

Water-Cooled Screw Compressor Chillers—120 to 190 Tons

- Meets ASHRAE Standard 90.1-2004 with part load efficiencies as low as 0.536 IPLV
- Two refrigerant circuits improve part load efficiency
- Single main rotor compressor means inherently quieter operation than dual rotor compressors
- Compact size fits through a 3-foot door for lower installed costs
- Solid state starters are standard to provide controlled acceleration and deceleration with less compressor stress and vibration
- Controls flexibility—MicroTech[®] II controls with our Open Choices[™] feature for easy integration with the BAS of your choice
- R-134a refrigerant has no ozone depletion potential and no phase-out schedule

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



Model WGS—120 to 190 tons
R-134a



Available LONMARK certified



Modbus[®]

Water-Cooled Chillers

WGS Water-Cooled Screw Compressor Packaged Chiller—Physical Data

WGS 130AW through 190AW, Packaged, R-134a

Physical data	130AW	140AW	160AW	170AW	190AW
Unit capacity @ ARI conditions tons, (kW) ¹	130.0 (457.1)	140.7 (494.7)	156.7 (551.0)	169.6 (596.3)	182.1 (640.3)
No. circuits	2	2	2	2	2
Compressors					
Nominal horsepower	65 / 65	65 / 80	80 / 80	80 / 95	95 / 95
Number ²	1 / 1	1 / 1	1 / 1	1 / 1	1 / 1
% minimum capacity (modulated) ⁴	15	13/17	15	14/16	15
Oil charge per compressor, oz (L)	256 (7.6)	256 (7.6)	256 (7.6)	256 (7.6)	256 (7.6)
Condenser					
Number	2	2	2	2	2
No. refrigerant circuits per condenser	1	1	1	1	1
Diameter, in (mm)	12 (305)	12 (305)	12 (305)	12 (305)	12 (305)
Tube length, in (mm)	120 (3048)	120 (3048)	120 (3048)	120 (3048)	120 (3048)
Design w.p. psig, (kPa): refrigerant side	350 (2413)	350 (2413)	350 (2413)	350 (2413)	350 (2413)
Design w.p. psig, (kPa): water side	225 (1551)	225 (1551)	225 (1551)	225 (1551)	225 (1551)
No. of passes	2	2	2	2	2
Pump-out capacity per circuit, lb (kg) ⁴	330 (150)	330 (150)	330 (150)	296 (134)	296 (134)
Connections: water in and out, in, (mm) victaulic	4.0 (101)	4.0 (101)	4.0 (101)	4.0 (101)	4.0 (101)
Connections: relief valve, in (mm)	0.5 (12.7)	0.5 (12.7)	0.5 (12.7)	0.5 (12.7)	0.5 (12.7)
Connections: purge valve, flare in (mm)	.625 (15.9)	.625 (15.9)	.625 (15.9)	.625 (15.9)	.625 (15.9)
Connections: vent and drain, in (mm) FPT	0.5 (12.7)	0.5 (12.7)	0.5 (12.7)	0.5 (12.7)	0.5 (12.7)
Connections: liquid subcooling	Integral	Integral	Integral	Integral	Integral
Evaporator					
Number	1	1	1	1	1
No. refrigerant circuits	2	2	2	2	2
Water volume, gallons, (L)	68 (257)	68 (257)	115 (435)	115 (435)	115 (435)
Refrig. side D.W.P., psig, (kPa)	354 (2441)	354 (2441)	354 (2441)	354 (2441)	354 (2441)
Water side D.W.P., psig, (kPa)	150 (1034)	150 (1034)	150 (1034)	150 (1034)	150 (1034)
Water connections: inlet and outlet, in (mm) victaulic	6.0 (152)	6.0 (152)	8.0 (203)	8.0 (203)	8.0 (203)
Water connections: drain and vent (NPT int.)	0.5	0.5	0.5	0.5	0.5
Unit dimensions⁵					
Length, in (mm)	169.9 (4315)	169.9 (4315)	169.9 (4315)	169.9 (4315)	169.9 (4315)
Width, in (mm)	34 (864)	34 (864)	34 (864)	34 (864)	34 (864)
Height, in (mm)	74.6 (1895)	74.6 (1895)	76.6 (1946)	76.6 (1946)	76.6 (1946)
Unit weights					
Operating weight, lb (kg)	8557 (3881)	8557 (3881)	9314 (4225)	9505 (4311)	9505 (4311)
Shipping weight, lb (kg)	7840 (3556)	7840 (3556)	8206 (3722)	8345 (3785)	8345 (3785)
Operating charge per circuit, R-134a, lb (kg)	127 (58)	127 (58)	128 (58)	124 (56)	124 (56)

