

Medium Velocity Water Spray Nozzle

Ref: SPTDMV/E	
Page 1 of 6 Issue C Jan, 2011	Technical Data

TECHNICAL DATA :

MODEL	A, AS, B, BS & E	
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	Refer Table-I	
INCLUDED WATER SPRAY ANGLE FOR EACH K-FACTOR	140°, 120°, 110°, 100°, 90°, 80° & 65°	
ORIFICE SIZE AND K-FACTOR	(MM) (INCH)	METRIC (US)
	6.3(0.248)	- K18(1.26)
	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)
(Only K-factors K18, K22, K30, K35 & K41 are available with strainer as Model-AS)		
K18 nozzle is with square edge orifice, others with tapered bore.		
WEIGHT	0.115 Kg. (approximately)	
FINISH	Plain, Chrome, Nickle Plated & Epoxycoated Model B & BS Stainless Steel only	
APPROVALS	UL Listed & FM Approved	
ORDERING INFORMATION	Specify K-Factor, spray angle finish and model.	

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. 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.

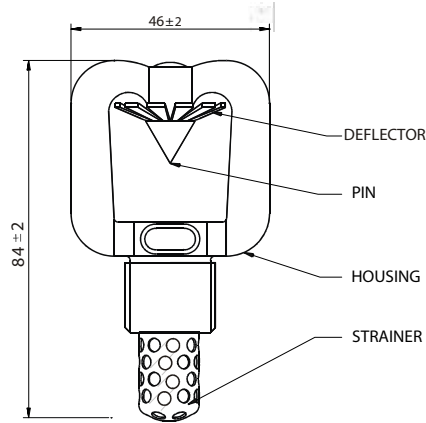
It is recommended that water spray system be inspected regularly by authorised technical personnel. The nozzle must be checked for atmospheric effects, external and internal obstruction, blockage if any. The nozzle should be cleaned or replaced if required. The system must be operated with optimum water 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.

Medium Velocity Water Spray Nozzle

Ref: SPTDMV/E	
Page 2 of 6 Issue C Jan, 2011	Technical Data

MODEL AS



MODEL A

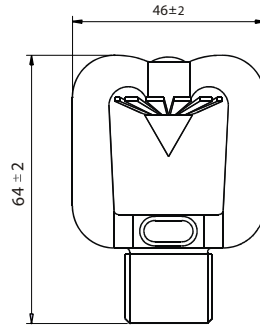
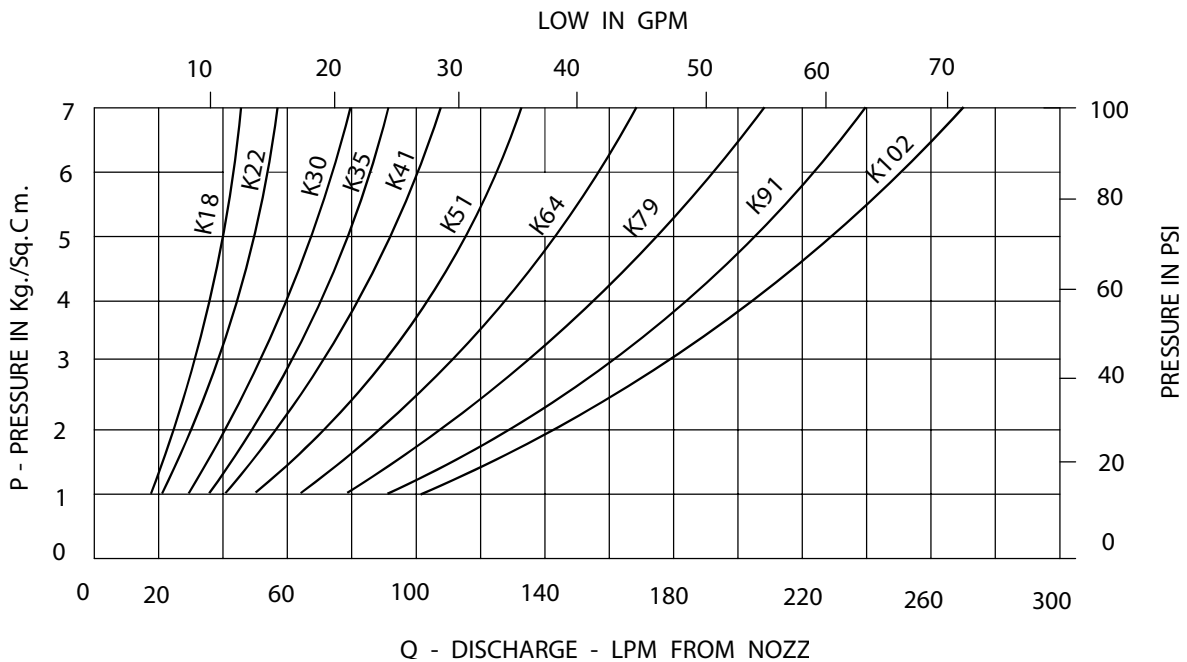


