

RASCOFLEX Flexible Sprinkler Hose – 700mm to 1800mm Nominal Assembly Lengths

Flexible Sprinkler Hose System and Fittings

GENERAL DESCRIPTION

RASCOFLEX Flexible Sprinkler Hose and Fittings is an easy-to-install sprinkler drop assembly comprising of a branch-line adapter nipple, stainless steel flexible hose with female thread hex nut end connectors, sprinkler outlet reducer that is connected to the sprinkler head and ceiling bracket assembly that securely holds the sprinkler drop system to the ceiling grid.

There are many features and benefits to using RASCOFLEX Flexible Drops, including easy installation (which ultimately saves you time and labour costs); this innovative design doesn't require any pipe threading, measuring or cutting. When following the installation instructions enclosed the design prevents any installation mistakes. RASCOFLEX is easier to test with water than other systems, as you can test the system with water before the ceiling grid is installed:

- **Reduces labour costs and installation time;** the rate of RASCOFLEX installation is two to three times faster than traditional fitting methods of installing sprinkler drops.
- **Quick Installation;** RASCOFLEX eliminates the need for measuring and cutting. In case of crowded spaces, the user can maneuver the flexible sprinkler hose around ducts and trays.
- **No need for heavy/special equipment;** RASCOFLEX flexible sprinkler hose comes ready to install. No cutting, welding or threading, giving you a head start with no waste.
- **Easy-to-Install;** RASCOFLEX flexible sprinkler drops are a fully assembled system that connects the branch-line to the sprinkler head.
- **Corrosion-resistant** materials by applying stainless steel 304 grade on flexible drops.



NOTICE

RASCOFLEX flexible sprinkler hoses described herein must be installed and maintained in compliance with this document and with the applicable standards recognized by the approval agencies such as, LPCB, FM, VdS and UL guidelines as well as industry standards for installation such as NFPA 13, NFPA 13D, NFPA 13R. In addition to the standards of any other authorities having jurisdiction. Failure to do so may hinder the performance of these devices.

TECHNICAL DATA**Approvals:**

LPCB, FM, VdS & UL

< The approvals apply to the service conditions and guidelines indicated in the specified design criteria shown on page 3 and 4. >

Technical & Material Features:

- Nominal Tube Size: 28mm
- Inlet Connections (Nipple): 1" or 1¹/₄" NPT/ BSPT with male pipe threads (Ref Fig. 1)
- Outlet Connections (Reducer): Straight with 1/2" or 3/4" NPT/BSPT or 90° angle with 1/2" or 3/4" NPT/BSPT (Ref Fig. 1)
- Nominal Assembly Lengths: Refer to Fig. 2
- Max. Working Pressure: 14 Bar
- Max. Ambient Temperature: 149° C
- Minimum Bend Radius: 75mm
- Max. Allowable Sprinkler K-Factors:
 - Largest K-factor 1/2" Outlet: 115
 - Largest K-factor 3/4" Outlet: 200
- Components Materials:
 - Flexible Hose: AISI 304 Stainless steel
 - Braid (when used): AISI 304 Stainless Steel
 - Nut & Nipple: Carbon steel, Zinc plated
 - Gasket Seal: EPDM
 - Isolation Ring: Nylon 6
 - Reducers: Carbon steel, Zinc plated
 - Brackets: SPCC steel, Zinc plated
 - Support bar: SGCC Steel, Zinc plated
- Required Torque to Connect Nut to Reducer and Nipple: 500 kgf/cm²
- Required Torque to Connect Nipple to Branch Pipe Line: 850 ~ 900 kgf/cm²
- Required Torque to Connect Bolt to Centre Bracket on Bracket System: 65 kgf/cm²
- Required Torque to Connect Bolt to End Bracket on Bracket System: 45 kgf/cm²
- Max. and Min. Distance between The Anchors Attached to The Ceiling Runners:
 - Max. Distance: 1470mm
 - Min. Distance: 300mm

