MANITOWOC ICE
2110 SOUTH 26TH STREET, MANITOWOC, WI 54220

800-545-5720
WWW.MANITOWOCICE.COM

Service Bulletin

Subject: IP0600 Technical Specifications

AIR-COOLED & WATER-COOLED MODELS

60 HZ ONLY

GENERAL SPECIFICATIONS			
Operating Temperatures	Minimum 35°F (2°C) Maximum 110°F (43°C)		
Refrigerant Charge (R-290)	**Air-cooled Models** 9.5 oz (270 g)	**Water-cooled Models** 6.7 oz (190 g)	
Electrical 115V/60 Hz/1 Ph	**Air-cooled Models** Min Circuit Amps - 13.3 amp Max Fuse Size - 20 amp	**Water-cooled Models** Min Circuit Amps - 12.9 amp Max Fuse Size - 20 amp	
Electrical 208-230V/60 Hz/1 Ph	**Air-cooled Models** Min Circuit Amps - 6.6 amp Max Fuse Size - 15 amp	**Water-cooled Models** Min Circuit Amps - 6.3 amp Max Fuse Size - 15 amp	
Energy Use Kwh / 100 lbs	**Air-cooled Models** Half Dice: 4.77 Kwh Dice: 4.77 Kwh	**Water-cooled Models** Half Dice: 4.43 Kwh Dice: 4.11 Kwh	
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 IP0600W 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) Water pressure - Maximum 275 psi (18.9 bar)
Condenser Water Drain IP0600W Models Only	Connection Size - 3/8" (10 mm) FPT (Female Pipe Thread)		
Potable Water Use	**Air-cooled Models** 13.9 gallons per 100 lbs of ice (52.6 liters per 45.5 kg of ice)	**Water-cooled Models** 15. 3 gallons per 100 lbs of ice (57.9 liters per 45.5 kg of ice)	
Heat of Rejection 115V/60 Hz/1 Ph	**Air Conditioning** 10330 BTU/hr (2605 kcal/hr)	**Peak** 12000 BTU/hr (3026 kcal/hr)	
Heat of Rejection 208-230V/60 Hz/1 Ph	**Air Conditioning** 10430 BTU/hr (2630 kcal/hr)	**Peak** 12120 BTU/hr (3026 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**
	8 in (203.2 mm)	8 in (203.2 mm)	5 in (127.2 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	7.5 - 9.0	9.5 - 11.0	10.1 - 11.8	1.0 - 2.5
80°F 27°C	8.5 - 10.5	9.8 - 11.5	10.4 - 12.2	
90°F 32°C	9.5 - 11.5	10.5 - 12.5	11.0 - 13.2	
100°F 38°C	11.0 - 13.0	12.0 - 13.8	12.7 - 14.8	
110°F 43°C	11.8 - 14.2	12.5 - 14.3	13.1 - 15.5	

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	665 lbs (302 kgs)	600 lbs (272 kgs)	545 lbs (247 kgs)
80°F 27°C	620 lbs (281 kgs)	575 lbs (261 kgs)	520 lbs (236 kgs)
90°F 32°C	580 lbs (263 kgs)	550 lbs (249 kgs)	500 lbs (227 kgs)
100°F 38°C	565 lbs (256 kgs)	530 lbs (240 kgs)	490 lbs (222 kgs)
110°F 43°C	550 lbs (249 kgs)	510 lbs (231 kgs)	475 lbs (215 kgs)

Ice slab weight of one harvest cycle = 4.1 lbs to 4.75 lbs (1.9 kgs to 2.2 kgs).

Operating Pressures - Freeze Cycle

Air Temperature Around the Unit	Discharge Pressure psig (bar)	Suction Pressure psig (bar)
50°F 10°C	145 - 210 psig (10.0 - 14.5 bar)	16 - 41 psig (1.1 - 2.8 bar)
70°F 21°C	146 - 215 psig (10.0 - 14.8 bar)	17 - 41 psig (1.2 - 2.8 bar)
80°F 27°C	160 - 225 psig (11.0 - 15.5 bar)	19 - 43 psig (1.3 - 3.0 bar)
90°F 32°C	160 - 230 psig (11.0 - 15.5 bar)	20 - 45 psig (1.4 - 3.1 bar)
100°F 38°C	180 - 250 psig (11.0 - 15.5 bar)	22 - 47 psig (1.5 - 3.2 bar)
110°F 43°C	190 - 260 psig (11.0 - 15.5 bar)	25 - 50 psig (1.7 - 3.4 bar)

