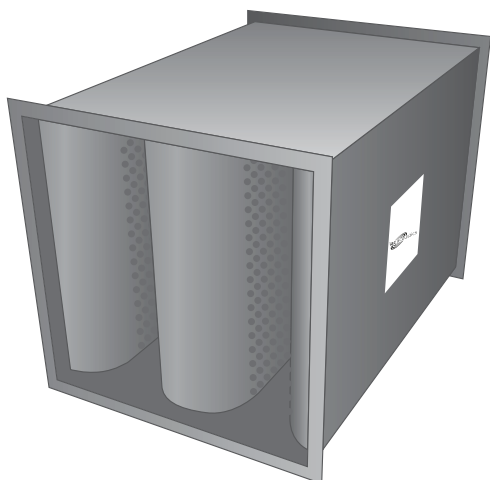


Quiet-Duct® Silencer Type: ML

With Forward and Reverse Flow



Supplied as Standard

- Aerodynamic inlet and discharge to splitter elements to reduce pressure drop and conserve energy
- Perforated galvanised steel facings to all splitter elements to protect acoustic media from damage and erosion

Designating Silencers: Example

Model: 5ML-450-600

| Length | Type | Width | Height |
|--------|------|-------|--------|
| 1500mm | ML | 450mm | 600mm |

Weight

Average weight 85kg/m³

Standard modular widths are multiples of 457mm, other widths are also available.

Self-Noise Power Levels dB re: 10⁻¹² Watts (for a 0.28m² face area silencer)

| IAC ML Model | Octave Band | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|----------------|-----------------------------|----|-----|-----|-----|----|----|----|----|
| | Hz | 63 | 125 | 250 | 500 | 1K | 2K | 4K | 8K |
| | Silencer Face Velocity, m/s | | | | | | | | |
| ML All Lengths | -15 | 64 | 59 | 59 | 63 | 60 | 62 | 63 | 59 |
| | -10 | 56 | 53 | 52 | 53 | 56 | 58 | 52 | 44 |
| | -5 | 42 | 42 | 41 | 38 | 49 | 50 | 37 | 20 |
| | +5 | 39 | 35 | 30 | 27 | 26 | 28 | 28 | 20 |
| | +10 | 58 | 52 | 46 | 43 | 42 | 45 | 45 | 39 |
| | +15 | 71 | 61 | 55 | 53 | 51 | 55 | 56 | 52 |

Face Area Adjustment Factors (add or subtract from Lw values above)

| | | | | | | | | | |
|---|------|------|------|------|------|------|------|------|------|
| Quiet-Duct® Face Area, m ² * | 0.03 | 0.07 | 0.14 | 0.28 | 0.56 | 1.11 | 2.23 | 4.46 | 8.92 |
| Lw Adjustment Factor, dB | -9 | -6 | -3 | 0 | +3 | +6 | +9 | +12 | +15 |

* For intermediate face areas, interpolate to the nearest whole number

Aerodynamic Performance

| IAC Model | Length (mm) | Static Pressure Drop N/m ² | | | | | | | |
|-----------------------------|-------------|---------------------------------------|-----|------|------|------|-------|-------|-------|
| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| ML | 900 | 12 | 17 | 25 | 32 | 40 | 50 | 60 | 70 |
| | 1500 | 15 | 20 | 30 | 37 | 47 | 60 | 70 | 85 |
| | 2100 | 17 | 27 | 35 | 47 | 60 | 72 | 90 | 105 |
| | 3000 | 22 | 32 | 45 | 57 | 72 | 90 | 110 | 130 |
| Silencer Face Velocity, m/s | | 5.08 | 6.1 | 7.11 | 8.13 | 9.14 | 10.16 | 11.18 | 12.19 |

