# CERTIFIED PERFORMANCE DATA

VIBRO-ACOUSTICS®
A Swegon Group company

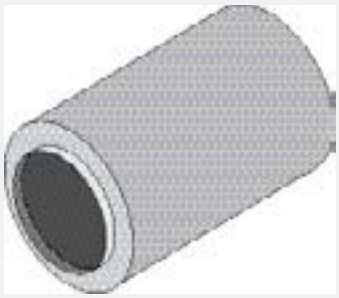
# CMB-LV-F1

Circular MoldBlock
Low velocity silencer
(<1500 fpm)

**How to Specify Example:**

**24** X **CMB-LV-F1** X **72**

- 24 — Duct Connection Size
- CMB-LV-F1 — Silencer Model
- 72 — Silencer Length



## Insertion Loss (IL)

**+ : "forward flow"** where noise & airflow move in same direction (e.g. supply side)

**- : "reverse flow"** where noise & airflow move in opposite directions (e.g. return side)

**DC Size** - Duct Connection Size (in.)

**SL** - Silencer Length (in.)

**FV** - Face Velocity (ft. per min)

**SO Dia.** - Silencer Outer Diameter (in.)

See Silencer Selection Instructions. DIL above 50dB may be limited due to noise flanking around the silencer or along the duct walls. If more than 50dB DIL is required, contact your local Vibro-Acoustics representative or call **1-800-565-8401**.

| DC Size (in.) | SL (in.) | FV (ft. per min) | Octave Band - Hz/Dynamic Insertion Loss (dB) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | 63 | 125 | 250 | 500 | 1000 | 2000 | 4000 | 8000 |
| **12** | 24 | - 1000 | 7 | 11 | 18 | 28 | 39 | 44 | 43 | 31 |
| | | 0 | 7 | 11 | 17 | 27 | 37 | 43 | 43 | 31 |
| | | + 1000 | 7 | 11 | 16 | 26 | 35 | 42 | 43 | 31 |
| **24** | 48 | - 1000 | 7 | 12 | 25 | 34 | 47 | 47 | 35 | 20 |
| | | 0 | 7 | 12 | 24 | 33 | 45 | 46 | 35 | 20 |
| | | + 1000 | 7 | 12 | 23 | 32 | 43 | 45 | 35 | 20 |
| **36** | 72 | - 1000 | 10 | 17 | 30 | 41 | 47 | 39 | 24 | 15 |
| | | 0 | 10 | 17 | 29 | 40 | 45 | 38 | 24 | 15 |
| | | + 1000 | 10 | 17 | 28 | 39 | 43 | 37 | 24 | 15 |
| **48** | 96 | - 1000 | 12 | 21 | 36 | 45 | 45 | 34 | 19 | 14 |
| | | 0 | 12 | 21 | 35 | 44 | 43 | 33 | 19 | 14 |
| | | + 1000 | 12 | 21 | 33 | 43 | 41 | 32 | 19 | 14 |
| **60** | 120 | - 1000 | 13 | 23 | 37 | 46 | 43 | 30 | 17 | 13 |
| | | 0 | 13 | 23 | 36 | 45 | 41 | 29 | 17 | 13 |
| | | + 1000 | 13 | 23 | 35 | 44 | 39 | 28 | 17 | 13 |

| DC Size (in.) | SL (in.) | FV (ft. per min) | Octave Band - Hz/Dynamic Insertion Loss (dB) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | 63 | 125 | 250 | 500 | 1000 | 2000 | 4000 | 8000 |
| **12** | 36 | - 1000 | 8 | 15 | 26 | 41 | 57 | 60 | 60 | 46 |
| | | 0 | 8 | 15 | 25 | 40 | 55 | 60 | 60 | 46 |
| | | + 1000 | 8 | 15 | 24 | 39 | 53 | 60 | 60 | 46 |
| **24** | 72 | - 1000 | 10 | 18 | 38 | 49 | 60 | 60 | 49 | 29 |
| | | 0 | 10 | 18 | 37 | 48 | 60 | 59 | 49 | 29 |
| | | + 1000 | 10 | 18 | 36 | 47 | 59 | 58 | 49 | 29 |
| **36** | 108 | - 1000 | 13 | 24 | 44 | 58 | 60 | 56 | 36 | 23 |
| | | 0 | 13 | 24 | 43 | 57 | 60 | 55 | 36 | 23 |
| | | + 1000 | 13 | 24 | 41 | 56 | 59 | 54 | 36 | 23 |
| **48** | 144 | - 1000 | 18 | 32 | 53 | 60 | 60 | 50 | 29 | 21 |
| | | 0 | 18 | 32 | 52 | 59 | 59 | 49 | 29 | 21 |
| | | + 1000 | 18 | 32 | 51 | 58 | 57 | 48 | 29 | 21 |
| **60** | 180 | - 1000 | 18 | 33 | 55 | 60 | 60 | 44 | 26 | 20 |
| | | 0 | 18 | 33 | 54 | 60 | 59 | 43 | 26 | 20 |
| | | + 1000 | 18 | 33 | 53 | 60 | 57 | 42 | 26 | 20 |

## Pressure Drop (PD)

Pressure drops are reported in accordance with ASTM E477 methods and are based upon **ideal** flow conditions (5 diameters of straight duct on silencer inlet and 10 on outlet). Less than ideal conditions will result in an increase in pressure drop due to System Effects. See Silencer System Effects Data.

