FCS300-R-2LT-H

MANUAL COATING SYSTEM

Version: 163-03534

Operation Manual

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FCS300-R-2LT-H (163-03534)

Complete Manual Conformal Coating System

Thank you for purchasing the coating system from PVA. Before attempting to operate the unit, we recommend that you take a few minutes and read the following operation and setup manual. This will assist in familiarizing you with the product and ensure a successful installation.

As always, if any questions or problems arise, do not hesitate to contact PVA's Service Department for support. This department can be reached at PVA headquarters by telephone at (518) 371-2684.

Again, thank you for your purchase, and we look forward to assisting you in the future as you continue to improve your dispensing processes.

Theory of Operation

This manual conformal coating system is designed to allow operators to utilize PVA's high quality spray valve technology in a hand held applications. The system utilizes a small 2-Liter bottle pressure tank to hold fluid that can be placed on a bench top or on the floor to feed the valve. An FCS300-R spray valve is mounted to a pneumatic trigger handle which allows the operator to easily articulate the valve over the part and utilize the trigger activate the spray.

When the trigger is depressed, the valve will activate to begin fluid flow and simultaneously turn on the atomizing air in order to spray the coating to the substrate. As soon as the trigger is released, the flow of fluid and atomizing air will cease.

The system is designed with Stainless Steel components and a UV safe, Teflon fluid line to provide the greatest level of compatibility with a wide variety of fluids. Chemistries that can be used in this system include, but are not limited to Acrylics, Urethanes, Silicones, Epoxies, Solvent basted coatings, etc.

All wetted components of the system include:

- 303, 304 stainless steel
- Teflon
- Kalrez

Safety

Due to fluid contents being under pressure eye protection is recommended for operators. Refer to MSDS sheets on fluid being dispensed for and other precautions.
A grounding wire should be connected to the stainless steel pressure tank to remove esd.

Setup

Refer to assembly drawing **163-03534** for part reference numbers.

1. Connect the system as outlined in the assembly drawing. Being sure the fluid lines are tightly crimped in the fluid compression fittings and air lines are secure in the quick connect fittings.
2. Connect main air to the quick connect air fitting of the fluid tank (9) and fitting (1) of the main air regulator feeding the valve handle.

System Operation

Initial Startup

1. First, be sure the quick air shutoff valve (red handle) of the pressure tank (9) is turned to the Ext. position so that no air pressure is being supplied to the tank.
   Note: Be sure the pressure gauge reads zero before proceeding to the next step.
2. To load fluid into the system, evenly unthread the three handles on top of the tank until they are loose from the tank top.
   Note: The handles will remain connected to the tank lid.
3. Slowly remove the tank lid assembly from the tank body.
4. Place a full bottle of fluid inside the center of the tank with the cap removed.
5. Replace the lid assembly onto the tank, being sure the dip tube that is connected to the center of the lid inserts into the fluid bottle.
6. Tighten the three handles down evenly for air tight seal.
7. Adjust the pressure on the air regulator (2) feeding the valve handle to 80 psi.
8. Depress the trigger on the handle (15) to cycle the valve open and closed. You should hear the solenoid actuating inside the handle and will be able to see the center needle of the spray valve (13) moving back and forth.
9. Adjust the pressure on the atomizing air regulator (20) between 2-3psi for startup.
   Note: This pressure will only activate when the trigger of the handle (15) is pressed.
10. To begin flow of fluid to the valve, open the quick air shutoff valve (red handle) on the pressure tank (9) and adjust the air regulator to achieve the desired fluid flow rate.
    Note: To begin, start off with a low pressure (5psi.) and increase as necessary.
11. Hold the valve (13) and trigger handle assembly (15) aiming it in a direction where the fluid can be purged.

12. Depress the trigger of the handle assembly (15) to begin fluid flow. Once fluid begins to spray from the air cap of the valve (13) continue spraying until all air is removed from the fluid lines.
13. Adjust the settings and begin to coat.

Adjusting Settings

There are several settings that can be adjusted to fine tune the spray pattern. These settings are determined by the fluid viscosity, desired pattern width, and coating thickness.

1. Based on the viscosity, the air pressure regulator of the fluid tank (9) should be adjusted to supply an adequate flow of fluid to the spray valve.
2. The stroke adjustment of the spray valve (13) should be used to fine tune the fluid flow rate from the valve.
   Note: Refer to the valve manual for further instructions.
3. Adjust the atomizing air regulator (20) to control the volume of air that is used to break up the fluid and transfer it to the part.
   Note: Increasing atomizing air pressure will increase your spray pattern width and decrease the coating thickness.

