Auto-Flo™ II Automatic Dispense Valves

Customer Product Manual
Document Number 1104010-10
Issued 05/24

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
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Change Record

Revision	Date	Change
01	11/20	Initial Release.
02	10/15	Includes heater block assembly.
03	8/18	Added standalone heater block assembly instructions, added manifold heater block assembly instructions, added information for heater block assemblies 1606151 and 1606152, added manifold information for 1609339, added kit number 1614223.
04	02/19	Added low wattage guns and heaters for PLC controllers.
05	08/19	Updated cordset kits in heater block assemblies.
06	08/19	Updated available breakaway kits.
07	08/19	Added kits for cartridges, stem, and piston kits.
08	10/20	New Auto-Flo II valves
09	10/21	Adding Auto-Flo II valves with Polymyte cartridge.
10	05/24	Inclusion of UKCA for manual.

Safety

Introduction

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

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

Qualified Personnel

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

Intended Use

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

Some examples of unintended use of equipment include:

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

Regulations and Approvals

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

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 them this card
- Tell them 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.
- 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

See Figure 1. The Auto-Flo™ II Automatic Dispense Valve is used in a variety of applications to dispense adhesives, sealants, and other materials. Made of aluminum, the valve is lightweight and versatile.

Refer to the *Specifications* section beginning on page 7 for more information.

NOTE: Throughout the remainder of this manual the Auto-Flo II Dispense Valve is referred to as the dispense valve.

Theory of Operation

See Figure 1. When air is supplied to the valve-open air inlet (1), the piston is pushed upward, pulling the piston stem (3) off the seat (4). Material flows into the material inlet (2) and out of the nozzle.

When air is shut off from the valve-open air inlet (1) and supplied to the valve-close air inlet (5), air pressure combined with the spring on top of the piston forces the piston stem back into the seat and stops material dispensing.

The dispense valve can be temperature conditioned using a temperature control unit (TCU). The TCU maintains coating material at the desired application temperature by monitoring the temperature conditioned water that flows through the water ports in the valve body.

NOTE: Refer to *Water Requirements for Temperature Conditioning* on page 10 in the *Specifications* section for information on the types of water to use with the dispense valve.

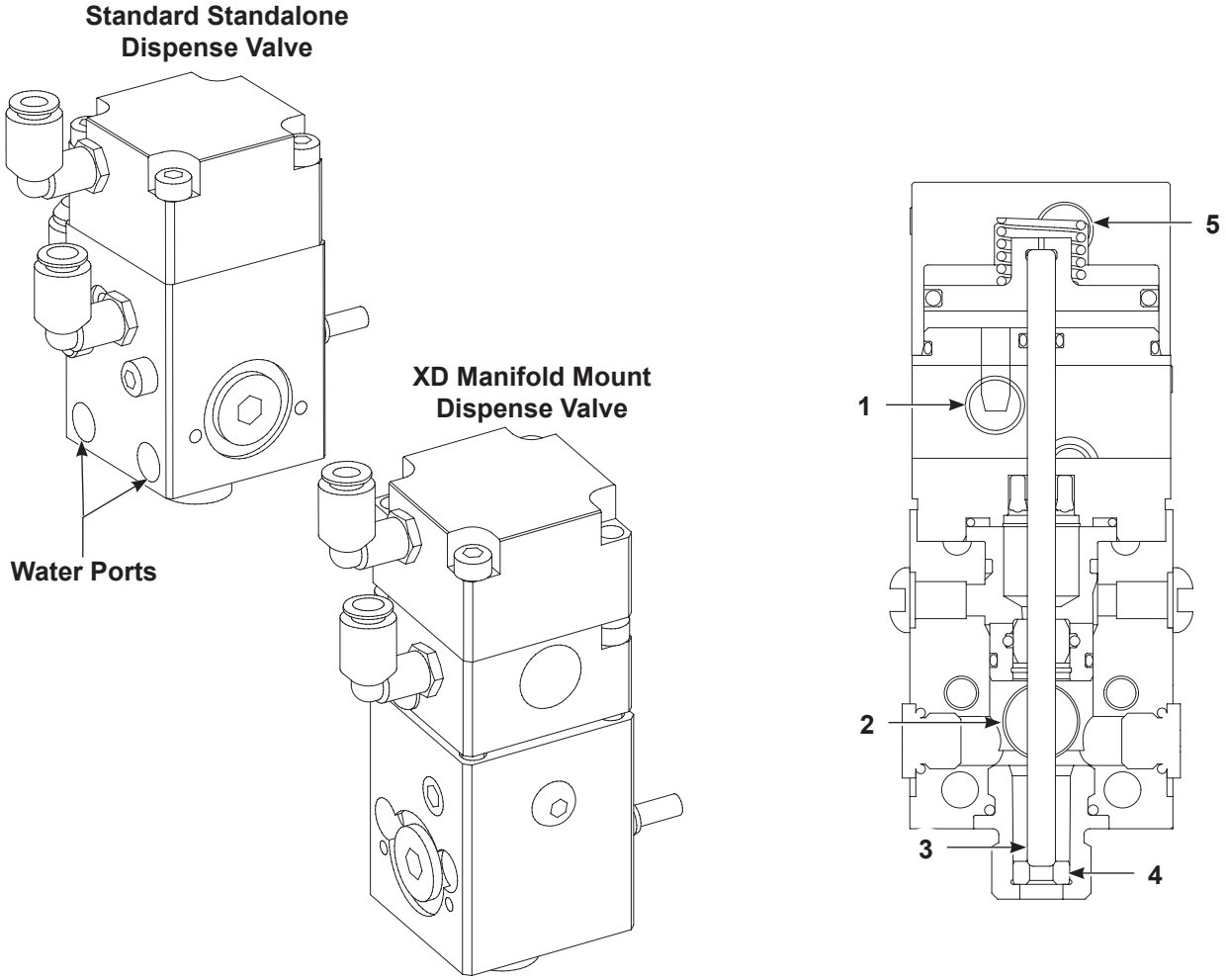


Figure 1 Typical Auto-Flo II Classic Dispense Valve

Specifications

Refer to the following paragraphs for specifications.

General

Dimensions:	See Figure 2.
Approximate Weight, oz (kg):	XD: 23 (0.649), Standard: 18 (0.508)
Maximum static fluid pressure rating, psi (bar):	5000 (345)
Actuating air pressure, psi (bar):	60-120 (4-8)

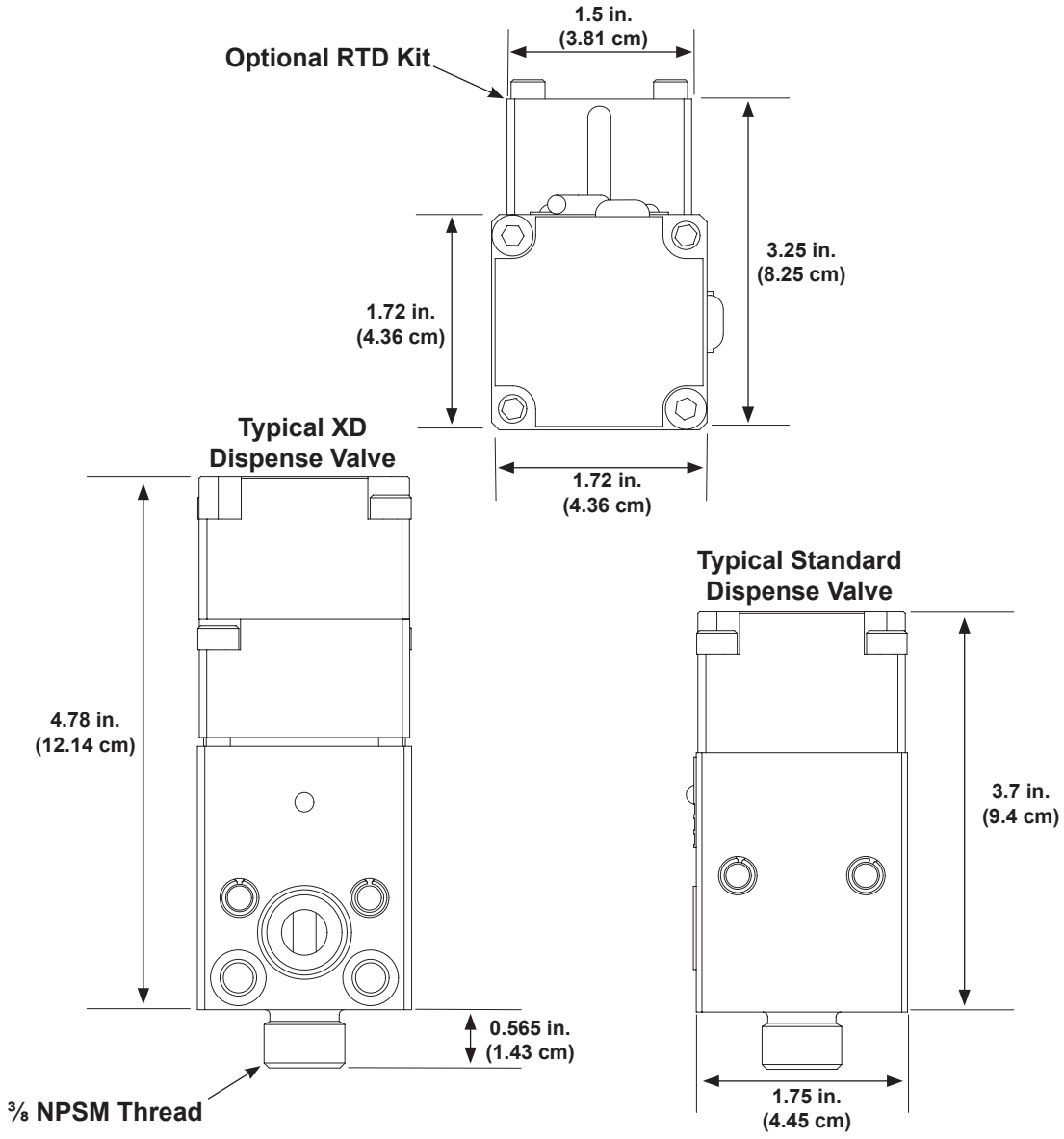


Figure 2 Approximate Dimensions

Standalone Dispense Valve

See Figure 3 for standalone dispensing valve mounting specifications.