TABLE - I : MATERIAL OF CONSTRUCTION

COMPONENT	MODEL - A	MODEL - AS	MODEL - E	MODEL - B & BS
HOUSING	FORGED BRASS IS:291, GR.-1 (EQUIVALENT TO ASTM B21)	FORGED BRASS IS:291, GR.-1 (EQUIVALENT TO ASTM B21)	ALUMINIUM BROZE IS:305 - AB1 (EQUIVALENT TO ASTM A148)	A351-CF8M
PIN	BRASS IS: 291, GR.-1 (EQUIVALENT TO ASTM B21)	BRASS IS: 291, GR.-1 (EQUIVALENT TO ASTM B21)	PH. BRONZE IS: 7811 (EQUIVALENT TO ASTM B139/ BS2874-PB102)	ASTM-A479 GR 31803
DEFLECTOR	BRASS IS: 2768 (EQUIVALENT TO ASTM B36)	BRASS IS: 276 (EQUIVALENT TO ASTM B36)	PH. BRONZE IS: 7814 - GR.-11 (EQUIVALENT TO ASTM BS2870- PB102)	ASTM A240 GR 2205
STARINER	-----	COPPER	-----	-----

DISCHARGE CHARACTERISTICS



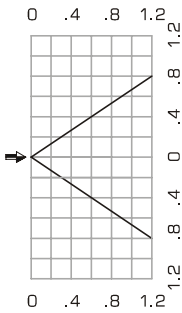
$Q = K\sqrt{P}$ where P is supply pressure in Kg/sq.cm., K= nozzle constant (K-factor) in metric
 US K factor = Metric K factor \div 14.2745

Medium Velocity Water Spray Nozzle

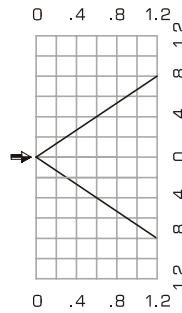
Ref: SPTDMV/E	
Page 3 of 6 Issue C Jan, 2011	Technical Data

SPRAY PATTERN

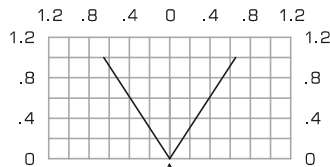
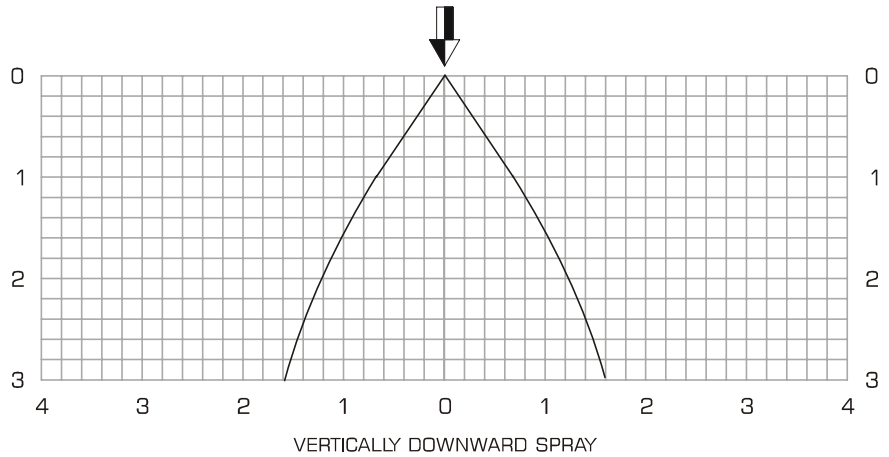
HORIZONTAL SPRAY
TOP VIEW



