Setup - Operation - Parts

PD44

Control Box

313877K

EN

Meter, mix and dispense system for two-component micro-dispensing of sealants and adhesives. For professional use only.

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

26C940

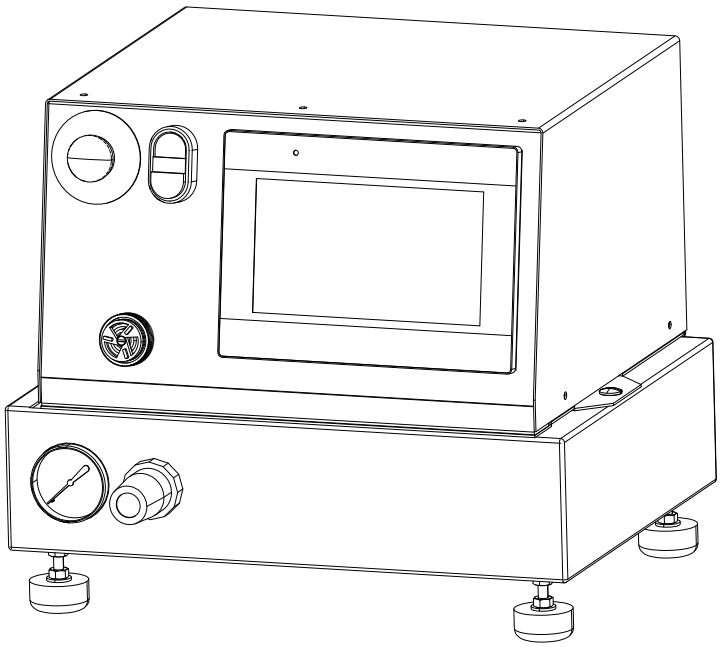
Micrometer PD44 Control Box

100 psi (0.7 MPa, 7 bar) Maximum Air Working Pressure

See page 2 for model information.

Important Safety Instructions

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



PROVEN QUALITY. LEADING TECHNOLOGY.

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Related Manuals

Manual in English	Description
PD44 Manuals	
313876	PD44 Dispense Valve Operation - Parts
3A5656	HMI Replacement Kit for PD44
Feed System Manuals	
306565	Air-Driven, Stainless Steel Agitators
307043	Monark® Air Motor
308116	Severe-Duty, UHMWPE/PTFE or PTFE Packed Stainless Steel Pumps
308167	Low Volume Air Regulators
308168	High Volume Air Regulators
308169	Air Filters, Lubricators and Kits
309306	Air-Operated Husky™ Diaphragm Pumps
312376	Stainless Steel Agitator Kit
313526	Check-Mate® Pump Packages
406088	Check-Mate® Ram Packages

Models

PD44 Control Box Model	Maximum Air Working Pressure psi (MPa, bar)	Voltage
Micrometer	100 (0.7, 7)	120/240V, 50/60Hz

Warnings

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

⚠ WARNING

TOXIC FLUID OR FUMES HAZARD

Toxic fluids or fumes can cause serious injury or death if splashed in the eyes or on skin, inhaled or swallowed.

- Read Safety Data Sheets (SDSs) for handling instructions and to know the specific hazards of the fluids you are using, including the effects of long-term exposure.
- When spraying, 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.

PERSONAL PROTECTIVE EQUIPMENT

Always wear appropriate personal protective equipment and cover all skin when spraying, servicing equipment, or when in the work area. Protective equipment helps prevent serious injury, including long-term exposure; inhalation of toxic fumes, mists or vapors; allergic reaction; burns; eye injury and hearing loss. This protective equipment includes but is not limited to:

- A properly fitting respirator, which may include a supplied-air respirator, chemically impermeable gloves, protective clothing and foot coverings as recommended by the fluid manufacturer and local regulatory authority.
- Protective eyewear and hearing protection.

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.

⚠ WARNING

ELECTRIC SHOCK HAZARD

This equipment must be grounded. Improper grounding, setup, or usage of the system can cause electric shock.

- Turn off and disconnect power cord before servicing equipment.
- Connect only to grounded electrical outlets.
- Use only 3-wire extension cords.
- Ensure ground prongs are intact on power and extension cords.

PRESSURIZED EQUIPMENT HAZARD

Fluid from the equipment, leaks, or ruptured components can splash in the eyes or on skin and cause serious injury.

- Follow the **Pressure Relief Procedure** when you stop spraying/dispensing and before cleaning, checking, or servicing equipment.
- Tighten all fluid connections before operating the equipment.
- Check hoses, tubes, and couplings daily. Replace worn or damaged parts immediately.

⚠ WARNING

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.
- Do not leave the work area while equipment is energized or under pressure.
- 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.

PLASTIC PARTS CLEANING SOLVENT HAZARD

Many cleaning solvents can degrade plastic parts and cause them to fail, which could cause serious injury or property damage.

- Use only compatible solvents to clean plastic structural or pressure-containing parts.
- See **Technical Specifications** in all equipment manuals for materials of construction. Consult the solvent manufacturer for information and recommendations about compatibility.

Important Isocyanate (ISO) Information

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.

Component Identification

Control Box

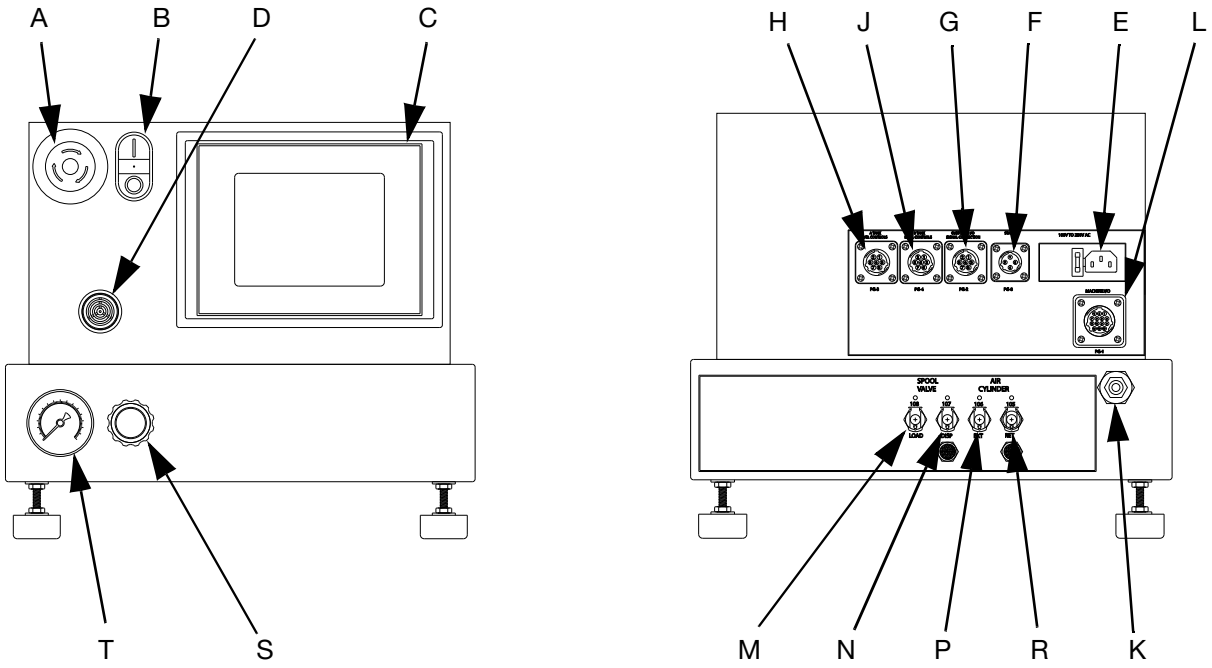


FIG. 1: Micrometer PD44 Control Box

Key:

A Emergency Stop
B Control Power Switch
C Touch Panel
D Alarm Speaker
E Power Input
F Start Options Connection
G Custom I/O
H A Tank Level Controls Connection
J B Tank Level Controls Connection
K Main Air Inlet
L Dispense Valve I/O Connection
M Spool Valve Load Connection
N Spool Valve Dispense Connection
P Air Cylinder Extend Connection
R Air Cylinder Retract Connection
S Air Pressure Regulator
T Air Pressure Gauge

PD44 Dispense Valve

See the PD44 Dispense Valve Operation-Parts manual for detailed dispense valve component identification and instructions. See **Related Manuals** on page 2.

