



Reverse Action Water Spray Nozzle

MV - C,CB,CBS,CS,CE

Product Description

Reverse Action Medium Velocity Water Spray Nozzles are open type (non-automatic) nozzles, designed for directional spray application in fixed fire protection system. Reverse Action MV nozzle has external deflector and discharges water in opposite direction of flow.

Water is uniformly distributed over the surface to be protected.

The Nozzles are effectively designed to apply water to exposed vertical, horizontal, curved and irregular shaped surfaces to allow cooling to prevent excessive absorption of heat from an external fire and provide structural damage or spread of fire. In some application, nozzles may be applied to control or extinguish the fire depending on water design density as per applicable codes.

The nozzle is used in deluge water spray system for special hazard fire protection application. As the design and intent of specific water spray system may vary considerably, the nozzle is made available in several combinations of orifice sizes and spray angles.

The minimum desirable pressure to achieve a reasonable spray pattern is 1.4bar The water distribution pattern as shown in the graph in following pages is at an average pressure of 2.0bar

The change in pressure between 1.4 to 3.5 bar does not affect considerable change in spray angle. The spray pattern shown is considering still air condition. System designer must consider wind velocity while designing the system for outdoor application. Field obstruction if any affecting the spray pattern of the nozzle must also be considered. The nozzle may be oriented to any position as deemed necessary to cover the hazard.

The Blow-off plugs can be used to prevent depositing of foreign materials in the water way of the nozzle, which could interfere with the discharge of the spray nozzle. Blow-off plugs are optional and are not UL listed.

As per NFPA-15 main pipeline strainer is required for system utilising nozzle orifice diameter less than 9.5mm (3/8 inch), i.e RD Nozzle having K-factor 30 or less, and also for the system water which is likely to contain obstructive materials.



Technical Data

Model	Material
MV - CB	Brass
MV - CBS	Brass with copper Strainer
MV - C	Stainless Steel
MV - CS	Stainless Steel
MV - CE	Aluminium Bronze

Maximum Working Pressure

- 12 Bar (175Psi)

End Connections

- 1/2" BSPT
- 1/2" NPT (Optional)

Water Spray Angle

- 140°
- 120°

Weight

- 130g (Approx)

Approvals

- UL Listed

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Finish

Model	Finish
MV - CB MV - CBS	Natural Brass finish Chrome plated brass Electroless Nickel plated Epoxy coated
MV - CS MV - CE MV - C	Natural finish

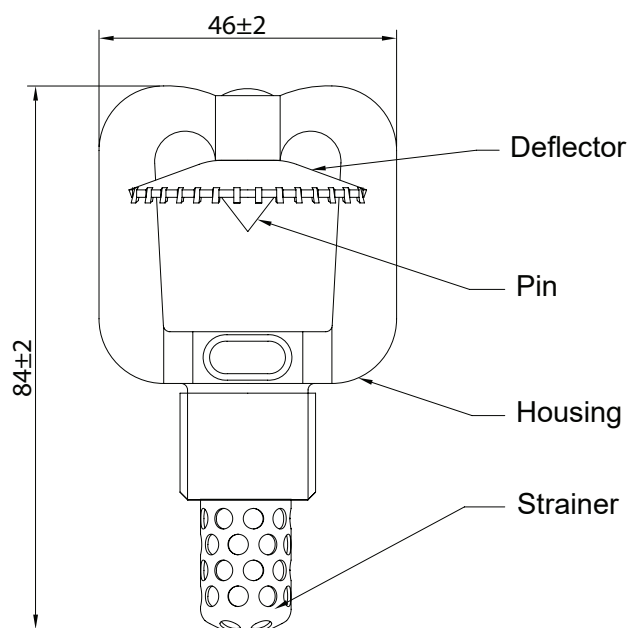
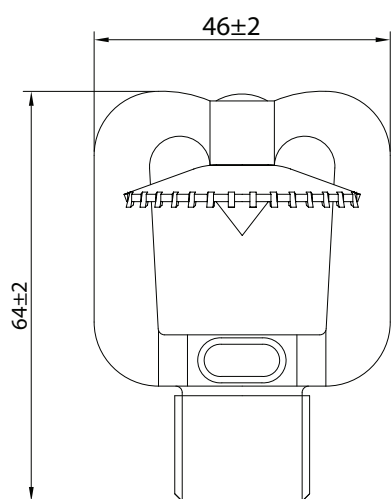
K-factor

Model	K-Factor
MV - CB MV - C MV - CE	K30 K50 K65 K80 K100
MV - CBS MV - CS	K18 K22

