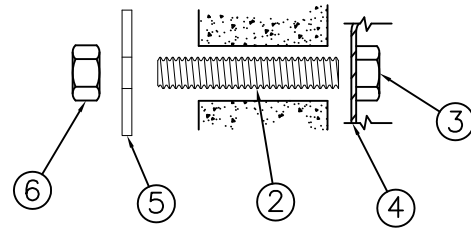
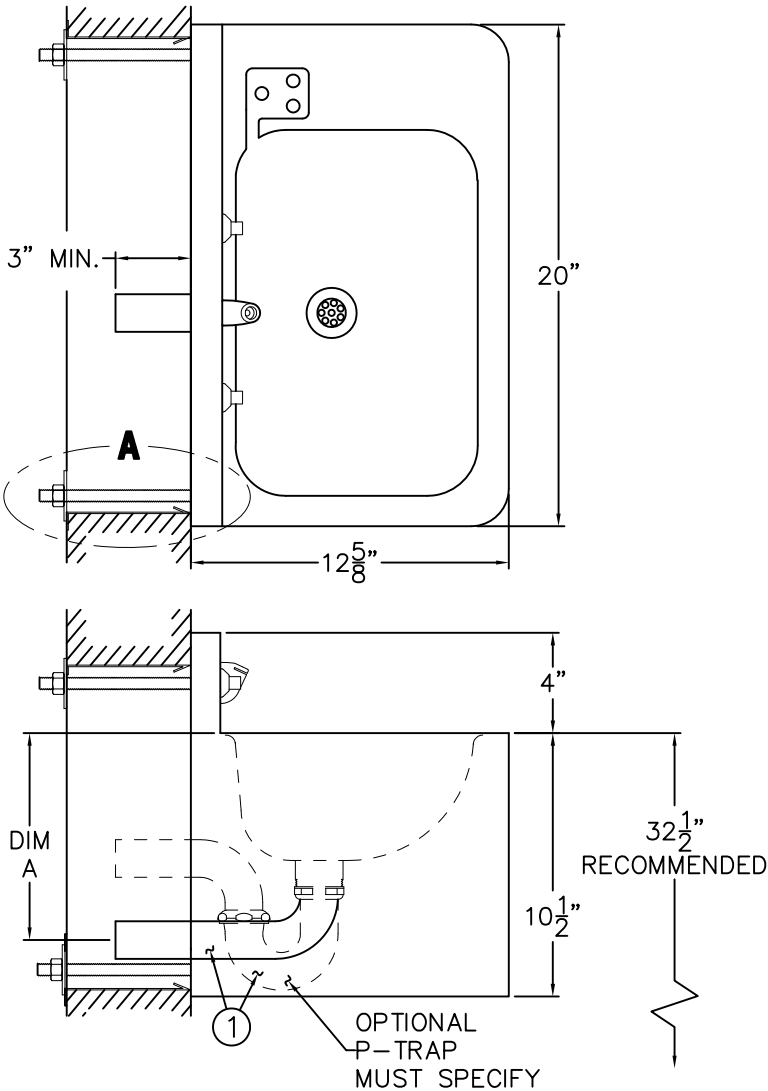


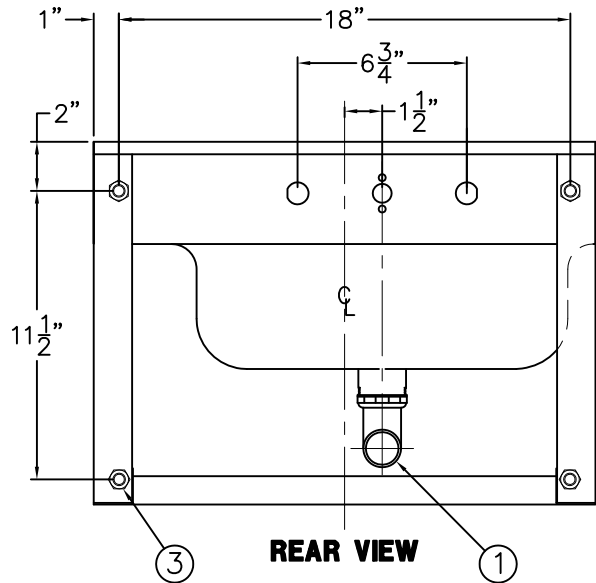


WASTE OUTLET	DIM A
CLOSE ELBOW	8-1/4"
OPTIONAL P-TRAP (-PT)	5"

