

WM12X211 nozzle Datasheet.
Low Pressure Water Mist nozzle, Open, Non-Automatic.
Suitable for Low Pressure Water Mist fixed systems.

Description

The SPRAYTECS WM Series WM12X211 are low pressure water mist, open (non-automatic) nozzles suitable in total flooding water mist systems for fire protection of machinery spaces, special hazard with flammable fuels (see details in Applications section here below), turbines, special hazard of machinery spaces, and insulated combustion turbines with volumes up to 5000 m3. These nozzles are part of fire protection systems designed with different parameters depending on kind of hazard, making possible the optimization of the system by the system’s designer.

The SPRAYTECS WM Series WM12X211 nozzles can be supplied in various materials and different thread types.



Tests and Approvals

The SPRAYTECS WM Series WM12X211 are low pressure water mist nozzles, expressly designed and currently under test for a wide range of fire hazards and special hazards, as defined per technical specification standards EN ISO 19353:2016, EN 14972-1 2021 OH-1 and OH-3, FM5560 appendix E and F. Further standards will be mentioned after successfully test passed.

General Description	
Nozzle code:	WM12X211
Min. water pressure:	3 Bar
Max. working pressure:	16 Bar
Max Nozzles spacing:	3 m x 3 m
Distance to wall:	1,5 m
Max Height (max):	10 m
Min Water density:	1,39 mm/mq/min
Max Water density:	>18 mm/mq/min
K-factor (metric):	6,3 lpm @ 1 bar
Drop size:	Dv90 < 300 µm
Weight:	Min 0,06 Kg to Max 0,18 Kg
Nozzle body material:	Aluminum/ Brass / SS316/ SS303/ SS304
Thread:	1/2" BSPT/BSP/NPT
Micro-nozzles material:	SS316



WATER MIST NOZZLE 1/2" - for LOW pressure systems

DIMENSIONS & WEIGHT DATA:

	WEIGHT	
Brass	186 g	6,56 Oz
Aluminum	59 g	2,1 Oz
Stainless Steel	177 g	6,18 Oz

DIMENSIONS					
A		B		Ø WS	
44 mm	1,73 "	14 mm	0,55 "	38 mm	1,5 "

WATER MIST NOZZLE 1/2" - for LOW pressure systems

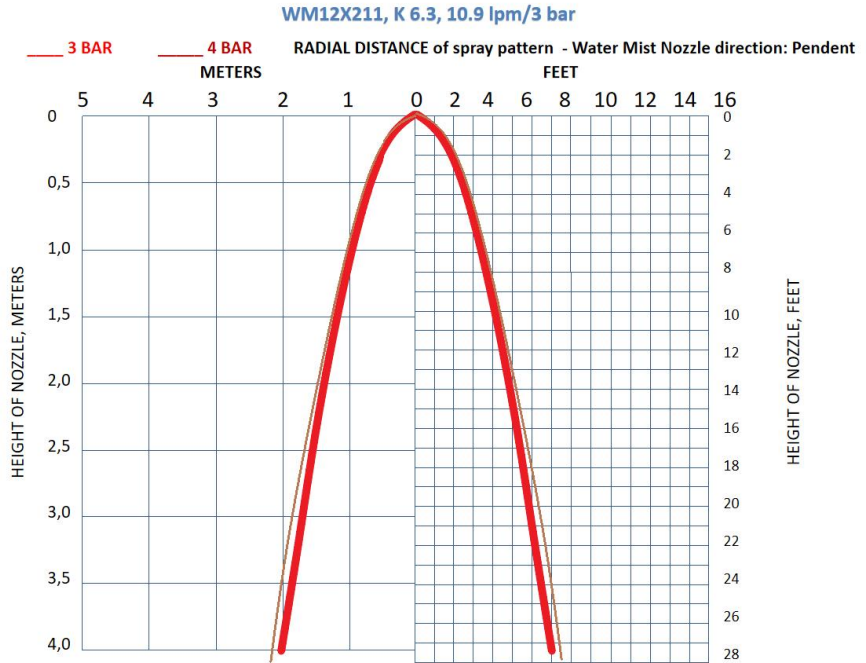
PERFORMANCE DATA:

Codes:	Thread	Flow Rate Capacity														Conn.	Mater.					
		(3 bar)		Ø Orif.	Ø Free	factor K	Droplets size µm		2 bar 30 psi		3 bar 40 psi		4 bar 60 psi		5 bar 70 psi			6 bar 90 psi		7 bar 100 psi		
		Ang.°	Ø				Dv90	D32	LPM	GPM	LPM	GPM	LPM	GPM	LPM			GPM	LPM	GPM	LPM	GPM
WM12X211MB2	1/2"	157	1	0,6	6,3	<300	<100	8,9	2,43	10,9	2,96	12,6	3,44	14,1	3,59	15,4	4,22	16,7	4,36	M	304 SS	
WM12X211MV1	1/2"	157	1	0,6	6,3	<300	<100	8,9	2,43	10,9	2,96	12,6	3,44	14,1	3,59	15,4	4,22	16,7	4,36	M	Aluminum	
WM12X211MV3	1/2"	157	1	0,6	6,3	<300	<100	8,9	2,43	10,9	2,96	12,6	3,44	14,1	3,59	15,4	4,22	16,7	4,36	M	Anodized Al.	
WM12X211MT1	1/2"	157	1	0,6	6,3	<300	<100	8,9	2,43	10,9	2,96	12,6	3,44	14,1	3,59	15,4	4,22	16,7	4,36	M	Brass	

