

Water-Cooled Scroll Compressor Chillers—30 to 200 Tons

- Efficient—up to 16.7 EER at full load, up to 20.1 EER at part load (IPLV)
- Scroll compressor technology is quiet for installation in sound sensitive environments
- Available for water-cooled, remote air-cooled, or evaporative condenser applications
- Controls flexibility—MicroTech® II controls with our Open Choices™ feature for easy integration with the BAS of your choice
- Designed for easy retrofit—fits through a standard three ft. door (sizes up to 130 tons)
- R-410A refrigerant has no phase-out schedule and no ozone depletion potential

For more detail, refer to Catalog WGZC. For the most current information, refer to www.mcquay.com.



Model WGZ-C—30 to 200 tons, R-410A

Modbus®

BACnet
International

LONMARK®3.3

Available LONMARK certified

Water-Cooled Chillers

WGZ Water-Cooled Scroll Compressor Packaged Chiller—Physical Data

WGZ 030CW through 055CW, Packaged, R-410A

WGZ unit size	030CW		035CW		040CW		045CW		050CW		055CW	
Unit capacity @ ARI conditions tons, (kW) ¹	30.0 (105.5)		34.6 (121.7)		40.7 (143.1)		45.5 (160.0)		51.4 (180.8)		56.4 (198.4)	
Number of circuits	2		2		2		2		2		2	
Compressors												
Nominal tons	7.5	7.5	9	9	10	10	12	12	13	13	13	15
Number ²	2	2	2	2	2	2	2	2	2	2	2	2
Staging, circuit #1 in lead	25/50/75/100		25/50/75/100		25/50/75/100		25/50/75/100		25/50/75/100		23/50/73/100	
Staging, circuit #2 in lead	25/50/75/100		25/50/75/100		25/50/75/100		25/50/75/100		25/50/75/100		27/50/77/100	
Oil charge per compressor, oz (L)	85 (2.5)		110 (3.3)		110 (3.3)		110 (3.3)		110 (3.3)		110 (3.3)	
Condenser												
Number	1		1		1		1		1		1	
Number of refrigerant circuits	2		2		2		2		2		2	
Diameter, in (mm)	10 (254)		10 (254)		10 (254)		10 (254)		10 (254)		10 (254)	
Tube length, in (mm)	120 (3048)		120 (3048)		120 (3048)		120 (3048)		120 (3048)		120 (3048)	
Design W.P. psig, (kPa): refrigerant side	500 (3447)		500 (3447)		500 (3447)		500 (3447)		500 (3447)		500 (3447)	
Design W.P. psig, (kPa): water side	232 (1599)		232 (1599)		232 (1599)		232 (1599)		232 (1599)		232 (1599)	
