SureFoam™
Foam Dispensing System

Customer Product Manual
Part 1079037_06

Issued 7/18

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

Nordson

For CE Declaration, refer to equipment documentation.

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

Address all correspondence to:

Nordson Corporation
Attn: Customer Service
11475 Lakefield Drive
Duluth, GA 30097

Notice

Trademarks

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SureFoam™ Foam Dispensing System

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 manual provides information about the installation and use of the SureFoam Foam Dispensing System (hereafter referred to as SureFoam System or SureFoam Unit) in conjunction with AltaBlue, DuraBlue (except "L" melters), or VersaBlue adhesive melters manufactured by Nordson Corporation.

For general information about melter setup, operation, troubleshooting, and parts, refer to the melter product manual.
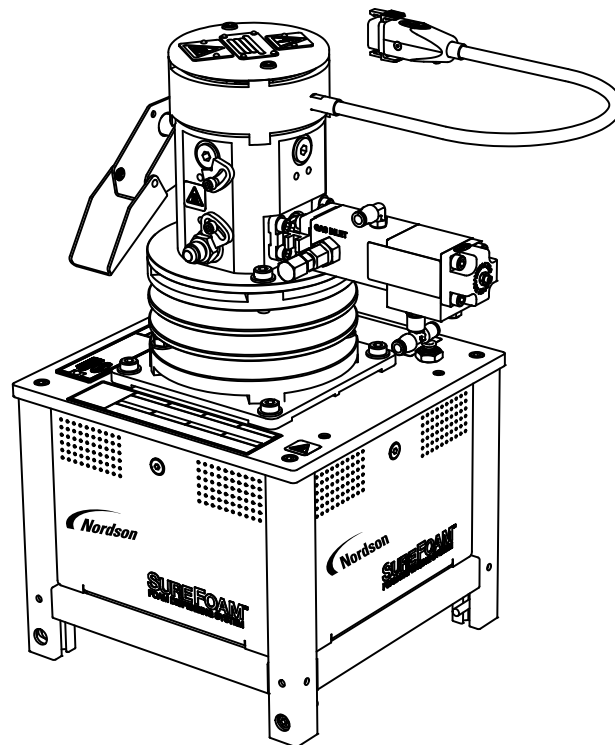
Introduction

Safety

Before installing or operating the SureFoam System or melter, read the safety information provided in the melter product manual Section 1, *Safety*.

Intended Use

The SureFoam System is intended to be used

- for processing thermoplastic hot melt adhesives

- in conjunction with a DuraBlue (except "L" melters), VersaBlue, or AltaBlue adhesive melters manufactured by Nordson Corporation

- for generating foamed hot melt material that will be discharged from an AD-41 or FP–200 hand-held applicator manufactured by Nordson Corporation

Unintended Use

The SureFoam System is not to be used

- if modified by the customer

- with components not manufactured by Nordson Corporation

- in water wash-down environments

- in explosive atmospheres

- for processing materials that are incompatible with the SureFoam System or the melter

- when the system is operated outside of the performance values stated in *Technical Data*

- for processing exposive, flammable, or corrosive materials

- for processing food products

Residual Risk

The SureFoam System is designed for safe operation. However, as with any piece of industrial equipment, the potential for accidents caused by residual risks remain. The following residual risks pertain to the use of the SureFoam System:

- Risk of burns caused by contact with the hot surfaces of the SureFoam System.

- Risk of burns caused by contact with foamed material.

- Inhalation of potentially hazardous vapors from hot melt material.

Technical Data

Item	Description	Notes
Maximum operating temperature	450 °F (melter maximum)	
Maximum gas pressure	1200 psi	
Maximum hydraulic pressure	1100 psi (melter maximum)	
Maximum air pressure	90 psi	

Unit Orientation

Figure 1 illustrates the naming convention for the four sides of the SureFoam unit.
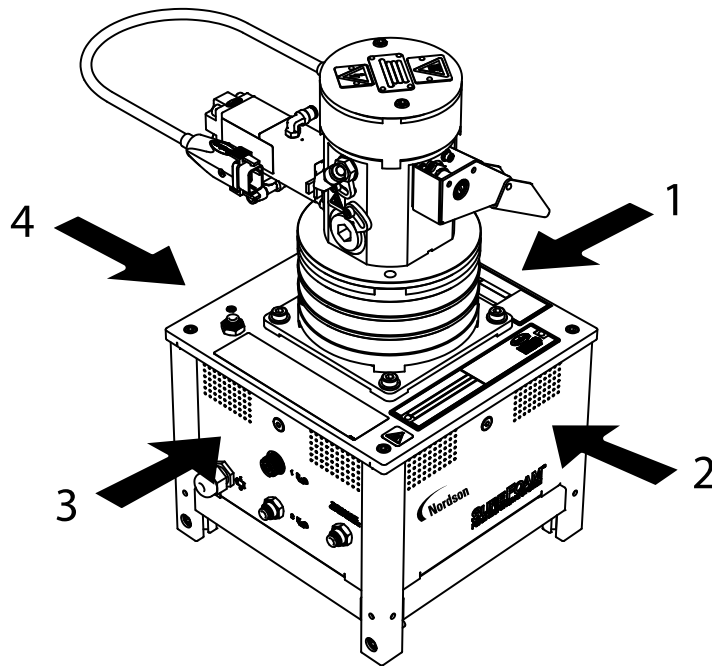
Figure 1   Unit orientation

Key Features

Figure 2 illustrates the key features of the SureFoam unit.
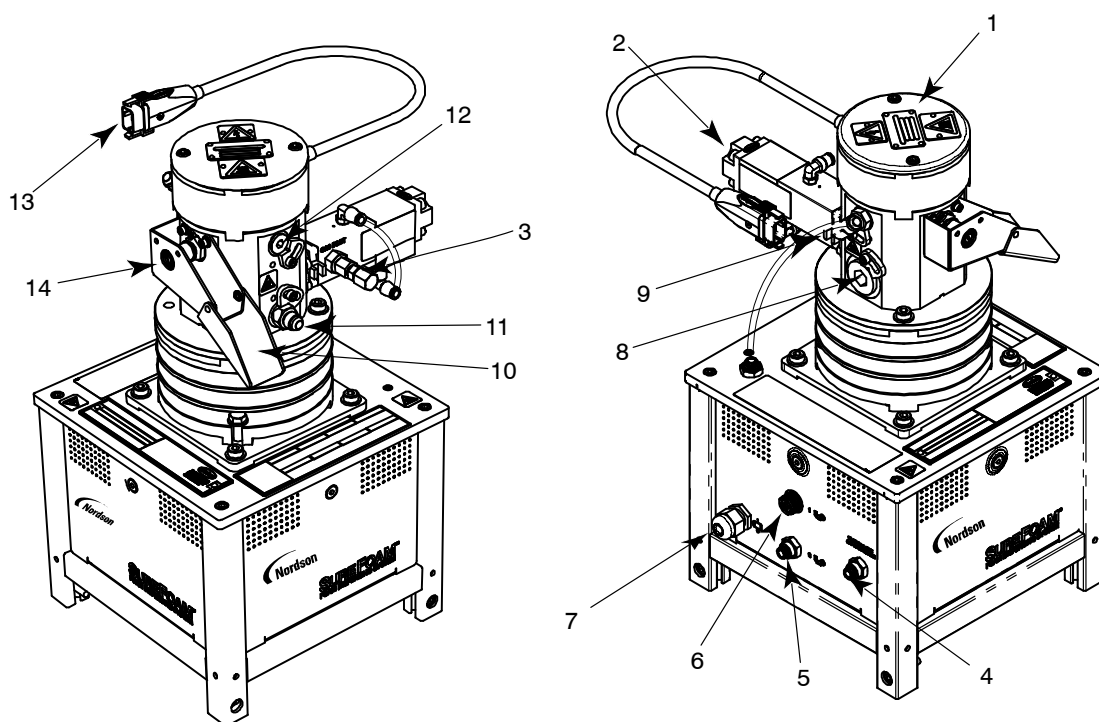
Figure 2   Key features

1. Mixer assembly
2. Gas valve
3. Gas supply connection (User installed. Shown with factory cap removed)
4. Air supply connection
5. FP–200 applicator trigger air connection

6. AD–41 trigger connection
7. Signal wire strain relief
8. Optional hose inlet (for 5/8–inch hose)
9. Standard hose outlet (5/16-inch hose)
10. Drain chute

11. Standard hose inlet
12. Optional hose outlet
13. Hose cordset
14. Drain valve

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Installation

These installation instructions assume that you are retrofitting a SureFoam System to an existing AltaBlue, DuraBlue (except "L" melters), or VersaBlue adhesive melter.

Before installing the SureFoam System, familiarize yourself with Section 3, *Installation*, of the appropriate melter manual.

Figure 3 illustrates a complete SureFoam System.

Prerequisites

The SureFoam System is retrofit onto an existing or new AltaBlue, DuraBlue (except "L" melters), or VersaBlue adhesive melter. In order to retrofit an existing melter with an SureFoam system, the following must be available:

*   240 VAC or 120 VAC power (Refer to the unit data plate)
*   A plant air supply capable of providing clean dry air at 90 psi
*   One available melter output (Standard or Optional output) for each SureFoam System
*   Two available melter hose/applicator receptacles for each SureFoam System

Optional Equipment

The following options are available from Nordson Corporation.

SureFoam Cart – (P/N 1082052) Provides a single mounting platform for the melter and the SureFoam unit. The cart is equipped with an air manifold-pressure regulator assembly and casters. The manifold-pressure regulator assembly is available separately.

Air manifold Assembly – (P/N 1082057) Provides a convenient method for regulating and distributing plant air to the SureFoam System. The air manifold assembly is included with the SureFoam cart.

Hose Cordset Extension Cable – Allows the SureFoam unit to be remote mounted away from the melter. Refer to *Parts* for specific cable part numbers.

