



# NATIONAL ENTERPRISES

An ISO 9001:2008 Certified Co.

Spraybooth is an investment that pays rich dividends by providing superior quality finish, increase in productivity & better working conditions.



Complete Solution for  
Painting & Baking



# Paint Spray Booth

## Introduction

A complete solution provider in the field of surface preparation & paint spray booth provides its expertise for every industries. NE has design, manufactured, installed, erected & commissioned huge turnkey projects for various renowned giant industries like BHEL, Air India, Hindustan Aeronautics, Bharat Earth Movers, Bhabha Atomic Power, Diesel Locomotive, Cofmow, Thermax, Suzlon, Alstom, Grandprix, Va-Tech, VRV, Volvo, Larsen & Tubro, ABB, Hyvy India, Sabic-Kuwait, Kharafi International-Dubai, Kenyan Railway etc. The various type of paint spray booth catered by MEC SHOT are as :

- Down Draft Paint Spray Booth
- Semi-Down Draft Paint Spray Booth
- End Draft Paint Spray Booth
- Down Draft Wet Paint Spray Booth
- Water Curtain Paint Spray Booth

## Salient Features

- No sludge disposal.
- All modular construction.
- High particulate removal efficiency
- Healthy and pollution free work environment.
- Access door window is with clear toughened glass.
- The efficient centrifugal fan guarantees superior air movement & quiet operation.
- Special design of inlet & exhaust filtration provides for even air movement inside the booth.

## Benefits At Glance

- **ENHANCE QUALITY OF WORK**  
Removes spray effectively thus eliminates setting on wet painted components.
- **OPERATOR COMFORT & HEALTH**  
Provides clean air to the operator taking away optimized paint particles through the exhaust.
- **SAFETY**  
Spraying paint may involve fire risk from both solvent vapours and continuously spray deposits. A risk eliminated by using spray booth.
- **LAW**  
In compliance with stringent pollution control norms.
- **INCREASE PRODUCTIVITY**  
Decrease operating cost due to elimination of water curtain, chemical, maintenance & electrical cost.
- **ENVIRONMENT**  
Eliminate hazardous sludge disposal.

## Applications

- Aerospace
- Rail Coaches & Wons
- Auto Components
- Electrical & Per
- Architectural Components
- Wind Mills
- Automobiles
- Shipyards
- Construction/Earth Moving Machinery
- Drums / Barrels
- Consumer Durables
- Miscellaneous

# Paint Spray Booth

## Down Draft Paint Spray Booth

The Vertical Down Draft (the direction of flow of air is towards the floor of spray booth) Paint Spray Booth is suitable for conventional, air-less and electrostatic spray painting and its consists of painting chamber, Inlet Air Filter, Paint Trap Filters, axial flow Fan, electric motor, duct and canopy etc. The design of the paint booth will be of vertical down draft type paint booth with disposable paint trap filters on floor. The intake air into the paint booth is filtered by intake filter to avoid foreign particle deposition on the painted surface. The intake air is sucked into the room by the extraction modules located on the floor.



### Enclosure:

Spray booth is of rectangular shape rigid bolted construction. The structure is self-supporting and will not need supporting foundation except fixing bolts. Fabricated out of 18swg M.S. Sheet panels bolted with structural steel for rigidity.

### Functions:

- Maintains dust level to minimum, prevents spreading of paint and maintains clean air at the operators breathing level.
- Collects over sprayed paint, solid and discharge solvent fumes outside the building.
- Reduces the fire hazard.



