

# Introduction

The AGZ family of air-cooled scroll chillers offers a wide selection of units from 10 to 130 tons. The AGZ-A series has capacities from 10 to 34 tons with a single refrigerant circuit using a tandem set of scroll compressors. The AGZ-B series has capacities from 26 to 130 tons with dual refrigerant circuits with either two or three scroll compressors per circuit.

The AGZ series of air-cooled scroll chillers continues McQuay's legacy of high quality, high efficiency, latest technology and quiet operation. These features make the AGZ family the best overall value in air-cooled packaged chillers available today.

## Efficient Operation

The AGZ units utilize R22 to meet the performance requirements of ASHRAE 90.1. With either two or three scroll compressors per refrigerant circuit, excellent part load performance is achieved.

## Latest Control Technology

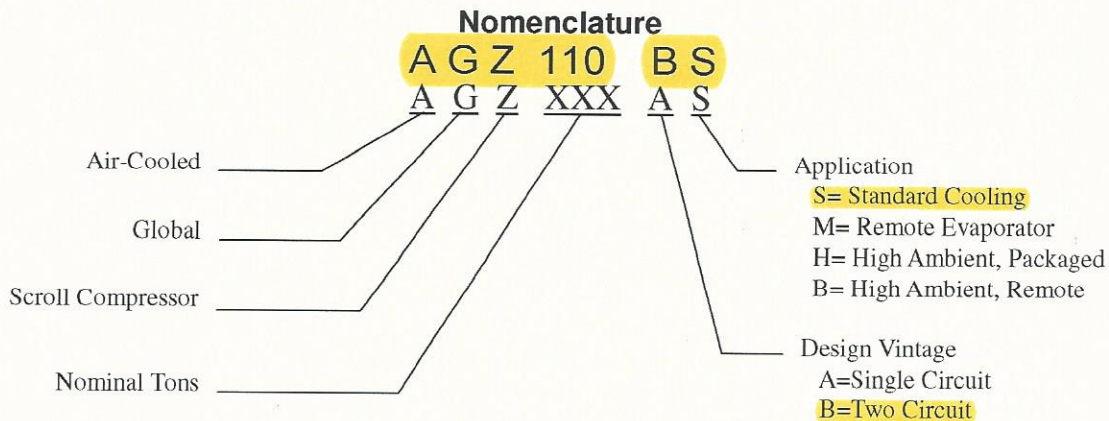
These units have the latest control technology through utilization of McQuay's new MicroTech II<sup>®</sup> microprocessor. Integrating with your building automation system is easy with the Protocol Selectability<sup>™</sup> feature using LONMARK, BACnet or Modbus network communication, requiring only the addition of a small communication module to the unit controller.

