Nordson for technical assistance.

Replace the CPU board. P/N 1028325

Contact Nordson for technical assistance.

Stop.

Replace the main board. P/N 1031200

Secure or replace the cable. P/N 1026662

Replace the CPU board. P/N 1028325

Contact Nordson for technical assistance.

Replace the CPU board. P/N 1028325

Contact Nordson for technical assistance.

Stop.

Is the green power LED on the CPU board illuminated? See Figure 6-1.

Replace the main board. P/N 1031200

Secure or replace the cable. P/N 1026662

Replace the CPU board. P/N 1028325

Contact Nordson for technical assistance.

Replace the CPU board. P/N 1028325

Contact Nordson for technical assistance.

Stop.

Is the ribbon cable between the main board and the CPU board loose or visibly damaged? See Figure 6-1.

Replace the CPU board. P/N 1028325

Contact Nordson for technical assistance.

Replace the CPU board. P/N 1028325

Contact Nordson for technical assistance.

Stop.

Check the ribbon cable or replace the CPU board. CPU - P/N 1028325

Secure or replace the cable. P/N 1026662

Stop.

Replacing the main board.

Replacing the CPU board.

Contact Nordson for technical assistance.
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Troubleshooting

6-17

Part 1065648A09
/C0069

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T.2
Fault LED is illuminated

Is an F1 (RTD) fault indicated in the right display?

Is an F2 (undertemperature) fault indicated in the right display?

Is an F3 (overtemperature) fault indicated in the right display?

Is an F4 fault indicated in the right display?

Is the tank key LED illuminated?

Confirm that the RTD has failed.

Are all of the gun-to-hose and hose-to-melter electrical cordsets securely connected?

Secure the electrical connectors and then press the reset key.

Does the fault reoccur if you move the faulting hose/gun pair to a known good hose/gun connector?

Replace the hose or replace the gun RTD. Refer to the hose or gun manual.

Contact Nordson for technical assistance.

Record the fault codes indicated in both the left and right displays and then contact Nordson for technical assistance.
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T.2.1
Fault LED is illuminated >
F2 fault exists

Reset the melter and turn the heaters back on

- Is the tank key LED illuminated?
  - Yes
    - Go to T.2.3
  - No
    - Is the affected gun or hose cordset loose? (The tank or the hose key LED is illuminated.)
      - Yes
        - Secure the loose cordset and then press the Reset key.
      - No
        - Was hot melt recently added to the tank?
          - Yes
            - Allow the tank to reach setpoint temperature.
          - No
            - Is the affected gun or hose cordset loose? (The tank or the hose key LED is illuminated.)
              - Yes
                - Repair the hose or gun cordset. Refer to the hose or gun manual.
              - No
                - Are the hose or gun cordset pins bent, loose, or corroded?
                  - Yes
                    - Replace the hose or gun RTD. Refer to the hose or gun manual.
                  - No
                    - Does the fault reoccur if you move the faulting hose/gun pair to a known good hose/gun connector?
                      - Yes
                        - Check the operation of the power relay or thermostat.
                      - No
                        - Go to T.2.3

- Are the hose or gun cordset pins bent, loose, or corroded?
  - Yes
    - Repair the hose or gun cordset. Refer to the hose or gun manual.
  - No
    - Does the fault reoccur if you move the faulting hose/gun pair to a known good hose/gun connector?
      - Yes
        - Check the operation of the power relay or thermostat.
      - No
        - Go to T.2.3

- Are the hose or gun cordset pins bent, loose, or corroded?
  - Yes
    - Replace the hose or gun RTD. Refer to the hose or gun manual.
  - No
    - Is the power indicator for the affected hose/gun illuminated?
      - Yes
        - Replace the main board (hose/gun 1 or 2 affected) or replace the power module (hose/gun 3 or 4).
          - Main board P/N 1031200
          - Power mod. P/N 1031202
        - Are any one of indicators DS2, DS3, or DS7 on the main board illuminated?
          - Yes
            - Check/replace fuse pairs F7/F8 or F9/F10 on the main board.
              - P/N 1031203
              - See Figure 6-1.
            - Go to T.2.3
          - No
            - Correct the factory voltage or replace the hose/gun with a properly rated hose/gun.
      - No
        - Check/replace fuse pairs F7/F8 or F9/F10 on the main board.
          - P/N 1031203
          - See Figure 6-1.

- Does the fault reoccur if you move the faulting hose/gun pair to a known good hose/gun connector?
  - Yes
    - Check the operation of the power relay or thermostat.
  - No
    - Go to T.2.3
This page intentionally left blank.
T.2.2

Fault LED is illuminated >
F3 fault exists

Is more than one component overheating?  (Check the actual temperature of the faulting component.)

Is the tank LED illuminated?

Was the setpoint temperature of the faulting hose/gun just reduced?

Correct the setpoint temperature of the component or increase the overtemperature setpoint.

Is there a DC drive near the melter?

Does installing an RC snubber on the DC drive and resetting the melter clear the fault?  
P/N 332182

Stop.

Is the tank/pump TRIAC operating properly?

Does electrically grounding the melter’s chassis to the parent machine/support and then resetting the melter clear the fault?

Install an RC snubber on the melter.  
P/N 332182

Replace the tank RTD.  
P/N 1031234

Replace the main board.  
P/N 1031200

Was the setpoint temperature of the faulting hose/gun just reduced?

Stop.
Fault LED is illuminated >
F2 fault exists >
Tank key LED is illuminated >
No hot melt was recently added to the tank

T.2.3

Fault LED is illuminated >
F2 fault exists >
Tank key LED is illuminated >
No hot melt was recently added to the tank
This page intentionally left blank.
Fault LED is illuminated >
An F3 fault exists on a hose or gun >
The setpoint temperature was not changed

T.2.4

Stop.

Replace the main board.
P/N 1031200

Replace the CPU board.
P/N 1028325

Replace the main board.
(hose/gun 1 or 2 affected)
or replace the power module (hose/gun 3 or 4).
Main board P/N 1031200
Power mod. P/N 1031202

Stop.

Does the fault clear if you switch the faulting hose/gun pair to a known good hose/gun connector and then reset the melter?

Does the fault clear if you replace just the hose or just the gun RTD and then reset the melter?

Have LEDs DS8/DS9 or DS12/DS13 on the main board stopped flashing?
See Figure 6-1.

Stop.

Does the fault clear if you switch the faulting hose/gun pair to a known good hose/gun connector and then reset the melter?

Does the fault clear if you replace just the hose or just the gun RTD and then reset the melter?

Have LEDs DS8/DS9 or DS12/DS13 on the main board stopped flashing?
See Figure 6-1.

Stop.

Replace the main board.
P/N 1031200

Replace the CPU board.
P/N 1028325

Replace the main board.
(hose/gun 1 or 2 affected)
or replace the power module (hose/gun 3 or 4).
Main board P/N 1031200
Power mod. P/N 1031202
T.3

No faults >
Ready LED is not illuminated

Press the Heaters key to turn the heaters on.

Replace the tank or the pump heater.
Refer to Section 7, Parts.

Contact Nordson for technical assistance.

Is the Heaters key LED illuminated?
- Is a remote input being used to control the heaters?
  - Is the clock LED on?
    - The current clock schedule has the heaters turned off.
      - Wait the the input to initiate the heaters or use the Heaters key to manually turn the heaters on.
    - Wait for all components to reach setpoint temperature.
  - Does the right display indicate that components are still heating up?
    - Wait for the ready delay to count down.
      - The melter is in the standby mode.
        - The standby LED is on.
          - Is the standby LED on?
            - Is the resistance correct for the tank heaters (2) and the pump heater (1)?
              - Is the resistance correct for the tank heaters (2) and the pump heater (1)?
                - Refer to Heater Resistance Values in Section 8.
              - Contact Nordson for technical assistance.
            - Refer to Standby Key in Section 4, Operation.
          - The melter is in the standby mode.
            - Is the pump heater turned off?
              - The current clock schedule has the heaters turned off.
                - Wait the the input to initiate the heaters or use the Heaters key to manually turn the heaters on.
            - Is the standby LED on?
              - The melter is in the standby mode.
                - The standby LED is on.
                  - Is the standby LED on?
                    - Is the resistance correct for the tank heaters (2) and the pump heater (1)?
                      - Replace the tank or the pump heater.
                        - Refer to Section 7, Parts.
This page intentionally left blank.
T.4

No faults >
Ready LED is illuminated >
No hot melt output from all guns

Go to T.4.2

Is the motor running?

The melter is waiting for an external input before the motor will start.

Press the pump key to enable the pump.

Is the pump key LED flashing yellow?

Does the motor start if you activate the gun trigger or foot switch?

Is the pump key LED illuminated yellow, but not flashing?

Is the setpoint temperature of the tank below the temperature recommended by the manufacturer of the hot melt?

Adjust the setpoint temperature of the tank.

Is the gun trigger cordset or foot switch properly connected to the back of the melter. Refer to Connecting Hoses and Guns in Section 3.

Stop.

Is the pump key LED illuminated yellow, but not flashing?

Is the motor running?

Is the pump key LED flashing yellow?

Is the pump key LED illuminated yellow, but not flashing?

Is the motor running?

Is the pump key LED flashing yellow?

Is the pump key LED illuminated yellow, but not flashing?
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T.4.1

No faults >
Ready LED is illuminated >
No hot melt output from all guns >
Motor is not turning >
All motor start conditions are correct >
Tank setpoint temperature is correct

Is indicator DS7 on the main board illuminated?
  Replace fuses F11 and F12.  
  P/N 1031203

Is the electrical harness that exits the motor junction box connected to the receptacle underneath the melter?
  Connect the harness.

Is the motor excessively hot?
  Does swapping the main board with a known good board correct the problem?
  Replace the drive assembly.  
  Refer to Section 7, Parts, for drive assembly part numbers.

Allow the motor to cool and then automatically start once its internal thermostat resets. Does this correct the problem?

Is the pump operating correctly?
  Replace the pump.  
  Refer to Section 7, Parts, for pump part numbers.

Stop.

Contact Nordson for technical assistance.

Stop.
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T.4.2

No faults >
Ready LED is illuminated >
No hot melt output from all guns >
Motor is turning

 Fill the tank.

Is the tank empty?

Is the pump input shaft turning?

Replace the motor-to-pump coupling or replace the shaft key.

Replace the I/P transducer.
Refer to the motor parts list in Section 7, Parts, for the correct capacitor part number.

Is there hot melt leakage around the pump or manifold?

Repair the pump or manifold seals.
Refer to Section 7, Parts, for service kits.

Replace the capacitor.
Refer to the motor parts list in Section 7, Parts, for the correct capacitor part number.

Is the I/P transducer making a humming noise?

Correct the air supply problem.

Is the air supply to the melter working properly?

Replace the I/P transducer.
Refer to Section 7, Parts, for part numbers.

Is the red error LED on the top of the I/P transducer blinking?

Does removing and restoring power to the melter (by unplugging and reconnecting the power cord) correct the problem?

Go to T.4.3

Is the direction of the pump shaft rotation correct?
This page intentionally left blank.
T.4.3

No faults >
Ready LED is illuminated >
No hot melt output from all guns >
Motor is turning

Is the filter excessively dirty?
Refer to Replacing the Filter in Section 5, Maintenance.

Check and clean or replace the pressure control valve.
Refer to Section 7, Parts.

