

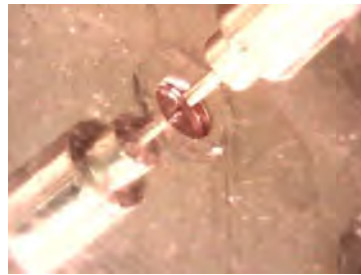


**Ruby orifice 0.2mm,  
full 316 stainless steel  
producing Fog from  
1 to 10 microns @140 bar**

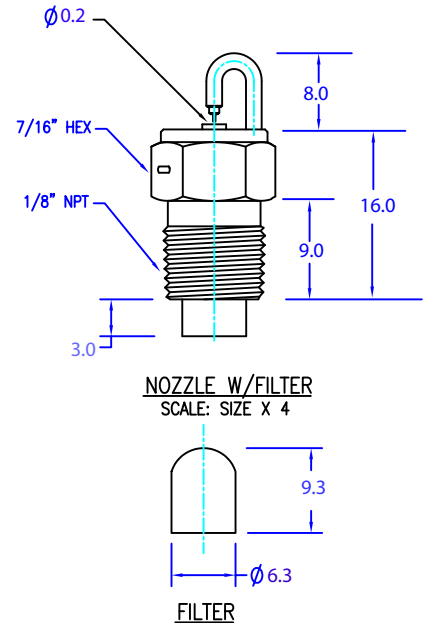
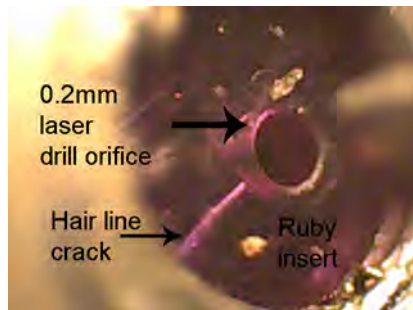
# Series 8

## RUBY INSERT FOG NOZZLES

**Series 8** is specifically designed and manufactured for fog production below 10 microns. It is constructed of 316 stainless steel material in its entirety with hardened Ruby Insert Orifice of 0.2mm diameter. Demineralized water is pressured into billions of fine micron fog by means of high pressure positive displacement pump at 140 bar. The critical mass of fine fog equivalent to massive droplet surface area is essential for optimum heat absorption in the Gas Turbine air intake column. It is imperative that no cracks are prevalent in the ruby insert as damage to the gas turbine parts can be costly.



Microscopic Inspection on the Ruby Orifice



Series	Orifice (inch)	Flow Rate in GPM at PSI						Orifice (mm)	Flow Rate in LPM at BAR					
		400	800	1000	1200	1500	2000		40	60	70	80	100	140
8	.008	.029	.041	.046	.050	.056	.065	.20	.127	.161	.174	.188	.210	.248

