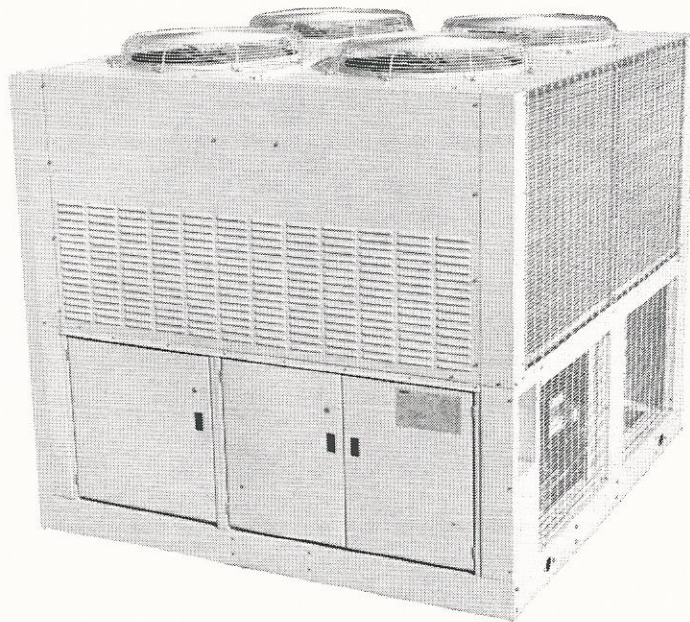


# Installation, Operation and Maintenance Manual

<b>IOMM AGR-1</b>
Group: <b>Chiller</b>
Part Number: <b>330145704</b>
Effective: <b>August 2001</b>
Supersedes: <b>IOMM AGR</b>