REFERENCE DRAWINGS	
HARDWARE PACKAGE	9957-900-001
-SW SLEEVE / -MT TEMPLATE	9925-210-001
<b>VALVES:</b>	
-4 AIR-CONTROL (HOT & COLD)	9905-000-003
-3 AIR-CONTROL (SINGLE TEMP.)	9905-001-003
-MVC1 S/T TIME-TROL	9905-201-003
-MVC2 H&C TIME-TROL	9905-200-003
-EVS1 S/T MASTER-TROL	9905-311-003
-EVS2 H&C MASTER-TROL	9905-310-003



**MOUNTING DETAIL A**



**REAR VIEW**

**INSTALLATION INSTRUCTIONS:**

A - ROUGH-IN FOR FIXTURE WASTE OUTLET (1):  
 • 1-1/2" O.D. PLAIN END WASTE OUTLET.

B - SEE REFERENCE DRAWING BOX FOR APPROPRIATE VALVE INSTALLATION DRAWINGS.

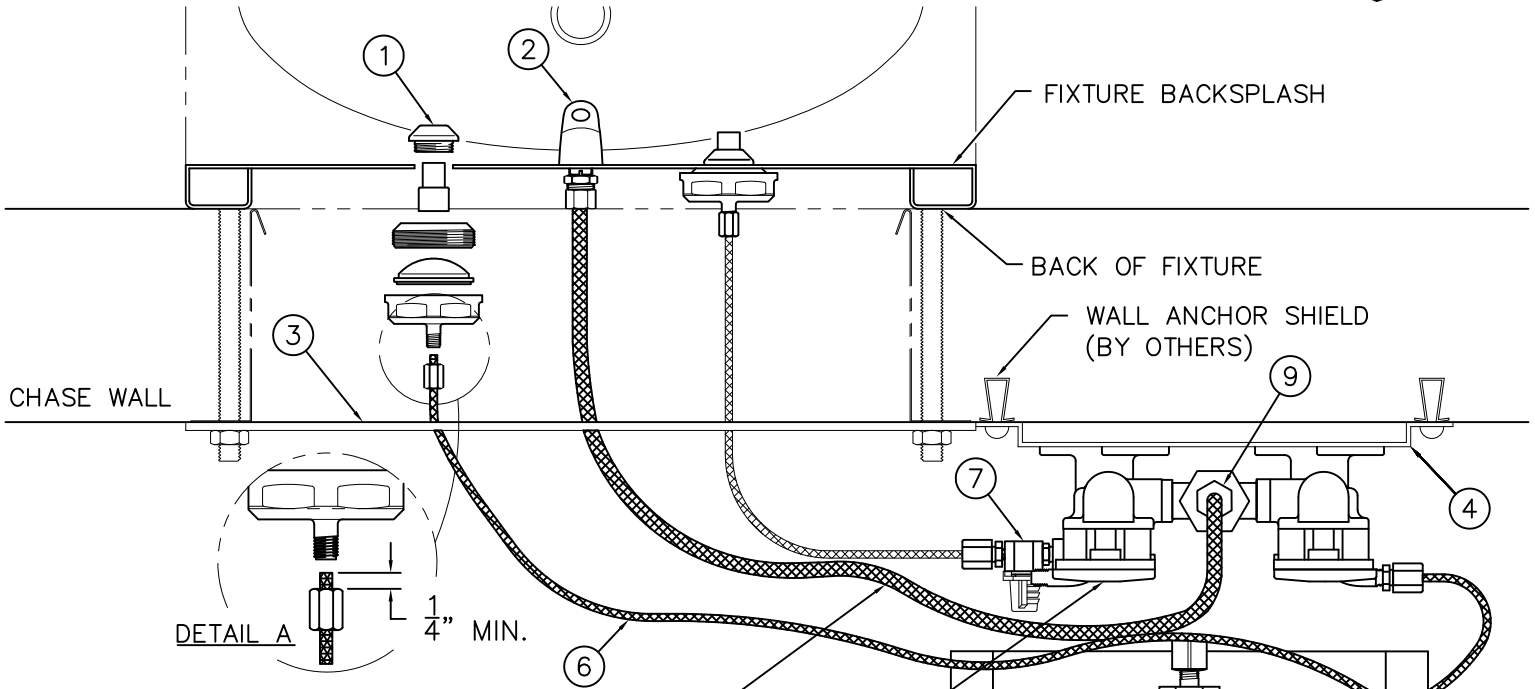
C - THREAD 1/2"-13 UNC STUDS (2) INTO MOUNTING POINTS (3) AT REAR OF FIXTURE. STUDS (2) MUST HAVE A MINIMUM 1/2" ENGAGEMENT.

