



# Refrigerants & Lubricants



# refrigerants



FLUSHING		
Part Number	Description	List Price
R141B4.8	R141B DISPOSABLE CAN (4.8KG) *	<b>\$119.95</b>

DISPOSABLE CYLINDERS					
Part Number	Type	Weight (kg)	Replaces Refrigerants	Lubricant	List Price
R712200	R22	13.6kg	Still Available	Still Available	<b>P.O.A.</b>
Isceon M099	R22 Replacement - Available 2010 - contact your local Heatcraft branch for more information				
R713400	R134A	13.6kg	R12	Requires POE Oil	<b>P.O.A.</b>
R740400	R404A	10.9kg	R502	Requires POE Oil	<b>P.O.A.</b>
R740700	R407C	11.3kg	R22	First Alternative Available	<b>P.O.A.</b>
R741000	R410A	11.3kg		New equipment only	<b>P.O.A.</b>
R715100	R507A	11.3kg	R502	Requires POE Oil	<b>P.O.A.</b>

GLYCOL		
Part Number	Description	List Price
G150216	GLYCOL MONOPROPYLENE-15C 216KG	<b>P.O.A.</b>
G150020	GLYCOL MONOPROPYLENE-15C 20KG	<b>P.O.A.</b>

RECOVERY CYLINDER		
Part Number	Description	List Price
CRX400T	CYLINDER RECOVERY 22KG 5.5 MPa	<b>P.O.A.</b>

## SUNISO APPLICATION GUIDE

Always use viscosity grade recommended by manufacturer. If no recommendation is available, selection can usually be based on the following:

Suniso Oil Grade	Application
3GS	All new Compressors during the run-in period of less than 3.5kW (1 Ton) capacity. All low temperature applications with suction temperature of approx. -40°C and below. For use with fluorinated refrigerants, ammonia and all other refrigerants. Also for use with screw compressors.
4GS	All fully run-in Compressors (other than ammonia) of 3.5kW (1 Ton) capacity and over, and employed on normal applications with suction temperature of -40°C and higher.
5GS	For Car Air Conditioning Compressors or when a heavy duty, higher viscosity oil is required for special purposes.
4S	All Ammonia Compressors (run-in) of 3.5kW (1 Ton) capacity and over and employed on normal applications with suction temperature of -40°C and higher and including some Screw Compressors.

# Lubricants

Part Number	Description	List Price
<b>SUNISO</b>		
3GS-4L	OIL SUNISO 3GS (4 LTR.)	\$52.99
3GS-20L	OIL SUNISO 3GS (20 LTR.)	\$269.81
4GS-4L	OIL SUNISO 4GS (4 LTR.)	\$52.12
4GS-20L	OIL SUNISO 4GS (20 LTR.)	\$269.81
4SA-20L	OIL SUNISO 4SA (20 LTR.)	\$242.22
4SA-205L	OIL SUNISO 4SA (205 LTR.)	\$1,904.96
<b>MANEUROP COMPRESSOR OIL</b>		
7754001	160 P MINERAL OIL 2 LITRE (MGM & HGM & SM)	\$100.01
7754002	160 P MINERAL OIL 5 LITRE (MGM & HGM & SM)	\$200.72
<b>ALKYL BENZENE</b>		
CP4700-46	ALKYL BENZENE OIL 4L 46	\$118.65
<b>MOBIL - EAL - POLYOLESTER OIL (COPELAND FORMULATION)</b>		
RL22-4	EAL ARCTIC 22CC MOBIL OIL 5L	
<b>MANEUROP ESTER OILS - R134A, R404A, R507</b>		
7754020	160 PZ ESTER OIL 2 LITRE (MGZ & HGZ)	\$104.01
7754026	160 Z ESTER OIL 2 LITRE (LGZ)	\$139.46
7754024	160 SZ ESTER OIL 2 LITRE (SZ)	\$109.82
<b>VACUUM PUMP OILS</b>		
VPOG	VACUUM PUMP OIL 3.8 LITRES	\$49.68
VPOQ	OIL VAC PUMP 1 LITRE	\$17.85
<b>EMKARATE ESTER OILS</b>		
1529212	EMKARATE RL32 1 LITRE	\$64.69
1529245	EMKARATE RL32 5 LITRE	\$312.43
1529220	EMKARATE RL32 20 LITRE	\$1,344.42
1533212	EMKARATE RL68 1 LITRE	\$59.96
1533245	EMKARATE RL68 5 LITRE	\$271.40
<b>HAND OIL PUMP</b>		
VOP-H	STRAP TYPE OIL PUMP TO SUIT 5 & 20 LITRE DRUMS	\$343.38



