



Service Bulletin

Subject: UP0240 Technical Specifications

AIR-COOLED & WATER-COOLED MODELS

GENERAL SPECIFICATIONS			
Operating Temperatures	Minimum 50°F (10°C) Maximum 100°F (38°C)		
Refrigerant Charge (R-290)	Air-cooled	Water-cooled	
	5.3 oz (150 g)	5.3 oz (150 g)	
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 40 psig (1.3 bar) Maximum 80 psig (5.5 bar)
Condenser Water Inlet	Connection Size - 3/8" FPT (Female Pipe Thread)	Water Temperature - Minimum 40°F (4.4°C) Maximum 90°F (32°C)	Water Pressure - Minimum 20 psig (1.3 bar) Maximum 150 psig (10.3 bar)
Ice Making Water Drain	Drain Connection - 1/2" FPT (Female Pipe Thread)		
Potable Water	17 gallons per 100 lbs of ice 64 liters per 45.5 kg of ice		
Electrical	115V/60Hz/1 Ph	208-230V/60 Hz/1 Ph	230V/50 Hz/1 Ph
	Air: Min Circuit Amps - 7.0 Max Fuse Size - 15 amp Water: Min Circuit Amps - 6.0 Max Fuse Size - 15 amp	Air: Min Circuit Amps - 3.5 Max Fuse Size - 15 amp Water: Min Circuit Amps - 3.5 Max Fuse Size - 15 amp	Air: Min Circuit Amps - 3.5 Max Fuse Size - 15 amp Water: Min Circuit Amps - 3.0 Max Fuse Size - 15 amp
Energy Usage Kwh / 100 lbs	Air-cooled Half Dice: 6.23 Kwh Dice: 6.23 Kwh	Water-cooled Half Dice: 4.65 Kwh Dice: 4.65 Kwh	
Compressor Nominal Rating	1/2 HP		
Heat of Rejection	Air Conditioning 3,700 BTU/hr (932 kcal/hr)	Peak 4,400 BTU/hr (1,109 kcal/hr)	
Fan Cycle Control	Cut-in - 200 psig (14 bar)	Cut-out - 150 psig (10 bar)	
High Pressure Settings	Cut-in - 250 psig (17 bar)	Cut-out - 350 psig (24 bar)	
Dimensions	Height	Width	Depth
	38.5 in (977 mm)	26 in (660 mm)	28.5 in (723 mm)
Clearances	Top	Side	Back
	5.0 in (130 mm)	5.0 in (130 mm)	5.0 in (127 mm)

Self Contained Air-cooled Ice Machines

Cycle Times $\text{Freeze Time} + \text{Harvest Time} = \text{Total Cycle Time}$

Air Temperature Around the Unit	Freeze Time (Minutes)			Harvest Time
	Water Temperature			
	50°F 10°C	70°F 21°C	90°F 32°C	
70°F 21°C	13.9-16.0	16.9-18.9	18.0-20.3	1.0-2.5
80°F 27°C	15.0-17.2	17.0-20.1	19.4-22.4	
90°F 32°C	16.2-18.5	19.5-22.5	21.6-25.0	
100°F 38°C	19.0-21.5	20.4-24.0	23.4-26.5	
110°F 43°C	21.6-24.6	23.6-26.6	24.5-27.7	

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 Around the Unit	Water Temperature		
	50°F 10°C	70°F 21°C	90°F 32°C
70°F 21°C	225 lbs 102 kgs	190 lbs 86 kgs	175 lbs 79 kgs
80°F 27°C	210 lbs 95 kgs	180 lbs 82 kgs	160 lbs 73 kgs
90°F 32°C	195 lbs 88 kgs	160 lbs 73 kgs	145 lbs 66 kgs
100°F 38°C	170 lbs 77 kgs	150 lbs 68 kgs	140 lbs 64 kgs
110°F 43°C	155 lbs 70 kgs	140 lbs 64 kgs	135 lbs 61 kgs

Ice slab weight of one harvest cycle = 2.3 lbs to 2.9 lbs (1.0 kgs to 1.3 kgs).