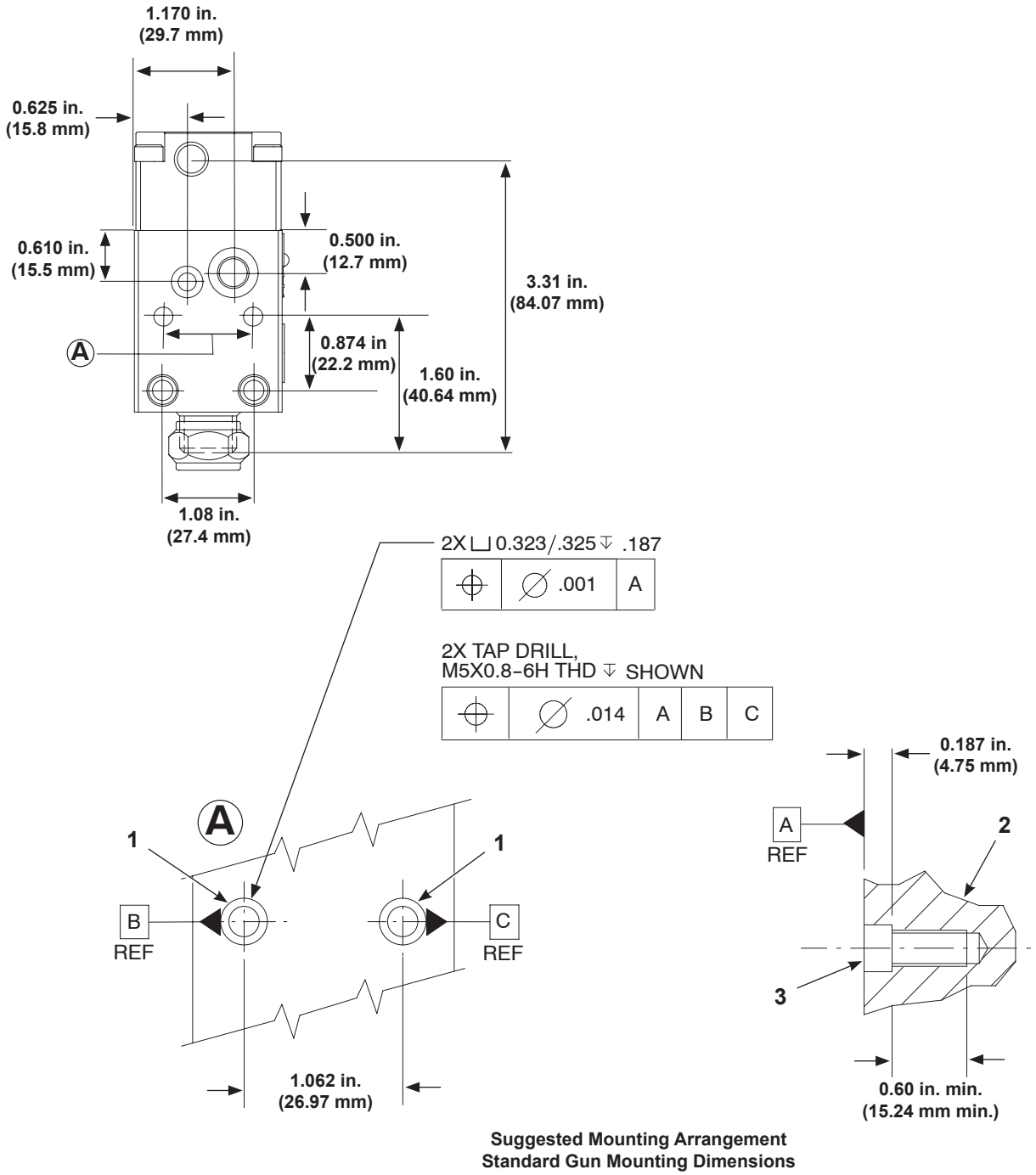


Figure 3 Standalone Mounting Specifications

1. Mounting plate holes
2. Dispensing valve body
3. Hollow dowel pin

Manifold-Mount Dispense Valve

See Figure 4 for specifications when mounting the dispensing valve on a manifold. In addition to drilling the mounting holes (3), drill holes for the material inlet (1) and the air inlet (2).

The specifications for the material inlet (1) follows:

- drill 0.230-0.240 in. diameter x the required depth
- counterbore 0.375-0.379 in. diameter x 0.050-0.052 in. deep

Two holes for temperature conditioning fittings (2) are located below the mounting holes. If the manifold mount dispensing valve needs to be temperature conditioned, drill the mounting surface holes as follows:

- drill two through holes 0.250 in. diameter for water
- counterbore 0.437-0.441 in. diameter x 0.050-0.052 in. deep

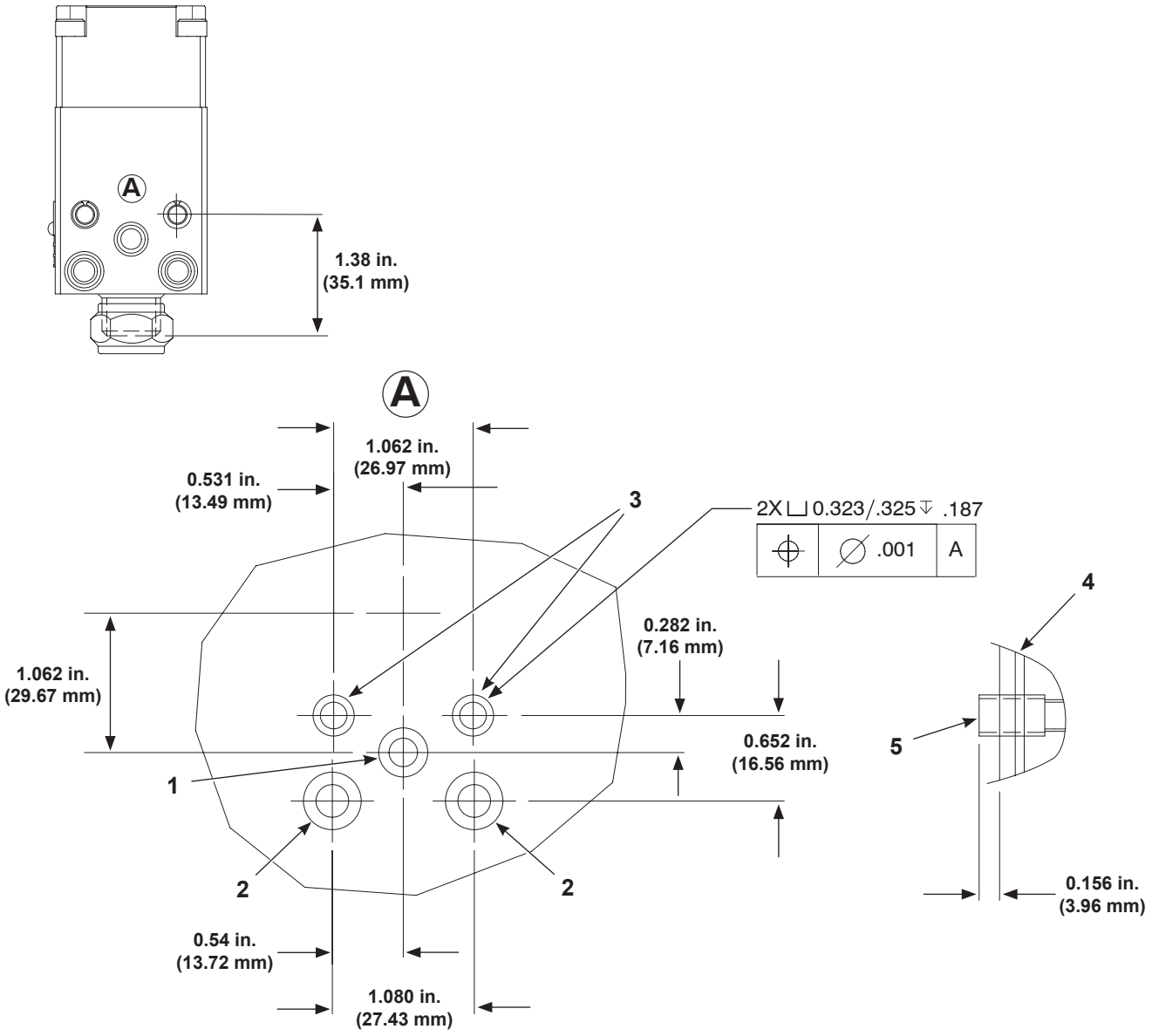


Figure 4 Manifold-Mount Dimensions

1. Material Inlet
2. Temperature Conditioning
3. Mounting surface holes
4. Dispensing valve body
5. Hollow dowel pin

Water Requirements for Temperature Conditioning

The temperature conditioning section is constructed of the following materials. Always refer to this list if different water, corrosion inhibitors or biocides other than those listed in the following sections are used.

- Aluminum
- Black Iron Pipe
- Brass
- Buna Rubber
- Copper
- Nylon
- PVC Plastic
- Polyurethane
- Stainless Steel
- Steel
- Viton
- PTFE

Water Types

Refer to Table 1. To minimize the introduction of contaminants that may degrade system components, review these guidelines before selecting the type of water to use.

NOTE: Water types are listed in order of preference.

Corrosion Levels

To maintain proper performance, minimum levels of corrosion to aluminum and copper must be maintained. To maintain safe operation keep the corrosion levels of

- aluminum at or below 3 mil/year (0.003 in./yr).
- copper at or below 1 mil/year (0.001 in./yr).

When adding water to the system, corrosion inhibitor must be added. CorrShield MD405 corrosion inhibitor is shipped with temperature-conditioned systems. This is a Molybdate-based corrosion inhibitor that contains an Azole additive to protect copper and is used in the concentration of 1.5 ounces per gallon of water to maintain a concentration of 250-350 ppm.

The Ford Tox number for CorrShield MD 405 is 149163.

The GM FID number for CorrShield MD 405 is 225484.

Biocide Water Treatment

Do not use the following Biocides:

- oxidizers, such as chlorine, bromine, hydrogen peroxide, iodine, ozone, etc.
- cationic, or positively charged biocides.

Biocides for use with CorrShield MD405 are BetzDearborn Spectrus NX114. The recommended concentration of Spectrus NX114 is 150-PPM which is 0.017 oz./gal (0.5 ml/gal).

The Ford Tox Number for Spectrus NX114 is 148270.

Table 1 Water Types

Water	Description
1. Distilled	No minerals and chemicals. Lacks the nutrients necessary to support biological growth and the minerals that wear away at system components. Neutral nature reduces interaction with additives used to protect the system. **NOTE:** Distilled water is the best choice for use in the temperature conditioning section.
2. Well	Contains an abundance of minerals that can support plant and animal life. Contains minerals like calcium and iron that are abrasive; accelerates wear and tear on components. **NOTE:** If well water is the only option available, it must be softened to reduce the mineral content.
3. City	Contains chlorine that can degrade all metals including stainless steel. Hard on most non-metals. Usually contains an abundance of minerals that are capable of supporting plant and animal life; accelerates wear on components.
4. Weld (Tower)	Often heavily treated both for bacterial suppression and to make it more compatible with the welding and cooling tower processes. Treatment process usually involves some aggressive chemicals that can degrade metals, plastics and other materials. Usually contains an abundance of metals and other contaminants picked up from the welding and cooling tower processes that can interfere with the components of the temperature control system.
5. DI	**! CAUTION !** Do not use DI water in this system. DI water draws free electrons from metal to normalize ion levels. This process causes degradation of metals.

Installation

Installation procedures are provided for standalone and manifold mount dispense valves.

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

NOTE: The following procedures are only for a typical installation. Refer to the applicable System Documentation that shipped with the system for specific installation data.

NOTE: The dispense valve can be mounted to fixed, mobile, and robotic fixtures. Mounting configurations may vary. Consult a local Nordson representative for specific application data.

NOTE: An RTD sensor is available for the dispense valve. Refer to the drawing that is included with RTD Sensor Kit 1075202 to install an RTD sensor.

Standalone Dispense Valve

1. See Figure 5. Insert the dowel pins (10) into the dispense valve.
2. Install the dispense valve to the applicable fixture (11) using the screws (4). Tighten the screws to 60 in.-lb (6.7 N●m).
3. Perform the following:
   a. Remove the screw (7), washer (8), and swivel lock (9) from the dispense valve.
   b. Install the applicable fluid fitting (6) into the fluid inlet port (5) and tighten securely.
   c. Install the swivel lock (9) to the fluid fitting (6) using the washer (8) and screw (7). Tighten the screw securely.

