



# Model LD — 11.2 K-factor Large Drop Upright Sprinkler, Standard Response Control Mode Specific Application

## General Description

The TYCO Model LD, 11.2 K-factor Large Drop Upright Sprinkler, Standard Response Control Mode Specific Application is a glass bulb type automatic sprinkler. It is intended for use with the National Fire Protection Association large drop sprinkler installation criteria for the protection of high piled storage. The LD Sprinkler can provide a higher level of protection than standard spray sprinklers and, in some cases, can provide an economic advantage by eliminating in-rack sprinklers.

### NOTICE

*The TYCO Model LD 11.2 K-factor, Large Drop Upright Sprinkler described herein must be installed and maintained in compliance with this document, as well as with the applicable standards of the National Fire Protection Association, in addition to the standards of any other 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. Contact the installing contractor or product manufacturer with any questions.*

### IMPORTANT

Refer to Technical Data Sheet TFP2300 for warnings pertaining to regulatory and health information.

Always refer to Technical Data Sheet TFP700 for the "INSTALLER WARNING" that provides cautions with respect to handling and installation of sprinkler systems and components. Improper handling and installation can permanently damage a sprinkler system or its components and cause the sprinkler to fail to operate in a fire situation or cause it to operate prematurely.

## Sprinkler Identification Number

Refer to Table A for sprinkler identification number.

## Technical Data

### Approvals

UL and C-UL Listed  
NYC Approved under MEA 289-04-E

### Finish

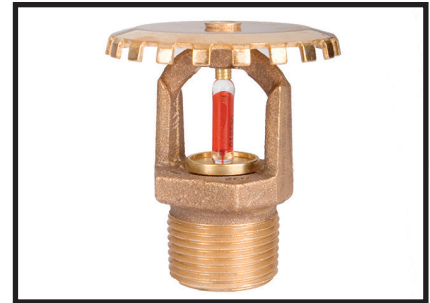
Natural Brass

### Physical Characteristics

Frame .....	Bronze
Button .....	Bronze
Sealing Assembly ..	Beryllium Nickel w/TEFLON
Bulb .....	Glass (5mm dia.)
Compression Screw .....	Brass
Deflector .....	Bronze

### Additional Technical Data

Refer to Table A for additional technical data.

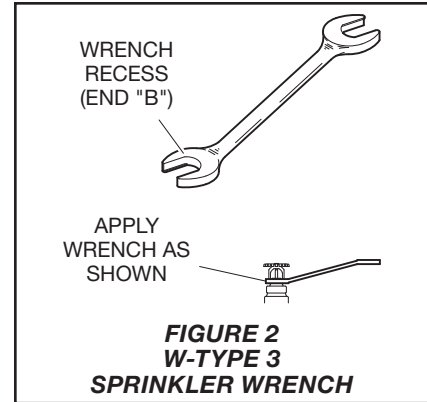
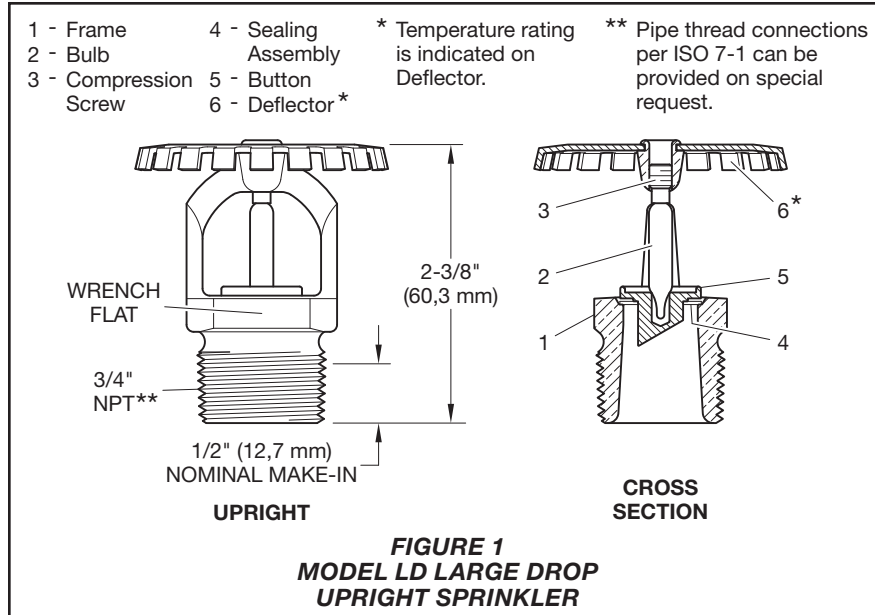


## Operation

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.

