



# Flexible Sprinkler Hose With Fittings

## LPN-CXXX-12 / LPN-CXXX-19

### Installation Manual



## ⚠ Warning

These installation instructions are for qualified and experienced technicians in the H.V.A.C. and fire protection field only. Failure to follow these specific instructions may cause personal injury. Installation and maintenance technicians must read the entire manual prior to attempting installation or maintenance of products.

## ⚠ Caution

1. Installation and relocation is to be done by licensed Fire Protection technicians only.
2. Safety glasses must be worn by installing technician during the installation.
3. During the installation on the product, fire sprinkler system must be inactive.
4. Do not attempt installation when system is operational.
5. If necessary, consult NFPA guidelines or nation's local regulation for details.

## Installing LIFECO Flexible sprinkler Hose With Fittings:

Retain these instructions for future use.

Tools required:

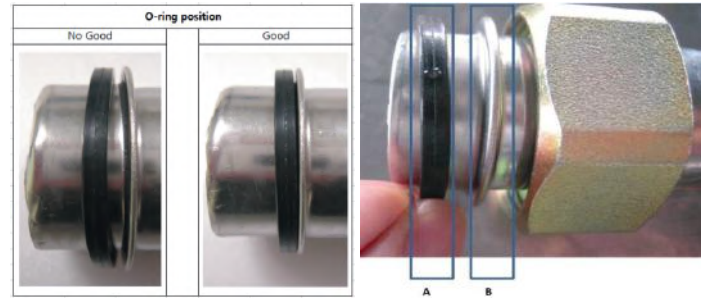
- ① Safety Glasses
- ② Vinyl Gloves
- ③ Allen Wrench / Nut Driver
- ④ Pipe Wrench with SS Jaws



1. Refer to the relative regulations, codes or standards for guidance and determination of the desirable location for the unit in use commercial ceiling, clean rooms and duct systems, etc.

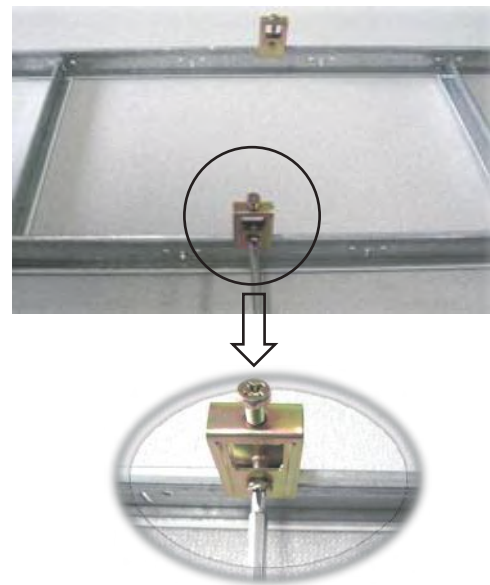
2. Install the 1" flexible hose nipple (inlet) to the 1" sprinkler branch pipe by normal sealing and tightening procedures. Slip nut, which connects nipple with flexible hose, should be tightened with wrench as excessive force can damage the O-ring inside. (Torque: 123kgf-cm, 108inch-Lbs)

Make sure that during and after installation of the flexible hose, any sharp-edged materials or tools do not damage the surface of the flexible hose.



### NOTE:

**O-Ring(A) should be secured properly such that there is no gap between A and B. Improperly placed O-Ring might get twisted. This might cause leakage.**



3. Assemble the supplied bracket and square bar as shown in the picture, and attach the square bar to the T-bar (ceiling support) with supplied bracket and bolts considering the horizontal location of the sprinkler head. (When the bolt type is Wing bolt type, then assemble the side bracket with T-bar first. And then, attach and fix the square bar with side brackets not to disturb the assembly.) At this stage of installation, bolts need to be fastened tightly. (S2-1 Bracket, Torque- 46kgf-cm, 40inch-Lbs)



4. Select appropriate square bar length in accordance with the spacing between ceiling supports (both main bars and cross bars) is 600mm. The "T" shaped beam is assembled with bracket S2-1.