Pump-out capacity, lb (kg) ³	245.8 (111.7)		245.8 (111.7)		228.2 (103.7)		228.2 (103.7)		205.4 (93.4)		205 (93.4)	
Connections												
Water in and out, in (mm) victaulic	4 (102)		4 (102)		4 (102)		4 (102)		4 (102)		4 (102)	
Relief valve, flare, in (mm)	5/8 (15.9)		5/8 (15.9)		5/8 (15.9)		5/8 (15.9)		5/8 (15.9)		5/8 (15.9)	
Purge valve, flare, in (mm)	1/2 (12.7)		1/2 (12.7)		1/2 (12.7)		1/2 (12.7)		1/2 (12.7)		1/2 (12.7)	
Vent and drain, in (mm) FPT	1/4 (6.4)		1/4 (6.4)		1/4 (6.4)		1/4 (6.4)		1/4 (6.4)		1/4 (6.4)	
Liquid subcooling	Integral		Integral		Integral		Integral		Integral		Integral	
Evaporator—braced plate-to-plate												
Number	1		1		1		1		1		1	
No. refrigerant circuits	2		2		2		2		2		2	
Water volume, gallons, (L)	1.9 (7.1)		2.2 (8.3)		2.4 (9.1)		2.9 (11.0)		3.4 (12.8)		3.7 (14.0)	
Refrig. side D.W.P. (working pressure) psig, (kPa)	450 (3102)		450 (3102)		450 (3102)		450 (3102)		450 (3102)		450 (3102)	
Water side D.W.P. (working pressure) psig, (kPa)	653 (4500)		653 (4500)		653 (4500)		653 (4500)		653 (4500)		653 (4500)	
Water connections												
Inlet and outlet, in (mm) victaulic	2.5 (65)		2.5 (65)		2.5 (65)		2.5 (65)		2.5 (65)		2.5 (65)	
Relief valve, flare, in (mm)	5/8 (15.9)		5/8 (15.9)		5/8 (15.9)		5/8 (15.9)		5/8 (15.9)		5/8 (15.9)	
Drain and vent (NPT int.)	Field		Field		Field		Field		Field		Field	
Unit dimensions												
Length, in (mm)	136.0 (3455)		136.0 (3455)		136.0 (3455)		136.0 (3455)		136.0 (3455)		136.0 (3455)	
Width, in (mm)	32.8 (832)		32.8 (832)		32.8 (832)		32.8 (832)		32.8 (832)		32.8 (832)	
Height, in (mm)	63.4 (1609)		63.4 (1609)		63.4 (1609)		63.4 (1609)		63.4 (1609)		63.4 (1609)	
Unit weights												
Operating weight, lb (kg)	2486 (1128)		2572 (1167)		2631 (1193)		2650 (1202)		2752 (1248)		2771 (1257)	
Shipping weight, lb (kg)	2410 (1093)		2496 (1132)		2539 (1152)		2558 (1160)		2639 (1197)		2658 (1206)	
Cir # 1, operating charge, lb (kg) R-410A	45 (20.5)		45 (20.5)		47 (21.4)		47 (21.4)		47 (21.4)		50 (22.7)	
Cir # 2, operating charge, lb (kg) R-410A	45 (20.5)		45 (20.5)		47 (21.4)		47 (21.4)		47 (21.4)		50 (22.7)	

