Combined Automatic Sprinkler and Clean Agent Integrated Fire Suppression Systems

The new FireFlex® DUAL integrated system consists of an integrated preaction automatic sprinkler system combined with a clean agent fire extinguishing system, factory-assembled in a single cabinet. All the components necessary for both complete extinguishing systems are integrated, including a common releasing control panel.

The FireFlex® DUAL System uses 3M™ Novec™ 1230 Fire Protection Fluid combined with the Viking Preaction System. This clean extinguishing agent is based on sustainable technology and is the only chemical agent currently available that meets the most stringent actual and future environmental standards. It is also the only extinguishing agent that allows a 1 for 1 cylinder replacement for Halon.

Fabrication of the FireFlex® DUAL cabinets at FireFlex Systems factory ensures that all components have been carefully integrated. The systems are also fully tested at the factory which facilitates the on-site installation and commissioning process.

The FireFlex® DUAL cabinets are available in many sizes, holding various SEVO® 1230 cylinder capacities, making them easily adaptable to the specific configuration of the protected hazard.

3M™ Novec™ 1230 Fire Protection Fluid
EXTINGUISHING AGENT

Used at concentrations from 4 to 6%, the 3M™ Novec™ 1230 fire protection fluid is a new generation Halon replacement gas, designed to mitigate concerns regarding occupant safety, extinguishing performance and the environment. Contrary to first generation HFCs, the Novec™ 1230 fluid has key characteristics that well-define a clean extinguishing agent such as:

- Ozone layer depletion potential of 0
- Global planetary warming potential of 1.0
- Atmospheric life duration of only 5 days
- Wide safety margin for occupants

The FireFlex® DUAL integrated systems are thus adapted for use in any mission critical facility requiring a clean extinguishing agent that is truly fast and efficient.

APPLICATIONS:

- Telecommunication centers
- Computer centers and data storage
- Control rooms
- Art galleries & museums
- Medical treatment centers & laboratories
- Archive centers
- Emergency power units

SEVO® 1230 TECHNOLOGY

The FireFlex® DUAL System uses SEVO® 1230 cylinders designed for a high volume discharge rate in order to meet the rapid discharge requirements specified in the NFPA-2001 Standard. Discharge valves are of brass construction and are designed as per the pressure differential concept. They are also provided with an air supplies are all factory-assembled, mounted in the cabinet.

SEVO® DISCHARGE NOZZLES:

The SEVO® discharge nozzles are designed to provide a complete and rapid vaporization of the Novec™ 1230 fluid as well as properly distribute the agent within the protected space. Standard nozzles are made of aluminum and are available in many sizes, including 1”, 1½” and 2”. Both 180 and 360 degrees configuration nozzles have been tested to adequately cover a maximum area of 32’ x 32’ with a maximum height of 14 feet.

PREACTION AUTOMATIC SPRINKLER SYSTEM:

The FireFlex® DUAL System integrates the same type of automatic sprinkler systems as found in the FireFlex Systems TotalPac2, using top quality Viking Corporation components including the F1 Deluge Valve.

All FireFlex® DUAL Systems are provided with an integrated single or double interlocked.

AIR SUPPLY OPTIONS:

Two (2) styles of air supplies are available for the FireFlex® DUAL units depending on needs or configurations. These air supplies are all factory-assembled, mounted in the cabinet and pressure tested.

Air Supply Style “A”:

Air supply style “A” includes the air compressor mounted inside the FireFlex® DUAL cabinet with its supervisory trim and options. Compressors are of the tankless, oilless piston-type and are factory-piped to the sprinkler riser, all within the cabinet.

Air Supply Style “B”:

Is used when an external air supply is provided by others (either tank-mounted compressor, plant air or dry nitrogen cylinders) and piped to the air inlet port of the unit. Air supply style “B” provides an Air Pressure Maintenance Device (APMD) trim and factory-mounted in the FireFlex® DUAL cabinet.

INTEGRATED RELEASE CONTROL PANEL:

The release control panel integrated into the FireFlex® DUAL cabinet is Potter’s Model PFC-4410 RC. This panel includes four Class B, Style B programmable detection zones (optional Class A, Style Y); two Class B supervisory zones and four Class B, Style Y programmable output circuits (optional Class A, Style Z). It is also provided with a menu driven programming, including a specific program assigned at the factory.

