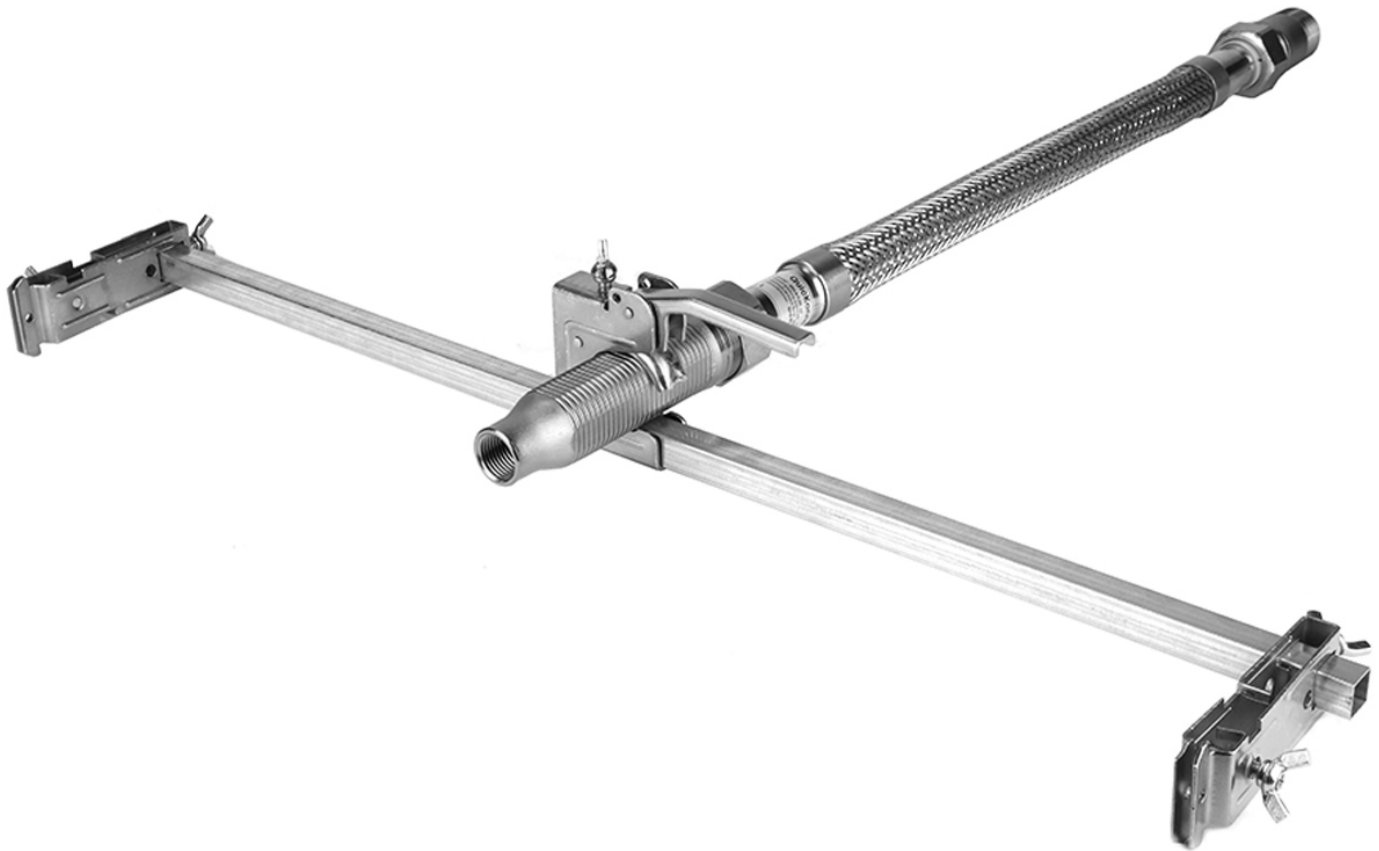




## **SUBMITTAL PACKAGE FLEXIBLE SPRINKLER DROP**



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# FLEXIBLE SPRINKLER DROP HOSE BRAIDED CONNECTIONS



ARGCO Flexible Sprinkler Drops are designed to reduce labor and installation costs by installing without cutting and threading pipe associated with installing a drop, arm-over and elbows. ARGCO offers braided and unbraided hoses in 28, 40, 48, 60 and 72" lengths with simple brackets for suspended ceilings.

## National Fire Protection Association (NFPA):

- NFPA 13: Standard for the Installation of Sprinkler Systems
- NFPA 13D: Standard for the Installation of Sprinkler Systems in One and Two-Family Dwellings and Manufactured Homes
- NFPA 13R: Standard for the Installation of Sprinkler Systems in residential Occupancies up to and including four stories in height.
- NFPA 13 Section 9.2.1.3.3.3: No hangers are required for flexible connections as long as the length does not exceed 6 feet.

## American Society for Testing Methods (ASTM):

- ASTM C635: Standard specifications for the manufacture, performance, and testing of metal suspension systems for acoustical tile and lay-in panel ceilings
- ASTM C636: Standard practice for installation of metal ceiling suspension systems for acoustical tile and lay-in panels.

## Factory Mutual (FM):

- Approved standard for flexible sprinkler hose with threaded end fittings

## Underwriter's Laboratories (UL):

- Standard for flexible sprinkler hose with fittings for fire protection service

## International Building Code (IBC):

- Flexible Sprinkler Connections are an alternative solution to install without seismic escutcheons.



