HIGH VALUE LOSS

THE LOSSES ARE NOT LIMITED TO THE TRAIN

★ The loss of a train is a high value loss
★ The destruction of the merchandise can represent a higher loss
★ The shutdown of an entire railway for days will be an even greater loss
★ A fire could even destroy an entire train station with many trains, buildings, warehouses, infrastructure and merchandise

... DON’T LET THIS HAPPEN TO YOU!

TRAIN FIRES CAN:
- Injure or kill passengers
- Make expensive damage to equipment
- Ignite hazardous cargo - explosion, poisonous fume hazard
- Destroy the train tracks - requiring costly downtime for repairs
- Spread to start a bushfire (remote areas far from help)

GREAT RISK IN CASE OF FIRE

TRAIN ENGINE COMPARTMENTS ARE HIGH-RISK ZONES

★ Diesel Fuel leaks or oil residue on hot surfaces
★ Overheating of electric train motors
★ Short circuit or overheating of high-voltage electrical contacts
★ Fires in Underground train or Tunnels are particularly dangerous
INTRODUCING

FIRE SUPPRESSION SYSTEMS FOR TRAINS

★ Automatically detects and suppresses engine and mechanical fires
★ Installs directly around the engine closer to where a fire can start
★ Works quickly, before a fire can damage equipment
★ Easy / Flexible installation
★ Simple design - no electrical supply needed
★ Works on all railway vehicles (train, metro, tram..)
★ Can even protect a freight wagon separately, autonomously
HOW IT WORKS

CRITICAL ZONE TO PROTECT:
ENGINE, GENERATORS, ELECTRICAL SYSTEMS, HYDRAULICS

1. FIREDETEC DUAL CHAMBER CYLINDER
   Mounts in any position

2. FIREDETEC PNEUMATIC DETECTION TUBING
   Weaves around and above critical risk areas - even in small and hard to reach places.

3. FIREDETEC DISCHARGE TUBING AND NOZZLES
   Up to 10 nozzles placed above critical risk areas to instantly flood the zone with extinguishing agent and suppress the fire.

PATENTED
DUAL-CHAMBER CYLINDER

★ WITHSTANDS VIBRATIONS AND WAVE MOVEMENT
★ ALLOWS VERTICAL OR HORIZONTAL MOUNTING
★ SUPERIOR SAFETY AND LEAK PREVENTION
A MANUAL ACTUATOR CAN BE MOUNTED IN THE CABIN

- For safety, extinguishing liquid and pressurized gas are in separate chambers
- When activated, the pressurized gas is released into the outer chamber forcing against a piston.
- The piston pushes the liquid out through the discharge tube
- A built-in pressure regulator ensures a constant and sustained discharge

Available in two sizes:
- 7L for small engines
- 12L for large engines

FAST AND EFFECTIVE

Quick & Easy installation directly inside engine compartments:
The flexible sensor tubing is easily installed directly above and around the engine - closer to where a fire could start. When in service, the tubing is pressurized with dry nitrogen to 16 bar. The dynamics of pressurization make the tubing more reactive to heat.

Early fire detection:
If a fire occurs, the heat of the fire causes the pressurized sensor tube to burst at the hottest spot (approx. 110°C)

Instant suppression:
The sudden tube depressurization actuates the special pressure differential valve and instantly floods the entire engine compartment with FireDETEC® TSSS ea extinguishing agent. The fire is quickly suppressed just moments after it began... minimizing damage and downtime.

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## QUICK AND EFFECTIVE SUPPRESSION

- 24/7 protection
- Keeps your train and track operational
- Minimizes repairs
- Prevents major salvaging operations
- Prevents damage to other equipment
- Prevents injuries

## A COMPLETE SYSTEM SOLUTION

- Everything you need in one box
- Easy to install
- Easy to Maintain

<table>
<thead>
<tr>
<th>Pos.</th>
<th>Qty.</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
<td>Special IHP cylinder/valve unit (unfilled)</td>
</tr>
<tr>
<td>2</td>
<td>1</td>
<td>Tube fitting</td>
</tr>
<tr>
<td>3</td>
<td>1</td>
<td>Rubber hoses</td>
</tr>
<tr>
<td>4</td>
<td>1</td>
<td>Pressure switch (160 bar)</td>
</tr>
<tr>
<td>5</td>
<td>1</td>
<td>Pressure switch (5 bar)</td>
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<tr>
<td>6</td>
<td>4</td>
<td>Tube fitting - straight</td>
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<tr>
<td>7</td>
<td>5</td>
<td>Stainless steel pipe (1 meter)</td>
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<td>8</td>
<td>4</td>
<td>Tube fitting - tee</td>
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<tr>
<td>9</td>
<td>5</td>
<td>Nozzle fitting - threaded elbow</td>
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<tr>
<td>10</td>
<td>2</td>
<td>Nozzle fitting - threaded tee</td>
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<tr>
<td>11</td>
<td>7</td>
<td>Spray nozzle</td>
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<tr>
<td>12</td>
<td>1</td>
<td>FireDETEC® tube (black, 10m)</td>
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<tr>
<td>13</td>
<td>30</td>
<td>Screw clip for tube attachment</td>
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<tr>
<td>14</td>
<td>1</td>
<td>End of line adapter</td>
</tr>
<tr>
<td>15</td>
<td>1</td>
<td>Protection spring for sensor tubing</td>
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</tbody>
</table>

*Mount nozzles with PTFE band

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**Firedetec**

Compact Fire Suppression Systems

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PROVEN EFFECTIVE

FIREDETEC VEHICLE ENGINE SYSTEMS HAVE BEEN THOROUGHLY TESTED AND VALIDATED

WORLDWIDE INSTALLATIONS
IDEAL FOR ALL VEHICLES, MACHINERY & HEAVY EQUIPMENT