D-PLACE LAVATORY (4) UP AGAINST THE WALL, SLIDING STUDS (2) THROUGH SLEEVE OR WALL OPENINGS.

E-PLACE WASHERS (5) (OR PLATE) AND NUTS (6) ONTO STUDS (2). TIGHTEN TO 60 ILBS/FT.

F-MAKE-UP LAVY WASTE CONNECTION - 1-1/2" O.D. PLAIN END (SUITABLE FOR A COMPRESSION CONNECTION).

ACORN ENGINEERING COMPANY P.O. BOX 3527 INDUSTRY, CA. 91744 (626) 336-4561 FAX (626) 961-2200	TITLE <b>20" RECTANGULAR LAVY CAT. #1650</b>	
	MANUFACTURE DATE <b>APRIL 30, 1998</b> <b>TO PRESENT</b>	DATE ISSUED <b>3/30/98</b> DATE REVISED <b>10/25/2011</b>



REFERENCE DRAWINGS	
ASSEMBLIES	NUMBER
VALVE BODY	9955-005-003
CHECKSTOP	9956-040-003
FIXTURE TRIM	9957-050-001
-PBH/BPH TRIM	9957-060-001
AIR-CONTROL SERVOMOTORS	
METERING	9955-000-003
NON-METERING	9955-001-003

NOTE:  
THIS VALVE  
SHOWN w/ (-MH)  
METERING, HOT  
SIDE ONLY

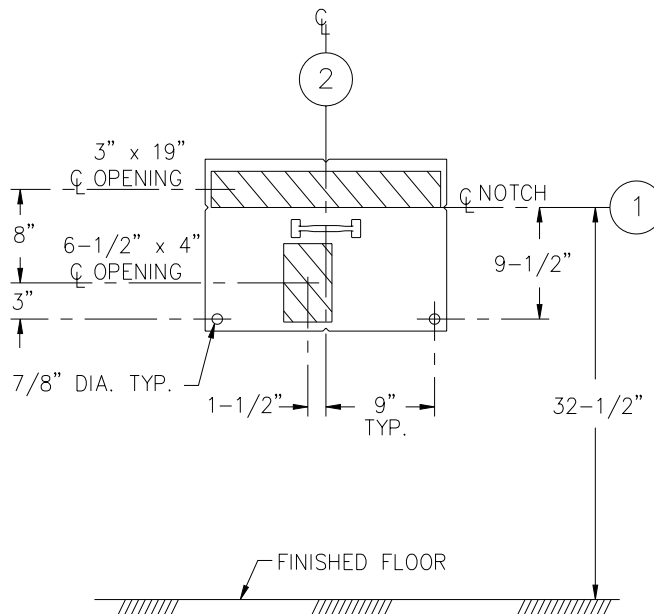
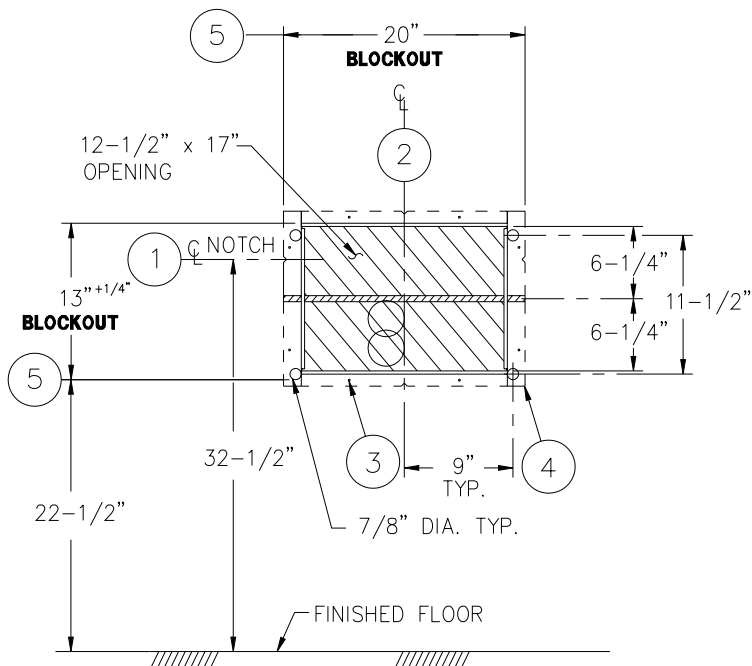
**INSTALLATION INSTRUCTIONS:**

