

Voltex™ Dynamic Mix Valve and Controllers

3A8115P

EN

Dispense valve for controlling material flow and dynamically mixing 2 component adhesives, sealants and other materials that are compatible with the wetted parts of the valve. For professional use only.

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

See page 4 for models and controllers information

1,000 psi (6.9 MPa, 69 bar) Maximum Dynamic Working Pressure.

3,000 psi (20.7 MPa, 207 bar) Maximum Static Fluid Pressure.

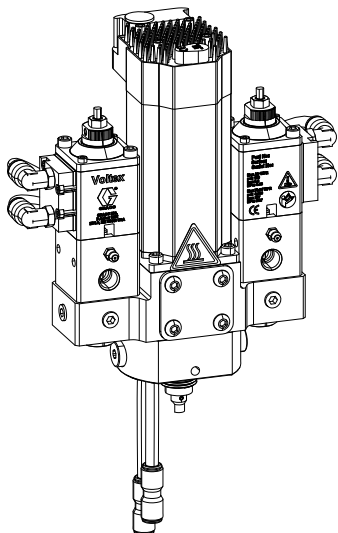
120 psi (0.8 MPa, 8.3 bar) Maximum Air Pressure.

4,400 rpm Maximum Motor Speed.

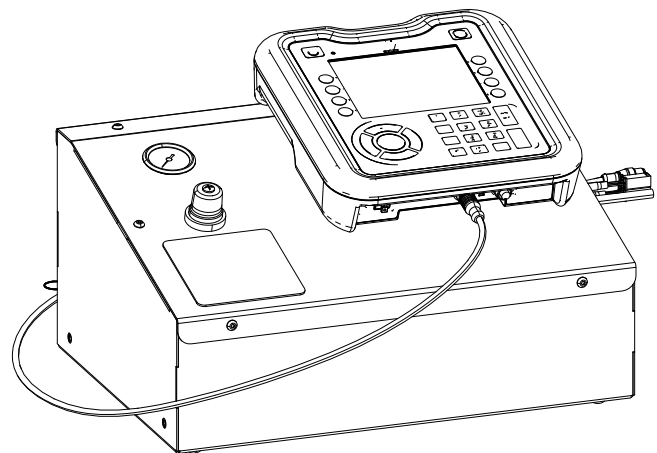


Important Safety Instructions

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



**Voltex Dynamic Mix Valve
Model No. 25T670**



**Controllers
Model No. 25T671 Shown**



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Related Manuals

Manual in English	Description
333585	iQ Dispense Valve Instructions and Parts Manual
3A6165	EFR™ Instructions
313997	HFR™ Setup - Operation
3A2175	HFRL and HFRS Setup - Operation
3A6321	ADM Token In-System Programming Instructions Manual
334984	PR70 Flow Controls
3A8565	EVR - Instruction

Models

Voltex Dynamic Mix Valve

The Voltex Dynamic Mix Valve is rated at 1,000 psi (69 bar, 6.9 MPa) maximum dynamic working pressure. This valve is supplied by a 2K metering system such as Graco HFR, EFR, EVR, PR70, etc, which can develop pressures of 3,000 psi (207 bar, 20.7 MPa). The fluid components of the Voltex Dynamic Mix Valve are rated to 3,000 psi (207 bar, 20.7 MPa) in case the metering system does not limit the incoming pressure to less than 1,000 psi (69 bar, 6.9 MPa). If the metering system does exceed 1,000 psi (69 bar, 6.9 MPa) maximum dynamic operating pressure, the individual Voltex fluid valves will still operate normally. Pressures above 1,000 psi (69 bar, 6.9 MPa) may cause the disposable mixer elements to break and plug the outlet or cause inconsistent mixing to occur.

Part	Maximum Dynamic Working Pressure psi (MPa, bar)	Description
25T670	1,000 (6.9, 70)	Voltex Dynamic Mix Valve
25T750	1,000 (6.9, 70)	Voltex Dynamic Mix Valve, Integrated
25U361	1,000 (6.9, 70)	Kit, Voltex, Valve, Recirculation (controller not included)

Controllers

Part	Maximum Air Pressure psi (MPa, bar)	Description
25T671	120 (0.8, 8.3)	Controller, Tabletop, Voltex Dynamic Mix Valve with ADM (includes 3m cables to Voltex Dynamic Mix Valve).
25T672	120 (0.8, 8.3)	Controller, Tabletop, Voltex Dynamic Mix Valve without ADM (includes 3m cables to Voltex Dynamic Mix Valve). *
25T673	120 (0.8, 8.3)	Controller, Wall mount, Voltex Dynamic Mix Valve with ADM (includes 3m cables to Voltex Dynamic Mix Valve).
25T674	120 (0.8, 8.3)	Controller, Wall mount, Voltex Dynamic Mix Valve without ADM (includes 3m cables to Voltex Dynamic Mix Valve). *

* Controllers without ADM's are controlled by the integrated metering device, such as the Graco EFR and HFR. See related manuals for proper operation.

EFR and HFR Systems








Part	Maximum Dynamic Working Pressure psi (MPa, bar)	Maximum Air Pressure psi (MPa, bar)	Description
25U256	1000 (6.9, 70)	120 (0.8, 8.3)	System, Voltex, No ADM, Table Top, EFR
25U257	1000 (6.9, 70)	120 (0.8, 8.3)	System, Voltex, No ADM, Table Top, EFR, Recirc/Base Purge
25U258	1000 (6.9, 70)	120 (0.8, 8.3)	System, Voltex, No ADM, Wall Mount, EFR
25U259	1000 (6.9, 70)	120 (0.8, 8.3)	System, Voltex, No ADM, Wall Mount, EFR, Recirc/Base Purge
25U260	1000 (6.9, 70)	120 (0.8, 8.3)	System, Voltex, No ADM, Table Top, HFR
25U261	1000 (6.9, 70)	120 (0.8, 8.3)	System, Voltex, No ADM, Table Top, HFR, Recirc/Base Purge
25U262	1000 (6.9, 70)	120 (0.8, 8.3)	System, Voltex, No ADM, Wall Mount, HFR
25U263	1000 (6.9, 70)	120 (0.8, 8.3)	System, Voltex, No ADM, Wall Mount, HFR, Recirc/Base Purge

EVR Systems

Part	Maximum Dynamic Working Pressure psi (MPa, bar)	Maximum Air Pressure psi (MPa, bar)	Description
25F335	1000 (6.9, 70)	120 (0.8, 8.3)	System, Voltex, No ADM, EVR, Table Top
25F336	1000 (6.9, 70)	120 (0.8, 8.3)	System, Voltex, No ADM, EVR, Table Top, Recirc with Inlet Transducer and CGM
25F337	1000 (6.9, 70)	120 (0.8, 8.3)	System, Voltex, No ADM, EVR, Table Top, Recirc with No Inlet Transducer or CGM
25F338	1000 (6.9, 70)	120 (0.8, 8.3)	System, Voltex, No ADM, EVR, Table Top, Recirc with No Inlet transducer, but with CGM
25F339	1000 (6.9, 70)	120 (0.8, 8.3)	System, Voltex, No ADM, EVR, Wall Mount
25F340	1000 (6.9, 70)	120 (0.8, 8.3)	System, Voltex, No ADM, EVR, Wall mount, Recirc with Inlet Transducer and CGM
25F341	1000 (6.9, 70)	120 (0.8, 8.3)	System, Voltex, No ADM, EVR, Wall Mount, with No Inlet Transducer or CGM
25F342	1000 (6.9, 70)	120 (0.8, 8.3)	System, Voltex, No ADM, EVR, Wall Mount, Recirc with No Inlet Transducer, but with CGM

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.

 <h1 style="margin: 0;">WARNING</h1>	
    	<p>SKIN INJECTION HAZARD</p> <p>High-pressure fluid from dispensing device, hose leaks, or ruptured components will pierce skin. This may look like just a cut, but it is a serious injury that can result in amputation. Get immediate surgical treatment.</p> <ul style="list-style-type: none"> • Do not point dispensing device at anyone or at any part of the body. • Do not put your hand over the fluid outlet. • Do not stop or deflect leaks with your hand, body, glove, or rag. • Follow the Pressure Relief Procedure when you stop dispensing and before cleaning, checking, or servicing equipment. • Tighten all fluid connections before operating the equipment. • Check hoses and couplings daily. Replace worn or damaged parts immediately.
	<p>BURN HAZARD</p> <p>Equipment surfaces and fluid that is heated can become very hot during operation. To avoid severe burns:</p> <ul style="list-style-type: none"> • Do not touch hot fluid or equipment.

! WARNING



FIRE AND EXPLOSION HAZARD

Flammable fumes, such as solvent and paint fumes, in **work area** can ignite or explode. Paint or solvent flowing through the equipment can cause static sparking. To help prevent fire and explosion:



- Use equipment only in well-ventilated area.
- Eliminate all ignition sources; such as pilot lights, cigarettes, portable electric lamps, and plastic drop cloths (potential static sparking).
- Ground all equipment in the work area. See **Grounding** instructions.
- Never spray or flush solvent at high pressure.
- Keep work area free of debris, including solvent, rags and gasoline.
- Do not plug or unplug power cords, or turn power or light switches on or off when flammable fumes are present.
- Use only grounded hoses.
- Hold gun firmly to side of grounded pail when triggering into pail. Do not use pail liners unless they are anti-static or conductive.
- **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.



EQUIPMENT MISUSE HAZARD

Misuse can cause death or serious injury.



- 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.







PRESSURIZED ALUMINUM PARTS HAZARD

Use of fluids that are incompatible with aluminum in pressurized equipment can cause serious chemical reaction and equipment rupture. Failure to follow this warning can result in death, serious injury, or property damage.

- Do not use 1,1,1-trichloroethane, methylene chloride, other halogenated hydrocarbon solvents or fluids containing such solvents.
- Do not use chlorine bleach.
- Many other fluids may contain chemicals that can react with aluminum. Contact your material supplier for compatibility.

WARNING

	<p>TOXIC FLUID OR FUMES HAZARD</p> <p>Toxic fluids or fumes can cause serious injury or death if splashed in the eyes or on skin, inhaled, or swallowed.</p> <ul style="list-style-type: none"> • Read Safety Data Sheets (SDSs) to know the specific hazards of the fluids you are using, including the effects of long term exposure • When dispensing, servicing equipment, or when in the work area, always keep work area well-ventilated and always wear appropriate personal protective equipment. See Personal Protective Equipment warnings in this manual. • Store hazardous fluid in approved containers, and dispose of it according to applicable guidelines.
	<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.
 	<p>ELECTRIC SHOCK HAZARD</p> <p>This equipment must be grounded. Improper grounding, setup, or usage of the system can cause electric shock.</p> <ul style="list-style-type: none"> • Turn off and disconnect power cord before servicing equipment. • Connect only to grounded power source. • Use only 3-wire extension cords • Do not expose to rain. Store indoors.

Important Isocyanate (ISO) Information

Isocyanates (ISO) are catalysts used in two component materials.



Spraying or dispensing fluids that contain isocyanates creates potentially harmful mists, vapors, and atomized particulates.

- Read and understand the fluid manufacturer's warnings and Safety Data Sheets (SDSs) to know specific hazards and precautions related to isocyanates.
- Use of isocyanates involves potentially hazardous procedures. Do not spray with this equipment unless you are trained, qualified, and have read and understood the information in this manual and in the fluid manufacturer's application instructions and SDSs.
- Use of incorrectly maintained or mis-adjusted equipment may result in improperly cured material. Equipment must be carefully maintained and adjusted according to instructions in the manual.
- To prevent inhalation of isocyanate mists, vapors, and atomized particulates, everyone in the work area must wear appropriate respiratory protection. Always wear a properly fitting respirator, which may include a supplied-air respirator. Ventilate the work area according to instructions in the fluid manufacturer's SDSs.
- Avoid all skin contact with isocyanates. Everyone in the work area must wear chemically impermeable gloves, protective clothing and foot coverings as recommended by the fluid manufacturer and local regulatory authority. Follow all fluid manufacturer recommendations, including those regarding handling of contaminated clothing. After spraying, wash hands and face before eating or drinking.

Keep Components A and B Separate



Cross-contamination can result in cured material in fluid lines which could cause serious injury or damage equipment. To prevent cross-contamination:

- Never interchange component A and component B wetted parts.
- Never use solvent on one side if it has been contaminated from the other side.

Moisture Sensitivity of Isocyanates

Exposure to moisture (such as humidity) will cause ISO to partially cure, forming small, hard, abrasive crystal that become suspended in the fluid. Eventually a film will form on the surface and the ISO will begin to gel, increasing in viscosity.

NOTICE

Partially cured ISO will reduce performance and the life of all wetted parts.

- Always use a sealed container with a desiccant dryer in the vent, or a nitrogen atmosphere. **Never** store ISO in an open container.
- Keep the ISO pump wet cup or reservoir (if installed) filled with appropriate lubricant. The lubricant creates a barrier between the ISO and the atmosphere.
- Use only moisture-proof hoses compatible with ISO.
- Never use reclaimed solvents, which may contain moisture. Always keep solvent containers closed when not in use.
- Always lubricate threaded parts with an appropriate lubricant when reassembling.

NOTE: The amount of film formation and rate of crystallization varies depending on the blend of ISO, the humidity, and the temperature.

Changing Materials

NOTICE

Changing the material types used in your equipment requires special attention to avoid equipment damage and downtime.

- When changing materials, flush the equipment multiple times to ensure it is thoroughly clean.
- Always clean the fluid inlet strainers after flushing.
- Check with your material manufacturer for chemical compatibility.
- When changing between epoxies and urethanes or polyureas, disassemble and clean all fluid components and change hoses. Epoxies often have amines on the B (hardener) side. Polyureas often have amines on the B (resin) side.

A and B Components

NOTE: Material suppliers can vary in how they refer to plural component materials.

Be aware that when standing in front of the manifold on proportioner:

- Component A is on the left side.
- Component B is on the right side.

NOTE: For machines with material volume ratios other than 1:1, the higher volume side is typically at the A (Red) side.

Component Identification

Voltex Dynamic Mix Valve

25T670

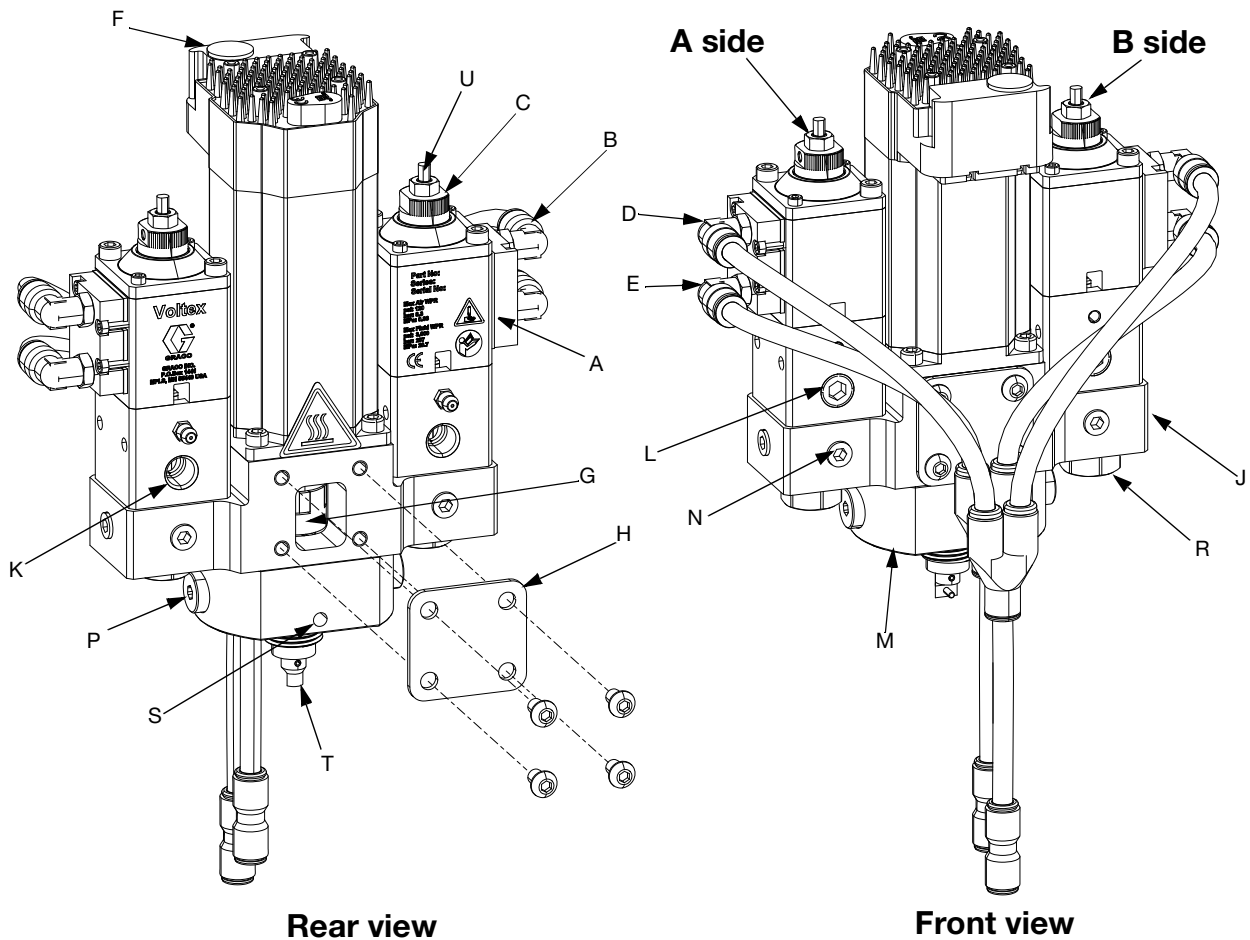


FIG. 1: Voltex Dynamic Mix Valve

Key:

- A Air Section (2x)
- B Air Fittings, 1/8 in. NPT male x 5/16 in. tube (4x)
- C Adjustment Nut (2x)
- D Open Air Fitting (2x)
- E Close Air Fitting (2x)
- F Motor
- G Motor Coupler
- H Motor Coupler Guard (2x)
- J Fluid Housing
- K 1/4 in. NPT Material Inlet Port (2x)
- L Additional 1/4 in. NPT Material Inlet Port (2x)
- M Housing, Check Valve and Orifice

- N Gauge Port/Auxiliary Port (6x)
- P Orifice / Check Valve Cartridge (2x)
- R Valve Seat Holder (2x)
- S Weep Port (2x)
- T Mixer Adapter
- U Lock Nut (2x)

NOTE: Do not block weep hole. Do not place grease in weep hole. Both will increase the chances of leaking.

25T750

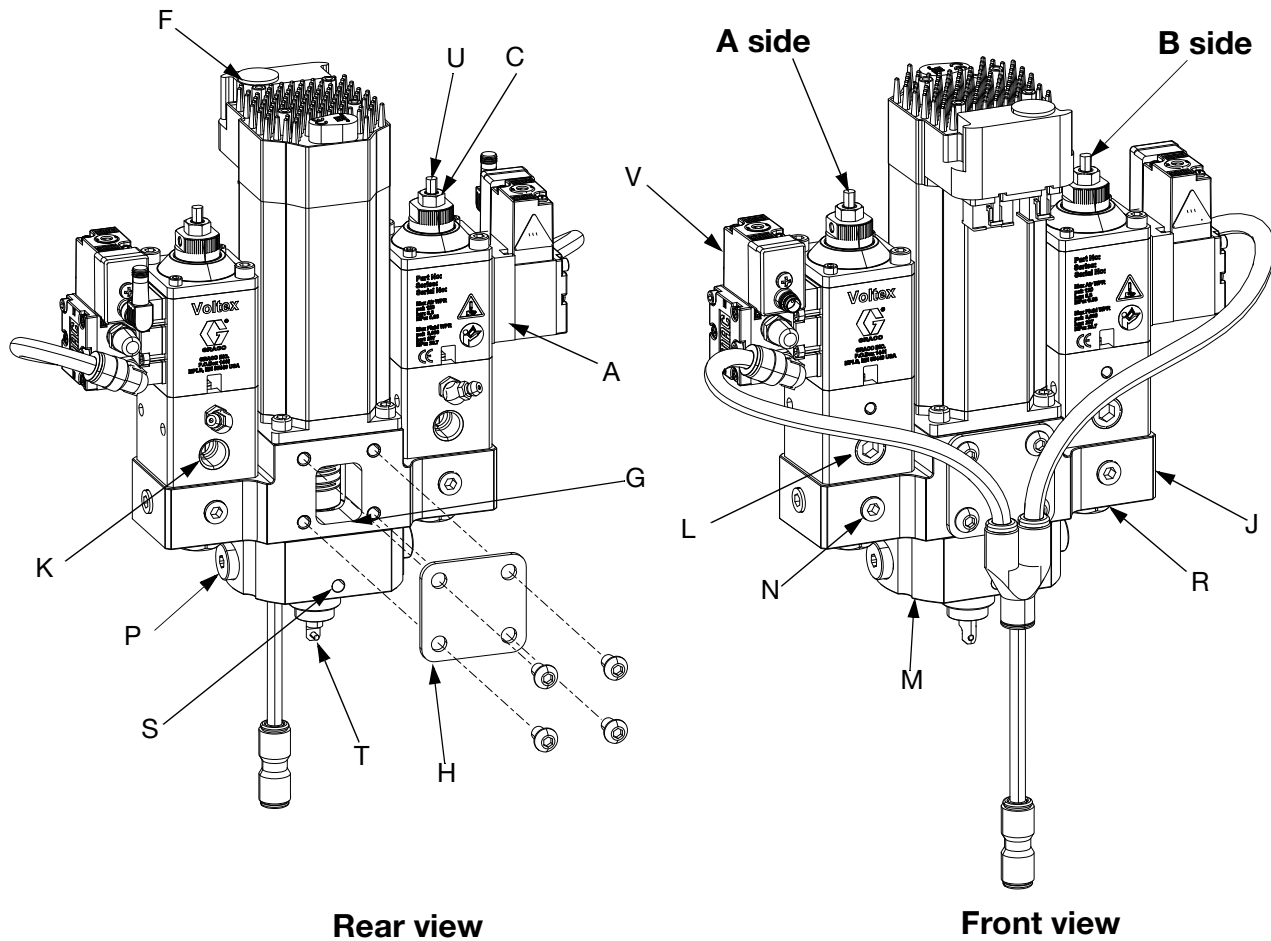


FIG. 2: Voltex Dynamic Mix Valve

Key:

- A Air Section (2x)
- C Adjustment Nut (2x)
- F Motor
- G Motor Coupler
- H Motor Coupler Guard (2x)
- J Fluid Housing
- K 1/4 in. NPT Material Inlet Port (2x)
- L Additional 1/4 in. NPT Material Inlet Port (2x)
- M Housing, Check Valve and Orifice
- N Gauge Port/Auxiliary Port (6x)
- P Orifice / Check Valve Cartridge (2x)
- R Valve Seat Holder (2x)
- S Weep Port (2x)
- T Mixer Adapter
- U Lock Nut (2x)
- V Solenoid (2x)

NOTE: Do not block weep hole. Do not place grease in weep hole. Both will increase the chances of leaking.

Housing, Check Valve and Orifice Orientation

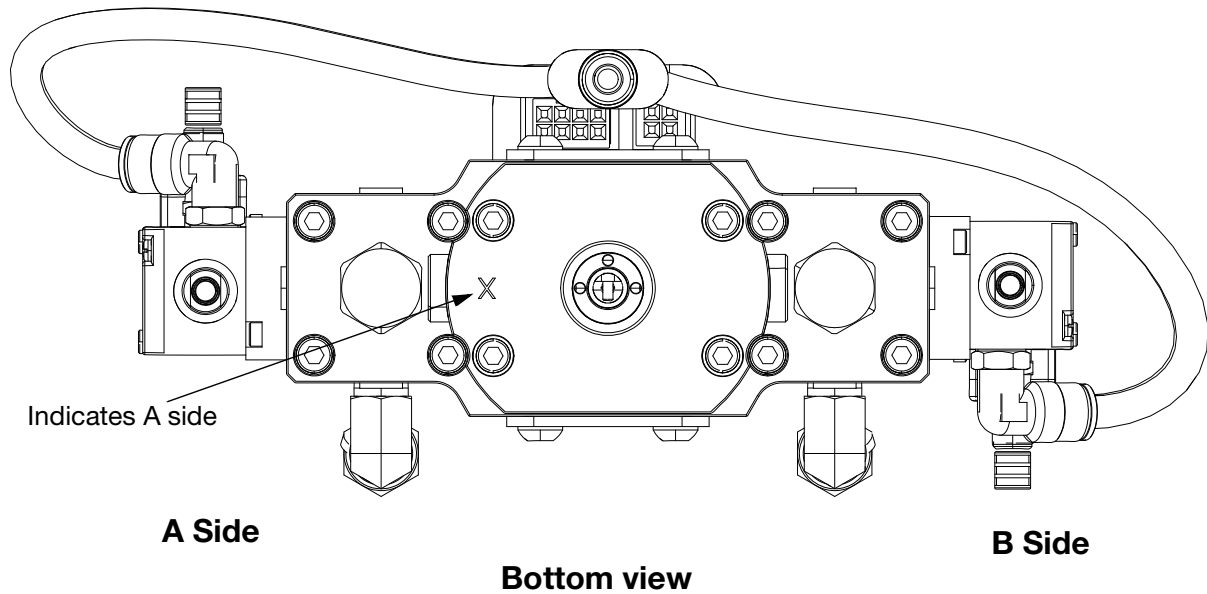


FIG. 3: Housing Check Valve and Orifice Orientation

There is an A side, and B side. The A side is permanently marked with an (X) on the bottom of the valve. When the dispense valve is shipped from Graco, the (X) is designated as shown. If you disassemble the dispense valve for cleaning purposes, note the orientation of the (X) to avoid the risk of fluid cross contamination when you reassemble the valve.

Controller

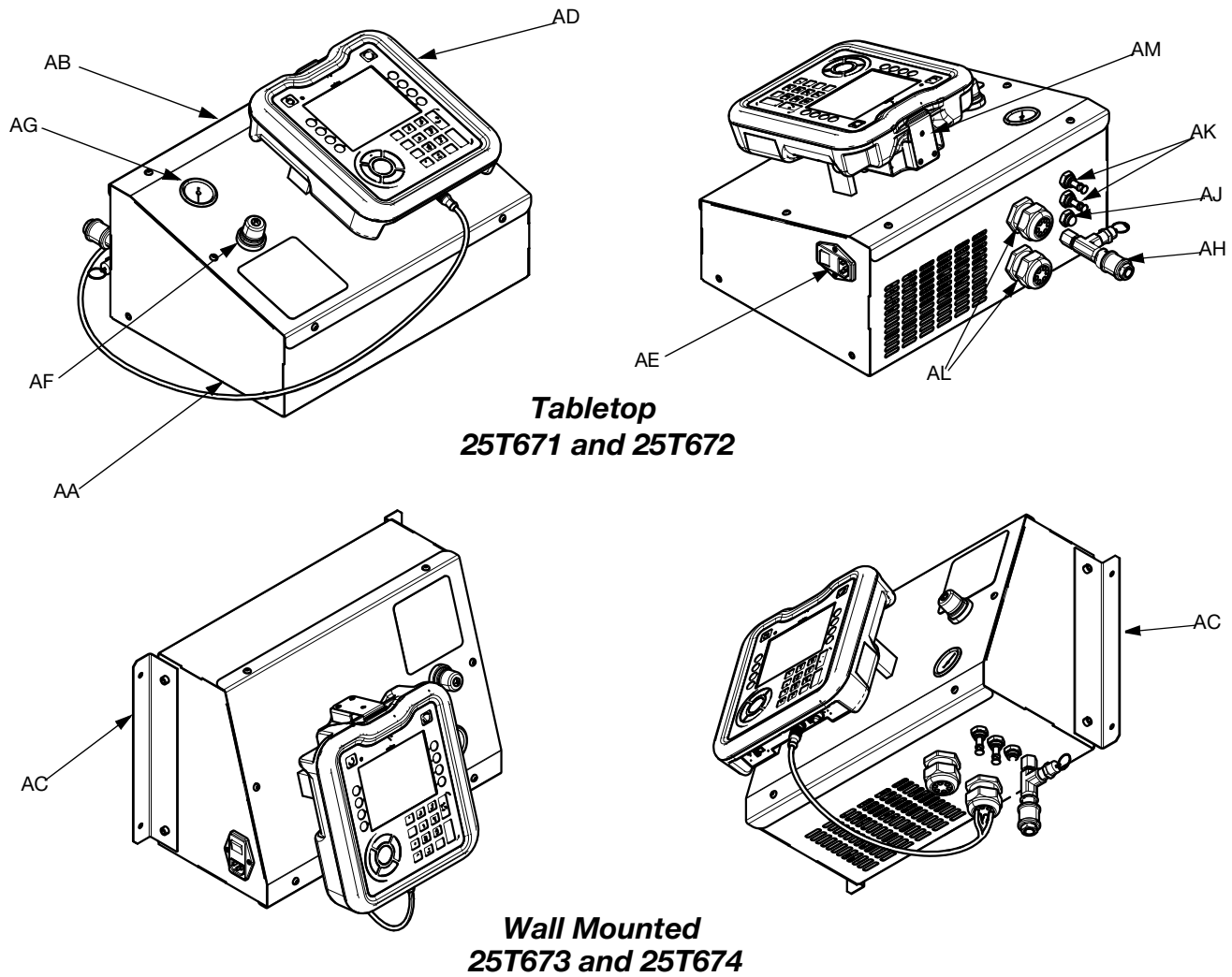


FIG. 4:Controller

Key:

- AA Base Enclosure
- AB Enclosure Cover
- AC Wall Mounting Bracket
- AD ADM
- AE Power Switch / Fuse
- AF Air Regulator
- AG Air Gauge
- AH Air Inlet
- AJ Air Outlet to Valve
- AK Air Outlet Auxiliary
- AL Cable Cord Grips
- AM ADM Mounting

Advanced Display Module (ADM)

Front and Rear Views

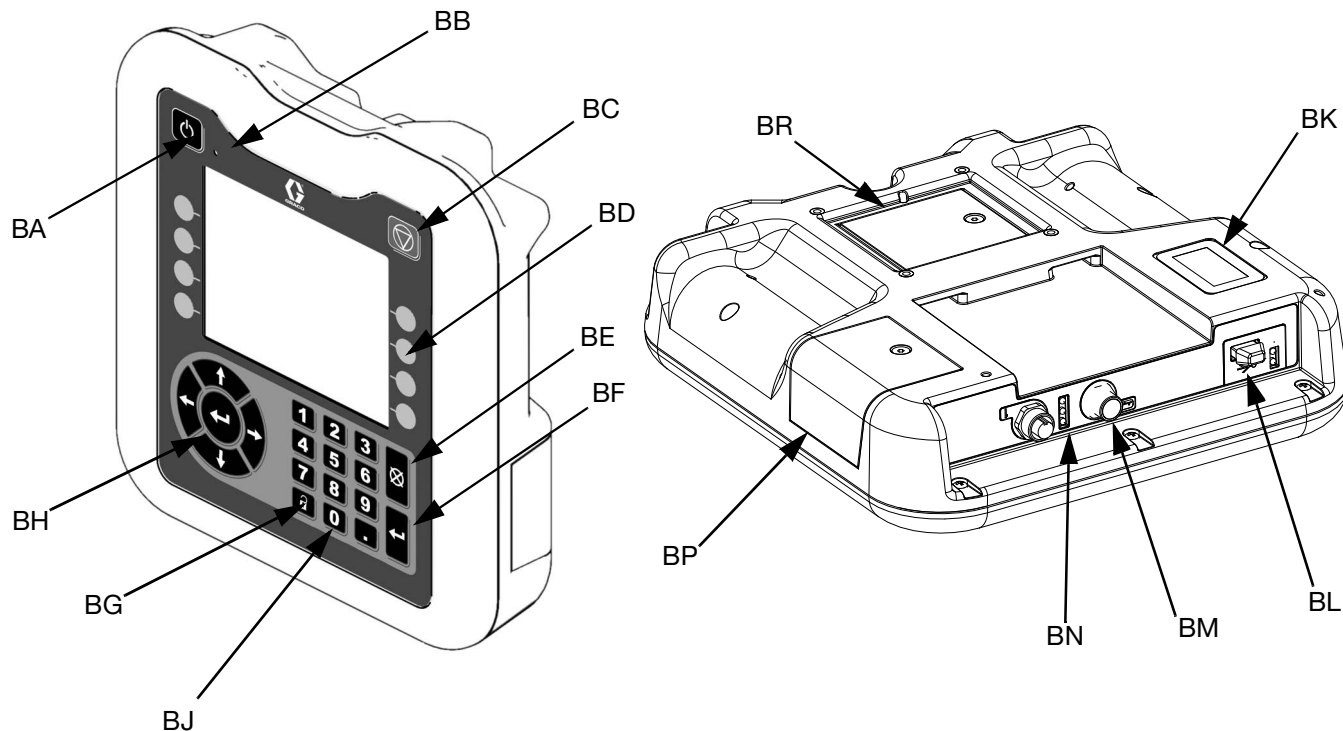


FIG. 5: ADM Component Identification

Key:

BA Startup/Shutdown

Starts up or shuts down the system. Toggles between Active and Inactive system.

BB System Status Indicator LED

BC System Shutdown

Stops all motor motion and disable the unit. This is not a safety or emergency stop.

BD Soft Keys

Defined by the icon on the screen next to the soft key. Performs the specific operation for that icon when pressed.

BE Cancel

Cancels a selection or number entry while in the process of entering a number or making a selection. Cancels the motor motion. Exits a screen without saving changes.

BF Enter

Select to update a field, accept a selection or value, acknowledge an event, enter a screen, and toggle selected items.

BG Lock/Setup

Toggles between Run screens and the setup Menu.

BH Directional Keypad

Navigate within a screen or to a new screen.

BJ Numeric Keypad

Input numeric values.

BK Part Number Identification Label

BL USB Interface

BM CAN Cable Connection

Power and communication.

BN Module Status LEDs

Visual indicators to show the status of the ADM.

BP Token Access Cover

Access cover for blue software token.

BR Battery Access Cover

Theory of Operation

The Voltex Dynamic Mix Valve uses an air cylinder on each material component to control the opening and closing of the Voltex Dynamic Mix Valve. Applying air pressure to both air cylinders at the same time will either open or close the valve.

The Voltex Dynamic Mix Valve uses a reverse acting valve (snuff back) with a tungsten carbide tip sealing against a tungsten carbide seat. The Voltex Dynamic Mix Valve also uses a check valve near the material exit to reduce chances of mixed material flowing back into the fluid housing. After the check valves an independent orifice is used to balance pressure in the system.

The motor is connected to the mixer element with the mixer adapter through the motor shaft. Spinning the mixer element will help blend hard to mix materials. A bath insert is added to the bottom of the housing to isolate the bearing and mixer adapter from mixed material, making cleanup and maintenance easier. See FIG. 6.

