



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. ACC. TO THE RELEVANT STANDARD ISO 14644-3 THE OPERATORS OF CLEANROOMS ARE OBLIGED TO GIVE PERIODICALLY EVIDENCE OF THE IN SITU AIR FLOW SITUATION BY AN AIR FLOW MAPPING SUPPORTED BY HIGH PURITY AIR FLOW MAPPERS (CLEAN ROOM FOGGERS).

AFM24NEO

THE AFM24-NEO GEN.2019 CLEANROOM FOGGER USES A HIGH PERFORMANCE ULTRASONIC MODULE OF 24 PIEZOELECTRIC CERAMICS TO GENERATE IN ITS CLASS UNMATCHED OUTPUT PROFILE OF PURE FOG PER MINUTE WITH 95 ML OF FOG DENSITY PER MINUTE TO PROVIDE 4 TO 7 M OF VISIBLE AIR FLOWS FOR SMOKE STUDIES IN CLEAN ROOMS, MEDICAL ROOMS, ISO SUITES, BARRIER ISOLATORS, FUME HOODS AND SIMILAR APPLICATIONS IN CLEAN ROOMS. ITS UNIQUE CRITERION IN THIS COMPETITION IS THAT THE AFM24-NEO ONLY NEEDS DI-WATER OR WFI WATER TO PRODUCE THIS HIGHER VOLUME OF WHITE DENSE PURE FOG AND NOT A MEDIA OF TWO COMPONENTS LIKE LN2 AND DI WATER AS WITH THE LN2 FOGGERS.

FOG OUTPUT CHARACTERISTICS



- DENSE PAPER WHITE PURE FOG
- CYCLE TIME OF 45 MIN WITH ONE FILLING
- 5 TO 7 M OF VISIBLE AIR FLOWS
- HIGHEST FOG OUTPUT RATE OF ALL ULTRASONIC PIEZOELECTRIC BASED CLEAN ROOM FOGGERS IN MARKET
- DROPLET SIZE RANGE ¹⁾

< 0.3 µm:	12 %
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 %

¹⁾ Measured within 5 cm above piezo at a water temperature of 7° C (before recombination effects)







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
- USP 800 COMPOUND PHARMACY AIRFLOW TESTS
- AIRFLOW TESTS FOR NSF 49 AND BIO-SAFETY CABINETS
- AIRFLOW REQUIREMENTS USING SEMICONDUCTOR CLEAN ROOM GUIDELINES, 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

SYSTEM OVERLOOK AND ACCESSORIES

LINE	ITEM #	PICTURE	ITEM DESCRIPTION
AFM24-NEO GEN.2019 SERIES - 230 OR 115 VAC VERSIONS W/STRD. ACCESSORIES (POWER CABLE + 5 M TUBING)			
1	AFM24-NEO (GEN.2019)		AFM24-NEO GEN.2019 ATOMIZING FROM MINIMUM 2,60 LITER (WITH A 25 % FAN OUTPUT) TO MAXIMUM 6,40 LITER (WITH A 100 % FAN OUTPUT) OF WFI-WATER IN 45 min. MAXIMUM CYCLE TIME AT 60 min. POWER CABLE + 5 M TUBING INCLUDED.
OPTIONAL ACCESSORIES			
2	FL.650.80-STR		Ø 80 x 650 mm FOG RAKE STRAIGHT VERSION, TRANSPARENT
3	FL.1300.80-STR		Ø 80 x 1.350 mm FOG RAKE STRAIGHT VERS., TRANSPARENT
4	FL.1800.80-STR		Ø 80 x 1.800 mm FOG RAKE STRAIGHT VERS., TRANSPARENT
5	FL.650.60-STR		Ø 60 x 650 mm FOG RAKE STRAIGHT VERSION, TRANSPARENT
6	FL.1300.60-STR		Ø 60 x 1.300 mm FOG RAKE STRAIGHT VERS., TRANSPARENT
7	FL.1300.80-T		
8	OUTLET.45°		45° FLEXIBLE HOSE TO BE CONNECTED TO APXX FOG OUTLET PROVIDING A STABLE OUTPUT RIGHT ON SPOT. COMING WITH SOFT TIPS BOTH SIDES.
9	TUBE.3000.80-BS		3 m FLEXIBLE TUBE WITH END TIPS (Ø 80 mm)
10	TUBE.5000.80-BS		5 m FLEXIBLE TUBE WITH END TIPS (Ø 80 mm)
11	TUBE.10000.80-BS		10 m FLEXIBLE TUBE WITH END TIPS (Ø 80 mm)
12	TUBE.3000.60-BS		3 m FLEXIBLE TUBE WITH END TIPS (Ø 60 mm)
13	TUBE.5000.60-BS		5 m FLEXIBLE TUBE WITH END TIPS (Ø 60 mm)
14	TUBE.CON		TUBE CONNECTOR COUPLING TWO HOSES MAKING IT A XL-HOSE
15	NOZ.350		350 mm BROAD FLAT OUTPUT NOZZLE
16	NOZ.500		500 mm BROAD FLAT OUTPUT NOZZLE WITH INSIDE BLADE STRUCTURE FOR A HOMOGENEOUS FOG OUTPUT
17	Y-SPLITTER		Y-PATTERN SPLITTER FOR SPLITTING ONE TO TWO HOSES ENABLING WORKING SAME TIME AT TWO VISUALIZATION SPOTS. COMING WITH ADDITIONAL SHORT HOSE CONNECTING APXX WITH Y-SPLITTER.

