

# Medium Velocity Water Spray Nozzle

Ref: SPTDMV/E

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April 10, 2009

Technical Data

### TECHNICAL DATA :

MODEL	A & B	
MAXIMUM WORKING PRESSURE	12.3 Kg./Sq.Cm. (175 psi)	
MINIMUM EFFECTIVE WORKING PRESSURE	7 Kg./Sq.Cm. (100 psi) maximum 1.4 Kg./Sq.Cm. (20 psi) minimum	
END CONNECTION	½" BSPT (½" NPT OPTIONAL)	
MATERIAL	Model A - Brass Model B - Stainless Steel	
INCLUDED WATER SPRAY ANGLE FOR EACH K-FACTOR	140°, 120°, 110°, 100°, 90°, 80° & 65°	
ORIFICE SIZE AND K-FACTOR	(MM) (INCH)	METRIC (US)
	6.0(0.236)	- K22(1.54)
	7.0(0.275)	- K30(2.10)
	7.5(0.295)	- K35(2.45)
	8.0(0.314)	- K41(2.87)
	9.0(0.354)	- K51(3.57)
	10.0(0.393)	- K64(4.48)
	11.0(0.433)	- K79(5.53)
	12.0(0.472)	- K91(6.37)
	12.5(0.492)	- K102(7.14)
WEIGHT	0.115 Kg. (approximately)	
FINISH	Brass or Nickel Chrome plated for Model A Natural finish for Model B	
APPROVALS	UL Listed for Model A	
ORDERING INFORMATION	Specify K-Factor, spray angle and finish.	

### APPLICATION

Medium velocity water spray nozzle has an external deflector, which discharges water in a directional cone shaped pattern of small droplet size. The water is uniformly distributed over the surface to be protected.

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, a MV nozzle is made available in several combination of orifice sizes and spray angles.

The minimum desirable pressure to achieve a reasonable spray pattern is 1.4 Kg./Sq.cm. The water distribution pattern as shown in the graph in following pages is at an average pressure of 2.0 Kg/Sq.cm. The change in pressure between 1.4 to 3.5 Kg./sq.cm. does not affect



considerable change in spray angle. The spray pattern shown is with indoor application. 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.

### 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.

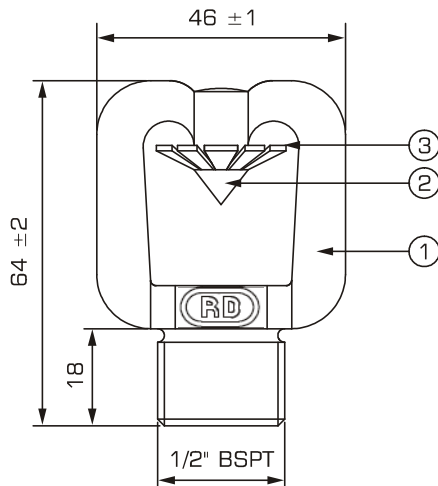
Use Teflon tape or soft thread sealant on male thread of the nozzle. The nozzles must be hand tightened into the fitting. RD make wrench must be used to tighten the nozzle unit into the fitting. Excessive tightening torque may result into serious damage to nozzle arms and the deflector which may affect spray pattern of the nozzle and it's performance.

It is recommended that water spray system be inspected regularly by authorised technical personnel. The nozzle must be checked for corrosion, external and internal obstruction, blockage if any. The nozzle should be cleaned or replaced if required. 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 therein so that it performs properly when required.