**NOTE:**

When installing, Install the lower anchoring part of bracket S2-1 so that it is stuck to the vertical contact surface of the "T" shaped beam.



5. Bend the flexible hose so that the reducer (outlet) can be reached to the intended sprinkler head position. The flexible hose should be bent axially with smooth bending shape, and with minimum installation bending radius of 4". Flexible hose should not be twisted in a circumferential direction. For a longer flexible hose, intermediate hose support is recommended to secure the movement of the hoses.

**NOTE:**

When installing, please make sure that the hose is installed in accordance with flow direction of the label on the hose



6. Verify that the reducer (outlet) is located in the correct intended position before securing the bracket L2 bolt. Check and adjust the reducer position by moving vertically and horizontally along the square bar. Tighten all the bolts securely and evenly. (Torque: 60~61kgf-cm, 52~53inch-Lbs)



7. Install the sprinkler head to the reducer (outlet), if necessary adjust the height and location of the reducer by loosening and tightening the bolt.

- Available product length & type: 700mm-1800mm (28"-70")
- Available square bar length: 650mm - 1600mm (26" to 64")
- Max. Working pressure: 14kgf/cm<sup>2</sup> (200psi)
- Max. Ambient temperature: 107 °C (225 °F)
- Minimum Installation Bending Radius: 100mm (4")
- Bending Angles (Flow Direction): up to 180 Degree
- Largest K factor for 1/2 inch outlet: 5.6 [gpm/(psi)<sup>1/2</sup>]
- Largest K factor for 3/4 inch outlet: 8.0 [gpm/(psi)<sup>1/2</sup>]
- Intended use: Wet system and dry system
- This Flexible hose and fittings have limited flexibility.
- Intended use for direct connection to fire Sprinklers

Flexible sprinkler hose fittings may be used in wet, pre act, deluge or dry pipe sprinkler systems between the branch line and sprinkler when installed in accordance with NFPA 13, "Standard for the Installation of Sprinkler Systems," NFPA 13R, "Standard for the Installation of Sprinkler Systems in Residential Occupancies up to Four Stories in Height," and NFPA 13D, "Standard for the Installation of Sprinkler Systems in One- and Two-Family Dwellings and Mobile Homes".

A flexible sprinkler hose fitting consists of a flexible hose, inlet fitting for connection to the branch line, outlet fitting for connection to sprinkler, and a mounting bracket.

These fittings are intended for use in hydraulically designed sprinkler systems. The hydraulic loss of these fittings needs to be included in the hydraulic design calculations. Losses vary depending on the installed configuration. The allowable number of bends with a minimum bend radius of 4 in. (100mm) for each model and the associated pressure losses expressed in equivalent length in feet of 1 in. diameter Schedule 40 steel pipe (where C equals 120) are included in the following table.



## Instructions for securing the anchoring components to the building components

If intended for use with drop ceilings, ceiling constructions are to be intermediate and heavy duty ceilings as described in the standard specification for the manufacture, performance, and testing of metal suspension systems for acoustical tile and Lay-in panel ceilings, ASTM C635 when installed in accordance with the standard practice for installation of metal ceiling suspension systems for acoustical tile and Lay-in panels, ASTM C636.

### UL 25

**Equivalent Length in feet of 1 inch**  
Schedule 40 Steel Pipe(C = 120), ft

| <b>Bend</b>        |            | <b>Two (2) 90° Bend</b> |             | <b>Three (3) 90° Bend</b> |             |             |
|--------------------|------------|-------------------------|-------------|---------------------------|-------------|-------------|
| <b>Length (mm)</b> |            | <b>700</b>              | <b>1000</b> | <b>1200</b>               | <b>1500</b> | <b>1800</b> |
| LPN-CXXX-12        | (1/2 inch) | 33                      | 57          | 68                        | 82          | 98          |
| LPN-CXXX-19        | (3/4 Inch) | 38                      | 62          | 73                        | 89          | 104         |

*Authorities Having Jurisdiction should be consulted before installation.*



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