1. Certified in accordance with ARI Standard 550/590-98.

2. All units have two compressors per circuit in parallel.

3. 90% Full R-410A at 90°F (32°C) per unit.

Water-Cooled Chillers

WGZ 060CW through 100CW, Packaged, R-410A

WGZ unit size	060CW		070CW		080CW		090CW		100CW	
Unit capacity @ ARI conditions tons, (kW) ¹	60.5 (212.8)		70.8 (249.0)		78.3 (275.4)		88.0 (309.5)		97.8 (344.0)	
Number of circuits	2		2		2		2		2	
Compressors										
Nominal tons	15	15	15/20	15/20	20	20	20	26	26	26
Number ²	2	2	2	2	2	2	2	2	2	2
Staging, circuit #1 in lead	25/50/75/100		22/50/72/100		25/50/75/100		25/50/75/100		25/50/75/100	
Staging, circuit #2 in lead	25/50/75/100		22/50/72/100		25/50/75/100		25/50/75/100		25/50/75/100	
Oil charge per compressor, oz (L)	110 (3.3)		110 (3.3) 158 (4.7)		158 (4.7)		158 (4.7) 230 (6.8)		230 (6.8)	
Condenser										
Number	1		1		1		1		1	
Number of refrigerant circuits	2		2		2		2		2	
Diameter, in (mm)	10 (254)		14 (356)		14 (356)		14 (356)		14 (356)	
Tube length, in (mm)	120 (3048)		120 (3048)		120 (3048)		120 (3048)		120 (3048)	
Design W.P. psig, (kPa): refrigerant side	500 (3447)		500 (3447)		500 (3447)		500 (3447)		500 (3447)	
Design W.P. psig, (kPa): water side	232 (1599)		232 (1599)		232 (1599)		232 (1599)		232 (1599)	
No. of passes	2		2		2		2		2	
Pump-out capacity, lb (kg) ³	205.4 (93.4)		415.1 (188.7)		397.5 (180.7)		371.1 (168.7)		344.7 (156.7)	
Connections										
Water in and out, in (mm) victaulic	4 (102)		4 (102)		4 (102)		4 (102)		4 (102)	
Relief valve, flare, in (mm)	5/8 (15.9)		5/8 (15.9)		5/8 (15.9)		5/8 (15.9)		5/8 (15.9)	
Purge valve, flare, in (mm)	1/2 (12.7)		1/2 (12.7)		1/2 (12.7)		1/2 (12.7)		1/2 (12.7)	
Vent and drain, in (mm) FPT	1/4 (6.4)		1/4 (6.4)		1/4 (6.4)		1/4 (6.4)		1/4 (6.4)	
Liquid subcooling	Integral		Integral		Integral		Integral		Integral	
Evaporator—brazed plate-to-plate										
Number	1		1		1		1		1	
No. refrigerant circuits	2		2		2		2		2	
Water volume, gallons, (L)	4.2 (15.9)		6.4 (24.3)		6.6 (24.9)		7.5 (28.4)		8.0 (30.2)	
Refrig. side D.W.P. (working pressure) psig, (kPa)	450 (3102)		450 (3102)		450 (3102)		450 (3102)		450 (3102)	
Water side D.W.P. (working pressure) psig, (kPa)	653 (4500)		653 (4500)		653 (4500)		653 (4500)		653 (4500)	
Water connections										
Inlet and outlet, in (mm) victaulic	2.5 (65)		3 (76)		3 (76)		3 (76)		3 (76)	
Relief valve, flare, in (mm)	5/8 (15.9)		5/8 (15.9)		5/8 (15.9)		5/8 (15.9)		5/8 (15.9)	
Drain and vent (NPT int.)	Field		Field		Field		Field		Field	
Unit dimensions										
Length, in (mm)	136.0 (3455)		143.3 (3639)		149.6 (3799)		149.4 (3795)		149.4 (3795)	
Width, in (mm)	32.8 (832)		35 (889)		35 (889)		35 (889)		35 (889)	
Height, in (mm)	63.4 (1609)		65.5 (1664)		65.5 (1664)		65.5 (1664)		65.5 (1664)	
Unit weights										
Operating weight, lb (kg)	2801 (1271)		3887 (1763)		4302 (1951)		4507 (2044)		4678 (2122)	
Shipping weight, lb (kg)	2688 (1219)		3746 (1699)		4145 (1880)		4327 (1963)		4474 (2029)	
Cir # 1, operating charge, lb (kg) R-410A	50 (22.7)		74 (33.6)		80 (36.4)		80 (36.4)		90 (40.9)	
Cir # 2, operating charge, lb (kg) R-410A	50 (22.7)		74 (33.6)		80 (36.4)		80 (36.4)		90 (40.9)	

1. Certified in accordance with ARI Standard 550/590-98.

2. All units have two compressors per circuit in parallel.

3. 90% Full R-410A at 90°F (32°C) per unit.