PN 332930

PN 713411

PN 816084

70-90 psi

A

B

C

D

E

F

G

PN 727751

PN 972707

AD-41

FP-200
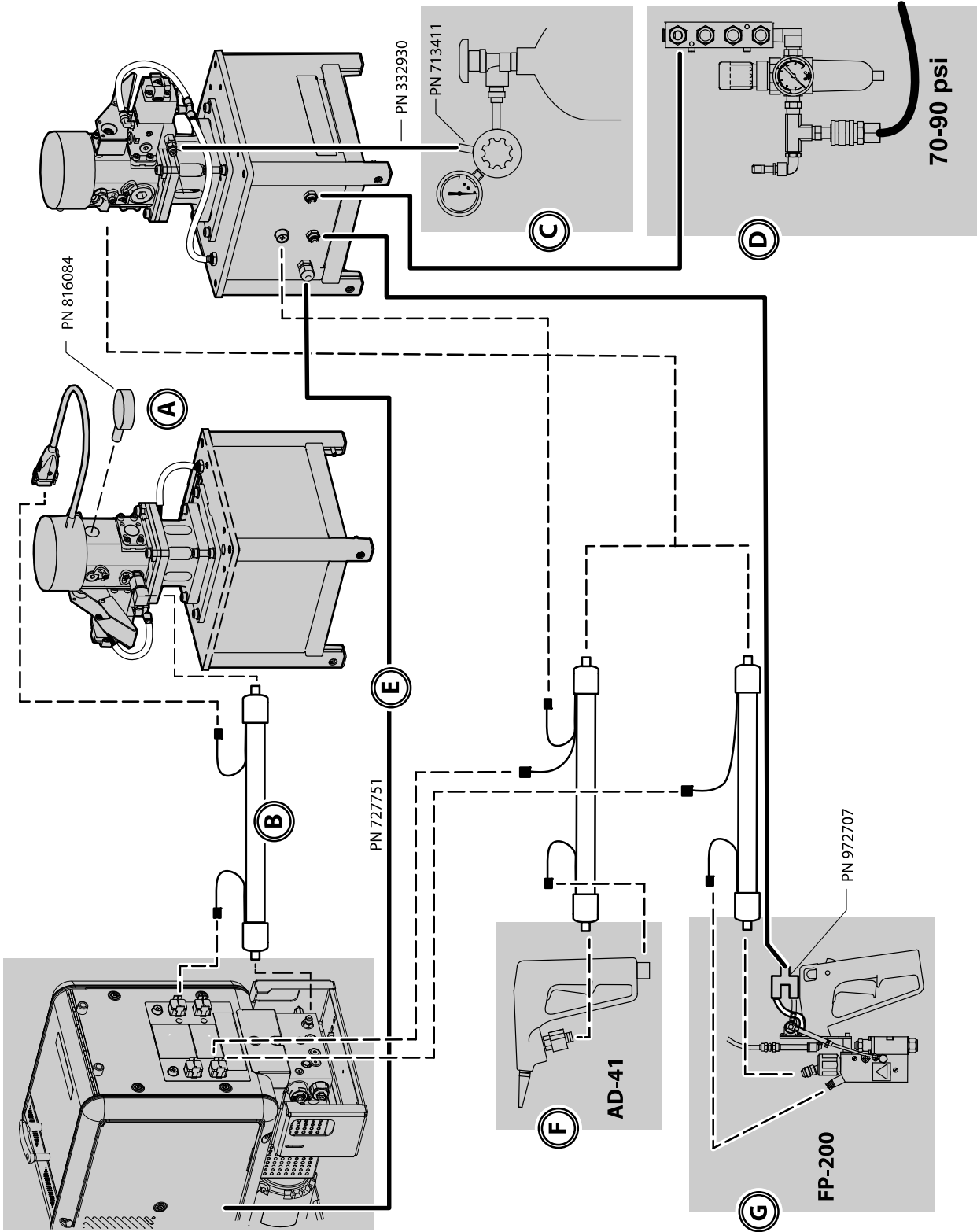
Figure 3   Complete SureFoam System

Nordson-supplied Installation Components

The components illustrated in Figure 4 are required to install the SureFoam System. These components are provided in the installation kit that ships with SureFoam unit.

In addition to the components show in Figure 4, the installation kit also contains language–specific safety tags that can be applied over English language tags if required.

Nitrogen Pressure Regulator

A Nordson–supplied Nitrogen pressure regulator (Nordson Corporation PN 1082050 (High) and 1082051 (low)) is provided with the SureFoam system. The Nordson-supplied regulator must be used to ensure correct operation of your SureFoam system.

Customer-supplied Installation Components

In addition to the components provided by Nordson Corporation, installation of the SureFoam system requires the following customer-supplied components:

- A properly rated power cable
- 1/4-inch air line
- AD-41 or FP-200 hand-held applicator (Various Nordson Corporation part numbers)
- Nitrogen tank (high or low pressure)

  NOTE: The gas bottle fitting provided on the input of the pressure regulator supplied by Nordson Corporation may not fit your gas bottle. In this case, the fitting and nipple on the input of the gas regulator may need to be changed to adapt to your gas bottle. The input port of the regulator uses a $1/4$-NPT thread.

- A 5/16-inch automatic hose between the melter and the SureFoam System (Various Nordson Corporation part numbers)
- A 5/16-inch hand-held applicator hose manufactured by Nordson Corporation

  NOTE: A 5/8-inch automatic hose manufactured by Nordson Corporation is required if the SureFoam System is to be located further than 10 feet from the melter.
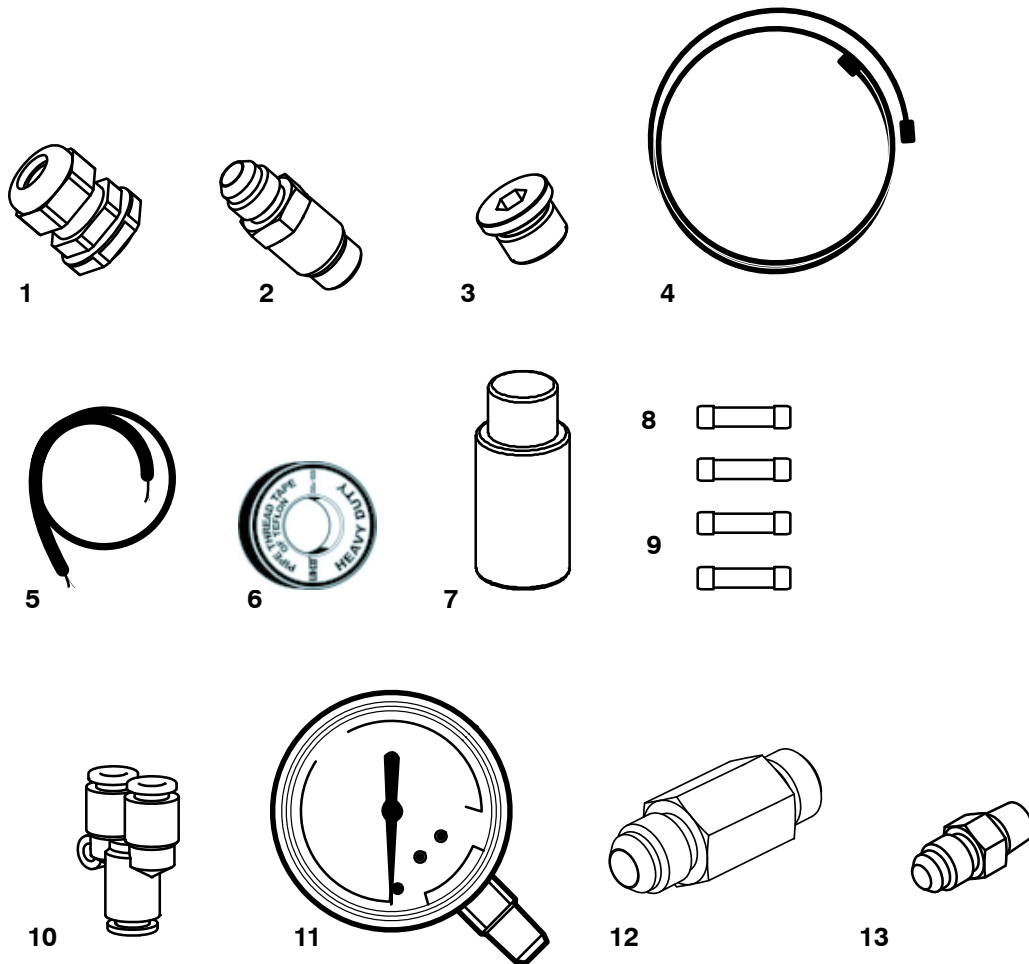
Figure 4   Installation kit components

1. Strain relief P/N 306366
2. Check valve, straight P/N 4078546
3. Plug P/N 973574
4. Reinforced PTFE gas line
    P/N 332930
5. Signal cable P/N 727751

6. PTFE tape P/N 902504
7. Leak detection fluid P/N 900300
8. Fuse, 1.6A, 500V P/N 1081107
    (Spare)
9. Fuse, 0.8A, 500V P/N 1081108
    (Spare)
10. Y-Connector P/N 972707
11. Gauge P/N 816084
12. Check valve fitting P/N 1082053
13. Gas line adapter fitting P/N 713411

Mount the SureFoam System

The SureFoam System must be located

- within reach of the adhesive melter using a hose that draws less than 500 W and that does cause the hose to cross a traffic lane

  If the distance between the melter and the SureFoam System is greater than 10 feet, a 5/8-inch hose must be used.

- where it can be supplied with clean dry factory air at 90 psi

See Figure 5.

Two sets of four M6 mounting holes are provided. One set is located on the bottom of the support legs, the other set is located on the side of the support legs and is intended to be used with the optional cart assembly available from Nordson Corporation (P/N 1082052).

NOTE: When using the optional cart, refer to the instructions provided with the cart for information about mounting the SureFoam unit.

NOTE: If the optional cart is not being used, and the SureFoam unit is remote mounted away from the melter, a hose cordset extension cable may be required. Refer to *Connect the Automatic Hose*.

NOTE: Nordson Corporation recommends that the distance between the SureFoam System and the melter be kept as short as possible to reduce hose power requirements.
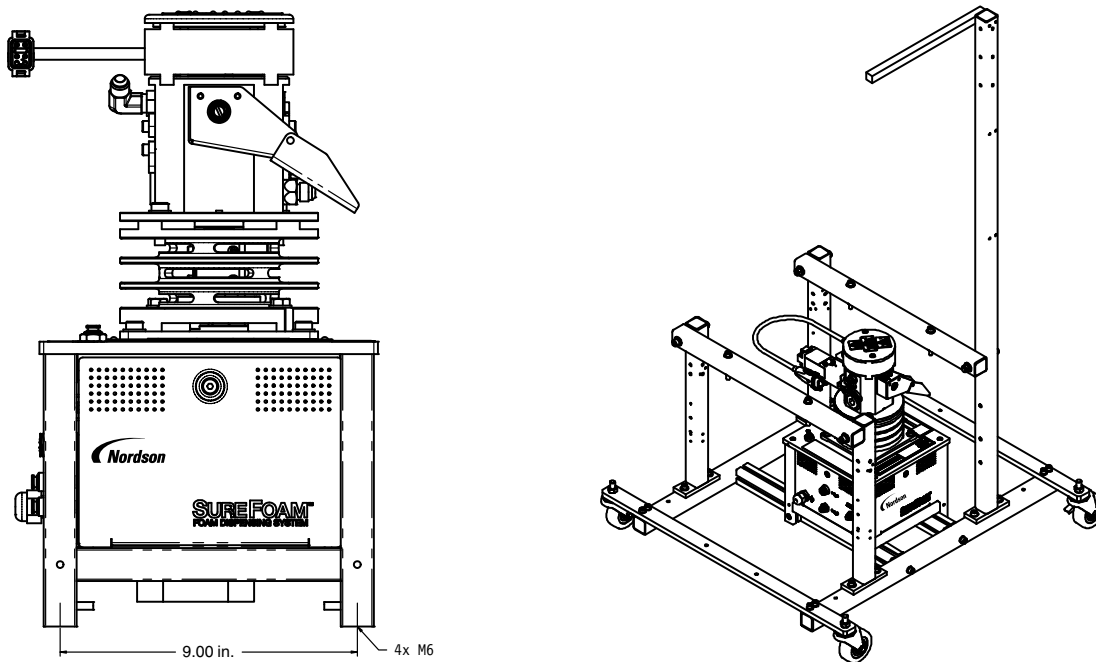
Figure 5   SureFoam bolt mounting pattern and optional cart (SureFoam unit not included with cart)

Connect a Power Cable

SureFoam units are available in 120 VAC and single phase 240 VAC. The customer must connect the unit to the power source using a properly rated power cord. Nordson Corporation recommends that the unit be connected to an independent power disconnect switch.

- Refer to the data plate mounted on the SureFoam unit when selecting a power cable.
- Provide power to the SureFoam unit from a dedicated power disconnect switch.

NOTE: Power wiring described in this procedure is for powering the SureFoam unit mixer assembly, not the internal heater. The heater inside the SureFoam unit is powered from the melter.

