



"The ART of Noise Control"

For your local ArtUSA Representative

Call: 1-888-454-6973

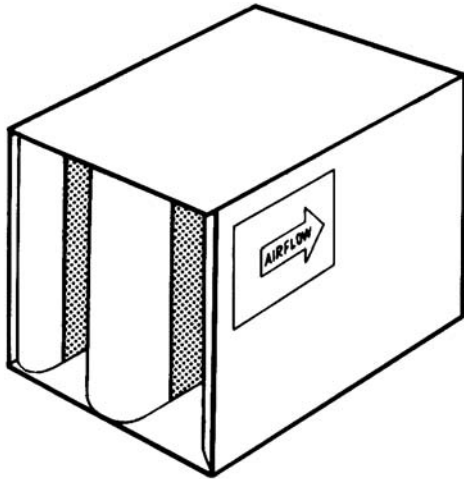
Internet: www.artusaindustries.us

Sound Attenuator

NO. 759-91

SUPERSEDES NO. 759-89

ENGINEERING DATA SHEET



MODEL HP-EE

NEW ENERGY EFFICIENT MODEL

RECTANGULAR

NOMENCLATURE EXAMPLE:

| WIDTH | HEIGHT | LENGTH | MODEL |
|-----------|-----------|----------|--------------|
| 24 | 24 | 3 | HP-EE |

Commercial Acoustics sound attenuators are engineered to achieve a maximum insertion loss with a minimum pressure drop. Commercial Acoustics sound attenuators feature airfoil design for efficient aerodynamic performance, as well as superior acoustical materials and totally galvanized steel construction, guaranteeing excellent reliability and performance.

| MODEL NO. | OCTAVE BANDS | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
|----------------|-----------------------|------------------------------------|-----|-----|-----|------|------|------|------|
| | CENTER FREQUENCY (Hz) | 63 | 125 | 250 | 500 | 1000 | 2000 | 4000 | 8000 |
| | FACE VELOCITY FPM | DYNAMIC INSERTION LOSS IN DECIBELS | | | | | | | |
| 3HP-EE | -1500 | 3 | 10 | 17 | 26 | 26 | 38 | 22 | 12 |
| | -1000 | 3 | 8 | 16 | 24 | 34 | 37 | 22 | 13 |
| | 0 | 3 | 7 | 15 | 23 | 33 | 38 | 26 | 17 |
| | +1000 | 2 | 7 | 14 | 22 | 31 | 38 | 27 | 17 |
| | +1500 | 2 | 6 | 13 | 20 | 29 | 37 | 28 | 19 |
| 5HP-EE | -1500 | 4 | 12 | 32 | 45 | 45 | 38 | 30 | 18 |
| | -1000 | 4 | 12 | 30 | 43 | 46 | 42 | 32 | 17 |
| | 0 | 4 | 9 | 25 | 42 | 53 | 58 | 37 | 21 |
| | +1000 | 4 | 8 | 23 | 40 | 53 | 58 | 39 | 23 |
| | +1500 | 2 | 7 | 21 | 38 | 50 | 46 | 39 | 24 |
| 7HP-EE | -1500 | 5 | 26 | 35 | 33 | 37 | 39 | 26 | 18 |
| | -1000 | 4 | 21 | 34 | 45 | 48 | 44 | 42 | 25 |
| | 0 | 3 | 17 | 31 | 46 | 53 | 59 | 52 | 30 |
| | +1000 | 3 | 15 | 28 | 45 | 54 | 60 | 53 | 33 |
| | +1500 | 3 | 13 | 26 | 44 | 52 | 53 | 47 | 34 |
| 10HP-EE | -1500 | 9 | 31 | 47 | 55 | 56 | 47 | 37 | 30 |
| | -1000 | 8 | 26 | 45 | 56 | 62 | 55 | 54 | 34 |
| | 0 | 7 | 23 | 46 | 54 | 65 | 64 | 57 | 32 |
| | +1000 | 6 | 21 | 45 | 53 | 65 | 65 | 60 | 35 |
| | +1500 | 6 | 20 | 42 | 51 | 61 | 52 | 44 | 38 |

THIS TABLE CONTAINS BOTH FORWARD (+) AND BACKWARD (-) FLOW ACOUSTIC AND AERODYNAMIC RATINGS BASED ON TEST RESULTS MEASURED IN ACCORDANCE WITH ASTM E477. COPIES OF THESE TEST REPORTS CAN BE FURNISHED UPON REQUEST.