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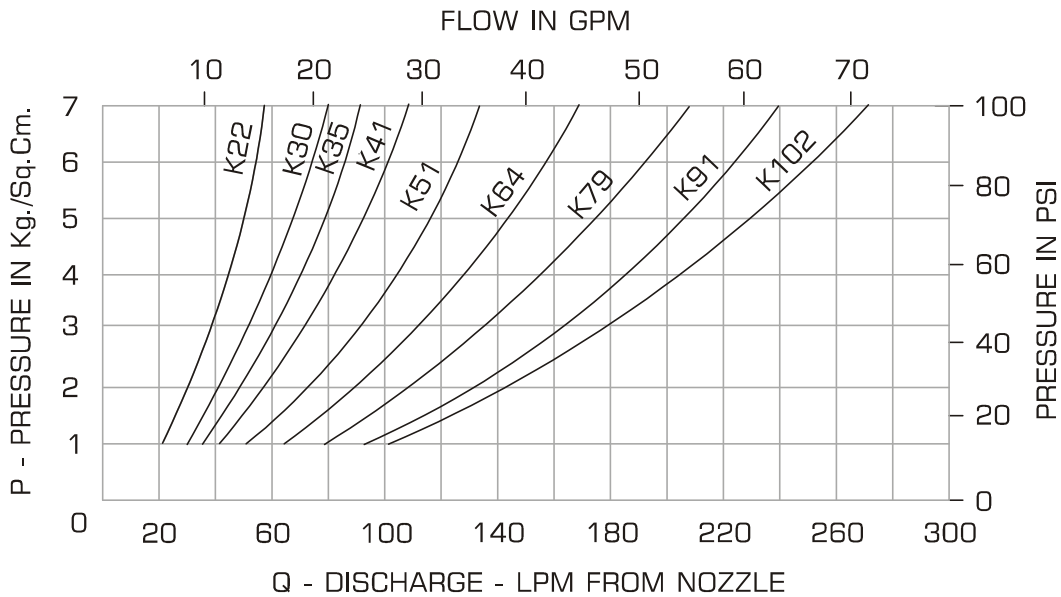
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### PART LIST

COMPONENT	MODEL-A	MODEL-B
HOUSING	FORGED BRASS IS:291, GR.-I (EQUIVALET TO ASTM B21)	SS 316
DEFLECTOR PIN	BRASS IS:291, GR.-I (EQUIVALET TO ASTM B21)	SS 316
DEFLECTOR	BRASS IS:2768 (EQUIVALET TO ASTM B36)	SS 316

