Ultra K17 — 16.8 K-factor
Upright Specific Application Control Mode Sprinkler
Standard Response, 155°F (68°C) & 200°F (93°C)

General Description

The TYCO 16.8 K-factor, Ultra K17, Standard Response, Upright Specific Application Control Mode Sprinklers (Ref. Figure 1) are automatic sprinklers of the frangible bulb type. They are intended for use with National Fire Protection Association “specific application control mode” installation criteria for the protection of high piled storage. They may also be utilized as a 16.8 K-factor, upright, standard response “Storage Sprinkler” in accordance with Factory Mutual Loss Prevention Data Sheets. (see FM 2-0 and 8-9 for specific design and installation criteria).

The Ultra K17 Sprinklers can provide a higher level of protection than other standard spray sprinklers and, in some cases, they can provide an economical advantage by eliminating in-rack sprinklers.

Applications for the Ultra K17 Upright Specific Application Control Mode Sprinklers are expanding beyond the current “specific application” listings/approvals. For information regarding research fire tests which may be acceptable to an authority having jurisdiction, please contact the Technical Services Department.

NOTICE

The Ultra K17, Standard Response, Upright Specific Application Control Mode Sprinklers described herein must be installed and maintained in compliance with this document and with the applicable standards of the National Fire Protection Association, in addition to the standards of any authorities having jurisdiction. Failure to do so may impair the performance of these devices.

The owner is responsible for maintaining their fire protection system and devices in proper operating condition. The installing contractor or sprinkler manufacturer should be contacted with any questions.

Model/Sprinkler Identification Number (SIN)

TY7153
TY7153 is a redesignation for C7153, G1887, and S8042.

Technical Data

Approvals
UL and C-UL Listed. FM and NYC Approved. (Specific details for laboratory listings and approvals given in Table A. The approvals apply to the service conditions indicated in the Design Criteria section.)

Maximum Working Pressure
175 psi (12.1 bar)

Pipe Thread Connection
3/4 inch NPT

Discharge Coefficient
K = 16.8 GPM/psi(1/2)
(241.9 LPM/bar(1/2))
**Design Criteria**

**UL and C-UL Listing Requirements**
The TYCO 16.8 K-factor, Ultra K17 (TY7153) Sprinklers may be installed in accordance with NFPA 13 “Specific Application Control Mode Sprinkler (for Storage Use)” requirements to provide ceiling only protection (that is, no in-rack sprinklers) for high piled storage occupancies (Solid-piled, palletized and rack storage including but not limited to Class I-IV and Group A plastics) using the criteria from NFPA 13.

**FM Approval Requirements**
The TYCO 16.8 K-factor, Ultra K17 (TY7153) Sprinklers may be installed with the applicable “storage sprinkler” guidelines provided by Factory Mutual. (FM guidelines may differ from UL and C-UL Listing criteria.)

**Operation**
The glass bulb contains a fluid that expands when exposed to heat. When the rated temperature is reached, the fluid expands sufficiently to shatter the glass bulb, allowing the sprinkler to activate and flow water.

**Installation**

**NOTICE**
Do not install any bulb type sprinkler if the bulb is cracked or there is a loss of liquid from the bulb. With the sprinkler held horizontal, a small air bubble should be present. The diameter of the air bubble is approximately 1/16 inch (1.6 mm).

The Ultra K17 Sprinklers must be installed in accordance with the following instructions:

**Step 1.** With pipe thread sealant applied to the pipe threads, hand tighten the Ultra K17 Sprinkler into the sprinkler fitting.

**Step 2.** Using the W-Type 8 Sprinkler Wrench (Fig. 2) applied to the sprinkler Wrench Flats (Fig. 1), tighten the Ultra K17 Sprinkler into the sprinkler fitting.

**NOTICE**
Obtain a 3/4 inch NPT sprinkler joint by applying a minimum to maximum torque of 7 to 14 ft.lbs. (9.5 to 19.0 Nm). Higher levels of torque can distort the sprinkler Inlet with consequent leakage or impairment of the sprinkler.

**Care and Maintenance**
The TYCO Ultra K17 Sprinklers must be maintained and serviced in accordance with the following instructions:

**NOTICE**
Before closing a fire protection system main control valve for maintenance work on the fire protection system that it controls, permission to shut down the affected fire protection systems must be obtained from the proper authorities and all personnel who may be affected by this action must be notified.

Sprinklers that are found to be leaking or exhibiting visible signs of corrosion must be replaced.

