SWASTIK® SYNERGY

SWASTIK SYNERGY ENGINEERING PVT. LTD.

TOTAL SOLUTIONS PROVIDER FOR FIRE PREVENTION & FIRE FIGHTING NEEDS.

HIGH PRESSURE WATER MIST FIRE SUPPRESSION SYSTEM

SYNEAQUAMIST



1. SYNEAQUAMIST - HIGH PRESSURE WATER MIST FIRE SUPPRESSION SYSTEM

- Water Mist Technology is an environmentally friendly fire suppression solution, widely recognized across the globe for its effective fire extinguishing capabilities.
- The High Pressure Water Mist Fire Suppression System (HP-WMFSS) is designed to generate ultra-fine water droplets (< 100 µm) that remain suspended in the air for an extended duration, ensuring efficient fire control while using minimal water.
- Water mist fire suppression works based on three key principles:
- a) Cooling
- b) Smothering
- c) Attenuation

2. APPLICATIONS

- ENGINE ROOMS IN SHIPS
- PAINT BOOTHS
- TRANSFORMER
- HAZARDOUS AREA
- PICKING LINES IN STEEL INDUSTRY
- ROAD TUNNELS
- CABLE TUNNELS
- TRAIN TUNNELS
- TURBINES GENERATOR
- OIL CELLARS
- APARTMENTS
- CHURCHES
- CONCEALED SPACES
- HOSPITALS
- LIBRARIES
- MEETING ROOMS
- METAL WORKING SHOPS
- MINERAL PROCESSING PLANTS

3. ADVANTAGES

- Highly effective with rapid fire suppression response.
- Non-toxic and safe for occupied spaces; no need for sealing or evacuation.
- Suitable for deployment in machinery spaces.
- Can be operated from a remote location.
- Integrated with SCADA for monitoring and control from the control room.

4. MIST SYSTEM CATEGORIES

Water Mist Systems are Divided into three Categories for System Applications.

- Local Application System
- Total Compartment Application Systems
- Zoned Application Systems

5. WATER MIST SYSTEM COMPONENTS

1. HIGH PRESSURE SINGLE FLUID ATOMIZERS

- The mist formation angle of each micro atomizer is about 30° and that of the one cluster atomizer is about ≥100°.

2. HIGH PRESSURE RECIPROCATING PUMP

- High pressure reciprocating (plunger) pumps have been used for generating high pressure & high flow rates of water.

3. CENTRIFUGAL PUMP

- Centrifugal pump is installed to provide the positive pressure to the reciprocating pumps at such line.

4. ELECTRO PNEUMATIC ACTUATING (EPA) VALVES

5. SS PIPES & PIPE FITTINGS

6. PRESSURE TRANSMITTER

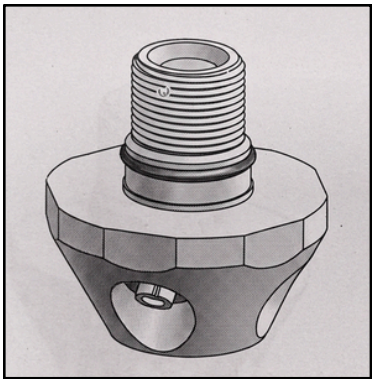
7. AIR COMPRESSOR

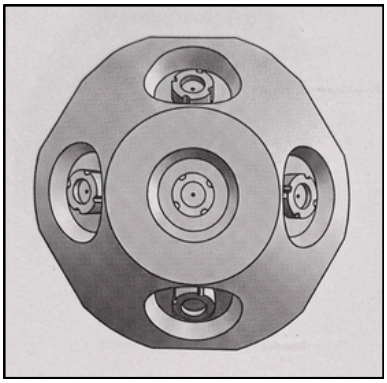
8. PLC PANEL & SCADA

6. HIGH PRESSURE ATOMIZER DETAILS

Three Types of Atomizers were developed to generate mist in the range of 7-24 lpm having SMD less than 100 µm.

- Atomizer **(CF7)** Having Flow Rate **7 ±** Lpm.
- Atomizer **(CF12)** Having Flow Rate **12 ±** Lpm.
- Atomizer **(CF24)** Having Flow Rate **24 ±** Lpm.





7. CASCADING SYSTEM

