Series EC-8C – 8.0 K-factor Special Application, Quick Response Pendent and Recessed Pendent Sprinklers for Corridors and Hallways of Light Hazard Occupancies

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.

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General Description

The EC-8C 8.0 K-factor Special Application, Quick Response Pendent and Recessed Pendent Sprinklers are UL Listed for Light Hazard Occupancies and were specifically designed for use in long, narrow spaces such as corridors or hallways with a maximum coverage area of 28 ft by 10 ft (8,5 m x 3,1 m). Fewer sprinklers and lower system pressure demands are required as compared to the traditional extended coverage sprinklers. Series EC-8C sprinklers are intended for use in automatic sprinkler systems designed in accordance per NFPA 13.

The recessed version of the Series EC-8C, Pendent Sprinkler intended for use in areas with a finished ceiling, uses either of the following two-piece escutcheons:

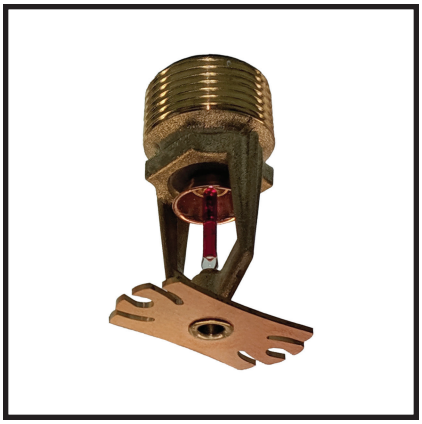
- Style 30 recessed escutcheon
- Style 40 recessed escutcheon

The style 30 recessed escutcheon provides up to 1/2 in. (12,7 mm) of total adjustment from the flush pendent position, whereas, the style 40 provides 3/4 in. (19,1 mm) of vertical adjustment from the flush pendent position. The adjustment provided by the recessed escutcheons reduces the accuracy to which the fixed pipe drops to the sprinklers must be cut.

Corrosion resistant coatings, where applicable, are utilized to extend the life of copper alloy sprinklers beyond that which would otherwise be obtained when exposed to corrosive atmospheres. Although corrosion resistant coated sprinklers have passed the standard corrosion tests of the applicable approval agencies, the testing is not representative of all possible corrosive atmospheres. Consequently, it is recommended that the end user be consulted with respect to the suitability of these corrosion resistant coatings for any given corrosive environment. The effects of ambient temperature, concentration of chemicals, and gas/chemical velocity, should be considered, as a minimum, along with the corrosive nature of the chemical to which the sprinklers will be exposed.

NOTICE

The Series EC-8C Pendent Sprinklers 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.

Sprinkler Identification Number (SIN)

