



MODEL #: YCAS0160EC46YF

S/N: RKHM9120AA

YR: 1999

160 TONS

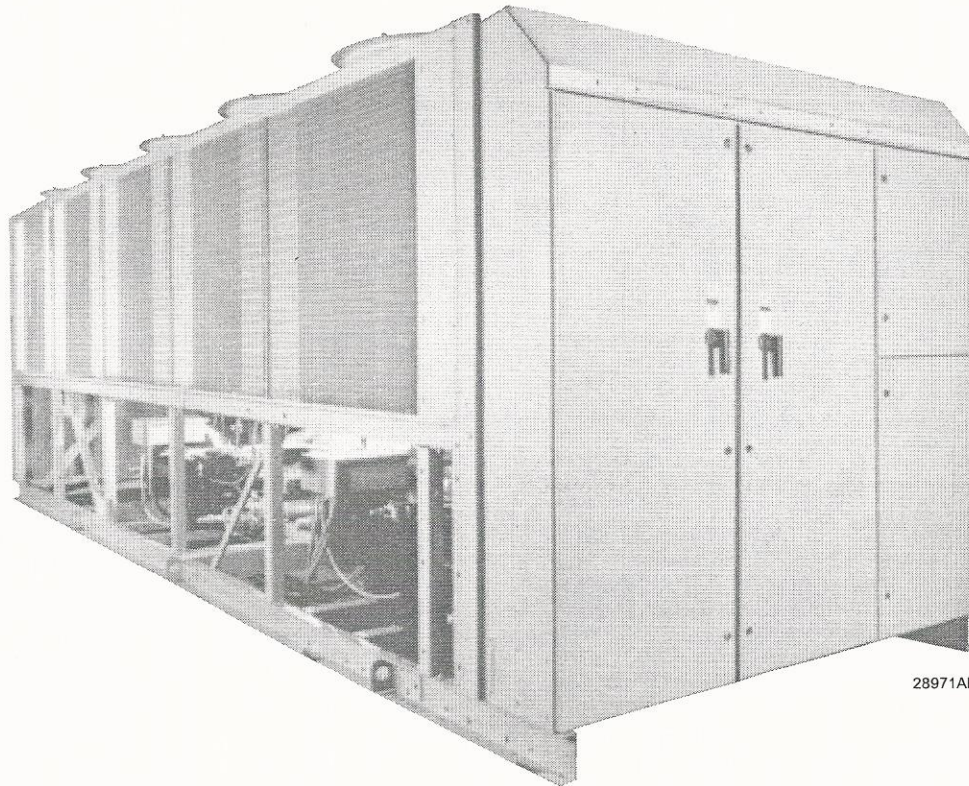
460-3-60

R-22

Millennium®

Air Cooled Screw Liquid Chillers

(STYLE F)



