

INSTALLATION INSTRUCTIONS

- A-REMOVE MOUNTING SCREWS [1] HOLDING SHOWER PANEL [2] TO FRAME [3]. CAREFULLY REMOVE SHOWER PANEL [2]; DISCONNECT AIR LINES [4] AND RISER [5] FROM AIR CONTROL VALVE [6].
- B-BLOCK OUT EXISTING WALL FOR MOUNTING FRAME [3] 41"H X 10"W X 4-3/8" DEEP (LOCATE AS REQ'D FOR ADA)
- C-INSTALL MOUNTING FRAME [3] WITH SUITABLE FASTENERS (BY OTHERS) THRU BACK OR SIDES OF MOUNTING FRAME.
- D-MOUNT AIR-CONTROL VALVE ASSEMBLY [6] INSIDE MOUNTING FRAME [3] OR WITHIN 10 FEET OF THE PUSHBUTTON [7].
- E-AFTER THOROUGHLY FLUSHING THE SUPPLY LINES, MAKE-UP H & C SUPPLY [9] CONNECTIONS (1/2" NPS FLEX HOSE).
- F-NOTE: UNITS SHIP PRE-ASSEMBLED. USE FOLLOWING AS NEEDED. THREAD FLEX CONNECTOR HOSE [10] BETWEEN AIR-VALVE [6] INLET AND MIXING VALVE OUTLET [11]. (NOTE: AIR VALVE SUPPLY CONNECTION WILL ACCOMMODATE 1/2" NPT ADAPTER.

- G-ATTACH 1/4" OD PE TUBE RISERS [5] TO SHOWER HEAD COMPRESSION ELBOWS [8]. HAND TIGHTEN WATERTIGHT. COORDINATE LOWER PUSHBUTTON [7] AND RISER [5] TUBING TO ACTIVATE LOWER SHOWER HEAD.
- H-RECONNECT AIR LINES [4] TO THE AIR-CONTROL VALVE SERVOMOTOR [6] USING FERRULE NUTS PROVIDED. HAND TIGHTEN. SEE DETAIL "A". SET VALVE TIMING - REFER TO TIMING INSTRUCTIONS.

NOTE:
MAXIMUM RECOMMENDED WORKING PRESSURE IS 100 PSI; TEMPERATURE IS 130°F; OUTLET TEMPERATURE IS RECOMMENDED AT A MAXIMUM OF 105°.

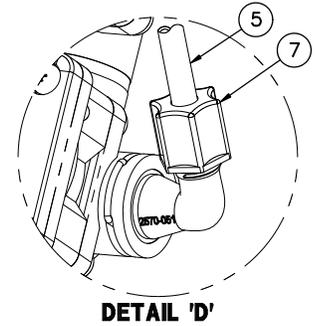
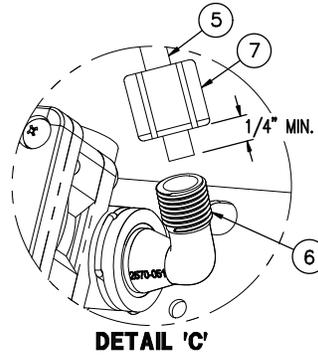
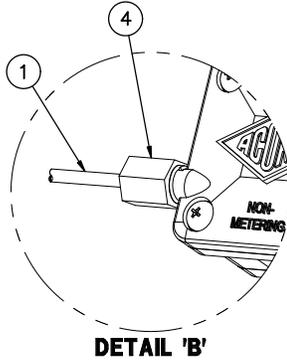
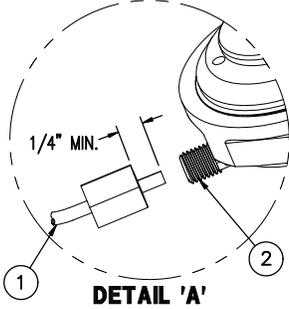
**BASED OFF SITE CONDITIONS HOT & COLD SUPPLIES MAY BE PLUMBED FROM TOP OF UNIT AS HOLE LOCATIONS HAVE BEEN PROVIDED AT THE TOP OF FRAME.