System No.		Location		Spec Section		Paragraph	
Submitted By		Date		Approved		Date	

# FLEXIBLE SPRINKLER DROP HOSE 3-BEND BRAIDED CONNECTIONS





- Save Time & Money
- No cutting, no welding, no threading
- Perfect for retrofit applications
- Easy to move for layout changes
- Most flexible hose in its class.  
UL: 3 bends 4" minimum radius

## TECHNICAL DATA

- Rated Pressure: 203 PSI (14 Bars)
- Maximum Ambient Temperature: 225°F (107°C)
- Maximum Sprinkler K-factor for 1/2" outlet:  
8.0 gal/mm/(psi)<sup>1/2</sup>
- Maximum Sprinkler K-factor for 3/4" outlet:  
14.0 gal/mm/(psi)<sup>1/2</sup>
- Designed for use in wet and dry systems
- Flexibility Type: Unlimited
- Hose Diameter: O.D. 1-1/16" / Flow 13/16"



## Friction Loss Data and Specifications

				Equivalent Length of 1 ft Sch 40 Pipe					
				c  US LISTED			 FM APPROVED		
Model	Length	NPT	ITEM #	UL	Max. # of Bends	Min. Bending Radius	FM	Max. # of Bends	Min. Bending Radius
AR-BR FLEX-07-050	28" (0.6 m)	1/2"	6530165A	25 ft	2	4"	26.7 ft	1	10"
AR-BR FLEX-10-050	40" (0.9 m)	1/2"	6530166A	33 ft	3	4"	42.6 ft	2	10"
AR-BR FLEX-12-050	48" (1.2 m)	1/2"	6530167A	39 ft	3	4"	53.2 ft	3	10"
AR-BR FLEX-15-050	60" (1.5 m)	1/2"	6530168A	50 ft	3	4"	67.8 ft	3	10"
AR-BR FLEX-18-050	72" (1.8 m)	1/2"	6530169A	58 ft	3	4"	82.4 ft	4	10"
AR-BR FLEX-07-075	28" (0.6 m)	3/4"	6530175A	21 ft	2	4"	22.1 ft	1	10"
AR-BR FLEX-10-075	40" (0.9 m)	3/4"	6530176A	36 ft	3	4"	40.6 ft	2	10"
AR-BR FLEX-12-075	48" (1.2 m)	3/4"	6530177A	43 ft	3	4"	53.0 ft	3	10"
AR-BR FLEX-15-075	60" (1.5 m)	3/4"	6530178A	52 ft	3	4"	64.2 ft	3	10"
AR-BR FLEX-18-075	72" (1.8 m)	3/4"	6530179A	63 ft	3	4"	75.5 ft	4	10"

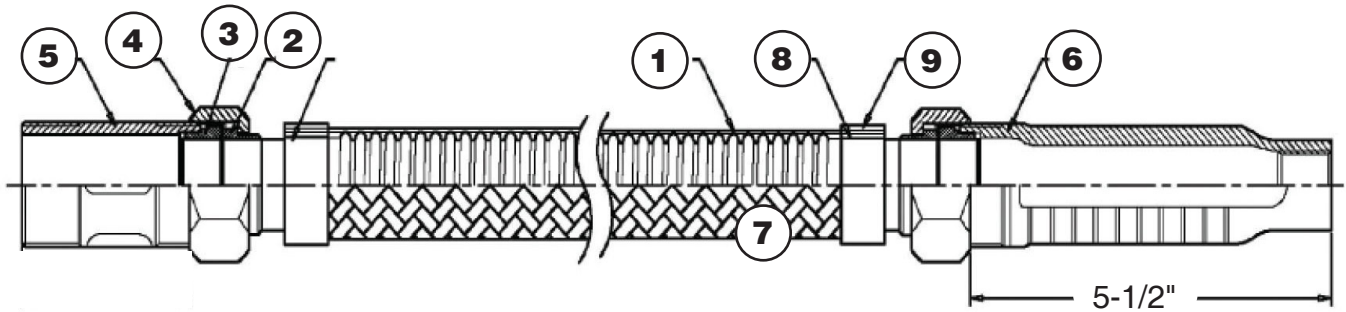
Anchoring components are intended for use with drop ceilings conforming to ASTM C635 and other major standards when installed in accordance with the standard practice for installation of metal ceiling suspension systems for acoustical tile and lay-in panel, ASTM C635 or other equivalent standards.

System No.		Location		Spec Section		Paragraph	
Submitted By		Date		Approved		Date	

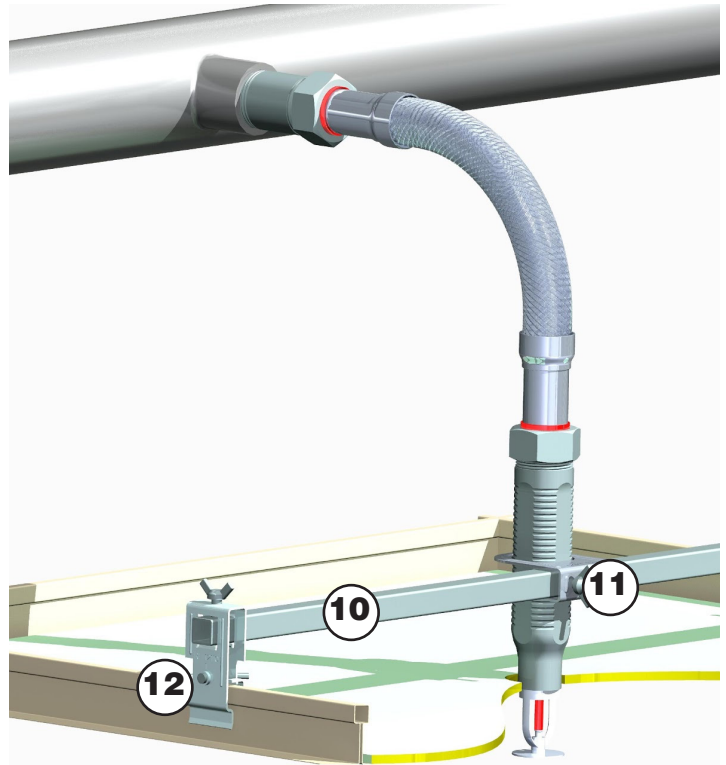
# FLEXIBLE SPRINKLER DROP HOSE BRAIDED CONNECTIONS



