

Description

The TUNPROTEC Model 3MS is a small dimensioned, stainless steel nozzle pipe supplied with low pressure water mist nozzles to be fitted directly into the prefabricated nozzle pipe.

The simple and prefabricated design of the Model 3MS reduces installation time and cost, reduces the risk of impurities in the pipes and nozzles and ensures that the nozzles can be quickly installed with the correct orientation and spacing. The modular approach to the Model 3MS means that the pipes can be installed in parallel and in series and connected by press fit connections which further lowers installation times and ease of installation.

The Model 3MS nozzle pipes are supplied in 6-meter-long segments and feature 18 threaded holes in three different orientations, which allows for quick installation of the Model BM-1-20 and Model BM-1-32 low pressure water mist nozzles immediately prior to installation. The threaded hole pattern repeats for every meter of the nozzle pipe to ensure the correct spacing. When installed the Model 3MS nozzle pipe will have a Model BM-1-20 nozzle in the downward position and Model BM-1-32 nozzles in the side position, angled 70 degrees from the downward facing Model BM-1-20 nozzle.

Application

The Model 3MS has been designed specifically for the protection of infrastructure tunnels, and similar applications, with forced ventilation speeds of up to 3.5 m/s.

A single nozzle pipe and water mist nozzle combination allows for protection of up to 12 m wide areas. Tunnels with 12-20 m widths, two parallel nozzle pipes shall be used. Tunnels with 20-30 m widths, three parallel nozzle pipes shall be used. The VID Fire-Kill sales team shall be involved in the means of protecting tunnels wider than 30 m.



General Description	
Min. water pressure	10 Bar
Max. working pressure	16 Bar
Coverage	72 m ² (12 m x 6 m)
Installation height	2.5 m – 8 m
Nozzle pipe dimensions	Ø35x1.5 mm Ø42x1.5 mm Ø54x1.5 mm Other sizes by request
Specific Description	
K-factor (metric)	50.4 (l/min/√(bar))
Nominal flow (10 bar)	160 l/min
Nominal discharge density (max. spacing)	2.2 mm/min
Drop size	DV90 < 300 µm
Material	AISI 316L, EN.1.4404

Related components			
Zone valve model TPT-C-M-XX-XX-I	C-EL control valve, impulse solenoid valve, high-capacity filters and monitored manual test/service valves.	Zone valve model TPT-C-M-XX-XX-S	C-EL control valve, standard solenoid valve, high-capacity filters and monitored manual test/service valves.
Zone valve model TPT-C-A-XX-XX-I	C-EL control valve, impulse solenoid valve, high-capacity filter, downstream motor operated isolation valve, motor operated test/drain valve and upstream manual operated isolation valve.	Zone valve model TPT-C-A-XX-XX-S	C-EL control valve, standard solenoid valve, high-capacity filter, downstream motor operated isolation valve, motor operated test/drain valve and upstream manual operated isolation valve.
Zone valve model TPT-C-M-XX-XX-I-NF	C-EL control valve, impulse solenoid valve, and monitored manual test/service/drain valves.	Zone valve model TPT-C-M-XX-XX-S	C-EL control valve, standard solenoid valve, and monitored manual test/service/drain valves.
Zone valve model TPT-C-A-XX-XX-I-NF	C-EL control valve, impulse solenoid valve, downstream motor operated isolation valve, motor operated test/drain valve and upstream manual operated isolation valve.	Zone valve model TPT-C-A-XX-XX-S-NF	C-EL control valve, standard solenoid valve, downstream motor operated isolation valve, motor operated test/drain valve and upstream manual operated isolation valve.
Zone valve model TPT-C-M-XX-XX-NT	C-EL control valve without trim, high-capacity filters and monitored manual test/service valves.	Zone valve model TPT-C-M-XX-XX-NF-NT	C-EL control valve, without trim and monitored manual test/service valves.
Zone valve model TPT-C-A-XX-XX-NT	C-EL control valve without trim, high-capacity filters, downstream motor operated isolation valve, motor operated test/drain valve and upstream manual operated isolation valve.	Zone valve model TPT-C-A-XX-XX-NF-NT	C-EL control valve, without trim, downstream motor operated isolation valve, motor operated test/drain valve and upstream manual operated isolation valve.
External trim DS	External trim with dual solenoid valves. To be used together with the zone valve with prefix NT.	External trim SS	External trim with single solenoid valve. To be used together with the zone valve with prefix NT.
TPT Mounting frame	Stainless steel frame for installing the TPT Zone valve unit inside a recess or on the tunnel wall.	TPT Cabinet	Stainless steel double door, removable cabinet which fits to the TPT frame.

NOTE:

The prefix XX-XX is defining the inlet and outlet on the zone valve unit.