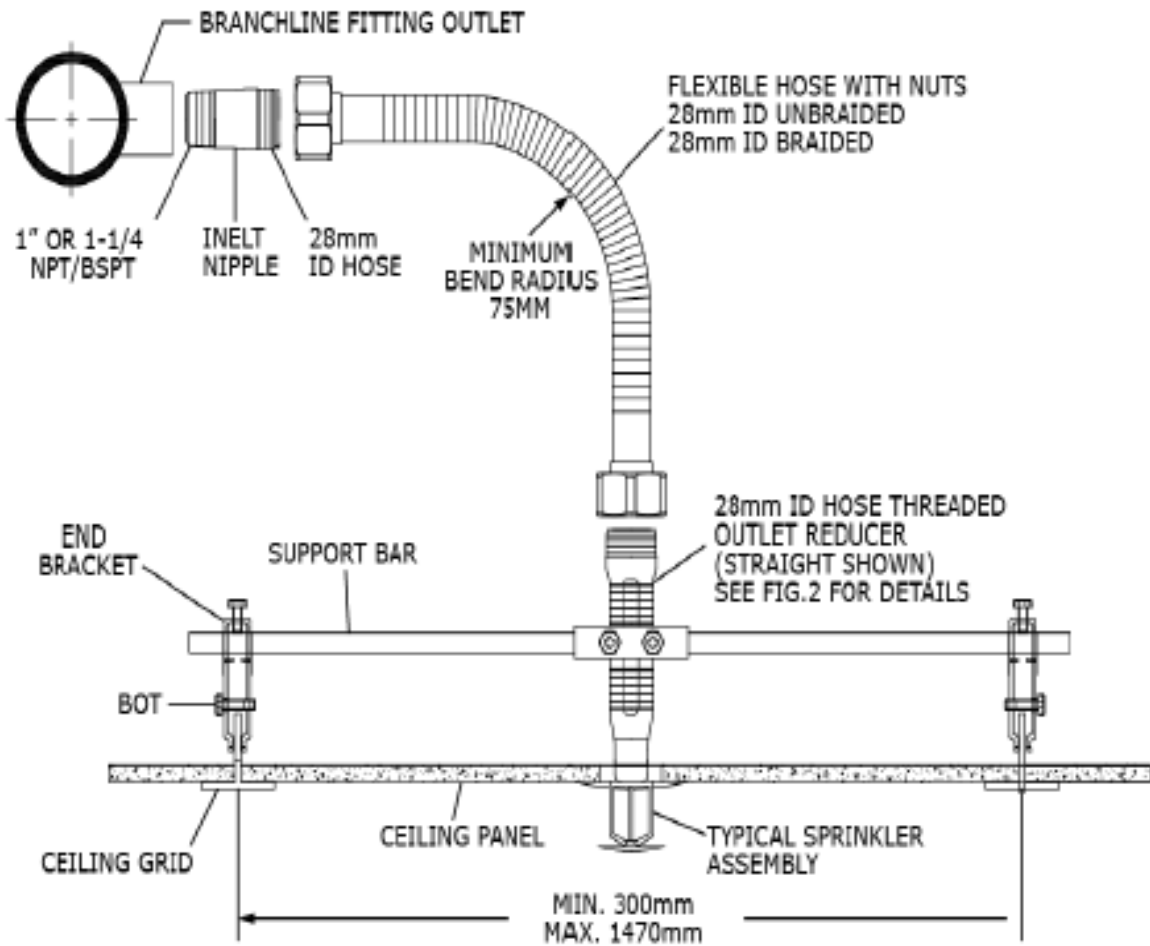
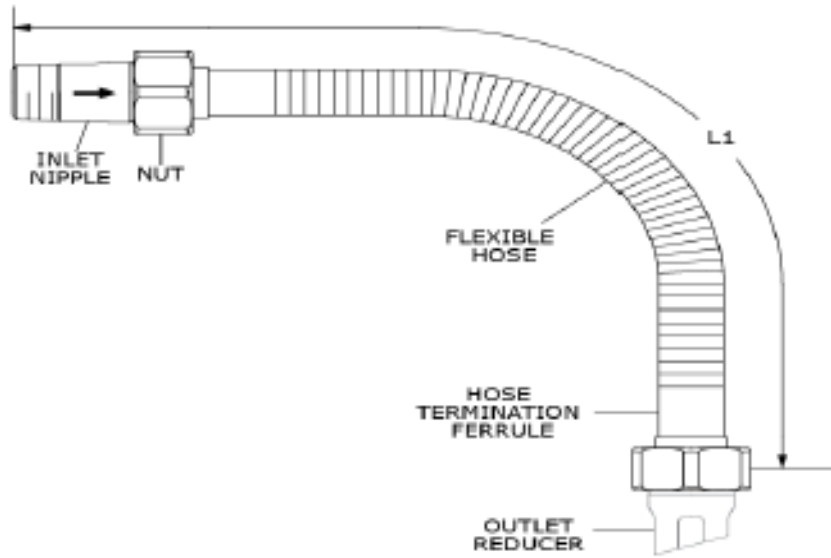
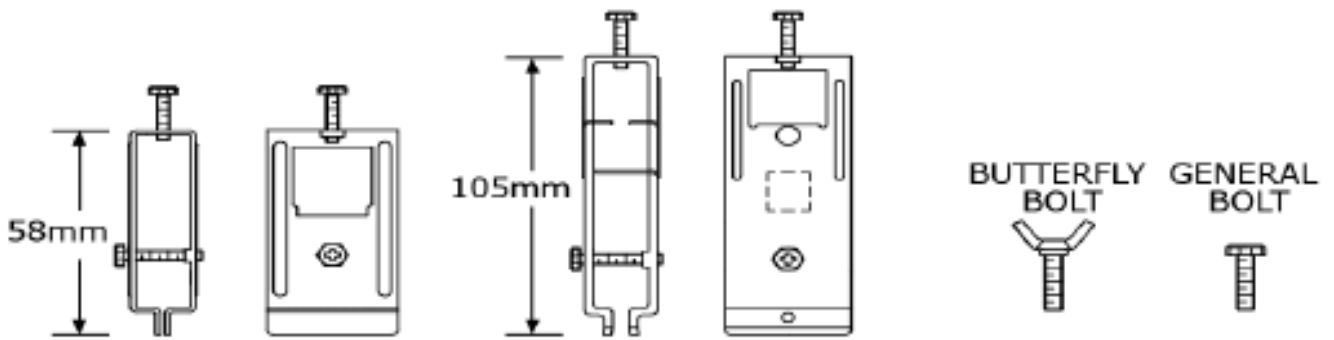


