Heated Slot Nozzles

Customer Product Manual
Part 1613336–02
Issued 02/19

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

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Contact Us

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

Address all correspondence to:

Nordson Corporation
Attn: Customer Service
555 Jackson Street
Amherst, OH 44001

Heated Slot Nozzles

Safety

Read and follow these safety instructions. Task- and equipment-specific warnings, cautions, and instructions are included in equipment documentation where appropriate.

Make sure all equipment documentation, including these instructions, is accessible to persons operating or servicing equipment.

Qualified Personnel

Equipment owners are responsible for making sure that Nordson equipment is installed, operated, and serviced by qualified personnel. Qualified personnel are those employees or contractors who are trained to safely perform their assigned tasks. They are familiar with all relevant safety rules and regulations and are physically capable of performing their assigned tasks.

Intended Use

Use of Nordson equipment in ways other than those described in the documentation supplied with the equipment may result in injury to persons or damage to property.

Some examples of unintended use of equipment include

- using incompatible materials
- making unauthorized modifications
- removing or bypassing safety guards or interlocks
- using incompatible or damaged parts
- using unapproved auxiliary equipment
- operating equipment in excess of maximum ratings

Regulations and Approvals

Make sure all equipment is rated and approved for the environment in which it is used. Any approvals obtained for Nordson equipment will be voided if instructions for installation, operation, and service are not followed.

Personal Safety

To prevent injury follow, these instructions.

- Do not operate or service equipment unless you are qualified.
- Do not operate equipment unless safety guards, doors, or covers are intact and automatic interlocks are operating properly. Do not bypass or disarm any safety devices.
- Keep clear of moving equipment. Before adjusting or servicing moving equipment, shut off the power supply and wait until the equipment comes to a complete stop. Lock out power and secure the equipment to prevent unexpected movement.
- Relieve (bleed off) hydraulic and pneumatic pressure before adjusting or servicing pressurized systems or components. Disconnect, lock out, and tag switches before servicing electrical equipment.
- While operating manual spray guns, make sure you are grounded. Wear electrically conductive gloves or a grounding strap connected to the gun handle or other true earth ground. Do not wear or carry metallic objects such as jewelry or tools.
- If you receive even a slight electrical shock, shut down all electrical or electrostatic equipment immediately. Do not restart the equipment until the problem has been identified and corrected.
- Obtain and read Safety Data Sheets (SDS) for all materials used. Follow the manufacturer's instructions for safe handling and use of materials, and use recommended personal protection devices.
- Make sure the spray area is adequately ventilated.
- To prevent injury, be aware of less-obvious dangers in the workplace that often cannot be completely eliminated, such as hot surfaces, sharp edges, energized electrical circuits, and moving parts that cannot be enclosed or otherwise guarded for practical reasons.

High-Pressure Fluids

High-pressure fluids, unless they are safely contained, are extremely hazardous. Always relieve fluid pressure before adjusting or servicing high pressure equipment. A jet of high-pressure fluid can cut like a knife and cause serious bodily injury, amputation, or death. Fluids penetrating the skin can also cause toxic poisoning.

If you suffer a fluid injection injury, seek medical care immediately. If possible, provide a copy of the SDS for the injected fluid to the health care provider.

The National Spray Equipment Manufacturers Association has created a wallet card that you should carry when you are operating high-pressure spray equipment. These cards are supplied with your equipment. The following is the text of this card:

WARNING: Any injury caused by high pressure liquid can be serious. If you are injured or even suspect an injury:

- Go to an emergency room immediately.
- Tell the doctor that you suspect an injection injury.
- Show the doctor this card
- Tell the doctor what kind of material you were spraying

MEDICAL ALERT—AIRLESS SPRAY WOUNDS: NOTE TO PHYSICIAN

Injection in the skin is a serious traumatic injury. It is important to treat the injury surgically as soon as possible. Do not delay treatment to research toxicity. Toxicity is a concern with some exotic coatings injected directly into the bloodstream.

Consultation with a plastic surgeon or a reconstructive hand surgeon may be advisable.

The seriousness of the wound depends on where the injury is on the body, whether the substance hit something on its way in and deflected causing more damage, and many other variables including skin microflora residing in the paint or gun which are blasted into the wound. If the injected paint contains acrylic latex and titanium dioxide that damage the tissue's resistance to infection, bacterial growth will flourish. The treatment that doctors recommend for an injection injury to the hand includes immediate decompression of the closed vascular compartments of the hand to release the underlying tissue distended by the injected paint, judicious wound debridement, and immediate antibiotic treatment.

Fire Safety

To avoid a fire or explosion, follow these instructions.

- Ground all conductive equipment. Use only grounded air and fluid hoses. Check equipment and workpiece grounding devices regularly. Resistance to ground must not exceed one megohm.
- Shut down all equipment immediately if you notice static sparking or arcing. Do not restart the equipment until the cause has been identified and corrected.
- Do not smoke, weld, grind, or use open flames where flammable materials are being used or stored.
- Do not heat materials to temperatures above those recommended by the manufacturer. Make sure heat monitoring and limiting devices are working properly.

Fire Safety (contd)

- Provide adequate ventilation to prevent dangerous concentrations of volatile particles or vapors. Refer to local codes or your material SDS for guidance.
- Do not disconnect live electrical circuits when working with flammable materials. Shut off power at a disconnect switch first to prevent sparking.
- Know where emergency stop buttons, shutoff valves, and fire extinguishers are located. If a fire starts in a spray booth, immediately shut off the spray system and exhaust fans.
- Shut off electrostatic power and ground the charging system before adjusting, cleaning, or repairing electrostatic equipment.
- Clean, maintain, test, and repair equipment according to the instructions in your equipment documentation.
- Use only replacement parts that are designed for use with original equipment. Contact your Nordson representative for parts information and advice.

