

# Model ET71 Series

Lead-Free Emergency Fixture Thermostatic Mixing Valve with Cold Water Bypass

## APPLICATION:

The Acorn ET71 Series Emergency Tempering Valve is certified to ASSE 1071 and will deliver safe tepid water to safety systems such as eye, face and shower fixtures and combination units. It's factory set to 85°F (29.4°C) to ensure comfort when used with an eye wash, yet can be safely set up to 95°F (35°C) for maximum comfort and effectiveness when used with body washes. The ET71 is offered in 4 models/sizes, you can meet the needs of your application based on minimum flow performance requirements and maximum flow demands. This valve can be used to the control the temperature of recirculating as well as non-recirculating supply systems.

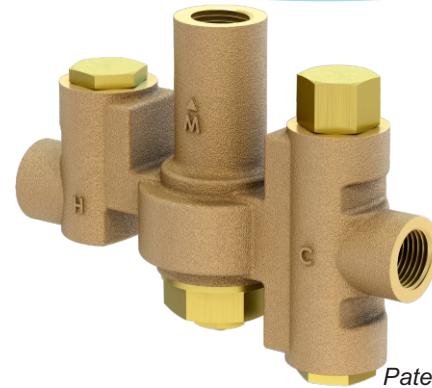
## FEATURES:

- IAPMO certified per ASSE 1071 at the minimum flow rates shown in the chart to the right.
- ⚡ Lead-Free certified DZR brass body with corrosion resistant and lead-free internal components.
- Integral cartridge style checks with screens to prevent backflow and to filter debris from entering the valve.
- On demand internal cold water bypass ensures the flow of cold water in the event of loss of hot water.
- Temperature adjustment is made using an Allen wrench. A locknut on the bonnet prevents unauthorized or accidental temperature adjustment.
- Commercial quality paraffin actuator provides repeatable, reliable performance.
- Acorn's optional -BVS lockable ball valve shut-off meets ANSI Z358 and ASSE 1071 requirements that state "If shut-off valves are installed in the supply line for maintenance purposes provisions SHALL be made to prevent unauthorized shut-off". Acorn eliminates the need for a locked cabinet or other means to prevent unauthorized access to un-lockable, and potentially unsafe, check stop shut-off valves."

⚡ The wetted surface of these valves contacted by consumable water contains less than 0.25% of lead by weight in conformance with national lead free law.

## GUIDE SPECIFICATION:

Emergency Fixture Thermostatic Mixing Valve shall be IAPMO certified to ASSE 1071 and CSA standards. Valve shall have an on demand internal cold water bypass of at least 60% of the normal flow rate. Valve body shall be "lead-free" brass with corrosion resistant internal components. Checks and screen must be integral. The sensor will be an advanced paraffin actuator with a temperature range of 60°F to 95°F (16°C or 35°C) or 60°F to 90°F (16°C to 32°C) (+), factory set to 85°F (29°C) and adjustable by the safety officer. A locknut will prevent unauthorized or accidental set point changes. Shut-offs, if shown in the manufacturer's part number at the end of this specification, must be lockable to help prevent unauthorized or accidental closing in accordance with ANSI Z358 and ASSE 1071 shall be a reliable ball valve design. Valve shall be Acorn Model ET71 - (1,2,3 or 4) - (Option(s))."



ET71-1

Patent #9,879,658  
Patent #9,989,017

## SPECIFICATIONS:

### Valve Specifications:

Maximum Operating Pressure: ..... 125 PSI (861 kPa)  
 Maximum Hot Water Supply Temp: ..... 180°F (82°C)  
 Outlet Temp. Range: ..... 60°F-95°F (15°C-35°C)  
 (ET71-4 Only)..... 60°F-90°F (15°C-32°C)  
 Minimum Hot Water Supply ..... 5°F (3°C)  
 Above Set Point