FIG. 1
FLEXIBLE SPRINKLER HOSE



NOMINAL LENGTH	
MODEL SIZE	L1 (mm)
700	590
1000	890
1200	1090
1500	1390
1800	1690

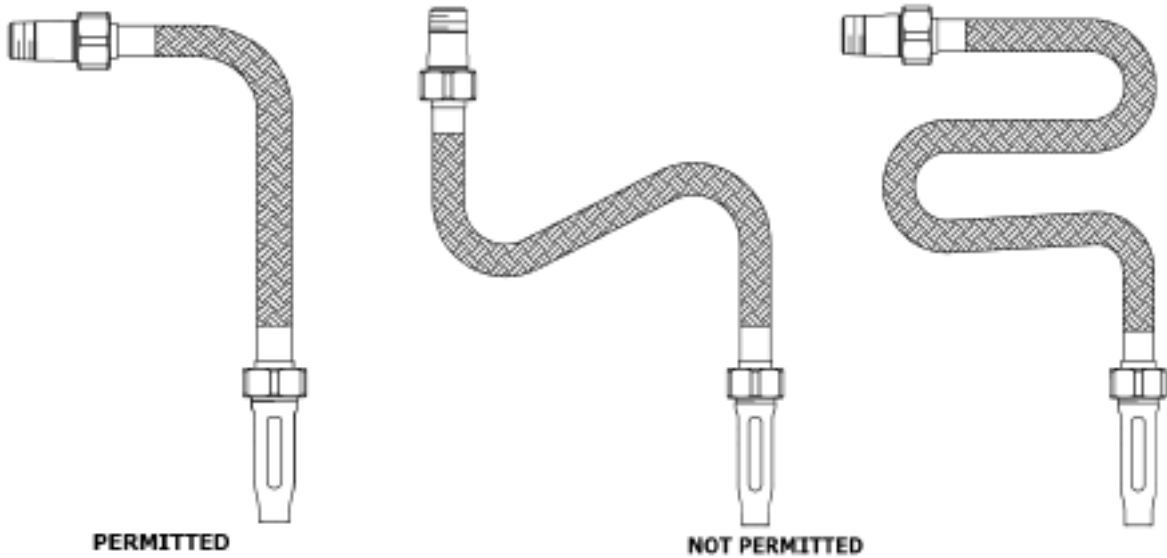
HOSE ASSEMBLIES



END BRACKETS & BOLTS

**FIG 2.
NOMINAL DIMENSIONS**

Suggested Methods of Proper Hose Alignment & Examples of Improper Methods:



NOTICE

Check that the flexible hose from the branch-line connection to the sprinkler location is the correct length. Ensure that the maximum numbers of specified bends with the minimum bend radius are adhered to. Use a radius tool to ensure the proper minimum bend radius of Approval Agencies, which is 75 mm, in case of LPCB. In addition, the radius of the flexible hose must NOT fall in the non-corrugated ends.

