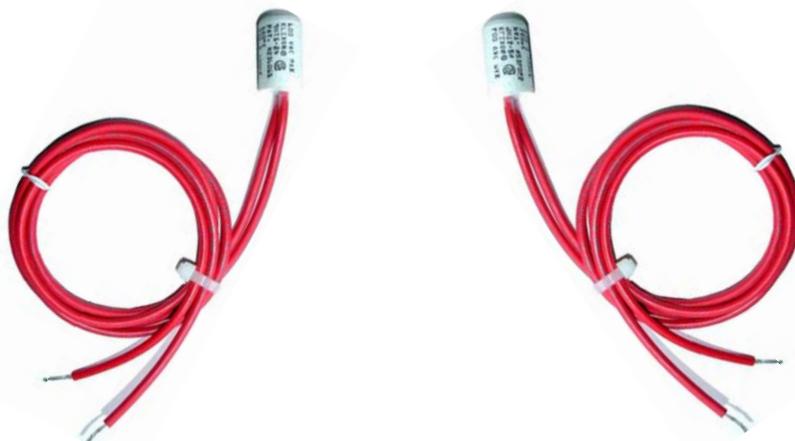


Self-regulating PTC Belt-type heaters with/without **Thermostat**

for Hermetic Reciprocating
Scroll-compressors
and Oilseparators

Suitable to most of the
popular compressor brands

With and without thermostatical control



The importance of crankcase heater in refrigeration and air conditioning

Liquid Refrigerant Migration

Within refrigeration and air conditioning 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 this 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.

By optimising the temperature of crankcase oil, our heater helps protect the compressor from refrigerant migration. Oil is kept as much as 30° warmer than the system temperature and refrigerant is forced to remain in the condenser, evaporator or accumulator.



- Corrosion resistant exterior
- High temperature silicone rubber element and insulated leads
- Custom leads and terminations available
- Voltage through 600 Volts
- Wattage for each model matches compressor requirements
- Completely moisture-proof
- Quick and easy installation
- Nominal power consumption due to highly efficient heat transmission and low wattage
- U.L., C.S.A. and CE listed

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 the liquid-a feature for which it was never designed- and broked valves, damaged pistons and blown head gasket can result.

Compressor Failure

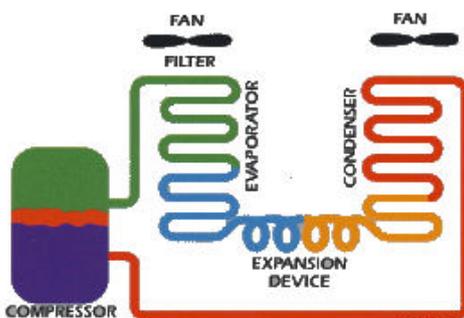
In most compressors, the oil pickup is located at the bottom. From there, it is fed to the cylinders and bearings for lubrication. When refrigerant settles at the bottom.

Originally intended for lubrication the contaminated oil can no longer do its job.

Instead, the refrigerant's solvent properties cause severe damage, resulting in immediate (or eventual) compressor failure.

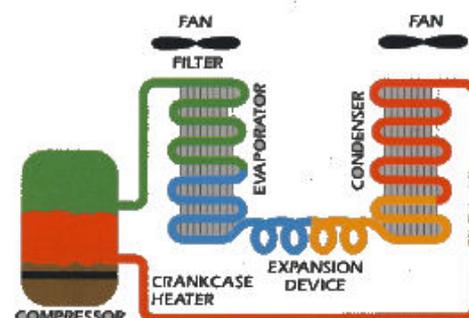
Advantages of thermostatic Control of crankcase heater in refrigeration and heatpumps

- Heating up compressor oil is based on real demand
- Minimized energy consumption and therefore up to 70 % energy saving
- Relays, additionell contacts in contactors and redundant wiring are obsolete
- Simplified connection of heater within air conditioner and heatpump and therefore reduced material- and labor cost



Temperatures in compressor and evaporator are the same at 76°F. Vapor pressures are different, allowing refrigerant to migrate and mix with the oil in the crankcase.

NOTE: WITH CRANKCASE ON COMPRESSOR OFF CYCLE "LIQUID REFRIGERANT" WILL TEND TO MIGRATE TO CRANKCASE AND CAUSE LIQUID SLUGGING ON START-UP.