- A- PRIOR TO INSTALLATION OF THE FIXTURE, MOUNT PUSHBUTTONS ① AND BUBBLER ② TO THE BACKSPLASH.
- B- INSTALL THE PLUMBING FIXTURE TO THE WALL INCLUDING UPPER SUPPORT PLATE ③.
- C- MOUNT THE AIR-CONTROL VALVE ASSEMBLY ④. LOCATE AS REQUIRED. MAXIMUM ALLOWABLE DISTANCE BETWEEN PUSHBUTTON ① AND AIR-CONTROL SERVOMOTOR ⑤ IS 10 FEET. WALL ANCHORING HARDWARE ARE BY OTHERS.
- D- CONNECT 1/8" O.D. POLYETHYLENE AIR LINES ⑥ TO PUSHBUTTONS ① AND SERVOMOTOR ⑤. HAND TIGHTEN USING FERRULE NUTS PROVIDED. SEE DETAIL A. NOTE: WHEN METERING VALVES ARE SPECIFIED, AIR LINES CONNECT DIRECTLY TO VALVE TIMER ⑦.
- E- CONNECT 1/4" O.D. POLYETHYLENE WATER LINE ⑧ TO BUBBLER ② AND COMPRESSION NUT ⑨. HAND TIGHTEN USING FERRULE NUTS PROVIDED.

NOTE:  
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.

- F- AFTER THOROUGHLY FLUSHING THE SUPPLY LINES, MAKE-UP 1/2" NPS FEMALE SUPPLY CONNECTIONS. NOTE: SUPPLY INLET CONNECTION WILL ACCOMODATE 1/2" NPT MALE ADAPTER. THREAD FLEX CONNECTOR HOSE ⑩ TO CHECKSTOPS ⑪ AND TO SUPPLY STUB OUTS.
- G- SEE APPROPRIATE SERVOMOTOR REFERENCE DRAWING FOR DETAILS AND TIMING INSRUCTIONS.

ACORN ENGINEERING COMPANY P.O. BOX 3527 INDUSTRY, CA. 91744 (626) 336-4561 FAX (626) 961-2200	TITLE <b>(04-SERIES) HOT &amp; COLD AIR-CONTROL VALVE ASSEMBLY - NEW STYLE</b>	
	MANUFACTURE DATE <b>SEPT 1995 TO PRESENT</b>	DATE ISSUED <b>11/1/95</b>  DATE REVISED <b>07/15/10</b>



**WALL SLEEVE (-SW)      BOTH VIEWS ARE FROM CELL SIDE      METAL TEMPLATE (-MT)**

RIGHT HAND FIXTURE ROUGH-INS SHOWN, LEFT HAND FIXTURE OPPOSITE

SHADED AREAS ARE REQUIRED WALL OPENINGS

**WALL SLEEVE**

SLEEVES ARE INSTALLED IN FORMS (USING NAIL HOLES ③ PROVIDED) OR GROUTED INTO BLOCK WALLS, BECOMING A PERMANENT PART OF WALL.