NOTE: 120 VAC melters do not provide sufficient power to the SureFoam heater and may not be used.

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.

1. Following local codes, route an appropriately sized power cable from the disconnect switch to the SureFoam unit.

2. Route the power cable through the hooded penetration on the underside of the unit.

See Figure 6.

3. Remove the panel from Side 2 of the unit.

4. Route power cable through the interior of the unit, and then connect the power cable leads to the appropriate terminals on terminal block XT1.

120 VAC
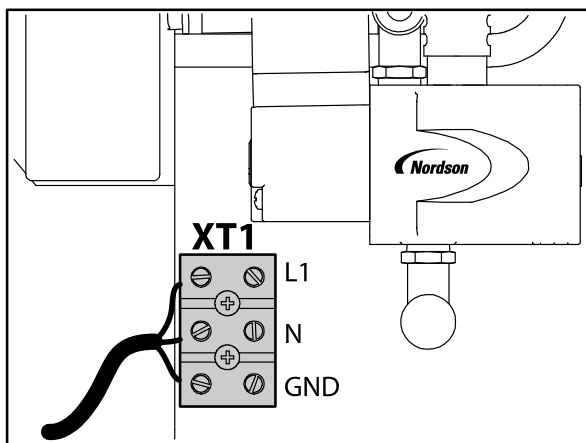
240 VAC
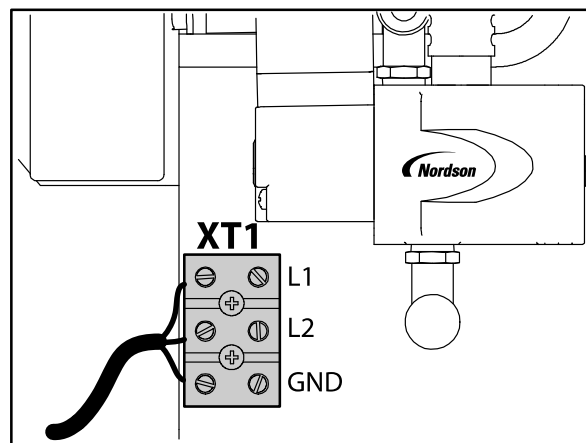
Figure 6   Connecting the power cable

Connect the Pressure Gauge

See Figure 3, item A.

Connect the pressure gauge provided with the melter to any outlet port on the SureFoam unit.

Connect the Automatic Hose

See Figure 2 and item B of Figure 3.

Refer to the instructions provided with the automatic hose for detailed installation information.

1. Connect a 5/16-inch automatic hose between any available hose port on the melter and the adhesive inlet port the SureFoam unit.

    If the distance between the melter and the SureFoam unit is greater than 10 feet, then use a 5/8-inch automatic hose. In this case, connect the automatic hose to the optional hose inlet port and plug the standard inlet port with the plug provided (P/N 973574).

    NOTE: The maximum wattage for the automatic hose must not exceed 500 W.

    NOTE: The SureFoam unit ships with a 90-degree check valve fitting already installed in standard inlet port. If desired, the straight fitting (P/N 1078546) provided in the installation kit may be used.

2. Connect the cordset at the melter end of the automatic hose to any available hose/applicator receptacle on the back of the melter.

3. Connect the cordset on the SureFoam unit to the cordset receptacle on the automatic hose.

    NOTE: The longest 5/8-inch hose (manufactured by Nordson Corporation) that may be used without exceeding the melter power limit is 16 feet.

Connect a Nitrogen Supply

⚠️ **WARNING!** Risk of Explosion. Compressed gas cylinders can explode or act as projectiles if punctured or the valve assembly is damaged. Ensure that the nitrogen cylinder is restrained in an upgright position and placed where it cannot be damaged by moving equipment.

See Figure 2 and item C of Figure 3.

1. Restrain the nitrogen cylinder.

2. Install the Nordson–supplied Nitrogen pressure regulator on the Nitrogen cylinder. Ensure that the large black regulator control knob is turned fully counterclockwise (no pressure).

   NOTE: Although the Nordson–supplied Nitrogen pressure regulator has two adjustment knobs, the stainless steel knob is factory set and locked. DO NOT adjust this knob or foam quality will be adversely affected.

   NOTE: The pressure regulator provided with your system may be either a 6000 psi high-pressure regulator (PN 1082050) or a 3000 psi low-pressure regulator (P/N 1082051).

3. Remove the shipping plug from the gas supply connection (See Figure 2, item 3), and then install the gas line adapter fitting (P/N 713411) provided in the installation kit. PTFE tape is provided for this installation.

4. Connect the reinforced PTFE gas line (P/N 332930) between the regulator output and the gas supply connection on the SureFoam unit. PTFE tape is provided in the installation kit.

5. Open the gas regulator and check for gas leaks at both ends of the gas line. Leak testing solution is provided in the installation kit.

Connect an Air Supply

See Figure 2 and item D of Figure 3.

Connect the plant air supply (70–90 psi) to the SureFoam unit air supply connection.

NOTE: Nordson Corporation offers a four-port air manifold-regulator assembly P/N 1082057.

Connect the Signal Cable Between the Melter and the SureFoam Unit

The SureFoam System requires an output signal from the melter in order to operate. Standard melter outputs 1, 2, or 3 can be used to provide this signal. By using multiple melter outputs, a single melter can support multiple SureFoam units. Refer to the melter manual for information about setting up melter outputs.

WARNING! Risk of electrocution! Disconnect power to the SureFoam unit at the customer-installed power disconnect switch. Failure to install or properly use the disconnect switch when working inside the SureFoam unit electrical compartment can result in personal injury, including death.

To connect the signal cable

See Figure 2, 7and 8 and item E of Figure 3.

1. Disconnect power to the SureFoam unit at the customer-installed power disconnect switch.

2. At the melter, install the strain relief provided in the installation kit into an available electrical penetration. Refer to the melter manual for the location of the electrical penetrations.

3. Route the signal cable provided in the installation kit through the strain relief and into the melter's electrical compartment.

4. Connect the two signal wires to the any pair of available output terminals, and then tighten the strain relief. Refer to the melter manual for the location of the output terminal block.

    NOTE: When supplying two or more SureFoam units from a single melter, each SureFoam unit must be connected to a discreet melter output.

5. Route the signal cable over to the SureFoam unit.

6. Run the end of the signal cable through the strain relief provided in the installation kit (P/N 306366), and then into the signal cable penetration on Side 3 of the SureFoam unit.

7. Remove the panel from Side 1.

8. Route the signal cable through the inside of the SureFoam unit, and then connect the two signal wires to terminals 1 and 2 for 120V units or terminal 1 and terminals 4,5, or 6.

9. Thread the strain relief onto the side of the SureFoam unit and tighten it securely.

To set up the output signal at the melter

1. Refer to the melter manual for detailed information about how to set up melter outputs. Standard melter outputs 1, 2, and 3 are controlled respectively by parameters 40, 41, and 42.

2. Set the control option for the appropriate output parameter to option 2, *Ready and the motor is on*.
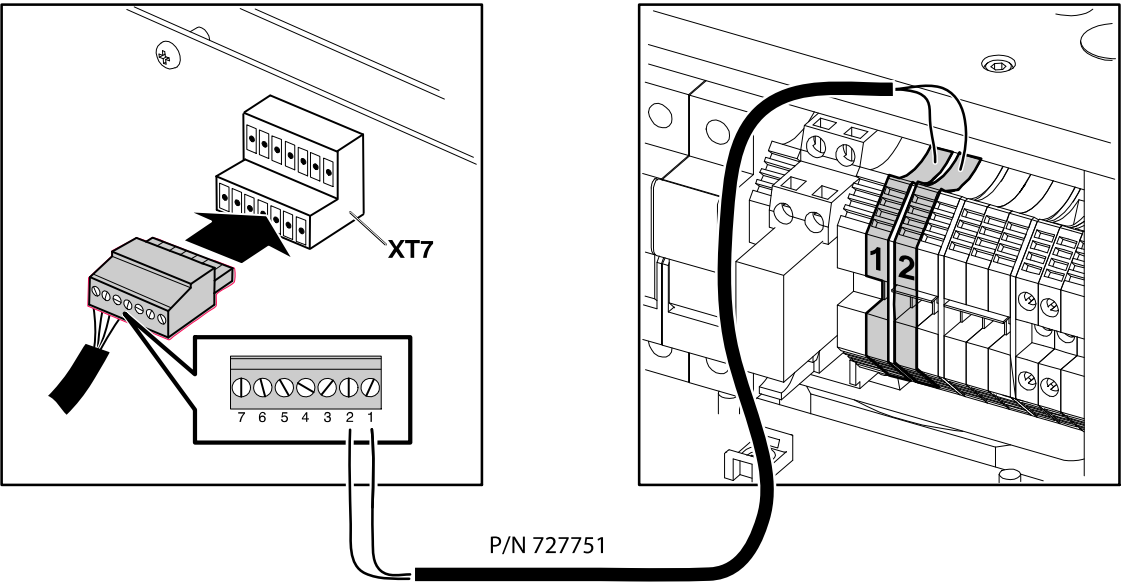
Figure 7   120V unit signal cable connection (DuraBlue (except "L" melters) output terminals illustrated)
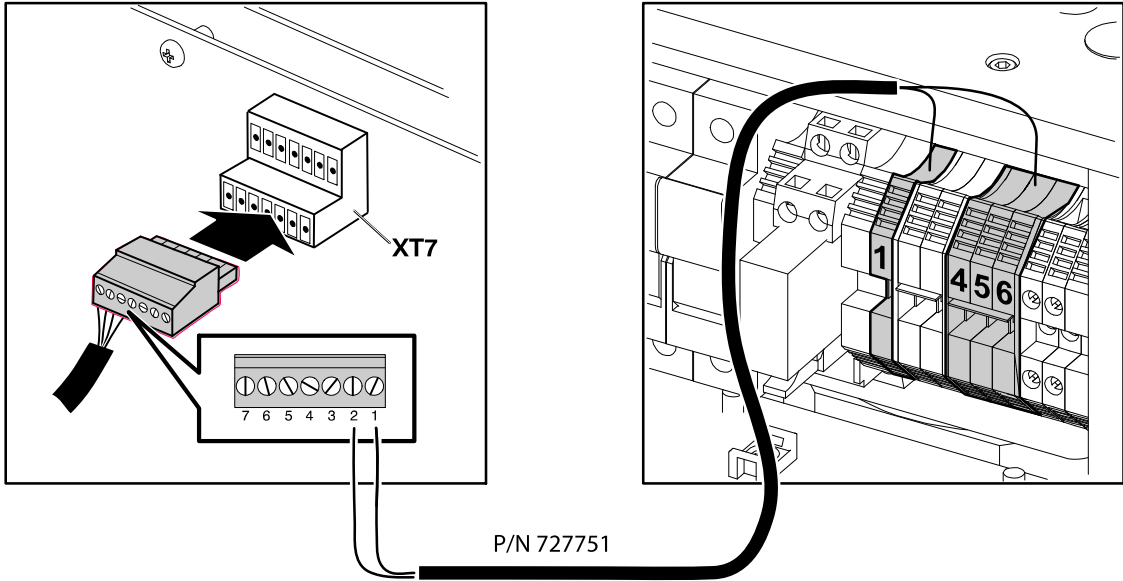
Figure 8   240V unit signal cable connection (DuraBlue (except "L" melters) output terminals illustrated)

Install the Hand-Held Applicator Hose and Hand-Held Applicator

Refer to the instructions provided with the hand-held applicator hose for detailed installation information.

