

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

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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docs.jci.com/tycofire/tfp720

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 as shown in Figure 1.

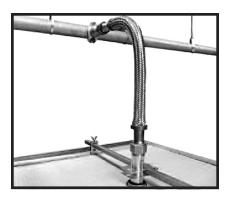
The flexible hose can be installed in false ceilings without cutting and threading pipes associated with installing a drop, armover, and elbows. FASTFLEX makes it possible to test and charge the system with water before the ceiling grid is installed. Once the ceiling grid is in position, the flexible 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, preaction, 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
CNPP Certified 63.22.221 (See Table A)
CSTB accepted for all models and
assembly lengths

Note: 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 (See Figure 1) ISO 7-R 1

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

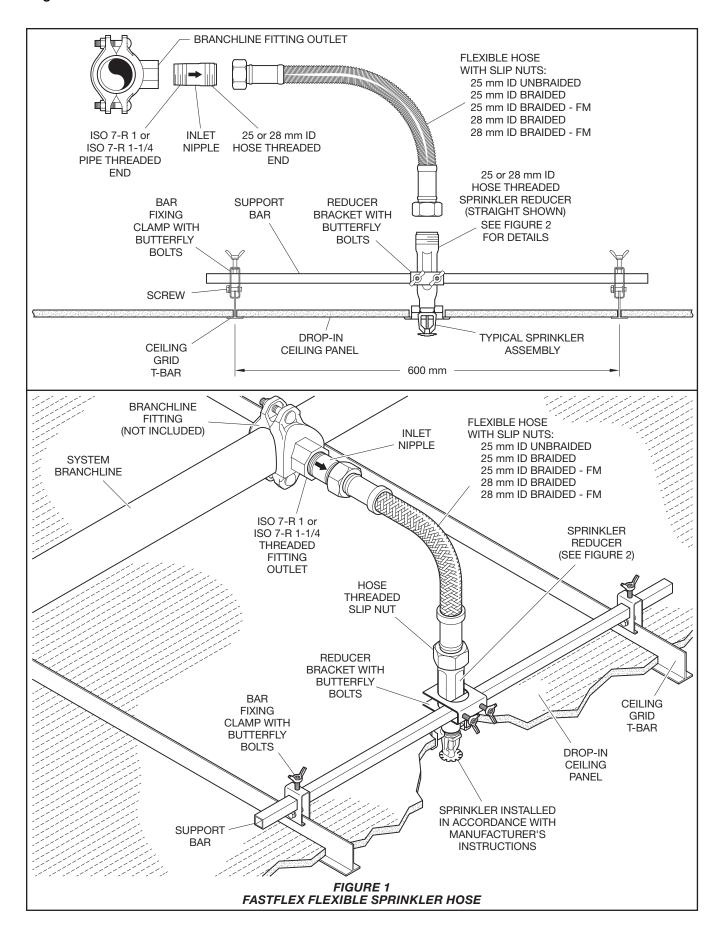
Outlet Connections (See Figure 2)

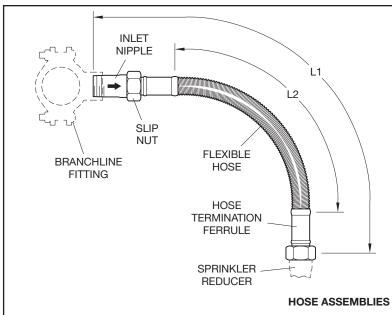
ISO 7-Rc 3/8 1/2 inch NPT 3/4 inch NPT

Nominal Assembly Lengths See Table A

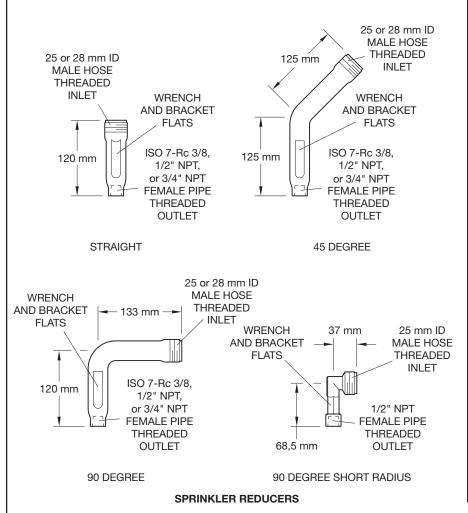
Construction (See Figure 1)

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	NOM	INAL LENGTI	H mm
SIZE	L1 (YN or YB)	L2 (YN)	L2 (YB)
700	580	390	370
1000	880	690	670
1200	1080	890	870
1500	1380	1190	1170
1800	1680	1490	1470
2000	1880	1690	1670
2500	2380	2190	2170
2700	2580	2390	2370
3100	2980	2790	2770
3700	3580	3390	3370



