

**MEDIUM VELOCITY
WATER SPRAY NOZZLE (for Tank Cooling)**

**05-MVA (Brass)
05 MVB (316SS)**



Progard MV Water Spray Nozzle has an external deflector that discharges water in a directional cone shaped pattern of small droplets. The water is uniformly distributed over the surface to be cooled or protected.

The nozzle is widely used in deluge water spray fixed systems for special hazard fire protection applications. Normally the nozzle forms a part of a deluge type sprinkler system specifically engineered as to nozzle type and piping to provide the required degree of protection.

These systems are activated manually or by means of a separate actuation system sensing either the rate of temperature rise or the generation of products of combustion. The nozzle is effective in covering exposed vertical, horizontal, curved or irregular shaped surfaces that require exposure cooling to prevent excessive heat absorption. It is also used for fire control and extinguishment.

As the design and intent of specific water spray system may vary considerably, the nozzle is made available in several combination of orifice sizes and spray angles.

The recommended minimum pressure to achieve a reasonable spray pattern is 1.4 bar (20 psi). The water distribution pattern shown in the graph is designed at an average pressure of 2.0 bar. The change in pressure between 1.4 to 3.5 bar does not affect considerable change in the spray angle. All spray patterns shown are based on tests carried indoors. Wind velocity must be taken into consideration when designing outdoor systems utilising these nozzles.

The nozzle is provided with a ½" male pipe thread inlet connection.

Typical applications include flue gas scrubbing, gas cooling, washing & rinsing processes and fire suppression & prevention.

Technical Data

Material : Brass, Aluminium Bronze or 316 SSS

Note: Brass version is UL listed.

Working Pressure : 12.3 bar (175 psi) max
1.40 bar (20 psi) min

Finish : Brass (or Nickel-Chromed Brass) for Model PGN-MVA
Natural finish for Model PGN-MVB

Material List

Component	Model PGN-MVA	Model PGN-MVB
Nozzle Housing	Forged Brass IS:291 Gr-1	316SS
Deflector	Forged Brass IS:291 Gr-1	316SS
Deflector Pin	Brass (IS:2768)	316SS

Nozzle Selection

Product Code	Material	Nozzle K-Factor	Orifice Size (mm)	Choice of Spray Angle (Degree)
05 MVA	Brass or Aluminium Bronze	K-22	6.0	65° 80° 90° 100° 110° 120° 125° 140°
		K-30	7.0	
		K-35	7.5	
		K-41	8.0	
		K-51	9.0	
		K-64	10.0	
		K-79	11.0	
		K-91	12.0	
05 MVB	316SS	K-22	6.0	65° 80° 90° 100° 110° 120° 125° 140°
		K-30	7.0	
		K-35	7.5	
		K-41	8.0	
		K-51	9.0	
		K-64	10.0	
		K-79	11.0	
		K-91	12.0	
		K-102	12.5	

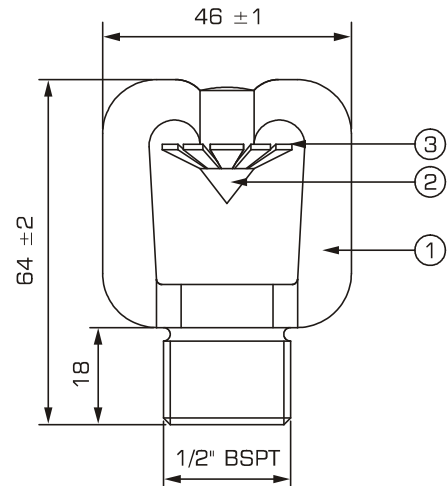
Dimensions

Nozzle Model	Inlet Size	Length	Weight
05 MVA	½" BSPT	64 mm	0.115 kg
05 MVB	½" BSPT	64 mm	0.115 kg

