

# Concept Smoke Systems

## Pure Water Fogger AFM-NEO Series



### Background of application:

Cleanrooms are dynamic systems. People and goods are constantly in motion. Installations, production lines and machines do require periodical adjustment to the production of different products. According to the relevant standard ISO 14644-3 the operators of cleanrooms are obliged to periodically give evidence of the institute airflow situation by an airflow mapping supported by high purity airflow mappers.



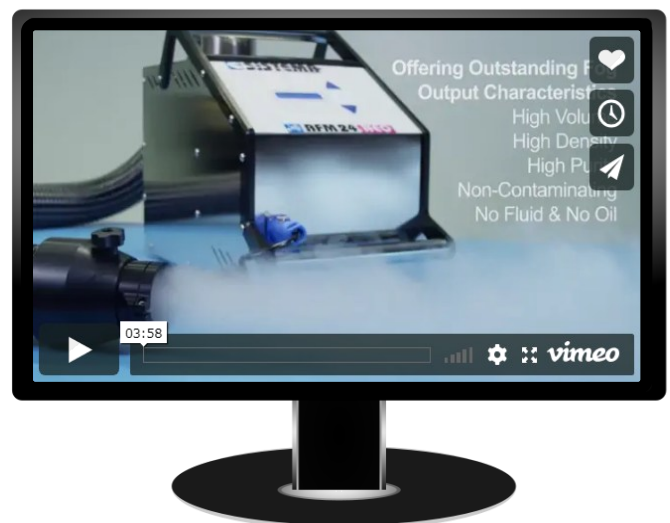
The AFM-NEO cleanroom foggers use high performance transonic piezoelectric ceramics to generate what is considered in its class an unmatched 6,4 m<sup>3</sup> of pure fog per minute with 866ml of fog density per minute to provide 5-7m of visible air flows for smoke studies in cleanrooms, medical rooms, ISO suits, barrier isolators, fume hoods and similar applications in cleanrooms. The AFM-NEO series is the only range of ultrasonic based airflow mapper / cleanroom fogger that competes in fog volume and fog density (pure white) with any available LN<sub>2</sub> based fog system (with the exception of the APOLLO.35). The AFM-NEO series has the advantage over LN<sub>2</sub> foggers as it only require DI Water / WFI water to create fog.

### Fog output characteristics:

- Dense white pure fog
- Cycle time of up to 94 minutes
- Sufficient volume of fog to split output with Y-Splitter, providing two hoses of pure white fog simultaneously
- Atomizing up to 866ml of DI Water per minute into 6,4m<sup>3</sup> of pure white fog
- 5-7mtr of visible airflows
- Highest fog output in comparison to all ultrasonic piezoelectric based foggers

### Typical Applications:

- Airflow recovery tested (ISO 14644-3 Annex B12)
- Airflow visualisation tests (ISO 14644-3 Annex B7)
- USP 797 in-situ airflow analysis
- USP 800 compound pharmacy airflow tests
- Airflow tests for NSF 49 and bio-safety cabinets
- Airflow requirements using semiconductor cleanroom guidelines, FS 209E
- Containment transport studies on process tools
- Optimisation of equipment locations
- Traking routes of air infiltration in cleanrooms
- Pressure balancing
- Operator training







## Demonstration Video

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AFM40-DUAL	AFM35-NEO	AFM24-NEO	AFM CUBE
			
