Installation and Maintenance Manual	IM 1100
	Group: **Chillers**
	Part Number: IM 1100
	Date: **October 18, 2010**

Air-Cooled Scroll Compressor Chiller

Model #: AGZ160DHHNN-ER10
Serial #: STNU110400159

AGZ025DH - AGZ190DH

R-410A

50/60 Hz

Year: 2011
Size: 160 Tons

L: 18' 3"
W: 7' 4"
H: 8' 4"

Shipping Weight: 9,460 lbs
Operating Weight: 9,942 lbs

McQuay International
a member of DAIKIN group

Chiller Nomenclature

A G Z 160 D H

A G Z XXX D H

- A — Air-Cooled
- G — Global Design
- Z — Scroll Compressor
- XXX — Nominal Tons
- D — Design Vintage
- H — Application: H = Standard Packaged

⚠ WARNING

Installation is to be performed by qualified personnel who are familiar with local codes and regulations.

⚠ CAUTION

Sharp edges on unit and coil surfaces are a potential hazard to personal safety. Avoid contact with them.

General Description

McQuay Air-Cooled Water Chillers are complete, self-contained automatic chiller units designed for outdoor installation. Every unit is completely assembled, factory wired, charged, and tested.

The electrical control center includes all equipment protection and operating controls necessary for dependable automatic operation.

Additional Manuals

This manual covers the installation, of dual circuit, AGZ-DH packaged, scroll compressor chillers using R-410A.

Operating and maintenance information is contained in the operating manual OMM 1087, available at www.mcquay.com.

Inspection

Check all items carefully against the bill of lading. Inspect all units for damage upon arrival. Report shipping damage and file a claim with the carrier. Check the unit nameplate before unloading, making certain it agrees with the power supply available. McQuay is not responsible for physical damage after the unit leaves the factory.

Handling

Be careful to avoid rough handling of the unit. Do not push or pull the unit from anything other than the base. Block the pushing vehicle away from the unit to prevent damage to the sheet metal cabinet and end frame (see Figure 1).

To lift the unit, 2-1/2" (64mm) diameter lifting eyes are provided on the base of the unit. Arrange spreader bars and cables to prevent damage to the condenser coils or cabinet (see Figure 2).

Figure 1: Suggested Pushing Arrangment

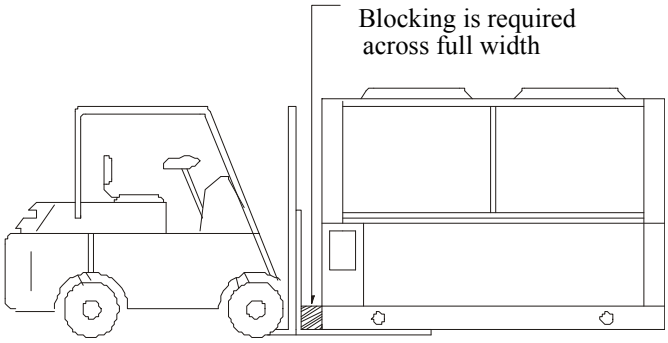
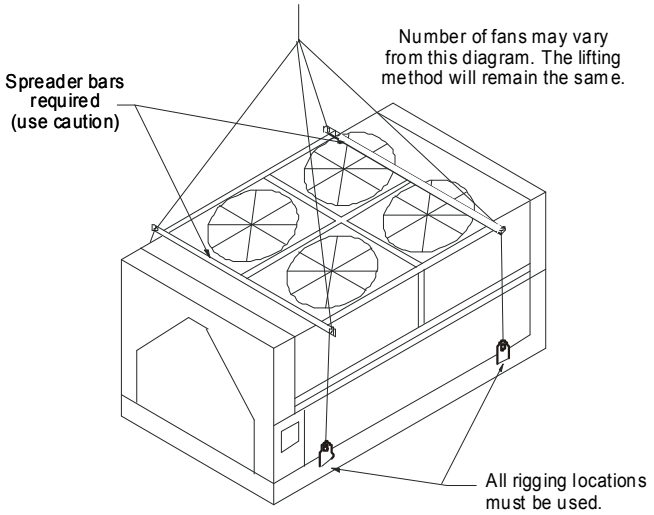


