

## Low Frequency

# Hospital/Clean Room Attenuator - Model **ALSPC**

|           |                 |                 |               | Dynamic Insertion Loss (dB)<br>Octave Band/Center Frequency (Hz) |          |          |          |         |         |         |         |
|-----------|-----------------|-----------------|---------------|--|----------|----------|----------|---------|---------|---------|---------|
| Model     | Flow            | Velocity<br>fpm | Press<br>Drop | 1<br>63  | 2<br>125 | 3<br>250 | 4<br>500 | 5<br>1K | 6<br>2K | 7<br>4K | 8<br>8K |
| ALSPC-36  | Reverse<br>Flow | -1500           | 1.48          | 9  | 12       | 17       | 21       | 27      | 22      | 18      | 8       |
|           |                 | -1000           | 0.66          | 9  | 12       | 17       | 21       | 27      | 22      | 18      | 8       |
|           |                 | -500            | 0.17          | 9  | 12       | 17       | 21       | 26      | 22      | 17      | 7       |
|           | Forward<br>Flow | 0               |               | 8  | 12       | 16       | 20       | 25      | 23      | 17      | 7       |
|           |                 | 500             | 0.17          | 8  | 12       | 16       | 19       | 25      | 24      | 17      | 8       |
|           |                 | 1000            | 0.66          | 8  | 12       | 16       | 19       | 24      | 24      | 16      | 8       |
|           |                 | 1500            | 1.48          | 8  | 12       | 16       | 19       | 24      | 24      | 16      | 8       |
| ALSPC-60  | Reverse<br>Flow | -1500           | 1.62          | 12   | 21       | 24       | 27       | 38      | 28      | 22      | 9       |
|           |                 | -1000           | 0.72          | 12   | 21       | 24       | 27       | 38      | 28      | 22      | 9       |
|           |                 | -500            | 0.18          | 12   | 19       | 23       | 26       | 38      | 29      | 21      | 9       |
|           | Forward<br>Flow | 0               |               | 11   | 18       | 23       | 25       | 37      | 30      | 19      | 8       |
|           |                 | 500             | 0.18          | 11   | 17       | 23       | 24       | 36      | 30      | 19      | 9       |
|           |                 | 1000            | 0.72          | 11   | 17       | 22       | 23       | 35      | 30      | 19      | 9       |
|           |                 | 1500            | 1.62          | 11   | 17       | 22       | 23       | 35      | 30      | 19      | 9       |
| ALSPC-84  | Reverse<br>Flow | -1500           | 2.11          | 16   | 25       | 33       | 37       | 45      | 32      | 26      | 13      |
|           |                 | -1000           | 0.94          | 16   | 25       | 33       | 37       | 45      | 32      | 26      | 13      |
|           |                 | -500            | 0.24          | 15   | 24       | 32       | 36       | 45      | 32      | 25      | 12      |
|           | Forward<br>Flow | 0               |               | 14   | 23       | 31       | 35       | 45      | 33      | 24      | 11      |
|           |                 | 500             | 0.24          | 14   | 22       | 31       | 35       | 43      | 33      | 23      | 12      |
|           |                 | 1000            | 0.94          | 14   | 21       | 30       | 35       | 42      | 34      | 23      | 12      |
|           |                 | 1500            | 2.11          | 14   | 21       | 30       | 35       | 42      | 34      | 23      | 12      |
| ALSPC-120 | Reverse<br>Flow | -1500           | 2.70          | 18   | 30       | 42       | 44       | 47      | 39      | 34      | 16      |
|           |                 | -1000           | 1.20          | 18   | 30       | 42       | 44       | 47      | 39      | 34      | 16      |
|           |                 | -500            | 0.30          | 17   | 29       | 41       | 43       | 47      | 40      | 33      | 15      |
|           | Forward<br>Flow | 0               |               | 16   | 29       | 41       | 43       | 47      | 40      | 33      | 15      |
|           |                 | 500             | 0.30          | 16   | 28       | 40       | 43       | 46      | 40      | 32      | 15      |
|           |                 | 1000            | 1.20          | 15   | 27       | 39       | 43       | 46      | 41      | 31      | 16      |
|           |                 | 1500            | 2.70          | 15   | 27       | 39       | 43       | 46      | 41      | 31      | 16      |

Forward Flow - characteristic of supply or discharge fan systems.  
Reverse Flow - typical of return or intake fan systems.

