MANITOWOC ICE
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Service Bulletin

Subject: IP1200 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** 16.9 oz (480g)	**Water-cooled Models** 16.9 oz (480g)	**Minimum Room Size** 248 sq ft (23.0 sqm)
Electrical	**Air-cooled Models**	**Water-cooled Models**	**Energy Use Kwh / 100 lbs**
208-230V/60 Hz/1 Ph	Min Circuit Amps 13.3 amp Max Fuse Size 20 amp	Min Circuit Amps 12.6 amp Max Fuse Size 20 amp	Half Dice: 3.51-4.86 Kwh Dice: 3.71-4.75 Kwh
208-230V/60 Hz/3 Ph	Min Circuit Amps 9.7 amp Max Fuse Size 15 amp	Min Circuit Amps 9.0 amp Max Fuse Size 15 amp	
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) Water Pressure - Maximum 80 psig (5.5 bar)
Ice Making Water Drain	Connection Size - 1/2" (13 mm) FPT (Female Pipe Thread)		
Condenser Water Inlet IP1200W 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 IP1200W Models Only	Connection Size - 3/8" (10 mm) FPT (Female Pipe Thread)		
Potable Water Use	14.5-14.9 gallons per 100 lbs of ice (55-56) liters per 45.5 kg of ice)		
Heat of Rejection 208-230VV/60 Hz/1 Ph	Air Conditioning 17870 BTU/hr (4503 kcal/hr)	Peak 20490 BTU/hr (5163 kcal/hr)	
Heat of Rejection 208-230V/60 Hz/3 Ph	Air Conditioning 17870 BTU/hr (4503 kcal/hr)	Peak 20350 BTU/hr (5128 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 (749 mm)	30 in (762 mm)	24.5 in (622 mm)
Clearances	**Top**	**Side**	**Back**
	8 in (203 mm)	8 in (203 mm)	5 in (127 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	10.8-11.9	12.0-13.5	1.0 - 2.5
80°F 27°C	10.3-11.3	10.9-11.9	12.7-14.1	
90°F 32°C	11.0-12.4	12.2-13.5	13.3-14.7	
100°F 38°C	11.7-13.5	12.7-14.7	13.8-15.3	
110°F 43°C	12.5-14.5	13.5-15.3	14.5-16.0	

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	1150 lbs 522 kgs	1045 lbs 474 kgs	935 lbs 424 kgs
80°F 27°C	1065 lbs 483 kgs	1005 lbs 456 kgs	945 lbs 429 kgs
90°F 32°C	985 lbs 447 kgs	970 lbs 440 kgs	955 lbs 433 kg
100°F 38°C	900 lbs 408 kgs	875 lbs 397 kgs	850lbs 386 kgs
110°F 43°C	815 lbs 370 kgs	780 lbs 354 kgs	745lbs 338 kgs

Ice slab weight of one harvest cycle = 7.5 lbs to 8.2 lbs (3.4 kgs to 3.7 kgs).

Operating Pressures - Freeze Cycle

Air Temperature Around the Unit	Discharge Pressure psig (bar)	Suction Pressure psig (bar)
50°F 10°C	140-210 psig 9.7-14.5 bar"	30-10 psig 2.1-0.7 bar
70°F 21°C	145-210 psig 10.0-14.5 bar	30-10 psig 2.1-0.7 bar
80°F 27°C	160-215 psig 11.0-14.8 bar	30-15 psig 2.1-1.0 bar
90°F 32°C	195-225 psig 13.4-15.5 bar	35-15 psig 2.4-1.0 bar
100°F 38°C	240-265 psig 16.5-18.3 bar	40-15 psig 3.1-1.0 bar
110°F 43°C	250-285 psig 17.2-19.7 bar	40-15 psig 3.1-1.0 bar

Operating Pressures - Harvest Cycle

Air Temperature Around the Unit	Discharge Pressure psig (bar)	Suction Pressure psig (bar)
50°F 10°C	75-90 psig 5.2-6.2 bar	55-65 psig 3.8-4.5 bar
70°F 21°C	85-95 psig 5.9-6.6 bar	55-70 psig 3.8-4.8 bar
80°F 27°C	95-110 psig 6.6-7.6 bar	60-75 psig 4.1-5.2 bar
90°F 32°C	105-120 psig 7.2-8.3 bar	65-80 psig 4.5-5.5 bar
100°F 38°C	120-140 psig 8.3-9.7 bar	75-95 psig 5.2-6.6 bar
110°F 43°C	135-160 psig 9.3-11.0 bar	80-105 psig 5.5-7.2 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	8.5-9.0	9.2-10.5	11.0-12.0	1.0 - 2.5
80°F 27°C	9.0-9.5	9.2-10.8	11.0-12.0	
90°F 32°C	9.2-9.7	9.3-10.0	11.0-12.0	
100°F 38°C	9.3-9.9	9.4-10.5	11.0-12.0	
110°F 43°C	9.3-10	9.5-11.0	11.0-12.1	

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	1135 lbs 515 kgs	1090 lbs 494 kgs	1045 lb 474 kgs
80°F 27°C	1135 lbs 515 kgs	1065 lbs 483 kgs	1020 lb 463 kgs
90°F 32°C	1130 lbs 513 kgs	1045 lbs 474 kgs	995 lbs 451 kgs
100°F 38°C	1125 lbs 510 kgs	1045 lbs 474 kgs	975 lbs 442 kgs
110°F 43°C	1100 lbs 499 kgs	1050 lbs 476 kgs	950 lbs 431 kgs

Ice slab weight of one harvest cycle = 7.5 lbs to 8.2 lbs (3.4 kgs to 3.7 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	30-12 psig 2.1-0.8 bar
70°F 21°C	175-185 psig 12.1-12.8 bar	30-12 psig 2.1-0.8 bar
80°F 27°C	175-185 psig 12.1-12.8 bar	30-12 psig 2.1-0.8 bar
90°F 32°C	175-185 psig 12.1-12.8 bar	30-12 psig 2.1-0.8 bar
100°F 38°C	175-185 psig 12.1-12.8 bar	30-12 psig 2.1-0.8 bar
110°F 43°C	175-185 psig 12.1-12.8 bar	30-12 psig 2.1-0.8 bar

Operating Pressures - Harvest Cycle

Air Temperature Around the Unit	Discharge Pressure psig (bar)	Suction Pressure psig (bar)
50°F 10°C	85-100 psig 5.9-6.9 bar	55-70 psig 3.8-4.8 bar
70°F 21°C	85-100 psig 5.9-6.9 bar	55-70 psig 3.8-4.8 bar
80°F 27°C	85-100 psig 5.9-6.9 bar	55-70 psig 3.8-4.8 bar
90°F 32°C	85-100 psig 5.9-6.9 bar	55-70 psig 3.8-4.8 bar
100°F 38°C	85-100 psig 5.9-6.9 bar	57-71 psig 3.9-4.9 bar
110°F 43°C	85-100 psig 5.9-6.9 bar	58-72 psig 4.0-5.0 bar

Condenser Water Consumption

Ice Production	Water Usage
100 lbs (45.5 kgs)	140 gallons (530 liters)
Water Regulating Valve Set Point: 170 psig (11.7 bar)	

NOTE: Due to continuous product improvements, this information is for reference only. Please refer to the Ice Machine Model/Serial Data Plate to verify electrical and refrigerant data. Model/Serial Data Plate information overrides information listed on this document.