The panel is compatible with many types of fire alarm and supervisory devices such as linear heat detectors, spot-type heat and smoke detectors, waterflow and release indicators, low and high air pressure switches, manual pull stations and abort switches.

The control panel also includes an alphanumeric display with 2 lines of 16 characters describing all the system conditions, as well as a set of red and yellow LED lamps individually indicating each of the alarm and trouble conditions of the system. Easy-to-operate control buttons are also provided to activate and operate the system’s various functions.

FIREFLEX® DUAL CABINETS:

The FireFlex® DUAL cabinets are of the free-standing type and are made of robust schedule 14 steel with a rustproof fire red paint finish, polyester powder-coated and oven-baked on a phosphate base. They are also provided with two locked frontal doors that are removable without special tools, reducing space requirements for ease of installation and maintenance. Furthermore, all doors are provided with a neoprene gasket to reduce vibrations.

<table>
<thead>
<tr>
<th>FireFlex® DUAL Cabinets Capacity (# of cylinders)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cabinet Width (in)</td>
</tr>
<tr>
<td>-------------------</td>
</tr>
<tr>
<td>46</td>
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</table>

COMBINED SEQUENCE OF OPERATION:

The combined Preaction, Clean Agent suppression system is configured to prevent water discharge in the hazard. The sprinkler system may never be activated as the Clean Agent system could suppress the fire before the room reaches a high enough temperature to open a sprinkler head. The Clean Agent System can be actuated using a single or cross zone smoke detection system.

The Preaction system is available with the single interlock, electric release, where the deluge valve will open and fill the system and wait for a sprinkler to activate before releasing water in the area. Also available is the double interlock, electric-pneumatic release, where the deluge valve waits for a smoke detection and a sprinkler to activate before opening, fills the system and flows water through the activated sprinkler(s).

<table>
<thead>
<tr>
<th>EXTINGUISHING AGENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>SEVO™ 1230 Cylinders</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Size</th>
<th>Fill Capacity (lbs)</th>
<th>Max Volume (g)</th>
</tr>
</thead>
<tbody>
<tr>
<td>40</td>
<td>16 – 40</td>
<td>1055 ft³</td>
</tr>
<tr>
<td>76</td>
<td>31 – 76</td>
<td>2005 ft³</td>
</tr>
<tr>
<td>164</td>
<td>66 – 164</td>
<td>4327 ft³</td>
</tr>
<tr>
<td>322</td>
<td>129 – 322</td>
<td>8496 ft³</td>
</tr>
<tr>
<td>601</td>
<td>241 – 601</td>
<td>15857 ft³</td>
</tr>
</tbody>
</table>

| FIREFLEX® DUAL CABINETS |

<table>
<thead>
<tr>
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<th>Width (in.)</th>
<th>Capacity (# of cylinders)</th>
</tr>
</thead>
<tbody>
<tr>
<td>46</td>
<td>11</td>
<td>1</td>
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<tr>
<td>36</td>
<td>164</td>
<td>322</td>
</tr>
<tr>
<td>46</td>
<td>601</td>
<td>2</td>
</tr>
</tbody>
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The FireFlex® DUAL System uses SEVO® 1230 cylinders designed for a high volume discharge rate in order to meet the rapid discharge requirements specified in the NFPA-2001 Standard. Discharge valves are of brass construction and are designed as per the pressure differential concept. They are also provided with an integrated pressure safety device, a pressure-indicating component including the F1 Deluge Valve.

All FireFlex® DUAL Systems are provided with an integrated 2 or 3-inch diameter deluge valve, available in preaction single or double interlocked.

**AIR SUPPLY OPTIONS**

Two (2) styles of air supplies are available for the FireFlex® DUAL units depending on needs or configurations. These air supplies are all factory-assembled, mounted in the cabinet and pressure-tested.

**Air Supply Style “A”**

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**FireFlex® DUAL Cabinet Dimensions:**

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<table>
<thead>
<tr>
<th>DIMENSIONS</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
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<tbody>
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