Manuals+ — User Manuals Simplified.

ECOLAB®
AFS-1E
Automated
Filling Station

ECOLAB AFS-1E Automated Filling Station User Manual

Contents

ECOLAB®

ECOLAB AFS-1E Automated Filling Station

FAQs

- **Q: Can I use a different type of pump diaphragm than the standard Kalrez pump?**
  - A: Yes, you can use Santoprene or Viton diaphragms as optional replacements for the standard Kalrez pump.
- **Q: What should I do if the compressed air pressure is below the recommended range?**
  - A: If the incoming air pressure falls below 40 PSI, do not operate the unit to prevent potential operational issues. Check and adjust the air pressure accordingly before use.

SAFETY INFORMATION

Read this manual completely and understand the machine before operating or servicing it.

- Read all instructions before installing or operating unit.
- Unit is dedicated for the use of one product only. The product must be approved by an Ecolab application specialist.
- Always wear appropriate personal protective equipment (PPE) when operating or servicing unit.
- Always follow all chemical safety precautions and handling instructions provided by the chemical manufacturer and Material Safety Data Sheet (MSDS).
- Incoming air pressure cannot exceed 100 PSI (7 bar).
- Unit will not operate properly if incoming air pressure is below 40 PSI (2.7 bar).
- Do not exceed a fluid temperature of 100˚F (37˚C).
- Air quality must be ISO 8573-1, class 4.4.2 compliant.
- Do not use air lubricator before the unit.
- Do not use with hydrocarbons, solvents, degassing, or flammable products.
- When working with hazardous substances that may harm or irritate skin and/or eyes, make sure that emergency showers and eyewash stations are available in accordance with European standards EN 15154-1/2.
- NOTICE: It is illegal to operate or service unit in an EU member state if manual(s) is not written in that State's

language. Operators must read and understand the instruction manual before operating or servicing equipment. Please contact your equipment agent if translation is needed.

PROTECT THE ENVIRONMENT

Please dispose of packaging materials, old machine components, and hazardous fluids in an environmentally safe way according to local waste disposal regulations. Always remember to recycle. *Specifications and parts are subject to change without notice.

Specifications

- Liquid Temperature …………. 40˚F to 100˚F (4.4˚C to 37˚C)
- Priming Dry ……………….. 15 ft. (4.5 m)
- Priming Wet………………… 20 ft. (6.1 m)
- Flow Rate …………………… up to 5 GPM (18.9 L/min)
- Air Supply Pressure ……… 20 to 100 PSI (1.4 to 6.9 bar)
- Noise Level………………….. maximum 87 dB

Requirements:

Compressed Air Source Requirements: Compressed air 60 to 80 PSI (4 to 5.5 bar) with 2 CFM (56.7 l/min). Unit will not operate properly if incoming air pressure is below 40 PSI (2.7 bar). Chemical Requirements: Follow all instructions from the chemical manufacturer and Material Safety Data Sheet (MSDS).

Dimensions and Weight

- Length ………………………… 18.5 in (470 mm) approximately
- Width …………………………. 22 in (559 mm) approximately
- Height ……………………….. 46 in (1168 mm) approximately
- Weight (AFS-1E) ………………. 77 lbs (35 kg) approximately
- Weight (AFS-1E-UPB) ………………… 80 lbs (37 kg) approximately
- Maximum jug capacity (AFS-1E) ….. 6 gal (23 l) approximately
- Maximum jug capacity (AFS-1E-UPB) … 2.4 gal (9 l) approximately

Air Operated Double Diaphragm Pump Models Offered:

- **P56**: Polypropylene body with Santoprene diaphragm
- **P56V**: Polypropylene body with Viton diaphragm
- **P56K**: Polypropylene body with Kalrez diaphragm

Kalrez pump is the standard pump. Santoprene and Viton are optional replacements.

Intended use of the machinery

- Transfer liquid from Ecolab chemical supply (220l drum/IBC) to small cans (Ecolab cans <30Kg or Ecolab User-Packs G2/G3).

- AFS-1E for filling of Ecolab cans <30Kg from chemical supply.
- AFS-1E-UPB for filling of Ecolab User-Pack G2/G3 from chemical supply.
- Only Ecolab products are allowed for filling with the exception of degassing- or flammable products.
- Filling of empty mentioned packaging specific for the same product as stored in the chemical supply

Notice: This system is designed to fill one type of chemical can / User-Pack consistently to a set level. It is not designed to fill multiple types of can / User-Pack or the same can / User-Pack to different levels.

INSTALLATION INSTRUCTIONS

- Team lifting is required when lifting this unit. Carefully plan the lift. Be conservative when estimating how much weight a team can handle.
- All members must understand the lifting plan and how to complete their tasks safely.

1. Remove all parts from the shipping box.
2. Select the desired area to mount the AFS-1E/AFS-1E-UPB. The AFS-1E/AFS-1E-UPB should be mounted on a vertical wall no more than 2 feet (61 cm) off the floor. It is possible to mountthe system up to 30 feet (9 m) away from the chemical source but it is best to be as close as possible to ensure easy priming of the pump.
   - Keep space around the unit clear – there should be at least 3.3 feet (1m) of space on the left and right sides, and 6.6 feet (2m) in front of the unit, as shown in the diagram.
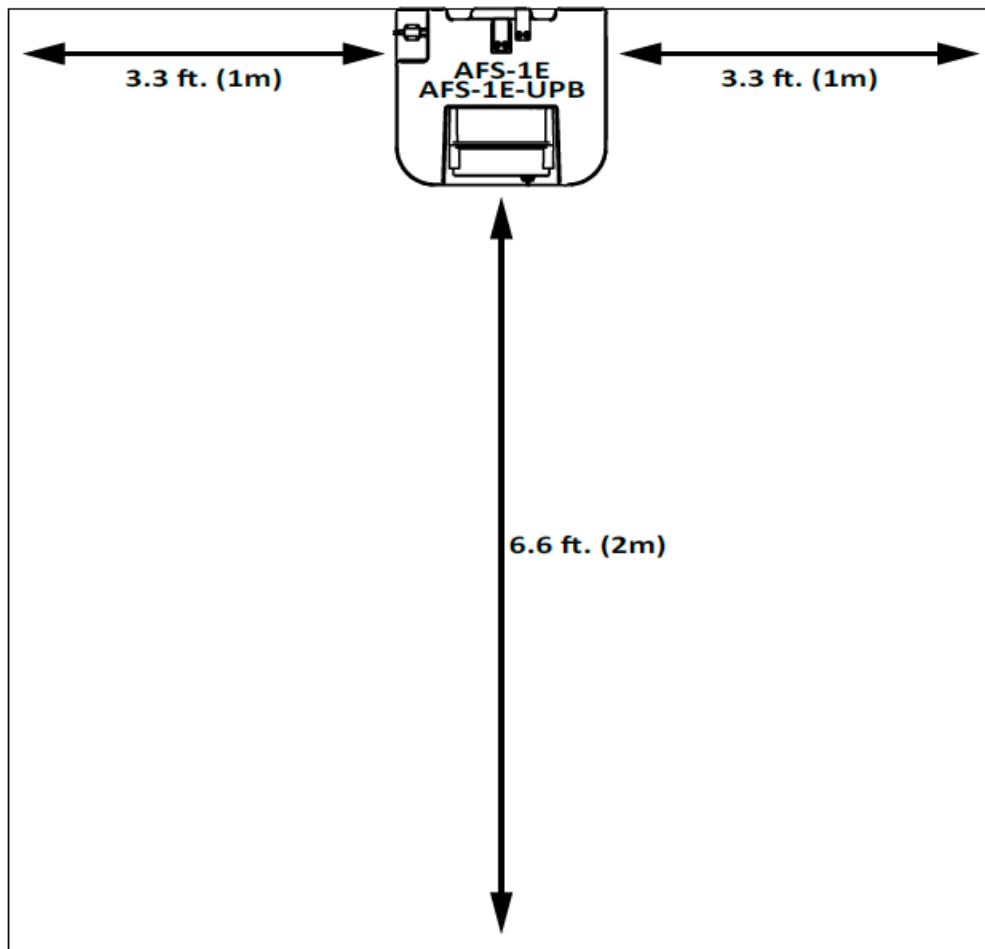
3. There is a black plastic hose barb attached to one end of the suction line. From the back of the unit, pass this end of the suction line through one of the holes in the back of the unit. Clip the hose barb into the empty port on the P56/P56V/P56K pump. Slide the clip on the pump toward the suction line to secure the suction line. Run the open end of the suction line along one of the slots in the back of the AFS-1E and out to your chemical supply.

