

Air Control Solenoid Valve for Fluid Defender™

3A7280A

EN

For regulating air powered equipment connected to the Fluid Defender. For professional use only.

Not approved for use in explosive atmospheres or hazardous (classified) locations.

Models:

25V482 - Kit, Solenoid, Air, Pump

145 psi (1.0 MPa, 10 bar) Maximum Working Pressure



Important Safety Instructions

Read all warnings and instructions in this manual before using the equipment.
Save these instructions.

Related Manuals

Manual in English	Description
130641	Pulse® Fluid Management, Register Your Devices quick guide
3A9335	Fluid Defender
3A7279	Fluid Defender Level Sensor








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Warnings

The following warnings are for the setup, use, grounding, maintenance, and repair of this equipment. The exclamation point symbol alerts you to a general warning and the hazard symbols refer to procedure-specific risks. When these symbols appear in the body of this manual or on warning labels, refer back to these Warnings. Product-specific hazard symbols and warnings not covered in this section may appear throughout the body of this manual where applicable.

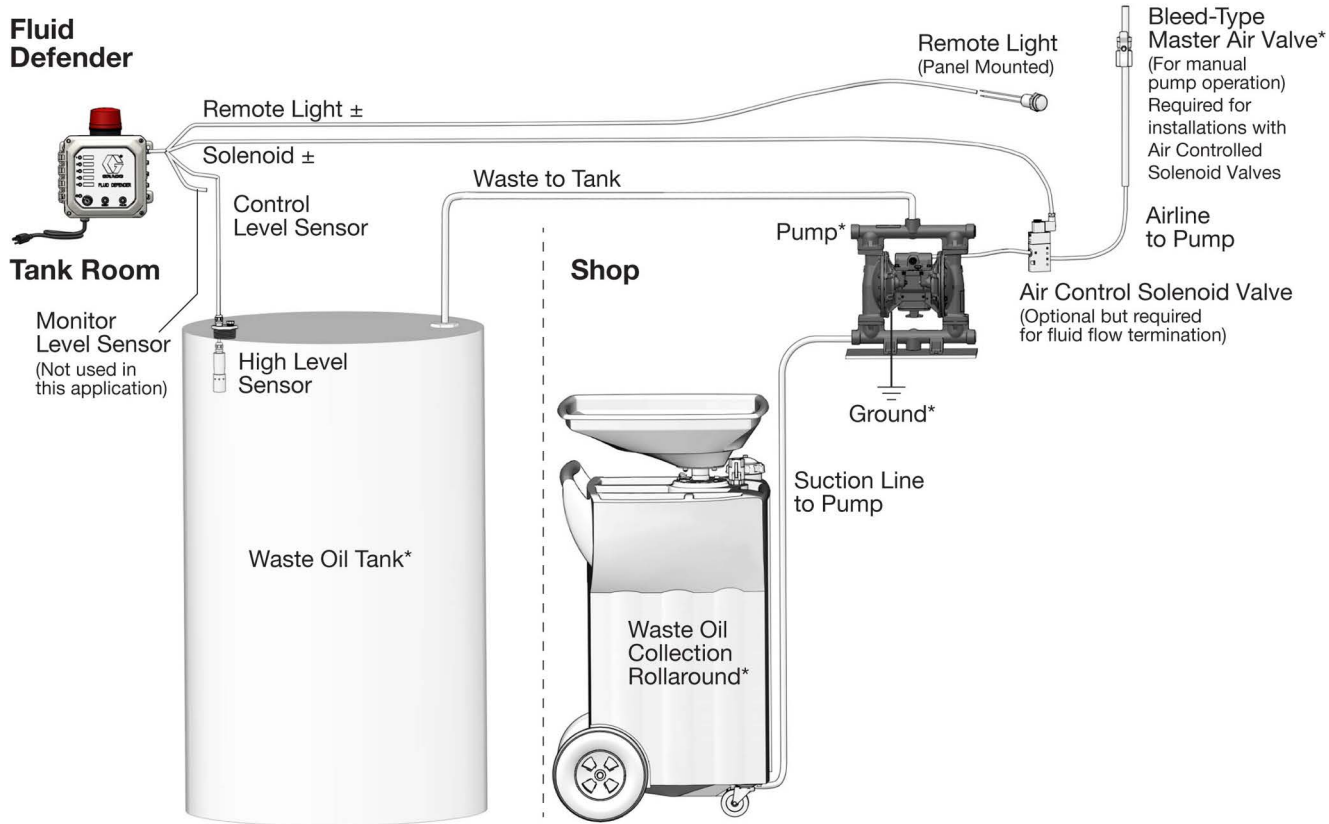
WARNING

 	<p>FIRE AND EXPLOSION HAZARD</p> <p>When flammable fluids are present in the work area, such as gasoline and windshield wiper fluid, be aware that flammable fumes can ignite or explode. To help prevent fire and explosion:</p> <ul style="list-style-type: none"> • Use equipment only in well-ventilated area. • Eliminate all ignition sources, such as cigarettes and portable electric lamps. • Ground all equipment in the work area. • Keep work area free of debris, including rags and spilled or open containers of solvent and gasoline. • Do not plug or unplug power cords or turn lights on or off when flammable fumes are present. • Use only grounded hoses. • Stop operation immediately if static sparking occurs or you feel a shock. Do not use equipment until you identify and correct the problem. • Keep a working fire extinguisher in the work area.
