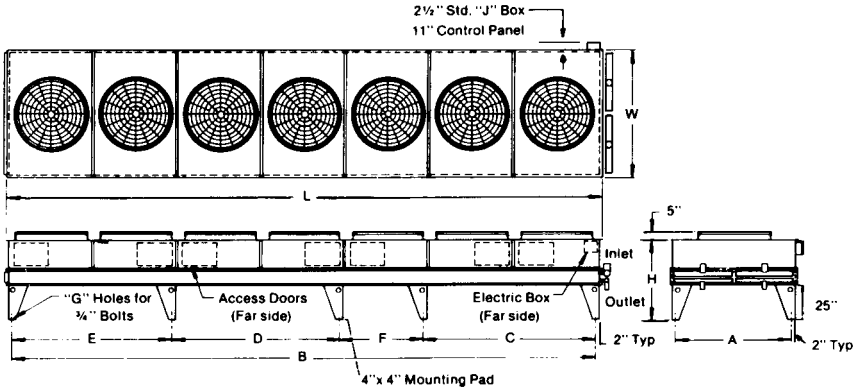
REMOTE AIR COOLED CONDENSERS

MODEL VCB

56 MODELS
REFRIGERANTS R-12, R-22, R-502
NOMINAL HEAT REJECTION CAPACITY 260 MBH-3650 MBH



NOTE: York recommends the minimum distance between the condenser and walls be 8'. The minimum distance between adjacent condensers should be 12'. This will prevent condenser air recirculation and faulty operation.