4. Screw PW1246-SL into HV60. The PW1246-SL will sit in your chemical supply.

5. Measure out enough suction line to reach the chemical supply and cut to the required length. Cutting the suction line slightly longer than required is recommended as it will leave room to attach to the suction lance. NOTE: Keep all hoses off the ground and out of wthe alkway to avoid potential tripping hazards.

6. Slide the SSC12 screw band onto the open end of the suction line and push the suction line onto the HBEL1212 hose barb. Secure by tightening the SSC12 screw band. Open the HV60 ball valve before operating unit.

7. Screw the AP25-E quick connector into the AF14 air filter on the left side of the unit.

8. Mount the SHF1814 shelf; the AFS-1E/AFS-1E-UPB unit will sit on this shelf. Using a level, mark the (4) holes for mounting the shelf and drill using the included BIT38M 3/8 in. masonry bit. Insert the orange WMS516A wall anchors and secure the shelf using (4) WMS516X2 lag screws. Note: Use 13 mm socket or wrench for lag screws.

9. Set the AFS-1E/AFS-1E-UPB unit on the shelf and mark the (2) mounting holes that go through the back of the unit.

10. Remove the AFS-1E/AFS-1E-UPB unit and drill the (2) marked holes with the BIT38M 3/8 in. masonry bit. Insert the orange WMS516A wall anchors.

11. Set the AFS-1E/AFS-1E-UPB unit back on the shelf and secure the unit to the wall using (2) WMS516X4 long lag screws and (2) FWLG516 washers. These go through the two holes in the AFS-1E/AFS-1E-UPB unit. Note: Use 13 mm socket or wrench for lag screws.

12. Align the L325-BRKT bracket with the two empty threaded inserts on top of the unit. Hold the bracket in place, and mark the location of the two mounting holes on the wall. Set the L325-BRKT bracket aside, then drill the mounting holes and insert orange WMS516A wall anchors.

13. Attach the L325-BRKT bracket to the two empty threaded inserts on top of the AFS-1E/AFS-1E-UPB unit using (2) AS1 screws. This bracket will help secure the unit to the wall.

14. Secure the L325-BRKT bracket using (2) WMS516X2 lag screws. Use this bracket to pull the unit flush against the wall.

SETUP INSTRUCTIONS FOR MODEL AFS-1E-UPB

1. Orient the USPK-UBRKT so the flange of the USPK-UBRKT is on the opposite side as the suction nipple on the User-Pack. Note: the suction nipple must be on the same side for all User-Packs intended to be filled. User-Packs with suction nipples matched up to the flange of the USPK-UBRKT will not fit and the system will not turn on.

2. Connect compressed air to the AFS-1E-UPB.

3. Set the System Pressure regulator (on the right) between 60-80 PSI (4.1 to 5.6 bar). Turn dial below gauge clockwise to increase pressure.

4. Continue with "SETTING THE FILL LEVEL."

SETUP INSTRUCTIONS FOR MODEL AFS-1E

1. Move the PV-WHKR-VLV-ADJBRKT up or down to fit the desired jug. When properly inserted, the jug should contact the needle of PV-WHKR-VLV and bend it slightly.

2. Tighten down the (2) AS1 screws.

3. Connect compressed air to the AFS-1E.

4. Set the System Pressure regulator (on the right) between 60-80 PSI (4.1 to 5.6 bar). Turn dial below gauge

clockwise to increase pressure.

5. Continue with "SETTING THE FILL LEVEL."

SETTING THE FILL LEVEL

1. Place the jerry can / User in the AFS-1E/AFS-1E-UPB with the neck/cap next to the chemical hose.
2. Note the appropriate fill height for the can / User-Pack.
3. Loosen the CGRP14K cord grip and slide the bottom of the level sensor tube 1 inch (25mm) below the desired fill level. NOTE: The LST14 level sensing tube shuts off the system when it detects back pressure. The end of the tube must be submerged before generating back pressure.
4. Retighten the CGRP14K cord grip with a wrench.
5. Set the Level Sensing regulator (Left gauge) between 0.5 to 2 PSI. Turn the dial below the gauge counterclockwise to increase pressure.
6. Test the system by filling the can / User-Pack with water.
   - **NOTE**: The system will consistently fill the same can / User-Pack to this preset level.
7. Perform a test with the chemical to ensure that the LST14 level sensing tube is calibrated correctly with the chemical.

OPERATION INSTRUCTIONS

Always wear the appropriate personal protective equipment (PPE) when operating the AFS-1E/AFS-1E-UPB.

1. Use the handle to guide the fill tube into the can / User-Pack opening and place the designated can / User-Pack on to rack.
2. Ensure that can / User-Pack is properly located on the rack. The\ can / User-Pack must push down on the whisker valve to activate the system.
3. Close the door and secure the latch.
4. Turn the black "Power" switch to the " I " position and the system will be ready to be activated.
5. Press the green "Start" button to fill the can / User-Pack to the designated level. The system will shut off automatically at the designated fill level.
6. The red "E-Stop" button can be used to shut off the system immediately if necessary.
7. Turn the black "Power" switch to the " O " position.
8. Open the door. Hold the handle of the fill tube while gently removing the can / User-Pack from the rack.
9. Due to chemical residue left on fill tube, avoid touching the fill tube.

NOTICE:

- If the door is opened while the system is filling, the system will shut off.
- The system will not turn on unless a can / User-Pack is properly positioned on the rack.
- if a can / User-Pack is placed with a liquid level that is higher than the set fill level, the unit will not activated when the "Start" button is pushed.
- It is recommended to rinse the system thoroughly with water once a week.

REPLACE EMPTY CHEMICAL SUPPLY

Always wear the appropriate personal protective equipment (PPE) when operating the AFS-1E/AFS-1E-UPB.

1. Make sure power is in " O " position.
2. Close HV60 ball valve.
3. Remove suction lance from empty chemical supply and place in full chemical supply. NOTICE: Avoid coming to contact with chemicals.
4. Correctly position full chemical supply.
5. Open HV60 ball valve.

TO CHANGE CHEMICAL PRODUCT

Always wear the appropriate personal protective equipment when changing chemical products.

NOTE: It is not recommended to change product. The machine is intended to be use with one product only. In case of product change followthe below instructions.

1. Remove the suction lance from the chemical supply.
2. Using a suitable can / User-Pack, rinse the system thoroughly with water.
3. Place the suction lance in the new chemical drum.
4. Cycle the system until any remaining water is flushed out and only the chosen chemical is dispensed.
5. Verify the fill level is correct.

