

# TECHNICAL DATA SHEETS of FLEXIBLE SPRINKLER HOSES STYLE RF-400 series



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## 1. PRODUCTS DESCRIPTION & FEATURES

REALFLEX<sup>®</sup> Style RF-400 series flexible sprinkler hoses are designed for midline connection between water supply pipeline and sprinkler heads, into commercial suspended ceilings with medium or heavy t-bars grids as described in ASTM C635 & C636 standards, also suitable for installation with wall mount, wood beams and metal studs. It has true 1"/25.4mm internal diameter which will allow full water supply for sprinkler head up to 1"/DN25. Annular shape bellows provides high flexibility and sharper bending radius.

- significantly reduce labor cost and installation time by eliminating the needs of pipe cutting and fitting installation;
- 100% factory leak tested according to UL & FM regulations;
- 1"/25.4mm true flow for sprinkler up to 1";
- Flexible installation for seismic or vibrating applications;
- High corrosion resistant capacity;
- Only wrench & screw driver required by installation;
- Intended for use in wet, dry & pre-action systems;
- Better protection with stainless steel braids;
- Unlimited flexibility, bending radius down to 2"/51mm (UL), maximum bend numbers reaches 12 (3 full circles).

## 2. DEFINITION

### 2.1. Description

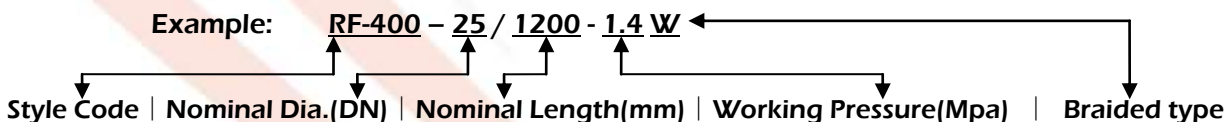
Style RF-400 REALFLEX<sup>®</sup> braided sprinkler hose, with straight discharge nipple

Style RF-400E REALFLEX<sup>®</sup> braided sprinkler hose with 90d elbow discharge nipple

Style RF-400G REALFLEX<sup>®</sup> braided sprinkler hose with DN25 / 1" grooved inlet

Style RF-400EG REALFLEX<sup>®</sup> braided sprinkler hose with grooved inlet and elbow outlet

### 2.2. Encoding



## 3. DESIGN CRITERIA

### 3.1. Appliance standards

- National Fire Protection Association (NFPA) – USA
  - 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 & including four stories in height
- American Society for Testing & Methods (AS<sup>®</sup>) – USA
  - ASTM C635: Standards specifications for the manufacture, performance, and testing of metal suspension system for acoustical tile and lay-in panel ceilings
  - ASTM C636: Standards practice for installation of metal ceiling suspension system for acoustical tile and lay-in panels
- Factory Mutual (FM)—USA, Class 1637, Approval Standard for Flexible Sprinkler Hose With Threaded End Fittings
- Loss Prevention Standard (LPCB)—UK, LPS 1261: Issue 1.1, Requirements for testing flexible hoses for sprinkler systems

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### 3.2. Technical Data

- Listing & Approvals  
RF-400 REALFLEX® braided sprinkler hose:



&



- RF-400E & RF-400G & RF-400EG REALFLEX® braided sprinkler hose:



- Nominal Assembly Lengths (with FM approval)

Mm	700	1,000	1,200	1,500	1,800
inches	28	39	47	59	71

Note \*: Special length available upon request, please contact your REALFLEX® representative.

- Maximum Working Pressure  
RF-400 series: 14bars / 1.4MPa / 203psi (both UL & FM approved)
- Maximum Ambient Temperature  
UL listed: 66°C/ 150°F  
FM tested: 135°C / 275°F for 45 days

- Connections

Style	Inlet nipple (to water supply pipe)			Discharge nipple (to sprinkler head)		
	Connection	Size	Std.	Connection	Size	Std.
RF-400	Male threaded	DN25 / 1 inch	ISO 7/1-R1 NPT BSPT (optional)	Female thread, straight	DN15 / ½ inch or DN20 / ¾ inch or DN25 / 1 inch*	ISO 7/1-R1 NPT BSPT (optional)
RF-400E		DN32 / 1¼ inch		Female thread, elbow		
RF-400G	Cut grooved	DN25 / 1 inch	AWWA C606	Female thread, straight		
RF-400EG		DN32 / 1¼ inch		Female thread, elbow		

Remark\*: DN25 / 1" outlet NOT available with RF-400E/400EG model with elbow outlet.