WARNING:
PRIOR TO MAKING INSTALLATION, SUPPLY LINES MUST BE FLUSHED OF ALL FOREIGN MATERIALS SUCH AS PIPE DOPE, CHIPS, ETC. VALVE MUST BE DRAINED PRIOR TO BEING SUBJECTED TO FREEZING TEMPERATURES. MAXIMUM RECOMMENDED OUTLET WATER TEMPERATURE IS 105°F

<p>ACORN ENGINEERING COMPANY P.O. BOX 3527 Industry, CA 91744 15125 Proctor Ave Industry, CA 91746 (626) 336-4561 FAX (626) 961-2200</p>	<p>TITLE SECURE-CARE FA WALL SHOWER WITH T/P MIXING VALVE- LR1748ADAF</p>		
	<p>MANUFACTURE DATE</p> <p>JULY 2021</p> <p>TO PRESENT</p>	<p>DATE ISSUED</p> <p>4/1/2024</p>	<p>DRAWING NUMBER</p> <p>9925-122-101</p>
		<p>DATE REVISED</p>	

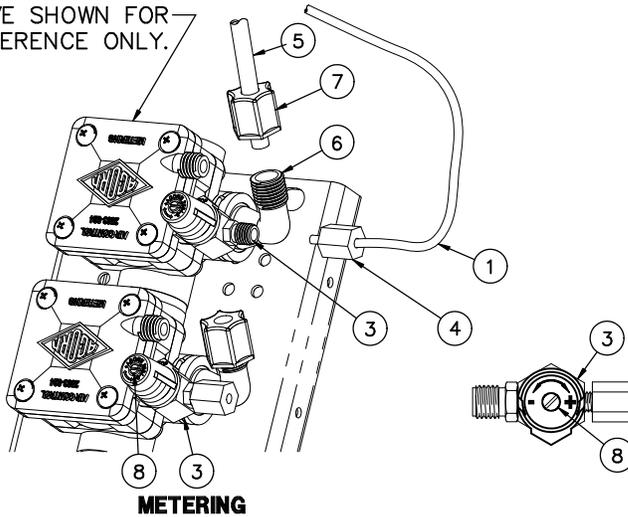


SIDE OUTLET SHOWN



NOTE: PENAL-WARE & ECO-RAIN SHOWER FIXTURES USE 1/4" O.D. RISER TUBING WHILE OTHER SHOWER-WARE FIXTURES USE 3/8" O.D. TUBING.

AIR-CONTROL 03M-MA2 VALVE SHOWN FOR REFERENCE ONLY.



REFERENCE DRAWINGS	
REPAIR PARTS	DRAWING
VALVE BODY	9955-006-003
CHECKSTOP	9956-040-003
PUSHBUTTON/ESCUTCHEON	9957-300-001
METERING SERVOMOTOR	9955-000-003

- NOTE:
1. ALL TUBING SHOULD BE CUT SQUARE AND BE FREE OF BURRS OR DEFORMITIES TO ENSURE A WATER TIGHT CONNECTION.
 2. EXTEND TUBING AT LEAST 1/4" BEYOND FERRULE NUT AND INSERT TUBING INTO CONNECTION OPENING BEFORE TIGHTENING.
 3. TUBING SHOULD BE FREE OF KINKS TO ENSURE PROPER OPERATION.
 4. MAXIMUM RECOMMENDED WORKING WATER PRESSURE IS 100 PSI; TEMPERATURE IS 130° F; OUTLET TEMPERATURE IS RECOMMENDED AT A MAXIMUM OF 105° F.
- WARNING:
PRIOR TO MAKING INSTALLATION, SUPPLY LINES MUST BE FLUSHED OF ALL FOREIGN MATERIAL SUCH AS PIPE DOPE, CHIPS, SOLDER, ETC. VALVE MUST BE DRAINED PRIOR TO BEING SUBJECTED TO FREEZING TEMPERATURES. MAXIMUM RECOMMENDED OUTLET WATER TEMPERATURE IS 105° F.

TIMING IS ADJUSTABLE FROM 5 TO 60 SECONDS AND IS ACCOMPLISHED BY ROTATING TIMING SCREW (8). TURNING THE TIMING SCREW CLOCKWISE INCREASES METERING TIME WHILE TURNING THE SCREW COUNTERCLOCKWISE DECREASES METERING TIME.

