

## AFM-NEO SERIES – CONTAMINATION FREE AIRFLOW VISUALISATION IN CLEAN ROOMS ACC. TO ISO 14644-3 ANNEX B7



### PRODUCT DESCRIPTION

Cleanrooms are dynamic systems. People and goods are constantly in motion. Installations, production lines and machines are periodically adjusted to the production of different products. According to the relevant standard ISO 14644-3 Annex B7 the operators of cleanrooms are obliged to give periodically evidence of the actual air flow situation by an air flow mapping basing e. g. on high purity water fog generators.

Sistema's ultrasonic water fog (aerosol) generators of the AFM-NEO Series do offer an unmatched potential for zero contamination air flow visualisation and tracking studies in cleanrooms according to ISO 14644-3 Annex B7. All versions of the AFM-NEO Series are portable, are operated with non-contaminating media (DI water) atomized into micro sized droplets.

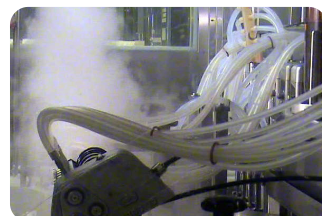
### FOG OUTPUT CHARACTERISTICS

- ✓ Unmatched Fog Output with up to 24 Piezos
- ✓ High Density
- ✓ High Purity
- ✓ Non-Contaminating
- ✓ No Fluid & No Oil

### TYPICAL APPLICATIONS

- ✓ Air Flow Visualization and Tracking in Cleanrooms
- ✓ Containment Transport Studies on Process Tools
- ✓ Optimization of Equipment Locations
- ✓ Detection of unsuspected particulate and gaseous Containment Sources
- ✓ Tracking Routes of Air Infiltration into Cleanrooms
- ✓ Pressure Balancing (rooms and spaces)
- ✓ Operators Trainings

### EXTRACT OF CUSTOMER LIST USING AFM-NEO AND PRECEDING SERIES



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### MEDIA IN USE IN OPERATION

Purified Water = DI water (Deionised Water) or WFI (Water For Injection)

### PIEZO FREQUENCY

1,7 MHz

### DROPLET SIZE RANGE OF AFM-V SERIES <sup>1)</sup>

< 0.3 µm:	10 %
0.3 µm – 0.5 µm:	40 %
0.5 µm – 1.0 µm:	23 %
1.0 µm – 5.0 µm:	20 %
> 5.0 µm:	7 %

<sup>1)</sup> MEASURED 5 CM ABOVE PIEZO AT A WATER TEMPERATURE OF 7° C  
(BEFORE RECOMBINATION EFFECTS)