HORIZONTAL SPRAY
SIDE VIEW

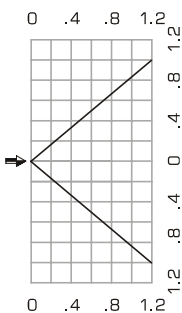


SPRAY ANGLE 65°

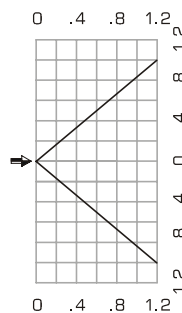


VERTICAL UPWARD SPRAY
SIDE VIEW

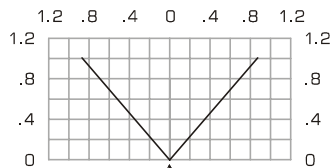
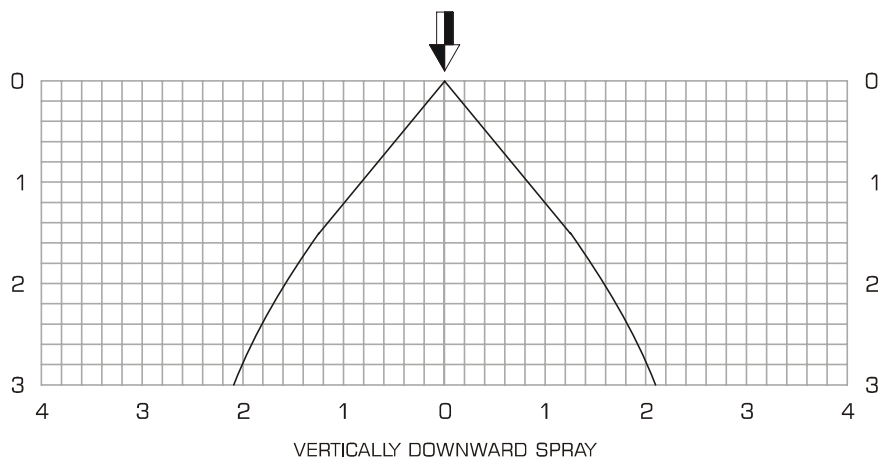
HORIZONTAL SPRAY
TOP VIEW



HORIZONTAL SPRAY
SIDE VIEW



SPRAY ANGLE 80°



VERTICAL UPWARD SPRAY
SIDE VIEW

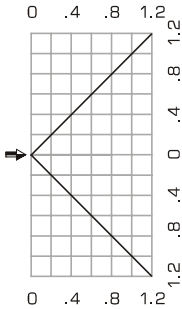
ALL DIMENSIONS ARE IN METERS

Rapidrop Global

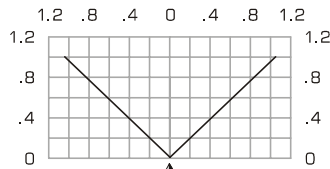
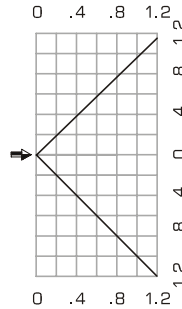
Medium Velocity Water Spray Nozzle

