MANITOWOC ICE
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Service Bulletin

Subject: IP0600 Technical Specifications

AIR-COOLED & WATER-COOLED MODELS

50 HZ ONLY

GENERAL SPECIFICATIONS			
Operating Temperatures	Minimum 2°C	Maximum 43°C	
Refrigerant Charge (R-290)	**IP0600A - Air-cooled Models**	**IP0600W - Water-cooled Models**	
	226 g	330 g	
Electrical 208-230V/50 Hz/1 Ph	**IP0600A - Air-cooled Models**	**IP0600W - Water-cooled Models**	
	Min Circuit Amps - 5.4 Max Fuse Size - 15 amp **Energy Use (Kwh / 45.5 kgs)** Half Dice: 4.18 Kwh Dice: 4.17 Kwh	Min Circuit Amps - 3.9 Max Fuse Size - 15 amp **Energy Use (Kwh / 45.5 kgs)** Half Dice: 3.27 Kwh	
Ice Making Water Inlet	Connection Size - 10 mm FPT (Female Pipe Thread)	Water Temperature - Minimum 4°C Maximum 32°C	Water Pressure - Minimum 1.4 bar Maximum 5.5 bar
Ice Making Water Drain	Connection Size - 13 mm FPT (Female Pipe Thread)		
Condenser Water Inlet IP0600W Models Only	Connection Size - 10 mm FPT (Female Pipe Thread)	Water Temperature - Minimum 4°C Maximum 32°C	Water Pressure - Minimum 1.4 bar Maximum 19.0 bar
Condenser Water Drain IP0600W Models Only	Connection Size - 13 mm FPT (Female Pipe Thread)		
Potable Water Use	57.12 liters per 45.5 kg of ice		
Compressor Nominal Rating	1.08 HP		
Heat of Rejection	Air Conditioning 2252 kcal/hr (8935 BTU/hr)	Peak 2751 kcal/hr (10915 BTU/hr)	
Fan Cycle Control Settings	Cut-in - 17.23 bar ±0.34	Cut-out - 15.17 bar ±0.34	
High Pressure Settings	Cut-in - 17.23 bar ±0.69	Cut-out - 24.13 bar ±0.69	
Dimensions	**Height**	**Width**	**Depth**
	546 mm	762 mm	622 mm
Clearances	**Top**	**Side**	**Back**
	203 mm	203 mm	127 mm

IP0600A - SELF CONTAINED AIR-COOLED ICE MACHINES

Cycle Times

Freeze Time + Harvest Time = Total Cycle Time

Air Temperature Around the Unit	Freeze Time (Minutes) Water Temperature			Harvest Time
	10°C	21°C	32°C	
10°C	9.4-9.5	11.2-11.3	11.8-12.2	0.5-1.5
21°C	10.2-10.4	10.9-11.1	11.9-12.0	
27°C	10.3-10.5	11.8-12.2	12.6-12.7	
32°C	11.2-11.4	12.5-12.6	14.2-14.9	
43°C	12.9-13.1	13.8-14.0	15.9-16.2	

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
10°C	285 kgs	254 kgs	241 kgs
21°C	281 kgs	264 kgs	247 kgs
27°C	279 kgs	246 kgs	235 kgs
32°C	257 kgs	235 kgs	206 kgs
43°C	230 kgs	214 kgs	191 kgs

Ice slab weight of one harvest cycle = 2.1 kgs to 2.4 kgs.

Operating Temperatures - Freeze Cycle

DISCHARGE & SUCTION LINE TEMPERATURE

Air Temperature Around the Unit	Discharge Temperature (°C) T2	Suction Temperature (°C) T4
10°C	39-55	-7-25
21°C	41-56	-4-25
27°C	45-62	4-19
32°C	50-70	-2-19
43°C	65-88	1-24

HARVEST VALVE INLET TEMPERATURE

Air Temperature Around the Unit	Harvest Valve Inlet Temp (°C)
10°C	28-46
21°C	37-45
27°C	41-49
32°C	46-55
43°C	60-65

Operating Temperatures - Harvest Cycle

DISCHARGE & SUCTION LINE TEMPERATURE

Air Temperature Around the Unit	Discharge Temperature (°C) T2	Suction Temperature (°C) T4
10°C	37-53	-5-5
21°C	40-56	0-9
27°C	44-62	4-10
32°C	50-70	5-14
43°C	62-89	10-23

IP0600W 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	9.8-10.0	10.8-11.1	11.8-12.2	0.5-1.0
21°C	9.8-9.9	10.9-11.1	11.9-12.3	
27°C	10.0-10.2	11.2-11.4	12.3-12.5	
32°C	10.1-10.3	11.3-11.4	12.5-12.6	
43°C	10.1-10.3	11.6-11.9	12.5-12.9	

24 Hour Ice Production

Air Temperature Around the Unit	Water Temperature		
	10°C	21°C	32°C
10°C	290 kgs	267 kgs	242 kgs
21°C	288 kgs	261 kgs	245 kgs
27°C	286 kgs	263 kgs	240 kgs
32°C	280 kgs	262 kgs	235 kgs
43°C	277 kgs	255 kgs	231 kgs
Ice slab weight of one harvest cycle = 2.1 kgs to 2.4 kgs.			

Operating Temperatures - Freeze Cycle

DISCHARGE & SUCTION LINE TEMPERATURE

Air Temperature Around the Unit	Discharge Temperature (°C) T2	Suction Temperature (°C) T4
10°C	44-61	-8-16
21°C	43-62	-6-18
27°C	43-61	-0-22
32°C	43-62	-3-20
43°C	46-66	-5-19

HARVEST VALVE INLET TEMPERATURE

Air Temperature Around the Unit	Harvest Valve Inlet Temp (°C)
10°C	35-43
21°C	36-45
27°C	37-46
32°C	39-46
43°C	46-66

Operating Temperatures - Harvest Cycle

DISCHARGE & SUCTION LINE TEMPERATURE

Air Temperature Around the Unit	Discharge Temperature (°C) T2	Suction Temperature (°C) T4
10°C	42-60	1-10
21°C	43-62	3-12
27°C	43-62	6-14
32°C	41-60	7-15
43°C	46-66	4-13

Condenser Water Consumption

Ice Production	Water Usage
45.4 kgs	193 liters
Water Regulating Valve Set Point: 11.7 bar	