## Discharge Characteristics

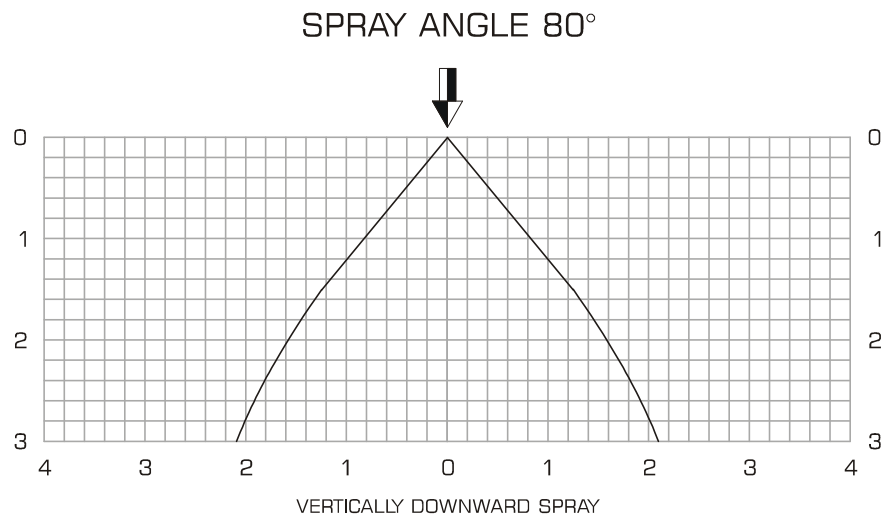
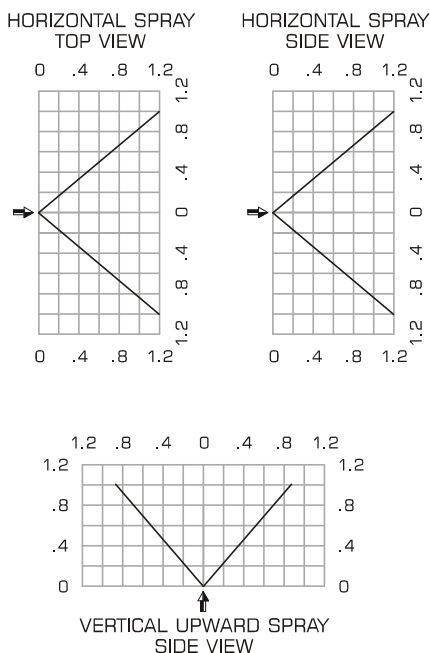
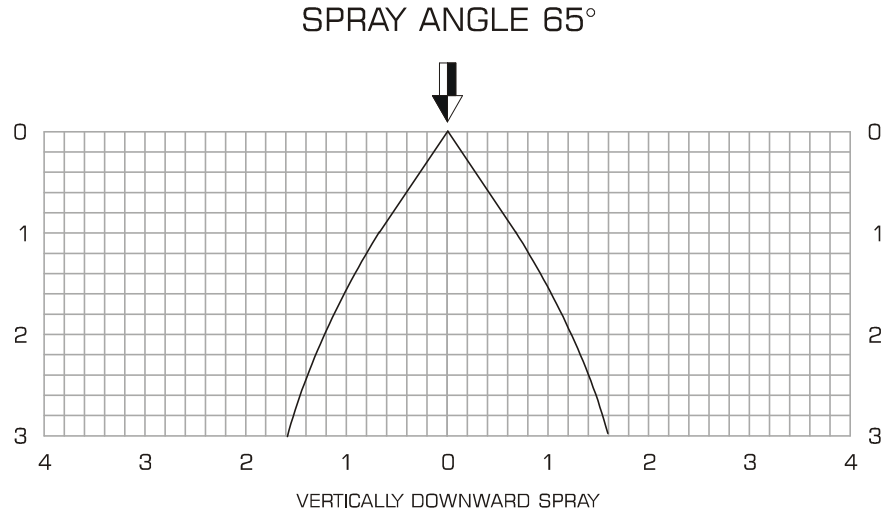
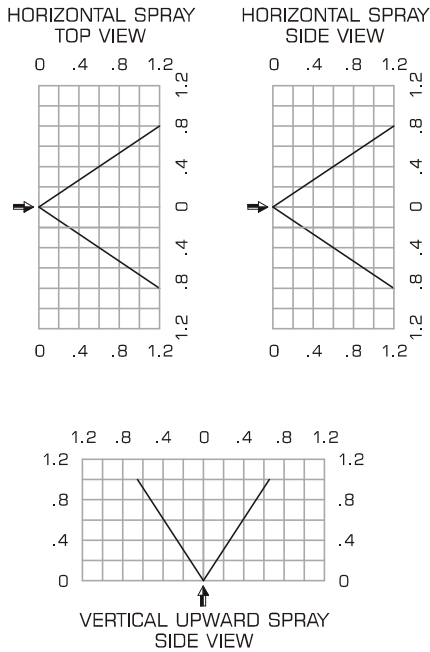


$Q = K\sqrt{P}$ , where P is supply pressure in Kg./sq.cm., K-is nozzle constant in Metric  
US K Factor = Metric K Factor ÷ 14.2745