Ref: SPTDMVE	
Page 4 of 6 Issue C Jan, 2011	Technical Data

HORIZONTAL SPRAY
TOP VIEW

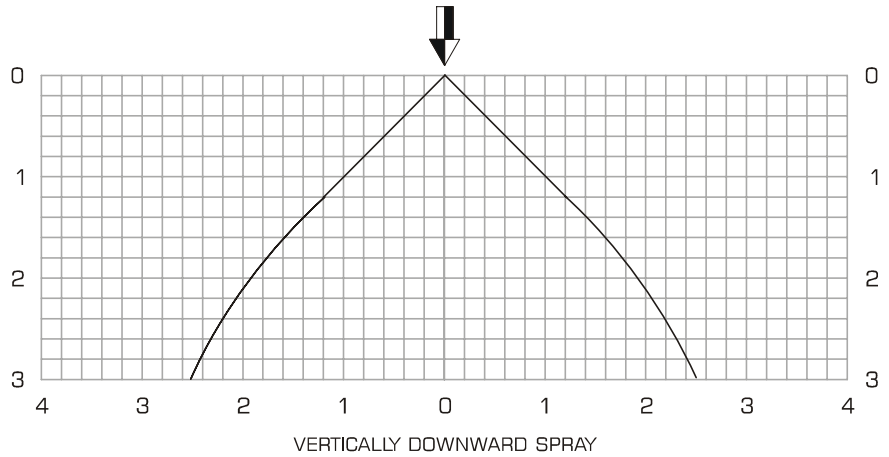


HORIZONTAL SPRAY
SIDE VIEW

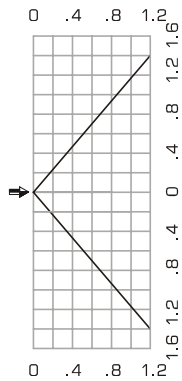


VERTICAL UPWARD SPRAY
SIDE VIEW

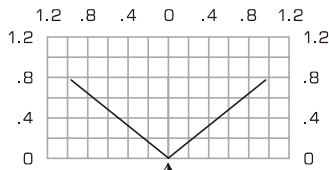
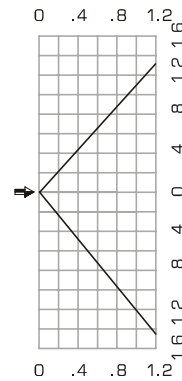
SPRAY ANGLE 90°



