

Case study 310

Plymouth City Centre Ice Rinks

From October until March, an outdoor Ice Rink was situated in the heart of Plymouth City Centre. This ice rink was used in conjunction with the local council, where free ice skating was offered to schools in deprived areas to act as an incentive to get the children to attend school. Modern ice rinks have a detailed procedure for preparing the ice surface. The base layer consists of an interwoven matting containing connecting pipe work whereupon a mixture of water and glycol is pumped through it at freezing temperatures, this in turn creates ice to build up on the surface of the mat. This is essential for any ice rink and especially for outdoor rinks, as the environment temperature is so variable.



Andrews Chillers have vast experience with permanent ice rinks as well as temporary rinks. Whether it be for the Christmas period or a special sporting event, we have the knowledge and expertise to guide and help with any ice rink preparation. The clients were in need of a Chiller to support the flowing water through the pipes. They originally requested two 200kW chillers to be utilised, but due to the unusually high ambient we recommended a 750kW chiller. The temperature of the water/glycol mixture needs to achieve extremely cold levels, therefore it's crucial to use the correct chiller. Even when the rink is not in use, the chilled water must remain at -12°C at all times. When dealing with outdoor rinks the main challenge is the ambient conditions, as when the weather is warm it requires more capacity to keep the ice solid.



Instead of PE sessions, the children were taken ice skating which incorporated fake snow and a grand opening by Father Christmas. The project was very community focused and a number of free deals were offered to families to encourage children outside of school hours. The clients were very pleased with the result and although the original hire period was for 19 weeks it was extended to 21 due to the popularity of the Ice Rink. Andrews understands the demands to create the perfect skating environment, which is why we have designed specific cooling solutions for any project.



Nominal cooling duty 750 kW 2,559,000 btu
Control Automatic programmer
Power supply 415 V 3 ph +E 50 Hz Run 576 A plus pump
Plug type Hard wired
Noise level (max) 77 dBA @ 10 metres
Average power consumption 218 kW/hr
Weight 7,450 kg
Generator size 550 kVA dependent on system resistance and pump size
Dimension 6,038x 2,438 x 2,591 mm
Water connection 4" or 6 Bauer



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