

# MEDIUM VELOCITY WATER SPRAY NOZZLE

( Model MV-A, MV-AS )



## TECHNICAL DATA :

|  |   |              |
|--|---|--------------|
| MODEL  | MV-A, MV-AS   |              |
| MAXIMUM WORKING PRESSURE   | 12.3 Kg./Sq.Cm. (175 psi)   |              |
| MINIMUM EFFECTIVE WORKING PRESSURE   | 7 Kg./Sq.Cm. (100 psi) maximum<br>1.4 Kg./Sq.Cm. (20 psi) minimum |              |
| END CONNECTION   | ½" BSPT (½" NPT OPTIONAL)   |              |
| MATERIAL   | Forge Brass (ASTM B21)  |              |
| 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   | Brass or Nickel Chrome plated                                     |              |
| APPROVALS  | UL Listed   |              |
| 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.

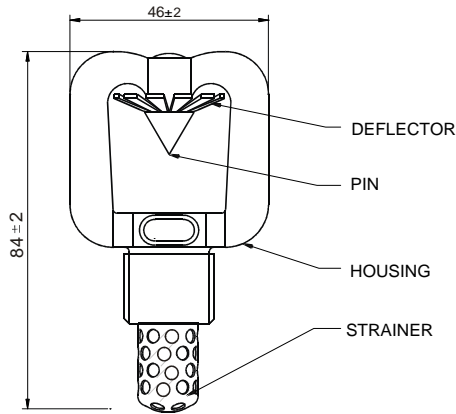
Nozzle which is visibly damaged should not be installed.

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.

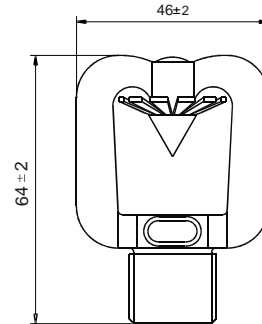
It is recommended that water spray system be inspected regularly by authorised technical personnel. The nozzle must be checked for atmospheric effects, external and internal obstruction, blockage if any. The nozzle should be cleaned or replaced if required. The system must be operated with optimum water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

**MODEL MV-AS**



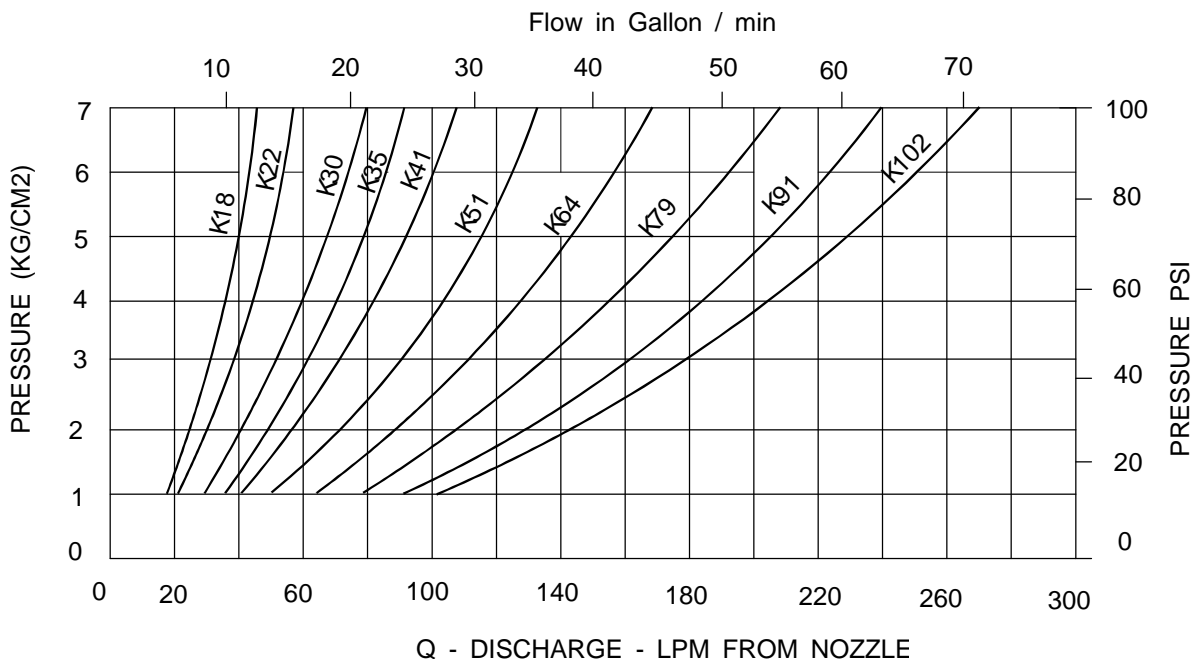
**MODEL MV-A**



**MATERIAL OF CONSTRUCTION**

| COMPONENT | MODEL MV-A                                  | MODEL MV-AS                                 |
|-----------|---|---|
| HOUSING   | FORGED BRASS<br>IS:291, GR.-I<br>(ASTM B21) | FORGED BRASS<br>IS:291, GR.-I<br>(ASTM B21) |
| PIN       | BRASS IS:291, GR.-I<br>(ASTM B21)           | BRASS IS:291, GR.-I<br>(ASTM B21)           |
| DEFLECTOR | BRASS IS:2768<br>(ASTM B36)                 | BRASS IS:276<br>(ASTM B36)                  |
| STRAINER  | -----                                       | 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