The crankcase heater is applied, raising the temperature of the oil in the crankcase. This reduces the oil's ability to attract and hold refrigerant



Band heater

c/w and without thermostatic Control



- Corrosion resistant exterior
- High temperature silicon rubber element and VW-1 insulated lead wires rated for 150°C
- Custom leads and terminations available
- Thermostatic Control available as option
- Completely moisture-proof
- Quick and easy installation
- Nominal power consumption highly efficient heat transmission
- U.L., C.S.A. und CE approvals



Model	Volt age	Capa city	Compressor manufacturer	Suitable for compressors A selection (Hermetic Recip-, Scroll- or Rotary)	Diameter		Girth		Form
	Volt	Watt			Min mm	Max mm	Min Mm	Max mm	
CH025	240	25	Hitachi, Rechi, Mitsubishi, Panasonic, Samsung, Copeland, Danfoss	Universal band heater for rotary piston and scroll compressors, especially for high capacities and outdoor installation (winter operation)	90	150	280	470	Round
CH038	240	38			111	171	349	536	
CH045-3	400 460	45 34			112	172	352	540	
CH 101	240	54	Tecumseh	B, C, CL, AG, AV	222	277	697	870	Round
			Maneurop	MT/MTZ 18-40, LT/LTZ 22-28					
			Aspera	H					
			Copeland	CR					
			Bristol/Sundstrand	H10A, H21A, H2EA, H22A					
			Carrier	6A25, 26, 28, 29, 6A35, 38, 45, 48					
CH 102 CH 102GW	240	60	Tecumseh	AH	191	263	600	825	Oval
			Aspera	J					
			Bristol/Sunds	H10C, H20C, H21C, H22C					
			Maneurop	SZ/SM 084-160					
			Trane	D4340/7669					
CH 103	240	45	Copeland	RR, SR	200	255	630	800	Round
			Tecumseh	AB, AW					
			Bristol_Sund	H10B, H20B, H21B, H22B					
CH 104	240	75	Maneurop	SZ/SM 175/185, MT/MTZ 100-160	335	390	1050	1225	Round
			Tecumseh	FE, FB					
			Bristol	H10G, H20G, H21G, H22GH2NG144					
CH 105	240	50	Maneurop	MT(Z)44-81, LTZ40-50, SZ/M125-160	263	318	825	998	Round
			Copeland	VR					
CH 184	240	45	Copeland Tecumseh	ZR23K1, ZR28K1, ZR34K1, ZR40K1	115	170	351	533	Round
CH 196	240	40	Copeland	6" Scroll, R16K, ZR42K	160	215	502	675	Round
			Danfoss Scrolltech, Bristol, Carrier	HRM032.047, HRP034-047 HRH031-040 (120Z0055)					
CH 196-3	480	40	Copeland	6" Scroll, R16K, ZR42K	160	215	502	675	Round
			Danfoss, Scrolltech, Bristol, Carrier	HRM032.047, HRP034-047 HRH031-040 (120Z0055)					
CH 203-3	480	70	Copeland	ZR 12,16, 19, 90 - ZB 56, 75, 92, 11 ZF 24, 33, 40, 48 - ZP 180	255	300	800	940	Round
CH 205	240	40	Copeland	ZR 46, ZR 61	170	193	535	605	Round
CH 230	240	70	Copeland	7/8" Scroll ZR46 ZR61	175	230	550	720	Round
CH 244	240	60	Tecumseh	8,75" Quadro Flex DCAW	222	320	700	1005	Round
CH 255	240	90	Copeland	ZR108-190, ZP103-182	229	283	720	888	Round
CH 255-3	480	90	Copeland	ZR108-190, ZP103-182	229	283	720	888	Round
CH 255-7	277	90	Copeland	ZR108-190, ZP103-182	229	283	720	888	Round
CH 265	240	75	Maneurop	SZ/SM-175, 185	290	320	910	1005	Round
CH 280	240	70	Copeland	ZP 23 - 67, ZF 06-18, ZS 15 - 45, ZB 15- 45, ZR 22 - 81, ZH 15 - 45	169	226	530	710	Round
			Danfoss Scrolltech	HRM048-060, HLM068-075, HRP048-060, HLP068-075, HRH044-056, HLL061-068, HLJ072 (120Z057)					
			Danfoss Scrolltech	HLM078-81, HCM094-120, HLP081, HCP094- 120, HLJ083 (120Z0059)					
CH 280-3	480 240	70 35	Danfoss Copeland	Others like CH 280	169	226	530	710	Round
CH 282	240	150	Copeland	ZP 295, ZR300-380	310	370	973	1160	Round
CH 283	240	100	Copeland	ZR-250, 20HP	295	328	926	1030	Round
CH 284	240	70	Copeland	ZF 24-48, ZS 56 -11, ZB 56-11, ZR 90- 19, ZP 180	265	305	832	957	Round
CH 291	240	120	Copeland	ZP 235, ZR250	260	300	815	940	Round
CH 293-9	240	130	Maneurop	SZ/SM-240,300	305	340	958	1067	Round

All models for 240 Volts can be equipped with thermostatic control. The model number will have ..TH or TH2 at the end like CH280TH.