Model #	L	W	H	A	B	C	D	E	F	G	Standard Unit w/Main Coil(s) Only (w/out Subcooling)		Single Circuited Condenser (w/Subcooling)			Dual Circuited Condenser (w/Subcooling)		
											Main Coil		Main Coil		S-Cool	Main Coil		S-Cool
											Hot Gas IN	Liquid OUT	Hot Gas IN	Liquid OUT	In and OUT	Hot Gas IN	Liquid OUT	In and OUT
VCB 22	87-1/4	60	52-3/4	52-3/4	80	—	—	—	—	4	2-1/8	1-1/8	2-1/8	1-1/8	1-1/8	(2) 1-5/8	(2) 7/8	(2) 7/8
27	87-1/4	60	52-3/4	52-3/4	80	—	—	—	—	4	2-1/8	1-1/8	2-1/8	1-1/8	1-1/8	(2) 1-5/8	(2) 7/8	(2) 7/8
32	87-1/4	60	54	52-3/4	80	—	—	—	—	4	2-1/8	1-3/8	2-1/8	1-3/8	1-3/8	(2) 1-5/8	(2) 1-1/8	(2) 1-1/8
34	87-1/4	60	56-1/2	52-3/4	80	—	—	—	—	4	2-1/8	1-3/8	2-1/8	1-3/8	1-3/8	(2) 1-5/8	(2) 1-1/8	(2) 1-1/8
38	87-1/4	60	56-1/2	52-3/4	80	—	—	—	—	4	(2) 2-1/8	(2) 1-1/8	2-5/8	1-3/8	1-3/8	(2) 2-1/8	(2) 1-1/8	(2) 1-1/8
43	117	87-1/4	52-3/4	80	109-3/4	—	—	—	—	4	(2) 2-1/8	(2) 1-1/8	2-5/8	1-3/8	1-3/8	(2) 2-1/8	(2) 1-1/8	(2) 1-1/8
48	117	87-1/4	52-3/4	80	109-3/4	—	—	—	—	4	(2) 2-1/8	(2) 1-1/8	2-5/8	1-3/8	1-3/8	(2) 2-1/8	(2) 1-1/8	(2) 1-1/8
54	117	87-1/4	52-3/4	80	109-3/4	—	—	—	—	4	(2) 2-1/8	(2) 1-1/8	2-5/8	1-3/8	1-3/8	(2) 2-1/8	(2) 1-1/8	(2) 1-1/8
57	117	87-1/4	54	80	109-3/4	—	—	—	—	4	(2) 2-1/8	(2) 1-1/8	2-5/8	1-3/8	1-3/8	(2) 2-1/8	(2) 1-1/8	(2) 1-1/8
61	117	87-1/4	52-3/4	80	109-3/4	—	—	—	—	4	(2) 2-1/8	(2) 1-1/8	2-5/8	1-3/8	1-3/8	(2) 2-1/8	(2) 1-1/8	(2) 1-1/8
64	117	87-1/4	54	80	109-3/4	—	—	—	—	4	(2) 2-1/8	(2) 1-1/8	2-5/8	1-3/8	1-3/8	(2) 2-1/8	(2) 1-1/8	(2) 1-1/8
65	117	87-1/4	52-3/4	80	109-3/4	—	—	—	—	4	(2) 2-1/8	(2) 1-3/8	2-5/8	1-5/8	1-5/8	(2) 2-1/8	(2) 1-3/8	(2) 1-3/8
67	117	87-1/4	54	80	109-3/4	—	—	—	—	4	(2) 2-1/8	(2) 1-3/8	2-5/8	1-5/8	1-5/8	(2) 2-1/8	(2) 1-3/8	(2) 1-3/8
69	117	87-1/4	56-1/2	80	109-3/4	—	—	—	—	4	(2) 2-1/8	(2) 1-3/8	2-5/8	1-5/8	1-5/8	(2) 2-5/8	(2) 1-3/8	(2) 1-3/8
75	117	87-1/4	56-1/2	80	109-3/4	—	—	—	—	4	(2) 2-5/8	(2) 1-3/8	3-1/8	1-5/8	1-5/8	(2) 2-5/8	(2) 1-3/8	(2) 1-3/8
78	117	87-1/4	56-1/2	80	109-3/4	—	—	—	—	4	(2) 2-5/8	(2) 1-3/8	3-1/8	1-5/8	1-5/8	(2) 2-5/8	(2) 1-3/8	(2) 1-3/8
81	174	87-1/4	52-3/4	80	166-3/4	114	—	—	—	6	(2) 2-5/8	(2) 1-3/8	3-1/8	1-5/8	1-5/8	(2) 2-5/8	(2) 1-3/8	(2) 1-3/8
86	174	87-1/4	54	80	166-3/4	114	—	—	—	6	(2) 2-5/8	(2) 1-3/8	3-1/8	1-5/8	1-5/8	(2) 2-5/8	(2) 1-3/8	(2) 1-3/8
92	174	87-1/4	52-3/4	80	166-3/4	114	—	52-3/4	—	6	(2) 2-5/8	(2) 1-3/8	3-1/8	1-5/8	1-5/8	(2) 2-5/8	(2) 1-3/8	(2) 1-3/8
96	174	87-1/4	54	80	166-3/4	114	—	52-3/4	—	6	(2) 2-5/8	(2) 1-3/8	3-1/8	1-5/8	1-5/8	(2) 2-5/8	(2) 1-3/8	(2) 1-3/8
101	174	87-1/4	54	80	166-3/4	114	—	52-3/4	—	6	(2) 2-5/8	(2) 1-3/8	3-1/8	1-5/8	1-5/8	(2) 2-5/8	(2) 1-3/8	(2) 1-3/8
103	174	87-1/4	56-1/2	80	166-3/4	114	—	52-3/4	—	6	(2) 2-5/8	(2) 1-3/8	3-1/8	2-1/8	2-1/8	(2) 2-5/8	(2) 1-5/8	(2) 1-5/8
104	231	87-1/4	52-3/4	80	223-3/4	114	—	109-3/4	—	6	(2) 2-5/8	(2) 1-3/8	3-1/8	1-5/8	1-5/8	(2) 2-5/8	(2) 1-3/8	(2) 1-3/8
107	174	87-1/4	56-1/2	80	166-3/4	114	—	52-3/4	—	6	(2) 2-5/8	(2) 1-5/8	3-1/8	2-1/8	2-1/8	(2) 2-5/8	(2) 1-5/8	(2) 1-5/8
108	231	87-1/4	52-3/4	80	223-3/4	114	—	109-3/4	—	6	(2) 2-5/8	(2) 1-5/8	3-1/8	2-1/8	2-1/8	(2) 2-5/8	(2) 1-5/8	(2) 1-5/8
113	174	87-1/4	56-1/2	80	166-3/4	114	—	52-3/4	—	6	(2) 2-5/8	(2) 1-5/8	3-1/8	2-1/8	2-1/8	(2) 2-5/8	(2) 1-5/8	(2) 1-5/8
121	231	87-1/4	54	80	223-3/4	114	—	109-3/4	—	6	(2) 3-1/8	(2) 1-5/8	3-5/8	2-1/8	2-1/8	(2) 3-1/8	(2) 1-5/8	(2) 1-5/8
124	174	87-1/4	56-1/2	80	166-3/4	114	—	52-3/4	—	6	(2) 3-1/8	(2) 1-5/8	3-5/8	2-1/8	2-1/8	(2) 3-1/8	(2) 1-5/8	(2) 1-5/8
