MANITOWOC ICE
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Service Bulletin

Subject: UP0190 Technical Specifications

AIR-COOLED MODELS

GENERAL SPECIFICATIONS			
Operating Temperatures	Minimum 50°F (10°C) Maximum 100°F (38°C)		
Refrigerant Charge (R-290)	4.9 oz (140 g)		
Ice Making 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 80 psig (5.5 bar)
Ice Making Water Drain	Connection Size - 1/2" FPT (Female Pipe Thread)		
Potable Water	15.5 gallons per 100 lbs of ice 58.67 liters per 45.5 kg of ice		
Electrical	**115V/60Hz/1Ph**	**230V/50Hz/1Ph**	**Energy Usage** **Kwh / 100 lbs**
	Min Circuit Amps - 6.0 Max Fuse Size - 15 amp	Min Circuit Amps - 2.5 Max Fuse Size - 15 amp	Half Dice: 5.83 Kwh Dice: 5.83 Kwh
Compressor Nominal Rating	**115V/60Hz/1Ph**	**230V/50Hz/1Ph**	
	1/2 HP	1/3 HP	
Heat of Rejection	**Air Conditioning** 3,200 BTU/hr (806 kcal/hr)	**Peak** 3,800 BTU/hr (958 kcal/hr)	
Fan Cycle Control	Cut-in - 150 psig (10 bar)	Cut-out - 200 psig (14 bar)	
High Pressure Settings	Cut-in - 250 psig (17 bar)	Cut-out - 350 psig (24 bar)	
Dimensions	**Height**	**Width**	**Depth**
	38.5 in (980 mm)	26.0 in (660 mm)	28.5 in (725 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

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	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	200 lbs 91 kgs	165 lbs 75 kgs	155 lbs 70 kgs
80°F 27°C	165 lbs 75 kgs	150 lbs 68 kgs	135 lbs 61 kgs
90°F 32°C	150 lbs 68 kgs	140 lbs 64 kgs	115 lbs 52 kgs
100°F 38°C	130 lbs 59 kgs	115 lbs 52 kgs	105 lbs 48 kgs
110°F 43°C	115 lbs 52 kgs	105 lbs 48 kgs	100 lbs 45 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	130-210 psig 9.0-14.5 bar	50-21 psig 3.4-1.4 bar
70°F 21°C	150-210 psig 10.3-14.5 bar	53-23 psig 3.7-1.6 bar
80°F 27°C	160-230 psig 11.0-15.9 bar	55-23 psig 3.8-1.6 bar
90°F 32°C	195-260 psig 13.4-17.9 bar	60-24 psig 4.1-1.7 bar
100°F 38°C	200-280 psig 13.8-19.3 bar	65-25 psig 4.5-1.7 bar
110°F 43°C	245-295 psig 16.9-20.3 bar	67-27 psig 4.6-1.9 bar

Operating Pressures - Harvest Cycle

Air Temperature Around the Unit	Discharge Pressure	Suction Pressure
50°F 10°C	80-110 psig 5.5-7.6 bar	68-72 psig 4.7-5.0 bar
70°F 21°C	85-115 psig 5.9-7.9 bar	70-80 psig 4.8-5.5 bar
80°F 27°C	95-120 psig 6.6-8.3 bar	70-85 psig 4.8-5.9 bar
90°F 32°C	115-170 psig 7.9-11.7 bar	80-95 psig 5.5-6.6 bar
100°F 38°C	120-175 psig 8.3-12.1 bar	70-105 psig 4.8-7.2 bar
110°F 43°C	120-180 psig 8.3-12.4 bar	95-115 psig 6.6-7.9 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%.