MANITOWOC ICE
2110 SOUTH 26TH STREET, MANITOWOC, WI 54220
+1.920.682.0161
WWW.MANITOWOCICE.COM

Service Bulletin

Subject: IP0420 Technical Specifications

AIR-COOLED MODELS

50 HZ ONLY

GENERAL SPECIFICATIONS			
Operating Temperatures	Minimum 4.4°C Maximum 43°C		
Refrigerant Charge (R-290)	240 g		
Electrical 230V/50 Hz/1 Ph	Instant Power - 1056 W Total Amps - 4.6 amp Max Fuse Size - 15 amp		**Energy Use** **Kwh / 45.5 kg of ice** Half Dice: 4.48 Kwh Dice: 4.66 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
Ice Making Water Drain	Connection Size - 13 mm FPT (Female Pipe Thread)		
Potable Water Use	Air-cooled Models Half Dice: 51.6L per 45.5 kg of ice Dice: 53.8L per 45.5 kg of ice		
Compressor Nominal Rating	1.0 HP		
Heat of Rejection	Air Conditioning 3604 BTU/hr 908.2 kcal/hr	Peak 6435 BTU/hr 1621.5 kcal/hr	
Fan Cycle Control Settings	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**
	546 mm	559 mm	622 mm
Clearances	**Top**	**Sides**	**Back**
	304 mm	304 mm	127 mm

IP0420 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	
21°C	9.9 - 10.4	10.4 - 12.2	13.1 -15.3	1.0 - 2.5
27°C	9.9 - 11.6	11.4 - 13.3	13.6 - 15.8	
32°C	10.7 - 12.5	13.6 - 15.8	13.8 - 16.1	
38°C	12.1 - 14.1	13.8 -16.1	14.3 - 16.6	
43°C	12.9 - 15.0	14.0 - 16.3	14.8 - 17.2	

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
21°C	213 kgs	186 kgs	152 kgs
27°C	195 kgs	195 kgs	147 kgs
32°C	181 kgs	181 kgs	145 kgs
38°C	163 kgs	163 kgs	141 kgs
43°C	154 kgs	154 kgs	136 kgs

Ice slab weight of one harvest cycle = 1.5 kgs to 1.8 kgs.

Operating Pressures - Freeze Cycle

Air Temperature Around the Unit	Discharge Pressure bar	Suction Pressure bar
10°C	9.7 - 14.5 bar	1.3 - 2.9 bar
21°C	10.0 - 15.2 bar	1.4 - 3.1 bar
27°C	11.7 - 15.5 bar	1.5 -3.1 bar
32°C	10.3 - 15.9 bar	1.7 - 3.4 bar
38°C	10.7 - 16.2 bar	1.8 - 3.4 bar
43°C	10.7 - 16.5 bar	1.9 - 3.6 bar

Operating Pressures - Harvest Cycle

Air Temperature Around the Unit	Discharge Pressure bar	Suction Pressure bar
10°C	6.5 - 7.6 bar	4.1 - 5.5 bar
21°C	6.5 - 7.6 bar	4.1 - 5.5 bar
27°C	6.9 - 7.9 bar	4.1 - 5.9 bar
32°C	7.2 - 8.3 bar	4.1 - 5.9 bar
38°C	7.2 - 8.3 bar	4.5 -6.2 bar
43°C	7.6 - 8.6 bar	4.8 - 6.5 bar