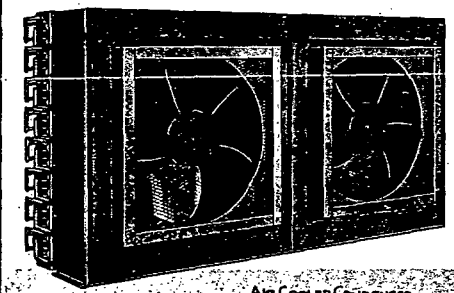
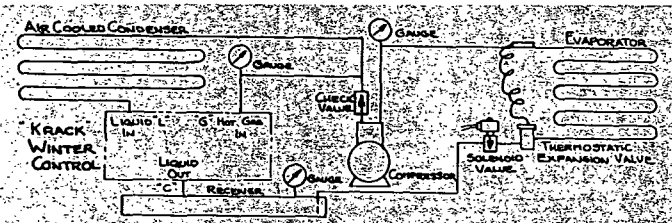


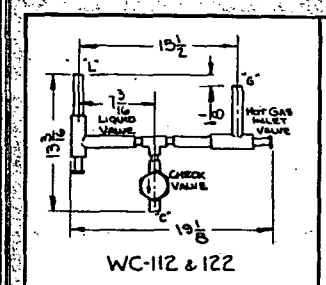
AIR COOLED CONDENSERS

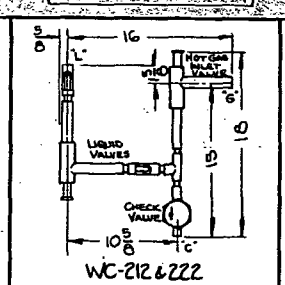
Remote Type

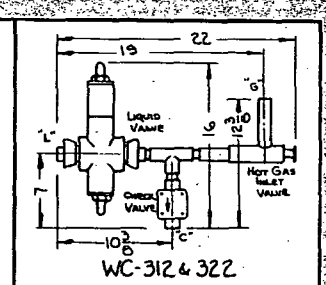
Ball-bearing fan shafts. Alemite external grease fittings for bearings and motor. Semi-automatic external belt adjustment (Pat. applied for). *Bulletin AC-457*

KRACK WINTER CONTROL









REFRIGERANT-12		REFRIGERANT-22		CONNECTION DATA		
WINTER CONTROL MODEL	CAPACITY* TONS	WINTER CONTROL NO.	CAPACITY TONS	"L" LIQUID FROM CONDENSER	"G" HOT GAS FROM COMPRESSOR DISCH.	"C" LIQUID TO RECEIVER
WC-112	1 thru 7.4	WC-122	1 thru 7.4	7/8" I.D. Sw.	7/8" I.D. Sw.	7/8" I.D. Sw.
WC-212	7.5 thru 14.9	WC-222	7.5 thru 14.9	7/8" I.D. Sw.	7/8" I.D. Sw.	7/8" I.D. Sw.
WC-312	15 thru 35	WC-322	15 thru 35	1-1/8" I.D. Sw.	1-1/8" I.D. Sw.	1-1/8" I.D. Sw.

* For larger capacities use multiple winter controls in parallel

The need for a modulating device for use in conjunction with constant air flow air cooled condensers is generally recognized. Falling temperatures produce correspondingly low operating pressure and eventually cause system problems at the expansion valve. The Krack Winter Control, a completely automatic system, positively eliminates these conditions.

Krack winter control consists of three valves. The first, designated as Valve L in the accompanying diagram controls pressure in the condenser itself by filling or emptying same in accordance with pressure variation.

The second or Valve G controls pressure in the receiver by using discharge line gas in accordance with pressure variation therein. The third, a check valve designated as C, prevents liquid escape from receiver to condenser under any condition. Settings for the valves indicated are approximately as follows:

	"12"	"22"
Valve L	105#	180#
Valve G	95#	160#

TABLE 1 Conversion factors for various temperature differences between entering air and condensing temperature.

TABLE 2 Conversion factors for suction temperatures lower than 40° F. at various condensing temperatures.

TABLE 3 Air-cooled condenser specification chart based on 90° F. ambient air and 110° F. condensing temperature.

CONDENSING TEMPERATURE -- CORRECTION FACTOR							
ENTERING AIR DRY BULB	CONDENSING TEMPERATURE						
	100	105	110	115	120	125	130
	DISCHARGE PRESSURE						
	F12 F22	116.9 197.9	126.2 212.9	136 228.7	146.3 245.3	157.1 262.6	168.4 280.5	180.2 298.8
85		1.34	1.00	.80	.67	.57	.50	.45
90		2.0	1.34	1.00	.80	.67	.57	.50
95			2.0	1.34	1.00	.80	.67	.57
100				2.00	1.34	1.00	.80	.67
105					2.0	1.34	1.00	.80