### Certified Minimum Flow\*:

ET71-1 ..... 0.5 GPM (1.9 LPM)  
 ET71-2 ..... 1 GPM (3.8 LPM)  
 ET71-3 ..... 2 GPM (7.6 LPM)  
 ET71-4 ..... 3 GPM (11.4 LPM)

| GPM (LPM) FLOW RATES<br>@30 PSID* |              |            |                 |
|-----------------------------------|--------------|------------|-----------------|
| MODEL                             | TEMPERED     | CW BY-PASS | CW FAILURE MAX. |
| ET71-1                            | 9.8 (37.1)   | 6.5 (24.5) | 0.5 (1.9)       |
| ET71-2                            | 35.1 (133)   | 25 (94.6)  | 1 (3.8)         |
| ET71-3                            | 70.2 (256.7) | 60 (227)   | 1 (3.8)         |
| ET71-4                            | 110 (416.4)  | 80 (302.8) | 1 (3.8)         |

\* In accordance to ASSE 1071 as certified by IAPMO  
 (†) For ET71-4 Only

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Submission # **ET71 Series**  
 Revised: 10/02/18

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### Certifications:



ASSE 1071  
 CSA B125.3



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**ACORN ENGINEERING COMPANY**  
 Manufacturer of Engineered Products

Member of Morris Group International™

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### VALVE SELECTION:

- ET71-1 Brass Valve Body With 1/2" NPT Inlet & Outlet Connections
- ET71-2 Brass Valve Body With 3/4" NPT Inlet & 1" NPT Outlet Connections
- ET71-3 Brass Valve Body With 1" NPT Inlet & 1-1/4" NPT Outlet Connections
- ET71-4 Brass Valve Body With 1-1/4" NPT Inlet & 1-1/2" NPT Outlet Connections

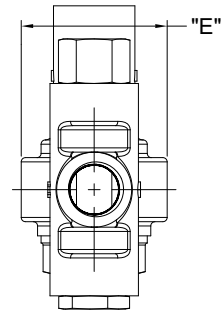
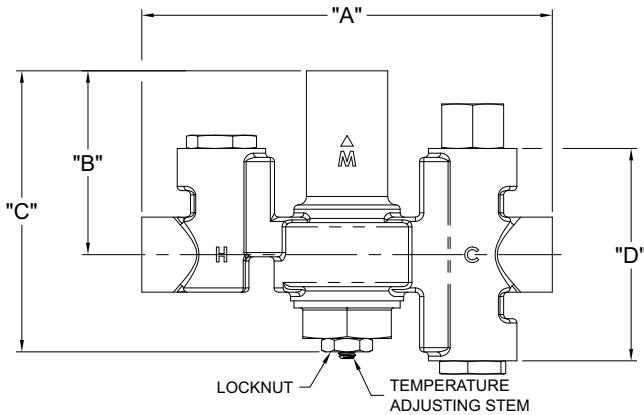
### ACCESSORIES:

- BVS \*\*Ball Valve Shut-Off, Lockable Ball Valves Shipped Loose
- OTG Outlet Temperature Gauge

*\*\*Acorn's optional locking ball valves are the only safe and acceptable method for supply shut-off to this product, unless installed in a lockable cabinet or other means to prevent unauthorized supply shut-off.*

### TECHNICAL DIMENSIONS:

|        | INLET      | OUTLET     | "A"          | "B"          | "C"          | "D"          | "E"          |
|--------|------------|------------|--------------|--------------|--------------|--------------|--------------|
| ET71-1 | 1/2" NPT   | 1/2" NPT   | 5-3/4" (146) | 2-5/8" (67)  | 4" (102)     | 3" (76)      | 2" (51)      |
| ET71-2 | 3/4" NPT   | 1" NPT     | 8-1/2" (216) | 3 (76)       | 5-1/2" (140) | 4-1/4" (108) | 3" (76)      |
| ET71-3 | 1" NPT     | 1-1/4" NPT | 14" (356)    | 5-1/4" (133) | 8-3/4" (222) | 6-1/4" (159) | 5-3/4" (145) |
| ET71-4 | 1-1/4" NPT | 1-1/2" NPT | 14" (356)    | 5-1/4" (133) | 8-3/4" (222) | 6-1/4" (159) | 5-3/4" (146) |



### OPTIONAL CABINET:

#### STYLE

- SMC Surface Mounted Cabinet

#### FINISH

- PRC Prime Coat Finish (16 Gage Mild Steel)
- SSTL Stainless Steel (18 Gage Type 304)

#### DOOR OPTIONS

- DRS Solid Door
- DRV Door Viewport

Must Specify: Hinge Location (N/A ET71-3 & ET71-4)

