
USER MANUAL

MODEL NUMBER:

DS1

DS1K

DS1V

AND RELATED UNITS

Air Operated Pre-Mix Doorway Foam Unit

English (Original Instructions)

READ ALL INSTRUCTIONS BEFORE OPERATING EQUIPMENT



WARNING



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

- Read all instructions before installing or operating unit.
- 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 Safety Data Sheet (SDS).
- If this unit is modified or serviced with parts not listed in this manual, the unit may not operate correctly.
- Do not exceed an incoming air pressure of 100 psi (7 bar).
- Do not exceed a fluid temperature of 100°F (37°C).
- Always flush the unit with fresh water thoroughly when switching from an alkaline to an acid or an acid to an alkaline.
- Never use unit with hydrocarbons or flammable products.
- Only use clean and dry air. Air must be filtered and free of moisture or pump life will be diminished. If needed, install an air dryer before unit.
- Do not use an air lubricator before the unit.
- Never use unit if it is damaged or leaking.
- Disconnect unit from electrical power source before servicing.

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.

Air Operated Double Diaphragm Pump Options:

P56.....Flojet polypropylene body with Santoprene diaphragm

P56V..... Flojet polypropylene body with Viton diaphragm

P56K..... Flojet polypropylene body with Kalrez diaphragm

Acceptable Products: Alkaline cleaners, Caustic cleaners, Sanitizers, and Acids.

* D-Limonene and peracetic acid may only be used with Kalrez pump

* Chlorine may only be used with Viton or Kalrez pump

DO NOT USE: All hydrocarbons

Specifications:

Tubing25 feet polyethylene, 1/2 inch O.D.

Foam output.....15 gallons/minute
(56.78 liters/minute)

Foam Pattern..... 5 foot wide X 9 foot in length
(One nozzle assembly)

Requirements:

Compressed air 40 to 80 PSI (3 to 5 bar) with 3.5 to 8 CFM (99.15 to 226.62 l/min)

Chemical requirements: follow all instructions from chemical manufacturer.

Electrical requirement.....115VAC - 60HZ
(GFI Protected Circuit)

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Installation Instructions:

1. Read all instructions before installing the foam unit.
2. Remove all parts from box.
3. Select desired area to mount the control box. It is recommended that the control box is to be mount on a vertical wall
4. Mount the control box using 4 of the screws and anchors provided. **Note:** When drilling holes for the plastic anchors provided with the screws, use a $\frac{3}{16}$ inch drill bit.
5. Mount the spray tip assembly in the desired location using the stainless steel brackets.
6. After the control box and nozzle assembly are mounted, run $\frac{1}{2}$ inch tubing from the solution discharge to the nozzle assembly.
7. Attach a compressed air line from an air compressor to the air inlet valve. **Note:** the air compressor needs to be able to maintain at least 4 cfm @ 60 psi (113.312 l/min @ 4.14 bar).
8. Set the timer (TR120DS-A). See timer specification and instructions below.
9. Make sure the toggle switch is in the "OFF" position, and plug the unit into GFCI protected 110 VAC outlet.

Operation Instructions:

1. Follow all instructions from chemical manufacturer.
2. Place suction line in pre-mixed solutions.
3. To activate the unit, turn the toggle switch to the "ON" position.

4. If necessary, adjust the needle valve to desired wetness or dryness of foam following the steps below:
 - a. Close needle valve completely in clockwise direction.
 - b. Open needle valve in counter-clockwise direction 3 complete turns.
 - c. Continue to open needle valve in $\frac{1}{4}$ turn increments allowing 30 seconds between adjustments until proper consistency of foam is achieved.