80-80 is DN80 C-EL valve with DN80 inlet and outlet.

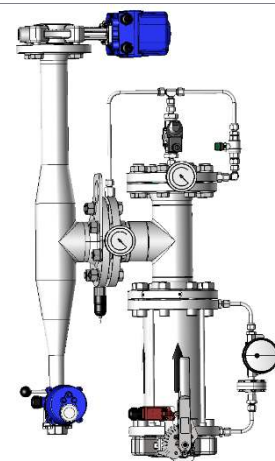
80-50 is DN80 C-EL valve with DN80 inlet and DN50 outlet.

50-50 is DN50 C-EL valve with DN50 inlet and DN50 outlet.

The prefix A, the unit is with motor operated downstream isolation valve and drain valve, which can be remotely operated for testing which makes it easier to carry out regular testing of the system.

Details for the valve unit, reference is made to the separate data sheets for each unit.

The image is a typical unit with motor operated valves and high-capacity filter.



Approvals

The Model 3MS nozzle pipe and water mist nozzles have been successfully tested in full scale tunnel test fires in accordance with EN 14972 guidelines for fires with a potential heat release rate of 250 MW and the water mist nozzles have been approved in accordance with the IMO MSC.1/Circ. 1165 component test program.

Installation

Once received the Model 3MS nozzle pipe, Model BM-1-20 and Model BM-1-32 low pressure water mist nozzles shall be stored under safe conditions, protected from harmful materials and physical damages.

Once the site has been prepared for installation of the Model 3MS components, the two plastic endcaps shall be removed from the nozzle pipe, after which the nozzle pipe shall be flushed and rinsed.

The Model 3MS nozzle pipe shall be installed using pipe hangers, as specified by the authority having jurisdiction and local norms, and oriented with the centre most threaded hole oriented directly downwards and connected by appropriately sized AISI 316L press fittings. VID Fire-Kill recommends 2-3 m spacing between pipe hangers.

Once the nozzle pipe has been installed, the plastic caps protecting the threaded holes can be removed and the Model BM-1-20 and Model BM-1-32 water mist nozzles can be installed. The supplied 6x Model BM-1-20 nozzles shall be installed in the downward orientated threaded hole and the 12x Model BM-1-32 nozzles shall be installed in the sideward facing threaded holes.

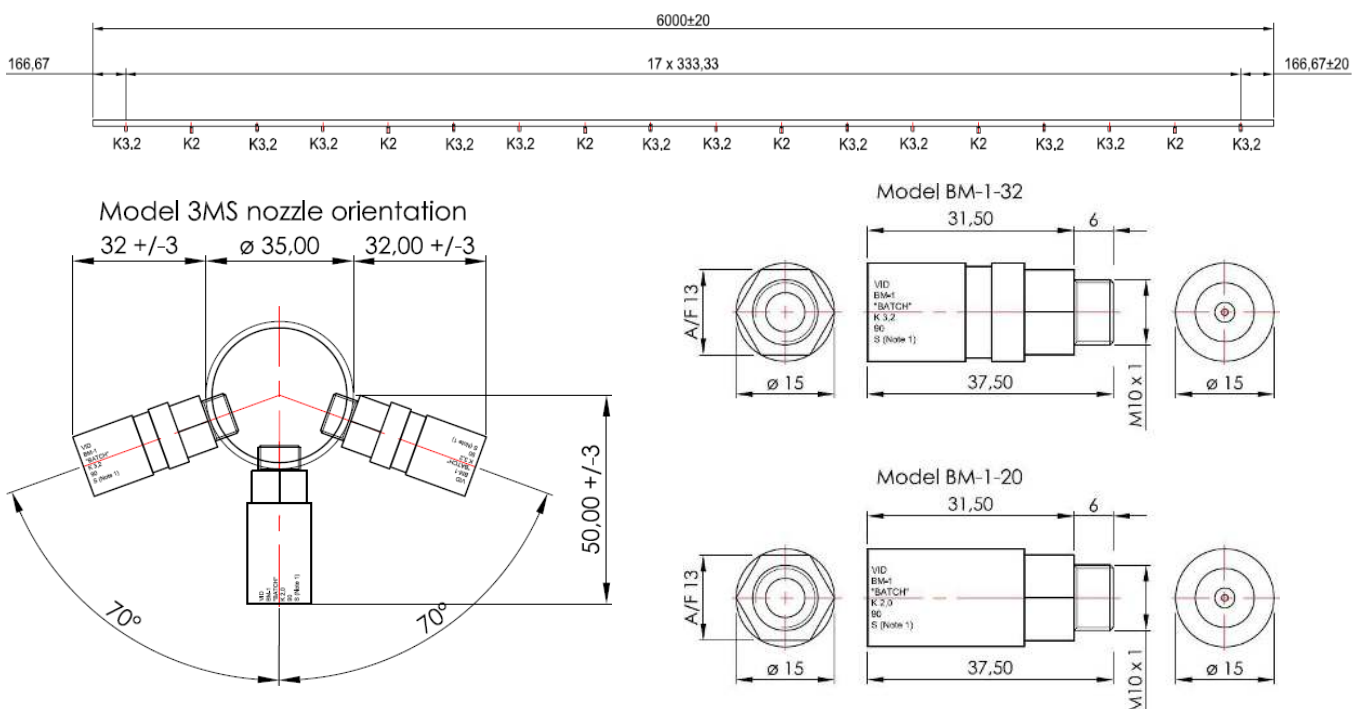
To ensure that the nozzles are securely fastened during installation, the below torque values shall be achieved when tightening the micronozzles into the threaded inserts of the N- pipe.

