

AIR
SHOWER
CLEAN
ROOM

CLEANROOM
DUST
CONTROL



BİRLİK
ENDÜSTRİYEL MAKİNA

REFERENCES



TOFAŞ TÜRK OTOMOBİL FABRİKASI A.Ş.



TOYOTA



HONDA



ELSISAN



VESTEL



Lansinoh.



neutec



Pakmaya



MediPro
Medical Management LLC

sarten



Akplas



TECHNICAL

FEATURES

- Air Shower minimize particulate matter entering or exiting the clean space.
- Inside& Outside Surface: Stainless Steel
- Scrubbed by high velocity HEPA-filtered air jets with velocities of 20-25 m/s
- Horizontal and vertical airflow prevents infection of the leaving particules.
- Programmable operation modules (in-house)
- PLC automation system controls Full Functions
- HEPA filtration achieves > 99.999% typical efficiency at 0.3 micron particles
- Pre-Filter with 85% arrestance extends the life of the main filter.
- Emergency stop button is installed in/out sides of the shower
- Indicator lights installed inside of the air shower to regulate traffic flow.
- Magnetic manometer provides observation of the filter pollution.



ABOUT US

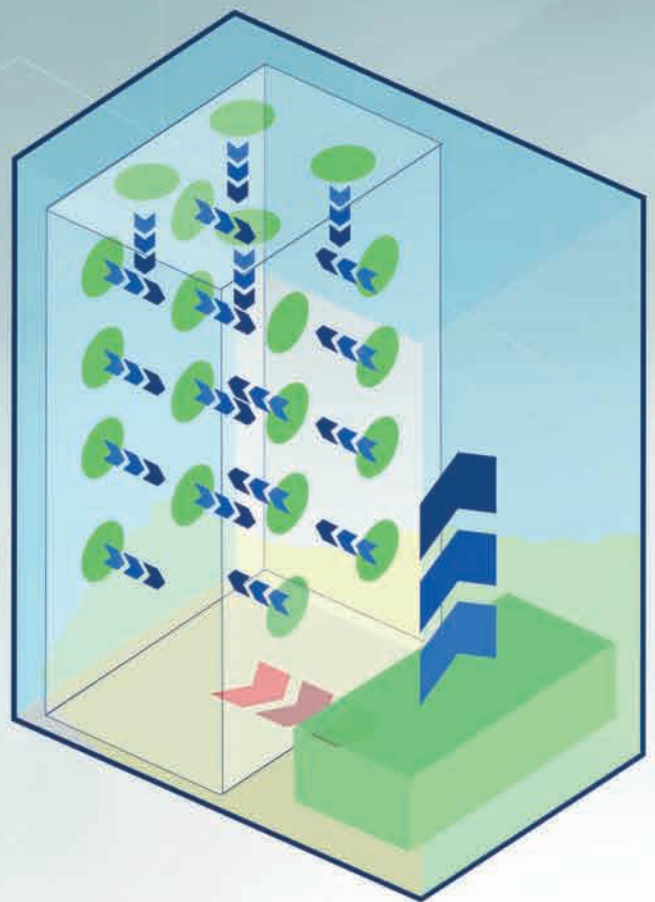


Birlik Endüstriyel Makina San. Tic. Ltd. Şti. has been displaying activity since 1985 in Turkey/Sakarya city and being solution partner of multitude international companies within domestic and foreign sales. We are achieving inter-sectoral operations such as pharmaceutical, medical, chemical etc. in the scope of industrial cleanroom equipment manufacturing.

One of the most demanding product (BEM) Air Shower is a separated engine which is being installed between the cleanrooms and the other controlled area entrances. Air Shower minimizes the particulate matter of the cleanroom entrance and exits. Decontaminates the personnel or materials entering into the controlled area by high velocity HEPA-filtered air jets. Filters and circulates the absorbed polluted air.