☐ Acceptable (0 - 0.35")

▒ Caution (>0.35") Pressure Drop may be too high for certain applications

| DC Size (in.) | SO Dia. (in.) | SL (in.) | Weight (lbs) | Face Velocity (ft. per min)/Pressure Drop (in.w.g.) | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 500 | 1000 | 1500 | 2000 | 2500 | 3000 | 3500 |
| **12** | 28 | 24 | 126 | 0.02 | 0.09 | 0.20 | 0.36 | 0.57 | 0.82 | 1.11 |
| | | 36 | 164 | 0.04 | 0.15 | 0.33 | 0.59 | 0.92 | 1.33 | 1.81 |
| **24** | 40 | 48 | 363 | 0.02 | 0.08 | 0.19 | 0.33 | 0.52 | 0.74 | 1.01 |
| | | 72 | 487 | 0.03 | 0.13 | 0.29 | 0.51 | 0.80 | 1.15 | 1.56 |
| **36** | 52 | 72 | 726 | 0.02 | 0.09 | 0.20 | 0.36 | 0.57 | 0.82 | 1.11 |
| | | 108 | 995 | 0.03 | 0.12 | 0.27 | 0.48 | 0.74 | 1.07 | 1.46 |
| **48** | 64 | 96 | 1233 | 0.02 | 0.08 | 0.19 | 0.33 | 0.52 | 0.74 | 1.01 |
| | | 144 | 1689 | 0.03 | 0.10 | 0.23 | 0.42 | 0.65 | 0.94 | 1.28 |
| **60** | 76 | 120 | 1890 | 0.02 | 0.08 | 0.19 | 0.33 | 0.52 | 0.74 | 1.01 |
| | | 180 | 2599 | 0.03 | 0.10 | 0.23 | 0.40 | 0.63 | 0.90 | 1.23 |

## Generated Noise (GN)

**@ 3 sq.ft. face area**

| Length (in.) | Face Velocity (ft. per min) | Octave Band - Hz/Generated Noise (dB re $10^{-12}$ watts) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | 63 | 125 | 250 | 500 | 1000 | 2000 | 4000 | 8000 |
| **All** | - 1500 | 59 | 52 | 44 | 43 | 45 | 47 | 44 | 42 |
| | - 1000 | 54 | 47 | 39 | 38 | 40 | 42 | 39 | 37 |
| | + 1000 | 53 | 46 | 39 | 37 | 37 | 39 | 37 | 35 |
| | + 1500 | 58 | 51 | 44 | 42 | 42 | 44 | 42 | 40 |

GN correction chart at right must be used to correct GN to other face areas. →

| Face Area (sq.ft.) | 1.5 | 3 | 6 | 12 | 24 | 48 |
|---|---|---|---|---|---|---|
| dB | -3 | 0 | +3 | +6 | +9 | +12 |

# CERTIFIED PERFORMANCE DATA

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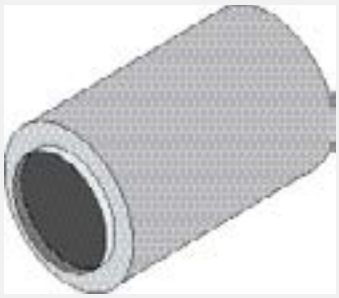
# CMB-LV-F2

Circular MoldBlock
Low velocity silencer
(<1500 fpm)

**How to Specify Example:**

**24** X **CMB-LV-F2** X **72**

- **24**: Duct Connection Size
- **CMB-LV-F2**: Silencer Model
- **72**: Silencer Length



## Insertion Loss (IL)

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**- : "reverse flow"** where noise & airflow move in opposite directions (e.g. return side)

**DC Size** - Duct Connection Size (in.)

**SL** - Silencer Length (in.)

**FV** - Face Velocity (ft. per min)

**SO Dia.** - Silencer Outer Diameter (in.)

See Silencer Selection Instructions. DIL above 50dB may be limited due to noise flanking around the silencer or along the duct walls. If more than 50dB DIL is required, contact your local Vibro-Acoustics representative or call **1-800-565-8401**.

