Product Data and Specifications

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Automatically Adjusts To Maintain a Constant Airflow

SAM MicroSound ECM GS units feature a roomside removable filter element with a gel channel on the upstream side of the final filter which provides a leak-free seal between the filter and the filter housing.

SAM MicroSound ECM NCR units feature a low profile unit with an upstream gasket for a leakfree seal between the final filter and the SAM plenum.

Housings are fabricated from steel with a white powdercoat finish.

The ECM is a 1/3 HP motor with a forward curved blower. Units are available in 115V (60 Hz), 208 or 230V (50/60Hz) and 277V (60 Hz).
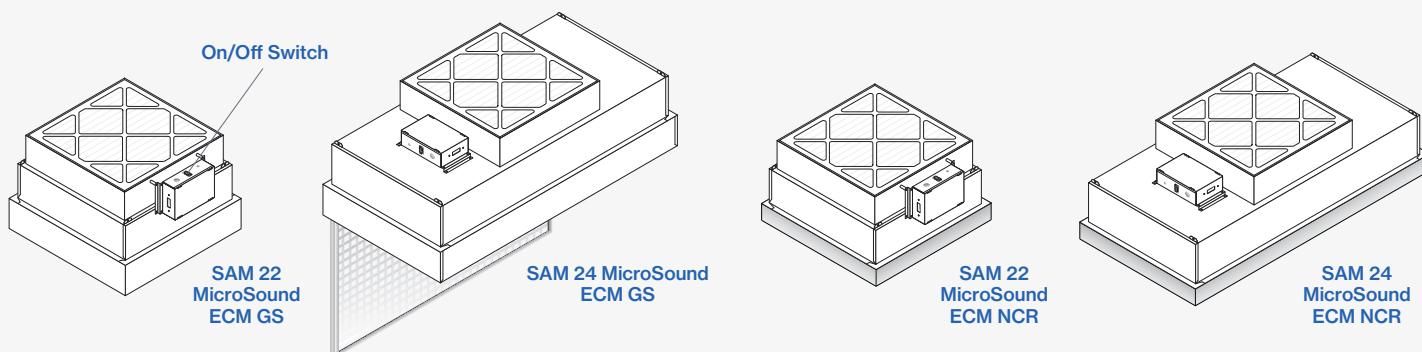
SAM MicroSound Fan Filter Units include a 99.99% efficient HEPA filter, 30% ASHRAE pleated type prefilter, seismic clip suspension points.

Final filters are protected with a white epoxy diamond pattern grille and are tested according to accepted procedures as described by the Institute of

Environmental Sciences (IEST) and/or ISO standards. The standard HEPA filter is 99.99% efficient and an ULPA grade 99.9995% efficient filter is available as an option.

Standard Features

- Multi-use on-board Controller with either local POT control and monitoring or via MODBUS RTU network
- Factory setup and addressing to match your project specifications
- An electronically commutated motor that is programmed to increase the speed as the load increases to maintain a constant airflow
- Torque programming also available for ducted applications
- Low power consumption
- Low sound levels

On/Off Switch

SAM 22 MicroSound ECM GS

SAM 24 MicroSound ECM GS

SAM 22 MicroSound ECM NCR

SAM 24 MicroSound ECM NCR

A polystyrene eggcrate grille in an anodized aluminum frame is hinged to open, permitting removal of the filter without removing the unit from the ceiling (GS models only). Optional perforated stainless steel or aluminum grilles are available.

Some of the many available options include: roomside motor access and challenge ports, duct collars, ULPA filtration and stainless steel construction.

Many control options are available, including MODBUS RTU protocol networking, infrared remote control, roomside digital display, or a complete SAMlink Control System.

For other control options or further information please consult with your Clean Rooms International representative or contact the factory.

GS Style Filter Data:

The HEPA Filter is designed for 90 FPM average face velocity @ initial 0.47 w.g. and has a rated efficiency of 99.99% @ 0.3 micron or larger. An anodized aluminum frame holds the 53mm media which is protected by a diamond pattern white epoxy coated steel grille. Final filters are replaceable from roomside.