- L Left
- R Right

|                                 | PRESSURE DROP<br>PSID (kPa) | Cv   | 5<br>(34)       | 10<br>(69)      | 15<br>(103)     | 20<br>(138)     | 30<br>(207)     | 45<br>(310)    | 60<br>(414)     |
|---------------------------------|-----------------------------|------|-----------------|-----------------|-----------------|-----------------|-----------------|----------------|-----------------|
| ET71-1<br>12 GPM<br>(45 LPM)    | FLOW RATE<br>GPM (LPM)      | 1.8  | 4<br>(15.1)     | 5.66<br>(21.4)  | 6.9<br>(26.1)   | 8<br>(30.2)     | 9.8<br>(37.1)   | 12<br>(45.4)   | 13.9<br>(52.6)  |
|                                 | COLD WATER BYPASS ONLY      |      |                 |                 |                 |                 |                 | 6.5<br>(24.5)  |                 |
| ET71-2<br>43 GPM<br>(163 LPM)   | FLOW RATE<br>GPM (LPM)      | 6.4  | 14.3<br>(54.1)  | 20.3<br>(76.8)  | 24.8<br>(93.9)  | 28.7<br>(108.6) | 35.1<br>(132.9) | 43<br>(162.8)  | 49.7<br>(188)   |
|                                 | COLD WATER BYPASS ONLY      |      |                 |                 |                 |                 |                 | 25<br>(94.6)   |                 |
| ET71-3<br>86 GPM<br>(325.5 LPM) | FLOW RATE<br>GPM (LPM)      | 12.8 | 28.7<br>(108.6) | 40.5<br>(153.3) | 49.7<br>(188.1) | 57.3<br>(217)   | 70.2<br>(265.7) | 86<br>(325.5)  | 99.3<br>(375.9) |
|                                 | COLD WATER BYPASS ONLY      |      |                 |                 |                 |                 |                 | 60<br>(227)    |                 |
| ET71-4<br>150 GPM<br>(568 LPM)  | FLOW RATE<br>GPM (LPM)      | 22.4 | 50<br>(189.2)   | 70.7<br>(267.6) | 86.6<br>(327.8) | 100<br>(378.5)  | 110<br>(416.4)  | 150<br>(567.8) | 173<br>(654.8)  |
|                                 | COLD WATER BYPASS ONLY      |      |                 |                 |                 |                 |                 | 80<br>(302.8)  |                 |

# ET71-Series Revised: 10/02/18 ⚠ WARNING: Cancer and Reproductive Harm - www.P65Warnings.ca.gov

Acorn Controls warrants that its products are free from defects in material or workmanship under normal use and service for a period of one year from date of shipment. Acorn's liability under this warranty shall be discharged solely by replacement or repair of defective material, provided Acorn is notified in writing within one year from date of shipment, F.O.B. City of Industry, California.