## PRESSURE TEMP CHART

Temp °C	Pressure kPa															
	R12	R134A	R406A	R409A	ISCEON 49 R413A	SP34E	R22	DEW R407	BUBBLE R407	R410A	ISCEON 59 R417A	R404A	R507	R408A	R502	R717
-60	-77						-63			-36	-54		-47		-51	
-58	-75						-58			-28	-49		-41		-46	
-56	-72						-53			-20	-44		-35		-40	
-54	-68						-48			-11	-38		-28		-33	
-52	-65						-42			-1	-32		-20		-26	
-50	-61			-71	-50		-36			9	-25	-23	-12	-23	-19	41
-48	-57			-67	-45		-29			21	-18	-15	-3	-17	-10	47
-46	-52			-63	-39		-21			33	-11	-6	7	-8	-1	51
-44	-47			-59	-33		-13			46	-2	4	17	1	8	58
-42	-42			-54	-27		-5			61	7	15	28	11	19	63
-40	-36	-47	-43	-49	-20	-50	5			76	16	26	40	22	30	72
-38	-30	-41	-37	-43	-12	45	15	-5	33	93	26	39	53	34	42	81
-36	-23	-35	-30	-37	-4	-38	26	5	45	111	37	52	67	46	54	88
-34	-16	-28	-24	-31	4	-32	38	16	58	130	49	66	82	60	68	99
-32	-8	-21	-16	-23	14	-25	50	27	73	150	61	81	98	74	82	108
-30	0	-14	-9	-16	24	-17	63	39	88	172	74	97	114	89	98	120
-28	9	-5	0	-7	34	-9	78	52	104	195	88	114	132	105	114	133
-26	19	3	9	2	45	1	93	67	122	219	103	133	151	123	132	144
-24	29	14	19	11	57	10	109	82	140	245	119	152	171	141	150	160
-22	39	26	29	21	70	21	126	98	160	273	135	173	193	161	170	172
-20	51	39	40	33	84	32	145	115	181	303	153	195	216	181	191	190
-18	63	49	52	44	98	44	164	134	203	334	171	219	240	203	213	210
-16	76	59	65	57	114	56	185	153	226	367	191	243	265	227	236	225
-14	89	72	78	71	130	70	207	174	251	402	211	270	292	251	261	248
-12	104	86	92	85	147	84	230	197	277	438	233	297	320	277	287	265
-10	119	101	107	100	165	100	254	220	305	477	256	326	350	305	314	291
-8	135	118	123	117	184	116	280	245	334	518	280	357	382	334	343	318
-6	152	135	140	134	204	134	307	272	365	561	305	390	415	364	373	340
-4	170	153	158	152	226	152	336	300	398	607	332	424	450	396	405	370
-2	189	172	177	172	248	172	366	330	432	654	360	460	486	430	438	395
0	208	192	197	192	272	192	397	361	468	704	389	498	525	465	473	429
2	229	211	217	214	297	215	431	394	506	757	420	537	565	502	510	466
4	251	229	240	237	323	238	466	429	545	812	452	579	608	541	548	496
6	274	253	263	262	350	262	502	466	587	869	485	623	652	582	588	536
8	298	283	287	287	379	288	540	504	630	930	520	669	698	625	630	569
10	323	313	313	314	409	316	581	545	676	993	557	716	747	670	673	615