Halogenated Hydrocarbon Solvent Hazards

Do not use halogenated hydrocarbon solvents in a pressurized system that contains aluminum components. Under pressure, these solvents can react with aluminum and explode, causing injury, death, or property damage. Halogenated hydrocarbon solvents contain one or more of the following elements:

Element	Symbol	Prefix
Fluorine	F	“Fluoro-”
Chlorine	Cl	“Chloro-”
Bromine	Br	“Bromo-”
Iodine	I	“Iodo-”

Check your material SDS or contact your material supplier for more information. If you must use halogenated hydrocarbon solvents, contact your Nordson representative for information about compatible Nordson components.

Action in the Event of a Malfunction

If a system or any equipment in a system malfunctions, shut off the system immediately and perform the following steps:

- Disconnect and lock out system electrical power. Close hydraulic and pneumatic shutoff valves and relieve pressures.
- Identify the reason for the malfunction and correct it before restarting the system.

Disposal

Dispose of equipment and materials used in operation and servicing according to local codes.

Description

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

WARNING: Hot! Risk of burns. Wear heat-protective clothing, safety goggles, and heat-protective gloves. Failure to observe this warning may result in personal injury.

See Figure 1.

The heated slot nozzle works in conjunction with the Auto-Flo II dispense valve to deliver material in a smooth patch appearance. Patches vary in width and length, and the product applies different shims. Heat is used to ensure the overall appearance and spread is achievable even at high material viscosities.

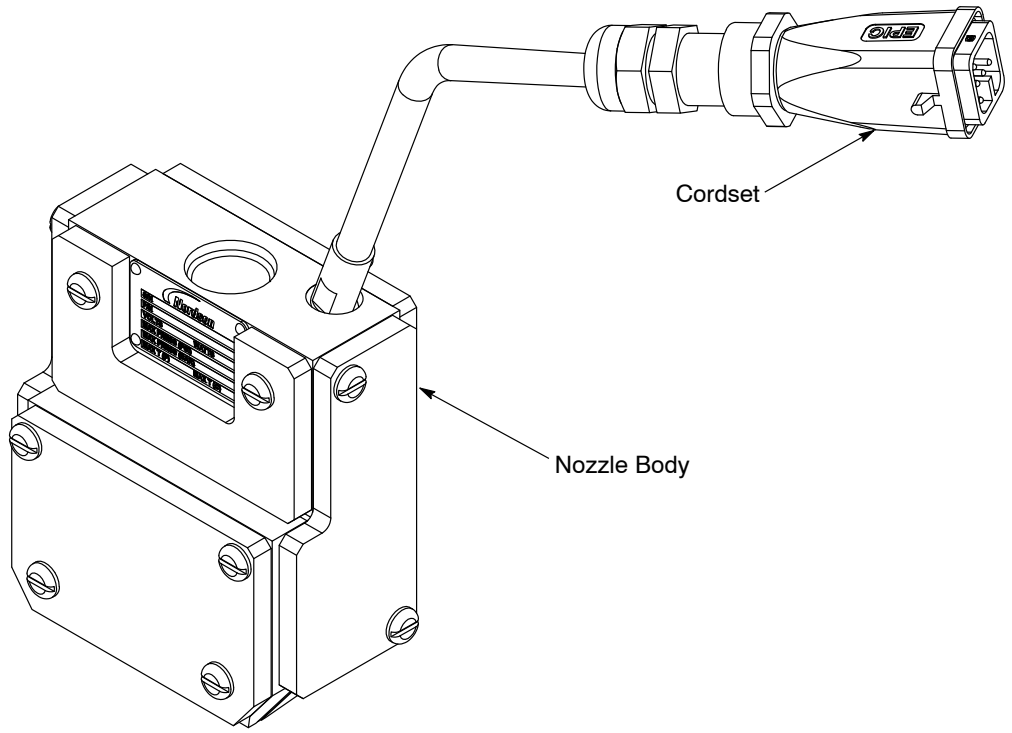

Figure 1 Heated Slot Nozzle

Specifications

Nordson Part Number	Operating Voltage (Vac)	Power Consumption (W)	Cold Unannealed Resistance (Ω)	Cold Annealed Resistance (Ω)	Max Working Pressure (psi)	Max Working Pressure (bar)	Max Temp (°F)	Max Temp (°C)
1099254	240	140	Min: 351.75 Max: 410.4	Min: 369.36 Max: 430.92	1500	103	180	82
1601778	240	180	Min: 273.6 Max: 319.2	Min: 278.28 Max: 335.16	1500	103	180	82
1615110	240	60	Min: 820.8 Max: 957.6	Min: 738.7 Max: 1005.5	1500	103	180	82
1615111	240	120	Min: 410.4 Max: 478.8	Min: 369.4 Max: 502.7	1500	103	180	82
1606580	120	100	Min: 122.4 Max: 144.0	Min: 129.6 Max: 151.2	1500	103	180	82
1606907	120	180	Min: 273.6 Max: 316.2	Min: 278.28 Max: 335.16	1500	103	180	82
1615112	120	33	Min: 373.1 Max: 435.3	Min: 335.8 Max: 457.0	1500	103	180	82
1615113	120	34	Min: 96.19 Max: 112.22	Min: 86.57 Max: 117.83	1500	103	180	82
1608341	240	140	Min: 349.71 Max: 411.428	Min: 370.28 Max: 432.0	1500	103	180	82
1608342	240	140	Min: 349.71 Max: 411.428	Min: 370.28 Max: 432.0	1500	103	180	82
1615114	240	120	Min: 410.4 Max: 478.8	Min: 369.4 Max: 502.7	1500	103	180	82
1615115	240	120	Min: 410.4 Max: 478.8	Min: 369.4 Max: 502.7	1500	103	180	82

Repair

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

Replace the Heater

See Figure 2.

1. Remove the screws (1a) and side insulation plate (2).
2. Remove the heater cartridge (8).
3. Coat the new heater cartridge (8) in heat transfer compound and install into the nozzle body (3).
4. Route the wires through the access hole in the nozzle body (3).
5. Connect all the wires per the schematic in Figure 3.
6. Use the screws (1a) to install the side insulation plate (2) to the nozzle body (3).

Replace the RTD Sensor

See Figure 2.

