

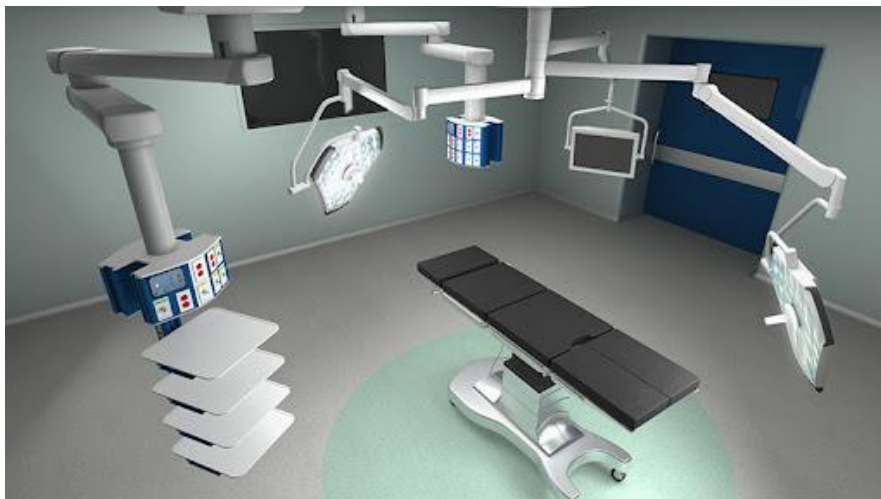
## Design & construction of Endoscopy Rooms.

The endoscopy room should be maintained at a positive pressure in relation to all adjacent spaces. This requirement is currently under review by the ASHRAE Standard 170 committee.

Scopes are sterilized in the endoscopy cleaning/ sterilization room. Chemical disinfection, or low-temperature sterilization, is used in these rooms, because the scope can be damaged when exposed to temperatures exceeding 60 degrees, which is far below the temperature required for the thermal disinfection. Many of the sterilizing chemicals have pungent odor; combined with the presence of dirty scope, this means order control is very important in these rooms. The required air change is 10ach. These rooms are maintained at a negative pressure to the adjacent spaces to reduce the chance of odor migration. All air from the endoscopy cleaning/ sterilization room is exhausted outdoors; there is no recirculation of air from these spaces.

Supply air to procedure rooms must be filtered. Filtration requirements filter efficiencies, of ANSI/ASHRAE/ ASHE standard 170-2008, Filtered supply air is introduced into the space above the procedure table in such a way that the flow of air is over the staff and patient and is then exhausted from the room at low level. Supply air outlets are typically group E, nonaspirating laminar diffusers arranged over the procedure table to produce a down ward flow of air. The designer must confirm any specific airflow requirements with the AHJ; if none exist, then use 25 to 35 cfm/ft<sup>2</sup> (127 to 78 L/s per m<sup>2</sup>), as recommended for operating rooms, in the endoscopy room.

Exhausted intake should be located low in the room, similar to an operating room. These are typically fixed-blade, single-deflection type devices. There are no special construction requirements for these grills; however, because they are installed at a low-level, stainless-steel construction is often used for ruggedness and material strength to better resist damage.



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## Filtration.

The effective of air filters is determined primarily by particle size, but can be affected by the relative electrical charges of particles and filters. Bacteria typically are quite small, requiring filters that remove particle below 1 micron in size. ANSI/ ASHRAE Standard. Specifies a test procedure for evaluating the performance of air-cleaning devices as function of particle size.

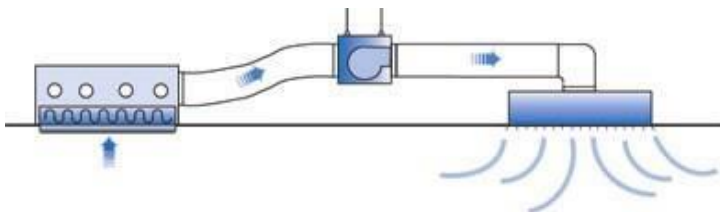
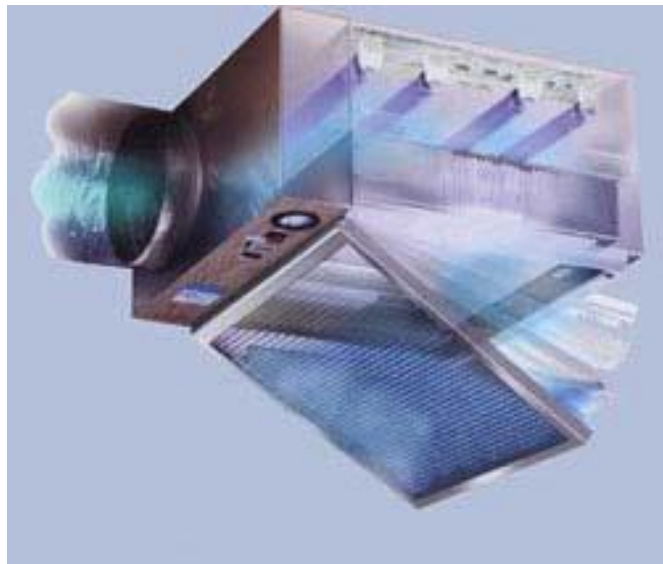
The true HEPA 99.99% filters required only for protective environment rooms.

## Laminar Array System.

Laminar flow diffusers are nonaspirating diffusers with air flowing downward from the ceiling and minimum entrainment of room air. All laminar diffusers must be room-side accessible for cleaning and/or filter replacement.

The laminar diffusers are set into arrays intended to create uniform laminar airflow profile covering a critical zone

FFU with UV Light  
Pre-Filter & HEPA Filter with Side Air inlet  
Connection



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