## PRESSURE TEMP CHART

Temp °C	Pressure kPa															
	R12	R134A	R406A	R409A	ISCEON 49 R413A	SP34E	R22	DEW R407	BUBBLE R407	R410A	ISCEON 59 R417A	R404A	R507	R408A	R502	R717
12	349	342	340	342	441	344	622	588	723	1059	595	766	798	716	718	663
14	380	372	368	372	474	375	666	632	773	1128	635	819	851	765	766	402
16	406	403	397	404	508	406	712	679	825	1200	676	873	906	816	815	756
18	436	436	428	437	544	440	760	728	879	1275	719	929	964	869	866	798
20	467	469	461	471	582	470	810	780	936	1353	764	989	1024	920	920	857
22	500	507	495	507	621	508	862	834	995	1435	811	1049	1087	980	975	920
24	534	544	530	545	662	557	916	890	1056	1520	859	1119	1152	1040	1033	969
26	569	584	567	585	705	595	972	949	1120	1608	910	1179	1221	1100	1093	1038
28	606	626	605	626	750	623	1031	1010	1187	1701	962	1249	1291	1170	1155	1091
30	645	668	645	670	796	651	1092	1075	1256	1797	1016	1329	1365	1240	1219	1167
32	685	715	687	715	844	698	1155	1142	1328	1896	1073	1399	1442	1310	1286	1245
34	726	761	730	762	895	746	1221	1211	1403	2000	1131	1479	1521	1380	1355	1307
36	769	811	775	811	947	792	1289	1284	1480	2108	1192	1559	1604	1460	1426	1393
38	814	863	822	863	1001	836	1360	1360	1561	2220	1254	1639	1689	1530	1500	461
40	860	915	871	920	1057	880	1433	1439	1645	2336	1319	1729	1778	1610	1577	1554
42	908	972	922	970	1115	927	1509	1521	1731	2456	1386	1819	1870	1700	1656	1653
44	958	1029	974	1030	1176	977	1588	1607	1821	2581	1455	1909	1966	1790	1738	1729
46	1010	1090	1029	1090	1238	1026	1670	1696	1914	2710	1527	2009	2064	1880	1823	1835
48	1064	1153	1085	1150	1303	1078	1754	1788	2011	2844	1601	2109	2167	1970	1911	1918
50	1119	1217	1144	1220	1370	1130	1842	1885	2110	2983	1677	2209	2273	2060	2001	2033
52	1176	1287	1204	1290	1440	1193	1932	1985	2214	3126	1756	2319	2382	2160	2095	
54	1235	1356	1267	1360	1512	1249	2026	2088	2320	3274	1837	2429	2496	2270	2192	
56	1297	1429	1331	1430	1586	1312	2123	2196	2431	3428	1921	2549	2613	2370	2291	
58	1360	1505	1398	1500	1663	1381	2223	2308	2545	3586	2007	2659	2734	2480	2395	
60	1425	1581	1468	1580	1742	1450	2326	2424	2663	3749	2095	2789	2859	2590	2501	
62		1662					2422	2545	2785	3917		2901	2978			
64		1746					2532	2671	2910	4090		3032	3114			
66		1833					2646	2801	3040	4267			3255			
68		1923					2763	2936	3174	4448			3402			
70		2016					2884	3077	3312	4631			3554			

### Heat Flow

Btu/hr x 0.252 = kcal/hr  
 Btu/hr x 0.293 = watts  
 watts x 0.86 = kcal/hr  
 watts x 3.4129 = Btu/hr  
 watts x 0.000284 = ton (refr)  
 watts x 0.00133 = HP  
 kcal/hr x 1.163 = watts  
 kcal/hr x 3.97 = Btu/hr  
 HP x 746 = watts  
 ton (refr) x 3517 = watts

### Volume Flow

cfm x 0.472 = l/s  
 imp. gal/min x 0.0758 = l/s  
 U.S. gal/min x 0.0631 = l/s

### Volume

ft<sup>3</sup> x 0.02832 = m<sup>3</sup>

### Temperature

°C = (°F - 32) ÷ 1.8  
 °F = (°C x 1.8) + 32

### Velocity

fps x 0.3048 = m/s  
 fpm x 0.00508 = m/s

### Pressure

kPa ÷ 6.89 = psi  
 inch Hg x 3.39 = kPa  
 inch H<sub>2</sub>O x 0.249 = kPa  
 mm Hg (1 torr) x 0.133 = kPa





## *Heatcraft, always delivering Smart Solutions™*

**Providing solutions to make your life easy is what we do everyday**

As New Zealand's leading provider of smart climate & temperature control solutions, our strength lies in our ability to bring you innovation from around the world. As Smart Solutions™ providers we are backed by a global network offering you leading brands such as Kirby, Dorin, Lennox, Danfoss, Refac and Interlink. We are also committed to providing you with specialist knowledge through our engineers and sales staff, who are trained in the latest products and can provide you with all the know-how you need.

Our goal is also to deliver more convenience for our customers. With our network of branches across New Zealand, you're sure to find a Heatcraft store right where you need one. Heatcraft remains a leading and competitive force in the New Zealand commercial refrigeration industry and continues to serve your needs now and into the future.

**Heatcraft - your leading provider of Smart Solutions.**

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