

## **FASTFLEX Model YN25, YB25, and YB28 Flexible Sprinkler Hose Assembly Europe, Middle East, and Africa Only**

### **General Description**

The TYCO FASTFLEX Flexible Sprinkler Hose is a unique sprinkler drop assembly comprised of a branchline adapter nipple, stainless steel flexible hose with two slip nuts, sprinkler reducer, and lightweight ceiling bracket components. (Ref. Figure 1.)

The Flexible Hose can be installed in false ceilings without cutting and threading pipes associated with installing a drop, armover, and elbows. FASTFLEX makes it possible to test and charge the system with water before the ceiling grid is installed. Once the ceiling grid is in position, the Flexible Hose can be reshaped to suit the final sprinkler location without draining the system.

The Flexible Hose is installed quickly without large and expensive tools. Ideal projects are offices, schools, libraries, hospitals, and shopping complexes. The hose is for use on wet pipe, pre-action, and dry-pipe systems. The hose can also be used in conjunction with ultra-low flow water mist nozzles following the design criteria outlined in this technical data sheet.

#### **NOTICE**

*FASTFLEX Flexible Sprinkler Hoses described herein must be installed and maintained in compliance with this document and with the applicable standards recognized by the Approval agency, 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.*

### **Technical Data**

#### **Approvals**

UL Listed  
FM Approved  
VdS Approved  
LPCB Approved  
APSAD accepted per Table A  
CSTB accepted for all models and assembly lengths

Specific details for laboratory approvals are given in Table A, and the approvals apply to the service conditions indicated in the applicable Design Criteria sections.

#### **Inlet Connections (Ref. Figure 1)**

ISO 7-R 1  
ISO 7-R 1 1/4

#### **Outlet Connections (Ref. Figure 2)**

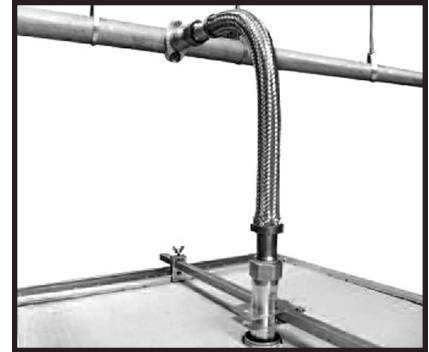
ISO 7-Rc 3/8  
1/2 inch NPT  
3/4 inch NPT