Maintenance

Always wear appropriate personal protective equipment (PPE) when servicing unit. There may be chemical in the system. Flush the system with sufficient water to clear out remaining chemicals.

Practice proper Preventive Maintenance:

- Rinse and clean drip pan weekly.
- Replace the H12B and H12CB hose every 6 months if the chemical being transferred contains one or more of the following ingredients:
  - NaOH
  - KOH
  - H2O2
  - HNO3
  - H2SO4
  - Acetic acid
  - Peracetic acid
  - Peroxyoctanoic acid
  - Surfactants

Please see the Product Data Sheet from your chemical supplier to identify ingredients in product or ask your Ecolab application specialist.

TROUBLESHOOTING

Always wear appropriate personal protective equipment (PPE) when troubleshooting unit.

Unit does not begin fill process

1. Check that the can / User-pack is placed firmly on top of the whisker valve. If the can / User-pack is not holding the whisker valve open the system will not run. If the valve has been bent it may need to be straightened by bending it back into place so that the can / User-pack can properly contact the whisker valve.
2. Check the door. The system will not run if the door is not properly closed. There is a secondary air switch that needs to be contacted for the proper operation of the unit.
3. With the door closed, switch the filling station on. Undo the thumb screws on the control box to access the regulators. The gauge on the right should read 60 to 80 PSI (4.1 to 5.6 bar). If no pressure is indicated, turn the system off and proceed to No Pressure Detected, below. If the pressure is correct, skip to Pressure Detected.

No Pressure Detected

1. Adjust the regulator below the gauge on the right.
2. Check the Air In connections. Open the door and check the lines running to the door switch and from the door switch to the control box. This line is labeled "AIR IN" at the control box.
3. Check your compressed air system.

Pressure Detected

1. Check if the door switch can be depressed. It should move when pressed and spring back to its resting position when released.
2. Make sure the door switch is fully depressed when the door is in the closed position. If the bracket is bent the switch may not contact the door and the bracket will have to be readjusted to contact the door when the door is in the closed position.
3. With the system off, open the control box and verify that all the tubes are correctly and securely connected. Also, check the air connection behind the whisker valve and the air connection from the control box to the pump. Make sure air lines are not kinked.
4. Verify that the LST14 level sensing tube is not plugged or creased. The PSI on the level sensor regulator (located in the control box) should be set to 0.5 to 2 PSI. If the regulator is set too low the system will not dispense chemical.

Can / User-pack is not being filled completely

1. Check the height of the LST14 level sensing tube.
2. Check the chemical levels.

Can / User-pack is being overfilled

1. Make sure the LST14 level sensing tube is inside the can/user pack. If it is outside the can / User-pack it will not detect the level.
2. 2. Check the height of the LST14 level sensing tube. It should be about 1 in (2.5 cm) below the full line of the

can / User-pack when the fill tube is in the can / user pack.

3. 3. Check the left gauge inside the control box. It should be set to 0.5 to 2 PSI. If it is set above 2 PSI the system will not shut off properly.

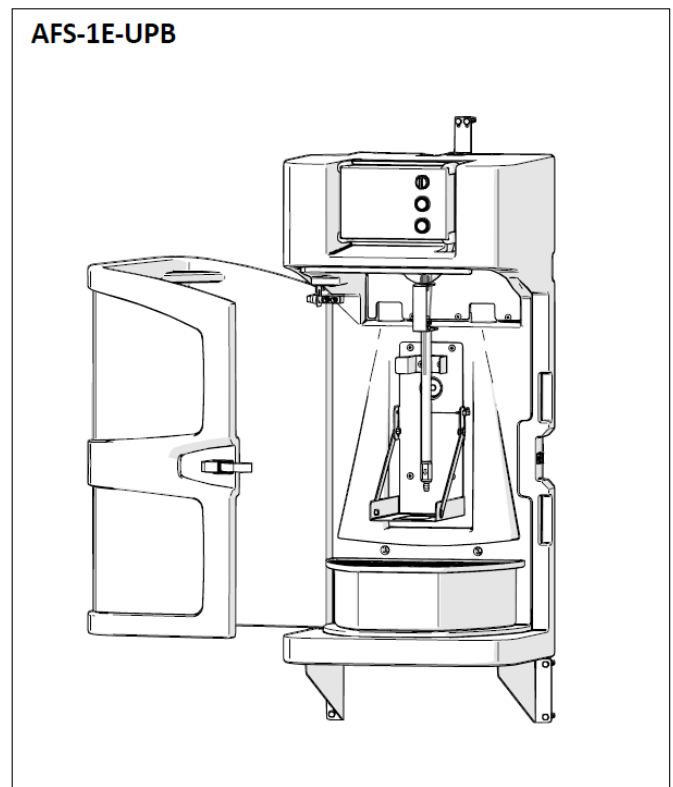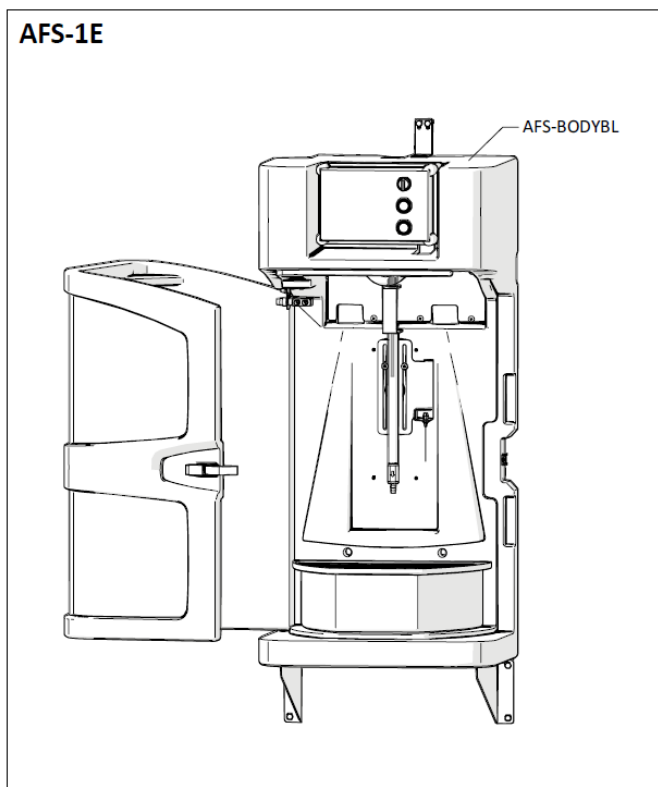**Air passes through the pump, but does not dispense chemical**

1. Verify that the HV60 ball valve, located at the top of the suction lance, is in the open position.
2. The pump must be replaced.