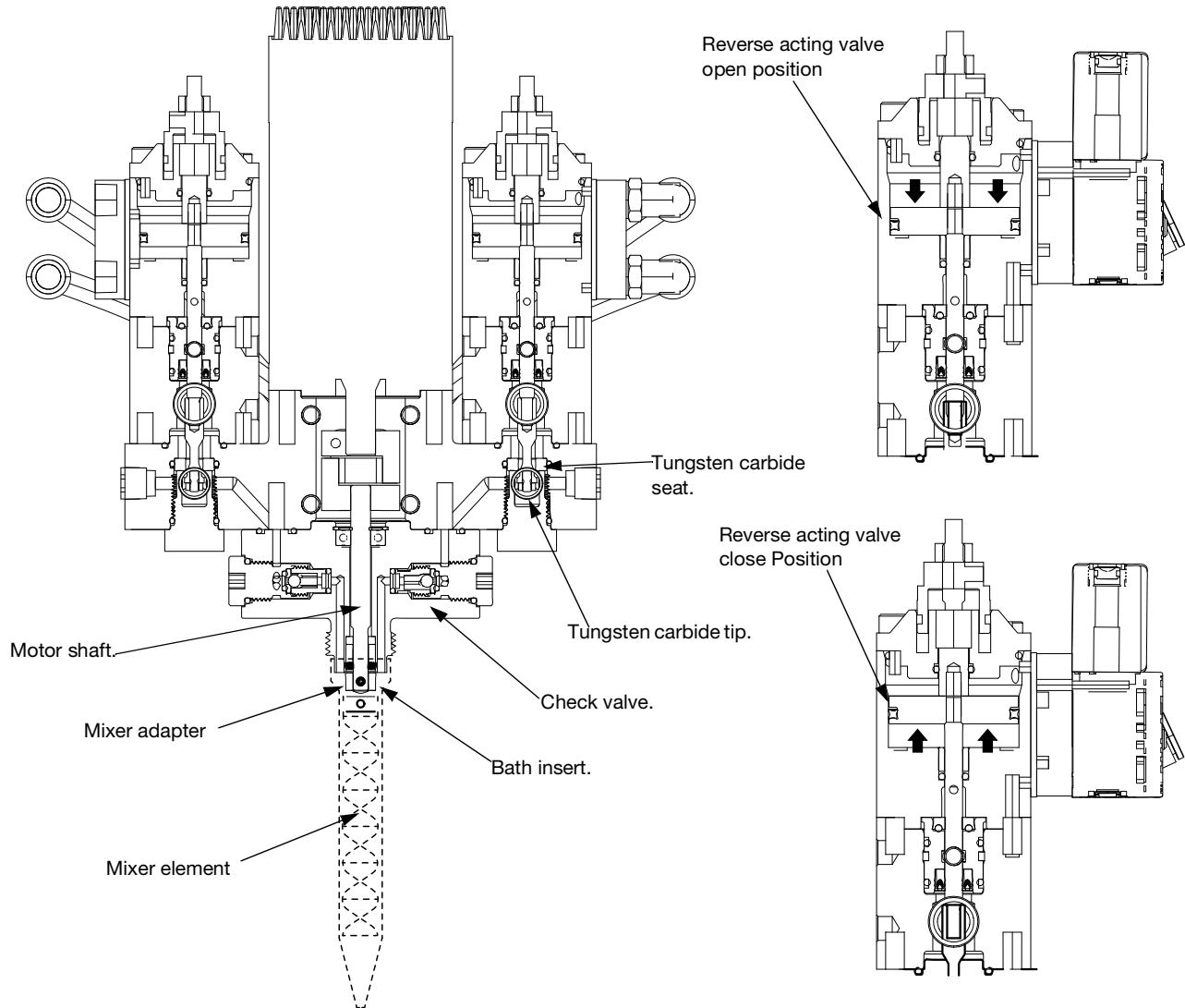


FIG. 6:

Operation

The Voltex Dynamic Mix Valve and controller work as an integral part of the metering device. The Voltex controller is connected to the dispense signal of the metering system using one of the following integration kits 25T887, 25T888, 25T889 and 25T890 (see **Connecting Voltex Dynamic Mix Valve Controller to Metering Devices**, page 20). The Voltex controller sets the motor speed, motor ramp time, air nucleation parameters, etc. The metering device still controls the dispensing of material. When the metering device sends the signal to dispense material, the Voltex controller reads that signal and turns the motor on to the speed and ramp up time. It will also turn on the air for air nucleation if installed. When the metering device stops the dispense, the Voltex controller reads the signal and turns the motor (and air nucleation if installed) off.

Installation

Before starting installation of the Voltex Dynamic Mix Valve and controller, refer to the **Component Identification** on page 11 and **Theory of Operation** on page 16, in order to be familiar with the various parts of the Voltex Dynamic Mix Valve and controller.

To ensure trouble free operation of the Voltex Dynamic Mix Valve, it is important that it is properly installed on the customer supplied robot or equipment.

Inspect the Voltex Dynamic Mix Valve, controller and any accessories bought from Graco for shipping damage. If there is damage notify the shipping carrier immediately.

Grounding



The equipment must be grounded to reduce the risk of static sparking and electric shock. Electric or static sparking can cause fumes to ignite or explode. Improper grounding can cause electric shock. Grounding provides an escape path for the electric current.

The following grounding instructions are minimum requirements for a basic dispensing system. The specific system being used may include other equipment or objects that must be grounded. Check local codes and regulations for detailed grounding instructions.

Voltex Dynamic Mix Valve: Ground through a connection to a properly grounded material hose and pump.

Voltex Controller: Ground through the power cord.

Pump: See your pump manual.

Metering Device: See your metering device manual.

Material hoses: Use only electrically conductive hoses to ensure grounding continuity. Check the electrical resistance of the material hoses at least once a week. If the total resistance to ground exceeds 25 megohms, replace the hose immediately. Use a meter that is capable of measuring resistance at this level.

Fluid supply container: Follow local codes.

Solvent pails used when flushing: Follow local codes. Use only conductive metal pails, placed on a grounded surface. Do not place the pail on a non-conductive surface, such as paper or cardboard, which interrupts grounding continuity.

To maintain grounding continuity when flushing or relieving pressure: hold metal part of the Voltex Dynamic Mix Valve firmly to the inside of a grounded metal pail, then trigger the valves.

Power Cable Installation

Power cord plugs directly into the side of the controller. See FIG. 7.

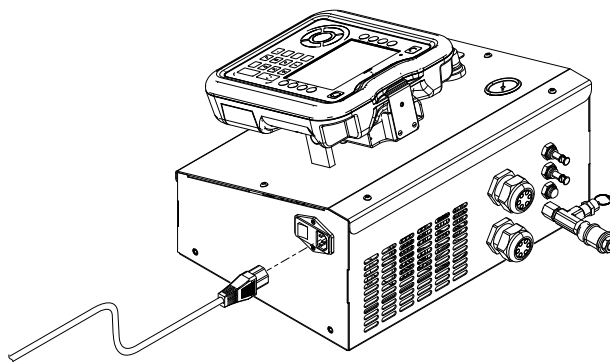


FIG. 7

Part	Description
121055	CORD, SET, US MX, PR, CA, TW. 115V, 10A
121054	CORD, SET, US, 250V, 10A, 10 FT
121056	CORD, SET, FR, GER, IS, NL, NO, TR, 250V
121057	CORD, SET, UK, IE, MY, SG, 250V, 10A
121058	CORD, SET, ISRAEL, 250V, 10A
124864	CORD, SET, ADPTR, AUSTRALIA, 8 FT
124861	CORD, SET, ADPTR, ITALY, 8 FT
124863	CORD, SET, ADPTR, SWITZERLAND, 8 FT
124862	CORD, SET, ADPTR, DENMARK, 8 FT
121060	CORD, SET, S AFRICA, INDIA, 250V, 16A

Install Voltex Dynamic Mix Valve



The Voltex Dynamic Mix Valve has front and back mounting hole configurations. See **Voltex Dynamic Mix Valve Dimensions** page 90 for mounting dimensions.

1. Install compatible accessories. For a list of Accessories and installation instructions see Accessories.
2. Securely attach the Voltex Dynamic Mix Valve to its mounting fixture using M6-1.0 screws.
3. Connect the material supply lines to the NPT inlets in the valve body.
4. Connect the power harness and signal power connectors from the controller to the motor.

NOTE: When mounting the Voltex Dynamic Mix Valve to the mounting face or fixture must completely cover the motor coupler access opening. See **Voltex Dynamic Mix Valve Dimensions** on page90 for mounting dimensions.

See figure FIG. 8 for installation.

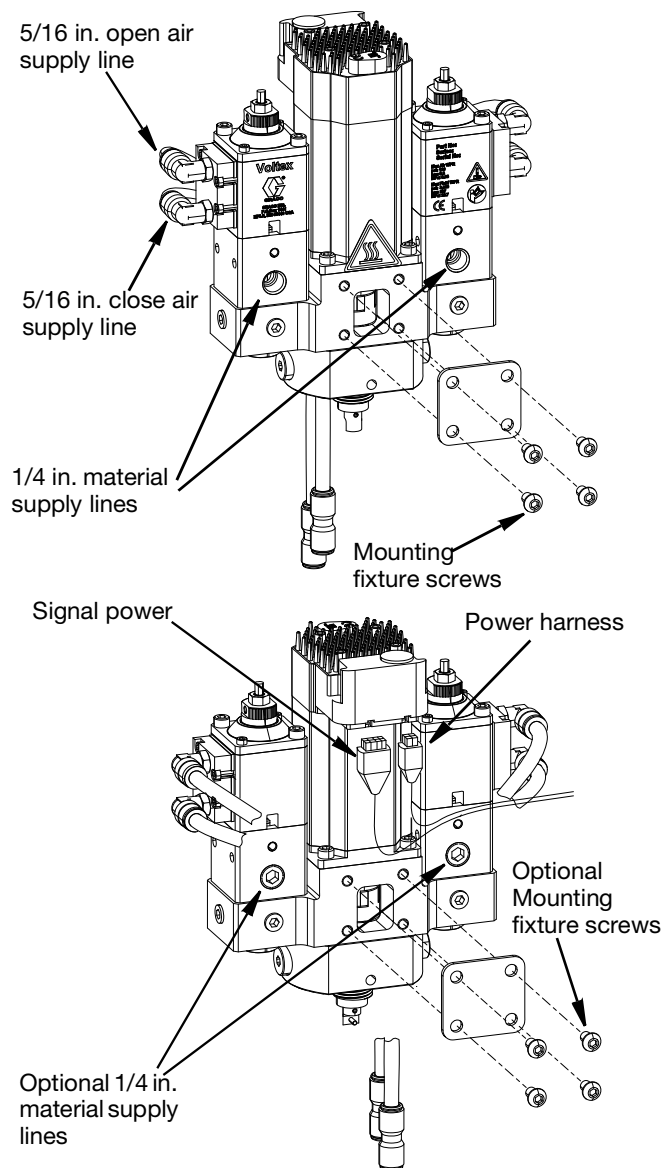


FIG. 8

Controller Mounting

Controllers 25T671 and 25T672 are made to be placed unsecured on a flat horizontal surface. Controllers 25T673 and 25T674 are made to permanently secure to a surface.

1. Select a solid position on a wall for the controller. Be sure the wall is capable of supporting the controller size and weight that will be attached to the wall. **NOTE:** approximate weights of the controllers are 29.7 - 32.0 lbs.
2. Ensure that the mounting location has sufficient clearance for easy operator access.

Note: See **Controller Dimensions for 25T671, 25T672, 25T673 and 25T674** page 91.

Connecting Voltex Dynamic Mix Valve Controller to Metering Devices

PR70 Integration Kits

Pick one based on the metering system being used:

- 25T889 – Kit, Integration, PR70, 3m
- 25T890 – Kit, Integration, PR70, 6m

PR70 Installation

1. From the PR70, connect the valve air line labeled “Open” to the Voltex Dynamic Mix Valve air line labeled “Open”.
2. From the PR70, connect the valve air line labeled “Closed” to the Voltex Dynamic Mix Valve air line labeled “Closed”.
3. Remove PR70 cover.
4. Disconnect connector from port 5 on FCM 1. See FIG. 9.

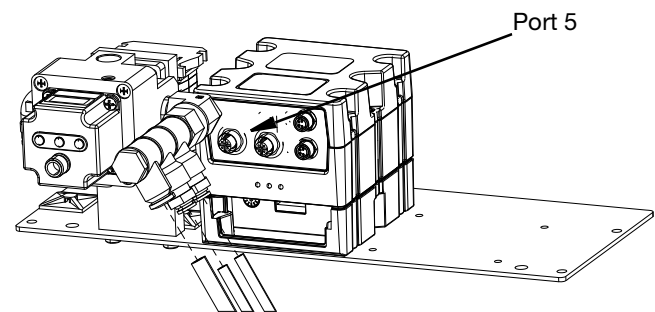


FIG. 9

5. Connect splitter from kit 25T889 or 25T890 to port 5 on FCM 1
6. Reconnect the original connector from port 5 to one side of splitter.
7. Connect the cable from kit 25T889 or 25T890 to the splitter. Connect other end to bulkhead on Voltex Dynamic Mix Valve controller.
8. Install the PR70 cover.

Voltex Dynamic Mix Valve to EFR Installation

NOTE: These installation instructions are for 25U256 and 25U258 systems. See **EFR and HFR Systems** on page 5.

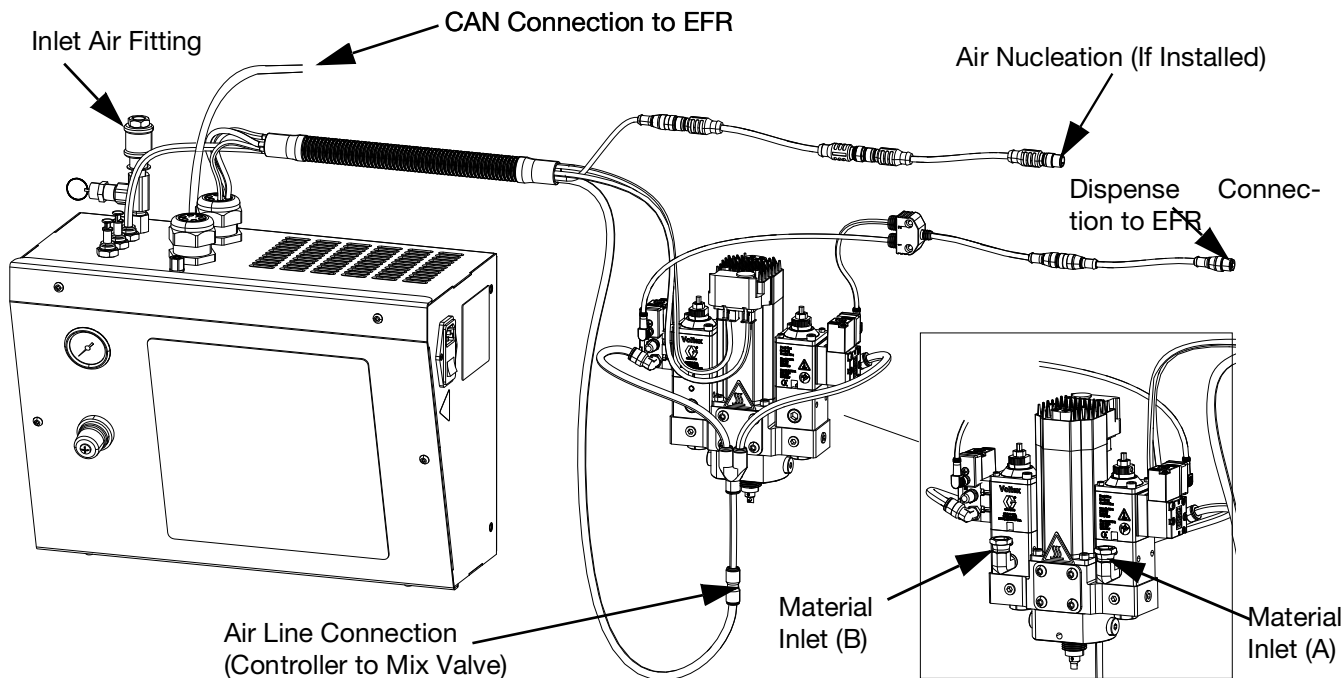


FIG. 10

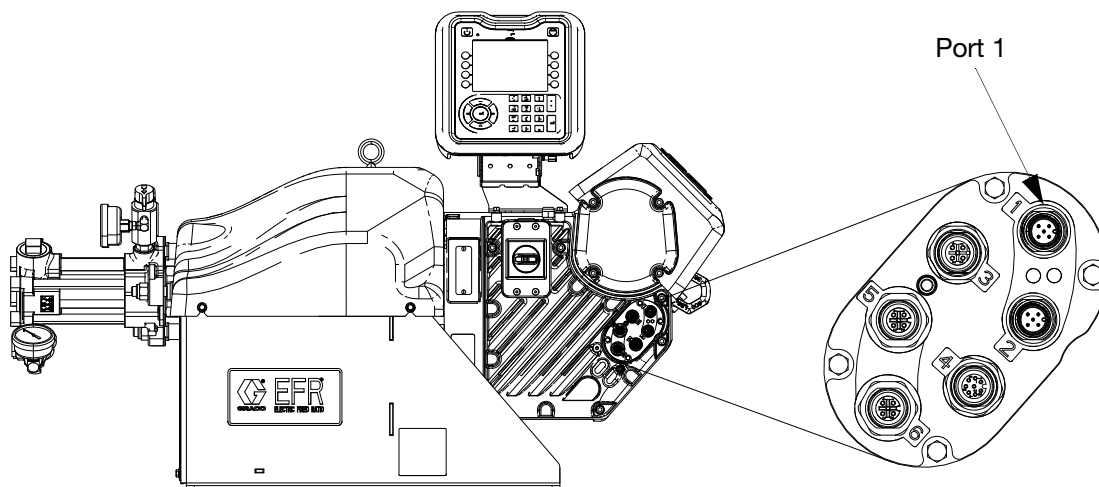


FIG. 11: EFR Connections

1. Connect the CAN connection from the Voltex system to Port 1 on the EFR.
2. Connect the dispense connection from the Voltex system to Port 3 on the EFR.
3. Connect the air line from the Voltex controller to the Voltex Dynamic Mix valve.
4. Connect the shop air to the inlet air fitting on the Voltex controller.
5. Connect the material inlet hoses to the Voltex Dynamic Mix Valve.

Voltex Dynamic Mix Valve with Recirculation to EFR Installation

NOTE: These installation instructions are for 25U257 and 25U259 systems. See **EFR and HFR Systems** on page 5.

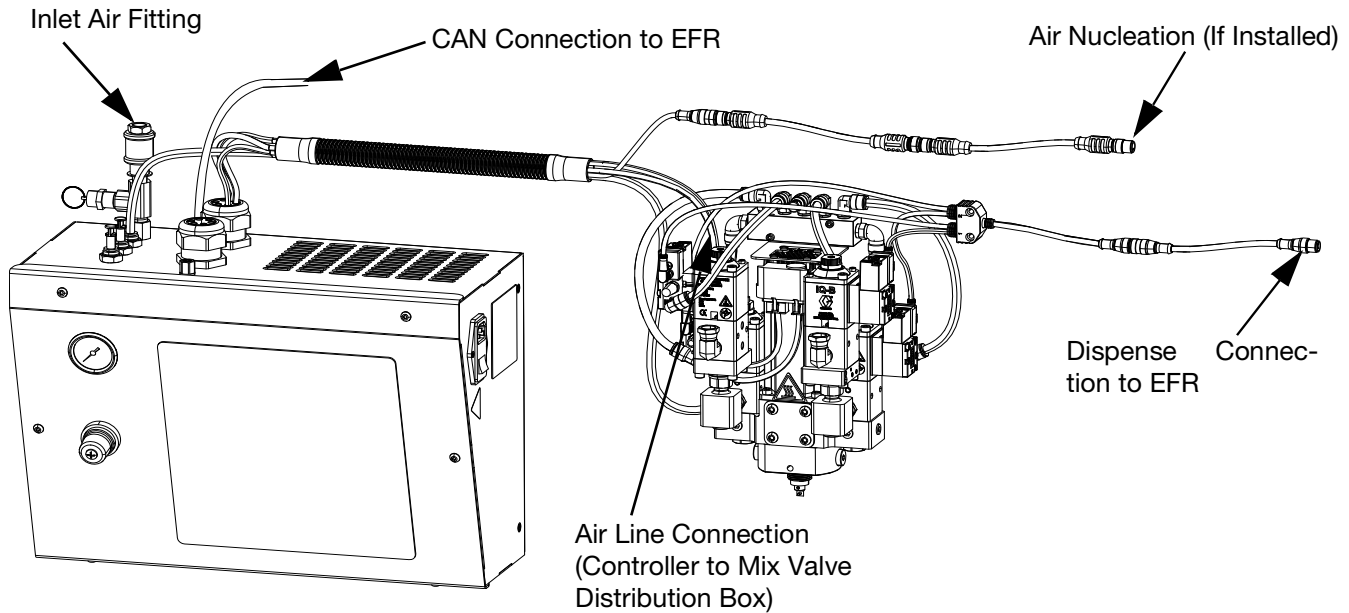


FIG. 12

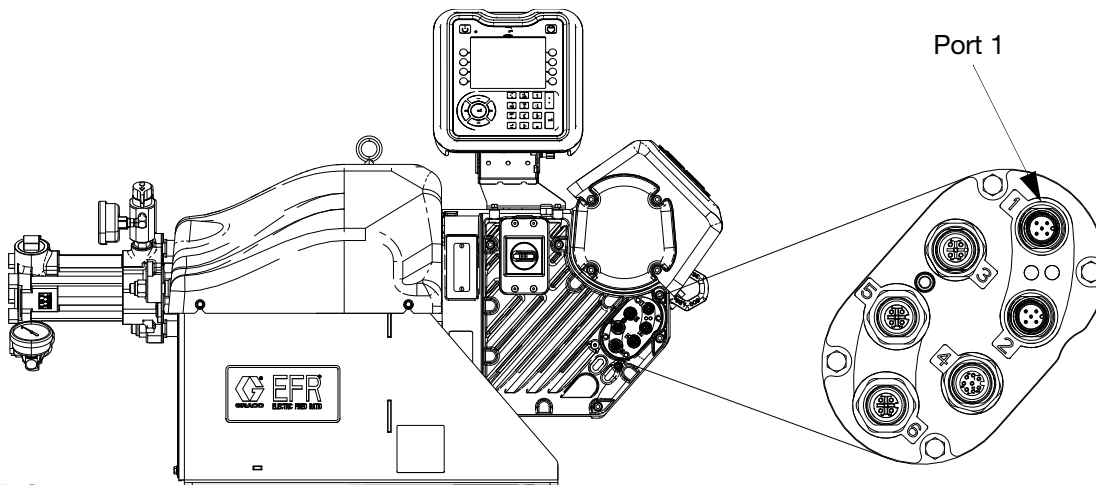


FIG. 13: EFR Connections

1. Connect the CAN connection from the Voltex system to Port 1 on the EFR.
2. Connect the dispense connection from the Voltex system to Port 3 on the EFR.
3. Connect the air line from the Voltex controller to the Voltex Dynamic Mix Valve air distribution block.
4. Connect the shop air to the inlet air fitting on the Voltex controller.

5. Connect the material inlet hoses to the Voltex Dynamic Mix Valve.
6. Connect the material recirculation hoses to the Voltex recirculation valves.

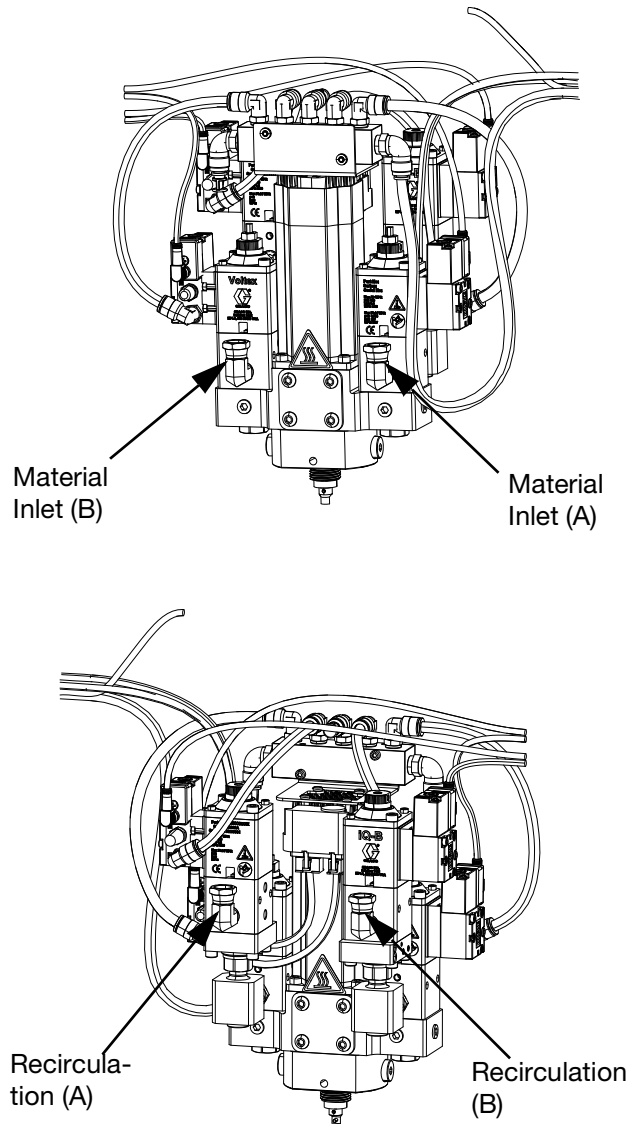


FIG. 14

Voltex Dynamic Mix Valve to HFR Installation

NOTE: These installation instructions are for 25U260 and 25U262 systems. See **EFR and HFR Systems** on page 5.

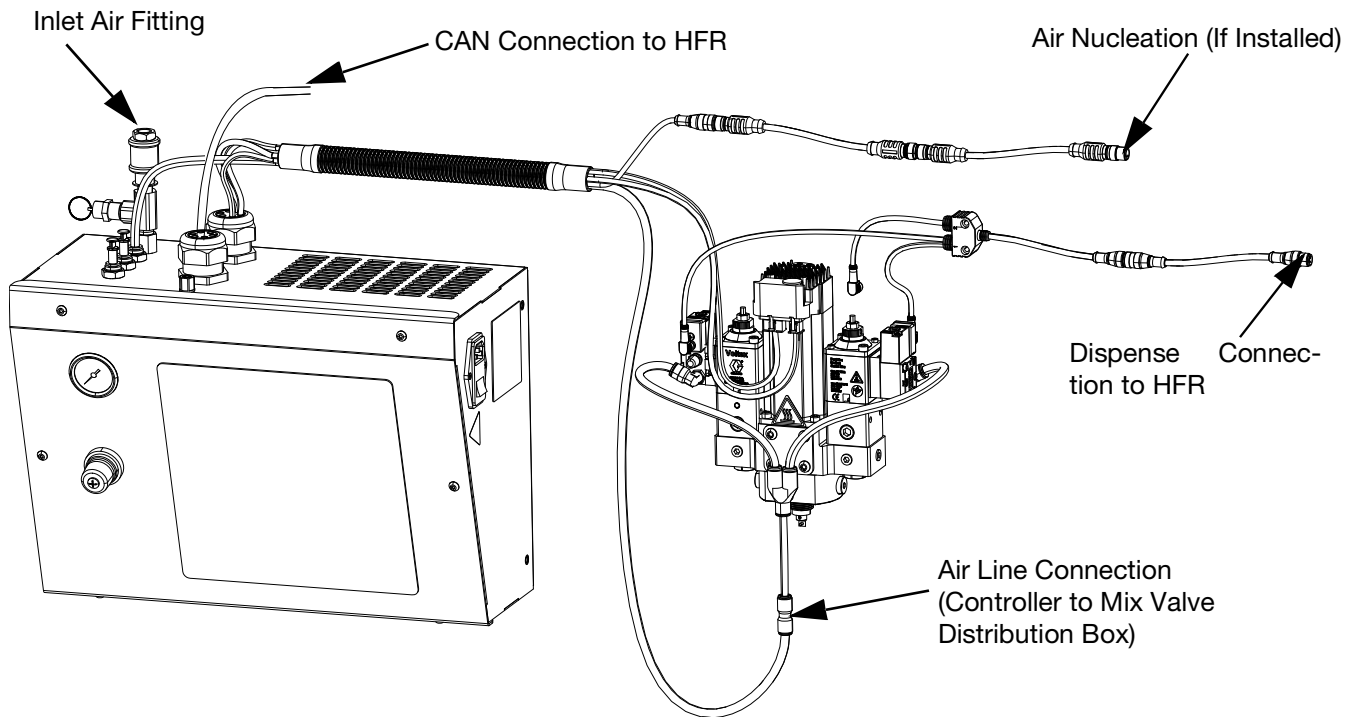


FIG. 15

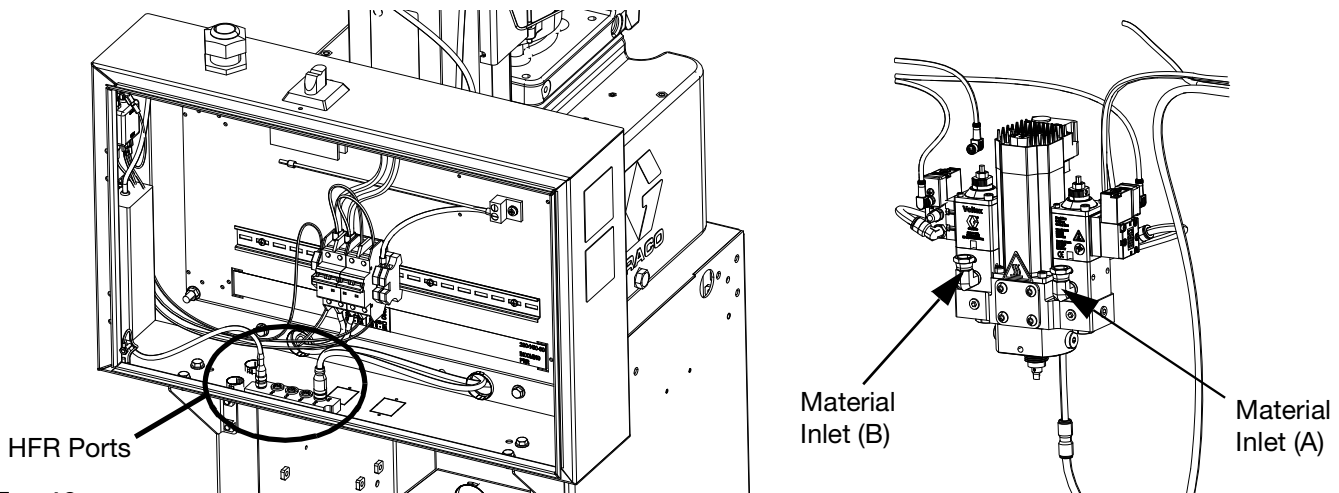


FIG. 16

1. Turn off power to the HFR.
2. Connect the CAN connection from the Voltex system to any open port on the HFR.
3. Connect the dispense connection from the Voltex system to Port 2 on the HFR.
4. Connect the air line from the Voltex controller to the Voltex Dynamic Mix Valve.
5. Connect the shop air to the inlet air fitting on the Voltex controller.
6. Connect the material inlet hoses to the Voltex Dynamic Mix Valve.

Voltex Dynamic Mix Valve with Recirculation to HFR Installation

NOTE: These installation instructions are for 25U261 and 25U263 systems. See **EFR and HFR Systems** on page 5.

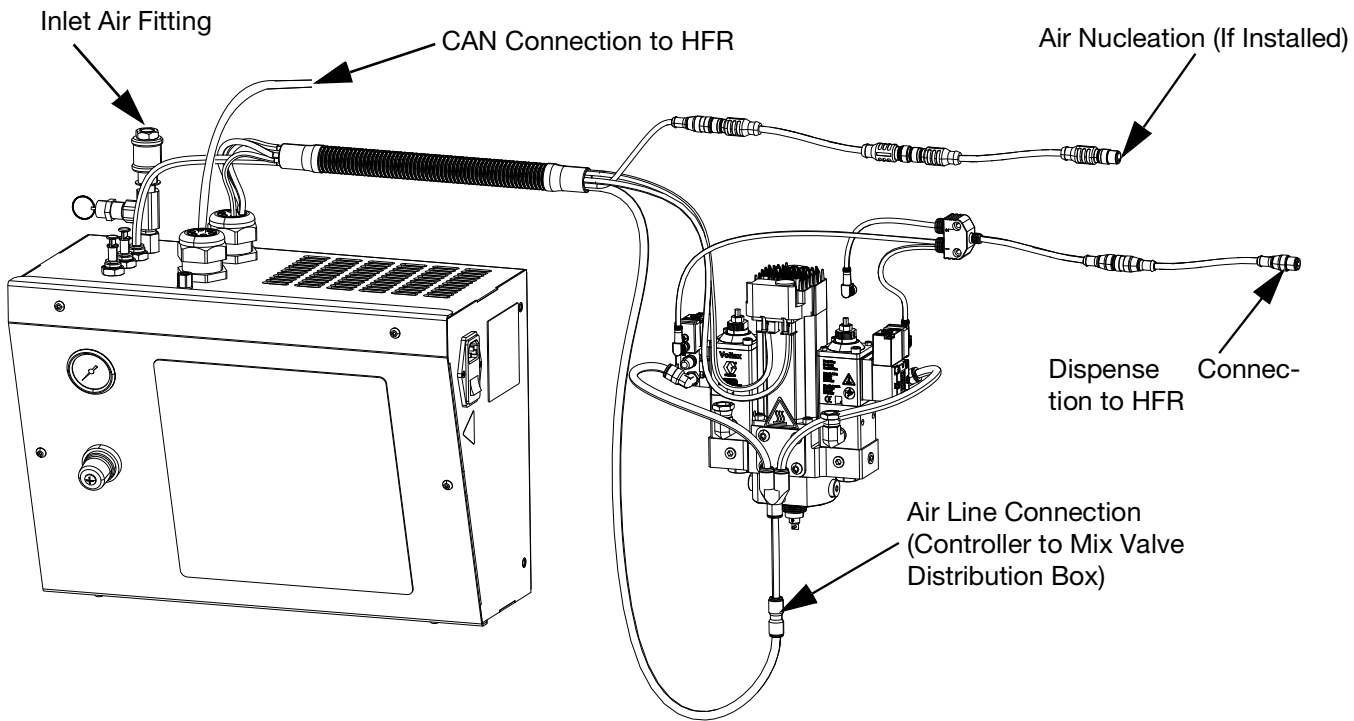


FIG. 17

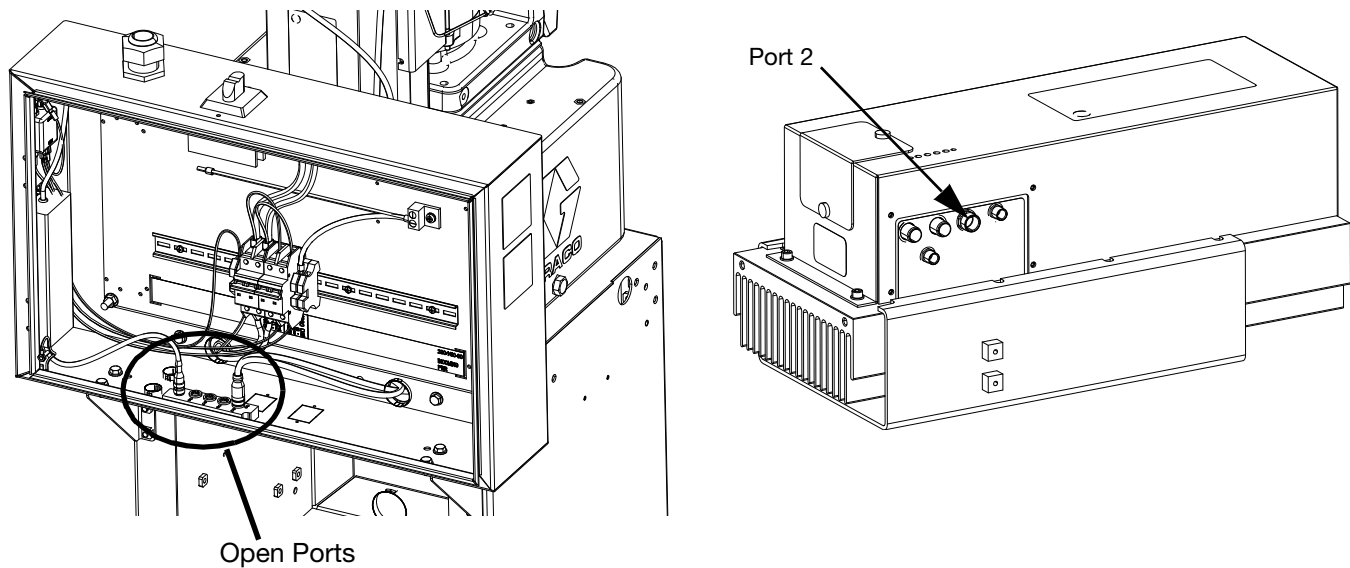


FIG. 18: EFR Connections

Installation

1. Use the appropriate HFR circulation kit. See the HFR Instructions manual.

Part	Description
24D107	Manual Circulation Kit, Stainless Steel
24E397	Manual Circulation Kit, Carbon Steel
24N486	Semi-Automatic Circulation Kit, Component A
24N487	Semi-Automatic Circulation Kit, Component B
24N990	Solenoid Valve Kit, for Semi-Automatic Circulation

2. Turn off power to the HFR.
3. Connect the CAN connection from the Voltex system to any open port on the HFR.
4. Connect the dispense connection from the Voltex system to Port 2 on the HFR.
5. Connect the air line from the Voltex controller to the Voltex Dynamic Mix Valve.
6. Connect the shop air to the inlet air fitting on the Voltex controller.
7. Connect the material inlet hoses to the Voltex Dynamic Mix Valve.