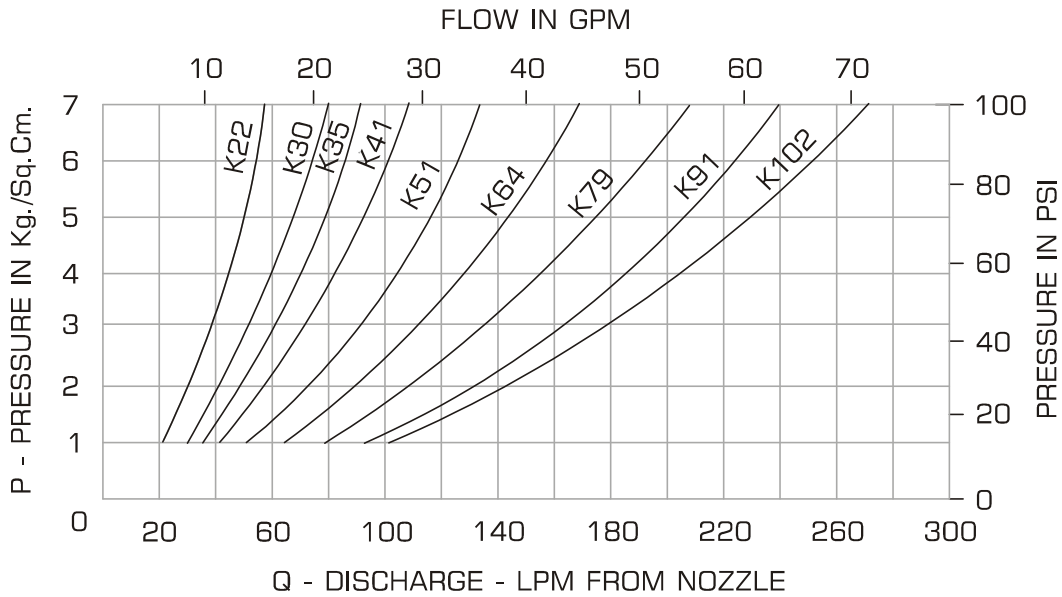
Ordering Information

The following details should be specified when placing an order:

- 1) Product code
- 2) K-Factor
- 3) Spray angle
- 4) Material and Finish



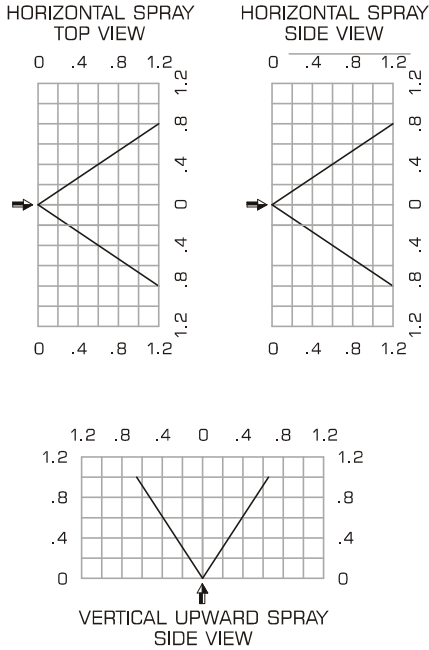
Nozzle Discharge Data



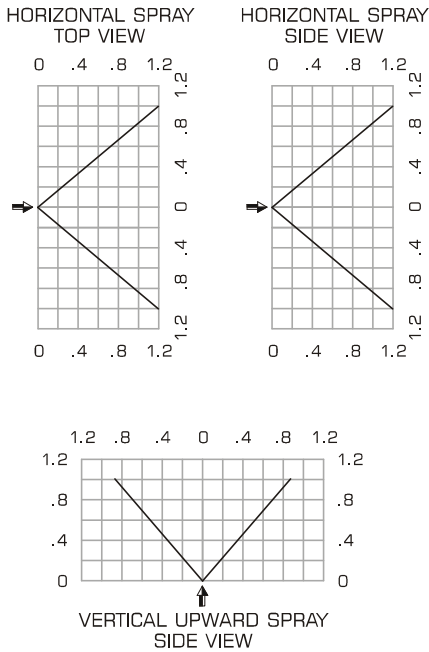
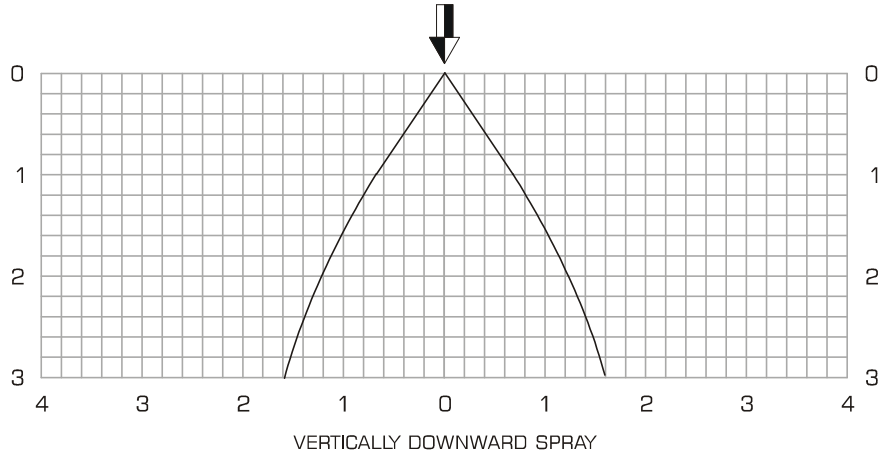
$Q = K\sqrt{P}$, where P is supply pressure in Kg./sq.cm., K-is nozzle constant in Metric
US K Factor = Metric K Factor \div 14.2745

