

## MOUNTING PARTS FOR COPELAND SCROLL™ COMPRESSORS

Several different mounting assemblies are used with Copeland™ Scroll motor-compressors. The following information should be used as a guide in the application and installation of these mounting assemblies.

Compressors can be mounted either with rubber grommets or solid mounts. Consideration must however be given to sound attenuation and tubing reliability. Unlike a hermetic reciprocating compressor, the Scroll motor is pressed into the shell and not internally sprung. Some tubing geometry or “shock loop” may be required to reduce start-up vibration transferred from the compressor to external tubing (see Scroll application guidelines).

Scroll compressors can be originally delivered with different types of mountings or without mounting parts.

### 1 Bill of material

The 3 digits at the end of the compressor designation correspond to the Bill of Material (BOM).

The type of mounting parts delivered with the compressor will change the BOM number.

The table hereunder indicates which type of mounting part is delivered depending on the BOM number. This table is only valid for compressors manufactured in Europe.

	Mounting parts for single operation	Mounting parts for parallel operation	Without mounting parts
422, 424			X
425, 426 (all Scroll except ZH)		X	
426 (only ZH)			X
455, 456			X
476, 477			X
512, 522, 523, 524, 526	X		
550, 551, 556	X		
561, 567, 568	X		
591	X		
618, 622	X		
625		X	
650, 651	X		
655			X
922, 961	X		

## 2 Mounting parts for single operation

### 2.1 Originally delivered with the compressors

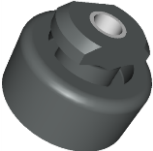
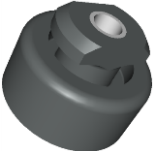


Four vibration absorber grommets are supplied with each compressor. They dampen the start-up surge of the compressor and prevent sound and vibration from being transmitted to the compressor base during operation to a large extent. The metal sleeve inside is intended as a guide to hold the grommet in place. It is not designed as a load-bearing member, and excessive torquing can crush the sleeve. Its inner diameter is approximately 8.5 mm to fit, eg, an M8 screw. The mounting torque should be  $13 \pm 1$  Nm. It is critically important for the grommet not to be compressed.

Compressors	Id. number	Characteristics	Drawing
ZR18K5E, ZP24KSE to ZP31KSE ZO21K5E ZS09KAE to ZS19KAE ZHW08K1P, ZHW16K1P, ZPV36K1P, ZPV60K1P	8559846 527-0044-15	Rubber	
ZH12K4E ZH04K1P, ZH05K1P ZHI05K1P	8844415 527-0116-05 (3 feet)	30-35 Durometer Height 19 mm	
ZB12KCU to ZB20KCU, ZH04KCU to ZH08KCU ZH15K4E to ZH26K4E, ZH06KVE, ZH09KVE	8855419 527-0116-09		
ZR22K3E to ZR81KCE, ZRD42KCE, ZRD94KCE ZRH49KJE to ZRH72KJE, ZRHV72KJE ZP23K3E to ZP83KCE, ZP36KSE to ZP54KSE ZPD34KSE to ZPD83KCE ZB15KCE to ZB48KCE, ZB57KCE, ZS21K*E to ZS45K*E ZB25KCU to ZB49KCU, ZBD21KCE to ZBD76KCE, ZBH30KJE to ZBH45KJE, ZBHV45KJE ZF06K4E to ZF18K4E, ZF25K5E ZF13KVE, ZF18KVE, ZFD13KVE to ZFD25KVE ZH09KCU to ZH13KCU, ZH30K4E to ZH45K4E ZH13KVE to ZH18KVE ZH06K1P to ZH15K1P, ZHI08K1P to ZHI18K1P ZO34K3E to ZO104KCE, ZOD34K3E, ZOD104KCE	8000822 527-0116-00	Rubber 35-45 Durometer Height 19 mm	
ZP91KCE, ZPD91KCE ZH19K1P, ZHI23K1P	8848428 527-0221-00		
ZB50KCE, ZB58KCE, ZB66KCE, ZB66K5E, ZB76KCE, ZB76K5E, ZB95KCE, ZB95K5E, ZB114KCE, ZB114K5E ZF34K5E, ZF41K5E, ZF49K5E	8607621 527-0210-00	Rubber 55-65 Durometer Height 33 mm Compliant with sound shell	
ZP180KCE ZR90K3E to ZR19M3E ZB56KCE to ZB11MCE, ZS56K4E to ZS11M4E ZF24K4E to ZF48K4E, ZF24KVE to ZF48KVE ZH56K4E to ZH11M4E, ZH24KVE to ZH48KVE	8502895 527-0159-00	Rubber 65 Durometer Height 19 mm	
ZB220KCE ZR250KCE, ZR310KCE, ZR380KCE ZP235KCE, ZP295KCE, ZP385KCE, ZP485KCE ZH100KCE, ZH125KCE, ZH150KCE	8048911 527-0175-02	Rubber 40 Durometer Height 19 mm	

### 2.2 Optional for compressor originally delivered without mounting parts (BOM 422, 455, 477 ...)


The following compressors are originally delivered without mounting parts, so the same model can be used in a single or in a tandem application. Only the type of mounting part will differ depending on the type of application.