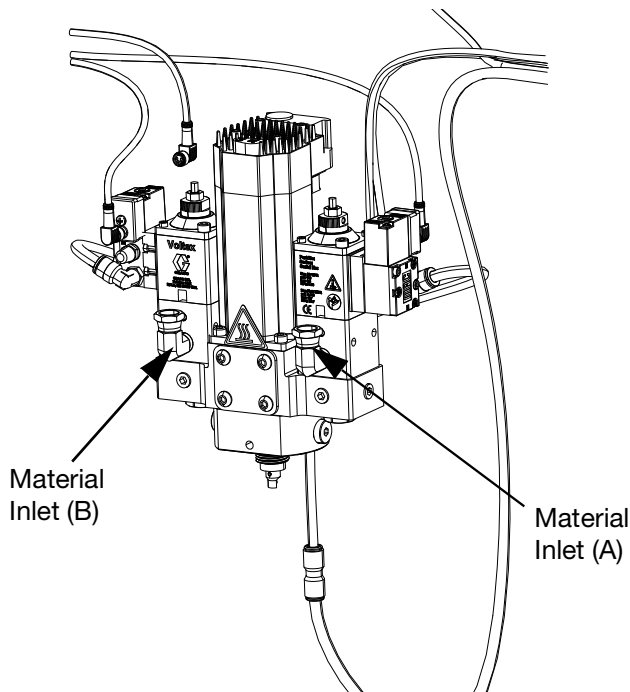


FIG. 19

8. Connect the recirculation lines as stated in the HFR manual.

Voltex Dynamic Mix Valve to EVR Installation

NOTE: These installation instructions are for 25F335 and 25F336 systems. See **EVR Systems** on page 5.

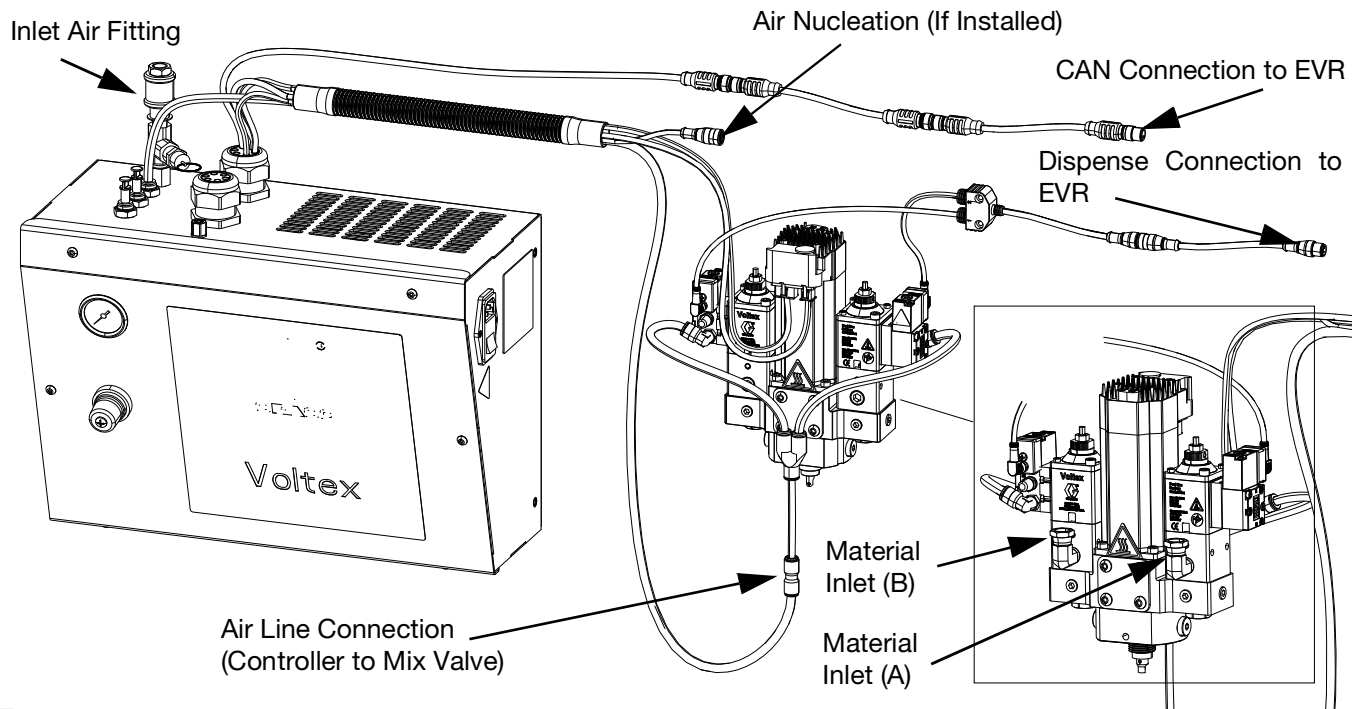


FIG. 20

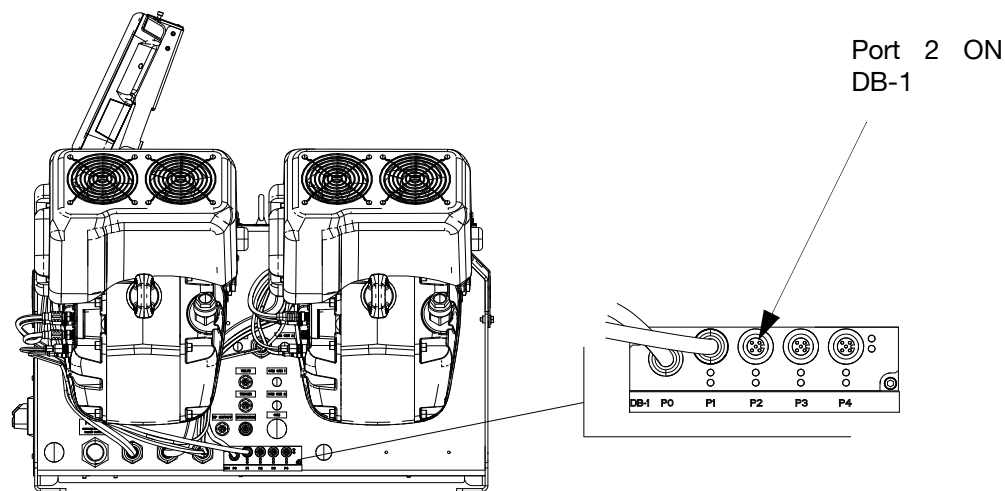


FIG. 21: EVR Connections

1. Connect the CAN connection from the Voltex system to Port 2 on the DB-1 of the EVR.
2. Connect the dispense connection from the Voltex system to Valve Bulkhead on the EVR.
3. Connect the air line from the Voltex controller to the Voltex Dynamic Mix valve.
4. Connect the shop air to the inlet air fitting on the Voltex controller.
5. Connect the material inlet hoses to the Voltex Dynamic Mix Valve.

Voltex Dynamic Mix Valve With Recirculation to EVR Installation

NOTE: These installation instructions are for 25F336-25F338 and 25F340-25F342 systems. See **EVR Systems** on page 5.

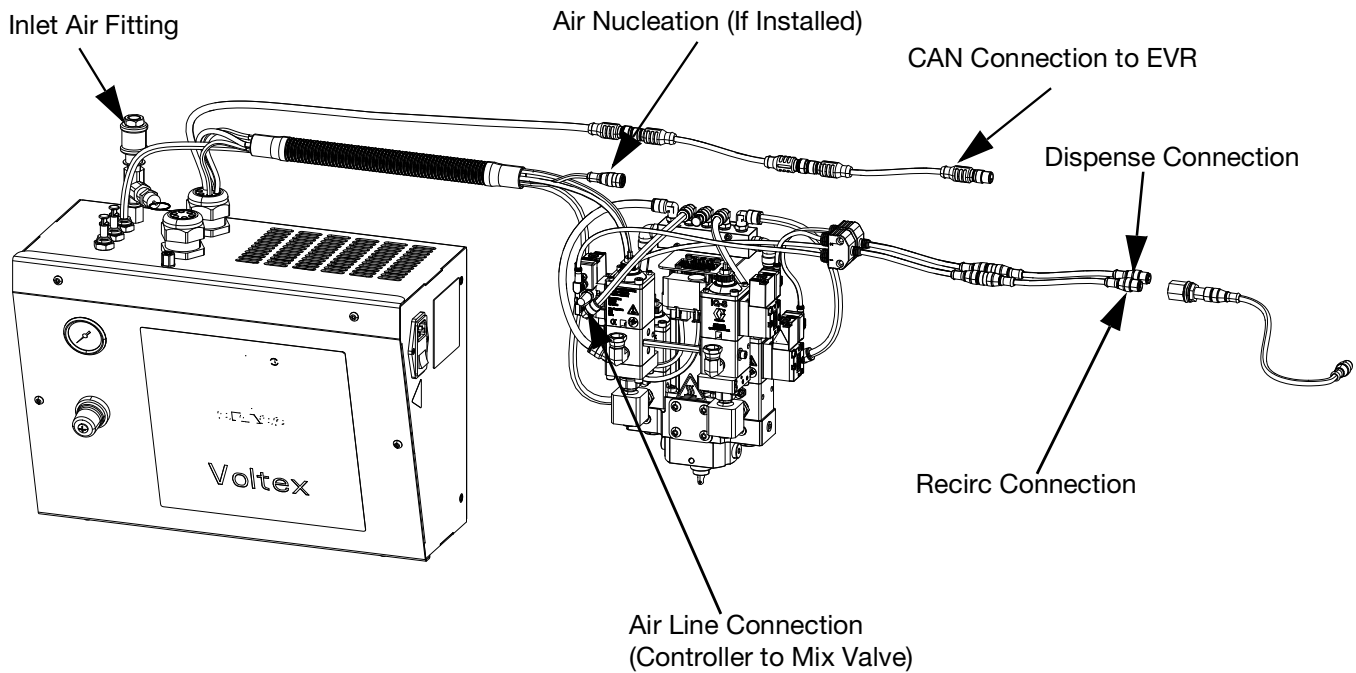


FIG. 22

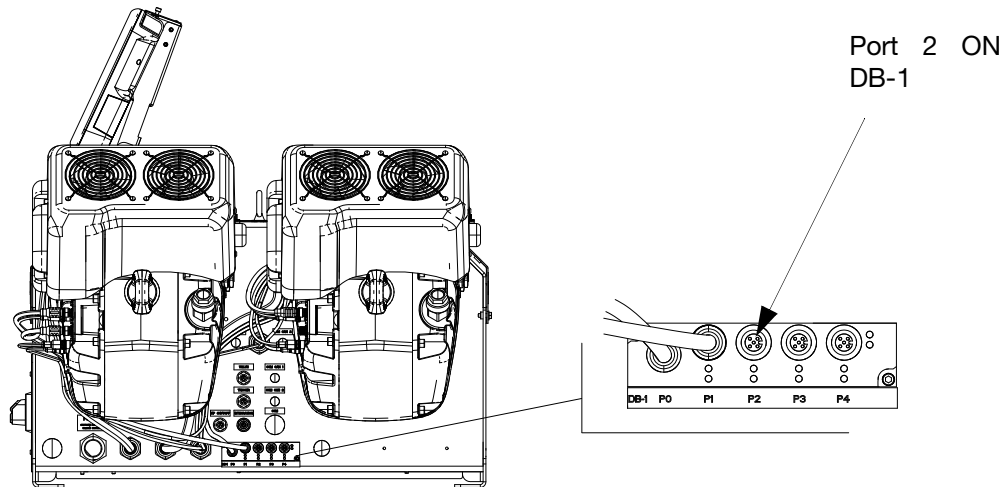


FIG. 23: EVR Connections

1. Connect the CAN connection from the Voltex system to Port 2 on the DB-1 of the EVR.
2. Connect the dispense connection from the Voltex system to Valve Bulkhead on the EVR.
3. Connect the recirc connection from the voltex system to the recirc P1 bulkhead on the EVR.
4. Connect the air line from the Voltex controller to the Voltex Dynamic Mix valve.
5. Connect the shop air to the inlet air fitting on the Vontex controller..

Ordering and Installation Voltex to Non-Graco Dispensing Equipment

1. Ordering

a. Order one of the following systems:

Part	Maximum Dynamic Working Pressure psi (MPa, bar)	Maximum Air Pressure psi (MPa, bar)	Description
25U256	1000 (6.9, 70)	120 (0.8, 8.3)	System, Voltex, No ADM, Table Top, EFR
25U257	1000 (6.9, 70)	120 (0.8, 8.3)	System, Voltex, No ADM, Table Top, EFR, Recirc/Base Purge
25U258	1000 (6.9, 70)	120 (0.8, 8.3)	System, Voltex, No ADM, Wall Mount, EFR
25U259	1000 (6.9, 70)	120 (0.8, 8.3)	System, Voltex, No ADM, Wall Mount, EFR, Recirc/Base Purge

b. Order ADM kit 25T734.

c. Order Voltex Controller Integration Cable 18D171.

d. Order Voltex Valve Integration Cable 124416.

e. Order required power cable and any other accessories required for the application.

2. Installation

a. Install all system components as shown in the “Voltex Dynamic Mix Valve to EFR Installation.

b. Connect the ADM from kit 25T734 to the CAN cable coming from the Voltex Controller.

c. Connect the Voltex Controller Integration Cable, 18D171, to the back of the Voltex Controller in the M8 bulkhead.

d. Connect the Voltex Valve Integration Cable, 124416, to the Dispense Connection on the Voltex Dynamic Mix Valve. See pages 19-21.

e. The Voltex Controller Integration Cable, 18D171, will need to be connected to the non-Graco dispensing equipment or PLC. See FIG. 24.

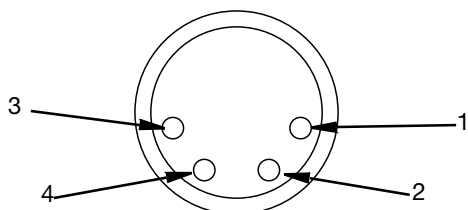


FIG. 24

Pin	Color	Description
1	BRN	Motor rotation stop/start
2	---	No connection
3	BLU	Ground
4	---	No connection

f. The Voltex Valve Integration Cable, 124416, will need to be connected to the non-Graco dispensing equipment or PLC. See FIG. 25.

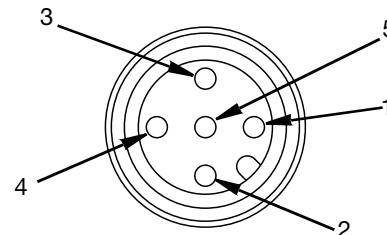


FIG. 25

Pin	Color	Description
1	BRN	Recirculation valves open/close
2	WH	2K Power shutoff open/close
3	BLU	Ground
4	BLK	Dispense valves open/close
5	GRY	No connection

Adjust Stroke

The Adjustment Nut (C) on the top of the valve can adjust the distance the dispense valve will open. This restricts the flow of material through the tip and seat.

1. Loosen lock nut (U) on top of the valve.
2. Turn the adjustment nut (C) counterclockwise to reduce the distance the valve opens.
3. Slowly open the adjustment nut (C) and then cycle the air pressure until the desired flow is reached.
4. Tighten the lock nut (U) to hold the adjustment nut (C) in place. See FIG. 26.

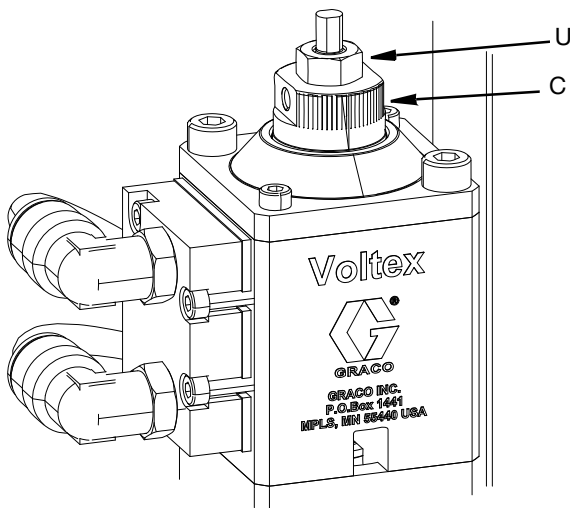


FIG. 26

Install Orifice

Orifice needs to be sized such that the pressures are balanced for both material components, and do not restrict flow required for the application. For the first time setup, there is a kit containing all the different orifice sizes and extra O-rings. This kit and individual orifices are available for purchase from Graco Inc, and is available as listed in the Accessories section of this manual.

1. Using a 5 mm allen wrench, remove the check valve body (110).
2. Place the orifice in the check valve orifice retainer as shown in FIG. 27.

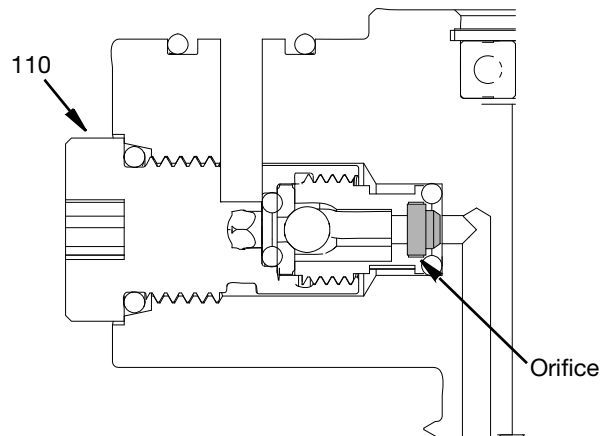


FIG. 27

3. Assemble the orifice, check valve body (110).
4. Repeat for both material component sides.
5. Run material through the valve.
 - a. If the pressure is higher than required, increase the size of the orifice.
 - b. If the pressure is lower than required, decrease the size of the orifice.

Adjust ADM

1. Loosen both set screws on the ADM mounting brackets using a 2.5 mm allen wrench. See FIG. 28.

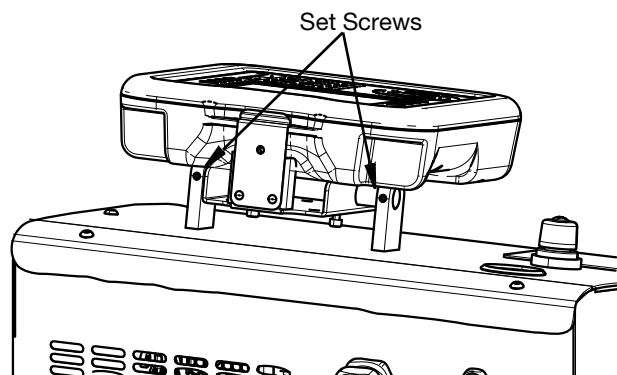


FIG. 28

2. Adjust angle of ADM for better viewing. See FIG. 29.

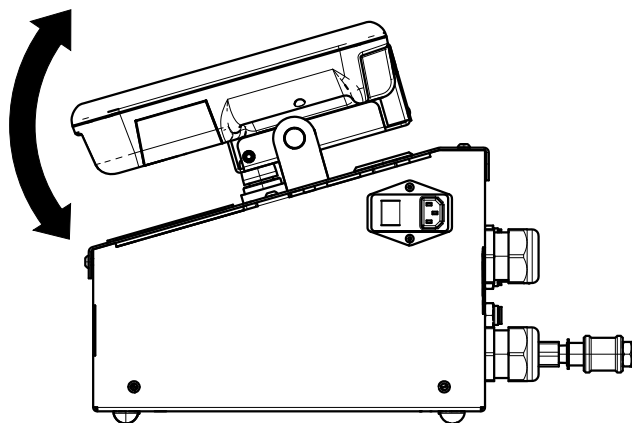


FIG. 29

3. Tighten both set screws on the ADM mounting brackets using a 2.5 mm allen wrench.

Flush Before Using Equipment

The equipment was tested with lightweight oil, which is left in the fluid passages to protect parts. To avoid contaminating your fluid with oil, flush the equipment with a compatible solvent before using the equipment. See **Flush the Voltex Dynamic Mix Valve**, page 37.

Setup



To prevent personal injury from pressurized fluid such as skin injection or splashing fluid, make sure that all components in your system are rated to the maximum pressure the system is capable of attaining. All components must be rated for maximum pressure even if the pump is operated below maximum pressure.

NOTICE


To prevent damage to ADM buttons, do not press the buttons with sharp objects such as pens, plastic cards, or fingernails.

NOTICE

To prevent damage to components in the system, all components must be rated to the maximum pressure the system is capable of attaining.

Voltex Stand Alone Dynamic Mix Valve Menu

The Voltex Dynamic Mix Valve Menu screens provide access to settings that help to ensure the proper operation and maintenance of the system. These functions can be performed when the ADM is either in Active or System OFF Mode.

1. Provide power to the system and turn on the ADM by switching on the controller power switch (210).
2. Press the  key (BG) to turn on the ADM from any run screen to go to the Voltex Dynamic Mix Valve menu screens. Reference **Advanced Display Module (ADM)** page15.

Main Menu



FIG. 30

If you set a password, the menu will be displayed with red locks above the menu selections with parameters that can be changed. See FIG. 31. Enter your password when prompted to access these screens. The selections that do not have a red lock have information that can be viewed but not changed and would not require a password. See **Advanced Setup** Screen 1 on page 34 for information about setting a password.

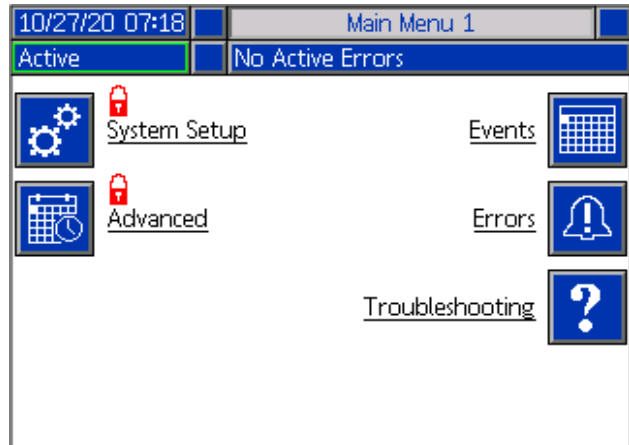


FIG. 31

Voltex Dynamic Mix Valve System Setup Screen

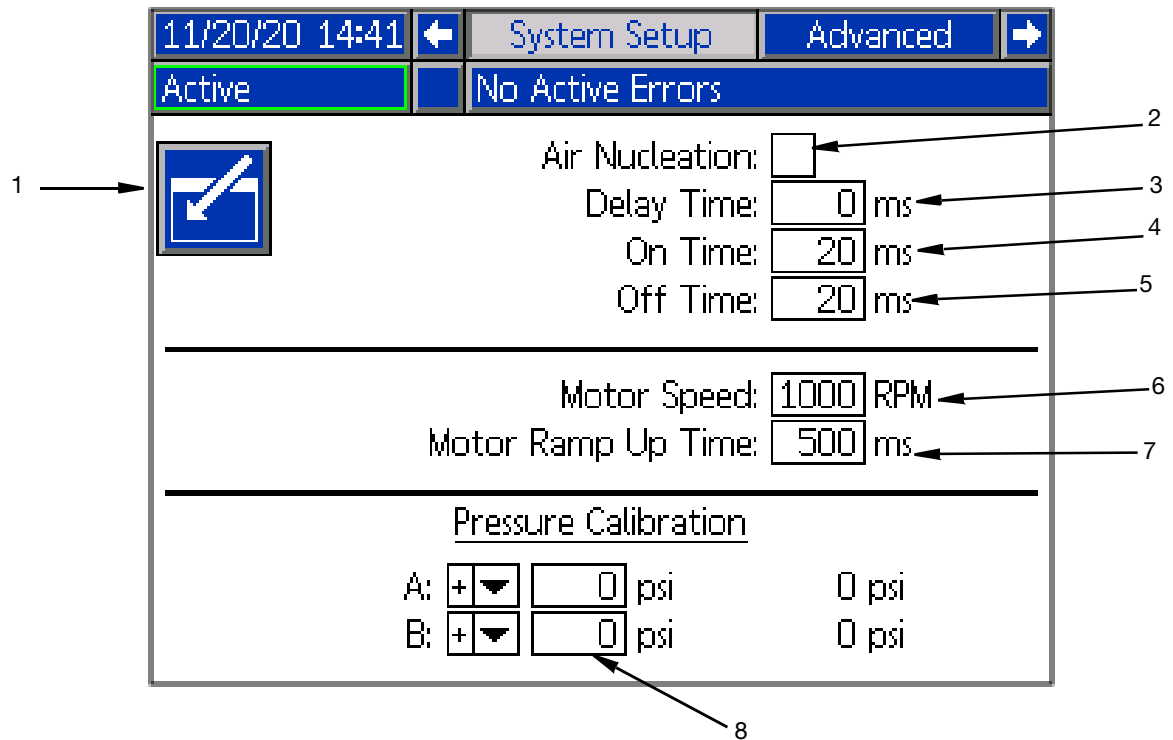



FIG. 32

NOTE: To choose any of the following menu selections, use the navigation buttons (BH) then press the enter.

 key (BF) to activate that selection. Reference **Advanced Display Module (ADM)** on page 15 for screen ADM menu.




1. **Edit Mode:** Select to enter or exit the editing mode for the screen. Icon is grey when in edit mode and blue when off.
2. **Air Nucleation:** This will enable the air nucleation solenoid valve. This cycles while dispensing to dose air into the mixed material.
3. **Delay Time:** Amount of time before the air nucleation valve toggles between the on time and off time.
4. **On Time:** Amount of time the air nucleation valve stays on before toggling off.
5. **Off Time:** Amount of time the air nucleation valve stays off before toggling back on.
6. **Motor Speed:** The RPM's that the motor will run at. The Motor RPM Setpoint can be locked out using a password.

7. **Motor Ramp Up Time:** This changes the amount of time in milliseconds the motor takes to get to the RPM setpoint. **NOTE:** 100ms is the fastest acceleration and 9000ms is the slowest acceleration. The goal is to try and prevent breaking mixers with a slower acceleration. Example: 500ms = half a second to get to the RPM setpoint of 4400RPM.

8. Pressure Calibration:


NOTE: The pump transducer offset and the valve transducer offset are shown in the Calibrate section.

- a. Relieve pressure in the system using valve depressurization. See **Pressure Relief Procedure** on page 37.

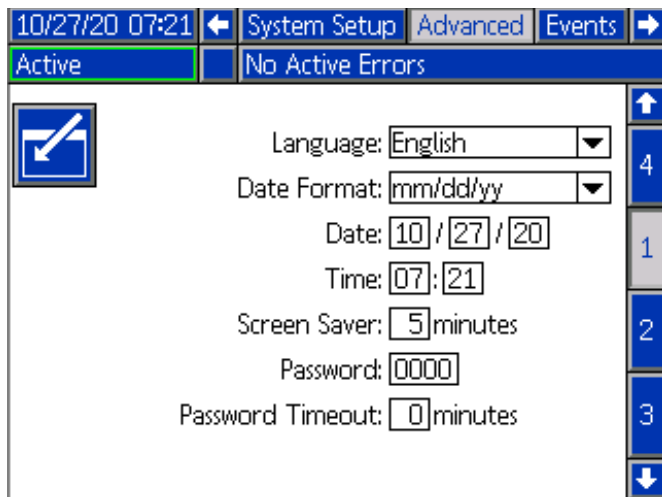
- a. Press the edit mode key .
- b. Press the  soft key to automatically reset the offsets to zero. You can also manually change the values and select minus or plus from the drop down menus as appropriate for the calibration.
- c. Press the  soft key to save your changes and exit editing mode.

Advanced Setup

Use the ADM directional keypad (BH) to change to


Menu screen. Press the soft key  to access the Advanced Setup screens. This function allows you to configure the operating settings for Voltex dynamic valve system.

Advanced Setup Screen 1



10/27/20 07:21 ← System Setup Advanced Events →

Active No Active Errors



Language: English

Date Format: mm/dd/yy

Date: 10 / 27 / 20


Time: 07 : 21

Screen Saver: 5 minutes

Password: 0000

Password Timeout: 0 minutes

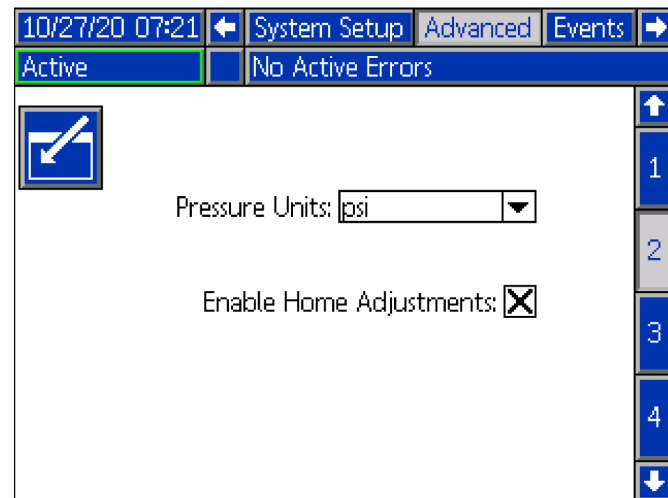
4 1 2 3

1. Press the  soft key to enter editing mode.
2. Select the language from the drop down menu. Available languages are English, Spanish, French, German, traditional Chinese, Japanese, Korean, Portuguese, Italian, and Russian.
3. Select a date format from the drop down menu. The available formats are mm/dd/yy, dd/mm/yy, and yy/mm/dd.
4. Enter numeric values for the month, day, and two digit year in the date field.
5. Enter numeric values in the time field for the 24 hour clock in hours and minutes.
6. Enter the number of minutes of inactivity before the screen saver turns off the screen back lighting. Enter a 0 to leave it on constantly. Press any key to disable the screen saver.

7. For the password, enter any numbers from 0001 to 9999. To remove the password, change the password to 0000. This disables the password function.


NOTE: When you use a password, some menu selections will require the password for access. For the password timeout, enter a time in minutes that allows you to temporarily move throughout the run and setup screens without having to enter a password.

Advanced Setup Screen 2



10/27/20 07:21 ← System Setup Advanced Events →



Active No Active Errors



Pressure Units: psi

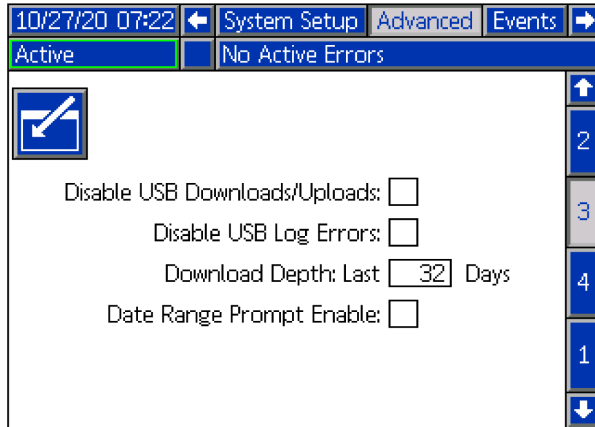
Enable Home Adjustments:






1 2 3 4


1. Press the  soft key to enter editing mode.
2. Select between psi, bar, and MPa, for the pressure units.
3. Enable or disable the run screen adjustments by checking or unchecking the Enable Home Adjustments box. By unchecking the box, the motor speed and ramp up time will not be able to be changed from the run screen
4. Press the  soft key to save your changes and exit editing mode.

Advanced Setup Screen 3

Use the ADM Directional Keypad (CH) to navigate to Advanced Screen 3. The parameters on this screen pertain to USB downloads.

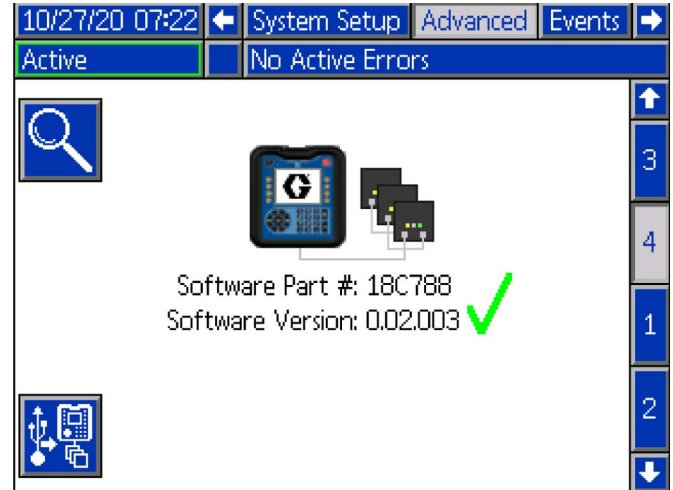


1. Press the  soft key to enter editing mode.
2. USB downloads automatically begin when a USB drive is inserted. Use the  key to disable USB downloads / uploads box.
3. if you do not want USB log errors to be generated on the ADM, use the  key to disable this feature in the disable USB log errors box.
4. For the download depth last feature, set the desired download depth using the  keypad and key to enter the desired number of days. recording this specifies how many days worth of pump data will be kept in the USB logs. Once the logs fill up, the oldest recording will be overwritten.
5. To enable a time frame range of data download, upon insertion of a USB drive, Use the  key in the data range prompt enable box.

6. Press the  soft key to save your changes and exit editing mode.

Advanced Setup Screen 4


Use the ADM Directional Keypad (CH) to navigate to Advanced Screen 4.



This screen can be used to view the version of software used in the system. Additionally, this screen is used to update the system software using a USB drive with the latest software and a Graco black token. The latest software is provided on Help.graco.com. Refer to the ADM Token In-System Programming manual for a detailed description of this screen. See **Related Manuals** on page 3.


Error and Events Screen

Events log Screen

Press the  soft key on Main Menu screen 1 to access the Events log. This screen shows the Date, Time, Event Code, and Description of all events that have occurred on the system. There are 20 pages, each holding 10 events. The 200 most recent events are shown. Use the ADM directional keypad (BH) to scroll through the pages.

10/27/20 07:22				←	Events	Errors	Troubleshooting	→
Active				No Active Errors				
Date	Time	Code	Description					
10/27/20	07:13	CBF1-A	Comm. Error					
10/26/20	14:27	CBF1-A	Comm. Error					
10/26/20	14:25	CBF1-A	Comm. Error					
10/26/20	14:24	CBF1-A	Comm. Error					
10/26/20	14:14	CBF1-A	Comm. Error					
10/26/20	14:07	CBF1-A	Comm. Error					
10/26/20	14:02	CBF1-A	Comm. Error					
10/26/20	13:53	CBF1-A	Comm. Error					
10/26/20	13:29	CBF1-A	Comm. Error					
10/26/20	13:08	CBF1-A	Comm. Error					

Errors Log Screen

Press the  soft key on Main Menu screen 1 to access the Errors log. This screen shows the Date, Time, Error Code, and Description of all errors that have occurred on the system. There are 20 pages, each holding 10 events. The 200 most recent errors are shown. Use the ADM directional keypad (BH) to scroll through the pages.