   NOTE: Supply air must be oil-free and between 60-120 psi (4-8 bar).
4. Connect the open and close air lines to the fittings (1, 2).
5. Perform the following only for temperature conditioned dispense valves:
   a. Install ⅛ NPT tube fittings into the temperature conditioning ports (3).
   b. Connect the lines from the TCU to the tube fittings.

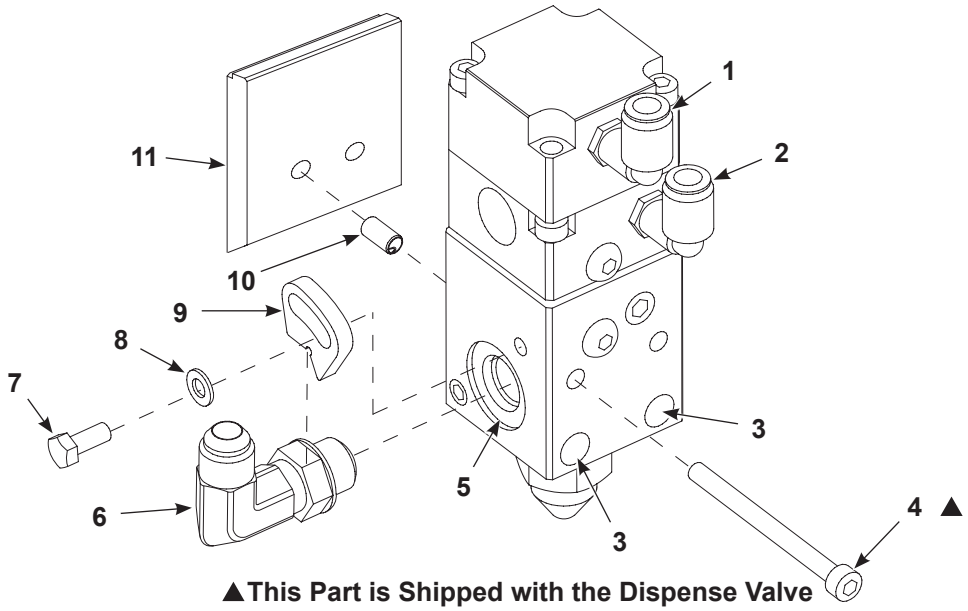


Figure 5 Typical Auto-Flo II Classic Dispense Valve

1. Air close port ⅛ NPT thread
2. Air open port ⅛ NPT thread
3. Temperature conditioning ports ⅛ NPT thread
4. Screw, socket, M5 x 60
5. Fluid inlet O-ring port size-6 $^{9}/_{16}$-18 UNF-2B thread
6. Fluid fitting (application specific)
7. Screw, hex, cap, M5 x 12
8. Washer
9. Swivel lock
10. Dowel pin
11. Applicable fixture (application specific)

Manifold Mount Dispense Valve

Refer to *Manifold Mount Dispense Valve* on page 9 of the *Specifications* section for mounting specifications if necessary.

1. See Figure 6. Lubricate the O-rings (1,2) with Mobil SHC™ 100 grease and install them into the mating surface.
2. Install the dispense valve to the manifold using the screws (3). Tighten the screws to 60 in.-lb (6.7 N·m).

   NOTE: Supply air must be oil-free and between 60-120 psi (4-8 bar).

3. Connect the open and close air lines to the fittings (4, 5).

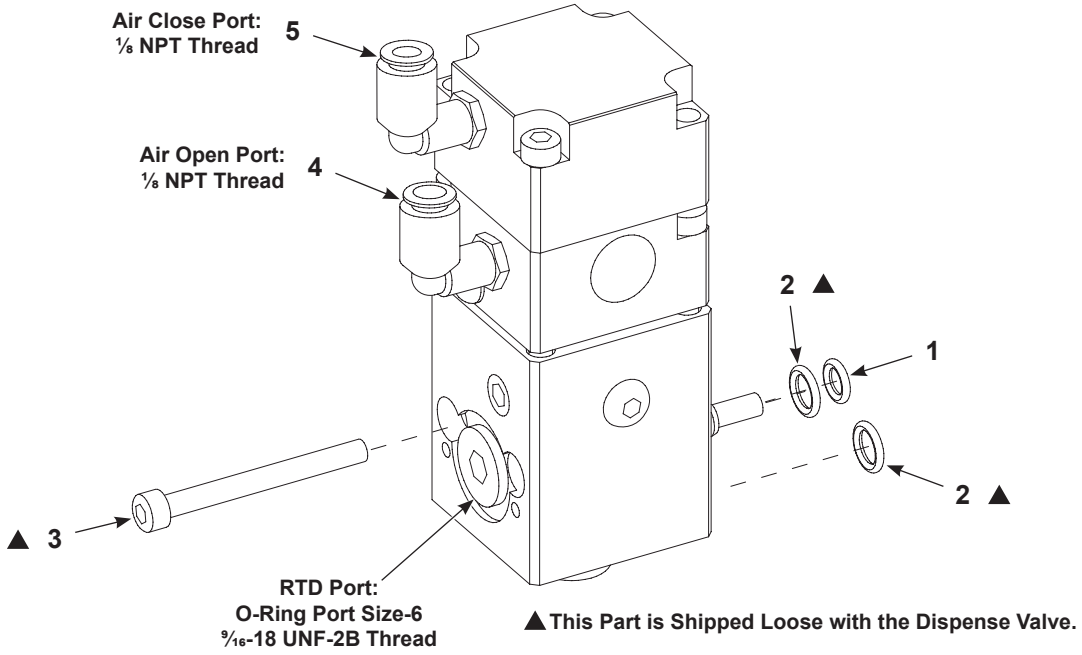


Figure 6 Manifold Mount Dispense Valve (*XD Manifold Mount Dispense Valve Shown*)

1. O-Ring, Viton, 0.301 ID x 0.070
2. O-Ring, Viton, 0.239 ID x 0.070
3. Screw, socket, M5 x 60
4. Air open port ⅛ NPT thread
5. Air close port ⅛ NPT thread

Heater Block Assembly

Use the following instructions to install the heater block assembly to the Auto-Flo II system.

Refer to *Standalone Dispense Valve* on page 8 of the *Specifications* section for mounting specifications if necessary.

1. Remove and discard the screws that come with the Auto-Flo gun.
2. See Figure 7. Insert the dowel pins (3) into the heater block (4).
3. Align insulator plate (2) over dowel pins and attach to heater block (4).
4. Align the heater block to the applicable fixture (1) using the dowel pins.
5. Hold the heater block (4) in place and mount the dispense valve (5) onto the heater block by aligning the dowel pins.
6. Install the dispense valve (5) onto the heater block and applicable fixture by inserting the long screws (6) provided with the heater block. Tighten the screws to 60 in.-lb (6.7 N●m).

Refer to the *Auto-Flo II Heater Block Assemblies* instruction sheet for servicing instructions.

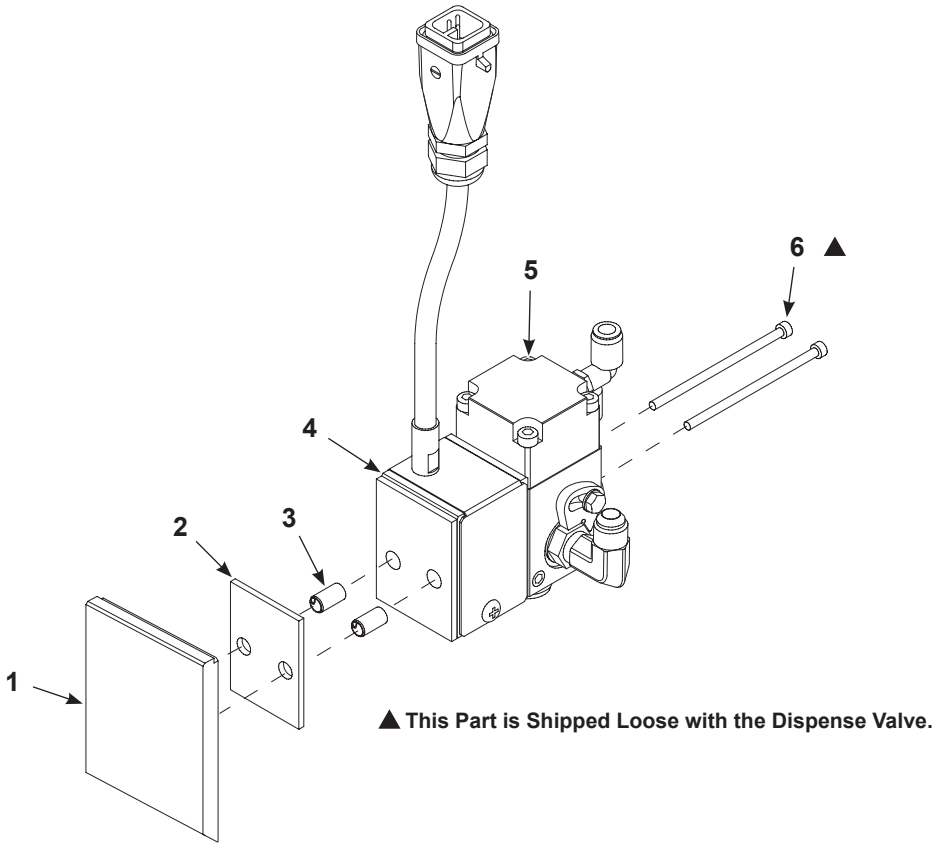


Figure 7 Heater Block Assembly Installation

1. Applicable fixture
2. Insulator plate
3. Dowel pins
4. Heater block
5. Dispense valve
6. Screw, socket, M5 x 100, black

Manifold Heater Block Assembly

Use the following instructions to install the manifold heater block assembly to the Auto-Flo II system.

Refer to *Manifold-Mount Dispense Valve* on page 9 of the *Specifications* section for mounting specifications if necessary.

1. See Figure 8. Align the mounting bracket (1) to the heater block assembly (2).

2. Hold the heater block in place and install the M10 screw (4) through the center hole of the mounting bracket and heater block as shown.

3. Align the bracket to the appropriate adjustable arch hole (3) on the heater block and install the M6 screw (5) to secure.

4. Tighten the screws to 60 in.-lb (6.7 N·m).

Refer to the *Auto-Flo II Heater Block Assemblies* instruction sheet for servicing instructions.