Replace the filter.
100-mesh P/N 1028305
This page intentionally left blank.
No faults >
Ready LED is illuminated >
No hot melt output from some guns

1. Is the affected hose/gun at its temperature setpoint?
   - Yes
     - The heaters in the affected hose/gun may be turned off by the remote input.
   - No
     - Is the setpoint temperature of the affected hose/gun within the temperature range recommended by the hot melt manufacturer?
       - Yes
         - Adjust the setpoint temperature.
       - No
         - Is the melter set up for a remote hose/gun input?
           - Yes
             - The heaters in the affected hose/gun may be turned off by the remote input.
           - No
             - Are you using a switched handgun or a foot switch to trigger the pump?
               - Yes
                 - Check the operation of the gun, gun solenoid, and gun driver. Refer to the appropriate equipment manuals.
               - No
                 - Is the switching device properly connected to the back of the melter?
                   - Yes
                     - Connect switching device.
                   - No
                     - Is the system hydraulic pressure correct (allowing the gun solenoids to operate properly)?
                       - Yes
                         - Correct the system pressure.
                       - No
                         - Is the affected hose/gun at its temperature setpoint?
Section 7
Parts

Using the Illustrated Parts List

The parts lists provided in this section are organized into the following columns:

Item—Identifies illustrated parts that are available from Nordson Corporation.

Part—Provides the Nordson Corporation part number for each saleable part shown in the illustration. A series of dashes in the parts column (- - - - - -) means the part cannot be ordered separately.

Description—Provides the part name, as well as its dimensions and other characteristics when appropriate. Bullets in the description, indicate the relationships between assemblies, subassemblies, and parts.

Quantity—The quantity required per unit, assembly, or subassembly. The code AR (As Required) is used if the part number is a bulk item ordered in quantities or if the quantity per assembly depends on the product version or model.

NOTE: Illustrations of the model D10 melter are used throughout this section to represent all DuraBlue melters.
## Melter Assembly Part Number

See Figure 7-1.

<table>
<thead>
<tr>
<th>Item</th>
<th>Part</th>
<th>Description</th>
<th>Quantity</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>—</td>
<td>1070236</td>
<td>MELTER,DURABLE 4, D4F, 6H/G</td>
<td>—</td>
<td>—</td>
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<tr>
<td>1</td>
<td>—</td>
<td>UNIT,ASSY,BASE, COVER, 4L, F</td>
<td>1</td>
<td>—</td>
</tr>
<tr>
<td>3</td>
<td>—</td>
<td>COVER ASSY, LEFT, REAR, D4F</td>
<td>1</td>
<td>—</td>
</tr>
<tr>
<td>5</td>
<td>—</td>
<td>COVER ASSY, RIGHT, REAR, D4F</td>
<td>1</td>
<td>—</td>
</tr>
<tr>
<td>7</td>
<td>—</td>
<td>KIT/SHIP WITH, 6H/G, D4F</td>
<td>1</td>
<td>A</td>
</tr>
<tr>
<td>11</td>
<td>—</td>
<td>WASHER, FLT, .344IDX .875ODX .063</td>
<td>4</td>
<td>—</td>
</tr>
<tr>
<td>12</td>
<td>—</td>
<td>WASHER, LK, E, SPT, 5/16, STL, NI</td>
<td>2</td>
<td>—</td>
</tr>
<tr>
<td>13</td>
<td>—</td>
<td>NUT, HEX, REG, 5/16-18, STL, ZN, 14441-IA</td>
<td>2</td>
<td>—</td>
</tr>
<tr>
<td>20</td>
<td>—</td>
<td>WASHER, FLAT, EPDM, .69X.29X.093</td>
<td>2</td>
<td>—</td>
</tr>
</tbody>
</table>

**NOTE A:** Refer to Section 3, *Installation*, for the contents of the ship-with kit.

---

*Figure 7-1 Melter assembly parts*
# Lid and Sensor Assembly Parts

See Figure 7-2.

<table>
<thead>
<tr>
<th>Item</th>
<th>Part</th>
<th>Description</th>
<th>Quantity</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>—</td>
<td>1066781</td>
<td>LID, WITH SENSOR, D4F</td>
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<td>—</td>
</tr>
<tr>
<td>1</td>
<td>-</td>
<td>tank, drive assembly, D4F</td>
<td>1</td>
<td>A</td>
</tr>
<tr>
<td>2</td>
<td>1066766</td>
<td>LID, ASSEMBLY, D4F</td>
<td>1</td>
<td></td>
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<tr>
<td>2A</td>
<td>901576</td>
<td>handle, plastic</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>-</td>
<td>tray, tank, D4F</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>-</td>
<td>SCR, BTN, SKT, M5X10, BL</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>-</td>
<td>bracket, low level, tank, D4F</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>734555</td>
<td>level probe</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>-</td>
<td>guard, cable, level detector, D4F</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>-</td>
<td>SCR, SKT, M5X10, BL</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>900464</td>
<td>adhesive, Loctite 242, blue, removable, 50ml</td>
<td>AR</td>
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<tr>
<td>11</td>
<td>-</td>
<td>strain relief, PG7</td>
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</tr>
</tbody>
</table>

**NOTE:** A: Refer to Tank/Drive Assembly Parts.

AR: As Required

---

![Figure 7-2 Lid assembly parts](image-url)
# Tank and Drive Assembly Parts Lists

The tank and drive assembly components include the tank, pump, motor, manifold, and all associated parts.

## Tank/Drive Assembly Parts

See Figure 7-3.

<table>
<thead>
<tr>
<th>Item</th>
<th>Part</th>
<th>Description</th>
<th>Quantity</th>
<th>Note</th>
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</thead>
<tbody>
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<td>TANK, DRIVE ASSEMBLY, D4F</td>
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<td></td>
<td>MODULAR, CONTROL, BLUE, 4L, D4F</td>
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<td>2</td>
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<td>TANK, ASSEMBLY, D4F</td>
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<td>A</td>
</tr>
<tr>
<td>3</td>
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<td>WASHER, LK, M, SPT, M8, STL, ZN</td>
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<tr>
<td>4</td>
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<td>SPACER, .750 X .625 X .250, STL</td>
<td>8</td>
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<tr>
<td>5</td>
<td>900493</td>
<td>ORING, -118, VIOTON, 862X103, BR</td>
<td>1</td>
<td>AR</td>
</tr>
<tr>
<td>6</td>
<td></td>
<td>ASSY, HARNESS, PRESSURE TRANSDUCER, D4F</td>
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</tr>
<tr>
<td>7</td>
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<td>SCR, HEX, CAP, M8X70, ZN</td>
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<tr>
<td>8</td>
<td></td>
<td>FITTING, BULKHEAD, STRAIGHT, PLASTIC, 6MM</td>
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<tr>
<td>9</td>
<td>900344</td>
<td>LUBRICANT, NEVER SEEZ, 8OZ CAN</td>
<td>AR</td>
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</tr>
<tr>
<td>10</td>
<td></td>
<td>BRACKET, TRANSDUCER, D4F</td>
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</tr>
<tr>
<td>11</td>
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<td>SCR, M5X10, BL</td>
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<td>WASHER, LK, M, SPT, M5, STL, ZN</td>
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<td>15</td>
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<td>DRIVE ASSEMBLY, D4F</td>
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<td>16</td>
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<td>CLAMP, TUBING, WORM DR, .62-.25IN</td>
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<td>17</td>
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<td>WIRE, GROUND, BRAID, TRANSDUCER, D4F</td>
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</tbody>
</table>

**NOTE**

A: Refer to Tank Parts.

B: Refer to Drive Assembly Parts.

AR: As Required
Figure 7-3   Tank and drive assembly parts
## Tank Parts

See Figure 7-4.

<table>
<thead>
<tr>
<th>Item</th>
<th>Part</th>
<th>Description</th>
<th>Quantity</th>
<th>Note</th>
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<tbody>
<tr>
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<td>TANK,D4F</td>
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<td>900298</td>
<td>COMPOUND,HEAT SINK,5 OZ TUBE,11281</td>
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<td>A</td>
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<tr>
<td>3</td>
<td>1037679</td>
<td>GASKET,VITON,1/16&quot; THK,D4 TANK</td>
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<td>4</td>
<td>1040657</td>
<td>CLAMP,STEEL BAND,9.38–12.25 DIA.</td>
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<td>5</td>
<td>1021319</td>
<td>INSULATION,HOPPER,4 LITER</td>
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<td>6</td>
<td>945032</td>
<td>O RING,VITON,3/8 TUBE</td>
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<td>7</td>
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<td>LUBRICANT,PARKER HI-TEMP,11208</td>
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<td>900344</td>
<td>LUBRICANT,NEVER SEEZ,8OZ CAN</td>
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</table>

**NOTE A:** Refer to *Thermostats, Heaters, and RTDs* later in this section for the part number of this item.

**AR:** As Required

---

**Figure 7-4** Tank parts
## Pump Parts

See Figure 7-5.

<table>
<thead>
<tr>
<th>Item</th>
<th>Part</th>
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<th>Quantity</th>
<th>Note</th>
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<td>729107</td>
<td>Service kit, pump, 7.73 cc/rev</td>
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<td>—</td>
<td>394589</td>
<td>Service kit, pump O-ring</td>
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<td>1</td>
<td>—</td>
<td>• O-ring, 10 x 1.5 mm</td>
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<tr>
<td>NS</td>
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<td>• Sealing paste, Stucarit 203, 100 ml</td>
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<td>NS</td>
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<td>• High-temperature grease, GLS 595/N2, 10 g</td>
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<td>—</td>
<td>7136920</td>
<td>Sealing kit, pump f.shaft D12, 7 in.</td>
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</table>

NS: Not Shown

Figure 7-5 Pump service kit parts

25 N\(\text{m}\) (222 in.-lb)
## Manifold Parts

See Figure 7-6.

<table>
<thead>
<tr>
<th>Item</th>
<th>Part</th>
<th>Description</th>
<th>Quantity</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>—</td>
<td>1071778</td>
<td>Service kit, manifold, 6-port, 1100 psi, filtered</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>1</td>
<td>-</td>
<td>Manifold assembly</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>-</td>
<td>Connector, with O-ring, hose, $\frac{9}{16}\times\frac{18}{16}$</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>-</td>
<td>Transducer assembly, with plug, pressure</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>-</td>
<td>Fitting, tube, $\frac{9}{16}\times\frac{18}{16}$ x $\frac{7}{16}$, O-ring</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>-</td>
<td>Plug, straight-thread, O-ring-58</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>1037495</td>
<td>Service kit, valve, drain</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>-</td>
<td>Elbow, male, 4-mm tube x $\frac{1}{8}$ NPT</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>—</td>
<td>103402</td>
<td>Service kit, valve, pressure control, 1100 psi</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>8</td>
<td>-</td>
<td>Valve, PCV, 1100 psi</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>1028305</td>
<td>Filter, with O-ring, 100-mesh</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>NS</td>
<td>-</td>
<td>Lubricant, Never-Seez, 8 oz can</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>NS</td>
<td>-</td>
<td>Lubricant, Parker, high-temperature</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>NS</td>
<td>-</td>
<td>Sealant, paste, PTFE</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>1069692</td>
<td>Transducer, I/P</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>NS</td>
<td>1067480</td>
<td>Cable, I/P transducer</td>
<td>1</td>
<td></td>
</tr>
</tbody>
</table>

NS: Not Shown

---

**Figure 7-6**  Manifold parts
### Drive Assembly Parts

See Figure 7-7.