10/27/20 07:22				←	Advanced	Events	Errors	→
Active				No Active Errors				
Date	Time	Code	Description					
10/27/20	07:20	EBUX-V	Download to USB Complete					
10/27/20	07:20	EAUX-V	Download to USB In Process					
10/27/20	07:20	ELOX-R	Power On					
10/27/20	07:19	EMOX-R	Power Off					
10/27/20	07:15	EBUX-V	Download to USB Complete					
10/27/20	07:15	EAUX-V	Download to USB In Process					
10/27/20	07:14	ELOX-R	Power On					
10/27/20	07:14	EMOX-R	Power Off					
10/27/20	07:13	ELOX-R	Power On					
10/27/20	07:11	EMOX-R	Power Off					

Air Nucleation Operation (Optional)

Note: See **Air Nucleation Kit 25T717** page 74.

- Adjust the air pressure to desired pressure by turning the regulator knob. The pressure will be increased by turning the knob clock-wise and decreased by turning the knob counter-clockwise.
 - If the fluid pressure is greater than the air pressure, air will not flow into the base housing.
 - A check valve is installed so the fluid cannot travel back into the air nucleation kit.
- Adjust the flow rate by turning the flow rate adjustment knob clock-wise to increase flow or counter clock-wise to decrease flow. See FIG. 33.

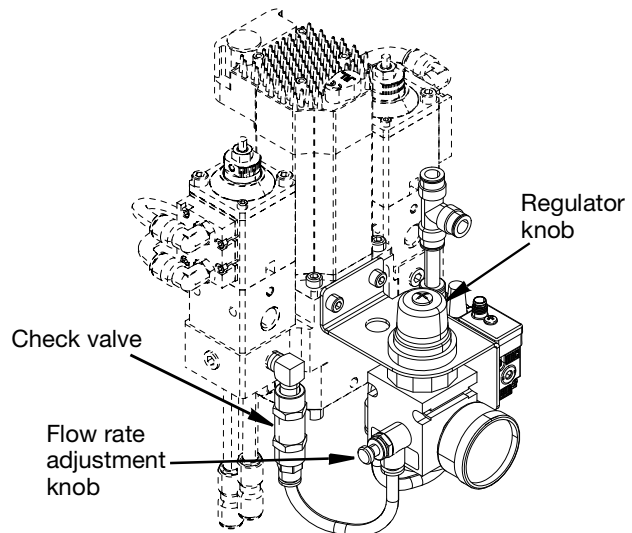


FIG. 33

- To activate the air nucleation feature, check the checkbox in the system setup screen of the ADM. The air nucleation will only actively run while the system is dispensing.
- To deactivate air nucleation, uncheck the checkbox in the system setup page of the ADM.

Operation and Software

Pressure Relief Procedure



Follow the Pressure Relief Procedure whenever you see this symbol.



This equipment stays pressurized until pressure is manually relieved. To help prevent serious injury from pressurized fluid, such as skin injection, splashing fluid and moving parts, follow the Pressure Relief Procedure when you stop dispensing and before cleaning, checking, or servicing the equipment.

This procedure describes how to relieve pressure from the Voltex Dynamic Mix Valve. See your supply system manual for instructions on relieving pressure from the entire system.

1. Shut off the material supply.
2. Actuate the Voltex Dynamic Mix Valve through the metering device into a grounded metal waste container to relieve the fluid pressure for both material sides.
3. Relieve all air pressure in the air lines by shutting off the air regulator (AF on page 14) on the controller.
4. If the valve tip or fluid hose is clogged, or if pressure has not been fully relieved after following the steps above:
 - a. Very slowly loosen the NPT inlet fitting from the Voltex Dynamic Mix Valve body or hose end coupling to relieve pressure gradually.
 - b. Loosen coupling or fitting completely.
 - c. Clear the hose or tip obstruction.

Shutdown

When shutting down for an extended amount of time:

1. Follow the **Pressure Relief Procedure** page 37.
2. Switch off controller which will also remove power to the valve.
3. Using the supplied night cap (138) place the night cap on the outlet of the valve.
4. Secure the night cap nut and hand tighten.

Flush the Voltex Dynamic Mix Valve



To avoid fire and explosion, always ground equipment and waste container. To avoid static sparking and injury from splashing, always flush at the lowest possible pressure.

- Flush before changing materials, before fluid can dry in the equipment, at the end of the day, before storing, and before repairing equipment.
 - Flush at the lowest pressure possible. Check connectors for leaks and tighten as necessary.
 - Flush with a fluid that is compatible with the fluid being dispensed and the equipment wetted parts.
1. Perform **Pressure Relief Procedure** page 37.
 2. Set supply pump to lowest possible fluid pressure, and start pump on the metering device.
 3. Hold a metal part of the Voltex Dynamic Mix Valve firmly to a grounded metal pail. Trigger the Voltex Dynamic Mix Valve via the metering device until clean solvent dispenses.

Run Screen Operation

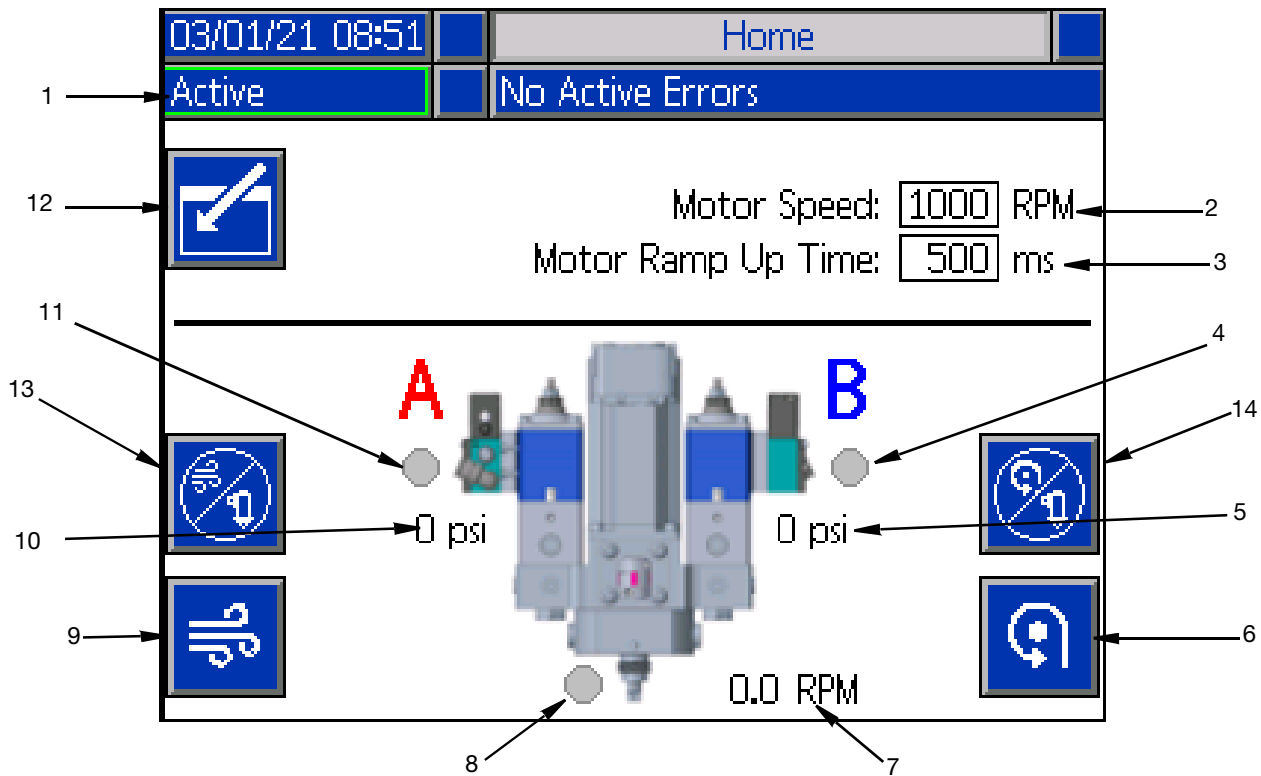


FIG. 34

1. **System State:** Green frame with Active indicated means the system is ready to run. Amber frame with System Off indicated means system is off.
2. **Motor RPM Setpoint:** The RPM's that the motor will run at. The Motor RPM Setpoint can be locked requiring a password.
3. **Motor Ramp Up Time:** This changes the amount of time in milliseconds the motor takes to get to the RPM setpoint.
4. **(B) Valve Status:** Icon turns green when the dispensing system turns on the valve signal. Icon turns grey when dispensing system is off.
5. **(B) Valve Pressure:** If a pressure transducer kit is installed, the text will appear on the screen and display the pressure. There is no error for the transducer being unplugged.
6. **Manual Motor:** This button allows the motor to be turned on by the ADM at the RPM setpoint.
7. **Motor Actual RPM:** Shows what speed the motor is at during the ramp period. It is not direct feedback from the motor.
8. **Air nucleation valve indicator:** Icon turns green if air nucleation is enabled and the valve is open. Icon turns grey when it is off.
9. **Air Purge button:** Will open the air nucleation valve indefinitely to blow out the material in the mixer.
10. **(A) Valve Pressure:** If a pressure transducer kit is installed, the text will appear on the screen and display the pressure. There is no error for the transducer being unplugged.
11. **(A) Valve Status:** Turns on when the dispensing system turns on the valve signal.
12. **Edit Mode:** Select to enter or exit the editing mode for the screen. Icon is grey when in edit mode and blue when off.

13. **Air Nucleation Disable for Dispensing:** Press this button to stop the air nucleation from running while dispensing. The icon turns grey to signal that the air nucleation has been disabled for dispensing. To re-enable the air nucleation for dispensing, press the button again. Every time a dispense occurs with the air nucleation disabled, an ECAA error will be placed into the events. See **Troubleshooting** on page 43 for more information on this error code.
14. **Motor Spinning Disable for Dispensing:** Press this button to stop the motor from spinning while dispensing. The icon turns grey to signal that the motor has been disabled for dispensing. To re-enable the motor for dispensing, press the button again. Every time a dispense occurs with the motor disabled, an ECMA error will be placed into the events. See **Troubleshooting** on page 43 for more information on this error code.

Maintenance



To help prevent serious injury from pressurized fluid, relieve pressure using the **Pressure Relief Procedure** before cleaning, checking or servicing the equipment.

NOTE: Before disassembly, make sure all spare parts are available (new in an unopened package if delivered), and other parts are thoroughly cleaned. Lubricant and thread locking compound should also be available.

Inspect the **Voltex Dynamic Mix Valve** material lines, and air lines at least weekly. Inspect for leakage and other visible damage.

The following tables list the recommended maintenance procedures and frequencies for typical usage. The maintenance is divided between mechanical and electrical tasks.

Table 1: Mechanical

Weekly Task
Inspect for leaks
*Check hoses for wear
*Check/tighten material connections
*Check/tighten air connections
*Check/tighten mounting hardware connections

* Assumes movement from automation.

Table 2: Electrical

Task
Check cables for wear
Verify cable connections

Preventative Maintenance Changing Mixer

1. Follow the **Pressure Relief Procedure** page 37.
2. Follow the **Flush the Voltex Dynamic Mix Valve** page 37.
3. Disable the ADM by pressing the top right red button. See FIG. 35.

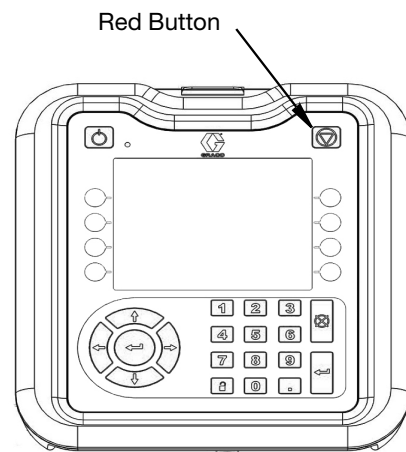


FIG. 35

4. Remove the shroud from the Voltex Dynamic Mix Valve. See FIG. 36.

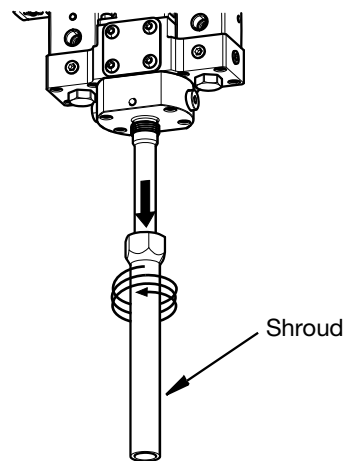


FIG. 36

- Slide the mixer cover off the mixer elements. See FIG. 37.

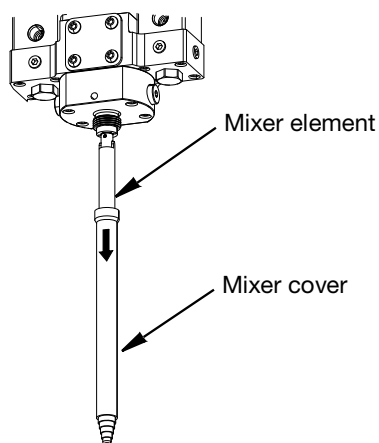


FIG. 37

- Remove the mixer element from the mixer adapter. See FIG. 38.

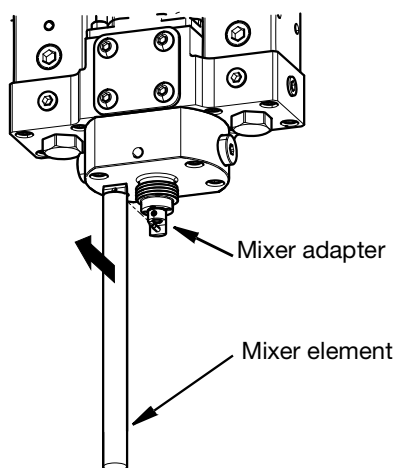


FIG. 38

- Clean tip of nozzle with compatible solvent. Make sure the ratio check nozzle clocking hole is free of material. See FIG. 39.

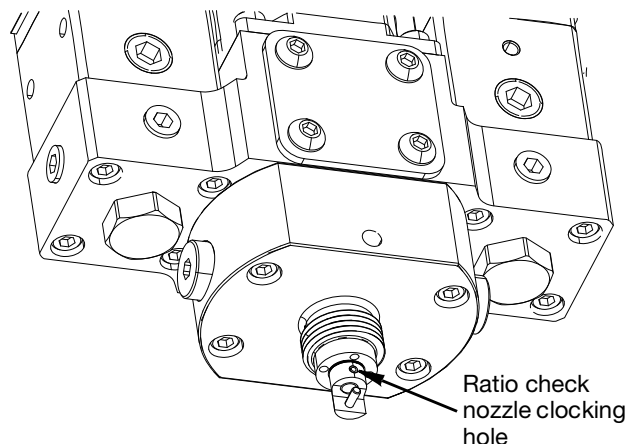


FIG. 39

- Place a new mixer on the mixer adapter.
- Push the mixer cover over the mixer and secure onto the nozzle.
- Install the shroud over the mixer and tighten.
- Enable the ADM by pressing the top left power button. See FIG. 40.

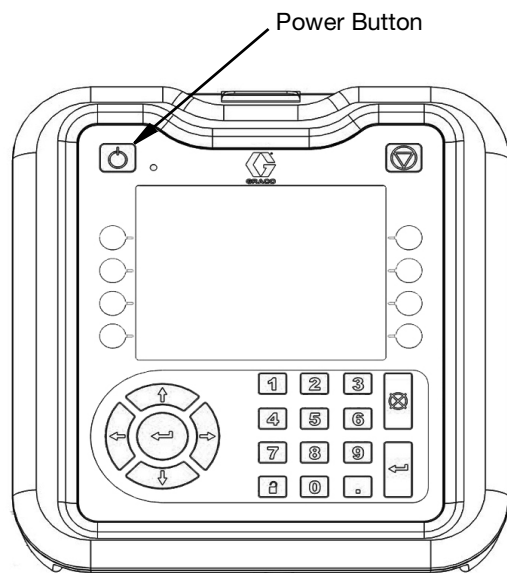


FIG. 40

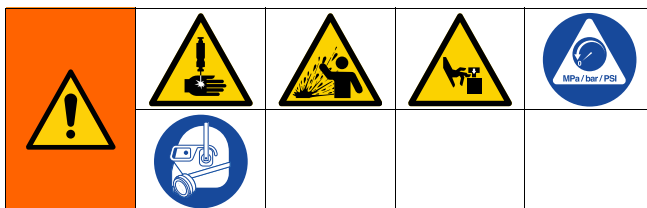
Recycling and Disposal

End of Product Life

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

- Perform the **Pressure Relief Procedure**, Page 37.
- Drain and dispose of fluids according to applicable regulations. Refer to the material manufacturer's Safety Data Sheet.
- Remove circuit boards, and other electronic components. Recycle according to applicable regulations.
- Deliver remaining product to a recycling facility.

Troubleshooting




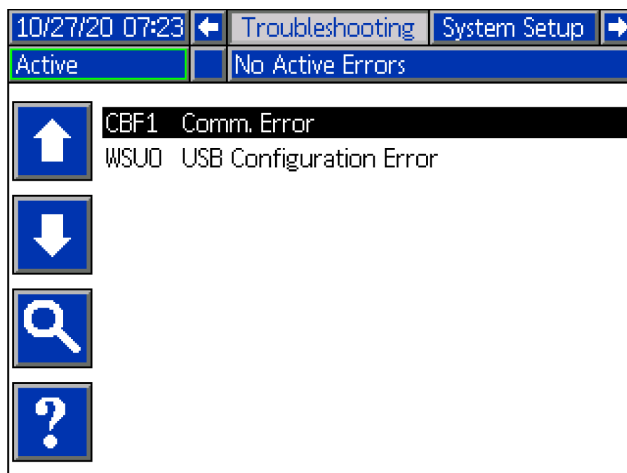
REMOTE SYSTEM ACTIVATION HAZARD

To avoid injury due to remote machine operation, perform the steps below before troubleshooting. This will prevent commands sent from the fieldbus or display module from actuating the metering device.


1. Follow the **Pressure Relief Procedure**, page 37, before checking or repairing the Voltex Dynamic Mix Valve.



View Errors

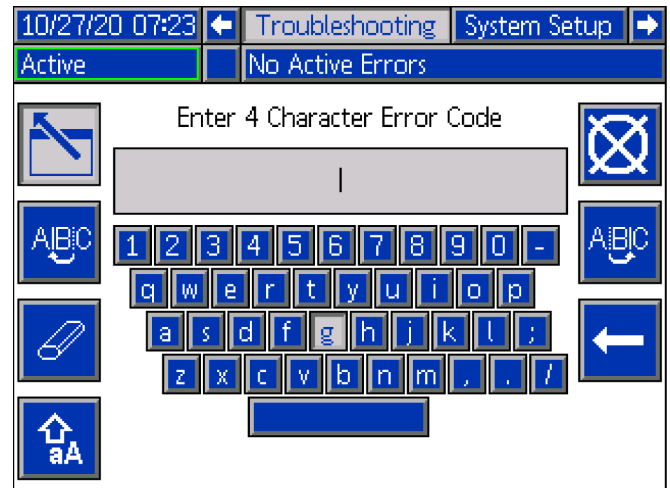
Press the  soft key at Main Menu screen to access the Troubleshooting screen.



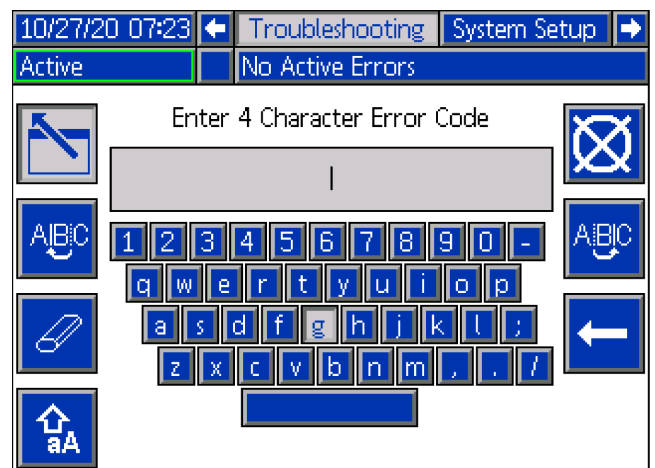
This screen shows the list of errors with error codes and descriptions. Use the arrow soft keys to scroll



through the list and select an error. Press the  soft key to advance to the QR Code screen for the selected error. See the **Troubleshoot Errors** on page 44.


Press the  soft key to advance to a keyboard screen that allows you to search for an error by error code. Type in the error code, then press the  soft key to advance to the QR Code screen.





Error Code Finder





Use the  and  soft keys to scroll the keyboard to select letters.

The  soft key changes back and forth from lower and upper case.

The  soft key erases everything you have typed.

The  soft key is the backspace to delete one letter at a time.


Press the  soft key to save the name and exit the keyboard screen. Press the  soft key to exit the screen without saving. Both actions return you to the Troubleshooting screen.


Troubleshoot Errors


When an error occurs, the error information screen displays the active error code and description.

Error codes are stored in the USB event logs and are displayed on the Error, Events and Troubleshooting screens on the ADM.

There are three types of errors that can occur. Errors are indicated on the display as well as by the light tower (optional).

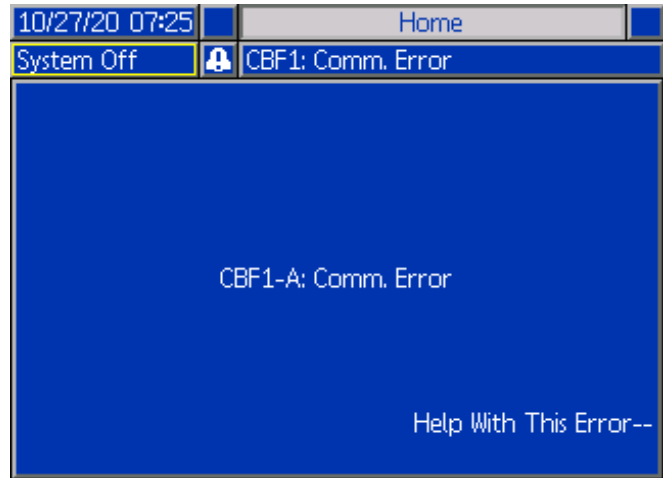
Alarms are indicated by . This condition indicates a parameter critical to the process has reached a level requiring the system to stop. The alarm needs to be addressed immediately.

Deviations are indicated by . This condition indicates a parameter critical to the process has reached a level requiring attention, but not sufficient enough to stop the system at this time.

Advisories are indicated by . This condition indicates a parameter that is not immediately critical to the process. The advisory needs attention to prevent more serious issues in the future.

To troubleshoot the error:

1. Press the soft key next to “Help With This Error” for help with the active error.



2. The QR Code screen will be displayed. Scan the QR code with your smart phone to be sent directly to online troubleshooting for the active error code.



Error Code: CBF1
Comm. Error





help.graco.com


NOTE: For causes and solutions for each error code, refer to the **Error Codes** table on page 45. You can also call Graco Technical Assistance or navigate to: <http://help.graco.com/>


Error Codes

There are three types of errors that can occur. Errors are indicated on the display as well as by the optional Light Tower.

Alarms are indicated by . This condition indicates a parameter critical to the process has reached a level requiring the system to stop. The alarm needs to be addressed immediately.

Deviations are indicated by . This condition indicates a parameter critical to the process has reached a level requiring attention, but not sufficient enough to stop the system at this time.

Advisories are indicated by . This condition indicates a parameter that is not immediately critical to the process. The advisory needs attention to prevent more serious issues in the future.

To acknowledge the error, press the  key.

Error	Location	Type	Error Name	Error Description	Cause	Solution
CACF	ADM	Alarm	Communication Error	Communication lost between ADM and Controller	No 24 VDC power supply to ADM	Reconnect or replace CAN cable connecting FCM and ADM. If CAN connection good, check 24V power supply wiring in side the controller enclosure. Make sure AC power to controller is turned off before checking power supply. Yellow LED on FCM should be flashing.
					Cross threaded CAN cable.	CAN cables carry 24 V DC power and communication between modules. A cross threaded CAN cable connector may cause problems with communication and/or power to modules. Carefully check for cross threaded CAN connections on the ADM and FCM. Yellow LED on FCM board should be flashing.
CCCF	FCM	Alarm	Duplicate Module	Multiple modules using same module ID	Two or more FCM have the same module ID	Remove the duplicate FCM from the network
EAUX	ADM	Advisory	Download to USB In process	Information is currently being downloaded to US	Download to USB initiated	No action necessary. Self-clearing
EBUX	ADM	Advisory	Download to USB complete	Download to USB is complete	All requested information has finished downloading to USB	No action necessary. Self-clearing

Error	Location	Type	Error Name	Error Description	Cause	Solution
ECAA	ADM	Record Only	Air Nucleation Disabled for Dispense	A dispense has occurred with the air nucleation disabled from the run screen.	The air nucleation dispense button was pressed on the home run screen and a dispense occurred.	No action necessary if desired. If not desired, press the button on the run screen again to enable the air nucleation during dispensing.
ECMA	ADM	Record Only	Motor Spinning Disabled for Dispense	A dispense has occurred with the motor disabled from the run screen.	The air nucleation dispense button was pressed on the home run screen and a dispense occurred.	No action necessary if desired. If not desired, press the button on the run screen again to enable the motor during dispensing.
ECOX	ADM	Record Only	Setup Values Changed	A setting in the setup screen was changed	A setting in the setup screens was changed	No action necessary if changes were desired.
ELOX	ADM	Record Only	Power on	The ADM was powered on	The ADM was powered on	No action necessary.
EMOX	ADM	Advisory	Power off	The ADM was powered off	The ADM was powered off	No action necessary.
EVUX	ADM	Advisory	USB disabled	USB downloads/uploads are disabled	USB download/upload was attempted, but USB activity is disabled within the setup screen	Advisory will clear when drive is removed. Enable USB downloads/uploads in setup screen if desired and reinsert USB drive.
MMUX	ADM	Advisory	USB Log 90% Full	One or more USB log is 90% full.	Data in the jobs or events log has not been downloaded recently and logs are nearly full.	Download the data or disable USB errors.
WBCX *	ADM	Deviation	Motor fault	Motor Faulted out	Over torque	Cycle power. Increase Ramp up time. Cycle Power to unit. Clean mixer. Cycle power to unit.
					No power to motor	Make sure that motor has power. Turn power off, then back on to check power supply.
WSUO	ADM	Alarm	USB Configuration Error	USB configuration file not detected	'USB configuration file not loaded or was deleted	Update software to the latest available on help.graco.com.

* If this error occurs go to the **Motor LED Blink Codes** on page 48.

Troubleshooting Chart

Problem	Cause	Solution
Air leaks from Voltex Dynamic Mix Valve.	Worn gasket.	Replace gasket.
	Loose or worn air connection.	Tighten air connections.
	Worn o-rings.	Replace o-rings in Air Section.
	Loose end cap screws.	Tighten screws.
Material leaks from nozzle of Voltex Dynamic Mix Valve.	Snuff-back seat or tip is worn	Replace snuff-back seat or tip.
	Snuff-back not adjusted properly.	Adjust snuff-back stroke.
Fluid delivery is slow	Pressure or flow rate setting is too low.	Increase incoming pressure or flow rate.
Fluid stream is not continuous	Air inside Voltex Dynamic Mix Valve.	Turn valve so the outlet is up, dispense at a low pressure/flow rate until all air is out of the Voltex Dynamic Mix Valve.
Pressure not balanced between A and B sides	Incorrect orifice sizing.	Change the orifice size to balance pressures. To increase pressure, use a smaller orifice. To decrease pressure, use a larger orifice.
	Blockage in flow path.	Removed check assemblies. Look for blockage in flow path. Flush check assemblies and ports if necessary.
Dispense valve does not shut off	Loose air connection or air supply turned off	Tighten air connections.
	Worn seat interface	Replace seat.
	Broken piston, debris in air cylinder, or debris inside the fluid section.	Disassemble dispense valve. Check and replace, if necessary, piston, piston rod and o-rings.
	Spring broken or not installed correctly	Disassemble air section of dispense valve. Check spring and replace if necessary.
Dispense valve does not open or dispense material	No power to motor	Tighten air connections.
	Broken piston, debris in air cylinder, or debris inside the fluid section.	Disassemble dispense valve. Check and replace, if necessary, piston, piston rod and o-rings.
	Check valves clogged	Remove, clean and replace (if necessary) check valve.

Problem	Cause	Solution
Motor does not spin	No power to motor	Make sure motor power cable is fully plugged in.
	No signal to motor	Make sure motor signal cable is fully plugged in.
	Motor error	Check motor to see if motor is blinking anything other than green. turn power off then back on.
	Coupling not connected	Make sure set screws are tight on the motor shaft and mixer shaft.

Motor LED Blink Codes

LED activity	Affect on Motion	Status of Exception Message reported in UI
No LED activity	N/A	No (or low) Power Verify power is correctly wired and within specified voltage range
Yellow - On Solid	N/A	Status: Disabled Motor power is turned off
Yellow - Flicker	N/A	Status: Performing Commutation Start - up
Green - Flicker	N/A	Status: Enabled Motor power is on. Motor will respond to motion commands.
Yellow - two blinks	Disallows motion	User Stop ESC key or button was pressed by the user.
Yellow - two blinks	Disallows motion	Motor Enable Conflict The hardware inputs did not match the active software override inputs when the motor was enabled via the hardware enable line.
Yellow - three blinks	Disallows motion	Max Bus Voltage Exceeded Probable cause: high AC line voltage, large regenerated voltage upon deceleration
Yellow - three blinks	Disallows motion	Power Event Detected Probable cause: Dropped AC phase; Bus volts under operating voltage.
Yellow - four blinks	Disallows motion	Command Speed Too High Probable cause: commanded speed/velocity is beyond motor spec.
Yellow - four blinks	Disallows motion	Tracking Error Limit Exceeded Possible causes: excessive friction, mechanical misalignment, vel/accel too high, low DC bus voltage.
Yellow - four blinks	Disallows motion	RMS Torque Limit Exceeded Possible causes: excessive friction, mechanical misalignment, duty cycle too high, undersized motor.
Yellow - four blinks	Disallows motion	Excessive Bus Current Probable cause: bad tuning, low bus voltage.
Yellow - five blinks	Disallows motion	Excessive Motor Temp Possible causes: ambient temperature too high for motor load; poor cooling; fan not running (if used).

LED activity	Affect on Motion	Status of Exception Message reported in UI
Yellow - six blinks	Disallows motion	Momentary Low Bus Voltage Power supply drooped below 18V, insufficient current capabilities, and/impedance too high.
Yellow - seven blinks	Disallows motion	Old Config File Version Probable cause: Firmware updated after config file was saved. Create or load new config file.
Yellow - seven blinks	Disallows motion	Motor Phase Overload Phase current is beyond allowed ADC limit. Probable cause: incorrect tuning or wrong config file.
Yellow - seven blinks	Disallows motion	Hard Stop Gave Way A mechanical hard stop was detected during homing but it gave way before homing was completed.
Yellow - seven blinks	Disallows motion	Excessive Bus Current Probable cause: bad tuning, low bus voltage.
Yellow - seven blinks	Disallows motion	Commutation Startup Error DC bus too low for proper commutation start-up. Possible causes: brown out, incorrect power supply voltage, supply configured for higher AC line voltage.
Yellow - seven blinks	Disallows motion	Old Config File Version Load config file compatible with motor's firmware version, or reset motor to factory defaults.
Yellow - Strobe	Disallows motion	Velocity Set Too High Velocity/speed limit exceeds motor's factory-set maximum speed.
Yellow - Strobe	Disallows motion	RAS Change Rejected Unexpected error. Contact Graco for work-around or new firmware
Yellow - Strobe	Disallows motion	Speed Too High For RAS Unexpected error. Contact Graco for work-around or new firmware
Yellow - Strobe	Disallows motion	MagAlign Distance Error Distance traveled does not match expected value. Possible cause: motor against an end stop, incorrect motor settings.
Yellow - Strobe	Disallows motion	DSP Watchdog Restart Firmware problem. Re-flash firmware with same or newer firmware version. Return unit to Graco if problem not solved.
Green / Yellow alternating	Disallows motion	Travel Limits Violated (lockdown) Command side is on the wrong side of the home position.
Green / Yellow alternating	Disallows motion	Travel Limits Violated (lockdown) Commanded position is beyond the max travel from home position as specified in Homing Setup.
Green / Yellow alternating	Disallows motion	Travel Limits Violated (lockdown) Commanded position is beyond the max travel from home position as specified in homing Setup.
Green / Yellow alternating	Disallows motion	Motor Enable Conflict The hardware inputs did not match the active software override inputs when the motor was enabled via the hardware enable line.
Green - two blinks	Allows motion (if cause is no longer present)	Travel Limits Violated (lockdown) Commanded position is on the wrong side of the home position.

LED activity	Affect on Motion	Status of Exception Message reported in UI
Green - two blinks	Allows motion (if cause is no longer present)	Travel Limits Violated (lockdown) Commanded position is beyond the Max Travel from Home position as specified in Homing Setup.
Green - two blinks	Allows motion (if cause is no longer present)	Move Buffer Underrun) Possible causes: move increments too small or sent too slowly.
Green - three blinks	Allows motion	Torque Saturation Power supply may be insufficient for application; Torque Limit may be set too low for command. Try lowering velocity and/or acceleration.
Green - three blinks	Allows motion	Voltage Saturation
Green - three blinks	Allows motion	Over Speed
Green - three blinks	Allows motion	Over Temp Internal electronics above shutdown threshold. Add fan.
Green - three blinks	Allows motion	Power Event Detected (warning) Probable cause: Dropped AC phase; Bus volts under operating voltage.
Red Toggle	Motor failure	Motor Has Failed Return to Graco for repair or replacement.

USB Data

Download Procedure

NOTE: If log files are not correctly saving to the USB flash drive (for example, missing or empty log files), save the desired data off of the USB flash drive and reformat it before repeating the download procedure.

NOTE: System configuration setting files and custom language files can be modified if the files are in the UPLOAD folder of the USB flash drive. See the **System Configuration Settings**, page 52, **Custom Language File**, page 52, and the **Upload Procedure** on page 53.

1. Insert the USB flash drive into the USB port located on the bottom of the ADM (E).

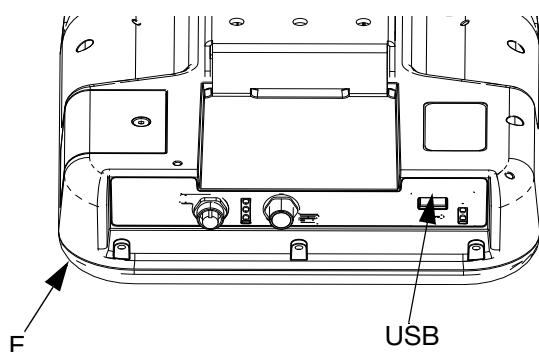


Fig. 41

2. The Menu Bar and USB indicator lights indicate that the USB is downloading files. Wait for USB activity to complete.
3. Remove the USB flash drive from the USB port.
4. Re-insert the USB flash drive into the USB port of computer.
5. The USB flash drive window automatically opens. If it does not, open the USB flash drive from within Windows[®] Explorer.
6. Open the GRACO folder.
7. Open the system folder. If downloading data from more than one system, there will be more than one folder. Each folder is labeled with the corresponding serial number of the ADM

NOTE: The serial number is on back of the ADM.

8. Open the DOWNLOAD folder.

9. Open the DATAxxxx folder.
10. Open the DATAxxxx folder labeled with the highest number. The highest number indicates the most recent data download.
11. Open the log file. Log files open in Microsoft[®] Excel by default as long as the program is installed. However, they can also be opened in any text editor or Microsoft[®] Word.

NOTE: All USB logs are saved in Unicode (UFT-16) format. If opening the log file in Microsoft Word, select Unicode encoding.

USB Logs

NOTE: The ADM can read/write to FAT (File Allocation Table) storage devices. NTFS, used by 32 GB or greater storage devices, is not supported.

During operation, the ADM stores system and performance related information to memory in the form of log files. The ADM maintains six log files:

- Event Log
- Data Log

Follow the **Download Procedure**, page 51, to retrieve log files.