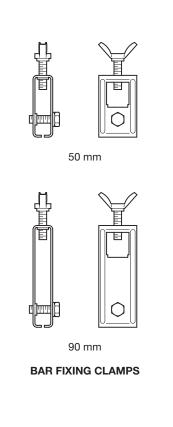


FIGURE 2
FASTFLEX FLEXIBLE SPRINKLER HOSE
NOMINAL DIMENSIONS

UL - Design Criteria

- For information about model, nominal assembly length, and sprinkler reducer combinations, see Table A
- · Wet and dry pipe systems
- 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 K115 (8.0K) for 3/4 inch NPT sprinklers
- Maximum ambient temperature of 107°C for Model YB28, or maximum ambient temperature of 148°C for Model YN25 and YB25
- 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:

			YN25 and YB25	YB28					
Assembly Length in mm	Outlet (NPT)	Max. Number of 90° Bends ¹	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	4,3					
700	3/4	2	8,5	5,5					
1000	1/2	3	11,9	8,2					
1000	3/4	3	16,5	10,7					
1200	1/2	3	17,1	9,4					
1200	3/4	3	19,2	12,5					
1500	1/2	3	18,0	13,1					
1300	3/4	3	22,6	12,8					
1800	1/2	3	20,4	14,9					
1000	3/4	3	22,6	13,1					

NOTE

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

FM - Design Criteria

- For information about model, nominal assembly length, and sprinkler reducer combinations, see Table A
- 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 all 3/4 inch NPT sprinklers*
 - *Exception: Maximum K242 (16.8K) for 3/4 inch NPT sprinklers with Model YB28
- 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:

			YB25	YB28			
Assembly Length in mm	Outlet (NPT)	Max. Number of 90° Bends	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			
700	3/4	1	11,9	6,0			
1000	1/2	1	16,4	12,2			
1000	3/4	1	13,8	10,4			
1200	1/2	2	22,4	15,2			
1200	3/4	2	19,6	13,4			
1500	1/2	3	27,4	17,6			
1300	3/4	3	26,4	16,1			
1800	1/2	4	34,4	20,0			
1000	3/4	4	32,0	18,7			

VdS - Design Criteria

- For information about model, nominal assembly length, and sprinkler reducer combinations, see Table A
- 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 VB28
- 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

- For information about model, nominal assembly length, and sprinkler reducer combinations, see Table A
- Wet-pipe systems only
- Maximum service pressure of 16 bar
- Pendent sprinklers with nominal K57 or K80
- 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 1800	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
- For details on limits of UV light, chemical exposure, details of water additives or water regulatory compliance contact the installing contractor or manufacturer.
- LPCB Friction Loss for YN25 as follows:

Assembly Length (mm)	Number of 90° Bends	Equivalent Length¹ 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

NOTES

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

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				LPCB	.		VdS			FM			UL¹		CNPI	P Cert	tified ²	
Model	Туре	Assembly Length	Ba	nd 90 ar Fixi Clamp	ng	Ba	nd 90 ar Fixi Clamp	ng	Ba	nd 90 ar Fixi Clamp	ng	Ba	50 mm ar Fixi Clamp	ng	50 and 90 mm Bar Fixing Clamp Sprinkler Reducer Type			
		(mm)		prinkl ucer			prinkl ucer			prinkl ucer			prinkl ucer					
			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				√	√	√				1			/			
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							/								一	
YB28-1000	Braided - FM	1000							1									
YB28-1200	Braided - FM	1200							1									
YB28-1500	Braided - FM	1500						İ	√									
YB28-1800	Braided - FM	1800							√									

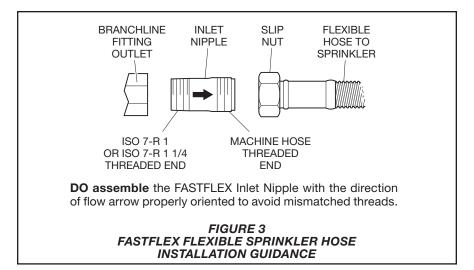
- NOTES

 1. UL Listing is based on the use of the ISO 7-R 1 Inlet Connection.

 2. Acceptance by CNPP 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

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 as shown in 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 N·m.

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 N·m. 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 N·m, and the tightening torque for the reducer bracket fastener, is a minimum of 2,3 N·m.

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.