- A. INSTALL SLEEVE WITH FLANGE ④ ON CHASE SIDE OF WALL.
- B. LOCATE TOP AND BOTTOM NOTCHES AT VERTICAL CENTERLINE ② OF PLUMBING FIXTURE.
- C. LOCATE SIDE NOTCHES ① AT DIMENSION SHOWN, MEASURED FROM THE FINISHED FLOOR ON CELL (FIXTURE) SIDE.

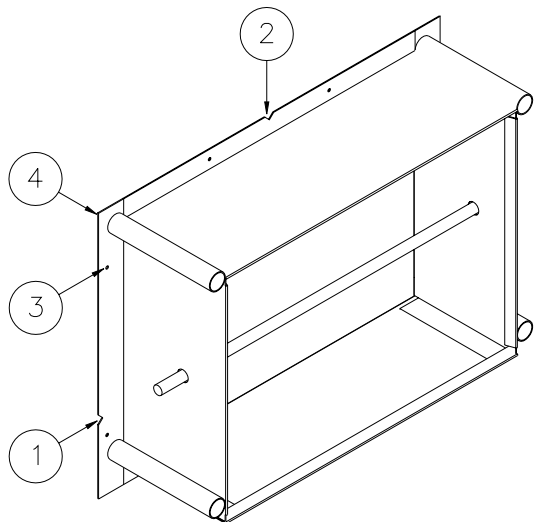
**NOTES:**

- 1. FOR POURED WALL CONSTRUCTION, TEMPORARY BRACING SHOULD BE INSTALLED WITHIN SLEEVE OPENING TO PREVENT DEFORMATION TO SLEEVE WHICH MAY OCCUR DURING POUR. DO NOT POUR CONCRETE DIRECTLY ON TOP OF WALL SLEEVE.
- 2. WHEN SLEEVES ARE NOT AVAILABLE BLOCKOUT FOR SLEEVE OPENING IN WALL PER DIMENSIONS SHOWN ⑤.

**METAL TEMPLATES (-MT)**

TEMPLATES ARE USED TO LAYOUT REQUIRED WALL OPENINGS FOR SUBSEQUENT FLAME CUTTING OR CORE DRILLING.

- A. STRIKE A HORIZONTAL CHALKLINE ① ON THE WALL AT DIMENSION SHOWN, MEASURED FROM THE FINISHED FLOOR ON CELL (FIXTURE) SIDE. THIS WILL LOCATE CENTERLINE FOR HORIZONTAL NOTCHES ON TEMPLATE.
- B. STRIKE A VERTICAL CHALKLINE ② ON THE WALL TO INDICATE CENTERLINE OF FIXTURE. THIS WILL LOCATE CENTERLINE FOR VERTICAL NOTCHES ON TEMPLATE.
- C. PLACE TEMPLATE AGAINST WALL. LOCATE NOTCHES ALONG CHALKLINES. MARK WALL FOR REQUIRED OPENING.