## Air-Cooled Reciprocating Chiller

AGR 070AS through 100AS  
60 Hertz, English and Metric  
Global Chiller Line



MODEL#: AGR085AS12-ER10

S/N: STNU021000014

YR: 2002

85 TONS

R-22

206-60-3



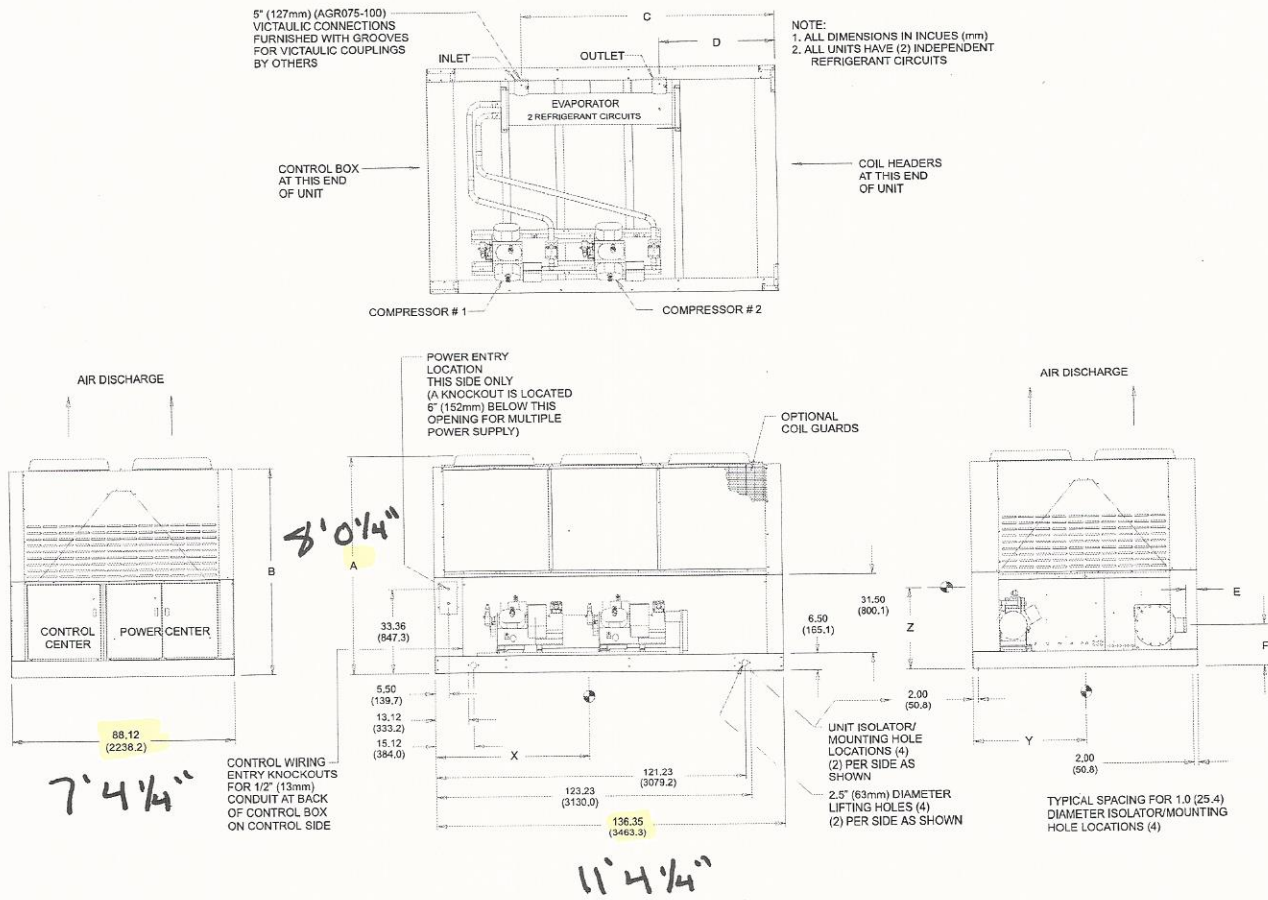
# Physical Data

**Table 7, AGR 070AS – AGR 085AS**

PHYSICAL DATA STANDARD EFFICIENCY	AGR MODEL NUMBER							
	070AS		075AS		080AS		085AS	
BASIC DATA	Ckt.1	Ckt.2	Ckt.1	Ckt.2	Ckt.1	Ckt.2	Ckt.1	Ckt.2
Unit Capacity @ ARI Conditions (1), Tons (kW)	67.5 (237.6)		70.1 (246.7)		77.9 (273.9)		84.7 (298.1)	
Number Of Refrigerant Circuits	2		2		2		2	
Unit Operating Charge, R-22, lbs. (kg)	60 (27.2)	84 (38.1)	84 (38.1)	86 (39.9)	86 (39.9)	86 (39.9)	86 (39.9)	86 (39.9)
Unit Operating Charge, R-134a, , lbs. (kg)	63 (28.6)	88 (40.0)	88 (40.0)	90 (41.9)	90 (41.9)	90 (41.9)	90 (41.9)	90 (41.9)
Cabinet Dimensions, LxWxH, In.	94.0 x 88.2 x 96.2		136.4 x 88.2 x 96.2		136.4 x 88.2 x 96.2		136.4 x 88.2 x 96.2	
Cabinet Dimensions, LxWxH, (mm)	2388 x 2241 x 2444		3463 x 2241 x 2444		3463 x 2241 x 2444		3463 x 2241 x 2444	
Unit Operating Weight, Lbs. (kg)	4276 (5506)		5506 (2497)		5740 (2604)		5921 (2686)	
Unit Shipping Weight, Lbs. (kg)	4169 (5359)		5359 (2431)		5593 (2537)		5774 (2619)	
Add'l Weight If Copper Finned Coils, Lbs. (kg)	830	(375)	1245	(565)	1245	(565)	1245	(565)
<b>COMPRESSORS</b>								
Type	Semi-Hermetic		Semi-Hermetic		Semi-Hermetic		Semi-Hermetic	
Nominal Horsepower	35	40	40	40	40	50	50	50
Number Of Cylinders Per Compressor	6	6	6	6	6	8	8	8
Oil Charge Per Compressor, oz.	140	255	255	255	255	255	255	255
Oil Charge Per Compressor, (g)	(3969)	(7229)	(7229)	(7229)	(7229)	(7229)	(7229)	(7229)
<b>CAPACITY REDUCTION STEPS - PERCENT OF COMPRESSOR DISPLACEMENT</b>								
Standard Staging - Circuit #1 in Lead	0-16-33-49-67 -83-100		0-17-33-50-67 -83-100		0-15-42-58-73 -86-100		0-25-50-63-75 -88-100	
Standard Staging - Circuit #2 in Lead	0-17-33-51-67 -84-100		0-17-33-50-67 -83-100		0-27-42-56-71 -85-100		0-25-50-63-75 -88-100	
<b>CONDENSERS - HIGH EFFICIENCY FIN AND TUBE TYPE WITH INTEGRAL SUBCOOLING</b>								
Coil Face Area, sq. ft.	58	58	87	87	87	87	87	87
Coil Face Area, (m <sup>2</sup> )	(5.4)	(5.4)	(8.1)	(8.1)	(8.1)	(8.1)	(8.1)	(8.1)
Finned Height x Finned Length, In.	100x 83.5	100x 83.5	100x125.3	100x125.3	100x125.3	100x125.3	100x125.3	100x125.3
Finned Height x Finned Length, (mm)	2032 x 2121	2032 x 2121	2540 x 3183	2540 x 3183	2540 x 3183	2540 x 3183	2540 x 3183	2540 x 3183
Fins Per Inch x Rows Deep	16 x 3	16 x 3	16 x 3	16 x 3	16 x 3	16 x 3	16 x 3	16 x 3
Pumpdown capacity @ 90% lbs. (kg)	108 (49)	108 (49)	162 (73)	162 (73)	162 (73)	162 (73)	162 (73)	162 (73)
Maximum Relief Valve Pressure Setting, psig (kPa)	450 (3103)	450 (3103)	450 (3103)	450 (3103)	450 (3103)	450 (3103)	450 (3103)	450 (3103)
<b>CONDENSER FANS – DIRECT DRIVE PROPELLER TYPE</b>								
Number Of Fans - Fan Diameter, In. (mm)	4 - 28 (712)		6 - 28 (712)		6 - 28 (712)		6 - 28 (712)	
Number Of Motors - HP (kW)	4 - 2.0 (1.5)		6 - 2.0 (1.5)		6 - 2.0 (1.5)		6 - 2.0 (1.5)	
Fan And Motor RPM, 60Hz	1140		1140		1140		1140	
60 Hz Fan Tip Speed, fpm (m/Sec)	8357 (35.4)		8357 (35.4)		8357 (35.4)		8357 (35.4)	
60 Hz Total Unit Airflow, cfm (m3/sec)	40800 (19.3)		61200 (28.9)		61200 (28.9)		61200 (28.9)	
<b>DIRECT EXPANSION EVAPORATOR - BAFFLED SHELL AND THRU-TUBE</b>								
Diameter, in. - Length, ft.	12.75 - 4		12.75 - 5.5		12.75 - 5.5		12.75 - 5.5	
Diameter, (mm) – Length, (mm)	324 - 1220		324 - 1676		324 - 1676		324 - 1676	
Water Volume, gallons. (l)	12.8 (48.5)		17.6 (66.6)		17.6 (66.6)		17.6 (66.6)	
Maximum Water Pressure, psig (kPa)	175 (1207)		175 (1207)		175 (1207)		175 (1207)	
Maximum Refrigerant Working Pressure, psig (kPa)	225 (1552)		225 (1552)		225 (1552)		225 (1552)	
Water Inlet / Outlet Victaulic Connections, In. (mm)	5 (141.3)		5 (141.3)		5 (141.3)		5 (141.3)	
Drain - NPT int, In. (mm)	.375 (9.5)		.375 (9.5)		.375 (9.5)		.375 (9.5)	
Vent - NPT int, In. (mm)	.375 (9.5)		.375 (9.5)		.375 (9.5)		.375 (9.5)	