<table>
<thead>
<tr>
<th>Item</th>
<th>Part</th>
<th>Description</th>
<th>Quantity</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>729107</td>
<td>Service kit, pump, 7.73 cc/rev</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>1071778</td>
<td>Service kit, manifold, 6-port, 1100 psi, filtered</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>1056358</td>
<td>Service kit, motor, 1/6 hp, with pigtail, 55.3 rpm</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>NS</td>
<td>1056056</td>
<td>Capacitor</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1063171</td>
<td>Service kit, motor coupling, spur gear</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>-</td>
<td>Coupling, drive, 12.7 mm x 5/8</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1063803</td>
<td>Service kit, spur gear pump bracket, O-rings</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>-</td>
<td>O-ring, -118, Viton, 0.862 x 0.103 in.</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>-</td>
<td>O-ring, Viton, 0.676 ID x 0.070 W in.</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>1058938</td>
<td>Bracket, spur gear pump</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>1065754</td>
<td>Service kit, bracket, motor/spur gear pump</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>-</td>
<td>Plug, O-ring, straight-thread, 9/16-18</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>-</td>
<td>Plug, O-ring, straight-thread, 7/16-20</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>-</td>
<td>Screw, hex, cap, M8 x 80, 304 stainless-steel</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>-</td>
<td>Washer, flat, narrow, M8</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>-</td>
<td>Screw, hex, cap, M6 x 25</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>-</td>
<td>Washer, lock, split, M6</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>NS</td>
<td>-</td>
<td>Grease, high-temperature, 0.50 oz</td>
<td>1</td>
<td></td>
</tr>
</tbody>
</table>

NS: Not Shown

![Drive assembly parts](image)

**Figure 7-7** Drive assembly parts

6.1–6.8 N·m (54–60 in.-lb)

19.7–21.0 N·m (14.5–15.5 ft-lb)

13.5–16.3 N·m (10–12 ft-lb)
Pedestal Part Numbers

See Figure 7-8.

<table>
<thead>
<tr>
<th>Item</th>
<th>Part</th>
<th>Description</th>
<th>Quantity</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>735196</td>
<td>Pedestal, D4F, without transformer</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>735197</td>
<td>Pedestal, D4F, with transformer</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Figure 7-8  Pedestal
Electrical Component Service Kits

Electrical components include the pedestal, circuit boards, fuses, thermostats, heaters, RTDs, and ribbon cables.

Front Panel

See Figure 7-9.

<table>
<thead>
<tr>
<th>Item</th>
<th>Part</th>
<th>Description</th>
<th>Quantity</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1017947</td>
<td>Switch, rocker, SPST, 250 V, 16 A</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>1088295</td>
<td>Service kit, front panel</td>
<td>1</td>
<td></td>
</tr>
</tbody>
</table>

Figure 7-9   Front panel
## Circuit Boards

See Figure 7-11.

<table>
<thead>
<tr>
<th>Item</th>
<th>Part</th>
<th>Description</th>
<th>Quantity</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>—</td>
<td>1028325</td>
<td>Service kit, board, display/central processing unit (CPU)</td>
<td>—</td>
<td>A</td>
</tr>
<tr>
<td>1</td>
<td>- - - - -</td>
<td>• PCA, display/CPU (bottom)</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>NS</td>
<td>- - - - -</td>
<td>• Stand-off, hex, M3 x 8 mm</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>NS</td>
<td>- - - - -</td>
<td>• Washer, lock, M3</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>—</td>
<td>1031200</td>
<td>Board, main, with heat sink</td>
<td>—</td>
<td>B</td>
</tr>
<tr>
<td>2</td>
<td>- - - - -</td>
<td>• Board, with heat-sink</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>1031201</td>
<td>Board, expansion</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>1063740</td>
<td>Board, input/output, analog (top)</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>1087152</td>
<td>Module, hose/gun</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>- - - - -</td>
<td>Capacitor</td>
<td>1</td>
<td>C</td>
</tr>
</tbody>
</table>

**NOTE A:** If you replace the CPU board, reactivate the special D4F software features as follows: simultaneously press and hold the left-display scroll key and the gun key and then, while holding down these keys, cycle the melter control switch off and on. When the melter restarts, release the two keys.

**B:** For fuses, see Figure 7-11.

**C:** A capacitor is provided in each motor service kit. Refer to Drive Assembly (Complete) later in this section.

---

![Figure 7-10 Circuit board service kit parts](image-url)
### Fuses

See Figure 7-9.

<table>
<thead>
<tr>
<th>Item</th>
<th>Part</th>
<th>Description</th>
<th>Quantity</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>—</td>
<td>1031203</td>
<td>Service kit, fuses, main board</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>1</td>
<td>105419</td>
<td>• Fuse, fast, 10 A, 250 VAC, 1/4 x 1 1/4 in., F1–F2</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>939955</td>
<td>• Fuse, slow, 2 A, 250 VAC, 5 x 20 mm, F3–F4</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>1027144</td>
<td>• Fuse, fast, 5 A, 250 VAC, 5 x 20 mm, F5–F6</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>939683</td>
<td>• Fuse, 6.3 A, 250 VAC, 5 x 20 mm, F7–F12</td>
<td>6</td>
<td></td>
</tr>
</tbody>
</table>

Figure 7-11  Fuse service kit parts
Thermostat, Heaters, and RTDs

<table>
<thead>
<tr>
<th>Item</th>
<th>Part</th>
<th>Description</th>
<th>Quantity</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>—</td>
<td>1028321</td>
<td>Service kit, thermostat,</td>
<td>—</td>
<td></td>
</tr>
<tr>
<td>NS</td>
<td>- - - -</td>
<td>Thermostat, OOR, 500 degree, open-on-rise</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>NS</td>
<td>- - - -</td>
<td>Screw, M4 x 6</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>NS</td>
<td>- - - -</td>
<td>Compound, thermal, 1 gram</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>—</td>
<td>1063156</td>
<td>Service kit, heater, pump, D4F</td>
<td>—</td>
<td>A</td>
</tr>
<tr>
<td>NS</td>
<td>- - - -</td>
<td>Heater assembly, 240 V, 550 W</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>—</td>
<td>1067487</td>
<td>Heater, tank, D4F</td>
<td>—</td>
<td>A</td>
</tr>
<tr>
<td>NS</td>
<td>- - - -</td>
<td>Heater assembly, 120 V, 2 x 425 W</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>—</td>
<td>1031233</td>
<td>Service kit, RTD, pump</td>
<td>—</td>
<td>A</td>
</tr>
<tr>
<td>NS</td>
<td>- - - -</td>
<td>Sensor assembly, RTD</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>—</td>
<td>1031234</td>
<td>Service kit, RTD, tank</td>
<td>—</td>
<td>A</td>
</tr>
<tr>
<td>NS</td>
<td>- - - -</td>
<td>Sensor assembly, RTD and thermostat</td>
<td>1</td>
<td></td>
</tr>
</tbody>
</table>

NOTE A: All heater and RTD service kits include thermal compound.
NS: Not Shown

Low-Level Control Box

<table>
<thead>
<tr>
<th>Item</th>
<th>Part</th>
<th>Description</th>
<th>Quantity</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>NS</td>
<td>734555</td>
<td>Probe, low-level</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>NS</td>
<td>734401</td>
<td>Control box, low-level</td>
<td>1</td>
<td>A</td>
</tr>
</tbody>
</table>

NOTE A: For the location of the control box, refer to the key components illustration in Section 2, Introduction.
NS: Not Shown

Cables and Harnesses

Refer to Identifying Electrical Components in Section 6, Troubleshooting, for an illustration and part numbers for cables and harnesses.
## Optional Equipment

### Adhesive Sensor Kit

<table>
<thead>
<tr>
<th>Part</th>
<th>Description</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>1069833</td>
<td>Kit, adhesive sensor, low-level, LC-24</td>
<td>—</td>
</tr>
</tbody>
</table>

### Hose Support Kit

<table>
<thead>
<tr>
<th>Part</th>
<th>Description</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>1050595</td>
<td>Kit, support, hose, double</td>
<td>—</td>
</tr>
<tr>
<td>- - - - -</td>
<td>* Bracket, support, hose, single</td>
<td>2</td>
</tr>
<tr>
<td>- - - - -</td>
<td>* Nut, hex, M5, Nylok</td>
<td>2</td>
</tr>
<tr>
<td>- - - - -</td>
<td>* Washer, flat, oversized, 5</td>
<td>2</td>
</tr>
<tr>
<td>- - - - -</td>
<td>* Cuff, cap, hose, corrugated</td>
<td>2</td>
</tr>
<tr>
<td>- - - - -</td>
<td>* Tube, Nylon, corrugated, split</td>
<td>2</td>
</tr>
<tr>
<td>- - - - -</td>
<td>* Screw, pan-head, M4 x10</td>
<td>4</td>
</tr>
<tr>
<td>- - - - -</td>
<td>* Cuff, hose, corrugated</td>
<td>2</td>
</tr>
<tr>
<td>- - - - -</td>
<td>* Bracket, slide, support, 1-hose</td>
<td>2</td>
</tr>
<tr>
<td>- - - - -</td>
<td>* Plate, hose support</td>
<td>1</td>
</tr>
<tr>
<td>- - - - -</td>
<td>* Washer, flat, M6</td>
<td>2</td>
</tr>
</tbody>
</table>

### Special Hose and Adapter Cable

<table>
<thead>
<tr>
<th>Part</th>
<th>Description</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>1052588</td>
<td>Hose, 1/4 x 5 m, 1 gun coil, HHS HME 500 applicators</td>
<td>—</td>
</tr>
<tr>
<td>735195</td>
<td>Cable, adapter, hose, HHS HME 500 applicator</td>
<td>—</td>
</tr>
</tbody>
</table>
# General Specifications

<table>
<thead>
<tr>
<th>Item</th>
<th>Data</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weight of empty melter</td>
<td>65 kg (143 lb)</td>
<td></td>
</tr>
<tr>
<td>Weight of melter with full tank</td>
<td>69 kg (152 lb)</td>
<td></td>
</tr>
<tr>
<td>Hose ports</td>
<td>6 (drain valve installed in one port)</td>
<td></td>
</tr>
<tr>
<td>Melt rate</td>
<td>4.7 kg/hr (10.3 lb/hr)</td>
<td></td>
</tr>
<tr>
<td>Noise</td>
<td>64dB (A) at maximum pump speed</td>
<td>A</td>
</tr>
<tr>
<td>Workplace temperature</td>
<td>0 to 50°C (32 to 120°F)</td>
<td></td>
</tr>
<tr>
<td>Throughput rate</td>
<td>6.3 kg/hr (13.9 lb/hr)</td>
<td></td>
</tr>
<tr>
<td>Pump rate</td>
<td>25 kg/hr (54 lb/hr) at 60 Hz</td>
<td></td>
</tr>
<tr>
<td>Input air pressure range</td>
<td>1–10 bar (15–145 psi)</td>
<td></td>
</tr>
</tbody>
</table>

**NOTE A:** The noise level is measured at a distance of 1 m (3.3 ft.) from the surface of the melter.
### Electrical Specifications

<table>
<thead>
<tr>
<th>Item</th>
<th>Data</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hose/gun heating capacity</td>
<td>6 hose/gun pairs</td>
<td></td>
</tr>
<tr>
<td>Control temperature range (240 and 120 VAC)</td>
<td>40 to 204 °C (100 to 400 °F)</td>
<td></td>
</tr>
<tr>
<td>Control temperature accuracy</td>
<td>± 0.5 °C (± 1 °F)</td>
<td></td>
</tr>
<tr>
<td>IP rating</td>
<td>IP 54</td>
<td></td>
</tr>
<tr>
<td>Melter maximum current</td>
<td>18 A</td>
<td></td>
</tr>
<tr>
<td>Transformer maximum power rating (located inside pedestal)</td>
<td>12.5 kVa</td>
<td></td>
</tr>
</tbody>
</table>

### Motor and Pump Specifications

<table>
<thead>
<tr>
<th>Item</th>
<th>Data</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>Viscosity Range</td>
<td>1000–30000 cps</td>
<td></td>
</tr>
<tr>
<td>Maximum hydraulic pressure</td>
<td>45 bar (653 psi)</td>
<td></td>
</tr>
<tr>
<td>Displacement</td>
<td>7.8 cc/rev</td>
<td></td>
</tr>
<tr>
<td>Motor speed (1/6 hp)</td>
<td>54.6 rpm at 60 Hz or 45 rpm at 50 Hz</td>
<td></td>
</tr>
</tbody>
</table>

### Heater Resistance Values

**NOTE:** Refer to the hose and gun manuals for hose/gun heater specifications.

<table>
<thead>
<tr>
<th>Heater Part Number</th>
<th>Location</th>
<th>Voltage</th>
<th>Wattage (see Note A)</th>
<th>Cold Resistance (see Note B)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1017723</td>
<td>Pump</td>
<td>230 VAC</td>
<td>550 W</td>
<td>97.4–118.3 ohms</td>
</tr>
<tr>
<td>1018675</td>
<td>Tank</td>
<td>230 VAC</td>
<td>2 x 425 W</td>
<td>126.0–153.2 ohms each</td>
</tr>
</tbody>
</table>

**NOTE**
A: Nominal wattage at 177–204 °C (350–400 °F).
B: Measured at room temperature for a previously heated element.
Dimensions

Figure 8-1    D4F melter dimensions
Appendix A

Calculating Melter Power Requirements

Before locating the melter on the production floor or attaching hoses and guns to the melter, you must calculate the electrical power required by the hoses and guns and confirm that the required power does not exceed maximum allowable wattages. Properly calculating melter power requirements will prevent damage to the melter and identify the maximum allowable distance between the melter and the point at which the hot melt is dispensed.