**WALL SLEEVE (-SW)**

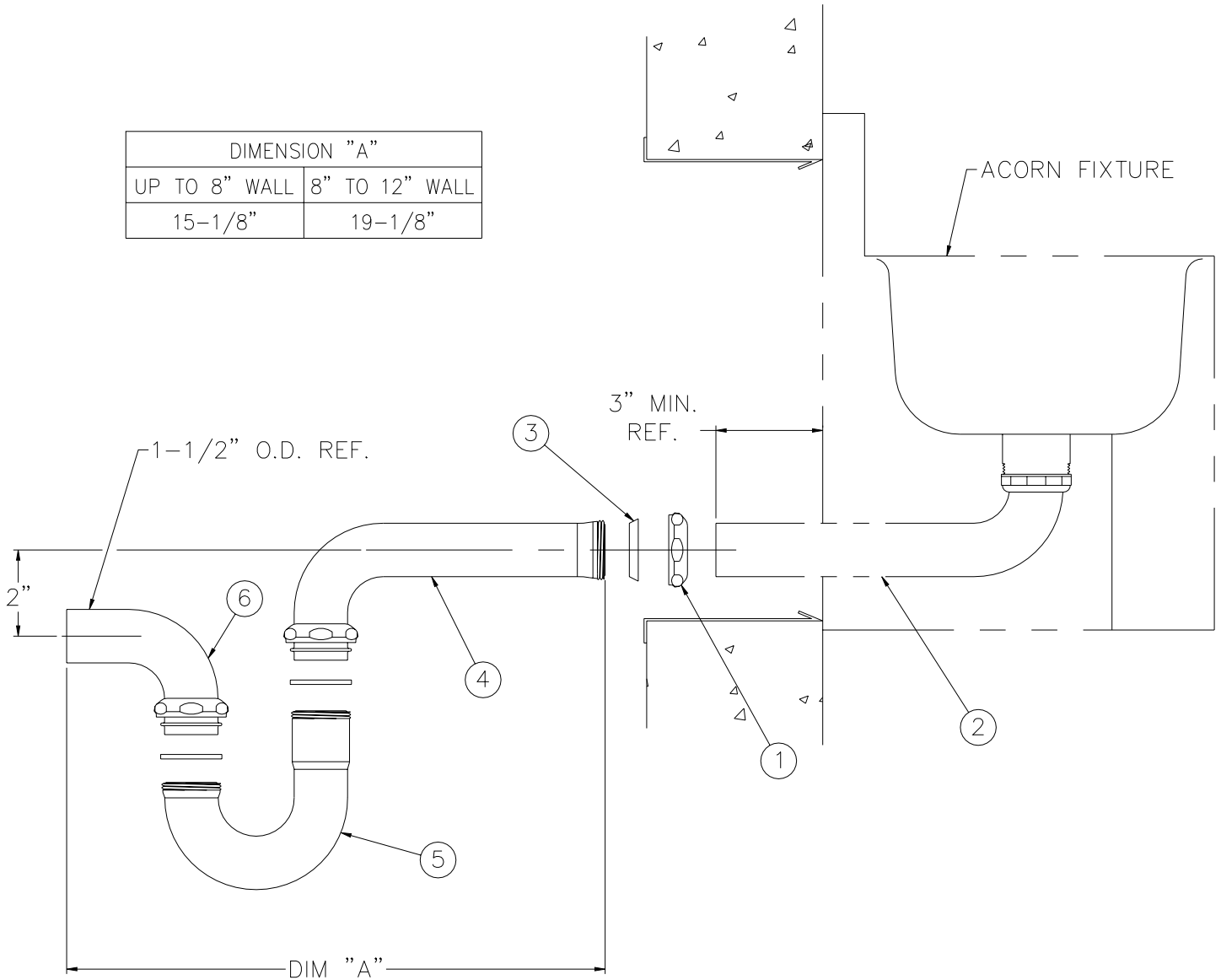


**ACORN ENGINEERING COMPANY**  
P.O. BOX 3527 INDUSTRY, CA. 91744  
(626) 336-4561 FAX (626) 961-2200

<p>TITLE <b>-SW WALL SLEEVE AND -MT METAL TEMPLATE - CAT. #1650</b></p>		
<p>MANUFACTURE DATE</p> <p><b>JUNE 1971</b></p> <p><b>TO PRESENT</b></p>	<p>DATE ISSUED</p> <p><b>3-1-90</b></p> <p>DATE REVISED</p> <p><b>6/22/98</b></p>	<p>DRAWING NUMBER</p> <p><b>9925-210-001</b></p>



DIMENSION "A"	
UP TO 8" WALL	8" TO 12" WALL
15-1/8"	19-1/8"