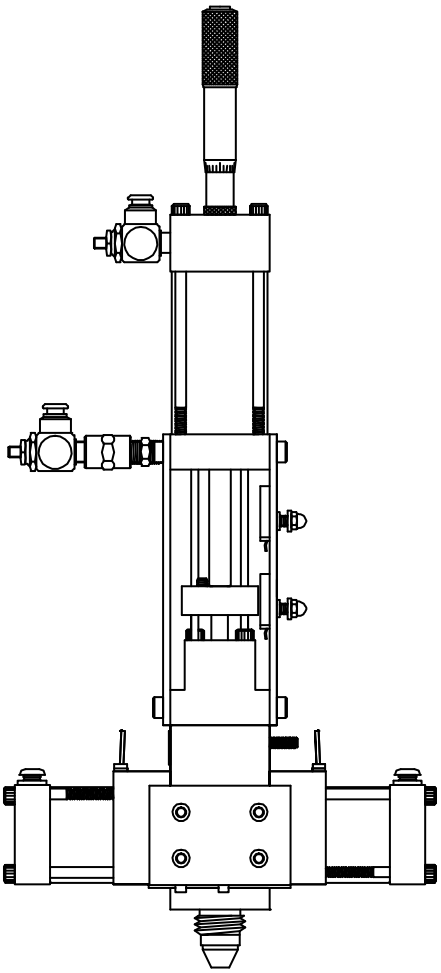
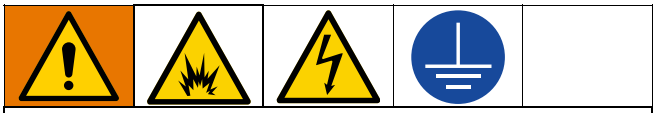


FIG. 2: PD44 Micrometer Dispense Valve

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 wire for the electric current.

Control box: this product is equipped with a cord having a grounding wire with an appropriate grounding plug. The plug must be plugged into an outlet that is properly installed and grounded in accordance with all local codes and ordinances.

Air and fluid hoses: use only electrically conductive hoses.

Fluid supply container: follow local code.

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

Setup

1. Connect the air supply to the main air inlet (K) on the control box. Air supply must include a shut-off/bleed valve that bleeds pressure past the shut-off/bleed valve and an air-water separator/filter.

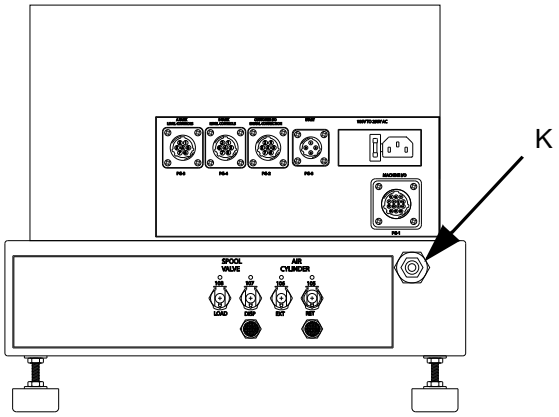


FIG. 3

2. Connect air lines from the control box to the dispense valve. Match the number and color codes on the fittings and connections. See the following table and illustration.

Connection Color	Connection Description
Red	Extend
Blue	Retract
Yellow	Dispense
Green	Reload

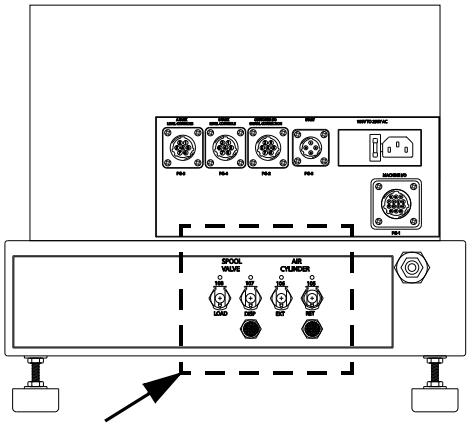


FIG. 4

3. Connect the Dispense Valve I/O and Start Options logic cables. If level controls are installed, connect the Level Controls logic cables.

NOTICE

The feed system and main logic control system must use separate air supplies. Failure to use separate air supplies could cause material to enter the control lines and result in damage to the system.

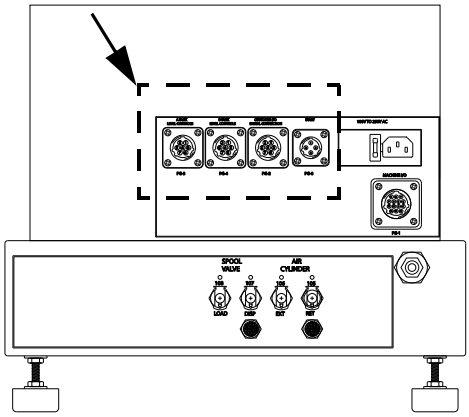


FIG. 5

4. Adjust the air pressure regulator to 80 psi (0.6 MPa, 6 bar).

5. Perform the **Setup** procedure for the dispense valve and feed system components. See **Related Manuals** on page 2.

Startup

NOTE: See **HMI Operation** starting on page 12 for detailed HMI instructions.

1. Press the Control Power On button. 

2. Navigate to the Posidot® Control screen.

3. Under Posidot Mode, press the Retract button.

NOTE: When there is an Emergency Stop condition or the system power is lost, the shot selection resets to “0”. The operator must then select a shot.

4. Press the Shot button to select Shot Mode.

5. Verify air pressure is set to 80 psi (5.6 bar).

6. Perform feed system startup procedure(s). See **Related Manuals** on page 2.

7. Perform dispense valve startup procedure. See **Related Manuals** on page 2.

Dispensing Operation

NOTE: See **HMI Operation** starting on page 12 for detailed HMI instructions.

The foot switch, the Start button, and the optional Customer Start Signal can be used to initiate shots. These are referred to as start devices.

Perform a Shot

1. Navigate to the Posidot Control screen.

2. Under Posidot Mode, press the Retract button.

3. Press the Shot button to select Shot Mode.

4. Press and release the start device to perform one shot.

Dispense Continuously

The valve dispenses continuously until the end of the stroke is reached.

1. Navigate to the Posidot Control screen.

2. Under Posidot Mode, press the Retract button.

3. Press the Continuous button.

4. Press and release the start device. Under Posidot Mode, press the Retract button to stop dispensing and retract the metering rods.

Retract Piston

1. Navigate to the Posidot Control screen.

2. Under Posidot Mode, press the Retract button.

Extend Piston

1. Navigate to the Posidot Control screen.

2. Under Posidot Mode, press the Extend button.

HMI Operation

Screen Navigation Diagram

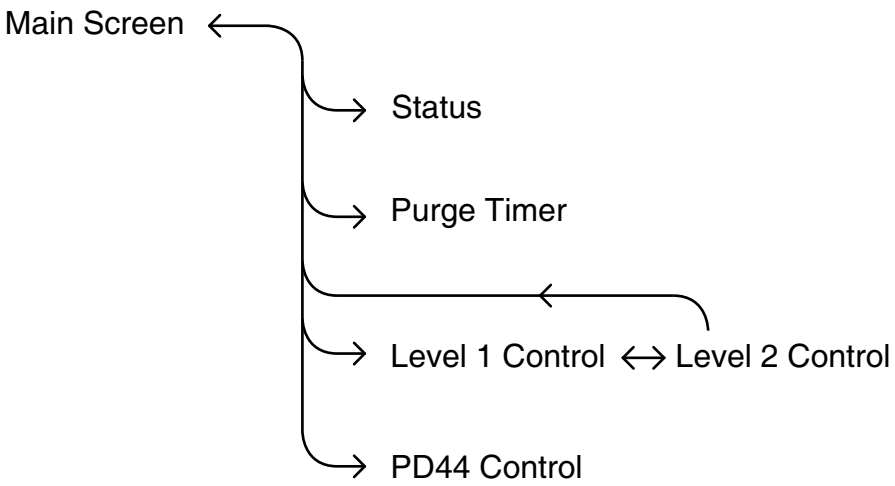


FIG. 6: Screen Navigation Diagram

Main Screen

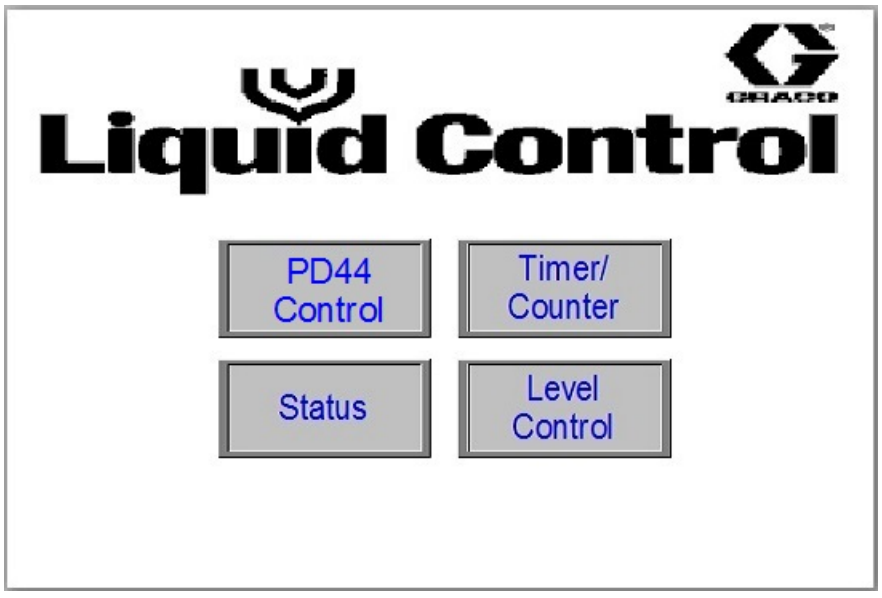


FIG. 7: Main Screen

Screen Access Buttons

All buttons on the main screen open a new specified screen. For example, pressing the Status button opens the Status screen.