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 inch 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):

Fixing Clamp, P/N (specify):	37
Model YN25, Un-braided, 50 mm	
700	
1000	
1200	. YN251200
1500	
1800	. YN251800
2000	. YN252000
2500	. YN252500
2700	. YN252700
3100	. YN253100
Model YN25, Un-braided, 90 mm	Clamps
700	YN250700C
1000	YN251000C
1200	
1500	YN251500C
1800	YN251800C
2000	YN252000C
2500	YN252500C
2700	YN252700C
2700	YN253100C
3700	YN253700C
Model YB25, Braided, 50 mm Clar	
700	. YB250700
1000	
1200	
1500	YB251500
1800	YB251800
2000	. YB252000
2500	. YB252500
Model YB25, Braided, FM Approv	ed
50 mm Clamps	
700	YB250700-F
1000	YB251000-F
1200	
1500	YB251500-F
1800	YB251800-F
Model YB28, Braided, 50 mm Clar	
700	
1000	YB281000
1200	YB281200
1500	

 1800
 YB281800

 2000
 YB282000

 2500
 YB282500

 Model YB28, Braided, FM Approved,

 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):

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
1/0 ' NDT DD00AD00

3/4 INCH NPT	.5626AR90
90 Degree Short Radius	
25 mm Hose Thread	
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



50 mm Clamps



TFP720 Change History Appendix

ISSUE DATE	NOTES
12-22	Page 1, updated QR code and URL; Page 1, Approvals sub-section, replaced APSAD accepted with CNPP Certified; Page 6, Table A, replaced APSAD with CNPP Certified, likewise updated footnote 2; Page 8, changed corporate address and telephone number to 1467 Elmwood Avenue, Cranston, RI 02910 Telephone +1-401-781-8220, formerly 1400 Pennbrook Parkway, Lansdale, PA 19446 Telephone +1-215-362-0700.
03-22	Page 3, Figure 2, and Page 8, Sprinkler Reducer sub-section of Ordering Procedure, removed LPCB Approved applications only limitation from 90 Degree Short Radius; Page 5, LPCB Design Criteria, updated to specify applicability of Pendent sprinklers with nominal K57 or K80, formerly Sprinklers with nominal K57, K80, or K115, and added statement advising customer to contact installing contractor or manufacturer for details regards limits of UV light, chemical exposure, water additives and water regulatory compliance.
11-21	Added QR code and URL to allow convenient access to electronic version from printed document; Updated UL Design Criteria section: maximum K80 (5.6K) for 1/2 in. NPT sprinklers and maximum K115 (8.0K) for 3/4 in. NPT sprinklers, formerly maximum K161 (11.2K) for 1/2 in. NPT and 3/4 in. NPT sprinklers; Updated FM Design Criteria section: maximum K115 (8.0K) for all 3/4 in. NPT sprinklers except maximum K242 (16.8K) for 3/4 in. NPT sprinklers with Model YB28, formerly maximum K242 (16.8K) for 3/4 in. NPT sprinklers.
06-21	Updated Design Criteria with new K-Factors: UL max. K161 (11.2K) for 1/2 and 3/4 in. NPT sprinklers, formerly max. K80 (5.6K) for 1/2 in. NPT sprinklers or max. K115 (8.0K) for 3/4 in. NPT sprinklers; FM max. K80 (5.6K) for 1/2 in. NPT sprinklers or max. K242 (16.8K) for 3/4 in. NPT sprinklers, formerly max. K80 (5.6K) for 1/2 in. NPT sprinklers or max. K115 (8.0K) for 3/4 in. NPT sprinklers.
12-20	Changed Model 1500 L2 dimension in Figure 2 to 1170 mm, formerly 1380 mm.
02-19	Removed 2000 to 3700 mm hose assembly lengths from LPCB Design Criteria.
09-18	Removed routing illustration from Figure 3.
07-18	Updated Tyco® branding and document format; Added Johnson Controls copyright; Added disclaimer stating specifications and information subject to change without notice; Added reference to Regulatory and Health Warning Technical Data Sheet TFP2300; Updated UL Design Criteria reflecting latest UL test results.
06-17	Removed LPCB Approved from 28 mm Hose Thread x 1/2 in. NPT 90° Short Radius Sprinkler Reducer and 2000 to 3700 mm Model YN25 hose assemblies.
02-16	Added 90° Short Radius Sprinkler Reducer for use in LPCB Approved applications only; Increased maximum discharge coefficient for 3/4" sprinklers from K115 (8.0K) to K160 (11.2K) in UL Listed applications; Removed MRI55 Minimum Bend Radius Indicator, formerly required in LPCB Approved applications.
04-15	Added FM Approved for use in Preaction and Dry Pipe systems; Removed pendent orientation as a requirement by LPCB, FM and UL design criteria.
11-14	Updated product dimensions; Added part numbers.
10-13	Updated FM design criteria.
07-09	New Technical Data Sheet TFP720 describes FASTFLEX Models YN25, YB25, and YB28 Flexible Sprinkler Hoses for Eastern Hemisphere sales.

