MANITOWOC ICE
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Service Bulletin

Subject: IP0300 Technical Specifications

AIR-COOLED & WATER-COOLED MODELS

60 HZ ONLY

Operating Temperatures	Minimum 35°F (2°C) Maximum 110°F (43°C)		
Refrigerant Charge (R-290)	**Air-cooled Models** 3.5 oz (100 g)	**Water-cooled Models** 3.8 oz (110 g)	
Electrical	**Air-cooled Models**	**Water-cooled Models**	**Energy Use Kwh / 100 lbs**
115V/60 Hz/1 Ph	Min Circuit Amps - 9.0 amp Max Fuse Size - 15 amp	Min Circuit Amps - 8.2 amp Max Fuse Size - 15 amp	Half Dice: 6.37 Kwh Dice: 6.14 Kwh
208-230V/60 Hz/1 Ph	Min Circuit Amps - 8.2 amp Max Fuse Size - 15 amp	--	
Ice Making Water Inlet	Connection Size - 3/8" (10 mm) FPT (Female Pipe Thread)	Water Temperature - Minimum 40°F (4°C) Maximum 90°F (32°C)	Water Pressure - Minimum 20 psig (1.3 bar) Water Pressure - Maximum 80 psig (5.5 bar)
Ice Making Water Drain	Connection Size - 1/2" (13 mm) FPT (Female Pipe Thread)		
Condenser Water Inlet IP0300W Models Only	Connection Size - 3/8" (10 mm) FPT (Female Pipe Thread)	Water Temperature - Minimum 40°F (4°C) Maximum 90°F (32°C)	Water Pressure - Minimum 20 psi (1.3 bar) Maximum 275 psi (18.9 bar)
Condenser Water Drain IP0300W Models Only	Connection Size - 3/8" (10 mm) FPT (Female Pipe Thread)		
Potable Water Use	16.4 gallons per 100 lbs of ice 62.0 liters per 45.5 kg of ice		
Heat of Rejection 115V/60 Hz/1 Ph	**Air Conditioning** 5531 BTU/hr (1395 kcal/hr)	**Peak** 6142 BTU/hr (1549 Kcal/hr)	
Heat of Rejection 208-230V/60 Hz/1 Ph	**Air Conditioning** 5070 BTU/hr (1278 kcal/hr)	**Peak** 6016 BTU/hr (1517 kcal/hr)	
Fan Cycle Control Settings	Cut-in (closed)- 200 psig ±5 / 13.8 bar ±0.3	Cut-out (open) - 150 psig ±5 / 10.3 bar ±0.3	
High Pressure Settings	Cut-in (closed) - 250 psig ±5 / 17.2 bar ±0.3	Cut-out (open) - 350 psig ±5 / 24.1 bar ±0.3	
Dimensions	**Height**	**Width**	**Depth**
	21.5 in (546.1 mm)	30 in (762 mm)	24.5 in (622.3 mm)
Clearances	**Top**	**Side**	**Back**
	16 in (406.4 mm)	16 in (406.4 mm)	5 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	9.6 - 11.5	11.1 - 13.2	12.3 - 14.6	1.0 - 2.5
80°F 27°C	10.2 - 12.2	11.3 - 13.4	12.3 - 14.6	
90°F 32°C	10.4 - 12.2	11.8 - 14.0	12.3 - 14.6	
100°F 38°C	10.4 - 12.4	11.8 - 14.0	12.6 - 15.7	
110°F 43°C	10.8 - 12.9	11.8 - 14.0	12.9 - 15.3	

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	310 lbs (141 kgs)	280 lbs (127 kgs)	250 lbs (113 kgs)
80°F 27°C	285 lbs (129 kgs)	250 lbs (113 kgs)	230 lbs (104 kgs)
90°F 32°C	260 lbs (118 kgs)	225 lbs (102 kgs)	210 lbs (95 kgs)
100°F 38°C	235 lbs (107 kgs)	215 lbs (98 kgs)	195 lbs (88 kgs)
110°F 43°C	210 lbs (95 kgs)	200 lbs (91 kgs)	180 lbs (82 kgs)

Ice slab weight of one harvest cycle = 2.4 lbs to 2.8 lbs (1.1 kgs to 1.3 kgs)