Posidot Control Screen

NOTE: A”1” indicates the mode is ON. A “0” indicates the mode is OFF.

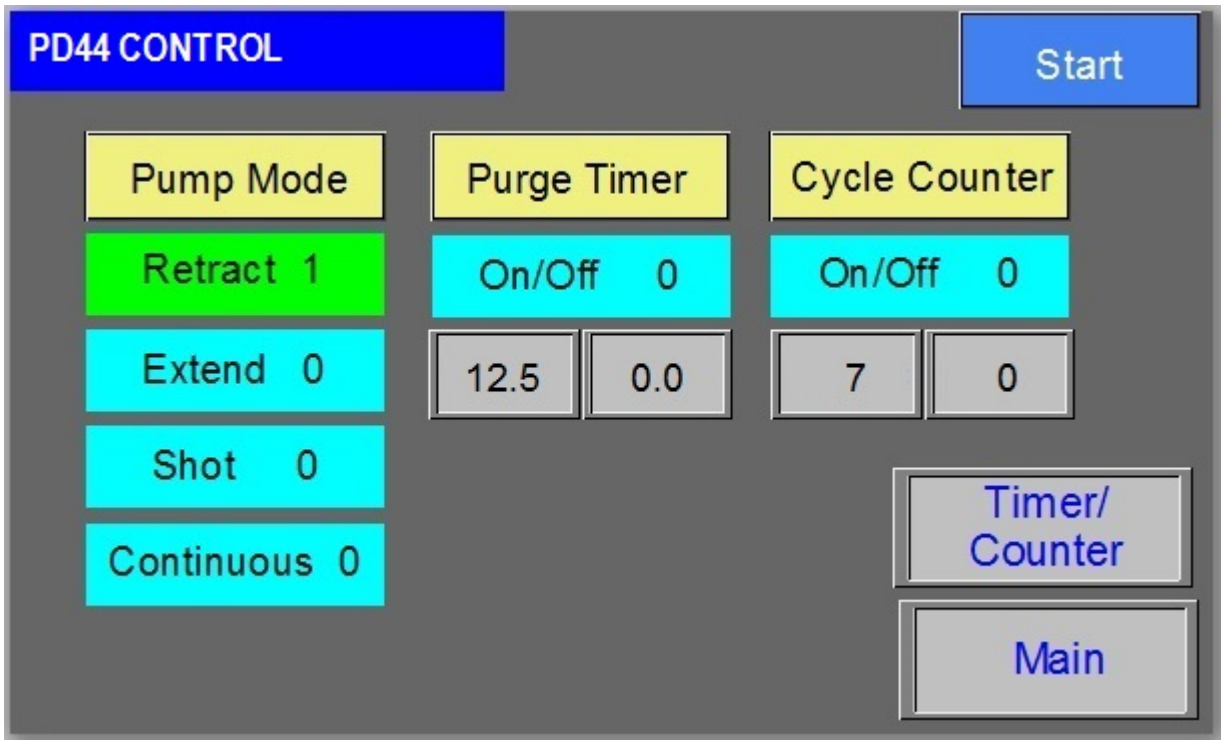


FIG. 8: Posidot Control Screen

Icon	Description
	Start Button: When the Start button is pressed, the PD44 starts the cycle for the selected Pump Mode.
	Pump Mode: Note the metering rods must be retracted prior to changing any setting under Pump Mode.
	Retract Mode: The air cylinder and pumps immediately retract and remain in the retracted position. This is used for maintenance purposes.
	Extend Mode: The air cylinder and pumps immediately extend and remain in the extended position. Select this mode if the pumps will sit idle for a long period of time.
	Shot Mode: The PD44 fully cycles the number of times displayed in the Cycle Counter field when the start device is pressed and released. The PD44 cycles continuously when the start device is pressed and held.
	Continuous Mode: The PD44 continually cycles the pumps when the start device is pressed.
	Purge Timer On/Off: This enables (On) or disables (Off) the Purge Timer. When the Purge Timer is enabled, the PD44 cycles when the Purge Timer times out provided Shot Mode is selected and no errors exist. The lower left field shows the Purge Timer preset value in seconds as it times down. Note the Purge Timer value is set on the Timer/Counter control screen.
	Cycle Counter On/Off: This enables (On) or disables (Off) the cycle counter. When the Cycle Counter is enabled and the PD44 is in Shot Mode, the PD44 takes the preset number of cycles when the start device is pressed. The lower left field shows the preset number of cycles the PD44 will take (in this case, seven cycles. The lower right field shows how many cycles are left as the PD44 goes through its cycles. Note the Cycle Counter preset value is set on the Timer/Counter control screen.

Timer/Counter Control Screen

NOTE: A"1" indicates the mode is ON. A "0" indicates the mode is OFF.

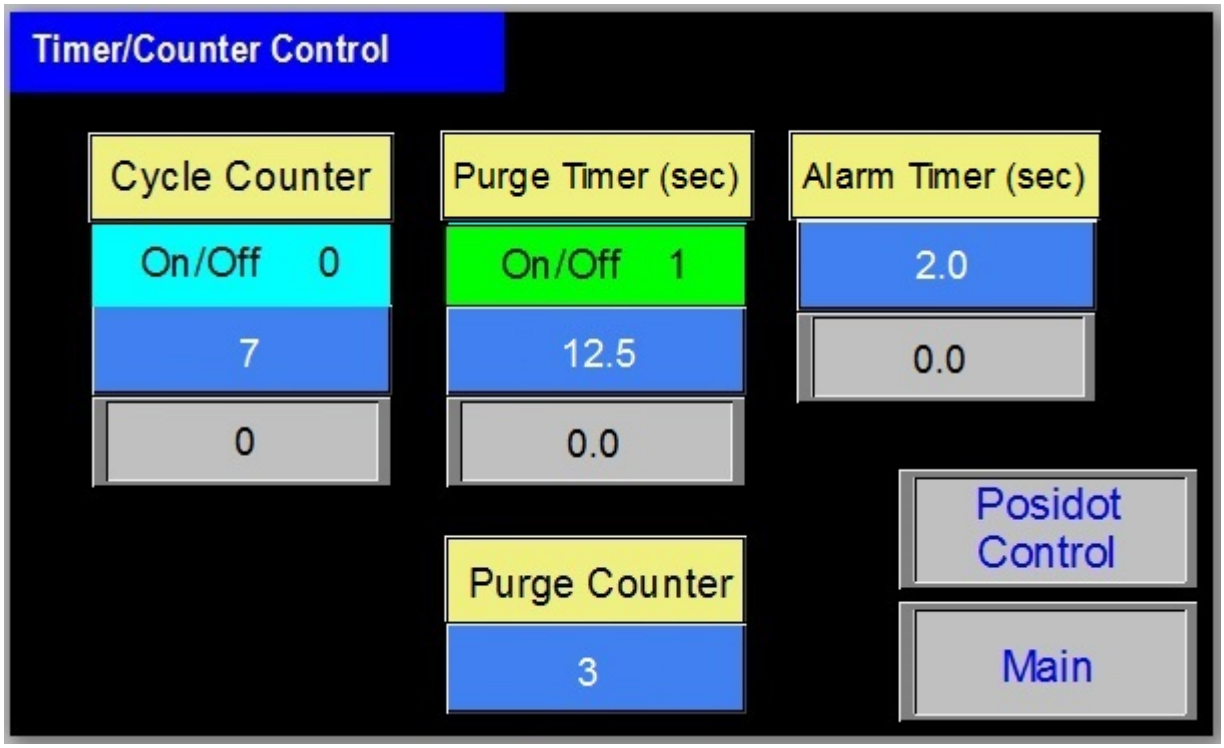


FIG. 9: Timer/Counter Control Screen

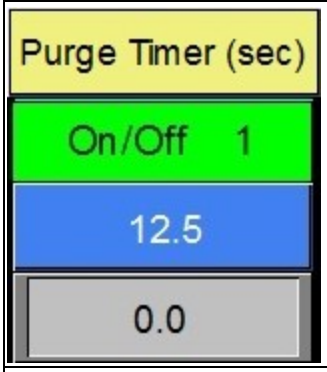
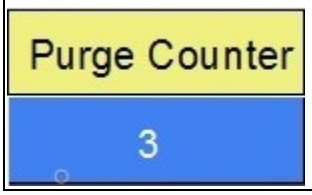
Calculating the Purge Timer Setting

If the shot size is larger than the mixer volume, set the timer for one-half the gel time of the material. If the shot size is smaller, use the following formula to determine the Purge Timer setting.

$$\frac{\text{Gel Time X Shot Size}}{\text{2 X Mixer Volume}} = \text{Timer Setting}$$

For example, with mixer volume = 13.3cc, shot size = 10cc, gel time = 10 minutes, use the following equation.

$$\frac{\text{10 min X 10 cc}}{\text{2 X 13.3 cc}} = \frac{\text{100 cc*min}}{\text{26.6 cc}} = 3.76 \text{ min}$$

Icon	Description
	Cycle Counter On/Off: This enables (On) or disables (Off) the cycle counter. When the Cycle Counter is enabled and the PD44 is in Shot Mode, the PD44 takes the preset number of cycles when the start device is pressed. The blue field is where the operator enters the desired number of cycles. The bottom gray field shows how many cycles are left as the PD44 goes through its cycles.
	Purge Timer On/Off: This enables (On) or disables (Off) the Purge Timer. When the Purge Timer is enabled, the PD44 cycles when the purge Timer times out provided Shot Mode is selected and no errors exist. The blue field is where the operator enters the Purge Timer preset value in seconds. The bottom gray field shows the value of the Purge Timer in seconds as it times down. Note when the Purge Timer times out and the PD44 cycles, it will begin timing down again.
	Alarm Timer: When the Purge Timer times out, it will sound an audible alarm before the PD44 purges. This is to warn the operator the PD44 is about to cycle so the PD44 can be moved over a waste container or a regular dispense shot can be taken. The blue field is where the operator enters the Alarm Timer preset value in seconds. The bottom gray field shows the value of the Purge Timer in seconds as it times down.
	Purge Counter: This is the amount of cycles the PD44 will take when the Purge Timer times out. The blue field is where the operator sets the purge counter value. The number of counts should be set based on how much volume the PD44 dispenses each cycle and how much volume it takes to clear the static mixer on the PD44.