## Compact Size

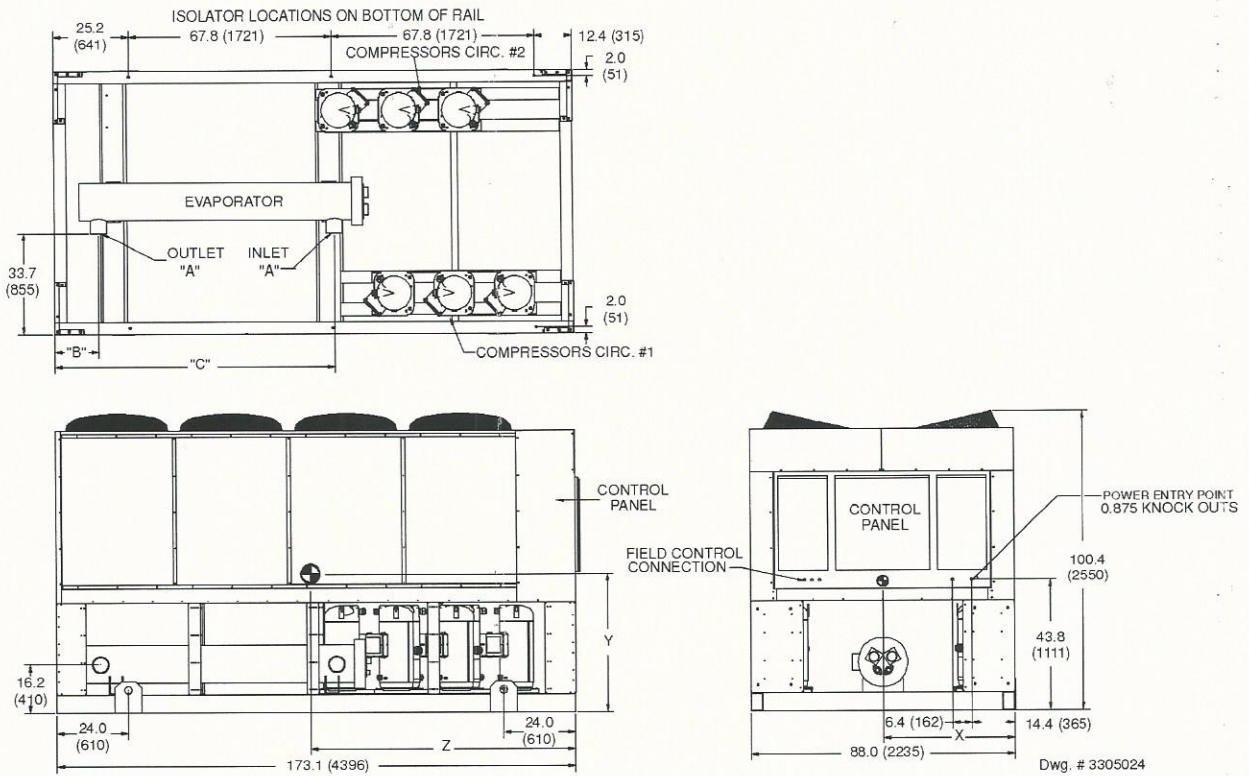
Our reputation for compact designs with small footprints to minimize space requirements continues to be a primary feature.

## Quiet Operation

The AGZ units further enhance McQuay's reputation for low operating sound levels to make these chillers "neighborhood friendly".



**Figure 16, Dimensions, AGZ 100BS/BH - 130BS/BH Packaged Chiller**



NOTE: Hail and wind guards add 20 inches to the width of each side.

Unit Size	Inches (mm)		Center of Gravity Inches (mm)			Evap Inlet & Outlet Victaulic "A" in.	Weights Lbs. (kg)	
	B	C	X	Y	Z		Shipping Weight	Operating Weight
AGZ 100BS/BH	14.8 (376)	93.5 (2375)	43 (1092)	43 (1092)	76 (1930)	5	7580 (3438)	7870 (3570)
AGZ 110BS/BH	14.8 (376)	93.5 (2375)	44 (1118)	43 (1092)	75 (1905)	5	7860 (3565)	8150 (3697)
AGZ 120BS/BH	15.3 (389)	92.4 (2347)	43 (1092)	40 (1016)	75 (1905)	8	8380 (3801)	8720 (3955)
AGZ 130BS/BH	15.3 (389)	92.4 (2347)	44 (1118)	38 (965)	74 (1880)	8	8710 (3951)	9050 (4105)