The following three maximum wattages must be considered when calculating melter power requirements.

- **Single-component maximum**—The wattage of any single hose or gun
- **Hose/gun pair maximum**—The combined wattage of any hose and gun (hose/gun pair)
- **Two hose/gun pair maximum**—The combined wattage of hose/gun pairs 1 and 2

If your Nordson representative has already calculated the hose/gun power requirements and confirmed that the maximum allowable wattages will not be exceeded, then no further calculation is necessary. However, you should re-evaluate the hose and gun power requirements before you:

- add a new hose or gun to the melter that was not factored into the original wattage evaluation
- replace an existing hose with a higher wattage hose or an existing gun with a higher wattage gun
To evaluate the hose/gun power requirements

1. Identify all hose/gun pairs based on the hose/gun receptacle to which they are connected.
2. Examine the identification tag or plate on each hose and gun and record the wattage of each in Column A of Table A-1. Enter a zero for any hose or gun that is not installed.
3. Add the wattages of each hose/gun pair and place the sum in Column B of Table A-1.
4. Add the wattages of hose/gun pairs 1 and 2 and place the sum in Column C of Table A-1.
5. Compare each of the wattages tabulated in Columns A, B, and C of Table A-1 with the associated maximum allowable wattages in Table A-2.
6. Do one of the following:
   - If each of the wattages calculated in step 5 do not exceed the associated maximum allowable wattages listed in Tables A-1 and A-2, then the power required by the hoses and guns is within acceptable limits.
   - If any of the wattages calculated in step 5 does exceed an associated maximum allowable wattage listed in Tables A-1 and A-2, then the configuration or position of the hose/gun pairs must be rearranged, shorter hoses must be used, or lower power guns must be used in order to reduce the power requirement.
### Table A-1 Hose/Gun Wattages

<table>
<thead>
<tr>
<th>Component Number</th>
<th>Type/Size</th>
<th>A</th>
<th>B</th>
<th>C</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Component Wattage</td>
<td>Hose/Gun Pair Wattage</td>
<td>Two Hose/Gun Pair Wattage</td>
</tr>
<tr>
<td>Hose 1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gun 1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hose 2</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gun 2</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hose 3</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gun 3</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hose 4</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gun 4</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hose 5</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gun 5</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hose 6</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gun 6</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Table A-2 Maximum Allowable Hose/Gun Wattages

<table>
<thead>
<tr>
<th>Column in Table A-1</th>
<th>Component</th>
<th>Maximum Wattage</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Any single hose or gun</td>
<td>1000 W</td>
</tr>
<tr>
<td>B</td>
<td>Any hose/gun pair</td>
<td>1200 W</td>
</tr>
<tr>
<td>C</td>
<td>Sum of hose/gun pairs 1 and 2</td>
<td>2000 W</td>
</tr>
<tr>
<td></td>
<td>Sum of hose/gun pairs 3 and 4</td>
<td>2000 W</td>
</tr>
<tr>
<td></td>
<td>Sum of hose/gun pairs 5 and 6</td>
<td>2000 W</td>
</tr>
</tbody>
</table>
Appendix B

Operating Parameters

Operating parameters are organized in this appendix according to the logical groups listed in Table B-1. For information about selecting and editing operating parameters, refer to Section 3, Installation, Setting Up the Melter.

**NOTE:** Parameter numbers that are reserved or that are not used do not appear in this appendix.

<table>
<thead>
<tr>
<th>Group</th>
<th>Parameter Numbers</th>
<th>Group Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standard</td>
<td>0 to 8 and 10 to 14</td>
<td>Frequently used parameters</td>
</tr>
<tr>
<td>Pressure Control</td>
<td>15 to 18</td>
<td>Configure the pressure control feature</td>
</tr>
<tr>
<td>Temperature Control</td>
<td>20 to 26</td>
<td>Control heaters</td>
</tr>
<tr>
<td>Input Setup</td>
<td>30 to 32</td>
<td>Configure the standard inputs</td>
</tr>
<tr>
<td>Output Setup</td>
<td>40 to 42</td>
<td>Configure the standard outputs</td>
</tr>
<tr>
<td>Seven-day Clock</td>
<td>50 to 77</td>
<td>Configure the clock feature</td>
</tr>
<tr>
<td>Automatic Fill Timer</td>
<td>78</td>
<td>Configure the external motor control switch</td>
</tr>
<tr>
<td>RTD Setup</td>
<td>92 to 97</td>
<td>Configure the gun RTD type</td>
</tr>
<tr>
<td>Recipe Control</td>
<td>98 to 99</td>
<td>Store and view recipes</td>
</tr>
</tbody>
</table>
**Standard**

### 0 Enter Password

**Description:** A user-defined password that prevents unauthorized changes to set-point temperatures and operating parameters.

**Value:** 0 to 9999

**Resolution:** 1

**Default Value:** 4000

**Format:** —

**Use:** This parameter only appears if a password is created using parameter 11 and then enabled using parameter 10.

**NOTE:** The melter remains in the password-protected mode for two minutes after the last key press. After exiting the setup mode, attempting to re-enter the setup mode, even before two minutes has elapsed, will require you to re-enter the password.

### 1 Total Hours with Heaters On  
(Noneditable)

**Description:** A non editable value that indicates the total number of hours that the heaters have been on.

**Value:** 9999 (control panel) and 999,999 on the web browser

**Resolution:** 1 hour

**Default Value:** 0

**Format:** —

**Use:** The display registers up to 9999 hours and then rolls over to 0000. On the web browser, the register rolls over at 999,999 hours.

### 2 Fault Log  
(Noneditable)

**Description:** Stores a record of the last ten faults.

**Value:** —

**Resolution:** —

**Default Value:** "_-F0" (unused log entry)

**Format:** F1, F2, F3, and F4

**Use:** Use the right-display scroll keys to review the log entries for the last ten faults. Empty log entries are indicated by "_-F0." Refer to Monitor the Melter in Section 4, Operation.
3 Change History Log

Description: Records the last ten changes made to either the set-point temperatures or the operating parameters.

Value: —
Resolution: —
Default Value: P_- (unused log entry)
Format: Refer to Section 3, Installation, Review Parameter and Set-point Temperature Changes.
Use: Use the right-display key to review the log entries for the last ten changes that were made to the operating parameters or the set-point temperatures. Empty log entries are indicated by "P-_."

4 Ready Delay Time

Description: The amount of time that will elapse after all of the components have reached their set-point temperature before the ready LED will turn on. The ready delay time only functions when the temperature of the tank, at the time the melter is turned on, is more than 27 °C (50 °F) from its set-point temperature. The ready delay time begins when all components are within 3 °C (5 °F) of their respective set-point temperature.

Value: 0 to 60 minutes
Resolution: 1 minute
Default Value: 20 minutes
Format: —
Use: The ready delay allows the contents of the tank an additional amount of time to heat before pump turns on.
NOTE: The time remaining on the ready delay is indicated in minutes in the right display at the end of every automatic scan cycle. When the delay time reaches 1 minute, the time remaining appears in seconds.

5 Service Interval Time

Description: The number of heater-on hours that must elapse before the service LED turns on.

Value: 0 hours (disabled) to 8736 (one year)
Resolution: 1 hour
Default Value: 500 hours
Format: —
Use: Set the service interval time to signal a user-defined service check or maintenance event, such as changing the filter. The service LED will turn on after the pre-set time elapses. With the melter in the scan mode, press the Clear/Reset key to turn off the service LED and reset the time.
### Service LED Heater Hours

**Description:** A timer indicates how many more hours the heaters need to remain on before the service LED illuminates (service required).

**Value:** 0 hours (disabled) to 9999

**Resolution:** 1 hour

**Default Value:** 0

**Format:** —

**Use:** The service interval time (parameter 5) must be enabled before this parameter will work.

**Note:** Heater hours accumulate whenever the heaters LED is illuminated.

### Motor Off Delay

**Description:** Determines the amount of time the motor will remain on after the switching device turns off.

**Value:** 0 to 360 seconds

**OR**

- - - - (infinite)

**Resolution:** seconds

**Default Value:** 0 seconds

**Format:** —

**Use:** This parameter functions only when a switching device (switched handgun hose, footswitch, etc.) is connected to the switch receptacle.

### Automatic Pump On

**Description:** Determines if the pump can be enabled before the melter is ready.

**Value:** 0 = disabled or 1 = enabled

**Resolution:** —

**Default Value:** 1 (enabled)

**Format:** —

**Use:** If enabled, the pump can be enabled before the melter is ready. Once enabled, the pump will start automatically when the melter is ready.

If disabled, the pump must be started by pressing the pump key after the melter is ready.

**NOTE:** If automatic pump on is disabled (0) while the pump is running, the pump will remain on until the pump key is pressed.
### 10 Enable or Disable the Melter Password

**Description:** Activates or deactivates the melter password. When password protection is activated, component set-point temperatures or melter operating parameters cannot be changed until a valid password is entered using parameter 0.

<table>
<thead>
<tr>
<th>Value</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 (disabled)</td>
<td>A password must first be created using parameter 11 before it can be enabled or disabled using parameter 10.</td>
</tr>
<tr>
<td>1 (enabled)</td>
<td></td>
</tr>
</tbody>
</table>

**Resolution:** —

**Default Value:** 0

**Format:** —

**Use:** A password must first be created using parameter 11 before it can be enabled or disabled using parameter 10.

### 11 Create Password

**Description:** A user-defined password that prevents unauthorized changes to operating parameters or set-point temperatures.

<table>
<thead>
<tr>
<th>Value</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 to 9999</td>
<td></td>
</tr>
</tbody>
</table>

**Resolution:** 1

**Default Value:** 5000

**Format:** —

**Use:** Refer to Section 4, Operation, Entering the Melter Password.

**NOTE:** When the password is created and enabled, parameter 10 will not appear again in the right display until the password is entered.

### 12 Change Hose 1 Output to Electric Gun Activation

**Description:** Changes the proportioned 240 VAC current that is provided to the hose 1 heater to a switched 240 VAC current that is used to activate a manifold-mounted electric gun.

<table>
<thead>
<tr>
<th>Value</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 (disabled)</td>
<td>Use only when a Nordson manifold-mounted electric gun is installed and a switching device is connected to the melter’s switch receptacle. Refer to the electric gun manual for information on mounting and using the gun.</td>
</tr>
<tr>
<td>1 (enabled)</td>
<td></td>
</tr>
</tbody>
</table>

**Resolution:** —

**Default Value:** 0 (disabled)

**Format:** —


**13 Change Hose 2 Output to Electric Gun Activation**

Description: Changes the proportioned 240 VAC current that is provided to the hose 1 heater to a switched 240 VAC current that is used to activate a manifold-mounted electric gun.

Value: 0 (disabled)  
1 (enabled)

Resolution: —

Default Value: 0 (disabled)

Format: —

Use: Use only when a Nordson manifold-mounted electric gun is installed and a switching device is connected to the melter’s switch receptacle. Refer to the electric gun manual for information on mounting and using the gun.