Status Screen

NOTE: A"1" indicates the mode is ON. A "0" indicates the mode is OFF.

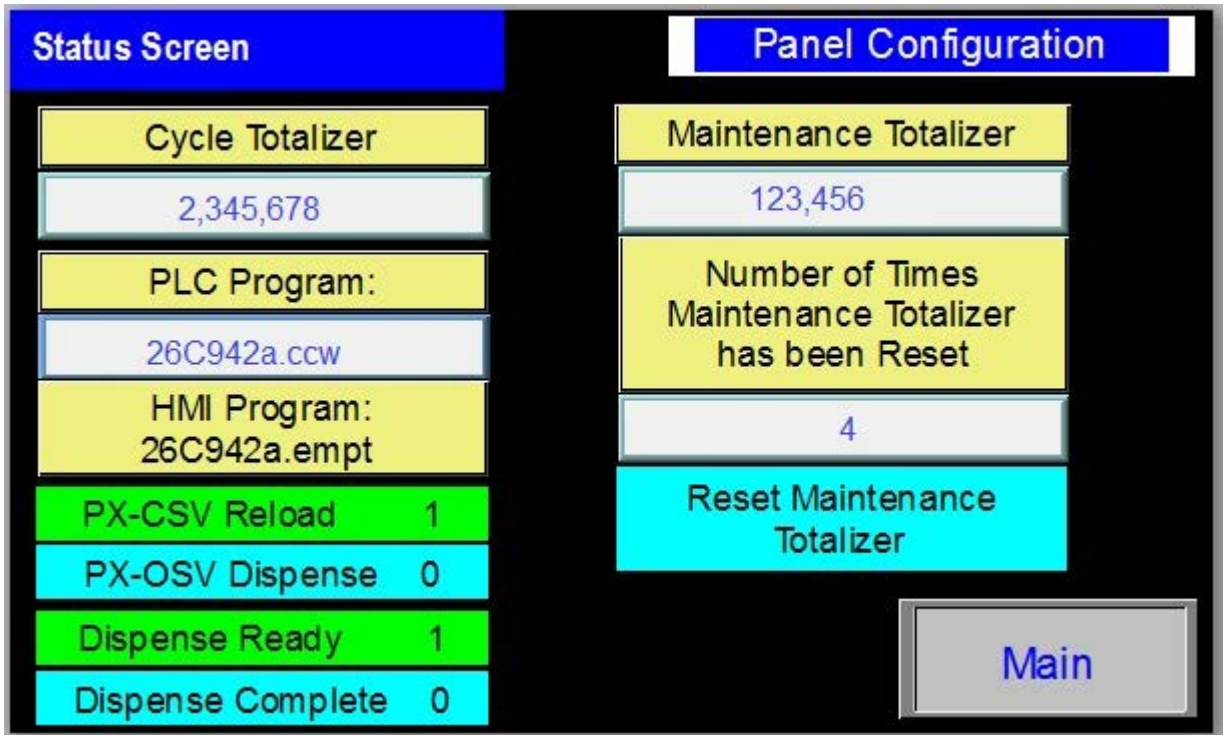
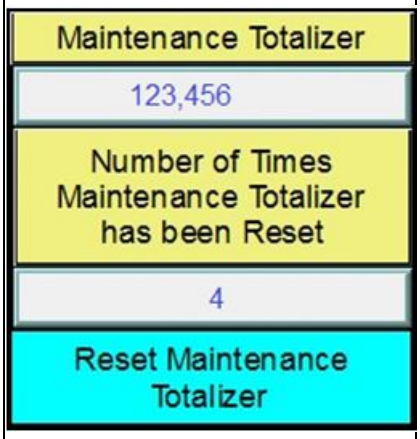
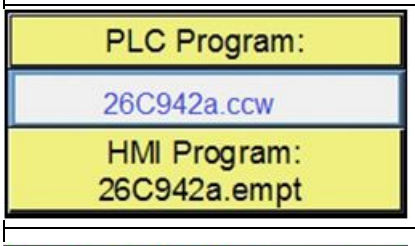
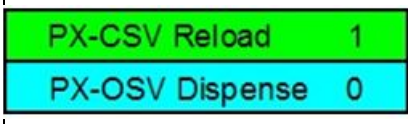
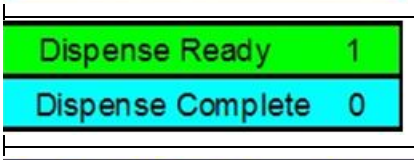


FIG. 10: Status Screen

Icon	Description
	Cycle Totalizer: Shows the total number of cycles the PD44 has taken.
	Maintenance Totalizer: Shows the total number of cycles the PD44 has taken since the last time the Reset Maintenance Totalizer button was pressed. Number of Times the Maintenance Totalizer has been Reset: shows how many times the Reset Maintenance Totalizer button has been pressed. Reset Maintenance Totalizer Button: Resets the Maintenance Totalizer. For example: If it is determined the PD44 needs new seals every 100,000 cycles, when the Totalizer gets around 100,000 the seals can be replaced and the Totalizer reset.
	PLC Program/HMI Program: Shows the software and revision level for both the PLC and HMI. This is useful for troubleshooting.
	PX-CSV/PX-OSV: Displays which spool valve sensor on the PD44 is active (“1” is active, “0” is inactive). When the PD44 is not dispensing, the spool valve is in Reload position. When the PD44 is dispensing it is in the Dispense position.
	Dispense Ready/Dispense Complete: Displays the status of the two customer signals (CR-CS1 and CR-CS2) from the PD44 that it is ready to dispense (“1”) or the dispense cycle is complete (“1”).
	This allows a technician access to the settings on the HMI if needed.

Level 1 Control Screen

NOTE: A”1” indicates the mode is ON. A “0” indicates the mode is OFF.

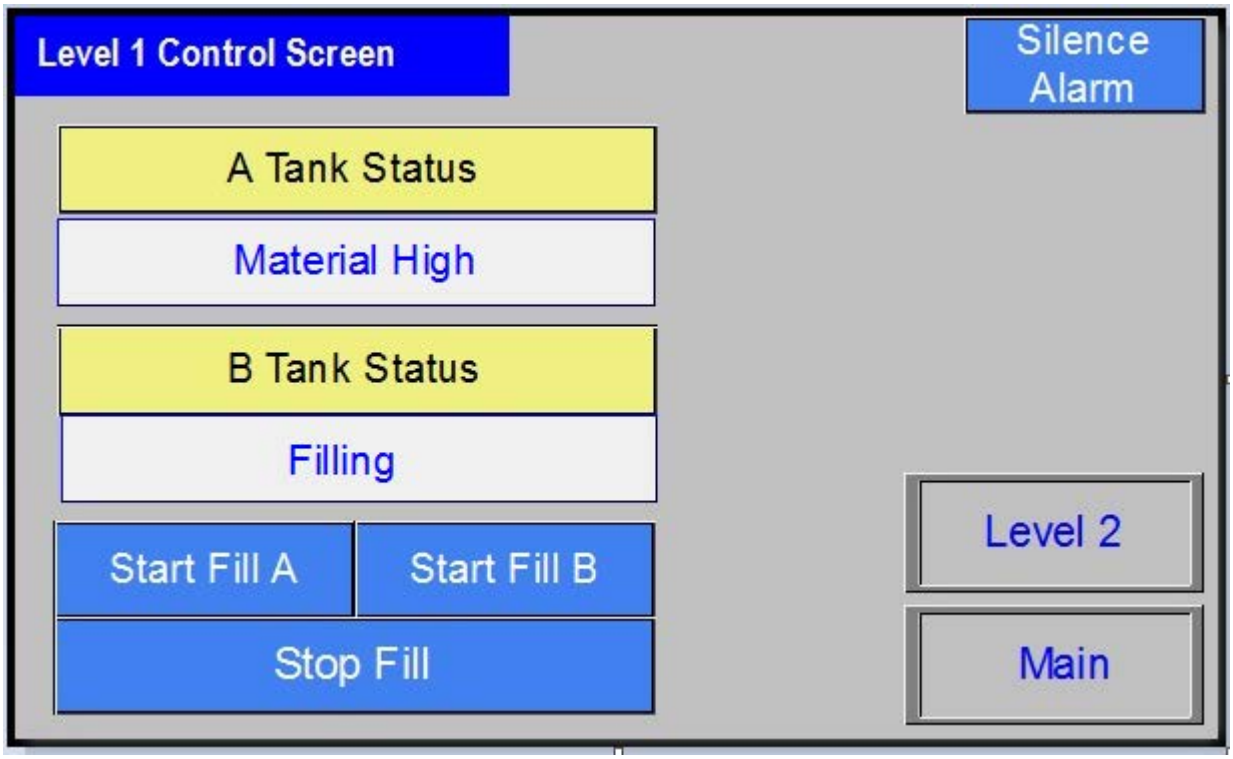
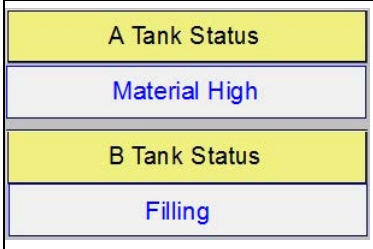