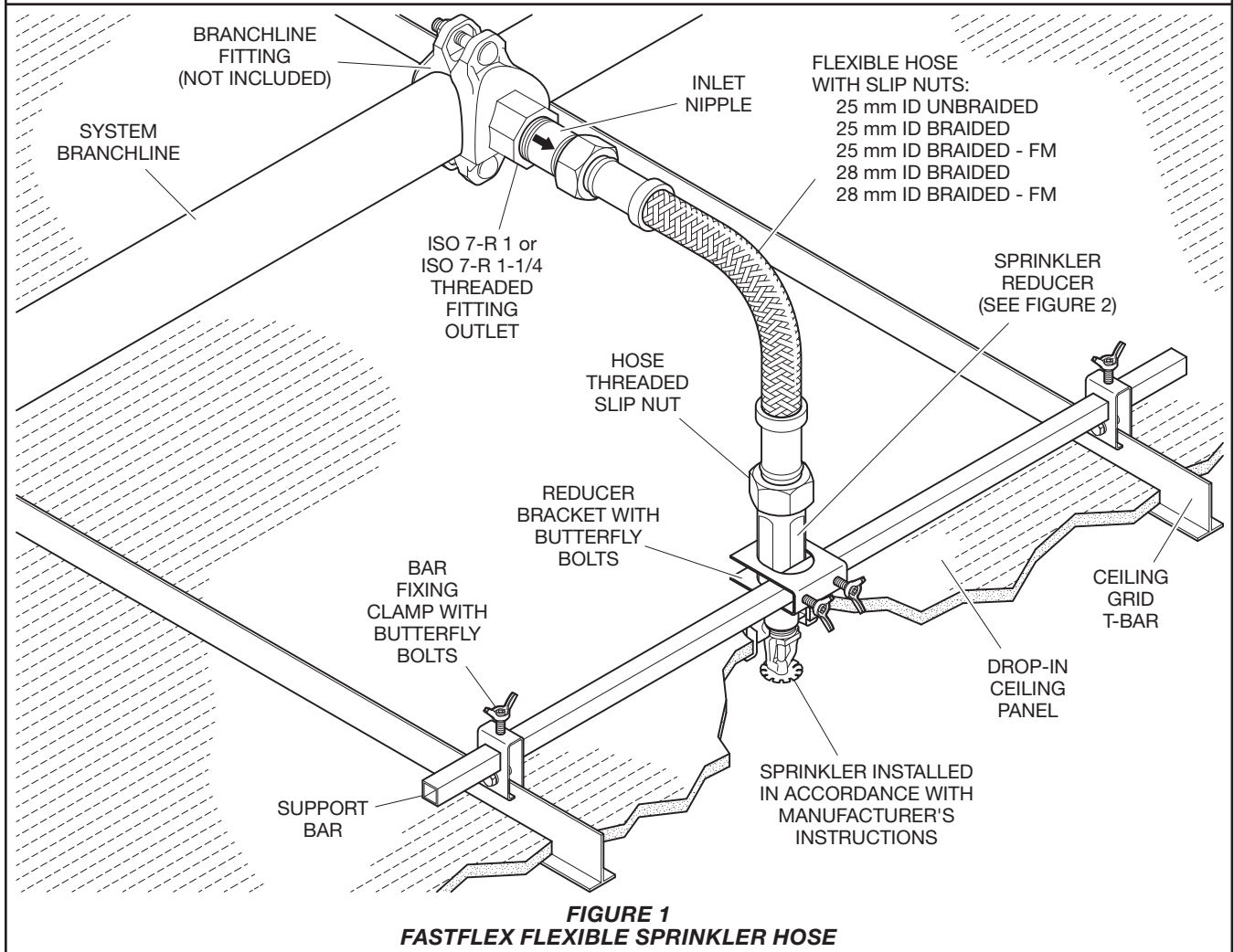
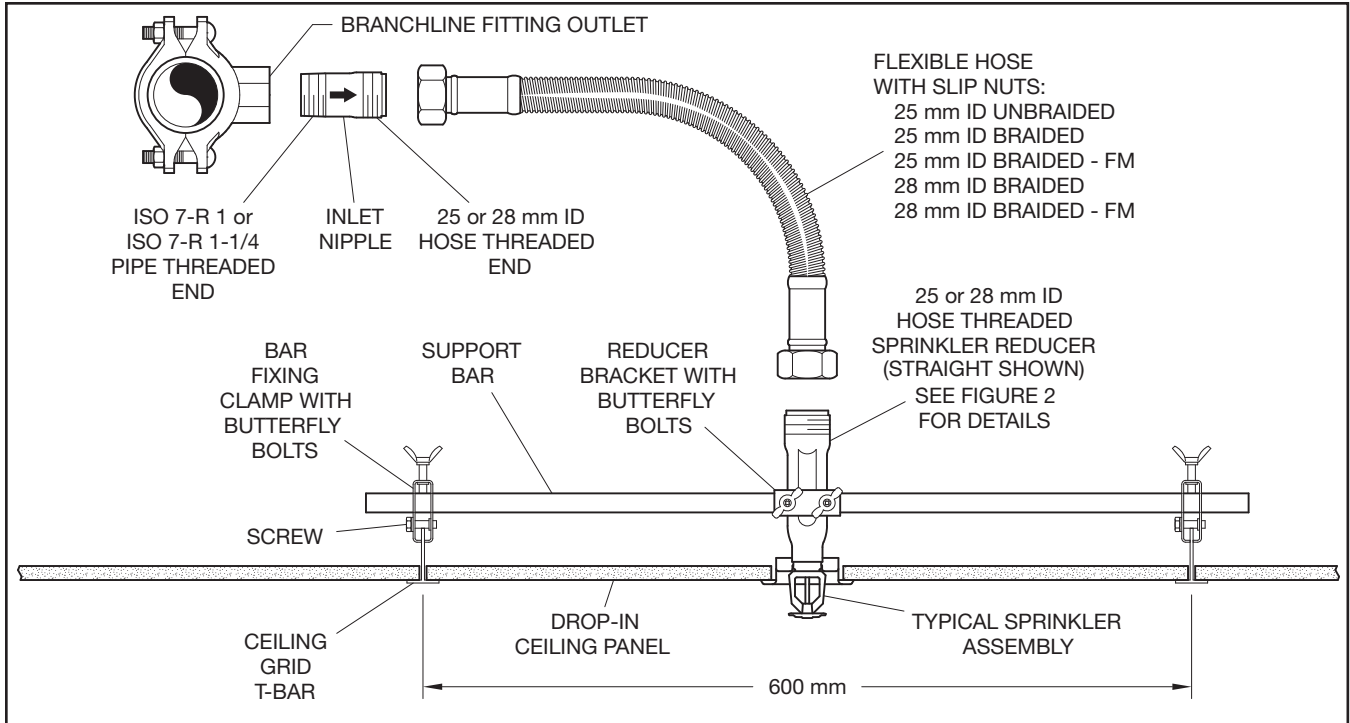
#### **Nominal Assembly Lengths**

