

Heater application in refrigeration compressors

Advantages

- Prevent coolant migrating to the compressor during stop cycles
- Minimise absorption of the coolant by the oil.

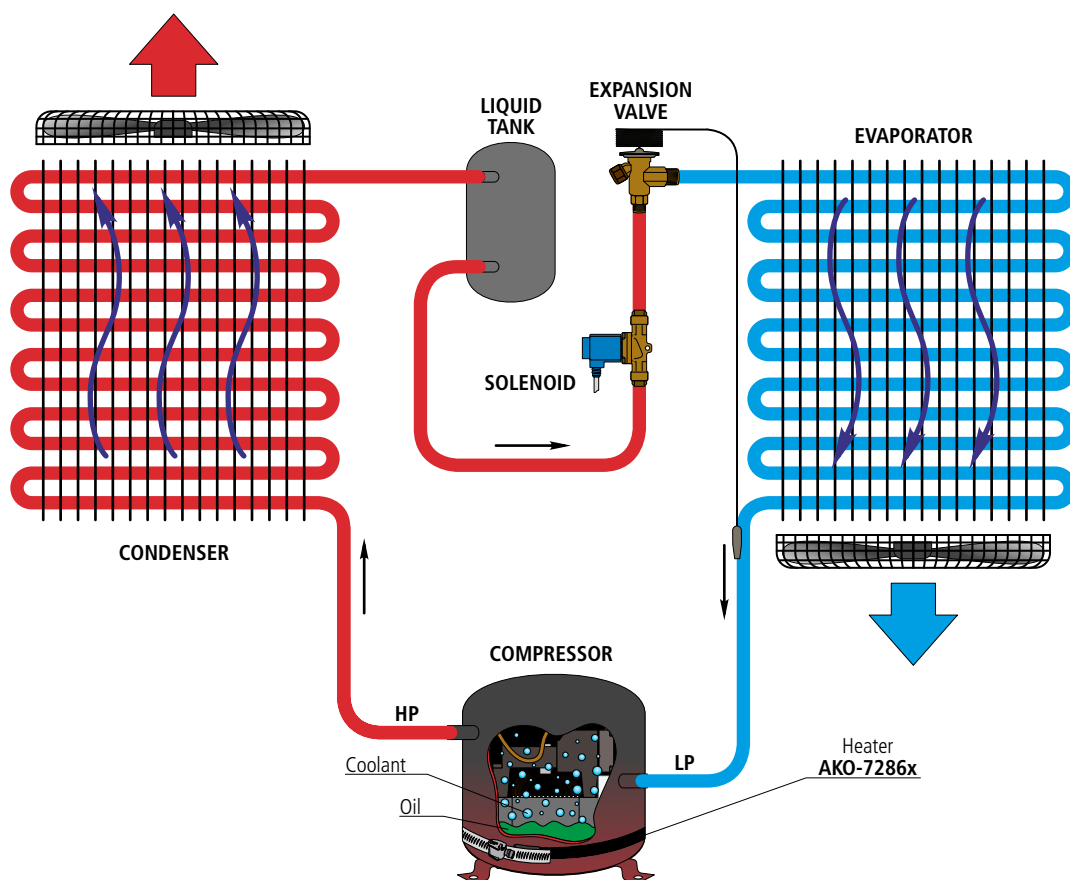
Operation

During the compressor stop cycles, the coolant tends to move to the coldest point of the facility. If that point is the compressor¹, the coolant might build up in the crankcase and mix with the oil.

When the compressor is started again, the pressure in the crankcase drops quickly, which makes the coolant (mixed with the oil) expand, making the oil literally "boil" creating a foam that can be sucked in by the compressor and it has not been designed for that function. This causes serious damage to valves, pistons, joints, etc.

This migration might get worse depending on different factors such as the coolant load, the type of oil used, the length of the stopcycles or the difference in temperature between the crankcase of the compressor and the rest of the facility, among others.

When the compressor is equipped with an **AKO-7186x** heater, the crankcase will be always kept at a temperature high enough to keep the coolant away from it.



¹: During the compressor's operating cycles, it cools on sucking the gas directly from the evaporator.

References

	AKO-71863	AKO-71864	AKO-71866	AKO-71867
Power ($\pm 10\%$) at 230 V	35 W	45 W	65 W	75 W
\emptyset Min. of fastening	120 mm	150 mm	220 mm	245 mm
\emptyset Max. of fastening	175 mm	280 mm	320 mm	370 mm

Application according to compressor

Manufacturer	Model	Recommended AKO heater	Manufacturer	Model	Recommended AKO heater	
Tecumseh / L'unité hermetique	B, C, CL, AG, AV, AH, AJ, AB, AW	AKO-71864	Aspera / Embraco	EF, EG, EM, EMI, EMT, F, NB/NE, NJ, NT, NTU, PW	AKO-71864	
	FE, FB	AKO-71867		H23A, H23B, H29A, H29B, L63A, L63B, M63A, M63B	AKO-71866	
Maneurop	MT / MTZ 018 a 040	AKO-71864		H2BG, H2NG, H25G	AKO-71867	
	NTZ 048 a 068	AKO-71866	Copeland	ZR 46, 41, ZR 22-81, ZP 23-67, ZF 06-18, ZS / ZB / ZH 15-45,	AKO-71864	
	MT / MTZ 044 a 080	AKO-71866		CR, RR, SR, VR, ZR 12, 16, 19, 90, 108, 190 ZB 56, 75, 92, 11 ZF 24, 33, 40, 48 ZP 103, 180, 182	AKO-71866	
	NTZ 096 a 136	AKO-71867		ZR 250, 20HP, 90-19 ZF 24-48, ZS / ZB 56-11 ZP 180, 235, 250, 295, 300-380	AKO-71867	
	MT / MTZ 100 a 160	AKO-71866		Bristol	H10A, H21A, H2EA, H22A	AKO-71864
	NTZ 215 a 271	AKO-71867			H10B, H10C, H20B, H20C, H21B, H21C, H22B, H22C	AKO-71866
Danfoss	TFS, FR, SC, TL, NL, GS	AKO-71866	H10G, H20G, H21G, H22G, H2NG, H75G, H7BG, H7NG		AKO-71867	
Speerall	MFZ / LFZ 166	AKO-71864				
	SM / SZ 112, 124, 147	AKO-71866				
	MFZ / LFZ 250	AKO-71866				
	SM / SZ 084, 090, 100, 110, 115, 120, 125, 148, 160, 161	AKO-71867				
	SM / SZ 175, 185	AKO-71867				



The recommendation is only based on the diameter of the compressor's crankcase. Choose the heater power according to the needs of the facility and the recommendations of the manufacturer of the compressor.