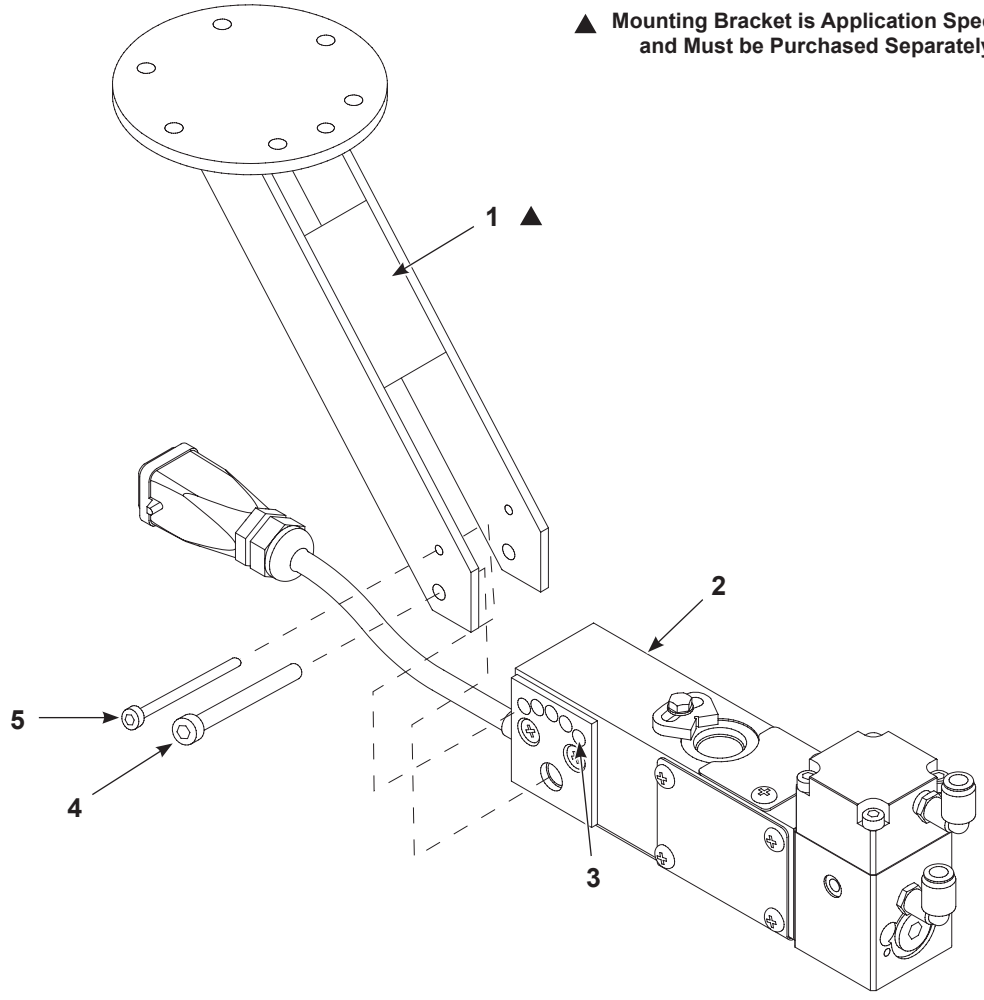


Figure 8 Manifold Heater Block Assembly Installation

1. Mounting bracket example
2. Heater block
3. Adjustable arch holes
4. Screw, M10 x 80
5. Screw, M6 x 80

Select a Nozzle

Nozzle selection depends on the type of material being dispensed, the desired bead size, and the production rate requirements.

CAUTION: Lubricate the dispense valve threads with a lubricant that is compatible with the dispense material to prevent the nozzle nut from becoming glued to them. If the threads are not lubricated, damage may occur to the valve body when removing the nozzle nut.

1. See Figure 9. Lubricate the threads (2) on the dispense valve (1) with a lubricant that is compatible with the dispense material.
2. Install the nozzle (3) using the nozzle nut (4). Tighten the nozzle nut securely.

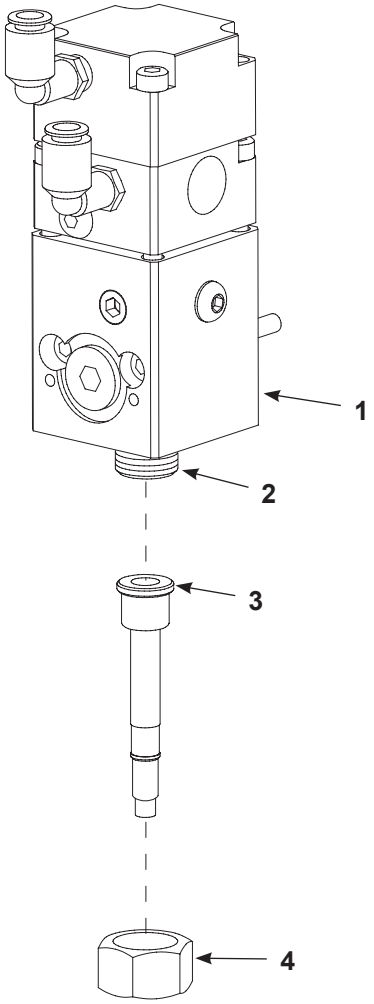


Figure 9 Typical Nozzle Installation

Operation

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

Operation is dependent upon the system application requirements and the material delivery system. Refer to the applicable System Documentation that shipped with the system for detailed operating procedures.

Purge the Dispense Valve

NOTE: Perform the following procedure prior to putting a new dispense valve in to service for the first time.

1. Place a material waste container under the nozzle.
2. Purge the dispense valve until material flows freely from the nozzle.

How to Clear a Blocked Nozzle

1. Shut off air pressure to the material unloader.
2. Bleed off residual pressure through the in-line pressure relief valve in the material supply line.
3. Shut off and lock out all power to the dispense system.
4. See Figure 9. Carefully remove the nozzle nut (4) and nozzle (3) from the dispense valve (1). Clean the nozzle and dispense valve threads (2) with a compatible solvent.

CAUTION: Lubricate the dispense valve threads with a lubricant that is compatible with the dispense material to prevent the nozzle nut from becoming glued to them. If the threads are not lubricated, damage may occur to the valve body when removing the nozzle nut.

5. Lubricate the dispense valve threads (2) with a compatible lubricant.
6. Install the nozzle (3) using the nozzle nut (4). Tighten the nozzle nut securely.

Maintenance

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

WARNING: System or material pressurized. Relieve pressure. Failure to observe this warning may result in serious injury or death.

NOTE: The frequencies listed are only guidelines. It may be necessary to adjust frequencies due to the facility enviornment, process parameters, material being applied, or experience. Always perform preventive maintenance procedures according to the facility maintenance schedule.

Frequency	Task
Daily	Check the nozzle for wear. Replace if necessary.
Periodically	Check the air lines and the material supply hose for leaks or damage. Replace lines and hoses if necessary. Make sure the dispense valve is mounted securely. Clean the filter in the air supply line

Troubleshooting

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

This section contains troubleshooting procedures. These procedures cover only the most common problems that you may encounter. If you cannot solve the problem with the information given here, contact your local Nordson representative for help.

Problem	Possible Cause	Corrective Action
1. Leaking around nozzle or nozzle nut.	Dirty or damaged metal sealing surfaces.	Clean the nozzle if dirty. Replace the nozzle if worn.
2. Leaking through weep hole in valve body.	Worn packing cartridge.	**Standard Dispense Valve:** Replace the cartridge/seal assembly. **XD Dispense Valve:** Replace the cartridge retainer.
3. Dispense valve responds slowly.	Air piston assembly dry or worn.	Lubricate or replace the piston/stem assembly.
	Low air pressure to solenoid.	Increase the air pressure to the solenoid.
	Long air supply lines to valve	Mount the solenoid as close as possible to the valve.

Repair

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

WARNING: System or material pressurized. Relieve pressure. Failure to observe this warning may result in serious injury or death.

Packing Cartridge

See Figure 10. Use the following procedure to replace the packing cartridge.

Remove the Packing Cartridge

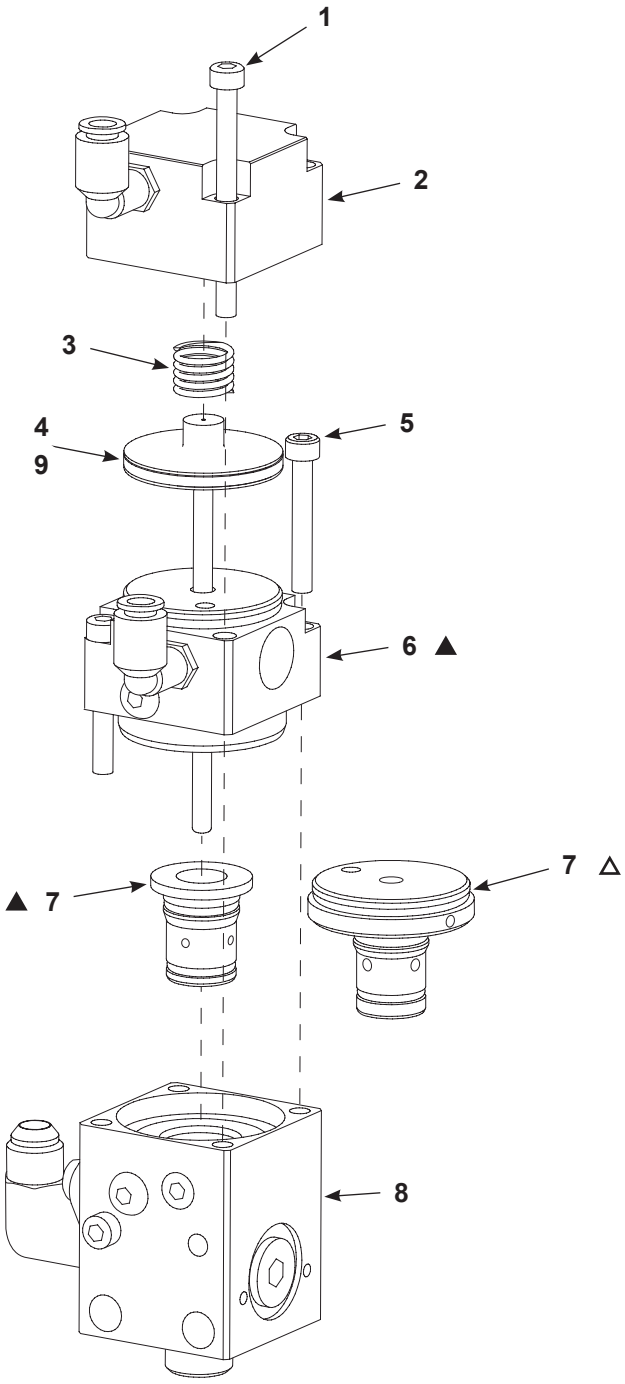
1. Remove the screws (1) securing the air cylinder cap (2).
2. Remove the spring (3) from the piston (4).
3. **XD Dispense Valves Only:** Remove the screws (5) securing the cartridge retainer (6) to the valve body (8).

CAUTION: To prevent damage to the body, use extreme care when prying the packing cartridge out of the body.

4. Use a small screwdriver to pry the packing cartridge (7) out of the body (8).
5. Inspect the piston (4), cartridge retainer (6) and valve body (8) for wear or damage. Replace parts if necessary.

Install the Packing Cartridge

1. Apply Mobil SHC 100 grease to the new packing cartridge (7) and install it into the valve body (8).
2. **XD Dispense Valves Only:** Apply Loctite 242 to the threads of the screws (5). Install the cartridge retainer (6) onto the body (8) using the screws. Tighten the screws to 54 in.-lb (6 N● m).
3. Insert the piston (4) into the cartridge retainer (6) or packing cartridge (7).
4. Install the spring (3) onto the top of the piston (4).
5. Apply Loctite 242 to the threads of the screws (1). Install the air cylinder cap (2) using the screws. Tighten the screws to 54 in.-lb (6 N●m).



▲ USED ON XD DISPENSE VALVES
△ USED ON STANDARD DISPENSE VALVES

Figure 10 Replacing the Packing Cartridge-Typical (*XD standalone dispense valve shown*)

Parts

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

Standalone Dispense Valves

The following standalone dispense valves are available.