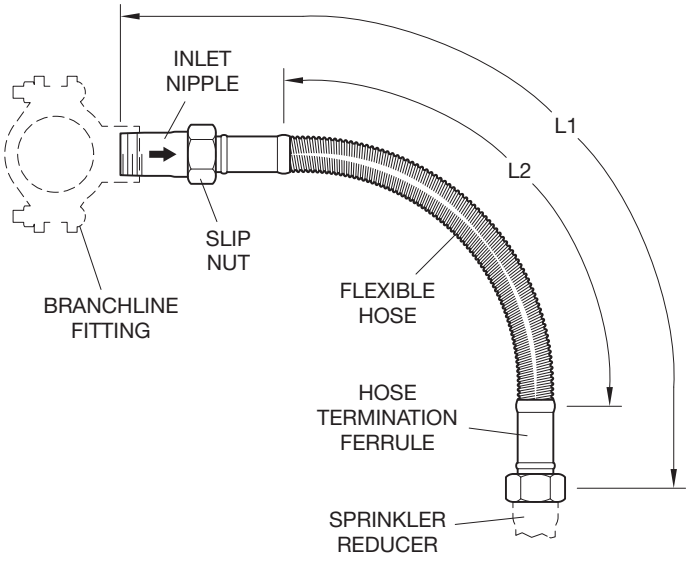
Ref. Table A

#### **Construction (Ref. Figure 1)**

The Inlet Nipple is mild steel, and the Flexible Hose is SS AISI 304. The connection at each end of the Flexible Hose utilizes a brass Slip Nut, NBR/CR o-ring, and Nylon W6 washer. The Sprinkler Reducer is mild steel. The Reducer Bracket, Bar Fixing Clamps, and Support Bar are pressed steel.

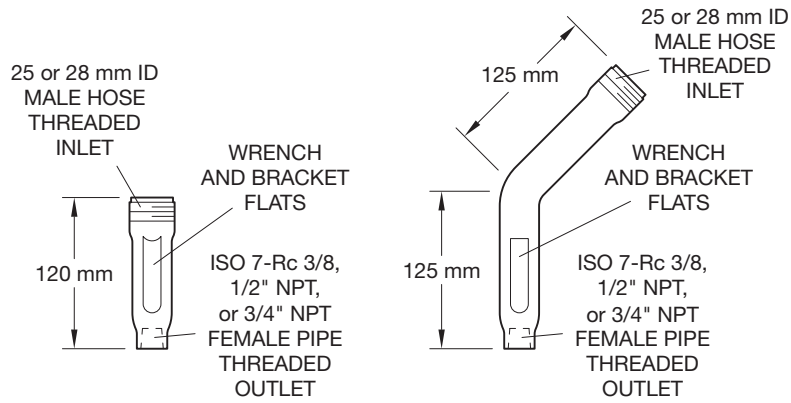






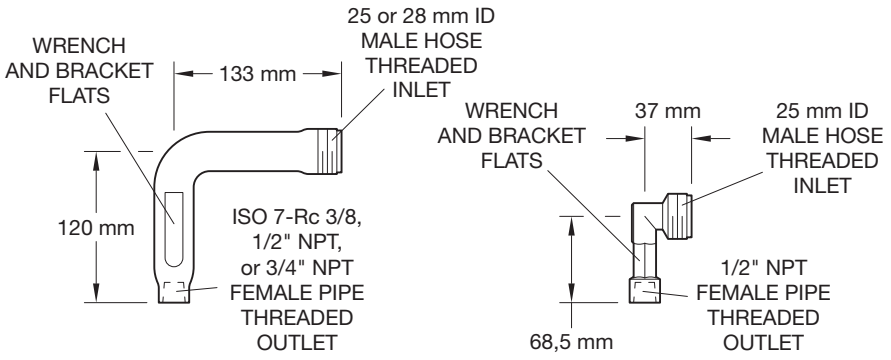
MODEL SIZE	NOMINAL LENGTH mm		
	L1 (YN or YB)	L2 (YN)	L2 (YB)
700	580	390	370
1000	880	690	670
1200	1080	890	870
1500	1380	1190	1380
1800	1680	1490	1470
2000	1880	1690	1670
2500	2380	2190	2170
2700	2580	2390	2370
3100	2980	2790	2770
3700	3580	3390	3370