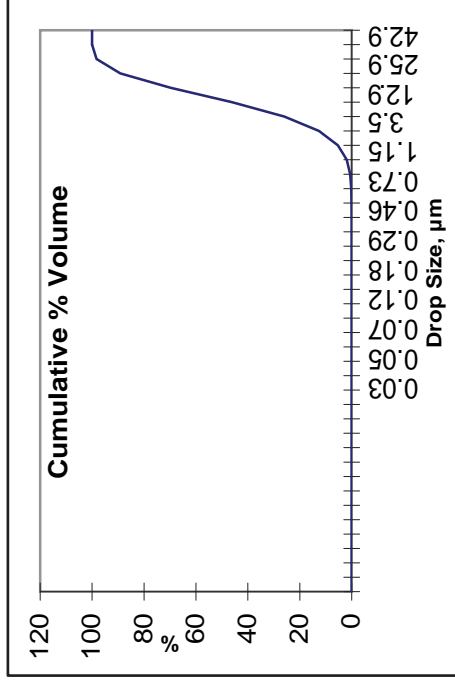
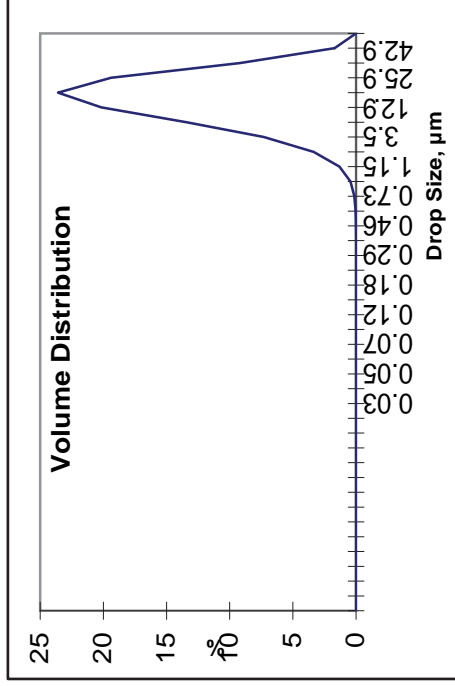
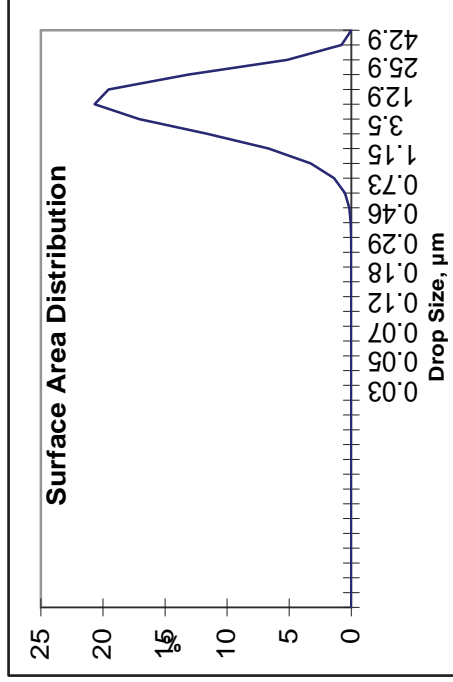
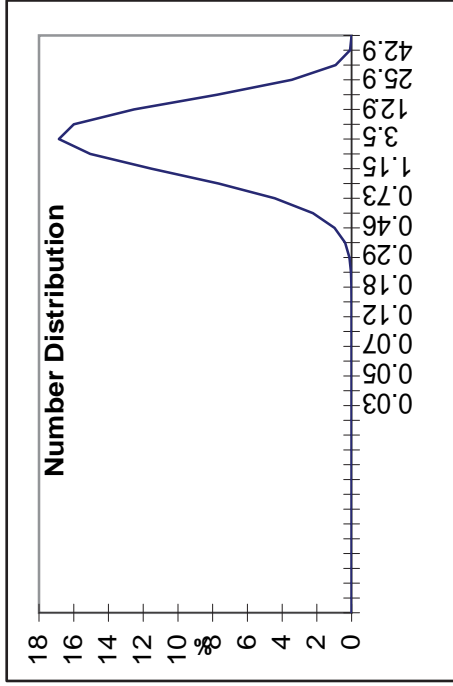




WILSON SPRAY NOZZLE PTE LTD  
www.wilsonspraynozzle.sg

Model : Serie 8  
operating at 70 bar

Estimated Drop Size Information

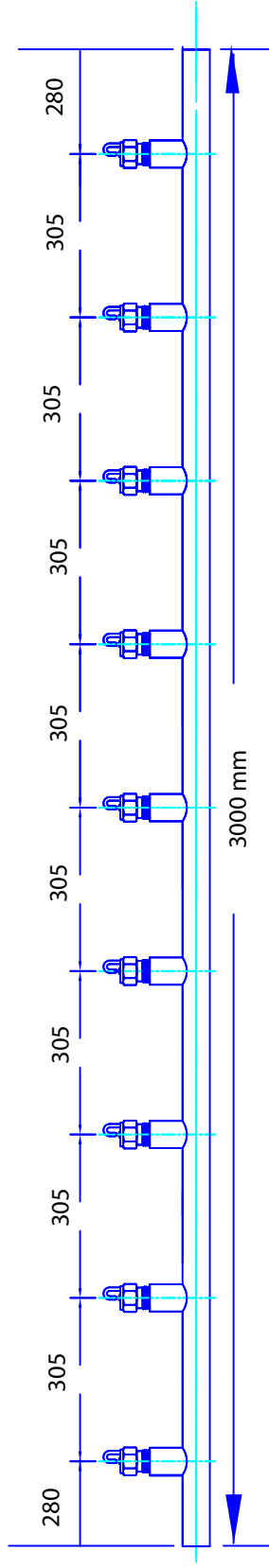


sg= 1  
1 cp

Q = 0.174 l/min  
D32 = 8 microns  
DV0.5 = 12 microns  
DV0.1 = 2 microns  
DV0.9 = 27 microns

