



Service Bulletin

Subject: Technical Specifications

IT1430C - QUIETQUBE HEAD SECTION USED WITH CVDT1400 AIR-COOLED CONDENSING UNIT

GENERAL SPECIFICATIONS			
Operating Temperatures	IT1430C Minimum 35°F (2°C) Maximum 110°F (43°C)	CVDT1400 Minimum -20°F (-29°C) Maximum 130°F (54°C)	
Refrigerant Charge (R-410A)	Line Set: 0' to 50' (0 m to 15 m) 13.0 lbs (6.0 kg)	Line Set: 51' to 100' (15.5 m to 30 m) add 2.0 lbs (0.9 kg)	Total Maximum Charge 15.0 lbs (7.0 kg)
Line Set (R-410A)	RC 21 / 31 / 51	Suction Line: 5/8 in (16 mm)	Liquid Line: 3/8 in (10 mm)
S Trap Kit Required on Rises Above 20' (6 m)	K-00166	3/4 in (19 mm)	
Ice Making Water Inlet	Water Inlet Connection - 3/8" FPT (Female Pipe Thread)	Water Temperature - Minimum 40°F (4.4°C) Maximum 90°F (32°C)	Water Pressure - Minimum 20 psig (1.4 bar) Maximum 80 psig (5.5 bar)
Ice Making Water Drain	Connection - 1/2" FPT (Female Pipe Thread)		
Potable Water	19.9 gallons per 100 lbs of ice 75.3 liters per 45.5 kg of ice		
High Pressure Settings	Cut-in 450 psig (31 bar)	Cut-out 600 psig (41 bar)	
Dimensions	Height	Width	Depth
IT1430C	25.0 in (635 mm)	30.0 in (762 mm)	24.5 in (622 mm)
CVDT1400	25.75 in (654 mm)	34.0 in (864 mm)	24.13 in (613 mm)
Clearances	Top	Sides	Front / Back
IT1430C	2.0 in (50 mm)	8.0 in (200 mm)	5.0 in (130 mm)
CVDT1400	24.0 in (610 mm)*	24.0 in (610 mm)*	48.0 in (1220 mm)
*Recommended for Servicing.			

Manitowoc De-scaler (removes lime scale and mineral deposits)	9405463
Manitowoc Sanitizer (disinfects and removes algae and slime)	9405653

Electrical	IT1430C	CVDT1400-261	CVDT1400-263
	115V/60 Hz/1 Ph Max Fuse - 15 amp Min Circuit Amps - 1.2	208-230V/60 Hz/1 Ph Max Fuse - 20 amp Min Circuit Amps - 13.0 amp Min Wire Size - #10 Solid Copper Conductor	208-230V/60 Hz/3 Ph Max Fuse - 15 amp Min Circuit Amps - 10.4 amp Min Wire Size - #12 Solid Copper Conductor
Energy Usage Kwh / 100 lbs	Half Dice: 4.1 Kwh Dice: 4.34 Kwh		

Cycle Times

Freeze Time + Harvest Time = Total Cycle Time

Air Temperature Entering Condenser °F / °C	Water Temperature			Harvest Time
	50°F 10°C	70°F 21°C	90°F 32°C	
70°F 21°C	10.5-12.5	10.7-12.7	10.7-12.8	0.75-2.0
90°F 32°C	11.8-14.1	12.3-14.6	13.8-16.3	
100°F 38°C	12.8-15.2	13.7-16.3	15.3-18.1	
110°F 43°C	14.0-16.6	15.4-18.3	17.1-20.2	

Freeze Time in minutes.

Cycle times and pressures vary with operating condition.

Production and cycle times are for dice cube - Half dice cube cycle times can be 2 - 3 minutes faster, depending on water and ambient temperature.

Operating Pressures - Freeze Cycle

Air Temperature Around the Unit	Discharge Pressure	Suction Pressure
50°F 10°C	300-340 psig 20.7-23.4 bar	65-45 psig 4.4-3.1 bar
70°F 21°C	300-350 psig 20.6-24.1 bar	70-50 psig 4.8-3.4 bar
80°F 27°C	310-360 psig 21.3-24.8 bar	75-55 psig 5.1-3.7 bar
90°F 32°C	310-370 psig 21.3-25.5 bar	80-55 psig 5.5-3.7 bar
100°F 38°C	390-430 psig 26.8-29.6 bar	85-58 psig 5.8-3.9 bar
110°F 43°C	400-450 psig 27.5-31.0 bar	90-60 psig 6.2-4.1 bar

Operating Pressures - Harvest Cycle

Air Temperature Around the Unit	Discharge Pressure	Suction Pressure
50°F 10°C	120-200 psig 8.2-13.7 bar	90-115 psig 6.2-7.9 bar
70°F 21°C	155-230 psig 10.6-15.8 bar	100-125 psig 6.8-8.6 bar
80°F 27°C	155-230 psig 10.6-15.8 bar	120-140 psig 8.2-9.6 bar
90°F 32°C	160-235 psig 11.0-16.2 bar	115-150 psig 7.9-10.3 bar
100°F 38°C	180-275 psig 12.4-18.9 bar	125-155 psig 8.6-10.6 bar
110°F 43°C	200-290 psig 13.7-19.9 bar	130-160 psig 8.9-11.0 bar

24 Hour Ice Production

Air Temperature Entering Condenser	Water Temperature		
	50°F 10°C	70°F 21°C	90°F 32°C
70°F 21°C	1436 lbs 651 kgs	1420 lbs 644 kgs	1411 lbs 640 kgs
90°F 32°C	1295 lbs 587 kgs	1252 lbs 568 kgs	1130 lbs 513 kgs
100°F 38°C	1205 lbs 547 kgs	1135 lbs 515 kgs	1030 lbs 467 kgs
110°F 43°C	1116 lbs 506 kgs	1020 lbs 463 kgs	931 lbs 422 kgs

Ice slab weight of one harvest cycle = 12.0 lbs to 14.0 lbs

(5.4 kgs to 6.4 kgs).

230/50/1 is approximately 12% lower than 230/60/1.