**HOSE ASSEMBLIES**



STRAIGHT

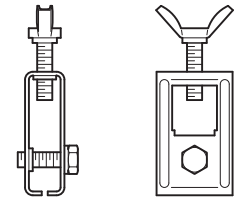
45 DEGREE



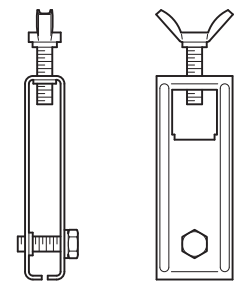
90 DEGREE

90 DEGREE SHORT RADIUS  
(LPCB APPROVED APPLICATIONS ONLY)

**SPRINKLER REDUCERS**



50 mm



90 mm

**BAR FIXING CLAMPS**

**FIGURE 2  
FASTFLEX FLEXIBLE SPRINKLER HOSE  
NOMINAL DIMENSIONS**

## UL - Design Criteria

- Refer to Table A for Model, Nominal Assembly Length, and Sprinkler Reducer combinations
- Wet-pipe systems only
- The hose and fittings have limited flexibility and are intended for direct connection to sprinklers in accordance with NFPA 13, 13D, or 13R
- Maximum service pressure of 13 bar
- Maximum K80 (5.6K) for 1/2 inch NPT sprinklers or maximum K160 (11.2K) for 3/4 inch NPT sprinklers
- Maximum ambient temperature of 107°C for Model YB25 and YB28, or maximum ambient temperature of 148°C for Model YN25
- These connections are designed for use in ceilings with grids that meet ASTM C 635 (*Standard Specification for the Manufacture, Performance, and Testing of Metal Suspension Systems for Acoustical Tile and Lay-in Panel Ceilings*) and ASTM C 636 (*Standard Practice for Installation of Metal Ceiling Suspension Systems for Acoustical Tile and Lay-in Panels*) referenced by IBC. The two structural classifications are Intermediate-Duty Systems and Heavy-Duty Systems. These connections have been approved for use in all Intermediate-Duty and Heavy-Duty structural classifications
- Minimum bend radius of 76 mm
- UL Friction Loss as follows:

Assembly Length in mm	Outlet (NPT)	Max. Number of 90° Bends <sup>1</sup>	YN25 and YB25	YB28
			Equivalent Length of DN25 Sch. 40 Pipe C=120 in m	Equivalent Length of DN25 Sch. 40 Pipe C=120 in m
700	1/2	2	6,7	3,0
	3/4	2	8,5	4,9
1000	1/2	2	9,8	4,9
	3/4	2	11,6	7,0
1200	1/2	2	12,5	6,1
	3/4	2	14,6	7,6
1500	1/2	2	14,9	7,0
	3/4	2	16,5	8,5
1800	1/2	2	18,3	7,9
		3	20,4	9,8
	3/4	2	20,4	10,1
		3	22,6	11,6

**NOTE**

1. Information in this column indicates the maximum number of allowable bends and hoses are installed with at least one bend.

## FM - Design Criteria

- Refer to Table A for Model, Nominal Assembly Length, and Sprinkler Reducer combinations
- Wet pipe, pre-action, and dry-pipe systems
- Maximum service pressure of 12 bar
- Maximum K80 (5.6K) for 1/2 inch NPT sprinklers or maximum K115 (8.0K) for 3/4 inch NPT sprinklers
- Maximum ambient temperature of 107°C for Model YB25 and YB28
- Minimum ambient temperature of -40°C for Model YB25 and YB28 for use in dry pipe systems
- These connections are designed for use in ceilings with grids that meet ASTM C 635 (*Standard Specification for the Manufacture, Performance, and Testing of Metal Suspension Systems for Acoustical Tile and Lay-in Panel Ceilings*) and ASTM C 636 (*Standard Practice for Installation of Metal Ceiling Suspension Systems for Acoustical Tile and Lay-in Panels*) referenced by IBC. The two structural classifications are: Intermediate-Duty Systems and Heavy-Duty Systems. These connections have been approved for use in all Intermediate-Duty and Heavy-Duty structural classifications
- Minimum bend radius of 152 mm for Model YB28 or 203 mm for Model YB25
- FM Friction Loss for YB25 and YB28:

Assembly Length in mm	Outlet (NPT)	Max. Number of 90° Bends	YB25	YB28
			Equivalent Length of DN25 Sch. 40 Pipe C=120 in m	Equivalent Length of DN25 Sch. 40 Pipe C=120 in m
700	1/2	1	14,1	7,7
	3/4	1	11,9	6,0
1000	1/2	1	16,4	12,2
	3/4	1	13,8	10,4
1200	1/2	2	22,4	15,2
	3/4	2	19,6	13,4
1500	1/2	3	27,4	17,6
	3/4	3	26,4	16,1
1800	1/2	4	34,4	20,0
	3/4	4	32,0	18,7

## VdS - Design Criteria

- Refer to Table A for Model, Nominal Assembly Length, and Sprinkler Reducer combinations
- Wet-pipe systems only
- Maximum service pressure of 16 bar
- Pendent sprinklers with nominal K57, K80, or K115
- Maximum ambient temperature of 107°C for YB25 and YB28
- Approved for use only in the following suspended ceilings:
  - Odenwald Systems: S3 and S15
  - Richter Systems: 11.1 – 11.5
  - Armstrong Systems: Board and Tegular with panel type “Prima Sahara”
  - API Systems: 15/38, 24/38, 24/60, 35/38, and 35/60 with panel type of a.m.
- VdS Friction Loss
- For compensation of pressure loss, the nominal assembly length is to be multiplied by 12. The resulting length will provide pressure drop in equivalent length DN20 (26,9 x 2,3 mm) seamless metal tube per DIN 2448
- Add 2,3 m when using a 45° or 90° sprinkler reducer
- Minimum bend radius of 55 mm
- The tube assembly may not have more than one 90° bend or four 15° bends

## LPCB - Design Criteria

- Refer to Table A for Model, Nominal Assembly Length, and Sprinkler Reducer combinations
- Wet-pipe systems only
- Maximum service pressure of 16 bar
- Sprinklers with nominal K57, K80, or K115
- Maximum ambient temperature of 148 °C for YN25
- Approved as a Type 2 hose of moderate flexibility in accordance with LPS 1261. The Flexible Hose may be used in applications where little or no differential movement between the two ends is expected after installation, for example, the supply to single sprinklers in suspended ceilings
- Approved for the following locations:

Assembly Length (mm)	Pre-Calculated Town Mains	Pre-Calculated Pumps	Fully Hydraulically Calculated
Up to 700	Yes	Yes	Yes
Up to 1200	No	Yes	Yes
Up to 3700	No	No	Yes

- All pipe work supplying FASTFLEX in pre-calculated systems shall be sized as distribution mains
- In suspended ceiling, FASTFLEX must be installed in accordance with this data sheet
- In suspended ceiling, the sprinkler reducer must be connected to the ceiling support system with the brackets supplied. For other applications, the installer must supply brackets to ensure the sprinkler is secure
- Minimum bend radius of 55 mm
- LPCB Friction Loss for YN25 as follows:

Assembly Length (mm)	Number of 90° Bends	Equivalent Length <sup>1</sup> of DN25 Sch. 40 Pipe C=120 (m)
700	2	8,9
1000	2	13,5
1200	2	11,9
1500	2	18,7
1800	3	24,7
2000	3	20,7
2500	3	21,7
2700	3	24,2
3100	3	25,9
3700	3	30,3