Dynamic Insertion Loss (DIL) Ratings: Forward (+) / Reverse (-) Flow

| IAC ML Model (length in mm) | Octave Band | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|-----------------------------|-----------------------------|----------------------------|-----|-----|-----|----|----|----|----|
| | Hz | 63 | 125 | 250 | 500 | 1K | 2K | 4K | 8K |
| | Silencer Face Velocity, m/s | Dynamic Insertion Loss, dB | | | | | | | |
| 3ML (900) | -25 | 4 | 5 | 12 | 20 | 18 | 11 | 7 | 5 |
| | -10 | 3 | 5 | 10 | 19 | 18 | 12 | 8 | 6 |
| | 0 | 3 | 5 | 10 | 19 | 18 | 12 | 9 | 7 |
| | +10 | 3 | 4 | 9 | 18 | 17 | 12 | 9 | 8 |
| | +25 | 2 | 4 | 8 | 16 | 17 | 13 | 10 | 9 |
| 4ML (1200) | -25 | 5 | 7 | 15 | 26 | 25 | 14 | 8 | 6 |
| | -10 | 4 | 7 | 13 | 25 | 25 | 15 | 9 | 7 |
| | 0 | 4 | 7 | 13 | 25 | 25 | 16 | 11 | 8 |
| | +10 | 4 | 6 | 12 | 24 | 24 | 16 | 11 | 9 |
| | +20 | 3 | 5 | 11 | 22 | 23 | 18 | 12 | 10 |
| 5ML (1500) | -25 | 6 | 9 | 18 | 32 | 32 | 17 | 9 | 6 |
| | -10 | 5 | 8 | 16 | 31 | 31 | 17 | 10 | 7 |
| | 0 | 5 | 8 | 15 | 31 | 31 | 19 | 12 | 9 |
| | +10 | 4 | 7 | 14 | 30 | 30 | 20 | 13 | 10 |
| | +20 | 3 | 6 | 14 | 28 | 29 | 22 | 13 | 11 |
| 6ML (1800) | -25 | 6 | 11 | 20 | 37 | 38 | 21 | 12 | 8 |
| | -10 | 6 | 10 | 19 | 36 | 36 | 20 | 13 | 9 |
| | 0 | 6 | 10 | 18 | 35 | 36 | 22 | 14 | 10 |
| | +10 | 5 | 9 | 17 | 34 | 35 | 23 | 15 | 11 |
| | +20 | 4 | 8 | 16 | 32 | 34 | 25 | 15 | 12 |
| 7ML (2100) | -25 | 6 | 12 | 22 | 42 | 43 | 24 | 14 | 10 |
| | -10 | 6 | 11 | 21 | 41 | 40 | 23 | 15 | 10 |
| | 0 | 6 | 11 | 20 | 39 | 40 | 25 | 16 | 11 |
| | +10 | 5 | 10 | 19 | 37 | 39 | 26 | 16 | 12 |
| | +20 | 5 | 9 | 17 | 36 | 38 | 28 | 16 | 12 |
| 8ML (2400) | -25 | 7 | 14 | 24 | 43 | 44 | 27 | 16 | 10 |
| | -10 | 7 | 13 | 23 | 43 | 43 | 26 | 17 | 11 |
| | 0 | 7 | 13 | 22 | 41 | 43 | 28 | 17 | 11 |
| | +10 | 6 | 12 | 21 | 40 | 42 | 29 | 17 | 12 |
| | +20 | 6 | 11 | 19 | 39 | 42 | 31 | 18 | 13 |
| 9ML (2700) | -25 | 8 | 16 | 26 | 45 | 46 | 31 | 17 | 11 |
| | -10 | 7 | 15 | 25 | 45 | 47 | 30 | 18 | 11 |
| | 0 | 7 | 14 | 24 | 44 | 47 | 32 | 19 | 12 |
| | +10 | 6 | 13 | 23 | 42 | 46 | 33 | 19 | 12 |
| | +20 | 6 | 13 | 21 | 41 | 46 | 33 | 19 | 13 |
| 10ML (3000) | -25 | 9 | 18 | 28 | 46 | 47 | 34 | 19 | 11 |
| | -10 | 8 | 17 | 27 | 47 | 50 | 33 | 20 | 12 |
| | 0 | 8 | 16 | 26 | 46 | 50 | 35 | 20 | 12 |
| | +10 | 7 | 15 | 25 | 45 | 49 | 36 | 20 | 12 |
| | +20 | 7 | 15 | 23 | 44 | 50 | 36 | 21 | 14 |

Quiet-Duct® Rectangular ML Silencer

Note

- The tabulated airflow in m/s is based upon tests conducted in the IAC Acoustics R&D Laboratory, in accordance with applicable sections of internationally recognised airflow test codes. These codes require specific lengths of straight duct both upstream and downstream of the test specimen. Non-compliance with these codes can add from ½ to several velocity heads depending on specific conditions. The downstream measurements are made far enough downstream to include static regain. Therefore, if silencers are installed immediately before or after elbows, transitions or at the intake or discharge of a system, sufficient allowance to compensate for these factors must be included when calculating the operating static pressure loss through the silencer. See pages 10 & 11 for further details.
- Silencer Face Area is the cross-sectional area at the silencer entrance or exit
- Face velocity (FV) in m/s is the airflow in m³/s divided by the silencer face area in m²
- Pressure drop (PD) for any face velocity can be calculated from the equation: $PD = (Actual\ FV / Catalogue\ FV)^2 \times (Catalogue\ PD)$