

 **AFM35|24|NEO|40 DUAL**

 **AFM CUBE** 



CLEANROOMS ARE BY NO MEANS STATIC, BUT DYNAMIC PRODUCTION AREAS IN CONTAMINATION CRITICAL ENVIRONMENTS. PEOPLE AND GOODS ARE CONSTANTLY IN MOTION. INSTALLATIONS, PRODUCTION LINES AND MACHINERY DO REQUIRE PERIODICAL ADJUSTMENT AND REDESIGN ACCORDING TO THE SPECIFIC PRODUCTION REQUIREMENTS OF DIFFERENT TYPES OF PHARMACEUTICALS OR SEMICONDUCTOR PRODUCTS. THE PERTAINING STANDARD ISO 14644-3 MAKES IT MANDATORY FOR OPERATORS OF CLEANROOMS TO GIVE PERIODICALLY EVIDENCE OF THE IN-SITU AIR FLOW SITUATION BY AIR FLOW MAPPING STUDIES SUPPORTED BY HIGH PURITY CLEANROOM FOGGERS (AIR FLOW MAPPERS).

SISTEMA'S AFM-NEO CLEANROOM FOGGER SERIES CONSISTING OF THE AFM40-DUAL | AFM35-NEO | AFM24-NEO AND THE IN 2024 LAUNCHED AFM CUBE MAKES USE OF UNIQUE AND RIGHT FOR THIS SPECIFIC PURPOSE DESIGNED **STAINLESS STEEL HIGH PERFORMANCE PIEZOELECTRIC MODULES** TO GENERATE **UP TO 6,4 m³/min ... 226 cft/min** WITH A **MAX. FOG DENSITY OF 866 ml/min** TO PROVIDE A **VISUALISED RANGE OF UP TO 10 m** (AFM40-DUAL PERFORMANCE DATA). THIS ENABLES EVERY TYPE FROM SMALL TO LARGE SCALE CONTAMINATION FREE 'SMOKE STUDIES' AND AIR FLOW MAPPING STUDIES IN CLEAN ROOMS, STERILE ROOMS, MEDICAL SURGERY ROOMS, ISO SUITES, ETC. ALL DEVICES OF SISTEMA'S AFM-NEO SERIES ARE OPERATED WITH **DI WATER OR WFI WATER AS SINGLE MEDIA**.



KEY FEATURES

- **FLEXIBLE CONTROL OF FOG VOLUME, DENSITY AND AIRFLOW VIA BUILT-IN FAN** (CONTROLLABLE FROM 0 TO 100 % OUTPUT) AND SELECTABLE NUMBER OF BLOCKS IN OPERATION
- **MULTIPLE FOG SPOT DESIGN** (POSSIBILITY OF WORKING WITH A SINGLE AFM-NEO AT SEVERAL LOCATIONS AT THE SAME TIME)
- **WIRELESS REMOTE CONTROL** (OPT.) FOR DEVICE FUNCTIONALITY, SWITCH & FLASH MODE, FAN UP/DOWN, 4-3-2-1 BLOCK RUN
- MEDIA TANK FILLING ON THE FLY (OPT.)
- **BUILT IN REDUNDANCY AND UP TO 5 YEARS WARRANTY**
- **SANITIZABLE WITH 6% HYDROGEN PEROXIDE OR CALCIUMHYPOCHLORIT 0,2 ML/100ML OR ISOPROPYL ALCOHOL**
- **GENERATING AN IDEAL FOG DROPLET SIZE RANGE** (MEASURED 5 cm ABOVE PIEZO AT 7° C WATER TEMP. AND BEFORE RECOMBINATION EFFECTS)

< 0.3 µm –	12 % OF GENERATED DROPLETS
0.3 µm – 0.5 µm	36 % ...
0.5 µm – 1.0 µm	24 % ...
1.0 µm – 5.0 µm	20 % ...
> 5.0 µm	8 % ...