## COMPONENTS:



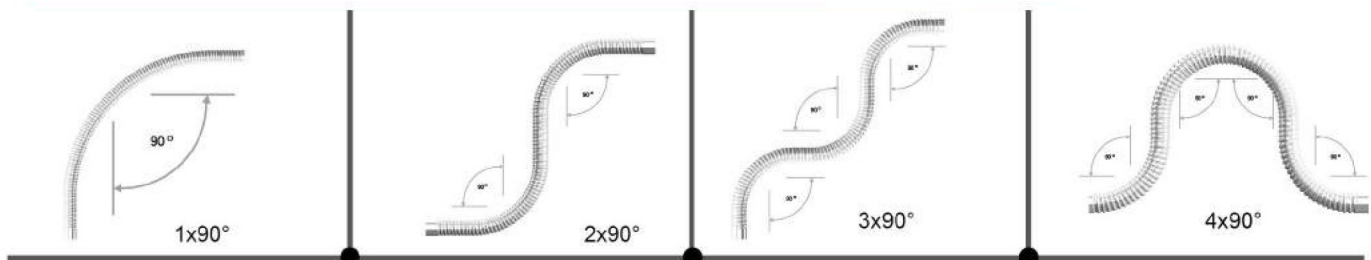
1. FLEXIBLE TUBE	304 STAINLESS STEEL
2. ISOLATION RING	NYLON 66
3. SEALING GASKET	EPDM
4. NUT	ZINC PLATED STEEL
5. NIPPLE 1"	ZINC PLATED STEEL
6. REDUCING NIPPLE	ZINC PLATED STEEL
7. BRAID	304 STAINLESS STEEL
8. COLLAR RING (INNER)	304 STAINLESS STEEL
9. COLLAR RING (OUTER)	304 STAINLESS STEEL
10. SQUARE BAR	ZINC PLATED STEEL
11. CENTER BRACKET	ZINC PLATED STEEL
12. 4" END BRACKET(S)	ZINC PLATED STEEL



## CHARACTERISTICS:

- Minimum bend radius Braided 3" (230 mm)
- Flexibility Type: Limited

## HOSE BENDING PARAMETERS

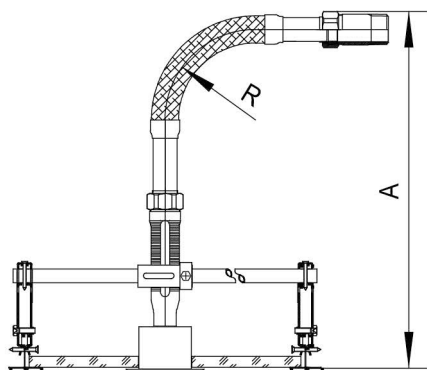


# FLEXIBLE SPRINKLER DROP HOSE

## BRAIDED CONNECTIONS

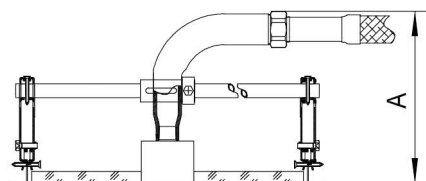
### CLEARANCE SPECIFICATIONS

#### Concealed Sprinklers on T-Bar Grid



Straight Reducer + Standard End Bracket

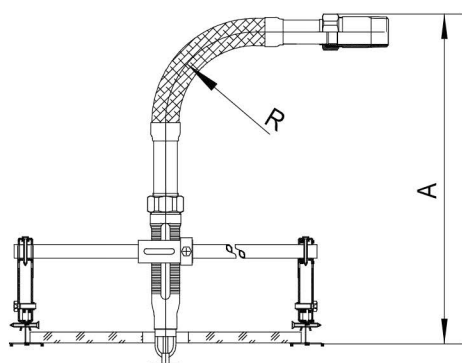
Installation Clearance (inch/mm)			
		UL	FM
R	min. bend radius	3.9/100	9.8/250
A	minimum height	15.4/390	22.0/260



Elbow Reducer + Standard End Bracket

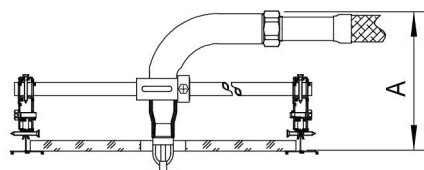
Installation Clearance (inch/mm)		
A	minimum height	8.3/210

#### Pendent Sprinklers on T-Bar Grid



Straight Reducer + Standard End Bracket

Installation Clearance (inch/mm)			
		UL	FM
R	min. bend radius	3.9/100	9.8/250
A	minimum height	14.0/360	20.0/510



