



Service Bulletin

Subject: Technical Specifications

IT1830C - QUIETQUBE HEAD SECTION USED WITH CVDT1800 AIR-COOLED CONDENSING UNIT

GENERAL SPECIFICATIONS			
Operating Temperatures	IT1830C Minimum 35°F (2°C) Maximum 110°F (43°C)	CVDT1800 Minimum -20°F (-29°C) Maximum 130°F (54°C)	
Refrigerant Charge (R-410A)	Line Set: 0' to 50' (0 m to 15 m) 14.5 lbs (6.6 kg)	Line Set: 51' to 100' (15.5 m to 30 m) add 2.0 lbs (0.9 kg)	Total Maximum Charge 16.5 lbs (7.5 kg)
Line Set (R-410A)	RC 20 / 30 / 50	Suction Line: 3/4 in (19 mm)	Liquid Line: 1/2 in (13 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	18.5 gallons per 100 lbs of ice 70.0 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
IT1830C	29.5 in (750 mm)	30.0 in (762 mm)	24.5 in (622 mm)
CVDT1800	25.75 in (654 mm)	34.0 in (864 mm)	24.13 in (613 mm)
Clearances	Top	Sides	Front / Back
IT1830C	2.0 in (50 mm)	8.0 in (200 mm)	5.0 in (130 mm)
CVDT1800	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			
IT1830C	CVDT1800-261	CVDT1800-263	CVDT1800-251
115V/60 Hz/1 Ph Max Fuse - 15 amp Min Circuit Amps - 1.2	208-230V/60 Hz/1 Ph Max Fuse - 25 amp Min Circuit Amps - 16.7 amp Min Wire Size - #10 Solid Copper Conductor	208-230V/60 Hz/3 Ph Max Fuse - 20 amp Min Circuit Amps - 13.5 amp Min Wire Size - #10 Solid Copper Conductor	208-230V/50 Hz/1 Ph Max Fuse - 25 amp Min Circuit Amps - 14.9 amp Min Wire Size - #10 Solid Copper Conductor
Energy Usage Kwh / 100 lbs	Half Dice: 4.02 Kwh Dice: 4.04 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	10.4-11.4	11.4-12.4	12.5-13.6	0.75-2.0
90°F 32°C	11.1-12.1	12.3-13.4	13.9-15.1	
100°F 38°C	12.5-13.7	14.0-15.2	15.7-17.1	
110°F 43°C	14.3-15.6	16.1-17.5	18.3-19.9	

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.

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	1871 lbs 849 kgs	1734 lbs 786 kgs	1597 lbs 724 kgs
90°F 32°C	1775 lbs 805 kgs	1614 lbs 732 kgs	1450 lbs 658 kgs
100°F 38°C	1590 lbs 721 kgs	1442 lbs 654 kgs	1295 lbs 587 kgs
110°F 43°C	1410 lbs 640 kgs	1270 lbs 576 kgs	1129 lbs 512 kgs

Ice slab weight of one harvest cycle = 15.5 lbs to 16.75 lbs (7.0 kgs to 7.6 kgs).

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

Operating Pressures - Freeze Cycle

Air Temperature Around the Unit	Discharge Pressure	Suction Pressure
50°F 10°C	230-320 psig 15.8-22.0 bar	70-40 psig 4.8-2.7 bar
70°F 21°C	290-340 psig 4.8-23.4 bar	75-45 psig 5.1-3.1 bar
80°F 27°C	300-350 psig 20.6-24.1 bar	75-46 psig 5.1-3.1 bar
90°F 32°C	310-360 psig 21.3-24.8 bar	80-48 psig 5.5-3.3 bar
100°F 38°C	380-450 psig 26.2-31.0 bar	85-50 psig 5.8-3.4 bar
110°F 43°C	415-470 psig 28.6-32.4 bar	90-55 psig 6.2-3.7 bar

Operating Pressures - Harvest Cycle

Air Temperature Around the Unit	Discharge Pressure	Suction Pressure
50°F 10°C	120-180 psig 8.2-12.4 bar	95-115 psig 6.5-7.9 bar
70°F 21°C	150-200 psig 10.3-13.7 bar	100-125 psig 6.8-8.6 bar
80°F 27°C	160-210 psig 11.0-14.4 bar	110-130 psig 7.5-8.9 bar
90°F 32°C	180-280 psig 12.4-19.3 bar	120-140 psig 8.2-9.6 bar
100°F 38°C	200-320 psig 13.7-22.0 bar	120-160 psig 8.2-11.0 bar
110°F 43°C	210-375 psig 14.4-25.8 bar	120-170 psig 8.2-11.7 bar