LPCB APPROVED RASCOFLEX SPRINKLER DROPS OFFERED AS STOCK AS-

TABLE A: LPCB APPROVED RASCOFLEX MOD-

Type	Model No.	Length (mm)	Description
Braided	RF070B	700	1/2" or 3/4" (Outlet) x 1" or 1-1/4" (Inlet) Braided Hose
	RF100B	1000	1/2" or 3/4" (Outlet) x 1" or 1-1/4" (Inlet) Braided Hose
	RF120B	1200	1/2" or 3/4" (Outlet) x 1" or 1-1/4" (Inlet) Braided Hose
	RF150B	1500	1/2" or 3/4" (Outlet) x 1" or 1-1/4" (Inlet) Braided Hose
	RF180B	1800	1/2" or 3/4" (Outlet) x 1" or 1-1/4" (Inlet) Braided Hose
Unbraided	RF070U	700	1/2" or 3/4" (Outlet) x 1" or 1-1/4" (Inlet) Unbraided Hose
	RF100U	1000	1/2" or 3/4" (Outlet) x 1" or 1-1/4" (Inlet) Unbraided Hose
	RF120U	1200	1/2" or 3/4" (Outlet) x 1" or 1-1/4" (Inlet) Unbraided Hose
	RF150U	1500	1/2" or 3/4" (Outlet) x 1" or 1-1/4" (Inlet) Unbraided Hose
	RF180U	1800	1/2" or 3/4" (Outlet) x 1" or 1-1/4" (Inlet) Unbraided Hose

LPCB DESIGN CRITERIA

- Intended for use in wet systems between the branch-line and sprinkler head.
- May be used in applications where little or no differential movement between the two ends is expected after installation (e.g. supply to single sprinklers in suspended ceilings).
- Use only to be directly connected to fire sprinklers.
- Approved as a Type 2 hose of moderate flexibility in accordance with LPS 1261.
- Must be used in accordance with an appropriate sprinkler installation code such as LPS sprinkler rules.
- Maximum working pressure of 14 Bar.
- Maximum ambient temperature of 149° C.
- Minimum bend radius of 75mm (Refer to Fig. 1).

APPROVED FOR USE IN THE FOLLOWING LOCATIONS:

Rfxxxxb series (braided hose):

Assembly Length (mm)	Pre-calculated		Fully Hydraulically Calculated
	Town Mains	Pumps	
700	Yes	Yes	Yes
1000	Yes	Yes	Yes
1200	Yes	Yes	Yes
1500	Yes	Yes	Yes
1800	Yes	Yes	Yes

- All pipe work supplied with RASCOFLEX as connection assemblies in pre-calculated systems shall be sized as distribution mains.
- In suspended ceilings RASCOFLEX flexible sprinkler connection must be installed in accordance with this data sheet.
- In suspended ceilings, RASCOFLEX flexible sprinkler connection must be connected to the ceiling support system with brackets supplied.

LPCB Equivalent Length of RASCOFLEX as follows:

Rfxxxxb series (braided hose):

Assembly Length (mm)	Number of 90° Bends	Equivalent Length of DN25 Sch. 40 Pipe at C=120 in Meters
700	1	5.0
1000	1	7.2
1200	2	7.1
1500	2	7.6
1800	3	9.4

Rfxxxu series (unbraided hose):

Assembly Length (mm)	Number of 90° Bends	Equivalent Length of DN25 Sch. 40 Pipe at C=120 in Meters
700	1	4.2
1000	1	5.9
1200	2	6.7
1500	2	11.4
1800	3	13.0

INSTALLATION

- To ensure that the system works, it is recommended that they are designed, installed, commissioned and maintained by contractors who are approved by LPCB to LPS 1048 (for commercial systems), particularly TB227, and other installation codes such as NFPA13, NFPA13D, NFPA13R as well as International Fire Code.
- Failure to do so could cause product failure, resulting in serious personal injury and/or property damage.
- The user should contact the manufacturer or distributor to ensure they specify the correct type and usage of RASCOFLEX flexible sprinkler drops.
- The end users should ensure the selection of appropriate product with due regard to the installation codes, product training and related questions, and rules applicable to the territories in which these products are being installed. Upon request, further product training will be available with installation material such as installation instruction guidebook.
- Please refer to the enclosed installation instruction for further detail.



NOTICE

The intended use of RASCOFLEX flexible sprinkler drop is as a connection between the branch- line to the sprinkler head. Thus flexible sprinkler drops should NOT be used to pass through fire compartments such as penetration seals, fire stopping cavity barriers, and others indicated by Approval Agencies.