**Table 50, AGZ 100BS through 130BS**

PHYSICAL DATA	AGZ MODEL NUMBER							
	100B		110B		120B		130B	
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)	97.6 (342.6)		107.5 (378.4)		119.8 (421.7)		129.4 (455.5)	
Number Of Refrigerant Circuits	2		2		2		2	
Unit Operating Charge, R-22, lbs.	76	86	86	86	86	104	104	104
Unit Operating Charge, R-22, (kg)	(35)	(39)	(39)	(39)	(39)	(47)	(47)	(47)
Cabinet Dimensions, LxWxH, in.	173.1 x 88.0 x 100.4		173.1 x 88.0 x 100.4		173.1 x 88.0 x 100.4		173.1 x 88.0 x 100.4	
Cabinet Dimensions, LxWxH, (mm)	(4397 x 2235 x 2550)		(4397 x 2235 x 2550)		(4397 x 2235 x 2550)		(4397 x 2235 x 2550)	
Unit Operating Weight, Lbs. (kg)	7870 (3565)		8150 (3692)		8720 (3950)		9050 (4100)	
Unit Shipping Weight, Lbs. (kg)	7580 (3434)		7860 (3561)		8380 (3796)		8710 (3946)	
Add'l Weight If Copper Finned Coils, lbs. (kg)	1155 (524)		1155 (524)		1155 (524)		1155 (524)	
<b>COMPRESSORS</b>								
Type	Trio Scrolls		Trio Scrolls		Trio Scrolls		Trio Scrolls	
Nominal tonnage of each Compressor	15.0	20.0	20.0	20.0	20.0	25.0	25.0	25.0
Number Of Compressors per Circuit	3	3	3	3	3	3	3	3
Oil Charge Per Compressor, oz.	140	148	148	148	148	200	200	200
Oil Charge Per Compressor, (g)	(496)	(525)	(525)	(525)	(525)	(709)	(709)	(709)
<b>CAPACITY REDUCTION STEPS - PERCENT OF COMPRESSOR DISPLACEMENT</b>								
Staging, 6 Stages, Circuit #1 in Lead	0-14-33-48-67-81-100		0-17-33-50-67-83-100		0-15-33-48-67-81-100		0-17-33-50-67-83-100	
Staging, 6 Stages, Circuit #2 in Lead	0-19-33-52-67-86-100		0-17-33-50-67-83-100		0-19-33-52-67-86-100		0-17-33-50-67-83-100	
<b>CONDENSERS - HIGH EFFICIENCY FIN AND TUBE TYPE WITH INTEGRAL SUBCOOLING</b>								
Coil Face Area, sq. ft.	105.3	105.3	105.3	105.3	105.3	105.3	105.3	105.3
Coil Face Area, (m <sup>2</sup> )	9.8	9.8	9.8	9.8	9.8	9.8	9.8	9.8
Finned Height x Finned Length, in.	50 x151.6	50 x151.6	50 x151.6	50 x151.6	50 x151.6	50 x151.6	50 x151.6	50 x151.6
Finned Height x Finned Length, (mm)	1270 x 3851	1270 x 3851	1270 x 3851	1270 x 3851	1270 x 3851	1270 x 3851	1270 x 3851	1270 x 3851
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% Full Lbs. (kg)	196 (89)	196 (89)	196 (89)	196 (89)	196 (89)	196 (89)	196 (89)	196 (89)
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)	8 - 30 (762)		8 - 30 (762)		8 - 30 (762)		8 - 30 (762)	
Number Of Motors - HP (kW)	8 - 2.0		8 - 2.0		8 - 2.0		8 - 2.0	
Fan And Motor RPM, 60Hz	1140		1140		1140		1140	
60 Hz Fan Tip Speed, FPM (m/sec)	8950 (4224)		8950 (4224)		8950 (4224)		8950 (4224)	
60 Hz Total Unit Airflow, CFM (m <sup>3</sup> /sec)	86,904 (41,020)		86,904 (41,020)		86,904 (41,020)		86,904 (41,020)	
<b>EVAPORATOR - SHELL AND TUBE</b>								
Number of Evaporators	1		1		1		1	
Number of Refrigerant Circuits	2		2		2		2	
Diameter, in. - Length, ft.	12.8 x 7.9		12.8 x 7.9		14.0 x 8.0		14.0 x 8.0	
Diameter, (mm) - Length, (mm)	324 x 2408		324 x 2408		356 x 2438		356 x 2438	
Water Volume, Gallons, (L)	34 (127)		34 (127)		40 (150)		40 (150)	
Maximum Water Pressure, psig (kPa)	152 (1047)		152 (1047)		152 (1047)		152 (1047)	
Maximum Refrigerant Working Pressure, psig (kPa)	300 (2066)		300 (2066)		300 (2066)		300 (2066)	
Water Inlet / Outlet Victaulic Connections, in. (mm)	5 (127)		5 (127)		8 (203)		8 (203)	
Drain - NPT int, in. (mm)	0.5 (12.7)		0.5 (12.7)		0.5 (12.7)		0.5 (12.7)	
Vent - NPT int, in. (mm)	0.5 (12.7)		0.5 (12.7)		0.5 (12.7)		0.5 (12.7)	

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