**NOTE**

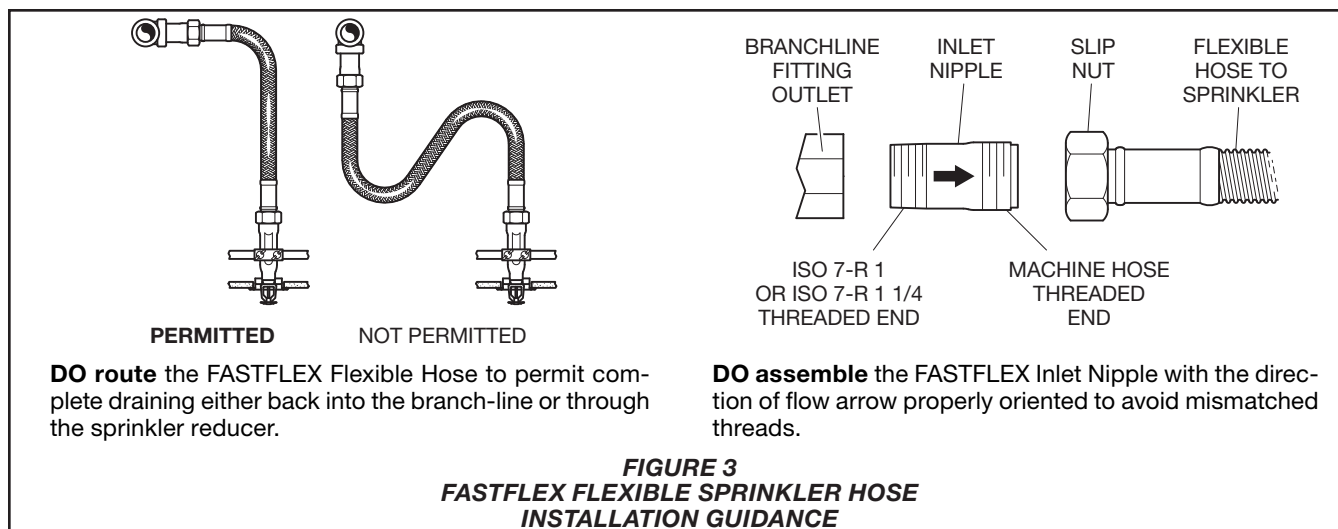
1. Add 2,3 m when using a 45° or 90° sprinkler reducer.

Model	Type	Assembly Length (mm)	LPCB			VdS			FM			UL <sup>1</sup>			APSA <sup>2</sup>		
			50 and 90 mm Bar Fixing Clamp			50 and 90 mm Bar Fixing Clamp			50 and 90 mm Bar Fixing Clamp			50 mm Bar Fixing Clamp			50 and 90 mm Bar Fixing Clamp		
			Sprinkler Reducer Type			Sprinkler Reducer Type			Sprinkler Reducer Type			Sprinkler Reducer Type			Sprinkler Reducer Type		
			0°	45°	90°	0°	45°	90°	0°	45°	90°	0°	45°	90°	0°	45°	90°
YN25-700	Un-braided	700	✓	✓	✓							✓			✓		
YN25-1000	Un-braided	1000	✓	✓	✓							✓			✓		
YN25-1200	Un-braided	1200	✓	✓	✓							✓			✓		
YN25-1500	Un-braided	1500	✓	✓	✓							✓			✓		
YN25-1800	Un-braided	1800	✓	✓	✓							✓					
YN25-2000	Un-braided	2000															
YN25-2500	Un-braided	2500															
YN25-2700	Un-braided	2700															
YN25-3100	Un-braided	3100															
YN25-3700	Un-braided	3700															
YB25-700	Braided	700				✓	✓	✓				✓					
YB25-1000	Braided	1000				✓	✓	✓				✓					
YB25-1200	Braided	1200				✓	✓	✓				✓					
YB25-1500	Braided	1500				✓	✓	✓				✓					
YB25-1800	Braided	1800				✓	✓	✓				✓					
YB25-2000	Braided	2000				✓	✓	✓									
YB25-2500	Braided	2500				✓	✓	✓									
YB25-700	Braided-FM	700							✓								
YB25-1000	Braided-FM	1000							✓								
YB25-1200	Braided-FM	1200							✓								
YB25-1500	Braided-FM	1500							✓								
YB25-1800	Braided-FM	1800							✓								
YB28-700	Braided	700				✓	✓	✓				✓			✓		
YB28-1000	Braided	1000				✓	✓	✓				✓			✓		
YB28-1200	Braided	1200				✓	✓	✓				✓			✓		
YB28-1500	Braided	1500				✓	✓	✓				✓			✓		
YB28-1800	Braided	1800				✓	✓	✓				✓					
YB28-2000	Braided	2000				✓	✓	✓									
YB28-2500	Braided	2500				✓	✓	✓									
YB28-700	Braided - FM	700							✓								
YB28-1000	Braided - FM	1000							✓								
YB28-1200	Braided - FM	1200							✓								
YB28-1500	Braided - FM	1500							✓								
YB28-1800	Braided - FM	1800							✓								

**NOTES**

1. UL Listing is based on the use of the ISO 7-R 1 Inlet Connection.
2. Acceptance by APSAD is based on using the LPCB, Vds, FM Approved, or UL Listed Design Criteria as may be applicable to the authority having jurisdiction.