HORIZONTAL SPRAY
TOP VIEW

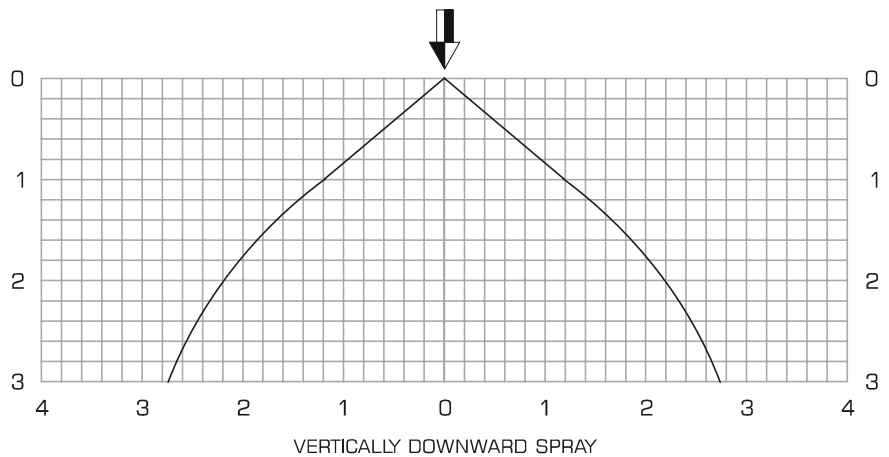


HORIZONTAL SPRAY
SIDE VIEW



VERTICAL UPWARD SPRAY
SIDE VIEW

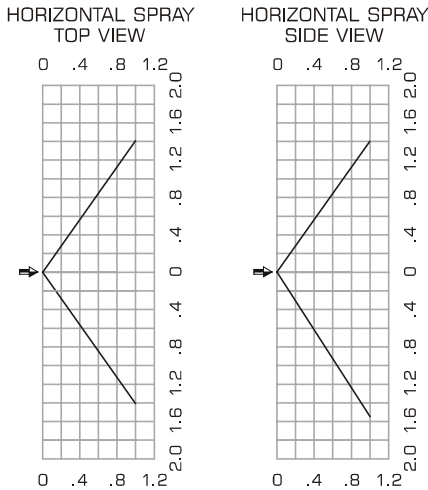
SPRAY ANGLE 100°



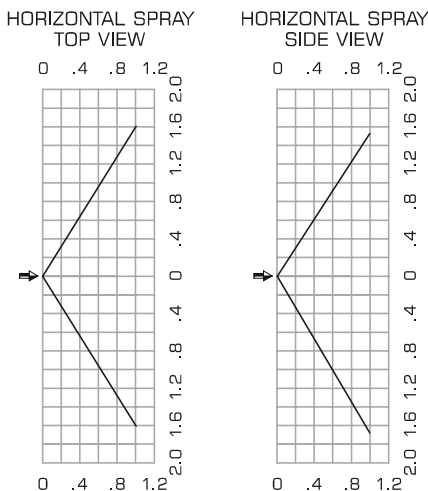
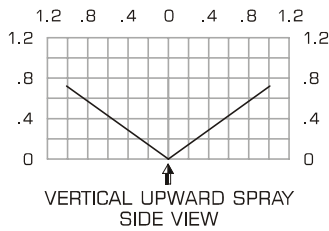
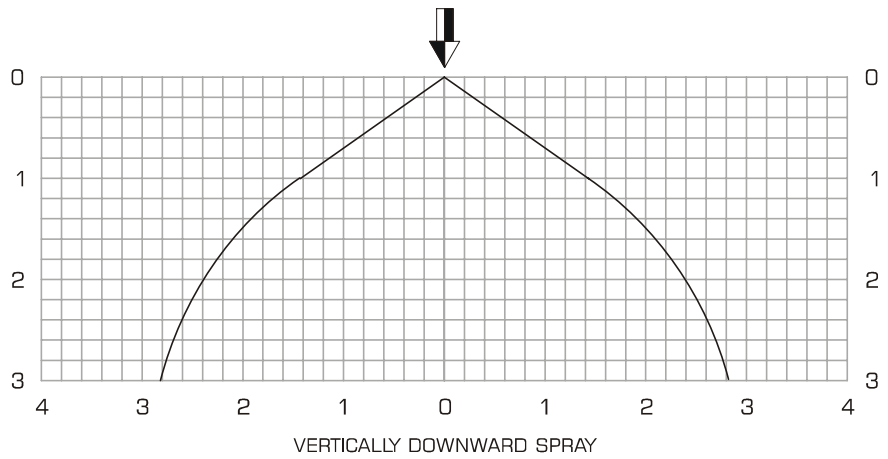
ALL DIMENSIONS ARE IN METERS

Medium Velocity Water Spray Nozzle

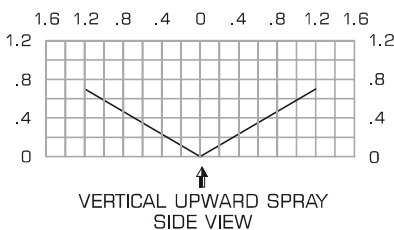
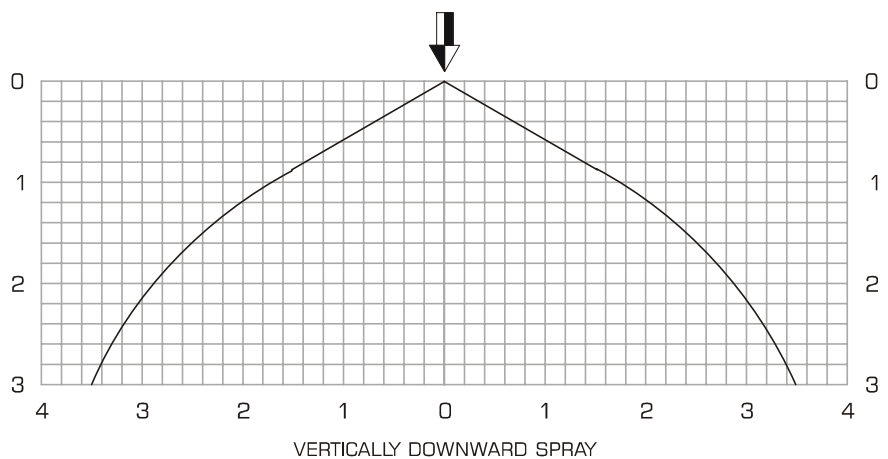
Ref: SPTDMV/E	
Page 5 of 6 Issue C Jan, 2011	Technical Data