FIG. 11: Level 1 Control Screen

Icon	Description
	A and B Tank Status: Shows the status of the tanks. See the chart below for the messages and descriptions.
	Start Fill A or B Button: Starts filling the A (or B) tank by turning on a solenoid for a transfer pump (if purchased). The tank continues to fill until the material level reaches the high level proximity switch, the Stop Fill button is pressed, or the Fill Timer times out. Stop Fill Button: immediately stops filling both tanks by turning off the solenoid for the transfer pump (if purchased).
	Silence Alarm Button: When the audible alarm sounds because the material level is low in either tank, pressing this button turns it off.

Message	Description
Material High	The material level in the tank is at or above the high level sensor.
Material Low	The material level in the tank is below the low level sensor.
Filling	The tank is currently being filled.
Material Present	The material level in the tank is between the high and low level sensors.
Fill Fault	The tank began filling and did not reach the high level sensor within the preset time entered in the fill timer field on the Level 2 screen. The tank has stopped refilling.
Levels Not Active	Level sensors are not installed on the tank.
Level Sensor Fault	The high level sensor is on and the low level sensor is off.

Level 2 Control Screen

NOTE: A"1" indicates the mode is ON. A "0" indicates the mode is OFF.

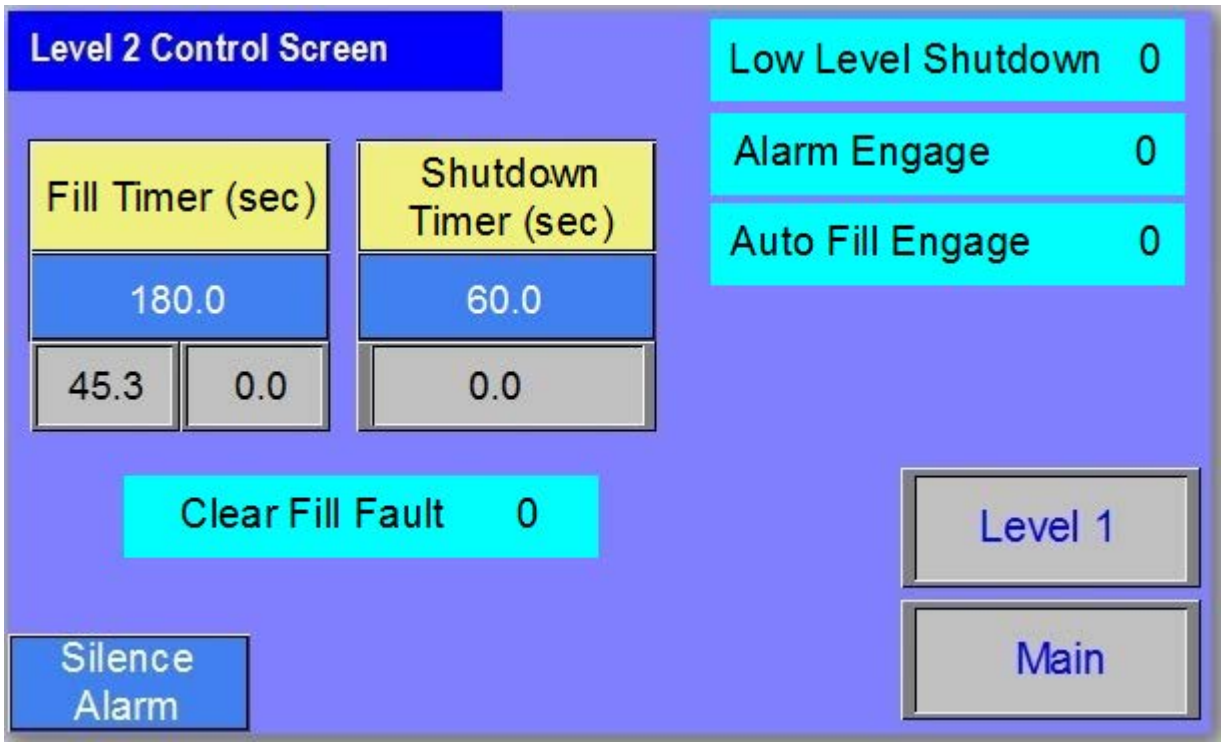
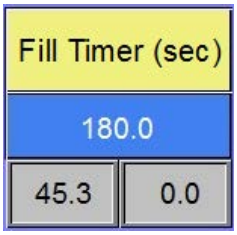
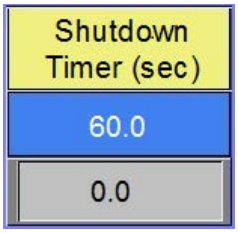
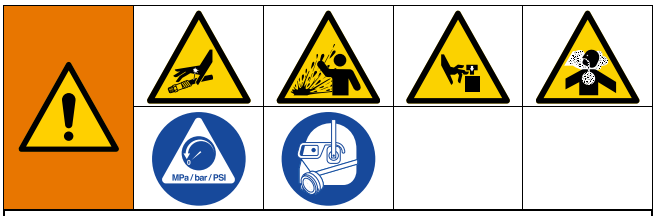


FIG. 12: Level 2 Control Screen

Icon	Description
	Low Level Shutdown Mode Button: This displays a “1” if chosen. If the material level of either the A or B component tank goes below the low level sensor, the machine shuts down. To recover, refill the component tank with material to above the low level sensor. When “0” is displayed, the low level shutdown feature is disabled.
	Alarm Engage Mode Button: This displays a “1” if chosen. If the material level of either the A or B component tank goes below the low level sensor, the audible alarm is activated.
	Auto Fill Engage Mode Button: This displays a “1” if chosen. This allows the low and high level sensors to control the fill solenoids for a transfer pump. This also enables the Fill Timer.
	Fill Timer: This is the amount of time in seconds from when a tank fill is initiated until the audible alarm sounds if the tank material level does not reach the high level sensor. If the high level sensor is activated before the Fill Timer times out, the Fill Timer is reset. The Fill Timer preset value is entered in the center field for both the A and B tanks. The actual value of the timer is on the left for the A tank, and on the right for the B tank.
	Shutdown Timer: This is the amount of time in seconds between when a low level sensor in either the A or B tank is activated and when dispensing from the PD44 is disabled. This insures air is not pumped through the PD44. The preset value is changed in the middle field and the actual value of the timer is read in the bottom field.
	Clear Fill Fault: This button clears the Fill Timer Fault message displayed in the corresponding A Tank Status or B Tank Status field in the Level 1 Control Screen.
	Silence Alarm Button: When the audible alarm sounds because the material level is low in either the A or B tank, pressing this button turns it off.

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.

1. Turn main air supply shut-off/bleed valve to the off position. This will bleed air from the system.
2. Perform feed system pressure relief procedure. See **Related Manuals** on page 2.
3. Perform dispense valve pressure relief procedure. See **Related Manuals** on page 2.

Shutdown

1. Navigate to the PD44 Control screen.
2. Press the Retract button.
3. Press the Extend button.
4. Press the Control Power Switch (B). Ensure everything is off.
5. Perform the **Pressure Relief Procedure**.
6. Perform feed system shutdown procedure. See **Related Manuals** on page 2.
7. Perform dispense valve shutdown procedure. See **Related Manuals** on page 2.

Recycling and Disposal

End of Product Life

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

Maintenance

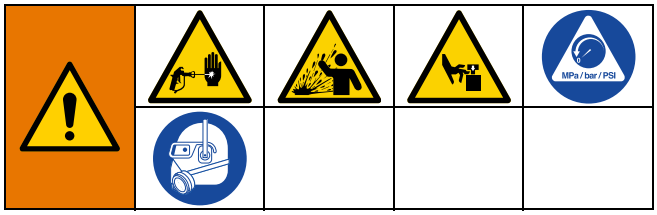
See the appropriate manuals for dispense valve and feed system maintenance schedules and procedures. See **Related Manuals** on page 2

NOTE: If material is leaking, see **Troubleshooting** on page 25.

Air-Water Separator/Filter

Drain water once a shift or as necessary.