**TABLE A**  
**FASTFLEX SPRINKLER HOSE ASSEMBLY**  
**MODELS, ASSEMBLY LENGTHS, AND APPROVALS**



## Installation

The TYCO FASTFLEX Flexible Sprinkler Hose, as shown in Figure 1, must be installed in accordance with this section as follows:

### NOTICE

*FASTFLEX Flexible Sprinkler Hoses are intended only to connect sprinklers directly to system piping (Ref. Figure 1). FASTFLEX Sprinkler Hoses cannot be joined together to form longer hoses. Joining Flexible Hoses together creates an assembly with unknown performance that has not been accounted for in system calculations or safe product performance.*

**Step 1.** Review the Design Criteria section that applies to the Approval agency recognized by the authority having jurisdiction, as well as Figure 3 that provides installation guidance.

**Step 2.** Determine the approximate place where the sprinkler will be located. The Support Bar is 700 mm long and shall be mounted on the 600 mm width of the ceiling grid. The sprinkler should be located as close as possible to the center of the distance between ceiling grid T-bars.

**Step 3.** Slide the Reducer Bracket onto the Support Bar. Loosely attach the Reducer Bracket and the two Bar Fixing Clamps on the Support Bar and place the Bar Fixing Clamps such that the Support Bar crosses the location where the sprinkler will be located.

**Step 4.** Attach one end of the Flexible Hose onto the sprinkler reducer. Applying the wrench to the Slip Nut, and not to the Flexible Hose, tighten to a maximum torque of 35 Nm.

**Step 5.** Attach the Inlet Nipple on to the branch line. Ensure that the arrow is in the appropriate direction of flow to the sprinkler and to use pipe thread sealant at the connection to the branchline.

Attach one end of the Flexible Hose on to the Inlet Nipple. Applying the wrench to the Slip Nut, and not to the Flexible Hose, tighten to a maximum torque of 35 Nm. Do not twist the Flexible Hose.

**Step 6.** Bend the Flexible Hose into a curve(s) that locates the Sprinkler Reducer at the other end of the Flexible Hose in the area where the sprinkler will be located. The tube arc should not be twisted, and the arc should be as large and smooth as possible.

### NOTICE

*For minimum bend criteria, refer to the Design Criteria section that applies to the Approval agency recognized by the authority having jurisdiction.*

*A bend radius smaller than provided by the minimum bend criteria may adversely effect the friction loss specifications stated by the approval laboratory.*

For assembly lengths greater than 1800 mm, the Flexible Hose shall be supported to the structure to ensure that the maximum unsupported length does not exceed 1800 mm. In these cases, it is recommended that the tube be secured to a fixed mounting point every 600 mm, in order to provide a more stable installation.

**Step 7.** Insert the Sprinkler Reducer into the Reducer Bracket. Locate the Reducer Bracket and Sprinkler Reducer where the sprinkler will be, and loosely tighten the Butterfly Bolt on the Reducer Bracket.

**Step 8.** Attach the sprinkler to the Sprinkler Reducer. Put a wrench on the Sprinkler Reducer to counteract the tightening torque and prevent the Flexible Hose from twisting. Reference the sprinkler manufacturer's sprinkler data sheet for appropriate sprinkler tightening torque, sprinkler wrench, and other guidance.

**Step 9.** Verify that the Sprinkler Reducer is seated in the Reducer Bracket. Precisely locate the sprinkler in all three axes in accordance with the sprinkler manufacturer's data sheet. Tighten the Butterfly Bolts on the Bar Fixing Clamps and the Reducer Bracket. The tightening torque for the Bar Fixing Clamp fastener is 4,5 to 5,7 Nm, and the tightening torque for the Reducer Bracket fastener, is a minimum of 2,3 Nm.

**Step 10.** After tightening all the Butterfly Bolts, verify that the sprinkler is properly located in accordance with the manufacture's instructions. If not, loosen the Butterfly Bolts and readjust as required.