Elbow Reducer + Standard End Bracket

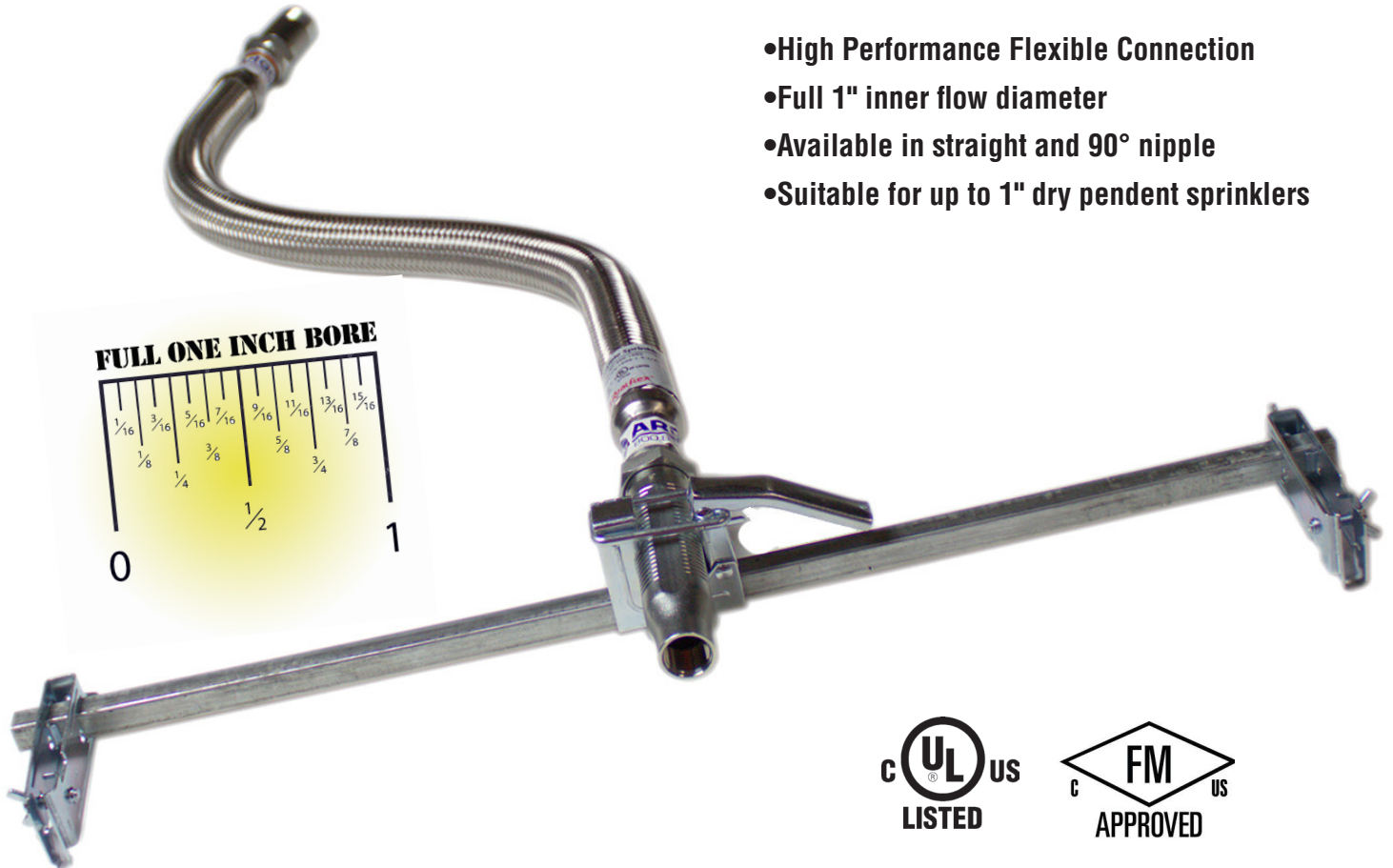
Installation Clearance (inch/mm)		
A	minimum height	6.3/160

**FLEXIBLE SPRINKLER DROP HOSE FULL BORE**  
**BRAIDED CONNECTIONS**  
with Straight End Connection Inlet



## MEGA-FLEX

- High Performance Flexible Connection
- Full 1" inner flow diameter
- Available in straight and 90° nipple
- Suitable for up to 1" dry pendent sprinklers



### PRODUCT DESCRIPTION

- Series AR-400-BR 1"/DN25 Nominal ID Braided Hose: 28, 40, 48, 60, 72"
- Sprinkler Connections: 1/2", 3/4" and 1" NPT
- Inlet Connections: 1"/25mm NPT
- Straight Reducing Nipple Length: 5.5" (other lengths available)
- 90° Elbows: Short (typically used with concealed sprinklers)  
Long (typically used with recessed pendent sprinklers)

### TECHNICAL DATA

- Rated Pressure: 203 PSI (14 Bars)
- Maximum Ambient Temperature: 150°F (66°C)
- Maximum Sprinkler K-factor for 1/2" outlet:  
8.0 gal/mm/(psi)<sup>1/2</sup>
- Maximum Sprinkler K-factor for 3/4" outlet:  
14.0 gal/mm/(psi)<sup>1/2</sup>
- Maximum Sprinkler K-factor for 1" outlet:  
25.2 gal/mm/(psi)<sup>1/2</sup>
- Designed for use in wet and dry systems
- Flexibility Type: Unlimited
- Minimum Bend Radius: 2"
- Hose Diameter: O.D. 1-3/8" / Flow 1"

