

Industry: Entertainment - Theme Parks

Application: Special Effects - Fogging

Product Descriptions: RTW with modified bearings

Situation: A major player in the entertainment industry needed to spray liquid nitrogen to create a special fog effect in a theme park attraction to enhance the experience for their patrons. Using liquid nitrogen at a pressure of 90 PSI (6.2 bar), the customer tested the BETE RTW nozzle and found it did not rotate. The customer promptly contacted their local representative who then contacted BETE Applications Engineering.

Technical Questions?

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BETE's solution: Upon researching the bill of materials, BETE Applications Engineers were able to focus on the sealed bearing that allows the RTW to spin freely. They found that when the RTW is exposed to the cold, the lubricant becomes so viscous that the RTW is not able to spin. Because liquid nitrogen is -320°F (-196°C), it became apparent that the lubricant was not allowing the nozzle to spin. By specifying a version of the bearing that had the shields removed and the lubricant flushed out with a solvent, BETE designed a version of the RTW that is compatible with extremely cold liquids. BETE quickly received confirmation from the customer that the modified RTW rotated freely and that the RTW produced an excellent fogging effect.

