Auto-Flo II
Automatic Dispense Valves

Customer Product Manual
Part 1104010–01
Issued 5/12

For parts and technical support, call the
Finishing Customer Support Center at (800) 433-9319.
This document is subject to change without notice.
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Contact Us

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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 Material Safety Data Sheets (MSDS) 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 MSDS 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 him this card
• Tell him 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 MSDS 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:

- Fluorine (F) “Fluoro-”
- Chlorine (Cl) “Chloro-”
- Bromine (Br) “Bromo-”
- Iodine (I) “Iodo-”

Check your material MSDS 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 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 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 Valves
Specifications

Refer to the following paragraphs for specifications.

General

<table>
<thead>
<tr>
<th>Dimensions</th>
<th>See Figure 2.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Approximate Weight, oz (kg)</td>
<td>XD: 23 (0.649)</td>
</tr>
<tr>
<td></td>
<td>Standard: 18 (0.508)</td>
</tr>
<tr>
<td>Maximum static fluid pressure rating, psi (bar)</td>
<td>5000 (345)</td>
</tr>
<tr>
<td>Actuating air pressure, psi (bar)</td>
<td>60–120 (4–8)</td>
</tr>
</tbody>
</table>

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 3. Mounting surface holes
2. Temperature Conditioning 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>
<thead>
<tr>
<th>Water</th>
<th>Description</th>
</tr>
</thead>
</table>
| 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.
- 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.
- 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 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 1/8 NPT tube fittings into the temperature conditioning ports (3).
   b. Connect the lines from the TCU to the tube fittings.

**Manifold Mount Dispense Valve**

Refer to **Manifold Mount** in 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).
AIR CLOSE PORT: 1/8 NPT Thread

AIR OPEN PORT: 1/8 NPT Thread

3 TEMPERATURE CONDITIONING PORTS: 1/8 NPT Thread

FLUID INLET: O-RING PORT SIZE-6 9/16-18 UNF-2B Thread

THIS PART IS SHIPPED LOOSE WITH THE DISPENSE VALVE.

Figure 5  Typical Standalone Installation (XD Standalone Dispense Valve Shown)

AIR CLOSE PORT: 1/8 NPT Thread

AIR OPEN PORT: 1/8 NPT Thread

RTD PORT: O-RING PORT SIZE-6 9/16-18 UNF-2B Thread

THIS PART IS SHIPPED LOOSE WITH THE DISPENSE VALVE.

Figure 6  Manifold Mount Dispense Valve (XD Manifold Mount Dispense Valve Shown)
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 7. 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.

Operation

**WARNING:** Allow only qualified personnel to perform the following tasks. Follow the safety instructions in this document and all other related documentation. Personnel performing the following procedures must know how to safely operate the application system.

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 7. 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.

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 environment, process parameters, material being applied, or experience. Always perform preventive maintenance procedures according to the facility maintenance schedule.

<table>
<thead>
<tr>
<th>Frequency</th>
<th>Task</th>
</tr>
</thead>
<tbody>
<tr>
<td>Daily</td>
<td>Check the nozzle for wear. Replace if necessary.</td>
</tr>
<tr>
<td>Periodically</td>
<td>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.</td>
</tr>
</tbody>
</table>

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.

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

**WARNING:** Allow only qualified personnel to perform the following tasks. Follow the safety instructions in this document and all other related documentation. System or material pressurized. Relieve pressure. Failure to observe this warning may result in serious injury or death.

**Packing Cartridge**
See Figure 8. 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).
<table>
<thead>
<tr>
<th>Notes:</th>
</tr>
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</tbody>
</table>
**Parts**

To order parts, call the Nordson Customer Service Center or a local Nordson representative.

**Standard Standalone Dispense Valves**

The following standalone dispense valves are available.

