

INSTALLATION INSTRUCTIONS FOR SOUND SHELLS ON SCROLL COMPRESSORS

1 Introduction

Emerson Climate Technologies have developed a new sound shell for noise sensitive applications. It has been developed for use by equipment manufacturers for factory mounting or installers fitting on site with the greatest of ease and speed. This new generation of sound shell perfectly fits to the shape of the compressor. The shells are retrofitable to facilitate minimum down time.

These sound shells can be fitted on ZR90K* – ZR19M*, ZP180K*, ZB56K* – ZB11M*, ZS56K* – ZS11M*, ZF24K* – ZF48K* & ZH56K* – ZH11M* Scroll compressors.

The design conforms to IEC 60335-1 with CE certification.

The sound shell provides a compressor sound attenuation of 10 - 12 dB(A).

2 Sound shell installation

1. Check the base/frame the compressor is to be mounted on is secure and fixed.
2. Place the sound shell base plate in position, then put the compressor on top with the correct pipe-work orientation.
3. Secure the mounting feet of the compressor. Use soft mounting grommets for single compressors, hard mounting parts for parallel compressor applications.
4. Braze the suction and discharge lines, also the vapour injection capillary tube fitting if required (not shown in these photographs).
5. If a crankcase heater is to be used fit it around the lower below oil level part of the compressor body.
6. If vapour injection is going to be used the mantle aperture for the vapour injection will require enlarging. Then position the two sections of mantle around the compressor body ensuring suction inlet, discharge outlet, vapour injection, oil Schraeder, etc are accessible. The two mantles meet and overlap with Velcro fastening (see **Fig. 1, 2 & 3**).
7. Place the top cap in position with a correct fitting around the discharge outlet. An "O" ring holds the top cap closed around the insulation ring and discharge pipe (see **Fig. 4**).
8. Fit the closing ring at the foot of the compressor between the main mantle and the base plate rim to give a closed seal preventing any noise leakage or infiltration of moisture (see **Fig. 5**).
9. Remove the necessary round electrical inserts from the terminal box overlay, run the wires through, connect the electrics accordingly inside the terminal box. Put the "T" box cover back in its place then fit the outer overlay (see **Fig. 6**).



Figure 1



Figure 2



Figure 3

Technical Information



Figure 4



Figure 5



Figure 6

Points to note:

- The bottom of the mantle should be fitted inside the base plate rim.
- Crankcase heaters should not be placed around the outside of the shell.
- Using a crankcase heater within a sound shell is a tested and approved application by Emerson Climate Technologies.
- Electrical cables should be run through the inserts in the bottom and on the side of the terminal box overlay.
- The compressor is fully encapsulated, including the electrical box, top cap and the compressor in order to minimize sound leaks.

3 Technical data

| Technical data | |
|-------------------|-----------------------------|
| Sound Attenuation | 10 – 12 dB(A) |
| Total Weight | 7.34 kg |
| Mantle Thickness | 22 mm |
| Flammability | Conforms to IEC 60335-1 §30 |

| Material | |
|--------------------|--|
| Mantle | Green felt layer (cotton + binder 1.2 kg/m ²) Heavy layer (PVC 4 kg/m ²) 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 |

4 Sizes and compressors

There are two sizes available, each size is available with or without a base plate:

| | Air Conditioning | Refrigeration | Heat Pump |
|-----------------|---|--------------------|--------------------|
| Assembly Size 1 | ZR90K3(E) to ZR16M3(E) | ZB56KCE to ZB92KCE | ZH56K4E to ZH92K4E |
| | | ZS56K4E to ZS92K4E | ZH24KVE to ZH40KVE |
| | | ZF24K*E to ZF40K*E | |
| Assembly Size 2 | ZR19M3(E) | ZB11MCE, ZS11M4E | ZH11M4E & ZH48KVE |
| | ZP180KCE | ZF48K4E, ZF48KVE | |
| Base Plate | Fits all models mentioned in this table | | |