Operating Pressures - Freeze Cycle

Air Temperature Around the Unit	Discharge Pressure psig (bar)	Suction Pressure psig (bar)
50°F 10°C	140 -210 psig (9.7 -14.5 bar)	18 - 45 psig (1.2 - 3.1 bar)
70°F 21°C	140 -215 psig (9.7 -14.8 bar)	20 - 48 psig (1.4 - 3.3 bar)
80°F 27°C	150 - 220 psig (10.3 -15.2 bar)	20 - 48 psig (1.4 - 3.3 bar)
90°F 32°C	160 - 225 psig (11.0 - 15.5 bar)	22 - 50 psig (1.5 - 3.4 bar)
100°F 38°C	205 - 230 psig (14.1 - 15.9 bar)	24 - 52 psig (1.7 - 3.6 bar)
110°F 43°C	235 - 260 psig (16.2 - 17.9 bar)	25 - 55 psig (1.7 - 3.8 bar)

Operating Pressures - Harvest Cycle

Air Temperature Around the Unit	Discharge Pressure psig (bar)	Suction Pressure psig (bar)
50°F 10°C	95 - 120 psig (6.5 - 8.3 bar)	60 - 70 psig (4.1 - 4.8 bar)
70°F 21°C	100 - 125 psig (6.9 - 8.6 bar)	65 - 70 psig (4.5 - 4.8 bar)
80°F 27°C	100 - 125 psig (6.9 - 8.6 bar)	70 - 80 psig (4.8 - 5.5 bar)
90°F 32°C	100 - 130 psig (6.9 - 9.0 bar)	85 - 100 psig (5.9 - 6.9 bar)
100°F 38°C	100 - 130 psig (6.9 - 9.0 bar)	105 - 120 psig (7.2 - 8.3 bar)
110°F 43°C	100 - 135 psig (6.9 - 9.3 bar)	105 -120 psig (7.2 - 8.3 bar)

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	10.0 - 11.9	11.1 - 13.2	12.3 - 14.6	1.0 - 2.5
80°F 27°C	10.2 - 12.2	11.3 - 13.4	12.3 - 14.6	
90°F 32°C	10.4 - 12.5	11.8 - 13.9	12.3 - 14.6	
100°F 38°C	10.4 - 12.5	11.8 - 14.0	12.6 - 15.7	
110°F 43°C	10.8 - 12.9	11.8 - 14.0	12.9 - 15.3	

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	300 lbs (136 kgs)	275 lbs (125 kgs)	250 lbs (113 kgs)
80°F 27°C	295 lbs (134 kgs)	270 lbs (122 kgs)	250 lbs (113 kgs)
90°F 32°C	290 lbs (132 kgs)	260 lbs (118 kgs)	245 lbs (111 kgs)
100°F 38°C	285 lbs (129 kgs)	255 lbs (116 kgs)	240 lbs (109 kgs)
110°F 43°C	280 lbs (127 kgs)	250 lbs (113 kgs)	235 lbs (107 kgs)

Ice slab weight of one harvest cycle = 2.4 lbs to 2.8 lbs (1.1 kgs to 1.3 kgs)

Operating Pressures - Freeze Cycle

Air Temperature Around the Unit	Discharge Pressure psig (bar)	Suction Pressure psig (bar)
50°F 10°C	175 - 185 psig (12.1 - 12.8 bar)	70 - 80 psig (4.8 - 5.5 bar)
70°F 21°C	175 - 185 psig (12.1 - 12.8 bar)	70 - 85 psig (4.8 - 5.9 bar)
80°F 27°C	175 - 185 psig (12.1 - 12.8 bar)	70 - 85 psig (4.8 - 5.9 bar)
90°F 32°C	180 - 190 psig (12.4 - 13.1 bar)	70 - 85 psig (4.8 - 5.9 bar)
100°F 38°C	180 - 190 psig (12.4 - 13.1 bar)	70 - 85 psig (4.8 - 5.9 bar)
110°F 43°C	185 - 195 psig (12.8 - 13.4 bar)	75 - 90 psig (4.8 - 5.9 bar)

Operating Pressures - Harvest Cycle

Air Temperature Around the Unit	Discharge Pressure psig (bar)	Suction Pressure psig (bar)
50°F 10°C	95 - 120 psig (6.5 -8.3 bar)	70 - 80 psig (4.8 -5.5 bar)
70°F 21°C	100 - 125 psig (6.9 - 8.6 bar)	70 - 85 psig (4.8 -5.9 bar)
80°F 27°C	100 - 125 psig (6.9 - 8.6 bar)	70 - 85 psig (4.8 - 5.9 bar)
90°F 32°C	100 - 130 psig (6.9 - 9.0 bar)	70 - 85 psig (4.8 - 5.9 bar)
100°F 38°C	100 - 130 psig (6.9 - 9.0 bar)	70 - 85 psig (4.8 - 5.9 bar)
110°F 43°C	100 - 130 psig (6.9 - 9.0 bar)	75 - 90 psig (5.2 - 6.2 bar)