### AVERAGE WATER DROPLET SIZE AT FOG OUTLET (TUBING END) OF AFM-NEO

2 – 4 µm <sup>2)</sup>

<sup>2)</sup> CONSIDERING RECOMBINATION EFFECTS DURING DROPLET TRANSPORT

### DIMENSIONS (L X W X H)

420 x 260 x 280 (300) mm

### WEIGHT FILLED (EMPTY)

21,84 (17,64) Kg







# SISTEMA-MK

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LINE	PICTURE	ITEM #	ITEM DESCRIPTION
1	 <p><b>12</b> PIEZOS</p> <p>MAX. VISUALIZATION DISTANCE (VOLUME) <b>12</b> METERS (<b>108</b> CBM)*</p> <p>* DEPENDING SITE CONDITIONS</p>	AFM12-NEO	 <p>ULTRASONIC WATER FOG GENERATOR AIR FLOW MAPPER AFM12 INCLUDING SYSTEM AIR FLOW MAPPER AFM12   ULTRASONIC MODULE WITH 12 PIEZOS   0 - 100 % ADJUSTMENT OF FOG INTENSITY AND DENSITY   MICRO FAN, 24 V, IP 68   FOG OUTLET (Ø: 80 MM)   <u>DOTMATRIX DISPLAY (ALPHANUMERIC USER INTERFACE) FOR INDICATION OF OPERATING STATE AND ALL OPERATING FUNCTIONS</u>   FLEXIBLE TUBE (L X Ø: 3.000 X 80 MM)   <u>ELECTRONICAL WATER FILL LEVEL SURVEY VIA CAPACITIVE SENSOR</u>   COMPACT DIMENSIONS (L X W X H): 420 X 260 X 280 (300) MM   NET WEIGHT 16,4 KG   <u>TEMPERATURE SURVEY FUNCTION</u>   <u>ELAPSED TIME MET</u>   <u>REDUNDANCY FUNCTION</u>   <u>SOFT START ELECTRONIC</u>   240 V 60 HZ POWER SUPPLY   POWER CABLE   USER MANUAL   CE-CERTIFICATE   24 MONTHS WARRANTY</p>
2	 <p><b>18</b> PIEZOS</p> <p>MAX. VISUALIZATION DISTANCE (VOLUME) <b>15</b> METERS (<b>135</b> CBM)</p> <p>* DEPENDING SITE CONDITIONS</p>	AFM18-NEO	 <p>ULTRASONIC WATER FOG GENERATOR AIR FLOW MAPPER AFM18 INCLUDING SYSTEM AIR FLOW MAPPER AFM18   ULTRASONIC MODULE WITH 18 PIEZOS   0 - 100 % ADJUSTMENT OF FOG INTENSITY AND DENSITY   MICRO FAN, 24 V, IP 68   FOG OUTLET (Ø: 80 MM)   <u>DOTMATRIX DISPLAY (ALPHANUMERIC USER INTERFACE) FOR INDICATION OF OPERATING STATE AND ALL OPERATING FUNCTIONS</u>   FLEXIBLE TUBE (L X Ø: 3.000 X 80 MM)   <u>ELECTRONICAL WATER FILL LEVEL SURVEY VIA CAPACITIVE SENSOR</u>   COMPACT DIMENSIONS (L X W X H): 420 X 260 X 280 (300) MM   NET WEIGHT 17,8 KG   <u>TEMPERATURE SURVEY FUNCTION</u>   <u>ELAPSED TIME MET</u>   <u>REDUNDANCY FUNCTION</u>   <u>SOFT START ELECTRONIC</u>   240 V 60 HZ POWER SUPPLY   POWER CABLE   USER MANUAL   CE-CERTIFICATE   24 MONTHS WARRANTY</p>

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LINE	PICTURE	ITEM #	ITEM DESCRIPTION
	 <p><b>24 PIEZOS</b></p> <p>MAX. VISUALIZATION DISTANCE (VOLUME) <b>18 METERS (162 CBM)</b></p> <p>* DEPENDING SITE CONDITIONS</p>	AFM24-NEO	 <p>ULTRASONIC WATER FOG GENERATOR AIR FLOW MAPPER AFM24 INCLUDING SYSTEM AIR FLOW MAPPER AFM24   ULTRASONIC MODULE WITH 24 PIEZOS   0 - 100 % ADJUSTMENT OF FOG INTENSITY AND DENSITY   MICRO FAN, 24 V, IP 68   FOG OUTLET (Ø: 80 MM)   <u>DOTMATRIX DISPLAY (ALPHANUMERIC USER INTERFACE) FOR INDICATION OF OPERATING STATE AND ALL OPERATING FUNCTIONS</u>   FLEXIBLE TUBE (L X Ø: 3.000 X 80 MM)   <u>ELECTRONICAL WATER FILL LEVEL SURVEY VIA CAPACITIVE SENSOR</u>   COMPACT DIMENSIONS (L X W X H): 420 X 260 X 280 (300) MM   NET WEIGHT 18,7 KG   <u>TEMPERATURE SURVEY FUNCTION</u>   ELAPSED TIME MET   <u>REDUNDANCY FUNCTION</u>   SOFT START ELECTRONIC   240 V 60 HZ POWER SUPPLY   _POWER CABLE   USER MANUAL   CE-CERTIFICATE   24 MONTHS WARRANTY</p>
			SURCHARGE ACCESSORIES
4		LNG.FL.1000.80	APOLLO.32 LNG FOG LANCE 1.000 MM FOG LANCE (Ø 80 MM)
5		LNG.FL.2000.80	APOLLO.32 LNG FOG LANCE 2.000 MM FOG LANCE (Ø 80 MM)
6		LNG.FL.800.60	FOG LANCE STANDARD VERSION FOR FOG CURTAINS (L X Ø: 800 X 60 MM) PLUS BUTTERFLY THROTTLE VALVE W/HANDLE 60 (Ø 60 MM) FOR A 0-100 % PERFORMANCE ADJUSTMENT
7		FL.TH.1.200.60	SET OF FOG LANCE EXTRA LONG VERSION FOR FOG CURTAINS (L X Ø: 1.200 X 60 MM) PLUS BUTTERFLY THROTTLE VALVE W/HANDLE 60 (Ø 60 MM) FOR A 0-100 % PERFORMANCE ADJUSTMENT
8		FL.TH.1.600.60	SET OF FOG LANCE EXTRA LONG VERSION FOR FOG CURTAINS (L X Ø: 1.600 X 60 MM) PLUS BUTTERFLY THROTTLE VALVE W/HANDLE 60 (Ø 60 MM) FOR A 0-100 % PERFORMANCE ADJUSTMENT