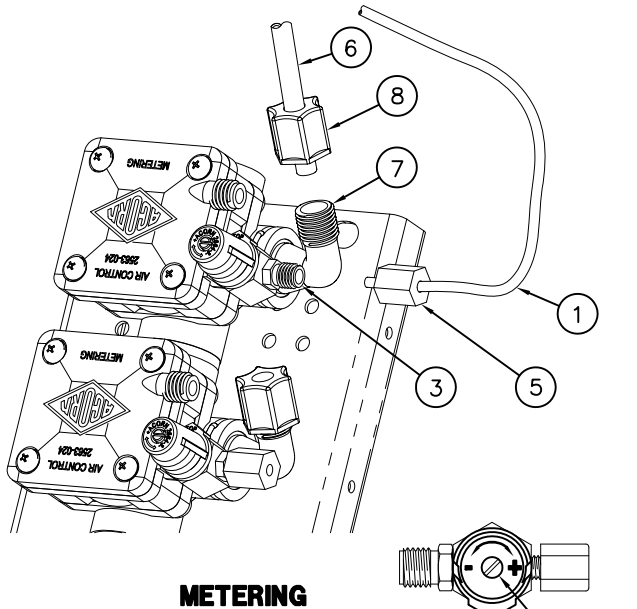
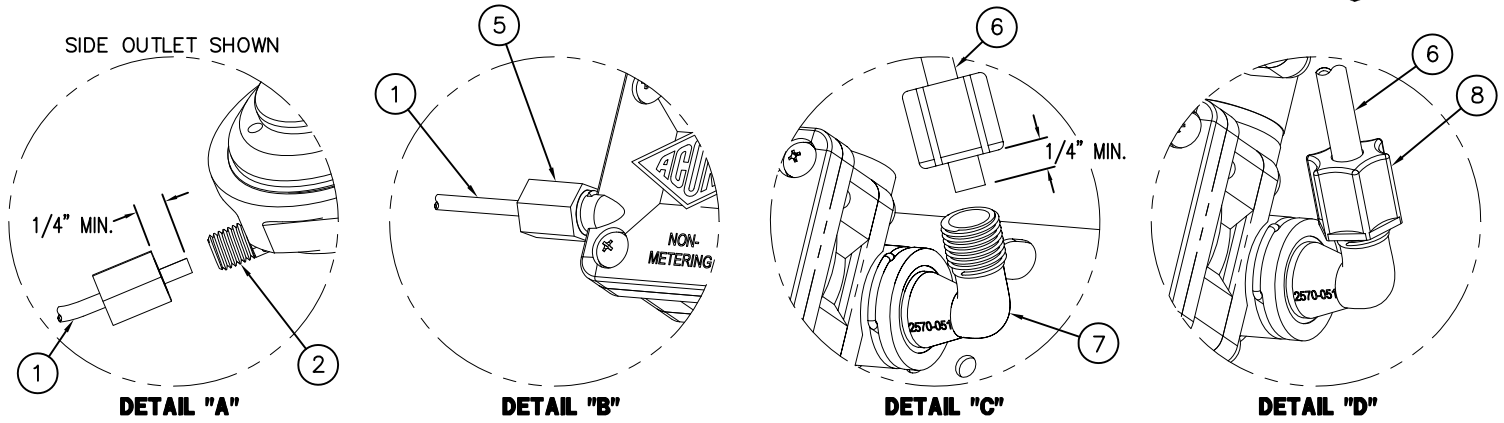
**INSTALLATION INSTRUCTIONS:**

A- AFTER INSTALLING ACORN UNIT ON FINISHED WALL, SLIP COMPRESSION NUT ① OVER 1-1/2" O.D. PLAIN END WASTE ②. USING COMPRESSION GASKET ③, AND NUT ① MAKE-UP COMPRESSION CONNECTION WITH SLIP JOINT ELBOW ④.