The following rubber grommets for single compressor applications are available on request.

Compressors	Id. number	Characteristics	Drawing
ZRD48KCE to ZRD81KCE ZRD125KCE	8000822 527-0116-00	Rubber 35-45 Durometer Height 19 mm	
ZP104KCE, ZP122KCE ZPD104KCE, ZPD122KCE	8848428 527-0221-00	Rubber 35-45 Durometer Height 19 mm	
ZR94KCE, ZR108KCE, ZR125KCE, ZR144KCE, ZR160KCE, ZR190KCE ZP90KCE, ZP103KCE, ZP120KCE, ZP137KCE, ZP154KCE, ZP182KCE ZH40KCE to ZH75KCE	8607621 527-0210-00	Rubber 55-65 Durometer Height 33 mm Compliant with sound shell	
ZR94KCE, ZR108KCE, ZR125KCE, ZR144KCE, ZR160KCE, ZR190KCE ZRD94KCE, ZRD125KCE ZP90KCE, ZP103KCE, ZP120KCE, ZP137KCE, ZP154KCE, ZP182KCE ZPD103KCE to ZPD182KCE ZHI27K1P to ZHI40K1P ZH40KCE to ZH75KCE	8615308 527-0230-02	Rubber & steel Height 33 mm Compliant with sound shell	

### 2.3 Other rubber mounting parts alternatives

Other rubber mounting parts with a different height (compliant with sound shell) are available on request.

Compressors	Id. number	Characteristics	Drawing
ZBD58KCE, ZBD76KCE	8607621 527-0210-00 Variation = 8611500 8608260	Rubber 55-65 Durometer Height 33 mm Compliant with sound shell	


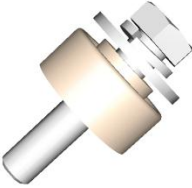
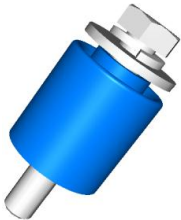

### 3 Mounting parts for Tandem / parallel operation

If the compressors are mounted on a Tandem or used in parallel, then the hard mountings (bolt M9 5/16") are recommended. The mounting torque should be  $27 \pm 1$  Nm. It is possible to deliver these hard mounting parts as a kit, or on request to deliver the compressor with these parts instead of the rubber grommets.

#### 3.1 Mounting parts between compressor and rails / frame or base plate

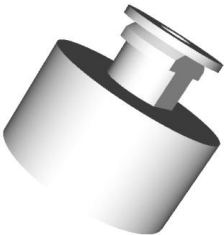
Compressors in Tandem applications should be hard-mounted to a common base to reduce stress on the tubing between the compressors. This reduces the chance of stress fractures and subsequent refrigerant leaks.

With smaller Copeland Scroll compressors, metal spacers are used between the compressor and the rails. The compressors are rigidly mounted by means of steel grommets onto two rigid rails/frame. The reason for the rigid mounting is to keep the stresses on the tubing between the compressors at reasonable levels.

