TES-CLEAN AIR SYSTEMS

Air Distribution Membrane design considerations

Available screen materials, and frame design

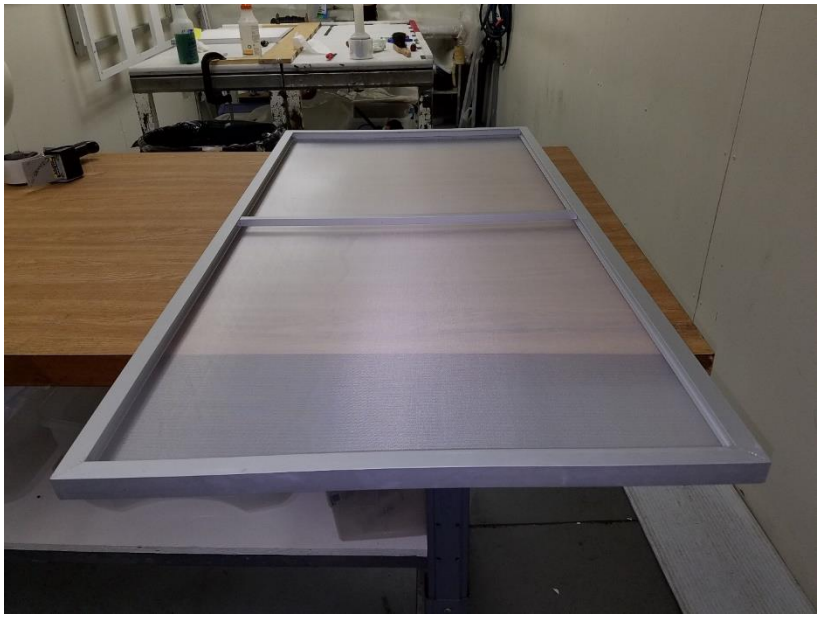
For Semiconductor tool mini-environments the 2300, as well as the 2500 screen material, is the most commonly used

MEMBRANE DIFFUSION® PROPERTIES
MLW SERIES

MEMBRANE MATERIAL:	Woven Polypropylene Monofilament. Membrane fabric-satin weave, lightweight, natural color, with UV additives.
MEMBRANE WEIGHT:	Approximately .38 lbs. per square foot or 1.85 kg/m^2. (1 panel = 3.0 lbs.)
AVAILABLE MEMBRANE PRESSURE DROP:	For laminarity at .03" to .1" W.G: 2125 For Air Flow of 8 to 34 FPM (Feet/Minute) 2300 For Air Flow of 35 to 50 FPM (Feet/Minute) 2500 For Air Flow of 56 to 100 FPM (Feet/Minute)
FIRE CHARACTERISTICS:	(Membrane fabric is classified as a Class "A" product as defined by the ASTM E-84 Fire Test).
SUPPORT SYSTEM:	Membrane fabric is stretched tight into anodized aluminum frame. Panels are nominal 2' x 4' designed to lay into a standard 2' x 4' acoustical ceiling grid system. Special sizes are available for odd openings.
ASSEMBLY:	Panels are manufactured by CEG, LLC in a Class 100 cleanroom. Panels are bagged, crated, and shipped to jobsite for installation into the ceiling grid.
OPENINGS & PENETRATIONS:	Penetrations for sprinkler heads or conduit can be made anywhere in panel and finished off with standard escutcheons. Special sealing is not required.
ACCESS:	Membrane panels lift out (like ceiling tiles) for access to HEPA/ULPA filters and lights.

