

# Service Bulletin

## IT0300 Ice Machines

### CYCLE TIMES/24 HOUR ICE PRODUCTION/REFRIGERANT PRESSURES

#### IDT0300A 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     |              |              |              |
|                                 | 50oF<br>10oC          | 70oF<br>21oC | 90oF<br>32oC |              |
| 70°F<br>21°C                    | 9.6-11.5              | 10.8-12.9    | 12.3-14.6    | 1-2.5        |
| 80°F<br>27°C                    | 10.6-12.6             | 12.3-14.6    | 13.5-16.0    |              |
| 90°F<br>32°C                    | 11.8-14.0             | 13.9-16.4    | 15.0-17.7    |              |
| 100°F<br>38°C                   | 13.2-15.7             | 14.6-17.3    | 16.2-19.2    |              |
| 110°F<br>43°C                   | 15.0-17.7             | 15.8-18.7    | 17.7-20.9    |              |

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<br>10°C       | 70°F<br>21°C       | 90°F<br>32°C       |
| 70°F<br>21°C                    | 310 lbs<br>141 kgs | 280 lbs<br>127 kgs | 250 lbs<br>113 kgs |
| 80°F<br>27°C                    | 285 lbs<br>129 kgs | 250 lbs<br>113 kgs | 230 lbs<br>104 kgs |
| 90°F<br>32°C                    | 260 lbs<br>118 kgs | 225 lbs<br>102 kgs | 210 lbs<br>95 kgs  |
| 100°F<br>38°C                   | 235 lbs<br>107 kgs | 215 lbs<br>98 kgs  | 195 lbs<br>88 kgs  |
| 110°F<br>43°C                   | 210 lbs<br>95 kgs  | 200 lbs<br>91 kgs  | 180 lbs<br>82 kgs  |

Ice slab weight of one harvest cycle = 2.4 lbs to 2.8 lbs (1.08 kg to 1.49 kg).  
230/50/1 is approximately 12% lower than 230/60/1

##### Operating Pressures

| Air Temperature Around the Unit | Freeze Cycle                   |                           | Harvest Cycle                |                              |
|---------------------------------|--------------------------------|---------------------------|------------------------------|------------------------------|
|                                 | Discharge Pressure             | Suction Pressure          | Discharge Pressure           | Suction Pressure             |
| 50°F<br>10°C                    | 260-340 psi<br>1793-2344 kpa   | 70-40 psi<br>483-276 kpa  | 155-180 psi<br>1069-1241 kpa | 145-165 psi<br>1000-1207 kpa |
| 70°F<br>21°C                    | 265-340 psi<br>187-2344 kpa    | 85-40 psi<br>586-276 kpa  | 155-200 psi<br>1069-1379 kpa | 140-175 psi<br>965-1207 kpa  |
| 80°F<br>27°C                    | 300-380 psi<br>2068 - 2620 kpa | 85-41 psi<br>586-283 kpa  | 160-200 psi<br>1103-1379 kpa | 145-175 psi<br>1000-1207 kpa |
| 90°F<br>32°C                    | 330-395 psi<br>2275-2723 kpa   | 90-42 psi<br>621-290 kpa  | 170-200 psi<br>1172-1379 kpa | 150-175 psi<br>1034-1207 kpa |
| 100°F<br>38°C                   | 430-490 psi<br>2965-3378 kpa   | 95-44 psi<br>655-303 kpa  | 210-240 psi<br>1448-1655 kpa | 185-220 psi<br>1276-1517 kpa |
| 110°F<br>43°C                   | 430-515 psi<br>2965-3551 kpa   | 105-48 psi<br>724-331 kpa | 215-240 psi<br>1482-1655 kpa | 185-220 psi<br>1276-1517 kpa |

## IDT0300W 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<br>10°C          | 70°F<br>21°C | 90°F<br>32°C |              |
| 70°F<br>21°C                    | 10.0-11.9             | 11.1-13.2    | 12.3-14.6    | 1-2.5        |
| 80°F<br>27°C                    | 10.2-12.2             | 11.3-13.4    | 12.3-14.6    |              |
| 90°F<br>32°C                    | 10.4-12.4             | 11.8-14.0    | 12.3-15.0    |              |
| 100°F<br>38°C                   | 10.6-12.6             | 11.8-14.0    | 12.6-15.7    |              |
| 110°F<br>43°C                   | 10.8-12.9             | 11.8-14.0    | 12.9-15.3    |              |

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  |                    |                    |
|---------------------------------|--------------------|--------------------|--------------------|
|                                 | 50°F<br>10°C       | 70°F<br>21°C       | 90°F<br>32°C       |
| 70°F<br>21°C                    | 300 lbs<br>136 kgs | 275 lbs<br>125 kgs | 250 lbs<br>113 kgs |
| 80°F<br>27°C                    | 295 lbs<br>134 kgs | 270 lbs<br>122 kgs | 250 lbs<br>113 kgs |
| 90°F<br>32°C                    | 290 lbs<br>132 kgs | 260 lbs<br>118 kgs | 245 lbs<br>111 kgs |
| 100°F<br>38°C                   | 285 lbs<br>129 kgs | 260 lbs<br>118 kgs | 245 lbs<br>111 kgs |
| 110°F<br>43°C                   | 280 lbs<br>127 kgs | 260 lbs<br>118 kgs | 240 lbs<br>109 kgs |

Ice slab weight of one harvest cycle = 2.4 lbs to 2.8 lbs (1.08 kg to 1.49 kg).  
230/50/1 is approximately 12% lower than 230/60/1

### Operating Pressures

| Air Temperature Around the Unit | Freeze Cycle                 |                          | Harvest Cycle                |                             |
|---------------------------------|------------------------------|--------------------------|------------------------------|-----------------------------|
|                                 | Discharge Pressure           | Suction Pressure         | Discharge Pressure           | Suction Pressure            |
| 50°F<br>10°C                    | 325-335 psi<br>2241-2310 kpa | 65-40 psi<br>448-276 kpa | 140-155 psi<br>965-1069 kpa  | 130-145 psi<br>896-1000 kpa |
| 70°F<br>21°C                    | 325-335 psi<br>2241-2310 kpa | 75-40 psi<br>517-276 kpa | 150-165 psi<br>1034-1137 kpa | 130-155 psi<br>896-1069 kpa |
| 80°F<br>27°C                    | 325-340 psi<br>2241-2344 kpa | 80-40 psi<br>552-276 kpa | 150-165 psi<br>1034-1137 kpa | 130-155 psi<br>896-1069 kpa |
| 90°F<br>32°C                    | 330-345 psi<br>2275-2379 kpa | 85-40 psi<br>586-276 kpa | 150-170 psi<br>1034-1172 kpa | 130-155 psi<br>896-1069 kpa |
| 100°F<br>38°C                   | 330-345 psi<br>2275-2379 kpa | 85-40 psi<br>586-276 kpa | 150-170 psi<br>1034-1172 kpa | 130-155 psi<br>896-1069 kpa |
| 110°F<br>43°C                   | 330-345 psi<br>2275-2379 kpa | 90-40 psi<br>621-276 kpa | 150-175 psi<br>1034-1207 kpa | 130-155 psi<br>896-1069 kpa |