Each time a USB flash drive is inserted into the ADM USB port, a new folder named DATAxxxx is created. The number at the end of the folder name increases each time a USB flash drive is inserted and data is downloaded or uploaded.

Event Log

The event log file name is 1-EVENT.CSV and is stored in the DATAxxxx folder.

The event log maintains a record of the last 1,000 events and errors. Each event record contains:

- Date of event code
- Time of event code
- Event code
- Event Type
- Event Description

Event codes include both error codes (alarms, deviations, and advisories) and record only events.

Data Log

The Data log file name is 2-DATA.csv and is stored in the DATAxxxx folder.

The Data log records system information every 15 seconds when the system is active. The following information is included for Units A and B:

- Weight (g)
- Pump cycles
- Platen cycles
- Zone temperatures for zones 1-17 (°C)

NOTE: “_ _” will be displayed if the unit is not installed, if the unit is offline, if the temperature zone is uninstalled, or if the sensor is not plugged in.

System Configuration Settings

The system configuration settings file name is SETTINGS.TXT and is stored in the DOWNLOAD folder.

A system configuration settings file automatically downloads each time a USB flash drive is inserted into the ADM. Use this file to back up system settings for future recovery or to easily replicate settings across multiple systems. Refer to the **Upload Procedure** on page 53 for instructions on how to use this file.

Custom Language File

The custom language file name is DISPTEXT.TXT and is stored in the DOWNLOAD folder.

A custom language file automatically downloads each time a USB flash drive is inserted into the ADM. If desired, use this file to create a user-defined set of custom language strings to be displayed within the ADM.

The system is able to display the following Unicode characters. For characters outside of this set, the system will display the Unicode replacement character, which appears as a white question mark inside of a black diamond.

- U+0020 - U+007E (Basic Latin)
- U+00A1 - U+00FF (Latin-1 Supplement)
- U+0100 - U+017F (Latin Extended-A)

Create Custom Language Strings

The custom language file is a tab-delimited text file that contains two columns. The first column consists of a list of strings in the language selected at the time of download. The second column can be used to enter the custom language strings. If a custom language was previously installed, this column contains the custom strings. Otherwise the second column is blank.

Modify the second column of the custom language file as needed and then follow the **Upload Procedure** on page 53 to install the file.

The format of the custom language file is critical. The following rules must be followed for the installation process to succeed.

- Define a custom string for each row in the second column.
 - NOTE:** If the custom language file is used, you must define a custom string for each entry in the DISPTEXT.TXT file. Blank second-column fields will be displayed blank on the ADM.
- The file name must be DISPTEXT.TXT.
- The file format must be a tab-delimited text file using Unicode (UTF-16) character representation.
- The file must contain only two columns, with columns separated by a single tab character.
- Do not add or remove rows to the file.
- Do not change the order of the rows.

Upload Procedure

Use this procedure to install a system configuration file and/or a custom language file.

1. If necessary, follow the **Download Procedure** on page 51 to automatically generate the proper folder structure on the USB flash drive.
2. Insert a USB flash drive into the USB port of computer.
3. The USB flash drive window automatically opens. If it does not, open the USB flash drive from within Windows Explorer.
4. Open the GRACO folder.
5. Open the system folder. If working with more than one system, there will be more than one folder within the GRACO folder. Each folder is labeled with the corresponding serial number of the ADM (the serial number is on the back of the module).
6. If installing the system configuration settings file, place the SETTINGS.TXT file into the UPLOAD folder.
7. If installing the custom language file, place the DISPTXT.TXT file into the UPLOAD folder.
8. Remove the USB flash drive from the computer.
9. Install the USB flash drive into the ADM USB port.
10. The Menu Bar and USB indicator lights indicate that the USB is downloading files. Wait for USB activity to complete.
11. Remove the USB flash drive from the USB port.

NOTE: If the custom language file was installed, you can select the new language from the Language drop-down menu in **Advanced Setup Screen 1** on page 34.

Repair



To help prevent serious injury from pressurized fluid, relieve pressure using the before cleaning, checking or servicing the equipment.

NOTE: Before disassembly, make sure all spare parts are available (new in an unopened package if delivered), and other parts are thoroughly cleaned. Lubricant and thread locking compound should also be available.

Prepare for Service

1. Before any repairs are made to the Voltex Dynamic Mix Valve, make sure air and material pressures are relieved and the system power is disconnected.
 - a. Follow the **Flush the Voltex Dynamic Mix Valve** page 37.
 - b. Follow the **Pressure Relief Procedure** page 37.

Voltex Dynamic Mix Valve Disassembly

The Voltex Dynamic Mix Valve can either be repaired after being removed from its mounting point or left attached depending on the ease of the repair.

Remove the Voltex Dynamic Mix Valve from it's fixture. See FIG. 42.

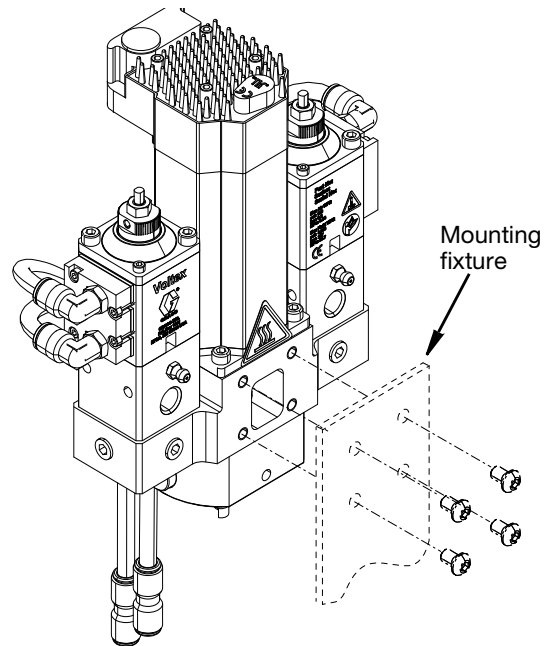


FIG. 42

Valve Seat and Reverse Tip Repair

Disassembly

1. Perform the **Prepare for Service** procedure on page 54.
2. Remove the valve seat retainer (107) using a 19 mm open end wrench.
3. Remove the nut (106) holding the reverse tip (105) using a 5.5 mm socket.
4. Using pin removal tool (149), align and center large diameter end of pin removal tool onto the reverse shaft (128) and press until it stops.
5. Remove the valve seat (104) and O-ring (103) using a 45° style pick. See FIG. 43 page 55.

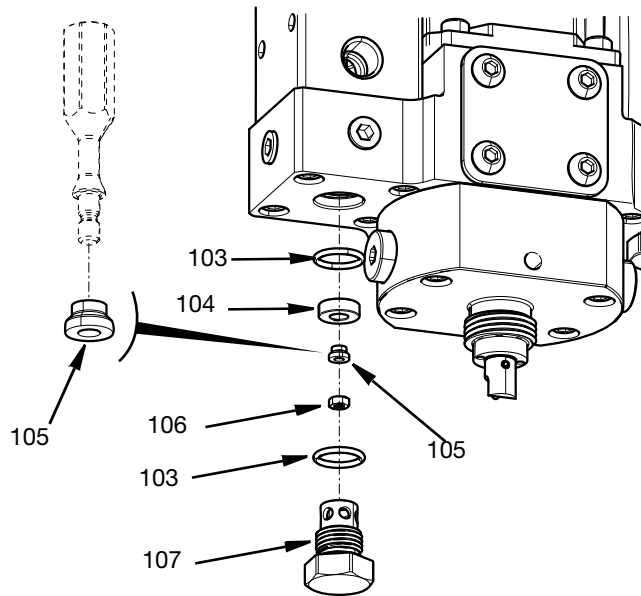


FIG. 43

Assembly

1. Install O-ring (103) and valve seat (104).
2. Manually press down on top of dispense valve until fully depressed. See FIG. 44.

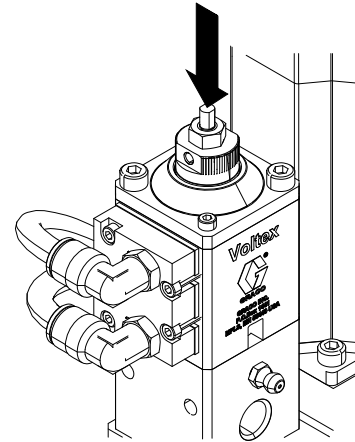


FIG. 44

3. Slide the reverse tip (105) onto the rod adapter. Note the orientation of the reverse tip. See FIG. 43.
4. Apply blue anaerobic sealant (132) to the threads of the rod adapter and tighten the nut (106) using a 5.5 mm socket. Torque to 8-10 in-lbs (1.12-1.35 Nm). Reference FIG. 43.
5. Install O-ring (103) onto valve seat retainer (107).
6. Install valve seat retainer (107). Torque to 30-35 in-lbs (3.39-3.95 Nm).

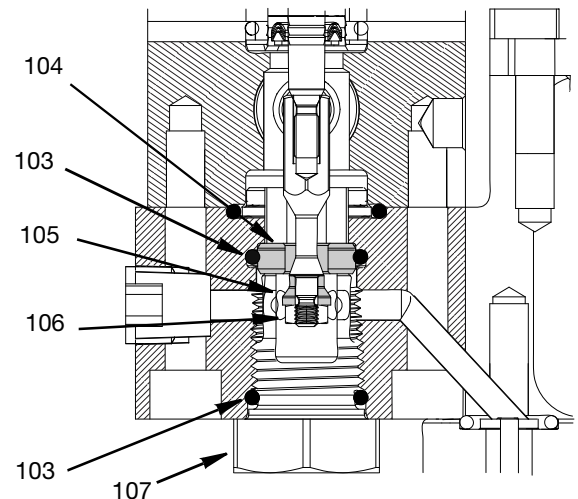


FIG. 45

Material Component Valve

Disassembly

1. Perform the **Prepare for Service** procedure on page 54.
2. Follow the **Valve Seat and Reverse Tip Repair** disassembly instructions.
3. Remove the 5/16" round nylon tubes (141) from the elbow fittings (146).
4. Remove the two outer screws first then the inner two screws (130) holding the valve (125) to the base housing (101) using a 4 mm allen wrench.
5. Remove the O-ring packing (103). See FIG. 46.

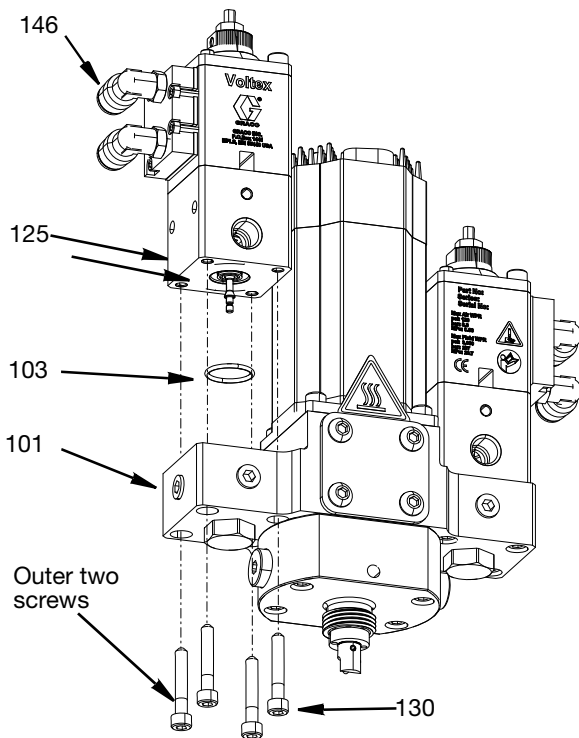


FIG. 46

Assembly

1. Install O-Ring (103) onto the base housing (101).
2. Place the valve (125) on the base housing (101) with the air fittings oriented away from the motor. Screws (130) are torqued to 50 in-lbs (13 Nm)
3. Follow the **Valve Seat and Reverse Tip Repair** Assembly section to complete this repair section.

Orifice Access

Disassembly

1. Perform the **Prepare for Service** procedure on page 54.
2. Remove check valve body, check valve assembly and retainer (Parts 110 - 116) using a 5 mm allen wrench.
3. Remove orifice and packing O-Ring (117) at the bottom of the check valve and orifice housing (109) body cavity. See FIG. 47.

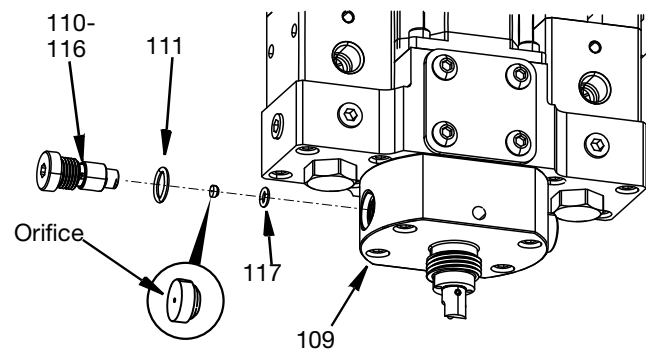


FIG. 47

Assembly

1. Install new packing O-Ring (117) into the cavity of the check valve housing (109).
2. Place the orifice in the end of the check valve assembly and retainer (110-116).
3. Place a new O-Ring (111) on the check valve assembly and retainer.
4. Screw the check valve assembly and retainer into the check valve housing (109) using a 5 mm Allen wrench. Torque to 30-35 in-lbs (3.39-3.95 Nm).

Check Valve

Disassembly

1. Perform the **Prepare for Service** procedure on page 54.
2. Remove the check valve body (110) using a 5mm allen wrench.
3. Remove orifice and O-Ring (117) from the bottom of the check valve housing (109).
4. Unscrew the check valve retainer (116) from the check valve body (110) using a 6 mm wrench (1/4 in.) wrench and 5mm allen wrench.
5. Remove the check ball (114), comp spring (115), valve seat (113), and O-ring packing (112) from the check valve body (110). See FIG. 48.

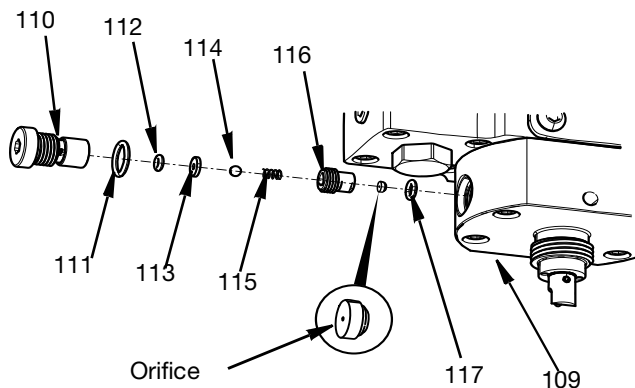


FIG. 48

Assembly

1. Install the o-ring (112) and the valve seat (113) into the check valve body (110).
2. Install the compression spring (115) and ball bearing (114) into the check valve body (110).
3. Screw check valve retainer (116) into the check valve body using a 6 mm (1/4 in.) open end wrench and 5 mm allen wrench.
4. Place a new o-ring (117) into the cavity of the check valve housing (109).
5. Place a new O-ring (111) onto the check valve body (110).
6. Place the orifice onto the end of the check valve retainer (116).
7. Screw in the check valve, check valve retainer and assembly using a 5 mm allen wrench.

Rotary Seal Repair

Disassembly

1. Perform the **Prepare for Service** procedure on page 54.
2. Remove the coupling cover (135) by removing the four screws (136) with a 4mm Allen wrench.
3. Loosen clamp screw on the lower part of the rotary coupling (127) using a 5/64 in. allen wrench. Do not use a ball end allen wrench. See FIG. 49.

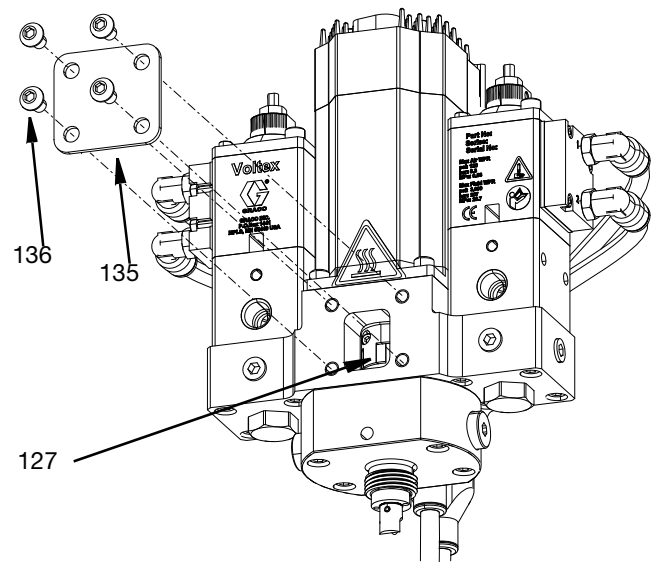


FIG. 49

4. Remove the four screws (122) with a 4 mm allen wrench.
5. Remove the check valve housing (109) and O-rings (108).
6. Remove the bearing shaft assembly (119) by pulling down on the mixer adapter.

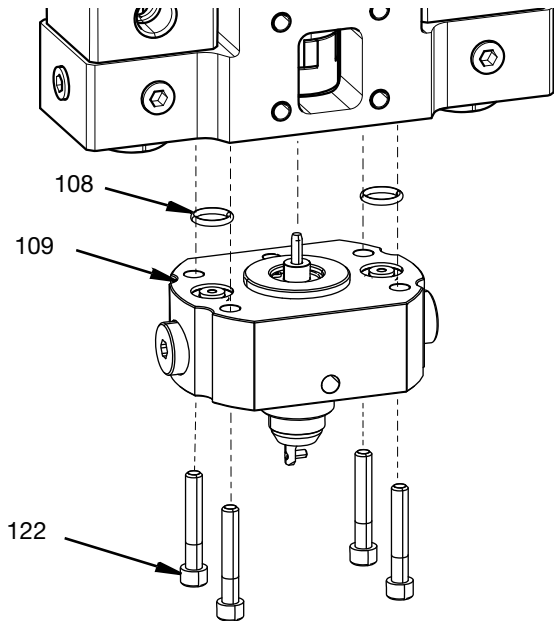


FIG. 50

7. Using snap ring pliers, remove the retaining ring (118) holding the upper shaft bearing in place (143).
8. Pull the upper shaft bearing (143) out of the check valve housing (109).
9. Remove the lower bearing (120), and the shaft seal (121) out of the check valve nozzle housing using the 1/4 in. punch tool (149). See FIG. 51.

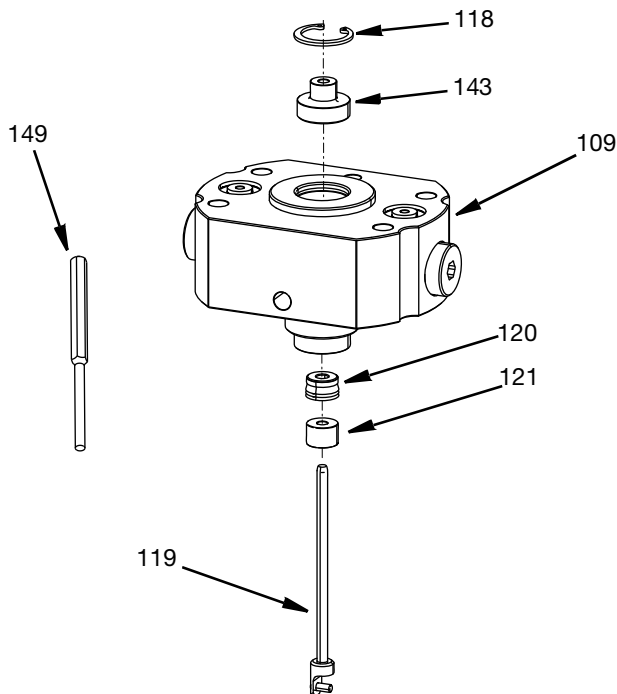


FIG. 51

Assembly

1. Install the upper shaft bearing (143) into the check valve housing (109).
2. Install retaining ring (118) making sure it is fully engaged in the ring slot.
3. Insert the rotary seal (121) into the cavity of the check valve housing (109) using the insert tool (142). **NOTE:** Orientation of rotary seal (121) seal spring faces outward.
4. Pack the cavity with lubricant grease (148). See FIG. 52. Using the insert tool (142), install the lower shaft bearing (120) so it is flush with the housing end.

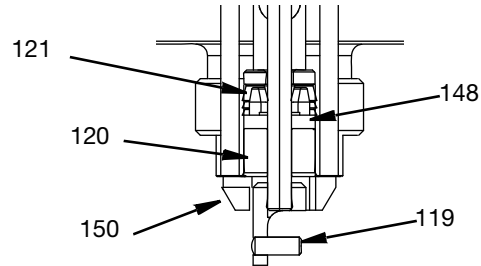


FIG. 52

5. Install the shaft assembly (119) onto the check valve housing (109). Use the spacer tool (151) to ensure there is a 0.03 in. (0.76 mm) gap.
6. Replace the two o-rings (108) on the top of the check valve nozzle.
7. Ensure lower portion of lower rotary coupling (127) is fully seated against rotary coupling.
8. Install the four screws through the bottom of the check valve and orifice nozzle housing (109) into the base housing. (101) Torque to 50 in-lbs (13 Nm).
9. Tighten the clamp screw on the rotary coupling (127) to lock it onto the bearing shaft assembly using a 5/64 in. allen wrench.
10. Install the coupling cover (135) with the four screws (136) opposite the customer provided mounting fixture. Torque to 50 in-lbs (13 Nm). See FIG. 50 and FIG. 51 for assembly.

Motor

Disassembly

1. Perform the **Prepare for Service** procedure on page 54.
2. Disconnect the motor power and signal cables.
3. Remove the four M6 screws holding the coupling cover using a 5 mm allen key. See FIG. 49, page 57.
4. Loosen clamp screw on upper part of the coupler (127) using a 5/64 in. allen key. NOTE: Do not use ball end allen wrench.
5. Remove the four M5 screws (123) with a 4mm allen wrench.
6. Remove the motor (124). See FIG. 53.

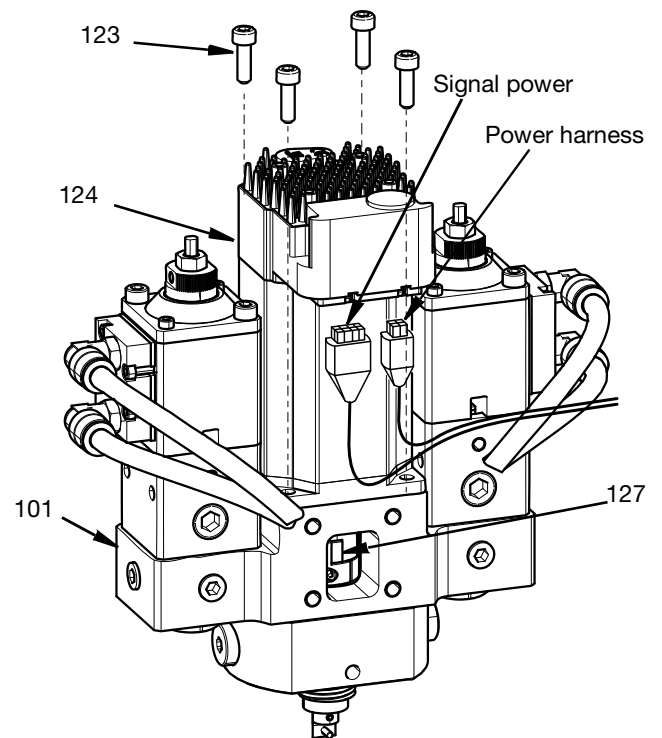


FIG. 53

Assembly

1. Install the motor onto the fluid housing.
2. Install the four M5 screws with a 4mm allen wrench.
3. Tighten the clamp screw on the lower part of the coupler using a 5/64 in. allen wrench. Torque to 22 in-lbs (2.5 N•m).
4. Connect signal power and power harness cables.
5. Install the coupling cover with the four M6 screws with a 5 mm allen wrench.

Coupler

Disassembly

1. Perform the **Prepare for Service** procedure on page 54.
2. Disconnect the signal power and power harness cables.
3. Remove the coupling cover (135) by removing the four M6 screws (136) with a 5mm Allen wrench.
4. Loosen clamp screw on the lower part of the rotary coupling (127) using a 2.5 mm allen wrench. See FIG. 31 page 32. NOTE: Do not use ball end allen wrench.
5. Remove the four M5 x 16 screws (123) with a 4mm allen wrench.
6. Remove the motor(124). See FIG. 54,

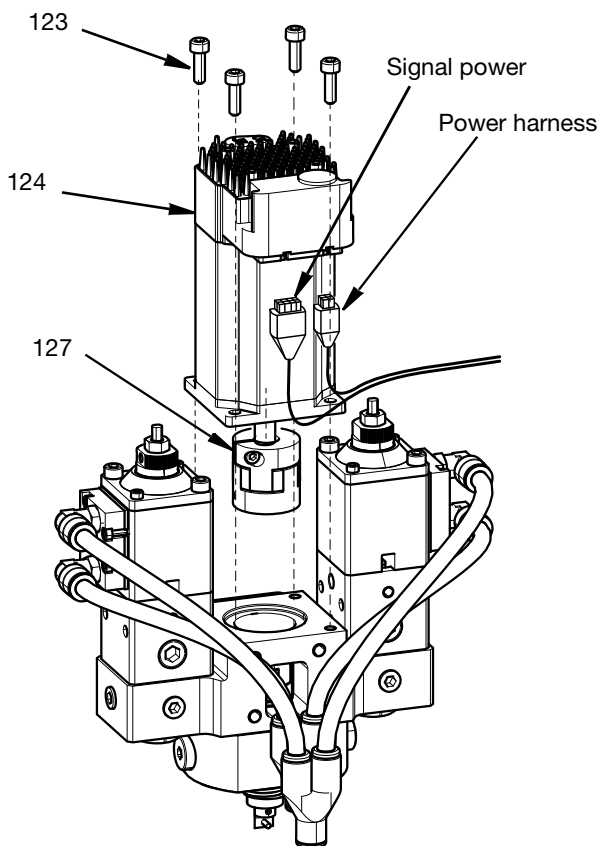


FIG. 54

7. Loosen the upper rotary coupling (127) clamp screw with a 2.5 mm allen wrench. NOTE: Do not use ball end allen wrench.
8. Remove the rotary coupling (127) from the motor shaft. See FIG. 55.

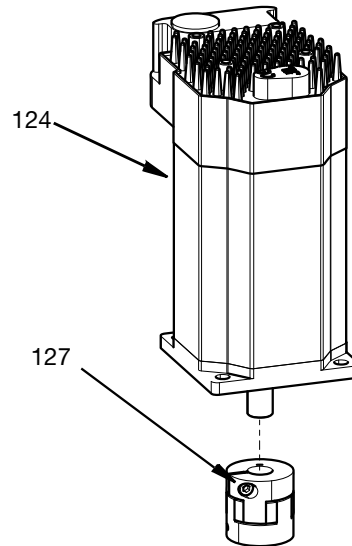


FIG. 55

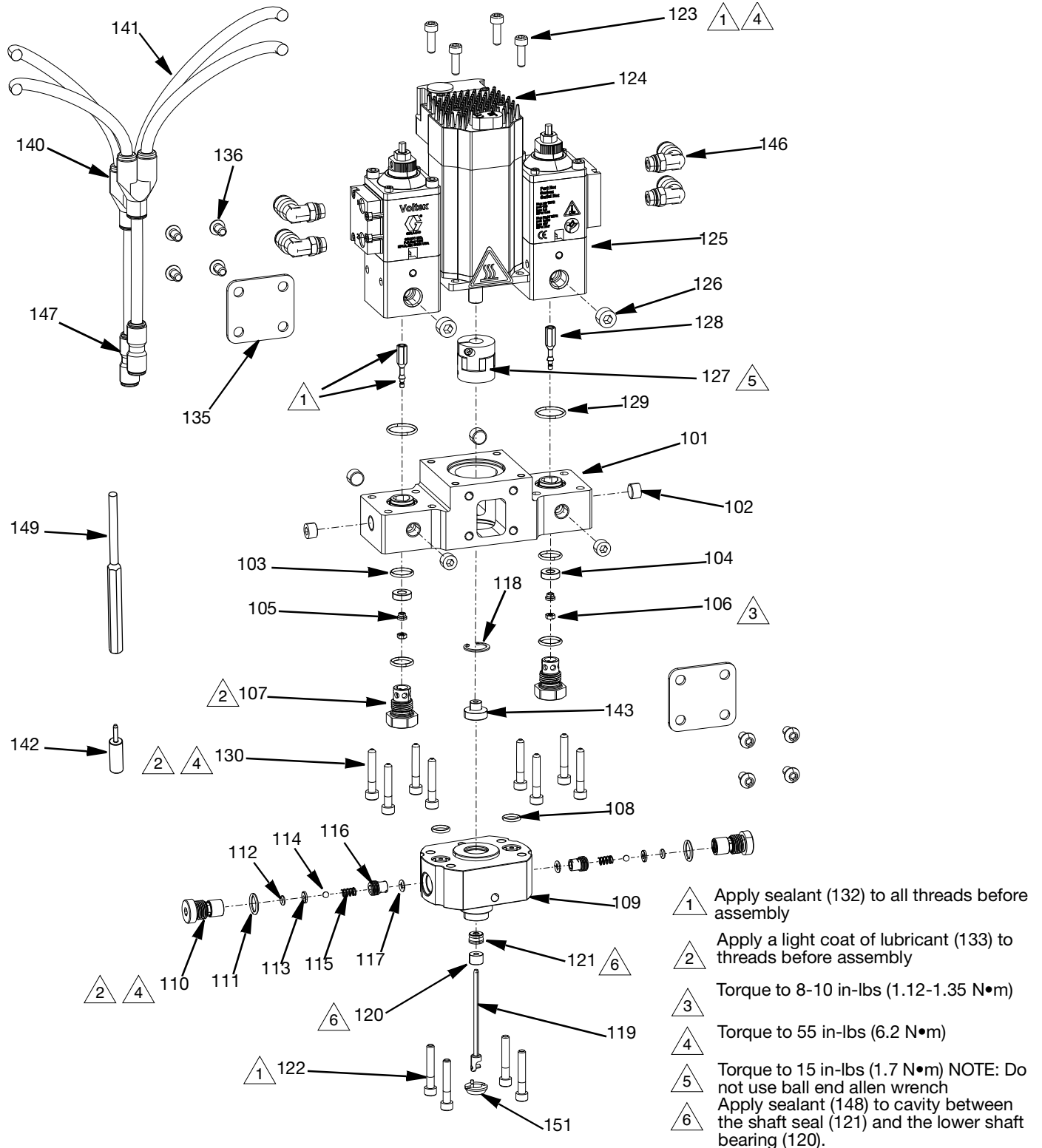
Assembly

1. Install the rotary coupling (127) to the motor (124) shaft.
2. Tighten the upper rotary coupling (127) clamp screw with a 5/64 in. allen wrench.
3. Install the motor (124) onto the base housing (101).
4. Install the four M5 x 16 screws (123) with a 4mm allen wrench.
5. Tighten the clamp screw on the lower part of the rotary coupling (127) using a 5/64 in. allen wrench. Torque to 15 in-lbs (1.7 N•m).
6. Install the coupling cover (135) by installing the four M6 screws (136) with a 5mm Allen wrench.
7. Connect the motor power and signal cables.

Parts

Voltex Dynamic Mix Valve

25T670



Voltex Dynamic Mix Valve Parts List (25T670)

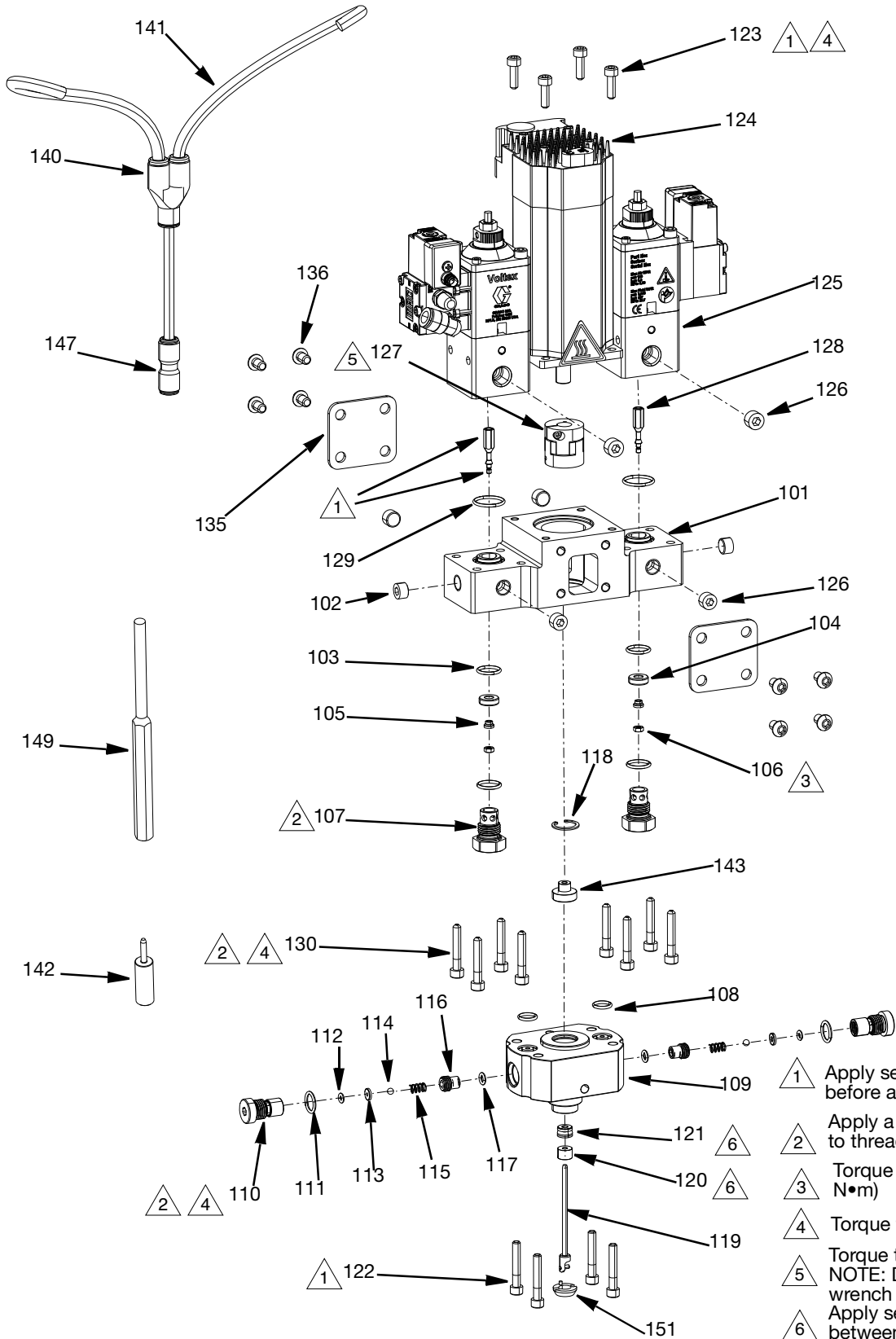
Ref.	Part	Description	Qty.
101	25T725	BASE, housing	1
102	110208	PLUG, pipe, headless, 1/8 NPT	6
103	117724	PACKING, O-ring	4
104	185467	SEAT, valve	2
105	17H991	TIP, reverse, 1/4 in.	2
106	125104	NUT, hex, M3	2
107	18C755	RETAINER, seat, valve shut off	2
108	106555	PACKING, O-ring	2
109	18C945	HOUSING, check valve and orifice	1
110	18C948	BODY, check valve	2
111	106559	PACKING, O-ring	2
112	110421	PACKING, O-ring	2
113	-----	SEAT, valve	2
114	101680	BALL, bearing	2
115	97/0203 /98	SPRING, comp, 0.120 ODX .3125L, 7.41L	2
116	18C947	RETAINER, check valve and orifice.	2
117	106456	PACKING, O-ring	2
118	121642	RING, retaining. int.	1
119	-----	SHAFT, assembly	1
120	-----	BEARING, lower shaft	1
121	-----	SEAL, shaft, rotary	1
122	120937	SCREW, SHC, M5-0.8 x 30	4
123	117126	SCREW, SCHS, M5 x 16	4
124	25T729	MOTOR, servo, NEMA 23.4K RPM	1
125 **	25B374	VALVE, 25, rev, adj / sol	2
126	101970	PLUG, pipe HDLS, 1/4 NPT	2
127	25T728	COUPLING, rotary, shaft	1
128	-----	SHAFT, reverse, 1/4 in.	2
129	117610	PACKING, O-ring	2
130	121194	SCREW	8
131*	-----	CAP, plug, polyurethane	2
132*	-----	SEALANT, anaerobic, blue	1
133*	-----	LUBRICANT, anti seize, food grade 8 oz.	1
134*	-----	TAPE, sealant, ceramic, 0.50 in.x x 50 ft.	1
135	-----	COVER, coupling	2
136	124166	SCREW, BHCS, M6-1.0 x 10, SS	8
137*	-----	CAP, night	1
138*	-----	NUT, night cap	1
139*	-----	NOZZLE, ratio check, DMV	1
140	16D006	FITTING, tube, wye, 5/16 in.	2
141*	054776	TUBE, nylon, round, 5/16 in. / 8 mm	1

Ref.	Part	Description	Qty.
142*	-----	TOOL, seal, installation	1
143	-----	BEARING, upper shaft	1
144	17Y024	PIN, spring, slotted, 094 x 0.375	1
145*	-----	CABLE, GCA, DISP/AIR, valves	1
146	116197	FITTING, elbow, 5/16 od x 1/8 NPTF	4
147	127690	FITTING, adapter, 5/16 in tube x 1/4 in tube	2
148	-----	LUBRICANT, grease, PTFE	1
149	133201	TOOL, pin removal	1
151	-----	INSERT, separator	1
152*	-----	TERMINAL, flag, spade	1

* Parts are not shown in the Central Body Assembly diagram.

