Rotor Technology for local application
Zygmunt Lada
14th IWMC
Istanbul, Turkey, 22-23 Oct 2014

Do we want to flood?
Mist is better than water spray - sprinkler but ....

<table>
<thead>
<tr>
<th>Droplet diameter [m]</th>
<th>Droplet diameter</th>
<th>No of droplets per 1 liter of water</th>
<th>Total cross-section of droplets in 1 cubic meter [sqm]</th>
<th>Total surface area of droplets generated from 1 litre of water [sqm]</th>
</tr>
</thead>
<tbody>
<tr>
<td>0,12</td>
<td>12 cm</td>
<td>1</td>
<td>0,0125</td>
<td>0,05</td>
</tr>
<tr>
<td>0,0006</td>
<td>600 microns</td>
<td>8 846 426</td>
<td>2,5</td>
<td>10</td>
</tr>
<tr>
<td>0,0001</td>
<td>100 microns</td>
<td>1 910 828 025</td>
<td>15</td>
<td>60</td>
</tr>
<tr>
<td>0,00005</td>
<td>50 microns</td>
<td>15 286 624 204</td>
<td>30</td>
<td>120</td>
</tr>
<tr>
<td>0,000025</td>
<td>25 microns</td>
<td>122 292 993 631</td>
<td>60</td>
<td>240</td>
</tr>
<tr>
<td>0,00001</td>
<td>10 microns</td>
<td>1 910 828 025 478</td>
<td>150</td>
<td>600</td>
</tr>
</tbody>
</table>

Introducing Concept of Water Mist
Mist is capable of extinguishing all classes of fires

A - wood, paper, plastic, rubber, foams
B - diesel fuel, all kinds of oils, chemicals
C - gases
D - certain metals
F - cooking oil

Electric boards

Mist Systems

1. Clean agent - pure water
2. Powerful - directed to fire with screening effect
3. Have a cooling effect without thermal shock
4. No collateral damage
5. No danger for people and equipment
Often asked questions

- How to minimize collateral damage?
- Do we need to flood the whole protected plant?
- Why is mist system so expensive?
- Will the sprinkler system protect the equipment?
How does the rotor work?

65 micron mist stream

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Rotor in the smallest application

Extinguishers around the world

Extinguishing edible oil - water-mist
Bookshelf

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Electric fires

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Plastic

Tyres in diesel
Mist extinguishers

Applications
All places, where there are the people, valuable items, food

- All kinds of manufacturing areas
- Kitchens
- Restaurants / Live Cooking areas
- Hotel Lobbies / Common Areas / Laundry etc.
- Shopping malls
- Guest Rooms
- Business Centers
- Computer Rooms / Server Rooms.

Systems based on RotorMist technology
Stationary and mobile systems for local protection
Supply units - multiple rotors

Proper nozzles are required to design a system

Dynamic blanketing of the object
Proper nozzles are required to design a system

Dynamic directed

Proper nozzles are required to design a system

Oval/flat
Nozzles for systems

General concept of any local system
Systems based on RotorMist

Boat engine

SYSTEM ELEMENTS:
- 7 nozzles
- 50l cylinder
- tube detection with manual actuation

Engine protection by RotorMist

SYSTEM ELEMENTS:
- Nozzles CSFH and FSFH
- Cylinder
- Tube detection

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Engine protection test

The tunnel for film wrapping test
Mining EM equipment protection

Protection of vehicles in practice
RotorMist - foamed polystyrene (EPS) block cutting

RotorMist - foamed polystyrene (EPS) block cutting protection - pentane fire
Dryer and silo protection by RotorMist

Frying machine for peanuts
Gen set and turbine engine protection by RotorMist

Protected by nozzles, cylinder 100L with multirotor and pneumatic detection 80°C.

Transformer protection by RotorMist

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Transformer + mist

Two types of kitchen hood protection:

Local

Total

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Active kitchen protection test

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Standard hood
up to 8 meters long

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Basis for local fire protection installation

- Current status - almost no certification
  - Exception - UL 300 and LPS 1223
- Customers’ decision based on live tests
- Insurerers’ decision based on live tests
Many thanks for your attention
www.telesto.pl

Bonus slide 😊 In action

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