 	<p>EQUIPMENT MISUSE HAZARD</p> <p>Misuse can cause death or serious injury.</p> <ul style="list-style-type: none"> • Do not operate the unit when fatigued or under the influence of drugs or alcohol. • Do not exceed the maximum working pressure or temperature rating of the lowest rated system component. See Technical Specifications in all equipment manuals. • Use fluids and solvents that are compatible with equipment wetted parts. See Technical Specifications in all equipment manuals. Read fluid and solvent manufacturer's warnings. For complete information about your material, request Safety Data Sheets (SDSs) from distributor or retailer. • Turn off all equipment and follow the Pressure Relief Procedure when equipment is not in use. • Check equipment daily. Repair or replace worn or damaged parts immediately with genuine manufacturer's replacement parts only. • Do not alter or modify equipment. Alterations or modifications may void agency approvals and create safety hazards. • Make sure all equipment is rated and approved for the environment in which you are using it. • Use equipment only for its intended purpose. Call your distributor for information. • Route hoses and cables away from traffic areas, sharp edges, moving parts, and hot surfaces. • Do not kink or over bend hoses or use hoses to pull equipment. • Keep children and animals away from work area. • Comply with all applicable safety regulations.
	<p>PERSONAL PROTECTIVE EQUIPMENT</p> <p>Wear appropriate protective equipment when in the work area to help prevent serious injury, including eye injury, hearing loss, inhalation of toxic fumes, and burns. Protective equipment includes but is not limited to:</p> <ul style="list-style-type: none"> • Protective eyewear, and hearing protection. • Respirators, protective clothing, and gloves as recommended by the fluid and solvent manufacturer.

Typical Installation

There are multiple system configurations possible. The typical installations shown in FIG. 1 - FIG. 3 are the three targeted applications for the Fluid Defender. Each typical installation shown is configurable as a single separate channel. Follow all local codes and regulations for tank installations. Consult your local Graco representative or distributor for system design assistance.