28971AR



50 - 200 TONS



Metric Conversions

80 - 420 TONS
(310 - 1460 kW)
60 Hz



200, 230, 380,
460, & 575 Models

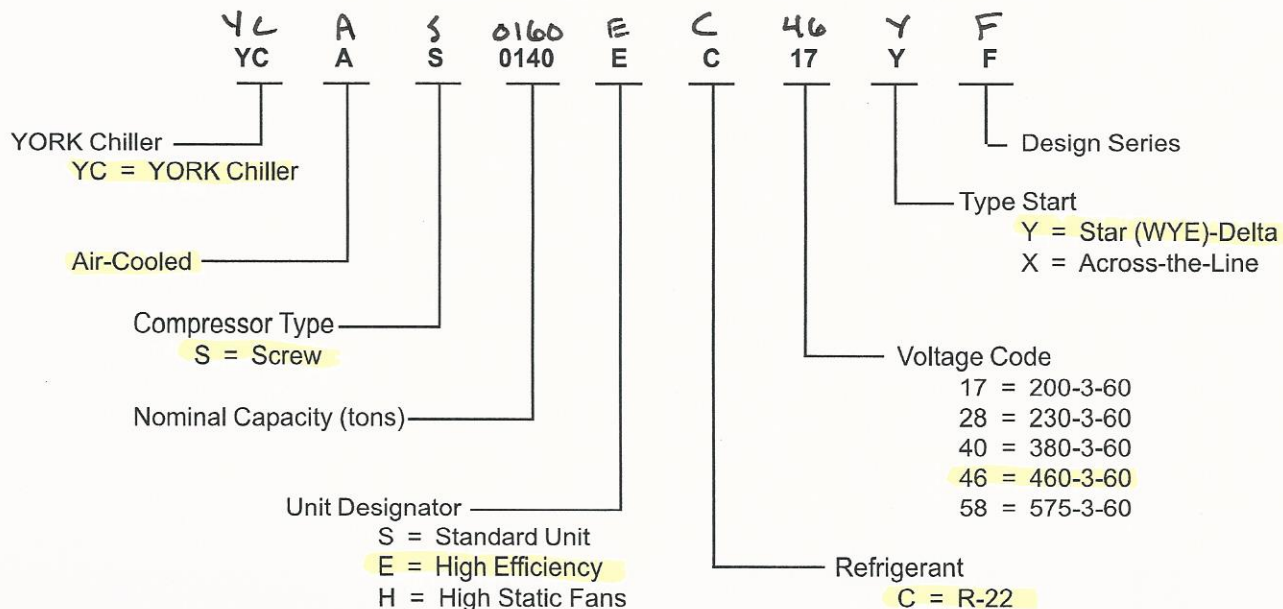


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NOMENCLATURE

The Model Number denotes the following characteristics of the unit:



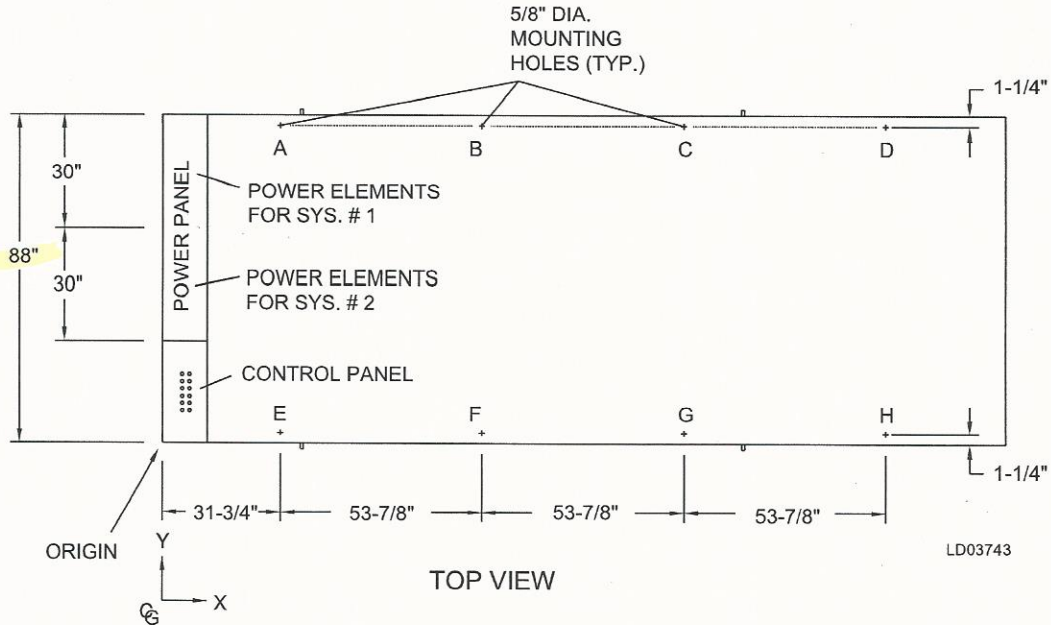
Physical Data

ENGLISH UNITS

	MODEL NUMBER YCAS								
	0090EC	0100EC	0110EC	0120EC	0130EC	0140EC	0150EC	0160EC	0170EC
General Unit Data									
Unit Capacity at ARI Conditions, Tons	82.9	88.9	102.8	108.5	121.1	130.1	145.3	157.1	164.3
Number of Independent Refrigerant Circuits	2	2	2	2	2	2	2	2	2
Refrigerant Charge, R-22, Ckt.-1 / Ckt.-2, lbs.	93 / 93	101 / 101	122 / 101	133 / 101	180 / 180	180 / 180	180 / 190	190 / 190	190 / 190
Oil Charge, Ckt.-1 / Ckt.-2, gallons	2.7 / 2.7	2.7 / 2.7	2.7 / 2.7	2.7 / 2.7	5 / 5	5 / 5	5 / 5	5 / 5	5 / 5
Shipping Weight:									
Aluminum Fin Coils, lbs.	7,125	7,233	8,127	8,181	9,888	10,110	10,599	10,583	10,694
Copper Fin Coils, lbs.	7,955	8,064	9,075	9,130	11,154	11,376	11,865	11,849	11,960
Operating Weight:									
Aluminum Fin Coils, lbs.	7,552	7,660	8,554	8,608	10,315	10,537	11,263	11,247	11,358
Copper Fin Coils, lbs.	8,382	8,491	9,502	9,557	11,581	11,803	12,529	12,513	12,624
Compressors, DXS Semihermetic Twin Screw									
Quantity per Chiller	2	2	2	2	2	2	2	2	2
Nominal Ton Size, Ckt.-1 / Ckt.-2	42 / 42	46 / 46	62 / 45	68 / 45	62 / 62	68 / 68	78 / 68	78 / 78	85 / 78
Refrigerant Economizer, Ckt.-1 / Ckt.-2	No / No	Yes / Yes	No / Yes	Yes / Yes	No / No	Yes / Yes	No / Yes	No / No	Yes / No
Condensers, High Efficiency Fin / Tube with Integral Subcooler									
Total Chiller Coil Face Area, ft ²	84	84	96	96	256	256	256	256	256
Number of Rows	3	3	3	3	3	3	3	3	3
Fins per Inch	13	13	13	13	13	13	13	13	13
CONDENSER FANS									
Number, Ckt.-1 / Ckt.-2	3 / 3	3 / 3	3 / 3	3 / 3	4 / 4	4 / 4	4 / 4	4 / 4	4 / 4
Standard Fans									
Fan Motor, HP / kW	2 / 1.8	2 / 1.8	3 / 2.7	3 / 2.7	2 / 1.8	2 / 1.8	2 / 1.8	2 / 1.8	2 / 1.8
Fan & Motor RPM	1140	1140	1140	1140	1140	1140	1140	1140	1140
Fan Diameter, inches	35.4	35.4	35.4	35.4	35.4	35.4	35.4	35.4	35.4
Fan Tip Speed, feet/min.	10,575	10,575	10,575	10,575	10,575	10,575	10,575	10,575	10,575
Total Chiller Airflow, CFM	79,800	79,800	93,000	93,000	114,400	114,400	114,400	114,400	114,400
Low Noise Fans									
Fan Motor, HP / kW	2 / 1.5	2 / 1.5	3 / 2.7	3 / 2.7	2 / 1.53	2 / 1.53	2 / 1.53	2 / 1.53	2 / 1.53
Fan & Motor Speed, RPM	838	838	838	838	840	840	840	840	840
Fan Diameter, inches	35.4	35.4	35.4	35.4	35.4	35.4	35.4	35.4	35.4
Fan Tip Speed, feet/min.	7,774	7,774	7,774	7,774	7,792	7,792	7,792	7,792	7,792
Total Chiller Airflow, cfm	79,800	79,800	93,000	93,000	112,400	112,400	112,400	112,400	112,400
High Static Fans									
Fan Motor, HP / kW	5 / 3.8	5 / 3.8	5 / 5.4	5 / 5.4	5 / 3.79	5 / 3.79	5 / 3.79	5 / 3.79	5 / 3.79
Fan & Motor RPM	1140	1140	1140	1140	1140	1140	1140	1140	1140
Fan Diameter, inches	35.4	35.4	35.4	35.4	35.4	35.4	35.4	35.4	35.4
Fan Tip Speed, feet/min.	10,575	10,575	10,575	10,575	10,575	10,575	10,575	10,575	10,575
Total Chiller Airflow, CFM (@0.4" additional static)	79,800	79,800	93,000	93,000	114,400	114,400	114,400	114,400	114,400
Evaporator, Direct Expansion									
Water Volume, gallons	51	51	51	51	51	51	79	79	79
Maximum ¹ Water Side Pressure, PSIG	150	150	150	150	150	150	150	150	150
Maximum Refrigerant Side Pressure, PSIG	350	350	350	350	350	350	350	350	350
Minimum Chilled Water Flow Rate, GPM	113	122	127	133.8	147	170	182	188	203
Maximum Chilled Water Flow Rate, GPM	600	600	600	600	600	600	747	747	747
Water Connections, inches	8	8	8	8	8	8	8	8	8

