

## **Model EC-HS — 80 K-factor, Quick Response Extended Coverage Horizontal Sidewall Sprinklers Installations per VdS CEA 4001, Annex E, LH/OH1**

### **General Description**

The Model EC-HS, 80 K-factor, Extended Coverage Horizontal Sidewall Sprinklers are extended coverage, decorative 3 mm glass bulb type spray sprinklers. They are to be installed per VdS CEA 4001 under smooth ceilings in Light or Ordinary Hazard 1, as well as in accordance with Annex E of VdS CEA 4001 (e.g., commercial occupancies such as churches, restaurant seating areas, hotels, educational facilities, offices, etc.). With their coverage up to 21 m<sup>2</sup>, they are designed for installation along a wall or the side of a beam and just beneath a smooth and level ceiling. Horizontal sidewall sprinklers are commonly used instead of pendent or upright sprinklers due to aesthetics or building construction considerations, where piping across the ceiling is not desirable.

The recessed version of the Model EC-HS Extended Coverage Horizontal Sidewall Sprinkler utilizes the Style 10 Recessed Escutcheon with 13 mm of recessed adjustment or up to 19 mm of total adjustment from the flush sidewall position, or a two-piece Style 20 Recessed Escutcheon with 6 mm of recessed adjustment or up to 13 mm of total adjustment from the flush sidewall position. The adjustment provided by the Recessed Escutcheon reduces the accuracy to which the fixed pipe lengths to the sprinklers must be cut.

#### **NOTICE**

*The Model EC-HS Sprinklers described herein must be installed and maintained in compliance with this document and with the applicable standards recognized by the Approval agency (VdS recognizes VdS EA4001), 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. The installing contractor or sprinkler manufacturer should be contacted with any questions.*