- K-Factor (maximum allowance)

Style	Discharge nipple size	K-Factor	K-Factor
		Metric	U.S.
RF-400 series	DN15 / ½ inch	115 or lower (UL) 80 or lower (FM)	8.0 or lower (UL) 5.6 or lower (FM)
	DN20 / ¾ inch	202 or lower (UL & FM)	14.0 or lower (UL & FM)
	DN25 / 1 inch	360 or lower (UL & FM)	25.2 or lower (UL & FM)

- Bending Parameters & Friction Loss Data

#### a. Flexibility type

RF-400 series REALFLEX® braided sprinkler hose: **Unlimited flexibility (FM)**

#### b. Minimum bending radius

**UL: 51mm / 2 inches**

**FM: 178mm / 7 inches**

#### c. Friction Loss Data\* (see next page)

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Style RF-400 & RF-400G Braided hose with straight nipple



RF-400G only with FM approval

Flexible hose		FM approval data				cULus listing data			
Hose Length	Sprinkler thread size	Max.allow. Sprinkler K-factor	Max. no. of 90° bends	Min. bending radius	EQL of 33.7mm/1" SCH40 Pipe	Max.allow. Sprinkler K-factor	Max. no. of 90° bends	Min. bending radius	EQL of 33.7mm/1" SCH40 Pipe
mm/in.	DN/in.	Metric / Imprl.	n x 90°	mm / inch	meters / feet	Metric / Imprl.	n x 90°	mm / inch	meters / feet
700 28	15 / ½	80 / 5.6	1	178	6.6 / 21.5	115 / 8.0	4	51	8.5 / 18.0
	20 / ¾	202 / 14.0		7.0	4.2 / 13.7	202 / 14.0		2	
	25 / 1"	360 / 25.2			3.6 / 11.9	360 / 25.2			
1,000 39	15 / ½	80 / 5.6	3	178	8.7 / 28.5	115 / 8.0	5	51	11.3 / 24
	20 / ¾	202 / 14.0		7.0	5.9 / 19.5	202 / 14.0		2	
	25 / 1"	360 / 25.2			5.9 / 19.2	360 / 25.2			
1,200 47	15 / ½	80 / 5.6	3	178	10.1 / 33.2	115 / 8.0	6	51	17.5 / 37
	20 / ¾	202 / 14.0		7.0	7.1 / 23.4	202 / 14.0		2	
	25 / 1"	360 / 25.2			7.3 / 24.1	360 / 25.2			
1,500 59	15 / ½	80 / 5.6	4	178	12.3 / 40.2	115 / 8.0	8	51	23.1 / 49
	20 / ¾	202 / 14.0		7.0	8.9 / 29.2	202 / 14.0		2	
	25 / 1"	360 / 25.2			9.6 / 31.4	360 / 25.2			
1,800 71	15 / ½	80 / 5.6	4	178	14.4 / 47.2	115 / 8.0	12	51	24.5 / 52
	20 / ¾	202 / 14.0		7.0	10.7 / 35.0	202 / 14.0		2	
	25 / 1"	360 / 25.2			11.8 / 38.7	360 / 25.2			

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**Style RF-400E & RF-400EG Braided hose with 90d elbow nipple**



Hose Length	Sprinkler thread size	Max.allow. Sprinkler K-factor	Max. no. of 90° bends	Min. bending radius	EQL of 33.7mm/1" SCH40 Pipe
mm/in.	DN/in.	Metric / Impri.	n x 90°	mm / inch	meters / feet
700 28	15 / ½ 20 / ¾	80 / 5.6 202 / 14.0	1	178 7.0	9.1 / 29.7 5.1 / 16.7
1,000 39	15 / ½ 20 / ¾	80 / 5.6 202 / 14.0	3	178 7.0	11.2 / 36.8 7.3 / 24.1
1,200 47	15 / ½ 20 / ¾	80 / 5.6 202 / 14.0	3	178 7.0	12.6 / 41.5 8.8 / 29.0
1,500 59	15 / ½ 20 / ¾	80 / 5.6 202 / 14.0	4	178 7.0	14.8 / 48.6 11.1 / 36.3
1,800 71	15 / ½ 20 / ¾	80 / 5.6 202 / 14.0	4	178 7.0	17.0 / 55.7 13.3 / 43.6

