Global Finishing Solutions

Water Wash Booths

Dynaprecipitor/EnviroTect®/No Pump

Your spray booth is a considerable investment. The return on your investment is a cleaner painting environment for superior quality finishes, increased productivity, and improved working conditions.

- Efficient Airborne Particulate Removal
- High Volume Capture Efficiency
- Water Wash Scrubber with Enhanced Impingement Technology
- Time-Tested Design for Over Fifty Years

www.GLOBALFINISHING.com
Water Wash Booths

Dynaprecipitor Water Wash Spray Booths

Global Finishing Solutions’ (GFS) Dynaprecipitor Water Wash Spray Booth handles a larger variety of paints in a wider range of viscosities and drying speeds, at higher production rates than any of the conventional spray booths.

This booth employs two well-known engineering principles to remove paint particles from exhaust air in painting operations. First, by drawing air through a continuous curtain of moving water, suspended paint particles are scrubbed out. Second, when air carrying paint particles makes a sudden change in direction of flow, centrifugal force slings the solid particles out of the air stream (called impingement). Entrained paint particles are thrown against adjacent walls and curtains. Water then flushes the particulate into the collecting pan. Through these two actions the air reaching the exhaust stack is virtually free of airborne particles keeping the stack area cleaner longer.

The wash water should be treated (compounded). This causes the paint particles to coagulate and allows convenient skimming when cleaning out the collection pan. GFS recommends that the end user enlist the support of an experienced chemical supplier that will provide the paint testing required to support the chemical treatment for controlling the pH, foaming and detactifier agent to enhance the performance of the water wash equipment.

Correctly engineered water wash spray booths provide an extremely efficient means for removing paint particles from the exhausted air. In addition, they are the most acceptable type of spray booth for all health, fire, and building codes.

Standard Features

These booths are constructed of 18-gauge galvanized panels for field assembly:

- An upper and lower wash chamber
- Large capacity collecting pan
- Slotted water intake pipe to insure sediment free water
- Circulating water to maintain a constantly flushed system
- Removable manifold for easy maintenance
- Hinged water curtain to allow easy access to the rear of the collecting pan
- Access door located just below the fan for easy maintenance
- External float box with level control

Space Saver:

The booth saves floor space. Its short-depth wash unit gives water-wash-spray-booth advantages while occupying conventional booth space.

Easy Maintenance:

Hinged front water curtain permits easy skimming of coagulated paint particles from collecting pan. Optional automatic centrifugal separators are available.

Circulating System:

Circulating water forms a continuous, constantly flushed system that has no sediment-accumulating dead ends. Rate of water flow is quickly adjustable. An automatic water level control supplies make-up water to compensate for slight daily evaporation loss.

Dynaprecipitor® is a registered trademark of GFS.

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# Water Wash Booths

## Standard Models

<table>
<thead>
<tr>
<th>Model No.</th>
<th>Working Dimensions</th>
<th>Overall Dimensions</th>
<th>Air Flow SCFM @ 1.3&quot; SP</th>
<th>Fan and Motor</th>
<th>Pump</th>
<th>Light Fixtures</th>
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8 Ft. Height

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10 Ft. Height

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Note: Contact GFS for Conveyor Type Models

* Medium Pressure Axial

### Diagrams

**Front Elevation**

- Standard Pump Location (Right-hand Side)
- Working Width
- 3’-2” Float Box Clearance

**Side Elevation**

- Overall Clear Height
- Working Height
- Overall Depth
- 5’-2” Overall Tank Depth
No Pump Water Wash Spray Booths

NO PUMP Spray Booths

Without benefit of pump or water-spraying manifold, GFS’ NO PUMP SPRAY BOOTH uses the highly effective scrubbing action of a water wash to separate paint particles from exhaust air. By ingenious channeling of the paint-laden exhaust air through a “water tunnel” the NO PUMP system eliminates pumps, piping, filters, manifolds, and nozzles.

How It Works

Paint-laden air is drawn into the washing chamber at high velocity through an opening between the entrainment plate and water surface. The controlled dimension of this opening and the specially designed profile of the entrainment plate force the high velocity air to become severely turbulent, splash up water, and become thoroughly mixed with the overspray.

Next, this rapidly moving mixture of air, paint particles, and water droplets strikes the distribution plate. The mixture is forced to change direction abruptly and to flow upward through a series of baffles. The “mixture” flow changes direction 11 times during its passage through the baffle section. At each change centrifugal force separates air from paint particles and from water droplets. The resulting rain of water, particularly from the lower baffles, serves as an additional water curtain for scrubbing the incoming spray laden air. All of the paint spray that is separated from the air falls back into the water tank.