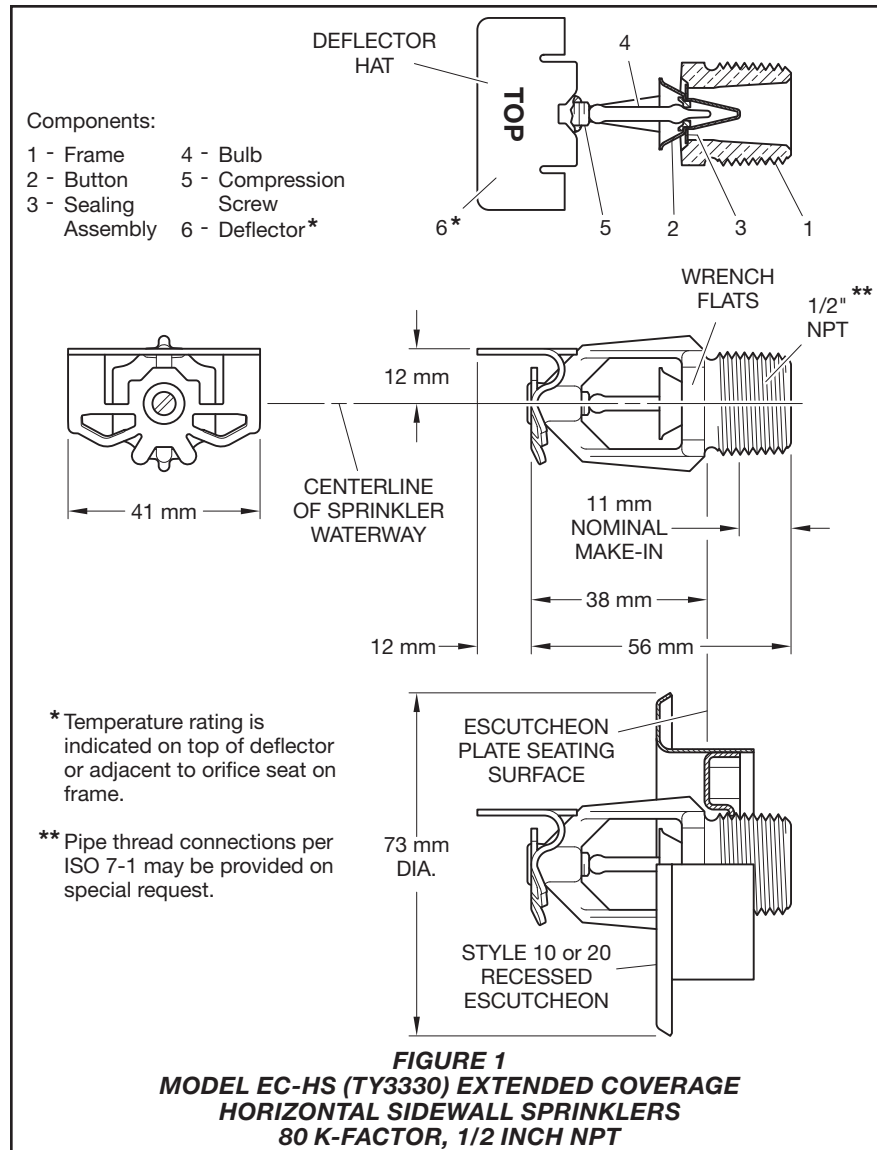
### **Sprinkler Identification Number**

TY3330 - EC-HS, 80K, 1/2"NPT



#### **IMPORTANT**

*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.*



## Technical Data

**Approvals**  
 VdS Approved.

**Maximum Working Pressure**  
 12 bar

**Discharge Coefficient**  
 $K = 80 \text{ LPM/bar}^{1/2}$

**Temperature Ratings**  
 57°C, 68°C, and 79°C.

**Response Sensitivity**  
 Quick response, RTI less than 50

**Finishes**  
 Sprinkler: Refer to Table B

Recessed Escutcheon: Brass Plated  
 Pure White, or Chrome Plated.

### Physical Characteristics

Frame	.....	Bronze
Button	.....	Brass/Copper
Sealing Assembly	.....	Beryllium Nickel w/TEFLON
Bulb	.....	Glass
Compression Screw	.....	Bronze
Deflector	.....	Bronze

## Operation

The glass bulb contains a fluid which 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 water to flow.

K	TYPE	TEMP.	BULB LIQUID	Sprinkler Finish		
				NATURAL BRASS	CHROME PLATED	POLYESTER
80 1/2" NPT	<b>EC-HS (TY3330)</b>	57°C	Orange	1		
		68°C	Red			
		79°C	Yellow			
80 1/2" NPT	<b>RECESSED EC-HS* (TY3330)</b>	57°C	Orange	1		
		68°C	Red			
		79°C	Yellow			
80 1/2" NPT	<b>RECESSED EC-HS** (TY3330)</b>	57°C	Orange	1		
		68°C	Red			
		79°C	Yellow			

**NOTES:**

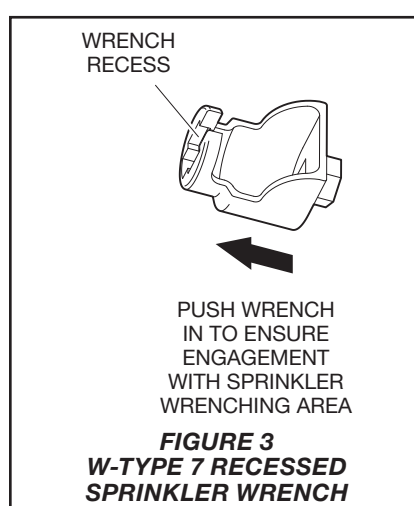
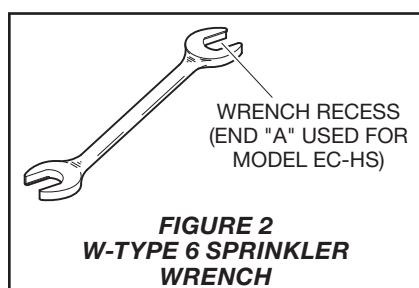
1. VdS Approved

(For details contact TYCO Fire Protection Products, [www.tyco-fire.com](http://www.tyco-fire.com))

\* Installed with Style 10 recessed Escutcheon (Figure 4).

\*\* Installed with Style 20 recessed Escutcheon (Figure 5).

**TABLE A**  
**LABORATORY LISTINGS AND APPROVALS**  
(Refer to the Design Criteria Section)



## Design Criteria

The Model EC-HS Extended Coverage Horizontal Sidewall Sprinklers are to be installed per VdS CEA 4001 under smooth ceilings in Light or Ordinary Hazard 1, as well as in accordance with Annex E of VdS CEA 4001. Only the Style 10 or 20 Recessed Escutcheon, as applicable, is to be used for recessed installations.