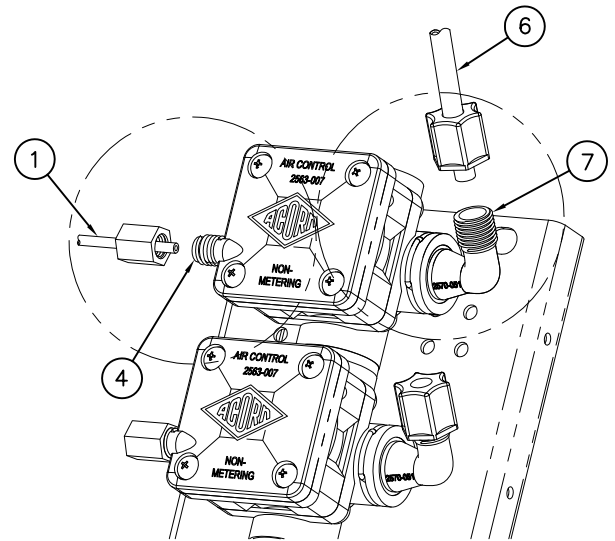
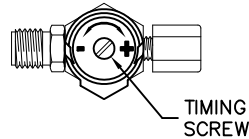
B- REMOVABLE TUBULAR P-TRAP ⑤ CONNECTS TO SLIP JOINT ELBOW ④ AND PLAIN END ELBOW ⑥ WITH COMPRESSION CONNECTIONS AS SHOWN.

NOTE: TUBULAR P-TRAP IS REMOVABLE IN ORDER TO ALLOW FOR WASTE CLEANOUT.

<b>ACORN ENGINEERING COMPANY</b> P.O. BOX 3527 INDUSTRY, CA. 91744 (626) 336-4561 FAX (626) 961-2200	TITLE <b>LAVATORY THRU-WALL WASTE CONNECTION w/ P-TRAP &amp; CLEANOUT CAT. # -LW1</b>	
	MANUFACTURE DATE <b>APRIL 30, 1998</b> <b>TO PRESENT</b>	DATE ISSUED <b>3/19/98</b> DATE REVISED <b>4/23/98</b>



**METERING**



**NON-METERING DIRECT ACTING**

TIMING IS ADJUSTABLE FROM 5 TO 60 SECONDS AND IS ACCOMPLISHED BY ROTATING TIMING SCREW. TURING THE SCREW CLOCKWISE INCREASES WHILE COUNTERCLOCKWISE DECREASES TIMING.

**REFERENCE DRAWINGS**

REFERENCE DRAWINGS	
ASSEMBLIES	DRAWING
VALVE BODY	9955-006-003
CHECKSTOP	9956-040-003
FIXTURE TRIM	9957-051-001
AIR-CONTROL SERVOMOTORS	
METERING	9955-000-003
NON-METERING	9955-001-003

**INSTALLATION INSTRUCTIONS:**

- A- MOUNT FIXTURE IN ACCORDANCE TO MANUFACTURER'S INSTALLATION INSTRUCTIONS.
- B- ASSEMBLE SPOUTS AND PUSHBUTTONS TO FIXTURE.
- C- CONNECT 1/8" O.D. POLYETHYLENE AIR LINE (1) TO PUSHBUTTON (2), AND VALVE TIMER ASSEMBLY (3) SEE DETAIL "A". NOTE: FOR DIRECT ACTING: ASSEMBLE TO AIR PORT (4), SEE DETAIL "B". HAND TIGHTEN FERRULE NUT (5) PROVIDED.
- D- CONNECT 1/4" O.D. POLYETHYLENE WATER LINES (6) TO VALVE ASSEMBLY ELBOW (7) SEE DETAILS "C", AND "D". HAND TIGHTEN FERRULE NUT (8) 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.

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 BEFORE INSERTING TUBING INTO CONNECTION OPENING BEFORE TIGHTENING.
- 3) TUBING SHOULD BE FREE OF KINKS FOR 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.

ACORN ENGINEERING COMPANY  
P.O. BOX 3527 INDUSTRY, CA. 91744  
(626) 338-4561 FAX (626) 961-2200

TITLE **HAND OPERATED AIR-CONTROL VALVE CONNECTIONS**

MANUFACTURE DATE	DATE ISSUED	DRAWING NUMBER
<b>JANUARY 1999 TO PRESENT</b>	<b>04/22/10</b>	
	DATE REVISED	<b>9905-006-001</b>
	<b>10/11/10</b>	