NCR Style Filter Data:

The HEPA Filters are designed for 90 FPM average face velocity @ initial 0.47 w.g. and have a rated efficiency of 99.99% @ 0.3 micron or larger. An anodized aluminum frame holds the 53mm media which is protected by a diamond pattern white epoxy coated steel grille. Final filters can be replaced by removing unit from ceiling, placing on a bench, removing and replacing the filter and re-installing unit in ceiling.
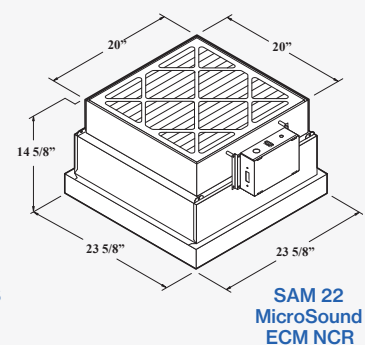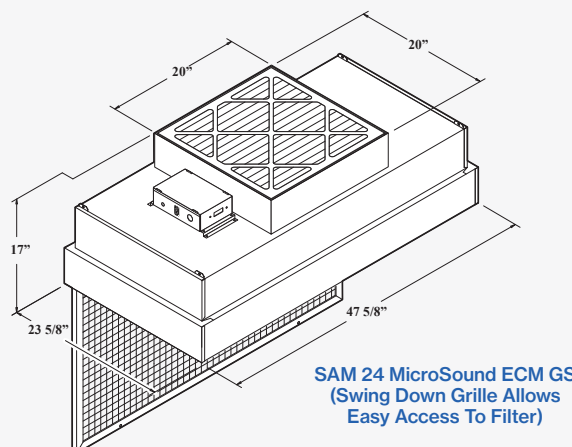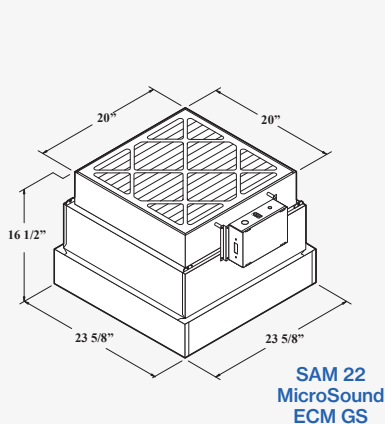
Access Port (GS Style Only):

This port is located in the center of the filter element face and is used for introducing an upstream challenge or measuring static pressure.
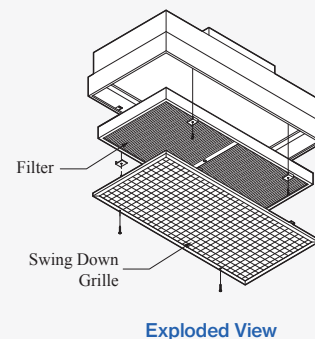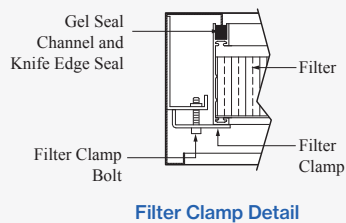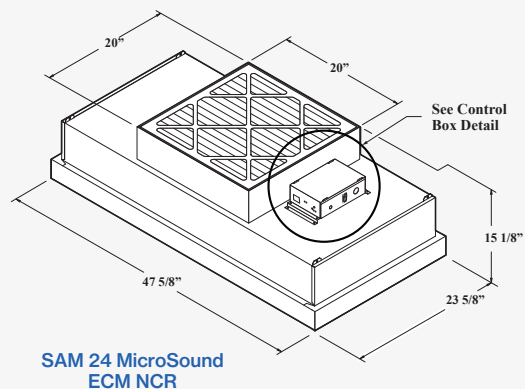
Airflow:

Designed for 90 FPM +/- 20%. On 2x4 units at 90 FPM, the CFM is 630 for the NCR style and 510 for the GS style.