---

**14 External Communications Lock-out**

Description: Used as a safety feature when performing maintenance on the melter. Prevents external control of the melter through standard or optional inputs/outputs or network communications (optional)

Value: 0 (disabled)  
or  
1 (enabled)

Resolution: —

Default Value: 0 (disabled)

Format: —

Use: Set parameter to 1 (enabled) before performing any maintenance on the melter. When enabled, all external control of the melter stops until the parameter is once again set to 0 (disabled).
Pressure Control

15 Pressure Set-point
Description: Used to set the maximum output pressure set point.
Value: 0 to 45 (bar)
Resolution: —
Default Value: 0 (disabled)
Format: —
Use: This parameter is available because the analog input/output (I/O) board is installed on the melter. The pressure is displayed after the last gun temperature: the left display shows a P (for pressure) and the right display shows the pressure reading.

16 Over Pressure Set-point
Description: If the pressure in the system exceeds the value of this setting, an over pressure alarm will occur.
Value: 0 to 10 (bar) above the pressure set-point (parameter 15)
Resolution: —
Default Value: 0
Format: —
Use: This parameter is available because the analog input/output (I/O) board is installed on the melter.

17 Under Pressure Set-point
Description: If the pressure in the system drops below the value of this setting, an under-pressure alarm will occur.
Value: 0 to 10 (bar) below the pressure set-point (parameter 15)
Resolution: —
Default Value: 0
Format: —
Use: This parameter is available because the analog input/output (I/O) board is installed on the melter.
### Pressure Control (contd)

#### 18 Pressure Compensation

<table>
<thead>
<tr>
<th>Description</th>
<th>Used during the pressure compensation setup procedure to ensure that the actual melter output pressure matches the pressure set-point entered in parameter 15.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Value</td>
<td>−20 to +20</td>
</tr>
<tr>
<td>Resolution</td>
<td>1 bar</td>
</tr>
<tr>
<td>Default Value</td>
<td>0</td>
</tr>
<tr>
<td>Format</td>
<td>—</td>
</tr>
<tr>
<td>Use</td>
<td>This parameter is available because the analog input/output (I/O) board is installed on the melter.</td>
</tr>
</tbody>
</table>
## Temperature Control

### 20 Temperature Units

<table>
<thead>
<tr>
<th>Description</th>
<th>Sets the units for temperature display.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Value</td>
<td>C (degrees Celsius) or F (degrees Fahrenheit)</td>
</tr>
<tr>
<td>Resolution</td>
<td>1 degree</td>
</tr>
<tr>
<td>Default Value</td>
<td>C</td>
</tr>
<tr>
<td>Format</td>
<td>—</td>
</tr>
<tr>
<td>Use</td>
<td>—</td>
</tr>
</tbody>
</table>

### 21 Over Temperature Delta

<table>
<thead>
<tr>
<th>Description</th>
<th>The number of degrees that the temperature of any component can increase over its assigned set-point temperature before an over temperature fault (F3) will occur.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Value</td>
<td>5 °C (10 °F) to 60 °C (110 °F)</td>
</tr>
</tbody>
</table>
| Resolution  | 1°C  
1°F |
| Default Value | 15 °C (25 °F) |
| Format  | — |
| Use | — |

### 22 Under Temperature Delta

<table>
<thead>
<tr>
<th>Description</th>
<th>The number of degrees that the temperature of any component can decrease from its set-point temperature before an under temperature fault (F2) occurs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Value</td>
<td>5 °C (10 °F) to 60 °C (110 °F)</td>
</tr>
</tbody>
</table>
| Resolution  | 1°C  
1°F |
| Default Value | 25 °C (50 °F) |
| Format  | — |
| Use | — |
### Temperature Control (contd)

#### 23 Standby Delta

<table>
<thead>
<tr>
<th>Description</th>
<th>The number of degrees by which all heated components will be decreased when the applicator is placed into the standby mode.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Value</td>
<td>5 °C to 190 °C (10 °F to 350 °F)</td>
</tr>
</tbody>
</table>
| Resolution  | 1 °C  
1 °F                                                                                                               |
| Default Value | 50 °C (100 °F)                                                                                                           |
| Use         | A standby delta should be selected that results in a balance between melter energy savings during periods of inactivity, the amount of time and energy required to bring the melter back up to set-point temperature, and a temperature at which the hot melt can be held in the tank for extended periods of time without charring. Refer to Section 4, Operation, Using Melter Function Keys.  
NOTE: The standby delta does not affect the under temperature delta (parameter 22). |

#### 24 Automatic Standby Timeout

<table>
<thead>
<tr>
<th>Description</th>
<th>The amount of time that must elapse after the last signal (gun driver) is sent to input 1 before the melter will enter the standby mode. The automatic standby timeout feature saves energy by allowing the melter to automatically go into the standby mode if the melter detects that the guns are no longer firing.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Value</td>
<td>0 to 1440 minutes (24 hours)</td>
</tr>
<tr>
<td>Resolution</td>
<td>1 minute</td>
</tr>
<tr>
<td>Default Value</td>
<td>0 (disabled)</td>
</tr>
<tr>
<td>Format</td>
<td>—</td>
</tr>
</tbody>
</table>
| Use         | 1. Change parameter 23 if required.  
2. Set the control option for parameter 30 (input 1) to option 10 (automatic standby)  
NOTE: Only enable parameter 24 when a 24 VDC signal voltage is connected to input 1. If there is no voltage on the input contacts when the melter is ready, the melter will enter the standby mode after the automatic standby time. |

#### 25 Automatic Heaters Off Time

<table>
<thead>
<tr>
<th>Description</th>
<th>The amount of time that must elapse after the automatic standby time elapses (parameter 24) before the heaters turn off.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Value</td>
<td>0 to 1440 minutes (24 hours)</td>
</tr>
<tr>
<td>Resolution</td>
<td>1 minute</td>
</tr>
<tr>
<td>Default Value</td>
<td>0 (disabled)</td>
</tr>
<tr>
<td>Format</td>
<td>—</td>
</tr>
<tr>
<td>Use</td>
<td>Set parameter 24 (automatic standby timeout) to the desired value before setting parameter 25.</td>
</tr>
</tbody>
</table>
### 26 Manual Standby Time

**Description:** The amount of time that the melter will remain in the standby mode after the standby key is pressed.

**Value:** 0 to 180 minutes

**Resolution:** 1 minute

**Default Value:** 0

**Format:** —

**Use:** Set the standby time when you want the operator to be able to place the melter into the standby mode for a limited period of time (break, lunch, etc.). When manual standby is enabled (value greater than 0 minutes), the standby LED blinks.

Set the standby delta (parameter 23) to the desired value before setting parameter 26.

**Note:** When a time value equal to or greater than 1 minute is entered, the standby LED will flash to indicate that the manual standby timer is counting down.
Input Setup

### Standard Input 1

#### Description:
Control options that determine the function of input 1.

#### Value:
- 0 – Input Disabled
- 1 – Standby On/Off
- 2 – Heaters On/Off
- 3 – Motor Enable/Disable
- 4 – Hose/Gun 1 Enable/Disable
- 5 – Hose/Gun 2 Enable/Disable
- 6 – Hose/Gun 3 Enable/Disable
- 7 – Hose/Gun 4 Enable/Disable
- 8 – Hose/Gun 5 Enable/Disable
- 9 – Hose/Gun 6 Enable/Disable
- 10 – Automatic Standby
- 11 – Motor 2 Enable/Disable
- 12 – Panel Lock-out
- 13 – Automatic Fill Timer 1
- 14 – Automatic Fill Timer 2

#### Resolution:
1

#### Default Value:
10 (Automatic Standby)

#### Use:
If Motor Enable/Disable (3) is selected, the motor will turn on whenever voltage is present on the input contacts. To require that the pump key be pressed (pump enabled) and that there be voltage on the input contacts before the motor can turn on, set the value of parameter 8, Automatic Pump On, to 0 (disabled).

Refer to Installing Melter Inputs/Outputs in Section 3, Installation, for information about setting up inputs.

**NOTE:** Only Input 1 offers control option 10.

Multiple inputs can be set to the same input value. After one or more inputs that have the same input value are energized, the input functionality will not be considered inactive (off) until all of the inputs with the same input value are de-energized (Multiple inputs set to the same input value are logical OR-ed.).

**NOTE:** Parameter 78, Automatic Fill Timer, must be set to a value of 1 or greater in order to use option 13 or 14. Output option 6, Alert, can be used to signal when the Automatic Fill Time expires.
### Standard Input 2

**Description:** Control options that determine the function of input 2.

**Value:**
- 0 – Input Disabled
- 1 – Standby On/Off
- 2 – Heaters On/Off
- 3 – Motor Enable/Disable
- 4 – Hose/Gun 1 Enable/Disable
- 5 – Hose/Gun 2 Enable/Disable
- 6 – Hose/Gun 3 Enable/Disable
- 7 – Hose/Gun 4 Enable/Disable
- 8 – Hose/Gun 5 Enable/Disable
- 9 – Hose/Gun 6 Enable/Disable
- 11 – Motor 2 Enable/Disable
- 12 – Panel Lock-out
- 13 – Automatic Fill Timer 1
- 14 – Automatic Fill Timer 2

**Resolution:** 1

**Default Value:** 1 (Standby On/Off)

**Format:** —

**Use:**
If Motor Enable/Disable (3) is selected, the motor will not turn on unless the pump is enabled and the correct voltage is present on the input contacts.

Refer to Installing Melter Inputs/Outputs in Section 3, Installation, for information about setting up inputs.

**NOTE:** Multiple inputs can be set to the same input value. After one or more inputs that have the same input value are energized, the input functionality will not be considered inactive (off) until all of the inputs with the same input value are de-energized (Multiple inputs set to the same input value are logical ORed.).

**NOTE:** Parameter 78, Automatic Fill Timer, must be set to a value of 1 or greater in order to use option 13 or 14. Output option 6, Alert, can be used to signal when the Automatic Fill Time expires.
### Standard Input 3

#### Description:
Control options that determine the function of input 3.

#### Value:
- 0 – Input Disabled
- 1 – Standby On/Off
- 2 – Heaters On/Off
- 3 – Motor Enable/Disable
- 4 – Hose/Gun 1 Enable/Disable
- 5 – Hose/Gun 2 Enable/Disable
- 6 – Hose/Gun 3 Enable/Disable
- 7 – Hose/Gun 4 Enable/Disable
- 8 – Hose/Gun 5 Enable/Disable
- 9 – Hose/Gun 6 Enable/Disable
- 11 – Motor 2 Enable/Disable
- 12 – Panel Lock-out
- 13 – Automatic Fill Timer 1
- 14 – Automatic Fill Timer 2

#### Resolution:
1

#### Default Value:
2 (Heaters On/Off)

#### Format:
—

#### Use:
If Motor Enable/Disable (3) is selected, the motor will not turn on unless the pump is enabled and the correct voltage is present on the input contacts.

Refer to Installing Melter Inputs/Outputs in Section 3, Installation, for information about setting up inputs.

**NOTE:** Multiple inputs can be set to the same input value. After one or more inputs that have the same input value are energized, the input functionality will not be considered inactive (off) until all of the inputs with the same input value are de-energized (Multiple inputs set to the same input value are logical ORed.).