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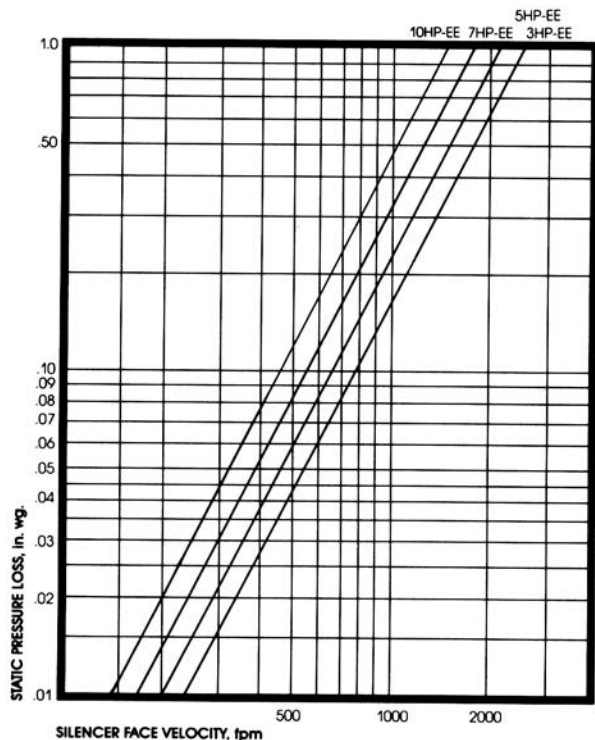
Sound Attenuator

RECTANGULAR
MODEL HP-EE

ENGINEERING DATA SHEET

AIR FLOW RATING FOR THE 12 X 12 SIZE, SHADED, REPRESENTS BOTH CFM AND FACE VELOCITY IN FPM.
USE THIS TO GET THE RATING FOR MULTIPLE MODULE SILENCERS.