INSTALLATION INSTRUCTIONS:

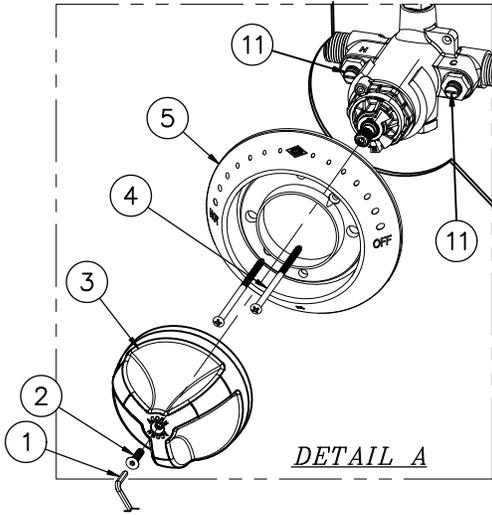
- A- MOUNT FIXTURE IN ACCORDANCE TO MANUFACTURER'S INSTALLATION INSTRUCTIONS.
- B- ASSEMBLE PUSHBUTTONS AND OR SHOWER NOZZLES TO FIXTURE IF REQUIRED.
- C- CONNECT 1/8" O.D. POLYETHYLENE AIR LINE (1) TO PUSHBUTTON (2) AND VALVE TIMER ASSEMBLY (3). SEE DETAILS 'A' & 'B'. HAND TIGHTEN FERRULE NUT (4) PROVIDED.
- D- CONNECT SHOWER RISER (5) TO VALVE ASSEMBLY ELBOW (6). SEE DETAIL 'C' AND 'D'. HAND TIGHTEN FERRULE NUT (7) PROVIDED.
- E- AFTER THOROUGHLY FLUSHING SUPPLY LINES, MAKE UP CONNECTIONS TO VALVE ASSEMBLY INLET(S) 1/2" NPT OR 1/2" NPS FLEX HOSE AS REQUIRED.

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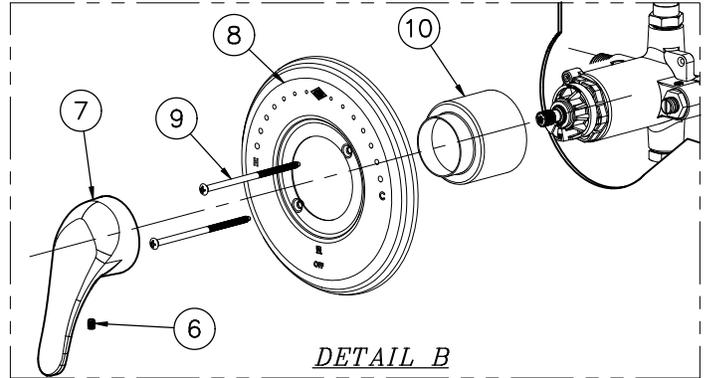
TITLE HAND OPERATED, AIR-CONTROL VALVE SHOWER CONNECTIONS		
MANUFACTURE DATE OCTOBER 2010 TO PRESENT	DATE ISSUED 10/28/10	DRAWING NUMBER 9900-006-003
	DATE REVISED	



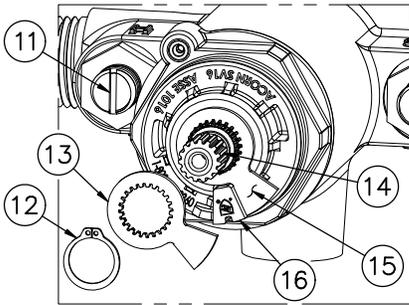
REFERENCE DRAWINGS	
ASSEMBLIES	NUMBER
T/P VALVE	9975-005-002



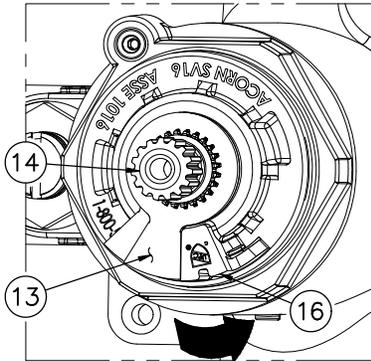
DETAIL A



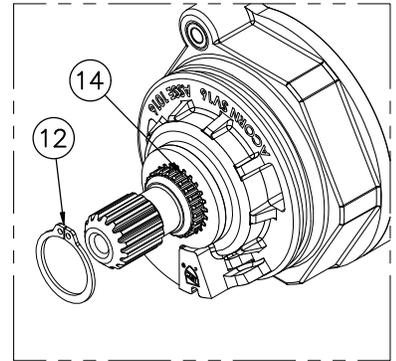
DETAIL B



DETAIL C



DETAIL D



DETAIL E

INSTRUCTIONS:

A-REMOVE TRI-LEVER HANDLE TRIM: SEE DETAIL A

a- USING CENTER REJECT ALLEN WRENCH (1) REMOVE HANDLE SCREW (2) AND REMOVE HANDLE (3).

b- REMOVE ESCUTCHEON (4) BY REMOVING SCREWS (5).