Install an AD-41 Hand-Held Applicator

See Figure 2 and item F of Figure 3.

Refer to the instructions provided with the hand-held applicator for detailed installation instructions.

1. Connect the unit end of the hand-held applicator hose to any outlet port on the SureFoam unit.

    NOTE: The SureFoam unit ships with a 90-degree check valve fitting already installed in the standard outlet port. If desired, the straight fitting (P/N 1078546) provided in the installation kit may be used.

2. Connect the hand-held applicator hose electrical plug to any available hose/applicator receptacle on the back of the melter.

    NOTE: If the hose electrical cordset does not reach the melter, use a cordset extension cable manufactured by Nordson Corporation. Refer to *Parts* for cable part numbers.

3. Connect the applicator end of the hand-held applicator hose to the AD-41 hand-held applicator.

4. Connect the hand-held applicator hose 4-pin plug to the Trigger #1 4-pin receptacle on Side 3 of the SureFoam unit.

Install an FP-200 Hand-Held Applicator

See Figure 2 and item G of Figure 3.

1. Connect the unit end of the hand-held applicator hose to any outlet port on the SureFoam unit.

    NOTE: The SureFoam unit ships with a 90–degree check valve fitting already installed in the standard outlet port. If desired, the straight fitting (P/N 972628) provided in the installation kit may be used.

2. Connect the hand-held applicator hose electrical plug to any available hose/applicator receptacle on the back of the melter.

    NOTE: If the hose electrical cordset does not reach the melter, use a cordset extension cable manufactured by Nordson Corporation. Refer to *Parts* for cable part numbers.

See Figure 9.

3. Cut the air line at the top of the FP-200, and then connect the two halves of the air line to the Y-fitting (P/N 972707) that is provided in the installation kit.

4. Connect a length of 1/4–inch pneumatic tubing to the Y–fitting, and then route the air line along the hand-held applicator hose to the SureFoam unit.

5. Secure the air line to the hose using Velcro straps (Nordson Corporation P/Ns 301841 (6–inch) and 301866 (10–inch)).

6. Connect the air line to the applicator trigger air connection on Side 3 of the SureFoam unit.
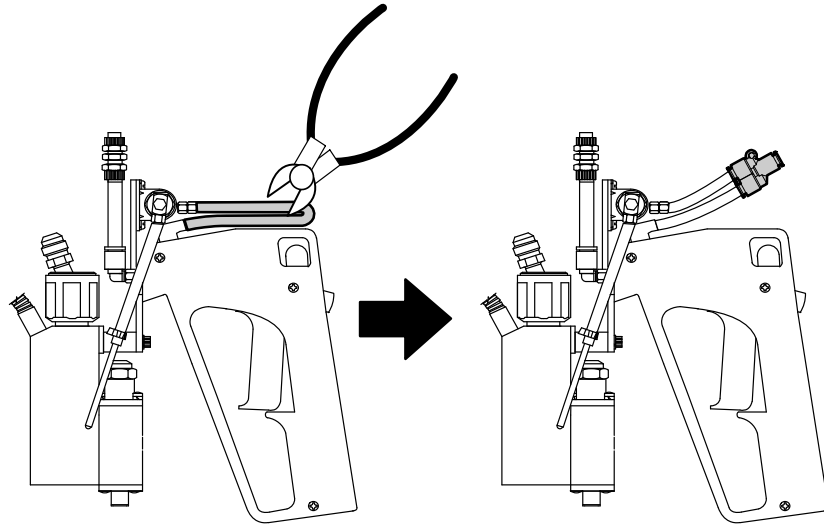
Figure 9   Modifying the FP–200

Setup

Adjust the SureFoam System Operating Temperature

The SureFoam unit is monitored by the melter as another applicator with respect to how the SureFoam unit set point temperature adjustment is made and how the melter monitors the SureFoam unit's temperature and faults. For information about setting components temperature and monitoring component temperature and faults, refer to the melter manual.

Purge the System

With the gas supply turned off, operate the melter and hand-held applicator as normal to dispense a minimum of one tank volume of adhesive.

Adjust Foam Density

The SureFoam System is capable of significantly reducing adhesive density. Foam density is a function of the type of adhesive, adhesive temperature, nitrogen gas pressure, and barometric pressure. The speed of the SureFoam System motor is not adjustable and therefore has no effect on changing the density of the foamed adhesive.

To create adhesive foam, the pressure of the gas introduced into the SureFoam System must be a minimum of 150 psi greater than the SureFoam System outlet pressure. Outlet pressure is indicated on the outlet pressure gauge.

NOTE: Although the Nordson–supplied Nitrogen pressure regulator has two adjustment knobs, the smaller of the two knobs is factory set and locked. DO NOT adjust this knob or foam quality will be adversely affected.

To check and adjust the foam density

1. With the nitrogen gas supply turned off, dispense a fixed volume of solid-formed adhesive until the dispensed adhesive is free of bubbles. Note the SureFoam System outlet pressure.

2. Weigh the dispensed adhesive.

3. Turn on the nitrogen gas supply and adjust to a minimum of 150 psi greater than the SureFoam System outlet pressure gauge.

4. Dispense a second identical volume of foamed adhesive. Weigh the dispensed adhesive.

5. To further decrease the density of the foamed adhesive, gradually Increase the gas pressure by turning the large black knob on the gas bottle regulator in $^1/_4$-turn increments, dispensing and weighing foamed adhesive between each gas adjustment until the desired foam density is achieved.

   NOTE: Considerable time may elapse between the time a gas pressure adjustment is made and a change in adhesive density is observed. The factors that influence this elapsed time are the length of the hose and the melter flow rate.

SureFoam System Operation

Operation of the melter for the application of foamed hot melt adhesive is identical to the operation of the melter for the application of solid form (bead) hot melt adhesive. Likewise, operation of the hand-held applicator for the application of foamed hot melt adhesive is identical to operation of a hand-held applicator for solid form (bead) hot melt adhesive.

Refer to the melter and hand-held applicator manuals for detailed operating instructions.

Troubleshooting

The following table provides SureFoam System-specific troubleshooting guidance. Refer to the melter manual for general melter troubleshooting information.

Problem	Possible Cause	Corrective Action
1. **Loss of foamed adhesive**	No gas supply	Check Nitrogen tank pressure and regulator position
	Incorrect pressure differential between the gas inlet pressure and the adhesive outlet pressure	Ensure that the gas inlet pressure is at least 150 psi. greater than the adhesive outlet pressure
	No or insufficient air supply to the unit	Check and adjust air supply to unit. Input air should be set to 70-90 psi.
	(AD-41 Hand-held applicator) No applicator trigger signal seen	Check applicator Trigger #1 connection
	(FP-200 Hand-held applicator) No applicator trigger air	Check that the air line from the applicator to the unit
	Gas valve failed	Check if the valve is opening by listening for a click when the valve operates. Replace valve if no click is heard.
		Check if the air supply to the gas valve is present when the applicator is trigger. Correct supply problem if required
	Gas valve precision orifice is clogged	Replace the orifice/filter assembly (Kit PN 1088787)
	Faulty air pressure switch	Replace switch (P/N 1081005)
2. **No adhesive output**	Set point temperature of SureFoam unit has not been reached	Monitor SureFoam set point temperature on the melter display
	The melter has faulted	Check and correct the melter fault
	(FP-200 Hand-held applicator) Air supply is not present or is set incorrectly	Check/adjust the input air to the applicator
	The melter pump is off	Turn the pump on
	Adhesive output pressure at melter is too low	Check/adjust the output pressure to between 500 and 700 psi
	Input check valve fitting on SureFoam unit is clogged	Remove and inspect the check valve Clean or replace if necessary
	Cold hydraulic fittings	Insulate exposed fitting
	Clogged applicator nozzle	Clean or replace nozzle

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Using the Illustrated Parts Lists

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

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

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

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

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

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

Item	Part	Description	Quantity	Note
—	0	Assembly A	—	
1		• Part of assembly A	2	A
2	- - - - - -	• • Part of item 1	1	
3	0	• • • Part of item 2	AR	
NS		• • • • Part of item 3	2	
NOTE A: Important information about item 1				
AR: As Required				
NS: Not Shown				

Base Unit

4x M6 x 1.00 x 30 SKT HD SCREW

4x M6 x 1.00 THREADED HOLE

1.38

1.38

1.00

.50

9.00

10.00

WHEN INSTALLING ELEC. MODULE
NOTE THE RELATIONSHIP BETWEEN
ALIGNMENT NOTCHES ON FRAME
AND TERMINAL BLOCKS.

A04
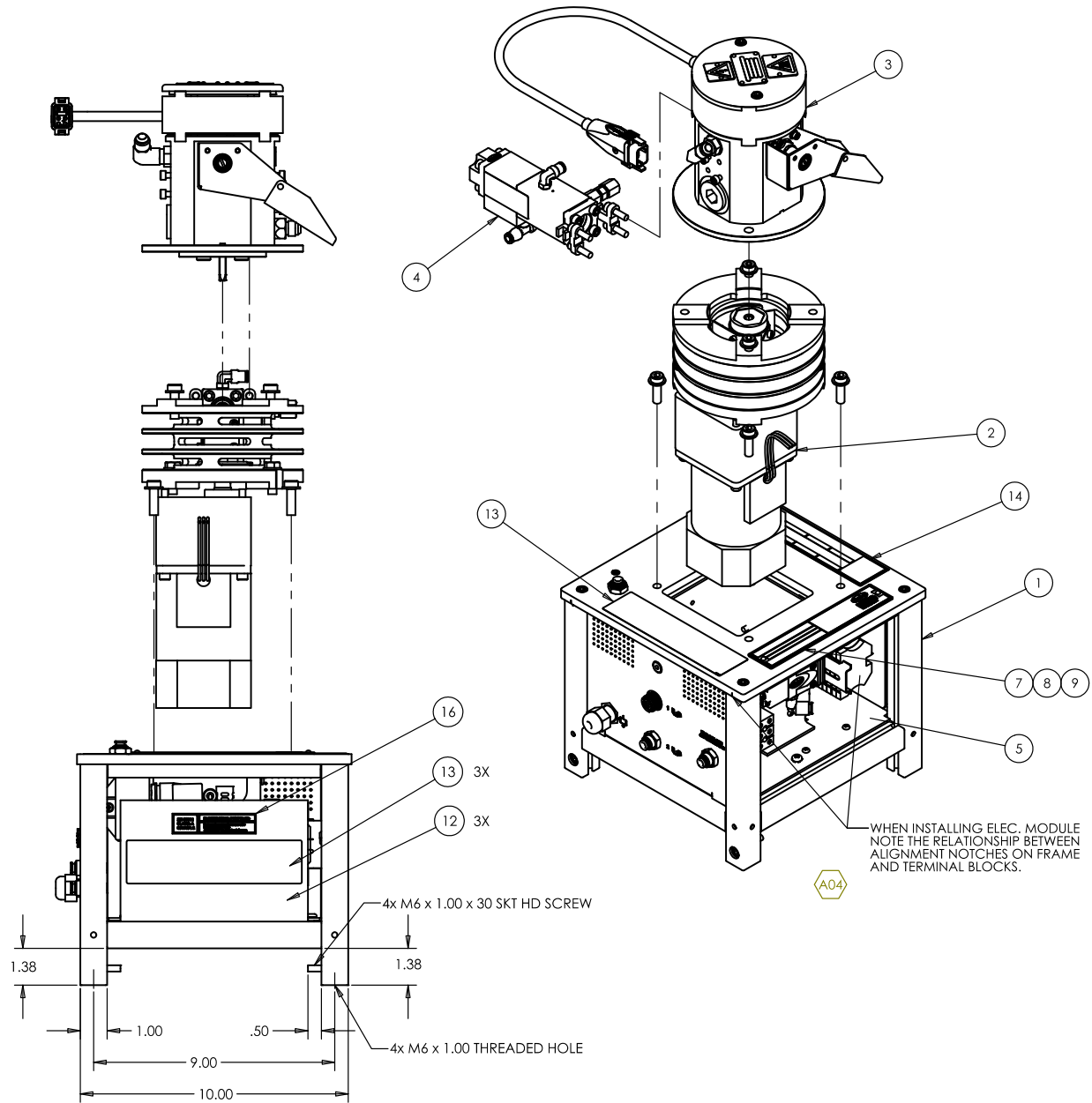
Item	Part	Description	Quantity	Note
--	1076606	UNIT 120V, SUREFOAM MIXER	--	
--	1076675	UNIT 240V SUREFOAM MIXER	--	
1	------	• FRAME ASSEMBLY,SUREFOAM	--	
2	------	• DRIVE ASSEMBLY,SUREFOAM,120V	1	
3	1076607	• MIXER ASSEMBLY,SureFoam System	1	
4	------	• VALVE ASSY,GAS,SUREFOAM	1	
5	------	• MODULE,ELECTRICAL,120V,SUREFOAM	1	
6	816084	• SERVICE KIT,GAUGE,HYDRAULIC	1	
7	1026451	• PLATE,STAMPING,6.812 X 1.3	1	
8	1086140	• MODULE,TAG,STAMPING,BLANK, DURABLUE	2	
9	981907	• SCR,DRIVE,RD,4X .250,ZN	2	
10	1082029	• KIT,SHIP WITH,SUREFOAM	1	
11	------	• MAN, SUREFOAM	1	
12	------	• INSULATOR,PWR,DIST,SUREFOAM	3	
13	1025795	• TAG,WARNING,HAZARDOUS VOLTAGE, DURABLUE	4	
14	1100256	• TAG,WARNING, HOT ADH/HYD PRESS	1	
15	178475	• TAG,HOT SURFACE	2	
16	------	• TAG,CE/EMC,90DEGC,WIRE	1	