LINE	ITEM #	PICTURE	ITEM DESCRIPTION
18	LED.BOOST		LED LUMINAIRE W/ADJUSTABLE SPOT SIZE INCL. SPECIAL MULTI LENSE ARRAY (LINE PATTERNS) & HIGHER CONTRAST
19	FLEX.KIT-80/60/50		FLEXIBILITY KIT ENABLING A SPLITTING OF THE STANDARD Ø 80 mm INTO TWO Ø 50 mm HOSES. INCLUDING ONE Y-SPLITTER CONNECTING DIRECTLY TO THE AFM-NEO'S FOG OUTLET + TWO Ø 80 TO Ø 50 mm REDUCTIONS (WITH INSIDE THROTTLE VALVE FOR A FROM 0 TO 100 % OUTPUT ADJUSTMENT IN EACH OF THE Y-ADAPTER OUTLETS) PLUS 2 UNITS OF THE 3 m Ø 50 mm HOSE. AS MAJOR PROS THIS FLEXIBILITY KIT ENABLES WORKING ON TWO SPOTS PARALLELY WITH POSSIBILITY OF INDIVIDUALLY ADJUSTMENT OF THE FOG OUTPUT FROM 0 TO 100 % IN EACH OF THE TWO Ø 50 mm HOSES AND GOING INTO NARROW OR CORNER SPACES NOT REACHABLE WITH A STANDARD Ø 80 mm HOSE.
20	RC.AFM.BASIC		BASIC REMOTE CONTROL FOR ALL SYSTEM FUNCTIONS ON/OFF, SWITCH MODE AND FLASH MODE
21	RC.AFM.AD		ADVANCED REMOTE CONTROL FOR SYSTEM FUNCTIONS ON/OFF, SWITCH & FLASH MODE, FAN UP/DOWN, 4-3-2-1 BLOCK RUN.
22	WR.PS	WORLDWIDE USE	BUILT IN WIDE RANGE POWER SUPPLY ENABLING A WORLDWIDE SYSTEM USE
23	LF.AFM		CARRIAGE WITH STEERING HOLM FOR A EASY HANDLING W/O LIFTING ON THE JOB
24	80/60 RED.THR		THROTTLE VALVE FOR A 0 TO 100 % OUTPUT ADJUSTMENT AT HOSE TIP & REDUCTION FROM 80 TO 60 mm DIAMTER
25	BOX.GEN.2019		HEAVY DUTY TRANSPORT BOX WITH TELESCOPIC HANDLE FITTED WITH HANDLES AND HEAVY DUTY FOAM, COLOUR SILVER

REFERENCE EXTRACT



SANDOZ



GlaxoSmithKline



octapharma

Alcon

janssen



Johann-Johann

ASML

OSRAM



Boehringer
Ingelheim



FURTHER REFERENCES 2018/2019

SANDOZ CANADA AND AUSTRIA

LAM RESEARCH USA

REGENERON USA AND IRELAND

ALLERGAN USA AND BRAZIL

MESA3 USA

MSD ANIMAL HEALTH UK

OPTIMA PHARMA GERMANY

NOVO NORDISK FRANCE

LIFECORE USA

BC TECHNOLOGY GERMANY

ESPRIT VALIDATION FRANCE

NOVARTIS USA AND SINGAPORE

PFIZER ITALY AND USA

GSK UK AND CANADA

ADVANCED AUTOMATICS USA

SANOFI USA

TECHNOLOG PHARMA UKRAINE

HEMOPHARM SERBIA

OCTAPHARMA FRANCE

IGIENAIR (QUALIFIER) FRANCE

PHARMASERV GERMANY

HYGENIKS USA

TEVA PHARMA USA

AMGEN USA

ALCON BELGIUM AND USA

PERFORMANCE VALIDATION USA

BOEHRINGER I. GERMANY & CHINA & USA

FRESENIUS KABI SOUTH AFRICA AND USA

ROMPHARMA ROMANIA

PJSC TECHNOLOG UKRAINE

HEX GROUP (QUALIFIER) BELGIUM / FRANCE

LDMI (QUALIFIER) FRANCE

CAS (QUALIFIER) SWITZERLAND