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Service Bulletin

Subject: IP1000 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: 494 g	Water-cooled Models: 430 g	
Electrical 230V/50 Hz/1 Ph	Air-cooled Models: Instant Power - 3091 W Total Amps - 13.4 amp Max Fuse Size - 25 amp	Water-cooled Models: Instant Power - 2781 W Total Amps - 12.1 amp Max Fuse Size - 20 amp	
Energy Use **Kwh / 45.5 kg of ice**	Air-cooled Models: Half Dice: 4.98 Kwh Dice: 5.07 Kwh	Water-cooled Models: Half Dice: 4.45 Kwh Dice: 4.22 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 Size - 13 mm FPT (Female Pipe Thread)		
Potable Water Use	Air-cooled Models Half Dice: 54.8L per 45.5 kg of ice Dice: 55.1L per 45.5 kg of ice	Water-cooled Models Half Dice: 58.8L per 45.5 kg of ice Dice: 56.5L per 45.5 kg of ice	
Compressor Nominal Rating	3.0 HP		
Heat of Rejection	Air-cooled Models **Air Conditioning:** 8490 BTU/hr (2139 kcal/hr) **Peak:** 15160 BTU/hr (3820 kcal/hr)	Water-cooled Models **Air Conditioning:** 7386 BTU/hr (1861 kcal/hr) **Peak:** 13190 BTU/hr (3324 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**
	749 mm	762 mm	622 mm
Clearances	**Top**	**Sides**	**Back**
Air-cooled Models	305 mm	584 mm	203 mm
Water-cooled Models	203 mm	203 mm	127 mm

IP1000 - 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	9.8 - 11.4	10.4 - 12.7	13.0 - 14.2	1.0 - 2.5
21°C	10.3 - 12.2	12.5 - 13.9	12.2 - 14.7	
27°C	11.9 - 12.7	13.2 - 14.3	13.6 - 15.1	
32°C	12.5 - 13.5	14.0 - 15.1	14.8 - 17.8	
43°C	13.0 - 15.7	15.3 - 18.1	18.0 - 19.5	

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	493 kgs	477 kgs	446 kgs
21°C	490 kgs	460 kgs	437 kgs
27°C	464 kgs	439 kgs	423 kgs
32°C	455 kgs	431 kgs	406 kgs
43°C	437 kgs	407 kgs	382 kgs

ce slab weight of one harvest cycle = 1.9 kgs to 2.2 kgs.

Operating Pressures - Freeze Cycle

Air Temperature Around the Unit	Discharge Pressure bar	Suction Pressure bar
10°C	10.0 - 14.1 bar	1.2 - 2.6 bar
21°C	10.3 - 14.1 bar	1.2 - 2.6 bar
27°C	10.7 - 14.5 bar	1.3 - 2.8 bar
32°C	13.4 - 14.8 bar	1.3 - 2.8 bar
38°C	15.9 - 17.9 bar	1.5 - 2.9 bar
43°C	16.2 - 18.6 bar	1.9 - 3.1 bar

Operating Pressures - Harvest Cycle

Air Temperature Around the Unit	Discharge Pressure bar	Suction Pressure bar
10°C	5.5 - 6.9 bar	3.8 - 4.5 bar
21°C	5.5 -7.2 bar	3.8 - 4.5 bar
27°C	5.9 - 7.6 bar	3.8 - 4.7 bar
32°C	1.2 - 2.8 bar	4.7 - 5.1 bar
38°C	1.4 - 2.9 bar	5.0 - 5.6 bar
43°C	1.4 - 3.1 bar	5.2 - 5.9 bar

IP1000W 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	9.5 - 10.4	10.5 - 11.6	11.6 - 12.7	1.0 - 2.5
21°C	9.9 - 10.8	11.0 - 12.1	11.9 - 12.9	
27°C	10.0 - 10.9	11.2 - 12.3	12.0 - 13.1	
32°C	10.1 - 11.0	11.4 - 12.5	12.1 - 13.3	
43°C	10.3 - 11.2	11.5 - 12.7	12.2 - 13.5	

24 Hour Ice Production

Air Temperature Around the Unit	Water Temperature		
	10°C	21°C	32°C
10°C	485 kgs	460 kgs	426 kgs
21°C	483 kgs	450 kgs	423 kgs
27°C	479 kgs	449 kgs	413 kgs
32°C	479 kgs	444 kgs	415 kgs
43°C	474 kgs	446 kgs	417 kgs
Ice slab weight of one harvest cycle = 1.9 kgs to 2.2 kgs.			

Operating Pressures - Freeze Cycle

Air Temperature Around the Unit	Discharge Pressure bar	Suction Pressure bar
10°C	12.1 - 12.8 bar	1.2 - 2.2 bar
21°C	12.1 - 12.8 bar	1.2 - 2.2 bar
27°C	12.1 - 12.8 bar	1.4 - 2.3 bar
32°C	12.4 - 13.1 bar	1.5 - 2.5 bar
38°C	12.4 - 13.1 bar	1.5 - 2.5 bar
43°C	12.4 - 13.1 bar	1.9 - 3.1 bar

Operating Pressures - Harvest Cycle

Air Temperature Around the Unit	Discharge Pressure bar	Suction Pressure bar
10°C	4.8 - 8.3 bar	3.1 - 4.1 bar
21°C	4.8 - 8.3 bar	3.1 - 4.1 bar
27°C	5.2 -8.6 bar	3.3 - 4.3 bar
32°C	5.2 -8.6 bar	3.6 - 4.5 bar
38°C	5.5 - 9.0 bar	3.7 - 4.7 bar
43°C	5.5 - 9.0 bar	4.0 - 4.8 bar

Condenser Water Consumption

Ice Production	Water Usage
45 kgs	475 L
Water Regulating Valve Set Point: 11.7 bar	