Frame Assembly
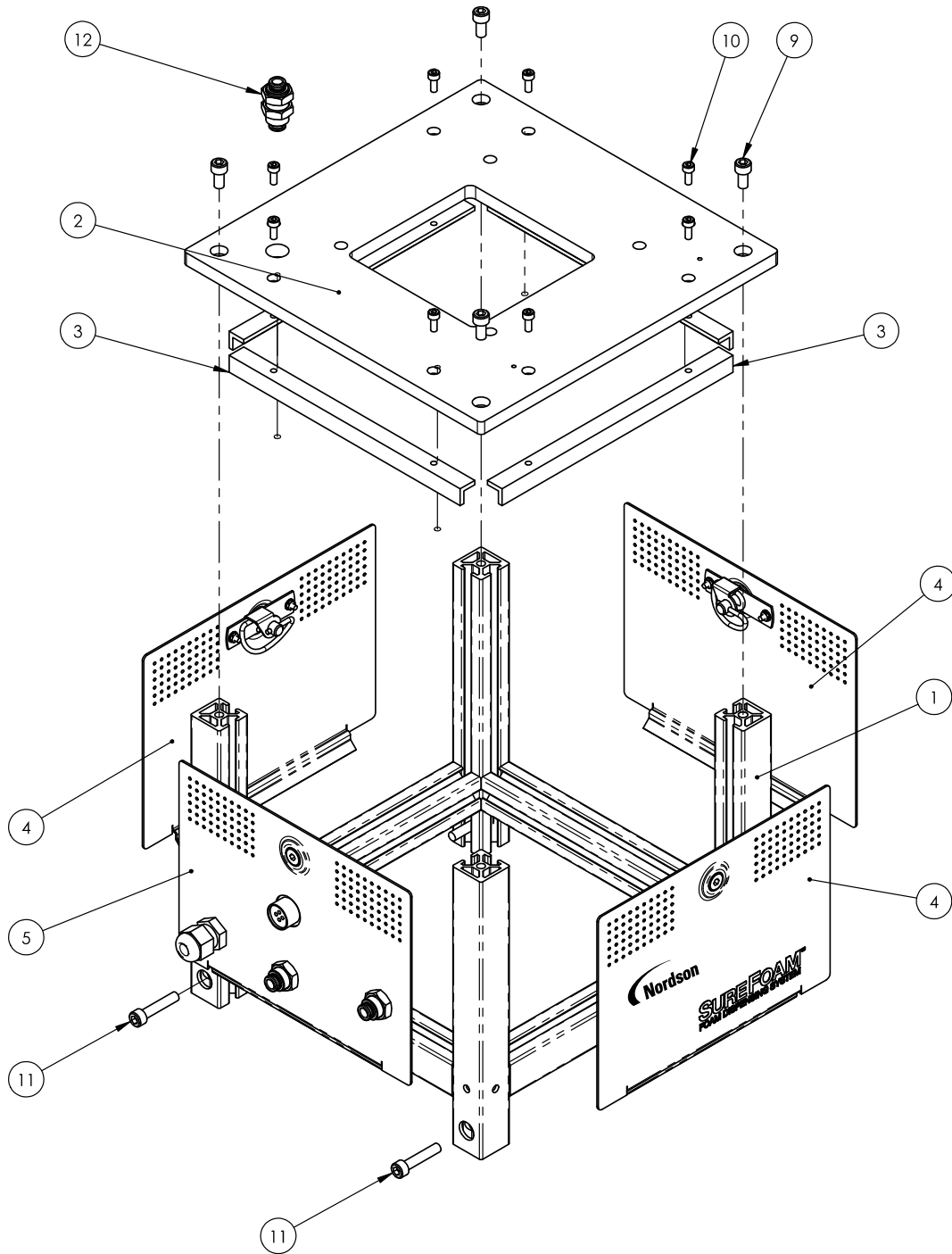
Item	Part	Description	Quantity	Note
1	------	FRAME,BASE, SUREFOAM SYSTEM	1	
2	------	PLATE,TOP, BASE FRAME, SUREFOAM SYSTEM	1	
3	------	BRACKET, SIDE COVER, SUREFOAM SYSTEM	4	
4	------	PANEL ASSY, FRAME, SUREFOAM SYSTEM	3	
5	------	PANEL ASSY, ELEC/AIR, SUREFOAM SYSTEM	1	
9	------	SCR, SKT, M6X12, BL	4	
10	------	SCR, SKT, M4X10MM, BL	8	
11	------	SCR, SKT, M6X30, BL	4	
12	------	UNION, BULKHEAD, FEMALE, 1/4TUBE, PUSHIN	1	

Drive Assembly

KEY SUPPLIED WITH MOTOR

ENSURE TABS ON ITEM #4
ARE ENGAGED IN SLOTS
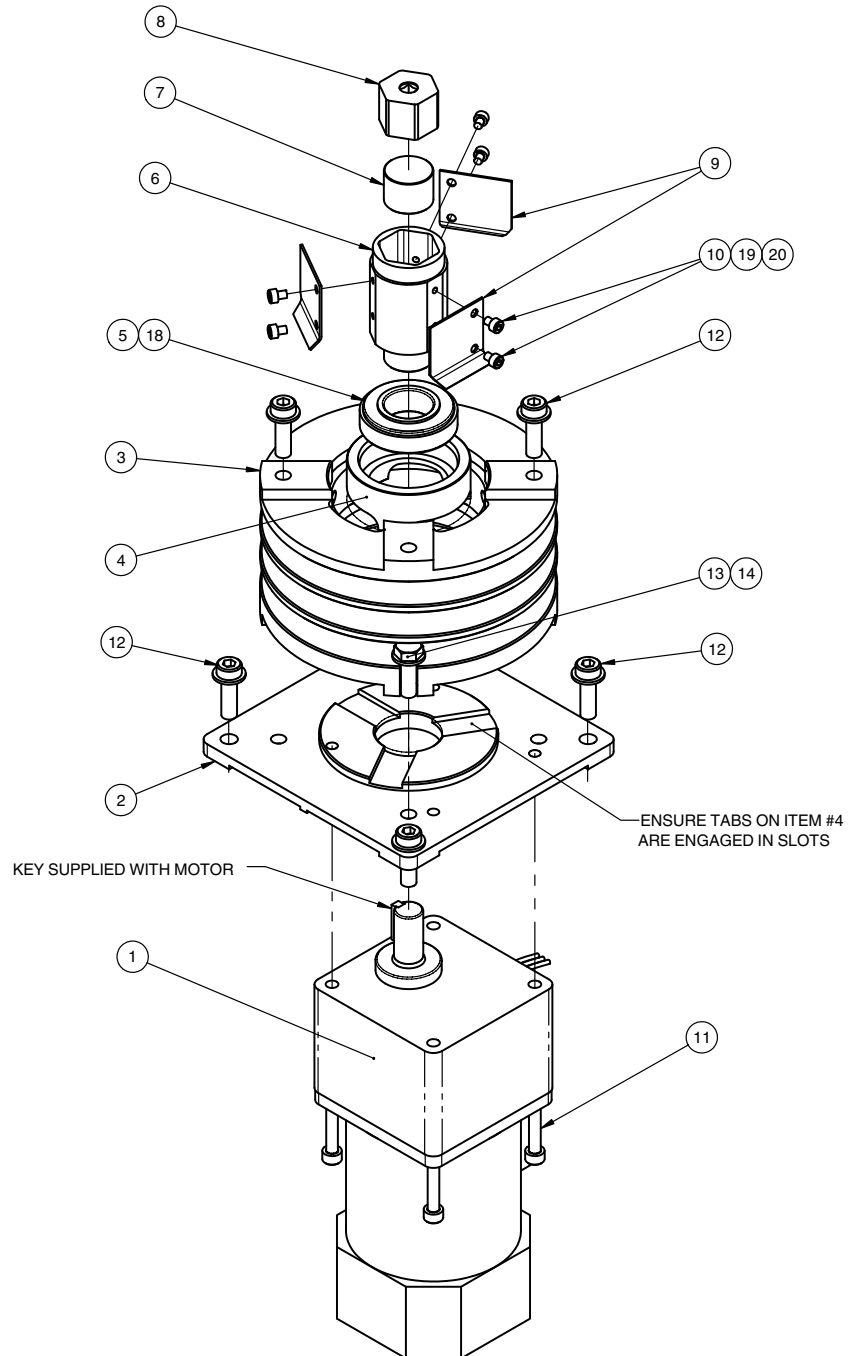
Item	Part	Description	Quantity	Note
--	1080390	DRIVE ASSEMBLY, 240V, SUREFOAM	1	
1	1080373	MOTOR, 1/8, 240RPM, 7.5:1, 240V	1	
2	------	PLATE, MOTOR MOUNT, SUREFOAM SYSTEM	1	
3	------	BRACKET, MOTOR TO MIXER, SUREFOAM SYSTEM	1	
4	------	HOUSING, BEARING DRIVE, SUREFOAM SYSTEM	1	
5	1076665	BEARING, TAPERED ROLLER,1.98x1.00x.56	1	
6	1076658	COUPLING, SHAFT, MOTOR, SUREFOAM SYSTEM	1	
7	1076660	BUTTON, INSULATOR, COUPLING, DRIVE, SUREFOAM SYSTEM	1	
8	------	INSULATOR, COUPLING, DRIVE, SUREFOAM SYSTEM	1	
9	------	INSULATOR, SPACER,DRIVE, SUREFOAM SYSTEM	3	
10	------	COVER, DRIVE BRACKET, SUREFOAM SYSTEM	6	
11	------	SCR, SKT, M6X80, BL, CL.12.9	4	
12	------	SCR, SKT, W/WASHER, M8X1.25X25,BL	6	
13	982049	SPCLWSHR, .375x.625x.093, STL, CASE_HARD	2	
14	983414	SCR, SKT, M6X10,ZN	2	
15	------	THIS ITEM NUMBER IS RESERVED.	--	
16	------	THIS ITEM NUMBER IS RESERVED.	--	
17	------	THIS ITEM NUMBER IS RESERVED.	--	
18	900302	GREASE, HIGH TEMP	0	
19	------	PRIMER, LOCQUIC T	0	
20	------	ADHESIVE, LOCTITE 620, GREEN, HI TEMP, 50ML	0	