Sound Level:

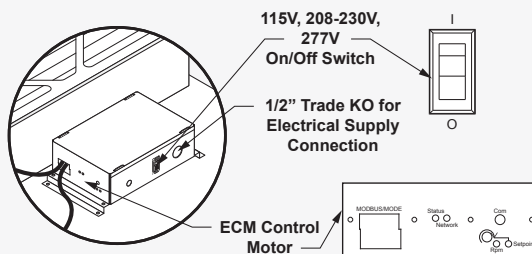At 90 FPM with a clean unloaded HEPA filter and zero e.s.p. the sound level is 50-53 dBa.

SAM 22 MicroSound ECM GS

SAM 24 MicroSound ECM GS (Swing Down Grille Allows Easy Access To Filter)

SAM 22 MicroSound ECM NCR

20"

20"

See Control
Box Detail

15 1/8"

47 5/8"

23 5/8"

**SAM 24 MicroSound
ECM NCR**

Gel Seal
Channel and
Knife Edge Seal

Filter

Filter Clamp
Bolt

Filter
Clamp

Filter Clamp Detail

Filter

Swing Down
Grille

Exploded View

Control Box Detail

115V, 208-230V,
277V
On/Off Switch

1/2" Trade KO for
Electrical Supply
Connection

ECM Control
Motor

MODBUS/MODE · Status Network · Com · Setpoint · rpm

Base Model (Ordering Information)							
Mfg. Code	**Model**	**Style**	**Size**	**Voltage**	**Motor**	**HEPA Filter**	**Weight**
12327	SAM 22 MS ECM NCR	NCR	2 x 2	115	ECM	302070	66 lbs. (29.9 kg.)
12328	SAM 22 MS ECM NCR	NCR	2 x 2	208-230	ECM	302070	66 lbs. (29.9 kg.)
12329	SAM 22 MS ECM NCR	NCR	2 x 2	277	ECM	302070	66 lbs. (29.9 kg.)
12333	SAM 24 MS ECM NCR	NCR	2 x 4	115	ECM	302090	77 lbs. (34.9 kg.)
12334	SAM 24 MS ECM NCR	NCR	2 x 4	208-230	ECM	302090	77 lbs. (34.9 kg.)
12335	SAM 24 MS ECM NCR	NCR	2 x 4	277	ECM	302090	77 lbs. (34.9 kg.)
12330	SAM 22 MS ECM GS	GS	2 x 2	115	ECM	302201	81 lbs. (36.7 kg.)
12331	SAM 22 MS ECM GS	GS	2 x 2	208-230	ECM	302201	81 lbs. (36.7 kg.)
12332	SAM 22 MS ECM GS	GS	2 x 2	277	ECM	302201	81 lbs. (36.7 kg.)
12336	SAM 24 MS ECM GS	GS	2 x 4	115	ECM	302200	101 lbs. (45.8 kg.)
12337	SAM 24 MS ECM GS	GS	2 x 4	208-230	ECM	302200	101 lbs. (45.8 kg.)
12338	SAM 24 MS ECM GS	GS	2 x 4	277	ECM	302200	101 lbs. (45.8 kg.)

Motor Data

Style	Motor	Voltage	Hz	Watts @90FPM	CFM @90FPM
NCR	ECM	115	60	225	630
NCR	ECM	208-230	50/60	142	630
NCR	ECM	277	60	210	630
GS	ECM	115	60	124	510
GS	ECM	208-230	50/60	142	510
GS	ECM	277	60	160	510

* Based on 60Hz, without a prefilter, 0.0" ESP
** Consult factory for 2x2 units
Performance testing based on Shortridge multi-point velgrid with 2" standoffs