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LINE	PICTURE	ITEM #	ITEM DESCRIPTION
9		TUBE.5000.80	ADDITIONAL/SECOND FLEXIBLE TUBE EXTRA LONG (L X Ø: 5.000 X 80 MM)
10		TUBE.3000.80	ADDITIONAL/SECOND FLEXIBLE TUBE STANDARD (L X Ø: 3.000 X 80 MM)
11		TUBE.CON	TUBE TO TUBE CONNECTOR COUPLING SINGLE TUBINGS
12		RE.AFM	RANGE EXTENDER FOR AFM.NEO DOUBLING OPERATION CYCLE WITH ONE TANK FILLING BY EXTRACTING LARGE DROPLETS FROM AEROSOL. CAN BE EQUIPPED EITHER AFTER PURCHASE.
13		NOZ.250	250 MM BROAD OUTPUT NOZZLE MOUNTED TO TUBING
14		NOZ.500	500 MM BROAD OUTPUT NOZZLE MOUNTED TO TUBING
15		Y.AFM	Y-PATTERN TUBE TO TUBE CONNECTOR FOR 1 IN 2 TUBING ARRANGEMENTS, TUBE EXTENSIONS OR COUPLING OF TWO AFM-NEO SYSTEMS
16		EXT.500	500 MM EXTENSION PIPE (Ø 80 MM) FOR ACCESSING REMOTE AREAS
17		EXT.1000	1.000 MM EXTENSION PIPE (Ø 80 MM) FOR ACCESSING REMOTE AREAS COUPLING (Ø 80 MM) FOR EXT.500 AND/OR EXT.1000
18		LED.BOOST ***	LED LUMINAIRE WITH ADJUSTABLE SPOT SIZE AND TWO SPECIAL MULTI LENSE ARRAYS FOR CREATING RECTANGULAR OR LINE PATTERNS. CREATES A HIGHER CONTRAST AND BY THIS AN IMPROVED FOG VISIBILITY AT SPECIFIC IN FIELD ILLUMINATION APPLICATIONS. <u>BOOSTING, SUPPORTING AND ENHANCING OVERALL SYSTEM PERFORMANCE (VISIBILITY OF FOG &amp; VISUALISATION DISTANCE) BY APPROX. 50 %*</u> .

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LINE	PICTURE	ITEM #	ITEM DESCRIPTION
			LENSE ARRAY #1 (EASY TO SNAP IN) OFFERS TURNING THE LIGHT PATTERN INTO ANY ANGLE. LENSE ARRAY #2 (USED WITH ADDITIONAL FILTER-HOLDER) SUPPORTS BLOCKING OF STRAY LIGHT AROUND THE CENTER BEAM. COLOUR TEMPERATURE: 3000-3200K (INCLUDING DIMMING). POSSIBLE REMOTE CONTROL VIA DMX. POWER CONSUMPTION @LESS THAN 100W AT FULL POWER.
19		RC.AFM	RF REMOTE CONTROL FOR ALL MAJOR SYSTEM FUNCTIONS AND MODES (MODE A (STRD. MODE): "SWITCH MODE" - PRESS BUTTON 1 OR 2 OR 3 OF THE REMOTE CONTROL FOR ACTIVATING FOG GENERATION = 'FOG'. PRESSING BUTTON 1 OR 2 OR 3 AGAIN WILL DEACTIVATE 'FOG'. MODE B (ALT. MODE): "FLASH MODE" - PRESS BUTTON 1 OR 2 OR 3 OF THE REMOTE CONTROL FOR ACTIVATING 'FOG'. BY RELEASING BUTTON 1 OR 2 OR 3 'FOG' STOPS.
20	<b>WR.PS</b>	WR.PS	BUILT IN WIDE RANGE POWER SUPPLY COVERING 240 V 60 HZ & 110 V 50 HZ & OTHERS
21		BOX.AFM	TRANSPORT TROLLEY FITTED WITH HANDLES AND HEAVY DUTY FOAM FOR AFM UNIT AND ACCESSORIES, DIMENSIONS (L X W X H) @ 560 X 480 X 505 MM, COLOUR: GREY
22		LF.AFM	2R STAINLESS STEEL TRANSPORT "LAFETTE" ON WHEELS (TWO MOVABLE) W/LONG HANDLE FOR MOVING THE AFM ON PROJECT WITHOUT LIFTING, DIMENSIONS (L X W): 450 X 780 MM