1. Remove the screws (1b) and the back insulation plate (4).
2. Remove the RTD sensor (7) from the mounting block (5) by removing the screws (6).
3. Coat the new RTD sensor (7) and the back of the mounting block (5) with heat transfer compound. Use the screws (6) to reinstall the mounting block to the nozzle body (3).
4. Connect all the wires per the schematic in Figure 3.
5. Use the screws (1b) to replace the back insulation plate (4).

Replace the O-ring

See Figure 2.

1. Cut the O-ring cord (9) into two pieces to fit the slot nozzle.
2. Apply three drops of super glue to seal the groove on the nozzle body (3), one drop in the middle and one near each end.
3. Press one piece of the O-ring cord (9) into the groove on the nozzle body (3).
4. Repeat for the seal groove on the nozzle cover (10).

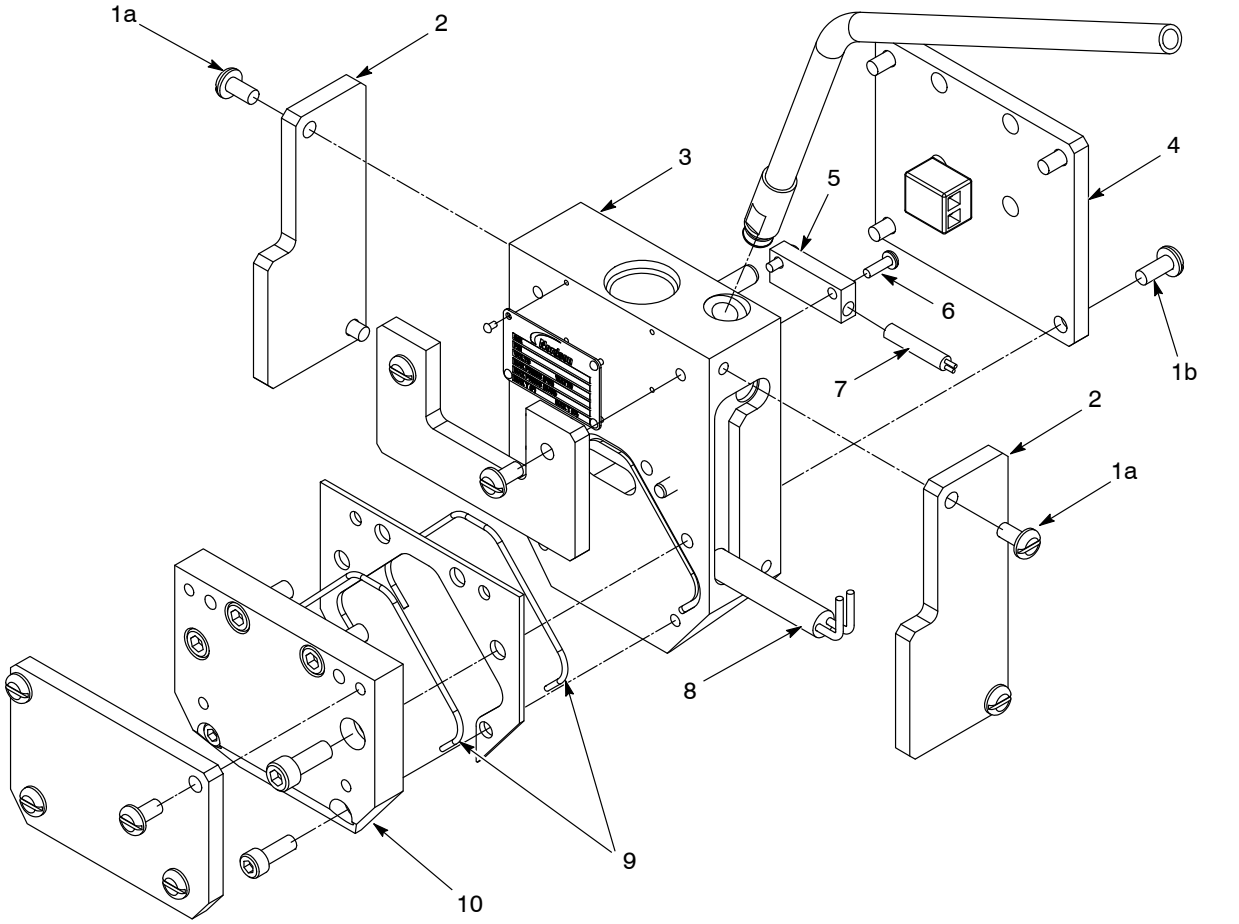

Figure 2 Heated Slot Nozzle Repair

1. Screw
2. Side insulation plate
3. Nozzle body
4. Back insulation plate
5. Mounting block
6. Screw
7. RTD sensor
8. Heater cartridge
9. O-ring cord
10. Nozzle cover