Waste Oil High Level Shut Off

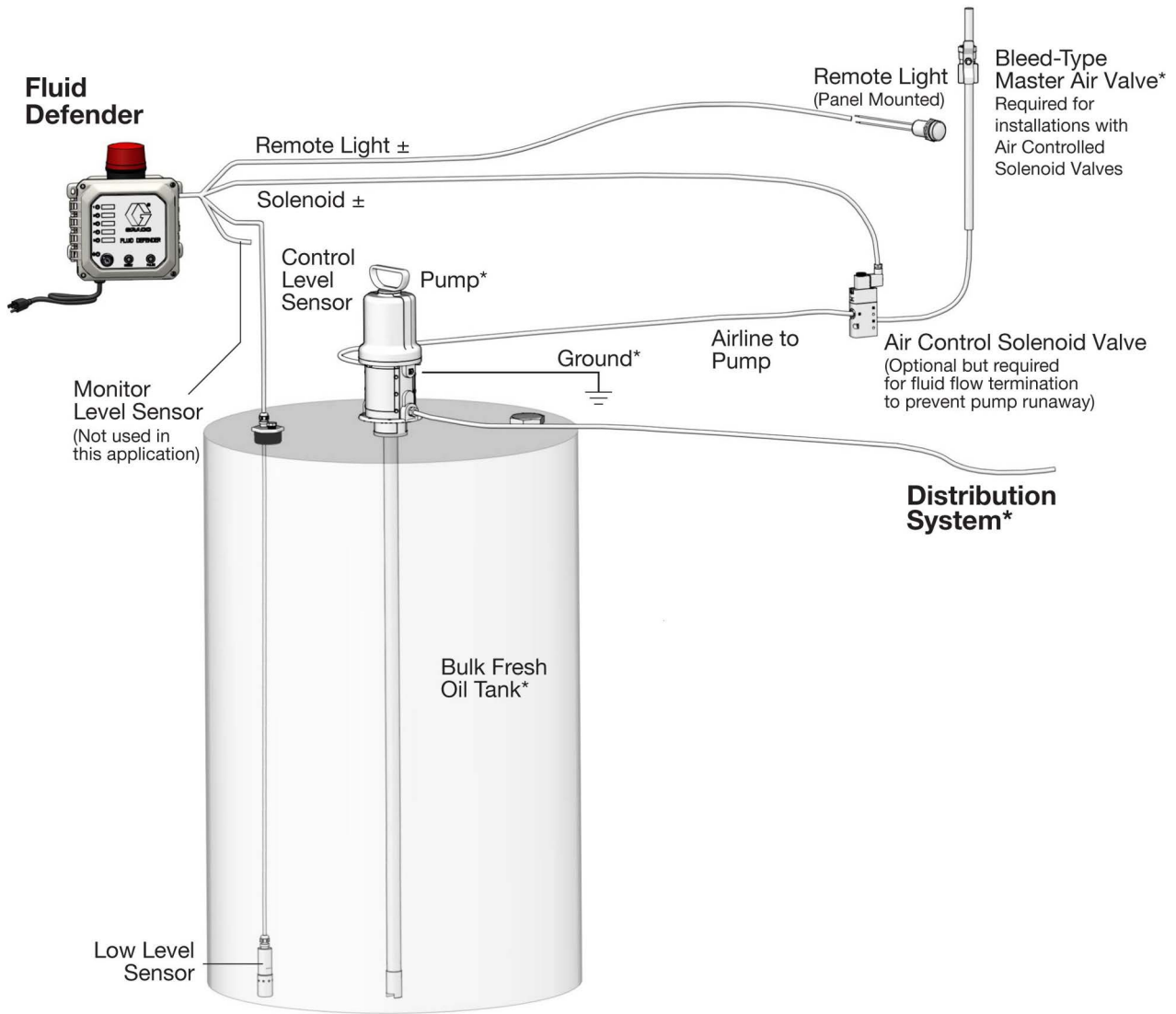


*User supplied

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FIG. 1

Fresh Oil Low Level

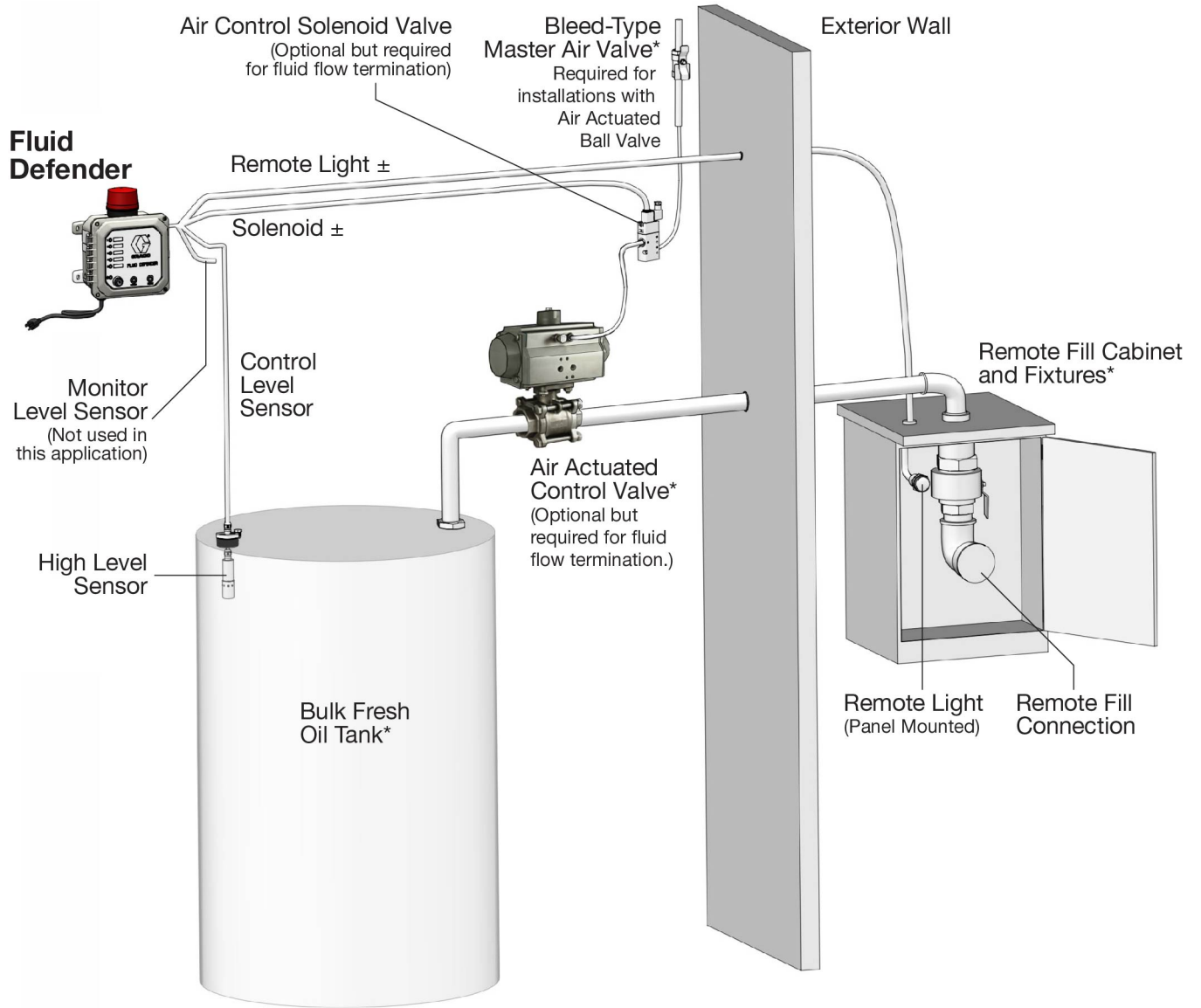


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FIG. 2

Remote Bulk Fill Stop



*User supplied

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FIG. 3

Overview

Air Control Solenoid Valves

Air control solenoid valves are a Fluid Defender system component used to control air operated pumps and air actuated control valves. These devices are used to stop fluid flow into the monitored tank. They are an optional system component, but required for fluid flow interruption.

The air control solenoid valves are continuously powered during normal operation with the air control solenoid valve being open to provide air pressure to the controlled equipment.

When the Fluid Defender detects an alarm condition in the same channel as the air control solenoid valve, the solenoid is deactivated causing the connected equipment to deactivate.

The Fluid Defender must be powered for the air control solenoid valve to be open, allowing for normal controlled equipment operation. Loss of power to the Fluid Defender closes the air control solenoid valve and bleeds downstream air pressure from the controlled equipment.

Installation

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COMPONENT RUPTURE HAZARD

The air actuated control valve, and all of the fill piping and connections between the air actuated control valve and the fluid delivery pump, must be designed for use with pumped delivery, and be able to handle the maximum pressure produced when the pump continues to operate after the air actuated control valve closes.

The maximum working pressure of the components in the fill piping may vary. Over pressurization of any component may cause them to rupture, resulting in property damage and serious injury, such as skin injection, or injury from splashing fluid.