FOR OPTIONAL -LVR LEVER HANDLE TRIM: SEE DETAIL B

a- REMOVE SET SCREW (6) AND HANDLE (7).

b- REMOVE ESCUTCHEON (8) BY REMOVING SCREWS (9).

c- PULL OFF VALVE SLEEVE (10).

TEMPERATURE ADJUSTMENT:

B-ENSURE MAIN WATER SUPPLY IS ON.

C-ENSURE CHECK STOPS (11) ARE OPEN.

D-ENSURE VALVE IS IN THE OFF POSTION.

E-USING SNAP RING PLIERS REMOVE RETAINING RING (12) AND THE FIRST TEMPERATURE LIMIT WASHER (13) ONLY FROM VALVE STEM (14). SEE DETAIL C.

NOTE: IF SECOND TEMPERATURE LIMIT WASHER (15) COMES OFF, RESETTING OF THE OFF STOP MAY BE REQUIRED, KEY AS CLOSE AS POSSIBLE ON THE COUNTER-CLOCKWISE SIDE OF BONNET STOP (16). USING HANDLE (3) OR (7) SLIGHTLY OPEN AND CLOSE VALVE TO ENSURE WATER WILL SHUT OFF. DETAIL C.

TEMPERATURE ADJUSTMENT: CONTINUED:

F- USING HANDLE (3) OR (7) TURN VALVE STEM (14) COUNTER-CLOCKWISE TO INCREASE HOT, CHECKING OUTLET TEMPERATURE UNTIL DESIRED TEMPERATURE IS REACHED (RECOMMENDED 105° TO 110°). SLIDE FIRST TEMPERATURE LIMIT WASHER (9) OVER VALVE STEM (13) AND ENSURE SIDE OF WASHER RESTS AS CLOSE AS POSSIBLE TO CLOCKWISE SIDE OF BONNET LIMIT STOP (16). DETAIL D.

G- WITH VALVE IN THE "ON" POSTION AND WATER RUNNING, USING SNAP RING PLIERS INSTALL RETAINING RING (12). ENSURE RETAINING RING (12) IS INSERTED PROPERLY INTO GROOVE ON VALVE STEM (14). DETAIL E.

H- REINSTALL TRIM IN REVERSE ORDER.



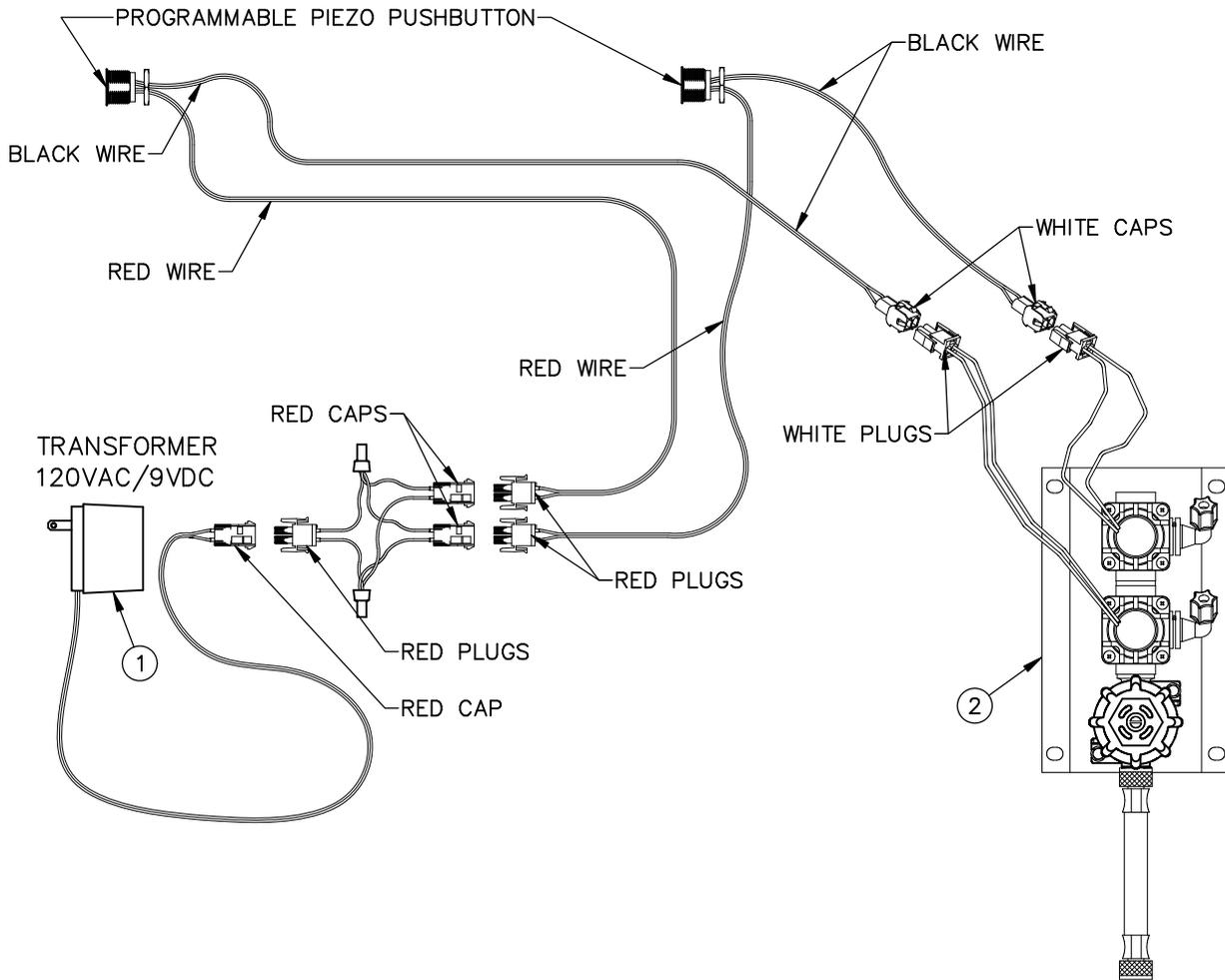
ACORN ENGINEERING COMPANY
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TITLE **-8 T/P TEMP/PRESS BALANCING MIXING VALVE - TEMPERATURE ADJUSTMENT**