SUCTION TEMPERATURE -- CORRECTION FACTOR									
CONDENSING TEMPERATURE	SUCTION TEMPERATURE								
	-40°	-30°	-20°	-10°	0	+10°	+20°	+30°	+40°
100°	1.25	1.22	1.17	1.13	1.1	1.06	1.03	1.0	.98
110°	1.31	1.26	1.21	1.17	1.13	1.09	1.06	1.03	1.0
120°	1.37	1.32	1.23	1.20	1.15	1.11	1.08	1.05	1.02
130°	1.43	1.37	1.30	1.25	1.20	1.16	1.12	1.08	1.05

UNIT MODEL		NOM. CAPACITY @ EVAPORATOR 90° AMBIENT 40° SUCTION 120° COND.		AIR VOLUME CFM	MOTOR DATA			FAN DATA		OPERATING* CHARGE		APPROX. SHIPPING WEIGHTS
		TONS	BTU/HR.		HP	FULL LOAD AMP.	RPM	DIA.	TYPE DRIVE & RPM	"12"	"22"	
C10HD		1	12,000	1395	1/8	1.5	1140	16	Direct 1140	2.5	2.2	140
C20HD		2	24,000	2760	1/4	2.5	1140	20	Direct 1140	4.9	4.4	220
C30HD		3	36,000	3900	1/3	3.0	1140	22	Direct 1140	7.7	6.7	330
C50HD		5	60,000	6520	2-1/4	5.0	1140	2-22	Direct 1140	12.7	11.2	550
C75BD	COIL A	6.75	81,000	11100	1-1/2	4.4	1725	42	Belt 435	15.5	14.3	800
	COIL B	7.5	90,000	11000	1-1/2	4.4	1725	42	Belt 435	15.5	14.3	830
	COIL C	8.85	106,000	10700	1-1/2	4.4	1725	42	Belt 435	15.5	14.3	860
C100BD	COIL A	9.0	108,000	16300	1-1/2	4.4	1725	48	Belt 435	21.4	19.7	890
	COIL B	10	120,000	16000	1-1/2	4.4	1725	48	Belt 435	21.4	19.7	950
	COIL C	11.5	138,000	15800	1-1/2	4.4	1725	48	Belt 435	21.4	19.7	1010
C150BD	COIL A	13.4	161,000	17250	1-1/2	4.4	1725	48	Belt 450	28.4	25.4	1200
	COIL B	15	180,000	16750	1-1/2	4.4	1725	48	Belt 450	28.4	25.4	1300
	COIL C	16.55	198,000	16050	2	5.8	1725	48	Belt 450	28.4	25.4	1400
C200BD	COIL A	18	216,000	29100	3	8.2	1725	2-48	Belt 435	42.3	39.0	1470
	COIL B	20	240,000	28000	3	8.2	1725	2-48	Belt 435	42.3	39.2	1530
	COIL C	22.8	274,000	27100	3	8.2	1725	2-48	Belt 435	42.3	39.2	1590
C250BD	COIL A	23.4	281,000	28850	3	8.2	1725	2-48	Belt 440	56.5	52.3	1730
	COIL B	25	300,000	28250	3	8.2	1725	2-48	Belt 440	56.5	52.3	1860
	COIL C	26.8	322,000	27350	3	8.2	1725	2-48	Belt 440	56.5	52.3	1960
C300BD	COIL B	30	360,000	31500	5	8.2	1725	2-48	Belt 450	79.0	73.0	2350
	COIL C	33.1	397,500	30500	5	13.0	1725	2-48	Belt 450	79.0	73.0	2550
C400BD		40	480,000	58000	7-1/2	19.6	1725	2-54	Belt 570	105	98	3400
C500BD		50	600,000	58000	7-1/2	19.6	1725	2-54	Belt 610	140	130	3600
C600BD		60	720,000	56000	7-1/2	19.6	1725	2-54	Belt 630	210	195	3750

* When using Krack Winter Control, the condenser operating should be doubled and the receiver sized accordingly.

INSTRUCTIONS

1. Select from Table 1, Correction Factor applicable to condensing temperature and ambient temperature to be encountered on subject installation.
2. Obtain from Table 2, Correction Factor corresponding to suction temperature and condensing temperature at which the equipment is designed to operate.
3. Multiply Correction Factors obtained from Tables 1 and 2 by the Evaporator Load.
4. Select a KRACK Air Cooled Condenser from Table 3 having a nominal rating equal to or greater than the figure arrived at in step 3.

EXAMPLE

To select a KRACK Air Cooled Condenser for:
120° Condensing Temperature
90° Ambient Temperature
10° Suction Temperature
240,000 BTU/Hr. EVAPORATOR LOAD

1. Correction factor from Table 1 for 120° condensing temperature and 90° ambient is .67.
2. Correction factor from Table 2 for 10° suction and 120° condensing temperature is 1.11.
3. Multiply evaporator load by correction factors selected: 240,000 x .67 x 1.11 = 178,488 BTU/Hr.
4. From Table 3 — Model C150BD with Coil B is selected.

Available With All Steel Hot-Dipped Galvanized "B" Coil Elements, For Use in Auxiliary Services.