---

Figure 9  Standard Standalone Dispense Valve Parts
<table>
<thead>
<tr>
<th>Item</th>
<th>Part</th>
<th>Part</th>
<th>Description</th>
<th>Quantity</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>—</td>
<td>1089554</td>
<td></td>
<td>Gun, Auto-Flo, standalone</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>—</td>
<td>1089555</td>
<td></td>
<td>Gun, Auto-Flo, standalone, with locator</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>982386</td>
<td>982386</td>
<td>• Screw, socket, M5 x 35</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>900464</td>
<td>900464</td>
<td>• Adhesive, Loctite 242, blue, removable, 50 m</td>
<td>AR</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>1086179</td>
<td>1086179</td>
<td>• Cap, air, piston, Auto-Flo, 1/8 NPT</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>971521</td>
<td>971521</td>
<td>• Elbow, male, 1/4 tube x 1/8 NPT</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>237947</td>
<td>237947</td>
<td>• Spring, compression</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>—</td>
<td>—</td>
<td>• Piston/Stem assembly</td>
<td>1</td>
<td>A</td>
</tr>
<tr>
<td>7</td>
<td>—</td>
<td>—</td>
<td>• Cartridge, grease/seal, UHMW</td>
<td>1</td>
<td>B</td>
</tr>
<tr>
<td>8A</td>
<td>—</td>
<td>—</td>
<td>• Body, Auto-Flo, Standalone, 2 x SAE–6</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>8B</td>
<td>—</td>
<td>—</td>
<td>• Body, Auto–Flo, Standalone, 2 x SAE–6, locator</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>985244</td>
<td>985244</td>
<td>• Pin, dowel, hollow, 8 mm OD x 12 mm</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>973574</td>
<td>973574</td>
<td>• Plug, O-ring, straight thread, 9/16-18</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>152290</td>
<td>152290</td>
<td>• Nut, retaining</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>982171</td>
<td>982171</td>
<td>• Screw, socket, M5 x 60</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>973466</td>
<td>973466</td>
<td>• Plug, pipe, flush, 1/16 w/sealant</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>323872</td>
<td>323872</td>
<td>• Key, lock, swivel</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>983035</td>
<td>983035</td>
<td>• Washer, flat, M5</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>16</td>
<td>345464</td>
<td>345464</td>
<td>• Screw, hex, cap, M5 x 12</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>17</td>
<td>1001849</td>
<td>1001849</td>
<td>• Grease, Mobile, Synthetic, SHC 100, 12.5 oz.</td>
<td>AR</td>
<td></td>
</tr>
<tr>
<td>NS</td>
<td>247646</td>
<td>247646</td>
<td>• Card, injection medical alert</td>
<td>1</td>
<td></td>
</tr>
</tbody>
</table>

**NOTE**

A: Order Piston/Stem Kit 1102748.
B: Order Cartridge Kit 1099071
AR: As Required
NS: Not Shown
XD Standalone Dispense Valves

See Figure 10 and the following parts list.

Figure 10  XD Standalone Dispense Valve Parts

△ THIS PART IS SHIPPED LOOSE WITH THE DISPENSE VALVE.

△ APPLICATION SPECIFIC – NOT INCLUDED WITH THE ASSEMBLY.
<table>
<thead>
<tr>
<th>Item</th>
<th>Part</th>
<th>Part</th>
<th>Description</th>
<th>Quantity</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>—</td>
<td>1092956</td>
<td>Gun, Auto-Flo XD, standalone</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>—</td>
<td>1092957</td>
<td>Gun, Auto-Flo XD, standalone, with locator</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>982171</td>
<td>982171</td>
<td>• Screw, socket, M5 x 60</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>1086179</td>
<td>1086179</td>
<td>• Cap, air, piston, Auto-Flo, 1/8 NPT</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>237947</td>
<td>237947</td>
<td>• Spring, compression</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>982386</td>
<td>982386</td>
<td>• Screw, socket, M5 x 35</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>—</td>
<td>—</td>
<td>• Assembly, cartridge retainer</td>
<td>1</td>
<td>A</td>
</tr>
<tr>
<td>6</td>
<td>—</td>
<td>—</td>
<td>• Cartridge, grease/seal, scraper</td>
<td>1</td>
<td>B</td>
</tr>
<tr>
<td>7A</td>
<td>—</td>
<td>—</td>
<td>• Body, Auto–Flo, Standalone, 2 x SAE–6</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>7B</td>
<td>—</td>
<td>—</td>
<td>• Body, Auto–Flo, Standalone, 2 x SAE–6, locator</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>985244</td>
<td>985244</td>
<td>• Pin, dowel, hollow, 8 mm OD x 12 mm</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>973574</td>
<td>973574</td>
<td>• Plug, O-ring, straight thread, 9/16-18</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>152290</td>
<td>152290</td>
<td>• Nut, retaining</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>973411</td>
<td>973411</td>
<td>• Plug, pipe, socket, flush 1/4</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>973466</td>
<td>973466</td>
<td>• Plug, pipe, flush, 1/16 w/sealant</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>323872</td>
<td>323872</td>
<td>• Key, lock, swivel</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>983035</td>
<td>983035</td>
<td>• Washer, flat, M5</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>345464</td>
<td>345464</td>
<td>• Screw, hex, cap, M5 x 12</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>16</td>
<td>346163</td>
<td>346163</td>
<td>• Screw, button head, 1/4-28 x 0.25</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>17</td>
<td>346164</td>
<td>346164</td>
<td>• Sleeve, sealing, 1/4 screw</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>18</td>
<td>971521</td>
<td>971521</td>
<td>• Elbow, male,1/4 tube x 1/8 NPT</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>19</td>
<td>—</td>
<td>—</td>
<td>• Piston/Stem assembly</td>
<td>1</td>
<td>C</td>
</tr>
<tr>
<td>20</td>
<td>900464</td>
<td>900464</td>
<td>• Adhesive, Loctite 242, blue, removable, 50 m</td>
<td>AR</td>
<td></td>
</tr>
<tr>
<td>21</td>
<td>1001849</td>
<td>1001849</td>
<td>• Grease, Mobile, Synthetic, SHC 100, 12.5 oz.</td>
<td>AR</td>
<td></td>
</tr>
<tr>
<td>NS</td>
<td>247646</td>
<td>247646</td>
<td>• Card, injection medical alert</td>
<td>1</td>
<td></td>
</tr>
</tbody>
</table>

