MANITOWOC ICE
2110 SOUTH 26TH STREET, MANITOWOC, WI 54220
800-545-5720
WWW.MANITOWOCICE.COM

Service Bulletin

Subject: Technical Specifications

I1106 AWN / JC0996

GENERAL SPECIFICATIONS			
Operating Temperatures	**i1106** Minimum 35°F (1.6°C) Maximum 110°F (43°C)	**JC0996** Minimum -20°F (-29°C) Maximum 120°F (49°C)	
Refrigerant Charge (R-404A)	Air-cooled Models	Water-cooled Models	Remote Air-cooled Models
	46 oz (1.3 kg)	30 oz (0.85 kg)	Line Set: 0' to 50' (0 m to 15 m) 6.5 lbs (3.0 kg)
			Line Set: 51' to 100' (15.5 m to 30 m) add 2 lbs (1.0 kg)
Line Set	RT20 RT35 RT5	Discharge Line: 0.5 in (12.7 mm)	Liquid Line: 0.3125 in (7.9 mm)
Ice Making Water Inlet	Water Inlet Connection - 0.375" FPT (Female Pipe Thread)	Water Temperature - Minimum 35°F (1.6°C) Maximum 110°F (43°C)	Water Pressure - Minimum 20 psig (1.38 bar) Maximum 80 psig (5.52 bar)
Condenser Water Inlet	Water Inlet Connection - 0.375" FPT (Female Pipe Thread)	Water Temperature - Minimum 35°F (1.6°C) Maximum 90°F (32°C)	Water Pressure - Minimum 20 psig (1.38 bar) Maximum 150 psig (10.34 bar)
Ice Making Water Drain	Connection - 0.5" FPT (Female Pipe Thread)		
Potable Water	19.8 gallons per 100 lbs of ice 75 liters per 45.5 kg of ice		
Compressor Nominal Rating	1.75 HP		
Heat of Rejection	Air Conditioning 16,250 BTU/hr (4,094 kcal/hr)	Peak 18,600 BTU/hr (4,687 kcal/hr)	
High Pressure Settings	Cut-in - 300 psig (20.7 bar)	Cut-out - 450 psig (31.0 bar)	
Dimensions	**Height**	**Width**	**Depth**
i1106	29.5 in (749 mm)	30.0 in (762 mm)	24.5 in (622 mm)
JC0996	38 in (965 cm)	29.5 in (749 mm)	29.0 in (749 mm)

Electrical	Air-cooled Models	Water-cooled Models	Remote Air-cooled Models
208-230V/60 Hz/1 Ph	Min Circuit Amps - 13.0 Max Fuse Size - 20 amp	Min Circuit Amps - 11.9 Max Fuse Size - 20 amp	Min Circuit Amps - 12.9 Max Fuse Size - 20 amp
208-230V/60 Hz/3 Ph	Min Circuit Amps - 9.8 Max Fuse Size - 15 amp	Min Circuit Amps - 8.7 Max Fuse Size - 15 amp	Min Circuit Amps - 9.7 Max Fuse Size - 15 amp
Energy Usage **Kwh / 100 lbs**	Half Dice: 5.01 Kwh Dice: 5.06 Kwh	3.90 Kwh 4.08 Kwh	4.88 Kwh 4.98 Kwh

Installation on a Manitowoc Bin

Bin	Adapter / Ice Deflector
B-970	K-00370
C-900/C-950	K-00156
C-970	K-00157
B-750/B-1050/B-1100/B-1400	K-00347

i1106A 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	7.5-9.0	8.2-9.8	8.8-10.4	0.75-2.0
80°F 27°C	8.4-10.0	9.3-11.0	9.9-11.8	
90°F 32°C	9.5-11.3	10.6-12.6	11.4-13.5	
100°F 38°C	10.7-12.7	11.9-14.1	12.9-15.2	

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		
	50°F 10°C	70°F 21°C	90°F 32°C
70°F 21°C	990 lbs 449 kgs	920 lbs 417 kgs	870 lbs 395 kgs
80°F 27°C	900 lbs 408 kgs	830 lbs 376 kgs	780 lbs 354 kgs
90°F 32°C	810 lbs 367 kgs	735 lbs 333 kgs	690 lbs 313 kgs
100°F 38°C	730 lbs 331 kgs	665 lbs 302 kgs	620 lbs 281 kgs

Ice slab weight of one harvest cycle = 6.2 lbs to 7.2 lbs (2.8 kgs to 3.3 kgs).
230/50/1 is approximately 12% lower than 230/60/1

Operating Pressures - Freeze Cycle

Air Temperature Around the Unit	Discharge Pressure	Suction Pressure
50°F 10°C	195-255 psig 13.4-17.6 bar	45-26 psig 3.1- 1.8 bar
70°F 21°C	220-275 psig 15.2-19.0 bar	50-27 psig 3.4- 1.9 bar
80°F 27°C	235-290 psig 16.2- 20.0 bar	50-28 psig 3.4-1.9 bar
90°F 32°C	265-330 psig 18.3-22.8 bar	55-30 psig 3.8-2.1 bar
100°F 38°C	300-360 psig 20.7-24.8 bar	60-35 psig 4.1-2.4 bar
110°F 43°C	330-415 psig 22.8-28.6 bar	65-37 psig 4.5- 2.6 bar