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## Spray Pattern

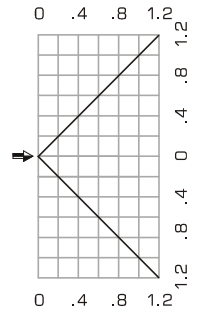


Dimension in metres

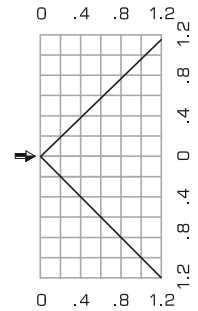
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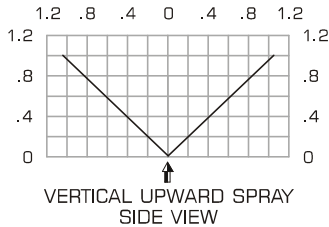
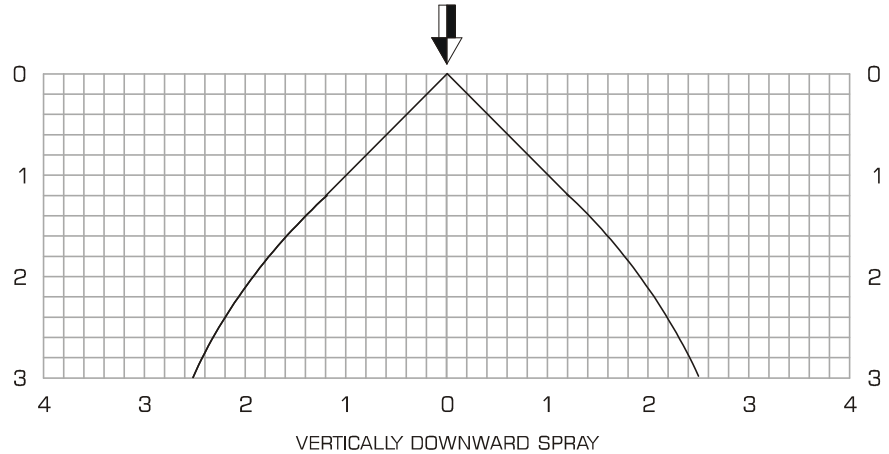
HORIZONTAL SPRAY  
TOP VIEW



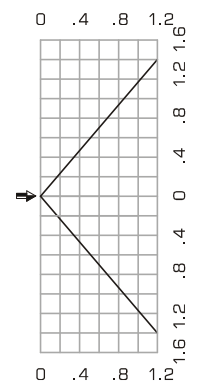
HORIZONTAL SPRAY  
SIDE VIEW



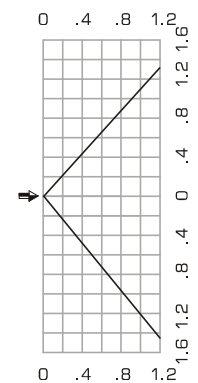
SPRAY ANGLE 90°



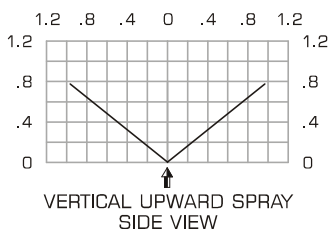
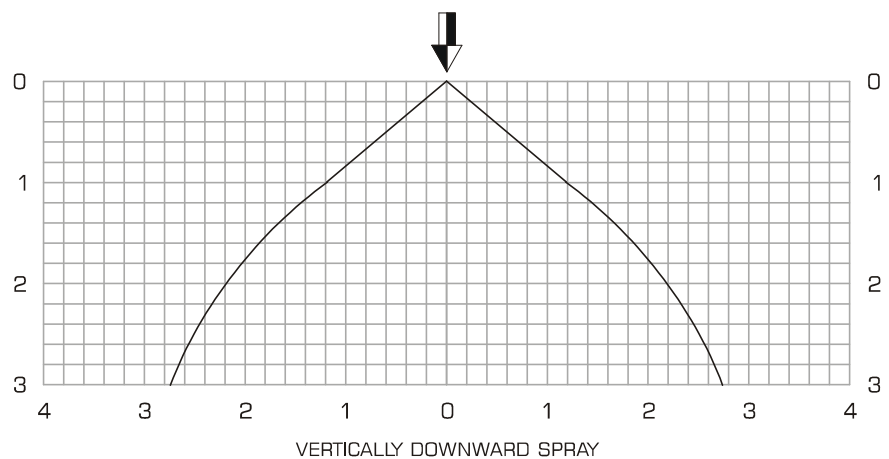
HORIZONTAL SPRAY  
TOP VIEW