SPRAY ANGLE 110°



SPRAY ANGLE 120°

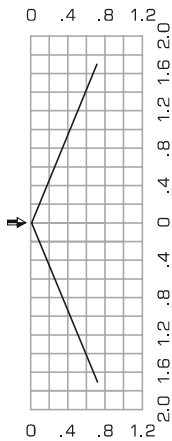


ALL DIMENSIONS ARE IN METERS

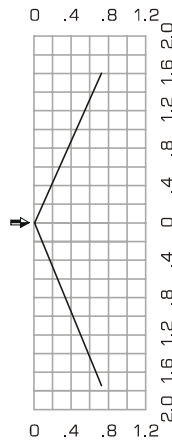
Medium Velocity Water Spray Nozzle

Ref: SPTDMV/E	
Page 6 of 6 Issue C Jan, 2011	Technical Data

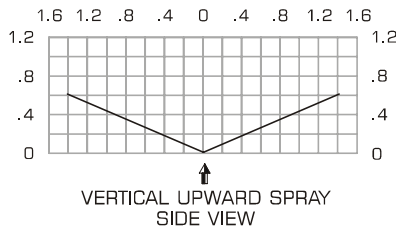
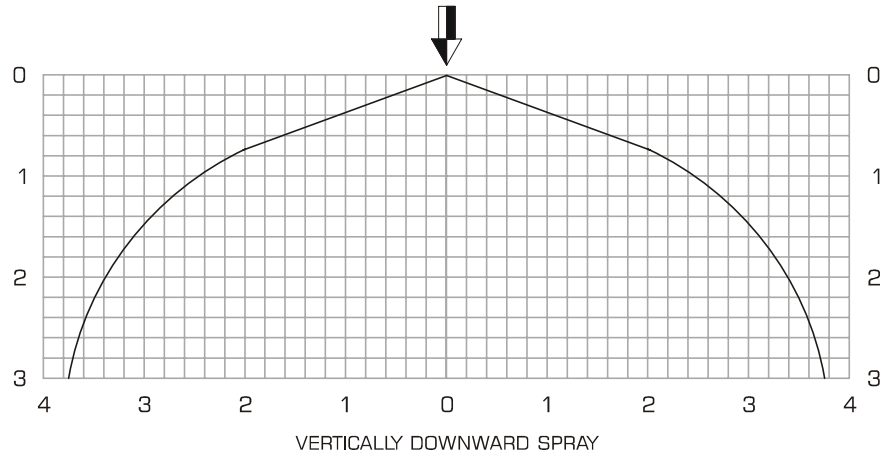
HORIZONTAL SPRAY
TOP VIEW



HORIZONTAL SPRAY
SIDE VIEW



SPRAY ANGLE 140°



ALL DIMENSIONS ARE IN METERS

LIMITED WARRANTY

Products supplied by Rapidrop (RD) are warranted against defects in material and workmanship for a period of Two (2) years from the date of shipment. RD's obligation under this warranty is limited to replace or repair the products or its parts, which are shown to RD's examination to be in a defective condition attributable to RD. No warranty is given for products or components which have been subject, to misuse, improper installation, corrosion, wear and tear, improper storage, modification or repaired. If the defect attributable to RD cannot be rectified by repair or replacement, then RD may elect to refund the purchase price of the equipment in complete discharge of its obligation under this Limited Warranty.

IN NO EVENT SHALL RAPIDROP BE LIABLE IN CONTRACT, STRICT LIABILITY OR ANY OTHER LEGAL THEORY, FOR INCIDENTAL, IN-DIRECT, SPECIAL OR CONSEQUENTIAL DAMAGES, INCLUDING DAMAGES. FOR INJURY TO PERSON OR DEATH OR DAMAGE TO PROPERTY AND OR PENALTIES RESULTING FROM ANY PRODUCTS OR COMPONENT MANUFACTURED OR ASSEMBLED BY RD. THIS IS LIMITED WARRANTY ONLY. RD DISCLAIMS WITH RESPECT TO THE PRODUCTS ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND ALL IMPLIED WARRANTIES OF FITNESS FOR A PARTICULAR PURPOSE. THERE IS NO WARRANTY OF ANY NATURE MADE BY RD BEYOND AS STATED ABOVE.

NOTICE :

The equipment presented in this bulletin is to be installed in accordance with the latest publication standards of NFPA or other similar organisations and also with the provision of government codes or ordinances wherever applicable. The information provided by us are to the best of our knowledge and belief, and are general guidelines only. Site handling and installation control is beyond our reach. Hence we give no guarantee for result and take no liability for damages, loss or penalties whatsoever, resulting from our suggestion, information, recommendation or damages due to our product. Product development is a continuous programme of RAPIDROP and hence the right to modify any specification without prior notice is reserved with the company.