

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.	

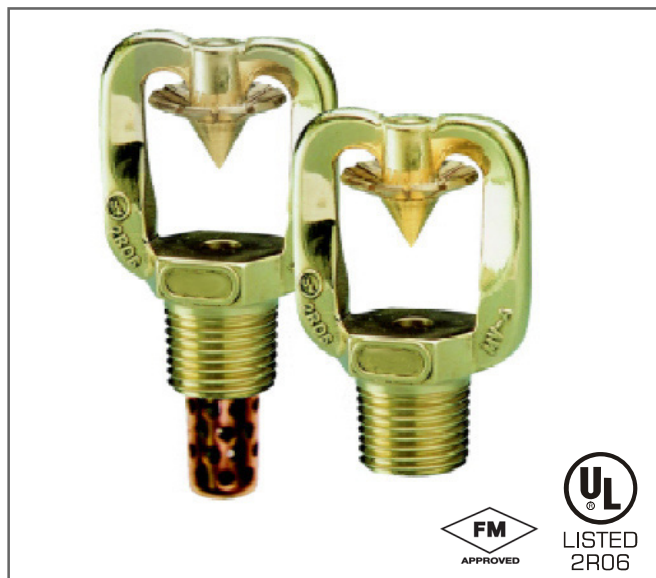
APPLICATION

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 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 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

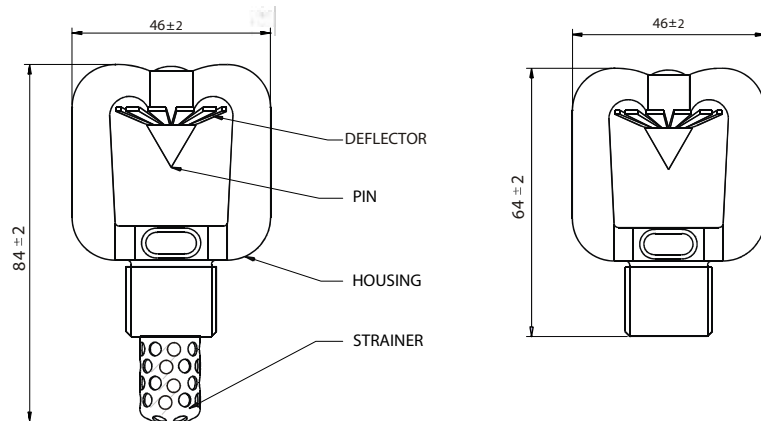
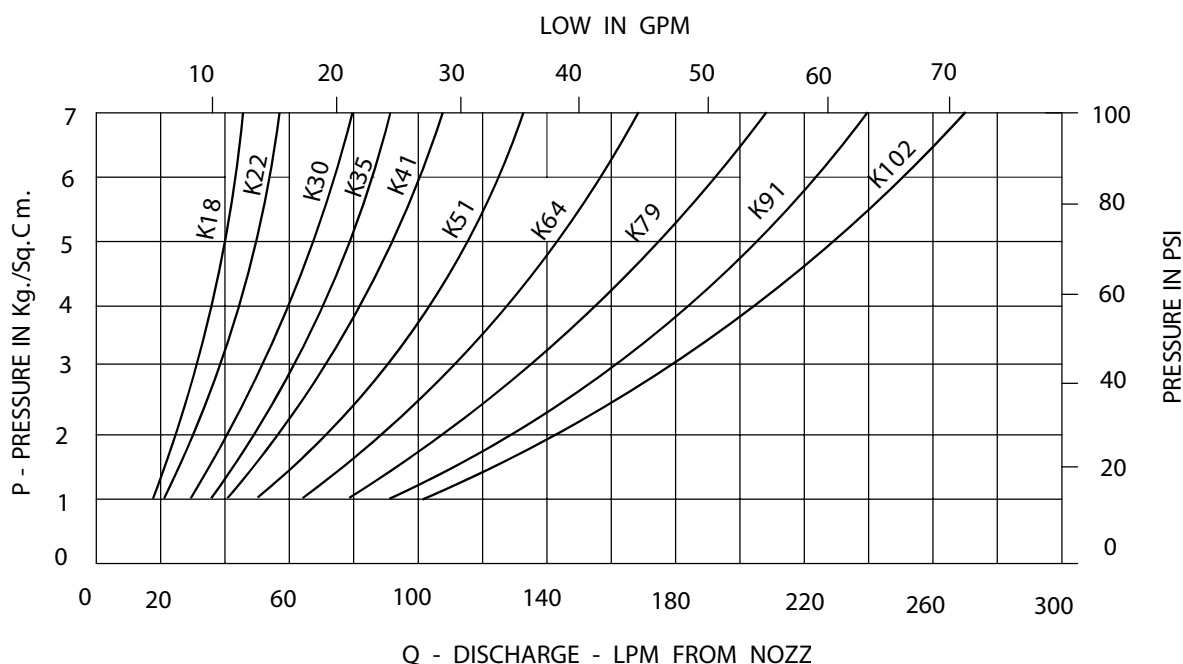