AIR SHOWER FILTRATION AND CIRCULATION SYSTEM

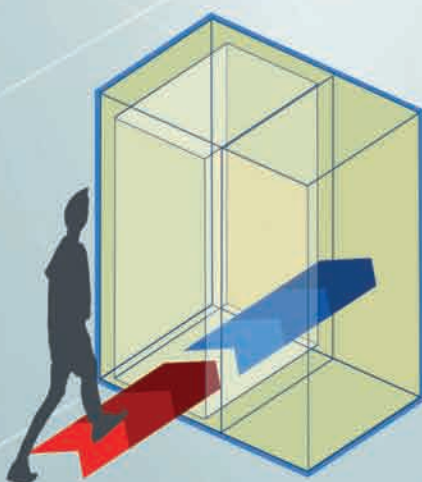
- Fans
- Hepa Filter
- Air which enforced by the fans and driven through the Hepa filters, effectiveness the particulates between 0.1/0.3 microns.
- High velocity air jets sprays the filtered air. This turbulence stream of air minimize the particulate matter.
- Dispersed particles being carried to the bottom. Air drives through the pre-filters and get into the fan.
- Vertical air-flow system merges the dispersed and sequential air flow.
- The air being filtered and circulated permanently.
- Air Shower is a self-sufficient working, separate engine and does not change the air of the entry place.
- This system keeps the area clean by circulating the vertical and horizontal air permanently.



AIR SHOWER / USAGE DIRECTIONS

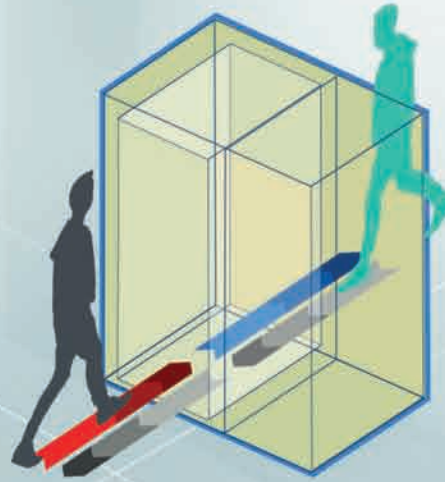
Inter-industry differential;

You can choose a pre-programmed dissimilar Air Shower.



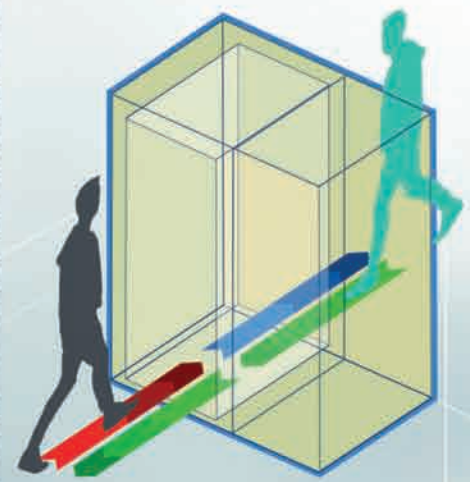
ONE WAY

Personnel gets in the controlled area but could not get out through the Air Shower. While the door of the polluted area side in open mode the other side will be locked. This operating module is available for the business type which is in need to place under control of the controlled area entrance and exits.



DOUBLE - ONE WAY

Personnel could pass entry and exit through the Air Shower. While passing through the controlled area, the Air Shower is in the operating condition. While exiting, the shower will be out-of-service for timesaving. Air Shower programme, could identify the controlled area entry-exits by door sensors and time ranking control.



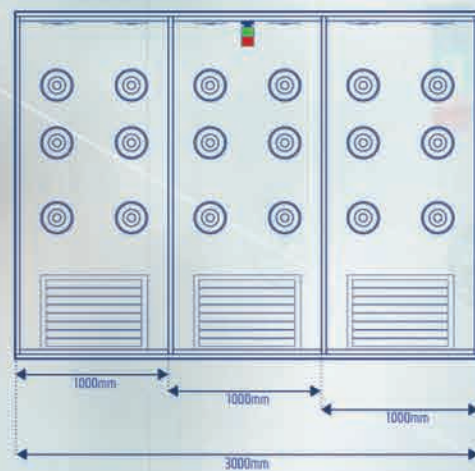
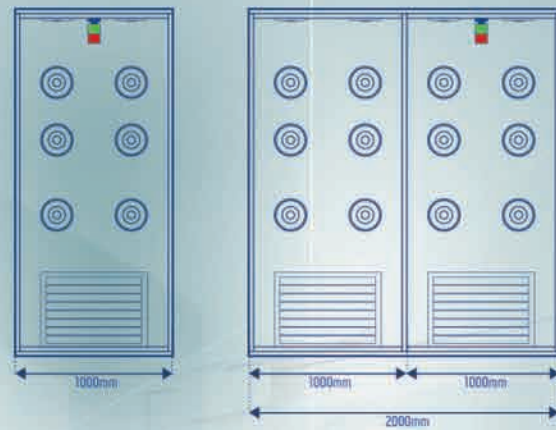
DOUBLE WAY