**NOTE:** Parameter 78, Automatic Fill Timer, must be set to a value of 1 or greater in order to use option 13 or 14. Output option 6, Alert, can be used to signal when the Automatic Fill Time expires.
## Output Setup

### Standard Outputs 1, 2, and 3

<table>
<thead>
<tr>
<th>Description</th>
<th>Determines the function of the output.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Value:</strong></td>
<td>0 = Output Disabled</td>
</tr>
<tr>
<td></td>
<td>1 = Ready</td>
</tr>
<tr>
<td></td>
<td>2 = Ready and Pump is on</td>
</tr>
<tr>
<td></td>
<td>3 = Fault</td>
</tr>
<tr>
<td></td>
<td>4 = Low level</td>
</tr>
<tr>
<td></td>
<td>5 = Service LED is on</td>
</tr>
<tr>
<td></td>
<td>6 = Alert (Potential fault)</td>
</tr>
<tr>
<td><strong>Resolution:</strong></td>
<td>1</td>
</tr>
<tr>
<td><strong>Default Value:</strong></td>
<td>Output 1 = 1</td>
</tr>
<tr>
<td></td>
<td>Output 2 = 3</td>
</tr>
<tr>
<td></td>
<td>Output 3 = 4</td>
</tr>
<tr>
<td><strong>Format:</strong></td>
<td>—</td>
</tr>
<tr>
<td><strong>Use:</strong></td>
<td>Refer to Installing Melter Inputs/Outputs in Section 3, Installation, for information on setting up outputs. When control option 6, Alert is selected, the output is active whenever the melter enters the two minute fault monitoring period. If the potential fault condition clears before the end of the two minute period, the output signal ends. Refer to Section 4, Operation, Monitor Melter Faults, for information about fault monitoring.</td>
</tr>
</tbody>
</table>
Seven-day Clock

Before setting up the clock, refer to Using Melter Function Keys in Section 4, Operation, to familiarize yourself with the function and use of the clock feature.

If you are unfamiliar with the procedure for accessing and editing operating parameters, refer to Section 3, Installation, Setting Up the Melter.

To set the clock

Refer to the examples on the next page.

1. Use parameter 50 to select the current day of the week.

2. Use parameter 51 to set the current time of day.

3. Create schedule 1 by:

   a. Setting parameters 55 and 56 to the time of the day that the heaters should turn on and off.

   b. Setting parameters 57 and 58 to the time of the day that the melter should enter and exit the standby mode.

4. Using parameters 60 through 68, create schedules 2 and 3 by repeating step 3.

5. Use parameters 71 through 77 to assign which of the four schedules should be used on each day of the week. Up to three schedules may be assigned each day (to support three work shifts). Each of the eight control options (0 to 7) that is available in parameters 71 through 77 assigns a different combination of the three schedules. Option 0 is used hold the melter in the state dictated by the last clock transition until the next clock transition occurs.

6. Press the Clock key.

In order for the clock to operate continuously throughout the week, a valid schedule must be assigned to every day of the week (parameters 71 through 77).

To prevent unintentional activation of the clock the default setting for parameters 71 through 77 is schedule 0, which has no time values assigned to it. With the default set to schedule 0, unintentionally pressing the clock key will have no affect on the melter.
Example 1
To turn the heaters on at 0600 and turn them off at 0015 every day of the week:

Par 55 = 0600
Par 56 = 0015
Par 60 = 1
Par 61 = 1
Par 71 through 77 = 1

Example 2
To turn the heaters on at 0700 and off at 1700 Monday through Friday, and turn the heaters off Saturday and Sunday:

Par 55 = 0700
Par 56 = 1700
Par 57 = 1
Par 58 = 1
Par 71 through 75 = 1
Par 76 and 77 = 0

Example 3
To turn the heaters on at 0600 each morning, go into standby for lunch at 1130, come out of standby after lunch at 1230, and turn the heaters off at 1600 at the end of the day, every day of the week:

Par 55 = 0600
Par 56 = 1600
Par 57 = 1130
Par 58 = 1230
Par 71 through 75 = 1
Par 71 and 77 = 1
### Seven-day Clock (contd)

#### 50 Current Day

<table>
<thead>
<tr>
<th>Description</th>
<th>Used to set the current day of the week.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Value</td>
<td>1 to 7 (1 = Monday, 2 = Tuesday, etc.)</td>
</tr>
<tr>
<td>Resolution</td>
<td>1</td>
</tr>
<tr>
<td>Default Value</td>
<td>—</td>
</tr>
<tr>
<td>Format</td>
<td>—</td>
</tr>
</tbody>
</table>

**Use:** Refer to Section 4, *Operation, Using Melter Function Keys*, for information about the use and affects of the seven-day clock feature.

#### 51 Current Hour

<table>
<thead>
<tr>
<th>Description</th>
<th>Used to set the local time of the day.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Value</td>
<td>0000 to 2359 (European time format)</td>
</tr>
<tr>
<td>Resolution</td>
<td>1 minute</td>
</tr>
<tr>
<td>Default Value</td>
<td>(Time set at factory)</td>
</tr>
</tbody>
</table>

**Format:** 
*Hours, Hour: Minute, Minute*

**Use:** This setting only needs to be made once for all daily schedules.

#### 55 Schedule 1 Heaters On

<table>
<thead>
<tr>
<th>Description</th>
<th>Used to set the time that the clock will turn on the heaters during schedule 1.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Value</td>
<td>0000 to 2359, - - - -</td>
</tr>
<tr>
<td>Resolution</td>
<td>1 minute</td>
</tr>
<tr>
<td>Default Value</td>
<td>0600</td>
</tr>
</tbody>
</table>

**Format:** 
*Hours, Hour: Minute, Minute*

**Use:** Set the desired time for the heaters to turn on. To disable this parameter, set the parameter’s value to “- - - -” by simultaneously pressing both of the right-display scroll keys.

#### 56 Schedule 1 Heaters Off

<table>
<thead>
<tr>
<th>Description</th>
<th>Used to set the time that the clock will turn off the heaters during schedule 1.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Value</td>
<td>0000 to 2359, - - - -</td>
</tr>
<tr>
<td>Resolution</td>
<td>1 minute</td>
</tr>
<tr>
<td>Default Value</td>
<td>1700</td>
</tr>
</tbody>
</table>

**Format:** 
*Hours, Hour: Minute, Minute*

**Use:** To disable this parameter, set the parameter’s value to “- - - -” by simultaneously pressing both of the right-display scroll keys.
### Schedule 1 Enter Standby

**Description:** Used to set the time that the melter will enter the standby mode during schedule 1.

**Value:** 0000 to 2359, - - - -

**Resolution:** 1 minute

**Default Value:** - - - -

**Format:** Hour, Hour: Minute, Minute

**Use:** Set the time that the applicator will enter the standby mode during schedule 1.

To disable this parameter, set the parameter’s value to “- - - -” by simultaneously pressing both of the right-display scroll keys.

**Note:** Do not set an enter standby time that is outside of the time period defined by the schedule’s heater on and off time. The melter cannot enter the standby mode when the heaters are off.

### Schedule 1 Exit Standby

**Description:** Used to set the time that the melter will exit the standby mode during schedule 1.

**Value:** 0000 to 2359, - - - -

**Resolution:** 1 minute

**Default Value:** - - - -

**Format:** Hour, Hour: Minute, Minute

**Use:** Set the time that the applicator will exit the standby mode during schedule 1.

To disable this parameter, set the parameter’s value to “- - - -” by simultaneously pressing both of the right-display scroll keys.

**Note:** Do not set an exit standby time that is outside of the time period defined by the schedule’s heater on and off time. The melter cannot enter the standby mode when the heaters are off.

### Schedule 2 Heaters On

**Description:** Used to set the time that the clock will turn on the heaters during schedule 2.

**Value:** 0000 to 2359, - - - -

**Resolution:** 1 minute

**Default Value:** - - - -

**Format:** Hours, Hour: Minute, Minute

**Use:** Set the desired time for the heaters to turn on.

To disable this parameter, set the parameter’s value to “- - - -” by simultaneously pressing both of the right-display scroll keys.
Seven-day Clock (contd)

61 Schedule 2 Heaters Off

Description: Used to set the time that the clock will turn off the heaters during schedule 2.

Value: 0000 to 2359, - - - -
Resolution: 1 e
Default Value: - - - -
Format: Hours, Hour: Minute, Minute
Use: To disable this parameter, set the parameter’s value to “- - - -” by simultaneously pressing both of the right-display scroll keys.

62 Schedule 2 Enter Standby

Description: Used to set the time that the melter will enter the standby mode during schedule 2.

Value: 0000 to 2359, - - - -
Resolution: 1 minute
Default Value: - - - -
Format: Hour, Hour: Minute, Minute
Use: Set the time that the applicator will enter the standby mode during schedule 2.

To disable this parameter, set the parameter’s value to “- - - -” by simultaneously pressing both of the right-display scroll keys.

Note: Do not set an enter standby time that is outside of the time period defined by the schedule’s heater on and off time. The melter cannot enter the standby mode when the heaters are off.

63 Schedule 2 Exit Standby

Description: Used to set the time that the melter will exit the standby mode during schedule 2.

Value: 0000 to 2359, - - - -
Resolution: 1 minute
Default Value: - - - -
Format: Hour, Hour: Minute, Minute
Use: Set the time that the applicator will exit the standby mode during schedule 2.

To disable this parameter, set the parameter’s value to “- - - -” by simultaneously pressing both of the right-display scroll keys.

Note: Do not set an exit standby time that is outside of the time period defined by the schedule’s heater on and off time. The melter cannot enter the standby mode when the heaters are off.
65 Schedule 3 Heaters On

Description: Used to set the time that the clock will turn on the heaters during schedule 3.

Value: 0000 to 2359, - - - -
Resolution: 1 minute
Default Value: - - - -
Format: Hours, Hour: Minute, Minute
Use: Set the desired time for the heaters to turn on.

To disable this parameter, set the parameter’s value to “- - - -” by simultaneously pressing both of the right-display scroll keys.

66 Schedule 3 Heaters Off

Description: Used to set the time that the clock will turn off the heaters during schedule 3.

Value: 0000 to 2359, - - - -
Resolution: 1 minute
Default Value: - - - -
Format: Hours, Hour: Minute, Minute
Use: To disable this parameter, set the parameter’s value to “- - - -” by simultaneously pressing both of the right-display scroll keys.

67 Schedule 3 Enter Standby

Description: Used to set the time that the melter will enter the standby mode during schedule 3.

Value: 0000 to 2359, - - - -
Resolution: 1 minute
Default Value: - - - -
Format: Hour, Hour: Minute, Minute
Use: Set the time that the applicator will enter the standby mode during schedule 3.

To disable this parameter, set the parameter’s value to “- - - -” by simultaneously pressing both of the right-display scroll keys.

Note: Do not set an enter standby time that is outside of the time period defined by the schedule’s heater on and off time. The melter cannot enter the standby mode when the heaters are off.
Seven-day Clock  (contd)

68 Schedule 3 Exit Standby

Description: Used to set the time that the melter will exit the standby mode during schedule 3.
Value: 0000 to 2359, - - - -
Resolution: 1 minute
Default Value: - - - -
Format: Hour, Hour: Minute, Minute
Use: Set the time that the applicator will exit the standby mode during schedule 3.
To disable this parameter, set the parameter’s value to "- - - -" by simultaneously pressing both of the right-display scroll keys.
Note: Do not set an exit standby time that is outside of the time period defined by the schedule’s heater on and off time. The melter cannot enter the standby mode when the heaters are off.