NOTE: Nominal capacity based on 95°F ambient air and 54°F/44°F water range.

Figure 27, Dimensions AGR 075AS through 100AS



AGR MODEL Number	Unit Dimensions inch (mm)						Center of Gravity inch (mm)			Weights lb. (kg)		Additional Weight for Units with Copper Fin Coils lb (kg)
	A	B	C	D	E	F	X	Y	Z	Operating	Shipping	
075AS	96.2 (2444)	91.7 (2329)	99.2 (2520)	45.2 (1148)	4.4 (112)	17.5 (444)	60.4 (1534)	42.2 (1072)	37.3 (947)	5506 (2500)	5360 (2428)	1245 (565)
080AS	96.2 (2444)	91.7 (2329)	99.2 (2520)	45.2 (1148)	4.4 (112)	17.5 (444)	60.4 (1534)	41.5 (1054)	36.9 (937)	5740 (2605)	5595 (2540)	1245 (565)
085AS	96.2 (2444)	91.7 (2329)	99.2 (2520)	45.2 (1148)	4.4 (112)	17.5 (444)	60.4 (1534)	40.8 (1036)	36.2 (919)	5920 (2685)	5775 (2620)	1245 (565)
090AS	96.2 (2444)	91.7 (2329)	99.2 (2520)	45.2 (1148)	3.8 (96)	17.5 (444)	60.4 (1534)	42.0 (1067)	36.8 (935)	6185 (2805)	6010 (2725)	1245 (565)
095AS	96.2 (2444)	91.7 (2329)	99.2 (2520)	45.2 (1148)	3.8 (96)	17.5 (444)	60.4 (1534)	42.0 (1067)	35.4 (899)	6195 (2810)	6020 (2730)	1245 (565)
100AS	96.2 (2444)	91.7 (2329)	99.2 (2520)	45.2 (1148)	3.8 (96)	17.5 (444)	60.4 (1534)	42.0 (1067)	35.4 (899)	6195 (2810)	6020 (2730)	1245 (565)

MODEL NO.

AGR085AS12-ER10

SERIAL NO.

STNU021000014

RELIEF PRESSURE

450 PSIG

SIDE DESIGN PRESSURE

450 PSIG

SIDE DESIGN PRESSURE

150 PSIG

WEIGHT

22

MAXIMUM CHARGE

178 LBS.