## Design Criteria

The TYCO Model LD, 11.2 K-factor Large Drop Upright Sprinkler, Standard Response Control Mode Specific Application is only for use with National Fire Protection Association "large drop sprinkler" installation criteria.



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. For additional information, refer to the Installation 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, such as NFPA 25, in addition to the standards of any other authorities having jurisdiction. Contact the installing contractor or product manufacturer with 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.

Item	Description
Sprinkler Identification Number (SIN)	TY5153 TY5153 is a redesignation of C5153
K-factor, (gpm/psi) (lpm/bar)	11.2 gpm/psi <sup>1/2</sup> (161,3 lpm/bar <sup>1/2</sup> )
Temperature Rating °F (°C)	155°F (68°C) 200°F (93°C) 286°F (141°C)
Thread Size	3/4 in. NPT or ISO 7-R 3/4
Sprinkler Orientation	Upright
Maximum Working Pressure, psi (bar)	175 psi (12,1 bar)

**TABLE A**  
**MODEL LD LARGE DROP UPRIGHT SPRINKLER**  
**TECHNICAL DATA**

## Installation

The TYCO Model LD, 11.2 K-factor Large Drop Upright Sprinkler, Standard Response Control Mode Specific Application must be installed in accordance with this section.

### General Instructions

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 in. (1,6 mm) for the 155°F (68°C) rating and 3/32 in. (2,4 mm) for the 286°F (141°C) rating.

A leak tight 3/4 in. NPT sprinkler joint should be obtained by applying a minimum-to-maximum torque of 7 to 20 lb-ft (13,4 to 26,8 N·m). Higher levels of torque can distort the sprinkler inlet with consequent leakage or impairment of the sprinkler.

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

**Step 2.** Using the W-Type 3 (End B) Sprinkler Wrench (Ref. Figure 2) applied to the sprinkler Wrench Flats (Ref. Figure 1), tighten the Model LD Sprinkler into the sprinkler fitting.

## Care and Maintenance

The TYCO Model LD, 11.2 K-factor Large Drop Upright Sprinkler, Standard Response Control Mode Specific Application must be maintained and serviced in accordance with this section.

Before closing a fire protection system main control valve for maintenance work on the fire protection system that

<b>Storage Type</b>	<b>NFPA</b>
Sprinkler Type	CMSA
Response Type	SR
System Type	Wet
Temperature Rating °F (°C)	155°F (68°C) 200°F (93°C) 286°F (141°C)
Open Frame (i.e., no solid shelves) Single, Double, Multiple-Row, or Portable Rack Storage of Class I-IV and Group A or B Plastics	Refer to NFPA 13
Solid Pile or Palletized Storage of Class I-IV and Group A or B Plastics	Refer to NFPA 13
Idle Pallet Storage	Refer to NFPA 13
Rubber Tire Storage	Refer to NFPA 13
Roll Paper Storage (Refer to the Standard)	Refer to NFPA 13
Flammable/Ignitable Liquid Storage (Refer to the Standard)	Refer to NFPA 30
Aerosol Storage (Refer to the Standard)	Refer to NFPA 30B
Automotive Components in Portable Racks (Control mode only; refer to the Standard)	Refer to NFPA 13

**TABLE B**  
**MODEL LD LARGE DROP UPRIGHT SPRINKLER**  
**COMMODITY SELECTION AND DESIGN CRITERIA OVERVIEW**

## **Ordering Procedure**

Contact your local distributor for availability. When placing an order, indicate the full product name and Part Number (P/N).

### **Sprinkler Assemblies with NPT Thread Connections**

Specify: Model LD (TY5153), K = 11.2, Upright Large Drop Sprinkler, (specify) temperature rating, (specify) finish, P/N (specify):

155°F (68°C) .....50-400-2-155  
 200°F (93°C) .....50-400-2-200  
 286°F (141°C) .....50-400-2-286

### **Sprinkler Wrench**

Specify: W-Type 3 Sprinkler Wrench, P/N 56-895-1-001