To change pump

Always wear appropriate personal protective equipment (PPE) when changing pump. There may be chemicals still in the system.
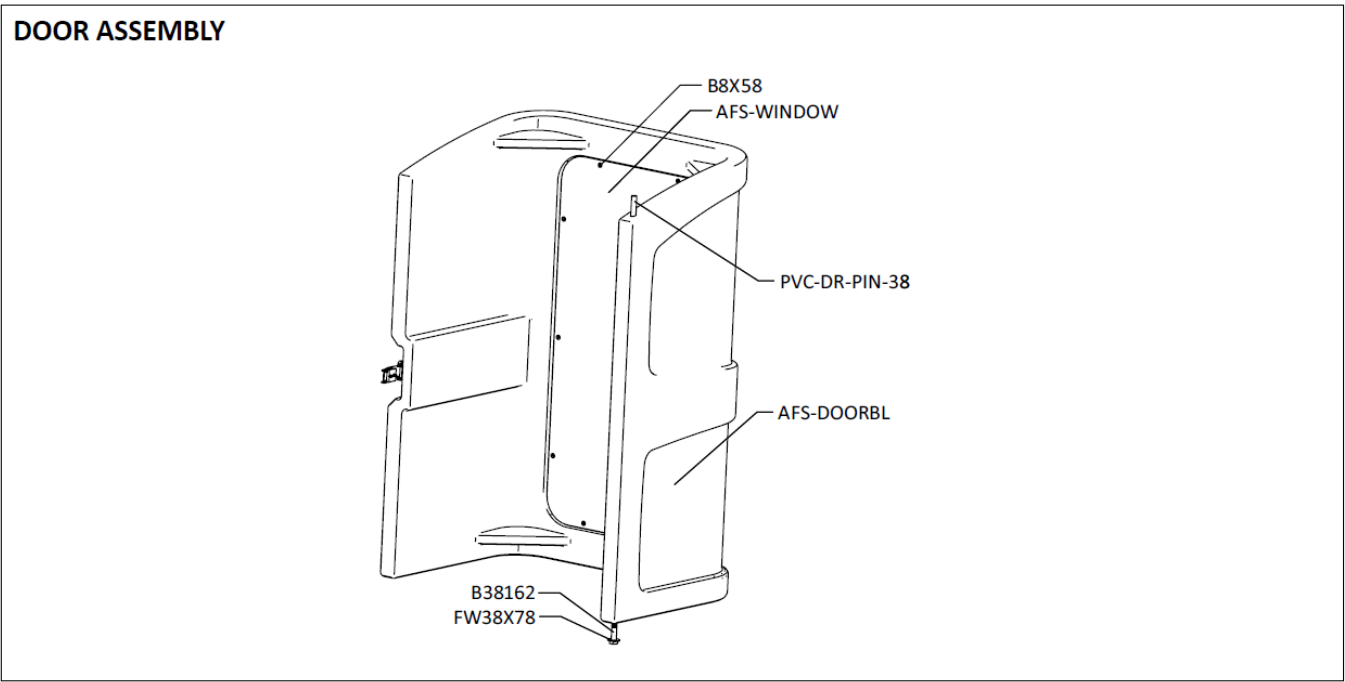
1. Rinse the system thoroughly with water to clear out the remaining chemicals.
2. Turn system OFF.
3. Disconnect the red air line from the pump.
4. Disconnect the suction line from the pump.
5. Undo the 3 screws along the bottom edge of the black plate.
6. Carefully remove the plate by pulling the bottom edge out, then pulling down.
7. Disconnect the chemical dispensing line from the pump.
8. Remove the 4 screws holding the pump to the plate.
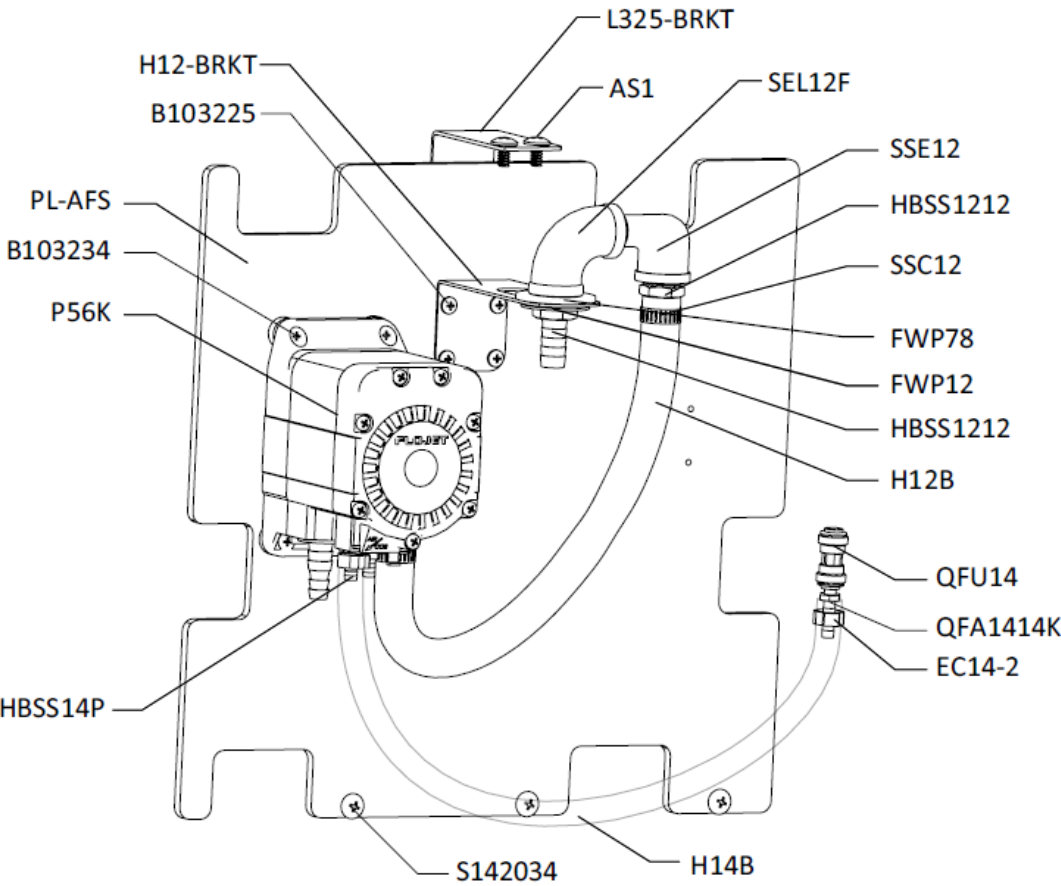9. Install replacement pump by following steps 3 to 8 in reverse.
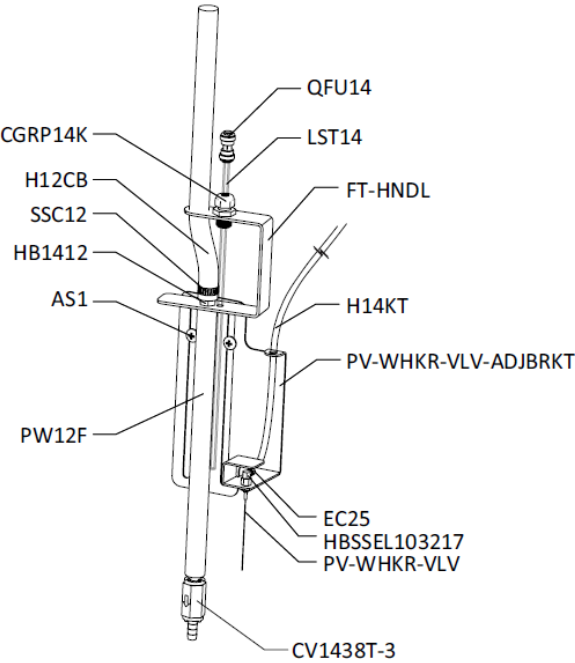
MODEL

ASSEMBLY

DOOR ASSEMBLY

DOOR ASSEMBLY

- B8X58
- AFS-WINDOW
- PVC-DR-PIN-38
- AFS-DOORBL
- B38162
- FW38X78

BACK PLATE

BACK PLATE

- L325-BRKT
- H12-BRKT
- B103225
- AS1
- SEL12F
- SSE12
- HBSS1212
- SSC12
- FWP78
- FWP12
- HBSS1212
- H12B
- PL-AFS
- B103234
- P56K
- QFU14
- QFA1414K
- EC14-2
- HBSS14P
- S142034
- H14B