The following design criteria is provided as a general guide. Refer to VdS CEA4001 for complete installation rules.

**Maximum Sprinkler Coverage Area**  
21 m<sup>2</sup> (separated with F30 fire resistance in accordance to DIN4102)

**Maximum Ceiling Height**  
4,1 m

**Maximum Room Depth**

- one sprinkler line: 6,5 m
- two opposite sprinkler lines: 11 m

**Maximum Coverage Width**  
4,5 m

**Sprinkler Spacing Along Wall (Sprinkler Coverage Width)**  
3,0 m to 4,5 m

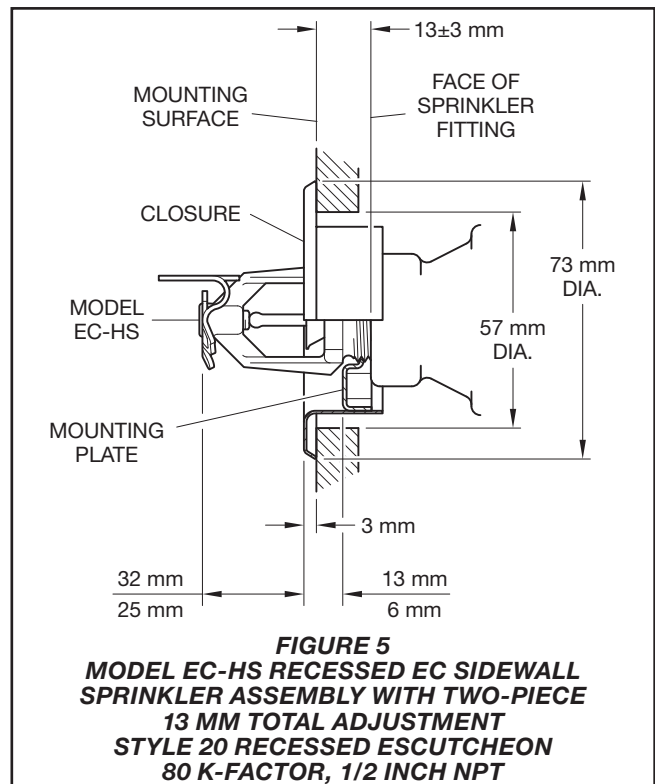
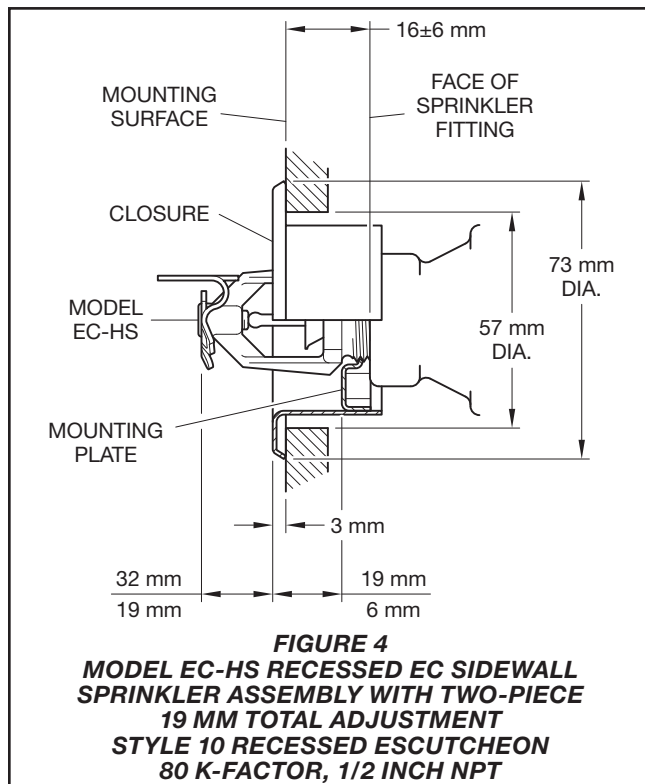
**Minimum Sprinkler to Room Corner Distance**  
0,5 m

**Maximum Sprinkler Deflector to Wall Distance**  
0,3 m

**Deflector-to-Ceiling Distance**  
0,10 m to 0,25 m

**Minimum Discharge Pressure**

- 2,5 bar for less than 2,8 m room height
- 3,0 bar for equal to and greater than 2,8 m room height



## Installation

The Model EC-HS Sprinklers 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 horizontally, a small air bubble should be present. The diameter of the air bubble is approximately 1,6 mm.