TY4282 . . . . . Pendent, 8.0K

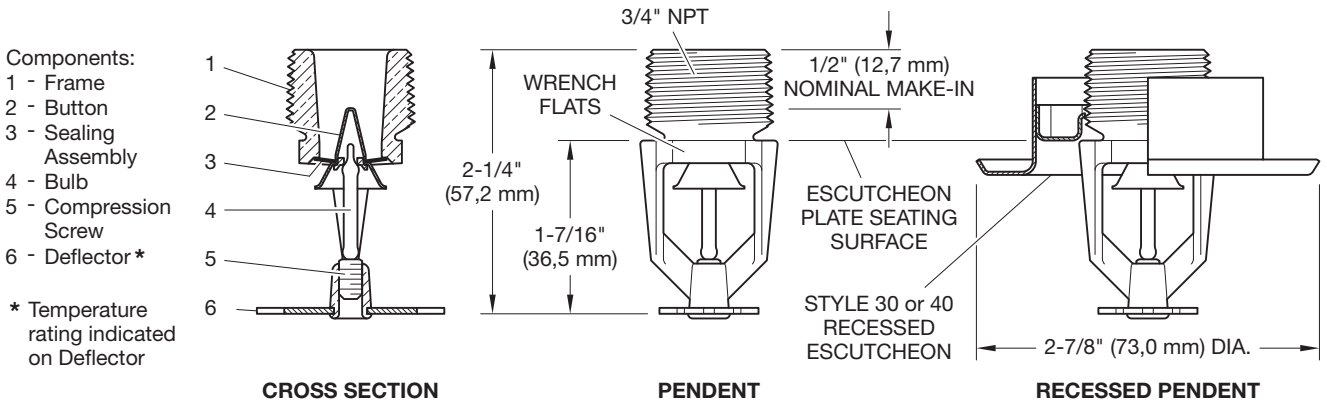


FIGURE 1
SERIES EC-8C (TY4282)
SPECIAL APPLICATION PENDENT AND RECESSED PENDENT SPRINKLER

Technical Data

Approvals
UL Listed

Note: *Sprinklers with a polyester finish are UL Listed as corrosion-resistant sprinklers.*

Maximum Working Pressure
250 psi (17,2 bar)

Pipe Thread Connection
3/4 in. NPT

Discharge Coefficients
K=8.0 gpm/psi½ (115,2 lpm/bar½)

Temperature Ratings
155°F (68°C)
200°F (93°C)

Finish
Sprinkler: Natural Brass, Signal White Polyester Coated, Pure White Polyester Coated, Jet Black Polyester Coated, or Chrome Plated

Recessed Escutcheon: Natural Brass, Signal White, Pure White, Jet Black, Chrome Plated

Physical Characteristics

Frame	Bronze
Button	Brass/Copper
Sealing Assembly	Beryllium Nickel w/TEFLON
Bulb	Glass (3 mm dia.)
Compression Screw	Bronze
Deflector	Brass

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.

Description	Coverage Area	Flow Rate	Pressure
TY4282 (K=8.0) Pendent	28 ft x 8 ft (8,5 m x 2,4 m)	23 gpm (87,1 lpm)	8.3 psi (0,6 bar)
	28 ft x 10 ft (8,5 m x 3,1 m)	28 gpm (106 lpm)	12.3 psi (0,9 bar)

NOTES
- For coverage area dimensions less than or between those listed, use the minimum flow required for the next highest coverage area.

TABLE A
FLOW CRITERIA FOR UL LISTING
OF SERIES EC-8C SPRINKLERS

Design Criteria

The EC-8C 8.0 K-factor Special Application, Quick Response Pendent and Recessed Pendent Sprinklers must only be installed in accordance with the applicable UL Listing requirements as indicated below. Only a style 30 or 40 recessed escutcheon is to be used for recessed installation, as applicable.

UL Listing Requirements

1. The Series EC-8C Pendent Sprinklers may be used for the coverage areas shown in Table A, based on maintaining the minimum specified flow rate as a function of coverage area for all of the sprinklers in the design area.
2. With respect to heat sensitivity, the Series EC-8C Pendent Sprinklers can be used with unobstructed construction consisting of flat, smooth ceilings (including bar joists) with a maximum pitch of one in six as defined and permitted by NFPA 13.
3. The minimum allowable spacing between the Series EC-8C Pendent Sprinklers, to prevent cold soldering, is 12 ft (3,7 m) in the 28 ft (8,5 m) long spray direction.
4. The Series EC-8C Pendent Sprinklers are not to be installed with the short spray direction, 8 ft (2,4 m) or 10 ft (3,1 m), oriented towards another Series EC-8C Pendent Sprinkler's short spray direction as shown in Figure 6.
5. The Series EC-8C Pendent Sprinklers are to be installed in accordance with all other requirements of NFPA 13 for extended coverage pendent sprinklers.

Installation

The Series EC-8C 8.0 K-factor Special Application, Quick Response Pendent and Recessed Pendent 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 1/16 in. (1,6 mm).

A leak tight 3/4 in. NPT sprinkler joint should be obtained with a torque of 10 ft-lb to 20 ft-lb (13,6 N·m to 27,1 N·m). Higher levels of torque may distort the sprinkler inlet with consequent leakage or impairment of the sprinkler.