<p><b>Key Features:</b>            40 stainless-steel high-performance transducers            Twin fog outlet ports            AISI 316L stainless steel tank and housing            Two fog rakes (Ø 60 x 650mm) with outlet direction nozzles            Two 5 m flexible tubes with end tips (Ø 80 mm)</p>	<p><b>Key Features:</b>            35 stainless-steel high-performance transducers            Single fog outlet port            AISI 316L stainless steel tank and housing            One fog rake (Ø 60 x 650mm) with outlet direction nozzles            One 5 m flexible tube with end tips (Ø 80 mm)</p>	<p><b>Key Features:</b>            24 stainless-steel high-performance transducers            Single fog outlet port            AISI 316L stainless steel tank and housing            One fog rake (Ø 60 x 650mm) with outlet direction nozzles            One 3 m flexible tube with end tips (Ø 80 mm)</p>	<p><b>Key Features:</b>            20 stainless-steel high-performance transducers            Single fog outlet port            AISI 316L stainless steel tank and housing            One fog rake (Ø 60 x 650mm) with outlet direction nozzles            One 3 m flexible tube with end tips (Ø 60 mm)</p>
<p><b>Performance Spec:</b>            Maximum cycle time with one filling: 62 minutes (tank refill on the fly)            Generated fog volume: 6.4 m<sup>3</sup>/min (226 cft/min)            Fog density per minute: 866 ml            Total fog volume per 60-minute cycle: 360 m<sup>3</sup>            Visible fog distance: 7 to 10 meters            Fog type: High volume of dense, white, pure fog</p>	<p><b>Performance Spec:</b>            Maximum cycle time with one filling: 72 minutes (tank refill on the fly)            Generated fog volume: 5 m<sup>3</sup>/min (177 cft/min)            Fog density per minute: 791 ml            Total fog volume per 60-minute cycle: 300 m<sup>3</sup>            Visible fog distance: 7 to 10 meters            Fog type: High volume of dense, white, pure fog</p>	<p><b>Performance Spec:</b>            Maximum cycle time with one filling: 94 minutes (tank refill on the fly)            Generated fog volume: 3.5 m<sup>3</sup>/min (123.6 cft/min)            Fog density per minute: 553.7 ml            Total fog volume per 60-minute cycle: 210 m<sup>3</sup>            Visible fog distance: 4 to 6 meters            Fog type: High volume of dense, white, pure fog</p>	<p><b>Performance Spec:</b>            Maximum cycle time with one filling: 46 minutes (tank refill on the fly)            Generated fog volume: 2.6 m<sup>3</sup>/min (92 cft/min)            Fog density per minute: 402 ml            Total fog volume per 60-minute cycle: 142 m<sup>3</sup>            Visible fog distance: 4 to 6 meters            Fog type: High volume of dense, white, pure fog</p>
<p><b>Dimensions &amp; Weight:</b>            60 x 32 x 29 cm            19.4 kg</p>	<p><b>Dimensions &amp; Weight:</b>            57 x 32 x 29 cm            18.5 kg</p>	<p><b>Dimensions &amp; Weight:</b>            57 x 32 x 29 cm            17 kg</p>	<p><b>Dimensions &amp; Weight:</b>            35 x 32 x 29 cm            12.4 kg</p>













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LINE	ITEM (PICTURE)	ITEM DESCRIPTION	
5	FL650.60-STR		Ø 60 x 650 mm FOG RAKE, <b>FITTED W/OUTLET DIRECTION NOZZLES</b>
6	FL.1300.60-STR		Ø 60 x 1.300 mm FOG RAKE, <b>FITTED W/OUTLET DIRECTION NOZZLES</b>
7	FL.650.80-STR		Ø 80 x 650 mm FOG RAKE, <b>FITTED W/OUTLET DIRECTION NOZZLES</b>
8	FL.1300.80-STR		Ø 80 x 1.300 mm FOG RAKE, <b>FITTED W/OUTLET DIRECTION NOZZLES</b>
9	FL.1850.80-STR		Ø 80 x 1.850 mm FOG RAKE, <b>FITTED W/OUTLET DIRECTION NOZZLES</b>
10	FL.1350.80-T	 Ø 80 x 1.300 mm FOG RAKE T-PATTERN VERSION, FOG RAKE, <b>FITTED W/OUTLET DIRECTION NOZZLES</b>	
11	TUBE.3000.60-BS	 3 m FLEXIBLE TUBE WITH END TIPS (Ø 60 mm)	
12	EXT.TUBE.3000.60-BS	Ø 60 mm FLEXIBLE TUBE <b>EXTENSION</b> (PER EACH ADDITIONAL m OF LENGTH ON TOP)	
13	TUBE.3000.80-BS	3 m FLEXIBLE TUBE WITH END TIPS (Ø 80 mm)	
14	TUBE.5000.80-BS	5 m FLEXIBLE TUBE WITH END TIPS (Ø 80 mm)	
15	EXT.TUBE.3000.80-BS	Ø 80 mm FLEXIBLE TUBE <b>EXTENSION</b> (PER EACH ADDITIONAL m OF LENGTH ON TOP)	
16	THROTTLE.80	 <b>THROTTLE VALVE FOR A 0 TO 100 % OUTPUT ADJUSTMENT AT HOSE TIP</b>	
17	THROTTLE.80		
18	OUTLET.45° (80)	 45° FLEXIBLE Ø 80 mm HOSE TO BE CONNECTED TO FOG OUTLET PORT PROVIDING A STABLE OUTPUT RIGHT ON SPOT.	
19	80.60 RED	 <b>REDUCTION FROM 80 TO 60 mm DIAMETER (THIS REDUCTION COMES WITHOUT THROTTLE VALVE!)</b>	
20	TUBE.CON (80)	 <b>OD 60 mm TUBE CONNECTOR COUPLING TWO HOSES</b>	
21	TUBE.CON (80)		<b>OD 80 mm TUBE CONNECTOR COUPLING TWO HOSES</b>
22	NOZ.350	 <b>350 mm BROAD FLAT FOG OUTPUT NOZZLE</b>	
23	NOZ.500		<b>500 mm BROAD FLAT FOG OUTPUT NOZZLE WITH INSIDE BLADE STRUCTURE FOR A HOMOGENEOUS FOG PICTURE</b>
24	T-SPLITTER.80-STRD	 <b>EXTRA T-PATTERN SPLITTER FOR CONFIGURATING OF A 1.300 mm T-PATTERN FOG RAKE VERSION OF 80 mm OD (TOGETHER WITH TWO FL.650.80-STR FOG RAKE ELEMENTS)</b>	
25	Y-SPLITTER.80-S*	 <b>Y-PATTERN SPLITTER FOR SPLITTING ONE TO TWO HOSES ENABLING WORKING PARALLELY AT TWO VISUALIZATION SPOTS. COMING WITH SHORT HOSE CONNECTING AFM-NEO TO Y-SPLITTER.</b>	
26	Y-SPLITTER.80-THROTTLE		<b>Y-PATTERN SPLITTER WITH ADDITIONAL BUTTERFLY VALVE IN EACH OUTGOING TUBE FOR SPLITTING ONE TO TWO HOSES ENABLING A 0 TO 100 % OUTPUT ADJUSTMENT AND PARALLEL WORKING AT TWO VISUALIZATION SPOTS. COMING WITH SHORT HOSE CONNECTING AFM-NEO TO Y-SPLITTER..</b>
27	QUAD	 <b>1 IN 4 OUT Y-PATTERN SPLITTER FOR SPLITTING ONE TO FOUR HOSES ENABLING FOGGING PARALLELY AT FOUR VISUALIZATION SPOTS (ONLY AVAILABLE FOR AFM40-NEO AND AFM40-NEO DUAL)</b>	
28	LED.BOOST-GEN2	 <b>DUAL LIGHT SOURCE KIT TO ESTABLISH HIGHER CONTRAST CONSISTING OF (1) LIGHT SOURCE #1 (360 POWERFUL LEDs 0,5 W SMD 2835 COLD WHITE) ... AND (2) LIGHT SOURCE #2 (LIGHT BAR VECTOR PIXEL BAR WITH PIXEL CONTROL AND 18x15W LEDs, RGBWA COLOUR MIXING, 45° BEMA ANGLE, 10/28/90/100 DMX CHANNELS)</b>	