71 Schedules for Monday

Description: Used to select which schedule(s) should be used on Monday.
Value: 0 – Remain at last clock transition
       1 – Use just schedule 1
       2 – Use just schedule 2
       3 – Use just schedule 3
       4 – Use schedule 1 and 2
       5 – Use schedule 2 and 3
       6 – Use schedule 1 and 3
       7 – Use schedule 1, 2, and 3
Resolution: 1
Default Value: 0
Format: —
Use: Selects the active schedule(s) for the day.
NOTES: If the 0 schedule option is used, the heaters will not turn on again until the next scheduled heaters on time arrives.
## Schedules for Tuesday

<table>
<thead>
<tr>
<th>Description</th>
<th>Used to select which schedule(s) should be used on Tuesday.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Value</td>
<td>0 – Remain at last clock transition</td>
</tr>
<tr>
<td></td>
<td>1 – Use just schedule 1</td>
</tr>
<tr>
<td></td>
<td>2 – Use just schedule 2</td>
</tr>
<tr>
<td></td>
<td>3 – Use just schedule 3</td>
</tr>
<tr>
<td></td>
<td>4 – Use schedule 1 and 2</td>
</tr>
<tr>
<td></td>
<td>5 – Use schedule 2 and 3</td>
</tr>
<tr>
<td></td>
<td>6 – Use schedule 1 and 3</td>
</tr>
<tr>
<td></td>
<td>7 – Use schedule 1, 2, and 3</td>
</tr>
<tr>
<td>Resolution</td>
<td>1</td>
</tr>
<tr>
<td>Default Value</td>
<td>0</td>
</tr>
<tr>
<td>Format</td>
<td>—</td>
</tr>
<tr>
<td>Use</td>
<td>Selects the active schedule(s) for the day.</td>
</tr>
</tbody>
</table>

**NOTES:** If the 0 schedule option is used, the heaters will not turn on again until the next scheduled heaters on time arrives.

## Schedules for Wednesday

<table>
<thead>
<tr>
<th>Description</th>
<th>Used to select which schedule(s) should be used on Wednesday.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Value</td>
<td>0 – Remain at last clock transition</td>
</tr>
<tr>
<td></td>
<td>1 – Use just schedule 1</td>
</tr>
<tr>
<td></td>
<td>2 – Use just schedule 2</td>
</tr>
<tr>
<td></td>
<td>3 – Use just schedule 3</td>
</tr>
<tr>
<td></td>
<td>4 – Use schedule 1 and 2</td>
</tr>
<tr>
<td></td>
<td>5 – Use schedule 2 and 3</td>
</tr>
<tr>
<td></td>
<td>6 – Use schedule 1 and 3</td>
</tr>
<tr>
<td></td>
<td>7 – Use schedule 1, 2, and 3</td>
</tr>
<tr>
<td>Resolution</td>
<td>1</td>
</tr>
<tr>
<td>Default Value</td>
<td>0</td>
</tr>
<tr>
<td>Format</td>
<td>—</td>
</tr>
<tr>
<td>Use</td>
<td>Selects the active schedule(s) for the day.</td>
</tr>
</tbody>
</table>

**NOTES:** If the 0 schedule option is used, the heaters will not turn on again until the next scheduled heaters on time arrives.
74 Schedules for Thursday

Description: Used to select which schedule(s) should be used on Thursday.

Value:
- 0 – Remain at last clock transition
- 1 – Use just schedule 1
- 2 – Use just schedule 2
- 3 – Use just schedule 3
- 4 – Use schedule 1 and 2
- 5 – Use schedule 2 and 3
- 6 – Use schedule 1 and 3
- 7 – Use schedule 1, 2, and 3

Resolution: 1
Default Value: 0
Format: —
Use: Selects the active schedule(s) for the day.

NOTES: If the 0 schedule option is used, the heaters will not turn on again until the next scheduled heaters on time arrives.

75 Schedules for Friday

Description: Used to select which schedule(s) should be used on Friday.

Value:
- 0 – Remain at last clock transition
- 1 – Use just schedule 1
- 2 – Use just schedule 2
- 3 – Use just schedule 3
- 4 – Use schedule 1 and 2
- 5 – Use schedule 2 and 3
- 6 – Use schedule 1 and 3
- 7 – Use schedule 1, 2, and 3

Resolution: 1
Default Value: 0
Format: —
Use: Selects the active schedule(s) for the day.

NOTES: If the 0 schedule option is used, the heaters will not turn on again until the next scheduled heaters on time arrives.
### Schedules for Saturday

**Description:** Used to select which schedule(s) should be used on Saturday.

**Value:**
- 0 – Remain at last clock transition
- 1 – Use just schedule 1
- 2 – Use just schedule 2
- 3 – Use just schedule 3
- 4 – Use schedule 1 and 2
- 5 – Use schedule 2 and 3
- 6 – Use schedule 1 and 3
- 7 – Use schedule 1, 2, and 3

**Resolution:** 1

**Default Value:** 0

**Format:** —

**Use:** Selects the active schedule(s) for the day.

**NOTES:** If the 0 schedule option is used, the heaters will not turn on again until the next scheduled heaters on time arrives.

### Schedules for Sunday

**Description:** Used to select which schedule(s) should be used on Sunday.

**Value:**
- 0 – Remain at last clock transition
- 1 – Use just schedule 1
- 2 – Use just schedule 2
- 3 – Use just schedule 3
- 4 – Use schedule 1 and 2
- 5 – Use schedule 2 and 3
- 6 – Use schedule 1 and 3
- 7 – Use schedule 1, 2, and 3

**Resolution:** 1

**Default Value:** 0

**Format:** —

**Use:** Selects the active schedule(s) for the day.

**NOTES:** If the 0 schedule option is used, the heaters will not turn on again until the next scheduled heaters on time arrives.
## Automatic Fill Timer

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
<th>Value</th>
<th>Resolution</th>
<th>Default Value</th>
<th>Format</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>78</td>
<td>Automatic Fill Timer</td>
<td>A count-down timer that can be associated with a switch connected to an input.</td>
<td>0 to 90 seconds</td>
<td>1</td>
<td>0 (Disabled)</td>
<td>—</td>
</tr>
</tbody>
</table>

## PID Selection

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
<th>Value</th>
<th>Resolution</th>
<th>Default Value</th>
<th>Format</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>80–91</td>
<td>PID Selection for Hose/Gun Receptacles 1 and 2</td>
<td>Used to change the preset PID selections. Use parameter 80 to select the value for hose 1, parameter 81 to select the value for gun 1, and so on.</td>
<td>0 = Hose 1 = Standard gun 2 = Large gun 3 = Air heater</td>
<td>—</td>
<td>0 or 1 depending on the channel type (hose or gun)</td>
<td>—</td>
</tr>
</tbody>
</table>
## RTD Setup

### Gun 1 RTD Type

<table>
<thead>
<tr>
<th>Description</th>
<th>Used to indicate the type of RTD present on each gun connected to the melter: 120-ohm nickel (Ni120) or 100-ohm platinum (PT100).</th>
</tr>
</thead>
<tbody>
<tr>
<td>Value</td>
<td>0 (Ni120) or 1 (PT100)</td>
</tr>
<tr>
<td>Resolution</td>
<td>—</td>
</tr>
<tr>
<td>Default Value</td>
<td>0 (Ni120)</td>
</tr>
<tr>
<td>Format</td>
<td>—</td>
</tr>
<tr>
<td>Use</td>
<td>Use of a gun with a PT100 RTD is possible only when a special Nordson hose and adapter cable are used. Contact your Nordson representative for information on using PT100 guns.</td>
</tr>
</tbody>
</table>

### Gun 2 RTD Type

<table>
<thead>
<tr>
<th>Description</th>
<th>Used to indicate the type of RTD present on each gun connected to the melter: 120-ohm nickel (Ni120) or 100-ohm platinum (PT100).</th>
</tr>
</thead>
<tbody>
<tr>
<td>Value</td>
<td>0 (Ni120) or 1 (PT100)</td>
</tr>
<tr>
<td>Resolution</td>
<td>—</td>
</tr>
<tr>
<td>Default Value</td>
<td>0 (Ni120)</td>
</tr>
<tr>
<td>Format</td>
<td>—</td>
</tr>
<tr>
<td>Use</td>
<td>Use of a gun with a PT100 RTD is possible only when a special Nordson hose and adapter cable are used. Contact your Nordson representative for information on using PT100 guns.</td>
</tr>
</tbody>
</table>

### Gun 3 RTD Type

<table>
<thead>
<tr>
<th>Description</th>
<th>Used to indicate the type of RTD present on each gun connected to the melter: 120-ohm nickel (Ni120) or 100-ohm platinum (PT100).</th>
</tr>
</thead>
<tbody>
<tr>
<td>Value</td>
<td>0 (Ni120) or 1 (PT100)</td>
</tr>
<tr>
<td>Resolution</td>
<td>—</td>
</tr>
<tr>
<td>Default Value</td>
<td>0 (Ni120)</td>
</tr>
<tr>
<td>Format</td>
<td>—</td>
</tr>
<tr>
<td>Use</td>
<td>Use of a gun with a PT100 RTD is possible only when a special Nordson hose and adapter cable are used. Contact your Nordson representative for information on using PT100 guns.</td>
</tr>
</tbody>
</table>
RTD Setup (contd)

95 Gun 4 RTD Type

**Description:** Used to indicate the type of RTD present on each gun connected to the melter: 120-ohm nickel (Ni120) or 100-ohm platinum (PT100).

**Value:** 0 (Ni120) or 1 (PT100)

**Resolution:** —

**Default Value:** 0 (Ni120)

**Format:** —

**Use:** Use of a gun with a PT100 RTD is possible only when a special Nordson hose and adapter cable are used. Contact your Nordson representative for information on using PT100 guns.

96 Gun 5 RTD Type

**Description:** Used to indicate the type of RTD present on each gun connected to the melter: 120-ohm nickel (Ni120) or 100-ohm platinum (PT100).

**Value:** 0 (Ni120) or 1 (PT100)

**Resolution:** —

**Default Value:** 0 (Ni120)

**Format:** —

**Use:** Use of a gun with a PT100 RTD is possible only when a special Nordson hose and adapter cable are used. Contact your Nordson representative for information on using PT100 guns.

97 Gun 6 RTD Type

**Description:** Used to indicate the type of RTD present on each gun connected to the melter: 120-ohm nickel (Ni120) or 100-ohm platinum (PT100).

**Value:** 0 (Ni120) or 1 (PT100)

**Resolution:** —

**Default Value:** 0 (Ni120)

**Format:** —

**Use:** Use of a gun with a PT100 RTD is possible only when a special Nordson hose and adapter cable are used. Contact your Nordson representative for information on using PT100 guns.
## Recipe Control

### 98 Store Recipe

<table>
<thead>
<tr>
<th>Description</th>
<th>Used to store a selection of parameter settings (such as temperature set-points, pressure set-points, etc.) for a given application as a recipe. Up to four recipes may be stored.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Value</td>
<td>0, 1, 2, or 3</td>
</tr>
<tr>
<td>Resolution</td>
<td>—</td>
</tr>
<tr>
<td>Default Value</td>
<td>0</td>
</tr>
<tr>
<td>Format</td>
<td>—</td>
</tr>
<tr>
<td>Use</td>
<td>Stores all temperature set-points along with the settings of the parameters noted in Table 3-4 in Section 3, <em>Installation</em>.  &lt;br&gt;Refer to <em>Installing Melter Inputs/Outputs</em> in Section 3, <em>Installation</em>, for information about connecting inputs.  &lt;br&gt;Refer to <em>Storing and Retrieving Recipes</em> in Section 4, <em>Operation</em>, for instructions on using this parameter.</td>
</tr>
</tbody>
</table>

### 99 Display Active Recipe

<table>
<thead>
<tr>
<th>Description</th>
<th>Used to display the recipe that is currently active. Recipes are stored using parameter 98.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Value</td>
<td>0, 1, 2, or 3</td>
</tr>
<tr>
<td>Resolution</td>
<td>—</td>
</tr>
<tr>
<td>Default Value</td>
<td>0</td>
</tr>
<tr>
<td>Format</td>
<td>—</td>
</tr>
<tr>
<td>Use</td>
<td>Refer to <em>Installing Melter Inputs/Outputs</em> in Section 3, <em>Installation</em>, for information about connecting inputs.  &lt;br&gt;Refer to <em>Storing and Retrieving Recipes</em> in Section 4, <em>Operation</em>, for instructions on using this parameter.</td>
</tr>
</tbody>
</table>
Appendix C

Melter Communications

This appendix describes the installation and use of the Nordson Configuration Manager (NCM) communications utility. With this utility you can:

- transfer operating parameters and temperature set-points between melters
- upgrade or reload your melter’s firmware

Software Availability

If you do not already have the NCM utility, you can download it from the internet by navigating to www.enordson.com/support.