Friction Loss Data continued on next page



# FLEXIBLE SPRINKLER DROP HOSE FULL BORE



## BRAIDED CONNECTIONS



### with Straight End Connection Inlet



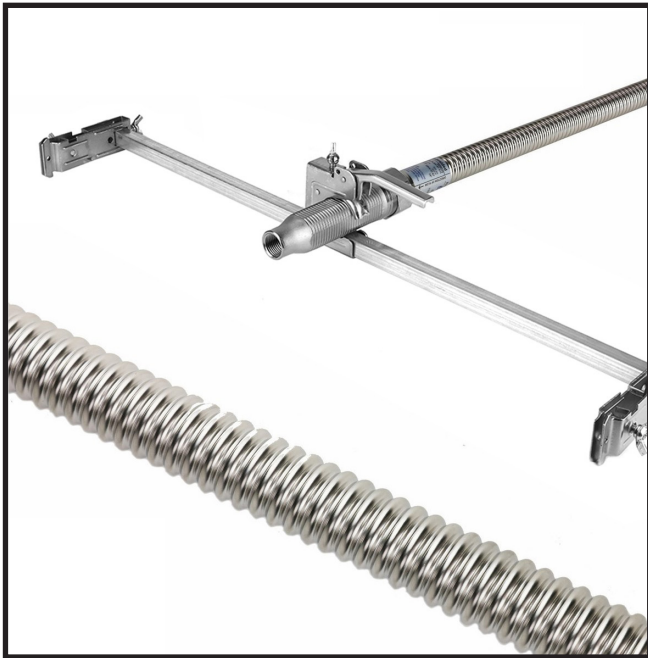
### Friction Loss Data and Specifications

				Equivalent Length of 1 ft Sch 40 Pipe					
				c  US LISTED			 APPROVED		
Model	Length	NPT	k-Factor	UL	Max. # of Bends	Min. Bending Radius	FM	Max. # of Bends	Min. Bending Radius
AR-400-BR FLEX-07-050	28"	1/2"	5.6 & 8.0	18 ft	4	2"	4.5 ft	1	6.9"
AR-400-BR FLEX-10-050	39"	1/2"	5.6 & 8.0	24 ft	5	2"	9.8 ft	3	6.9"
AR-400-BR FLEX-12-050	47"	1/2"	5.6 & 8.0	37 ft	8	2"	13.4 ft	3	6.9"
AR-400-BR FLEX-15-050	59"	1/2"	5.6 & 8.0	49 ft	10	2"	18.8 ft	4	6.9"
AR-400-BR FLEX-18-050	71"	1/2"	5.6 & 8.0	52 ft	12	2"	24.2 ft	4	6.9"

				Equivalent Length of 1 ft Sch 40 Pipe					
				c  US LISTED			 APPROVED		
Model	Length	NPT	k-Factor	UL	Max. # of Bends	Min. Bending Radius	FM	Max. # of Bends	Min. Bending Radius
AR-400-BR FLEX-07-075	28"	3/4"	8.0, 11.2, 14.0	18 ft	4	2"	13.0 ft	1	6.9"
AR-400-BR FLEX-10-075	39"	3/4"	8.0, 11.2, 14.0	24 ft	5	2"	20.8 ft	3	6.9"
AR-400-BR FLEX-12-075	47"	3/4"	8.0, 11.2, 14.0	37 ft	8	2"	26.0 ft	3	6.9"
AR-400-BR FLEX-15-075	59"	3/4"	8.0, 11.2, 14.0	49 ft	10	2"	33.8 ft	4	6.9"
AR-400-BR FLEX-18-075	71"	3/4"	8.0, 11.2, 14.0	52 ft	12	2"	41.7 ft	4	6.9"

				Equivalent Length of 1 ft Sch 40 Pipe					
				c  US LISTED			 APPROVED		
Model	Length	NPT	k-Factor	UL	Max. # of Bends	Min. Bending Radius	FM	Max. # of Bends	Min. Bending Radius
AR-400-BR FLEX-07-100	28"	1"	25.2 and less	18 ft	4	2"	5.6 ft	1	6.9"
AR-400-BR FLEX-10-100	39"	1"	25.2 and less	24 ft	5	2"	9.2 ft	3	6.9"
AR-400-BR FLEX-12-100	47"	1"	25.2 and less	37 ft	8	2"	11.6 ft	3	6.9"
AR-400-BR FLEX-15-100	59"	1"	25.2 and less	49 ft	10	2"	15.2 ft	4	6.9"
AR-400-BR FLEX-18-100	71"	1"	25.2 and less	52 ft	12	2"	19.1 ft	4	6.9"

# FLEXIBLE SPRINKLER DROP HOSE UNBRAIDED CONNECTIONS



- Save Time & Money
- No cutting, no welding, no threading
- Perfect for retrofit applications
- Easy to move for layout changes

## TECHNICAL DATA

- UL Approved for Unbraided
- Rated Pressure: 203 PSI (14 Bar)
- Max. Burst Pressure: 875 PSI (70 Bar)
- Maximum Ambient Temperature: 225°F (107°C)
- Maximum Sprinkler K-factor for 1/2" outlet: 8.0 gal/mm/(psi)<sup>1/2</sup>
- Maximum Sprinkler K-factor for 3/4" outlet: 14.0 gal/mm/(psi)<sup>1/2</sup>
- Designed for use in wet and dry systems
- Flexibility Type: Limited
- Hose Diameter: O.D. 1-1/16" / Flow 7/8"