Operating Pressures - Harvest Cycle

Air Temperature Around the Unit	Discharge Pressure psig (bar)	Suction Pressure psig (bar)
50°F 10°C	90 - 125 psig (6.2 - 8.6 bar)	60 - 85 psig (4.1 - 5.9 bar)
70°F 21°C	95 - 130 psig (6.5 - 9.0 bar)	60 - 85 psig (4.1 - 5.9 bar)
80°F 27°C	100 - 130 psig (6.9 - 9.0 bar)	62 - 88 psig (4.3 - 6.1 bar)
90°F 32°C	120 - 160 psig (8.3 - 11.0 bar)	62 - 88 psig (4.3 - 6.1 bar)
100°F 38°C	150 - 180 psig (10.3 - 12.4 bar)	65 - 90 psig (4.5 - 6.2 bar)
110°F 43°C	175 - 210 psig (12.1 - 14.5 bar)	70 - 95 psig (4.8 - 6.5 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	7.5 - 9.0	9.0 - 10.5	9.5 - 11.3	1.0 - 2.5
80°F 27°C	8.5 - 10.5	9.1 - 10.6	9.6 - 11.5	
90°F 32°C	9.0 - 10.7	9.2 - 10.8	9.6 - 11.5	
100°F 38°C	9.2 - 10.8	9.5 - 11.0	9.8 - 11.7	
110°F 43°C	9.5 - 11.0	9.8 - 11.8	10.2 - 12.0	

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	660 lbs (299 kgs)	615 lbs (279 kgs)	555 lbs (252 kgs)
80°F 27°C	640 lbs (290 kgs)	610 lbs (277 kgs)	545 lbs (247 kgs)
90°F 32°C	635 lbs (288 kgs)	605 lbs (274 kgs)	540 lbs (245 kgs)
100°F 38°C	630 lbs (286 kgs)	590 lbs (268 kgs)	535 lbs (243 kgs)
110°F 43°C	625 lbs (283 kgs)	580 lbs (263 kgs)	530 lbs (240 kgs)

Ice slab weight of one harvest cycle = 4.1 lbs to 4.75 lbs (1.9 kgs to 2.2 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)	16 - 39 psig (1.1 - 2.7 bar)
70°F 21°C	175 - 185 psig (12.1 - 12.8 bar)	18 - 40 psig (1.2 - 2.8 bar)
80°F 27°C	175 - 185 psig (12.1 - 12.8 bar)	20 - 45 psig (1.4 - 3.1 bar)
90°F 32°C	180 - 190 psig (12.4 - 13.1 bar)	22 - 45 psig (1.1 - 2.8 bar)
100°F 38°C	180 - 190 psig (12.4 - 13.1 bar)	25 - 48 psig (1.7 - 3.3 bar)
110°F 43°C	185 - 200 psig (12.8 - 13.8 bar)	28 - 50 psig (1.9 - 3.4 bar)

Operating Pressures - Harvest Cycle

Air Temperature Around the Unit	Discharge Pressure psig (bar)	Suction Pressure psig (bar)
50°F 10°C	100 - 115 psig (6.9 - 7.9 bar)	65 - 75 psig (4.5 - 5.2 bar)
70°F 21°C	100 - 115 psig (6.9 - 7.9 bar)	65 - 75 psig (4.5 - 5.2 bar)
80°F 27°C	105 - 120 psig (7.2 - 8.3 bar)	68 - 78 psig (4.7 - 5.4 bar)
90°F 32°C	110 - 125 psig (7.6 - 8.6 bar)	73 - 83 psig (5.0 - 5.7 bar)
100°F 38°C	115 - 130 psig (7.9 - 9.0 bar)	76 - 86 psig (5.2 - 5.9 bar)
110°F 43°C	125 - 150 psig (8.6 - 10.3 bar)	80 - 90 psig (5.5 - 6.2 bar)

Condenser Water Consumption

Ice Production	Water Usage
100 lbs (45.5 kgs)	135 gallons (511liters)

Water Regulating Valve Set Point: 170 psig (11.7 bar)