Standard Standalone Dispense Valves

See Figure 11 and the following parts list.

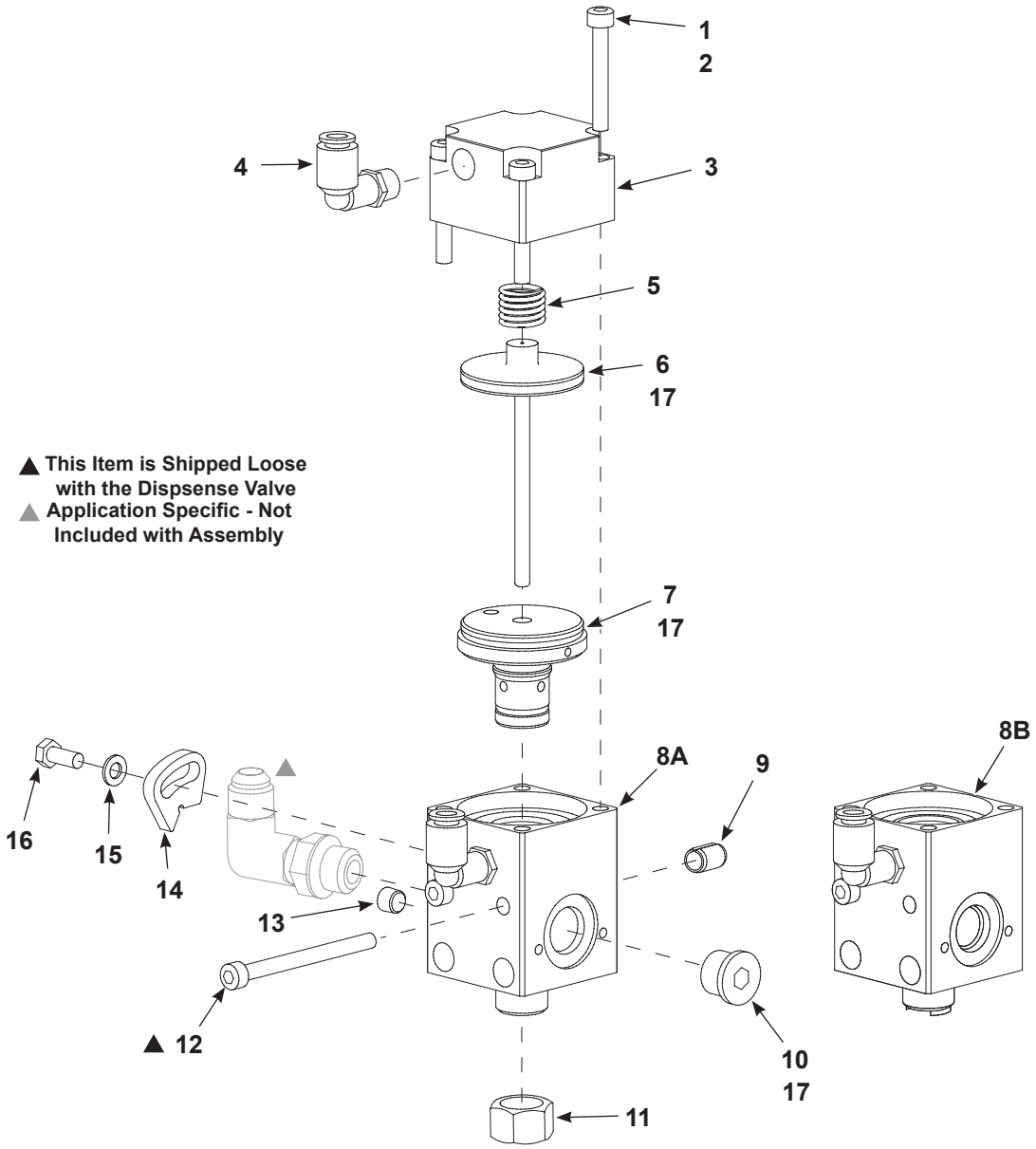


Figure 11 Standard Standalone Dispense Valve Parts

Item	Part	Part	Part	Description	Quantity	Note
—	1089554	—	—	GUN, Auto-Flo, standalone	1	
—	—	1089555	—	GUN, Auto-Flo, standalone, with locator	1	
—	—	—	1620437	GUN, Auto-Flo, standalone, PEEK seals	1	
1	982386	982386	982386	• SCREW, socket, M5 x 35	4	
2	900464	900464	900464	• ADHESIVE, Loctite 242, blue, removable, 50 m	AR	
3	1086179	1086179	1086179	• CAP, air, piston, Auto-Flo, ⅛ NPT	1	
4	971521	971521	971521	• ELBOW, male,¼ tube x ⅛ NPT	2	
5	237947	237947	237947	• SPRING, compression	1	
6	- - - - - -	- - - - - -	- - - - - -	• PISTON/STEM assembly	1	A
7	- - - - - -	- - - - - -	—	• CARTRIDGE, grease/seal, UHMW	1	A
	—	—	- - - - - -	• CARTRIDGE, grease/seal, PEEK	1	A
8A	- - - - - -	- - - - - -	- - - - - -	• BODY, Auto-Flo, Standalone, 2 x SAE-6	1	
8B	- - - - - -	- - - - - -	- - - - - -	• BODY, Auto-Flo, Standalone, 2 x SAE-6, locator	1	
9	985244	985244	985244	• PIN, dowel, hollow, 8 mm OD x 12 mm	2	
10	973574	973574	973574	• PLUG, O-ring, straight thread, 9⁄16-18	1	
11	152290	152290	152290	• NUT, retaining	1	
12	982171	982171	982171	• SCREW, socket, M5 x 60	2	
13	973466	973466	973466	• PLUG, pipe, flush, 1⁄16 w/ sealant	1	
14	323872	323872	323872	• KEY, lock, swivel	1	
15	983035	983035	983035	• WASHER, flat, M5	1	
16	345464	345464	345464	• SCREW, hex, cap, M5 x 12	1	
17	1001849	1001849	1001849	• GREASE, Mobile, Synthetic, SHC 100, 12.5 oz	AR	

NOTE: A. See *Cartridge and Stem/Piston Kits* on page 35 for part number and quantity options.

NS: Not Shown

AR: As Required

XD Standalone Dispense Valves

See Figure 12 and the following parts list.

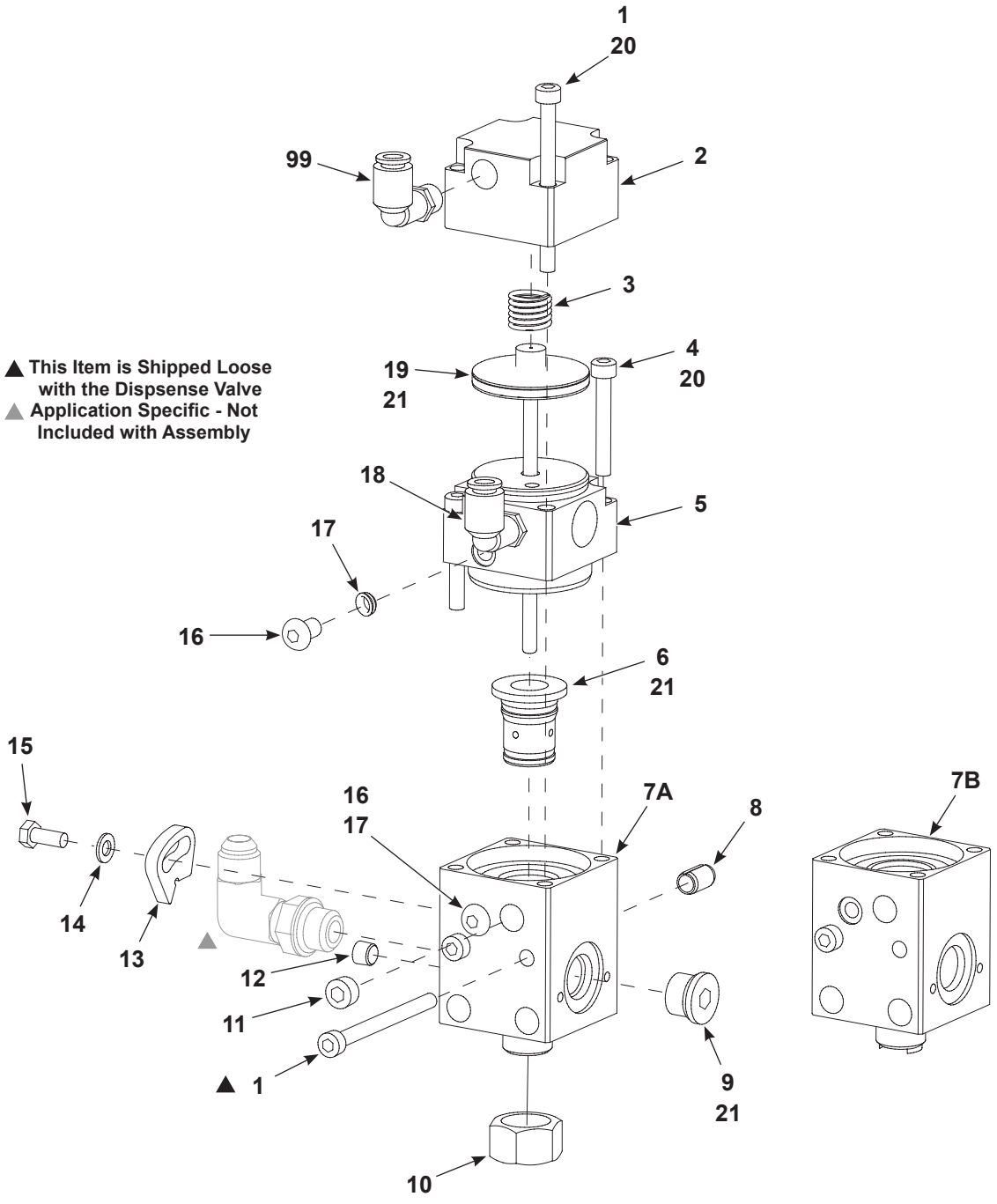


Figure 12 XD Standalone Dispense Valve Parts

Item	Part	Part	Description	Quantity	Note
—	1092956	—	GUN, Auto-Flo XD, standalone	1	
—	—	1092957	GUN, Auto-Flo XD, standalone, with locator	1	
1	982171	982171	• SCREW, socket, M5 x 60	4	
2	1086179	1086179	• CAP, air, piston, Auto-Flo, ⅛ NPT	1	
3	237947	237947	• SPRING, compression	1	
4	982386	982386	• SCREW, socket, M5 x 35	2	
5	1093685	1093685	• ASSEMBLY, cartridge retainer	1	
6	- - - - - -	- - - - - -	• CARTRIDGE, grease/seal, scraper	1	A
7A	- - - - - -	- - - - - -	• BODY, Auto-Flo, Standalone, 2 x SAE-6	1	
7B	- - - - - -	- - - - - -	• BODY, Auto-Flo, Standalone, 2 x SAE-6, locator	1	
8	985244	985244	• PIN, dowel, hollow, 8 mm OD x 12 mm	2	
9	973574	973574	• PLUG, O-ring, straight thread, ⁹⁄₁₆-18	1	
10	152290	152290	• NUT, retaining	1	
11	973411	973411	• PLUG, pipe, socket, flush ¼	1	
12	973466	973466	• PLUG, pipe, flush, ¹⁄₁₆ w/ sealant	1	
13	323872	323872	• KEY, lock, swivel	1	
14	983035	983035	• WASHER, flat, M5	1	
15	345464	345464	• SCREW, hex, cap, M5 x 12	1	
16	346163	346163	• SCREW, button head, ¼-28 x 0.25	2	
17	346164	346164	• SLEEVE, sealing, ¼ screw	2	
18	971521	971521	• ELBOW, male, ¼ tube x ⅛ NPT	2	
19	- - - - - -	- - - - - -	• PISTON/STEM KIT	1	A
20	900464	900464	• ADHESIVE, Loctite 242, blue, removable, 50 m	AR	
21	1001849	1001849	• GREASE, Mobile, Synthetic, SHC 100, 12.5 oz	AR	

NOTE: A. See *Cartridge and Stem/Piston Kits* on page 35 for part number and quantity options.

