

Sound shell for Copeland scroll compressors quiet operation in sound critical environment

Environmental noise has become a serious problem that can lead to potential contentious situations. It is particularly true for refrigeration applications where kitchen equipment or compressor packs are often source of disturbing noise in domestic areas. Copeland put sound minimisation at the centre of any of its new compressor development along reliability, seasonal efficiency, size and weight reduction.

A large portion of equipment acoustic emissions come from condensers and compressors and in some critical sound sensitive applications the refrigeration installations need to be acoustically insulated. Simple solutions are now available to contain sound emissions. Copeland has developed a dedicated sound shell for all Copeland scroll compressors from 2– 15 hp.

It completely encapsulates the compressor, minimizing sound leaks while cooling performance remains uncompromised.

Groundbreaking design techniques and materials, derived from the automotive industry, were utilized to design the sound shell. The use of low pressure reaction injection moulded parts (top cap cover, terminal box cover and compressor base plate) allows a 10– 12 dBA sound attenuation.

It is a significant improvement over conventional sound jackets available from other suppliers that reduce sound by 3–6 dBA depending on the application. Particular attention was also paid in the design stage to ensure ease of mounting in retrofit, service and new installation situations.

Sound shell for Copeland scroll



Technical overview

	Small Scroll	Summit Scroll			Summit Digital Scroll	
	All Sizes	Small Size	Medium Size	Large Size	Small Size	Medium Size
Sound attenuation	10 - 12 dBA					
Total weight (kg)	3.4	4.8	4.9	5.1	5.3	5.6
Mantle thickness	25mm					
Flammability	Conforms to IEC 60335-1 §30					
Material						
Mantle	Green felt layer (cotton + binder 1.2 kg/m²)					
	Heavy layer (PVC 4.5 kg/m²)					
	Closure by use of Velcro fastening - High frequency welded on PVC layer					
Base plate	PU SRIM - Low pressure reaction injection moulding technology					
Top cap cover	PU SRIM - Low pressure reaction injection moulding technology					
	Inside insulation green felt and aluminium film					
	High temperature insulation ring					
Terminal box cover	PU SRIM - Low pressure reaction injection moulding technology					