Medium Velocity Nozzle Spray Pattern

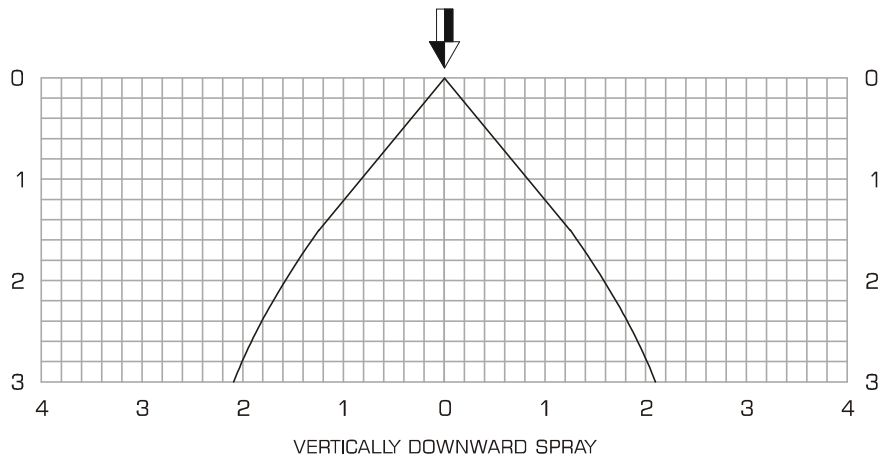
ALL DIMENSIONS ARE IN METRES



SPRAY ANGLE 65°



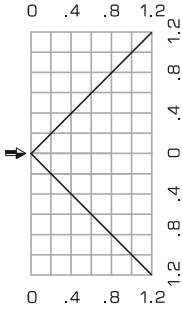
SPRAY ANGLE 80°



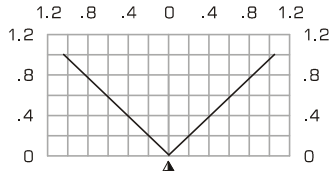
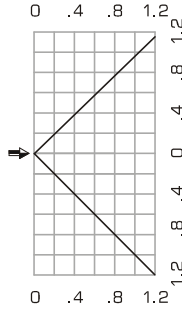
Medium Velocity Nozzle Spray Pattern