# Paint Spray Booth

## Semi-Down Draft Paint Spray Booth

The Semi Down Draft (the direction of flow of air is towards the side walls of spray booth) Paint Spray Booth is suitable for conventional, air-less and electrostatic spray painting and its consists of painting chamber, Inlet Air Filter, Paint Trap Filters, axial flow Fan, electric motor, duct and canopy etc. The design of the paint booth will be of semi down draft type paint booth with disposable paint trap filters on

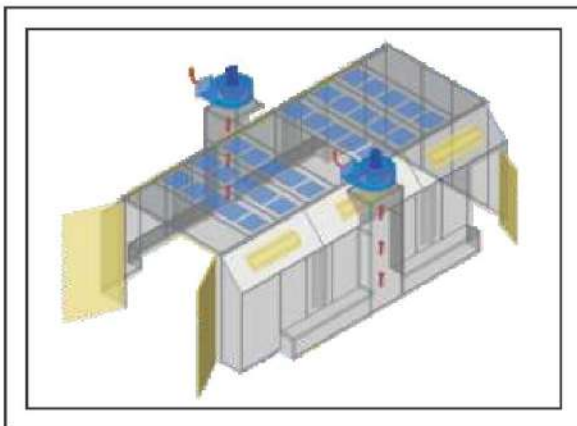
side walls. The intake air into the paint booth is filtered by intake filter to avoid foreign particle deposition on the painted surface. The intake air is sucked into the room by the extraction modules located on the side walls.

### Enclosure:

Spray booth is of rectangular shape rigid bolted construction. The structure is self-supporting and will not need supporting foundation except fixing bolts. Fabricated out of 18swg M.S. Sheet panels bolted with structural steel for rigidity.

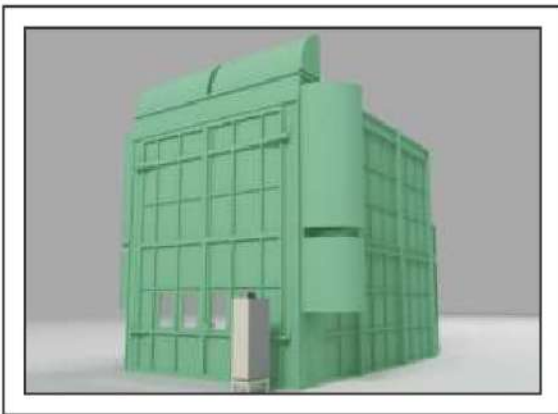
### Functions:

- Maintains dust level to minimum, prevents spreading of paint and maintains clean air at the operators breathing level.
- Collects over sprayed paint, solid and discharge solvent fumes outside the building.
- Reduces the fire hazard.



## End Draft Paint Spray Booth

The End Draft (the direction of flow of air is towards the floor of spray booth) Paint Spray Booth is suitable for conventional, air-less and electrostatic spray painting and its consists of painting chamber, Inlet Air Filter, Paint Trap Filters, axial flow Fan, electric motor, duct and canopy etc. The design of the paint booth will be of End Draft type paint booth with disposable paint trap filters on floor. The intake air into the paint booth is filtered by intake filter to avoid foreign particle deposition on the painted surface. The intake air is sucked into the room by the extraction modules located on the back wall.



### Functions:

- Maintains dust level to minimum, prevents spreading of paint and maintains clean air at the operators breathing level.
- Collects over sprayed paint, solid and discharge solvent fumes outside the building.
- Reduces the fire hazard.

### Enclosure:

Spray booth is of rectangular shape rigid bolted construction. The structure is self-supporting and will not need supporting foundation except fixing bolts. Fabricated out of 18swg M.S. Sheet panels bolted with structural steel for rigidity.



# Paint Spray Booth

## Water Curtain Type Paint Spray Booth

The spray painting is carried out by operator with the help of spray painting gun [Buyer to arrange spray painting gun]. The paint fume particles are sucked by the partial vacuum created by exhaust fan through a water curtain. The air is cleaned by scrubbing action in turbulent water. The particulate matter remains floating on water tank is periodically removed manually. The air discharged into the atmosphere is clean and thus keeps the environment clean and friendly.

### Construction & Design

The practical expertise enables us to design the Water Curtain Spray Booth with superior performance. The spray booth is modular in construction so that booth can be easily installed, modified or integrated into complete plant. The additional middle suction, clearly provides improved air guidance and better suction of hazardous paint fume particles. The water film thickness on the drain wall can be adjusted individually via throttle valves. Moreover, the unit meets OSHA's safety requirements.



### Essential Elements of Water Curtain Spray Booth

#### EXHAUST FAN MOTOR

Paint spray booth is mounted with high efficiency centrifugal exhaust fan and motor to suck the fume and particulate matter in air.