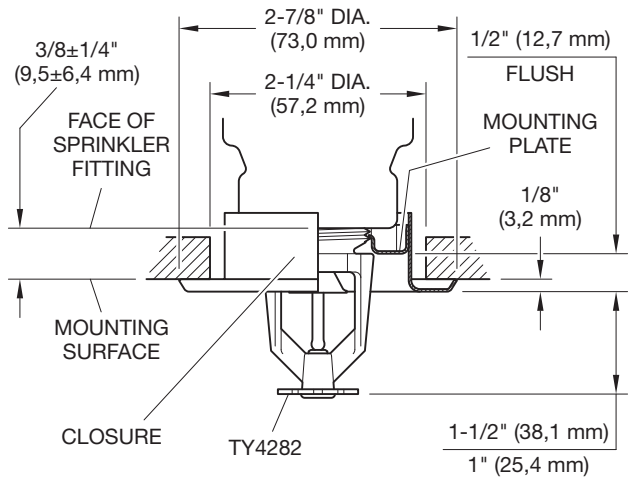


FIGURE 2
SERIES EC-8C RECESSED PENDENT SPRINKLER WITH TWO-PIECE 1/2 INCH TOTAL ADJUSTMENT STYLE 30 RECESSED ESCUTCHEON

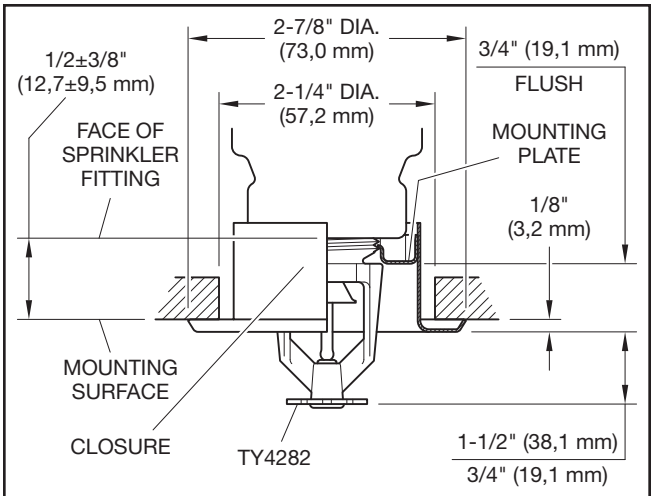


FIGURE 3
SERIES EC-8C RECESSED PENDENT SPRINKLER WITH TWO-PIECE 3/4 INCH TOTAL ADJUSTMENT STYLE 40 RECESSED ESCUTCHEON

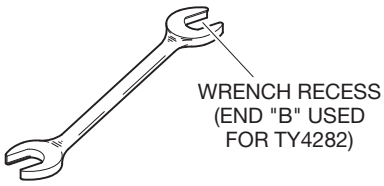


FIGURE 4
W-TYPE 6
SPRINKLER WRENCH

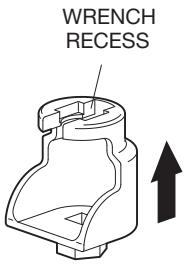


FIGURE 5
W-TYPE 7 RECESSED
SPRINKLER WRENCH

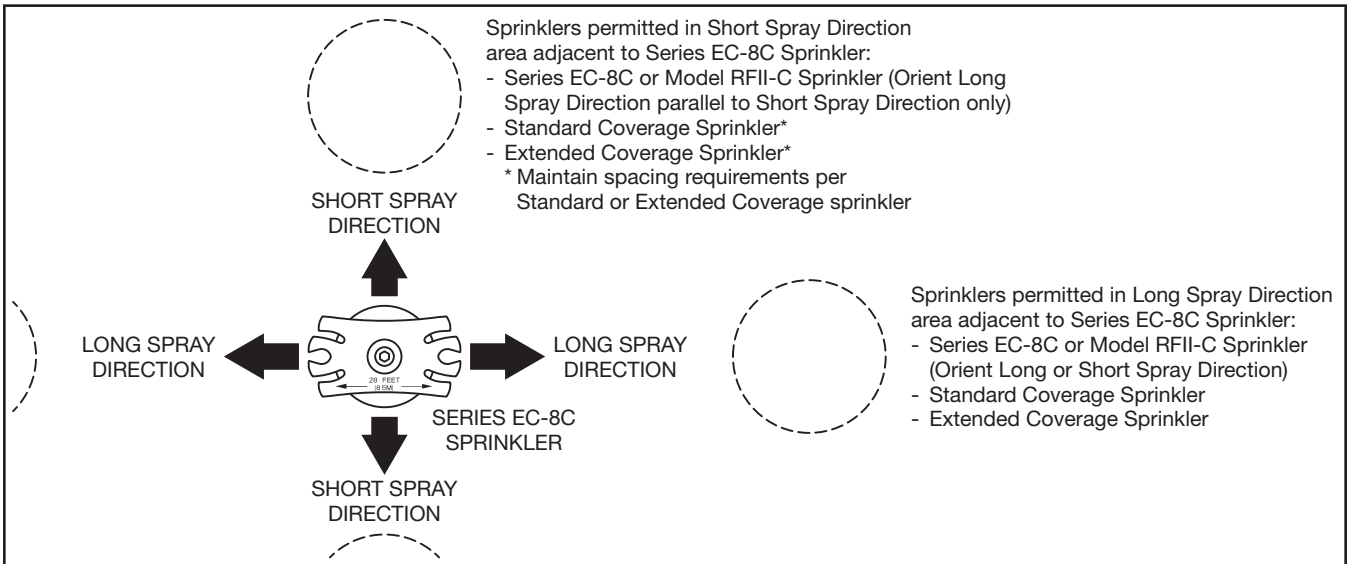


FIGURE 6
SPRINKLERS ADJACENT TO
SERIES EC-8C SPRINKLER

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

Step 1. The sprinkler must be installed with the deflector parallel to the mounting surface. Pendent sprinklers must be installed in the pendent position. The deflector is marked with "<-28 FEET (8,5 M)->" to indicate the direction of the 28 ft (8,5 m) coverage length. The frame arms do not need to be aligned parallel to the sprinkler pipe.

Step 2. After installing the style 30 or 40 mounting plate (or other escutcheon, as applicable) over the sprinkler pipe threads, and with pipe thread sealant applied to the pipe threads, hand tighten the sprinkler into the sprinkler fitting.

Step 3. Wrench tighten the deflector so that the marking "<-28 FEET (8,5 M)->" on the deflector is in the direction of the 28 ft (8,5 m) coverage length. The frame arms do not need to be aligned parallel to the sprinkler pipe. Use only the W-Type 6 (End "B") Sprinkler Wrench or with a recessed escutcheon the W-Type 7 Sprinkler Wrench. Apply the wrench recess of the applicable sprinkler wrench as shown in Figure 4 or Figure 5 to the sprinkler wrench flats as shown in Figure 1.

Care and Maintenance

