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No.CFEES/FSEG/Nozzle testing/25-26
Government of India, Ministry of Defence
Defence Research & Development Organization
Centre for Fire, Explosive and Environment Safety
Brig S. K. Mazumdar road, Timarpur
Delhi 110054

Date: 15/04/2025

Nozzle/Atomizer Characterization Report

Date of Test : 15 Apr. 2025
Type of Nozzle/Atomizer : Single fluid
Name of Organization : CFEES, DRDO
Name of Industry : M/s Tri-Parulex Fire Protection System
Model No. : TPFS/O/AIS135/B107
Nozzle Manufactured by : M/s Tri-Parulex Fire Protection System
Quantity : 50 nos. (Letter ref no.TPFS/DRDO/CFEES/25-26/02 dated 15 Apr 2025)
Name of Instrument : Malvern instruments

Required Parameters as per AIS-135

Nozzle Flow Rate	1.75 ± 0.5 Liters per minute
Cone Angle	90° or higher, solid cone
Polydisperse Droplet Sizes	
D ₃₂ (Sauter Mean Diameter)	180 micrometer or lower
D _{v90} (Droplet Size for 90% of the volume)	250 micrometer or lower

Result:

S N	Sample No.	Operating Parameters			Measured Parameters		
		Q _{air} (l/min)	P _w (bar)	D _{v10} (µm)	D _{v90} (µm)	D _{v[3][2]} (µm)	Cone Angle(°)
1	L3 B1 S1	1.80	1.0	127.2	110.5	110	P
2	L3 B1 S2	2.00	1.0	56.5	151.6	112	P
3	L3 B1 S3	1.70	1.0	123.5	96.87	100	P
4	L3 B1 S4	1.80	1.0	103.3	134.4	110	P
5	L3 B1 S5	1.80	1.0	149.3	140.7	110	P

MEASURED PARAMETERS AS PER AIS-135

Abbreviations:
Q_{air} - Quantity of Water
P_w - Water Pressure

Note:- Nozzle tested for the TOT of "Water mist based fire protection System for Bus Occupant (BFPS)" only. This report shall be considered valid for one year from the date of issuance.

Test Conducted by:
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