



TRANE™

General Service Bulletin

HCOM-SB-4F

Library	Service Literature
Product Section	Refrigeration
Product	Compressor-Condensing Units (10-200 Tons)
Model	Open & Hermetic Recip. Compressors
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Literature Change(s):

HCOM-SB-4 : Original issue of bulletin.

HCOM-SB-4A:

HCOM-SB-4B:

HCOM-SB-4C:

HCOM-SB-4D: Changed the approved oil for Code 1; added parts ordering information for Trane-approved oil for Model A, B, C, D, E and F compressors (i.e., Trane part no. OIL-15).

HCOM-SB-4E: Updated the list of approved oils for Code 2; revised the "neutralization" requirement for Code 1 oils, and removed the Code 1 oil "defoamant" specification.

HCOM-SB-4F: Revised to incorporate oil information for Model "HL" and Scroll Compressors.

Subject: Recommended Oils and Oil Charges for Scroll and Reciprocating Compressors

Introduction:

This service bulletin specifies the appropriate oil charges and recommended oils to be used in all Trane Scroll and reciprocating compressors.

Note that the oil charges indicated in this bulletin are for the compressor only, and do not take into account any system requirements.

Discussion:

Reciprocating and scroll compressors do not require oil changes unless there is evidence of oil breakdown (resulting from motor burnout), operation at excessive temperatures, or mechanical failure.

Note: If a motor burnout occurs in a hermetic compressor, be sure to perform the special cleanup procedures described in the current edition of Trane Service Bulletin HCOM-SB-45.

Tables 1 through 6 indicate the recommended oils and oil charges for the various compressors used in Trane equipment; the specific compressor models covered by each table are listed below:

a. for compressor Models "A", "B", "C", "D", "E", "F", "M" and "R", use Table 1;

b. for compressor Model "J", use Table 2;

c. for compressor Models "H", "HL", and "K", use Table 3;

d. for Copeland, Bristol (Sunstrand), and Tecumseh compressors, use Table 4.

e. for Scroll Compressors

Requirements used to recommend the specific oils listed in Tables 1 through 6 are itemized in Tables 7, 8 and 9.

Any negative effects resulting from the use of refrigeration oils other than those listed here are the responsibility of the owner.

The Trane Company does not recommend the use of commercially available oil additives which are advertised to increase oil lubricity and/or improve heat transfer efficiency when added to the system. The possible effects that such oil additives may have on oil breakdown, acid formation and their long-term impact on elastomers and motor insulation materials has not been substantiated by laboratory tests or field-usage history. Normal product design life and efficiency can be assured only by using Trane-recommended products and by following all recommended maintenance procedures. Liability for any detrimental effects that the use of non-approved products may have on equipment performance or longevity must be assumed by the equipment owner, equipment servicer, or the oil additive manufacturer.

**Table 1
Recommended Oil Types
and Charges for Model A,
B, C, D, E, F, M, R and
Scroll Compressors**

Reciprocating Compressor			Recommended Oil	
Model	Type	No. of Cylinders	Oil Charge	Oil Code
A	Open	4	27.0 pints	Code 1 (OIL-15)
		6 and 8	28.0 pints	Code 1 (OIL-15)
B	Open Alum.	4	14.0 pints	Code 1 (OIL-15)
	Open	4	15.0 pints	Code 1 (OIL-15)
		6	17.0 pints	Code 1 (OIL-15)
		8	17.5 pints	Code 1 (OIL-15)
	Hermetic	3	12.0 pints	Code 1 (OIL-15)
C	Open Alum.	3	4.0 pints	Code 1 (OIL-15)
	Hermetic, 3 and 5 hp	2	6.7 pints	Code 1 (OIL-15)
	Hermetic, 7.5 hp	3	6.7 pints	Code 1 (OIL-15)
D	Hermetic, 5 hp	3	7.5 pints	Code 1 (OIL-15)
	Hermetic, 7.5 hp	4	4.6 pints	Code 1 (OIL-15)
E	Open	4	29.0 pints	Code 1 (OIL-15)
		5 and 6	31.0 pints	Code 1 (OIL-15)
		8	33.0 pints	Code 1 (OIL-15)
	Hermetic	4	32.0 pints	Code 1 (OIL-15)
		5 and 6	34.0 pints	Code 1 (OIL-15)
		8	36.0 pints	Code 1 (OIL-15)
F	Open	3	13.5 pints	Code 1 (OIL-15)
		4	18.0 pints	Code 1 (OIL-15)
		5 and 6	19.0 pints	Code 1 (OIL-15)
		8	20.5 pints	Code 1 (OIL-15)
	Hermetic	3	13.5 pints	Code 1 (OIL-15)
		4	18.0 pints	Code 1 (OIL-15)
		5 and 6	19.0 pints	Code 1 (OIL-15)
		8	20.5 pints	Code 1 (OIL-15)
M	Hermetic	3 and 4	11.0 pints	Code 2 (Table 6)
		5 and 6	13.0 pints	Code 2 (Table 6)
R	Hermetic	4	20.0 pints	Code 2 (Table 6)
		6	27.0 pints	Code 2 (Table 6)

