APPC Systems

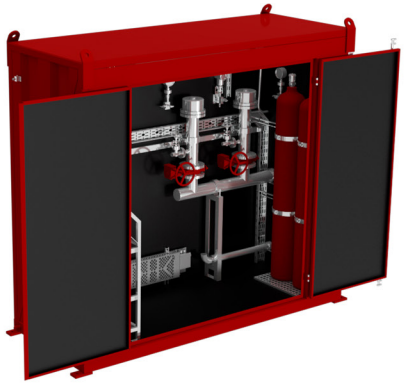
The purpose of the Firenor active pressure pulse compensator (APPC) is to protect the firefighting systems from damage by preventing pressure surges in the firewater distribution piping due to a deluge system or other water consumption systems activation before water pumps have started. Should a high flow firewater using system start before the fire water pumps, it will drain water from the ring main, creating a vacuum in the upper portions of the piping. To prevent this dangerous situation, a pressure control valve will discharge low pressure air into the upper sections of the firewater ring main. The system then continues to dynamically control the pressure in the firewater ring main by increasing air flow to avoid vacuum. This ensures that the entire system is properly pressurized at all times and prevents pressure surges in the firewater ring main.

SYSTEM DESIGN

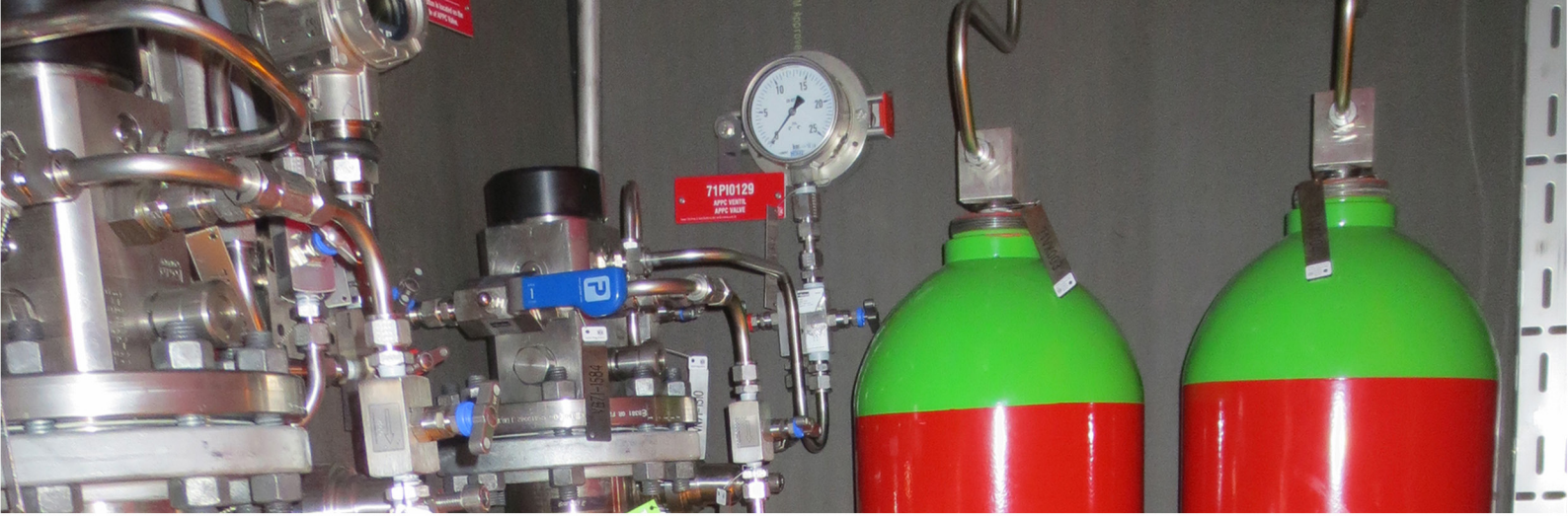
The standard Firenor APPC system has an air cylinder rack capacity more than long enough to cover the startup time of the average firewater pump. A booster pump can be installed to ensure sufficient air pressure at all times and to allow rapid refill after use. This standard system is controlled by a pressure controlling valve and includes additional valves and instrumentation necessary for proper operation, maintenance, and testing. All design parameters of the Firenor hydrophore system can be customized as needed in order to meet specific project requirements.

VERIFICATION

Every system can be customized, upon request, for compliance with both applicable rules or regulations and project specific requirements. Full documentation for any tailor-made products are available and include all necessary certifications, third party verifications such as DNV/GL, BV, ABS, etc., and full scale test reports, if required.



APPC System



◀ APPC SYSTEM

FEATURES

- Flexible Design
- Quick response to inquiries and requests
- Light Weight (Comparing to Hydrophone systems)

MATERIAL

Every Firenor system is available in the following materials:

- Galvanized carbon steel
- Copper nickel
- Super duplex
- Titanium
- Duplex
- SS316
- 6Mo
- GRE

OPERATION SEQUENCE

- Standby
  No consuming systems are in operation.
- Automatically Activated
  APPC system fills air into high point of piping system in order to avoid a vacuum. During the next step, this action will prevent a pressure surge.
- Fire pumps running
  While fire pumps are running at full capacity, pressure surge is prevented.
- Automatically reset
  Once the firewater pump is running and pressure in ring main is above minimum required, the system will automatically reset. At this point the air booster pump will fill the air cylinder rack and the system will enter standby mode, once again ready for operation. After use air is also vented from the piping to reset the ring main to starting conditions.

DOCUMENTATION

The engineering department produces documentation relevant to all phases of the project. Documentation normally includes the following:

- Quality plan
- ITP
- Drawings
- Data sheets
- Indexes
- Procedures
- Calculations
- Certificates
- Reports
- User manual
- MRB

Firenor

Firenor International AS
Holskogveien 48
4624 Kristiansand, Norway

Office +47 99 09 73 00
E-mail post@firenor.no

www.firenor.no

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