TABLE - I : MATERIAL OF CONSTRUCTION

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 $\div 14.2745$

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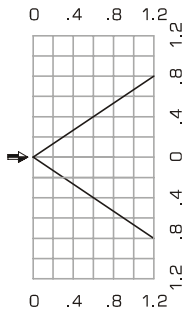
Ref: SPTDMV/E

Page 3 of 6 Issue C
Jan, 2011

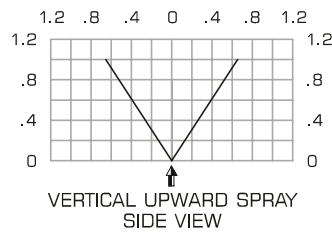
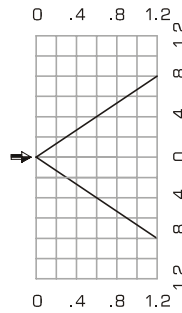
Technical Data

SPRAY PATTERN

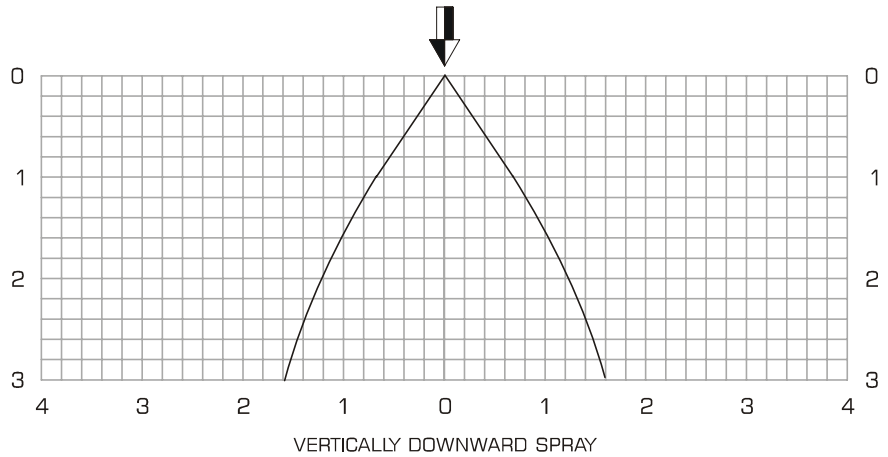
HORIZONTAL SPRAY
TOP VIEW



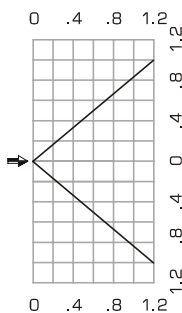
HORIZONTAL SPRAY
SIDE VIEW



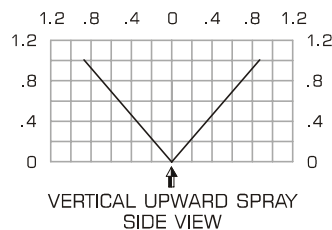
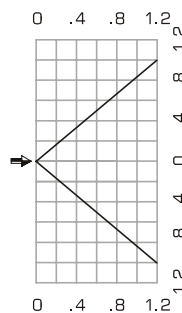
SPRAY ANGLE 65°