MANUFACTURE DATE	DATE ISSUED	DRAWING NUMBER
APRIL 2014	05/01/14	
PRESENT	DATE REVISED	9900-007-001
	09/01/16 B	



TWO STATION AND ADA WIRING DIAGRAM SHOWN



REFERENCE DRAWINGS	
9VDC SENSOR & PARTS	9955-019-002
PIEZO PB PROGRAMMING	9940-009-001

INSTALLATION INSTRUCTIONS:

A- USING APPROPRIATE INSTALLATION INSTRUCTIONS, MOUNT FIXTURE TO WALL AND MAKE-UP SUPPLY CONNECTIONS. ELECTRONIC PUSHBUTTON ARE FACTORY INSTALLED. POWER SUPPLY ① AND VALVE ② SHIPPED LOOSE.

B- INSTALL SOLENOID VALVE ASSEMBLY ② ON THE WALL (FASTENERS AND WALL ANCHORS BY OTHERS), MAKING SURE THAT THE VALVE WILL BE WITHIN HOUSING OR BLOCKOUT AREA.

C- CONNECT WATER SUPPLY (AFTER FLUSHING LINES) TO VALVE, AND VALVE RISER TO SHOWERHEAD AS PER UNIT INSTALLATION INSTRUCTIONS.

D- CONNECT SOLENOID VALVE, POWER SUPPLY AND SENSOR WIRING AS SHOWN ON DETAIL.

E- COMPLETE THE INSTALLATION OF THE UNIT ACCORDING ACORDING TO THE UNITS INSTALLATION INSTRUCTIONS.

NOTE:

1- PLUG-IN TRANSFORMER INCLUDES BUILT-IN SECONDARY FUSE. IN THE EVENT OF POWER SURGE TRANSFORMER MAY REQUIRE REPLACEMENT.

2- ELECTRICAL RECEPTACLE MUST BE WIRED TO A GFI PROTECTED CIRCUIT. FIXTURE MUST BE EARTH GROUNDED PER N.E.C. (NATIONAL ELECTRICAL CODE).