Mixer Assembly

⟨34⟩⟨47⟩
⟨52⟩
⟨40⟩
⟨30⟩
⟨29⟩
⟨12⟩
⟨11⟩
⟨23⟩ (STANDARD CORDSET SHOWN)
⟨31⟩⟨32⟩⟨33⟩⟨47⟩
⟨49⟩⟨50⟩
⟨35⟩⟨47⟩
⟨06⟩ TIGHTEN TO 230-250 IN/LBS TORQUE
⟨36⟩⟨49⟩⟨50⟩
TIGHTEN TO 50-55 IN/LBS TORQUE
⟨A02⟩
⟨6⟩
⟨36⟩⟨47⟩ 3x
TIGHTEN TO 50-55 IN/LBS TORQUE
⟨42⟩⟨43⟩⟨44⟩⟨47⟩
⟨3⟩⟨16⟩⟨48⟩
⟨5⟩⟨17⟩⟨48⟩
⟨19⟩⟨47⟩⟨48⟩
⟨45⟩
⟨36⟩⟨47⟩
⟨14⟩
⟨20⟩⟨38⟩⟨47⟩
⟨22⟩
⟨47⟩
⟨48⟩
⟨41⟩⟨47⟩⟨48⟩
⟨14⟩
⟨18⟩⟨47⟩⟨48⟩ ⟨A04⟩
⟨18⟩⟨47⟩⟨48⟩
⟨1⟩
ALIGNMENT NOTCH IN BODY LOCATED ON BOTTOM FACE
⟨47⟩
⟨38⟩
⟨20⟩
⟨2⟩
⟨21⟩
⟨47⟩
⟨48⟩
⟨4⟩⟨16⟩⟨48⟩
⟨25⟩⟨28⟩⟨46⟩⟨48⟩
(REF. SEAL INSTALLATION DETAIL ON PAGE 32 BEFORE INSTALLING)
⟨7⟩
(ALIGNMENT NOTCH IN PLATE)
⟨13⟩
⟨35⟩⟨47⟩
⟨06⟩ TIGHTEN TO 230-250 IN/LBS TORQUE
NOTE ORIENTATION OF PART AT ASSY. THESE HOLES MUST LINE UP WITH HEATER HOLES IN MANIFOLD.

HEATER
HEATER
⟨24⟩ HEATER
HEATER
⟨A02⟩
RTD
⟨31⟩⟨32⟩
⟨23⟩⟨49⟩⟨50⟩
⟨26⟩⟨27⟩
WIRING DIAGRAM

ENSURE THIS AREA IS
THOROUGHLY INSPECTED
FOR LEAKAGE. AIR LEAKAGE
AT THIS LOCATION INDICATES
DAMAGED, INCORRECT INSTALLATION
OR MISSING SHAFT SEAL.

REPLACE WITH
STANDARD PLUG
FOR AIR TEST.

AIR TEST PLUG

40 PSI AIR SUPPLY

Seal Installation Instructions

Step 1

INSTALL HYDRAULIC SEAL (ITEM 7) WITH SPRING FACING UP AS SHOWN.

THE SEAL MUST BE ALIGNED SQUARELY TO ITS BORE DURING INSTALLATION.

L

SEAL SPRING

CARRIER,DUAL SEAL (ITEM 25)

Step 2

FILL CAVITY IN SEAL CARRIER WITH GREASE (ITEM 46) AS SHOWN.

(MIXER BODY NOT SHOWN)

Step 3

AFTER FILLING CAVITY WITH GREASE INSTALL HYDRAULIC SEAL (ITEM 7) WITH SPRING FACING DOWN.

THE SEAL MUST BE ALIGNED SQUARELY TO ITS BORE DURING INSTALLATION.

CARRIER, DUAL SEAL (ITEM 25)

Item	Part	Description	Quantity	Note
1	------	BODY, MIXER, SUREFOAM SYSTEM	1	
2	1077183	MIXER SHAFT ASSEMBLY, SUREFOAM SYSTEM	1	
3	------	BEARING, SHAFT, UPPER, MIXER, SUREFOAM SYSTEM	1	
4	1102603	BEARING, SHAFT, LOWER, MIXER, SUREFOAM SYSTEM	1	
5	------	PLUG, THRUST, UPPER, MIXER, SUREFOAM SYSTEM	1	
6	------	PLATE, UPPER, MIXER, SUREFOAM SYSTEM	1	
7	1099562	SEAL, FLUOROLOY99, .540OD x .375 x .115	2	
8	------	THIS ITEM NUMBER IS RESERVED.	--	
11	------	SPACER, COVER, ELEC, SUREFOAM SYSTEM	1	
12	------	COVER, ELEC, SUREFOAM SYSTEM	1	
13	1076653	PLATE, LOWER, MIXER, SUREFOAM SYSTEM	1	
14	178475	TAG, HOT SURFACE	2	
16	940241	O RING, VITON, 1.125X1.250X.063,10493-024	2	
17	940101	O RING,VITON, .239ID X .070W, BR	1	
18	973574	PLUG, O RING, STR THD, 9/16-18	2	
19	972646	CONN ASSY, 90, 9/16-18X9/16-18	1	
20	156208	KEY, SWIVEL, LOCKING, H/F, 1.250 IN HEX	4	
21	1100531	CHECK VALVE, 9/16 JIC X 9/16 SAE	1	
22	276024	VALVE ASSY, DRAIN	1	
23	1060537	CORDSET, 2300 W/EYELET, RTD-24/30	1	
24	1076806	HTR, CRTG, .496 D, 4.00 L, 175 W, 240 V	4	
25	1102604	CARRIER, DUAL SEAL, MIXER SHAFT, SUREFOAM SYSTEM	1	
26	1077712	CONN ASSY, PLASTIC, 5 STATION	2	
27	939990	FERRULE, WIRE, NON-INSUL, 18	8	
28	940181	O RING, VITON, .739ID X .070W, BR, 10418	1	
29	290083	SIGN, DANGEROUS VOLTAGE	1	
30	981905	SCR, DRIVE,RD,2X .187, ZN	8	
31	982311	SCR, CHEZ HD,SLT, M3X6, ZN	1	
32	983400	WASHER, LK, M,SPT, M3,STL, ZN	1	
33	983411	WASHER, FLT, M, NARROW, M3, STL, ZN	1	
34	982292	SCR,SKT, M6X55,BL	2	
35	982505	SCR, SKT, M8-1.25 X 20, BL	8	
36	982594	SCR, SKT, M4X10MM, BL	8	
38	982372	SCR, SKT, M5X12, BL	4	
39	------	THIS ITEM NUMBER IS RESERVED.	--	
40	290082	SIGN, HOT SURFACE, GENERAL	1	
41	973591	PLUG, O RING, STR THD,1 1/16-12	1	
42	982448	SCR, SKT, CAP, M4X12MM, ZN, 71086-5	2	
43	983403	WASHER, LK, M,S PT, M4, STL, ZN	2	
44	983402	WASHER, FLT, M, NARROW, M4, STL, ZN	2	

Continued...

Item	Part	Description	Quantity	Note
45	------	CHUTE ASSY, DRAIN, 90 DEG	1	
46	1120252	GREASE, HIGH TEMP, PTFE, NSF	--	
47	1108371	LUBRICANT, NEVER-SEEZ, NSF-H1, FOOD GRADE	--	
48	------	LUBRICANT, O-RING, NSF-H1, FOOD GRADE, 4L	--	
49	900419	ADHESIVE, LOCTITE 620, GREEN, HI TEMP, 50ML	--	
50	------	PRIMER, LOCQUIC T	--	
51	165415	LUBRICANT, HEATER, WATLUBE, 11207	--	
52	270604	NAMEPLATE, H200 APPLICATORS	1	

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Gas Valve

Item	Part	Description	Quantity	Note
1	1088027	BODY,VALVE, GAS, SUREFOAM	1	
2	1076683	CAP, AIR, GAS VALVE	1	
3	1098807	BRACKET, VALVE MOUNT, SUREFOAM	1	
4	1103857	CARTRIDGE/NEEDLE ASSY,G	1	
5	1099363	VALVE ASSY, GAS CHECK, SUREFOAM	1	
6	------	THIS NUMBER IS RESERVED.	--	
7	1076696	SCREEN,15 MICRON,FILTER	1	
8	972215	CONN, MALE,37, 7/16-20X1/8NPT,ST	1	
9	940231	O RING, VITON, 1.063X1.188X.063, 10423 SB	1	
10	1076686	SPRING, COMPRESSION, .63OD X 1.25LG X .081	1	
12	982031	SCR, SKT, M6X22,BL	4	
13	1088004	TIP, NEEDLE, GAS VALVE, AG900	1	
14	341232	ADAPTER, 1/8NP T FEM. X #4 SAE	1	
15	945026	O RING,VITON, 1/4TUBE	1	
16	------	SCR, SKT, M6X70MM, BL	4	
17	972555	SCR, SKT, M5X40,BL	4	
18	------	THIS NUMBER IS RESERVED.	--	
19	1108371	LUBRICANT NEVER-SEEZ,NSF, 8OZ CAN	1	
20	1037991	TAPE,PTFE PIPE THREAD	1	
21	------	PRIMER, LOCQUIC T	1	
22	900419	ADHESIVE, LOCTITE 620,GREEN,HI TEMP, 50ML	1	
23	------	TAG, HOT SURFACE, ENGLISH/FRENCH	2	
24	600137	TAG, WARNING	1	
25	600168	TAG, INSPECTION	1	
26	939110	CABLETIE, 3.9 in, 185F/85C, NYLON, NATURAL	1	
27	1012909	ELBOW, MALE,1/4TUBEX1/8NPT,VITON	1	
28	1120061	TUBING, PFA, 1/4 OD X .156 ID	1.300 ft.	
29	1076846	SEAL, FLUOROLOY A15, .469ODX.250IDX.100	1	
30	1076688	PISTON, UPPER,AG900+DP	1	
31	940024	ORING, -118,VITON, .862X.103,BR	1	
32	1076689	SEAL, OD, O-RING, TURCON, 1.125 X 1.063	1	
33	1076687	BODY, UPPER MODULE, AG900+DP	1	
34	982021	SCREW, SET, M5 X 10MM	1	
35	1052143	NUT, HEX, W/EXT TOOTH WASHER, M5, STL, ZN	1	
36	1058165	MUFFLER, 1/8 NPT, LOW PROFILE	1	
37	1080215	TEE, BRANCH, 1/4TUBEX1/8NPT, BRASS/NI, VITON	1	
38	972361	CAP, TUBE, 37, 7/16-20, STL, ZN	1	

APPLY 18-22 IN-LBS
TORQUE.