To reduce the risk of injury and property damage from component rupture:

- Be sure to know the maximum working pressure of each component in the system
- Never exceed the maximum working pressure of any component in the system
- Only connect fluid delivery pumps which are able to be operated with a closed outlet
- Only connect fluid delivery pumps with a maximum outlet pressure lower than the maximum rated pressure of the system

2. Turn the Fluid Defender keyed power control off to de-energize the connected air control solenoid valves.
3. Follow the pressure relief procedure for all connected equipment, such as pumps and dispense valves from your component instruction manuals.

Installation of Air Control Solenoid Valves

1. Mount the air control solenoid valve, using the two mounting holes, to a sturdy mounting surface.

NOTE: Mounting inline with hard plumbing is acceptable.

2. Connect Port 1 to the air supply (FIG. 4).
3. Connect Port 2 to the downstream controlled equipment. (FIG. 4).

Install the user supplied connected equipment downstream of the air control solenoid valve following manufacturer requirements.

4. Install the muffler into Port 3. Port 3 is an exhaust port. Do not plug the port because when the air control solenoid valve deactivates under alarm conditions, the downstream air pressure vents through Port 3 (FIG. 4).

Pressure Relief Procedure

The equipment connected to the air control solenoid valves may stay pressurized until pressure is relieved. To help prevent serious injury from pressurized fluid, such as skin injection, splashing fluid, and moving parts, follow the Pressure Relief Procedure for the connected equipment when you stop dispensing and before cleaning, checking, or servicing the equipment.

1. Turn off the bleed-type master air valve located upstream of all connected equipment.

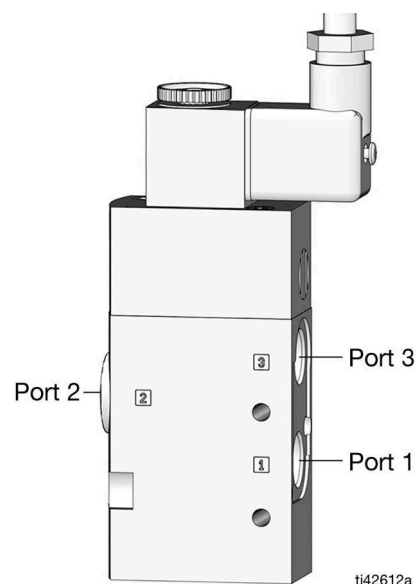


FIG. 4

Installation

5. Attach all accessory wires to the Fluid Defender control box following all local codes and regulations.

Reference the **Technical Specifications**, page 13, for information on maximum wire runs.

All accessory circuits are low voltage (less than 48 VDC).

Operation

Air control solenoid valves are operated automatically by the Fluid Defender on a channel specific basis. The air control solenoid valve is energized when the Fluid Defender is in active monitoring mode. When the Fluid Defender senses an alarm condition in a specific channel, the air control solenoid is de-energized and closes the air supply to the connected equipment.

Air Control Solenoid Valve Manual Override

Only use manual override for system setup, or when instructed by Graco for troubleshooting. Always set the mode of operation back to the normal operating position.

NOTE:

Ensure that all air control solenoid valves are not in the override mode. Air control solenoid valves in override mode are unable to control downstream equipment.

Develop on-site tank fill procedures to prevent accidental overfills.

Test the alarms before any remote bulk fill is performed.

Determine and verify that there is sufficient volume available in the tank before transfer. Verify capacity before filling any tank.

Test the complete installed system to verify correct installation.

Follow maintenance requirements and perform periodic system maintenance.

The blue manual override switch turns on the air to the downstream connected equipment and allows the equipment to function for troubleshooting and testing purposes only.

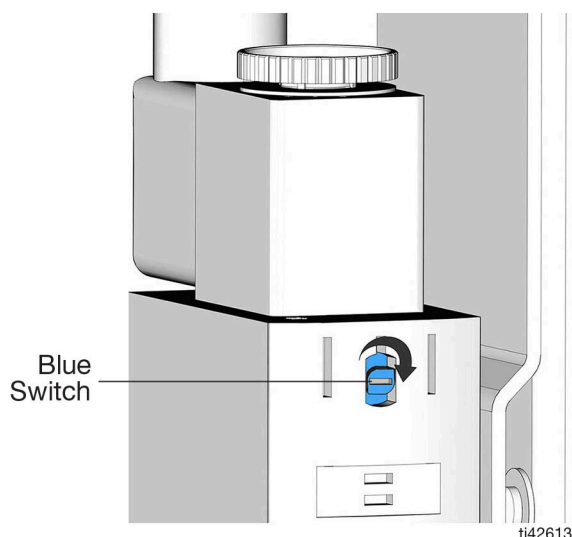
To set the blue manual override switch:

1. Insert a small, flat screwdriver into the slot of the blue manual override switch screw (FIG. 5).
2. Rotate the blue manual override switch screw clockwise 1/4 turn.