Troubleshooting

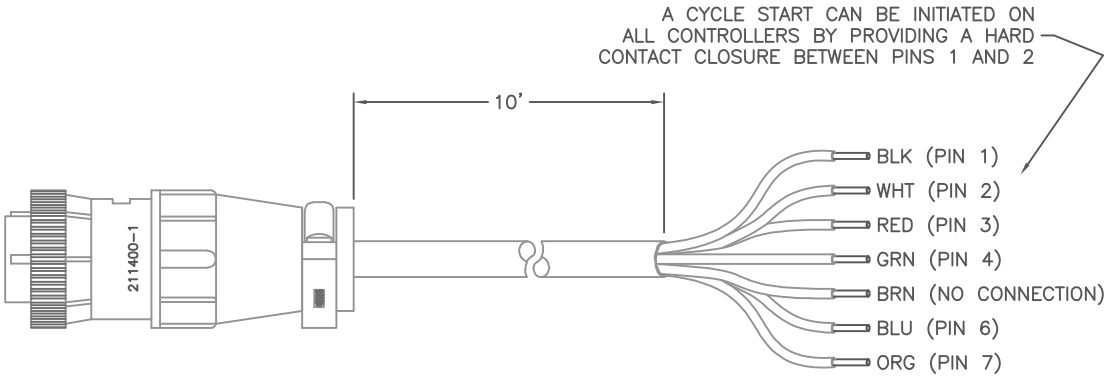


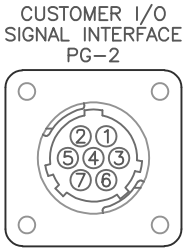
Follow **Pressure Relief Procedure**, page 23, before checking or repairing the control box.

Problem	Cause	Solution
Dispense valve stalling and no material being dispensed despite adequate input pressure.	Blocked mixer	Check mixer for cured material, replace mixer as required
	Flow control valve closed	Open
Dispense valve not discharging normal or full volume.	Low material level in reservoirs	Fill material reservoirs and prime the machine
	Air in material tanks	Fill reservoirs and prime machine
Material leaks past spool valves.	Spool valve worn or damaged	Replace the spool valve and sleeve
Improper material mixing.	Mixer not clean or free	Remove and replace the mixer
Material leaks around mixer while dispensing.	Cured material in mixer	Check mixer for cured material, replace mixer

Customer Inputs/Outputs

Name	Description
Ready to Dispense Signal (Output)	In Shot Mode, changes state when pump is retracted and LS-EXT is tripped.
Cycle-Complete (Output)	In Shot Mode, changes state for one second after the retract switch is tripped.
Customer Start (Input)	In any mode, operates in parallel to the footswitch. Provide a dry contact closure between black and white wires on the customer signal cable to actuate machine.





PIN	USAGE	
1)	START	
2)	START	
3)	CUST OUT 1	Ready
4)	CUST OUT 2	Complete
5)	KEY	
6)	CUST OUT 1	Ready
7)	CUST OUT 2	Complete

