Maritime Installation of LOFLOW K15 Sprinklers:
Loflow K15 Sprinklers must be installed in the pendant position. Systems must be designed and installed in accordance with SOLAS Regulation II-2/12, with the exception of water densities less than 5 litres/min/m^2.

Sprinkler systems must be hydraulically calculated with the Hazen-Williams formula, to provide the recommended minimum water pressure on the last nozzle to operate in the system. SOLAS and NFPA 750 require the systems to have standing charge of fresh water.

Installation and Maintenance:
Loflow K15 Sprinklers have a small orifice when compared with traditional sprinklers. To minimise the risk of blocked sprinkler nozzles during operation, the sprinkler pipes must be flushed with fresh clean water through each branch pipe end to avoid dirt in pipes before the sprinklers are installed.

Caution:
After the pipes have been flushed and the pipe plug removed, the internal pipe threads must be cleaned for any sealing materials, before the sprinklers are installed.
The sprinklers must always be installed in the pendant position using the special purpose spanner from GW Sprinkler A/S.

Table 1 Sprinkler Pipes and Components:

System	Sprinkler material	Pipe system material	Extinguishing agent
Wet Pipe Systems	Brass natural Brass – chrome	Galvanized steel pipes Cu-alloys pipes Plastic (See note 1)	Fresh water
	Brass – ENP	Galvanised steel pipes Brass/Cu-alloy pipes SS303, 304 pipes	Fresh water
		CuNi pipes SS316, SMO254 etc. Plastic pipes (see note 1)	Fresh & Seawater
	Stainless steel AISI316	CuNi pipes SS316, SMO254 etc. Plastic pipes (see note 1)	Fresh & Seawater
Dry Pipe Systems	Brass natural Brass chrome	Cu-alloys pipes	Fresh water
	Brass – ENP	Brass/Cu-alloy pipes SS303, 304 pipes	Fresh & Seawater
	Stainless steel AISI316	CuNi pipes Stainless steel pipes	Fresh & Seawater

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1) Sprinkler pipes must correspond with hydraulic calculations, internal pressures and authority demands and recommendations.
   Sprinkler material must correspond with materials of pipes and extinguishant, see table 1 above.

2) The materials of sprinkler system components such as valves, flow switches, pumps etc. must correspond with authority demands, water flow, system pressure, pipe materials and extinguishing agent.

See also Loflow Sprinkler Installation Guidelines Ref no.: 715 for Maritime Installations.

Galvanised Pipes and Fittings:
NFPA 750 does not allow the use of galvanised pipes and fittings downstream the system strainer.
USCG requires a strainer downstream of all fittings that are of materials other than these shown in NFPA (1996), table 2-3.3.1.

Table 2 Components Material:
Note 1: Plastic pipes are not to be used in maritime installations or ordinary hazard Installations.

Pipe material	Component materials	Extinguishing Agent
Galv. steel	Cast/Ductile iron	Fresh Water
Galv.steel Cu-alloys	Brass Coated iron and steel, Naval brass Plastic (Not USCG Installations)	Fresh Water
CuNi SS316	Coated iron and steel, Aluminium bronze, SS316, Brass with ENP/Nedox coating	Fresh & Sea Water
Plastic	Cast/ductile iron, Brass and SS303 etc. CuNi, SS316, SMO254	Fresh & Sea Water

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Table 3: Applications as Classified in SOLAS Regulation II-2/26.2.2:

Occupancy Classification	Parameters	LOFLOW Sprinkler Type		
		K15-O	K15-C	K15-S
(1) Control Stations	Sprinkler Spacing: Distance to Wall: Water Pressure: Locations: Ceiling Height:	max. 3.5m max. 1.5m min. 6 bar all max. 5m	max. 12m^2 max. 2.0m min. 6 bar small rooms* max. 2.5m	
(2) Stairways	Sprinkler Spacing: Distance to Wall: Water Pressure Stairways Width: Ceiling Height:	max. 3.5m max. 1.5m min. 6 bar >1.6m max. 5m	max. 3.5m max. 0.8m min. 6 bar < 1.6m max. 2.5m	
(3) Corridors	Sprinkler Spacing: Distance to Wall: Water Pressure: Corridor Width: Ceiling Height:	max. 3.5m max. 1.5m min. 6 bar > 1.6m max. 5m	max. 3.5m max. 0.8m min. 6 bar < 1.6m max. 2.5m	
(6) Accommodations Spaces minor fire risk	Sprinkler Spacing: Distance to Wall: Water Pressure : Locations: Ceiling Height:	max. 3.5m max. 1.5m min. 6 bar all max. 5m	max. 12m^2 max. 2.0m min. 6 bar small rooms* max. 2.5m	
(7) Accommodation spaces moderate fire risk	Sprinkler Spacing: Distance to Wall: Water Pressure: Locations: Ceiling Height:	max. 3.5m max. 1.5m min. 6 bar all max. 5m	max. 12m^2 max. 2.0m min. 6 bar small rooms* max. 2.5m	max. 3.0m max. 1.5m min. 6 bar all max. 2.5m
(8) Accommodation spaces greater fire risk	Sprinkler Spacing: Distance to Wall: Water Pressure Locations: Ceiling Height:	max. 3.5m max. 1.5m min. 6 bar all max. 5m	max. 12m^2 max. 2.0m min. 6 bar small rooms* max. 2.5m	max. 3.0m max. 1.5m min. 6 bar all max. 2.5m
(9) Sanitary & Similar Spaces	Sprinkler Spacing: Distance to Wall: Water Pressure Locations: Ceiling Height:	max. 3.5m max. 1.5m min. 6 bar all max. 5m	max. 12m^2 max. 2.0m min. 6 bar small rooms* max. 2.5m	
(13) Storerooms Workshop, Pantries, Retail shops, Stores and Laundries, Galleys and rooms where goods are piled or shelved	Sprinkler Spacing: Distance to Wall: Water Pressure Locations: Ceiling Height:			max. 3.0m max. 1.5m min. 6 bar all max. 2.5m
(14) Storage areas, shops and other spaces where also flammable liquids for retail sales are stored in small containers	Sprinkler Spacing: Distance to Wall: Water Pressure Locations: Ceiling Height:			max. 3.0m max. 1.5m min. 6 bar all max. 2.5m

*Sprinklers to be installed symmetrically
max. 4m x 3m rooms, min. 6 bar pressure

Type: O = Open Space
C = Cabins & Corridors
S = Storage Rooms

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