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HORIZONTAL SPRAY
TOP VIEW

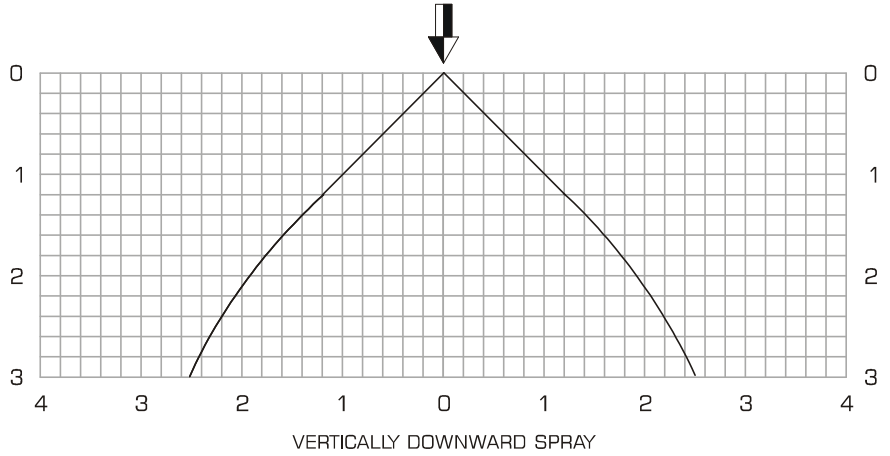


HORIZONTAL SPRAY
SIDE VIEW



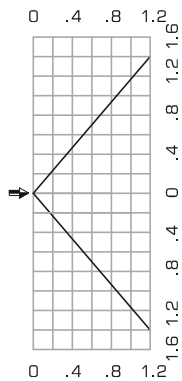
VERTICAL UPWARD SPRAY
SIDE VIEW

SPRAY ANGLE 90°

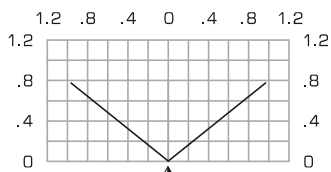
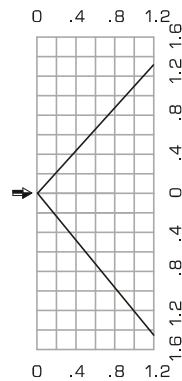