FIG. 13

Schematics

Electrical Schematics

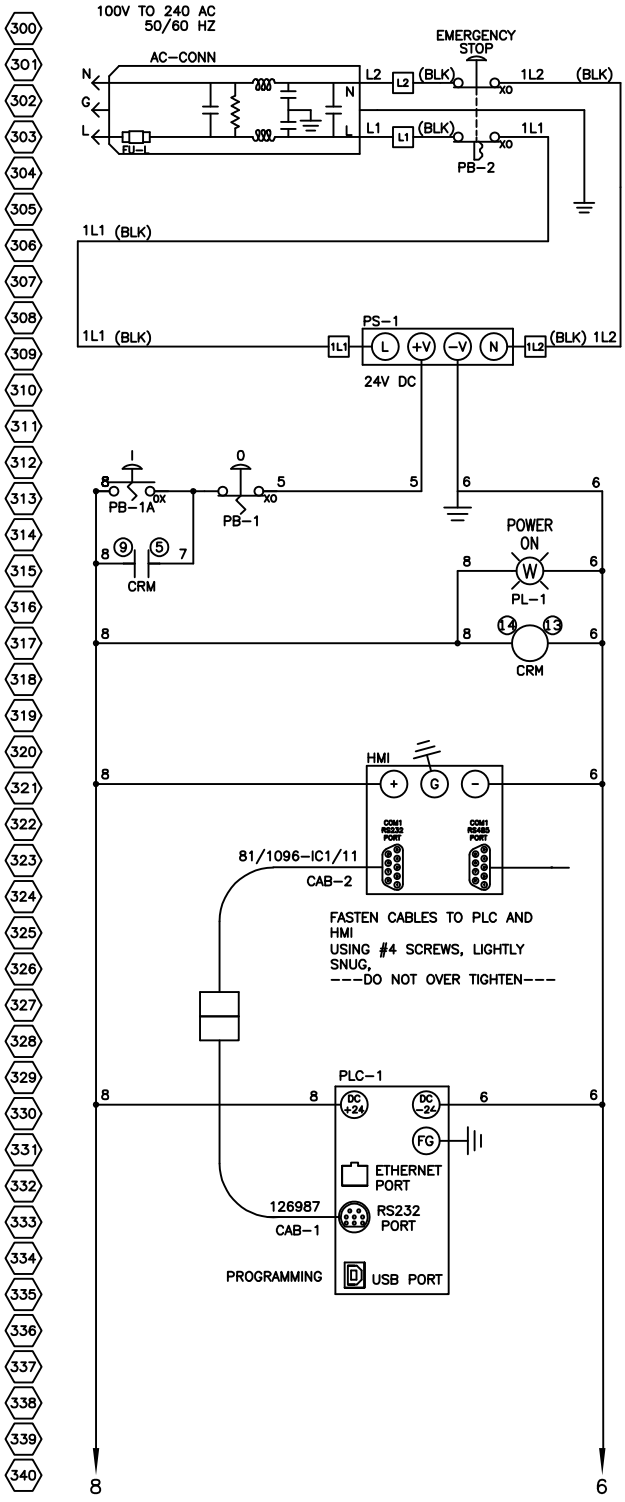


FIG. 14

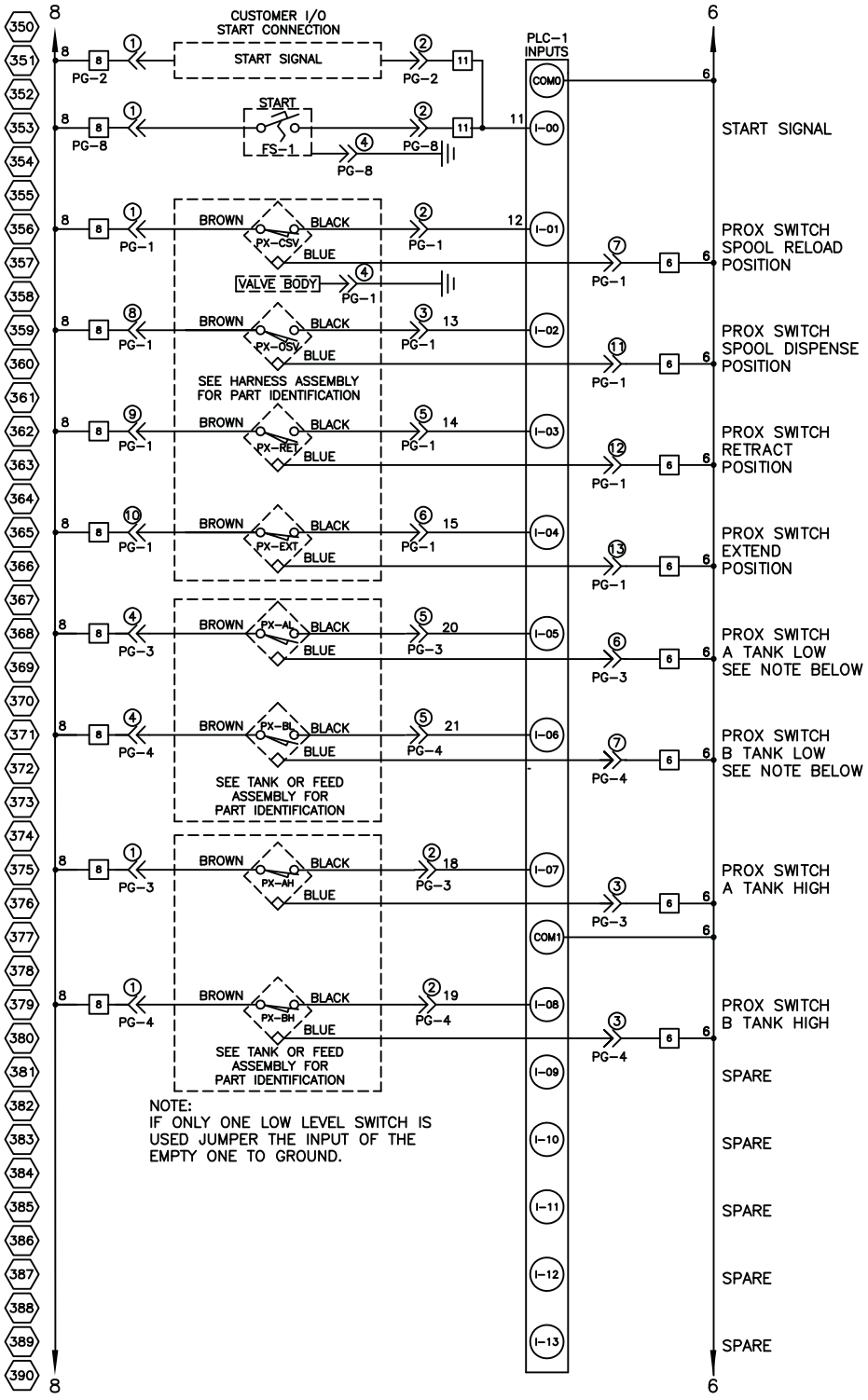

CUSTOMER I/O
START CONNECTION
START SIGNAL
START
FS-1
PLC-1
INPUTS
COM0
I-00
I-01
I-02
I-03
I-04
I-05
I-06
I-07
COM1
I-08
I-09
I-10
I-11
I-12
I-13
START SIGNAL
PROX SWITCH
SPOOL RELOAD
POSITION
PROX SWITCH
SPOOL DISPENSE
POSITION
PROX SWITCH
RETRACT
POSITION
PROX SWITCH
EXTEND
POSITION
PROX SWITCH
A TANK LOW
SEE NOTE BELOW
PROX SWITCH
B TANK LOW
SEE NOTE BELOW
PROX SWITCH
A TANK HIGH
PROX SWITCH
B TANK HIGH
SPARE
SPARE
SPARE
SPARE
SPARE
BROWN
BLACK
BLUE
PX-CSV
PX-OSV
PX-RET
PX-EXT
PX-AL
PX-BL
PX-AH
PX-BH
VALVE BODY
SEE HARNESS ASSEMBLY
FOR PART IDENTIFICATION
SEE TANK OR FEED
ASSEMBLY FOR
PART IDENTIFICATION
SEE TANK OR FEED
ASSEMBLY FOR
PART IDENTIFICATION
NOTE:
IF ONLY ONE LOW LEVEL SWITCH IS
USED JUMPER THE INPUT OF THE
EMPTY ONE TO GROUND.

FIG. 15

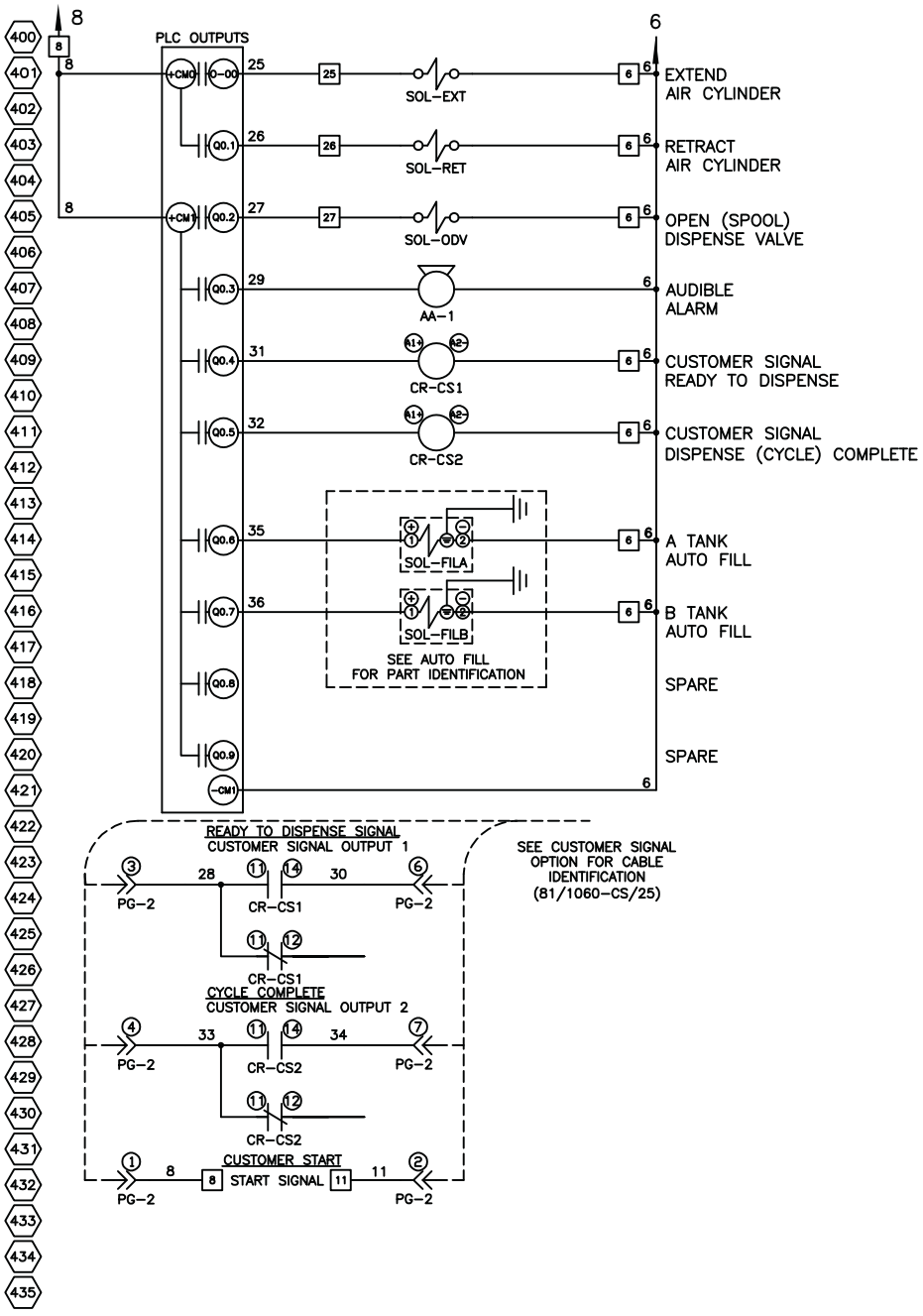

PLC OUTPUTS
EXTEND AIR CYLINDER
SOL-EXT
RETRACT AIR CYLINDER
SOL-RET
OPEN (SPOOL) DISPENSE VALVE
SOL-ODV
AUDIBLE ALARM
AA-1
CUSTOMER SIGNAL READY TO DISPENSE
CR-CS1
CUSTOMER SIGNAL DISPENSE (CYCLE) COMPLETE
CR-CS2
A TANK AUTO FILL
SOL-FILA
B TANK AUTO FILL
SOL-FILB
SEE AUTO FILL FOR PART IDENTIFICATION
SPARE
SPARE
READY TO DISPENSE SIGNAL
CUSTOMER SIGNAL OUTPUT 1
CR-CS1
CYCLE COMPLETE
CUSTOMER SIGNAL OUTPUT 2
CR-CS2
CUSTOMER START
START SIGNAL
PG-2
SEE CUSTOMER SIGNAL OPTION FOR CABLE IDENTIFICATION (81/1060-CS/25)