Water-Cooled Chillers

WGZ 115CW through 200CW, Packaged, R-410A

WGZ unit size	115CW		130CW		150CW		170CW		200CW	
Unit capacity @ ARI conditions tons, (kW) ¹	112.9 (397.1)		125.4 (441.0)		146.6 (515.6)		169.3 (595.4)		188.1 (661.5)	
Number of circuits	2		2		2		2		2	
Compressors										
Nominal tons	26/30	26/30	30	30	26	26	26	30	30	30
Number ²	2	2	2	2	3	3	3	3	3	3
Staging, circuit #1 in lead	22/50/72/100		25/50/75/100		17/33/50/67/81/100		15/33/48/67/81/100		17/33/50/67/83/100	
Staging, circuit #2 in lead	22/50/72/100		25/50/75/100		17/33/50/67/83/100		19/33/52/67/83/100		17/33/50/67/83/100	
Oil charge per compressor, oz (L)	230 (6.8) 213 (6.3)		213 (6.3)		230 (6.8)		230 (6.8) 213 (6.3)		213 (6.3)	
Condenser										
Number	1		1		1		1		1	
Number of refrigerant circuits	2		2		2		2		2	
Diameter, in (mm)	14 (356)		14 (356)		16 (406.4)		16 (406.4)		16 (406.4)	
Tube length, in (mm)	120 (3048)		120 (3048)		120 (3048)		120 (3048)		120 (3048)	
Design W.P. psig, (kPa): refrigerant side	500 (3447)		500 (3447)		500 (3447)		500 (3447)		500 (3447)	
Design W.P. psig, (kPa): water side	232 (1599)		232 (1599)		232 (1599)		232 (1599)		232 (1599)	
Pump-out capacity, lb (kg) ³	344.7 (156.7)		344.7 (156.7)		572.3 (260.1)		508.9 (231.3)		508.9 (231.3)	
Connections										
Water in and out, in (mm) victaulic	4 (102)		4 (102)		5 (127)		5 (127)		5 (127)	
Relief valve, flare, in (mm)	5/8 (15.9)		5/8 (15.9)		5/8 (15.9)		5/8 (15.9)		5/8 (15.9)	
Purge valve, flare, in (mm)	1/2 (12.7)		1/2 (12.7)		1/2 (12.7)		1/2 (12.7)		1/2 (12.7)	
Vent and drain, in (mm) FPT	1/4 (6.4)		1/4 (6.4)		1/4 (6.4)		1/4 (6.4)		1/4 (6.4)	
Liquid subcooling	Integral		Integral		Integral		Integral		Integral	
Evaporator—brazed plate-to-plate										
Number	1		1		1		1		1	
No. refrigerant circuits	2		2		2		2		2	
Water volume, gallons, (L)	8.5 (32.1)		10.5 (39.7)		57.6 (218.0)		56.9 (215.4)		56.9 (215.4)	
Refrig. side D.W.P. (working pressure) psig, (kPa)	450 (3102)		450 (3102)		450 (3102)		450 (3102)		450 (3102)	
Water side D.W.P. (working pressure) psig, (kPa)	653 (4500)		653 (4500)		150 (1034)		150 (1034)		150 (1034)	
Water connections										
Inlet and outlet, in (mm) victaulic	3 (76)		3 (76)		8 (203)		8 (203)		8 (203)	
Relief valve, flare, in (mm)	5/8 (15.9)		5/8 (15.9)							
Drain and vent (NPT int.)	Field		Field		1/2 (12.7)		1/2 (12.7)		1/2 (12.7)	
Unit dimensions										
Length, in (mm)	149.4 (3795)		149.4 (3795)		170.2 (4322)		149.4 (3795)		149.4 (3795)	
Width, in (mm)	35.0 (889)		35 (889)		36.5 (927)		36.5 (927)		36.5 (927)	
Height, in (mm)	65.5 (1664)		65.5 (1664)		77.7 (1973)		77.7 (1973)		77.7 (1973)	
Unit weights										
Operating weight, lb (kg)	4712 (2137)		4772 (2165)		7370 (3343)		7758 (3519)		7873 (3571)	
Shipping weight, lb (kg)	4508 (2045)		4568 (2072)		6581 (2985)		6921 (3139)		7036 (3192)	
Cir # 1, operating charge, lb (kg) R-410A	100 (45.5)		100 (45.5)		150 (68.2)		150 (68.2)		150 (68.2)	
Cir # 2, operating charge, lb (kg) R-410A	100 (45.5)		100 (45.5)		150 (68.2)		150 (68.2)		150 (68.2)	

1. Certified in accordance with ARI Standard 550/590-98.

2. All units have two compressors per circuit in parallel.

3. 90% Full R-410A at 90°F (32°C) per unit.