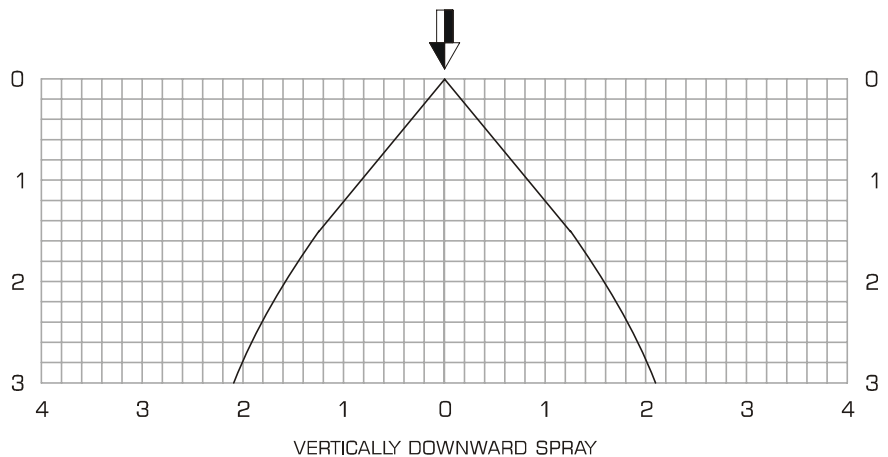
HORIZONTAL SPRAY
TOP VIEW



HORIZONTAL SPRAY
SIDE VIEW



SPRAY ANGLE 80°



ALL DIMENSIONS ARE IN METERS



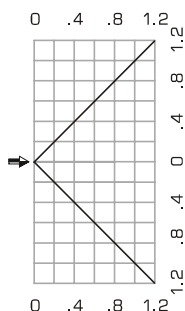
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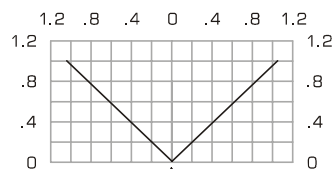
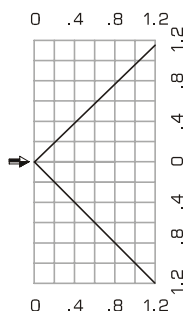
Page 4 of 6 Issue C
Jan, 2011

Technical Data

HORIZONTAL SPRAY
TOP VIEW

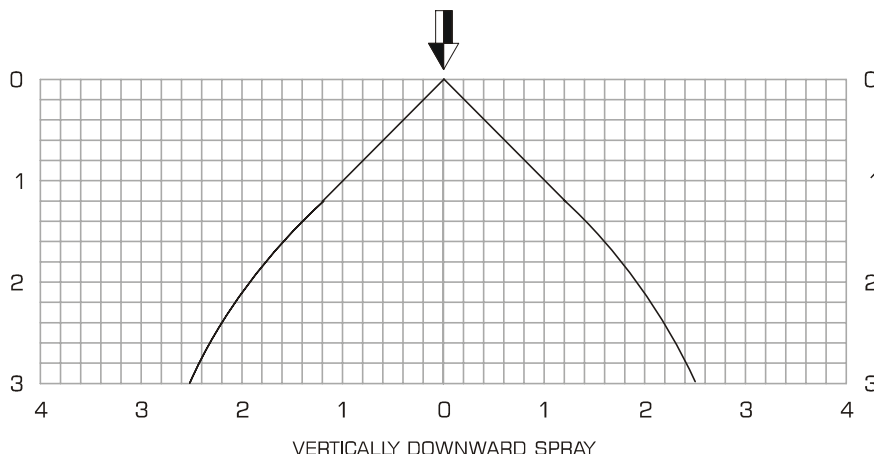


HORIZONTAL SPRAY
SIDE VIEW



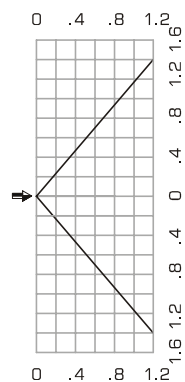
VERTICAL UPWARD SPRAY
SIDE VIEW

SPRAY ANGLE 90°

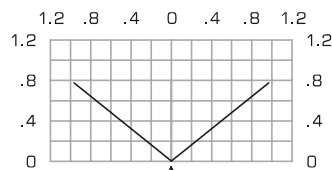
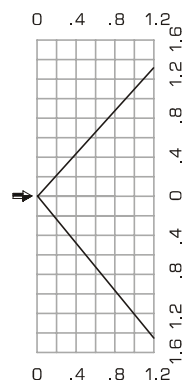