128	231	87-1/4	54	80	223-3/4	114	—	109-3/4	—	6	(2) 3-1/8	(2) 1-5/8	3-5/8	2-1/8	2-1/8	(2) 3-1/8	(2) 1-5/8	(2) 1-5/8
131	231	87-1/4	54	80	223-3/4	114	—	109-3/4	—	6	(2) 3-1/8	(2) 1-5/8	3-5/8	2-1/8	2-1/8	(2) 3-1/8	(2) 1-5/8	(2) 1-5/8
138	231	87-1/4	56-1/2	80	223-3/4	114	—	109-3/4	—	6	(2) 3-1/8	(2) 1-5/8	3-5/8	2-1/8	2-1/8	(2) 3-1/8	(2) 1-5/8	(2) 1-5/8
142	231	87-1/4	56-1/2	80	223-3/4	114	—	109-3/4	—	6	(2) 3-1/8	(2) 1-5/8	3-5/8	2-1/8	2-1/8	(2) 3-1/8	(2) 1-5/8	(2) 1-5/8
145	231	87-1/4	54	80	223-3/4	114	—	109-3/4	—	6	(2) 3-1/8	(2) 1-5/8	3-5/8	2-1/8	2-1/8	(2) 3-1/8	(2) 1-5/8	(2) 1-5/8
153	231	87-1/4	54	80	223-3/4	114	—	109-3/4	—	6	(2) 3-1/8	(2) 1-5/8	3-5/8	2-1/8	2-1/8	(2) 3-1/8	(2) 1-5/8	(2) 1-5/8
155	288	87-1/4	54	80	280-3/4	114	57	109-3/4	—	8	(2) 3-1/8	(2) 1-5/8	3-5/8	2-1/8	2-1/8	(2) 3-1/8	(2) 1-5/8	(2) 1-5/8
160	288	87-1/4	54	80	280-3/4	114	57	109-3/4	—	8	(2) 3-1/8	(2) 1-5/8	3-5/8	2-1/8	2-1/8	(2) 3-1/8	(2) 1-5/8	(2) 1-5/8
162	231	87-1/4	56-1/2	80	223-3/4	114	57	109-3/4	—	8	(2) 3-1/8	(2) 1-5/8	3-5/8	2-1/8	2-1/8	(2) 3-1/8	(2) 1-5/8	(2) 1-5/8
169	288	87-1/4	54	80	280-3/4	114	57	109-3/4	—	6	(2) 3-1/8	(2) 1-5/8	3-5/8	2-1/8	2-1/8	(2) 3-1/8	(2) 2-1/8	(2) 2-1/8
172	288	87-1/4	56-1/2	80	280-3/4	114	57	109-3/4	—	8	(2) 3-1/8	(2) 2-1/8	3-5/8	2-5/8	2-5/8	(2) 3-1/8	(2) 2-1/8	(2) 2-1/8
176	345	87-1/4	54	80	337-3/4	114	114	109-3/4	—	8	(2) 3-1/8	(2) 2-1/8	3-5/8	2-5/8	2-5/8	(2) 3-1/8	(2) 2-1/8	(2) 2-1/8
181	345	87-1/4	54	80	337-3/4	114	114	109-3/4	—	8	(2) 3-1/8	(2) 2-1/8	3-5/8	2-5/8	2-5/8	(2) 3-1/8	(2) 2-1/8	(2) 2-1/8
191	288	87-1/4	54	80	280-3/4	114	57	109-3/4	—	8	(2) 3-1/8	(2) 2-1/8	3-5/8	2-5/8	2-5/8	(2) 3-1/8	(2) 2-1/8	(2) 2-1/8
192	345	87-1/4	54	80	337-3/4	114	114	109-3/4	—	8	(2) 3-1/8	(2) 2-1/8	3-5/8	2-5/8	2-5/8	(2) 3-1/8	(2) 2-1/8	(2) 2-1/8
197	345	87-1/4	54	80	337-3/4	114	114	109-3/4	—	8	(2) 3-1/8	(2) 2-1/8	3-5/8	2-5/8	2-5/8	(2) 3-1/8	(2) 2-1/8	(2) 2-1/8
207	345	87-1/4	56-1/2	80	337-3/4	114	114	109-3/4	—	8	(2) 3-5/8	(2) 2-1/8	4-1/8	2-5/8	2-5/8	(2) 3-5/8	(2) 2-1/8	(2) 2-1/8
209	345	87-1/4	54	80	337-3/4	114	114	109-3/4	—	8	(2) 3-1/8	(2) 2-1/8	3-5/8	2-5/8	2-5/8	(2) 3-1/8	(2) 2-1/8	(2) 2-1/8
223	345	87-1/4	54	80	337-3/4	114	114	109-3/4	—	8	(2) 3-1/8	(2) 2-1/8	3-5/8	2-5/8	2-5/8	(2) 3-1/8	(2) 2-1/8	(2) 2-1/8
† 224	402	87-1/4	54	80	394-3/4	114	114	109-3/4	57	10	(2) 3-5/8	(2) 2-1/8	4-1/8	2-5/8	2-5/8	(2) 3-5/8	(2) 2-1/8	(2) 2-1/8
† 231	402	87-1/4	54	80	394-3/4	114	114	109-3/4	57	10	(2) 3-5/8	(2) 2-1/8	4-1/8	2-5/8	2-5/8	(2) 3-5/8	(2) 2-1/8	(2) 2-1/8
† 241	402	87-1/4	60	80	394-3/4	114	114	109-3/4	57	10	(2) 4-1/8	(2) 2-5/8	5-1/8	3-1/8	3-1/8	(2) 4-1/8	(2) 2-5/8	(2) 2-5/8
242	345	87-1/4	56-1/2	80	337-3/4	114	114	109-3/4	—	8	(2) 3-5/8	(2) 2-1/8	4-1/8	2-5/8	2-5/8	(2) 3-5/8	(2) 2-1/8	(2) 2-1/8
248	345	87-1/4	56-1/2	80	337-3/4	114	114	109-3/4	—	8	(2) 3-5/8	(2) 2-1/8	4-1/8	2-5/8	2-5/8	(2) 3-3/8	(2) 2-1/8	(2) 2-1/8
† 258	402	87-1/4	60	80	394-3/4	114	114	109-3/4	57	10	(2) 4-1/8	(2) 2-5/8	5-1/8	3-1/8	3-1/8	(2) 4-1/8	(2) 2-5/8	(2) 2-5/8
† 272	402	87-1/4	60	80	394-3/4	114	114	109-3/4	57	10	(2) 4-1/8	(2) 2-5/8	5-1/8	3-1/8	3-1/8	(2) 4-1/8	(2) 2-5/8	(2) 2-5/8
† 303	402	87-1/4	60	80	394-3/4	114	114	109-3/4	57	10	(2) 4-1/8	(2) 2-5/8	5-1/8	3-1/8	3-1/8	(2) 4-1/8	(2) 2-5/8	(2) 2-5/8
† 336	402	87-1/4	60	80	394-3/4	114	114	109-3/4	57	10	(2) 4-1/8	(2) 2-5/8	5-1/8	3-1/8	3-1/8	(2) 4-1/8	(2) 2-5/8	(2) 2-5/8
													a	b		c	d	