Operating Pressures - Harvest Cycle

Air Temperature Around the Unit	Discharge Pressure	Suction Pressure
50°F 10°C	130-145 psig 9.0-10.0 bar	70-90 psig 4.8-6.2 bar
70°F 21°C	130-145 psig 9.0-10.0 bar	70-90 psig 4.8-6.2 bar
80°F 27°C	150-165 psig 10.3-11.4 bar	75-95 psig 5.2-6.6 bar
90°F 32°C	165-185 psig 11.4-12.8 bar	85-110 psig 5.9-7.6 bar
100°F 38°C	180-210 psig 12.4-14.5 bar	95-120 psig 6.6-8.3 bar
110°F 43°C	215-235 psig 14.8-16.2 bar	115-145 psig 7.9-10.0 bar

i1196N Remote 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	7.7-9.2	8.6-10.3	9.5-11.3	0.75-2.0
80°F 27°C	8.5-10.1	9.5-11.3	10.4-12.3	
90°F 32°C	9.5-11.3	10.6-12.6	11.4-13.5	
100°F 38°C	10.7-12.7	11.6-13.8	12.4-14.7	

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		
	50°F 10°C	70°F 21°C	90°F 32°C
70°F 21°C	960 lbs 435 kgs	870 lbs 395 kgs	800 lbs 363 kgs
80°F 27°C	880 lbs 399 kgs	800 lbs 363 kgs	740 lbs 336 kgs
90°F 32°C	800 lbs 363 kgs	725 lbs 329 kgs	680 lbs 308 kgs
100°F 38°C	720 lbs 327 kgs	670 lbs 304 kgs	630 lbs 286 kgs

Ice slab weight of one harvest cycle = 6.2 lbs to 7.2 lbs (2.8 kgs to 3.3 kgs).
230/50/1 is approximately 12% lower than 230/60/1

Operating Pressures - Freeze Cycle

Air Temperature Around the Unit	Discharge Pressure	Suction Pressure
50°F 10°C	200-220 psig 13.8-15.2 bar	35-22 psig 2.4-1.5 bar
70°F 21°C	220-260 psig 15.2-17.9 bar	40-24 psig 2.8-1.6 bar
80°F 27°C	245-285 psig 16.9- 19.7 bar	45-25 psig 3.1-1.7 bar
90°F 32°C	250-300 psig 17.2-20.7 bar	50-27 psig 3.5-1.9 bar
100°F 38°C	285-330 psig 19.7-22.8 bar	60-32 psig 4.1-2.2 bar
110°F 43°C	300-375 psig 20.7-25.9 bar	60-32 psig 4.1- 2.2 bar

Operating Pressures - Harvest Cycle

Air Temperature Around the Unit	Discharge Pressure	Suction Pressure
50°F 10°C	100-165 psig 6.9-11.4 bar	70-85 psig 4.8-5.9 bar
70°F 21°C	100-170 psig 6.9-11.7 bar	70-90 psig 4.8-6.2 bar
80°F 27°C	100-170 psig 6.9-11.7 bar	75-95 psig 5.2-6.6 bar
90°F 32°C	100-170 psig 6.9-11.7 bar	70-95 psig 5.9-6.6 bar
100°F 38°C	130-180 psig 12.4-12.4 bar	75-100 psig 6.6-6.9 bar
110°F 43°C	130-190 psig 14.8-13.1 bar	80-100 psig 7.9-6.9 bar

i1106W 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	7.4-8.9	8.5-10.1	9.4-11.1	0.75-2.0
80°F 27°C	7.8-9.3	8.9-10.6	9.7-11.5	
90°F 32°C	7.9-9.4	9.1-10.8	9.8-11.6	
100°F 38°C	8.0-9.5	8.0-10.9	9.9-11.8	

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	1000 lbs 454 kgs	895 lbs 406 kgs	820 lbs 372 kgs
80°F 27°C	980 lbs 445 kgs	875 lbs 397 kgs	810 lbs 367 kgs
90°F 32°C	960 lbs 435 kgs	855 lbs 388 kgs	800 lbs 363 kgs
100°F 38°C	950 lbs 431 kgs	845 lbs 383 kgs	790 lbs 358 kgs

Ice slab weight of one harvest cycle = 6.2 lbs to 7.2 lbs (2.8 kgs to 3.3 kgs). 230/50/1 is approximately 12% lower than 230/60/1

Operating Pressures - Freeze Cycle

Air Temperature Around the Unit	Discharge Pressure	Suction Pressure
50°F 10°C	215-225 psig 14.8-15.5 bar	45-22 psig 3.1- 1.5 bar
70°F 21°C	215-225 psig 14.8- 15.5 bar	45-23 psig 3.1- 1.6 bar
80°F 27°C	220-225 psig 15.2- 15.5 bar	45-24 psig 3.1-1.7 bar
90°F 32°C	220-230 psig 15.2-15.9 bar	45-25 psig 3.1-1.7 bar
100°F 38°C	230-250 psig 15.9-17.2 bar	50-26 psig 3.5-1.8 bar
110°F 43°C	240-260 psig 16.5-17.9 bar	50-27 psig 3.5- 1.9 bar

Operating Pressures - Harvest Cycle

Air Temperature Around the Unit	Discharge Pressure	Suction Pressure
50°F 10°C	145-170 psig 10.0-11.7 bar	75-85 psig 5.2-5.9 bar
70°F 21°C	150-170 psig 10.3-11.7 bar	75-90 psig 5.2-6.2 bar
80°F 27°C	150-175 psig 10.3-12.1 bar	75-95 psig 5.2-6.6 bar
90°F 32°C	155-175 psig 11.4-12.1 bar	80-100 psig 5.5-6.9 bar
100°F 38°C	160-195 psig 11.0-13.4 bar	80-110 psig 5.5-7.6 bar
110°F 43°C	170-200 psig 11.7-13.8 bar	80-115 psig 5.5-7.9 bar

Condenser Water Consumption

Ice Production	Water Usage
100 lbs 45.4 kgs	180 Gallons 681 Liter

Water Regulating Valve set point: 240 psig (16.54 bar)