| DC Size (in.) | SL (in.) | FV (ft. per min) | Octave Band - Hz/Dynamic Insertion Loss (dB) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | 63 | 125 | 250 | 500 | 1000 | 2000 | 4000 | 8000 |
| **12** | 24 | - 1000 | 4 | 7 | 16 | 28 | 39 | 44 | 43 | 31 |
| | | + 1000 | 4 | 7 | 14 | 26 | 35 | 42 | 43 | 31 |
| **24** | 48 | - 1000 | 4 | 8 | 22 | 34 | 47 | 47 | 35 | 20 |
| | | + 1000 | 4 | 8 | 20 | 32 | 43 | 45 | 35 | 20 |
| **36** | 72 | - 1000 | 6 | 11 | 26 | 41 | 47 | 39 | 24 | 15 |
| | | + 1000 | 6 | 11 | 24 | 39 | 43 | 37 | 24 | 15 |
| **48** | 96 | - 1000 | 7 | 14 | 31 | 45 | 45 | 34 | 19 | 14 |
| | | + 1000 | 7 | 14 | 29 | 43 | 41 | 32 | 19 | 14 |
| **60** | 120 | - 1000 | 8 | 15 | 32 | 46 | 43 | 30 | 17 | 13 |
| | | + 1000 | 8 | 15 | 30 | 44 | 39 | 28 | 17 | 13 |

| DC Size (in.) | SL (in.) | FV (ft. per min) | Octave Band - Hz/Dynamic Insertion Loss (dB) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | 63 | 125 | 250 | 500 | 1000 | 2000 | 4000 | 8000 |
| **12** | 36 | - 1000 | 5 | 10 | 23 | 41 | 57 | 60 | 60 | 46 |
| | | + 1000 | 5 | 10 | 21 | 39 | 53 | 60 | 60 | 46 |
| **24** | 72 | - 1000 | 6 | 12 | 33 | 49 | 60 | 60 | 49 | 29 |
| | | + 1000 | 6 | 12 | 31 | 47 | 59 | 58 | 49 | 29 |
| **36** | 108 | - 1000 | 8 | 16 | 38 | 58 | 60 | 56 | 36 | 23 |
| | | + 1000 | 8 | 16 | 36 | 56 | 59 | 54 | 36 | 23 |
| **48** | 144 | - 1000 | 11 | 21 | 46 | 60 | 60 | 50 | 29 | 21 |
| | | + 1000 | 11 | 21 | 44 | 58 | 57 | 48 | 29 | 21 |
| **60** | 180 | - 1000 | 11 | 22 | 48 | 60 | 60 | 44 | 26 | 20 |
| | | + 1000 | 11 | 22 | 46 | 60 | 57 | 42 | 26 | 20 |

## Pressure Drop (PD)

Pressure drops are reported in accordance with ASTM E477 methods and are based upon **ideal** flow conditions (5 diameters of straight duct on silencer inlet and 10 on outlet). Less than ideal conditions will result in an increase in pressure drop due to System Effects. See Silencer System Effects Data.

☐ Acceptable (0 - 0.35")

▒ Caution (>0.35") Pressure Drop may be too high for certain applications

| DC Size (in.) | SO Dia. (in.) | SL (in.) | Face Velocity (ft. per min) / Pressure Drop (in.w.g.) | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | 500 | 1000 | 1500 | 2000 | 2500 | 3000 | 3500 |
| **12** | 20 | 24 | 0.02 | 0.09 | 0.20 | 0.36 | 0.57 | 0.82 | 1.11 |
| | | 36 | 0.04 | 0.15 | 0.33 | 0.59 | 0.92 | 1.33 | 1.81 |
| **24** | 32 | 48 | 0.02 | 0.08 | 0.19 | 0.33 | 0.52 | 0.74 | 1.01 |
| | | 72 | 0.03 | 0.13 | 0.29 | 0.51 | 0.80 | 1.15 | 1.56 |
| **36** | 44 | 72 | 0.02 | 0.09 | 0.20 | 0.36 | 0.57 | 0.82 | 1.11 |
| | | 108 | 0.03 | 0.12 | 0.27 | 0.48 | 0.74 | 1.07 | 1.46 |
| **48** | 56 | 96 | 0.02 | 0.08 | 0.19 | 0.33 | 0.52 | 0.74 | 1.01 |
| | | 144 | 0.03 | 0.10 | 0.23 | 0.42 | 0.65 | 0.94 | 1.28 |
| **60** | 68 | 120 | 0.02 | 0.08 | 0.19 | 0.33 | 0.52 | 0.74 | 1.01 |
| | | 180 | 0.03 | 0.10 | 0.23 | 0.40 | 0.63 | 0.90 | 1.23 |

## Generated Noise (GN)

**@ 3 sq.ft. face area**

| Length (in.) | Face Velocity (ft. per min) | Octave Band - Hz/Generated Noise (dB re $10^{-12}$ watts) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | 63 | 125 | 250 | 500 | 1000 | 2000 | 4000 | 8000 |
| **All** | - 1500 | 59 | 52 | 44 | 43 | 45 | 47 | 44 | 42 |
| | - 500 | 54 | 47 | 39 | 38 | 40 | 42 | 39 | 37 |
| | + 500 | 53 | 46 | 39 | 37 | 37 | 39 | 37 | 35 |
| | + 750 | 58 | 51 | 44 | 42 | 42 | 44 | 42 | 40 |

GN correction chart at right must be used to correct GN to other face areas. →

| Face Area (sq.ft.) | 1.5 | 3 | 6 | 12 | 24 | 48 |
|---|---|---|---|---|---|---|
| dB | -3 | 0 | +3 | +6 | +9 | +12 |