FIG. 16

Pneumatic Schematic

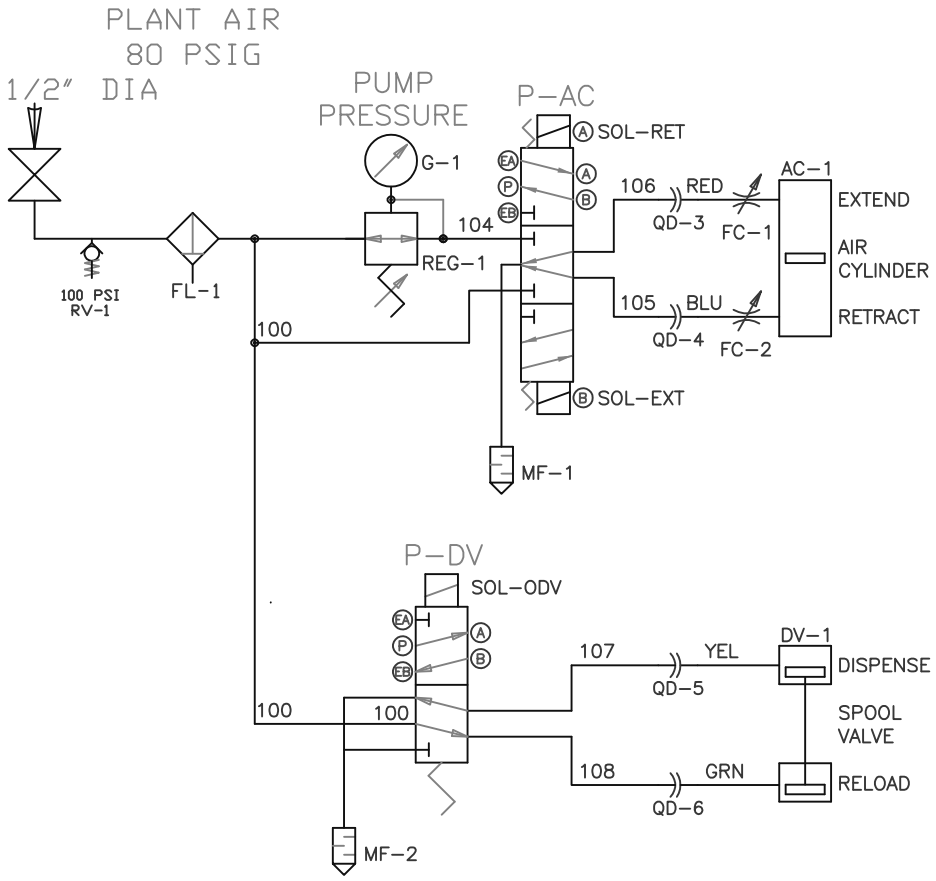
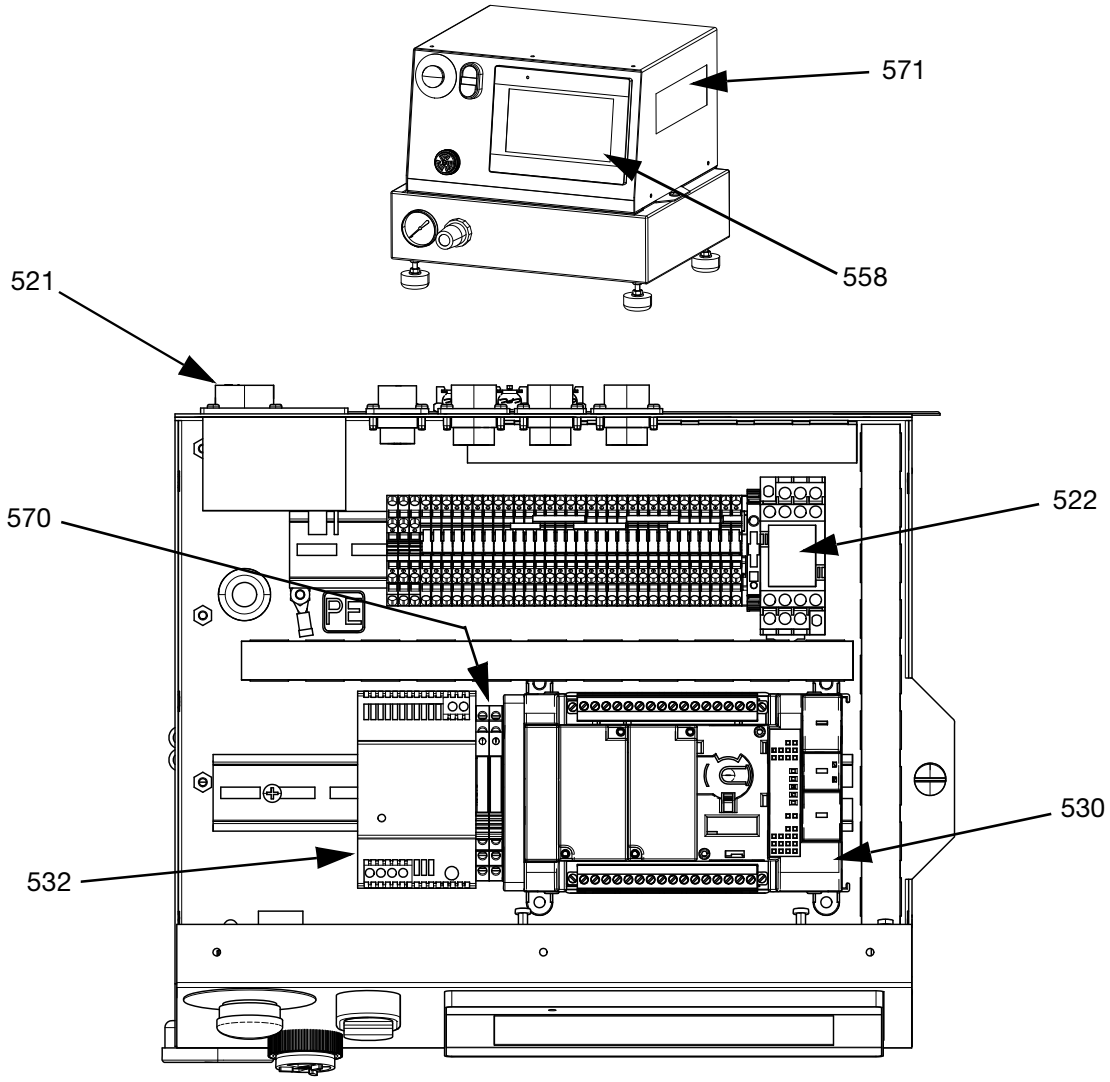


FIG. 17

Parts

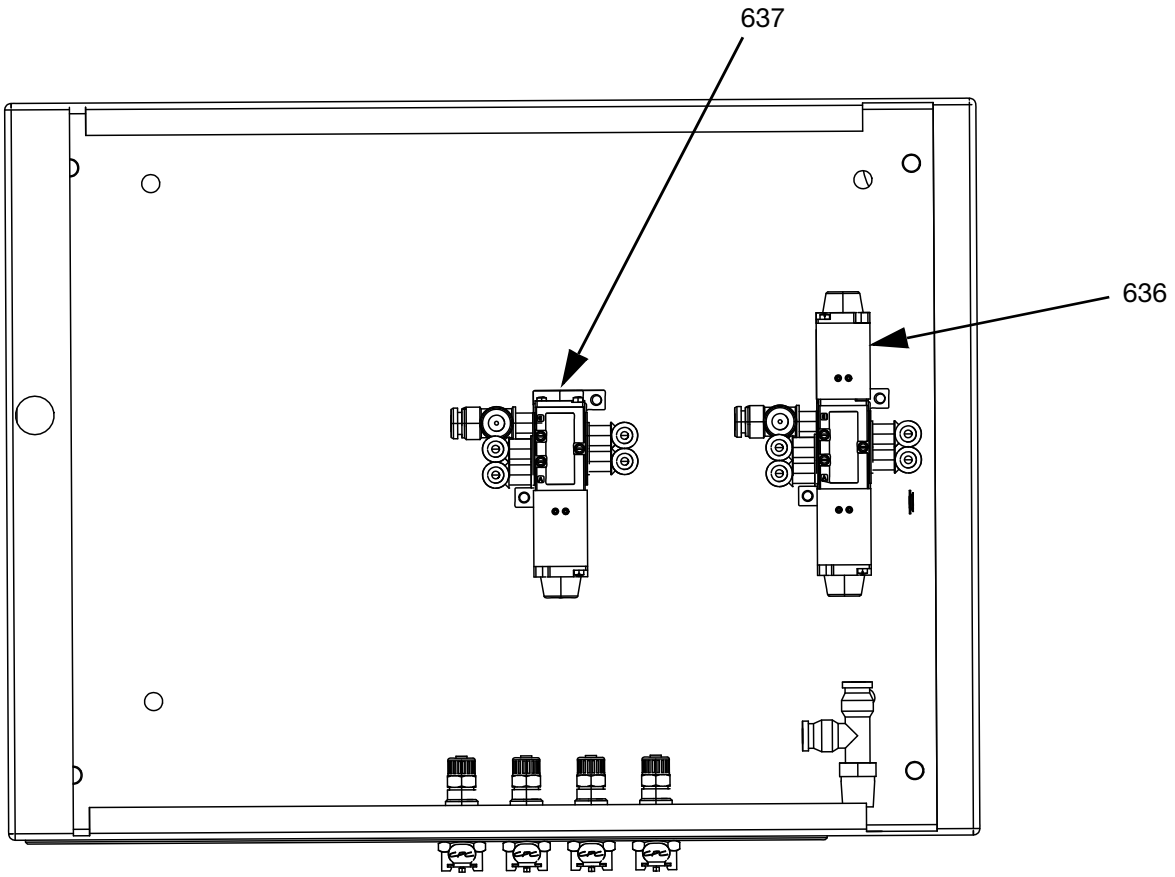
Electrical Enclosure



Electrical Enclosure

Ref.	Part	Description	Qty.
521	81/1053-2/11	FUSE, 5mm x 20mm, 2A, time delay	1
522	F0300011	RELAY, master control	1
530	26D026	CONTROL, PLC, with program	1
532	24J189	POWER SUPPLY, 24VDC, 1.75A, 120/240V	1
558	26D027	DISPLAY, HMI, color, with program	1
570	81/0562-24/11	RELAY, customer signal	2
571	15W776	LABEL, warning, electrical	1

Lower Pneumatic Enclosure



Lower Pneumatic Enclosure

Ref.	Part	Description	Qty.
---	02/2891-7/50	LOWER BASE, pneumatic components, PD44	1
636	16M434	VALVE, solenoid, extend/retract solenoid	1
637	83/0397-24D/11	VALVE, solenoid, spool valve	1

Technical Specifications

PD44 Control Box		
	US	**Metric**
Maximum Ambient Temperature	110°F	43°C
Maximum Operating Temperature	150°F	65°C
Maximum Air Working Pressure	100 psi (0.7 MPa, 7 bar)	
Supplied Air Requirements	1 to 3 cfm at 80 psi to 100 psi	
Electrical Requirements	120-240V, 50-60 Hz, 0.6 amp @ 120V, 0.3 amp @240V	
Fuses Required	5 x 20 mm, 2A, time delay (Graco part 81/1053-2/11, Qty = 1)	
Maximum Amperage	2 amps	
Dimensions (H x L x W)	13 in. x 12 in. x 15 in.	330 mm x 305 mm x 381 mm
Weight	30 lb	13.6 kg

California Proposition 65

CALIFORNIA RESIDENTS

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

Graco Standard Warranty

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

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

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

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Original instructions. This manual contains English. MM 313877
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Revision K, September 2022