If you do not have a connection to the internet, you can request a software CD from your Nordson representative.

System Requirements

The following hardware and software requirements are necessary to install and run Blue Series software:

- Any ProBlue adhesive melter or a DuraBlue D4F, D10, or D16 adhesive melter
- Serial cable
- Personal computer with:
  - CD-RW drive or 3.5-inch floppy drive
  - Available COM port
  - 640 x 480 color monitor
  - Windows 95, 98 (second edition), ME, XP, or 2000
  - Internet Explorer version 4.0 or later (IE 5.0 is recommended)
  - Administrative privileges (Windows XP, 2000, and NT)
Installing the Software

To meet your specific installation conditions, two versions of the software are available. Refer to Table C-1 to determine which version you need.

Table C-1  Blue Series Software Versions

<table>
<thead>
<tr>
<th>Version</th>
<th>Use When...</th>
</tr>
</thead>
<tbody>
<tr>
<td>Single installation file:</td>
<td>You are downloading the software from <a href="http://www.enordson.com">www.enordson.com</a> and the PC you are downloading onto is connected or can be connected to the melter OR You are downloading the software from <a href="http://www.enordson.com">www.enordson.com</a> onto a PC that can not be connected to the melter, but the PC does have a CD-RW and the PC that is connected to the melter does have a CD drive OR You have a CD with the software and you have a PC with a CD drive that can be connected to the melter</td>
</tr>
<tr>
<td>BlueSeries.exe</td>
<td></td>
</tr>
<tr>
<td>Self-extracting span diskette set:</td>
<td>You are downloading the software from <a href="http://www.enordson.com">www.enordson.com</a> onto a PC that cannot be connected to the melter and the PC that is connected to your melter only has a 3.5-inch floppy drive</td>
</tr>
<tr>
<td>BlueSeriesSpan.exe</td>
<td></td>
</tr>
</tbody>
</table>

When the installation file is executed, an installation wizard will detect your operating system and start the installation routine.

**NOTE:** Installing the NCM for the first time also installs the latest version of the melter’s firmware.
To install Blue Series software
1. Do one of the following:
   - If you are installing using the single file installation, locate and double-click on the file BlueSeries.exe.
   - If you are installing from the span diskette set, insert Disk 1, and then locate and double-click on the file Setup.exe.

The Blue Series Software Setup wizard appears.
2. Click Next, and then follow the on-screen instructions. If you are installing from the span disk set, you will be prompted to insert additional diskettes (2 through 5) as required by your operating system.

   NOTE: When prompted to select an installation location, Nordson Corporation recommends that you select the default location offered.

3. When the installation complete message appears, click Finished.

Removing the Software from Your PC

Use the Remove feature provided by the Blue Series InstallShield™ Wizard to remove the software from your PC. Removing Blue Series software from your PC will not remove melter settings files that you have saved using the NCM. Settings files (.ncm extension) are stored in your Windows My Documents folder.

   NOTE: Windows XP, 2000, and NT users must have administrator rights in order to remove software from their PC.

To remove Blue Series software
1. From the Windows Start menu, select Settings > Control Panel, and then double-click Add/Remove Programs.
   
   The Add/Remove Programs dialog box appears.

2. Select Blue Series Software from the list, and then click Remove.
Connecting the PC and the Melter

Connect a serial cable between the PC COM port (selected during the software installation routine) and the serial port connection (COM port) on your melter’s control panel.

Using Nordson Configuration Manager

Configuration Manager is launched from your Windows desktop using the icon shown to the left.

Use Configuration Manager when you want to...
- copy melter settings from one melter to another melter
- create and save more than one version of melter settings
- upgrade or restore a melter’s firmware

Configuration Manager communicates with your melter through a PC connected to your melter’s serial port. Once connected, Configuration Manager offers the choice of saving settings, restoring settings, or upgrading the melter’s firmware.

The first time you download and install Configuration Manager, the latest version of the melter’s firmware is also downloaded.
Saving and Restoring Melter Settings

Saving settings copies all current set-point and operating parameter values to your PC. Saved settings can be transferred back to the same melter or to any other compatible Blue Series adhesive melter.

To save melter settings
1. Place the melter into the configuration mode by simultaneously pressing the Standby and Setup keys.
   “COnF” appears in the right display.
2. Double-click the NCM icon on the Windows desktop.
   The NCM dialog box appears.
3. Click Select Device.
   The Select Product dialog box appears.
4. Select your melter from the list, and then click Ok.
   The Select COM Port dialog box appears.
5. Select the COM port you are using to connect to the melter, and then click Ok.
   The PC and melter establish communications and a picture of the melter you selected appears in the device status area. The right side of the status area indicates “CONNECTED”.
6. Click Save Settings.
   The Save As dialog box appears.
   
   **NOTE:** The default location for saving settings files is Windows My Documents folder. To avoid loosing saved settings files, Nordson Corporation recommends that you do not change the default save location.

7. Type a file name to identify the group of settings you are saving, and then click Save.
   The save settings progress bar indicates the status of the save. When the save is complete, the melter automatically returns to the scan mode.
   
   **NOTE:** If you are using the NCM to save multiple variations of melter settings, use a file naming convention that will allow you to easily associate each settings file (.ncm extension) with its related process or end-use.

8. Click Ok to close the NCM.
Saving and Restoring Melter Settings  (contd)

To restore melter settings
1. Follow steps 1 through 5 of To save melter settings.
2. Click Restore Settings.
   The Open dialog box appears.
3. Select the settings file (.ncm extension) that you want to restore, and then click Open.
   The Restore Settings progress bar indicates the status of the restore. When the restore is complete, the melter automatically returns to the scan mode.

NOTE: If recipes were stored, this procedure must be performed for each recipe separately:
   Select recipe (x), store settings to file (x)
   Restore recipe (x), save settings under parameter 98 (x)

Upgrading or Restoring Melter Firmware

Use the NCM to upgrade your melter to a newer version of firmware or reload the current version of the firmware. The version of Blue Series adhesive melter firmware that is currently available is posted on the internet at www.enordson.com/support.

NOTE: The version of firmware that is loaded on your melter appears on the control panel when the melter is first switched on.

During the upgrade process, all current melter settings are downloaded and saved on your PC. After upgrading or restoring a melter's firmware, you can use the NCM to restore the pre-upgrade settings.

CAUTION! The upgrade process returns the melter’s settings to factory configuration, with the exception that current heater hours data is saved. Data in both the fault log and the change log is lost after upgrading the firmware.
To upgrade or reload melter firmware

1. Connect your PC to the melter. Refer to Connecting the PC and the Melter earlier in this guide.

2. Place the melter into the upgrade mode by switching the melter off and then on again, and then immediately pressing and holding both the Setup and left display Scroll key.
   
   UPLOAD appears in the right display.

3. Double-click the NCM icon on the Windows desktop.
   
   The NCM dialog box appears.

4. Click Select.
   
   The device dialog box appears.

5. Select your melter from the list, and then click Ok.
   
   The Select COM Port dialog box appears.

6. Select the COM port you are using to connect to the melter, and then click Ok.
   
   The PC and melter establish communications and a picture of the melter you selected appears in the device status area. The right side of the status area indicates Connected.

7. Click Upgrade.
   
   The Select Upgrade dialog box appears.

8. In the Available Upgrades list, select the firmware version you want to upload to the melter, and then click Ok.
   
   The upgrade warning message appears.

9. Click OK.
   
   The Upgrade in Progress dialog box appears. The upgrade can take as long as 12 minutes. When the upgrade is complete, the Success dialog box appears and the melter restarts.
To upgrade or reload melter firmware (contd)

**CAUTION!** Once the upgrade progress bar appears, do not interrupt the upgrade process for any reason. Interrupting the upgrade can corrupt the melter's firmware, which will require replacement of the IC chip (IC service kit P/N 1018817).

10. Click OK.
   The communications link between the melter and the PC is terminated.

11. Do one of the following:
   - To restore pre-upgrade melter settings, go to To restore pre-upgrade melter settings on the next page.
   - To close the NCM, click Exit.
   - To restore melter settings other than the settings that were in use by the melter before the upgrade, go to Saving and Restoring Melter Settings earlier in this guide.

To restore pre-upgrade melter settings
1. Place the melter into the configuration mode by simultaneously pressing the Standby and Setup keys.
   “COnF” appears in the right display.
2. Click Connect.
   The Select COM Port dialog box appears.
3. Select the COM port you are using to connect to the melter, and then click Ok.
   The PC and melter establish communications and a picture of the melter you selected appears in the device status area. The right side of the status area indicates “CONNECTED”.
4. Click Restore Pre-Upgrade Settings.
   The pre-upgrade settings are restored and the melter returns to the scan mode.
5. Click Exit to close the NCM.

To activate the special D4F software features
If you upgrade the melter firmware, reactivate the special D4F software features as follows: simultaneously press and hold the left-display scroll key and the gun key and then, while holding down these keys, cycle the melter control switch off and on. When the melter restarts, release the two keys.
Troubleshooting

Using Nordson Configuration Manager

<table>
<thead>
<tr>
<th>Symptom/Message</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>After selecting a device and the COM port, an <strong>Access Denied</strong> message appears.</td>
<td>PC-to-Blue communications may be running or another application may be using the COM port. Close Internet Explorer and end the communications connection (if prompted). Close all other applications.</td>
</tr>
<tr>
<td>Melter in <strong>UPLOAd</strong> mode, the update process has not been initiated, and you want to stop and exit the <strong>UPLOAd</strong> mode, but you cannot get the melter out of <strong>UPLOAd</strong>.</td>
<td>Cycle power to the melter at the local power disconnect switch. <strong>CAUTION:</strong> Ensure that the firmware update process is not running before taking power off of the melter.</td>
</tr>
<tr>
<td><strong>UPLOAd</strong> does not appear on the melter’s display when you press the Setup and left display scroll keys.</td>
<td>You must cycle the control switch while holding the Setup and left display scroll keys.</td>
</tr>
<tr>
<td>Attempted a firmware update, but the melter display still indicates <strong>UPLOAd</strong>. OR Attempted a firmware update, but the PC has stopped responding or was interrupted during the update process.</td>
<td>Using the local power disconnect switch, cycle power to the melter, and then re-attempt the update. If the update is unsuccessful or the melter will not reboot, the central processor chip may be corrupted. Replace the CPU board.</td>
</tr>
</tbody>
</table>
EC Declaration of Conformity
for Adhesive and Sealant Application Equipment
conforming to European Council Directives

PRODUCTS:
AltaBlue™ Melters, Models 15, 30, 50, 100
AltaBlue™ TT Melters, Models A4, A10, A16
AltaPail™ Melters
Cobalt™ GR Series Bulk Material Unloaders
DuraBlue® Melters
FoamMelt® FM-200 Melter
Freedom™ Hot Melt Adhesive System
Fulfill® Retrofit Kit
Mesa™ Melters
MiniPUR™ Melters
ProBlue® Melters, Models P4, P7, P10, P15, P30 and P50
ProBlue® Fulfill®, Models P4F, P7F, P10F
PURBlue™ Melters
Series 3000V Melters
SureFoam™ Foam Dispensing System

APPLICABLE DIRECTIVES:
Machinery Directive: 2006/42/EC

STANDARDS USED TO VERIFY COMPLIANCE:
EN ISO 12100
EN 60204-1
EN 61000-6-4
EN ISO 13732-1
EN 61000-6-2
EN 55011 (Class A, Group 1 for industrial environments. Use in
other environments may pose potential difficulty ensuring
electromagnetic compatibility due to conducted as well as
radiated disturbances.)

PRINCIPLES:
This product has been manufactured according to good engineering practice.
The product specified conforms to the directives and standards described above.

Gregory P. Merk, Senior Vice President
Adhesives Dispensing Systems

Date: 20 March 2014

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