### Pressure Drop Calculation for Specific Velocity

Actual Velocity (fpm) = CFM x 144 ! [Height (in.) x Width (in.)]

$$\text{Pressure Drop} = \left( \frac{\text{Actual Velocity}}{1500} \right)^2 \times \text{Catalog Pressure Drop @ 1500 fpm}$$

#### Standard Construction

22 gauge galvanized casings  
24 gauge perforated baffles

Acoustic Fill encapsulated in polyethylene to eliminate erosion and absorption of gases

#### Optional Features

Stainless steel or aluminum construction

Computer program available, which provides attenuator performance at actual job conditions.

# Rectangular Attenuators

## Self-noise Power Levels

|       |                 | Self-Noise Power Levels, dB re 10 <sup>-12</sup> Watts<br>Octave Band/Center Frequency (Hz) |          |          |          |         |         |         |         |
|-------|-----------------|---|----------|----------|----------|---------|---------|---------|---------|
| Model | Velocity<br>fpm | 1<br>63   | 2<br>125 | 3<br>250 | 4<br>500 | 5<br>1K | 6<br>2K | 7<br>4K | 8<br>8K |
| ASPC  | 1000            | 63  | 50       | 42       | 41       | 44      | 44      | 38      | 34      |
|       | 1500            | 69  | 58       | 50       | 49       | 50      | 55      | 55      | 52      |
|       | 2000            | 83  | 75       | 60       | 59       | 57      | 61      | 66      | 65      |
| AMPC  | 1000            | 55  | 48       | 37       | 35       | 37      | 35      | 27      | 27      |
|       | 1500            | 61  | 57       | 52       | 49       | 48      | 55      | 55      | 50      |
|       | 2000            | 70  | 63       | 58       | 55       | 53      | 59      | 62      | 58      |
| ALPC  | 1000            | 53  | 42       | 36       | 33       | 35      | 29      | 22      | 27      |
|       | 1500            | 60  | 56       | 51       | 47       | 46      | 53      | 51      | 44      |
|       | 2000            | 67  | 62       | 56       | 55       | 52      | 59      | 59      | 53      |
| ALSPC | 1000            | 56  | 41       | 41       | 47       | 46      | 41      | 30      | 30      |
|       | 1500            | 56  | 47       | 45       | 48       | 53      | 59      | 56      | 48      |
|       | 2000            | 63  | 55       | 49       | 51       | 54      | 63      | 67      | 60      |
| ALMPC | 1000            | 47  | 39       | 37       | 37       | 39      | 39      | 24      | 22      |
|       | 1500            | 50  | 43       | 47       | 48       | 45      | 46      | 36      | 30      |
|       | 2000            | 52  | 49       | 59       | 55       | 52      | 54      | 49      | 40      |
| ALLPC | 1000            | 45  | 37       | 34       | 35       | 36      | 36      | 22      | 20      |
|       | 1500            | 46  | 41       | 40       | 39       | 41      | 44      | 30      | 29      |
|       | 2000            | 47  | 44       | 48       | 47       | 48      | 53      | 45      | 39      |

Area Correction Factors - Listed self-noise power levels are for silencers with a face area of four (4) square feet. For silencers with different face areas, the following values must be added to those in the table.

| Face area (sq. ft.)        | 0.5 | 1  | 2  | 4 | 6 | 8 | 16 | 32 | 64 | 128 |
|----------------------------|-----|----|----|---|---|---|----|----|----|-----|
| PWL Correction Factors, dB | -9  | -6 | -3 | 0 | 2 | 3 | 6  | 9  | 12 | 15  |