

**CITY OF NEW YORK  
DEPARTMENT OF BUILDINGS**

Pursuant to Administrative Code Section 27-131, the following equipment or material has been found acceptable for use in accordance with the Report of Materials and Equipment Acceptance (MEA) Division.

Patricia J. Lancaster, F.A.I.A., Commissioner  
MEA 89-92-E Vol. XXVI

**Report of Material and Equipment Acceptance Division**

**Manufacturer – The Viking Corporation**

**Trade Name(s) –Viking Total Pac2 Systems.**

**Product – Systems for fire protection service.**

**Pertinent Code Section(s) – NFPA 13, NFPA 15, NFPA 16, NFPA 16A, and NFPA 70.**

**Tests – FM Approval Standards - 1011, 1012, 1013, 1016, 1020, and 1021.**

**Laboratory - Factory Mutual Approvals.**

**Test Report(s) – 3016606 dated June 30, 2003; OB6A9.AH dated July 21, 1999; 3016691 dated March 15, 2003; 3012809 dated August 30, 2002; 3016605 dated May 16, 2003; 3010729 dated August 14, 2002; and 3013170 dated August 30, 2002, are a list of FM approvals which relate to report 3016606.**

**Description – TotalPac2 Systems for Dry Pipe, Deluge, Preaction, Refrigerated Area, SureFire, Fail-Safe, and Firecycle III Multicycle Sprinkler Systems.**

Model No.	Description	Pressure Rating
TotalPac2	<p><u>Skid Mount</u> - The first configuration is offered without the enclosure, only the assembled valve package bolted to the skid. A complete description of this is shown in Figure 2 of the Appendix. With those systems requiring an electrical control panel, an FM Approved control panel, either a Viking PAR-3, Model B-I, or the Viking Model E-I for the cycling Firecycle-III systems, is mounted remotely and hard wired directly to the electrical control components (pressure switches and solenoid valves) installed in the trim.</p> <p><u>Full enclosure with included control panel components</u> - This second configuration is described below.</p> <p>There are two front doors: the bottom door (with the system pressure gages visible) contains the automatic water control valve, with the assembled trim and trim components, pressure gages, switches, actuators, shut off valves, check valves, and inlet water supply manifold. The top door contains the appropriate electrical release control panel components (in electrically activated systems). A major change in the TotalPac2 systems is that the individual control panel components are assembled into the top door cabinet at final assembly. Previously, in the Total Pac, the complete control panel was completely assembled in a cabinet by the panel manufacturer (Notifier), and installed inside the Total Pac cabinet, attached to the one access door, with the panel system alarms visible through a window. In the TotalPac2, the identical panel components consisting of the mother board, power supply, AC input and DC outlet terminal strips, 90 hour stand-by backup batteries, and remote relay panels are installed into the top door cabinet and wired together and to the electrical components (for example solenoid valves) in the bottom door cabinet.</p> <p>This Total Pac2 configuration comprises an integrated fire protection system package which is assembled and tested at the factory, and requires only the connection to the water supply inlet, water outlet (to system), main drain, the alarm and detection connections, and the electrical power supply. Options are offered, including an automatic air compressor, air tank, and pressure maintenance device, for maintaining system air pressure in supervised air piping systems, all items mounted inside the enclosure.</p>	250 PSI

Full valve enclosure without control panel - This third configuration is the middle Figure illustrated in Figure 1. There is no upper door cabinet for the electrical control panel. The intent is that a separate control panel box, FM Approved for the system, is installed remotely and wired to a Field wiring junction box located on the enclosure. Otherwise, the description is the same as Section 1.1.2 above, namely: the door (with the system pressure gauges visible) contains the automatic water control valve, with the assembled trim and trim components, pressure gauges, switches, actuators, shut off valves, check valves, and inlet water supply manifold.

This Total Pac2 configuration also comprises an integrated fire protection system package which is assembled and tested at the factory. It does require connection to a remotely located control panel, as well as requiring the connection to the water supply inlet, water outlet (to system), main drain, and the alarm and detection connections. Options are offered, including an automatic air compressor, air tank, and pressure maintenance device, for maintaining system air pressure in supervised air piping systems, all items mounted inside the enclosure.

Dry Pipe Valves - Size 4 and 6 inch Dry Pipe Valves are available factory assembled in the Viking Total Pac2 enclosure, a second-generation enclosure which replaces the Total Pac. The Total Pac2 is available in several configurations: 1) the system fully enclosed on legs with an access door; 2) the valve system assembled to a skid.

Deluge Sprinkler Systems - Deluge Sprinkler Systems, which utilize the angle type main water control valves, are available factory assembled in the Viking Total Pac2 enclosure, a second-generation enclosure which replaces the Total Pac.

The Total Pac2 is available in several configurations: 1) the system fully enclosed on legs with an access door and a built in electrical control panel (when electric activation required); 2) the valve system fully enclosed on legs with an access door and a remote control panel; 3) the valve system assembled to a skid and used with a remote control panel.

Preaction Sprinkler Systems - Preaction Sprinkler Systems, which utilize the angle type main water control valves, are available factory assembled in the Viking Total Pac2 enclosure, a second-generation enclosure which replaces the Total Pac.