NOTICE

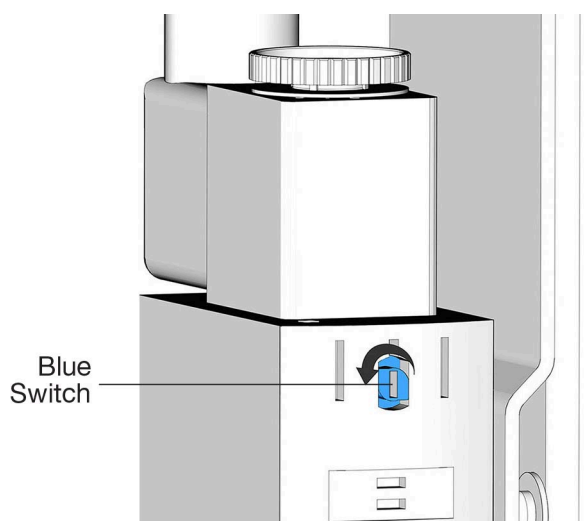
Do not turn the blue manual override switch screw more than a 1/4 turn. Overturning the screw could cause it to break, rendering the unit inoperable.

3. After performing system testing or troubleshooting, reset the blue manual override switch screw to the normal operation position. Insert a small, flat screwdriver in the slotted opening and turn the blue manual override switch screw counterclockwise back to the original position (FIG. 6).



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FIG. 5: Override Position



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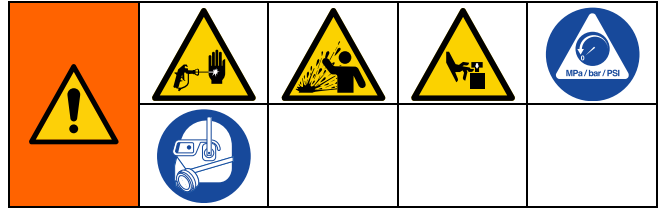
FIG. 6: Normal Operation Position

Recycling and Disposal

End of Product Life

At the end of a product's useful life, recycle it in a responsible manner.

Troubleshooting



Follow the pressure relief instructions in your pump manual, before checking or repairing the system.

See Fluid Defender manual, **Related Manuals**, page 1 for Troubleshooting information.