#### WATER PUMP & PIPING

Paint spray booth provided with water pump and suitable piping arrangement for proper circulation of water.

#### THROTTLE VALVE

To control water film thickness on the drain wall.

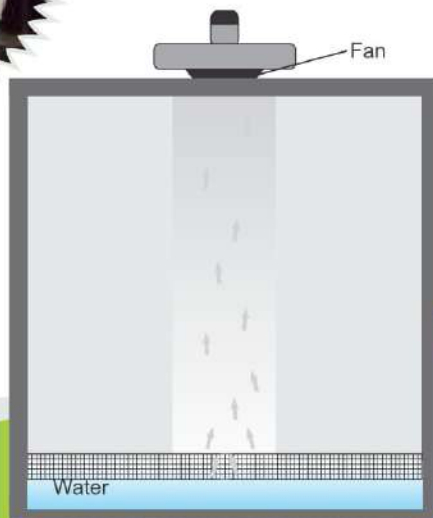
## Down Draft-Wet Type Paint Spray Booth

The spray painting is carried out by operator with the help of spray painting gun [Buyer to arrange spray painting gun]. The paint fume particles are sucked by the partial vacuum created by exhaust fan through a tank of water. The particulate matter floating on water tank is periodically removed manually. The air discharged into the atmosphere is clean and thus keeps the environment clean and friendly.

## Pump-less Type Wet Fume Collector

Wet fume collector is fabricated from 2 mm steel sheet and suitably reinforced for strength and rigidity. Grating will be provided on water tank in paint spray booth. Water tank is civil constructed as per pit drg. provided by us. However, detailed civil drg. for pit construction is in buyer's scope.

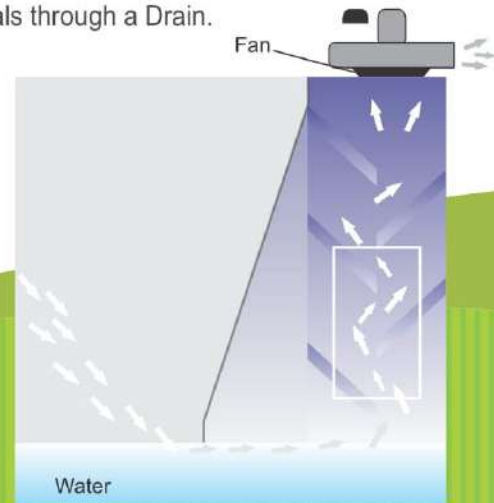
Baffle type arrangement to eliminate the moisture from air exit out in atmosphere. During operation, a series of eliminator separate the air from the liquid mixture. Clean air is exhausted to atmosphere. Side doors of size 500 mm [W] x 1000 mm [H] is provided at the sides of wet fume collector for inspection and maintenance. Disposal of paint particulate matter from the water tank is manual.



Civil Constructed Room

## The Unique feature of Pump-less Water Wash Booth

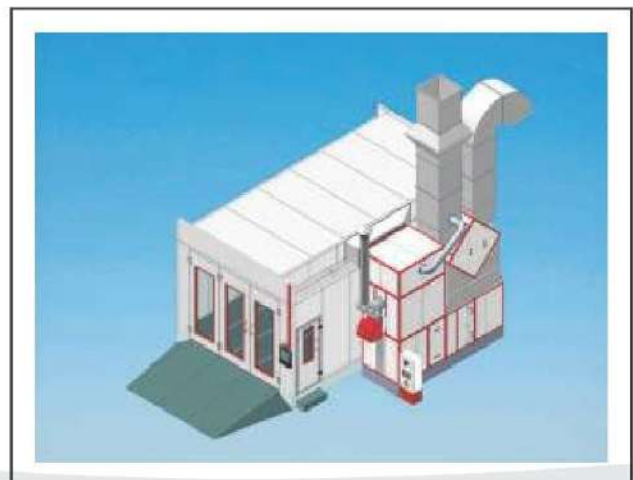
During Thermal Spray process dust is generated. To keep the environment friendly suction is created by an exhaust Fan causes the dust laden air to enter a winder area after an abrupt change in its direction. At this stage heavier dust particles settle down without causing any abrasion to the metallic surfaces, which can be removed through a Clean out Door. After this the air carrying finer dust particles strikes the water surface and travels beneath the weir plate of a venture system creating a stream of droplets entraining dust. This stream undergoes a further change in direction causing dust to get collected in the water. Dust free but wet air strikes a number of Baffles where the moisture is separated and clean air escapes to the atmosphere through the exhaust fan. The collected dust settles down as sludge at the bottom of the wet collector and is cleaned out, manually, at intervals through a Drain.