Note: Droplet Sizes are in Microns

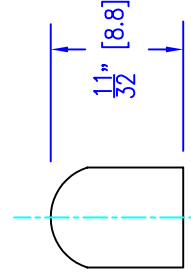
Mean droplet size does not get to sub microns or smaller with increased water pressures above 50 bar, but the increased pressure / flow rate is transformed into a larger critical mass of voluminous number of droplets



RI-15 Fog Nozzle  
1/8" Male NPT

1/8" Female  
NPT Socket  
seal weld

3/8" OD stainless steel tubing



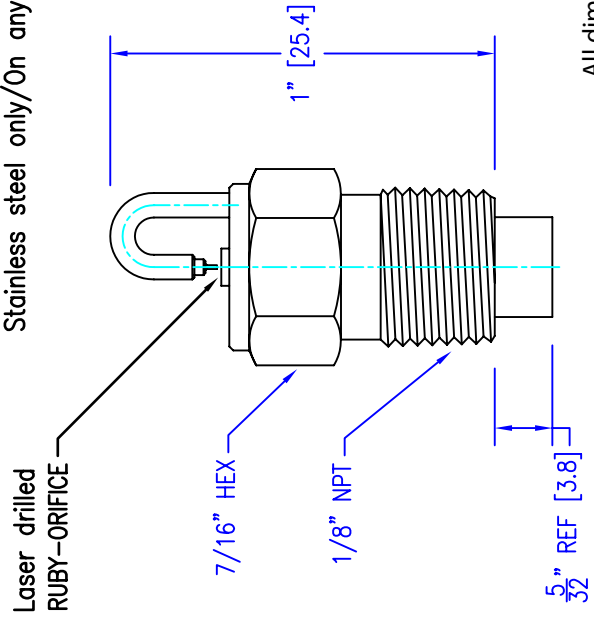
FILTER  
SIZE X 4

NOZZLE W/FILTER  
SCALE: SIZE X 4

FILTER, 5-micron  
Polypropylene  
Designed for finger-tip removal.

WELDED SADDLE W/NOZZLE

Stainless steel only/On any centers



All dimension in mm.

Nozzle Capacity Chart based on Water

Series	Orifice (mm)	Flow Rate in LPM at BAR					
		40	60	70	80		
8	0.20	0.127	0.161	0.174	0.188	0.210	0.248
P-20	0.50	0.967	1.18	1.28	1.37	NR	NR

NR - Not Recommended

UNLESS OTHERWISE SPECIFIED:  
DIMENSIONS ARE IN INCHES  
TOLERANCES  
FRACTIONS DECIMALS ANGULAR  
± 1/16 ± 0.005 ± 0.015 ± 1°  
± 1/32 ± 0.002 ± 0.005 ± 0.5°  
INTERPRET PER ASME Y14.5M  
DO NOT SCALE DRAWING IF NOT SPECIFIED



**WILSON SPRAY NOZZLE PTE LTD**  
Blk 51 #05-10/11 Ayer Rajah Crescent, Ayer Rajah Industrial Estate,  
Singapore 139948.

TITLE

**RUBY INSERT FOG NOZZLE -**

MATERIAL	ASSY	FINISH	125
www.wilsonspraynozzle.sg E-mail: sales@wilsonspraynozzle.sg Tel: 67741828, Fax: 67779813			
SIZE	B	DATE	1st Feb 09
DRAWN	VN	DATE	28th Feb 09
CHECKED	JET	FILE NAME:	
SCALE	1:2	JOB NO.	
REV.		DWG NO.	784951
		For:	0
		SHEET	1 OF 1