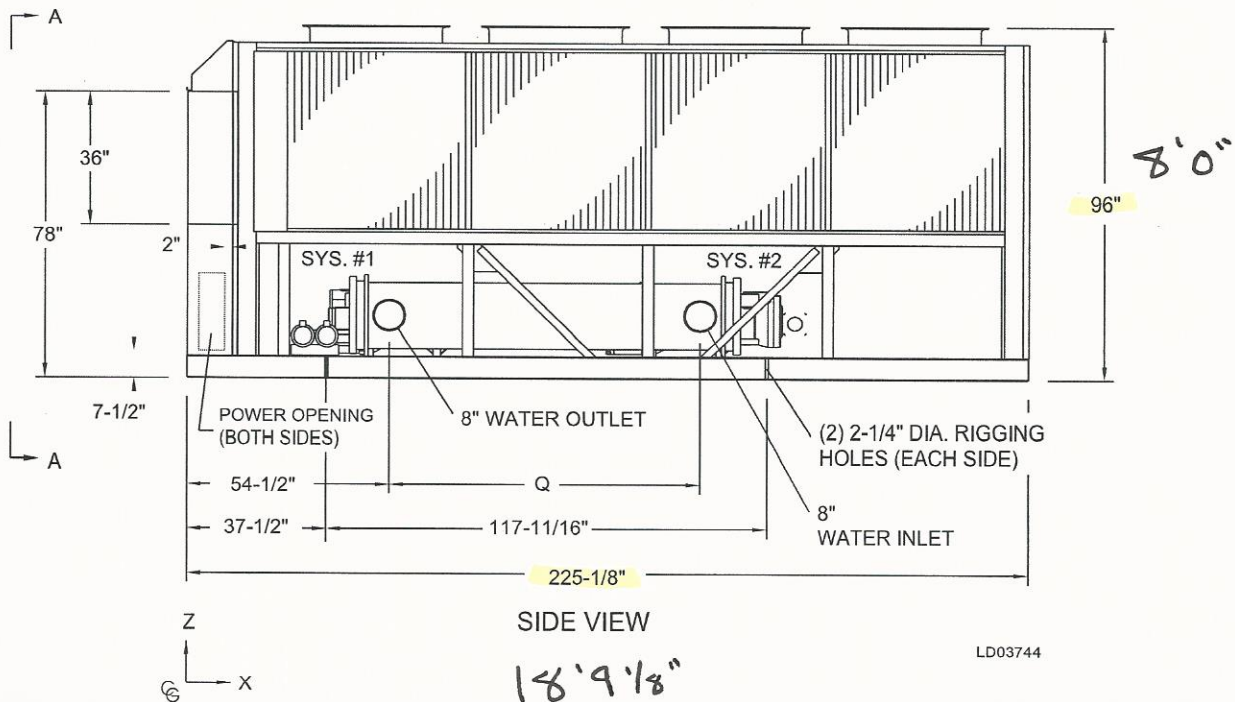
1 Optional 300 PSIG Waterside available

7'4"