## Friction Loss Data and Specifications

### UNBRAIDED



	Length	1/2" NPT		3/4" NPT		Max. # of Bends	Min. Bending Radius
		ITEM #	Equivalent Length of 1 ft Sch 40 Pipe*	ITEM #	Equivalent Length of 1 ft Sch 40 Pipe*		
AR-UB FLEX-07	28" (0.6 m)	6530160	27 ft	6530170	28 ft	2	4"
AR-UB FLEX-10	40" (0.9 m)	6530161	37 ft	6530171	41 ft	2	4"
AR-UB FLEX-12	48" (1.2 m)	6530162	49 ft	6530172	47 ft	2	4"
AR-UB FLEX-15	60" (1.5 m)	6530163	63 ft	6530173	64 ft	3	4"
AR-UB FLEX-18	72" (1.8 m)	6530164	78 ft	6530174	80 ft	4	4"

\*Based on UL Listing

\*Based on UL Listing

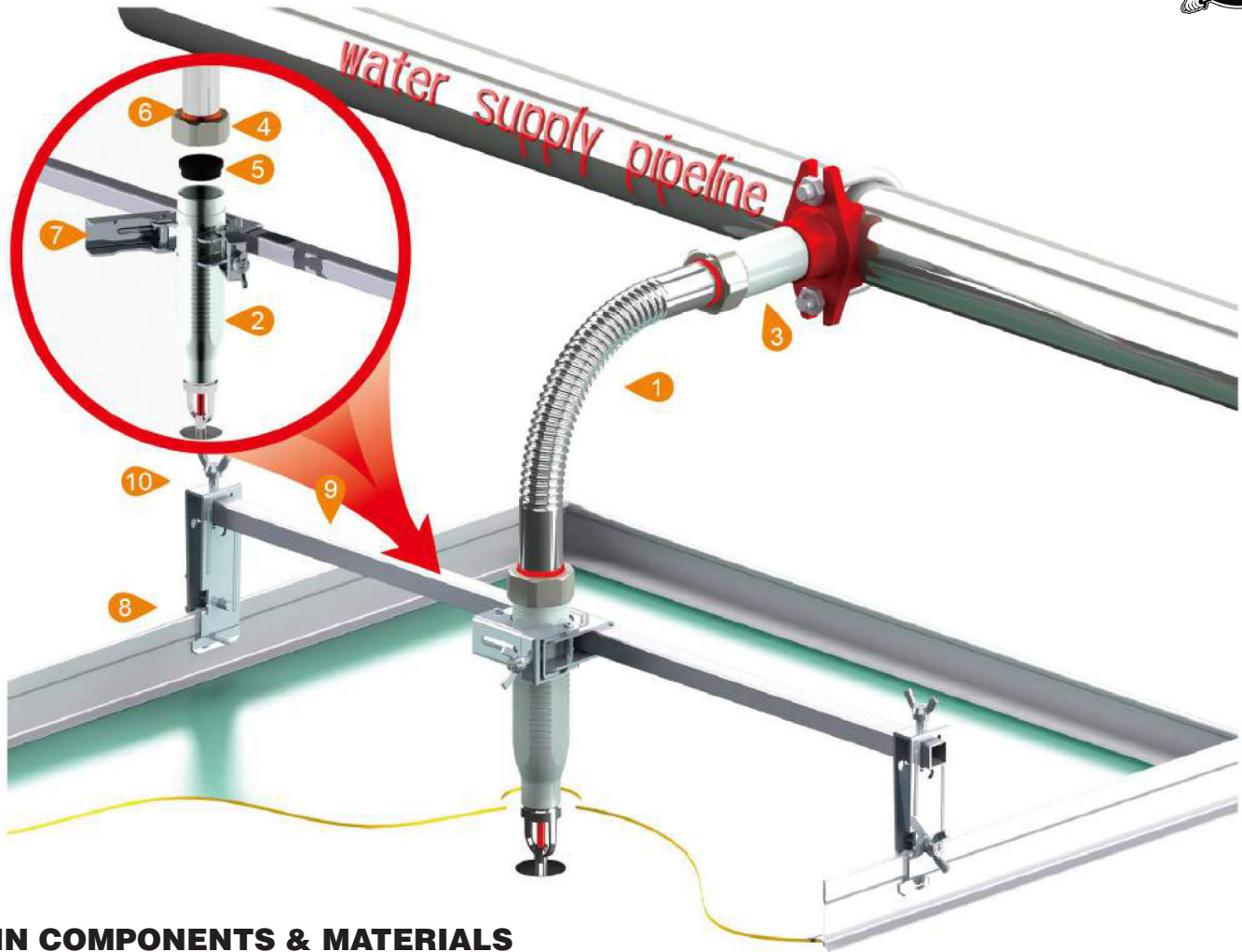
## COMPONENT LIST

NO	Part Name	Material	QTY
1	Corrugated Tube	304 Stainless Steel	1
2	Nut	Galv Steel (ASTM283)	2
3	Isolation Ring	Nylon 66	1
4	O-Ring	EPDM	1
5	Reducer	Zinc Plated Steel	1
6	Nipple	Galv Steel (ASTM283)	1
7	Center Bracket	Galv Steel (ASTM283)	1
8	End Bracket	Galv Steel (ASTM283)	2
9	Square Bar	Galv Steel (ASTM283)	1

Anchoring components are intended for use with drop ceilings conforming to ASTM C635 and other major standards when installed in accordance with the standard practice for installation of metal ceiling suspension systems for acoustical tile and lay-in panel, ASTM C635 or other equivalent standards.