NS: Not Shown

AR: As Required

Manifold-Mount Dispense Valves

The following manifold mount dispense valves are available.

Standard Manifold-Mount Dispense Valves

See Figure 13 and the following parts list.

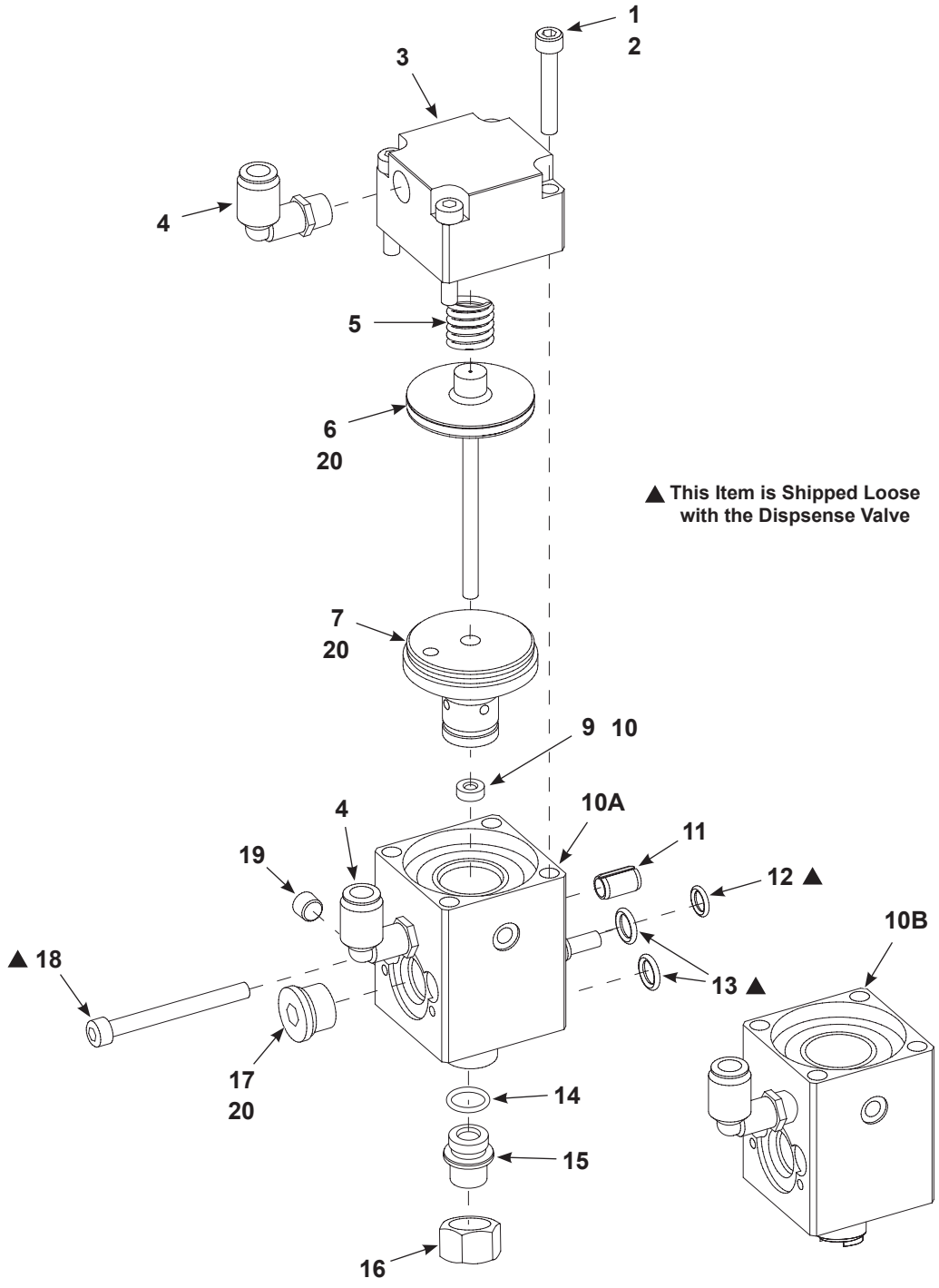


Figure 13 Standard Manifold Mount Dispense Valve Parts

Item	Part	Part	Part		Description	Quantity	Note
—	1089560	—	—	—	GUN, Auto-Flo, manifold	1	
—	—	1089561	—	—	GUN, Auto-Flo, manifold, with locator	1	
—	—	—	1620436	—	GUN, Auto-Flo, manifold, PEEK seals	1	
—	—	—	—	1621554	VALVE, Auto-Flo II, 1K, Auto-Flo, aluminum, polymyte, manifold	1	
1	982386	982386	982386	—	• SCREW, socket, M5 x 35	4	
	—	—	—	1612619	• SCREW, socket, M5 x 35	4	
2	900464	900464	900464	900464	• ADHESIVE, Loctite 242, blue, removable, 50 m	AR	
3	1086179	1086179	1086179	1086179	• CAP, air, piston, Auto-Flo, ⅛ NPT	1	
4	971521	971521	971521	—	• ELBOW, male, ¼ tube x ⅛ NPT	2	
	—	—	—	1613946	• ELBOW, male, ¼ tube x ⅛ NPT	2	
5	237947	237947	237947	237947	• SPRING, compression	1	
6	- - - - - -	- - - - - -	- - - - - -	- - - - - -	• PISTON/STEM assembly	1	A
7	- - - - - -	- - - - - -	—	—	• CARTRIDGE, grease/seal, UHMW	1	A
	—	—	- - - - - -	—	• CARTRIDGE, grease/seal, PEEK	1	A
	—	—	—	1620265	• CARTRIDGE, grease/seal, polymyte, Auto-Flo	1	
8	1611382	1611382	1611382	1611382	• SEAT, carbide, 0.157 ID x 0.375 OD, Auto-Flo	1	
9	900419	900419	900419	900419	• ADHESIVE, Loctite, 620, green, high-temp, 50 ml	AR	
10A	- - - - - -	—	- - - - - -	- - - - - -	• BODY, Auto-Flo, manifold, 0.23 port x SAE-6	1	
10B	—	- - - - - -	—	—	• BODY, Auto-Flo, manifold, 0.23 x SAE-6, locator	1	
11	985244	985244	985244	985244	• PIN, dowel, hollow, 8 mm OD x 12 mm	2	
12	940101	940101	940101	940101	• O-RING, Viton, 0.301 ID x 0.070	1	
13	940111	940111	940111	940111	• O-RING, Viton, 0.239 ID x 0.070, 10411SB	2	
14	1082132	1082132	1082132	1082132	• ADAPTER, body/seat/nozzle, Auto-Flo	1	
15	1082430	1082430	1082430	1082430	• O-RING, 15.3 mm ID x 2.2 mm W, Viton, 90 Duro		
16	152290	152290	152290	152290	• NUT, retaining	1	
17	973574	973574	973574	973574	• PLUG, O-ring, straight thread, 9⁄16-18	1	
18	982178	982178	982178	982178	• SCREW, socket, M5 x 50	2	
19	973466	973466	973466	973466	• PLUG, pipe, flush, 1⁄16 w/ sealant	1	
20	1001849	1001849	1001849	1001849	• GREASE, Mobile, Synthetic, SHC 100, 12.5 oz	AR	

NOTE: A. See *Cartridge and Stem/Piston Kits* on page 35 for part number and quantity options.

NS: Not Shown

AR: As Required

XD Manifold-Mount Dispense Valves

See Figure 14 and the following parts list.