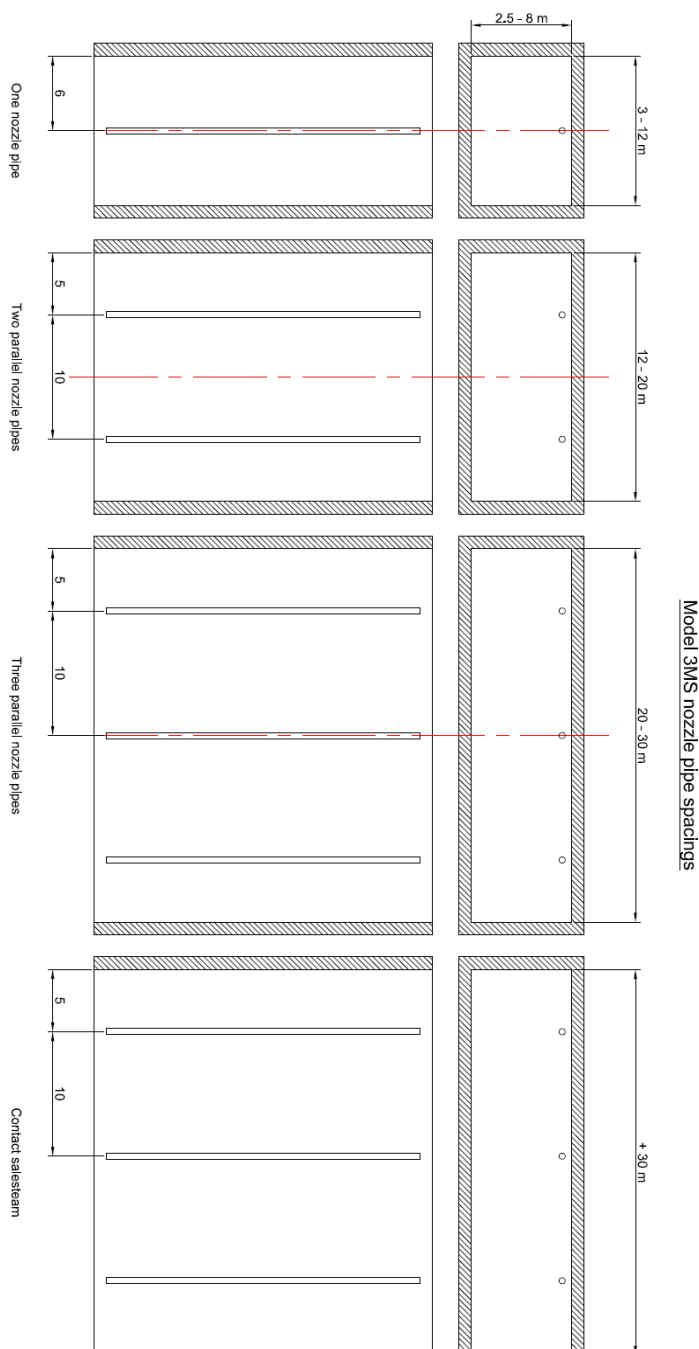
Once the Model 3MS nozzle pipes and nozzles have been installed, the area in the vicinity of the water mist nozzles shall be held clean as not to obstruct the nozzle orifices.

Fastening of Model BM-1 type nozzles

Nozzle models			BM-1-20, BM-1-32
Packing material:	No packing material	Thread sealant or glue	Thread seal tape
Req. torque for tightening:	10-20 Nm	10-20 Nm	10-20 Nm
Axial angle:	Any angle		

Dimensions





Contact

For more information on the Model 3MS nozzle pipes and water mist nozzles, and the TUNPROTEC system and its components, kindly contact the TUNPROTEC sales team at sales@vidfirekill.com

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