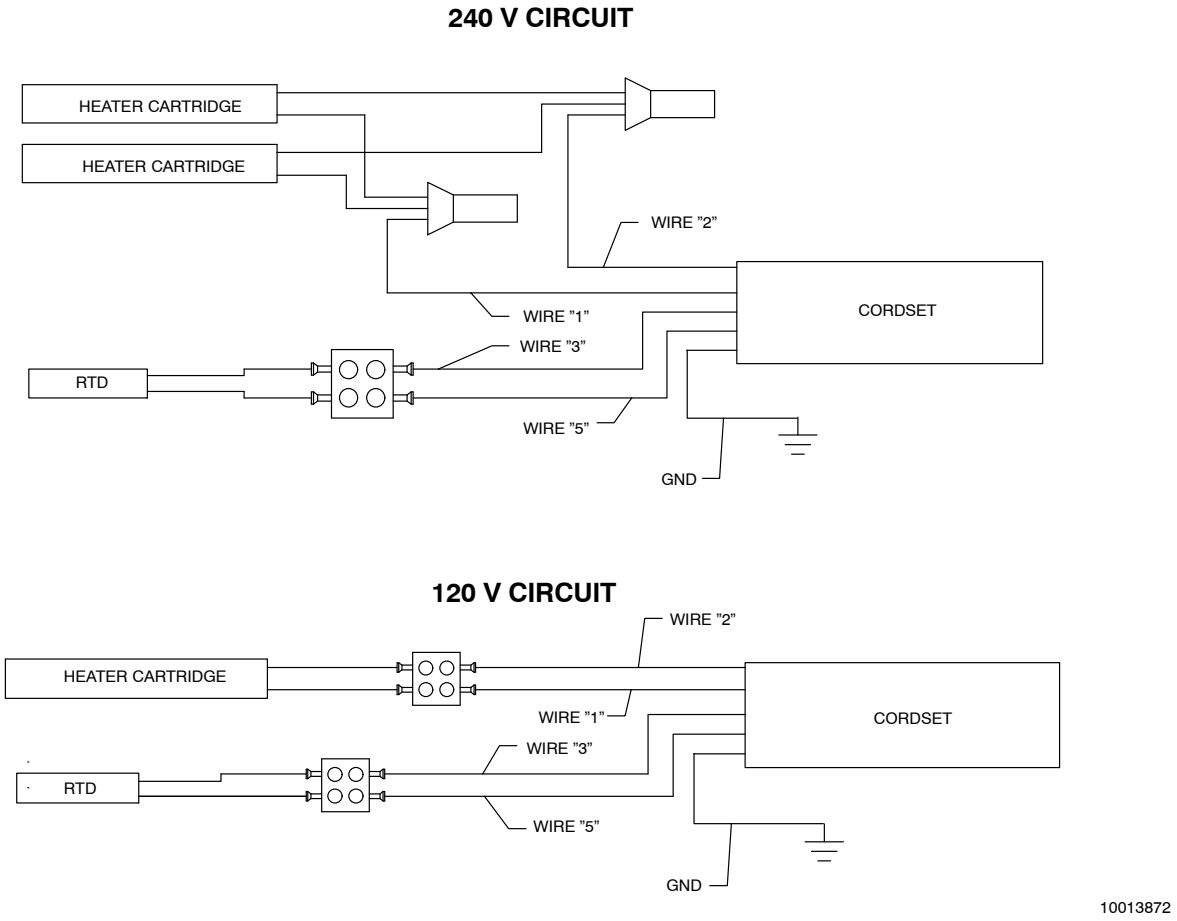

Figure 3 240- and 120-V Schematics

Parts

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

Using the Illustrated Parts List

Numbers in the Item column correspond to numbers that identify parts in illustrations following each parts list. The code NS (not shown) indicates that a listed part is not illustrated. A dash (—) is used when the part number applies to all parts in the illustration.

The number in the Part column is the Nordson Corporation part number. A series of dashes in this column (––––––) means the part cannot be ordered separately.

The Description column gives the part name, as well as its dimensions and other characteristics when appropriate. Indentions show the relationships between assemblies, subassemblies, and parts.

- If you order the assembly, items 1 and 2 will be included.
- If you order item 1, item 2 will be included.
- If you order item 2, you will receive item 2 only.

The number in the Quantity column is 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.

Letters in the Note column refer to notes at the end of each parts list. Notes contain important information about usage and ordering. Special attention should be given to notes.

Item	Part	Description	Quantity	Note
—	0000000	Assembly	1	
1	000000	• Subassembly	2	A
2	000000	• • Part	1	

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70- and 100-mm 240-V Heated Slot Nozzle

See Figure 4 and refer to the following parts list.