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

2. All units have one compressor per circuit.

3. 80% full R-134a at 90°F (32°C) per refrigerant circuit.

4. On units with mixed capacity compressors, the minimum capacity depends on which compressor is lag.

5. Without sound enclosure – see dimension drawing in CAT AGS for enclosure dimensions.

WGS Water-Cooled Screw Compressor Chiller with Remote Condenser—Physical Data

WGS 130AA through 190AA, Remote Condensers, R-134a

Physical data	130AA	140AA	160AA	170AA	190AA
Unit capacity @ 44°F LWT and 125°F SDT tons, (kW) ¹	116.0 (407.9)	125.9 (442.7)	136.1 (478.5)	148.0 (520.4)	160.1 (562.9)
No. circuits	2	2	2	2	2
Compressors					
Nominal horsepower	65 / 65	65 / 80	80 / 80	80 / 95	95 / 95
Number ²	1 / 1	1 / 1	1 / 1	1 / 1	1 / 1
% minimum capacity (modulated) ³	15	13/17	15	14/16	15
Oil charge per compressor, oz (L)	256 (7.6)	256 (7.6)	256 (7.6)	256 (7.6)	256 (7.6)
Condenser (remote)					
Evaporator					
Number	1	1	1	1	1
No. refrigerant circuits per condenser	2	2	2	2	2
Water volume, gallons (L)	68 (257)	68 (257)	115 (435)	115 (435)	115 (435)
Refrig. side D.W.P., psig, (kPa)	354 (2441)	354 (2441)	354 (2441)	354 (2441)	354 (2441)
Water side D.W.P., psig, (kPa)	150 (1034)	150 (1034)	150 (1034)	150 (1034)	150 (1034)
Water connections: inlet and outlet, in (mm) victaulic	6.0 (152)	6.0 (152)	8.0 (203)	8.0 (203)	8.0 (203)
Water connections: drain and vent (npt int.)	0.5	0.5	0.5	0.5	0.5
Unit dimensions⁴					
Length, in (mm)	179.3 (4554)	179.3 (4554)	179.3 (4554)	179.3 (4554)	179.3 (4554)
Width, in (mm)	34.0 (864)	34.0 (864)	34.0 (864)	34.0 (864)	34.0 (864)
Height, in (mm)	60.8 (1544)	60.8 (1544)	62.8 (1595)	62.8 (1595)	62.8 (1595)
Unit weights⁵					
Operating weight, lb (kg)	6265 (2841)	6265 (2841)	7022 (3185)	7022 (3185)	7022 (3185)
Shipping weight, lb (kg)	5659 (2567)	5659 (2567)	6024 (2732)	6024 (2732)	6024 (2732)
Operating charge per circuit, lb (kg) ⁶	35 (15.9)	35 (15.9)	36 (16.5)	36 (16.5)	36 (16.5)

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

2. All units have one compressor per circuit.

3. On units with mixed capacity compressors, the minimum capacity depends on which compressor is lag.

4. Without sound enclosure – see dimension drawing for enclosure dimensions.

5. Add 650 lbs (295 kg) for sound enclosure.

6. Indoor unit only. Does not include field piping or condenser charge. System charge of R-134a supplied by the installing contractor.