Compressors	Id. number	Characteristics	Drawing
ZB15KCE to ZB48KCE, ZB57KCE ZBD21KCE to ZBD57KCE ZF06K4E to ZF18K4E, ZF25K5E ZF13KVE, ZF18KVE, ZFD13KVE to ZFD25KVE ZS21K4E to ZS45K4E ZO34K3E to ZO104KCE, ZOD34K3E, ZOD104KCE	8030450 527-0157-00	Hard rubber 60-70 Durometer Height 19 mm	
ZB12KCU to ZB31KCU, ZH04KCU to ZH11KCU ZR48K3E, ZR49KCE, ZR61KCE, ZRD48KCE, ZRD61KCE ZP36KSE to ZP54KSE ZH15K4E to ZH38K4E, ZH09KVE, ZH13KVE ZHO6K1P to ZH12K1P, ZHI08K1P to ZHI14K1P	8559040 527-0212-00		
ZR72KCE, ZR81KCE, ZR94KCE to ZR190KCE ZRD72KCE, ZRD81KCE, ZRD125KCE ZP41K3E, ZP54K3E, ZP61KCE to ZP83KCE, ZP91KCE, ZP90KCE to ZP182KCE, ZPD103KCE to ZPD182KCE ZPD61KCE to ZPD91KCE, ZP104KCE, ZP122KCE ZB37KCU, ZB49KCU, ZH13KCU, ZH45K4E, ZH18KVE ZHI27K1P to ZHI40K1P, ZH40KCE to ZH75KCE	8602933 527-0206-01	Hard steel Height 19 mm	
ZH15K1P, ZH19K1P, ZHI18K1P, ZHI23K1P	8039399 527-0181-00		
ZR190KCE Tandem with ZR250KCE to ZR380KCE ZP154K* & ZP182K* in Tandem with ZP235K* to ZP485K*	Full kit 8608500 527-0206-02		
ZB50K*, ZB58K*, ZB66K*, ZB76K*, ZB95K*, ZB114K* ZBD58KCE, ZBD76KCE ZR94KCE, ZR108KCE, ZR125KCE, ZR144KCE, ZR160KCE, ZR190KCE, ZRD125KCE ZP90KCE, ZP103KCE, ZP120KCE, ZP137KCE, ZP154KCE, ZP182KCE, ZPD103KCE to ZPD182KCE ZHI27K1P to ZHI40K1P, ZH40KCE to ZH75KCE	8609592 (527-0206-03)	Hard steel Height 33 mm  Compliant with sound shell	
ZB50K*, ZB58K*, ZB66K*, ZB76K*, ZB95K*, ZB114K* ZF34K5E to ZF49K5E	Variation 8602466		
ZBD58KCE, ZBD76KCE	Variation 8611511		
ZR90K3E, ZR11M3E, ZR12M3E, ZR16M3E, ZR19M3E ZP180KCE ZB56KCE, ZB75KCE, ZB92KCE, ZB11MCE ZF24K4E to ZF48K4E, ZF24KVE to ZF48KVE ZH56K4E to ZH11M4E, ZH24KVE to ZH48KVE ZS56K4E to ZS11M4E	8522911 527-0168-00 Variation = 8516741	Hard steel Height 19 mm	

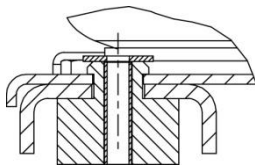
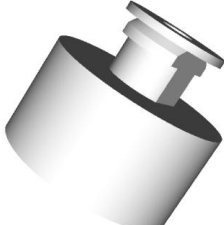
### 3.2 Mounting parts between rail / base plate or ground

The Tandem unit should be bolted to the installation base through isolating rubber grommets.

Compressors	Id. number	Characteristics	Drawing
ZR48K3E to ZR81KCE, ZRD48KCE to ZRD81KCE ZP36KSE to ZP91KCE, ZPD61KCE to ZPD91KCE ZB12KCU to ZB49KCU, ZH04KCU to ZH13KCU ZH15K4E to ZH45K4E, ZH09KVE to ZH18KVE ZH06K1P to ZH19K1P, ZHI08K1P to ZHI23K1P	8031395 527-0150-00	Rubber 35 – 45 Durometer	
ZR90K3E to ZR19M3E, ZR94KCE to ZR190KCE ZP90KCE, ZP103KCE to ZP182KCE ZPD103KCE to ZPD182KCE ZH56K4E to ZH11M4E, ZH24KVE to ZH48KVE ZHI27K1P to ZHI40K1P, ZH40KCE to ZH75KCE	8537451 527-0177-00	Rubber 65 – 75 Durometer	
ZR190KCE in Tandem with ZR250KC to ZR380KC ZP154KCE & ZP182KCE in Tandem with ZP235KCE to ZP485KCE	Full kit 8040746	Rubber 60 – 70 Durometer	

### 3.3 Mounting parts between compressor / rails / ground

The 20 to 30 HP Scroll compressors use a new approach to secure the compressor to the rails. The base plates of the compressors have 4 holes which one uses to bolt the compressor to the tandem rails. No metal spacers are needed, which reduces the cost.

Compressors	Id. number	Characteristics	Drawing
ZB220KCE ZR250KCE to ZR380KCE ZP235KCE to ZP485KCE ZH100KCE to ZH150KCE	8040746 527-0178-00 <i>Variation = 8049130</i>	Rubber 60-70 Durometer	 

Rubber grommets are used to connect the Tandem assembly to the system base to isolate the system from any vibration.

- T Bolts between compressor and rails
- I 8 x Rubber grommets connecting rails to system base