General screen information

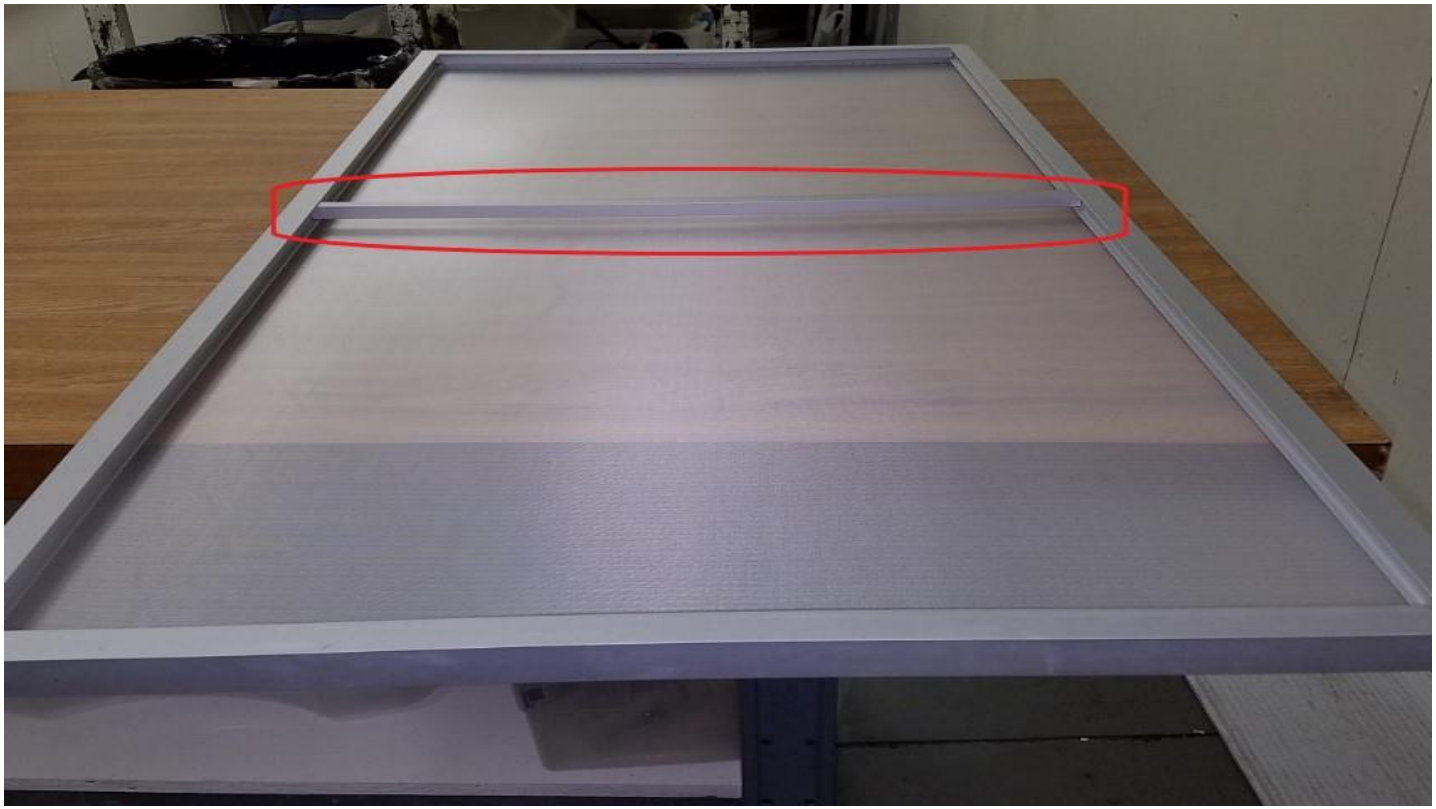
On the 13/16” W X 15/16” H is located the1/4” H Poron gasket and inserts, if required. This can be the upstream or downstream side, depending on the screen is located on the frame of the tool



The opposite side of the scree, with viton “spline” holding the screen in and stretching to specification for pressure drop. Typical pressure drop of the 2500 media at 100 fpm is 0.04-0.07”

Typical mounting detail includes M5 inserts (others available per customer request) for mounting. Note: the gasket for sealing is located on this side, with holes in the gasket to expose the inserts.

Depending on the size of the screen, one or more “stiffening’ members will be required to allow the screen to hold tolerance. Hole-to-hole tolerance on the inserts is +/- 1/16” The inserts can be strategically located to miss key components in the mini-environment, where required.



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Sufficiently large screens may come with diagonal bracing, for strength

Dimensional tolerance specification, and suggested design considerations

-Center hole location tolerance (for threaded inserts) is +/- 1/16”.

-it is suggested that the customer use a larger hole in the tool with an installation washer to give additional dimensional leeway for installation.