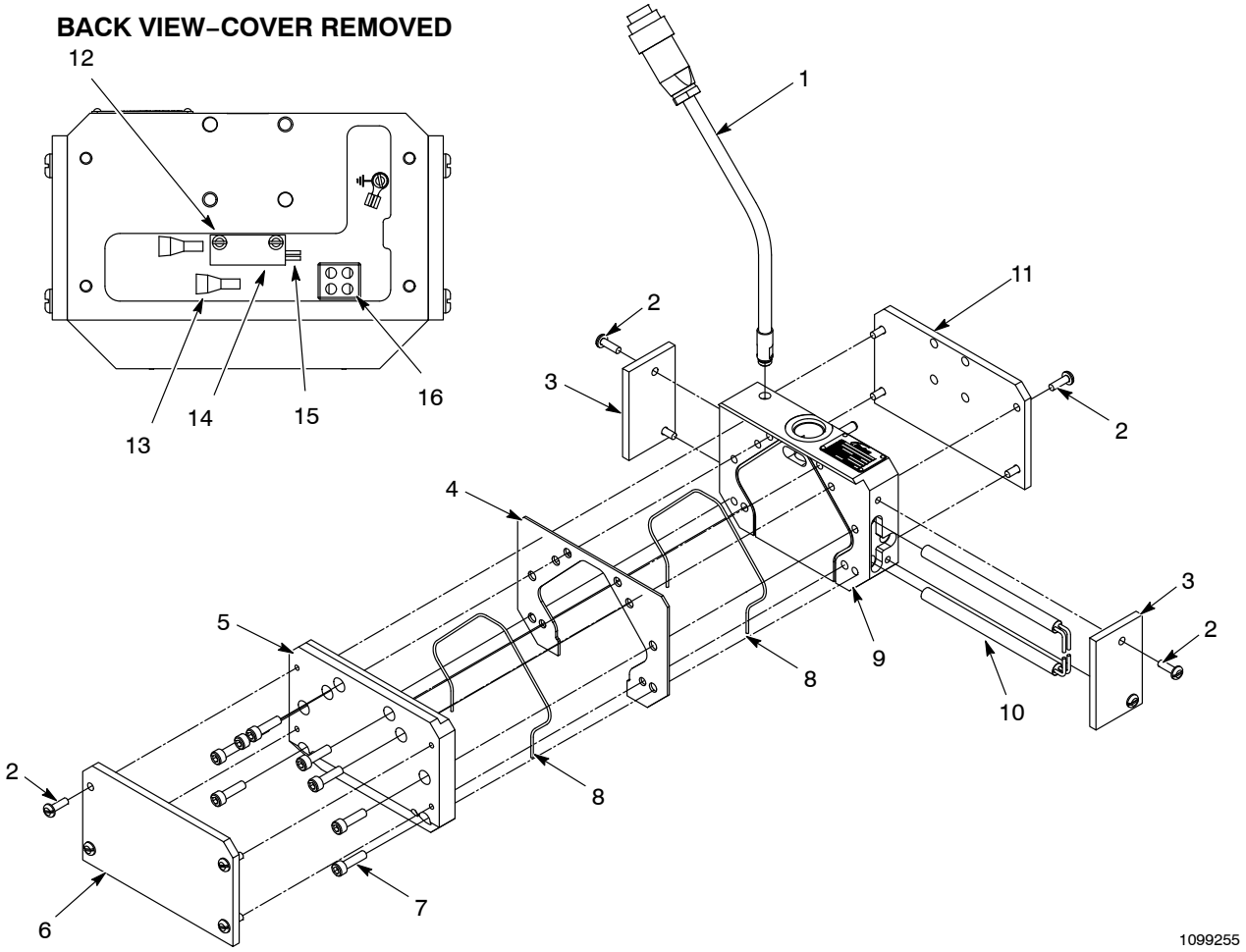

Figure 4 70-and 100-mm 240 V Heated Slot Nozzle

Item	Part	Part	Part	Part	Description	Qty	Note
—	1099254				NOZZLE ASSEMBLY, slot, 240 V, 2 mm x 70 mm	1	
—		1615110			NOZZLE ASSEMBLY, slot, 240 V, 2 mm x 70 mm, low wattage	1	
—			1601778		NOZZLE ASSEMBLY, slot, 240 V, 2 mm x 100 mm	1	
—				1615111	NOZZLE ASSEMBLY, slot, 240 V, 2 mm x 100 mm, low wattage	1	
1	1060683	1060683	1060683	1060683	• CORD SET, automatic, SDS, 240 V	1	
2	------	------	------	------	• SCREW, pan, slot, M5 x 16, zinc, Class 4.8, per ISO 1580	12	
3	------	------	------	------	• INSULATION, slot nozzle, sides	2	
4	------	------	—	—	• SHIM, slot nozzle, 1.9 mm x 70 mm, stainless steel	1	
	—	—	------	------	• SHIM, slot nozzle, 1.9 mm x 100 mm, stainless steel	1	
5	------	------	—	—	• COVER, slot nozzle, electric heat, 70 mm	1	
	—	—	------	------	• COVER, slot nozzle, electric heat, 100 mm	1	
6	------	------	—	—	• INSULATION, slot nozzle, front, 70 mm	1	
	—	—	------	------	• INSULATION, slot nozzle, front, 100 mm	1	
7	------	------	------	------	• SCREW, socket, M6 x 22, Class 12.9, per ISO 4752	8	
8	1613332	1613332	1613332	1613332	• KIT, O-ring, slot nozzle	1.8 ft	
9	------	------	—	—	• BODY, slot nozzle, electric heat, 70 mm	1	
	—	—	------	------	• BODY, slot nozzle, electric heat, 100 mm	1	
10	------	------	—	—	• HEATER CARTRIDGE, 0.38 D x 5.25 long, 240 V, 70 W	2	
	—	—	------	------	• HEATER CARTRIDGE, 0.38 D x 6.25 long, 240 V, 90 W	2	
11	------	------	—	—	• INSULATION, slot nozzle, back, mating, 70 mm	1	
	—	—	------	------	• INSULATION, slot nozzle, back, mating, 100 mm	1	
12	------	------	------	------	• SCREW, pan, slot, M3 x 10, zinc, Class 4.8, per ISO 1580	2	
13	939515	939515	939515	939515	• CONNECTOR, crimp, wire, 22–14	2	
14	272720	272720	272720	272720	• MOUNTING, block, RTD, H2O	1	
15	1613335	1613335	1613335	1613335	• KIT, RTD, slot nozzle	1	
16	939586	939586	939586	939586	• CONNECTOR, plastic	1	
NS	900298	900298	900298	900298	• COMPOUND, heat sink, 5-oz tube	AR	
NS	900422	900422	900422	900422	• ADHESIVE, bonding, instant	AR	
NS	900464	900464	900464	900464	• ADHESIVE, Loctite® Threadlocker Blue 242®, removable, 50 m	AR	

AR: As Required

NS: Not Shown

135- and 150-mm 240-V Heated Slot Nozzle

See Figure 5 and refer to the following parts list.