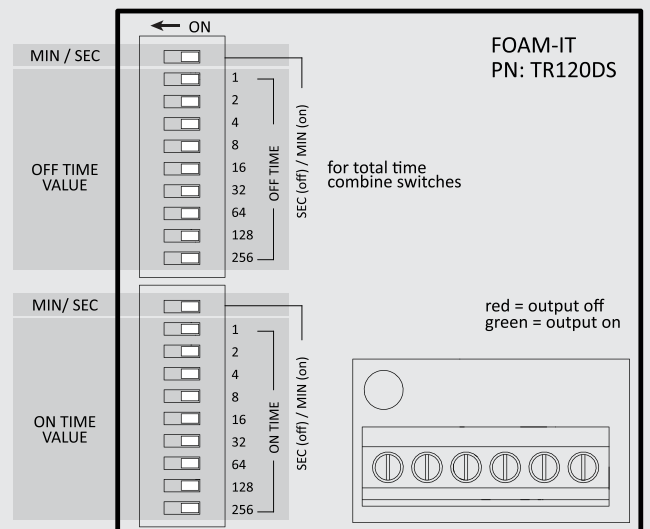
Troubleshooting Instructions:

- Check for proper air pressure on air gauge. The recommended air pressure is 50 to 60 psi (3.45 to 4.14 bar). The maximum air pressure is 90 psi (6.21 bar).
- Check metal air bowl for debris such as water, oil, or rust particles. Clean by unthreading the air bowl from the air regulator.
- Check for plugged strainer). Replace strainer if necessary. Strainer must be used.
- Make sure proper chemical and concentration is being used.
- If the needle valve is open too far the pump will cycle improperly due to lack of air pressure, if this occurs, reset needle valve as described in *operation instruction #4*.