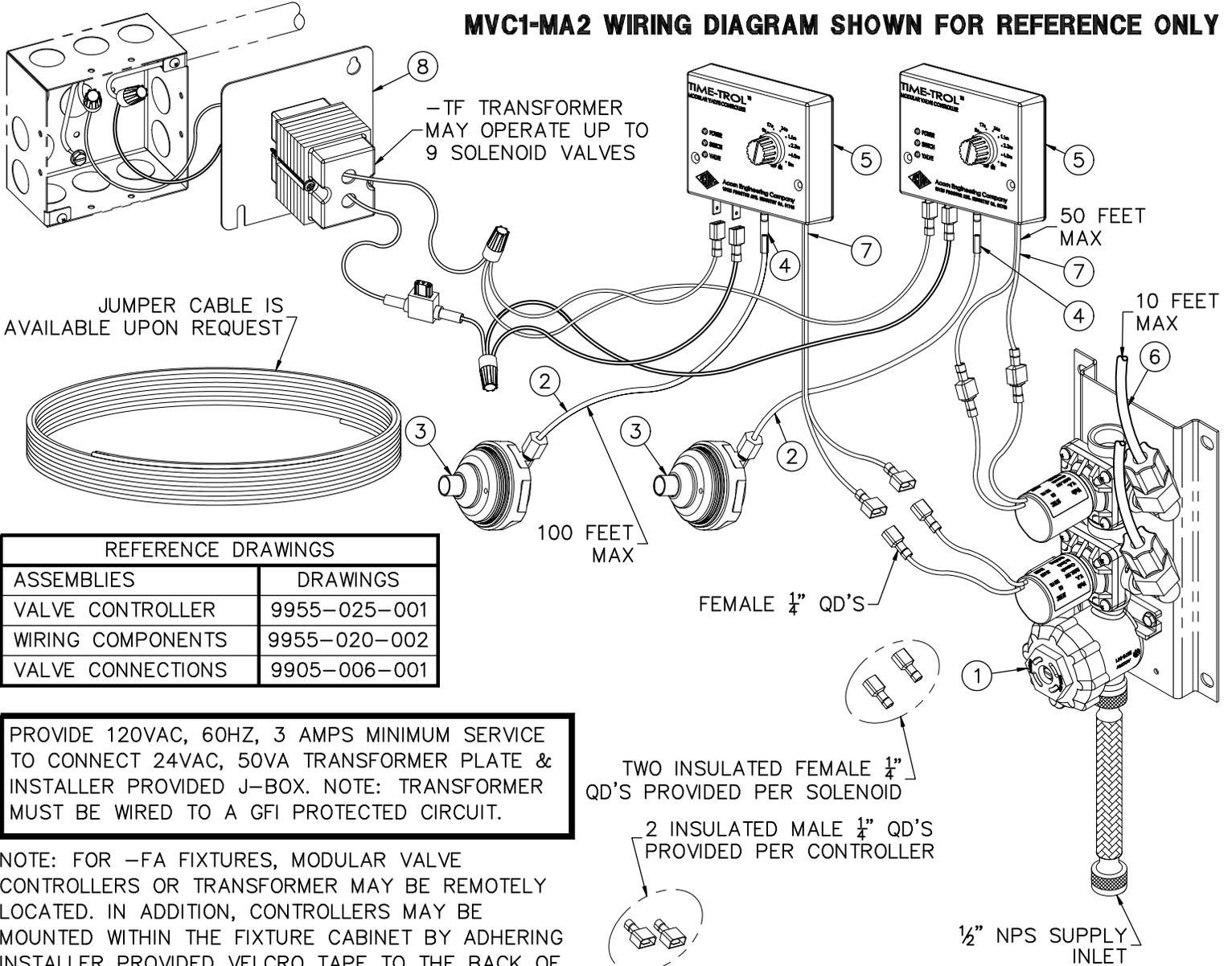


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TITLE -PPZ PIEZO ELECTRONIC PUSHBUTTON INSTALLATION		
MANUFACTURE DATE OCTOBER 2013 TO PRESENT	DATE ISSUED 10/11/13	DRAWING NUMBER 9927-223-001
	DATE REVISED	



MVC1-MA2 WIRING DIAGRAM SHOWN FOR REFERENCE ONLY



REFERENCE DRAWINGS	
ASSEMBLIES	DRAWINGS
VALVE CONTROLLER	9955-025-001
WIRING COMPONENTS	9955-020-002
VALVE CONNECTIONS	9905-006-001

PROVIDE 120VAC, 60HZ, 3 AMPS MINIMUM SERVICE TO CONNECT 24VAC, 50VA TRANSFORMER PLATE & INSTALLER PROVIDED J-BOX. NOTE: TRANSFORMER MUST BE WIRED TO A GFI PROTECTED CIRCUIT.

NOTE: FOR -FA FIXTURES, MODULAR VALVE CONTROLLERS OR TRANSFORMER MAY BE REMOTELY LOCATED. IN ADDITION, CONTROLLERS MAY BE MOUNTED WITHIN THE FIXTURE CABINET BY ADHERING INSTALLER PROVIDED VELCRO TAPE TO THE BACK OF THE CONTROLLER AND ONTO FIXTURE CABINET.