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WM12X211 ang 150°
K factor = 6.3
Spray angle 157° (3 bar)

Spray angle 157°

3 bar	Flow rate lpm	Wet area diam. m:	max spacing m	area design mq	Wet area mq	Density mm/mq/min	A) spacing m	A) Design area mq	A) Density mm/mq/min	B) spacing m	B) Design area mq	B) Density mm/mq/min
H 1 m	10,9	1 m	0,7 x 0,7	0,49	0,79	22,24						
H 1.5 m	10,9	1,5 m	1,1 x 1,1	1,21	1,77	9,01						
H 2 m	10,9	2,1 m	1,5 x 1,5	2,25	3,46	4,84						
H 2.5 m	10,9	2,6 m	1,9 x 1,9	3,6	5,31	3,03	1,6 x 1,6	2,45	4,4			
H 3 m	10,9	3,4 m	2,4 x 2,4	5,76	9,08	1,89	2 x 2	3,69	3,0	1,8 x 1,8	2,56	4,3
H 4 m	10,9	4 m	2,8 x 2,8	7,84	12,57	1,39	2,2 x 2,2	4,1	2,7	2 x 2	2,74	4,0

Spray angle 159°

4 bar	Flow rate lpm	Wet area diam. m:	max spacing m	area design mq	Wet area mq	densità mm/mq/min	A) spacing m	A) Design area mq	A) Density mm/mq/min	B) spacing m	B) Design area mq	B) Density mm/mq/min
H 1 m	12,6	1 m	0,7 x 0,7	0,49	0,79	25,71						
H 1.5 m	12,6	1,5 m	1,1 x 1,1	1,21	1,77	10,41						
H 2 m	12,6	2,1 m	1,5 x 1,5	2,25	3,46	5,60						
H 2.5 m	12,6	2,6 m	1,9 x 1,9	3,6	5,31	3,50						
H 3 m	12,6	3,4 m	2,4 x 2,4	5,76	9,08	2,19	2 x 2	3,69	3,4	1,8 x 1,8	2,56	4,9
H 4 m	12,6	4,2 m	3 x 3	9	13,85	1,40	2,2 x 2,2	3,74	3,4	2,1 x 2,1	3,02	4,2

Spray angle 159°

12 bar	Flow rate lpm	Wet area diam. m:	max spacing m	area design mq	Wet area mq	Density mm/mq/min	A) spacing m	A) Design area mq	A) Density mm/mq/min	B) spacing m	B) Design area mq	B) Density mm/mq/min
H 1 m	21,8	1 m	0,7 x 0,7	0,49	0,79	44,49						
H 1.5 m	21,8	1,5 m	1,1 x 1,1	1,21	1,77	18,02						
H 2 m	21,8	2,1 m	1,5 x 1,5	2,25	3,46	9,69						
H 2.5 m	21,8	2,6 m	1,9 x 1,9	3,6	5,31	6,06						
H 3 m	21,8	3,4 m	2,4 x 2,4	5,76	9,08	3,78						
H 4 m	21,8	4,2 m	3 x 3	9	13,85	2,42	2,4 x 2,4	5,15	4,2			

Discharge densities for different working pressures and nozzles layout. Values obtained for a nozzle in a grid of other 4 nozzle.
 For further information/help on particular nozzle positioning, please contact our sales department at sales@spraytecs.com.

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Applications

Oil tanks and oil pumps, combustion engines, fuel filters, generators, transformers, gear boxes, drive shafts, lubrication skids, diesel engine driven generators, exposed or insulated combustion turbines, and any equipment using liquid hydrocarbon fuel and/or hydraulic, heat transfer, lubrication fluids with volatility less than or equal to heptane; enclosures with incidental use or storage of hydrocarbon ignitable liquids (also defined flammable liquids) of quantity not exceeding 105 gal (400 L).

Installations

WM12X211 water mist open nozzles must be installed as a deluge system in an open pipework.

Nozzles should be located maximum 100 mm below the ceiling. Components and pipes should be cleaned from debris, shavings and impurities and also welded items should be cleaned. The professional careful installer shouldn't get sealant into the pipe system. It should be checked extensively that the components are positioned correctly according to the system plans and specifications. All components should be securely fastened to rigid, strong structures by approved rules. The fire protection system shall not consist of material combinations with risks of galvanic corrosion system pipes and other system components. The system should use pipes and system components in stainless steel, AISI 304 or AISI 316, aluminum or copper alloys as to minimize risk of corrosion and clogging of the pipes and other system components.

It must never be used components with iron parts and other highly corrosive materials sometime used in traditional sprinkler systems. System components ever shall be according to the local applicable standards, and be accepted by authorities having jurisdiction.

Cautions

The WM12X211 nozzles shall be installed in locations not containing materials which may produce strong reactions or significantly hazardous materials when reacting with water. Moreover they should be installed in locations where nozzles are not easily shocked and/or could receive physical damage.

Contact

For further information on WM12X211 nozzles, please contact us at address: sales@spraytecs.com