CENTER OF GRAVITY (Alum.)			
YCAS	X	Y	Z
0130	101.3"	44.4"	37.8"
0140	101.3"	44.4"	37.8"
0150	106.7"	42.8"	36.2"
0160	107.0"	43.0"	36.2"
0170	107.0"	43.0"	36.2"
0180	107.0"	43.0"	36.2"

CENTER OF GRAVITY (Copper)			
YCAS	X	Y	Z
0130	103.5"	44.4"	40.7"
0140	103.5"	44.4"	40.7"
0150	108.2"	43.0"	39.2"
0160	108.4"	43.1"	39.1"
0170	108.4"	43.1"	39.1"
0180	108.4"	43.1"	39.1"



Operating Weights – Aluminum Fin Coils

ALUMINUM FIN COIL WEIGHT DISTRIBUTION BY MODEL (LBS)

YCAS	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	TOTAL
0090	1,405	1,191	977	1,565	1,326	1,088	—	—	—	—	—	—	—	—	—	—	7,552
0100	1,415	1,203	992	1,587	1,350	1,113	—	—	—	—	—	—	—	—	—	—	7,660
0110	1,508	1,399	1,290	1,566	1,452	1,339	—	—	—	—	—	—	—	—	—	—	8,554
0120	1,510	1,405	1,301	1,573	1,464	1,355	—	—	—	—	—	—	—	—	—	—	8,608
0130	1,550	1,339	1,657	678	1,573	1,111	1,707	700	—	—	—	—	—	—	—	—	10,315
0140	1,576	1,356	1,692	688	1,614	1,136	1,764	711	—	—	—	—	—	—	—	—	10,537
0150	1,634	1,227	1,517	1,095	1,794	1,194	1,472	1,330	—	—	—	—	—	—	—	—	11,263
0160	1,637	1,210	1,538	1,109	1,796	1,163	1,460	1,334	—	—	—	—	—	—	—	—	11,247
0170	1,639	1,231	1,554	1,114	1,798	1,198	1,485	1,339	—	—	—	—	—	—	—	—	11,358
0180	1,662	1,227	1,561	1,132	1,836	1,188	1,494	1,369	—	—	—	—	—	—	—	—	11,358
0200	1,856	1,358	2,077	869	1,983	1,207	2,261	902	—	—	—	—	—	—	—	—	12,513
0210	1,859	1,387	2,089	874	1,986	1,254	2,278	907	—	—	—	—	—	—	—	—	12,634
0230	1,862	1,415	2,098	878	1,989	1,303	2,289	911	—	—	—	—	—	—	—	—	12,745
0250	1,209	1,821	1,964	1,051	1,038	830	1,209	2,010	2,351	797	2,112	943	—	—	—	—	17,334
0270	1,225	1,837	2,015	1,082	1,039	832	1,225	2,027	2,374	817	2,113	945	—	—	—	—	17,531
0300	1,254	1,924	2,094	1,227	1,183	1,017	1,254	2,069	2,511	1,030	2,316	1,017	—	—	—	—	18,896
0330	1,295	1,966	2,137	1,269	1,186	1,022	1,295	2,112	2,554	1,072	2,320	1,022	—	—	—	—	19,251
0360	1,323	1,866	1,792	1,064	1,001	2,098	1,727	1,224	1,323	1,866	1,792	1,064	1,001	2,098	1,727	1,224	24,191
0400	1,380	1,882	1,851	1,285	1,048	2,185	1,813	1,338	1,380	1,882	1,851	1,285	1,048	2,185	1,813	1,338	25,564
0440	1,435	1,938	1,907	1,341	1,051	2,190	1,888	1,274	1,435	1,938	1,907	1,341	1,051	2,190	1,888	1,274	26,049