# P series

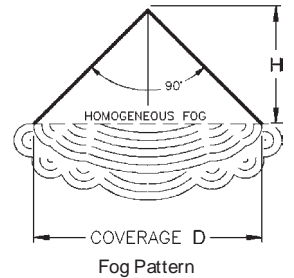
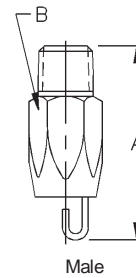
## ATOMISING Nozzles

### FEATURES

- \* One piece construction
- \* Impingement stem same diameter as orifice for complete atomisation
- \* Stem forged into body.
- \* Non clog
- \* No internal parts

### SPRAY

- \* Fine Atomisation
- \* Droplets range from 30 to 400 microns
- \* 90 degrees Full cone
- \* NPT or BSP



**Excellent for Dust Suppression, Cooling and Coating**

### P Flow rates and dimensions

Cone -Shaped Fog, 90° Spray Angle, 1/4" Pipe Size, BSP or NPT

Male Pipe Size	Nozzle Model	K Factor	LITERS PER MINUTE @ BAR								Approx Coverage Spray			Approx. Dim.(mm)		Wt. (g) Metal
			1 bar	2 bar	3 bar	5 bar	7 bar	10 bar	20 bar	30 bar	Orifice Dia.(mm)	mm D	mm H	A	B	
1/8	P50	0.153	-	-	-	0.342	0.404	0.483	0.683	0.836	0.500	150	150	24	12	25
1/4	P20	0.153	-	-	-	0.342	0.404	0.483	0.683	0.836	0.500	300	150	50	16	57
	P24	0.228	-	0.322	0.395	0.510	0.603	0.721	1.02	1.25	0.610	400	200			
	P28	0.296	0.296	0.419	0.513	0.662	0.784	0.937	1.32	1.62	0.711	460	230			
	P32	0.410	0.410	0.580	0.710	0.917	1.09	1.30	1.83	2.25	0.813	560	280			
	P40	0.638	0.638	0.902	1.11	1.43	1.69	2.02	2.85	3.49	1.02	610	305			
	P48	0.912	0.912	1.29	1.58	2.04	2.41	2.88	4.08	4.99	1.22	710	355			
	P54	1.21	1.21	1.71	2.09	2.70	3.20	3.82	5.40	6.62	1.37	760	380			
	P66	1.71	1.71	2.42	2.96	3.82	4.52	5.40	7.64	9.36	1.68	910	455			
P80	2.46	2.46	3.48	4.26	5.50	6.51	7.78	11.0	13.5	2.03	1200	600				
P120	5.54	5.54	7.83	9.59	12.4	14.7	17.5	24.8	30.3	3.05	1500	750				

**Standard Materials : 316 stainless steel**



# AD series

## MISTING Nozzles



Brass body with anti drip spring and ball assembly

A Misting nozzle is a low cost atomising nozzle for evaporative cooling and dust suppression applications. Liquids passing through a small orifice under high pressure producing droplets range from 30 to 80 microns. Complete with anti drip spring / ball assembly including internal filter.

AD Flow rate					
MODEL NO	ORIFICE (mm)	FLOW-RATE (Litre per min)	PRESSURE (Bar)	CONN (UCN)	MAT'L
AD15	0.15	0.046	70	10/24	BRASS
AD20	0.20	0.089	70	10/24	
AD30	0.30	0.145	70	10/24	
AD15T	0.15	0.046	70	10/32	STAINLESS STEEL
AD20T	0.20	0.089	70	10/32	
AD30T	0.30	0.145	70	10/32	



## CLUMP ATOMISING NOZZLE

Multiple full cone nozzle produces very fine droplets. With high pressure, droplets exit velocity a median size of 40 to 100 microns range.