HORIZONTAL SPRAY  
SIDE VIEW



SPRAY ANGLE 100°

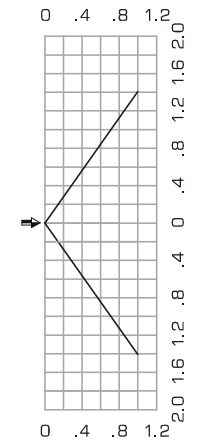


Dimension in metres

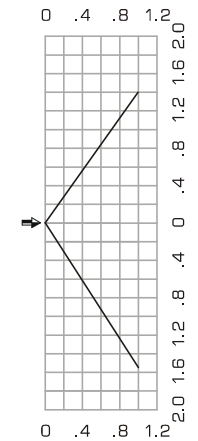
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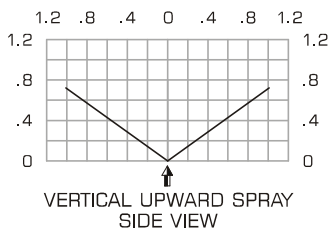
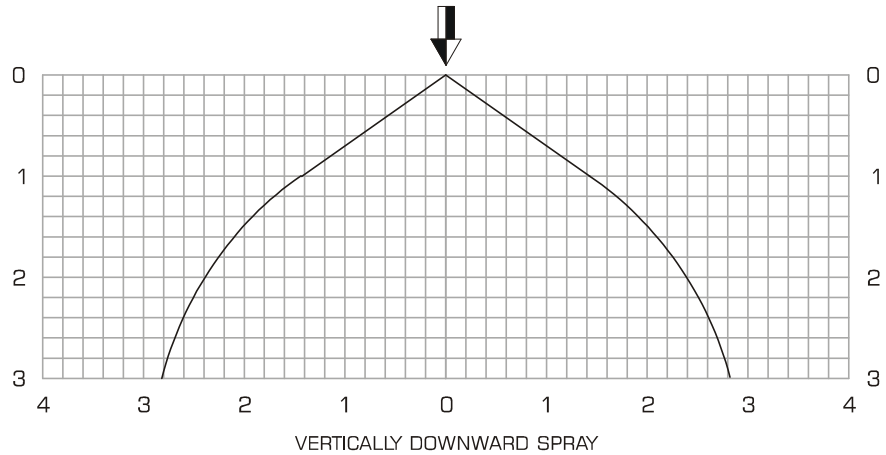
HORIZONTAL SPRAY TOP VIEW