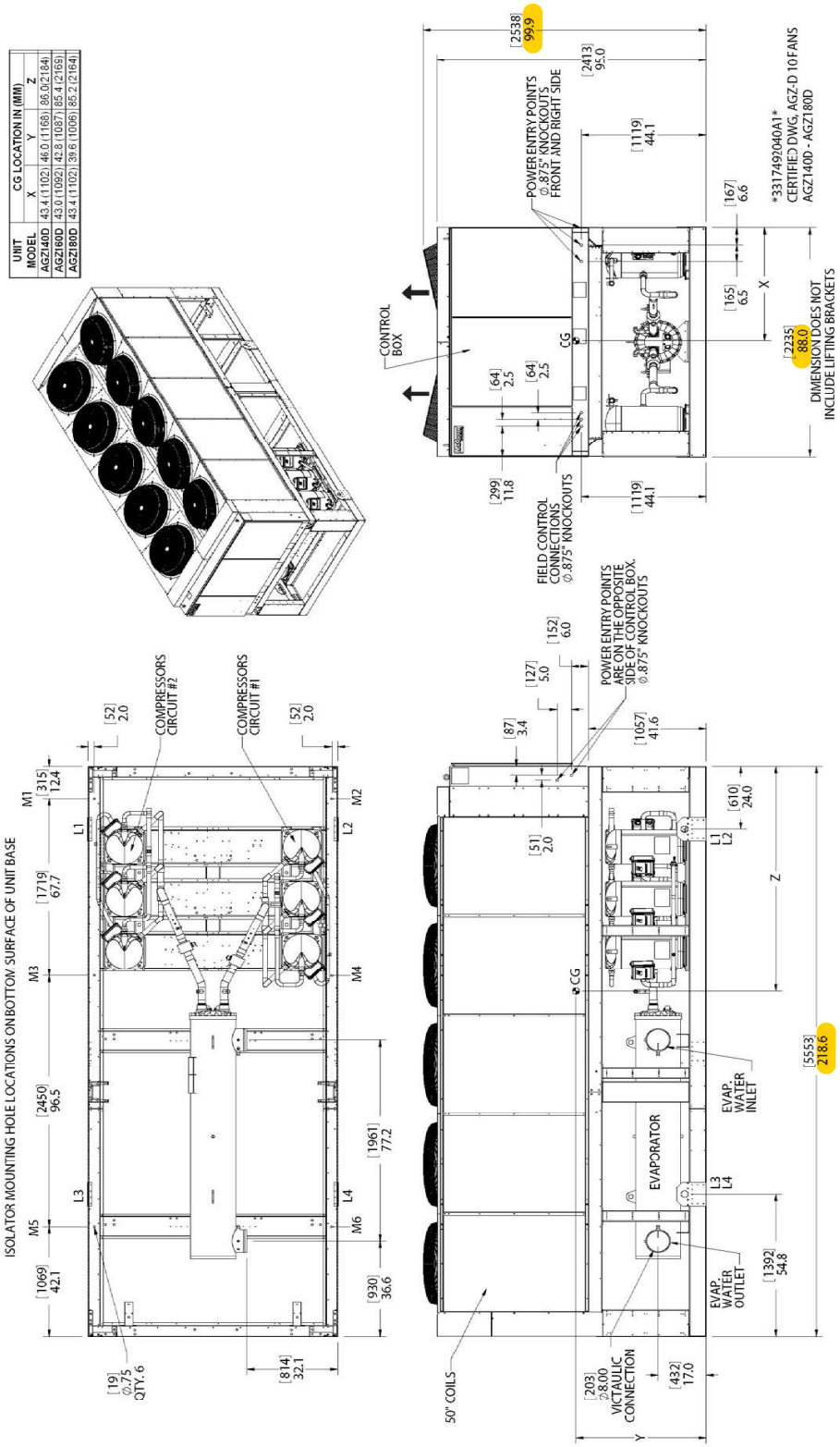
Figure 2: Required Lifting Arrangement



⚠ CAUTION

All lifting locations must be used to prevent damage to unit.

Figure 24: AGZ140DH - 180DH (Packaged)



Lifting and Mounting Weights

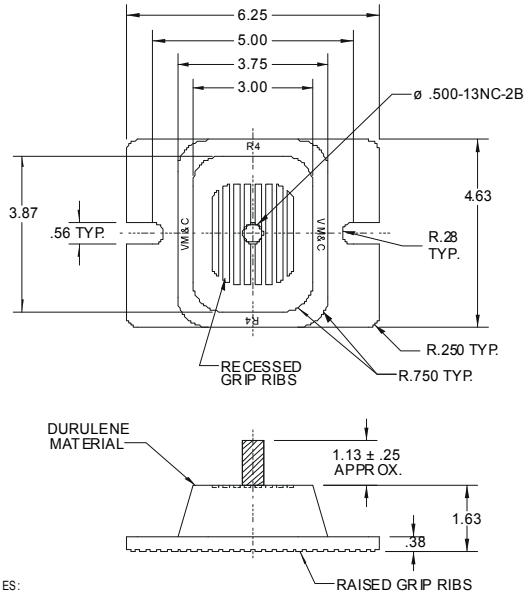
Table 10: Isolator Loads at Each Mounting Location (with Aluminum Fins) (continued)

