MANITOWOC ICE
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Service Bulletin

Subject: IP0620 Technical Specifications

AIR-COOLED & WATER-COOLED MODELS

50 HZ ONLY

GENERAL SPECIFICATIONS			
Operating Temperatures	Minimum 2°C	Maximum 43°C	
Refrigerant Charge R-290	**IP0620A - Air-cooled Models**	**IP0620W - Water-cooled Models**	
	230 g	260 g	
Electrical 208-230V/50 Hz/1 Ph	**IP0620A - Air-cooled Models**	**IP0620W - Water-cooled Models**	
	Min Circuit Amps - 5.4 Max Fuse Size - 15 amp **Energy Use (Kwh / 45.5 kgs)** Half Dice: 4.63 Kwh Dice: 4.76 Kwh Regular Dice: 5.08 Kwh	Min Circuit Amps - 4.4 Max Fuse Size - 15 amp **Energy Use (Kwh / 45.5 kgs)** Half Dice: 3.83 Kwh Dice: 3.94 Kwh Regular Dice: 4.45 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 IP0620W 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 IP0620W Models Only	Connection Size - 13 mm FPT (Female Pipe Thread)		
Potable Water Use	56.32 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	559 mm	622 mm
Clearances	**Top**	**Sides**	**Back**
IP0620A - Air-cooled Models	305 mm	305 mm	127 mm
IP0620W - Water-cooled Models	203 mm	203 mm	127 mm

IP0620A - 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	8.3-8.6	9.2-9.4	9.8-10.0	1.0-2.0
21°C	8.7-8.8	9.5-10.0	10.3-10.6	
27°C	9.4-9.5	10.9-11.0	11.0-11.2	
32°C	9.9-10.0	13.8-14.0	12.0-12.4	
43°C	10.6-11.0	12.0-12.6	12.8-13.3	

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	237 kgs	212 kgs	198 kgs
21°C	225 kgs	208 kgs	197 kgs
27°C	214 kgs	199 kgs	184 kgs
32°C	201 kgs	184 kgs	171 kgs
43°C	198 kgs	166 kgs	160 kgs

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

Operating Temperatures - Freeze Cycle

DISCHARGE & SUCTION LINE TEMPERATURE

Air Temperature Around the Unit	Discharge Temperature (°C) T2	Suction Temperature (°C) T4
10°C	52-69	4-25
21°C	51-59	2-22
27°C	60-68	4-27
32°C	69-77	4-31
43°C	85-95	10-39

HARVEST VALVE INLET TEMPERATURE

Air Temperature Around the Unit	Harvest Valve Inlet Temp (°C)
10°C	31-51
21°C	30-51
27°C	36-59
32°C	41-68
43°C	52-82

Operating Temperatures - Harvest Cycle

DISCHARGE & SUCTION LINE TEMPERATURE

Air Temperature Around the Unit	Discharge Temperature (°C) T2	Suction Temperature (°C) T4
10°C	53-67	-2-5
21°C	51-61	-1-5
27°C	61-69	2-16
32°C	69-78	4-20
43°C	84-95	10-29

IP0620W - 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	9.3-9.7	10.5-10.8	11.8-12.3	1.0-1.5
21°C	9.2-9.9	10.5-10.9	11.4-11.6	
27°C	9.2-9.8	10.9-11.1	11.9-12.1	
32°C	9.2-9.4	10.4-10.6	11.4-11.5	
43°C	9.1-9.9	10.4-10.7	11.4-11.7	

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	235 kgs	216 kgs	196 kgs
21°C	232 kgs	217 kgs	195 kgs
27°C	233 kgs	213 kgs	193 kgs
32°C	229 kgs	209 kgs	189 kgs
43°C	219 kgs	207 kgs	189 kgs

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

Operating Temperatures - Freeze Cycle

DISCHARGE & SUCTION LINE TEMPERATURE

Air Temperature Around the Unit	Discharge Temperature (°C) T2	Suction Temperature (°C) T4
10°C	54-65	-8-19
21°C	56-67	-6-15
27°C	57-68	-5-18
32°C	58-68	-4-17
43°C	60-70	-1-20

HARVEST VALVE INLET TEMPERATURE

Air Temperature Around the Unit	Harvest Valve Inlet Temp (°C)
10°C	33-55
21°C	33-57
27°C	35-57
32°C	36-60
43°C	42-63

Operating Temperatures - Harvest Cycle

DISCHARGE & SUCTION LINE TEMPERATURE

Air Temperature Around the Unit	Discharge Temperature (°C) T2	Suction Temperature (°C) T4
10°C	53-65	1-11
21°C	56-67	2-11
27°C	58-67	3-12
32°C	59-68	3-12
43°C	61-70	6-14

Condenser Water Consumption

Ice Production per 45.5 kgs	Water Usage
Half Dice	608 liters
Dice	608 liters
Regular Dice	538 liters

Water Regulating Valve Set Point: 11.7 bar