

# Electrically-operated On-Off Unit Humidifiers

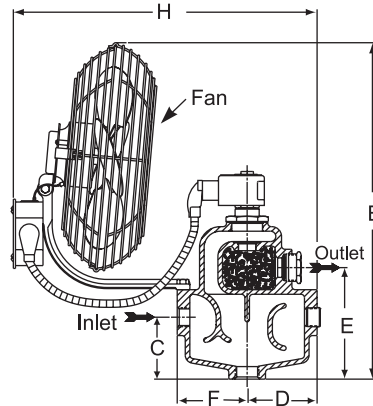
(physical data, dimensions and capacities)



## With Fan.

For direct discharge into atmosphere of area humidified at steam supply pressures from 2 to 60 psi. Solenoid valve turns steam on and off. Integral fan with oilless motor provides rapid, uniform distribution of moisture.

Figure 63-1. FSA humidifiers

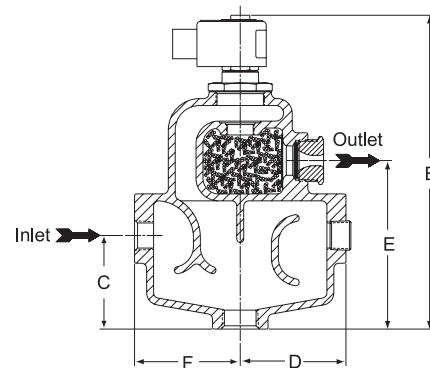


| Table 63-1. Dimensions |          |        |          |         |          |         |
|------------------------|----------|--------|----------|---------|----------|---------|
| Model No.              | B        | C      | D        | E       | F        | H       |
| FSA-91                 | 18-9/16" | 3-3/8" | 3-1/16"  | 6-1/16" | 3-13/16" | 15-3/4" |
| FSA-92                 | 18-9/16" | 3-3/8" | 3-13/16" | 6-1/16" | 3-13/16" | 15-3/4" |
| FSA-93                 | 21"      | 4-5/8" | 4-3/4"   | 9"      | 4-3/4"   | 18-1/4" |

## Without Fan.

For direct discharge into atmosphere of area humidified at steam supply pressures from 2 to 60 psi. Solenoid valve turns steam on and off. Generally used in parallel with unit heaters.

Figure 63-2. VSA humidifiers



| Table 63-2. Dimensions |         |        |          |         |          |
|------------------------|---------|--------|----------|---------|----------|
| Model No.              | B       | C      | D        | E       | F        |
| VSA-91                 | 10-7/8" | 3-3/8" | 3-1/16"  | 6-1/16" | 3-13/16" |
| VSA-92                 | 10-7/8" | 3-3/8" | 3-13/16" | 6-1/16" | 3-13/16" |
| VSA-93                 | 14-1/2" | 4-5/8" | 4-3/4"   | 9"      | 4-3/4"   |

Table 63-3. Physical Data on Armstrong Electrically Operated On-Off Humidifiers

| Model Number                  | FSA-91 | VSA-91 | FSA-92 | VSA-92 | FSA-93 | VSA-93 |
|-------------------------------|--------|--------|--------|--------|--------|--------|
| *Coil (watts) 120V, 50/60 Hz  | 10.5   | 10.5   | 10.5   | 10.5   | 10.5   | 10.5   |
| *Motor (watts) 120V, 50/60 Hz | 6      | none   | 6      | none   | 6      | none   |
| Humidistat (amps at 120V)     | 4.4    | 4.4    | 4.4    | 4.4    | 4.4    | 4.4    |
| Shipping Weight (lbs.)        | 33     | 26     | 40     | 33     | 68     | 61     |
| Steam Inlet & Strainer        | 1/2"   | 1/2"   | 3/4"   | 3/4"   | 1-1/4" | 1-1/4" |
| Drain Connection              | 1"     | 1"     | 1"     | 1"     | 1-1/4" | 1-1/4" |
| Drain Trap No. (3/4" NPT)     | 800    | 800    | 800    | 800    | 811    | 811    |

\*Other voltages available. Consult factory.

Table 63-4. Capacities, Armstrong Electrically Operated On-Off Humidifiers

|                                                                                                          |              | FSA-91, VSA-91, DSA-91 |       |      |       |       |       |       | FSA-92, VSA-92, DSA-92 |       |      |       |      | FSA-93, VSA-93, DSA-93 |      |       |      |
|----------------------------------------------------------------------------------------------------------|--------------|------------------------|-------|------|-------|-------|-------|-------|------------------------|-------|------|-------|------|------------------------|------|-------|------|
| Continuous discharge capacities in lbs. of steam per hour at steam pressure indicated at the humidifier. | Orifice Size | 1/16"                  | 3/32" | 1/8" | 5/32" | 3/16" | 7/32" | 7/32" | 1/4"                   | 5/16" | 3/8" | 7/16" | 1/2" | 5/16"                  | 3/8" | 7/16" | 1/2" |
|                                                                                                          | 2            | 1.3                    | 3.0   | 5    | 8     | 12    | 16    | 16    | 22                     | 33    | 53   | 74    | 88   | 45                     | 50   | 77    | 99   |
|                                                                                                          | 4            | 2.0                    | 4.6   | 8    | 12    | 18    | 25    | 25    | 33                     | 51    | 65   | 90    | 100  | 65                     | 85   | 108   | 145  |
|                                                                                                          | 6            | 2.6                    | 5.8   | 10   | 16    | 23    | 32    | 32    | 42                     | 65    | 84   | 108   | 112  | 80                     | 105  | 129   | 172  |
|                                                                                                          | 8            | 3.0                    | 6.8   | 12   | 19    | 27    | 37    | 37    | 49                     | 77    | 99   | 123   | 133  | 88                     | 117  | 146   | 198  |
|                                                                                                          | 10           | 3.4                    | 7.8   | 14   | 21    | 31    | 42    | 42    | 55                     | 87    | 115  | 136   | 150  | 96                     | 130  | 169   | 217  |
|                                                                                                          | 12           | 3.8                    | 8.6   | 15   | 23    | 34    | 47    | 47    | 62                     | 97    | 123  | 150   | 166  | 105                    | 142  | 189   | —    |
|                                                                                                          | 15           | 4.4                    | 9.6   | 18   | 27    | 40    | 53    | 53    | 69                     | 108   | 138  | 170   | —    | 117                    | 160  | 213   | —    |
|                                                                                                          | 20           | 5.6                    | 11.9  | 23   | 31    | 47    | 62    | 62    | 82                     | 127   | 162  | —     | —    | 136                    | 186  | 246   | —    |
|                                                                                                          | 25           | 6.5                    | 13.4  | 25   | 36    | 52    | 70    | 70    | 91                     | 144   | —    | —     | —    | 155                    | 212  | 286   | —    |
|                                                                                                          | 30           | 7.7                    | 14.3  | 28   | 40    | 59    | 78    | 84    | 102                    | 159   | —    | —     | —    | 174                    | 237  | —     | —    |
|                                                                                                          | 35           | 8.4                    | 17.2  | 30   | 44    | 65    | —     | 90    | 115                    | 172   | —    | —     | —    | 190                    | 262  | —     | —    |
|                                                                                                          | 40           | 9.2                    | 19.2  | 33   | 48    | 70    | —     | 98    | 125                    | —     | —    | —     | —    | 208                    | 285  | —     | —    |
|                                                                                                          | 50           | 11.0                   | 22.8  | 37   | 56    | 83    | —     | 113   | 150                    | —     | —    | —     | —    | 240                    | —    | —     | —    |
|                                                                                                          | 60           | 12.3                   | 24.4  | 44   | 65    | —     | —     | —     | —                      | —     | —    | —     | —    | 270                    | —    | —     | —    |

Designs, materials, weights and performance ratings are approximate and subject to change without notice. Visit [armstronginternational.com](http://armstronginternational.com) for up-to-date information.

## Standard Package.

The complete “package” includes the following:

1. Humidifier with solenoid valve.
2. Fan and motor for FSA Models.
3. Standard open contact humidistat.
4. “Y” type strainer.
5. Armstrong inverted bucket trap.
6. Temperature switch to prevent “spitting” during warm-up.

## How To Order.

Specify model number, electrical characteristics, steam pressure, and orifice size.

## Suggested Specification.

Steam humidifier for electric control: Humidifier shall be of the 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 solenoid 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.