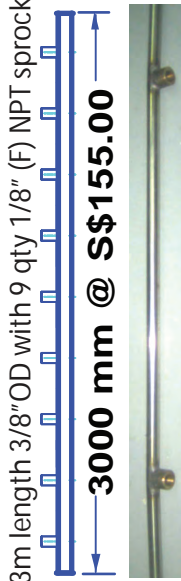






- Seven (7) nozzles array**  
**Model : 1-7N-SS26**  
 Size : 1 Inch Female NPT  
 Material : 303 SS  
 Spray Angle : 150 Degree Mist  
 Flow Rate : 12 LPM @ 3 Bar



150 degrees Full Cone Mist

- Thirteen (13) Nozzles Array**  
**Model : 1-1/2 -7N-RI-50**  
 Size : 1 1/2 Inch Female NPT  
 Material : 303 SS  
 Spray Angle : 360 Degree Fog  
 Flow Rate : 3.5 LPM @ 3 Bar  
 Orifice diameter : 0.5mm



Compression Fittings for Misting nozzles	
316 STAINLESS STEEL MATERIAL	
<b>AD15 Anti Drip Misting Nozzle</b> Size : 10/24UNC  S\$16.00	<b>Female Branch Tee</b> P/n : SFBT-6 3/8OD x 1/8(F)NPT x 3/8OD  \$54.70
<b>Misting Tip</b> Size : 10/24UNC  S\$3.80	<b>Union Tee</b> P/n : SUT-6 3/8 x 3/8 x 3/8OD  S\$45.50
<b>Equal Elbow</b> 3/8OD x 3/8OD  S\$18.60	<b>Union</b> P/n : SU-6 3/8OD x 3/8OD  S\$38.60
<b>Polyethylene Tubing</b> Rated 120bar 10mmOD, 4mmID Thickness : 3mm  S\$16.00 / metre	<b>Seamless stainless steel tubing only</b> 3/8" OD Standard 6000 mm length  S\$199.50 per 6m length 3m length 3/8"OD with 9 qty 1/8" (F) NPT sprocket  <b>3000 mm @ S\$155.00</b>
<b>AD15 Anti Drip</b> Size : 10/24UNC  S\$30.00	<b>Equal Elbow</b> P/n : SUE-6 3/8OD x 3/8OD  S\$38.60
<b>Slip Lock Tee</b> 3/8OD x 10/24UNC x 3/8OD  S\$29.20 Nickel plated Brass	<b>Serie 8 - Ruby insert</b> 0.2mm orifice, 316SS Size : 1/8" (M) NPT  S\$39.00
<b>P-50 Fog Nozzle</b> 0.5mm orifice, 316 SS Size : 1/8" (M) NPT  S\$30.00	<b>AD15 Anti Drip</b> Size : 10/24UNC  S\$30.00

www.wilsonspraynozzle.sg  
sales@wilsonspraynozzle.sg

Prices are EX-FACTORY (SINGAPORE) and in Singapore Dollars (S\$)