Installation and Maintenance

- The spray nozzle must be handled with due care.
- For best results, the storage as well as any further shipment be made in original packing only.
- Nozzle which is visibly damaged should not be installed.
- Use Teflon tape or soft thread sealant on male thread of the nozzle. The nozzles must be hand tightened into the fitting. Excessive tightening torque may result into serious damage to nozzle arms and the deflector, which may affect spray pattern of the nozzle and its performance.
- It is recommended that water spray system be inspected regularly by authorised technical personnel. The nozzle must be checked for atmospheric effects, external and internal obstruction & blockage if any. The system must be operated with optimum water flow at least twice in a year or as per the provisions of NFPA /TAC or local authority having jurisdiction.
- The owner is solely responsible for maintaining the water spray system and the components there in, so that it performs properly when required.

Dimensions





Data Sheet 11.11

Issue A



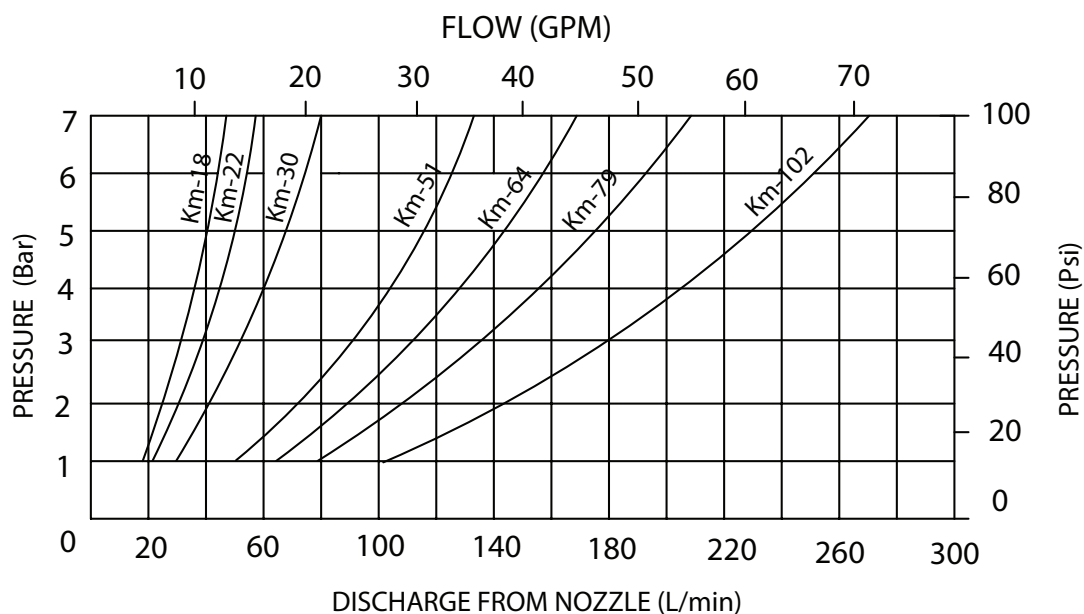
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Material Specification