SELECTION SUMMARY  
& APPROVAL FOR  
MANUFACTURING

Model Number & Options \_\_\_\_\_ Quantity \_\_\_\_\_

Company \_\_\_\_\_

Contact \_\_\_\_\_ Title \_\_\_\_\_

Signature (Approval for Manufacturing) \_\_\_\_\_

Date \_\_\_\_\_

  
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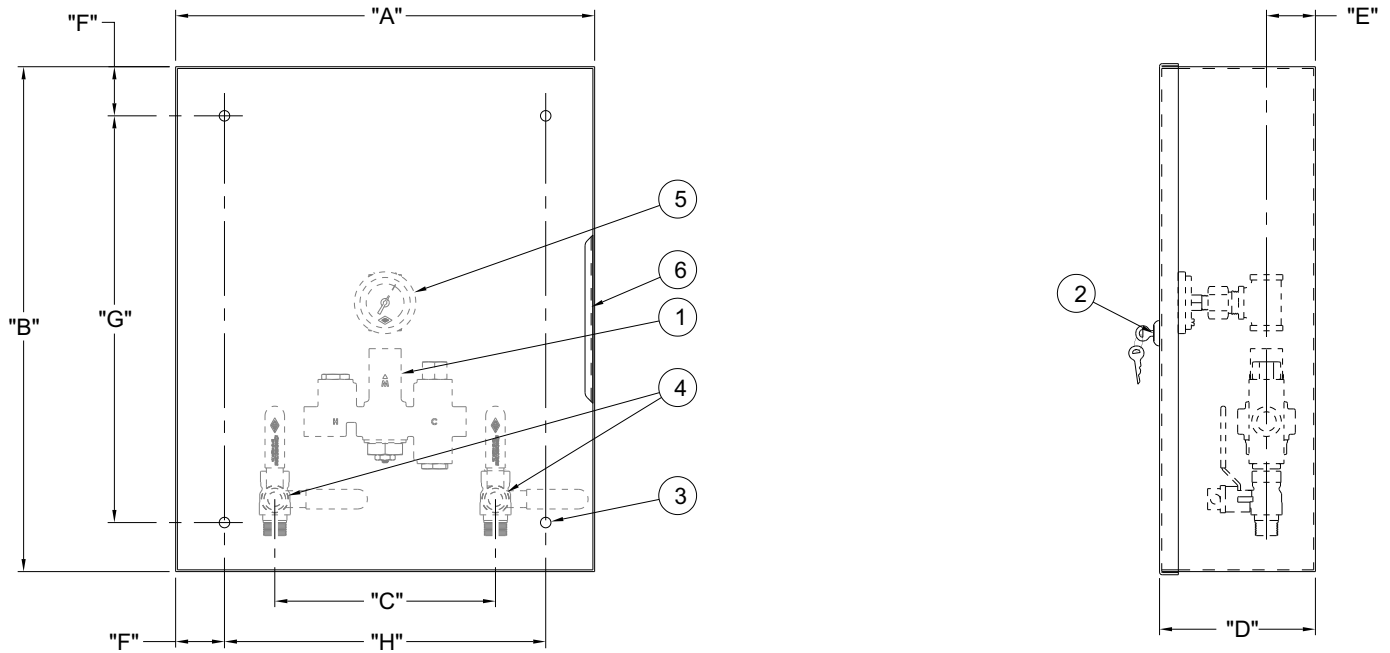
# Model ET71 Series Cabinet

Emergency Fixture Thermostatic Mixing Valve Cabinets



## TECHNICAL DIMENSIONS:

**NOTE:**  
ITEMS ①, ④, AND ⑤ ARE SHOWN FOR REFERENCE ONLY.  
ALL PLUMBING CONNECTIONS ARE PROVIDED BY INSTALLER.



SHOWN LESS DOOR FOR CLARITY

- ① #ET71 SERIES THERMOSTATIC MIXING VALVE
- ② CYLINDER LOCK WITH KEYS
- ③ Ø3/8" MOUNTING HOLES (4) PLACES
- ④ OPTIONAL -BVS BALL VALVE SHUT-OFF
- ⑤ OPTIONAL -OTG OUTLET TEMPERATURE GAUGE
- ⑥ DOOR STOP

|        | INLET      | OUTLET     | "A"           | "B"           | "C"           | "D"          | "E"         | "F"         | "G"           | "H"           |
|--------|------------|------------|---------------|---------------|---------------|--------------|-------------|-------------|---------------|---------------|
| ET71-1 | 1/2" NCT   | 1/2" NCT   | 15" (381)     | 18" (457)     | 7-7/8" (200)  | 5-5/8" (143) | 1-3/4" (45) | 1-3/4" (45) | 14-1/2" (368) | 11-1/2" (292) |
| ET71-2 | 3/4" NCT   | 1" NCT     | 21" (533)     | 22" (559)     | 11" (279)     | 6" (153)     | 2" (51)     | 1-3/4" (45) | 18-1/2" (470) | 17-1/2" (445) |
| ET71-3 | 1" NCT     | 1-1/4" NCT | 28-1/2" (724) | 29-1/2" (749) | 16-7/8" (429) | 7-3/4" (197) | 3-1/4" (83) | 2-1/2" (64) | 24-1/2" (622) | 23-1/2" (597) |
| ET71-4 | 1-1/4" NCT | 1-1/2" NCT | 30-1/2" (775) | 33" (838)     | 17-3/4" (450) | 7-3/4" (197) | 3-1/4" (83) | 2-1/2" (64) | 28" (711)     | 25-1/2" (648) |

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