VERTICALLY DOWNWARD SPRAY

HORIZONTAL SPRAY
TOP VIEW

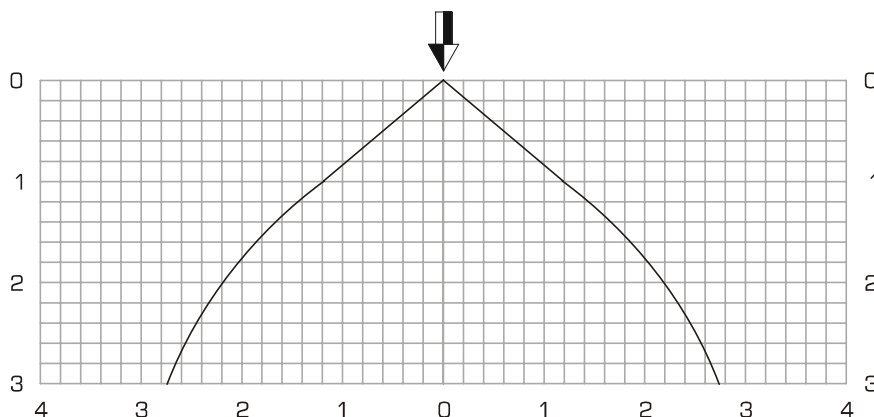


HORIZONTAL SPRAY
SIDE VIEW



VERTICAL UPWARD SPRAY
SIDE VIEW

SPRAY ANGLE 100°



VERTICALLY DOWNWARD SPRAY

ALL DIMENSIONS ARE IN METERS



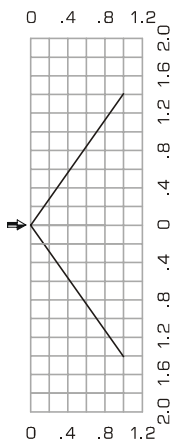
Medium Velocity Water Spray Nozzle

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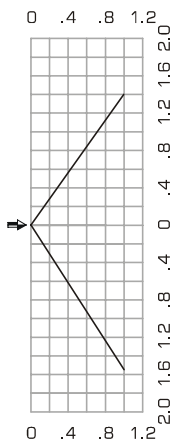
Page 5 of 6 Issue C
Jan, 2011

Technical Data

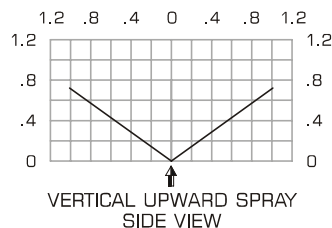
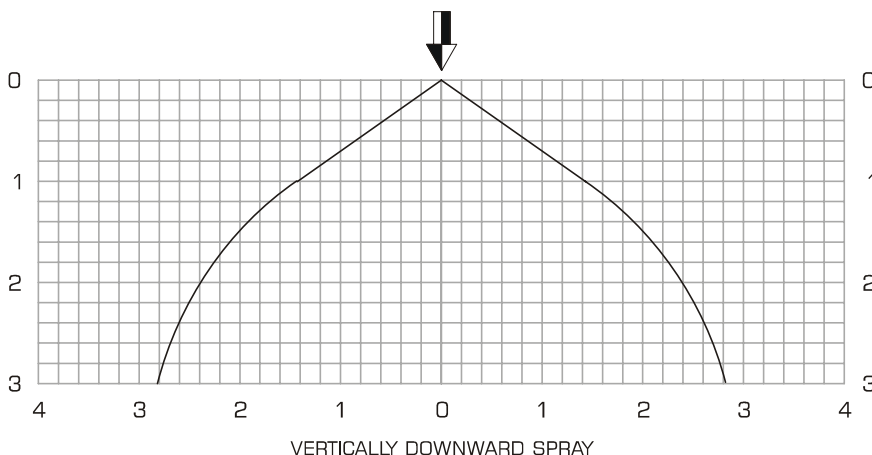
HORIZONTAL SPRAY
TOP VIEW