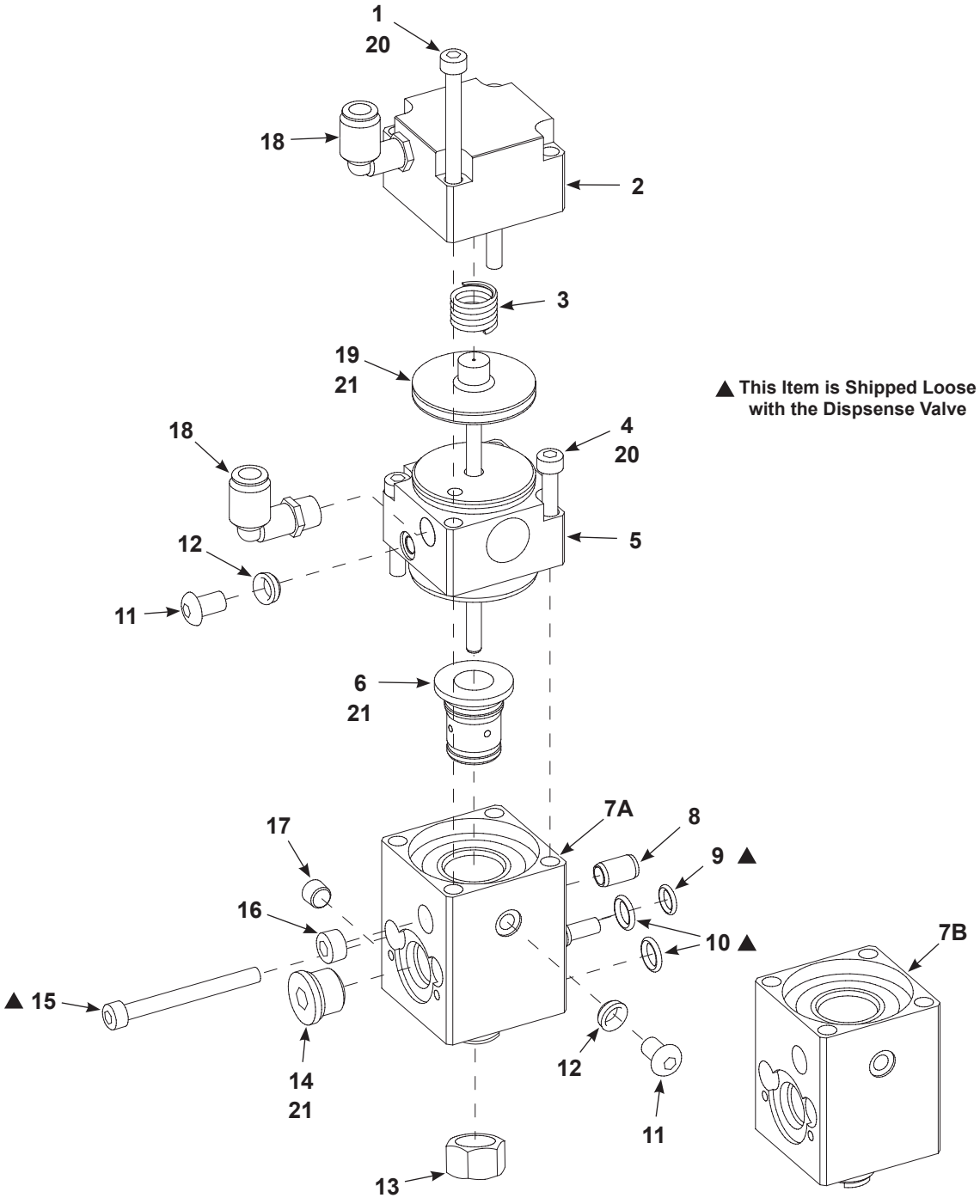


Figure 14 XD Manifold Mount Dispense Valve Parts

Item	Part	Part	Description	Quantity	Note
—	1092921	—	GUN, Auto-Flo XD, manifold	1	
—	—	1093075	GUN, Auto-Flo XD, manifold, with locator	1	
1	982171	982171	• SCREW, socket, M5 x 60	2	
2	1086179	1086179	• CAP, air, piston, Auto-Flo, ⅛ NPT	1	
3	237947	237947	• SPRING, compression	1	
4	982386	982386	• SCREW, socket, M5 x 35	2	
5	1093685	1093685	• ASSEMBLY, cartridge retainer	1	
6	- - - - - -	- - - - - -	• CARTRIDGE, grease/seal, scraper	1	A
7A	- - - - - -	- - - - - -	• BODY, Auto-Flo, manifold, 2 x SAE-6	1	
7B	- - - - - -	- - - - - -	• BODY, Auto-Flo, manifold, 2 x SAE-6, locator	1	
8	985244	985244	• PIN, dowel, hollow, 8 mm OD x 12 mm	2	
9	940101	940101	• O-RING, Viton, 0.301 ID x 0.070	1	
10	940111	940111	• O-RING, Viton, 0.239 ID x 0.070, 10411SB	2	
11	346163	346163	• SCREW, button head, ¼-28 x 0.25	3	
12	346164	346164	• SLEEVE, sealing, ¼ screw	3	
13	152290	152290	• NUT, retaining	1	
14	973574	973574	• PLUG, O-ring, straight thread, ⁹⁄₁₆-18	1	
15	982178	982178	• SCREW, socket, M5 x 50	2	
16	973411	973411	• PLUG, pipe, socket, flush 1/4	1	
17	973466	973466	• PLUG, pipe, flush, ⅛ w/ sealant	1	
18	971521	971521	• ELBOW, male, ¼ tube x ⅛ NPT	2	
19	- - - - - -	- - - - - -	• PISTON/STEM/ CARTRIDGE assembly	1	A
20	900464	900464	• ADHESIVE, Loctite 242, blue, removable, 50 m	AR	
21	1001849	1001849	• GREASE, Mobile, Synthetic, SHC 100, 12.5 oz	AR	

NOTE: A. See *Cartridge and Stem/Piston Kits* on page 35 for part number and quantity options.

NS: Not Shown

AR: As Required

Dispense Valve Options

Refer to the *Auto-Flo II Heater Block Assemblies* instruction sheet for servicing instructions.

Heater Block Assembly

See Figure 15 and the following parts list.

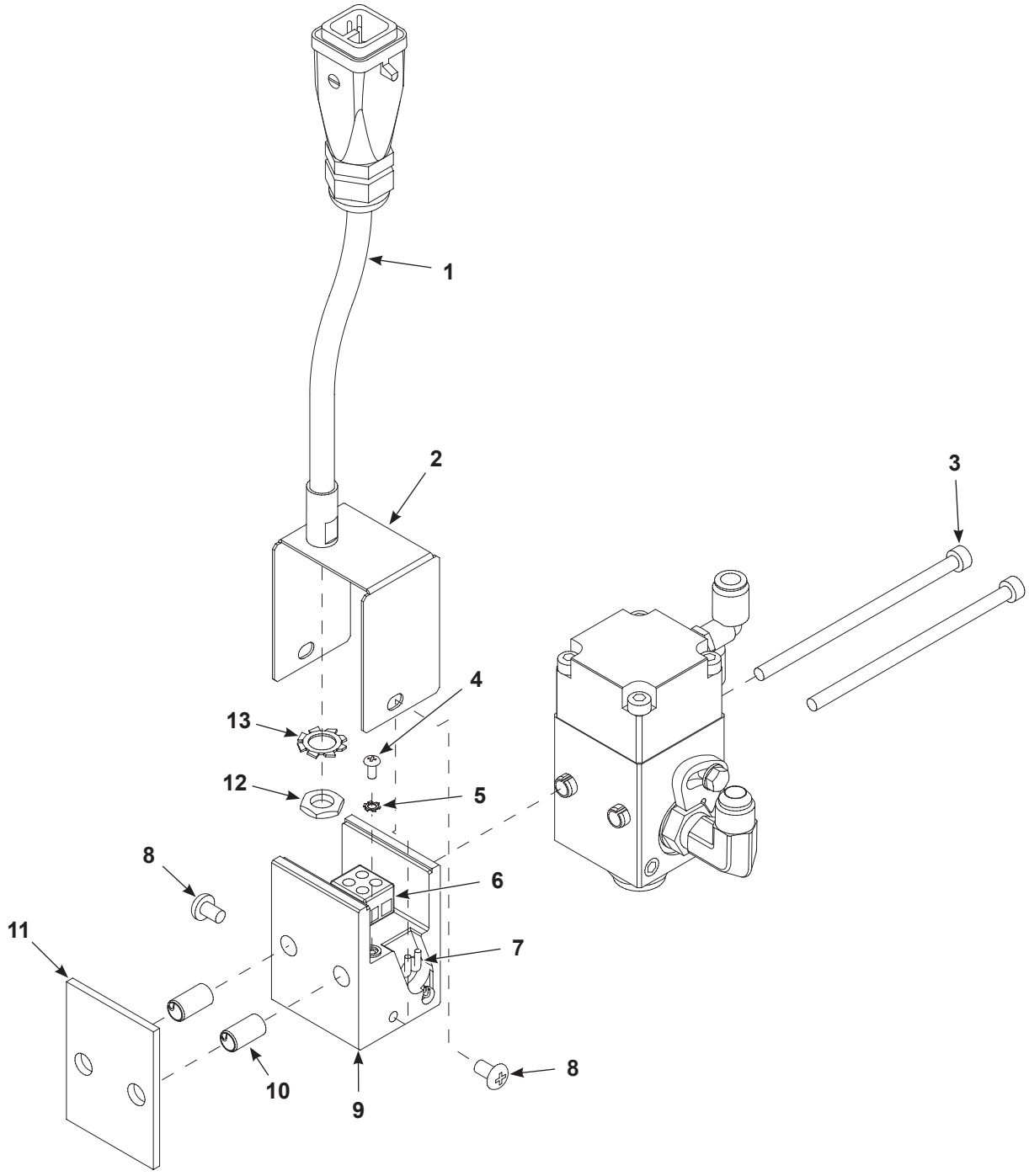


Figure 15 Heater Block Assembly Parts

Item	Part	Part	Part	Part	Description	Quantity	Note
—	1606151	—	—	—	HEATER BLOCK ASSEMBLY, Auto-Flo, 120 V	1	
—	—	1615107	—	—	HEATER BLOCK ASSEMBLY, Auto-Flo, 120 V, low wattage	1	
—	—	—	1606152	—	HEATER BLOCK ASSEMBLY, Auto-Flo, 240 V	1	
—	—	—	—	1615108	HEATER BLOCK ASSEMBLY, Auto-Flo, 240 V, low wattage	1	
1	1608885	1608885	276957	276957	• KIT, cord set	1	
2	------	------	------	------	• COVER, body, Auto-Flo heater, standalone	1	
3	------	------	------	------	• SCREW, socket, M5 x 100, black, class 12.9 per ISO 4762	1	
4	------	------	------	------	• SCREW, pan head, recessed, M3 x 6, zinc, class 4.8 per ISO 7045	1	
5	------	------	------	------	• LOCK WASHER, external, M3, stainless, zinc	2	
6	939586	939586	939586	939586	• CONNECTOR, plastic, 2-station	1	
7	1608711	1615128	1608764	1615129	• KIT, heater cartridge	1	
8	------	------	------	------	• SCREW, pan head, cross-rec, M5 x 8, class 4.8 per ISO 7045	2	
9	------	------	------	------	• BODY, Auto-Flo heater, standalone	1	
10	1606149	1606149	1606149	1606149	• DOWEL PIN, hollow, 8mm OD x 16mm L	2	
11	------	------	------	------	• INSULATOR PLATE, Auto-Flo, standalone	1	
12	984155	984155	984155	984155	• NUT, panel mounting	1	
13	983161	983161	983161	983161	• WASHER, external, ⅜-in., stainless, zinc	1	

In-Line Manifold Heater Block Assembly

See Figure 16 and the following parts list.