Water Treatment

The water in the tank should be treated with the proper compound to suit the material being sprayed in order that the paint particles be made non-tacky and settle to the bottom of the tank where they agglomerate as a soft, foamy residue. Residue buildup may approach to within 2 inches of the water surface without adversely affecting the “NO PUMP” action in the water tunnel. Residue removal is very infrequent, even in high production painting. Optional automatic centrifugal separators are available.

Precise Water Level Control

The gap between the water surface and entrainment plate is kept with + 1% of its optimum dimension. This is accomplished with a GFS Float Box with Water Level Control Unit. This unit is located outside the booth proper - isolated from contaminating water and spray.

Yet it is directly connected hydraulically to the water tank and senses water level changes immediately and accurately. Its external location gives it maximum accessibility for inspection and calibration.

Easy Assembly

NO PUMP washer is shipped in 3 major all-welded sections for ease of field assembly: Pan, Wash Chamber, and Booth Adapter (Closure Panels).

Features:

> 12 and 14 gauge galvanized welded washer assembly.
> Standard panel work area enclosure, 18 gauge galvanized.
> Automatic water level control for maintaining air velocity through entrainment plate gap to within + 1%.
> Low sound, high efficiency mixed flow in line fan.
> Inside-accessible ETL-listed 4-tube light fixtures (includes color corrected T-8 tubes).
> Wash chamber works equally well in both “Crossdraft” and “Downdraft” booth configurations.
> Access door located on back wall for inspection and fan maintenance.
> External float box with level control.
### Water Wash Booths

#### Standard Models

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<th>Model No.</th>
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Note: Contact GFS for Conveyor Type Models

![Front Elevation](image1)

![Side Elevation](image2)
**EnviroTect®**

**Unique Patented Technology**

> EnviroTect® meets the highest production needs
> Proven track record for over three decades

EnviroTect® washer section employs a built-in trough which provides an initial wetting action on the particulates. This enables the EnviroTect® booth to perform efficiently with even the most difficult coating materials. Straight line, non-turbulent air flow through this spray curtain improves paint particulate capture and cleaning action while reducing energy consumption.

EnviroTect water wash booth are custom booths, please contact GFS for ordering information.

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**EnviroTect®**

**Water Wash with a Difference**

Air/liquid nozzles are spaced as necessary depending on production and air volume requirements. Interior surfaces are wetted to eliminate paint overspray build-up which reduces booth cleaning and captures the paint within the eliminator for removal.
**EnviroTect Specifications**

**EnviroTect® F7**

This model of water wash spray booth is for standard industrial applications. It is rated as passing less than 5 grains solids per 1000 CFM*. The F7 water wash can be used to convert existing booths and could use the existing fan and pump, this model also features reduced energy requirements.

**Vertical Flow Models**
- Static Pressure: 3.5" WC
- Air Nozzle Diameter: 17" minimum I.D.
- Liquid Nozzle: 150 GPM
- Liquid Nozzle Pressure: 4 psi
- Air and liquid nozzles are made of 316 stainless steel

* Based on handling 5000 CFM of contaminated air per Air/Liquid Nozzle and using chemically compounded water as the wash medium.

**EnviroTect® F10**

This model of water wash spray booth is a high efficiency booth for heavy industrial painting. It is rated as passing less than 3 grains solids per 1000 CFM*.

**Vertical Flow Models**
- Static Pressure: 5" WC
- Air Nozzle Diameter: 14" minimum I.D.
- Liquid Nozzle: 150 GPM
- Liquid Nozzle Pressure: 4 psi
- Air and liquid nozzles are made of 316 stainless steel

* Based on handling 5000 CFM of contaminated air per Air/Liquid Nozzle and using chemically compounded water as the wash medium.

**Custom Engineering**

GFS engineers will work with you to adapt our water wash spray booths to your requirements. Whether your requirements are new or you want to convert to a more efficient system, GFS engineers can help you make the right decision. Backed by a company with over 85 years experience... GFS knows the finishing business.

As a purchaser of a GFS water wash system, you are assured complete servicing by trained and experienced personnel. Contact GFS for your custom ordering information.

**Ordering Notes [Applies to all Models]:**

1. Wash chamber works equally well in both “Crossdraft” and “Downdraft” booth configurations.
2. Right side water level control valve and drain outlet are standard. Left side and Rear are available on special order, contact GFS for pricing.
3. Top exhaust is standard. Consult GFS if more than 25 feet of exhaust duct is required.
4. Outside mounting of exhaust blower on heavy gauge steel stack available on special order, contact GFS.
5. TEFC motors are standard. Motor starters and explosion-proof motors are available, contact GFS for pricing.
6. Chemically treated water will remove the paint from the water to a collection unit for removal (optional.) Not supplied by GFS, contact local compounds supplier.