**Table 2
Recommended Oil Type
and Charges for Model J
Compressors**

Compressor Horsepower	Recommended Oil Charge		Recommended Oil Code
	Comp. Serial Nos. Below 85365	Comp. Serial Nos. Above 85365	
2.5, 3, 4 and 5 hp	4.0 pints	4.4 pints	Code 2
6.25 and 7 hp	6.0 pints	6.7 pints	Code 2

**Table 3
Recommended Oil Type and
Charges for Model H, K and HL
Compressors**

Compressor		Recommended Oil	
Model	Capacity	Oil Charge	Oil Code
H	5, 6.25, 7.5 and 8.3 tons	7.5 pints	Code 2
HL	7.5 and 10 ton	10.5 pints	Code 2
K	20, 25 and 30 tons	21.0 pints	Code 2

**Table 4
Recommended Oil Type and
Charges for Model Scroll
Compressors**

Compressor		Recommended Oil	
Model	Capacity	Oil Charge	Oil Code
CSHS	9 and 10 tons	8 pints	Code 1
CSHS	14 and 15 tons	14 pints	Code 1

**Table 5
Recommended Oil Type and
Charges for Climatuff
Compressors**

Compressor		Recommended Oil	
Model	Capacity	Oil Charge	Oil Code
B, C (1)	1.0 - 2.5 tons	1060 cc (2.2 pts)	Code 3
F, G (2)	2.5 - 6.5 tons	2000 cc (4.2 pts)	Code 3

Notes:
(1) B, C = 1 Cyl.
(2) F, G = 2 Cyl.

**Table 6
Recommended Oil Types and
Charges for Copeland, Bristol
(Sundstrand) and Tecumseh
Compressors**

Reciprocating Compressor			Recommended Oil	
Manufacturer	Model	Capacity	Charge	Code
Copeland	CRH1	2.5 tons	55 ounces	Code 2
	CRL1	3.5 tons	60 ounces	Code 2
	YRD6	4 tons	72 ounces	Code 2
	YHE6	5 tons	68 ounces	Code 2
	YRE6	5 tons	72 ounces	Code 2
	BRK1200	11.5 tons	124 ounces	Code 2
Bristol (See Note 1)	H2NG124, 2-speed	10 tons	7 pints	See Note 2
	H2G144, 2-speed	12.5 tons	7 pints	See Note 2
	H2NG184, 2-speed	15 tons	16 pints	See Note 2
	G124	10 tons	7 pints	See Note 2
	G144	12 tons	8 pints	See Note 2
Tecumseh	AH	2.5 and 3 tons	45 ounces	Code 2
	AG	5 tons	65 ounces	Code 2

Notes:
1. Bristol was previously Sundstrand.
2. Use Zeral 150 in Bristol compressors.

**Table 7
Code 1 Oil Requirements**

Trane Oil(s)	Characteristic(s)	Specification(s)
Trane OIL-15	Viscosity: ... at 100 ... at 210 F	F290 to 332 SSU 47 to 53 SSU
	Pour Point	- 25 F or below
	Floc Point	- 40 F or below
	Moisture Content	30 PPM
	Aniline Point	190 to 220 F
	Neutralization	0.04 mg maximum KOH per gram

**Table 8
Code 2 Oil Requirements
(See Note)**

Approved Oil(s)	Characteristic(s)	Specification(s)
Calumet RO 15; Calumet Hydrocal 15; Calgon C-3; Suniso 3GS	Viscosity:	
	... at 100 F	150 to 160 SSU
	... at 210 F	40 to 42 SSU
	Pour Point	- 45 F or below
	Floc Point	- 40 F maximum
	Moisture Content	30 PPM maximum
	Aniline Point	170 to 185 F
	API Gravity	23 to 27
	Maximum Operating Temperature in Refrigerant:	
	... Continuous	200 F
... Intermittent	300 F	

Note: The specific oils listed under "Approved Oil(s)" are compatible with each other and may be mixed.

**Table 9
Code 3 Oil Requirements**

Approved Oil(s)	Specification(s)
Trane OIL-27 (W83416)	Special Blended Oil for use with Climatuff Compressors

Parts Ordering Information:

Trane-name OIL-15 and OIL-27 are only available from The Trane Company. All Code 2 oils identified in this bulletin must be obtained locally.