AFS-1E: FILL TUBE

QFU14
CGRP14K
LST14
H12CB
FT-HNDL
SSC12
HB1412
AS1
H14KT
PV-WHKR-VLV-ADJBRKT
PW12F
EC25
HBSSEL103217
PV-WHKR-VLV
CV1438T-3

AFS-1E-UPB: FILL TUBE

H12CB
QFU14
LST14
CGRP14K
SSC12
HB1412
FT-HNDL
USPK-UBRKT
H14KT
EC25
PW12F
HBSSEL103217
CV1438T-3
PV-WHKR-VLV
USPK-BRC
AS1
USPK-SHF
LN14

OVERVIEW

CONTROL BOX: FRONT COVER VIEW

Control Box Cover

PV-TBNC-18 *(Power Switch)*

PV-BNC-GR-18 *(Start Button)*

PV-BNC-RD-18 *(E-Stop Button)*

CONTROL BOX: INSIDE VIEW

SN1818
QFEL1814
QF1814
BSV18
SN1818
H14TU
BSV18
QFEL1814
QFEL1814
QF103214
QF1814
PV1
QFEL1814
QF1814
B4WV18
PV-TBNC-18A
Level Sensor Gauge
System Pressure Gauge
B10321
FW14
PV-2P
AFS-CTRL-BRD
FB1187
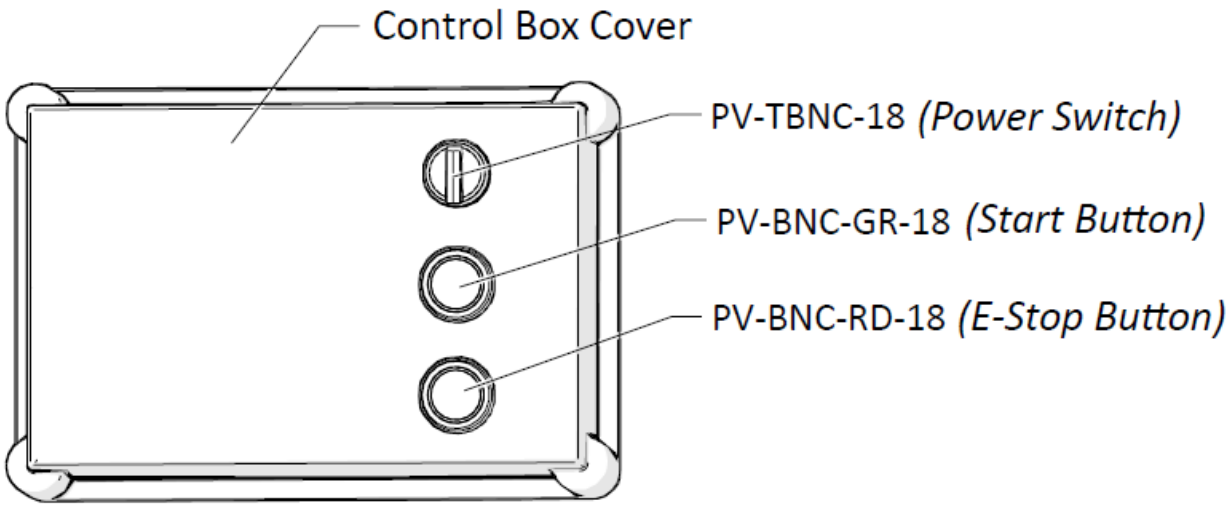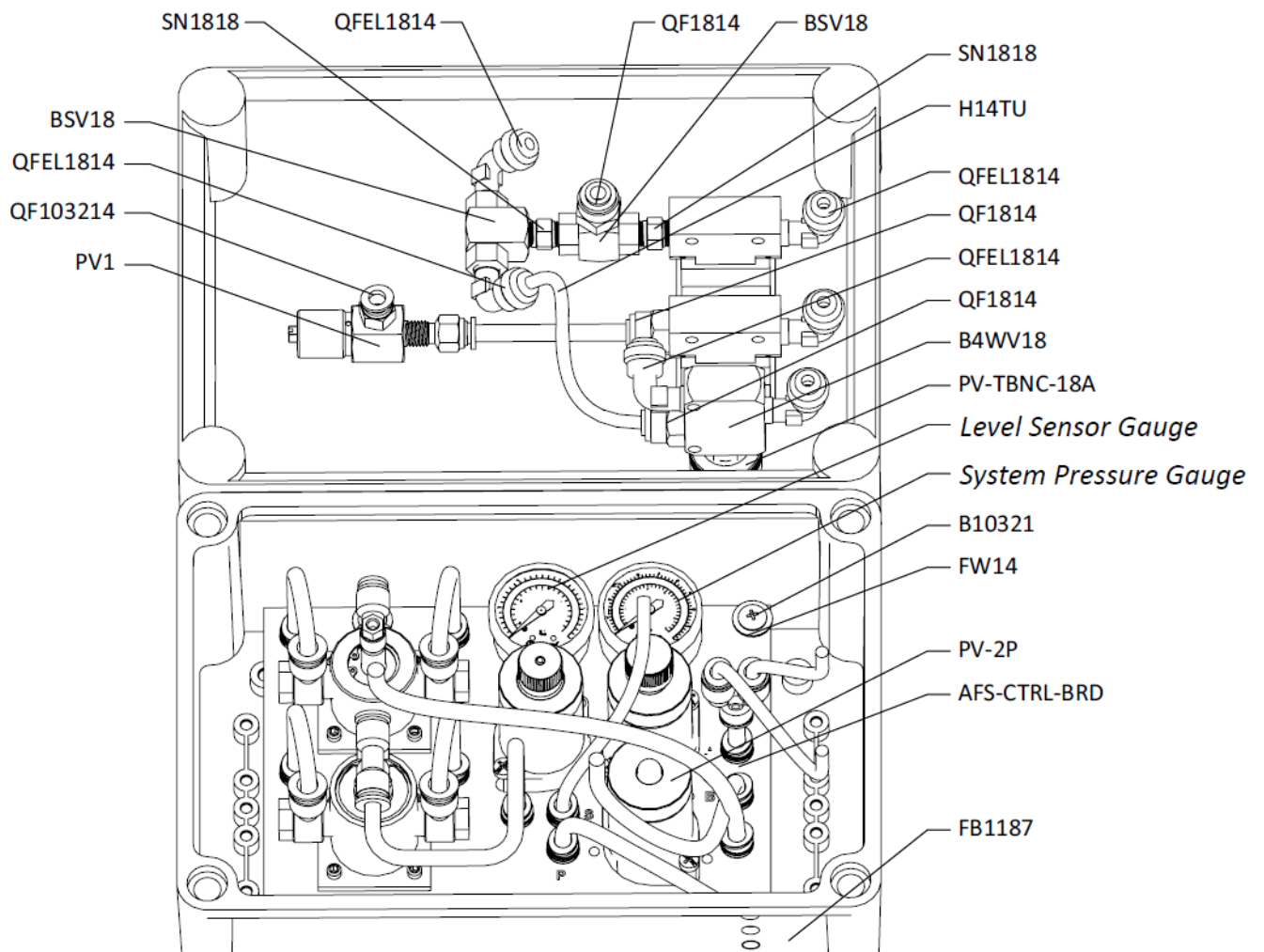
ASSEMBLY