Operating Pressures - Freeze Cycle

Air Temperature Around the Unit	Discharge Pressure	Suction Pressure
50°F 10°C	145-205 psig 10.0-14.1 bar	40-14 psig 2.8-1.0 bar
70°F 21°C	150-210 psig 10.3-14.5 bar	42-15psig 2.9-1.0 bar
80°F 27°C	160-230 psig 11.0-15.9 bar	46-18 psig 3.2-1.2 bar
90°F 32°C	180-240 psig 12.4-16.5 bar	51-20 psig 3.5-1.4 bar
100°F 38°C	230-280 psig 15.9-19.3 bar	54-24 psig 3.7-1.7 bar
110°F 43°C	245-295 psig 16.9-20.3 bar	58-25 psig 4.0-1.7 bar

Operating Pressures - Harvest Cycle

Air Temperature Around the Unit	Discharge Pressure	Suction Pressure
50°F 10°C	90-105 psig 6.2-7.2 bar	55-65 psig 3.8-4.5 bar
70°F 21°C	90-105 psig 6.2-7.2 bar	60-70 psig 4.1-4.8 bar
80°F 27°C	95-110 psig 6.6-7.6 bar	65-85 psig 4.5-5.9 bar
90°F 32°C	105-125 psig 7.2-8.6 bar	65-95 psig 4.5-6.6 bar
100°F 38°C	115-150 psig 7.9-10.3 bar	70-105 psig 4.8-7.2 bar
110°F 43°C	160-180 psig 11.0-12.4 bar	75-110 psig 5.2-7.6 bar

Storage Capacity

Storage Bin Capacity*
90 lbs (40 kg)
*Storage Capacity is AHRI certified.

NOTE: Ice Production Derate %

- 60Hz Dice and Half Dice production derate as shown
- 60Hz Regular cube production derate is 7%.
- 50Hz Dice and Half Dice production derate is 12%.
- 50Hz Regular cube production derate is 14%.

Self Contained Water-cooled Ice Machines

Cycle Times

Freeze Time + Harvest Time = Total Cycle Time

Air Temperature Around the Unit	Freeze Time (Minutes)			Harvest Time
	Water Temperature			
	50°F 10°C	70°F 21°C	90°F 32°C	
70°F 21°C	15.9-17.9	16.9-18.9	18.0-20.3	1.0-2.5
80°F 27°C	16.3-18.4	17.3-19.5	18.4-20.5	
90°F 32°C	17.0-19.9	19.0-20.4	19.1-21.8	
100°F 38°C	18.0-21.0	19.5-21.8	20.8-24.0	
110°F 43°C	19.2-21.6	19.9-22.2	21.7-24.9	

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 Around the Unit	Water Temperature		
	50°F 10°C	70°F 21°C	90°F 32°C
70°F 21°C	210 lbs 95.3 kgs	190 lbs 86.2 kgs	180 lbs 81.6 kgs
80°F 27°C	200 lbs 90.7 kgs	185 lbs 83.9 kgs	175 lbs 79.4 kgs
90°F 32°C	190 lbs 86.2 kgs	170 lbs 77.1 kgs	160 lbs 72.6 kgs
100°F 38°C	180 lbs 81.6 kgs	165 lbs 74.8 kgs	155 lbs 70.3 kgs
110°F 43°C	170 lbs 77.1 kgs	160 lbs 72.6 kgs	150 lbs 68.0 kgs

Ice slab weight of one harvest cycle = 2.3 lbs to 2.9 lbs (1.0 kgs to 1.3 kgs).

Operating Pressures - Freeze Cycle

Air Temperature Around the Unit	Discharge Pressure	Suction Pressure
50°F 10°C	160-180 psig 11.0-12.4 bar	48-17 psig 3.3-1.2 bar
70°F 21°C	160-180 psig 11.0-12.4 bar	52-20 psig 3.6-1.4 bar
80°F 27°C	160-180 psig 11.0-12.4 bar	52-20 psig 3.6-1.4 bar
90°F 32°C	160-180 psig 11.0-12.4 bar	53-23 psig 3.7-1.6 bar
100°F 38°C	160-180 psig 11.0-12.4 bar	54-24 psig 3.7-1.7 bar
110°F 43°C	160-180 psig 11.0-12.4 bar	58-25 psig 4.0-1.7 bar

Operating Pressures - Harvest Cycle

Air Temperature Around the Unit	Discharge Pressure	Suction Pressure
50°F 10°C	90-105 psig 6.2-7.2 bar	60-70 psig 4.1-4.8 bar
70°F 21°C	90-110 psig 6.2-7.6 bar	60-70 psig 4.1-4.8 bar
80°F 27°C	95-110 psig 6.6-7.6 bar	65-85 psig 4.5-5.9 bar
90°F 32°C	105-125 psig 7.2-8.6 bar	65-95 psig 4.5-6.6 bar
100°F 38°C	105-145 psig 7.2-10.0 bar	65-100 psig 4.5-6.9 bar
110°F 43°C	105-145 psig 7.2-10.0 bar	65-105 psig 4.5-7.2 bar

Condenser Water Consumption

Ice Production	Water Usage
100 lbs 45.4 kgs	166 Gallons 628 Liters

Water Regulating Valve set point: 235 psig (16.2 bar)

Storage Capacity

Storage Bin Capacity*
90 lbs (40 kg)

*Storage Capacity is AHRI certified.

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- 50Hz Dice and Half Dice production derate is 12%.
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