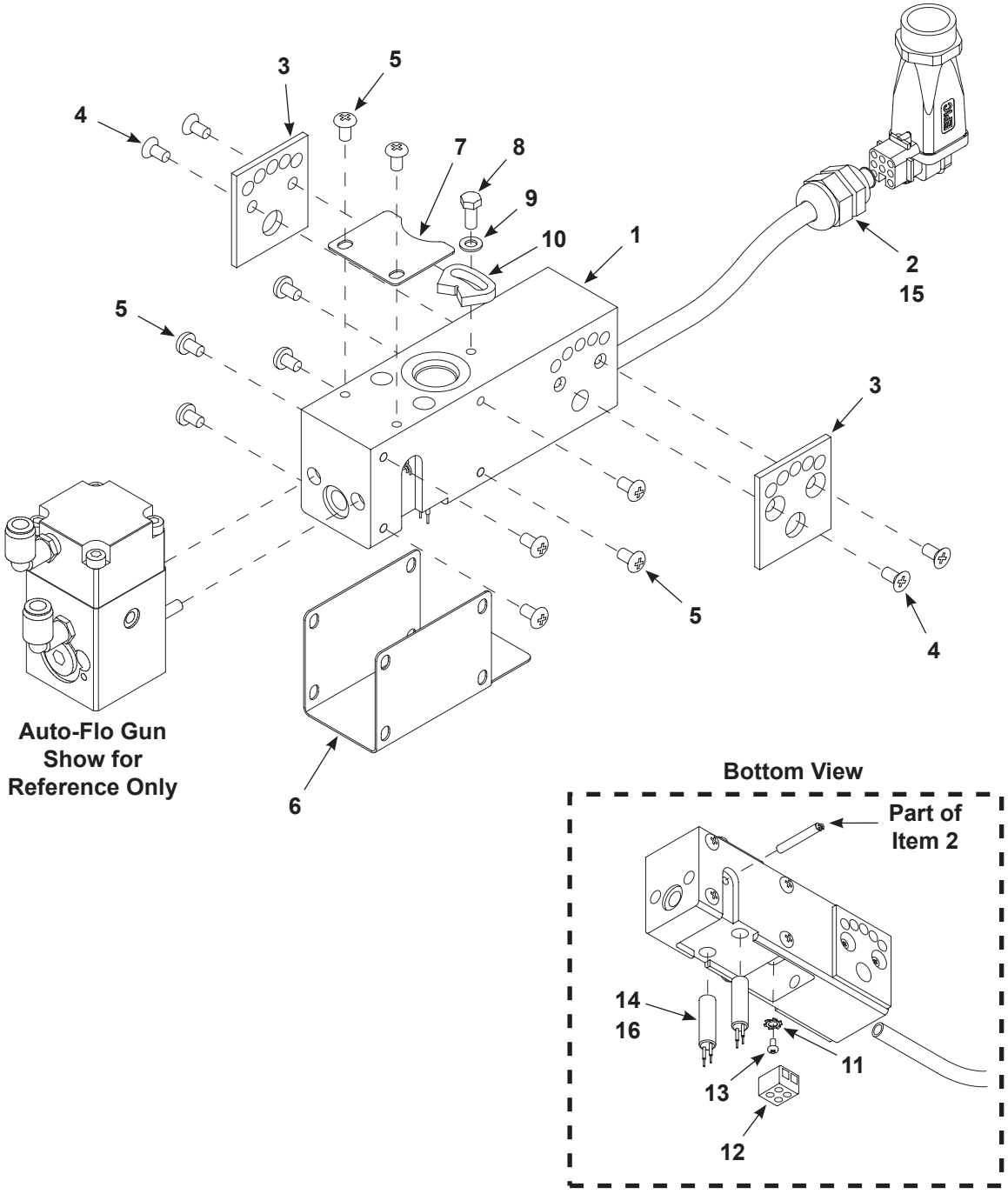


Figure 16 In-Line Heater Block Assembly Parts

Item	Part	Part	Description	Quantity	Note
—	1609339	—	MANIFOLD, Auto-Flo, in-line, heated, 120 V	—	
—	—	1611704	MANIFOLD, Auto-Flo, in-line, heated, 120V, low wattage	—	
1	1609375	1609375	• BODY, manifold, Auto-Flo, in-line, heated	1	
2	1609379	1609379	• CORDSET, manifold, heated, Auto-Flo, 120 V	1	A
3	1609376	1609376	• PLATE, isolator, manifold, Auto-Flo, in-line	2	
4	- - - - - -	- - - - - -	• SCREW, flat, socket, M5 x 10, black, class 10.9 per ISO 7089	4	
5	- - - - - -	- - - - - -	• SCREW, button head, socket, M5 x 0.8 x 8.0, stainless steel, class 4.8, per ISO 21269	10	
6	1609378	1609378	• COVER, manifold, Auto-Flo, in-line	1	
7	1609377	1609377	• COVER, heater, manifold, Auto-Flo, in-line	1	
8	- - - - - -	- - - - - -	• SCREW, hex, cap, M5 x 12, zinc, class 8.8, per ISO 4017	1	
9	- - - - - -	- - - - - -	• WASHER, flat, m, reg, M5, steel, zinc	1	
10	156208	156208	• KEY, swivel, locking, H/F, 1.250 in., hex	1	
11	- - - - - -	- - - - - -	• WASHER, lock, ext., M3, steel, zinc	1	
12	939586	939586	• CONNECTOR, plastic, 2 station	1	
13	- - - - - -	- - - - - -	• SCREW, machine, pan, rec., M3 x 6, zinc, class 4.8, per ISO 7045	1	
14	938119	—	• HEATER CARTRIDGE, 0.375 D, 1.00 L, 65 W, 120 V	2	B
	—	1612837	• HEATER CARTRIDGE, 0.375 D, 1.00 L, 30 W, 120 V	2	B
15	900470	900470	• ADHESIVE, Loctite, 272, red, hi-temp, 50 ml	AR	
16	275386	275386	• COMPOUND, joint, thermal, 0.2 oz	AR	

NOTE: A. Includes Loctite 272 adhesive, red, high temperature, 50 ml.

B. Includes thermal joint compound, 0.2 oz.

NS: Not Shown

AR: As Required

Dual Pitson Kit, 40 psi, Auto-Flo II

See Figure 17 and the following parts list.

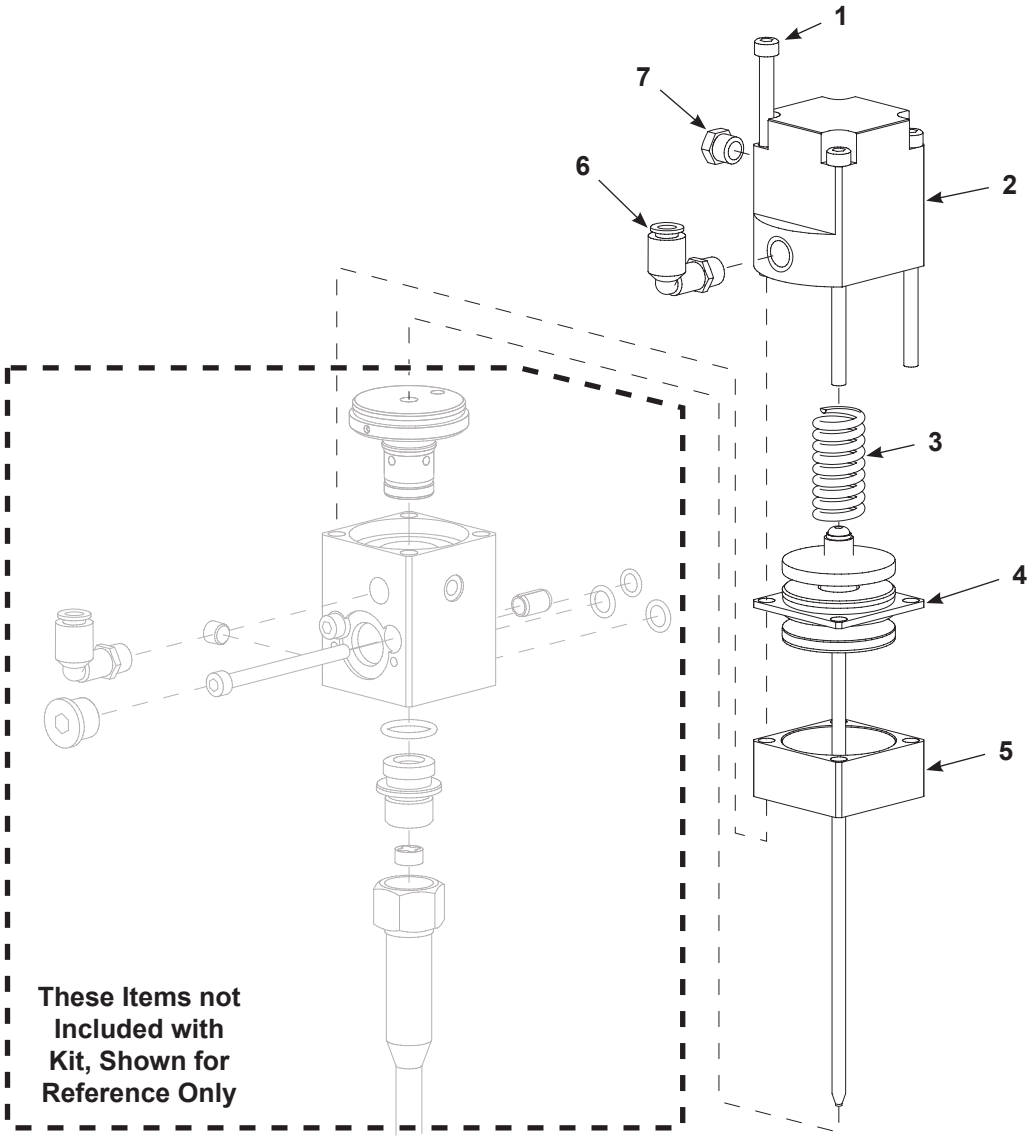


Figure 17 Dual Piston Kit, 40 psi Parts

Item	Part	Description	Quantity	Note
—	1614223	KIT, Auto-Flo II, 40 psi, dual piston	1	
1	- - - - - -	• SCREW, socket, M5 x 80, class 12.9, ISO 4762	4	
2	- - - - - -	• PISTON, air cap, Auto-Flo rt, 40 psi	1	
3	- - - - - -	• SPRING, compression, OD 07.72 x 2.00 LG	1	
4	- - - - - -	• PISTON/STEM, dual, 0.090 tip, Auto-Flo, zero cavity	1	
5	- - - - - -	• SPACER, dual piston	1	
6	971521	• ELBOW, male, ¼ tube X ⅛ NPT, h.t.	1	
7	1003609	• VENT, breather, ⅛ NDV 8180	1	

Breakaway Adapter Kits

See Figure 18 and the following parts list.

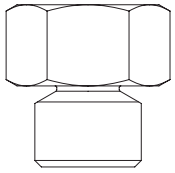


Figure 18 Breakaway Kit

Part	Description	Note
1616674	KIT, breakaway, ⅜F x ⅜M, blue	
1616675	KIT, breakaway, ⅜F x ⅜M, blue, quantity 5	

Cartridge and Stem/Piston Kits

Gun Part Number	Description	Cartridge Kits			Stem and Piston Kits		
		Qty 1	Qty 10	Qty 25	Qty 1	Qty 10	Qty 25
1089554	GUN, Auto-Flo, standalone	1099071	1616645	1616646	1102748	1616647	1616648
1089555	GUN, Auto-Flo, standalone, with locator	1099071	1616645	1616646	1102748	1616647	1616648
1620437	GUN, Auto-Flo, standalone, PEEK seals	1620440	1620441	1620442	1102748	1616647	1616648
1092956	GUN, Auto-Flo XD, standalone	1088448	1616649	1616650	1088449	1616651	1616652
1092957	GUN, Auto-Flo XD, standalone, with locator	1088448	1616649	1616650	1088449	1616651	1616652
1089560	GUN, Auto-Flo, manifold	1099071	1616645	1616646	1102748	1616647	1616648
1089561	GUN, Auto-Flo, manifold, with locator	1099071	1616645	1616646	1102748	1616647	1616648
1620436	GUN, Auto-Flo, manifold, PEEK seals	1620440	1620441	1620442	1102748	1616647	1616648
1621554	GUN, Auto-Flo, manifold, polymyte	1620266	- - - - - -	- - - - - -	1102748	1616647	1616648
1092921	GUN, Auto-Flo XD, manifold	1088448	1616649	1616650	1088449	1616651	1616652
1093075	GUN, Auto-Flo XD, manifold, with locator	1088448	1616649	1616650	1088449	1616651	1616652

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UK DECLARATION of CONFORMITY

This Declaration is issued under the sole responsibility of the manufacture.

Product: Fluid Control Valve

Models: Auto-Flo II, Auto-Flo II with Vision, Auto-Flo II with Zero Cavity, and CE20

Description: Dispense valves for accurate dispensing of adhesives, sealants, and other materials in various industry applications.

Applicable UK Regulations:

Supply of Machinery (Safety) Regulations 2008

Standards Used for Compliance:
EN12100 (2010)
EN60204 (2018)
EN12266-1:2012
EN12266-2:2012

Principles:

This product has been manufactured according to good engineering practice.
The product specified conforms to the directive and standards described above.

Quality System DNV – ISO9001 Certified

Date: 17 Oct 2023

Jeremy Krone
Supervisor Product Development Engineering
Industrial Coating Systems
Amherst, Ohio, USA

Nordson Authorized Representative in the UK
Contact: Technical Support Engineer
Nordson UK Ltd.; Unit 10 Longstone Road
Heald Green; Manchester, M22 5LB.
England

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Date: 17 Oct 2023

Jeremy Krone
Engineering Manager
Industrial Coating Systems
Amherst, Ohio, USA

Nordson Authorized Representative in the EU

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