System No.		Location		Spec Section		Paragraph	
Submitted By		Date		Approved		Date	

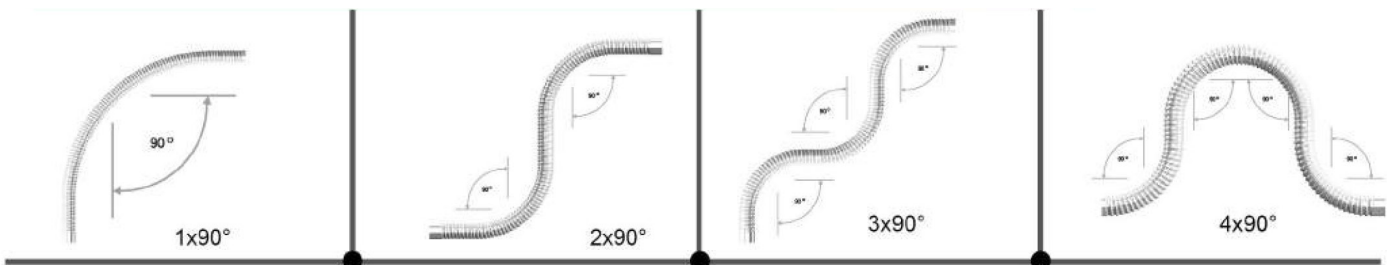
# FLEXIBLE SPRINKLER DROP HOSE UNBRAIDED CONNECTIONS



## MAIN COMPONENTS & MATERIALS

1. FLEXIBLE TUBE	304 STAINLESS STEEL	6. ISOLATION RING	NYLON 66
2. DISCHARGE NIPPLE 1"	ZINC PLATED STEEL	7. CENTER BRACKET	ZINC PLATED STEEL
3. INLET NIPPLE	ZINC PLATED STEEL	8. END BRACKET(S)	ZINC PLATED STEEL
4. NUT	ZINC PLATED STEEL	9. SQUARE BAR	ZINC PLATED STEEL
5. SEALING GASKET	EPDM	10. BOLTS & SCREWS	ZINC PLATED STEEL

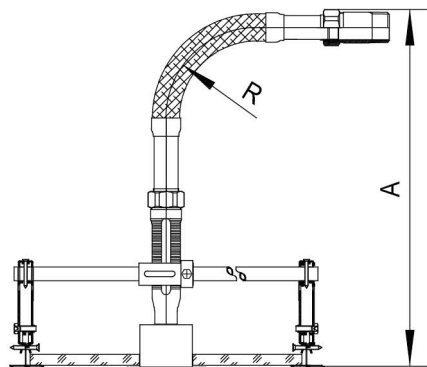
## HOSE BENDING PARAMETERS



# FLEXIBLE SPRINKLER DROP HOSE UNBRAIDED CONNECTIONS CLEARANCE SPECIFICATIONS

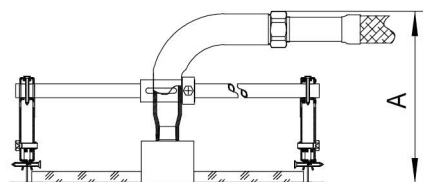


## Concealed Sprinklers on T-Bar Grid



Straight Reducer + Standard End Bracket

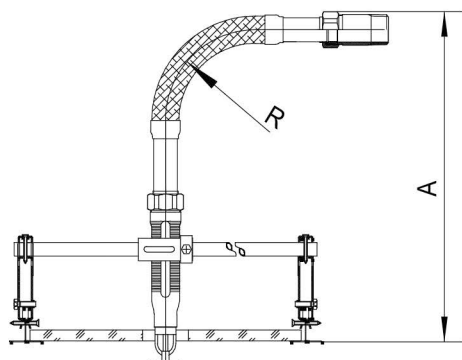
Installation Clearance (inch/mm)		
UL		
R	min. bend radius	3.9/100
A	minimum height	15.4/390



Elbow Reducer + Standard End Bracket

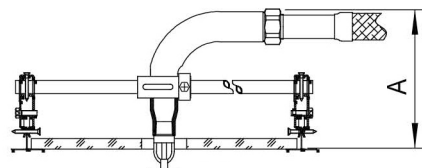
Installation Clearance (inch/mm)		
A	minimum height	8.3/210

## Pendent Sprinklers on T-Bar Grid



Straight Reducer + Standard End Bracket

Installation Clearance (inch/mm)		
UL		
R	min. bend radius	3.9/100
A	minimum height	14.0/360



Elbow Reducer + Standard End Bracket

Installation Clearance (inch/mm)		
A	minimum height	6.3/160

# FLEXIBLE SPRINKLER DROP HOSE

## INSTALLATION INSTRUCTIONS



Determine the approximate place where the sprinklers will be located. The sprinkler should be located as close as possible to the center of the distance between ceiling grid's T-bars.

### CONNECT INLET NIPPLE

Use a pipe wrench to screw the INLET NIPPLE into the branch outlet. Apply pipe joint compound or Teflon tape to the tapered threads to seal and tighten the branch line nipple into the branch line outlet, with 35ft-lbs/50N•m.  
DO NOT OVERTIGHTEN.



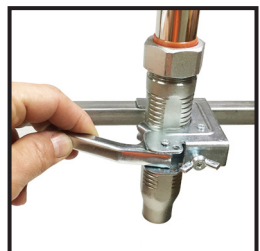
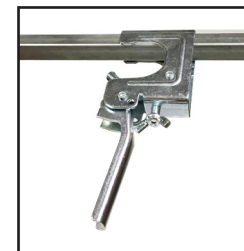
### ATTACH BRACKET SET

Attach SIDE BRACKETS to the main rail of of the T-Bar grid and cross the SQUARE BAR through two SIDE BRACKETS, with the CENTER BRACKET in the middle. Tighten vertical and horizontal bolts on the side brackets with 3ft-lbs/4N•m.  
A second hole is pre-drilled for optional installation applications.