The Total Pac2 is available in several configurations: 1) the system fully enclosed on legs with an access door and a built in electrical control panel (when electric activation required); 2) the valve system fully enclosed on legs with an access door and a remote control panel; 3) the valve system assembled to a skid and used with a remote control panel.

Refrigerated Area Sprinkler Systems - Refrigerated Area Sprinkler Systems, which utilize the angle type main water control valves, are available factory assembled in the Viking Total Pac2 enclosure, a second-generation enclosure which replaces the Total Pac. The Total Pac2 is available in several configurations: 1) the system fully enclosed on legs with an access door and a built in electrical control panel (when electric activation required); 2) the valve system fully enclosed on legs with an access door and a remote control panel; 3) the valve system assembled to a skid and used with a remote control panel.

On-Off Multi-Cycle Sprinkler Systems - On-Off Multi-Cycle Sprinkler Systems, which utilize the angle type main water control valves, are available factory assembled in the Viking Total Pac2 enclosure, a second-generation enclosure that replaces the Total Pac. The Total Pac2 is available in several configurations: 1) the system fully enclosed on legs with an access door and a built in electrical control panel (when electric activation required); 2) the valve system fully enclosed on legs with an access door and a remote control panel; 3) the valve system assembled to a skid and used with a remote control panel.

	<p><u>SureFire Fail/Save Preaction Sprinkler Systems</u> - SureFire Fail/Save Systems both Single and Double Interlocked, are supervised dry systems, which utilize the angle type or straight through type main water control valve controlled by an electric release system and pneumatic system pressure, are available factory assembled in the Viking Total Pac2 enclosure, a second generation enclosure which replaces the Total Pac. The Total Pac2 is available in several configurations: 1) the system fully enclosed on legs with an access door and a built in electrical control panel (when electric activation required); 2) the valve system fully enclosed on legs with an access door and a remote control panel; 3) the valve system assembled to a skid and used with a remote control panel.</p>	
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Pursuant to "Promulgation of the Rules relating to Material and Equipment Application Procedures" dated November 5, 1992, the Bureau of Fire Prevention has no objections letter dated April 8, 2004, F.P. Index # 0402016.

Recommendation – That the above units be accepted on condition that:

1. Installations shall comply with all applicable New York City Building Codes, rules, regulations and testing requirements, and in particular with the requirements of Subchapter 17, RS 17-2, RS 17-3, and RS 17-5 of the Administrative Code.
2. Installation of interlock pre-action systems when programmed to operate as **double interlock shall be installed only for applications such as refrigerated rooms** provided that the Engineer of Record confirms that water released from a pre-action system may freeze in the piping to the sprinkler heads prior to the sprinklers heads activating.

To ensure proper operation and to allow for any possible faulty detectors, the double interlock pre-action system shall be provided with at least two (2) detectors installed on a single zone in the protected area. Only Class A wiring method shall be allowed.

Detectors for double interlocked pre-action systems shall not be cross-zoned.

**3. TotalPac2 On-Off Multi-Cycle Sprinkler Systems** that are programmed to operate as an "on/off" so as to stop water flow after the fire subsides and re-starts automatically if the fire is rekindled **shall not be installed in New York City except for sprinkler systems installed under the following conditions:**

- (a) TotalPac2 On-Off Multi-Cycle Sprinkler Systems shall be installed as a subsystem in occupancies and enclosures such as libraries, museums and cultural properties as defined by NFPA 909 publication where water damage to collections is of a significant concern. The Engineer of Record shall clearly state the occupancy recommendation for TotalPac2 On-Off Multi-Cycle Sprinkler Systems installation in the permit application filed with the Buildings Department.
- (b) TotalPac2 On-Off Multi-Cycle Sprinkler Systems shall be installed as a subsystem in occupancies and enclosures where the Engineer of Record confirms that excessive water runoff could cause an environmental impact.
- (c) A sign posted in a conspicuous area shall identify the location of the manual override on the TotalPac2 On-Off Multi-Cycle Sprinkler Systems Unit.
- (d) Where TotalPac2 On-Off Multi-Cycle Sprinkler Systems is installed as a subsystem, activation of such system shall transmit a latching fire signal to the building's fire alarm system.
- (e) The heat detectors and wiring used for the installation of the TotalPac2 On-Off Multi-Cycle Sprinkler Systems shall be of the type that have secured New York City MEA approval. TotalPac2 On-Off Multi-Cycle Sprinkler Systems shall be provided with at least two (2) detectors installed on a single zone in a protected area. Only Class A wiring method shall be allowed. Detection and alarm portion of TotalPac2 On-Off Multi-Cycle Sprinkler Systems shall be subject to an inspection conducted by a Fire Department's Fire Alarm Inspection Unit. A-433 application forms as well as other required applications shall be filed with our Fire Alarm Inspection Unit.

4. Installation shall be in compliance with Factory Mutual Research Corporation's listing requirements and limitations.
5. Manufacturer's safety requirements, limitations, and maintenance procedures and limitations.

All shipments and deliveries of such equipment shall be provided with a metal tag, suitably placed, certifying that the equipment shipped or delivered is equivalent to those tested and accepted for use, as provided for in Section 27-131 of the Building Code.

Final Acceptance June 20, 2004  
Examined By Donald J. Jd.