Fabricated Spray Room

# New Paint Spray Booth

## Paint Spray Booth with PUF Panels & Paint cum Baking Booth with Rock Wool Panels

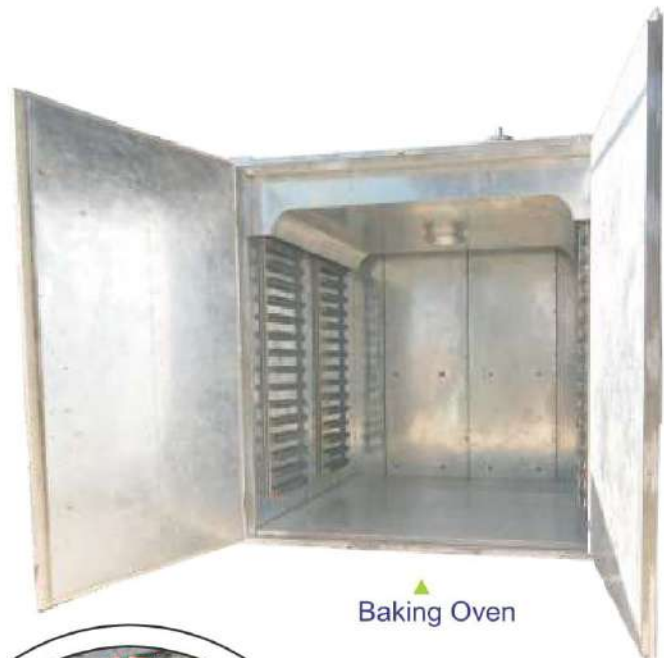




## Introduction of Baking Oven / Heating Chamber

The baking oven is normally used for baking the paint/powders coatings on the substrates to increase bonding life of painting / coating.

The baking oven is carried out by the operator by setting the required temperature. The baking heat generated by using different method of baking as LPG Burners, Electricals Heaters etc. NE produces the baking oven / heating chamber in the various sizes as per customer requirement.



# Powder Coating

Powder coating is a type of coating that is applied as a free-flowing, dry powder. The main difference between a conventional liquid paint and a powder coating is that the powder coating does not require a solvent to keep the binder and filler parts in a liquid suspension form. The coating is typically applied electrostatically and is then cured under heat to allow it to flow and form a "skin." The powder may be a thermoplastic or a thermoset polymer. It is usually used to create a hard finish that is tougher than conventional paint. Powder coating is mainly used for coating of metals, such as "whiteware", aluminium extrusions, and automobile and bicycle parts

"NE" design, manufacture spray booths / room & baking oven for powder coating plant as per the customer requirements.



# Paint Spray Booth

## Accessories



Flameproof illuminations



5T Fluorescent Tube Lights



Motorized Trolley with Turn Table



Pneumatic Cylinders



Inlet Air Filter



After Filters



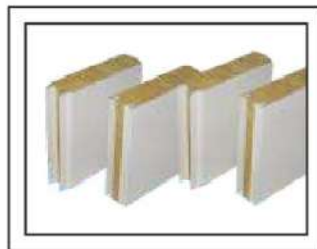
Air Intake Filters



Air Intake Filters



PUF Panel



Rock Wool Panels



All Type Hoists



Scissor Lift



Axial Flow Fan



Axial Flow Fan



Centrifugal Fan



Rolling Shutters Type Doors

## AT SITE VIEW OF PAINT BOOTHS



# NATIONAL ENTERPRISES

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