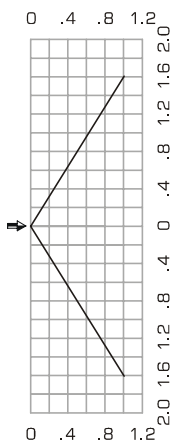
HORIZONTAL SPRAY
SIDE VIEW



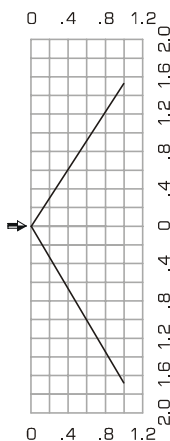
SPRAY ANGLE 110°



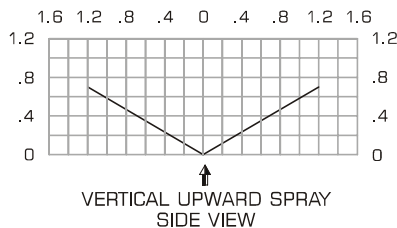
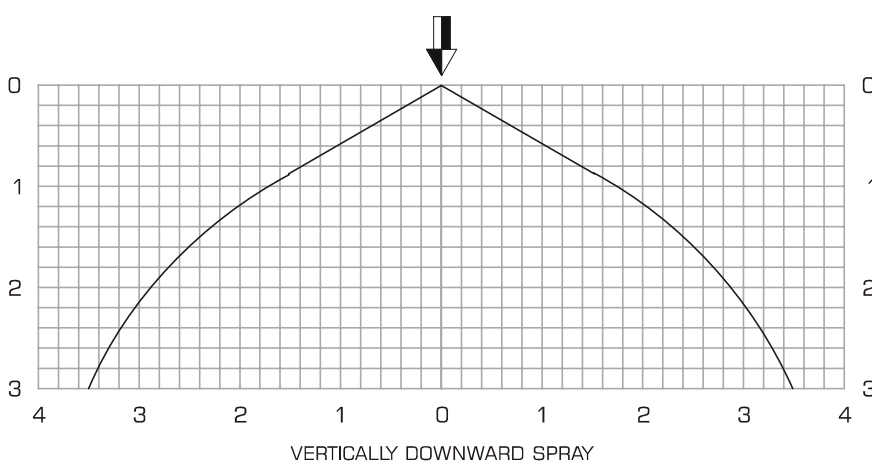
HORIZONTAL SPRAY
TOP VIEW



HORIZONTAL SPRAY
SIDE VIEW



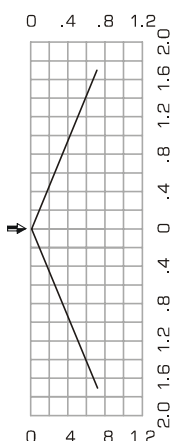
SPRAY ANGLE 120°



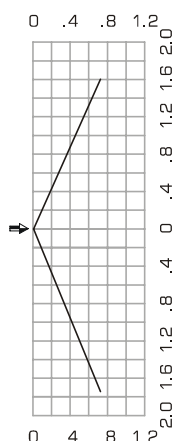
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Ref: SPTDMV/E	
Page 6 of 6 Issue C Jan, 2011	Technical Data

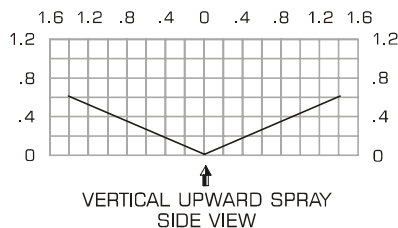
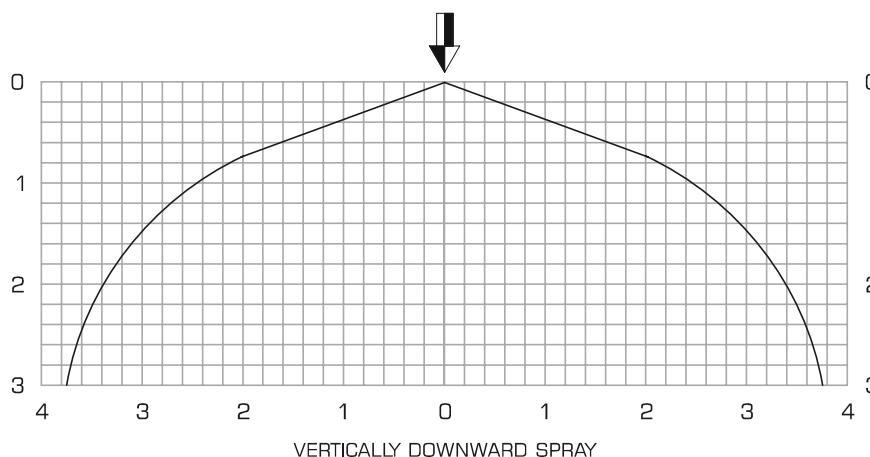
HORIZONTAL SPRAY
TOP VIEW



HORIZONTAL SPRAY
SIDE VIEW



SPRAY ANGLE 140°



ALL DIMENSIONS ARE IN METERS

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