Automatic sprinklers must never be painted, plated, coated, or otherwise altered after leaving the factory. Modified sprinklers must be replaced. Sprinklers that have been exposed to corrosive products of combustion, but have not operated, should be replaced if they cannot be completely cleaned by wiping the sprinkler with a cloth or by brushing it with a soft bristle brush.

Care must be exercised to avoid damage to the sprinklers - before, during, and after installation. Sprinklers damaged by dropping, striking, wrench twist/slippage, or the like, must be replaced. Also, replace any sprinkler that has a cracked bulb or that has lost liquid from its bulb. (Ref. Installation Section).

**SPRINKLER FINISH**

<table>
<thead>
<tr>
<th>TYPE</th>
<th>TEMPERATURE</th>
<th>BULB LIQUID</th>
<th>NATURAL BRASS WITH CHROME DEFLECTOR</th>
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</thead>
<tbody>
<tr>
<td>UPRIGHT K=16.8</td>
<td>155°F (68°C)</td>
<td>Red</td>
<td>3, 4</td>
</tr>
<tr>
<td>(TY7153)</td>
<td>200°F (93°C)</td>
<td>Green</td>
<td>1, 2, 3, 4</td>
</tr>
</tbody>
</table>

**NOTES:**

1. Listed by Underwriters Laboratories, Inc. (UL Listed).
2. Listed by Underwriters Laboratories, Inc. for use in Canada (C-UL Listed).
3. Approved by Factory Mutual Research Corporation (FM Approved).
4. Approved by the City of New York under MEA 177-03-E.

**TABLE A**
LABORATORY LISTINGS AND APPROVALS
(Refer To The Design Criteria Section)
The owner is responsible for the inspection, testing, and maintenance of their fire protection system and devices in compliance with this document, as well as with the applicable standards of the National Fire Protection Association (for example, NFPA 25), in addition to the standards of any other authorities having jurisdiction. The installing contractor or sprinkler manufacturer should be contacted relative to any questions.

Automatic sprinkler systems are recommended to be inspected, tested, and maintained by a qualified Inspection Service in accordance with local requirements and/or national codes.
Limited Warranty

Products manufactured by Tyco Fire Protection Products (TFPP) are warranted solely to the original Buyer for ten (10) years against defects in material and workmanship when paid for and properly installed and maintained under normal use and service. This warranty will expire ten (10) years from date of shipment by TFPP. No warranty is given for products or components manufactured by companies not affiliated by ownership with TFPP or for products and components which have been subject to misuse, improper installation, corrosion, or which have not been installed, maintained, modified or repaired in accordance with applicable Standards of the National Fire Protection Association, and/or the standards of any other Authorities Having Jurisdiction. Materials found by TFPP to be defective shall be either repaired or replaced, at TFPP’s sole option. TFPP neither assumes, nor authorizes any person to assume for it, any other obligation in connection with the sale of products or parts of products. TFPP shall not be responsible for sprinkler system design errors or inaccurate or incomplete information supplied by Buyer or Buyer’s representatives.

In no event shall TFPP be liable, in contract, tort, strict liability or under any other legal theory, for incidental, indirect, special or consequential damages, including but not limited to labor charges, regardless of whether TFPP was informed about the possibility of such damages, and in no event shall TFPP’s liability exceed an amount equal to the sales price.

The foregoing warranty is made in lieu of any and all other warranties, express or implied, including warranties of merchantability and fitness for a particular purpose.

This limited warranty sets forth the exclusive remedy for claims based on failure of or defect in products, materials or components, whether the claim is made in contract, tort, strict liability or any other legal theory.

This warranty will apply to the full extent permitted by law. The invalidity, in whole or part, of any portion of this warranty will not affect the remainder.

Ordering Procedure

When placing an order, indicate the full product name. Please specify the Sprinkler Identification Number (SIN), quantity, and temperature rating. Refer to the Price List for complete listing of Part Numbers.

Contact your local distributor for availability.

Sprinkler Assemblies with NPT Thread Connections
Specify: (specify SIN), 16.8 K-factor, Ultra K17, (specify temperature rating), Upright Specific Application Control Mode Sprinkler, P/N (specify).

Upright (SIN TY7153)
155°F (68°C) ............ P/N 51-887-1-155
200°F (93°C) ............ P/N 51-887-1-200

Sprinkler Wrench
Specify: W-Type 8 Sprinkler Wrench, P/N 56-892-1-001.