A 1/2 inch NPT sprinkler joint should be obtained with a minimum to maximum torque of 9,5 to 19,0 Nm. Higher levels of torque may distort the sprinkler inlet and cause leakage or impairment of the sprinkler.

Do not attempt to make-up for insufficient adjustment in the escutcheon plate by under- or over-tightening the sprinkler. Re-adjust the position of the sprinkler fitting to suit.

### Series Model EC-HS Sidewall Sprinklers

The Series Model EC-HS Sidewall Sprinklers must be installed in accordance with the following instructions.

**Step 1.** Horizontal sidewall sprinklers are to be installed with their center-line perpendicular to the back wall and parallel to the ceiling. The word "TOP" on the deflector is to face towards the ceiling.

**Step 2.** With pipe thread sealant applied to the pipe threads, hand tighten the sprinkler into the sprinkler fitting.

**Step 3.** Tighten the sprinkler into the sprinkler fitting using only the W-Type 6 Sprinkler Wrench (Ref. Figure 2).

With reference to Figures 1, the W-Type 6 Sprinkler Wrench is to be applied to the sprinkler wrench flats.

### Series Model EC-HS Recessed Sidewall Sprinklers

The Model EC-HS Recessed Sidewall Sprinklers must be installed in accordance with the following instructions.

**Step A.** Horizontal sidewall sprinklers are to be installed with their center-line perpendicular to the back wall and parallel to the ceiling. The word "TOP" on the deflector is to face towards the ceiling.

**Step B.** After installing the Style 10 or 20 Mounting Plate, as applicable, over the sprinkler threads and with pipe thread sealant applied to the pipe threads, hand tighten the sprinkler into the sprinkler fitting.

**Step C.** Tighten the sprinkler into the sprinkler fitting using only the W-Type 7 Recessed Sprinkler Wrench (Ref. Figure 3). With reference to Figure 1, the W-Type 7 Recessed Sprinkler Wrench is to be applied to the sprinkler wrench flats.

**Step D.** After the wall has been installed or the finish coat has been applied, slide on the Style 10 or 20 Closure over the Model EC-HS Sprinkler and push the Closure over the Mounting Plate until its flange comes in contact with the wall.

## Care and Maintenance

The Model EC-HS Sprinklers 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 it controls, permission to shut down the affected fire protection system must be obtained from the proper authorities and all personnel who may be affected by this action must be notified.

The owner must assure that the sprinklers are not used for hanging of any objects; otherwise, non-operation in the event of a fire or inadvertent operation may result.

Absence of an escutcheon, which is used to cover a clearance hole, may delay the time to sprinkler operation in a fire situation.

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

57 - XXX - X - XXX						
367	MODEL	SIN	1	SPRINKLER	135	TEMPERATURE RATING
	Model EC-HS, 80k	TY3330		NATURAL BRASS		57°C
			3	PURE WHITE (RAL9010) POLYESTER	155	68°C
			9	CHROME PLATED	175	79°C

**TABLE B**  
**SERIES EC-HS EXTENDED COVERAGE HORIZONTAL SIDEWALL SPRINKLERS**  
**PART NUMBER SELECTION**

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).

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 authorities having jurisdiction. The installing contractor or sprinkler manufacturer should be contacted relative to any questions.

It is recommended that automatic sprinkler systems be inspected, tested, and maintained by a qualified Inspection Service in accordance with local requirements and/or national codes.

## Limited Warranty

For warranty terms and conditions, visit [www.tyco-fire.com](http://www.tyco-fire.com).

## 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 EC-HS Extended Coverage Horizontal Sidewall Sprinkler (TY3330), K=80, (specify) temperature rating, (specify) finish, P/N (specify from Table B)

### Recessed Escutcheon

Specify: Style (10 or 20) Recessed Escutcheon with (specify) finish, P/N (specify\*)

\* Refer to Technical Data Sheet TFP770.

### Sprinkler Wrench

Specify: W-Type 6 Sprinkler Wrench, P/N 56-000-6-387

Specify: W-Type 7 Recessed Sprinkler Wrench, P/N 56-850-4-001