** Part 25B374 is equivalent to V25AS000DA. See manual 333585 for replacement parts.

25T750



- 1 Apply sealant (132) to all threads before assembly
 - 2 Apply a light coat of lubricant (133) to threads before assembly
 - 3 Torque to 8-10 in-lbs (1.12-1.35 N•m)
 - 4 Torque to 55 in-lbs (6.2 N•m)
 - 5 Torque to 15 in-lbs (1.7 N•m)
 - 6 NOTE: Do not use ball end allen wrench
- Apply sealant (148) to cavity between the shaft seal (121) and the lower shaft bearing (120).

Voltex Dynamic Mix Valve Parts List (25T750)

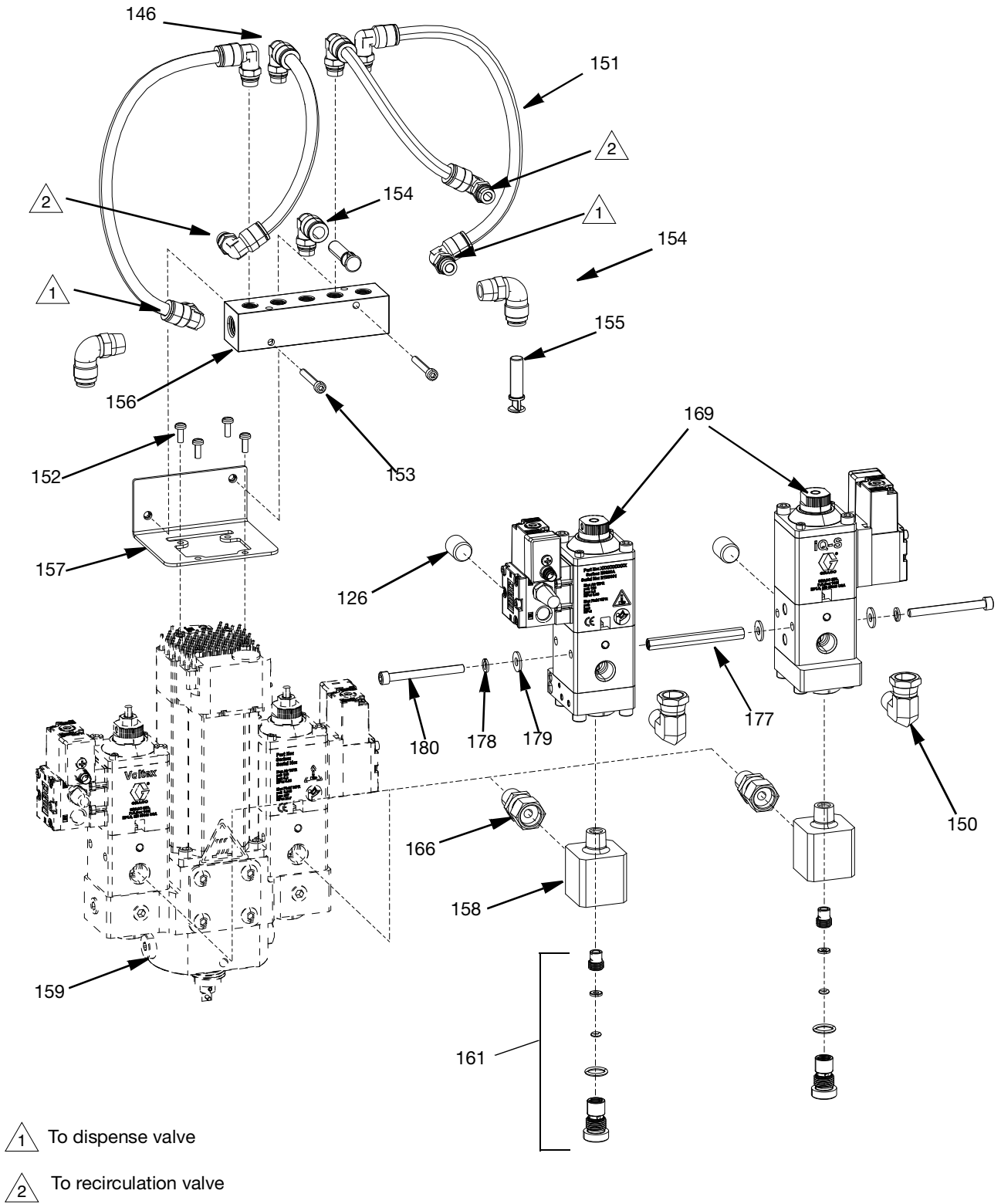
Ref.	Part	Description	Qty.
101	25T725	BASE, housing	1
102	110208	PLUG, pipe, headless, 1/8 NPT	6
103	117724	PACKING, O-ring	4
104	185467	SEAT, valve	2
105	17H991	TIP, reverse, 1/4 in.	2
106	125104	NUT, hex, M3	2
107	18C755	RETAINER, seat, valve shut off	2
108	106555	PACKING, O-ring	2
109	18C945	NOZZLE, check valve and orifice	1
110	18C948	BODY, check valve	2
111	106559	PACKING, O-ring	2
112	110421	PACKING, O-ring	2
113	-----	SEAT, valve	2
114	101680	BALL, bearing	2
115	97/0203/ 98	SPRING, comp, 0.120 ODX .3125L, 7.41L	2
116	18C947	RETAINER, check valve and orifice.	2
117	106456	PACKING, O-ring	2
118	121642	RING, retaining. int.	1
119	-----	SHAFT, assembly	1
120	-----	BEARING, lower shaft	1
121	-----	SEAL, shaft, rotary	1
122	120937	SCREW, SHC, M5-0.8 x 30	4
123	117126	SCREW, SCHS, M5 x 16	4
124	25T729	MOTOR, servo, NEMA 23.4K RPM	1
125 **	2001206	VALVE, 25, rev, adj / sol 2.4W	2
126	101970	PLUG, pipe HDLS, 1/4 NPT	2
127	25T728	COUPLING, rotary, 6.35 x 9.53 shaft	1
128	-----	SHAFT, reverse, 1/4 in.	2
129	117610	PACKING, O-ring	2
130	121194	SCREW	8
131*	-----	CAP, plug, polyurethane	2
132*	-----	SEALANT, anaerobic, blue	1
133*	-----	LUBRICANT, anti seize, food grade 8 oz.	1
134*	-----	TAPE, sealant, ceramic, 0.50 in.x x 50 ft.	1
135	-----	COVER, coupling	2
136	124166	SCREW, BHCS, M6-1.0 x 10, SS	8
137*	-----	CAP, night	1
138*	-----	NUT, night cap	1
139*	-----	NOZZLE, ratio check, DMV	1
140	16D006	FITTING, tube, wye, 5/16 in.	1
141*	054776	TUBE, nylon, round, 5/16 in. / 8 mm	1

Ref.	Part	Description	Qty.
142*	-----	TOOL, seal, installation	1
143	-----	BEARING, upper shaft	1
144	17Y024	PIN, spring, slotted, 094 x 0.375	1
145*	-----	CABLE, GCA, DISP/AIR, valves	1
147	127690	FITTING, adapter, 5/16 in tube x 1/4 in tube	1
148	-----	Lubricant, grease, PTFE	1
149	133201	TOOL, pin removal	1
151	-----	INSERT, separator	1
152*	-----	TERMINAL, flag, spade	1

* Parts are not shown in the Central Body Assembly diagram.

** Part 25B373 is equivalent to V25AS000BA. See manual 333585 for replacement parts.

25U361



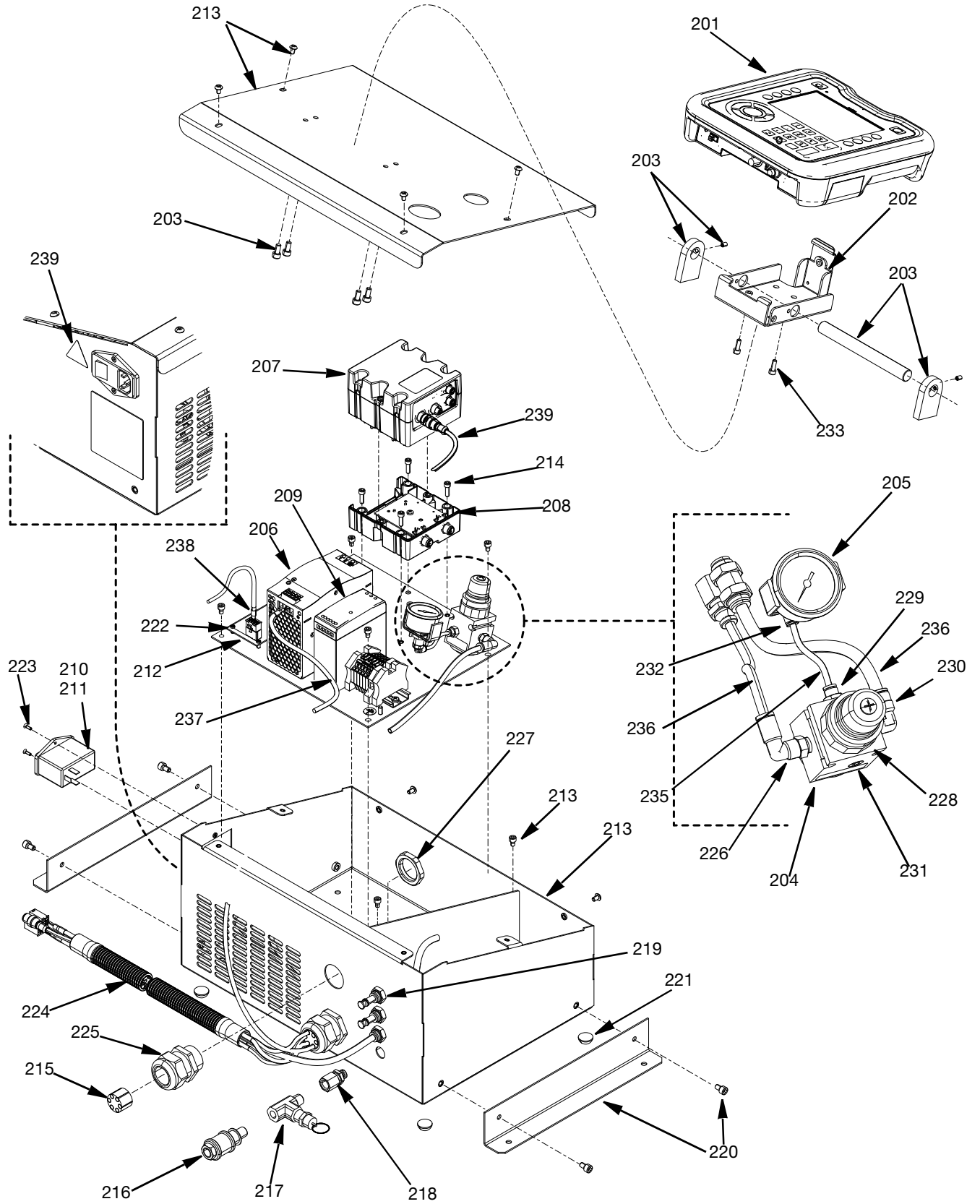
Voltex Dynamic Mix Valve Recirculation Kit (25U361)

Ref.	Part	Description	Qty.
151	054864	TUBE, 5/16 In. OD x 13/64 In. ID , PU, blk	1
152	101845	SCREW, self tapping	4
126	101970	PLUG, pipe, HDLS	2
153	111308	SCREW, cap, SCH (M4x30.0)	2
154	115948	FITTING, elbow, 1/4NPT(M), 5/16T OD	2
146	116197	FITTING, elbow, 5/16 OD x 1/8 NPTF	9
155	131965	PLUG, PTC, 5/16 In. or 8mm, nylon	2
156	133386	BLOCK, air, manifold	1
157	15N150	BRACKET	1
150	17R502	FITTING, elbow, swivel, 1/4 NPT-NPSM	4
158	19C889	HOUSING, orifice, cartridge	2
159◆	25T750	Voltex Dynamic Mix Valve	1
160*	073025	LUBRICANT, anti seize	1
161	25U299	RECIRCULATION, orifice	2
166	94/0561/98	FITTING, adapter, swivel, 1/4 NPT	2
167*	**	TAPE, sealant	1
169	V25AS000BA	VALVE, 25, NPT/S,000,ADJ	2
177	134353	FASTNER, standoff, 10-32 x 2.50, FF,SS	1
178	96/0308-2/98	SCREW, SHC, 10-32x2.00, SS	2
179	122706	WASHER, flat, #10, MS, 1/2 OD	3
180	100020	WASHER, lock	2

* Parts are not shown in the Central Body Assembly diagram.

◆ 25T750 Voltex Dynamic Mix Valve assembly and parts are shown on page 64.

Controller, 25T671, 25T672, 25T673, 25T674



Controllers , 25T671, 25T672, 25T673, 25T674 Parts List

Ref.	Part	Description	Quantity Per Model Number			
			25T671	25T672	25T673	25T674
201	25T734	MODULE, GCA, ADM	1	-	1	-
202	24A326	BRACKET, mounting, assembly	1	-	1	-
203	25T851	KIT, ADM, mounting	1	-	1	-
204	110341	REGULATOR, air	1	1	1	1
205	15T500	GAUGE, pressure, air, PL MNT 1/8	1	1	1	1
206	132976	POWER, supply, 48VDC	1	1	1	1
207	289696	MODULE, GCA, cube, FCM	1	1	1	1
208	289697	MODULE, GCA, cube, base	1	1	1	1
209	126453	POWER, supply, 24VDC	1	1	1	1
210	121254	SWITCH, power, 120 / 250V	1	1	1	1
211	114835	FUSE, 4.0 AMP, 250V, time lag	2	2	2	2
212	25T733	BOARD, analog , send ,unit	1	1	1	1
213	25T736	KIT, control, enclosure	1	1	1	1
214	113003	SCREW, SCH, 10X.62, SST	4	4	4	4
215	127886	GROMMET, pattern, controller	2	2	2	2
216	129775	VALVE, sleeve, shutoff, 1/4 MXF	1	1	1	1
217	116504	FITTING, tee	1	1	1	1
218	129774	BULKHEAD, 1/4 tube x 1/4 NPTF, brass	1	1	1	1
219	17D924	BULKHEAD 5/16, tube, OD	3	3	3	3
220	25T735	KIT, feet, wall mount	-	-	1	1
221	129772	BUMPER, adhesive, poly, 3/4 x 3/8	4	4	-	-
222	130431	SCREW, PHMS, M3 - 0.5 X 6, SS	4	4	4	4
223	120916	SCREW	2	2	2	2

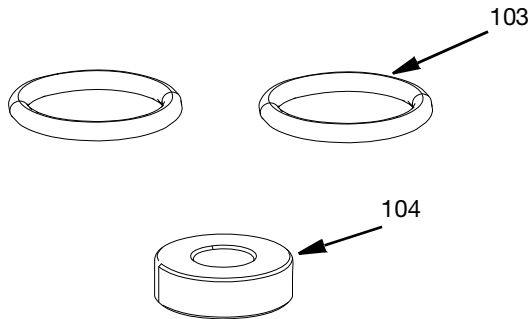
Ref.	Part	Description	Quantity Per Model Number			
			25T671	25T672	25T673	25T674
224	---	PROTECTOR, wire, corrugated	1	1	1	1
225	126881	BUSHING, strain relief	2	2	2	2
226	116197	FITTING, elbow, 5/16 x 1/8 NPTF	1	1	1	1
227	126891	NUT, bushing	1	1	1	1
228	110209	NUT, regulator	1	1	1	1
229	114263	FITTING, connector, male	1	1	1	1
230	112781	ELBOW, swivel. 90 deg.	1	1	1	1
231	100139	PLUG, pipe, 1/8 - 27 NPTF	1	1	1	1
232	111502	FITTING, tube	1	1	1	1
233	120885	SCREW	2	2	2	2
234	C12509	TUBE, nylon, round .75 ft.	1	1	1	1
235	61/0035/90	TUBE, 0.093 IDXO.156OD	1	1	1	1
236	054776	TUBE, nylon, round, 10.8 ft.	1	1	1	1
237	15N091	HARNESS. power, motor	1	1	1	1
238	15N092	HARNESS, signal, motor.	1	1	1	1
239▲	15G303	LABEL, warning, electrical	1	1	1	1

▲ Replacement safety labels, tags, and cards are available at no cost.

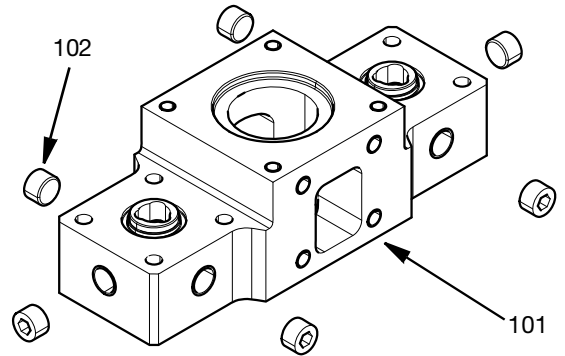
Repair Parts Kits

NOTE: Some parts in this section are not available for individual sale.

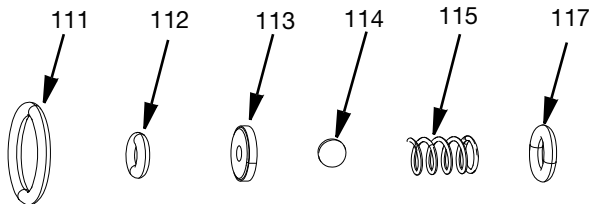
Valve Seat Kit, 25T722



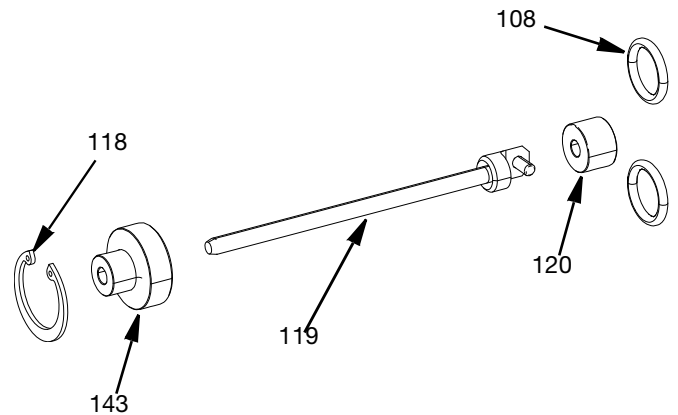
Base Housing Kit, 25T725



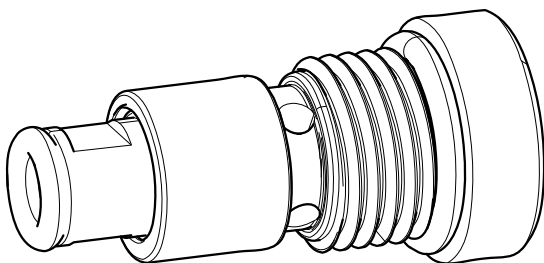
Check Valve Kit, 25T723



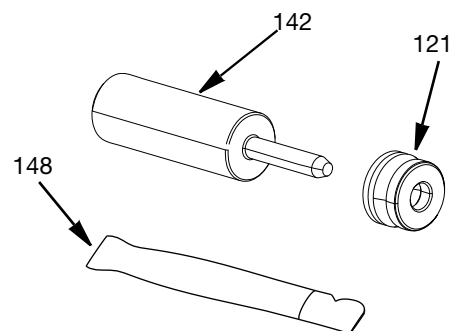
Bearing / Shaft Kit, 25V054



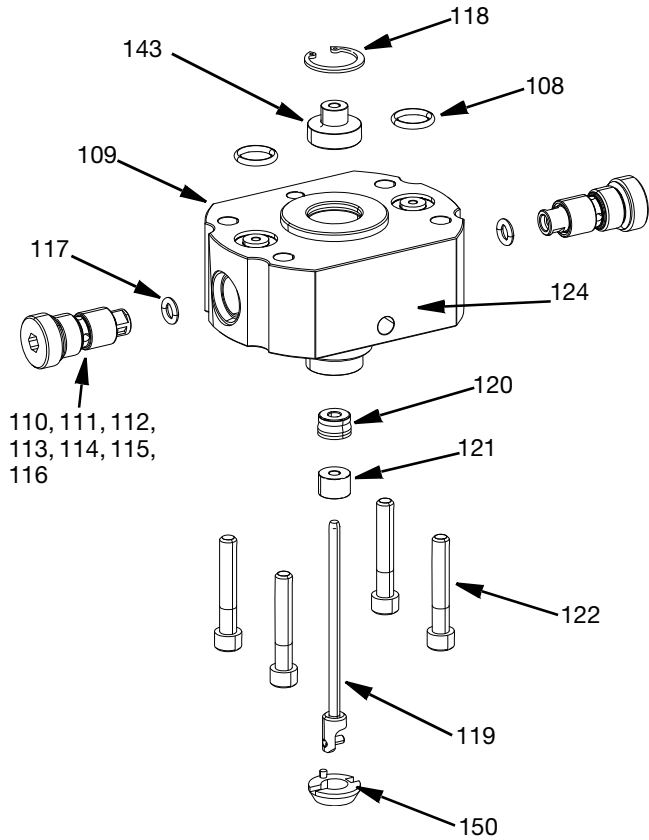
Check Cartridge Kit, 25T724



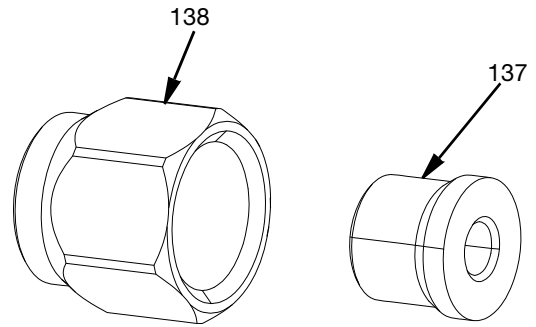
Rotary Seal Kit, 25V053



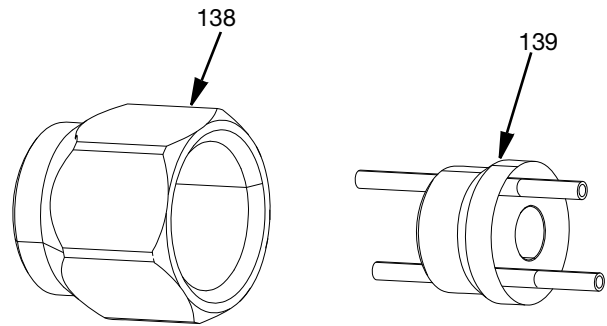
Complete Lower Housing Kit, 25V018



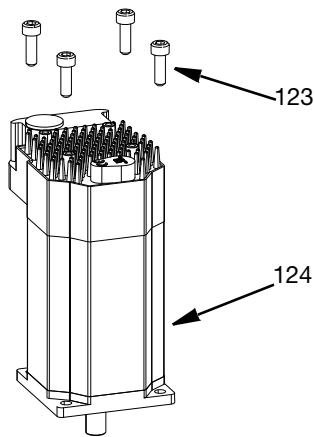
Night Cap Kit, 25T730



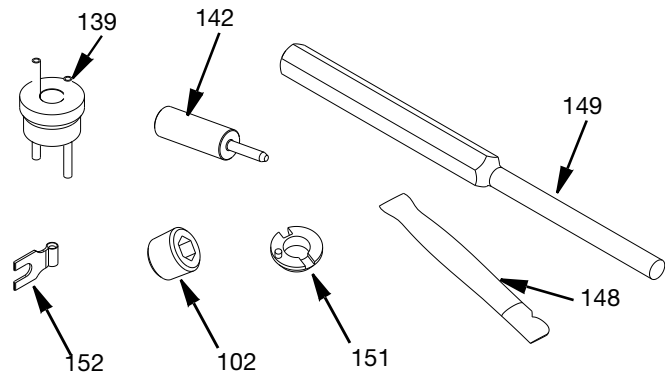
Ratio Check Kit, 25T731



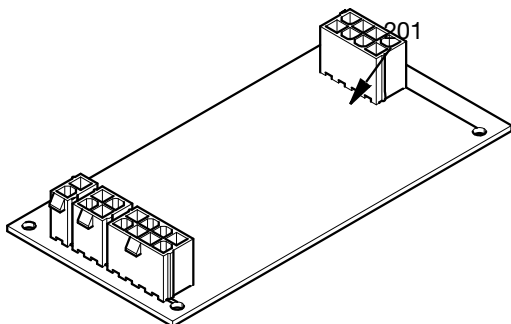
Motor Kit, 25T729



Voltex Parts Kit, 26B768



Analog Sending Unit (ASU) Replacement Kit, 25T733



1. Turn off the controller.
2. Unplug the motor cable from the motor plug.
3. Unplug the ASU I/O cable (18D019) from the I/O plug (P3).
4. Unplug the ASU analog cable (18D017) from the analog plug (P2).
5. Unplug the ASU 24V cable (18D020) from the 24V plug (P1).
6. Remove the four screws on the ASU.

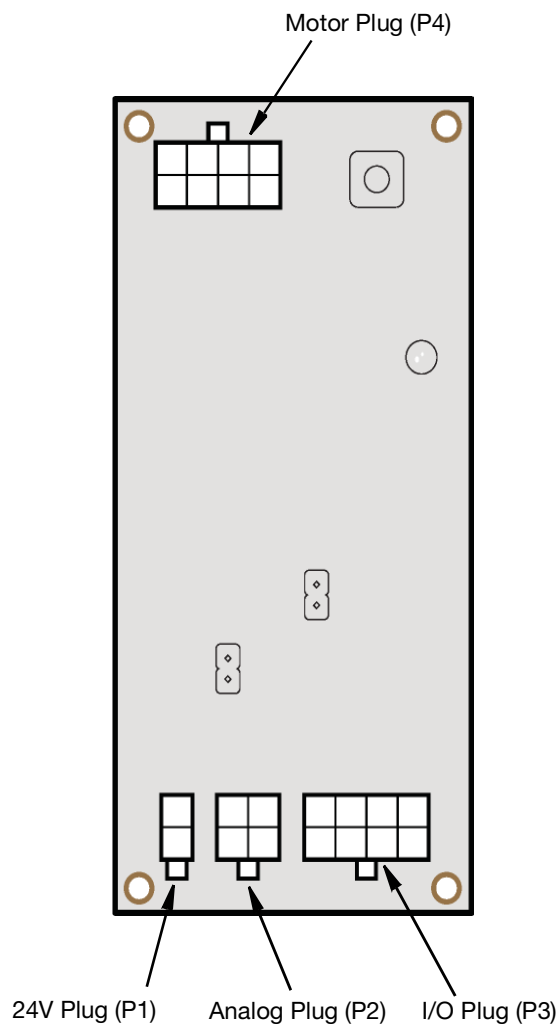
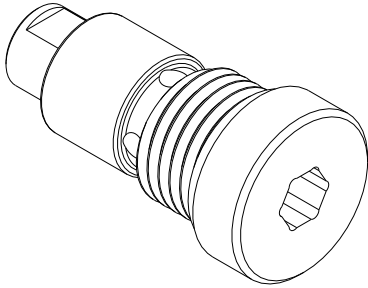


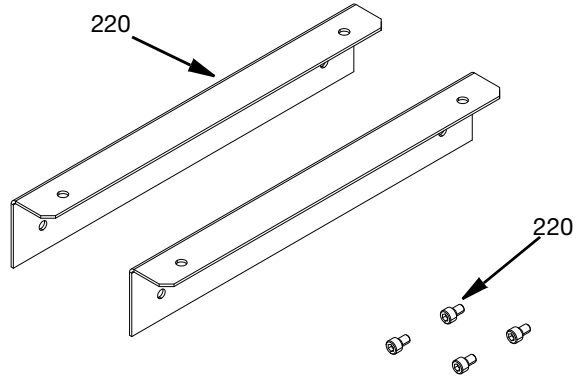
FIG. 56

7. Reattach the replacement ASU board with the four previously removed screws.
8. Connect the ASU I/O cable (18D019) to the I/O Plug (P3).
9. Connect the ASU analog cable (18D017) to the analog plug (P2).
10. Connect the ASU 24V cable (18D020) to the 24V plug (P1).
11. Turn the controller on.

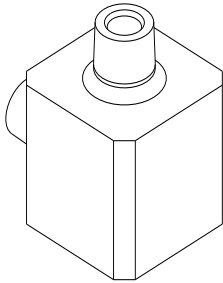
Orifice Cartridge Recirculation Kit, 25U359



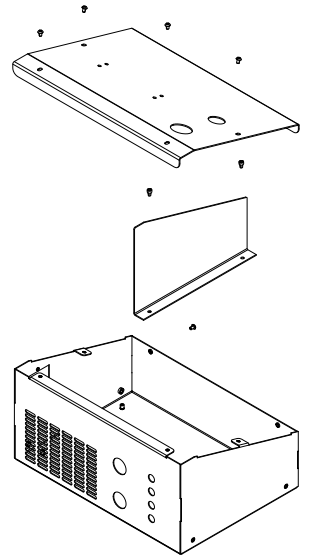
Wall Mount Feet Kit, 25T735



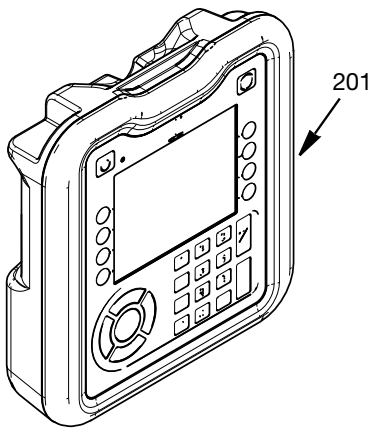
Orifice Housing Recirculation Kit, 25U360



Controller Enclosure Kit, 25T736



ADM Kit, 25T734



Accessories

PR70 Integration Kits

Pick one based on the metering system being used:

- 25T889 – Kit, Integration, PR70, 3m
- 25T890 – Kit, Integration, PR70, 6m

Controller Harness Extensions Kits

Longer harness between the Voltex Dynamic Mix Valve and controller. maximum length should not exceed 206 ft (63 m) in length.

Part	Description
25T718	Extension kit, 3 m length
25T719	Extension harness kit, 6 m length
25T720	Extension harness kit, 15 m length

Orifice Kits

Multiple orifice sizes are available to balance pressures between material component sides. Each kit contains two orifice and two O-rings. Part 25T675 contains two of each size orifice and 10 of each O-ring.

Part	A or B size (in / mm)
25T675	Multiple Orifice Kit
25T700	0.016 / 0.41
25T701	0.020 / 0.51
25T702	0.024 / 0.61
25T703	0.028 / 0.71
25T704	0.031 / 0.79
25T705	0.035 / 0.89
25T706	0.039 / 0.99
25T707	0.042 / 1.07
25T708	0.047 / 1.19
25T709	0.052 / 1.32
25T710	0.055 / 1.40
25T711	0.060 / 1.52
25T712	0.063 / 1.60
25T713	0.067 / 1.70
25T714	0.073 / 1.85
25T715	0.086 / 2.18
25T716	Blank

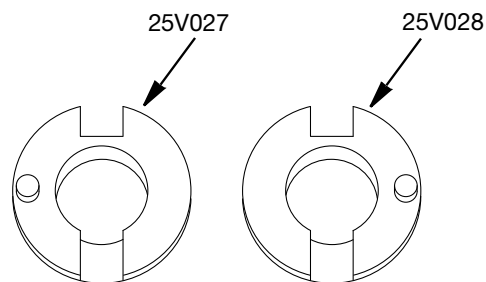
Mixer Kits

Part	Description
25S024	8mm x 12 Element, 10 pack
25S025	8mm x 12 Element, 50 pack
25S026	10mm x 12 Element, 10 pack
25S027	10mm x 12 Element, 50 pack
25S028	13mm x 12 Element, 10 pack
25S029	13mm x 12 Element, 50 pack
25S089	13mm x 12 Element, Luer Lok Adapter, 10 pack
25S090	13mm x 12 Element, Luer Lok Adapter, 50 pack

Shroud Kits

Part	Description
4-419-904	8mm x 12 Element
4-419-903	10mm x 12 Element
4-419-902C	13mm x 12 Element

Insert Kits



Part	Description
25V027	KIT, insert, left hand, qty 3
25V028	KIT, insert, right hand, qty 3

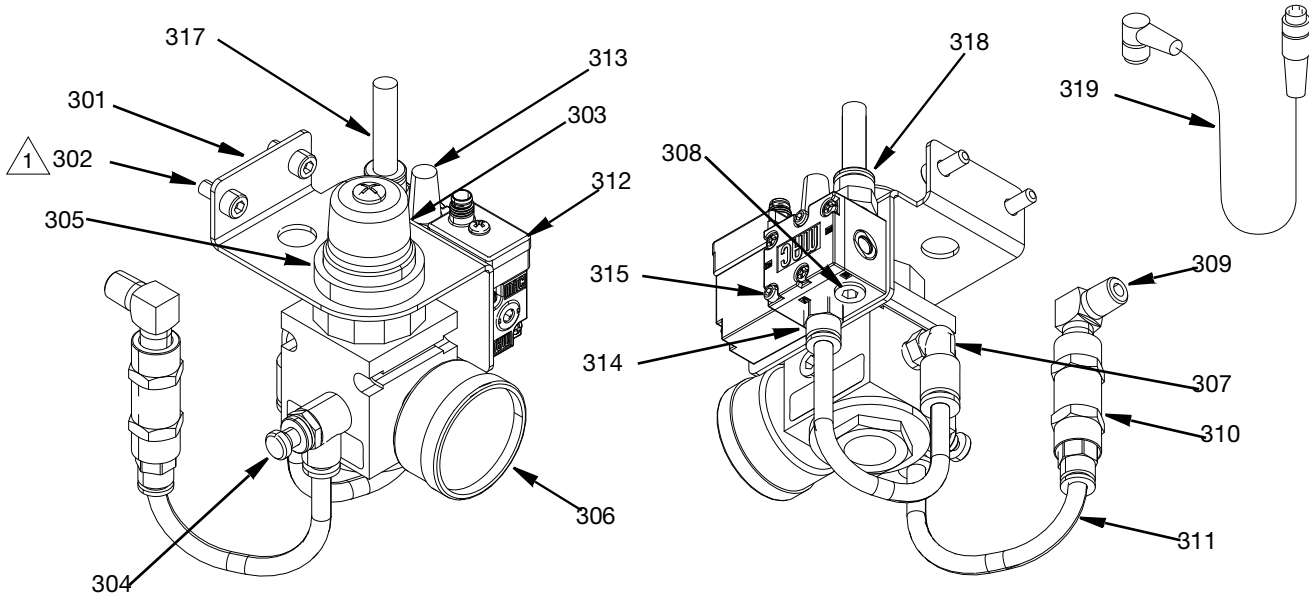
Inserts are used to keep mixed material out of the bearing/sealing surface of the shaft. This allows for easier cleaning and maintenance.