## Care and Maintenance

The TYCO FASTFLEX Flexible Sprinkler Hose must be maintained and serviced in accordance with this section.

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

After placing a fire protection system in service, notify the proper authorities and advise those responsible for monitoring proprietary and/or central station alarms.

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. 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.

## 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).

### Flexible Hose Assembly

The FASTFLEX Flexible Hose Assembly includes Flexible Hose, ISO 7-R 1 x Hose Thread Inlet Nipple, 1/2" NPT x Hose Thread Straight Sprinkler Reducer, Reducer Bracket, Bar Fixing Clamps, and Support Bar.

**Note:** Refer to Table A for Model, Type, Length, Bar Fixing Clamp options, and Approval details.

Specify: Model (specify) FASTFLEX Flexible Sprinkler Hose Assembly, Type (specify), (specify) length, (specify) Bar Fixing Clamp, P/N (specify):

### Model YN25, Un-braided, 50 mm Clamps

700	YN250700
1000	YN251000
1200	YN251200
1500	YN251500
1800	YN251800
2000	YN252000
2500	YN252500
2700	YN252700
3100	YN253100
3700	YN253700

### Model YN25, Un-braided, 90 mm Clamps

700	YN250700C
1000	YN251000C
1200	YN251200C
1500	YN251500C
1800	YN251800C
2000	YN252000C
2500	YN252500C
2700	YN252700C
3100	YN253100C
3700	YN253700C

### Model YB25, Braided, 50 mm Clamps

700	YB250700
1000	YB251000
1200	YB251200
1500	YB251500
1800	YB251800
2000	YB252000
2500	YB252500

### Model YB25, Braided, FM Approved 50 mm Clamps

700	YB250700-F
1000	YB251000-F
1200	YB251200-F
1500	YB251500-F
1800	YB251800-F

### Model YB28, Braided, 50 mm Clamps

700	YB280700
1000	YB281000
1200	YB281200
1500	YB281500
1800	YB281800
2000	YB282000
2500	YB282500

### Model YB28, Braided, FM Approved, 50 mm Clamps

700	YB280700-F
1000	YB281000-F
1200	YB281200-F
1500	YB281500-F
1800	YB281800-F

## Accessories

### Inlet Nipple

Specify: (25 mm or 28 mm) hose thread FASTFLEX Inlet Nipple with (ISO 7-R 1 or ISO 7-R 1 1/4) inlet thread connection, P/N (specify):

#### 25 mm Hose Thread

ISO 7-R 1	HOSENIP25
ISO 7-R 1 1/4	HOSENIP25R

#### 28 mm Hose Thread

ISO 7-R 1	HOSENIP28
ISO 7-R 1 1/4	HOSENIP28R

### Sprinkler Reducer

Specify: (Straight, 45 Degree, or 90 Degree) for (25 mm or 28 mm hose threads) FASTFLEX Sprinkler Reducer with (ISO 7-Rc 3/8, 1/2 inch NPT, or 3/4 inch NPT) outlet thread connection, P/N (specify):

#### Straight

##### 25 mm Hose Thread

ISO 7-Rc 3/8	PBR120
1/2 inch NPT	RBR120
3/4 inch NPT	SBR120

##### 28 mm Hose Thread

ISO 7-Rc 3/8	PBR28120
1/2 inch NPT	RBR28120
3/4 inch NPT	SBR28120

#### 45 Degree

##### 25 mm Hose Thread

ISO 7-Rc 3/8	PBAR45
1/2 inch NPT	RBAR45
3/4 inch NPT	SBAR45

##### 28 mm Hose Thread

ISO 7-Rc 3/8	PB28AR45
1/2 inch NPT	RB28AR45
3/4 inch NPT	SB28AR45

#### 90 Degree

##### 25 mm Hose Thread

ISO 7-Rc 3/8	PBAR90
1/2 inch NPT	RBAR90
3/4 inch NPT	SBAR90

##### 28 mm Hose Thread

ISO 7-Rc 3/8	PB28AR90
1/2 inch NPT	RB28AR90
3/4 inch NPT	SB28AR90

### 90 Degree Short Radius (LPCB Approved Only)

25 mm Hose Thread x 1/2 inch NPT... RBAR90S

### Bar Fixing Clamps

Specify: FASTFLEX (50 mm or 90 mm) Bar Fixing Clamps, P/N (specify):

50 mm	RBF58T
90 mm	RBF90T