BETE®

Custom Solutions Bulletin

Industry: Marine - Shipbuilding

Application: Personnel Protection

Product Description: Blow-off cover for a spiral nozzle with a 170° spray angle

Technical Questions?

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Situation: A BETE customer had specified a BETE spiral nozzle with a 170° spray angle for use throughout a cutting-edge technology marine vessel. The spray angle and performance of the nozzle met all the necessary requirements, but there was a non-performance related problem that needed to be addressed. Due to the limited space inherent in such ships, the nozzle itself protruded into crew passage areas. This was a safety issue as it created the possibility of crewmembers bumping into the turns and tips of the nozzles. The customer inquired if there was some way to blunt or cover the edges without affecting nozzle performance.

BETE's solution: The BETE Applications Engineer's knowledge of the entire product line enabled him to suggest a blow-off cover attached to a lanyard, similar in arrangement to that available on the N series spiral nozzles. In this arrangement, a cylindrical cover is fitted over the spiral section of the nozzle and is held in place via compression of an o-ring. The cover is attached via a short cable to the nozzle body. When the system is activated, the force of the water flowing through the nozzle blows the cover off, allowing the spray pattern to develop normally. The lanyard keeps the cover attached to the nozzle body so that it can be replaced onto the nozzle after the system is deactivated. BETE Design Engineers modified the body of the desired nozzle to allow for the o-ring that keeps the cover in place. Also, the specific nozzle has a long, narrow body, which created an issue with how to economically manufacture the covers. After researching and experimenting with various techniques a method was developed that allowed BETE to provide the nozzle the customer specified with the cover, eliminating the safety hazard while still allowing normal function of the nozzle.