LATCH ASSEMBLY

SSL2.25
SSK2H
B103225

AIR BUTTON ASSEMBLY

SS1B2WV-BRKT
TLCLAMP12
S1034FHL
AIRBTNGN
H14KT
(Available per ft.)
QF1814
B4WV18
QFEL1814
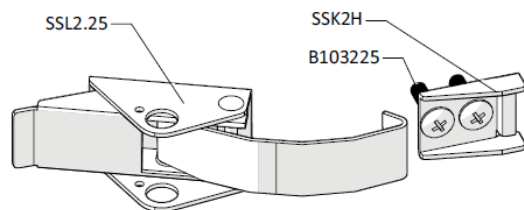
AIR FILTER ASSEMBLY

AP25-E
AF-14
SSA14
FWLG14
SSA14
QF14P
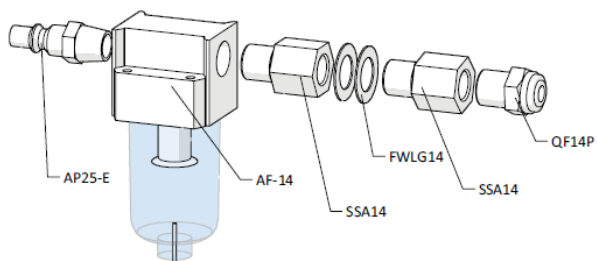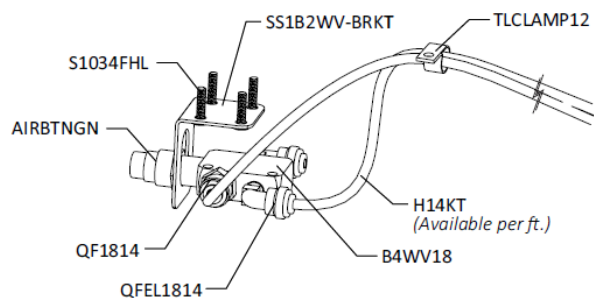
DRIP PAN AND SHELF ASSEMBLY

AFS-GRATE
AFS-PAN
SHF1814
WMS516X2

SUCTION LINE ASSEMBLY

SSC12
H12B
30 ft. (9.1m)
HV60
HBSSEL1212
DL-HOLDER
PW1246-SL

MOUNTING HARDWARE

AIR IN

L325-BRKT

BIT38M

AS1

WMS516X2

WMS516X4

FWLG516

WMS516A

1. AF14
2. B4WV18 (1) + AIRBTNGRN assembly
3. B4WV18 (2) + PV-TBNC-18 assembly
4. AFS-CTRL-BRD
5. BSV18 (1)
6. PV-BNC-18-GR
7. PV-BNC-18-RD
8. BSV18 (2)
9. PV-WHKR-VLV
10. Level Sensor Tube
11. P56K
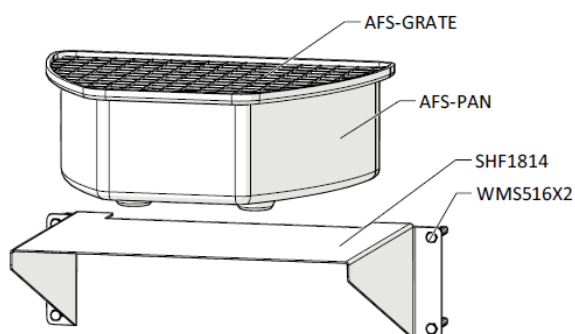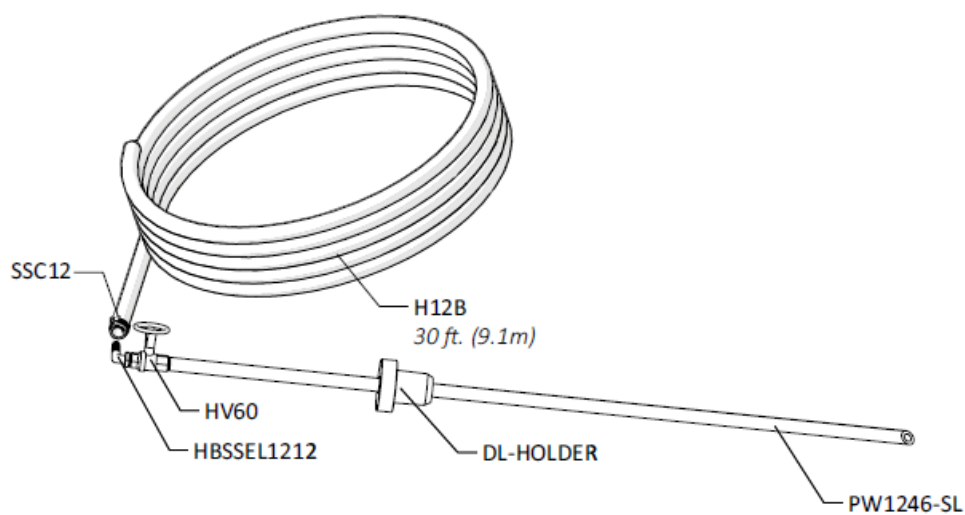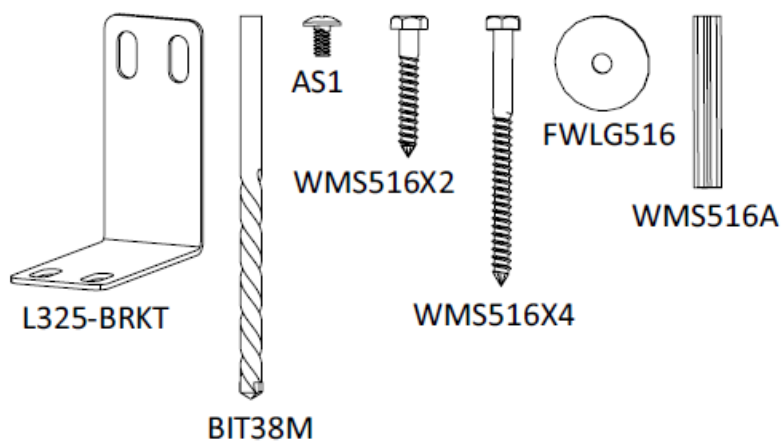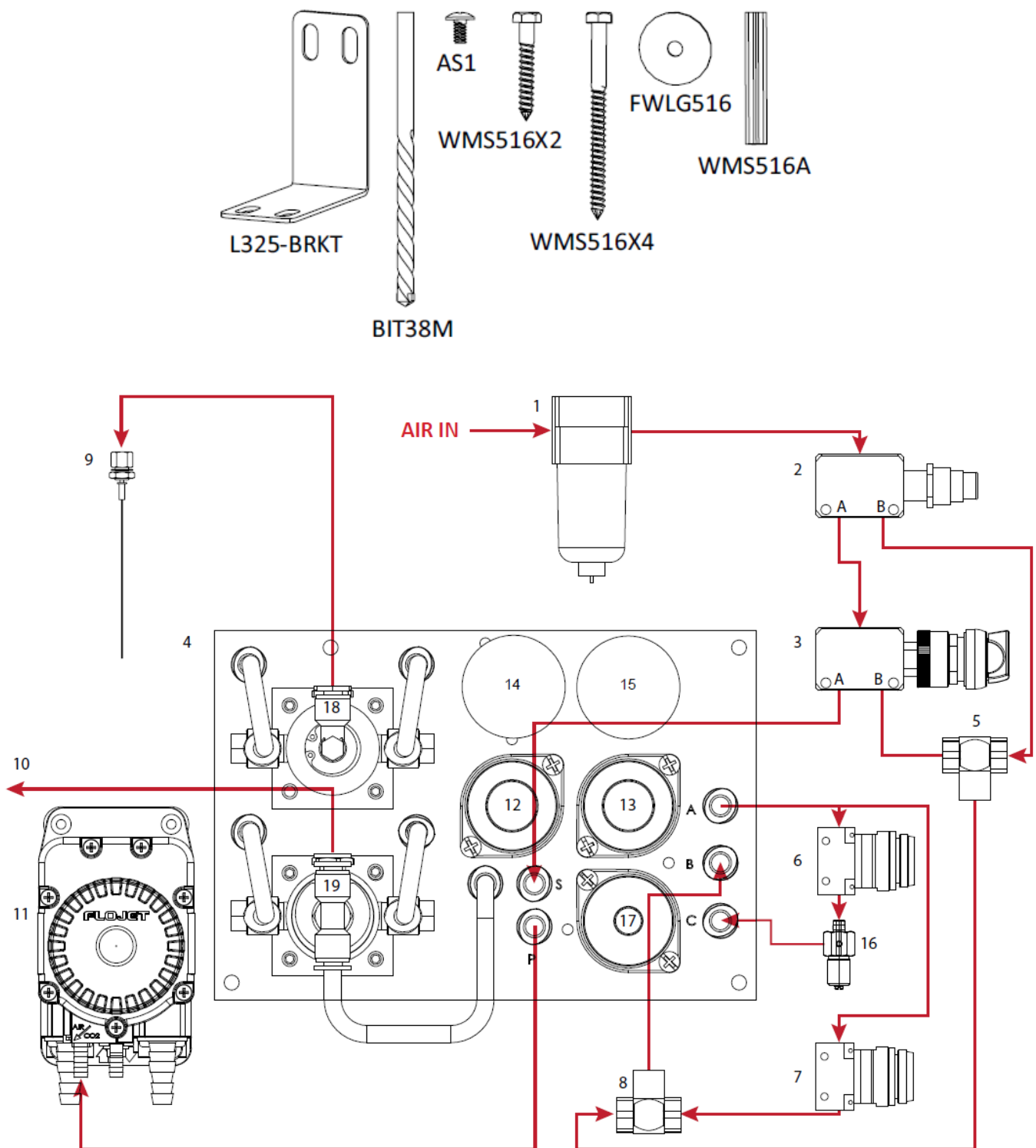
12. Level Sensor Regulator