Connection sizes listed are based on R-12 @ 120°F condensing & 0° F suction.

† Have 7 condenser fans (See Note 2).

R-22 Design Parameters

Operating Charge = Internal volume (Cu.Ft.) x 17.2 Lbs./Cu.Ft.
Pumpdown Capacity = Internal volume (Cu.Ft.) x 70.5 Lbs./Cu.Ft. x 0.8

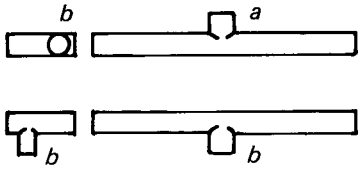
YORK VCB AIR COOLED CONDENSERS—REFRIGERANT PIPING ARRANGEMENTS

WITHOUT FACTORY MOUNTED SUBCOOLER PIPING OPTION

SINGLE CIRCUITED CONDENSER

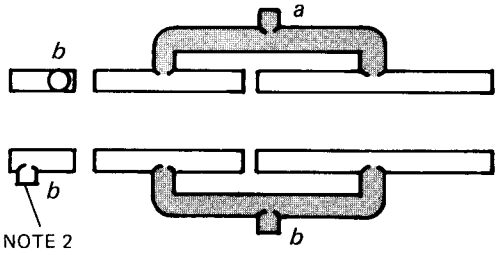
VCB 22 THRU VCB 38 (NOTE 3)

NOTE: NO SUBCOOLER KIT ORDERED



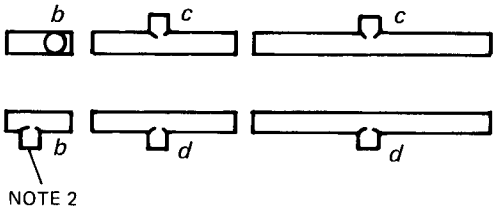
VCB 43 THRU VCB 336 (NOTE 3)

NOTE: WITH MANIFOLD KIT ORDERED BUT NO SUBCOOLER KIT ORDERED



VCB 43 THRU VCB 336 (NOTE 3)