Water-Cooled Chillers

WGZ Water-Cooled Scroll Compressor Chiller with Remote Condenser—Physical Data

WGZ 030CA through 055CA, Remote Condenser, R-410A

WGZ unit size	030CA		035CA		040CA		045CA		050CA		055CA	
Cap @ 44°F LWT, 125°F SDT tons, (kW)	26.6 (93.5)		30.5 (107.3)		35.2 (123.8)		39.8 (139.9)		45.8 (161.0)		50.3 (176.8)	
No. circuits	2		2		2		2		2		2	
Compressors												
Nominal tons	7.5	7.5	9	9	10	10	12	12	13	13	13	15
Number ¹	2	2	2	2	2	2	2	2	2	2	2	2
Staging, circuit #1, in lead	25/50/75/100		25/50/75/100		25/50/75/100		25/50/75/100		25/50/75/100		23/50/73/100	
Staging, circuit #2, in lead	25/50/75/100		25/50/75/100		25/50/75/100		25/50/75/100		25/50/75/100		25/50/75/100	
Oil charge per compressor, oz (L)	85 (2.5)		110 (3.3)		110 (3.3)		110 (3.3)		110 (3.3)		110 (3.3)	
Evaporator—braced plate-to-plate												
No. refrigerant circuits	2		2		2		2		2		2	
Water volume, gallons (L)	1.9 (7.1)		2.2 (8.3)		2.4 (9.1)		2.9 (11.0)		3.4 (12.8)		3.7 (14.0)	
Refrigerant side D.W.P. psig, (kPa)	450 (3102)		450 (3102)		450 (3102)		450 (3102)		450 (3102)		450 (3102)	
Water side D.W.P. psig, (kPa)	653 (4500)		653 (4500)		653 (4500)		653 (4500)		653 (4500)		653 (4500)	
Water connections: inlet and outlet, in (mm) ^{2,3}	2.5 (65)		2.5 (65)		2.5 (65)		2.5 (65)		2.5 (65)		2.5 (65)	
Relief valve, flare, in (mm)	5/8 (15.9)		5/8 (15.9)		5/8 (15.9)		5/8 (15.9)		5/8 (15.9)		5/8 (15.9)	
Water connections: drain and vent	Field		Field		Field		Field		Field		Field	
Unit dimensions												
Length, in (mm)	137.0 (3480)		137.0 (3480)		137.0 (3480)		137.0 (3480)		137.0 (3480)		137.0 (3480)	
Width in, (mm)	34 (864)		34 (864)		34 (864)		34 (864)		34 (864)		34 (864)	
Height, in (mm)	60.0 (1524)		60.0 (1524)		60.0 (1524)		60.0 (1524)		60.0 (1524)		60.0 (1524)	
Unit weights												
Operating weight, lb (kg)	1606 (728)		1698 (770)		1715 (778)		1738 (788)		1773 (804)		1795 (814)	
Shipping weight, lb (kg)	1580 (717)		1670 (758)		1685 (764)		1704 (773)		1735 (787)		1754 (796)	
Holding charge, lb (kg) R-410A	10.0 (4.5)		10.0 (4.5)		10.0 (4.5)		10.0 (4.5)		10.0 (4.5)		10.0 (4.5)	

WGZ 060CA through 100CA, Remote Condenser, R-410A

WGZ unit size	060CA		070CA		080CA		090CA		100CA	
Cap @ 44°F LWT, 125°F SDT tons, (kW)	53.9 (189.5)		61.3 (215.7)		68.6 (242)		77.7 (273.3)		86.6 (304.5)	
No. circuits	2		2		2		2		2	
Compressors										
Nominal horsepower	15	15	15/20	15/20	20	20	20	26	26	26
Number ¹	2	2	2	2	2	2	2	2	2	2
Staging, circuit #1, in lead	25/50/75/100		22/50/72/100		25/50/75/100		25/50/75/100		25/50/75/100	
Staging, circuit #2, in lead	25/50/75/100		22/50/72/100		25/50/75/100		25/50/75/100		25/50/75/100	
Oil charge, oz (L)	110 (3.3)		110 (3.3)		158 (4.7)		158 (4.7)		230 (6.8)	
Evaporator—braced plate-to-plate										
No. refrigerant circuits	2		2		2		2		2	
Water volume, gallons (L)	4.2 (15.9)		6.4 (24.3)		6.6 (24.9)		7.5 (28.4)		8.0 (30.2)	
Refrigerant side D.W.P. (working pressure) psig, (kPa)	450 (3102)		450 (3102)		450 (3102)		450 (3102)		450 (3102)	
Water side D.W.P. (working press. psig, (kPa)	653 (4500)		653 (4500)		653 (4500)		653 (4500)		653 (4500)	
Water connections: inlet and outlet, in (mm) ^{2,3}	2.5 (63)		3 (76)		3 (76)		3 (76)		3 (76)	
Relief valve, flare, in (mm)	5/8 (15.9)		5/8 (15.9)		5/8 (15.9)		5/8 (15.9)		5/8 (15.9)	
Water connections: drain and vent	Field		Field		Field		Field		Field	
Unit dimensions										
Length, in (mm)	137.0 (3480)		137.0 (3480)		137.0 (3480)		137.0 (3480)		137.0 (3480)	
Width, in (mm)	34 (864)		34 (864)		34 (864)		34 (864)		34 (864)	
Height, in (mm)	60 (1524)		60 (1524)		60 (1524)		60 (1524)		60 (1524)	
Unit weights										
Operating wt, lb (kg)	1816 (824)		2474 (1122)		2787 (1264)		2928 (1328)		3050 (1383)	
Shipping wt, lb (kg)	1771 (803)		2406 (1091)		2717 (1232)		2851 (1293)		2968 (1346)	
Cir #1 holding chg, lb (kg) R-410A per circuit	10.0 (4.5)		15 (6.8)		15 (6.8)		15 (6.8)		15 (6.8)	