- Make sure proper foaming chemical and concentration is being used.
- If air passes through the pump without cycling, replace the pump.
- If foam solution backs up into the air bowl, the check valve needs to be replaced.
- If foam comes out wet, no matter where the needle valve is positioned, the check valve may need to be replaced.

The TR120DS-A is an adjustable repeat cycle timer with the ON time operating first. ON and OFF times can range from 1 second to 511 minutes.

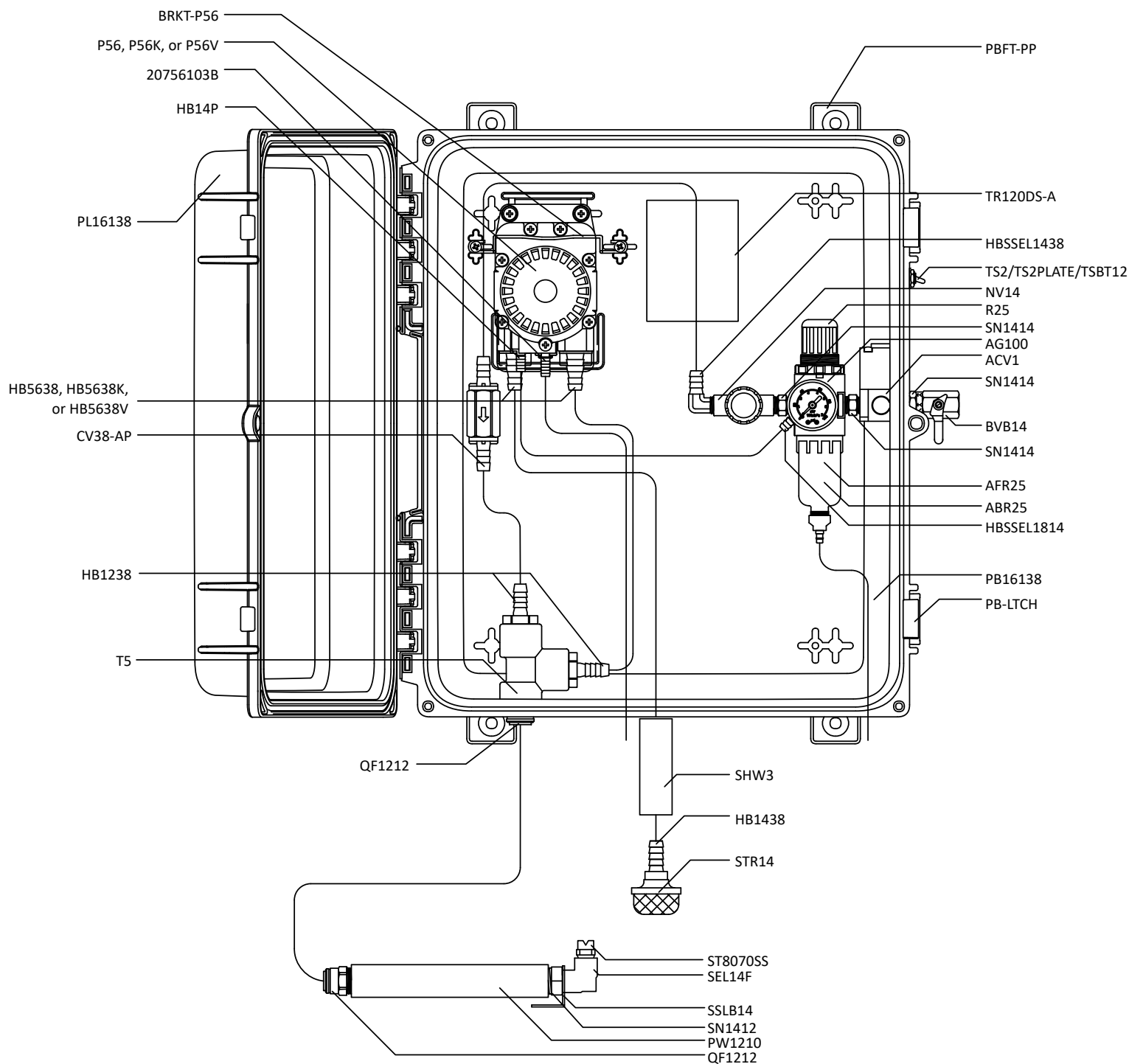
To set the timer:

1. Starting with the OFF time, move the top dip switch to the left for MIN (minutes) or to the right for SEC (seconds) to select the desired time interval.
2. The next 9 dip switches will be used to control the total active time. To the left is active and to the right is inactive. Combine the numbers of active dip switches to achieve the desired time. The increments are 1, 2, 4, 8, 16, 32, 64, 128, 256.
3. Repeat the above steps for the ON time setting.
4. Timer indicator light will appear red when unit output is off. The indicator turns green when output is on.



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Inside View - Control Box



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ITEM NUMBER	DESCRIPTION	R25	AIR REGULATOR-TWO 1/4IN FPT PORTS-TWO 1/8IN FPT PORTS-INCLUDES FILTER AND BOWL
ACV1	MAC VALVE 1/4in 110VAC	R25DT	3/16 X 5/16 CLEAR PVC TUBING - Available per ft.
AG100	AIR GAUGE-1/8IN NPT-100 PSI DRY MODEL	S1012-HL	10-16 X 1/2 IN SCREW-STAINLESS-HI LO
B10321.25	10-32 X 1 1/4 PHIL TRUSS MACH 18-8	S1034FHL	10 X 3/4 PHIL FLAT HI-LO THRD SCREW 18-8
BRKT-P56	PUMP BRACKET- STAINLESS STEEL	SEL14F	S.S. ELBOW 1/4in FPT X 1/4in FPT
BVB14	AIR INLET VALVE-1/4IN FPT X 1/4IN FPT	SHW3	3in LONG COATED WEIGHT
CB-5	5 AMP CIRCUIT BREAKER-UL1077	SN1412	1/4IN X 1/2IN MPT STAINLESS NIPPLE
CB-B	CLEAR BOOT FOR CIRCUIT BREAKER	SN1414	STAINLESS HEX NIPPLE 1/4 MPT X 1/4 MPT
CC3224	1/2 NPT STRAIN RELIEF GRIP FITTING - BLACK	SSC38	STAINLESS SCREW BAND CLAMP FOR 3/8 IN HOSE
CC8463	1/2 NPT LOCKNUT - BLACK	SSLB 14	14GA SS BRACKETS W/SLOTS
CV38-AP	CHECK VALVE-3/8IN BARBS-PVC BODY-HASTELLOY SPRING-TEFLON BALL-WHITE	ST8070SS	SPRAY TIP-80 DEGREE-7.0 GPM-STAINLESS-1/4 MPT
EC14	OETIKER EAR CLAMP FOR 1/4IN HOSE	STR14	40 MESH SUCTION LINE STRAINER 1/4 FNPT
FWLG14	FLAT WASHER-0.569 ID X 1.28 OD X .078 THK-18-8 SS	T5	1/2 POLY TEE
H12C	1/2in CLEAR POLYVINYL TUBING	TIE7.25	7.25in BLACK CABLE TIE
H12CP	1/2IN OD POLYETHYLENE TUBING - NATURAL COLOR	TR120DS-A	REPEAT CYCLE TIMER - ADJUSTABLE DIGI-SET - 120 VAC
H14BL-F	1/4IN BLUE HOSE-HYBRID TPE-AVAILABLE PER FT	TS2	TOGGLE SWITCH SPST
H38BL-F	3/8IN BLUE HOSE-HYBRID TPE-AVAILABLE PER FT	TS2PLATE	ON/OFF SWITCH PLATE
HB1238	1/2in MPT X 3/8in HOSE BARB	TSBT12	TOGGLE SWITCH BOOT
HB1438	1/4in MPT X 3/8in HOSE BARB (PLASTIC)	TW916	1/2 INT TOOTH L/W 410SS
HB14P	1/4IN HOSE BARB-BRASS-FOR G57/P56 AIR FITTING	WAAD-1X3	1IN X 3IN WADDING FOR FOAM UNITS-BROWN
HBSS1438	STAINLESS HOSE BARB 1/4 MPT X 3/8 BARB	WCB14F	14-16 - 1/4 FEM INSULATED CONNECTOR
HBSEL1438	STAINLESS HOSE BARB 1/4 MPT X 3/8 BARB ELBOW	WMS14	14 X 1 1/4 HEX W/H SMS SLOTT, S/S
HBSEL1814	STAINLESS HOSE BARB 1/8 MPT X 1/4 BARB ELBOW	WMS14A	5/16 X 1 1/2 STRAIGHT PLASTIC ANCHOR
NV14	NEEDLE VALVE-1/4IN NPT-INCLUDES BLACK KNOB	WR1A	18/3 POWER CORD WITH GROUNDED PLUG-9FT LONG-BLACK
P56	PUMP WITH SANTOPRENE SEALS - INCLUDES HOSE BARBS, AIR FITTING, AND EXHAUST BARB		
P56K	PUMP WITH KALREZ SEALS - INCLUDES HOSE BARBS, AIR FITTING, AND EXHAUST BARB		
P56V	PUMP WITH VITON SEALS - INCLUDES HOSE BARBS, AIR FITTING, AND EXHAUST BARB		
PB16138	POLYPROPYLENE CONTROL BOX - WORKING DIMS 16x13x8 - PUMP MOUNT		
PBFT-PP	MOUNTING FEET FOR POLYBOX - PB16138 - POLYPROPYLENE		
PB-LTCH	POLY BOX LATCH FOR PB16138 AND PB12117		
PB-PIN	STAINLESS STEEL HINGE PIN FOR PB16138 AND PB12117		
PL16138	CONTROL BOX LID 16X13X8-POLYPROPYLENE-HINGED LOCKABLE LID-INCLUDES GASKET-WITH LABEL		
PW1210	1/2IN FPT X 1/2IN FPT-10IN LONG-BLACK POLYPRO		
QF1212	QUICK FIT-1/2 MPT X 1/2 OD TUBE-POLYPROPYLENE		