VERTICALLY DOWNWARD SPRAY

HORIZONTAL SPRAY
TOP VIEW

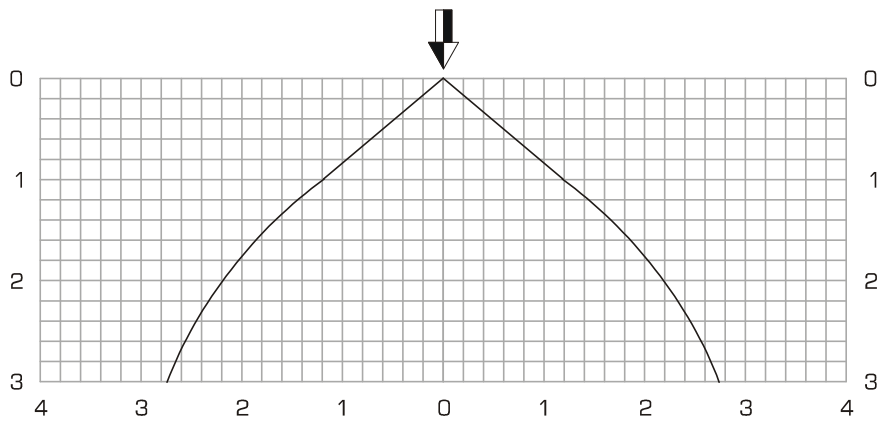


HORIZONTAL SPRAY
SIDE VIEW



VERTICAL UPWARD SPRAY
SIDE VIEW

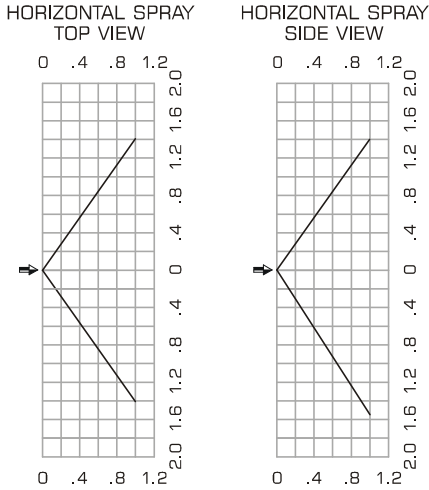
SPRAY ANGLE 100°



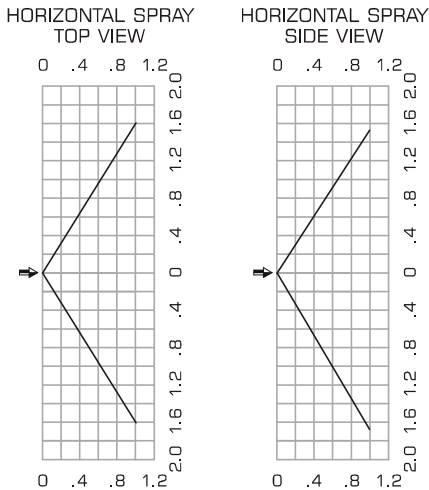
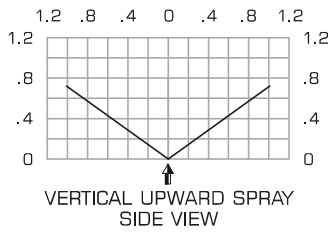
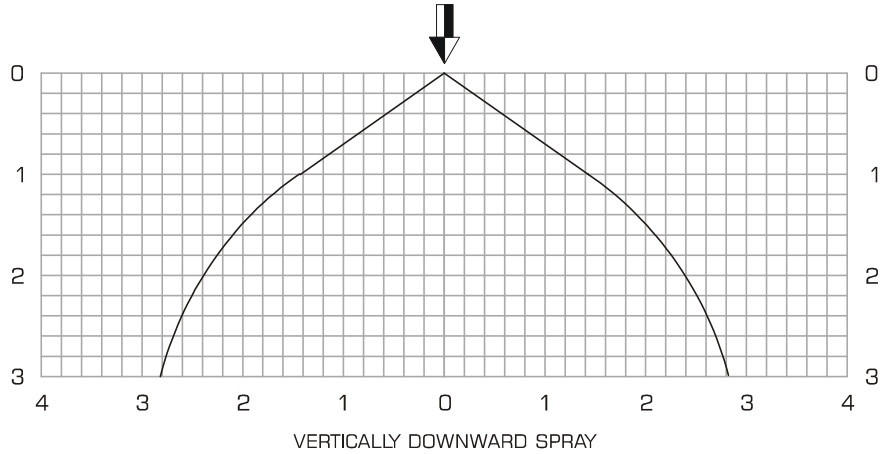
VERTICALLY DOWNWARD SPRAY

Medium Velocity Nozzle Spray Pattern

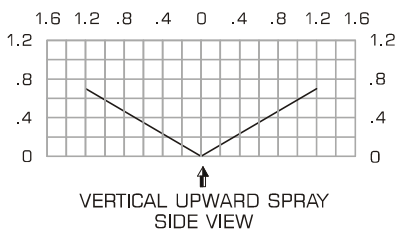
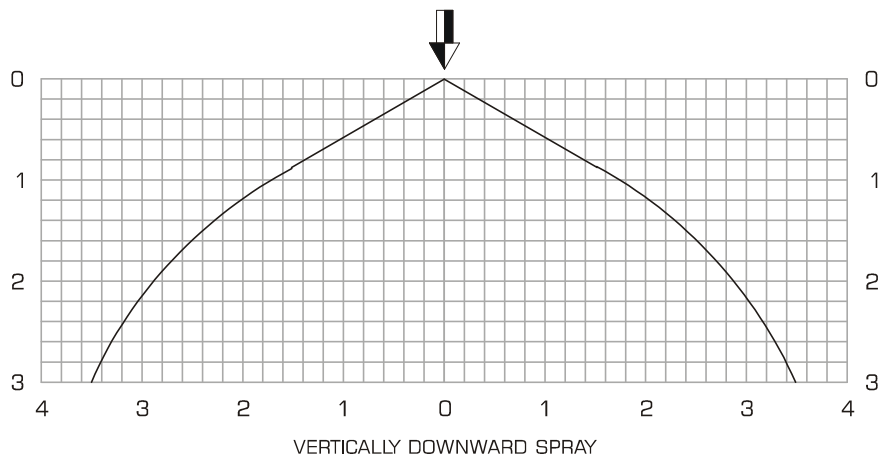
ALL DIMENSIONS ARE IN METRES



SPRAY ANGLE 110°



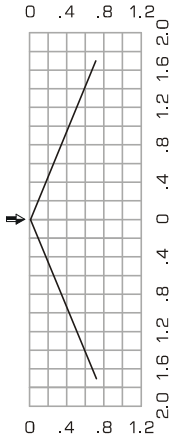
SPRAY ANGLE 120°



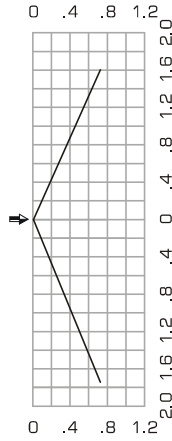
Medium Velocity Nozzle Spray Pattern

ALL DIMENSIONS ARE IN METRES

HORIZONTAL SPRAY
TOP VIEW



HORIZONTAL SPRAY
SIDE VIEW



SPRAY ANGLE 140°