INSTALLATION INSTRUCTIONS:

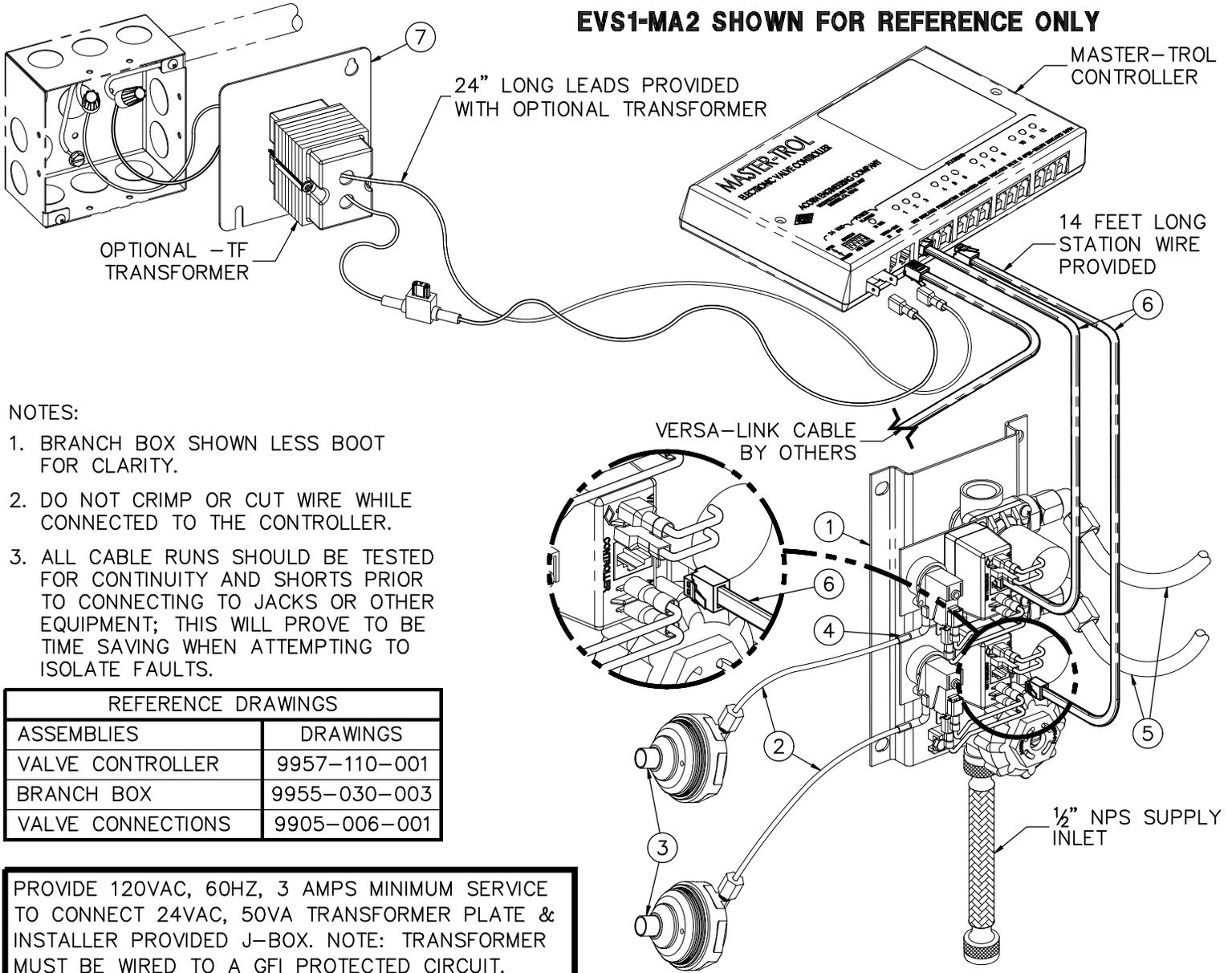
- A- ROUGH-IN & INSTALL FIXTURE PER MANUFACTURER'S INSTRUCTIONS.
- B- MOUNT SOLENOID VALVE ASSEMBLY (1) WITHIN THE CHASE OR FIXTURE FRAME / CABINET AS REQUIRED A MAXIMUM OF 10 FEET FROM THE FIXTURE.
- C- CONNECT AIR TUBING (2) TO MOUNTED PUSHBUTTON ASSEMBLY (3) AND HAND TIGHTEN FERRULE NUT. CONNECT THE TAG END OF THE AIR TUBING (2) TO THE VALVE CONTROLLER TUBE (4) AT THE POSITION MARKED "ACTUATOR" ON THE CONTROLLER (5). AIR TUBING FITS INSIDE THE CONTROLLER TUBE (4).