NOTE: Face the valve with the “X” on the right. Use the left hand insert if the base material is being dispensed on the right and the catalyst is on the left. Use the right hand insert if the catalyst is on the right and the base material is on the left.

Air Nucleation Kit 25T717

Allows for basic air nucleation. For reference see **Air Nucleation Operation (Optional)** page 36.

NOTE: For use with compressed air only.



1 Apply sealant (316) to all threads before assembly

Air Nucleation Kit Parts List

Ref.	Part	Description	Qty.
301	19B899	BRACKET, regulator	1
302	107100	SCREW, cap, sch	2
303	110341	REGULATOR, air	1
304	C06234	VALVE, flow, control	1
305	110209	NUT, regulator	1
306	108190	GAUGE, pressure, air	1
307	597151	FITTING, elbow	1
308	100139	PLUG, pipe 1/8 - 27 NPTF	2
309	110207	ELBOW, pipe	1
310	133002	VALVE, check, 1/8 NPTF x 1/8 NPTF	1
311	C12509	TUBE, nylon, RND	-
312	25V521	SOLENOID, 1/8 NPT, 24 VDC, 12W	1
313	C06061	MUFFLER, sintered, DIA 1/8	1
314	115671	FITTING, connector, male	1

Ref.	Part	Description	Qty.
315	130182	SCREW, SHCS, M3x25, CS, ZC	2
316*	-----	SEALANT, anaerobic, blue	1
	-		
317	054776	TUBE, nylon, round, 5/16 in / 8mm	3
318	129138	CONNECTOR, 1/8 NPT x 5/16 tube, MXF, PLTD	1
319	15N052	CABLE, M12 x M8, 5P x 4P, MXFSTR x ANG	1

* Parts are not shown in the Air Nucleation Kit diagram.

Air Nucleation Kit Installation

1. Perform the **Pressure Relief Procedure**, Page 37.
2. Remove the coupling cover (135) by removing the four M6 screws (136) with a 5mm Allen wrench. See FIG. 49 page 57.
3. Remove the pipe plug (102) from the base housing (101).
4. Assemble air nucleation kit onto the valve base housing (101) with the 2 Cap screws (302). Air nucleation kit can be assembled either remotely or onto the Voltex Dynamic Mix Valve as shown in FIG. 57.
5. Install air inlet port pipe elbow (309) into base housing (101)
6. Connect incoming air from the controller enclosure harness to the solenoid (312).
7. Connect cable to solenoid (312) See FIG. 57.

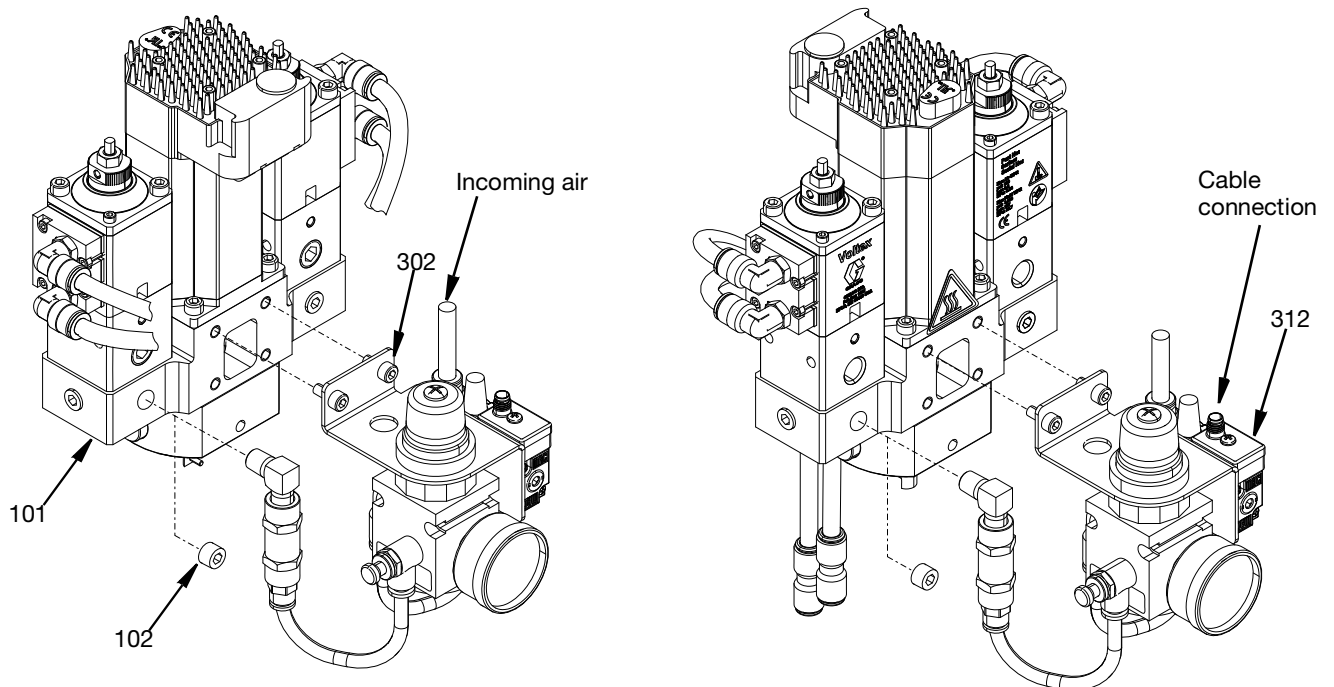
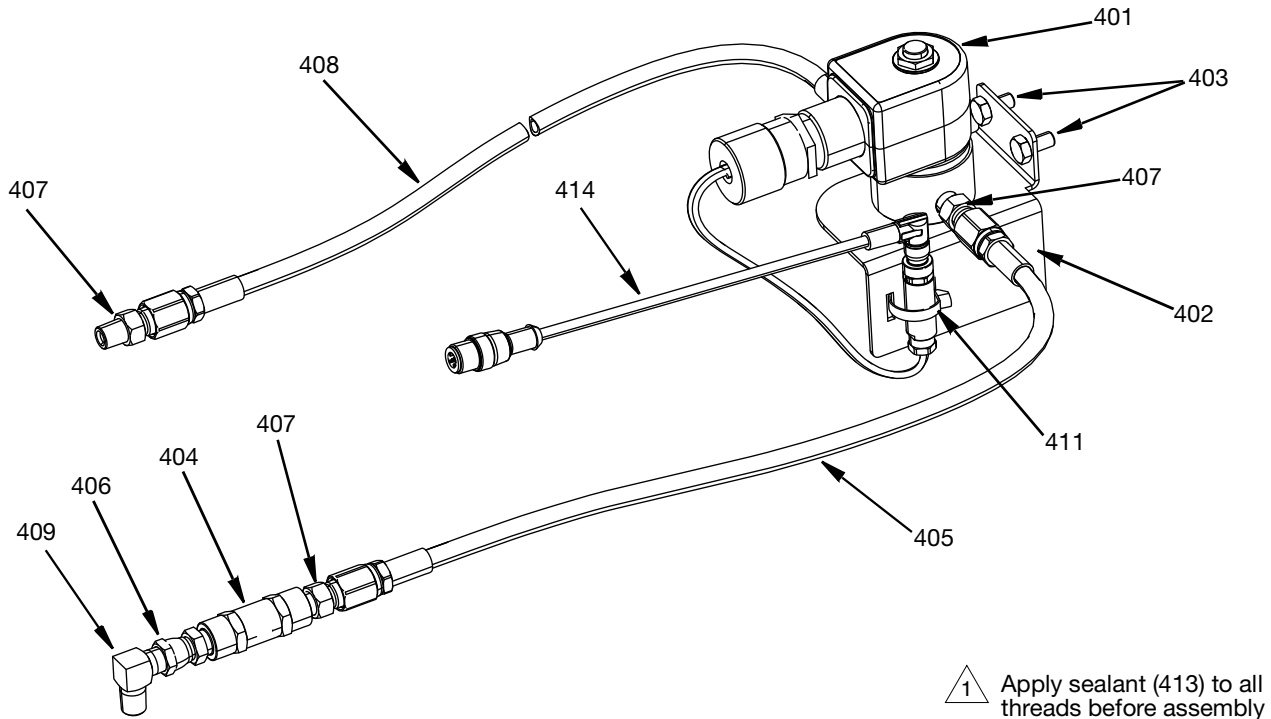


FIG. 57

High Pressure Gas Nucleation Kit 25U461

Allows for high pressure gas nucleation. For reference see **Air Nucleation Operation (Optional)** page 36.

NOTE: For use with inert compressed gas only.



1 Apply sealant (413) to all threads before assembly

High Pressure Gas Nucleation Kit Parts List

Ref.	Part	Description	Qty.
401	18D371	VALVE, solenoid, 1000 psi	1
402	18D372	BRACKET, valve, solenoid, 1000 psi	1
403	105468	SCREW, cap, hex hd	2
404	133002	VALVE, check	1
405	24G987	HOSE, assembly	1
406	C19002	FITTING, union, swivel	1
407	123628	FITTING, adapter	4
408	16C515	HOSE, assembly	1
409	110207	ELBOW, pipe	1
411	84/0022/89	TIE, wrap	1
412*	104371	SCREW, cap	2
413*	070408	SEALANT, pipe, sst	1
414	15N052	CABLE	1

* Parts are not shown in the High Pressure Gas Nucleation Kit diagram.

High Pressure Gas Nucleation Kit Installation

1. Perform the **Pressure Relief Procedure**, Page 37.
2. Turn off the Controller Power Switch (AE).
3. Remove the coupling cover (135) by removing the four M6 screws (136) with a 5mm Allen wrench. See FIG. 49 page 57.
4. Remove the pipe plug (102) from the base housing (101).
5. Assemble the high pressure gas nucleation kit onto the valve base housing (101) with the 2 Cap screws (403). The gas nucleation kit can be assembled either remotely or onto the Voltex Dynamic Mix Valve as shown in FIG. 58.
6. Install the gas inlet port pipe elbow (409) into base housing (101)
7. Connect incoming gas from the customer supplied source to the adapter fitting (407).
8. Connect cable (414) to the M12 5 pin connector from the Voltex Control Box Harness. See FIG. 59.

NOTE: Pressure flows from the inlet port on the solenoid, labeled “2”, to the outlet port on the solenoid, labeled “1”. To ensure proper operation, the solenoid must be mounted vertically upright. See FIG. 59.

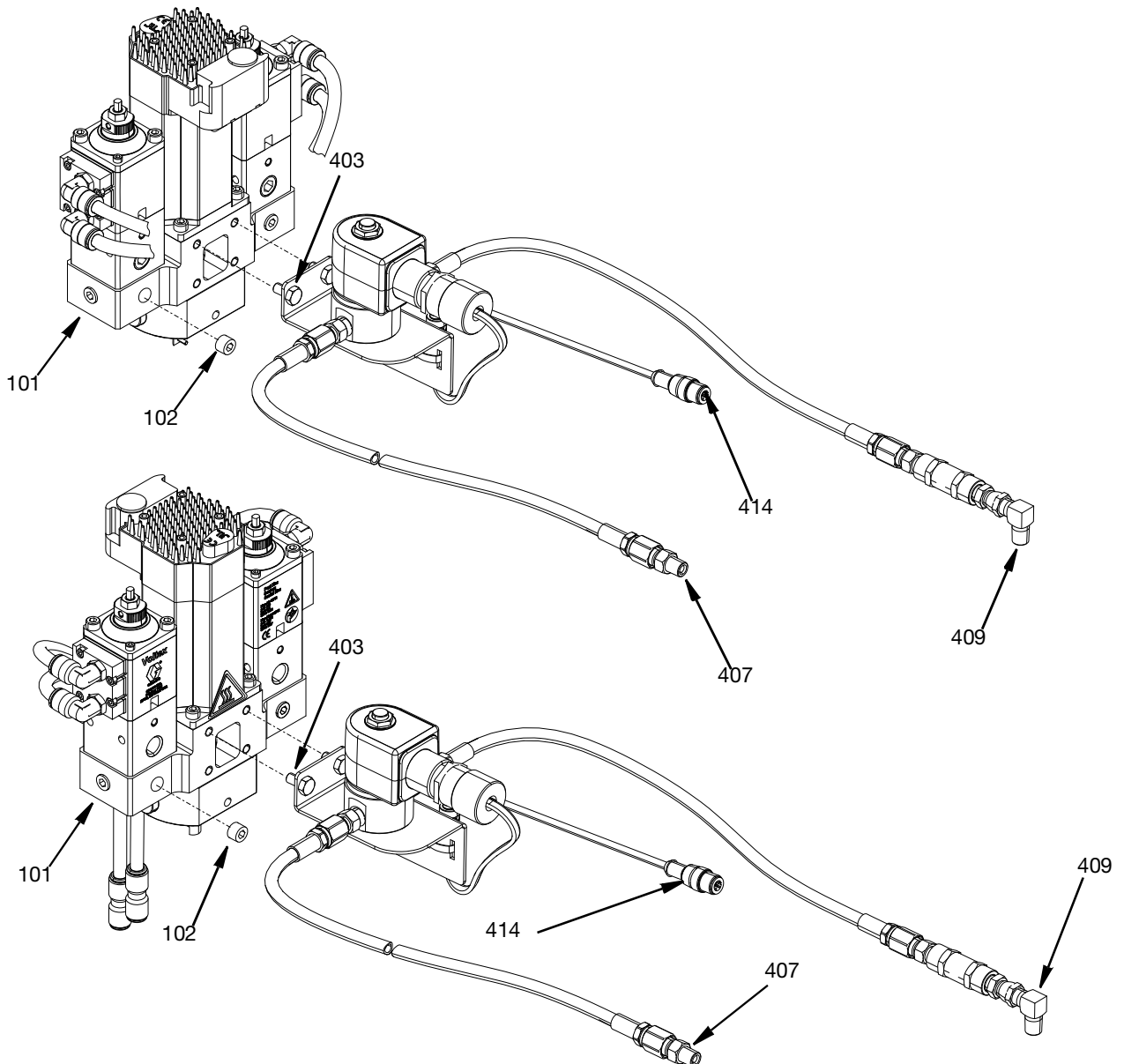


FIG. 58

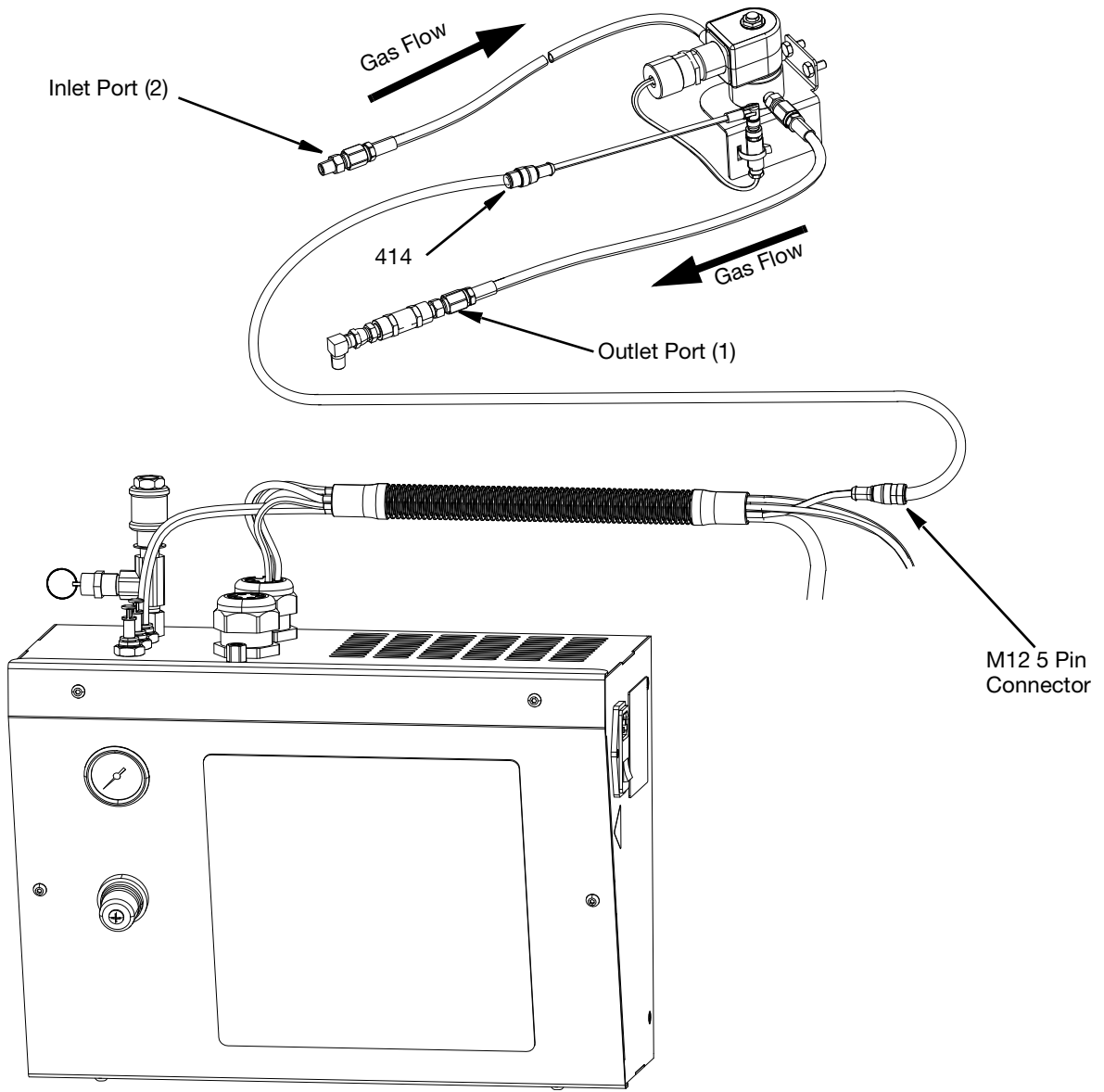
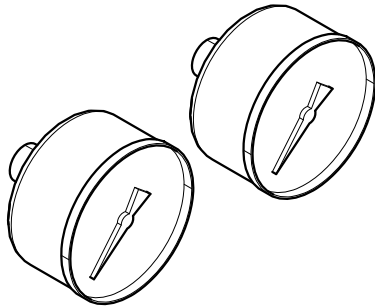


Fig. 59

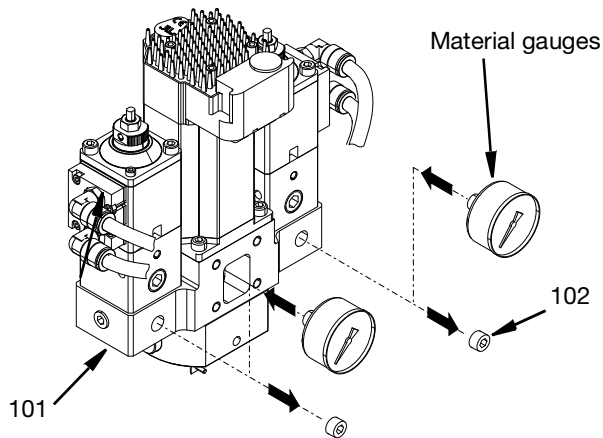
Material Gauges Kit 25T721

Two material gauges for balancing pressures. these gauges can be installed into any one of the three auxiliary 1/8" NPT ports in the fluid housing on each material side.



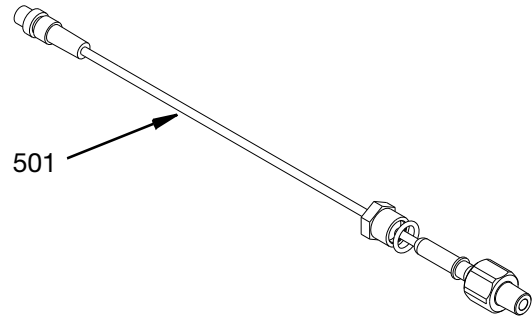
Material Gauges kit Installation

1. Perform the **Pressure Relief Procedure**, Page 37.
2. Remove 2 plugs (102) in base housing (101).
3. Install material gauges in ports.



Pressure Transducer Kit

For monitoring fluid pressure to the Voltex Dynamic Mix Valve. For the extension cables, order two for the length needed for both material sides.



Ref	Part	Description	Qty to Order per Valve
501	25U268	KIT, pressure transducer	1
---	124409	3m extension cable	2
---	17H363	7.5m extension cable	
---	17H364	16m extension cable	

Pressure Transducer Kits Installation

1. Perform the **Pressure Relief Procedure**, Page 37.
2. Remove 2 plugs (126) from base housing (125).
3. Install (501) into each open port.
4. Run pressure transducer cables into the controller enclosure through the grommet. **NOTE:** There are 3 different length extensions available. See Pressure Transducer Kit chart.
5. Connect A side pressure transducer into port 7 on the GCA cube module (207).
6. Connect B side pressure transducer into port 6 on the GCA cube module (207). See FIG. 60.
7. The ADM will display the pressure if pressure transducers are installed. See The **Voltex Dynamic Mix Valve System Setup Screen**, Page 33.

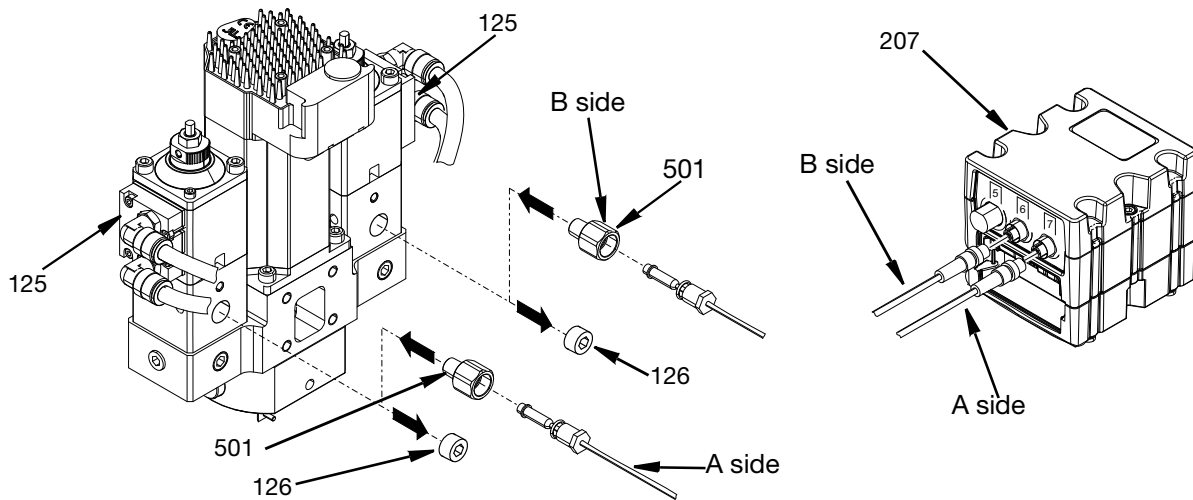


FIG. 60

Straight Grease Zerk Fitting 130883, 45° Grease Zerk Fitting 133701, and Grease Plug, 136249

For applications dispensing moisture sensitive materials, install the Grease Zerk Fitting (M) into the Fluid Section (E), fill the grease port with grease, and install the Grease Plug (L). Grease once per month or every 100,000 cycles. Recommended grease, order Graco part number 0553-6.

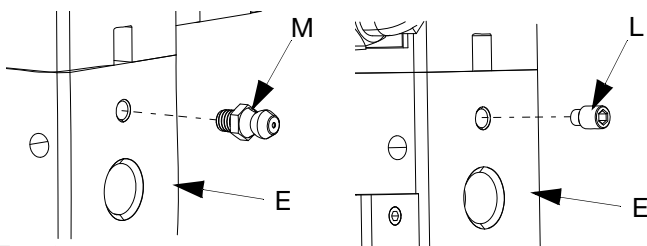


FIG. 61

Voltex Tip 2K Power Shutoff

Voltex 2K Power Shutoff Kits

Select one (required) based on the mixer size of the system.

Part	Description
25U384	KIT, 2K power shutoff, for 13mm mixer
25U385	KIT, 2K power shutoff, for 10mm mixer
25U386	KIT, 2K power shutoff, for 8mm mixer

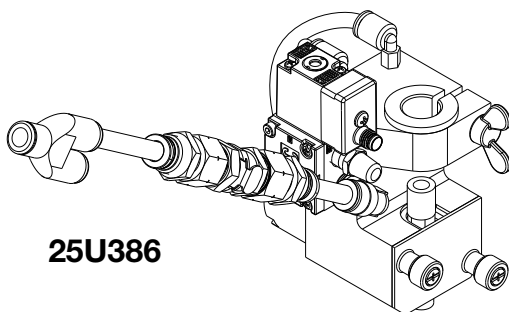
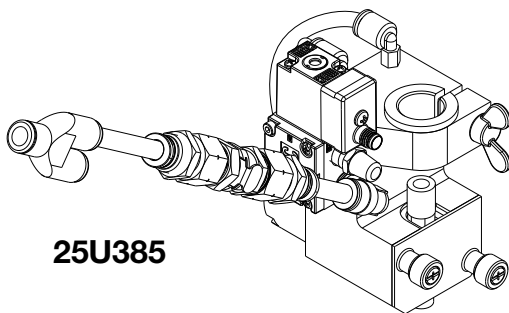
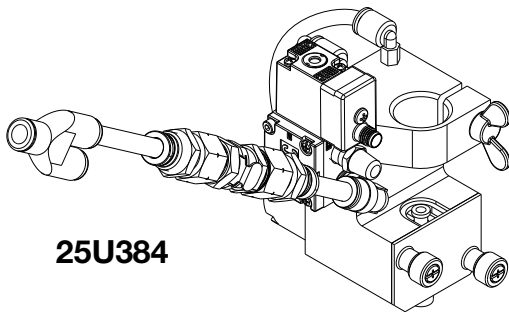


FIG. 62

Voltex 2K Power Shutoff Harness

Select one (required) based on the dispense system. EFR and HFR are integrated directly with the Voltex Dynamic Mix Valve.

Part	Description
25U389	KIT, harness, shutoff, tip, integrated EFR
25U390	KIT, harness, shutoff, tip, integrated HFR
25U395	KIT, harness, shutoff, tip, stand alone system (PR70 or customer supplied)

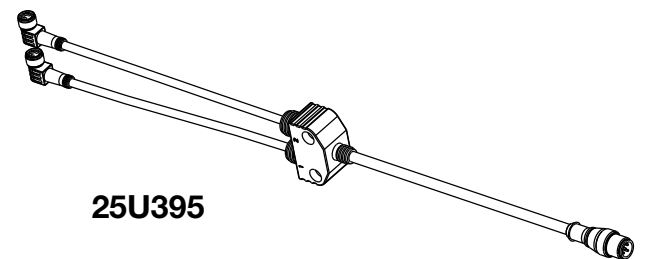
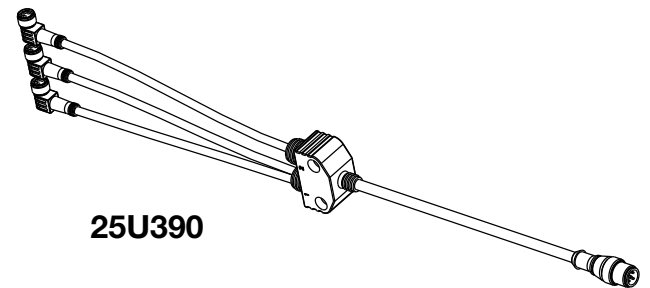
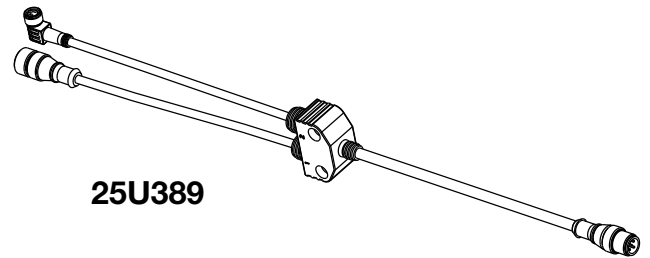


FIG. 63

Voltex 2K Power Shutoff Accessory Kits

Mixer to Tip Valve Adapter Kits (Disposable)

Part	Description
25U393	KIT, mixer to tip valve adapter, 10 mm, 10 pack
25U394	KIT, mixer to tip valve adapter, 8 mm, 10 pack

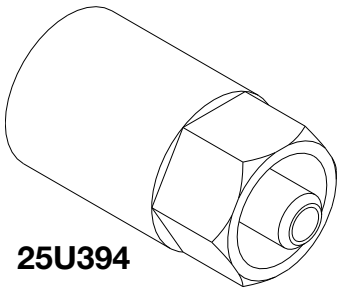
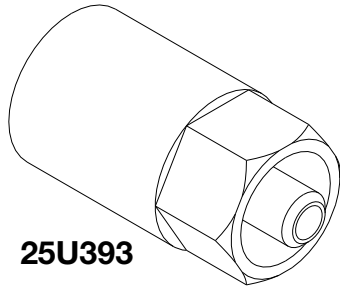


FIG. 64

Tip Valve Kits (Disposable)

Part	Description
25U350	KIT, tip valve, 50 pack
25U351	KIT, tip valve, 100 pack

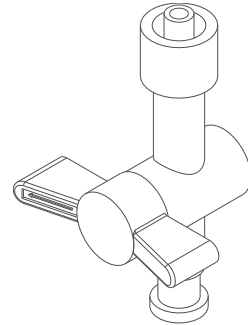


FIG. 65

Installation

1. Perform the **Pressure Relief Procedure**, Page 37.
2. Turn off the Controller Power Switch (AE).
3. Connect the supplied air splitter to the main air coming from the Voltex Controller harness.
4. Connect the air line of the Voltex Dynamic Mix Valve to one side of the air splitter.
5. Connect the air line of the Voltex 2K Power Shutoff to the other side of the air splitter.

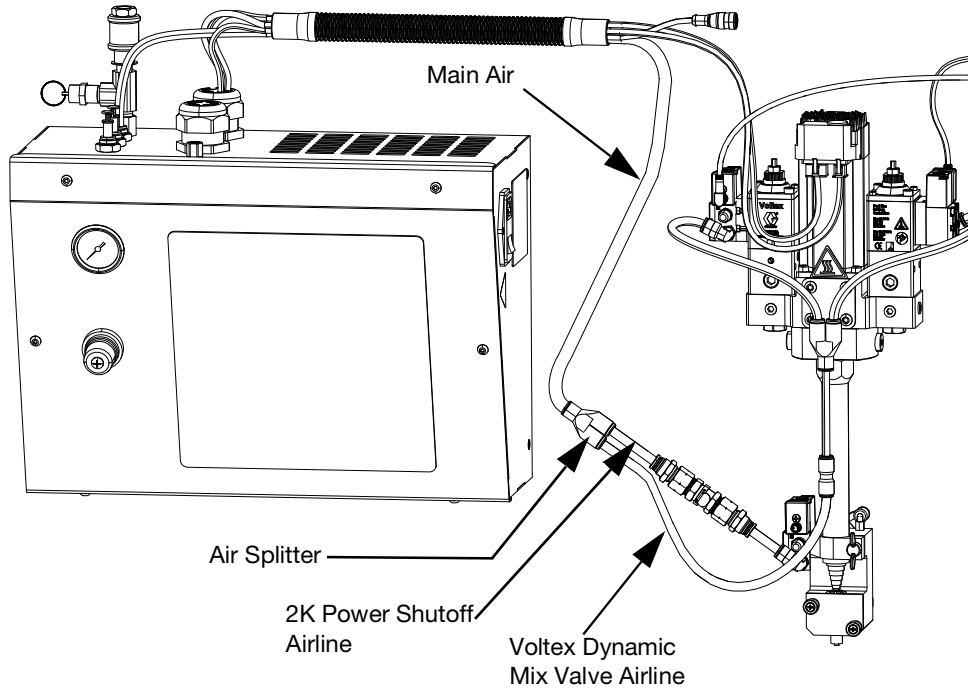


FIG. 66

6. EFR:
 - a. Connect the 2K Power Shutoff Harness (25U389) to the extension cable coming from port 3 on the EFR.

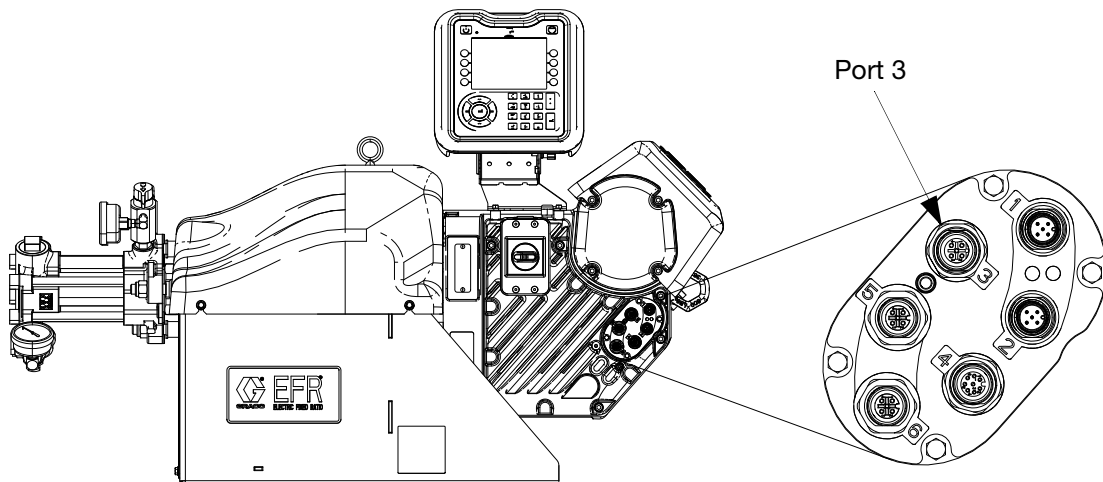


FIG. 67: EFR Connections

- b. On the 2K Power Shutoff Harness, connect the end marked “Disp/Recirc” to the Voltex Dynamic Mix Valve.

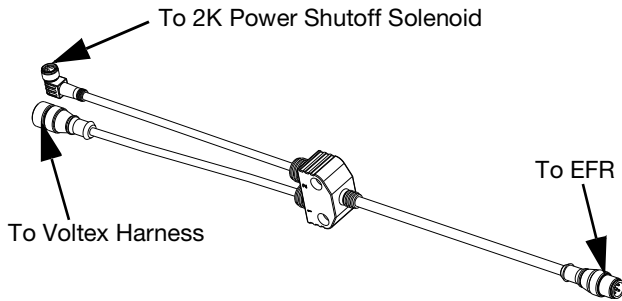


FIG. 68: 2K Power Shutoff Harness

- b. On the 2K Power Shutoff Harness, connect the end marked “Disp A” to the Voltex Dynamic Mix Valve A side solenoid.