CARE AND MAINTENANCE

The users are responsible for the inspection, testing and maintenance of their fire protection systems and devices in compliance with this document, also in compliance with the applicable standards of the authorities having jurisdiction. The installing contractor should contact the manufacturer or distributor in the region in relation to any product questions.

It is recommended that automatic sprinkler systems should be inspected, tested and maintained by an approved and qualified inspection service in accordance with local requirements and/or national codes.

The life expectancy of RASCOFLEX can be determined by various factors including, working conditions and construction of flexible sprinkler drop, such as operating temperature, operating pressure, bend radius and bending stress beyond its limitation, the thickness of the corrugation, the corrugation pitch, depth, shape of the corrugation, static condition such as installation beyond design limitations of flexible drop, and unknown factors of installation performed by contractor. Any change in one of these factors will void the life length expectations of the flexible sprinkler drop. For longer cycle life of the flexible sprinkler drop, it is strongly recommended to follow the guidelines of this manual, appropriate Agency Standards such as LPCB guidelines, FM, VdS and UL as well as local authority's rules and codes. A manufacturer cannot predict and dictate every variable which may be encountered during application, installation or any misapplication, mechanical damage, and/or any uncontrollable situation that may arise during installation.

In case of system malfunction of the flexible sprinkler drop, it is recommended to contact regional distributors for further information. Distributors and the manufacturer will assist the end user in sourcing the root cause of an issue and to prevent further malfunctioning of this product. Once the flexible sprinkler drops or any fire protection systems are in place, the end user should maintain the fire systems through a qualified fire protection maintenance service provider; to maximize system integrity, to avoid failure and ensure fast and effective response in a fire emergency.

When water additives are added (according to NFPA and International Fire Code, depending on several variables) the additives need to be between 30 - 70% of the total volume of water in the wet sprinkler system. However, the user of flexible sprinkler drops must adhere to the industrial installation regulation, such as NFPA as well as local authority rules and regulations. Failure to do so may cause serious personal injury and property damage. It is recommended to seek advice for the compatibility of water additives with installation regulators and guidelines, such as NFPA and International Fire Code.

In addition, depending on the usage and where it is applicable, the user of flexible drops must follow and adhere to the compliance with appropriate local water regulatory requirements, regulations, rules, or appropriate restrictions on use.

After a fire protection system is in place for service, the user must inform the appropriate authorities and those responsible for monitoring and maintaining proprietary and/or central station alarms. Before closing a fire protection system control valve for inspection or system maintenance, the user must obtain permission from the appropriate authorities and notify all personnel that may be affected.



NOTICE

It is the responsibility of the system designer to verify suitability of RASCOFLEX stainless steel flexible drop for use with the intended fluid media. The effect of chemical composition and exposure, pH level, operating temperature, chloride level, oxygen level, UV light and flow rate on stainless steel flexible drop must be evaluated by the material specifier; to confirm that the system life will be acceptable for the intended service and usage. The flexible drop is intended for use indoors.

INSTALLATION INSTRUCTIONS i), vi)



1. Inspect the flexible drops for any signs of physical damage and check all components are in proper place, particularly sealing gaskets inside of nuts.
2. Reconnect the inlet nipple and outlet reducer to the flexible hose by using a wrench with its given torque range.
✘ Torque Range of Nut + Inlet Nipple / Outlet reducer: 500kgf/cm² approximately.
3. Apply pipe joint compound or teflon tape (PTFE) to the branch-line and inlet nipple in accordance with the pipe joint compound, tape or manufacturer's instructions. Tighten the inlet nipple to the branch-line with its given torque range.
✘ Torque Range of Inlet Nipple + Branch Pipe: 850~900kgf/cm² approximately.



WARNING

DO NOT apply pipe joint compound or teflon tape (PTFE) to the outlet nipple thread connected to the flexible hose.



4. Position the end brackets (to be lined with the ceiling grid) and connect with the support bar. Once again ensure each end bracket is in line with the ceiling grid and securely tighten the bolts.
5. Attach the end brackets to each ceiling grid and tighten the bolt to the grid, as shown above with its given torque range.
✘ Torque Range of End Bracket Bolts to Ceiling Grid: 45kgf/cm² approximately.
6. Place centre bracket in the desired location.



7. Insert the outlet reducer that's connected to the flexible hose into the centre bracket and tighten the two bolts on the centre bracket with its given torque range.
 - ✘ Torque Range of Centre Bracket Bolts: 65kgf/cm² approximately.
8. Apply pipe joint compound or teflon tape (PTFE) to the sprinkler head in accordance with the NFPA guidelines and the sprinkler heads manufacturer's installation instructions.