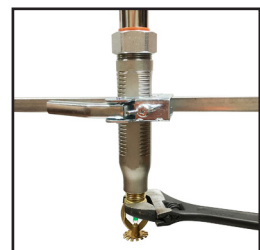
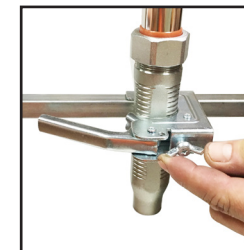
### BENDING AND LOCATING

With CENTER BRACKET in the middle of the SQUARE BAR, bend the FLEXIBLE HOSE body as desired (According to hose bending parameters) and locate the DISCHARGE NIPPLE into the CENTER BRACKET and hinge arm and and tighten wing nut with 3ft-lbs/4N•m torque, after the proper location of sprinkler head has been determined.



### CONNECT DISCHARGE NIPPLE

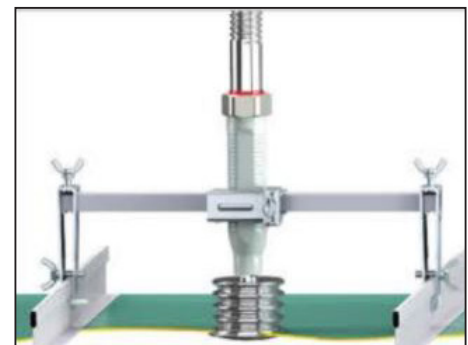
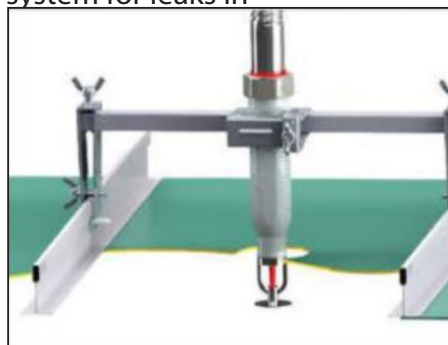
Apply Teflon tape to the male threads of the sprinkler. Tighten slip nuts of CENTER BRACKET and install sprinkler head to discharge nipple by following the sprinkler manufacturer's installation instructions.



### TEST

After installation is complete, test the system for leaks in accordance with NFPA guidelines.

Simply add 4x sheet metal screws to build a tamper resistant installation.



## FLEXIBLE SPRINKLER DROP HOSE

### ACCESSORIES



90° Flex Hose Reducing Nipple

6530190: 1" x 1/2"

6530192: 1" x 3/4"



Flex Hose Reducing Nipple

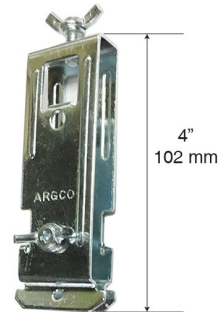
6530181: 1" x 1/2"

6530180: 1" x 3/4"



Flex Hose End Brackets

6530185: 4" End Brackets (sold each)



Flex Hose Center Brackets

6530184: Center bracket with hinged lever handle

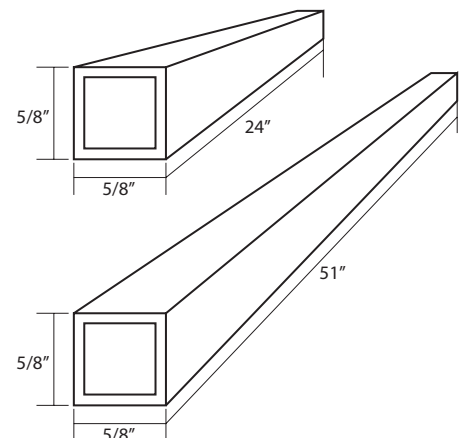


Flex Hose Square Bar

6530182: 25" Square bar to fit standard ceiling tile grids

6530187:

51" Square bar to fit long ceiling tile grids



## Warranty:

We warrant all Argco Brand Flexible Fire Sprinkler Drop products to be free from defects in materials and workmanship under normal conditions of use and service.

Our obligation under this warranty is limited to repairing at our option at our factory or designated facility any product which shall within 1 year after delivery to the original buyer be returned with transportation charges prepaid, and which our examination and inspection shall show to our satisfaction to have been defective.

This warranty is made expressly in lieu of any other warranties, express or implied, including any implied warranty of merchantability or fitness for a particular purpose.

The buyer's sole and exclusive remedy shall be for the replacement or repair of defective products as provided herein.

The buyer agrees that no other remedy (including but not limited to), incidental or consequential damages for lost profits, lost sales, injury to person or property or any other incidental or consequential loss shall be available to him/her.

Argco neither assumes nor authorizes any person to assume for it any other liability in connection with the sale of such products.

This warranty shall not apply to any product which has been the subject to misuse, negligence or accident, which has been repaired or altered in any manner outside of Argco's factory or designated facility or which has been used in a manner contrary to Argco's instructions, recommendations or generally accepted practices.

Argco shall not be responsible for design errors due to inaccurate or incomplete information supplied by the buyer or his representatives.



**ARGCO.com**



For more products, pricing, technical data, SDS, log onto: [www.argco.com](http://www.argco.com)

**ARGCO SALES:** toll free: 800-854-1015  
international: 760-727-1644 | fax: 800-924-5922  
email: [info@argco.com](mailto:info@argco.com)