Personnel could pass entry and exit through the Air Shower. In Both way the Air Shower is in the operating condition. This module is acceptable for pharmaceutical and animal research laboratory implementations for blocking output risk of the dangerous components and allergens.

AIR SHOWER TECHNICAL SPECIFICATIONS

Customized production possibility.

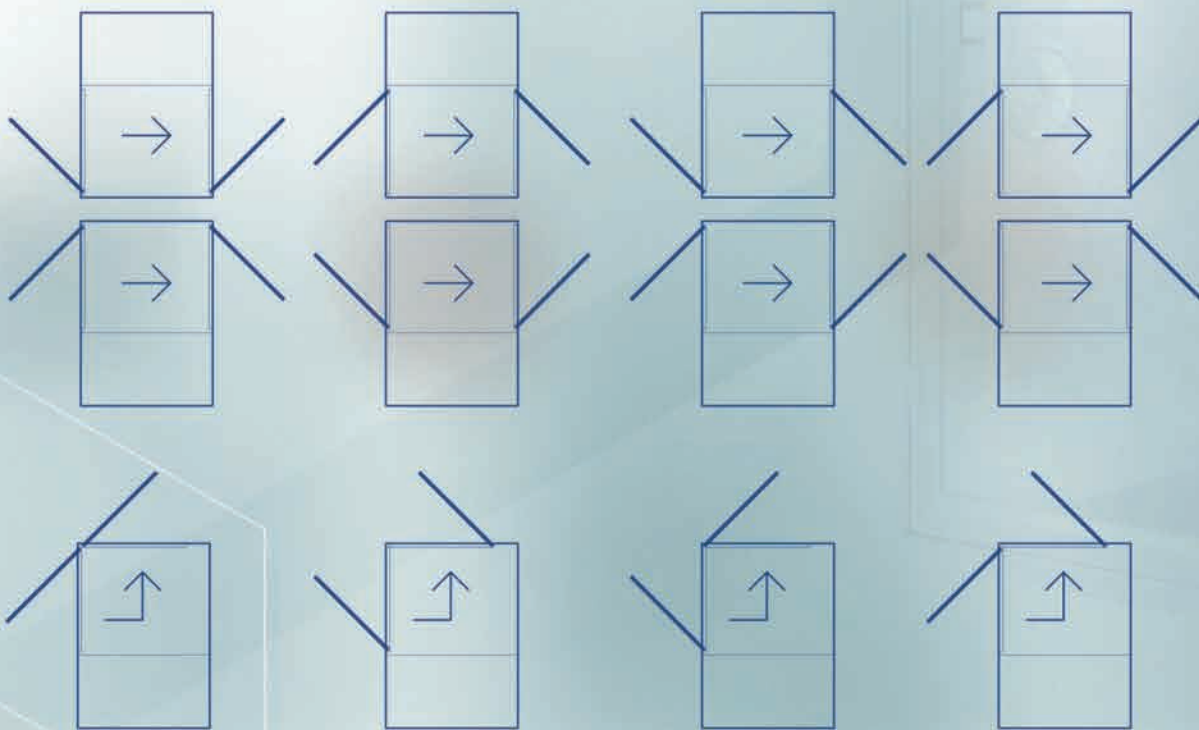
You can find 1/2/3 meter long air shower models below from the drawings. According to customer needs the dimensions can be changeable (deep, width, height)



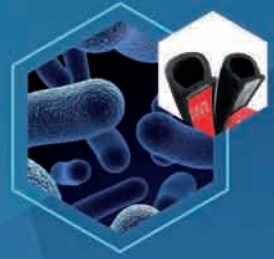
AIR SHOWER DOOR AND PANEL DIRECTIONS

According to operating needs, door opening and panel directions can differentiate.