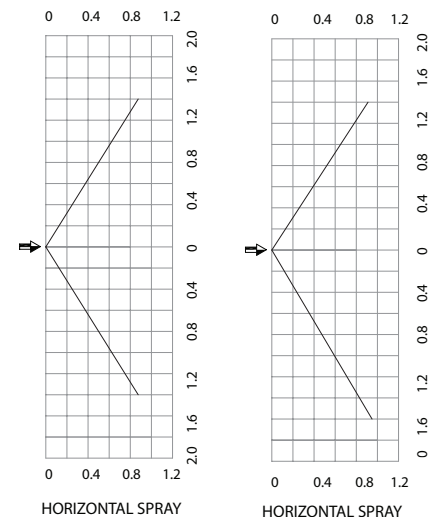
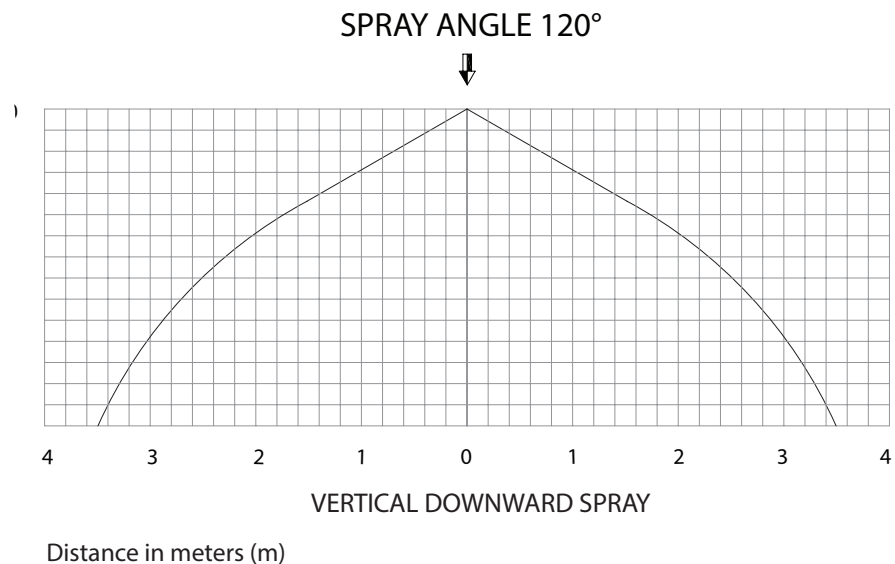
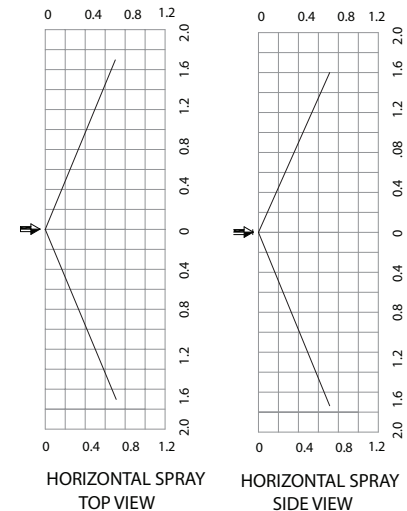
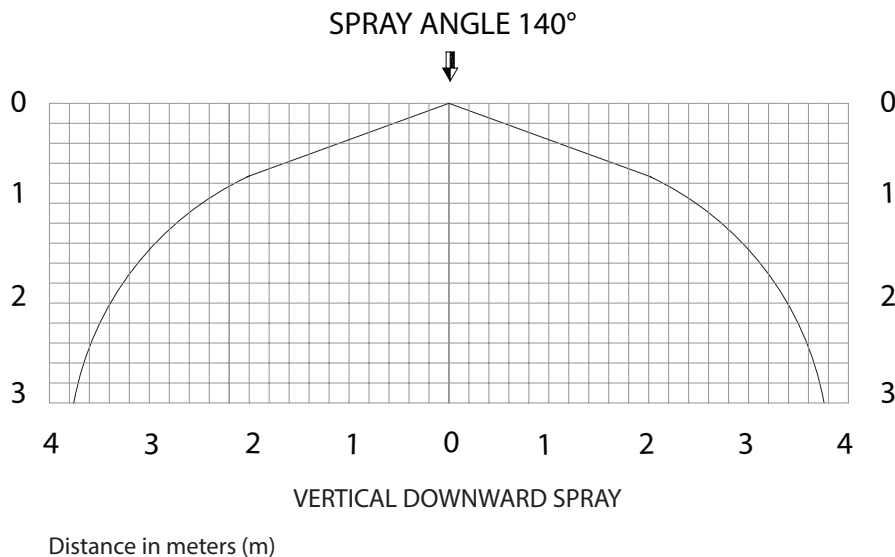
Component	Model MV-CB , MV-CBS	Model MV-C , MV-CS	Model MV-CE
Housing	Brass IS-291. GR-I (Equivalent to ASTM B21)	ASTM A 351. CF8M	Aluminium Bronze IS:305-AB1 (EQUIVALENT TO ASTM A148)
Pin	Brass IS-291. GR-I (Equivalent to ASTM B21)	ASTM A 479 GR 31803	PH. Bronze IS:7811 (Equivalent to ASTM B148/ BS2874-PB102)
Deflector	Brass IS-2768 (Equivalent to ASTM B36)	ASTM A 240 GR2205	PH. Bronze IS:7811 (Equivalent to ASTM B148/ BS2874-PB102)
Strainer	Copper (For MV-CBS)	Stainless Steel 316 (For MV-CS)	-
Blow-off Cap	Elastomer	Elastomer	Elastomer

Discharge Characteristicis



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Spray Pattern



Note :

- The design spray pattern given in graph are included spray angle of 120 degree and 140 degree at nozzle inlet pressure of 1.4 to 4.1 bar. When the nozzle pressure above 4.1 bar is applied, the coverage area will decrease because, the spray pattern tends to draw inward at higher pressure. The spray data are obtained from the test in still air.
- Metric Km-factor is marked on nozzle.