1. All units have two compressors per circuit in parallel.

2. Victaulic connections.

3. Condenser and field piping not included.

Water-Cooled Chillers

WGZ 115CA through 200CA, Remote Condenser, R-410A

WGZ unit size	115CA		130CA		150CA		170CA		200CA	
Cap @ 44°F LWT, 125°F SDT tons, (kW)	100.1 (352.2)		111.4 (391.7)		129.9 (456.8)		150.2 (528.3)		170.6 (599.8)	
No. circuits	2		2		2		2		2	
Compressors										
Nominal horsepower	26/30	26/30	30	30	26	26	26	30	30	30
Number ¹	2	2	2	2	2	2	2	2	2	2
Staging, circuit #1, in lead	22/50/72/100		25/50/75/100		17/33/50/67/83/100		15/33/48/67/81/100		17/33/50/67/83/100	
Staging, circuit #2, in lead	22/50/72/100		25/50/75/100		17/33/50/67/83/100		19/33/52/67/86/100		17/33/50/67/83/100	
Oil charge, oz (L)	230 (6.8) 213 (6.3)		213 (6.3)		230 (6.8)		230 (6.8) 213 (6.3)		213 (6.3)	
Evaporator—brazed plate-to-plate						Evaporator—shell and tube				
No. refrigerant circuits	2		2		2		2		2	
Water volume, gallons (L)	8.5 (32.1)		10.5 (39.7)		57.6 (218.0)		56.9 (215.4)		56.9 (215.4)	
Refrigerant side D.W.P. (working pressure) psig, (kPa)	450 (3102)		450 (3102)		450 (3102)		450 (3102)		450 (3102)	
Water side D.W.P. (working press. psig, (kPa)	653 (4500)		653 (4500)		150 (1034)		150 (1034)		150 (1034)	
Water connections: inlet and outlet, in (mm) ^{2, 3}	3 (76)		3 (76)		8 (203)		8 (203)		8 (203)	
Relief valve, flare, in (mm)	5/8 (15.9)		5/8 (15.9)		5/8 (15.9)		5/8 (15.9)		5/8 (15.9)	
Water connections: drain and vent	Field		Field		1/2 (12.7)		1/2 (12.7)		1/2 (12.7)	
Unit dimensions										
Length, in (mm)	137.0 (3480)		137.0 (3480)		154.0 (3912)		154.0 (3912)		154.0 (3912)	
Width, in (mm)	34 (864)		34 (864)		34 (864)		34 (864)		34 (864)	
Height, in (mm)	60 (1524)		60 (1524)		75 (1905)		75 (1905)		75 (1905)	
Unit weights										
Operating wt, lb (kg)	3120 (1415)		3194 (1449)		5279 (2395)		5385 (2443)		5498 (2494)	
Shipping wt, lb (kg)	3035 (1377)		3091 (1402)		4779 (2168)		4891 (2219)		5004 (2270)	
Cir #1 holding chg, lb (kg) R-410A per circuit	15 (6.8)		15 (6.8)		20 (9.1)		20 (9.1)		20 (9.1)	

1. All units have two compressors per circuit in parallel.

2. Victaulic connections.

3. Condenser and field piping not included.