Kit

Part No. 25V482

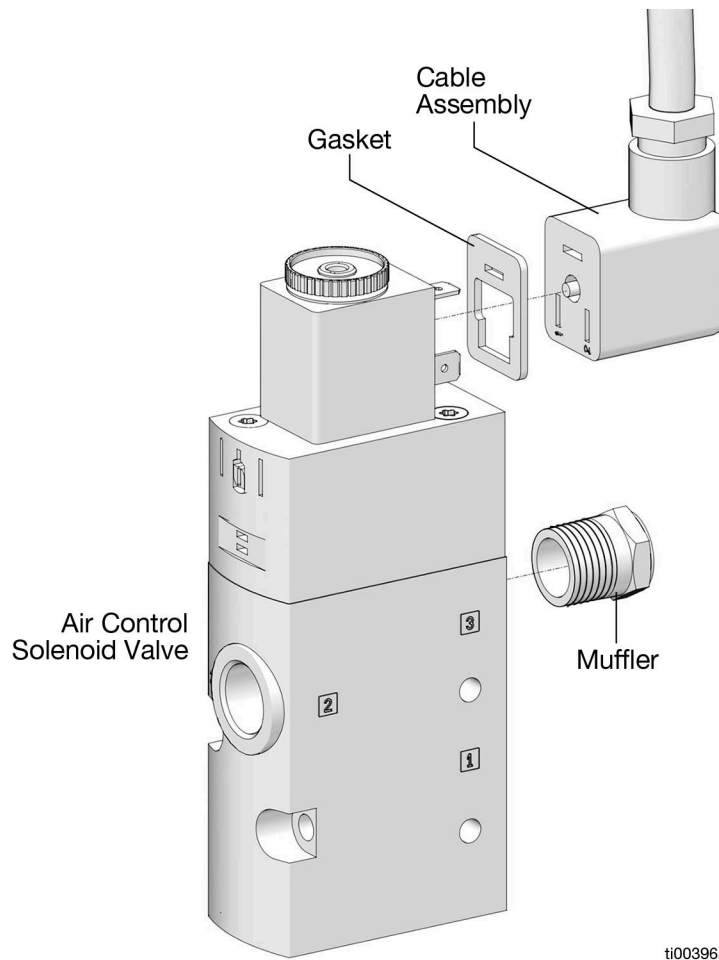


FIG. 7

Part No. 24Z670

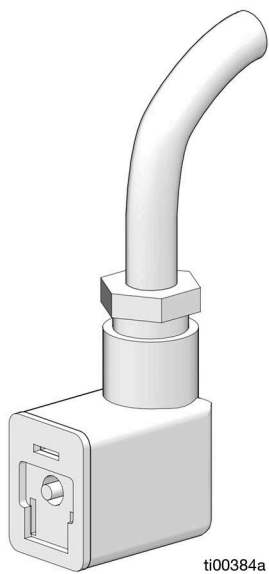


FIG. 8

Dimensions

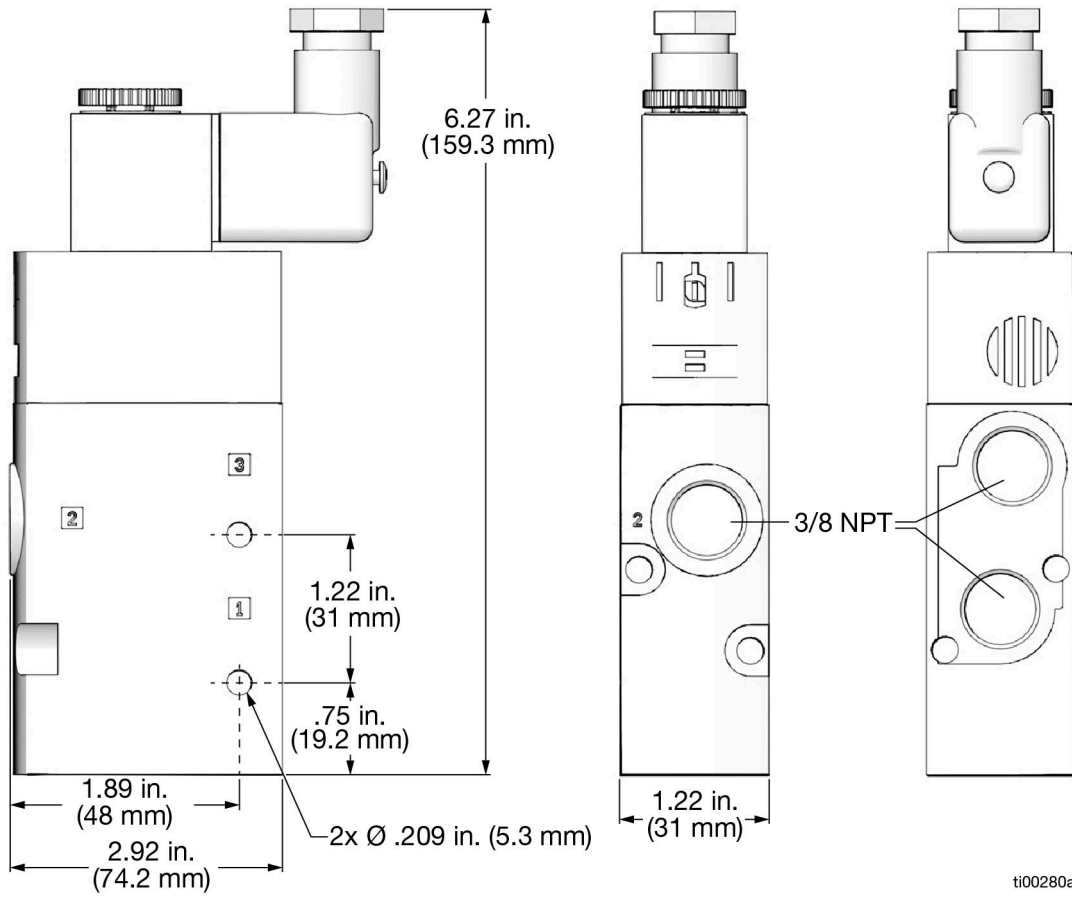


FIG. 9

Technical Specifications

Air Control Solenoid Valve for Fluid Defender		
	US	Metric
Minimum Operating Pressure	36 psi	250 kPa, 2.5 bar
Maximum Operating Pressure	145 psi	1.0 MPa, 10 bar
Maximum Air Flow	93 scfm	2.6 m ³ /min.
Operating Power	3.3 W	
Voltage	24 VDC	
Current	0.14 A	
Termination Style	Wire leads	
Maximum Line Length (16 gauge) to Fluid Defender	1000 ft	304.8 m
Maximum Line Length (18 gauge) to Fluid Defender	600 ft	182.9 m
Maximum Line Length (20 gauge) to Fluid Defender	425 ft.	129.5 m
Maximum Line Length (22 gauge) to Fluid Defender	270 ft.	82.3 m
Maximum Line Length (24 gauge) to Fluid Defender	170 ft.	51.8 m
Port Size	3/8 npt	
Air Inlet	Port 1	
Air Outlet to Controlled Equipment	Port 2	
Exhaust	Port 3	
Temperature Range	14°F to 122°F	-10°C to 50°C
Storage Temperature Range	-40°F to 185°F	-40°C to 85°C
Ingress Protection	IP65	
Valve Schematic		

California Proposition 65

CALIFORNIA RESIDENTS

⚠ WARNING: Cancer and reproductive harm – www.P65warnings.ca.gov.

Graco Standard Warranty

Graco warrants all equipment referenced in this document which is manufactured by Graco and bearing its name to be free from defects in material and workmanship on the date of sale to the original purchaser for use. With the exception of any special, extended, or limited warranty published by Graco, Graco will, for a period of twelve months from the date of sale, repair or replace any part of the equipment determined by Graco to be defective. This warranty applies only when the equipment is installed, operated and maintained in accordance with Graco's written recommendations.

This warranty does not cover, and Graco shall not be liable for general wear and tear, or any malfunction, damage or wear caused by faulty installation, misapplication, abrasion, corrosion, inadequate or improper maintenance, negligence, accident, tampering, or substitution of non-Graco component parts. Nor shall Graco be liable for malfunction, damage or wear caused by the incompatibility of Graco equipment with structures, accessories, equipment or materials not supplied by Graco, or the improper design, manufacture, installation, operation or maintenance of structures, accessories, equipment or materials not supplied by Graco.