**NOTE**

A: Order Cartridge kit 1093685.

B: Order cartridge/seal kit 1088448.

C: Order Piston/Stem Kit 1088449.

AR: As Required

NS: Not Shown
**Manifold Mount Dispense Valves**

The following manifold mount dispense valves are available.

**Standard Manifold Mount Dispense Valves**

See Figure 11 and the following parts list.

![Diagram of Standard Manifold Mount Dispense Valve Parts]

△ THIS PART IS SHIPPED LOOSE WITH THE DISPENSE VALVE.

Figure 11  Standard Manifold Mount Dispense Valve Parts
<table>
<thead>
<tr>
<th>Item</th>
<th>Part</th>
<th>Part</th>
<th>Description</th>
<th>Quantity</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1089560</td>
<td></td>
<td>Gun, Auto-Flo, manifold</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1089561</td>
<td></td>
<td>Gun, Auto-Flo, manifold, with locator</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>982386</td>
<td>982386</td>
<td>Screw, socket, M5 x 35</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>900464</td>
<td>900464</td>
<td>Adhesive, Loctite 242, blue, removable, 50 m</td>
<td>AR</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>1086179</td>
<td>1086179</td>
<td>Cap, air, piston, Auto-Flo, 1/8 NPT</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>971521</td>
<td>971521</td>
<td>Elbow, male, 1/4 tube x 1/8 NPT</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>237947</td>
<td>237947</td>
<td>Spring, compression</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td></td>
<td></td>
<td>Piston/Stem assembly</td>
<td>1</td>
<td>A</td>
</tr>
<tr>
<td>7</td>
<td></td>
<td></td>
<td>Cartridge, grease/seal, UHMW</td>
<td>1</td>
<td>B</td>
</tr>
<tr>
<td>8A</td>
<td></td>
<td></td>
<td>Body, Auto-Flo, Standalone, 0.23 port x SAE-6</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>8B</td>
<td></td>
<td></td>
<td>Body, Auto-Flo, Standalone, 0.23 x SAE-6, locator</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>985244</td>
<td>985244</td>
<td>Pin, dowel, hollow, 8 mm OD x 12 mm</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>940101</td>
<td>940101</td>
<td>O-ring, Viton, 0.301 ID x 0.070</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>940111</td>
<td>940111</td>
<td>O-ring, Viton, 0.239 ID x 0.070, 10411SB</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>152290</td>
<td>152290</td>
<td>Nut, retaining</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>973574</td>
<td>973574</td>
<td>Plug, O-ring, straight thread, 9/16-18</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>982178</td>
<td>982178</td>
<td>Screw, socket, M5 x 50</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>973466</td>
<td>973466</td>
<td>Plug, pipe, flush, 1/16 w/sealant</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>16</td>
<td>1001849</td>
<td>1001849</td>
<td>Grease, Mobile, Synthetic, SHC 100, 12.5 oz.</td>
<td>AR</td>
<td></td>
</tr>
<tr>
<td>NS</td>
<td>247646</td>
<td>247646</td>
<td>Card, injection medical alert</td>
<td>1</td>
<td></td>
</tr>
</tbody>
</table>