13. System Pressure Regulator

14. Level Sensor Gauge

15. System Pressure Gauge

16. PV-1

17. PV-2P

18. Limit Valve

19. Level Sensor

PARTS

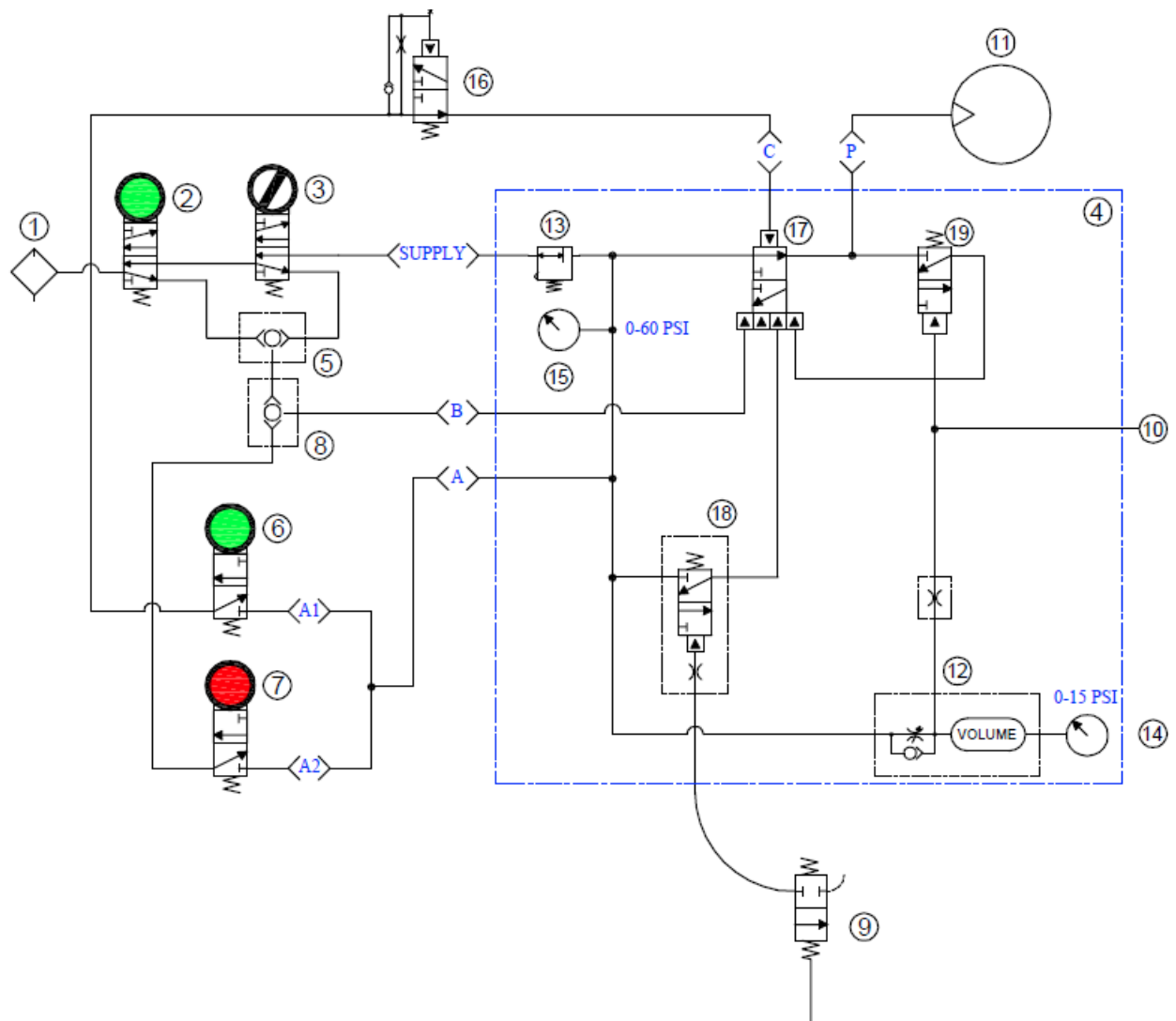| DET	QTY	PART NO#	DESCRIPTION
1	1	AF14	FILTER
2	1	B4WV18 / AIRBTNGRN	DOOR SWITCH
3	1	B4WV18 / PV-TBNC-18	POWER SWITCH
4	1	AFS-CTRL-BRD	ACRYLIC MANIFOLD
5	1	BSV18	SHUTTLE VALVE
6	1	PV-BNC-18-GR	START BUTTON
7	1	PV-BNC-18-RD	E-STOP BUTTON
8	6	BSV18	SHUTTLE VALVE
9	1	PV-WHKR-VLV	WHISKER VALVE
10	1	LEVEL SENSOR TUBE	
11	1	P56K	PUMP
12	1	LEVEL SENSOR REGULATOR	REGULATOR
13	1	SYSTEM PRESSURE REGULATOR	REGULATOR
14	1	LEVEL SENSOR GAUGE	PRESSURE GAUGE LEVEL SENSOR (0-15 PSI / 0-1 BAR)
15	1	SYSTEM PRESSURE GAUGE	PRESSURE GAUGE SYSTEM PRESSURE (0-80 PSI / 0-7 BAR)
16	1	PV-1	PULSE VALVE
17	1	PV-2P	3-WAY PILOTED VALVE
18	1	LIMIT VALVE	LIMIT VALVE
19	1	LEVEL SENSOR	LEVEL SENSOR

