COMPRESSOR CHRANKCASE HEATERS

Liquid Refrigerant migration :

Within AC&R Air Conditioning and Refrigeration systems, migration of liquid refrigerant to the compressor is a natural occurrence. The powerful affinity of oil for refrigerant is due to the difference in vapor pressures between the two fluids. The amount and severity of the liquid refrigerant migration depends on several things, including refrigerant and oil charge, length of shutdown interval and, especially, the temperature difference between crankcase oil and the rest of the system. As the temperature of oil drops, refrigerant is absorbed faster and more completely.

Oil Slugging :

When refrigerant has mixed with oil and the compressor starts, oil slugging occurs: the mixture foams violently, and all or most of the oil charge is pumped out. The compressor tries to pump the liquid – a feature for which it was never designed – and broken valves, damaged pistons, and blown head gaskets can result.

Compressor failure :

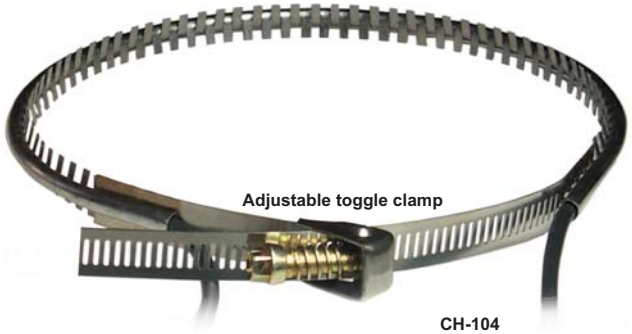
In most compressors, the oil pickup is located at the bottom. From there, it is fed to the cylinders and bearings for lubrication. When refrigerant has migrated into oil, the mixture stratifies, and refrigerant settles at the bottom.
Originally intented for lubrication the contaminated oil can no longer do its job. Instead, the refrigerant's solvent properties causes severe damage, resulting in immediate (or eventual) compressor failure.

"Intimate Fingers of Warmth"® :

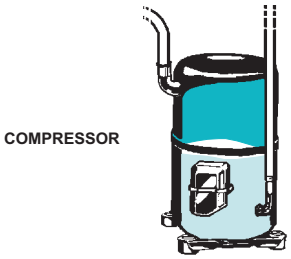
By optimizing the temperature of compressor crankcase oil, the Intimate Fingers of Warmth® crankcase heater helps protect the compressor from refrigerant migration. Oil is kept as much as 30° F. warmer than the system temperature (the off cycle heat required by many compressor manufacturer Warranties)..., and refrigerant is forced to remain in the condenser, evaporator, or accumulator. The intimate Fingers of Warmth® snugly claps the compressor housing to provide positive, highly efficient transmission of heat. Acting as a heat sink, the crankcase can then absorb and transmit heat directly to the oil.
Heat loss to ambient air is greatly reduced along with the major cause of refrigerant migration.

Features :

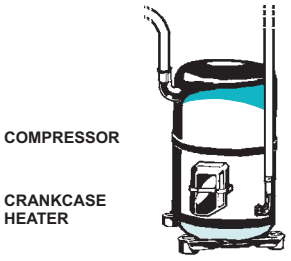
- Corrosion resistant exterior;
- Completely moisture proof;
- High temperature silicone rubber element 150° C. (302° F.) and insulated leads;
- Voltages through 240, wattage for each model matches compressor requirements;
- Installs quickly and easily.
  Band slide easily for adjustment when toggle is open. Closing toggle engages, worm screw for tingtening to positive snug fit.;
- Nominal power comsumption due to highly efficient heat transmission and low wattage.



CH-104



WITHOUT CRANKCASE HEATER
Temperatures in compressor and evaporator are the same at 24,4° C. (76° F.). Vapor pressures are different, allowing refrigerant to migrate and mix with the oil in the crankcase.



WITH CRANKCASE HEATER
Raising the temperature of the oil in the crankcase 41,1° C. (106° F.).
This reduces the oil's ability to actract and hold refrigerant.

SHAPE - OVAL			
Model	**FITS COMPRESSOR**	**Watt**	**mm. /"**
CH-100	Carlyle W (1970÷1988). Copeland Y. Hitachi 753FH3-H, 1001FH4-H. Tecumseh B, C, CL, AG, AV.	**50**	**766 ÷ 940** 30-3/16" Min. 37" Max.
CH-101	Aspera H. Bristol H10A, H21A, H2EA, H22A. Carrier 6A25, 26, 28, 29, 6A35, 38, 45, 48. Copeland CR. Tecumseh AH. Trane D4350/689, D4359/690. Westinghouse CD072, CD090.	**54**	**697 ÷ 870** 27-7/16" Min. 34-1/4" Max.
CH-102	Aspera J. Bristol H10C, H20C, H21C, H22C. Tecumseh AJ. Trane D4340/7669.	**60**	**654 ÷ 827** 25-3/4" Min. 32-9/16" Max.
CH-103	Bendix/Westinghouse A. Bristol H10B, H20B, H21B, H22B. Copeland RR, SR. Hitachi 305FH2-HE, 402FH2-HE, 505FH2-HE. Tecumseh AB, AW.	**45**	**628 ÷ 801** 24-3/4" Min. 31-9/16" Max.
CH-135	Copeland JR. Tecumseh AK.	**40**	**516 ÷ 689**
CH-244	Tecumseh 8,75" Quadro Flex DCAW.	**60**	**693 ÷ 998**
CH-134	Carrier / Carlyle 6M.	**40**	**716 ÷ 905**
CH-198	Copeland AN. Tecumseh AE.	**35**	**431 ÷ 610**
SHAPE - ROUND			
Model	**FITS COMPRESSOR**	**Watt**	**mm. /"**
CH-184	Matshushita 2PSI, 2K21C, 2K28C.	**45**	**400 ÷ 998**
CH-104	Bristol H10G, H20G, H21G, H22G, H2NG-144, Carrier 6A88, Hitachi 1500FH4-H. Tecumseh FE, FB.	**75**	**1054÷1227** 41-1/2" Min. 48-5/16" Max.
CH-105	Copeland VR. Trane D4340 / 7670. Westinghouse CD072, CD090.	**50**	**825 ÷ 998** 32-1/2" Min. 39-5/16" Max.
CH-115	Carrier / Carlyle 6R.	**40**	**766 ÷ 940**
CH-196	Copeland Scroll Ø 6" (152 mm.) ZR16K, ZR42K.	**40**	**504 ÷ 676**
CH-197	Sanyo CR15F, CR20F, CR33F.	**25**	**349 ÷ 522**
CH-230	Carlyle SR, Copeland Scroll Ø 7-1/2" (190 mm.) ZR46, ZR61.	**70**	**549 ÷ 724**
CH-167	Bristol.	**70**	**898 ÷ 1044**
CH-280	Copeland Scroll Ø 7,25" (184 mm.)	**70**	**528 ÷ 711**