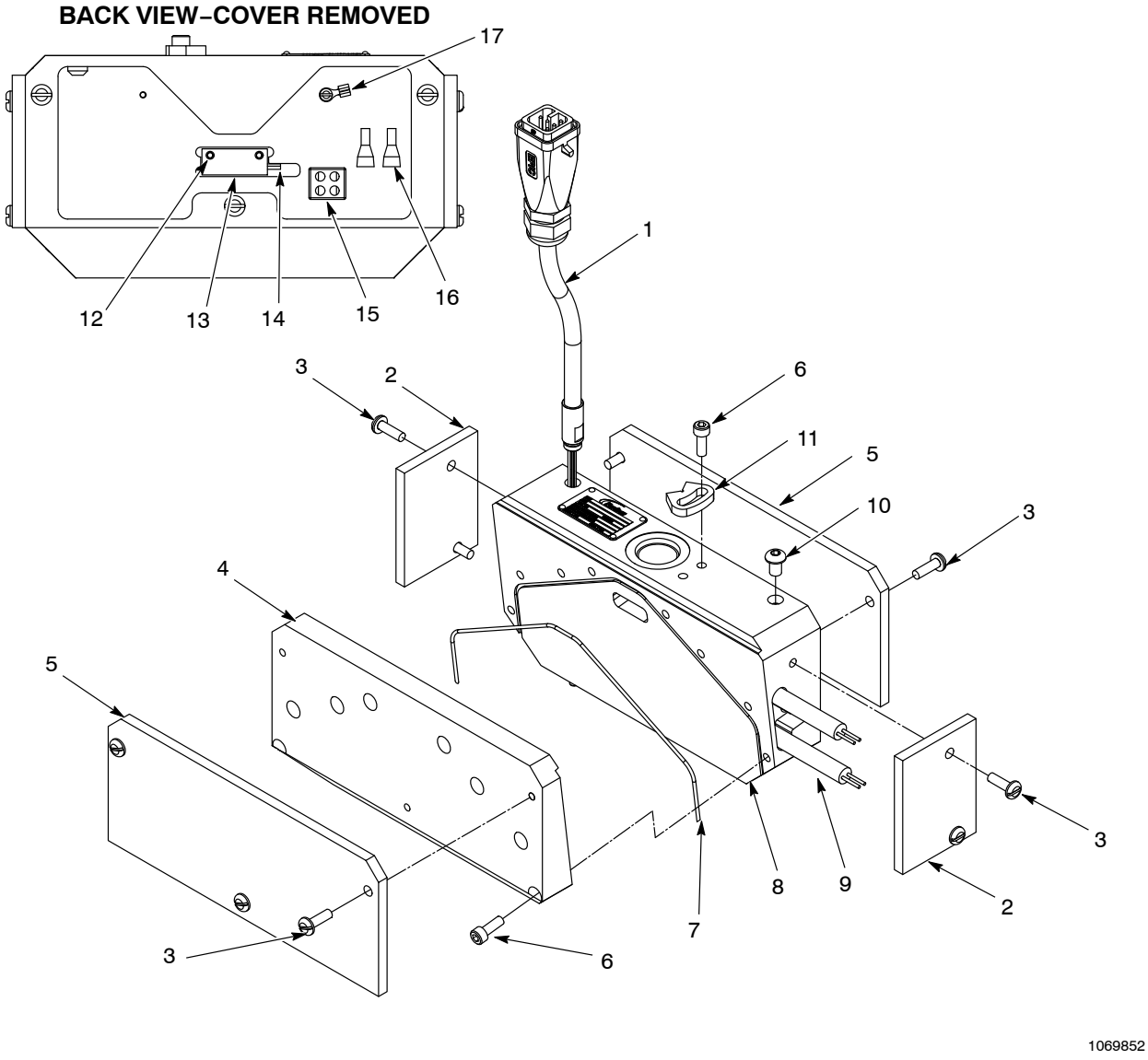

Figure 5 135- and 150-mm 240 V Heated Slot Nozzle

Item	Part	Part	Part	Part	Description	Qty	Note
—	1608342				NOZZLE ASSEMBLY, slot, 240 V, 2 mm x 135 mm	1	
—		1615114			NOZZLE ASSEMBLY, slot, 240 V, 2 mm x 135 mm, low wattage	1	
—			1608341		NOZZLE ASSEMBLY, slot, 240 V, 2 mm x 150 mm	1	
—				1615115	NOZZLE ASSEMBLY, slot, 240 V, 2 mm x 150 mm, low wattage	1	
1	1060683	1060683	1060683	1060683	• CORD SET, automatic, SDS, 240 V	1	
2	------	------	------	------	• INSULATION, side, slot nozzle, 150 mm	2	
3	------	------	------	------	• SCREW, pan, slot M5 x 12, steel, zinc, Class 4.8, per ISO 1580	10	
4	------	------	—	—	• COVER, slot nozzle, 2 mm x 135 mm, heated	1	
	—	—	------	------	• COVER, slot nozzle, 2 mm x 150 mm, heated	1	
5	------	------	1069930	1069930	• INSULATION, body, slot nozzle, 150 mm	2	
6	------	------	------	------	• SCREW, socket, M5 x 14, zinc, Class 12.9, per ISO 4752	9	
7	1613334	1613334	1613334	1613334	• KIT, O-ring, slot nozzle	1 ft	
8	------	------	------	------	• BODY, slot nozzle, 2 mm x 150 mm, heated	1	
9	1613331	1613331	1613331	1613331	• KIT, slot nozzle, heater, 240 V, 6.13 in., 260 W	1	
10	------	------	------	------	• SCREW, set, ⅜ in., per ISO 7436	1	
11	156208	156208	156208	156208	• KEY, swivel, locking, 1.25 in. hex	1	
12	------	------	------	------	• SCREW, pan, slot, M3 x 10, zinc, Class 4.8, per ISO 1580	2	
13	272720	272720	272720	272720	• MOUNTING BLOCK, RTD, H20	2	
14	1613335	1613335	1613335	1613335	• KIT, RTD, slot nozzle	1	
15	939586	939586	939586	939586	• CONNECTOR, plastic	1	
16	939515	939515	939515	939515	• CONNECTOR, crimp, wire, 22–14	2	
17	------	------	------	------	• SCREW, pan, slot, M3 x 8, zinc, Class 4.8, per ISO 1580	1	
NS	900298	900298	900298	900298	• COMPOUND, heat sink, 5-oz tube	AR	
NS	900422	900422	900422	900422	• ADHESIVE, bonding, instant	AR	
NS	900464	900464	900464	900464	• ADHESIVE, Loctite Threadlocker Blue 24®, removable, 50 m	AR	

AR: As Required
NS: Not Shown

50-mm 120-V Heated Slot Nozzle

See Figure 6 and refer to the following parts list.

