MANITOWOC ICE
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Service Bulletin

Subject: IP0800 Technical Specifications

AIR-COOLED & WATER-COOLED MODELS

50 HZ ONLY

GENERAL SPECIFICATIONS			
Operating Temperatures	Minimum 4.4°C Maximum 43°C		
Refrigerant Charge (R-290)	Air-cooled Models: 486 g	Water-cooled Models: 440 g	
Electrical 230V/50 Hz/1 Ph	Air-cooled Models: Instant Power - 2093 W Total Amps - 9.1 amp Max Fuse Size - 15 amps	Water-cooled Models: Instant Power - 1454 W Total Amps - 6.3 amp Max Fuse Size - 15 amp	
Energy Use **Kwh / 45.5 kg of ice**	Air-cooled Models: Half Dice: 4.54 Kwh Dice: 4.83 Kwh	Water-cooled Models: Regular: 3.74 Kwh	
Ice Making Water Inlet	Connection Size - 10 mm FPT (Female Pipe Thread)	Water Temperature - Minimum - 4.4°C Maximum - 32°C	Water Pressure - Minimum - 1.3 bar Maximum - 5.5 bar
Condenser Water Inlet *(water-cooled models only)*	Connection Size - 10 mm FPT (Female Pipe Thread)	Water Temperature - Minimum - 4.4°C Maximum - 32°C	Water Pressure - Minimum - 1.3 bar Maximum - 19.0 bar
Drains **Ice Making Water Drain &** **Condenser Water Drain** *(water-cooled models only)*	Connection Sizes - 13 mm FPT (Female Pipe Thread)		Standard Bin Drain: 19 mm Large Capacity Bin Drain: 25 mm FPT (Female Pipe Thread)
Potable Water Use	Air Cooled Models: Half Dice: 52.5L per 45.5 kg of ice Dice: 53.4L per 45.5 kg of ice Regular: 52.1L per 45.5 kg of ice	Water Cooled Models: Regular: 52.8L per 45.5 kg of ice	
Compressor Nominal Rating	2.0 HP		
Heat of Rejection	Air-cooled Models: **Air Conditioning** 7300 BTU/hr 1840 kcal/hr **Peak** 13035 BTU/hr 3285 kcal/hr	Water-cooled Models: **Air Conditioning** 6606 BTU/hr 1665 kcal/hr **Peak** 11796 BTU/hr 2973 kcal/hr	
Fan Cycle Control Settings *(air-cooled models only)*	Cut-in (closed) - 13.8 bar ±0.3	Cut-out (open) - 10.3 bar ±0.3	
High Pressure Settings	Cut-in (closed) - 17.2 bar ±0.3	Cut-out (open) - 24.1 bar ±0.3	
Dimensions	**Height**	**Width**	**Depth**
	673 mm	762 mm	622 mm
Clearances	**Top**	**Sides**	**Back**
	203 mm	203 mm	127 mm

IP0800A - 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			
	10°C	21°C	32°C	
10°C	9.5 - 10.2	10.0 - 11.1	10.5 - 12.5	1.0 - 2.5
21°C	9.9 - 11.8	10.2 - 11.5	11.0 - 12.9	
27°C	10.2 - 12.2	11.7 - 13.0	12.0 - 13.5	
32°C	11.5 - 12.8	12.0 - 14.2	12.5 - 14.7	
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		
	10°C	21°C	32°C
10°C	318 kgs	299 kgs	281 kgs
21°C	315 kgs	293 kgs	280 kgs
27°C	312 kgs	297 kgs	278 kgs
32°C	311 kgs	293 kgs	273 kgs
43°C	309 kgs	289 kgs	276 kgs

Ice slab weight of one harvest cycle = 6.0 kgs to 6.7 kgs.

Operating Pressures - Freeze Cycle

Air Temperature Around the Unit	Discharge Pressure bar	Suction Pressure bar
10°C	9.0 - 14.8 bar	1.0 - 2.4 bar
21°C	12.1 - 12.8 bar	1.0 - 2.6 bar
27°C	12.1 - 12.8 bar	1.0 - 2.8 bar
32°C	12.4 - 13.1 bar	1.2 - 2.6 bar
38°C	12.4 - 13.1 bar)	1.2 - 2.6 bar
43°C	17.9 - 19.6 bar)	1.4 - 3.4 bar

Operating Pressures - Harvest Cycle

Air Temperature Around the Unit	Discharge Pressure bar	Suction Pressure bar
10°C	5.2 - 7.2 bar	3.1 - 3.8 bar
21°C	5.2 - 7.2 bar	3.1 - 3.8 bar
27°C	6.9 - 7.9 bar	3.4 - 4.1 bar
32°C	7.9 - 9.3 bar	3.4 - 4.5 bar
38°C	10.3 - 12.4 bar	4.1 - 6.5 bar
43°C	11.0. - 13.4 bar	4.3 - 6.9 bar

IP0800W 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			
	10°C	21°C	32°C	
10°C	10.2 - 12.0	11.2 -13.0	12.6 - 14.1	1.0 - 2.5
21°C	10.5 - 12.2	11.4 - 13.5	12.7 - 14.2	
27°C	10.7 -12.3	11.5 - 13.7	13.1 -14.8	
32°C	10.9 -12.5	12.0 - 14.0	13.3 -15.2	
43°C	11.0 - 12.7	12.8 - 14.2	13.6 - 15.9	

24 Hour Ice Production

Air Temperature Around the Unit	Water Temperature		
	10°C	21°C	32°C
10°C	318 kgs	299 kgs	281 kgs
21°C	315 kgs	293 kgs	280 kgs
27°C	312 kgs	297 kgs	278 kgs
32°C	311 kgs	293 kgs	273 kgs
43°C	309 kgs	289 kgs	276 kgs
Ice slab weight of one harvest cycle = 6.0 kgs to 6.7 kgs.			

Operating Pressures - Freeze Cycle

Air Temperature Around the Unit	Discharge Pressure bar	Suction Pressure bar
10°C	12.1 - 12.8 bar	1.0 - 2.0 bar
21°C	12.1 - 12.8 bar	1.0 - 2.1 bar
27°C	12.1 - 12.8 bar	1.1 - 2.3 bar
32°C	12.4 - 13.1 bar	1.2 - 2.4 bar
38°C	12.4 - 13.1 bar	1.2 - 2.6 bar
43°C	12.4 - 13.1 bar	1.2 - 2.6 bar

Operating Pressures - Harvest Cycle

Air Temperature Around the Unit	Discharge Pressure bar	Suction Pressure bar
10°C	5.2 - 7.6 bar	3.4 - 4.1 bar
21°C	5.5 - 7.2 bar	3.4 - 4.1 bar
27°C	5.5 - 7.2 bar	3.4 - 4.1 bar
32°C	5.5 - 7.6 bar	3.4 - 4.5 bar
38°C	5.5 - 7.9 bar	3.4 - 4.5 bar
43°C	5.5 - 7.9 bar	3.4 - 4.5 bar

Condenser Water Consumption

Ice Production	Water Usage
45.5 kgs	510 liters
Water Regulating Valve Set Point: 11.7 bar	