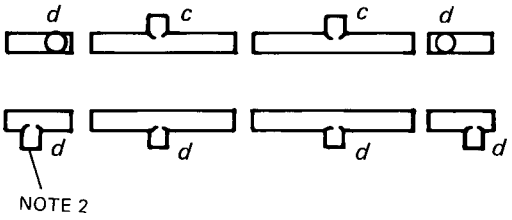
NOTE: NO MANIFOLD OR SUBCOOLER KIT ORDERED



DUAL CIRCUITED CONDENSER

VCB 22 THRU 336 (NOTE 4)

NOTE: NO SUBCOOLER KIT ORDERED

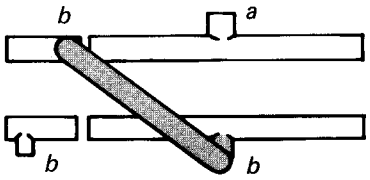


WITH FACTORY MOUNTED SUBCOOLER PIPING OPTION

SINGLE CIRCUITED CONDENSER

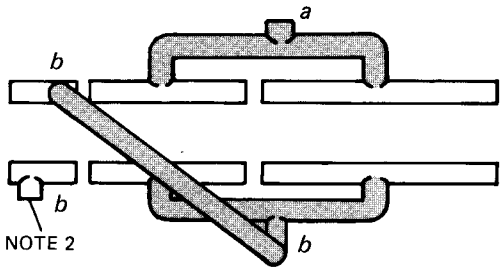
VCB 22 THRU VCB 38 (NOTE 3)

NOTE: WITH SUBCOOLER KIT ORDERED



VCB 43 THRU VCB 336 (NOTE 3)

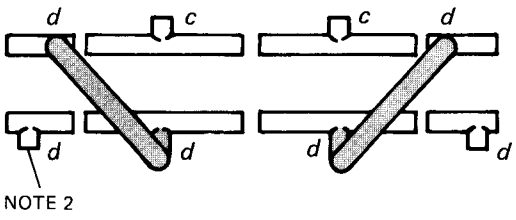
NOTE: WITH MANIFOLD & SUBCOOLER KIT ORDERED



DUAL CIRCUITED CONDENSER

VCB 22 THRU 336 (NOTE 4)

NOTE: WITH SUBCOOLER KIT ORDERED



NOTES:

1 . Field piping (by others) must be installed from the compressor discharge lines to the main condensing section gas inlet connections; from the main condensing section liquid outlets to the subcooling circuit liquid inlet connections; and from the subcooling liquid outlets to the compressor system liquid connections.

2. All subcooler circuits are return bend piped except the seven fan units. The seven fan units have a straight through subcooling circuit. The liquid inlet connection is at the main condensing section liquid outlet end. The subcooler liquid outlet connection is at the opposite end.
3. This arrangement should be considered when either:
   A. One VCB is applied with a chiller having only one compressor circuit.

OR

   B. Two separate VCB's are applied with a chiller having two independent compressor circuits.
4. This arrangement should be considered when one chiller with two independent circuits is applied with one VCB having two independent circuits.

VCB CHARGE CALCULATION EXAMPLE

The following is an example of how to determine the operating charge and pumpdown storage capacity for the VCB condensers for R22 refrigerant.

EXAMPLE BASIS

Model	VCB 197
Refrigerant circuits	two
Refrigerant circuit % split (to match chiller circuit % split)	45% (Sy. 1) / 55% (Sy. 2)
Internal condenser tube volume (from Form 195.21-EG2, Page 6)	8.23 cu. ft.

OPERATING CHARGE

Total operating charge (R22)	=	8.23 cu. ft. x 17.2 lbs./cu. ft.
Total operating charge (R22)	=	142 lbs. R22
Sy. 1 operating charge (R22)	=	64 lbs. (45% Sy. 1)
Sy. 2 operating charge (R22)	=	78 lbs. (55% Sy. 2)

PUMPDOWN STORAGE CAPACITY

Total pumpdown capacity (R22)	=	8.23 cu. ft. x 70.5 lbs./cu. ft. x 0.8
Total pumpdown capacity (R22)	=	464 lbs. R22
Sy. 1 pumpdown capacity (R22)	=	209 lbs. (45% of total)
Sy. 2 pumpdown capacity (R22)	=	255 lbs. (55% of total)

P.O. Box 1592, York, Pennsylvania USA 17405-1592

Form 195.21-EG2 (Supl. 2)
Supersedes: 195.21-EG2 (Supl. 2)

SHU 4M 1193 .10
Codes: ERR, ET