- D- CONNECT RISER TUBING (6) TO VALVE ASSEMBLY AND FIXTURE DISCHARGE CONNECTOR. HAND TIGHTEN USING FERRULE NUTS PROVIDED.
- E- CONNECT CONTROLLER WIRES (7) (INDICATED AS "VALVE" ON THE CONTROLLER) FROM VALVE CONTROLLER (2) TO SOLENOID VALVE (1).
- F- MAKE UP CONNECTIONS FROM TRANSFORMER (8) TO CONTROLLERS IN PARALLEL AS SHOWN.
- G- AFTER THOROUGHLY FLUSHING SUPPLY LINES MAKE UP SUPPLY CONNECTIONS.
- H- SET TIMING ON VALVE CONTROLLER (5) TO DESIRED FLOW DURATION.

ACORN ENGINEERING COMPANY P.O. BOX 3527 Industry, CA 91744 15125 Proctor Ave Industry, CA 91746 (626) 336-4561 FAX (626) 961-2200	TITLE MVC1-MA2 TIME-TROL SINGLE TEMP VALVE INSTALLATION		
	MANUFACTURE DATE MAY 1990 TO PRESENT	DATE ISSUED 08/05/10	DRAWING NUMBER 9900-001-004
		DATE REVISED 01/11/13	



EVS1-MA2 SHOWN FOR REFERENCE ONLY



NOTES:

1. BRANCH BOX SHOWN LESS BOOT FOR CLARITY.
2. DO NOT CRIMP OR CUT WIRE WHILE CONNECTED TO THE CONTROLLER.
3. ALL CABLE RUNS SHOULD BE TESTED FOR CONTINUITY AND SHORTS PRIOR TO CONNECTING TO JACKS OR OTHER EQUIPMENT; THIS WILL PROVE TO BE TIME SAVING WHEN ATTEMPTING TO ISOLATE FAULTS.

REFERENCE DRAWINGS	
ASSEMBLIES	DRAWINGS
VALVE CONTROLLER	9957-110-001
BRANCH BOX	9955-030-003
VALVE CONNECTIONS	9905-006-001

PROVIDE 120VAC, 60HZ, 3 AMPS MINIMUM SERVICE TO CONNECT 24VAC, 50VA TRANSFORMER PLATE & INSTALLER PROVIDED J-BOX. NOTE: TRANSFORMER MUST BE WIRED TO A GFI PROTECTED CIRCUIT.

INSTALLATION INSTRUCTIONS:

- A. ROUGH-IN & INSTALL FIXTURE PER MANUFACTURER'S INSTRUCTIONS.
- B. MOUNT SOLENOID VALVE ASSEMBLY (1) WITHIN THE CHASE OR FIXTURE FRAME / CABINET AS REQUIRED A MAXIMUM OF 10 FEET FROM THE FIXTURE.
- C. CONNECT AIR TUBING (2) TO MOUNTED PUSHBUTTON ASSEMBLY (3) AND HAND TIGHTEN FERRULE NUT. CONNECT THE TAG END OF THE AIR TUBING (2) TO THE BRANCH BOX PRESSURE SWITCH 3/16" OD TUBE (4). AIR TUBING (2) FITS INSIDE THE PRESSURE SWITCH 3/16" OD TUBE (4).
- D. CONNECT RISER TUBING (5) TO VALVE ASSEMBLY AND FIXTURE DISCHARGE CONNECTOR. HAND TIGHTEN USING FERRULE NUTS PROVIDED.
- E. CONNECT STATION WIRE (6) TO BRANCH BOX AND APPROPRIATE LOCATION ON CONTROLLER.
- F. MAKE UP CONNECTIONS FROM TRANSFORMER (8) TO CONTROLLER AS SHOWN.
- G. AFTER THOROUGHLY FLUSHING SUPPLY LINES MAKE UP SUPPLY CONNECTIONS.

<p>ACORN ENGINEERING COMPANY P.O. BOX 3527 Industry, CA 91744 15125 Proctor Ave Industry, CA 91746 (626) 336-4561 FAX (626) 961-2200</p>	<p>TITLE EVS1 MASTER-TROL SINGLE TEMP VALVE INSTALLATION</p>		
	<p>MANUFACTURE DATE</p> <p>MAY 1998</p> <p>TO PRESENT</p>	<p>DATE ISSUED</p> <p>12/09/10</p>	<p>DRAWING NUMBER</p> <p>9905-330-004</p>
		<p>DATE REVISED</p> <p>05/14/13</p>	