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

800-545-5720
WWW.MANITOWOCICE.COM

Service Bulletin

Subject: IP0800 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** 14 oz (400 g)	**Water-cooled Models** 14 oz (400 g)	
Electrical	**Air-cooled Models**	**Water-cooled Models**	
208-230V/60 Hz/1 Ph	Min Circuit Amps - 9.0 amp Max Fuse Size - 15 amp	Min Circuit Amps - 8.3 amp Max Fuse Size - 15 amp	
Energy Use Kwh / 100 lbs	**Air-cooled Models**	**Water-cooled Models**	
	Half Dice: 4.87 Kwh Dice: 4.59 Kwh Regular: 4.81 Kwh	Half Dice: 3.80 Kwh Dice: 3.85 Kwh Regular: 3.72 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) Maximum 80 psig (5.5 bar)
Ice Making Water Drain	Connection Size - 1/2" (13 mm) FPT (Female Pipe Thread)		
Condenser Water Inlet IP0800W 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 IP0800W Models Only	Connection Size - 3/8" (10 mm) FPT (Female Pipe Thread)		
Potable Water Use	13.7 gallons per 100 lbs of ice 52 liters per 45.5 kg of ice		
Heat of Rejection	**Air Conditioning** 14080 BTU/hr (3550 kcal/hr)	**Peak** 16340 BTU/hr (4120 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**
	29.5 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	9.5 - 10.2	10.0 - 11.1	10.5 - 12.5	1.0 - 2.5
80°F 27°C	9.9 - 11.8	10.2 - 11.5	11.0 - 12.9	
90°F 32°C	10.2 - 12.2	11.7 - 13.0	12.0 - 13.5	
100°F 38°C	11.5 - 12.8	12.0 - 14.2	12.5 - 14.7	
110°F 43°C	12.3 - 13.5	13.3 - 15.5	15.1 - 16.6	

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	775 lbs 351 kgs	745 lbs 338 kgs	670 lbs 304 kgs
80°F 27°C	745 lbs 338 kgs	735 lbs 333 kgs	640 lbs 290 kgs
90°F 32°C	735 lbs 333 kgs	725 lbs 329 kgs	615 lbs 279 kgs
100°F 38°C	680 lbs 308 kgs	650 lbs 295 kgs	585 lbs 265 kgs
110°F 43°C	635 lbs 288 kgs	590 lbs 268 kgs	560 lbs 254 kgs

Ice slab weight of one harvest cycle = 6.2 lbs to 7.2 lbs (2.8 kgs to 3.3 kgs)

Operating Pressures - Freeze Cycle

Air Temperature Around the Unit	Discharge Pressure psig (bar)	Suction Pressure psig (bar)
50°F 10°C	130 - 215 psig (9.0 - 14.8 bar)	14 - 35 psig (1.0 - 2.4 bar)
70°F 21°C	150 - 215 psig (12.1 - 12.8 bar)	14 - 37 psig (1.0 - 2.6 bar)
80°F 27°C	150 - 220 psig (12.1 - 12.8 bar)	15 - 40 psig (1.0 - 2.8 bar)
90°F 32°C	150 - 225 psig (12.4 - 13.1 bar)	15 - 45 psig (1.2 - 2.6 bar)
100°F 38°C	210 - 260 psig (12.4 - 13.1 bar)	19 - 47 psig (1.2 - 2.6 bar)
110°F 43°C	260 - 285 psig (17.9 - 19.6 bar)	20 - 50 psig (1.4 - 3.4 bar)

Operating Pressures - Harvest Cycle

Air Temperature Around the Unit	Discharge Pressure psig (bar)	Suction Pressure psig (bar)
50°F 10°C	75 - 105 psig (5.2 - 7.2 bar)	45 - 55 psig (3.1 - 3.8 bar)
70°F 21°C	75 - 105 psig (5.2 - 7.2 bar)	45 - 55 psig (3.1 - 3.8 bar)
80°F 27°C	100 - 115 psig (6.9 - 7.9 bar)	50 - 60 psig (3.4 - 4.1 bar)
90°F 32°C	115 - 135 psig (7.9 - 9.3 bar)	50 - 65 psig (3.4 - 4.5 bar)
100°F 38°C	150 - 180 psig (10.3 - 12.4 bar)	60 - 95 psig (4.1 - 6.5 bar)
110°F 43°C	160 - 195 psig (11.0. - 13.4 bar)	62 - 100 psig (4.3 - 6.9 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	10.2 - 12.0	11.2 -13.0	12.6 - 14.1	1.0 - 2.5
80°F 27°C	10.5 - 12.2	11.4 - 13.5	12.7 - 14.2	
90°F 32°C	10.7 -12.3	11.5 - 13.7	13.1 -14.8	
100°F 38°C	10.9 -12.5	12.0 - 14.0	13.3 -15.2	
110°F 43°C	11.0 - 12.7	12.8 - 14.2	13.6 - 15.9	

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	725 lbs 329 kgs	680 lbs 308 kgs	630 lbs 286 kgs
80°F 27°C	710 lbs 322 kgs	670 lbs 304 kgs	625 lbs 283 kgs
90°F 32°C	680 lbs 308 kgs	660 lbs 299 kgs	615 lbs 279 kgs
100°F 38°C	670 lbs 304 kgs	650 lbs 295 kgs	610 lbs 277 kgs
110°F 43°C	660 lbs 299 kgs	640 lbs 290 kgs	600 lbs 272 kgs

Ice slab weight of one harvest cycle = 6.2 lbs to 7.2 lbs (2.8 kgs to 3.3 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)	29 - 14 psig (1.0 - 2.0 bar)
70°F 21°C	175 - 185 psig (12.1 - 12.8 bar)	31 - 15 psig (1.0 - 2.1 bar)
80°F 27°C	175 - 185 psig (12.1 - 12.8 bar)	33 - 16 psig (1.1 - 2.3 bar)
90°F 32°C	180 - 190 psig (12.4 - 13.1 bar)	35 - 17 psig (1.2 - 2.4 bar)
100°F 38°C	180 - 190 psig (12.4 - 13.1 bar)	38 - 18 psig (1.2 - 2.6 bar)
110°F 43°C	180 - 190 psig (12.4 - 13.1 bar)	38 - 18 psig (1.2 - 2.6 bar)

Operating Pressures - Harvest Cycle

Air Temperature Around the Unit	Discharge Pressure psig (bar)	Suction Pressure psig (bar)
50°F 10°C	75 - 110 psig (5.2 - 7.6 bar)	50 - 60 psig (3.4 - 4.1 bar)
70°F 21°C	80 - 105 psig (5.5 - 7.2 bar)	50 - 60 psig (3.4 - 4.1 bar)
80°F 27°C	80 - 105 psig (5.5 - 7.2 bar)	50 - 60 psig (3.4 - 4.1 bar)
90°F 32°C	80 - 110 psig (5.5 - 7.6 bar)	50 - 65 psig (3.4 - 4.5 bar)
100°F 38°C	80 - 115 psig (5.5 - 7.9 bar)	50 - 65 psig (3.4 - 4.5 bar)
110°F 43°C	80 - 115 psig (5.5 - 7.9 bar)	50 - 65 psig (3.4 - 4.5 bar)

Condenser Water Consumption

Ice Production	Water Usage
100 lbs (45.5 kgs)	115 gallons (435 liters)
Water Regulating Valve Set Point: 170 psig (11.7 bar)	