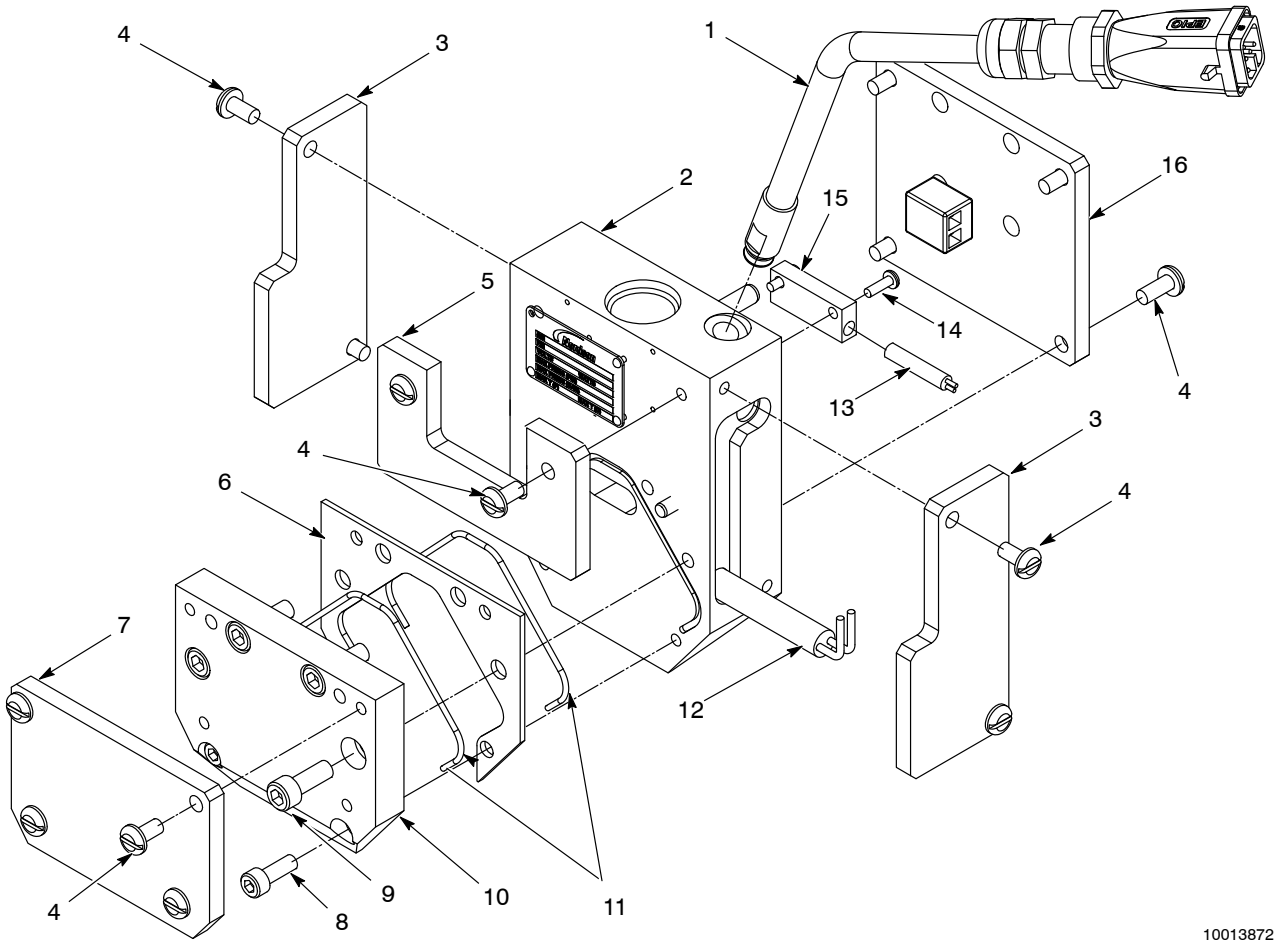

Figure 6 50-mm 120 V Heated Slot Nozzle

Item	Part	Part	Description	Quantity	Note
—	1606580		NOZZLE ASSEMBLY, slot, 120 V, 2 mm x 50 mm	1	
—		1615112	NOZZLE ASSEMBLY, slot, 120 V, 2 mm x 50 mm, low wattage	1	
1	1606153	1606153	• CORD SET, armored with square plug, 120 V	1	
2	------	------	• BODY, slot nozzle, 2 mm x 50 mm, heated	1	
3	------	------	• INSULATION, side, slot nozzle, 50 mm	2	
4	------	------	• SCREW, pan, slot, M5 x 12, zinc, Class 4.8, per ISO 1580	14	
5	------	------	• INSULATION, front, slot nozzle, 50 mm	1	
6	------	------	• SHIM, slot nozzle, 2 mm x 50 mm	1	
7	------	------	• INSULATION, cover, slot nozzle, 50 mm	1	
8	------	------	• SCREW, socket, M5 x 14, Class 12.9, per ISO 4752	2	
9	------	------	• SCREW, socket, M6 x 16, Class 12.9, per ISO 4752	4	
10	------	------	• COVER, slot nozzle, 2 mm x 50 mm	1	
11	1613334	1613334	• KIT, O-ring, slot nozzle	1 ft	
12	1613329	1613329	• KIT, slot nozzle, heater, 120 V, 3 in., 100 W	1	
13	1613339	1613339	• KIT, RTD, slot nozzle	1	
14	------	------	• SCREW, pan, slot, M3 x 10, zinc, Class 4.8, per ISO 1580	2	
15	272720	272720	• MOUNTING BLOCK, H20	1	
16	------	------	• INSULATION, rear, slot nozzle, 50 mm	1	
NS	900464	900464	• ADHESIVE, Loctite Threadlocker Blue 242, removable, 50 m	AR	
NS	900422	900422	• ADHESIVE, bonding, instant	AR	
NS	900298	900298	• COMPOUND, heat sink, 5-oz tube	AR	

AR: As Required

NS: Not Shown

100-mm 120-V Heated Slot Nozzle

See Figure 7 and refer to the following parts list.