Unit Size	Pads (Qty)	Weight lbs (kg)	Weight lbs (kg)	M1 lbs (kg)	M2 lbs (kg)	M3 lbs (kg)	M4 lbs (kg)	M5 lbs (kg)	M6 lbs (kg)	M7 lbs (kg)	M8 lbs (kg)	Copper Fin Weight Add - See Note
AGZ110D 460-575V	8	7170 (3252)	7240 (3284)	1504 (682)	1504 (682)	1207 (547)	1207 (547)	909 412	909 412	—	—	193 (87)
AGZ110D 208-230V	8	7230 (3279)	7300 (3311)	1517 (688)	1517 (688)	1217 (552)	1217 (552)	917 416	917 416	—	—	193 (87)
AGZ125D 460-575V	8	7395 (3354)	7475 (3391)	1577 (715)	1534 (696)	1263 (573)	1229 (558)	949 430	923 419	—	—	193 (87)
AGZ125D 208-230V	8	7455 (3382)	7535 (3418)	1590 (721)	1547 (702)	1273 (578)	1239 (562)	956 434	931 422	—	—	193 (87)
AGZ130D 460-575V	8	7530 (3416)	7620 (3456)	1586 (719)	1586 (719)	1270 (576)	1270 (576)	954 433	954 433	—	—	193 (87)
AGZ130D 208-230V	8	7590 (3443)	7680 (3484)	1598 (725)	1598 (725)	1280 (581)	1280 (581)	962 436	962 436	—	—	193 (87)
AGZ140D	10	9310 (4223)	9792 (4442)	1759 (798)	1711 (776)	1667 (756)	1622 (736)	1537 697	1496 678	—	—	266 (121)
AGZ160D	10	9460 (4291)	9942 (4510)	1819 (825)	1738 (788)	1710 (776)	1634 (741)	1555 705	1486 674	—	—	266 (121)
AGZ180D	10	9625 (4366)	10107 (4584)	1838 (834)	1789 (811)	1724 (782)	1677 (761)	1560 708	1518 689	—	—	266 (121)
AGZ190D	12	10585 (4801)	11070 (5021)	2013 (913)	1950 (884)	1637 (742)	1585 (719)	1237 561	1198	737 334	714 324	239 (109)

Note: Weight Add for Copper fins is per mounting location

Figure 27: Sping and RIS Isolators

RP-4 Rubber-in-Shear (RIS)



NOTES:

1. MOUNT MATERIAL TO BE DURULENE RUBBER.
2. MOLDED STEEL AND ELASTOMER MOUNT FOR OUTDOOR SERVICE CONDITIONS.
3. RP-4 MOUNT VERSION WITH STUD IN PLACE.