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29	RC.AFM.AD		<b>REMOTE CONTROL</b> FOR SYSTEM FUNCTIONS ON/OFF, SWITCH & FLASH MODE, FAN UP/DOWN, 2-1 BLOCK RUN
30	<b>WR.PS</b>		<b>BUILT IN WIDE RANGE POWER SUPPLY FOR WORLDWIDE OPERATION</b>
31	<b>IQ/OQ</b>		<b>IQ/OQ DOCUMENTATION</b>
32	LF.AFM		<b>AFM-NEO CARRIAGE WITH STEERING HOLM</b> FOR EASY MOVING AND HANDLING OF THE AFM-NEO WITHOUT LIFTING IT
33	TRIPOD-L/F		<b>DOUBLE TRIPOD KIT INCLUDING TWO STAINLESS STEEL FOG RAKE HOLDER PLATES WITH TWO FASTENING STRIPES</b> COMBINED TO UP TO 4 m HIGH DOUBLE TRIPOD FOR FOG RAKE LIFTING AND POSITIONING IN UP TO 4 m OF HEIGHT IN ORDER TO CREATE AN UP TO 4 m WIDE FOG CURTAIN
34	TRIPOD-900		<b>900 mm HIGH STAINLESS STEEL DOUBLE TRIPOD</b> COMING WITH TWO TOP MOUNTED FOG RAKE HOLDER PLATES WITH TWO SILICONE FASTENING STRIPES
35	TRIPOD-1200		<b>1200 mm HIGH STAINLESS STEEL DOUBLE TRIPOD</b> COMING WITH TWO TOP MOUNTED FOG RAKE HOLDER PLATES WITH TWO SILICONE FASTENING STRIPES
36	TRIPOD-1500		<b>1500 mm HIGH STAINLESS STEEL DOUBLE TRIPOD</b> COMING WITH TWO TOP MOUNTED FOG RAKE HOLDER PLATES WITH TWO SILICONE FASTENING STRIPES
37	BOX.AFM-NEO   DUAL   CUBE		<b>AFM-NEO/CUBE HEAVY DUTY TRANSPORT BOX WITH TELESCOPIC HANDLE, FITTED WITH HANDLES AND HEAVY DUTY FOAM, COLOUR SILVER</b>

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