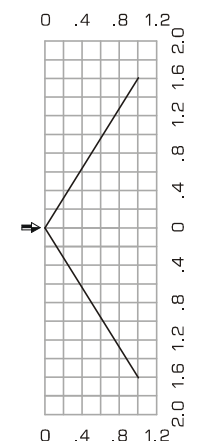
HORIZONTAL SPRAY SIDE VIEW



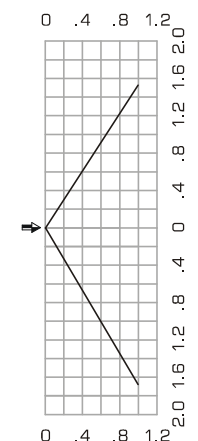
SPRAY ANGLE 110°



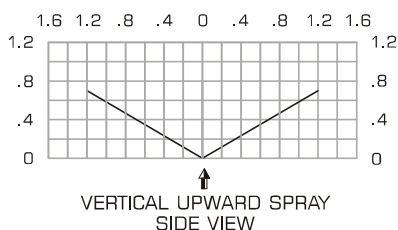
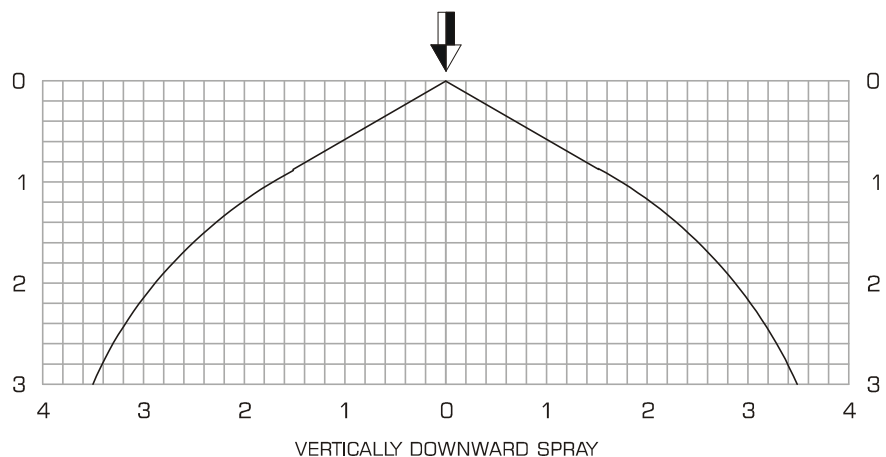
HORIZONTAL SPRAY TOP VIEW



HORIZONTAL SPRAY SIDE VIEW



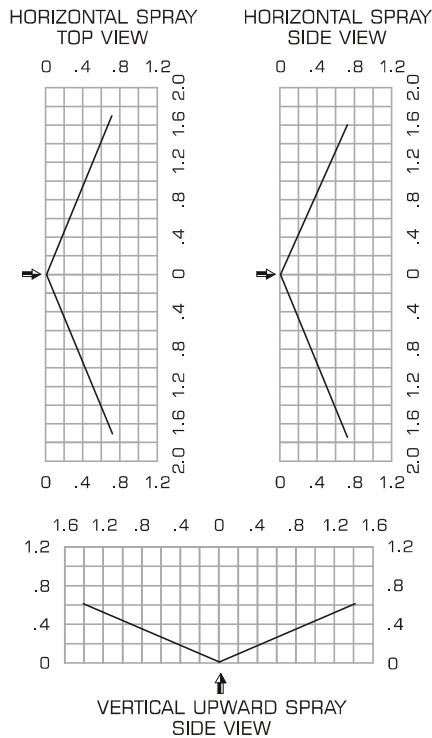
SPRAY ANGLE 120°



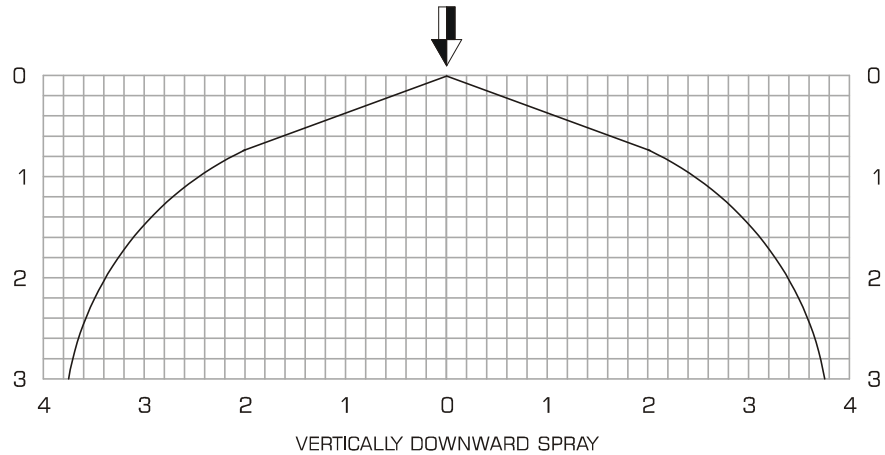
Dimension in metres

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SPRAY ANGLE 140°



Dimension in metres

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