Replacement Filters

Mfg. Code	Description
302201	2 x 2 GS Style HEPA Filter, 99.99% efficient @ 0.3 micron
302204	2 x 2 GS Style ULPA Filter, 99.9995% efficient @ 0.12 micron
302200	2 x 4 GS Style HEPA Filter, 99.99% efficient @ 0.3 micron
302203	2 x 4 GS Style ULPA Filter, 99.9995% efficient @ 0.12 micron
302070	2 x 2 NCR Style HEPA Filter, 99.99% efficient @ 0.3 micron
302071	2 x 2 NCR Style ULPA Filter, 99.9995% efficient @ 0.12 micron
302090	2 x 4 NCR Style HEPA Filter, 99.99% efficient @ 0.3 micron
302100	2 x 4 NCR Style ULPA Filter, 99.9995% efficient @ 0.12 micron
302190	Prefilter 20" x 20" x 1", 30% ASHRAE efficient, pleated type

Popular Options: (Please choose from the following part numbers when ordering options)

Final Filters:

- ☐ 302204 2 x 2 GS ULPA Filter 99.9995% efficient
- ☐ 302203 2 x 4 GS ULPA Filter 99.9995% efficient
- ☐ 302071 2 x 2 NCR ULPA Filter 99.9995% efficient
- ☐ 302100 2 x 4 NCR ULPA Filter 99.9995% efficient

Prefilters:

- ☐ 302197 Extended Life Prefilter 20" x 20" x 2"

Duct Collar Adapters:

- ☐ *19950 10" Duct Collar Adapter
- ☐ *19951 12" Duct Collar Adapter
- ☐ *19952 Side Load with 10" Duct Collar
- ☐ *19953 Side Load with 12" Duct Collar

Grilles 1/8" Round Perforated: (40% open area)

- ☐ 19506 2 x 2 GS/CRF Anodized Aluminum Grille and Frame
- ☐ 19507 2 x 4 GS/CRF Anodized Aluminum Grille and Frame
- ☐ 19508 2 x 2 GS/CRF Round Perforated with 1/8" Holes, White Powdercoated Grille and Frame
- ☐ 19509 2 x 4 GS/CRF Round Perforated with 1/8" Holes, White Powdercoated Grille and Frame
- ☐ 19511 2 x 4 GS/CRF S.S. Round Perforated Grille with Anodized Aluminum Frame
- ☐ 19512 2 x 2 GS/CRF S.S. Round Perforated Grille with Anodized Aluminum Frame
- ☐ 19525 2 x 2 GS/CRF S.S. Perf Grille with S.S Frame

* When using on house HVAC Systems, Please consult factory.

NOTE: Duct collar adapters #19950 & #19951 may be used without negating the UL listing. All other duct collars, air conditioning boxes, pilot lights, and adding other electrical components negates UL listing.

- ☐ 19514 2 x 4 GS/CRF S.S. Perf Grille with S.S Frame

Air Conditioning Mixing Box:

- ☐ 19958 Slanted Top with 10" Duct Collar
- ☐ 19959 Slanted Top with 12" Duct Collar
- ☐ 19947 Square with (2) 10" Duct Collars
- ☐ 19948 Square with (2) 12" Duct Collars

Control Options:

- ☐ Roomside Speed Display/Control
- ☐ MODBUS RTU Network
- ☐ SAMlink System w/PLC
- ☐ Infrared Remote

Pilot Light:

- ☐ 19700 NCR Style Red Pilot Light - (with 36" lead for grid or ceiling mount) Light Indicates Power to Motor
- ☐ 19701 NCR Style Red Pilot Light with Pressure Switch - (with 36" lead for grid or ceiling mount) Light Indicates Power to Motor and Air Flow
- ☐ 19702 GS/CRF Style Red Pilot Light - factory mounted in grille frame (Light Indicates Power to Motor)
- ☐ 19703 GS/CRF Style Red Pilot Light with Pressure Switch - factory mounted in grille frame (Light Indicates Air Flow)

Miscellaneous:

- ☐ 703902 8' Power Cord 110-120V Only
- ☐ 603322 Gasket on Downstream Edge of Unit
- ☐ Magnehelic Gauge: Refer to the Back of this Section
- ☐ Static Control: Refer to the Back of this Section