DRAWING NUMBER 3314814

ALL DIMENSIONS ARE IN DECIMAL INCHES

CP-2 Spring Isolator

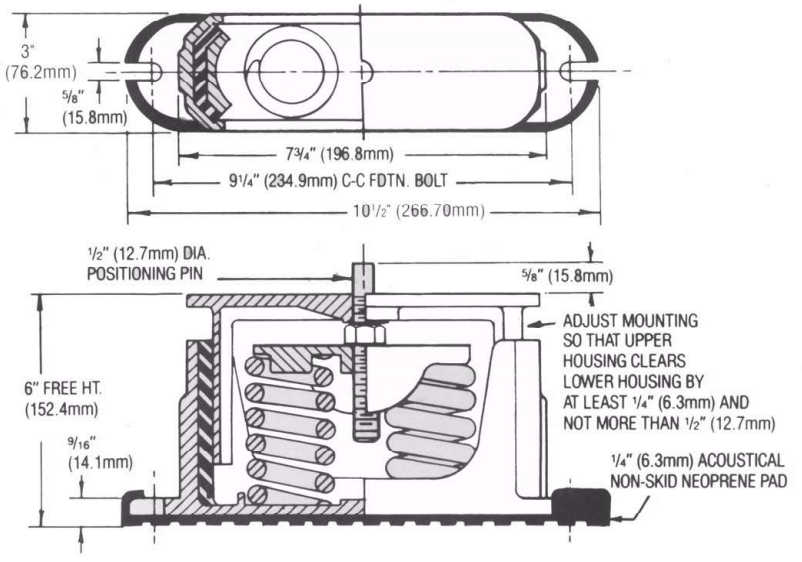


Table 19: Physical Data - AGZ140D - AGZ190D

PHYSICAL DATA	AGZ-D MODEL NUMBER							
	140		160		180		190	
BASIC DATA	Ckt.1	Ckt.2	Ckt.1	Ckt.2	Ckt.1	Ckt.2	Ckt.1	Ckt.2
Unit Capacity @ AHRI (See Note 1), Tons (kW)	136 (479)		153 (539)		172 (605)		180 (633)	
Number Of Refrigerant Circuits	2		2		2		2	
Unit Operating Charge, R-410A, lbs (kg)	125 (57)	125 (57)	130 (59)	130 (59)	130 (59)	130 (59)	140 (64)	140 (64)
Cabinet Dimensions, L x W x H, in. (mm)	218.6 x 88.0 x 100.4 (5552 x 2235 x 2545)		218.6 x 88.0 x 100.4 (5552 x 2235 x 2545)		218.6 x 88.0 x 100.4 (5552 x 2235 x 2545)		256.9 x 88.0 x 100.4 (6525 x 2235 x 2545)	
Unit Operating Weight, lbs (kg)	9792(4436)		9942 (4504)		10107 (4578)		11070 (5015)	
Unit Shipping Weight, lbs (kg)	9310 (4217)		9460 (4285)		9625 (4360)		10585 (4795)	
Add'l Weight for Copper Finned Coils, lbs (kg)	1596 (724)		1596 (724)		1596 (724)		1915 (869)	
COMPRESSORS								
Type	Triple Scrolls		Triple Scrolls		Triple Scrolls		Triple Scrolls	
Nominal tonnage of each Compressor	25	25	25	30	30	30	30	30
Number Of Compressors per Circuit	3	3	3	3	3	3	3	3
Oil Charge Per Compressor, oz (g)	230 (6520)	230 (6520)	230 (6520)	213 (6038)	213 (6038)	213 (6038)	213 (6038)	213 (6038)
CAPACITY REDUCTION STEPS - PERCENT OF COMPRESSOR DISPLACEMENT								
Staging, 6 Stages, Circuit #1 in Lead	0-17-33-50-67-83-100		0-15-33-48-67-81-100		0-17-33-50-67-83-100		0-17-33-50-67-83-100	
Staging, 6 Stages, Circuit #2 in Lead	0-17-33-50-67-83-100		0-19-33-52-67-86-100		0-17-33-50-67-83-100		0-17-33-50-67-83-100	
CONDENSERS - HIGH EFFICIENCY FIN AND TUBE TYPE WITH INTEGRAL SUBCOOLING								
Coil Face Area, ft^2	131.8	131.8	131.8	131.8	131.8	131.8	158.3	158.3
Coil Face Area, (m^2)	12.2	12.2	12.2	12.2	12.2	12.2	14.7	14.7
Finned Height x Finned Length, in. (mm)	50 x 190 (1270x4821)	50 x 190 (1270x4821)	50 x 190 (1270x4821)	50 x 190 (1270x4821)	50 x 190 (1270x4821)	50 x 190 (1270x4821)	50 x 228 (1270x5791)	50 x 228 (1270x5791)
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)	202 (92)	202 (92)	202 (92)	202 (92)	202 (92)	202 (92)	242 (110)	242 (110)
CONDENSER FANS - DIRECT DRIVE PROPELLER TYPE								
Number Of Fans - Fan Diameter, in. (mm)	10 – 30 (762)		10 – 30 (762)		10 – 30 (762)		12 – 30 (762)	
Number Of Motors - HP (kW)	10 – 2.0 (1.5)		10 – 2.0 (1.5)		10 – 2.0 (1.5)		12 - 2.0 (1.5)	
Fan And Motor RPM, 60Hz	1140		1140		1140		1140	
60 Hz Fan Tip Speed, FPM (m/sec)	8950 (45)		8950 (45)		8950 (45)		8950 (45)	
60 Hz Total Unit Airflow, CFM (l/sec)	108,630 (51,268)		108,630 (51,268)		108,630 (51,268)		130,356 (61,522)	
EVAPORATOR - SHELL-AND-TUBE								
Number of Evaporators	1		1		1		1	
Number of Refrigerant Circuits	2		2		2		2	
Water Volume, Gallons, (l)	60 (227)		60 (227)		58 (219)		57 (215)	
Maximum Water Pressure, psig (kPa)	152 (1048)		152 (1048)		152 (1048)		152 (1048)	
Max. Refrig. Working Pressure, psig (kPa)	450 (3103)		450 (3103)		450 (3103)		450 (3103)	
Water Inlet / Outlet Victaulic Conn. in. (mm)	8.0 (200)		8.0 (200)		8.0 (200)		8.0 (200)	
Drain - NPT int, in.	½-in. NPTF		½-in. NPTF		½-in. NPTF		½-in. NPTF	
Vent - NPT int, in.	½-in. NPTF		½-in. NPTF		½-in. NPTF		½-in. NPTF	

Note 1: Nominal capacity based on 95° F ambient air and 54° F/44° F water range.
Note 2: For all 380V/60 & 575V/60 models, HP = 2.0.
Note 3: Water connection shown is nominal pipe size.