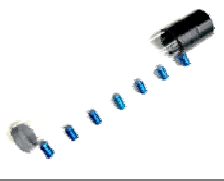


TYPICAL APPLICATIONS

- **AIRFLOW RECOVERY TESTS** GUIDED BY ISO 14644-3 ANNEX B12
- **AIRFLOW VISUALIZATION TESTS** GUIDED BY ISO 14644-3 ANNEX B7
- **USP 797 IN-SITU AIRFLOW ANALYSIS AND USP 800 COMPOUND PHARMACY AIRFLOW TESTS**
- **AIRFLOW TESTS FOR NSF 49 AND BIO-SAFETY CABINETS**
- **AIRFLOW REQUIREMENTS USING SEMICONDUCTOR CLEAN ROOM GUIDELINES** AND GUIDED BY **FEDERAL STANDARD 209E**
- **CONTAINMENT TRANSPORT STUDIES ON PROCESS TOOLS**
- **OPTIMIZATION OF EQUIPMENT LOCATIONS**
- **TRACKING ROUTES OF AIR INFILTRATION INTO CLEANROOMS**
- **PRESSURE BALANCING** (ROOMS AND SPACES)
- **OPERATORS TRAININGS**

LINE	ITEM (PICTURE)	ITEM DESCRIPTION
1	AFM40-DUAL 	AFM40-DUAL ULTRAPURE WHITE FOG CLEANROOM FOGGER <i>THE BENCHMARK</i> – 40 PCS. STAINLESS-STEEL HIGH-PERFORMANCE TRANSDUCERS – TWIN FOG OUTLET PORT – AISI 316 L STAINLESS STEEL TANK AND HOUSING – 2 PCS. Ø 60 x 650 mm FOG RAKE, FITTED W/OUTLET DIRECTION NOZZLES – 2 PCS. 5 m FLEXIBLE TUBE WITH END TIPS (Ø 80 mm)  – MAX. CYCLE TIME WITH ONE FILLING: 62 min (TANK REFILL ON THE FLY) – GENERATED FOG VOLUME: 6,4 m³/min (226 cft/min) – DENSITY PER MINUTE: 866 ml  – TOTAL FOG VOLUME PER 60 min CYCLE TIME: 360 m³ – VISIBLE FOG DISTANCE: 7 TO 10 m – TYPE OF GENERATED FOG: HIGH VOLUME OF DENSE WHITE PURE FOG – DIMENSIONS & WEIGHT: 60 x 32 x 29 cm (19,4 kg)
2	AFM35-NEO 	AFM35-NEO ULTRAPURE WHITE FOG CLEANROOM FOGGER <i>THE POWER HOUSE</i> – 35 PCS. STAINLESS-STEEL HIGH-PERFORMANCE TRANSDUCERS – SINGLE FOG OUTLET PORT – AISI 316 L STAINLESS STEEL TANK AND HOUSING – 1 PCE. Ø 60 x 650 mm FOG RAKE, FITTED W/OUTLET DIRECTION NOZZLES – 1 PCE. 5 m FLEXIBLE TUBE WITH END TIPS (Ø 80 mm)  – MAX. CYCLE TIME WITH ONE FILLING: 72 min (TANK REFILL ON THE FLY) – GENERATED FOG VOLUME: 5 m³/min (177 cft/min) – DENSITY PER MINUTE: 791 ml  – TOTAL FOG VOLUME PER 60 min CYCLE TIME: 300 m³ – VISIBLE FOG DISTANCE: 7 TO 10 m – TYPE OF GENERATED FOG: HIGH VOLUME OF DENSE WHITE PURE FOG – DIMENSIONS & WEIGHT: 57 x 32 x 29 cm (18,5 kg)
3	AFM24-NEO 	AFM24-NEO ULTRAPURE WHITE FOG CLEANROOM FOGGER <i>THE ENDURANCE RUNNER</i> – 24 PCS. STAINLESS-STEEL HIGH-PERFORMANCE TRANSDUCERS – SINGLE FOG OUTLET PORT – AISI 316 L STAINLESS STEEL TANK AND HOUSING – 1 PCE. Ø 60 x 650 mm FOG RAKE, FITTED W/OUTLET DIRECTION NOZZLES – 1 PCE. 3 m FLEXIBLE TUBE WITH END TIPS (Ø 80 mm)  – MAX. CYCLE TIME WITH ONE FILLING: 94 min (TANK REFILL ON THE FLY) – GENERATED FOG VOLUME: 3.5 m³/min (123,6 cft/min) – DENSITY PER MINUTE: 553,7 ml  – TOTAL FOG VOLUME PER 60 min CYCLE TIME: 210 m³ – VISIBLE FOG DISTANCE: 4 TO 6 m – TYPE OF GENERATED FOG: HIGH VOLUME OF DENSE WHITE PURE FOG – DIMENSIONS & WEIGHT: 57 x 32 x 29 cm (17 kg)
4	AFM CUBE 	AFM CUBE ULTRAPURE WHITE FOG CLEANROOM FOGGER <i>THE ENTRY-LEVEL AFM</i> – 20 PCS. STAINLESS-STEEL HIGH-PERFORMANCE TRANSDUCERS – SINGLE FOG OUTLET PORT – AISI 316 L STAINLESS STEEL TANK AND HOUSING – 1 PCE. Ø 60 x 650 mm FOG RAKE, FITTED W/OUTLET DIRECTION NOZZLES – 1 PCE. 3 m FLEXIBLE TUBE WITH END TIPS (Ø 60 mm)  – MAX. CYCLE TIME WITH ONE FILLING: 46 min (TANK REFILL ON THE FLY) – GENERATED FOG VOLUME: 2,6 m³/min (92 cft/min) – DENSITY PER MINUTE: 402 ml  – TOTAL FOG VOLUME PER 60 min CYCLE TIME: 142 m³ – VISIBLE FOG DISTANCE: 4 to 6 m – TYPE OF GENERATED FOG: HIGH VOLUME OF DENSE WHITE PURE FOG – DIMENSIONS & WEIGHT: 35 x 32 x 29 cm (12,4 kg)

