

Scroll Compressor Chillers

20 to 70 Ton Models



Superior by Design

State-of-the-Art

The Trane CCAQ Series of Compressor Chillers includes seven models ranging in capacity from 20 to 70 tons to meet a wide range of load conditions. Each model is designed for quiet, reliable, high efficiency operation and built to withstand demanding continuous duty cycles.

At the heart of the Trane CCAQ product line are the highly efficient scroll compressor and brazed plate evaporator. The integral Digital Controller continually optimizes unit operation, undertakes fault avoidance strategy during abnormal operating conditions and displays operational and diagnostic information at the unit and at a remote location if needed.

Efficiency

Trane CCAQ products combine high efficiency scroll compressors and brazed plate evaporators to offer full and part load efficiencies that are unmatched when compared to products utilizing reciprocating compressors. Still higher efficiencies are realized at part load conditions.

Reliability

Since its introduction, scroll compressors have proven to be one of the most reliable compressors available. While high reliability is inherent with the scroll technology, digital control technology has proven to increase reliability and minimize downtime through sophisticated operational logic, fault avoidance strategy and the ability to stabilize control peripherals such as condenser damper actuators and fan VFDs. The 40 through 70 ton models have **dual independent refrigerant circuits** to eliminate 100% capacity loss in the event of a component failure such as a compressor.

Construction

All CCAQ products are assembled on a rugged steel frame with integral lifting provisions and painted with a topcoat of durable urethane enamel.



CCAQ Series - Compressor Chillers

- Digital Controller compatible with BMS Control Interface
- Dual independent refrigerant circuits on 40 through 70 ton models
- Digital control of air-cooled condenser fan cycling, fan motor VFD's, and damper actuators
- Optional factory installed full sound attenuation enclosure

Control

The powerful MCS Digital Controller provides complete chiller control and standard interface to **BACnet IP** and **Modbus** BMS controls. **LonTalk**, **Johnson N2** and **BACnet MS/TP** interface is optional. Ethernet connection provides easy access to set points and diagnostic display. The controller has the ability to control air-cooled condenser fan cycling, fan motor VFD's, and damper actuators for stable discharge pressure at full load, part load, and transient conditions across a wide range of ambient temperatures. Fan control and low ambient control damper assembly wiring instructions for the CCAQ matched with the CAUJ condenser are provided with the unit.

Control Panel

All CCAQ Control Panels are complete with fused control power transformer, safety and operational control components and digital controller boards. Digital controller display/input screen is located in the front door of control panel.

Warranty

All CCAQ products are backed by the Standard One Year Limited Warranty. Optional 5 year compressor warranty is also available. Replacement compressors are available nation-wide.

Options

Factory installed options for CCAQ products include non-fused disconnects, full sound attenuation enclosure, phase monitor, **LonTalk**, **N2** or **BACnet MS/TP** communication and ice building control, 100 kA SCCR, and fork lift pockets. Ship loose options include flow switch, vibration isolator kit, modified damper kit (CAUJ damper modified for use with CCAQ units), and replaceable core filter drier with cores.

Dimensions and Specifications

Unit Size	Dimensions			Unit Weight	Connection Sizes*				Capacity	MCA @ 60 Hz, 3f		
	L	W	H		Refrigerant		Evap Water			Steps (%)	208/230 Volt	460 Volt
					Liquid	Disch	In	Out				
20	64"	32-7/8"	54-1/4"	875 lb.	1-1/8"	1-3/8"	2-1/2"	2"	100/50	75	41	29
26	65-3/8"	32-7/8"	54-1/4"	1145 lb.	1-1/8"	1-3/8"	2-1/2"	2"	100/50	116	52	45
30	68-1/2"	34-1/4"	54-1/4"	1285 lb.	1-1/8"	1-3/8"	2-1/2"	2-1/2"	100/50	126	61	54
40	70-7/8"	34-3/4"	72-1/4"	1390 lb.	1-1/8"	1-3/8"	3"	3"	100/75/50/25	142	77	55
52	74"	34-3/4"	72-1/4"	1460 lb.	1-1/8"	1-3/8"	3"	3"	100/75/50/25	218	99	85
60	75-7/8"	34-3/4"	72-1/4"	1745 lb.	1-1/8"	1-3/8"	3"	3"	100/75/50/25	238	115	102
70	80-7/8"	34-3/4"	72-1/4"	2035 lb.	1-1/8"	1-3/8"	3"	3"	100/71/43/21	279	123	104

* All water connections are as noted (VIC = Victaulic). All refrigerant connections are sweat. The 40-70 ton models have dual independent refrigerant circuits, therefore doubling the number of refrigerant connections.

Full Load Performance

Unit size	Tons	Compressor Input kW	EER	Evap GPM
20	18.80	20.80	10.43	45.10
26	23.60	26.30	10.68	56.60
30	28.80	31.00	11.02	69.10
40	38.70	41.60	11.08	92.90
52	45.30	53.50	10.11	108.70
60	56.80	61.50	11.04	136.30
70	65.80	70.20	11.19	157.90

Notes:

- Rated in accordance with AHRI Standard 550/590, based on TOPSS version 162: evaporator leaving temperature of 44°F and 2.4 gpm/ton, saturated discharge temperature of 125°F and liquid temperature of 105°F, evaporator fouling of 0.0001 °F-ft²-h/Btu
- Consult Trane representative for additional performance information, including matched condenser ratings
- EER - Energy Efficiency Ratio (BTU/w-h)



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