| MODEL | 3HP-EE | 0.04 | 0.06 | 0.08 | 0.11 | 0.13 | 0.15 | 0.17 | 0.22 | 0.26 | 0.35 | 0.47 | 0.58 |
|----------------|--------------|-----------------|------------|------------|------------|------------|------------|-------------|-------------|-------------|-------------|-------------|-------------|
| | 5HP-EE | 0.05 | 0.09 | 0.12 | 0.16 | 0.19 | 0.22 | 0.25 | 0.32 | 0.40 | 0.55 | 0.68 | 0.85 |
| 7HP-EE | 0.07 | 0.12 | 0.17 | 0.22 | 0.26 | 0.30 | 0.34 | 0.44 | 0.54 | 0.75 | 1.00 | 1.25 | |
| 10 HP-EE | 0.09 | 0.16 | 0.22 | 0.28 | 0.34 | 0.38 | 0.44 | 0.57 | 0.70 | 0.97 | 1.29 | 1.62 | |
| SIZE W x H | FACE AREA | AIR FLOW IN CFM | | | | | | | | | | | |
| 6 x 12 | 0.50 | 227 | 297 | 354 | 402 | 438 | 465 | 500 | 569 | 630 | 743 | 858 | 959 |
| 6 x 24 | 1.00 | 454 | 594 | 707 | 804 | 875 | 930 | 1000 | 1138 | 1260 | 1485 | 1715 | 1917 |
| 6 x 36 | 1.50 | 681 | 891 | 1061 | 1206 | 1313 | 1395 | 1500 | 1707 | 1890 | 2228 | 2573 | 2876 |
| 12 x 12 | 1.00 | 454 | 594 | 707 | 804 | 875 | 930 | 1000 | 1138 | 1260 | 1485 | 1715 | 1917 |
| 12 x 24 | 2.00 | 908 | 1188 | 1414 | 1608 | 1750 | 1860 | 2000 | 2276 | 2520 | 2970 | 3430 | 3834 |
| 12 x 36 | 3.00 | 1362 | 1782 | 2121 | 2412 | 2625 | 2790 | 3000 | 3414 | 3780 | 4455 | 5145 | 5751 |
| 18 x 12 | 1.50 | 681 | 891 | 1061 | 1206 | 1313 | 1395 | 1500 | 1707 | 1890 | 2228 | 2573 | 2876 |
| 18 x 18 | 2.25 | 1022 | 1337 | 1591 | 1809 | 1969 | 2093 | 2250 | 2561 | 2835 | 3341 | 3859 | 4313 |
| 18 x 30 | 3.75 | 1703 | 2228 | 2651 | 3015 | 3281 | 3488 | 3750 | 4268 | 4725 | 5569 | 6431 | 7189 |
| 18 x 36 | 4.50 | 2043 | 2673 | 3182 | 3618 | 3938 | 4185 | 4500 | 5121 | 5670 | 6683 | 7718 | 8627 |
| 18 x 48 | 6.00 | 2724 | 3564 | 4242 | 4824 | 5250 | 5580 | 6000 | 6828 | 7560 | 8910 | 10290 | 11502 |
| 24 x 24 | 4.00 | 1816 | 2376 | 2828 | 3216 | 3500 | 3720 | 4000 | 4552 | 5040 | 5940 | 6860 | 7668 |
| 24 x 36 | 6.00 | 2724 | 3564 | 4242 | 4824 | 5250 | 5580 | 6000 | 6828 | 7560 | 8910 | 10290 | 11502 |
| 24 x 48 | 8.00 | 3632 | 4752 | 5656 | 6432 | 7000 | 7440 | 8000 | 9104 | 10080 | 11880 | 13720 | 15336 |
| 30 x 24 | 5.00 | 2270 | 2970 | 3535 | 4020 | 4375 | 4650 | 5000 | 5690 | 6300 | 7425 | 8575 | 9585 |
| 30 x 36 | 7.50 | 3405 | 4455 | 5303 | 6030 | 6563 | 6975 | 7500 | 8535 | 9450 | 11138 | 12863 | 14378 |
| 30 x 48 | 10.00 | 4540 | 5940 | 7070 | 8040 | 8750 | 9300 | 10000 | 11380 | 12600 | 14850 | 17150 | 19170 |
| 36 x 36 | 9.00 | 4086 | 5346 | 6363 | 7236 | 7875 | 8370 | 9000 | 10242 | 11340 | 13365 | 15435 | 17253 |
| 36 x 42 | 10.50 | 4767 | 6237 | 7424 | 8442 | 9188 | 9765 | 10500 | 11949 | 13230 | 15593 | 18008 | 20129 |
| 36 x 48 | 12.00 | 5448 | 7128 | 8484 | 9648 | 10500 | 11160 | 12000 | 13656 | 15120 | 17820 | 20580 | 23004 |



Air flow ratings shown include static regain. Therefore if silencers are installed immediately before or after elbows, transitions, at the intake or discharge of the system, or without duct, allowance to compensate for such conditions must be included when calculating the operating pressure loss thru the silencer. Failure to make allowance for these conditions can add several velocity heads to the pressure loss of the system. All acoustic and aerodynamic performance obtained on 24" x 24" cross section production units.

SELF-GENERATED SOUND POWER RATINGS (PWL) dB re 10⁻¹² WATTS

| OCTAVE BAND | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|-------------|---------------|----|-----|-----|-----|------|------|------|------|
| HZ | | 63 | 125 | 250 | 500 | 1000 | 2000 | 4000 | 8000 |
| MODEL | FACE VELOCITY | | | | | | | | |
| 3HP-EE | +2000 | 63 | 59 | 53 | 50 | 47 | 53 | 54 | 54 |
| 5HP-EE | +1000 | 53 | 43 | 37 | 34 | 36 | 34 | 29 | 30 |
| 7HP-EE | -1000 | 53 | 45 | 42 | 44 | 49 | 58 | 53 | 47 |
| 10HP-EE | -2000 | 64 | 57 | 55 | 55 | 57 | 64 | 74 | 68 |

SELF-GENERATED SOUND RATINGS/FACE AREA ADJUSTMENT FACTORS

| FACE AREA | .50 | 1 | 2 | 4 | 8 | 10 | 32 | 64 | 128 |
|---------------------------|-----|----|----|---|----|----|----|-----|-----|
| PWL ADJUSTMENT FACTOR, dB | -9 | -6 | -3 | 0 | +3 | +6 | +9 | +12 | +15 |