INSTALL WITH SPRING
FACING UP

DO NOT APPLY LUBRICANT
TO O-RING

APPLY 18-22 IN-LBS
TORQUE.

WEEP HOLE

DO NOT APPLY LUBRICANT
TO O-RING

APPLY 120-130 IN-LBS
TORQUE AFTER ITEM 5
IS INSTALLED.

SPARINGLY APPLY A LIGHT-OIL
(3-IN-ONE[Multi-Purpose Oil)
LUBRICANT TO THREADS ONLY.

SPARINGLY APPLY
LUBRICANT TO O-RING
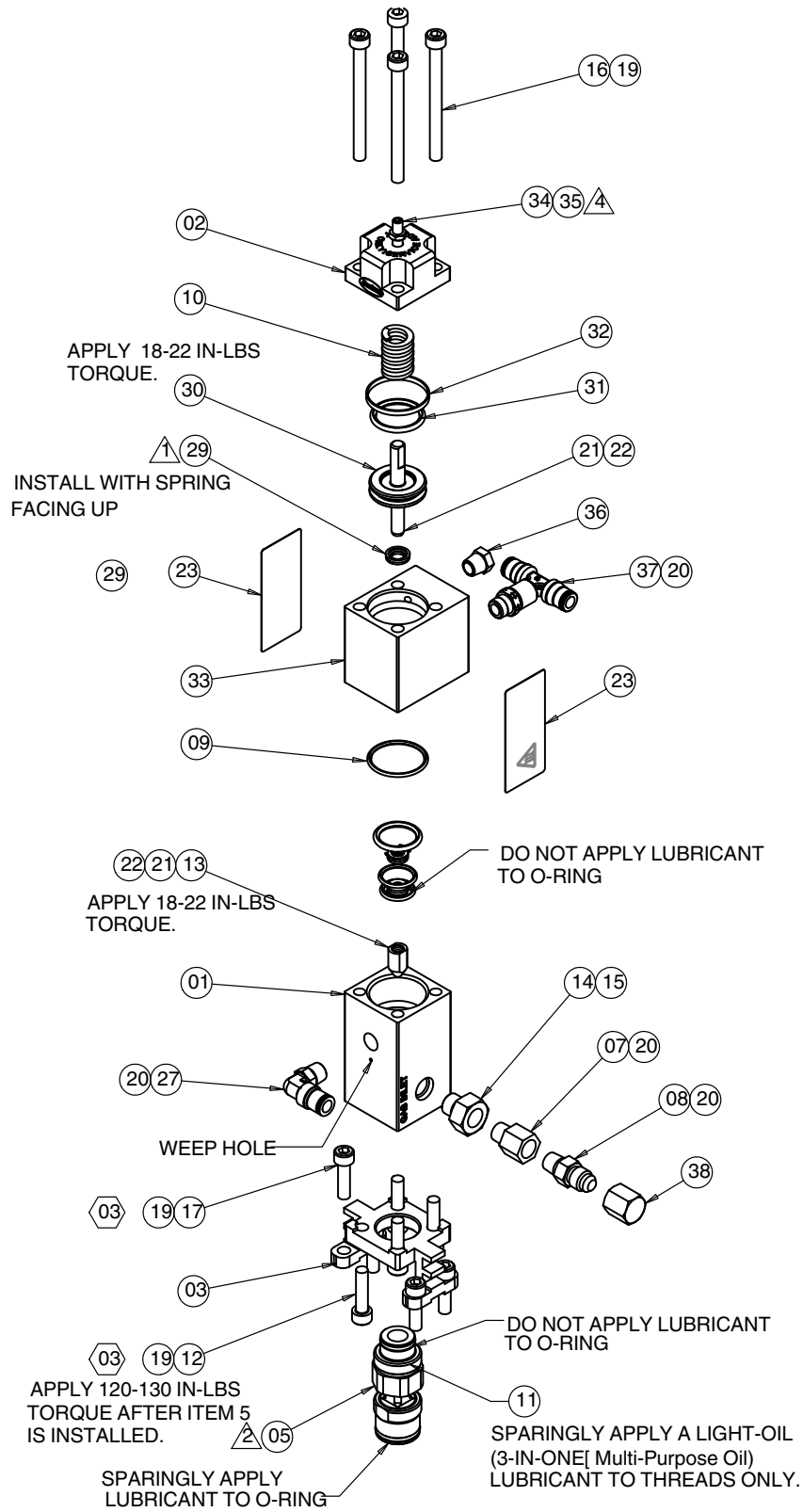
Item	Part	Description	Quantity	Note
1	------	BODY, MODULE, AG900+	1	
2	------	CAP,AIR,AG900+DP	1	
3	------	PLATE,VALVE MOUNT,AG900+DP	1	
4	1051774	CARTRIDGE ASSY,AIR,AG900+	1	
5	1076685	PISTON ASSY,AIR,AG900+DP	1	
6	------	NUT,HEX,M4,STAINLESS STEEL	1	
7	940151	O RING,VITON, .563X .688X.063	1	
8	940231	O RING,VITON, 1.063X1.188X.063, 10423 SB	1	
9	1076686	SPRING,COMPRESSION,.63OD X 1.25LG X .081	1	
10	------	SCREW,SET,M5 X 10MM	1	
11	------	SCR,SKT,M6X20,BL	8	
12	973574	PLUG,O RING,STR THD,9/16-18	2	
13	1078078	PLUG,PIPE,SKT,1/8-NPT,BRASS,3/4IN TAPER	1	
14	940161	O RING,VITON,.614ID X .070W,BR, 10416	1	
15	------	SCR,SKT,M5X40,BL	2	
16	------	SCR,SKT,M6X70MM,BL	4	
17	------	BODY,UPPER MODULE,AG900+DP	1	
18	1076688	PISTON,UPPER,AG900+DP	1	
19	940024	ORING,-118,VITON,.862X.103,BR	1	
20	1076689	SEAL,OD,O-RING,TURCON,1.125 X 1.063	1	
21	------	PLATE,GAS INLET	1	
22	------	HOUSING,ORIFICE,GAS VALVE	1	
23	------	TIP,NEEDLE,GAS VALVE	1	
24	940121	O RING,VITON,.364ID X .070W,BR,5060	1	
25	1076693	ORIFICE,GAS VALVE	1	
26	1076697	VALVE ASSY,GAS CHECK	1	
27	1076846	SEAL,FLUOROLOY A15,.469ODX.250IDX.100	1	
28	1076696	SCREEN,15 MICRON,FILTER	1	
29	1080215	TEE,BRANCH,1/4TUBEX1/8NPT,BRASS/NI,VITON	1	
30	1012909	ELBOW,MALE,1/4TUBEX1/8NPT,VITON	1	
31	------	TAPE,PTFE PIPE THREAD	0	
32	------	LUBRICANT,NEVER SEEZ,8OZ CAN	0	
33	------	LUBRICANT,PARKER HI-TEMP,11208	0	
34	------	TAG,WARNING	1	
35	------	TAG,INSPECTION	1	
36	------	STRAP,CABLE,.875DIA	1	
37	1081079	SCR,SOCKET,SET,FLAT,M4X10,BLK,BRASS TIP	1	
38	1058165	MUFFLER,1/8 NPT,LOW PROFILE	1	
39	------	TAG,HOT SURFACE	2	
40	------	ADHESIVE,LOCTITE 620,GREEN,HI TEMP,50ML	0	
41	------	PRIMER,LOCQUIC T	0	
42	------	PTFE,1/4 OD X .1	2	
43	972215	CONN,MALE,37,7/16-20X1/8NPT,ST	1	

Electrical Module
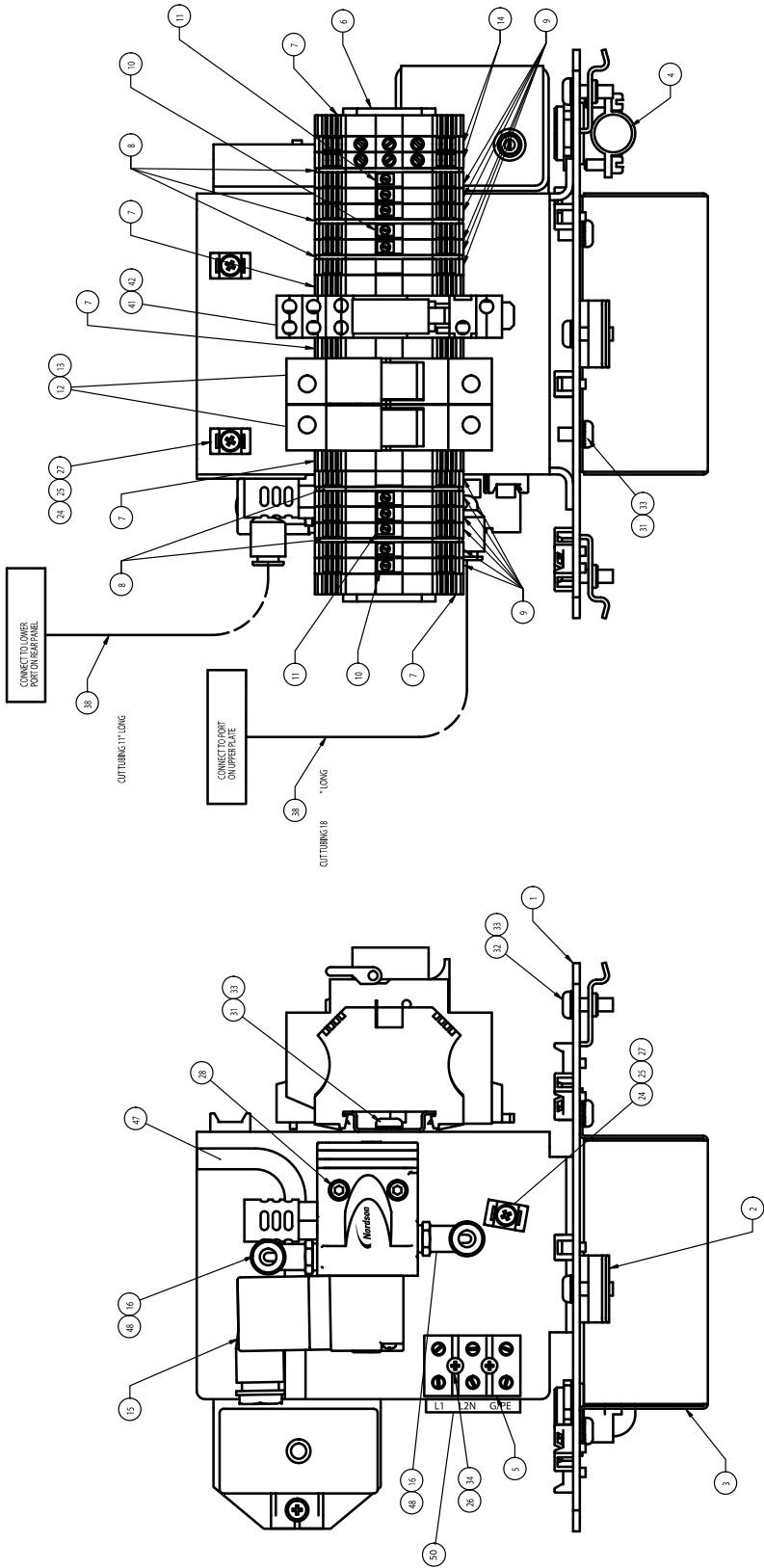
NOTE: 240 VOLT ELEC. MODULE SHOWN

CONNECT TO LOWER PORT ON REAR PANEL

CUT TUBING 11" LONG

CONNECT TO PORT ON UPPER PLATE

CUT TUBING 18 " LONG

TERMINAL BLOCK MARKER LAYOUT

L1 L2N G/PE

NOTE: CAPACITOR AND COVER.
SUPPLIED WITH MOTOR.