Further band heater but also other voltages on request.

We reserve the right to change data without prior notice

Copeland

Scroll Band typ heater



Copmpressor Scroll typ	Copeland Part No.	Com- press or Ø mm	Voltage Volt	Capacity Watt	TUTCO Model	Min Ø mm	Maxi Ø mm
ZH09K,13K,15K,19K,21K,26K,30K,38K,45K	8039902 alt 8556201 neu	167	240	70 W	CH280	150	205
ZP 23K,26K,32K,41K,54K,61K,72K,83K							
ZF 06K,08K,09K,11K,13K,15K,18K							
ZS 15K,19K,21K,26K,30K,38K,42K,45K							
ZB 15K,19K,21K,26K,30K,38K,42K,45K							
ZR 22K,28K,34K,40K,48K,61K,72K,81K							
ZR 61K,72K,81K							
ZP 67K		185					
As above (all rows)	8025512	167	480	70 W- 480V	CH280-3	150	205
	8556198	185		55 W- 400V			
ZP 90K,103K,120K,137K,154K,182K	8039899 8556121	232	480	90 W 480V 70 W-400V	CH255-3	220	280
ZP 90K,103K,120K,137K,154K,182K	8033380 old	232	240	90 W	CH230	175	232
ZFH 09 - ZFH 18							
ZS 50K,58K,66K,76K,95K,114K							
ZB 50K,58K,66K,76K,95K,114K	8556110 new						
ZP 180K	8013479 old 8556938 new	283	240	70 W	CH284	255	300
ZF 24K,33K,40K,48K							
ZS 56K,75K,92K,11M							
ZB 56K,75K,92K,11M							
ZR 90K,11M,12M,16M,19M	8013491	283	480	70 W- 480V 55 W-400V	CH203-3	255	300
ZR 90K,11M,12M,16M,19M							
ZB 56K,75K,92K,11M							
ZH 56K,75K,92K,11M							
ZF 24K,33K,40K,48K							
ZP 180K							
ZR 23 - ZR 40	8025761	167	240	40 W	CH 196	160	250
ZR 18K	8034963 old 8556176 new						
ZP 235K	8040768 old	289	240	120 W	CH291	269	327
ZR 250K	8050996 new						
ZP 295K,385K	8040837 old	334	240	150 W	CH282	312	371
ZR 300K,310K,380K	8051046 new						

CH230 = 70 Watt

All models for 240 Volts can be equipped with thermostatical control. The model number will have ..TH at the end like CH280TH. Further band heater but also other voltages on request.

Danfoss Scroll

ScrollTech, Bristol, Carrier

Band typ Crankcase heater




Danfoss Scroll	Danfoss Crankcase heater Part. No.	ScrollTech SCROLL Part No.	Bristol * SCROLL Typ	Carrier* SCROLL Typ	Compres- sor Ø mm	Vol tage Volt	Capa- city Watt	TUTCO Model
HRM032 - 047	120Z0055	XC_320-470			165	230/1/ 50-60	40	CH196
HRP034 - 047		XCE342 - 472	H73C343-473					
HRH031 - 040		XG_310 - 412						
HRM032 - 047	120Z0056	XC_322 - 472			165	400/1/ 50-60	40	CH196-3
HRP034 - 047		XCE 340 BA	H73C343AB					
HRH031 - 040		XG_310 - 412						
HRM048 - 060	120Z057				184	230/1/ 50-60	50	CH280 (70 Watt)
HLM068 - 075		XR_680 - 722						
HRP048 - 060		XCE482 - 602	H73483 - 603					
HLP068 - 075								
HRH044 - 056		XN_440 - 560						
HLH061 - 068		XND680						
HLJ072		XN_722						
HRM048 - 060	120Z0058				184	400/1/ 50-60	50	CH280-3
HLM068 - 075		XR_680 - 722						
HRP048 - 060		XCE482 - 602						
HLP068 - 075								
HRH044 - 056		XN_440 - 560						
HLH061 - 068		XND680						
HLJ072		XN_722						
HLM078 - 81	120Z0059	XR_812			184	230/1/ 50-60	70	CH280
HCM094 - 120		SR_942 -120						
HLP081								
HCP094 - 120								
HLJ083		XND830						
HLM078 - 81	120Z0060	XR_812			184	400/1/ 50-60	70	CH280-3
HCM094 - 120		SR_942 -120						
HLP081								
HCP094 - 120								
HLJ083		XNH832						

All models for 240 Volts can be equipped with thermostatical control. The model number will have ..TH at the end like CH280TH. Further band heater but also other voltages on request.