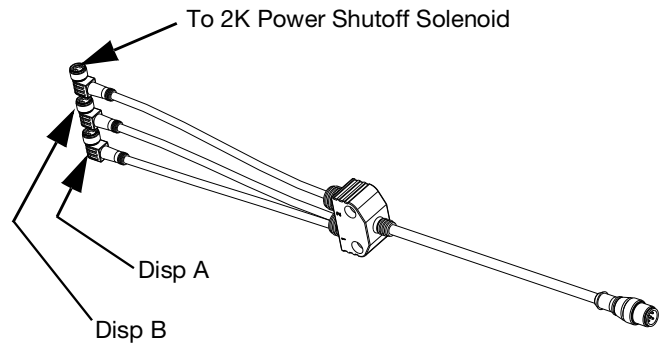


FIG. 71: 2K Power Shutoff Harness

- c. On the 2K Power Shutoff Harness, connect the end marked “Tip” to the 2K Power Shutoff solenoid.

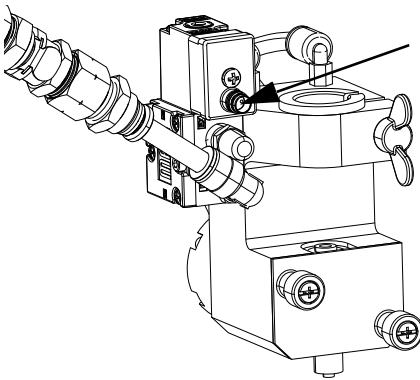


FIG. 69: 2K Power Shutoff Solenoid

- c. On the 2K Power Shutoff Harness, connect the end marked “Disp B” to the Voltex Dynamic Mix Valve B side solenoid.

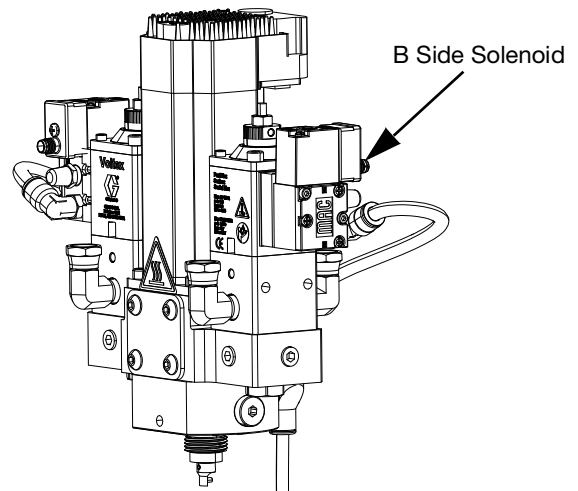


FIG. 72: Voltex Dynamic Mix Valve B Side Solenoid

7. HFR:

- a. Connect the 2K Power Shutoff Harness (25U390) to the extension cable coming from port 2 on the HFR.

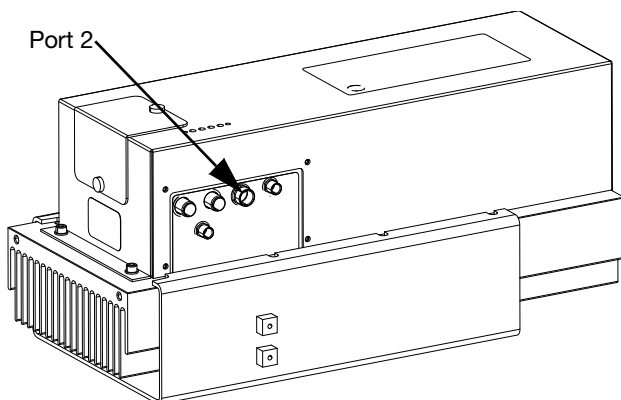


FIG. 70: HFR Connections

- d. On the 2K Power Shutoff Harness, connect the end marked “Tip” to the 2K Power Shutoff solenoid.

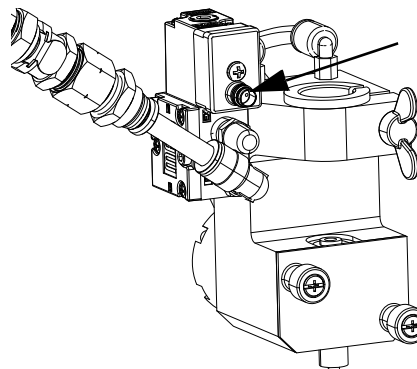


FIG. 73: 2K Power Shutoff Solenoid

8. PR70 or Customer Supplied Metering System:
 - a. Connect the 2K Power Shutoff Harness (25U395) to the M12-5 pin cable coming from the Voltex Controller.

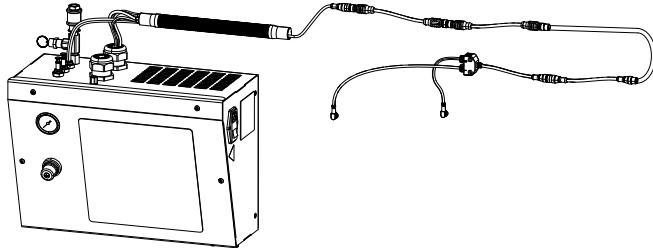


FIG. 74

- b. On the 2K Power Shutoff Harness, connect the end marked “Tip” to the 2K Power Shutoff solenoid.

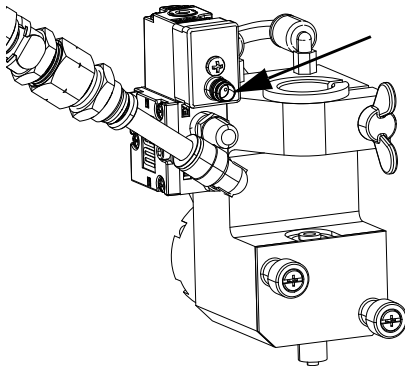


FIG. 75: 2K Power Shutoff Solenoid

- c. On the 2K Power Shutoff Harness, connect the end marked “Nucleation” to the Air Nucleation solenoid (if necessary).

Daily Usage

1. 13 mm Mixer:
 - a. Install the mixer as described in the **Changing Mixer** section on page 40.
 - b. Install a Tip Valve into the block of the 2K Power Shutoff.

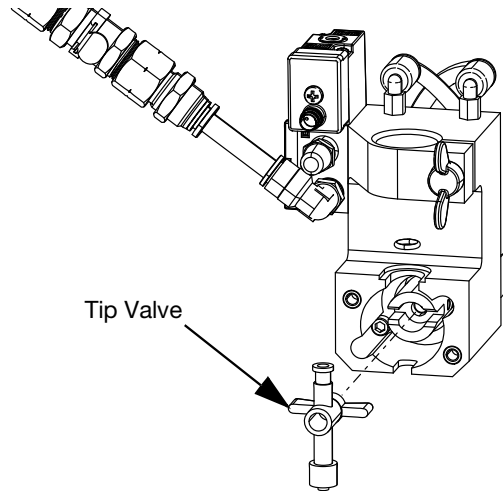


FIG. 76

- c. Firmly push the 2K Power Shutoff onto the mixer.

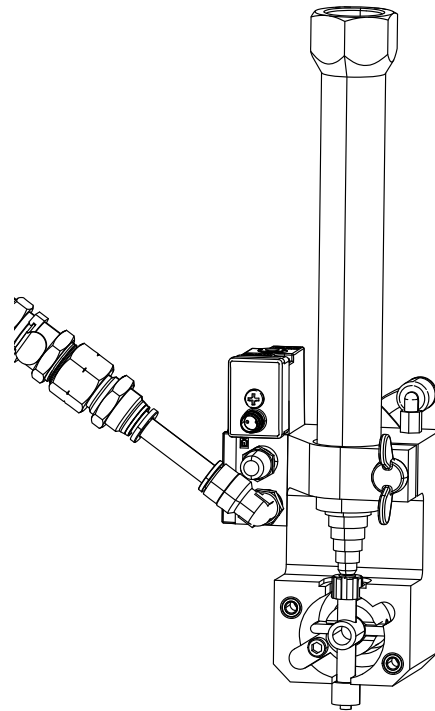


FIG. 77

- d. Turn the thumb screw clockwise to clamp the 2K Power Shutoff onto the mixer shroud.

- e. Install the Actuator Cover onto the 2K Power Shutoff block and hand tighten.

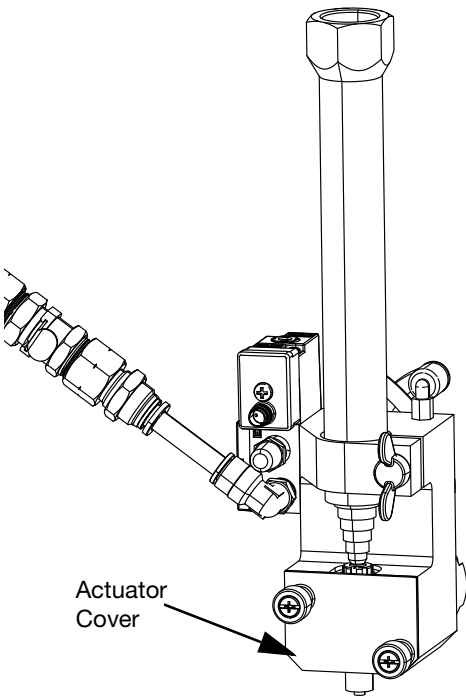


FIG. 78

2. 10 mm and 8 mm Mixer:

- a. Install the mixer as described in the **Changing Mixer** section on page 40.
- b. Install a Tip Valve into the block of the 2K Power Shutoff.

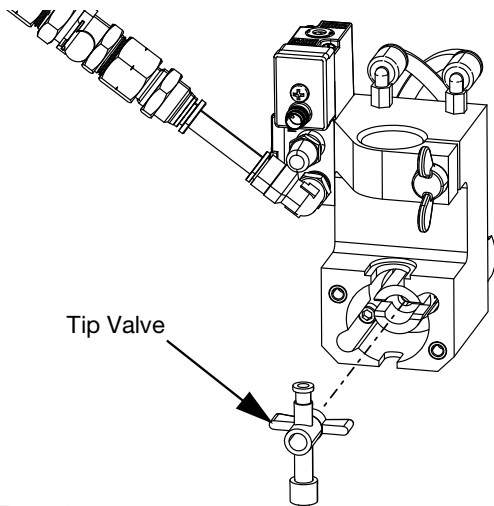


FIG. 79

- c. Screw the Mixer to Tip Valve Adapter on the end of the mixer.

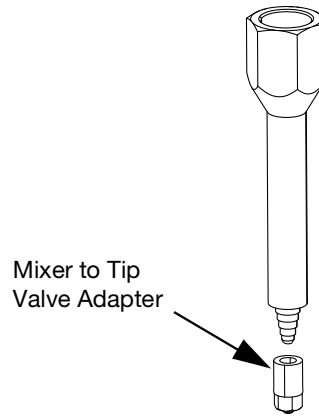


FIG. 80

- d. Install the Sleeve Adapter for the correct size mixer shroud.

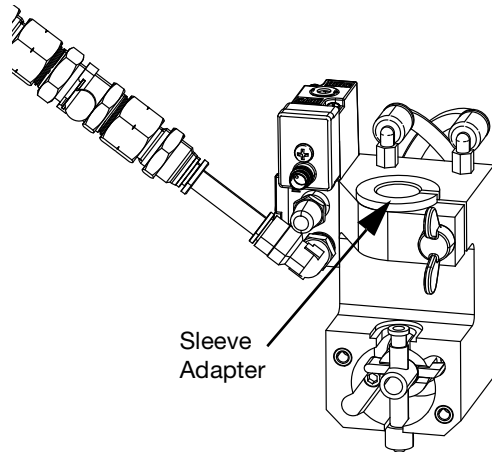


FIG. 81

- e. Install the 2K Power Shutoff on the Mixer Shroud. Turn the Mixer to Tip Valve Adapter on the Tip Valve.

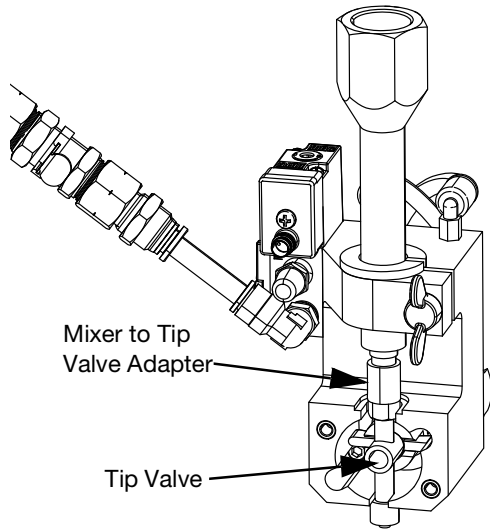


FIG. 82

- f. Turn the Thumb Screw clockwise to clamp the 2K Power Shutoff onto the mixer shroud.
- g. Install the Actuator Cover onto the 2K Power Shutoff block and hand-tighten.

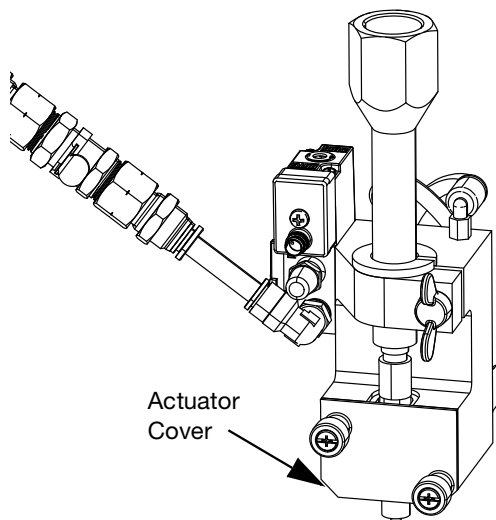


FIG. 83

2K power Shutoff Repair Parts

Tip Shutoff Block Kit

Part	Description
25U352	KIT, block, shutoff, tip

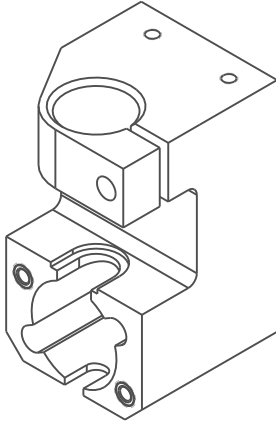


FIG. 84

Actuator Coupler Kit

Part	Description
25U353	KIT, coupler, actuator

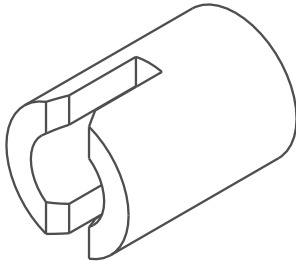


FIG. 85

Actuator Cover Kit

Part	Description
25U354	KIT, cover, actuator

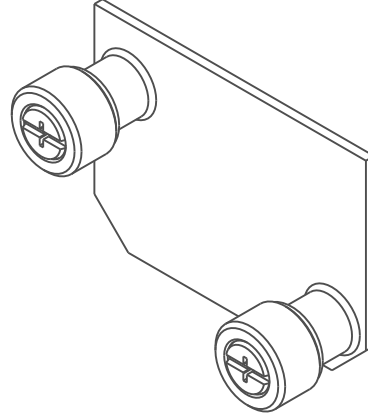
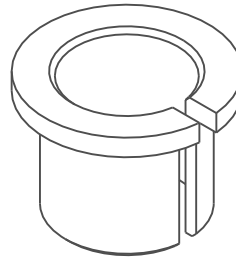


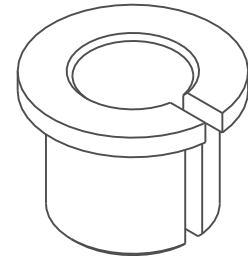
FIG. 86

Split Sleeve Kits

Part	Description
25U355	KIT, sleeve, split, 10 mm mixer
25U356	KIT, sleeve, split, 8 mm mixer



25U355



25U356

FIG. 87

Thumb Screw Kit

Part	Description
25U357	KIT, thumb screw, 5 pack

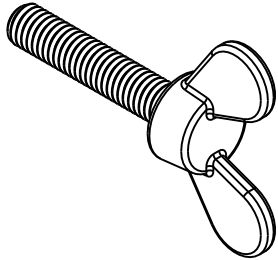


FIG. 88

Quick Disconnect Kit

Part	Description
25U358	KIT, quick disconnect, air

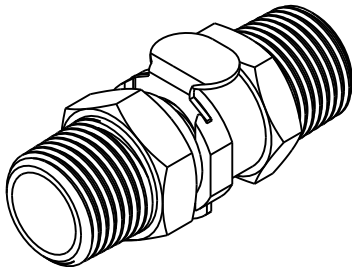


FIG. 89

Dimensions

Voltex Dynamic Mix Valve Dimensions

NOTE: When mounting the Voltex Dynamic Mix Valve, remove one of the coupling covers to use as the mounting surface. Once mounted, make sure the entire opening on the Base Housing (101) is completely covered.

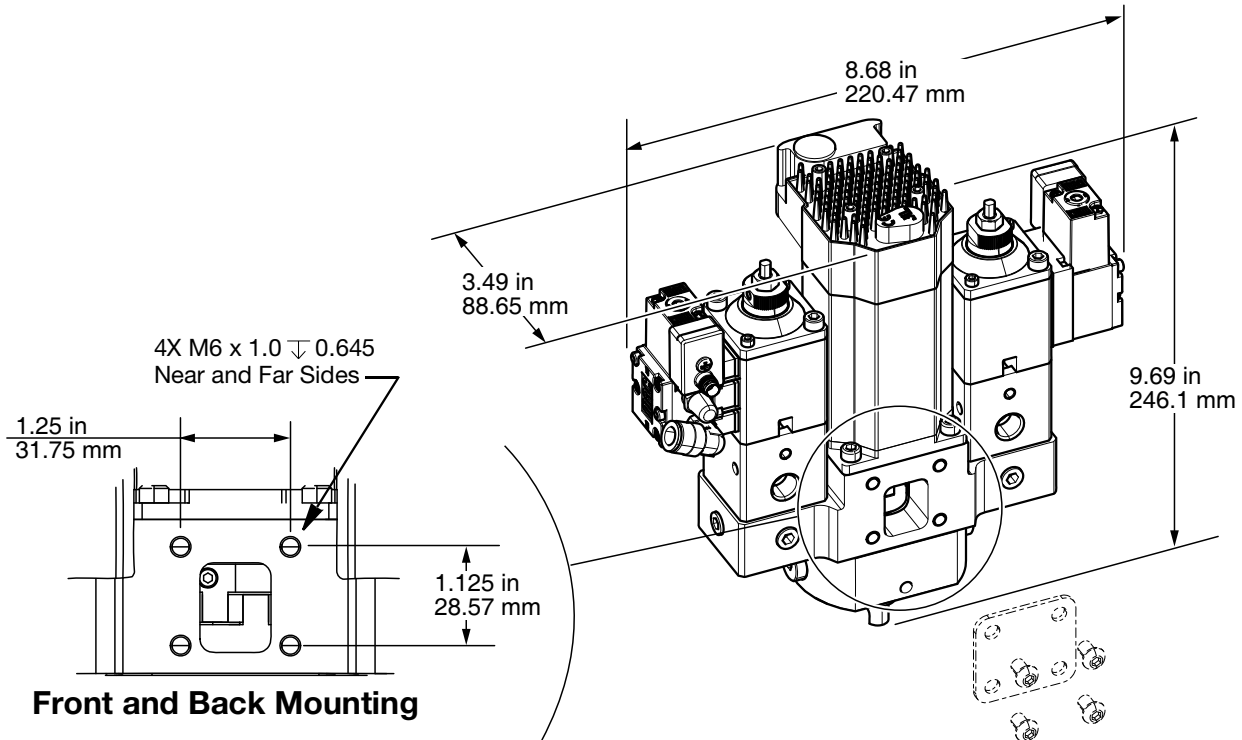


FIG. 90 Voltex Dynamic Mix Valve Dimensions

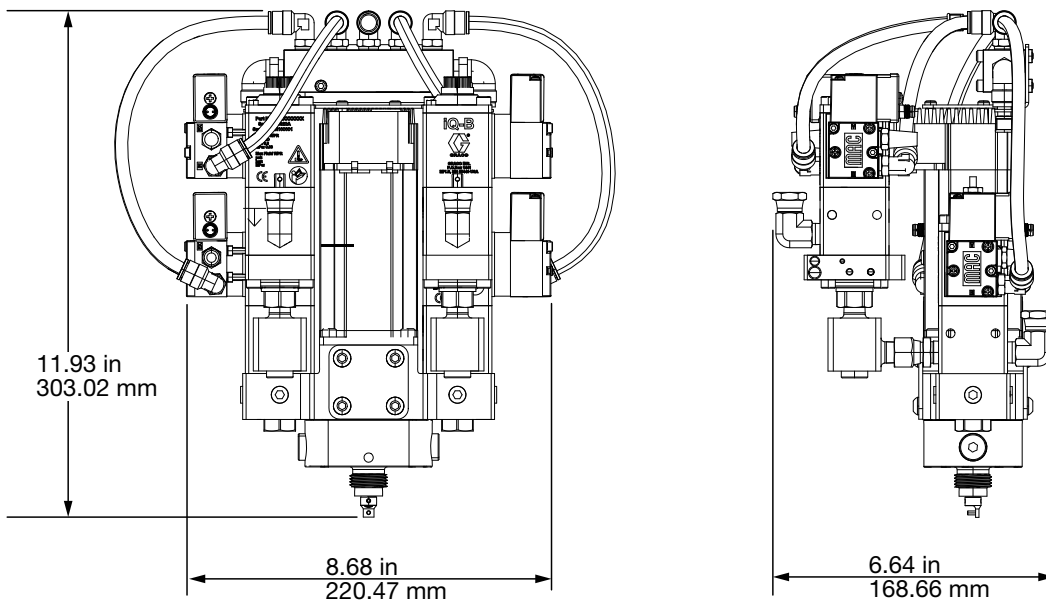


FIG. 91 25u361 Voltex Valve Recirculation Kit

Controller Dimensions for 25T671, 25T672, 25T673 and 25T674

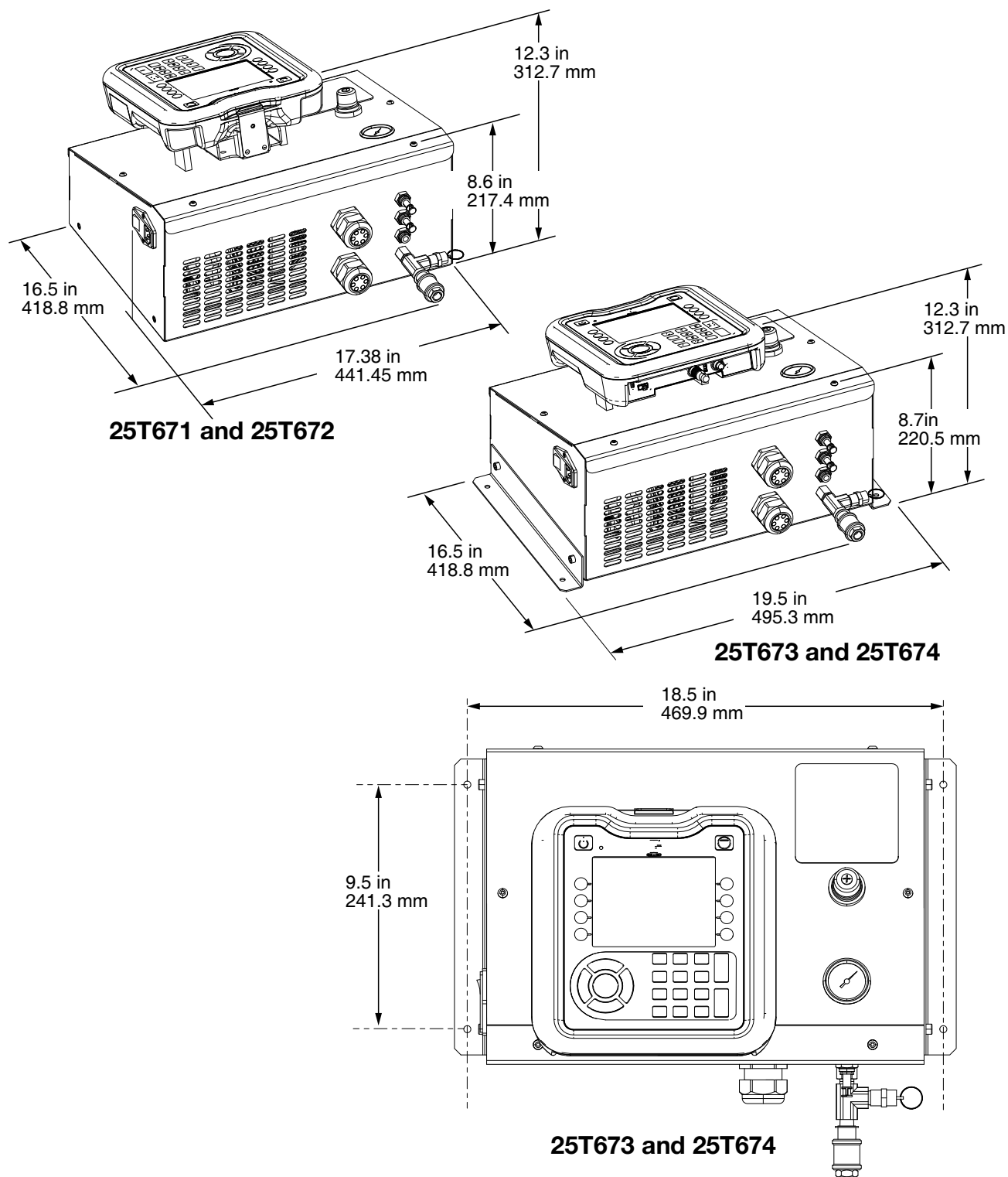


Fig. 92 Controller 25T671, 25T672, 25T673, 25T674

Wiring Diagrams

Controller Wiring for 25T671, 25T672, 25T673 and 25T674

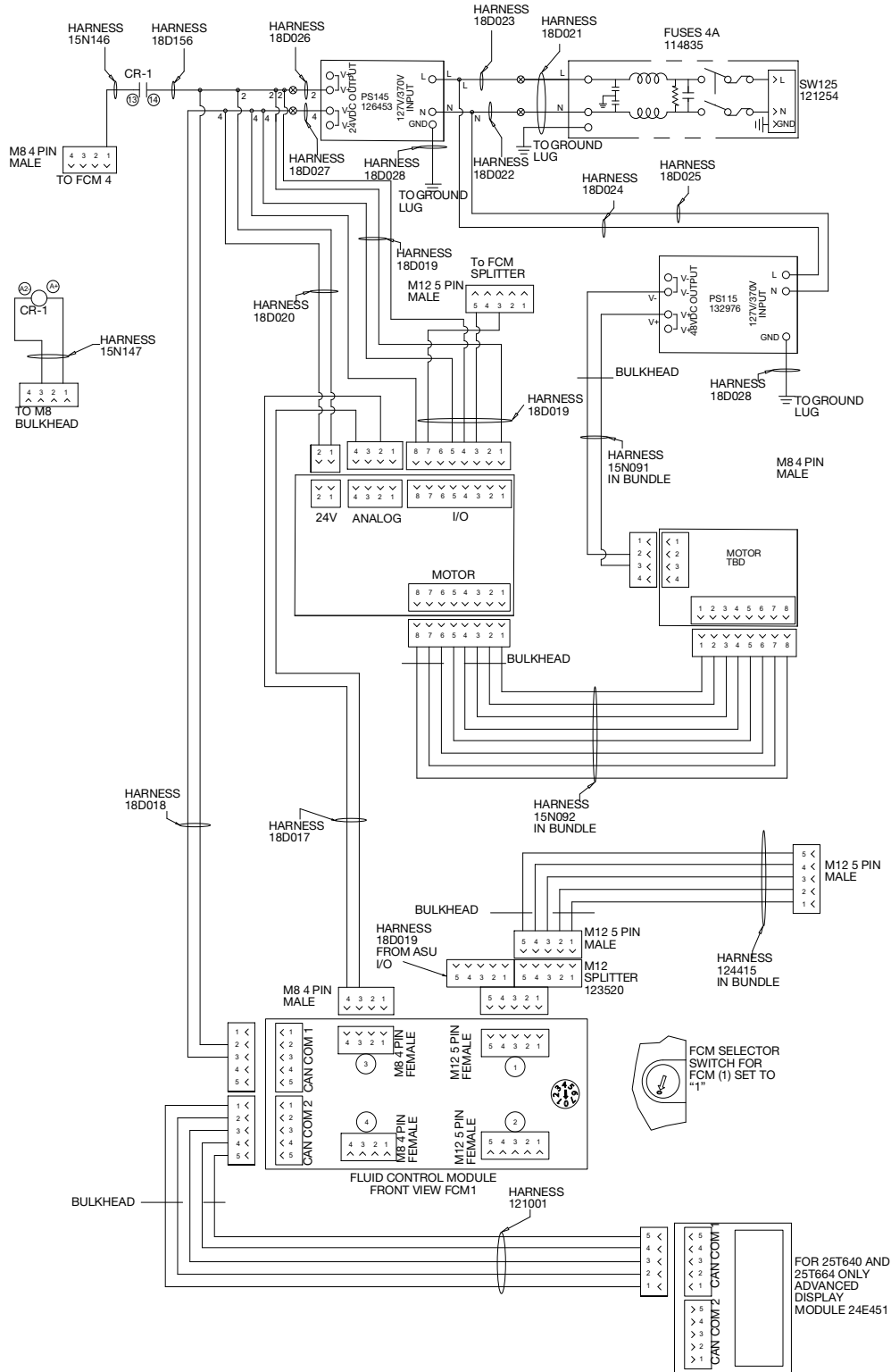


Fig. 93 Schematic for 25T671, 25T672, 25T673 AND 25T674

Controller Inlet Air Schematic

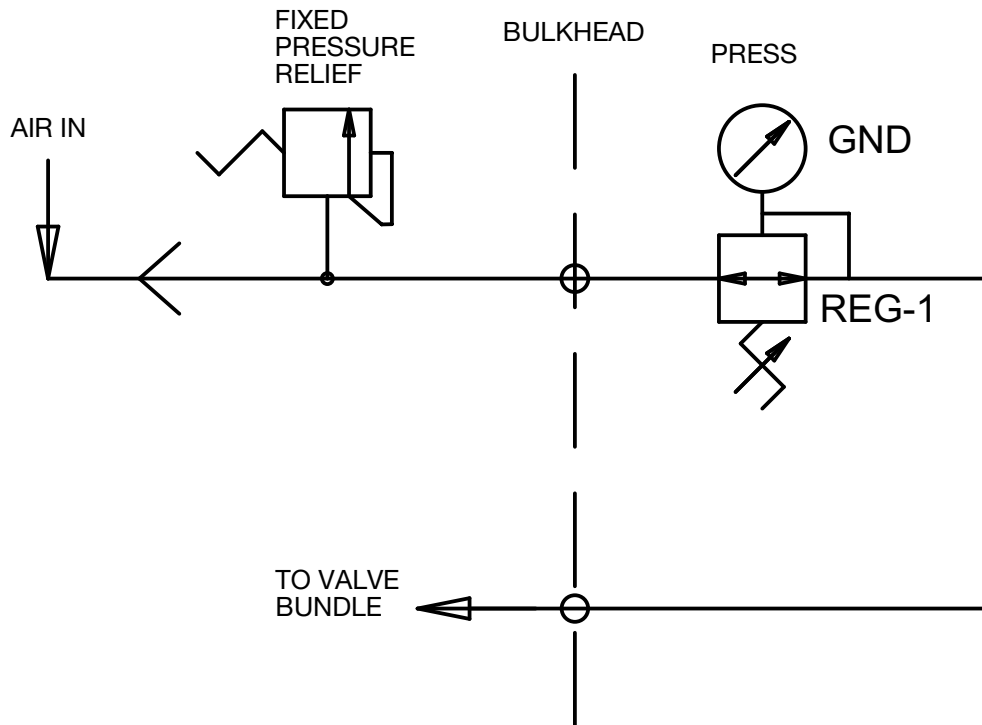


Fig. 94 Schematic for Controller Inlet Air

Air Nucleation Kit 25T717 Schematic

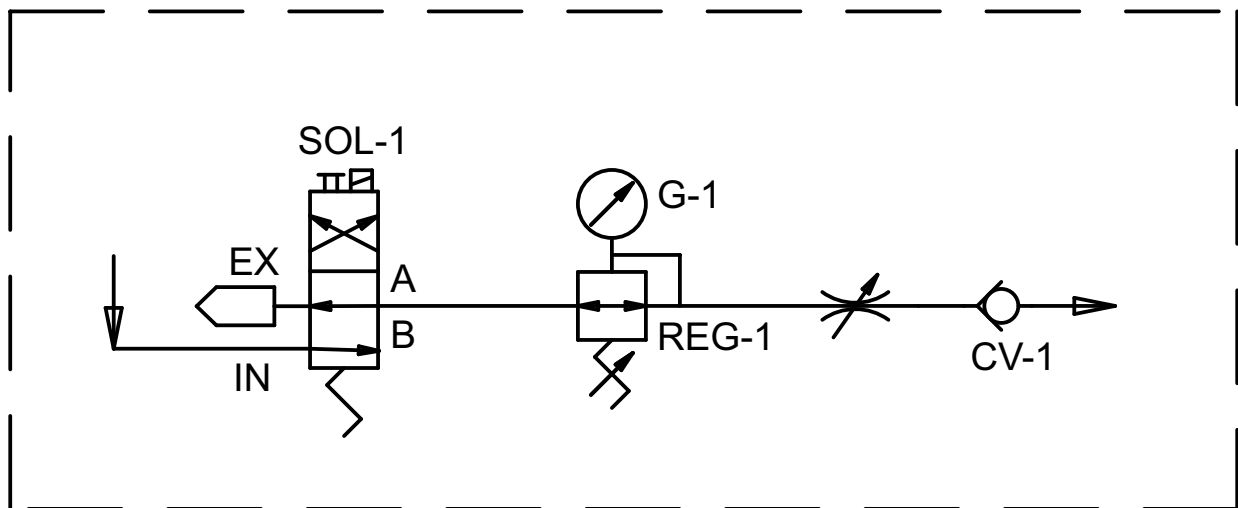


Fig. 95 Schematic for Air Nucleation Kit 25T717

Technical Specifications

Voltex Dynamic Mix Valve and Controllers		
	US	Metric
Maximum static fluid pressure	3,000 psi	20.7 MPa, 207 bar
Maximum dynamic fluid pressure	1,000 psi	6.9 MPa, 68.9 bar
Maximum air pressure	120 psi	0.83 MPa, 8.3 bar
Maximum motor speed	4,400 rpm	
Inlet / Outlet Sizes		
Fluid inlet size	1/4 NPT (female)	
Fluid outlet shroud thread	7/8 - 14 UNF (male)	
Fluid auxiliary ports (6x on fluid housing)	1/8 NPT (female)	
Air inlet size	1/8 NPT (female)	
Air exhaust port size	1/8 NPT (female)	
Air lines size	5/16 in	8 mm
Valve Mounting		
Mounting screw size	M6 x 1.0 (4x each side)	
Controller Mounting		
Wall mounted controller	M6 x 1.0 (4x)	
Sound Data		
Normal operation (dispensing)	<70 dba	
Operating Temperature		
Maximum operating temperature	149° F	65° C
Materials of Construction		
Wetted materials	Aluminum, UHMWPE, Stainless Steel, Chemical resistant O-rings, CA 360 Brass, and Tungsten Carbide.	
Weight		
25T670 Value Only Integrated	14.0 lb.	6.4 kg.
25T671 Table Top with ADM	38.0 lb.	17.2 kg.
25T672 Table Top Without ADM	34.0 lb.	15.4 kg.
25T673 Wall Mount With ADM	39.0 lb.	17.7 kg.
25T674 Wall Mount Without ADM	35 lb.	15.9 kg.
25T750 Valve Only	13.8 lb.	6.3 kg.
25U361 Valve Only Recirculation	25.0 lb.	11.3 kg.
Electrical Specifications		
Required line voltage	100-240 VAC, 50/60 Hz, 1 Phase	
Motor operating voltage	48 VDC	
Full Load Current	2.5 Amp at 120 VAC	
	1.25 Amp at 240 VAC	
Maximum harness length between controller and Voltex Dynamic Mix Valve.	63m (206 ft)	

California Proposition 65

CALIFORNIA RESIDENTS

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

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