Material Change Over

1. First, remove air pressure from the fluid tank (9) by turning the quick air shutoff valve (red handle) to the Ext. position to dump air pressure.
   Note: Allow all of the pressure to drain from the tank before proceeding.
2. When the pressure gauge displays zero, evenly unthread the three handles on top of the tank until they are loose from the tank top.
   Note: The handles will remain connected to the tank lid.
3. Slowly remove the tank lid assembly and wipe fluid from the bottom of the dip tube.
   Note: Fluid may continue to drip from the tube.
4. Remove the empty bottle of fluid from the tank and discard.
5. Remove the cap of the next bottle and place it in the center of the tank.
6. Replace the lid assembly onto the tank, being sure the dip tube inserts into the fluid bottle.
7. Tighten the three handles down evenly for an air tight seal.

Shut Down Procedure

1. At the end of the day or shift, remove air pressure on the fluid tank (9) by turning the quick air shutoff valve (red handle) to dump air pressure.

2. Remove air pressure from the regulator (2) feeding the valve (13) and trigger handle assembly (15).
3. The system can be left unpressurised with fluid still inside it.

Spare Parts

The components listed below are considered wear items and disposable fluid delivery components that should be kept as spare parts to avoid downtime.

Item	Part Number	Description	Quantity
1	4-ALOK-316	¼" Ferrule Tube Kit	2
2	TFETB01870250B	¼"od UV Safe Teflon Tubing	7
3	FCS3-SP	Spare Parts Kit for FCS300-R Valve	1

- Contact your PVA sales representative for pricing

Optional Accessories

To optimize your manual conformal coating system, PVA has developed a few accessories that can be used to assist the operators.

Part #

PV106-S

This stand provides the operator with a place to set the valve and trigger handle assembly when it's not in use to prevent it from tipping. The purge cup located on the front of the stand allows the operator to pull the trigger when the unit is in its holster to clean the nozzle if it has been sitting for long periods of time.

Low Level

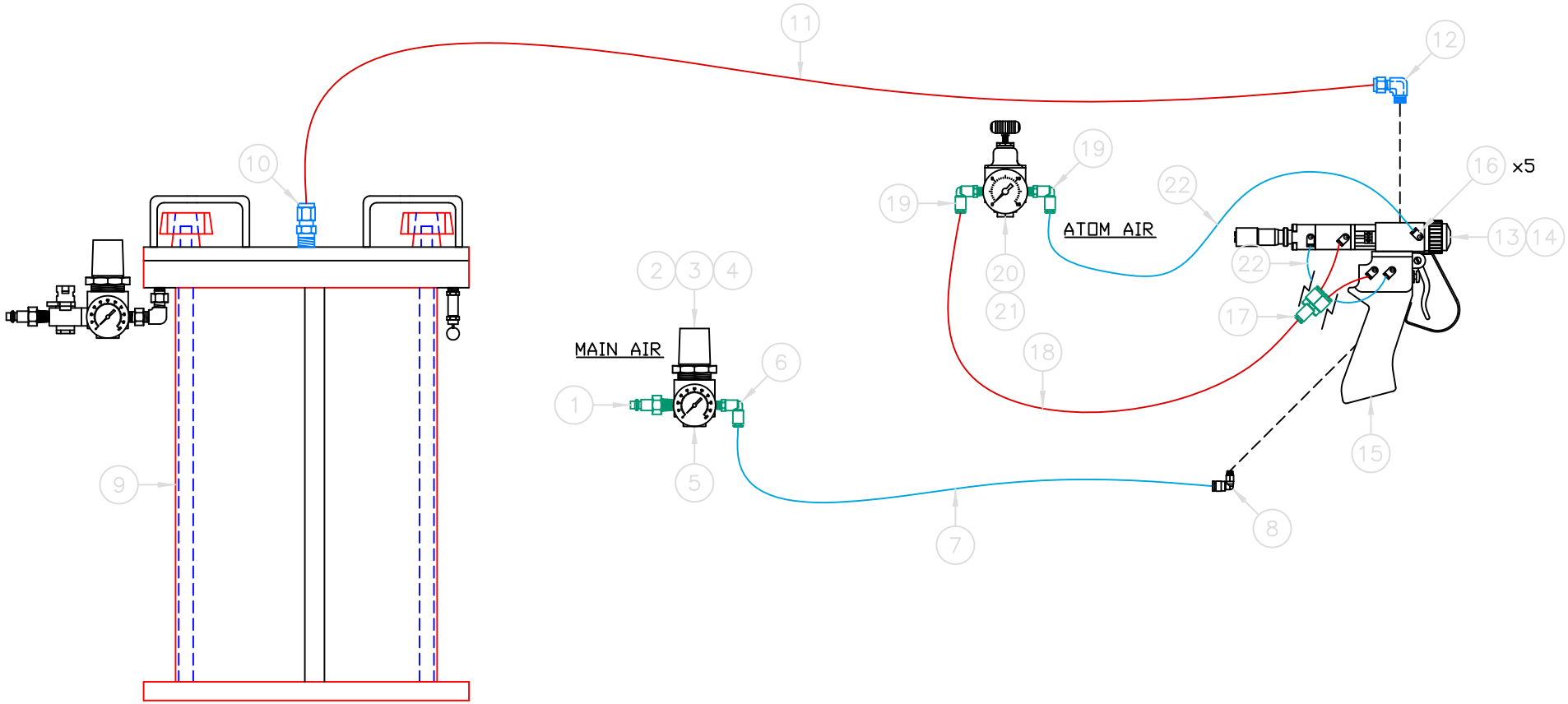
PVA offers a low level scale that can be used to detect the overall weight of the tank and material to provide feedback to the operator before the tank runs out of fluid.
The controller of this scale can be connected to a PLC or stand alone indicator box.