The EC-8C 8.0 K-factor Special Application, Quick Response Pendent and Recessed Pendent 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 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. See Installation Section.

Frequent visual inspections are recommended to be initially performed for corrosion resistant coated sprinklers, after the installation has been completed, to verify the integrity of the corrosion resistant coating. Thereafter, annual inspections according to NFPA 25 should suffice; however, instead of inspecting from the floor level, a random sampling of close-up visual inspections should be made, so as to better determine the exact sprinkler condition and the long term integrity of the corrosion resistant coating, as it may be affected by the corrosive conditions present.

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. 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.

Ordering Procedure

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

Sprinkler Assembly
Specify: Series EC-8C (TY4282), K=8.0, Special Application Quick Response, Pendent Sprinkler, (specify) temperature rating, (specify) finish, P/N (specify):

155°F (68°C)
Natural Brass 57-351-1-155
Signal White (RAL9003)
Polyester 57-351-4-155
Chrome Plated 57-351-9-155
Pure White (RAL9010)
Polyester 57-351-3-155
Jet Black (RAL9005)
Polyester 57-351-5-155

200°F (93°C)
Natural Brass 57-351-1-200
Signal White (RAL9003)
Polyester 57-351-4-200
Chrome Plated 57-351-9-200
Pure White (RAL9010)
Polyester 57-351-3-200
Jet Black (RAL9005)
Polyester 57-351-5-200

Recessed Escutcheon
Specify: Style (30 or 40) 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

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