# Compression Fittings for Misting nozzles

www.wilsonspraynozzle.sg  
sales@wilsonspraynozzle.sg

**Flat Head Single**  
3/8OD x 10/24UNC



S\$19.75

**Single Spray Direct**  
3/8OD x 10/24UNC x 3/8OD



S\$29.20

**Misting Tip**  
Size : 10/24UNC



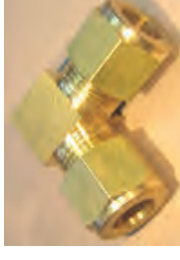
S\$3.80

**Reducing Direct**  
3/8OD x 3/8 MNPT



S\$10.50

**Equal Elbow**  
3/8OD x 3/8OD



S\$18.60

**Flat Head Single**  
3/8OD x 10/24UNC



S\$19.75

**Single Spray Direct**  
3/8OD x 10/24UNC x 3/8OD



S\$29.20

**Misting Tip**  
Size : 10/24UNC



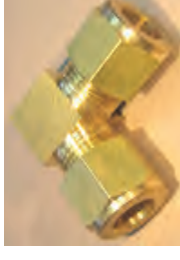
S\$3.80

**Reducing Direct**  
3/8OD x 3/8 MNPT



S\$10.50

**Equal Elbow**  
3/8OD x 3/8OD



S\$18.60

**Nozzle Filter**



S\$3.00

**AD15 Anti Drip Misting Nozzle**  
Size : 1/8" MNPT



Nozzle : S\$28.00

**AD15 Anti Drip Misting Nozzle**  
Size : 10/24UNC



S\$16.00

**Elbow Head Single**  
3/8OD x 10/24UNC



S\$19.75

**Equal Tee**  
3/8OD x 3/8OD x 3/8OD



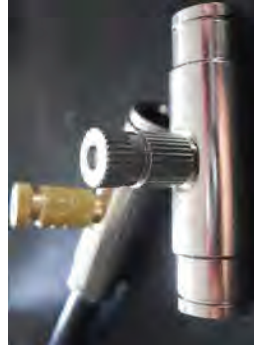
S\$29.50

**TEE**  
3/8OD x 1/8FNPT x 3/8OD



S\$29.20

**Slip Lock Tee**  
3/8OD x 10/24UNC x 3/8OD



S\$29.20  
Nickel plated Brass

**AD15 Anti Drip**  
Size : 10/24UNC



S\$30.00  
Stainless steel

**Polyethylene Tubing**  
Rated 120bar  
10mmOD, 4mmID  
Thickness : 3mm



S\$16.00/metre

**P- 50 Fog Nozzle**  
0.5mm orifice, 316 SS  
Size : 1/8"(M) NPT



S\$30.00

All the connectors (without nozzles) are made of brass material c/w compression brass seal

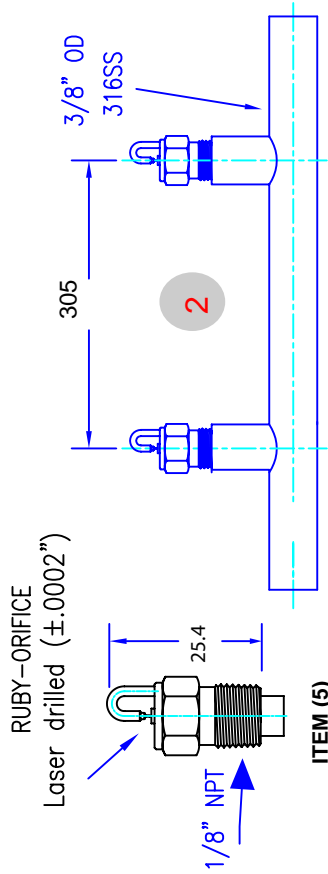
**Prices are EX-FACTORY (SINGAPORE) and in Singapore Dollars (S\$)**

# TO PRODUCE FOG

Item (1)  
 High Pressure Pimp  
 Model : XM-M.08.10N  
 Flow rate : 8 liter/min @ 100 bar  
 Power Supply : 230 VAC / 1 phase / 50 Hz

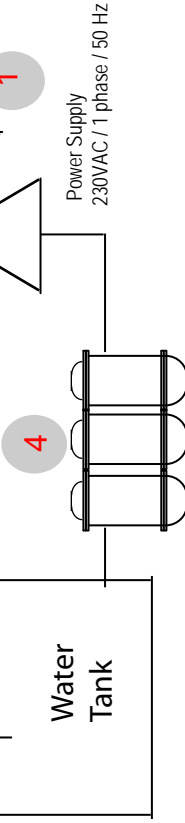
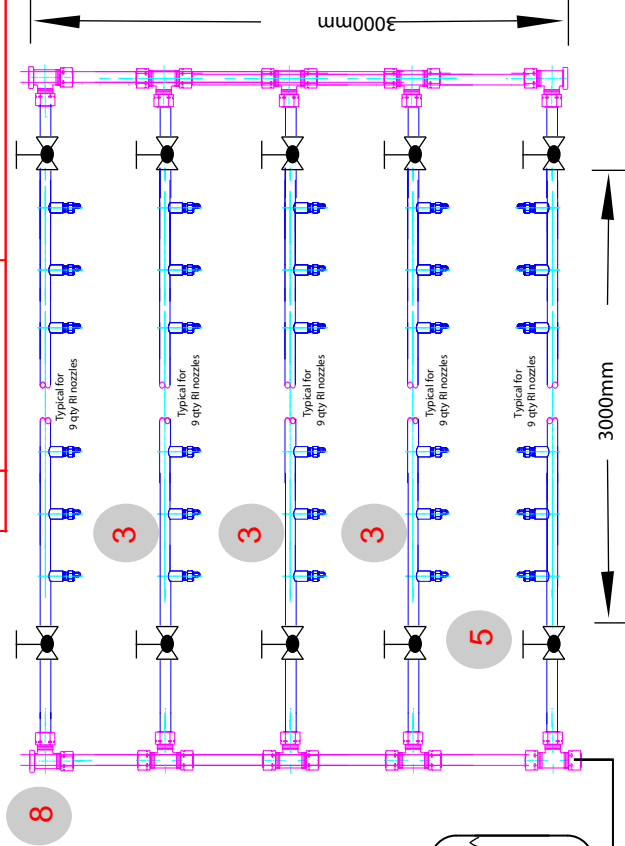
or  
 Item (2)  
 Fog Nozzle  
 Model : RI-50  
 Flow rate : 0.56 liter/min @ 70 bar  
 Spray angle : 90 degrees Fog  
 Total 27 qty = 15.0 liter/min @ 70 bar