COMPLETE SYSTEM

BILL OF MATERIALS FOR FCS300-R-2LT-H:

Refer to Drawing #**163-03534**

Item	Part Number	Description	Quantity
1	FC10-3	Air fitting: 1/4mnpt x quick disconnect	1
2	AR20-N02-Z-A	Air pressure regulator: 0-105psi	1
3	K-50-MP0.7-N01M	Air pressure gauge: 0-100psi	1
4	AR22P-270AS	Mounting bracket for air pressure regulator	1
5	PV105-R	Stand to Hold Regulators	1
6	KQ2L07-35AS	Air fitting: 1/4mnpt x 1/4tube 90	1
7	TU0604BU	Air tubing: blue, 1/4od x 8ft	1
8	KQ2L07-32A	Air fitting: 10/32unf x 1/4tube 90	1
9	PVA-2LTUV	2-Liter bottle pressure tank assembly	1
10	4MTC6N-316	Fitting: 3/8mnpt x 1/4tube thru	1
11	TFETB01870250B	Teflon material tubing: black, 1/4od x 8ft	1
12	4MSEL2N-316	Fitting: 1/8mnpt x 1/4tube 90	1
13	FCS300-R	FCS300-R spray valve, extended cap	1
14	114-6752	Valve mounting bracket for PV101	1
15	PV101	Pneumatic valve handle	1
16	KQ2L03-32A	Air fitting: 10/32unf x 5/32tube 90	5
17	KQ2U03-00A	Air fitting: 5/32tube union "Y"	1
18	TU0425R	Air tubing: red, 5/32od x 8ft	1
19	KQ2L03-35AS	Air fitting: 1/4mnpt x 5/32tube 90	2
20	US23892	Precision air regulator with gauge: 0-15psi	1
21	1/8 CD 45	Fitting: 1/8mnpt x 1/8fnpt 45	1
22	TU0425BU	Air tubing: blue, 5/32od x 8ft	2



REV	REVISION DESCRIPTION	DRN BY	DATE	DESIGNER	REV	REVISION DESCRIPTION	DRN BY	DATE	DESIGNER
A	ORIGINAL DESIGN	JB	2/20/15	JA					

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES

DO NOT SCALE

PROJECT FCS300-R-2LT-H

MODULE

SHEET 1 OF 1 REV. A

Precision Valve & Automation
1 Mustang Drive
Cohoes, NY 12047

TITLE DISPENSE LAYOUT

DWG NO. 163-03534

PVA Warranty Policy

PVA warrants the enclosed product against defects in material or workmanship on all components for one year from the date of shipment.

The warranty does not extend to components damaged due to misuse, negligence, or installation and operation that is not in accordance with the recommended factory instructions. Unauthorized repair or modification of the enclosed product, and/or the use of spare parts not directly obtained from PVA (or from factory authorized dealers) will void all warranties.

All PVA warranties extend only to the original purchaser. Third party warranty claims will not be honored at any time.

Prior to returning a product for a warranty claim, a return authorization must be obtained from PVA's customer service department. Authorization will be issued either via the telephone, facsimile, or in writing upon your request.

To qualify as a valid warranty claim, the defective product must be returned to the factory during the warranty period. Upon return, PVA will repair (or replace) all components found to be defective in material or workmanship.

(Retain this for your records)

Product Information:

PRODUCT: _____

SERIAL NUMBER: _____

DATE OF PURCHASE: _____