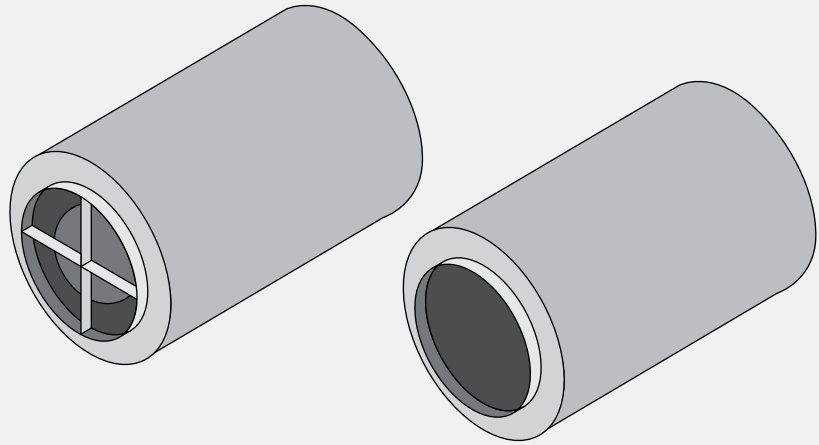


CFL

Circular Film lined
Straight Silencers



Description

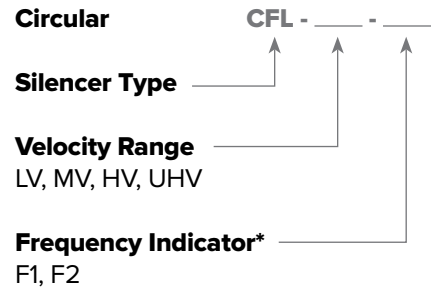
VIBRO-ACOUSTICS' CFL SILENCERS use acoustic grade glass fiber as the principal sound-absorbing mechanism. The glass fiber is protected by a film liner and perforated metal. The CFL models also incorporate film lined glass fiber external to the duct connection size.

An acoustical spacer between the film liner and the perforated metal helps reduce the acoustic performance degradation caused by the film liner. Some models incorporate a bullet shaped center body held in place and centered by trusses. Duct outer diameter and gap factor also vary depending on the pressure drop and attenuation requirements.

Model Names

Vibro-Acoustics' silencer model names are coded to help identify their recommended application range.

*The lower the Frequency Indicator, the better the silencer's insertion loss in the low frequency range.



Applications

- > Wherever glass fiber is not desirable in direct contact with the airstream (e.g. health care, laboratory and clean room etc.)
- > In supply, return and exhaust ductwork
- > In fan plenums and air handling units (both supply and return)
- > On cooling towers, air-cooled chillers, etc.
- > On the receiver side of valves, dampers, terminal boxes, etc.
- > Economical substitution for acoustically lined duct
- > Normal recommended duct velocity range

CFL-LV	0-1500 fpm	CFL-HV	3000-5000 fpm
CFL-MV	1500-3000 fpm	CFL-UHV	5000-7000 fpm

Features and Benefits

- > Greatly reduces the potential for glass fiber particles to enter the airstream
- > Prevents contamination sources from entering the silencer media
- > Available in any diameter to “fit-the-duct”
- > Can be selected to suit the acoustic, space, or energy-cost requirements
- > Construction quality and aerodynamic design optimized to give reliable performance, best acoustics, lowest pressure drop and lowest overall cost
- > Designs can be optimized to minimize extra pressure losses due to poor inlet or discharge flow conditions (e.g. near fans, elbows, etc.)
- > When break-out noise is of prime concern CFL silencers may be appropriate selections. They may require mass/stiffness added to their outer casing. Refer to [Silencer Selection Instructions](#) for proper silencer location.

Cautions/When Not to Use CFL Silencers

- > When 3-5 equivalent duct diameters of straight, unobstructed duct are not available on both the silencer’s inlet or discharge; consider using Elbow Silencers, Transitional Silencers or Fan Silencers
- > When no acoustical media whatsoever is acceptable in the airstream, consider No-Media Silencers
- > The acoustic performance of CFL silencers is generally less than CD silencers. Longer lengths may be required to achieve the insertion loss required.

Performance Data/Testing

See [Performance Data](#) section.

Vibro-Acoustics’ 5th generation aero-acoustic laboratory was the first laboratory to be NVLAP accredited (Lab Code 100424-0) for the ASTM E-477 silencer test code. NVLAP is administered by the U.S. Dept. of Commerce.

Silencer Selection and Location

Vibro-Acoustics offers multiple selection methods, from our complete analysis service to Do-It-Yourself quick selections. Refer to [Silencer Selection Instructions](#) for details.

Standard Construction Features

- > Galvanized, lockformed casings for class I construction
- > Galvanized or prime painted mild steel, stitchwelded and sealed casings for class II construction
- > Prime painted, mild steel continuously welded casings for class III construction
- > 2” slip connection at each end
- > Centerbody “bullet” centered and supported in airstream by steel struts
- > Centerbodies have either spun aerodynamic noses or truncated nose cones
- > Centerbodies have perforated diffuser tail sections
- > Casing and centerbodies filled with acoustic grade glass fiber under minimum 15% compression
- > Glass fiber carefully wrapped in Vibar™ film with lap joints away from splitter to reduce potential tearing of the Vibar™
- > 0.5 inch deep corrugated honeycomb “stand-off” spacer sheet placed between the perforated metal and the film

Special Construction Options

- > Heavier gauge casings and perforated metal
- > Continuously welded casings
- > Special materials (e.g. stainless steel, aluminum)
- > Flanges
- > Access doors
- > High transmission loss (HTL) casings to prevent break-out/break-in noise
- > Built in transitions
- > Removable splitters
- > Flow measuring stations
- > For details of above and more special options see [Special Construction Options](#).