49

29
30
35

CUT TUBING 10" LONG

38

CONNECT TO MIDDLE
PORT ON REAR PANEL

27
25
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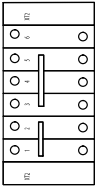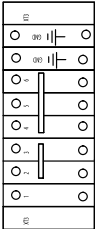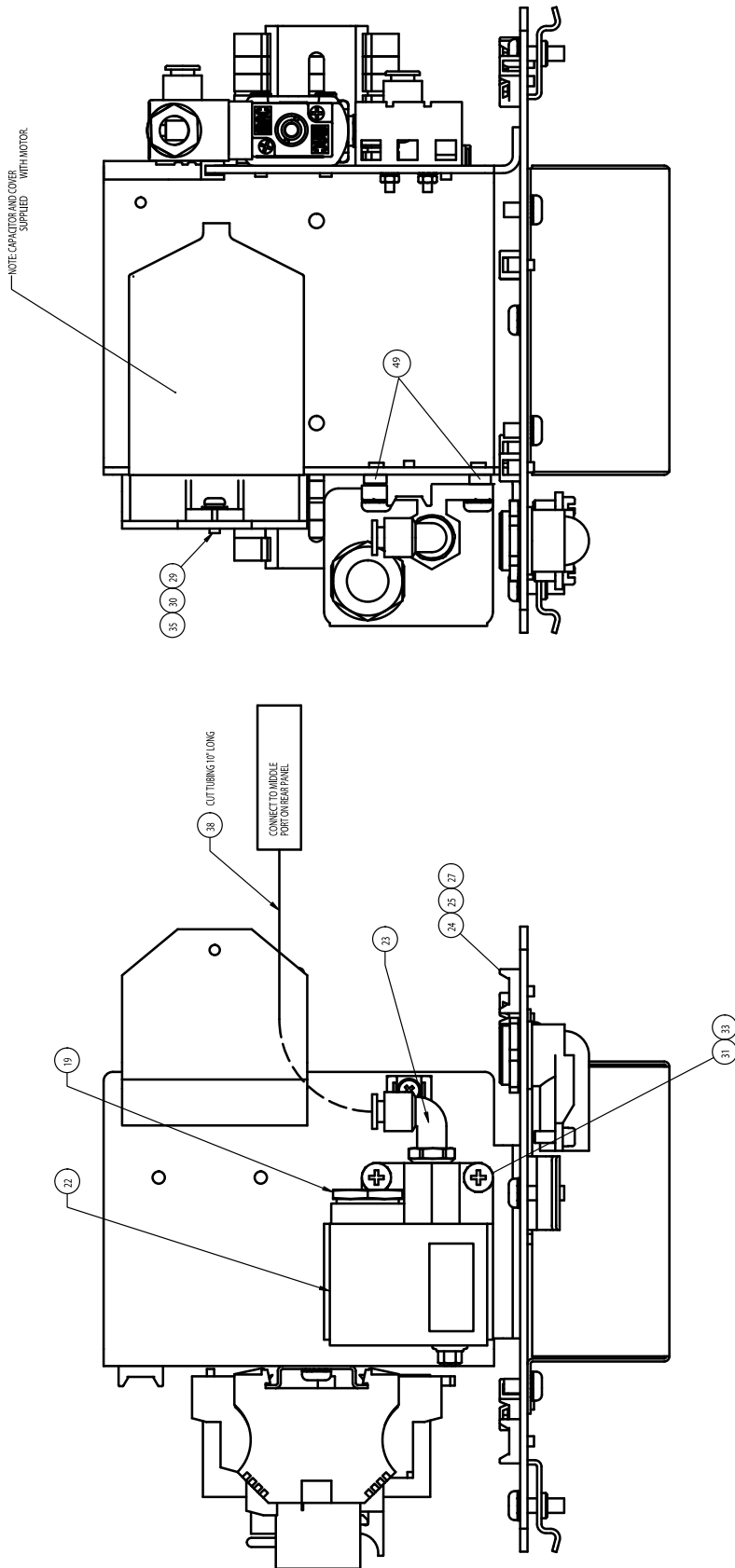
Item	Part	Description	Quantity	Note
1	------	PLATE,ELECTRICAL MOUNTING,SureFoam System	1	
2	------	CLAMP,PLATE MOUNTING	3	
3	------	COVER, MOTOR,LOWER,SureFoam System	1	
4	------	CONNECTOR,STRAIN RELIEF,90DEG	1	
5	------	TERMBLOCK,3POS,2ROW,SCREW	1	
6	------	RAIL DIN,35 MM x 7.5 MM,187 MM (7.38IN)	1	
7	------	ANCHOR,END	5	
8	------	BARRIER,TBACCY,END,DIN,GRAY,J SERIES	5	
9	------	TERMINAL BLOCK,GRAY,IEC,22-10 AWG,J4	12	
10	------	JUMPER,SCREW CENTER,2-POLE,6MM,J SERIES	2	
11	------	JUMPER,SCREW CENTER,3-POLE,6MM,J SERIES	2	
12	------	FUSEHOLDER,MIDGET,DIN MNT,600V,30A	1	
13	1081107	FUSE,1.6A,500V,13/32x1.50,TIME-DELAY	1	A
	1081108	FUSE,0.8A,500V,13/32x1.50,TIME-DELAY	2	B
14	------	TERMINAL BLK,GND,GRN/YEL,30-12 AWG,JG4	2	
15	1069254	SOLENOID,REPL,SATURN, S3, 120 VAC	1	A
	1069256	SOLENOID,REPL,SATURN, S3, 240 VAC	1	B
16	972119	ELBOW,MALE,1/4TUBEX1/8NPT	2	
17	------	This item number is reserved	1	
18	------	FERRULE,WIRE,18AWG,INS,RED	50	
19	1082838	NIPPLE,CHASE,1/2 THD,11/16 HEX,ZN	1	
20	------	WIRE,VINYL,18AWG,BLACK	20	
21	------	WIRE,VINYL,18AWG,GREEN W/YELLO	5	
22	1081004	SWITCH,PRESSURE,RC 1/4,15-101 PSI,120V	1	
	1081005	SWITCH, PRESSURE, RC 1/4, 15-101 PSI, 240V	1	
23	1058094	TUBEFT,ELB,1/4TX1/4UNI,W/SEAL,BR	1	
24	------	WIREMOUNT,CABLTIE,NYL,#6SCREW	11	
25	------	STRAP,CABLE,.875DIA	20	
26	------	SCR,PAN,REC,M3X25,ZN	2	
27	------	SCR,PAN,REC,M3.5X6,ZN	11	
28	------	SCR,SKT,M4X25,BL	2	
29	------	FLATWSHRM,M3.5,STEEL-ZINC	1	
30	------	WASHER,LK,M,SPT,3.5MM,ZINC	1	
31	------	SCR,PAN,REC,M5X10,ZN	6	
32	------	SCR,PAN,REC,M5X16,ZN	5	
33	------	WASHER,LK,M,EXT,M5,STEEL,ZN PL	11	
34	------	NUT,HEX,M3,W/EXT TOOTH,WSHR	2	
35	------	SCR,PAN,REC,M3.5X10,ZN	1	
36	------	TERMINAL,PUSHON,FULLY INS,2218	1	
37	------	TERMINAL,RINGTONG,INS,22-18,10	1	
38	------	TUBING,CLEAR,1/4IN URETHANE	4	
39	------	CONNECTOR,SOCKET,16-18AWG,GOLD,REEL	2	
40	------	QWIKCONN,F,FULL INS,18-22AWG	2	
41	221652	SOCKET,RELAY,SPDT,DIN-MNT	1	A
	1078030	SOCKET,RELAY,DPDT,P2RF08E,DIN-MN	1	B
42	1081529	RELAY,1FRMC,120V COIL,SOCKET MNT,G2RS	1	A
	1077739	RELAY,2FRMC,240V COIL,SOCKET MNT,G2RS	1	B
				Continued...

Item	Part	Description	Quantity	Note
43	------	MARKER,TERM BLK,HORIZ,6X12,XT2,1-6	1	
44	------	MARKER,TERM BLK,HORIZ,6X12,XT3,1-6,GND	1	
45	------	WASHER,FLT,M,NARROW,M4,STL,ZN	2	
46	------	WASHER,LK,M,SPT,M4,STL,ZN	2	
47	------	EDGING,SOLID,RUBBER,SBR,1/8 IN	1	
48	------	TAPE,PTFE PIPE THREAD	0	
49	------	INSULATOR,SPACER	2	
50	------	STRIP,MARKER,3STATION,INPUTBLOCK	1	
NOTE A: 120V SureFoam System				
B: 240V SureFoam System				

Recommended Service Parts

Part	Description	Note
1076682	VALVE, GAS AG900+DP	
816084	SERVICE KIT, GAUGE, HYDRAULIC	
1076646	SEAL, FLUOROLY, .540OD X .375 X .155	
1076648	RING, BACKUP, SEAL, SUREFOAM SYSTEM	
1060537	CORDSET, 2300 W/EYELET, RTD-23/30	
1076806	HTR, CRTG, .496 D, 4.00 L, 175 W,240V	
1009215	THERMOSTAT, 450F, HAND-HELD APPLICATOR	
1076688	PISTON, UPPER, AG900+DP	
940024	ORING,188, VITON, .862X.103, BR	
1076689	SEAL, OD, O-RING,TURCON, 1.125 X 1.063	
940121	O-RING, VITON, .364ID X .070W, BR, 5060	
1088787	SERVICE KIT, VALVE, ASSY, GAS CHECK	
1076646	SEAL, FLUOROLOY A15, .469OD X .250ID X .100	
1076696	SCREEN, 15 MICRON, FILTER	
1089254	SOLENOID, REPL, SATURN, S3, 120VAC	
1069256	SOLENOID, REPL, SATURN, S3, 240VAC	
1081004	SWITCH,PRESSURE,RC 1/4,15-101 PSI,120V	A
1081005	SWITCH, PRESSURE, RC 1/4, 15-101 PSI, 240V	B
1081107	FUSE, 1.6A, 500V, 13/32X1.50, TIME-DELAY	
1081108	FUSE, 0.8A, 500V, 13/32X1.50, TIME-DELAY	
1081529	RELAY, 1FRMC, 120V COIL, SOCKET MNT, G2RS	A
1077739	RELAY, 2FRMC, 240V COIL, SOCKET, MNT, G2RS	B
NOTE A: 120V SureFoam System		
B: 240V SureFoam System		

Hose Cordset Extension Cables

Used to extend the length of a hose cordset.

Part	Description	Note
115576	0.6 m (2 ft.) Hose Cordset	
115577	1.8 m (6 ft.) Hose Cordset	
115578	3.7 m (12 ft.) Hose Cordset	
115579	5.5 m (18 ft.) Hose Cordset	
115580	7.3 m (24 ft.) Hose Cordset	
115581	9.1 m (30 ft.) Hose Cordset	

Wiring Diagram

Unit wiring diagrams (120 VAC and 240 VAC) are provided on the following pages.