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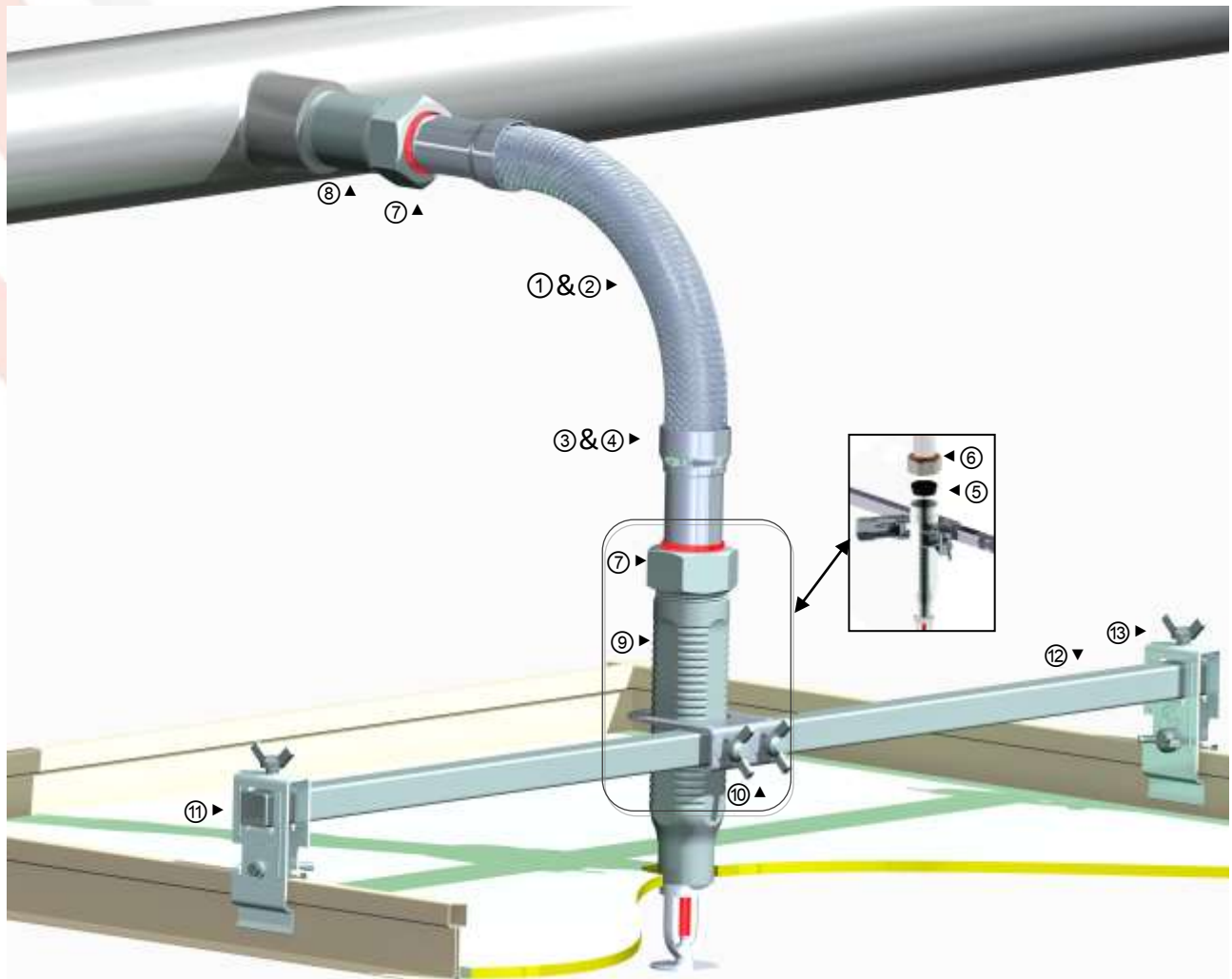
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#### 4. MATERIAL SPECIFICATION

Refer to FIGURE 1

Ref. no.	Description	Material specification (standard) UL listed & FM approved (pending)	Optional Material (individual order required)
1	Corrugated hose	AISI type 304 Stainless Steel	AISI 304L / 316 / 316L etc.
2	Braid	AISI type 304 Stainless Steel	AISI 304L / 316 / 316L etc.
3 & 4	Inner & outer collar ring	AISI type 304 Stainless Steel	AISI 304L / 316 / 316L etc.
5	Sealing o-ring	EPDM per ASTM D2000	Silicon, Nitrile, PTFE
6	Isolation ring	Nylon 66 red-orange	Other colors
7	Slip nut	Carbon steel ASTM 1020#, zinc-plated	Stainless Steel 304 or above
8 & 9	Inlet & discharge nipples	Carbon steel ASTM 1020#, zinc-plated	Stainless Steel 304 or above
10 & 11	Center & Side brackets	C.S. ASTM A283M Gr.D, zinc-plated	None
12	Square bar	C.S. ASTM A283M Gr.D, zinc-plated	None
13	Wing (or hexagon) screws	C.S. ASTM A283M Gr.D, zinc-plated	None

#### 5. CONSTRUCTION OF MAIN COMPONENTS



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## 6. INSTALLATION INSTRUCTION

Refer to REALFLEX® RF-400 Installation Instructions.

## 7. CARE & MAINTENANCE

REALFLEX® Model RF-400, RF-400E, RF-400G & RF-400EG Flexible Sprinkler Hoses must be maintained, inspected, and serviced in accordance with the instructions in addition to any specific requirements of the applicable Authorities Having Jurisdiction (for example NFPA or LPCB). Any impairment must be immediately corrected. It is also recommended that fire protection systems be inspected by a qualified Inspection Service.

## 8. LIMITED WARRANTY

Refer to the Warranty section of the current REALFLEX® Price List or contact REALFLEX® for details.

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