We reserve the right to change data without prior notice

Maneurop

Reciprocating and Scroll - Band typ heater

Reciprocating compressor – PTC Bulb typ heater

Energy saving, selfregulating PTC-Heater

No Thermostat required

Multi Voltage version 200—600 V

High reliability, high life expectancy

Capacity increases when ambient temperatur drops.

UL-approved



RIES

Compressor Model	Maneurop Part Nr.	Shape	Compressor Ø mm	Voltage Volt	Capacity Watt	RIES/TI/TUTCO Model	Capacity Watt	Min. Ø mm	Max Ø mm
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Maneurop Hubkolben

MT/MTE/MTZ 18- 160	7773125	Bulb	225 -352	200 - 600 V	35	7773001 PTC30W	35	Bulb	
LT/LTE//LTZ 22-100									
NTZ 48 - 271									
MT/MTE/MTZ 18- 40	7773106	Band typ heater	225	240	55	CH101	55	220	277
LT/LTE//LTZ 22 - 28									
NTZ 48 - 68									
MT/MTE/MTZ 44- 81	7773107	Band typ heater	288	240	50	CH105	50	263	318
LT/LTE//LTZ 40 – 50									
NTZ 96 - 136									
MT/MTE/MTZ 100- 160	7773108	Band typ heater	352	240	65	CH104	75	320	392
LT/LTE//LTZ 88 – 100									
NTZ 215 - 271									

Maneurop SCROLL



SZ/SM 084 - 160	7773107	Band Heizg	254	240	60	CH102	60	191	263
SZ/SM 175 – 185	7773108		317	240	65	CH265	75	290	320
SZ 240/300	7773122		333	240	130	CH 293-9	130	305	340

All models for 240 Volts can be equipped with thermostatical control. The model number will have ..TH at the end like CH280TH.

Further band heater but also other voltages on request.

We reserve the right to change data without prior notice

LuH, Tecumseh

Band typ crankcase heater



Model Compressor	LuH, Tecumseh Part No.	Compressor Ø mm	Voltage Volts	Capacity Watts	TI Modell	Min Ø mm	Max Ø mm
Selfregulating (self limiting) PTC-Heater							
TAN	8 681 227		230	27	PTC 30W	Bulb	
FH/TFH/TAG	8 681 590		230	27			
SILENSYS	8 681 595		230	27			
Band typ Crankcase heater							
RG/RK	8 583 024	119 /127 rd	230	25			
AE/CAE/SILENSYS H14Z	8 583 026	150/201oval	230	45	CH196	165	215
AJ/CAJ/TAJ	8 583 009	160 215oval	230	55	CH102	191	263
SILENSYS	8 583 021	165/219 oval	230	55	CH102	191	263
AH/TAH	8 583 011	200/246 oval	230	55	CH101	222	277

Flexible Band typ heater

Flexible Band typ heater for receiver (round, oval or square). To wrap around the part to be heated . Also to be used for compressors of different kind of shapes.

Modell	Beschreibung	Spannung Volt	Leistung Watt	Länge mm	A mm	B mm	C mm
07004500	Flexible Resistance Band heater	220V	52W	1195	1155	1520	1520
007004701		220V	62W	1305	1265	870	870
007122400		240V	25W	800	760	920	920
007167200		240V	25W	800	760	2020	2020
007176300		240V	28W	900	860	760	760
007204100		240V	19W	715	675	720	720
007204200		240V	25W	800	760	820	820
007378500		240V	40W	1340	1300	1020	1020
007458900		240V	35W	900	860	1520	1520
007471100		240V	28W	900	860	760	760
007477500		240V	35W	900	860	1020	1020





Ein Auswahl aus unserem weiteren Lieferprogramm
A selection of our further program



Rotary, Hubkolben- und Scroll- Kompressoren

Rotary-, Reciprocating-, Scroll-Compressors



SpeedLine Inverter, Drehzahlregler, Drehzahlsteller

SpeedLine inverter, Speed Controller, -regulator



Micronova Kondensatordruckregler, Drehzahlsteller

Micronova Speed Controller, - regulator



Drehzahlregelung für DC, BLDC Kompressoren und Motoren

Speed Controls for DC, BLDC Compressors and Motors



AC/EC Axial- und Radialventilatoren,

AC/EC Axial- and Centrifugal fan units



Selbstregulierende PTC- Heizungen

Self limiting PTC heater



Bandheizungen mit/ohne thermostatische Regelung

Band heater with/without thermostatical control