ALUMINUM FIN COIL WEIGHT DISTRIBUTION BY MODEL (KGS)

YCAS	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	TOTAL
0090	637	540	443	710	601	494	—	—	—	—	—	—	—	—	—	—	3,426
0100	642	546	450	720	612	505	—	—	—	—	—	—	—	—	—	—	3,475
0110	684	635	585	710	659	607	—	—	—	—	—	—	—	—	—	—	3,880
0120	685	637	590	714	664	615	—	—	—	—	—	—	—	—	—	—	3,905
0130	703	607	752	308	714	504	774	318	—	—	—	—	—	—	—	—	4,679
0140	715	615	767	312	732	515	800	323	—	—	—	—	—	—	—	—	4,780
0150	741	557	688	497	814	542	668	603	—	—	—	—	—	—	—	—	5,109
0160	743	549	698	503	815	528	662	605	—	—	—	—	—	—	—	—	5,102
0170	743	558	705	505	816	543	674	607	—	—	—	—	—	—	—	—	5,152
0180	754	557	708	513	833	539	678	621	—	—	—	—	—	—	—	—	5,202
0200	842	616	942	394	899	547	1026	409	—	—	—	—	—	—	—	—	5,676
0210	843	629	948	396	901	569	1033	411	—	—	—	—	—	—	—	—	5,731
0230	845	642	952	398	902	591	1038	413	—	—	—	—	—	—	—	—	5,781
0250	548	826	891	477	471	376	548	912	1066	362	958	428	—	—	—	—	7,863
0270	556	833	914	491	471	377	556	919	1077	370	958	429	—	—	—	—	7,952
0300	569	873	950	556	537	461	569	939	1139	467	1051	461	—	—	—	—	8,571
0330	587	892	969	576	538	464	587	958	1158	486	1052	464	—	—	—	—	8,732
0360	600	846	813	483	454	952	783	555	600	846	813	483	454	952	783	555	10,973
0400	626	854	840	583	476	991	822	607	626	854	840	583	476	991	822	607	11,596
0440	651	879	865	608	477	993	856	578	651	879	865	608	477	993	856	578	11,816

ISOLATOR TYPE & SIZE	MAX LOAD		DEFL.	
	lbs.	kg	in.	mm
AWMR-1-53	1000	453.6	2	51
AWMR-1-530	1150	521.6	2	51
AWMR-1-531	1276	578.8	2	51
AWMR-1-532	1500	680.4	2	51
AWMR-1-551	1676	760.2	2	51
AWMR-1-552	1900	861.8	2	51
AWMR-1-553	2200	997.9	2	51
AWMR-2-520	1300	589.7	2	51
AWMR-2-521	1552	704.0	2	51
AWMR-2-53	2000	907.2	2	51
AWMR-1-530	2300	1043.3	2	51
AWMR-2-531	2552	1157.6	2	51
AWMR-2-532	3000	1360.8	2	51

ISOLATOR TYPE & SIZE	MAX LOAD		DEFL.		SPRING COLOR
	lbs.	kg	in.	mm	
CP-2-25	900	408.2	1.22	30.9	Red
CP-2-26	1200	544.3	1.17	29.7	Purple
CP-2-27	1500	680.4	1.06	26.9	Orange
CP-2-28	1800	816.4	1.02	25.9	Green
CP-2-31	2200	997.9	0.83	21.0	Gray
CP-2-32	2600	1179.3	0.74	18.7	White
CP-2-35	3000	1360.8	0.70	17.7	Gold