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

LINE	ITEM (PICTURE)	ITEM DESCRIPTION
5		Ø 60 x 650 mm FOG RAKE, FITTED W/OUTLET DIRECTION NOZZLES
6		Ø 60 x 1.300 mm FOG RAKE, FITTED W/OUTLET DIRECTION NOZZLES
7		Ø 80 x 650 mm FOG RAKE, FITTED W/OUTLET DIRECTION NOZZLES
8		Ø 80 x 1.300 mm FOG RAKE, FITTED W/OUTLET DIRECTION NOZZLES
9		Ø 80 x 1.850 mm FOG RAKE, FITTED W/OUTLET DIRECTION NOZZLES
10		Ø 80 x 1.300 mm FOG RAKE T-PATTERN VERSION, FOG RAKE, FITTED W/OUTLET DIRECTION NOZZLES
11		3 m FLEXIBLE TUBE WITH END TIPS (Ø 60 mm)
12		Ø 60 mm FLEXIBLE TUBE EXTENSION (PER EACH ADDITIONAL m OF LENGTH ON TOP)
13		3 m FLEXIBLE TUBE WITH END TIPS (Ø 80 mm)
14		5 m FLEXIBLE TUBE WITH END TIPS (Ø 80 mm)
15		Ø 80 mm FLEXIBLE TUBE EXTENSION (PER EACH ADDITIONAL m OF LENGTH ON TOP)
16		THROTTLE VALVE FOR A 0 TO 100 % OUTPUT ADJUSTMENT AT HOSE TIP
17		THROTTLE VALVE FOR A 0 TO 100 % OUTPUT ADJUSTMENT AT HOSE TIP
18		45° FLEXIBLE Ø 80 mm HOSE TO BE CONNECTED TO FOG OUTLET PORT PROVIDING A STABLE OUTPUT RIGHT ON SPOT.
19		REDUCTION FROM 80 TO 60 mm DIAMETER (THIS REDUCTION COMES WITHOUT THROTTLE VALVE!)
20		OD 60 mm TUBE CONNECTOR COUPLING TWO HOSES
21		OD 80 mm TUBE CONNECTOR COUPLING TWO HOSES
22		350 mm BROAD FLAT FOG OUTPUT NOZZLE
23		500 mm BROAD FLAT FOG OUTPUT NOZZLE WITH INSIDE BLADE STRUCTURE FOR A HOMOGENEOUS FOG PICTURE
24		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)
25		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.
26		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..
27		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)
28		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)

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

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



REFERENCE LIST EXTRACT FROM AFM CUSTOMERS