DESCRIPTION

ITEM NUMBER	DESCRIPTION
AF-14	AIR FILTER – 1/4 FPT -25 MICRON FILTER
AFS-BODYBL	BASE FOR AFS UNITS
AFS-CTRL-BRD	CONTROL BOARD FOR AFS
AFS-DOORBL	BLUE DOOR FOR AFS UNITS
AFS-GRATE	AFS DRIP PAN GRATE [REV 1]
AFS-PAN	COLLECTION PAN FOR AFS UNITS
AFS-WINDOW	28×15 3/16 CLEAR PVC
AIRBTNGN	AIR PUSH BUTTON GREEN

AP25-E	AIR PLUG (EUR) – 1/4 MPT X PLUG
AS1	1/4-20 X 1/2 PHIL TRUSS M/S, S/S
B10321	10-32 X 1 PHIL TRUSS MACH SCR 18-8
B103225	10-32 X 1/4in PHIL MACH SCREW 18-8
B103234	10-32 X 3/4 PHIL TRUSS MACH SCR 18-8
B38162	HEX HEAD BOLT 3/8-16X2 18-8SS
B4WV18	BRASS 4-WAY VALVE 1/8 INCH PORTS
B8X58	8-15 X 5/8 inch PHIL FLAT TY-A 316 S.S.
BIT38M	3/8 X 6 MASONRY DRILL BIT
BSV18	BRASS SHUTTLE VALVE 1/8 INCH PORTS
CGRP14K	CORD GRIP 1/4 INCH KYNAR
CV1438T-3	426-4MGB-F, 3 LB HASTELLOY
EC18	OETIKER CLAMP – 11.3
FB1187	FIBOX 11X7.5X7.1
FT-HNDL	STAINLESS FILL TUBE HANDLE [REV 1]
FW14	1/4 X 5/8 OD FLAT WASHER 18-8 PLN
FW38X78	FLAT WASHER 3/8X7/8 X.050
FWLG14	.569 ID X 1.28 OD X .08 THICK FLAT WASHER SS 18-8
FWLG516	5/16" ID Stainless fender washer, 1.5" OD 18-8SS
FWP12	7/8 ID X 1.5 OD X 0.05 THK SSFW
FWP78	7/8in BY .137 BY 1 1/4in FLATWASHER 18-8 PLN
H12B	1/2in BLUE PLIOVIC HOSE – Available per ft.
H12-BRKT	AFS FILL HOSE BRACKET [REV 1]
H12CB	1/2 IN (ID) CLEARBRAID RF SERIES – Available per ft.
H14B	1/4 in BLUE PLIOVIC HOSE – Available per ft.
H14KT	1/4 IN Kynar PVDF TUBING – Available per ft.
H14TU	Translucent Green Polyurethane .25ODx.17ID – Available per ft.
HB1412	1/4in MPT X 1/2in HOSE BARB
HBBL103217	MINI HOSE BARB – 10-32X.17 EL
HBSS1212	STAINLESS HOSE BARB 1/2 X 1/2
HBSS14P	STAINLESS STEEL HOSE BARB 1/4 INCH – FOR P56
HBSSEL1212	304 S.S. 1/2in MPT BY 1/2 in H.B. ELBOW
HV60	1/2in STAINLESS BALL VALVE – w/ WELDED NUT

ITEM NUMBER	DESCRIPTION
L325-BRKT	STAINLESS STEEL EL BRACKET WITH FOUR HOLES [REV 1]
LN14	1/4-20 NE NYL INS LOCKNUT 18-8 PLN
P56K	5700 PUMP WITH KALREZ SEALS – INCLUDES HOSE BARBS, AIR FITTING, AND AIR PORT
PL-AFS	AFS Plate, ¼ in black PP
PV-1	PULSE VALVE #10-32 OPEN 3-WAY VALVE
PV-BNC-GR-18	PNEUMATIC PUSH-BUTTON – GREEN – 1/8 FPT- 3 PORT NORMALLY CLOSED
PV-BNC-RD-18	PNEUMATIC PUSH-BUTTON – RED – 1/8 FPT- 3 PORT NORMALLY CLOSED
PVC-DR-PIN-3/8	PVC DOOR PIN 3/8 DIAMETER X 1 9/16 INCHES LONG
PV-TBNC-18	PNEUMATIC TWIST SELECTOR BUTTON – 1/8 FPT- 3 PORT NORMALLY CLOSED
PV-TBNC-18A	ADAPTER FOR CLIPPARD ACTUATOR
PV-WHKR-VLV	PNEUMATIC WHISKER VALVE – 1032 FEM PORT – BRASS – AFS JUG SENSOR
PW1248-120	1/2in BLACK POLY PRO X 48in – SCH.120 – 1/2in MPTOE & 1/4in FPTOE
PW12F	1/2 INCH X 1/2 INCH POLYPRO SCHE 120 BLACK FPTX FPT
QF103214	MALE CONNECTOR #10-32 BY 1/4IN TUBE PUSH IN
QF14P	MALE CON. 1/4in TUBE X 1/4in MPT POLYPROPYLENE
QF18	MALE CON. 1/4in X 1/8in MPT BRASS
QF1814	MALE CONNECTOR 1/8in NPT BY 1/4in TUBE POLYPROPYLENE
QFA1414K	1/4in TUBE X 1/4in HOSE STEM – KYNAR
QFEL1814	FIXED ELBOW 1/8in MPT X 1/4in TUBE – POLYPROPYLENE
QFU14	UNION CON. 1/4in TUBE – POLYPROPYLENE
S1034FHL	10 X 3/4 PHIL FLAT HI-LO THRD SCREW 18-8
S142034	1/4-20 X 3/4 PHIL TRUSS M/S 18-8
SEL12F	S.S. ELBOW 1/2in FPT X 1/2in FPT
SHF1814	Shelf 18 X 14 inch for Wall mounting AFS-1E [REV 1]
SS1B2WV-BRKT	BRACKET FOR TWO WAY BRASS AIR VALVE [REV 1]
SSA14	SS304 MALE/FEMALE ADAPTOR 1/4 NPT X 1/4 NPT
SSC12	WORM GEAR CLAMP, S/S (.31-.91)
SSE12	STREET ELBOW 1/2in – 316 S.S.
SSK2H	STAINLESS STEEL KEEPER – 2 HOLE MOUNTING

SSL2.25	STAINLESS STEEL LATCH – 2.25in DRAW – ELECTROPOLISHED – PADLOCKING
TLCLAMP12	Tefzel Loop Clamp for 1/2" Outside Diameter
USPK-BRC	BRACE FOR USER PACK AFS-1-E [REV 1]
USPK-SHF	UserPack Shelf for AFS-1E [REV 1]
USPK-UBRKT	U-BRACKET FOR USER PACK AFS-1-E [REV 1]
WMS516A	concrete wall anchor, 3/8 in. drill size for 5/16 in. screws, 2.5 in. long
WMS516X2	5/16 X 2 IN stainless lag bolt, w/hex head 18-8SS
WMS516X4	WALL MOUNT SCREWS 5/16 X 4

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Documents / Resources

USER MANUAL ... AFS-1E AFS-1E-LP3 ... ECOLAB	**ECOLAB AFS-1E Automated Filling Station** [pdf] User Manual AFS-1E, AFS-1E Automated Filling Station, Automated Filling Station, Filling Station, Station

References

- **User Manual**