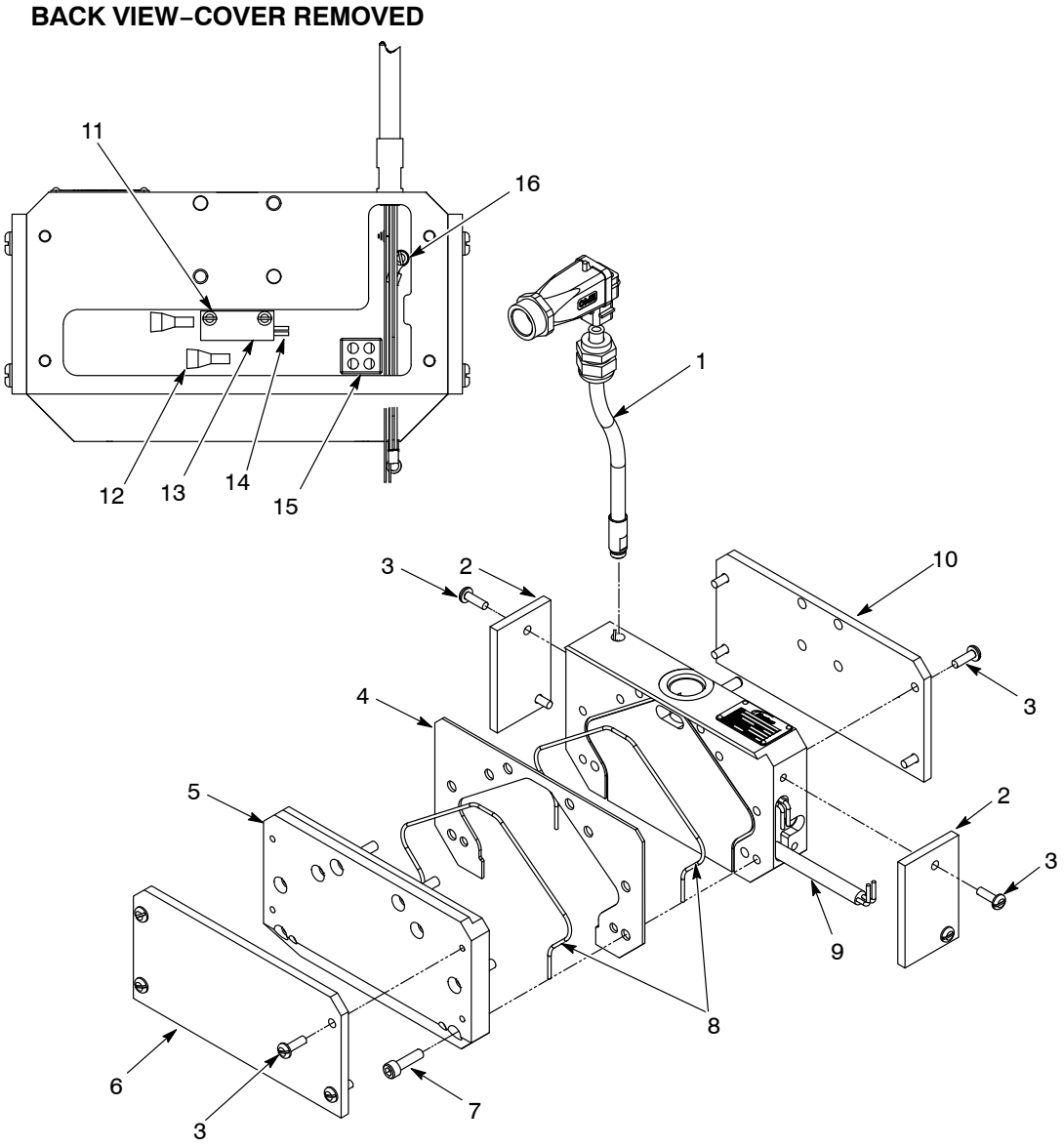

Figure 7 100-mm 120 V Heated Slot Nozzle

Item	Part	Part	Description	Quantity	Note
—	1606907	—	NOZZLE ASSEMBLY, slot, 2 mm x 100 mm, 120 V	1	
—	—	1615113	NOZZLE ASSEMBLY, slot, 2 mm x 100 mm, 120 V, low−wattage	1	
1	1606153	1606153	• CORD SET, armored with square plug, 120 V	1	
2	------	------	• INSULATION, slot nozzle, side	2	
3	------	------	• SCREW, pan, slot, M5 x 16, zinc, Class 4.8, per ISO 1580	12	
4	------	------	• SHIM, slot nozzle, 1.9 mm x 100 mm, stainless steel	1	
5	------	------	• COVER, slot nozzle, electric heat, 100 mm	1	
6	------	------	• INSULATION, slot nozzle, front, 100 mm	1	
7	------	------	• SCREW, socket, M6 x 22, Class 12.9, per ISO 4752	8	
8	1613333	1613333	• KIT, O-ring, slot nozzle	1.92 ft	
9	1613330	1613330	• KIT, slot nozzle, heater, 120 V, 6.25 in., 90 W	1	
10	------	------	• INSULATION, slot nozzle, back, mating, 100 mm	1	
11	------	------	• SCREW, pan, slot, M3 x 10, zinc, Class 4.8, per ISO 1580	2	
12	939515	939515	• CONNECTOR, crimp wire, 22−14	2	
13	272720	272720	• MOUNTING BLOCK, RTD, H20	1	
14	1613335	1613335	• KIT, RTD, slot nozzle	1	
15	939586	939586	• CONNECTOR, plastic	1	
16	------	------	• SCREW, pan, slot, M3 x 8, zinc, Class 4.8, per ISO 1580	1	
NS	900464	900464	• ADHESIVE, Loctite Threadlocker Blue 242, removable, 50 m	AR	
NS	900422	900422	• ADHESIVE, bonding, instant	AR	
NS	900298	900298	• COMPOUND, heat sink, 5-oz tube	AR	

AR: As Required

NS: Not Shown

Slot Nozzle Heater Cartridge Kits

Refer to the following parts list for slot nozzle heater cartridge kits.

Part	Description	Note
1613327	KIT, slot nozzle, heater, 240 V, 5.25 in., 70 W	
1613328	KIT, slot nozzle, heater, 240 V, 6.25 in., 90 W	
1613329	KIT, slot nozzle, heater, 120 V, 3.0 in., 100 W	
1613330	KIT, slot nozzle, heater, 120 V, 6.25 in., 90 W	
1613331	KIT, slot nozzle, heater, 240 V, 6.13 in., 260 W	

Slot Nozzle O-Ring Kits

Refer to the following parts list for slot nozzle O-ring kits.

Part	Description	Note
1613332	KIT, O-ring, slot nozzle, 1.8 ft	
1613333	KIT, O-ring, slot nozzle, 1.92 ft	
1613334	KIT, O-ring, slot nozzle, 1 ft	

Slot Nozzle RTD Kit

Refer to the following parts list for the slot nozzle RTD kit.

Part	Description	Note
1613335	KIT, RTD, slot nozzle	

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