This warranty is conditioned upon the prepaid return of the equipment claimed to be defective to an authorized Graco distributor for verification of the claimed defect. If the claimed defect is verified, Graco will repair or replace free of charge any defective parts. The equipment will be returned to the original purchaser transportation prepaid. If inspection of the equipment does not disclose any defect in material or workmanship, repairs will be made at a reasonable charge, which charges may include the costs of parts, labor, and transportation.

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Graco's sole obligation and buyer's sole remedy for any breach of warranty shall be as set forth above. The buyer agrees that no other remedy (including, but not limited to, incidental or consequential damages for lost profits, lost sales, injury to person or property, or any other incidental or consequential loss) shall be available. Any action for breach of warranty must be brought within two (2) years of the date of sale.

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In no event will Graco be liable for indirect, incidental, special or consequential damages resulting from Graco supplying equipment hereunder, or the furnishing, performance, or use of any products or other goods sold hereto, whether due to a breach of contract, breach of warranty, the negligence of Graco, or otherwise.

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For the latest information about Graco products, visit www.graco.com.

For patent information, see www.graco.com/patents.

TO PLACE AN ORDER, contact your Graco distributor or call to identify the nearest distributor.

Phone: 612-623-6928 **or Toll Free:** 1-800-533-9655, **Fax:** 612-378-3590

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Original instructions. This manual contains English. MM 3A7280

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