

# Air-operated unit humidifiers

(physical data, dimensions and capacities)



## With Fan.

For direct discharge into area humidified at steam supply pressures from 2 to 60 psi. Integral air-open spring-close operator opens steam discharge valve on signal from pneumatic hygrostat. Integral air powered fan provides rapid, uniform distribution of moisture. Electric fans are also available.\*

## Without Fan.

For direct discharge into area humidified at steam supply pressures from 2 to 60 psi. Integral air-open spring-close operator opens steam discharge valve on signal from pneumatic hygrostat. Discharge velocity of steam is used for dispersion. Auxiliary air movement is desirable.

Figure 63-1. AMAF humidifiers with air powered fans

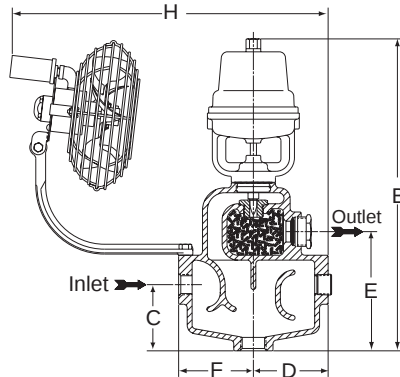


Figure 63-2. AM humidifiers

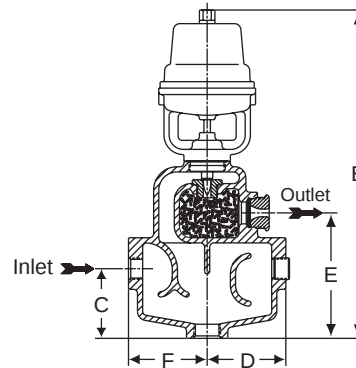


Table 63-1. Dimensions

| Model No. | B       | C      | D        | E       | F        | H        |
|-----------|---------|--------|----------|---------|----------|----------|
| AMAF-91A  | 16"     | 3-3/8" | 3-1/16"  | 6-1/16" | 3-13/16" | 14-9/16" |
| AMAF-92A  | 16"     | 3-3/8" | 3-13/16" | 6-1/16" | 3-13/16" | 15-5/16" |
| AMAF-93A  | 19-1/8" | 4-5/8" | 4-3/4"   | 9"      | 4-3/4"   | 17-3/4"  |

\*AMEF models have same dimensions except "H."  
For Sizes 91 & 92, H = 15-3/4"; for Size 93, H = 18-1/4".

Table 63-2. Dimensions

| Model No. | B       | C      | D        | E       | F        |
|-----------|---------|--------|----------|---------|----------|
| AM-91A    | 16"     | 3-3/8" | 3-1/16"  | 6-1/16" | 3-13/16" |
| AM-92A    | 16"     | 3-3/8" | 3-13/16" | 6-1/16" | 3-13/16" |
| AM-93A    | 19-1/8" | 4-5/8" | 4-3/4"   | 9"      | 4-3/4"   |

All AM sizes are available with electric fans identical to those furnished with FSA models. These humidifiers are designated as AMEF models.

Table 63-3. Physical Data, Armstrong Air-operated Humidifiers

| Model Number                  | AM-91A | AMAF-91A | AM-92A | AMAF-92A | AM-93A | AMAF-93A |
|-------------------------------|--------|----------|--------|----------|--------|----------|
| Air Pressure Max. (psig)      | 20     | 20       | 20     | 20       | 20     | 20       |
| Air Required for Fan @ 20 psi | --     | 2 CFM    | --     | 2 CFM    | --     | 2 CFM    |
| Drain Connection              | 1"     | 1"       | 1"     | 1"       | 1-1/4" | 1-1/4"   |
| Drain Trap No. (3/4" NPT)     | 800    | 800      | 800    | 800      | 811    | 811      |
| Shipping Weight (lbs.)        | 32     | 38       | 38     | 44       | 60     | 66       |
| Steam Inlet & Strainer        | 3/4"   | 3/4"     | 3/4"   | 3/4"     | 1-1/4" | 1-1/4"   |

Table 63-4. Capacities, Armstrong Air-operated Humidifiers

|                                                                                                          |              | AM-91A, AMAF-91A |       |       |       |       |      | AM-92A, AMAF-92A |      |       |      |      | AM-93A, AMAF-93A |        |       |      |
|----------------------------------------------------------------------------------------------------------|--------------|------------------|-------|-------|-------|-------|------|------------------|------|-------|------|------|------------------|--------|-------|------|
| Continuous discharge capacities in lbs. of steam per hour at steam pressure indicated at the humidifier. | Orifice Size | 1/16"            | 3/32" | 5/32" | 7/32" | 9/32" | 3/8" | 3/16"            | 1/4" | 5/16" | 3/8" | 1/2" | 13/32"           | 15/32" | 9/16" | 3/4" |
|                                                                                                          | 2            | 1.3              | 3.0   | 8     | 16    | 26    | 42   | 12               | 22   | 33    | 53   | 88   | 70               | 83     | 103   | 136  |
|                                                                                                          | 4            | 2.0              | 4.6   | 12    | 25    | 38    | 56   | 18               | 33   | 51    | 65   | 100  | 100              | 130    | 159   | 220  |
|                                                                                                          | 6            | 2.6              | 5.8   | 16    | 32    | 47    | 70   | 23               | 42   | 65    | 84   | 112  | 121              | 150    | 196   | 270  |
|                                                                                                          | 8            | 3.0              | 6.8   | 19    | 37    | 54    | —    | 27               | 49   | 77    | 99   | 133  | 139              | 167    | 215   | —    |
|                                                                                                          | 10           | 3.4              | 7.8   | 21    | 42    | 61    | —    | 31               | 55   | 87    | 115  | 150  | 153              | 193    | 258   | —    |
|                                                                                                          | 12           | 3.8              | 8.6   | 23    | 47    | 67    | —    | 35               | 62   | 97    | 123  | 166  | 169              | 211    | 271   | —    |
|                                                                                                          | 15           | 4.4              | 9.6   | 27    | 53    | 75    | —    | 40               | 69   | 108   | 138  | 194  | 185              | 238    | 291   | —    |
|                                                                                                          | 20           | 5.6              | 11.9  | 31    | 62    | —     | —    | 47               | 82   | 127   | 162  | —    | 212              | 282    | —     | —    |
|                                                                                                          | 25           | 6.5              | 13.4  | 36    | 70    | —     | —    | 52               | 91   | 144   | —    | —    | 246              | —      | —     | —    |
|                                                                                                          | 30           | 7.7              | 14.3  | 40    | 84    | —     | —    | 59               | 102  | 159   | —    | —    | 270              | —      | —     | —    |
|                                                                                                          | 35           | 8.4              | 17.2  | 44    | —     | —     | —    | 65               | 115  | 172   | —    | —    | 297              | —      | —     | —    |
|                                                                                                          | 40           | 9.2              | 19.2  | 48    | —     | —     | —    | 70               | 125  | 212   | —    | —    | —                | —      | —     | —    |
|                                                                                                          | 50           | 11.0             | 22.8  | 56    | —     | —     | —    | 83               | 150  | —     | —    | —    | —                | —      | —     | —    |
|                                                                                                          | 60           | 12.3             | 24.4  | 65    | —     | —     | —    | 93               | 170  | —     | —    | —    | —                | —      | —     | —    |

Metric Conversion: lb/hr x .4536 = kg/hr; psig x 6.89 = kPa

**All dimensions and weights are approximate. Use certified print for exact dimensions. Design and materials are subject to change without notice.**



# Air-operated unit humidifiers

(physical data, dimensions and capacities)

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## Standard Package.

The complete "package" includes the following:

1. Humidifier with integral operator.
2. Fan and motor for AMAF and AMEF models.
3. "Y" type strainer.
4. Armstrong inverted bucket steam trap.

## Options.

1. Temperature switch to prevent spitting during warm-up.
2. Pneumatic humidistat.
3. Filter, air regulator and gauge.

## How To Order.

Specify model number steam pressure and orifice size. Specify electrical specifications for AMEF Models.

## Suggested Specification.

Steam humidifier for pneumatic control: Humidifier shall be of the cast iron steam separator type with full separation ahead of the control valve and with internal drying chamber and steam jacketed outlet to assure discharge of dry steam only.

- A. Humidifier shall receive steam at supply pressure.
- B. Separating chamber shall be drained by an inverted bucket steam trap.
- C. An integral stainless steel steam jacketed control valve shall control flow of steam at supply pressure to the drying chamber. The drying chamber shall be filled with stainless steel silencing material. Vapor shall be discharged from the drying chamber through the steam jacketed outlet at atmospheric pressure to provide relative humidity at the specified level.
- D. A temperature switch shall be employed to prevent humidifier from operating before cold start-up condensate is drained.