Other options (not mentioned below) are practicable.



AIR PROOF &
ANTIBACTERIAL



FANS



FILTERS



ALERT-LIGHTING



ANTI-STATIC BARS -
NOZZLES





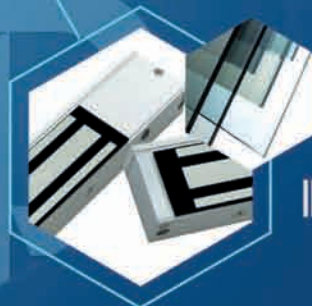
PLC AUTOMATION



MANOMETER



SECURITY



INTERLOCK - GLASS



SENSORS



GENERAL TECHNICAL INFORMATION

MODEL	BEM-S01	BEM-S02	BEM-S03
Outside Dimensions (Width * Height * Depth)	1500mm x 2200mm x 1000mm	1500mm x 2200mm x 2000mm	1500mm x 2200mm x 3000mm
Inside Cabin Dimensions (Width * Height * Depth)	800mm x 2040mm x 1000mm	800mm x 2040mm x 2000mm	800mm x 2040mm x 3000mm
Doors	Stainless Profile / 6 mm Laminated Glass		
Air Speed	20 - 25 m/sn		
Nozzle Quantity	18	36	54
Nozzle Type	Active Tipped / Stainless Steel		
Employee Number	1-2	2-3	3-4
Air Blowing Time	Employee transition time 15 sec. (Adjustable)	Employee transition time 20 sec. (Adjustable)	Employee transition time 30 sec. (Adjustable)
Filter Efficiency	Main Filter : EN122 H13 @MPPS %99,95 / Caset Filter: EN779 G3 %80 Am<90		
Filter Element	Main Filter : Galvaniz Frame / High Quality Fiberglass / Caset Filter : Galvaniz Frame / Polyester		
Noise Rate	<58 dBA		
Led Lamps	12W x 2	12W x 4	12W x 6
Air Shower Framework	304 Quality Stainless Steel / Carbon Steel		
Electricity Needs	2.2 kW / 3 phase 1 neutral	2.2 kW *2 / 3 phase 1 neutral	2.2 kW *3 / 3 phase 1 neutral
Net Weight	Approximately 250 kg (According as the material type)	Approximately 500 kg (According as the material type)	Approximately 750 kg (According as the material type)

Optional Modules

Foot Cleaner

Anti-static Bars
(Ionizer)

Sliding Doors

Pulverize
Water
Spraying
System

AIR SHOWER



FILTERS



EN 1822

EN 779

AIR SHOWER



CLEANROOM APPLICATIONS

The most important resource is the operator in cleanroom particle pollution case. Air Showers are being set between the clothes changing closets and the cleanrooms. Air Shower reminds all users that they are getting in the controlled area and by this way it fulfils the cleanroom record. The personnel develops the dressing habit before getting in the air shower.



PHARMACEUTICAL & ANIMAL RESEARCH LABORATORY IMPLEMENTS

Air Showers keeps clean the drug making and the laboratory animal /cattle- rearing zones. Together with this minimizes the escape risk of the dangerous allergens from the controlled area.



Our Company has been actualizing such r&d activities according with the rising technology and aiming to reach the head quality standarts more and more. Being solution partner of the leading companies in the light of service presentation ability and international quality certificates.

Birlik Endustriyel Makina San.Tic.Ltd.Şti. Intends to gain new achievements together with the specialized staff in own manufacturing plant at foreign and internal markets.



REFERENCES



TOFAŞ TÜRK OTOMOBİL FABRİKASI A.Ş.



VESTEL



ELSİSAN



neutec



AIR SHOWER CLEAN ROOM

CLEANROOM DUST CONTROL



Address. İstiklal Mah. 404 Sk. No.6/1 Serdivan / SAKARYA / TURKEY
Phone. +90 264 273 1007 | Fax. +90 264 273 1008
info@birlikmakina.net | www.birlikmakina.net/en/