Item (2)  
 Ruby Insert Fog Nozzle  
 Model : Serie 8  
 Flow rate : 0.174 liter/min @ 70 bar  
 Spray angle : 90 degrees Fog  
 MAX. Total (45) qty = 7.83 liter/min @ 70 bar



Note ;  
 By-pass line is  
 needed for setup with  
 less than 25 qty Serie 8 nozzles

ITEM	PART NUMBER	DESCRIPTION	QTY
(1)	XM-M08.10N	High Pressure Pump	01
(2)	Serie 8	Ruby Insert Fog Nozzle	45
(3)	SS Tubings	3/8 OD with 9 FNPT sprocket	03
(4)	Filter	3 stage 5 microns filter	01
(5)	One Way valve	3/8" OD SS check valve	03
(6)	SS Tubing	3/8" OD Seamless 6 m	05
(7)	Dampener	Nitrogen filled Pulsation Damp	05
(8)	SS Compression	double ferrule fittings 3/8" OD	1 lot



UNLESS OTHERWISE SPECIFIED:  
 DIMENSIONS ARE IN INCHES  
 TOLERANCES ANGLAR  
 FRACTIONS DECIMALS .0005  
 .001 .002 .005 .010  
 .020 .030 .040 .050 .060  
 .070 .080 .090 .100 .125  
 .150 .175 .200 .250 .300  
 .375 .450 .500 .600 .750  
 .875 1.000 1.250 1.500  
 INTERPRET PER ASME Y14.5M  
 DO NOT SCALE DRAWING IF NOT SPECIFIED



**Wilson Engineering (S) Pte Ltd**  
 Block 2021, #02-180 Bukit Batok Street 23,  
 Bukit Batok Industrial Park A, Singapore 659526

MATERIAL		FINISH	
ASSY		125	

SIZE	DRAWN	VN	DATE	DWG NO.	REV.
B	B		27/11/18	98767	1

SCALE	FILE NAME	JOB NO.	SHEET	OF
1:2			1	1

TITLE  
**3m x 3m Fog Production**



# XM series

HIGH PRESSURE FOG / MISTING PUMP

**High pressure Positive Displacement pump designed for fine Fog**



Wilson Serie 8 Ruby Insert Fog nozzles subjected at maximum pressure to transform clean water into sauter mean droplets of 1 to 10 microns Fog

Standard material : Brass Alloy wetted parts with ceramic lined plunger

Power Supply : 230VAC / 1 phase / 50 Hz



c/w By-pass pressure regulator Minimatic, Glycerlyne filled pressure gauge, hydraulic oil filled gear box with pressure relief valve, electric motor and brass pump head

## HIGH PRESSURE AND LOW

Pump Model	FLOW RATE		PRESSURE		POWER	SPEED	WT	PRICE (\$\$)
	Liter/min	gpm	bar	psi	hp	RPM	KG	Singapore \$
HJRM-01.10 EM	1.0	3.7	100	1450	0.5	1450	20.0	\$1,350
HJRM-03.10 EM	3.0	11.3	100	1450	0.8	1450	25.0	\$1,350

## HIGH PRESSURE AND HIGH VOLUME

Pump Model	FLOW RATE		PRESSURE		POWER	SPEED	WT	PRICE (\$\$)
	Liter/min	gpm	bar	psi	hp	RPM	KG	Singapore \$
XM-M 08.10 N	8.0	2.1	100	1450	2.0	1450	25.0	\$1,980
HXM-15.07 EM	15.0	4.1	70	995	3.0	1450	25.0	\$2,760