**NOTE A**: Order Piston/Stem Kit 1102748.

**B**: Order Cartridge kit 1099071.

**AR**: As Required

**NS**: Not Shown
XD Manifold Mount Dispense Valves
See Figure 12 and the following parts list.

Figure 12  XD Manifold Dispense Valve Parts

△ THIS PART IS SHIPPED LOOSE WITH THE DISPENSE VALVE.
<table>
<thead>
<tr>
<th>Item</th>
<th>Part</th>
<th>Part</th>
<th>Description</th>
<th>Quantity</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>—</td>
<td>1092921</td>
<td></td>
<td>Gun, Auto-Flo XD, manifold</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>—</td>
<td>1093075</td>
<td></td>
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<td>1</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>982171</td>
<td>982171</td>
<td>• Screw, socket, M5 x 60</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>1086179</td>
<td>1086179</td>
<td>• Cap, air, piston, Auto-Flo, 1/8 NPT</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>237947</td>
<td>237947</td>
<td>• Spring, compression</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>982386</td>
<td>982386</td>
<td>• Screw, socket, M5 x 35</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>—</td>
<td>—</td>
<td>• Assembly, cartridge retainer</td>
<td>1</td>
<td>A</td>
</tr>
<tr>
<td>6</td>
<td>—</td>
<td>—</td>
<td>• Cartridge, grease/seal, scraper</td>
<td>1</td>
<td>B</td>
</tr>
<tr>
<td>7A</td>
<td>—</td>
<td>—</td>
<td>• Body, Auto-Flo, Standalone, 2 x SAE–6</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>7B</td>
<td>—</td>
<td>—</td>
<td>• Body, Auto-Flo, Standalone, 2 x SAE–6, locator</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>985244</td>
<td>985244</td>
<td>• Pin, dowel, hollow, 8 mm OD x 12 mm</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>940101</td>
<td>940101</td>
<td>• O-ring, Viton, 0.301 ID x 0.070</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>940111</td>
<td>940111</td>
<td>• O-ring, Viton, 0.239 ID x 0.070, 10411SB</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>346163</td>
<td>346163</td>
<td>• Screw, button head, 1/4-28 x 0.25</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>346164</td>
<td>346164</td>
<td>• Sleeve, sealing, 1/4 screw</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>152290</td>
<td>152290</td>
<td>• Nut, retaining</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>973574</td>
<td>973574</td>
<td>• Plug, O-ring, straight thread, 9/16-18</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>982178</td>
<td>982178</td>
<td>• Screw, socket, M5 x 50</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>16</td>
<td>973411</td>
<td>973411</td>
<td>• Plug, pipe, socket, flush 1/4</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>17</td>
<td>973466</td>
<td>973466</td>
<td>• Plug, pipe, flush, 1/16 w/sealant</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>18</td>
<td>971521</td>
<td>971521</td>
<td>• Elbow, male, 1/4 tube x 1/8 NPT</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>19</td>
<td>—</td>
<td>—</td>
<td>• Piston/Stem/ Cartridge assembly</td>
<td>1</td>
<td>C</td>
</tr>
<tr>
<td>20</td>
<td>900464</td>
<td>900464</td>
<td>• Adhesive, Loctite 242, blue, removable, 50 m</td>
<td>AR</td>
<td></td>
</tr>
<tr>
<td>21</td>
<td>1001849</td>
<td>1001849</td>
<td>• Grease, Mobile, Synthetic, SHC 100, 12.5 oz.</td>
<td>AR</td>
<td></td>
</tr>
<tr>
<td>NS</td>
<td>247646</td>
<td>247646</td>
<td>• Card, injection medical alert</td>
<td>1</td>
<td></td>
</tr>
</tbody>
</table>

**NOTE**

A: Order Cartridge Kit 1093685.

B: Order Cartridge/Seal Kit 1088448.

C: Order Piston/Stem Kit 1088449.

AR: As Required

NS: Not Shown
Notes: