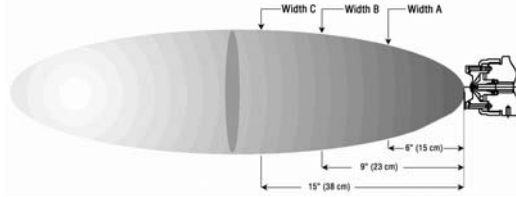


SAM

External Mix/Flat Fan or Narrow Round

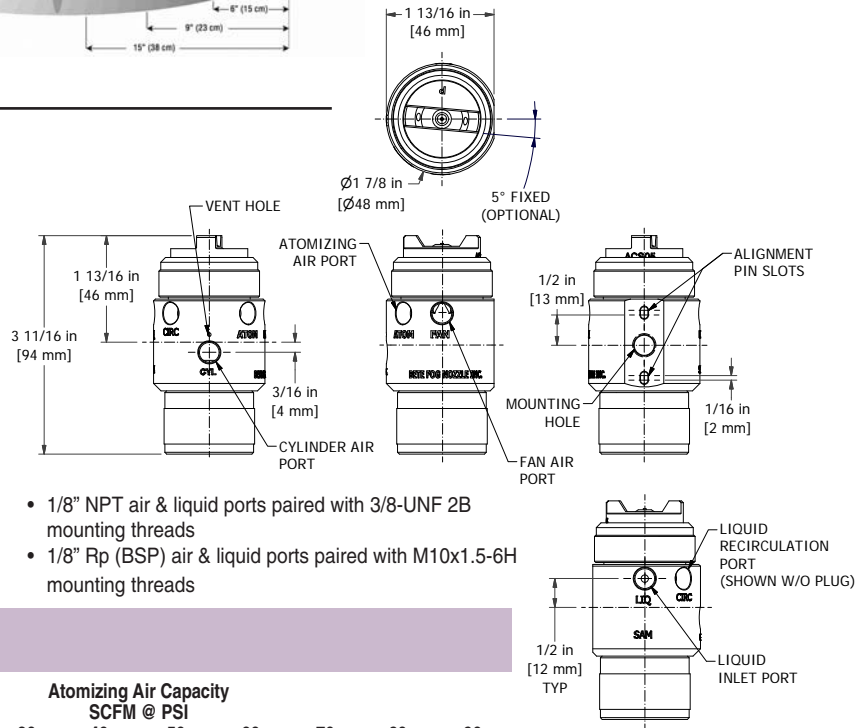
DESIGN FEATURES

- Separate atomizing and fan air lines provide variable coverage and fine control of drop size without affecting liquid flow rates. Higher atomizing air pressure yields finer drop size; higher fan air pressure yields broader patterns
- Pneumatically-controlled shut-off and clean-out built in
- External mix; allows spraying of viscous materials
- Liquid flow rates are independent of air
- Precise metering of the liquid flow rate
- Removable plug provided for liquid recirculation port



SAM Liquid Flow Rates

| Pipe Size | Spray Set-up Number | Fluid Cap and Air Cap Number | Liquid Capacity GPH @ PSI | | | | |
|-----------|---------------------|------------------------------|---------------------------|-------|--------|--------|--------|
| | | | 3 PSI | 5 PSI | 10 PSI | 15 PSI | 20 PSI |
| 1/8 | SAM-01-02 | FCS 01 & ACS 02 | 0.70 | 1.00 | 1.40 | 1.70 | 1.90 |
| | SAM-02-02 | FCS 02 & ACS 02 | 1.10 | 1.50 | 2.10 | 2.50 | 2.90 |
| | SAM-03-02 | FCS 03 & ACT 02 | 2.20 | 2.80 | 4.00 | 4.90 | 5.60 |
| | SAM-04-03 | FCS 04 & ACS 03 | 3.60 | 4.70 | 6.60 | 8.00 | 9.40 |
| | SAM-05-03 | FCS 05 & ACS 03 | 4.90 | 6.40 | 9.00 | 11.0 | 12.8 |
| | SAM-06-04 | FCS 06 & ACS 04 | 10.0 | 13.0 | 18.4 | 23.0 | 26.0 |
| | SAM-07-05 | FCS 07 & ACS 05 | 18.3 | 24.0 | 33.0 | 41.0 | 47.0 |



- 1/8" NPT air & liquid ports paired with 3/8-UNF 2B mounting threads
- 1/8" Rp (BSP) air & liquid ports paired with M10x1.5-6H mounting threads

SAM Air Flow Rates

| Pipe Size | Spray Set-up Number | Fluid Cap and Air Cap Number | Atomizing Air Capacity SCFM @ PSI | | | | | | | | | |
|-----------|---------------------|------------------------------|-----------------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| | | | 10 PSI | 15 PSI | 20 PSI | 30 PSI | 40 PSI | 50 PSI | 60 PSI | 70 PSI | 80 PSI | 90 PSI |
| 1/8 | SAM-01-02 | FCS 01 & ACS 02 | 0.44 | 0.53 | 0.62 | 0.82 | 1.00 | 1.30 | 1.50 | 1.70 | 2.00 | 2.20 |
| | SAM-02-02 | FCS 02 & ACS 02 | | | | | | | | | | |
| | SAM-03-02 | FCS 03 & ACS 02 | | | | | | | | | | |
| | SAM-04-03 | FCS 04 & ACS 03 | 1.60 | 2.00 | 2.40 | 3.20 | 4.00 | 4.70 | 5.50 | 6.30 | 7.00 | 7.80 |
| | SAM-05-03 | FCS 05 & ACS 03 | 1.60 | 2.00 | 2.40 | 3.10 | 3.90 | 4.70 | 5.40 | 6.20 | 7.00 | 7.80 |
| | SAM-06-04 | FCS 06 & ACS 04 | | | | | | | | | | |
| | SAM-07-05 | FCS 07 & ACS 05 | 1.80 | 2.20 | 2.60 | 3.60 | 4.40 | 5.30 | 6.20 | 7.00 | 7.80 | 8.60 |

| Pipe Size | Spray Set-up Number | Fluid Cap and Air Cap Number | Fan Air Capacity SCFM @ PSI | | | | | | | | | |
|-----------|---------------------|------------------------------|-----------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| | | | 10 PSI | 15 PSI | 20 PSI | 30 PSI | 40 PSI | 50 PSI | 60 PSI | 70 PSI | 80 PSI | 90 PSI |
| 1/8 | SAM-01-02 | FCS 01 & ACS 02 | 2.20 | 2.70 | 3.30 | 4.40 | 5.50 | 6.60 | 7.60 | 8.60 | 9.60 | 10.6 |
| | SAM-02-02 | FCS 02 & ACS 02 | | | | | | | | | | |
| | SAM-03-02 | FCS 03 & ACS 02 | | | | | | | | | | |
| | SAM-04-03 | FCS 04 & ACS 03 | 3.50 | 4.40 | 5.40 | 7.20 | 8.90 | 10.6 | 12.3 | 14.0 | 15.5 | 17.2 |
| | SAM-05-03 | FCS 05 & ACS 03 | 3.90 | 4.90 | 6.00 | 8.10 | 10.2 | 12.3 | 14.3 | 16.3 | 18.2 | 20.0 |
| | SAM-06-04 | FCS 06 & ACS 04 | | | | | | | | | | |
| | SAM-07-05 | FCS 07 & ACS 05 | 3.90 | 4.80 | 5.80 | 7.80 | 9.80 | 11.7 | 13.6 | 15.4 | 17.2 | 18.8 |

Standard Materials: 303 Stainless Steel, Blue-Gard® Gasket, Viton® O-rings

Note: Spray set-ups consist of fluid and air caps. Set-ups are interchangeable but each clean-out/shut-off needle uses a different needle size.

Pneumatically-Controlled Clean-out/Shut-off. Removal of air pressure to the cylinder causes a spring loaded poppet valve actuator to shut off liquid flow and extends a clean-out needle through the nozzle orifice.

Replacement air caps include replacement Blue-Gard® gaskets.

Spray angle performance varies with pressure. Contact BETE for specific data on critical applications.

Dimensions are approximate. Check with BETE for critical dimension applications.

SAM Coverage Chart

Variable Spray, Pressure Fed, Flat Fan or *Narrow Round Spray Pattern

| Pipe Size | Spray Set-up Number | Fluid Cap and Air Cap Number | Spray Dimensions with Varied Fan Air Pressure | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|-----------|---------------------|------------------------------|---|-----------------|-----------|-----------------|-------|--------|-------|-------|--------|-------|-------|--------|-------|-------|----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|----|----|----|----|-----|----|-----|-----|-----|------|------|------|-----|------|------|------|----|----|----|
| | | | PSI air | PSI liquid | 0° PSI | | | 10 PSI | | | 40 PSI | | | 60 PSI | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | A in. | B in. | C in. | A in. | B in. | C in. | A in. | B in. | C in. | A in. | B in. | C in. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1/8 | SAM-01-02 | FCS 01 & ACS 02 | 10 | 3 | 2 | 3 | 4 | 7 | 9 | 10 | 6 | 8 | 11 | 6 | 8 | 11 | 10 | 10 | 2.5 | 3.5 | 4.5 | 7.5 | 10 | 12 | 7 | 8 | 11 | 7 | 8 | 12 | 20 | 2 | 3 | 4 | 8 | 12 | 14 | 9 | 11 | 14 | 8 | 10 | 13 | | | | |
| | | | 30 | 3 | 2 | 3 | 4.5 | 5 | 6 | 7 | 8 | 10 | 14 | 8 | 11 | 14 | 10 | 2 | 2.5 | 3.5 | 5 | 6 | 7.5 | 10 | 8 | 10 | 13 | 8 | 10 | 12 | 20 | 2 | 3 | 4 | 7 | 9 | 13 | 10 | 12 | 15 | 9.5 | 11.5 | 14.5 | | | | |
| | | | 40 | 3 | 2.5 | 3.5 | 6 | 5 | 6 | 8 | 8 | 10 | 14 | 9 | 11 | 14 | 10 | 2 | 3 | 5 | 6 | 7 | 10 | 9 | 11 | 14 | 9 | 11 | 13 | 20 | 2 | 3 | 4.5 | 7 | 8 | 12 | 10 | 12 | 14 | 10 | 12 | 15 | | | | | |
| | | | 60 | 3 | 2.5 | 3.5 | 6 | 4 | 5 | 6 | 8 | 11 | 13 | 9 | 11 | 14 | 10 | 2 | 3 | 5 | 4.5 | 5 | 7 | 8 | 10 | 14 | 9 | 12 | 15 | 20 | 2 | 3 | 4.5 | 5 | 7 | 9 | 9 | 12 | 16 | 10 | 13 | 17 | | | | | |
| | | | SAM-02-02 | FCS 02 & ACS 02 | 10 | 3 | 2 | 3 | 4 | 8 | 10 | 12 | 6.5 | 8.5 | 11 | 6 | 9 | 12 | 10 | 10 | 2.5 | 3.5 | 4.5 | 8 | 12 | 15 | 9 | 14 | 18 | 7 | 10 | 13 | 20 | 2 | 3 | 4 | 8 | 12 | 15 | 8 | 10 | 13 | | | | | |
| | | | | | 30 | 3 | 2 | 3 | 4.5 | 5.5 | 7 | 8 | 8 | 10 | 14 | 8 | 11 | 14 | 10 | 2 | 3 | 5 | 7 | 9 | 12 | 10 | 12 | 14 | 9 | 10 | 13 | 20 | 2 | 3 | 4 | 7 | 10 | 12 | 13 | 16 | 18 | 9.5 | 11.5 | 14.5 | | | |
| | | | | | 40 | 3 | 2.5 | 3.5 | 6 | 5 | 7 | 9 | 8 | 10 | 14 | 9 | 11 | 14 | 10 | 2 | 3 | 5 | 7 | 8 | 6.5 | 9.5 | 12 | 14 | 9 | 12 | 15 | 20 | 2 | 3 | 4.5 | 6.5 | 9 | 12.5 | 11.5 | 15 | 17 | 11 | 14 | 18 | | | |
| | | | | | 60 | 3 | 2.5 | 3.5 | 6 | 4.5 | 5.5 | 7 | 8 | 10.5 | 13 | 9 | 11 | 14 | 10 | 2.5 | 4 | 5.5 | 5 | 6 | 8.5 | 9 | 11 | 14 | 10 | 12 | 15 | 20 | 2 | 3 | 4.5 | 5.5 | 7.5 | 9.5 | 10 | 14 | 18 | 11 | 14 | 18 | | | |
| | | | | | SAM-03-02 | FCS 03 & ACS 02 | 10 | 3 | 2 | 3 | 5 | 9 | 12 | 15 | 7 | 9 | 11 | 7 | 9 | 12 | 10 | 10 | 2 | 2.5 | 4 | 12 | 15 | 21 | 12 | 20 | 23 | 7 | 9 | 12 | 20 | 2 | 3 | 4 | 10 | 12 | 16 | 8 | 10 | 13 | | | |
| | | | | | | | 30 | 3 | 2.5 | 3 | 4.5 | 6 | 8 | 9 | 8 | 10 | 13 | 8 | 10 | 13 | 10 | 2 | 3 | 5 | 8 | 11 | 15 | 11 | 13 | 13 | 10 | 11 | 13 | 20 | 2 | 2.5 | 4 | 8 | 12 | 14 | 16 | 20 | 22 | | | | |
| | | | | | | | 40 | 3 | 2.5 | 3.5 | 5 | 5 | 7 | 10 | 8 | 10 | 13 | 8 | 11 | 13 | 10 | 2 | 3 | 5 | 7 | 8 | 11 | 11 | 13 | 15 | 10 | 12 | 13 | 20 | 2 | 3 | 5 | 7 | 9 | 13.5 | 13 | 18 | 21 | 12 | 17 | 21 | |
| | | | | | | | 60 | 3 | 2.5 | 3.5 | 5.5 | 5 | 6 | 8 | 8 | 10 | 13 | 8 | 10 | 13 | 10 | 2.5 | 3.5 | 5.5 | 6 | 7 | 9.5 | 10 | 13 | 16 | 11 | 13 | 15 | 20 | 2 | 3 | 4.5 | 6 | 8 | 10 | 12 | 18 | 22 | 13 | 18 | 21 | |
| | SAM-04-03 | FCS 04 & ACS 03 | | | | | 10 | 3 | 2.5 | 3.5 | 5 | 9 | 13 | 17 | | | | | | | 10 | 10 | 2 | 3 | 4.5 | 10 | 14 | 17 | | | | | | | 20 | 2 | 3 | 4.5 | 9 | 13 | 17 | 18 | 24 | 29 | | | |
| | | | | | | | 30 | 3 | 2.5 | 3 | 5 | 4 | 5 | 7 | 11 | 15 | 18 | 12 | 15 | 18 | 10 | 2.5 | 3.5 | 5 | 5 | 7 | 9 | 13 | 17 | 22 | 18 | 21 | 26 | 20 | 2.5 | 3.5 | 5.5 | 5 | 6 | 9 | 13 | 20 | 24 | 17 | 22 | 27 | |
| | | | | | | | 40 | 3 | 2.5 | 3 | 5 | 3.5 | 4.5 | 6.5 | 9 | 12 | 14 | 11 | 13 | 18 | 10 | 2.5 | 3.5 | 5 | 4 | 5.5 | 8 | 11 | 15 | 21 | 16 | 20 | 25 | 20 | 2.5 | 3.5 | 5 | 4 | 5.5 | 8 | 11 | 15 | 21 | 16 | 20 | 25 | |
| | | | | | | | 60 | 3 | 2.5 | 3.5 | 5 | 3 | 4 | 6 | 8 | 10 | 13 | 10 | 12 | 17 | 10 | 2.5 | 3.5 | 4.5 | 3 | 4 | 6 | 8 | 11 | 14 | 11 | 15 | 18 | 20 | 2.5 | 3.5 | 4.5 | 3 | 4.5 | 7 | 10 | 12 | 16 | 12 | 17 | 22 | |
| | | | SAM-05-03 | FCS 05 & ACS 03 | | | 10 | 3 | 3 | 4 | 6 | 9 | 12 | 18 | | | | | | | 10 | 10 | 3 | 4 | 6 | 8 | 11 | 15 | 24 | 29 | 35 | | | | 20 | 3 | 4 | 6 | 9 | 12 | 15 | 21 | 28 | | | | |
| | | | | | | | 30 | 3 | 2.5 | 3.5 | 6 | 4 | 6 | 8 | 12 | 15 | 19 | 12 | 15 | 19 | 10 | 2.5 | 3.5 | 5 | 4.5 | 6 | 8 | 14 | 18 | 23 | 17 | 22 | 25 | 20 | 2 | 3 | 5 | 4.5 | 6 | 9 | 15 | 19 | 27 | 18 | 23 | 27 | |
| | | | | | | | 40 | 3 | 2.5 | 3.5 | 6 | 3.5 | 5 | 7 | 10 | 13 | 17 | 12 | 14 | 18 | 10 | 2.5 | 3.5 | 5.5 | 4 | 6 | 8 | 12 | 16 | 20 | 15 | 18 | 22 | 20 | 2.5 | 3.5 | 5.5 | 3.5 | 5 | 9 | 13 | 17 | 22 | 16 | 20 | 24 | |
| | | | | | | | 60 | 3 | 2.5 | 3.5 | 6 | 2.5 | 4 | 7 | 9 | 11 | 14 | 10 | 12 | 17 | 10 | 2.5 | 3.5 | 5.5 | 3 | 4 | 6 | 10 | 13 | 16 | 13 | 16 | 20 | 20 | 2.5 | 3.5 | 5.5 | 3 | 4 | 6 | 9 | 13 | 17 | 12 | 17 | 23 | |
| | | | | | SAM-06-04 | FCS 06 & ACS 04 | 10 | 3 | 3 | 4 | 5 | 7 | 10 | 13 | | | | | | | 10 | 10 | 3 | 4 | 5 | 7 | 10 | 13 | 21 | 26 | 33 | | | | 20 | 3 | 4 | 5 | 7 | 10 | 13 | 17 | 22 | 30 | 22 | 27 | 34 |
| | | | | | | | 30 | 3 | 3 | 4 | 5 | 4 | 6 | 8 | 12 | 14 | 21 | 15 | 19 | 22 | 10 | 2.5 | 3.5 | 5 | 4 | 6 | 8.5 | 13 | 16 | 22 | 16 | 21 | 23 | 20 | 3 | 4 | 5 | 4 | 6 | 11 | 16 | 21 | 28 | 18 | 24 | | |
| | | | | | | | 40 | 3 | 3 | 4 | 5.5 | 3.5 | 5 | 7 | 10 | 12 | 17 | 12 | 17 | 21 | 10 | 2.5 | 3.5 | 5 | 3 | 5 | 8 | 9 | 13 | 17 | 13 | 18 | 26 | 20 | 3 | 4 | 5.5 | 3 | 5 | 8 | 9 | 13 | 17 | 13 | 18 | 26 | |
| | | | | | | | 60 | 3 | 3 | 4 | 6 | 3 | 4 | 6 | 8 | 10 | 13 | 10 | 13 | 18 | 10 | 3 | 4 | 5 | 3.5 | 4.5 | 7 | 9 | 12 | 16 | 12 | 16 | 21 | 20 | 3 | 3.5 | 5 | 3 | 4 | 5.5 | 8 | 10 | 15 | 12 | 16 | 21 | |
| | SAM-07-05 | FCS 07 & ACS 05 | | | | | 10 | 3 | 3 | 4 | 5 | 8 | 11 | 15 | | | | | | | 10 | 10 | 3 | 4 | 5 | 8 | 11 | 15 | 21 | 27 | 35 | | | | 20 | 3 | 4 | 5 | 8 | 11 | 15 | 19 | 24 | 33 | | | |
| | | | | | | | 30 | 3 | 3 | 4 | 5 | 5 | 6.5 | 9 | 13 | 18 | 23 | | | | 10 | 3 | 4 | 5 | 5 | 6 | 7 | 10 | 13 | 17 | 22 | 17 | 25 | 27 | 20 | 3 | 4 | 5 | 6 | 7 | 10 | 14 | 17 | 24 | 18 | 22 | 29 |
| | | | | | | | 40 | 3 | 3 | 4 | 5.5 | 5.5 | 6 | 9 | 11 | 15 | 19 | | | | 10 | 3 | 4 | 5.5 | 4.5 | 7 | 7.5 | 12 | 15 | 20 | 16 | 20 | 29 | 20 | 3 | 4 | 5.5 | 5.5 | 6 | 9 | 12 | 14 | 21 | 14 | 19 | 27 | |
| | | | | | | | 60 | 3 | 3 | 4 | 6 | 4 | 6 | 8 | 9 | 12 | 16 | | | | 10 | 3 | 4 | 6 | 4 | 6 | 8 | 9 | 12 | 16 | 14 | 17 | 21 | 20 | 3 | 4 | 6.5 | 5 | 6.5 | 7.5 | 10 | 13 | 17 | 13 | 17 | 23 | |

Spray angle performance varies with pressure. Contact BETE for specific data on critical applications.