



Hangzhou Color Powder Coating Equipment Co., LTD

Email: export@colourspray.com Phone: 0086 13967171593 Website: www.colo-group.com

Application Success Story of Steel Part - from Singapore Customer

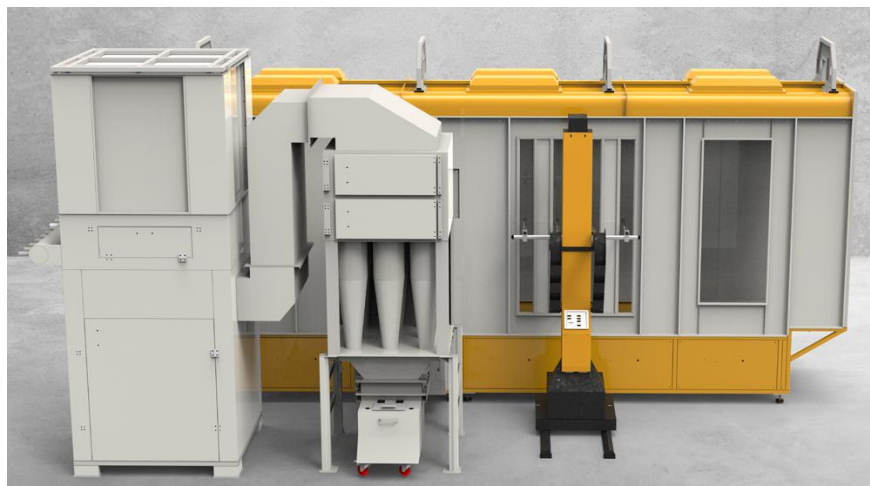
Request for Fast Color Change Automatic Powder Booth System

This is a Singapore company, whose factory located in Malaysia, manufacturing the steel parts with many shapes for more than 20 years and export to many countries. They have an automatic powder coating plant the steel surface finish. To improve production and save cost, they found us as their solver for a high performance automatic powder booth system.

Due to the limited factory space, both sides of engineers have discussed for many times, now we made a final design. The new designed **multi-cyclone powder booth system** meets the needs of saving space, no powder overflow, no powder coating accumulation at the booth bottom and fast powder recovery during color change.



3D Drawing of Multi-cyclone Powder Coating Booth

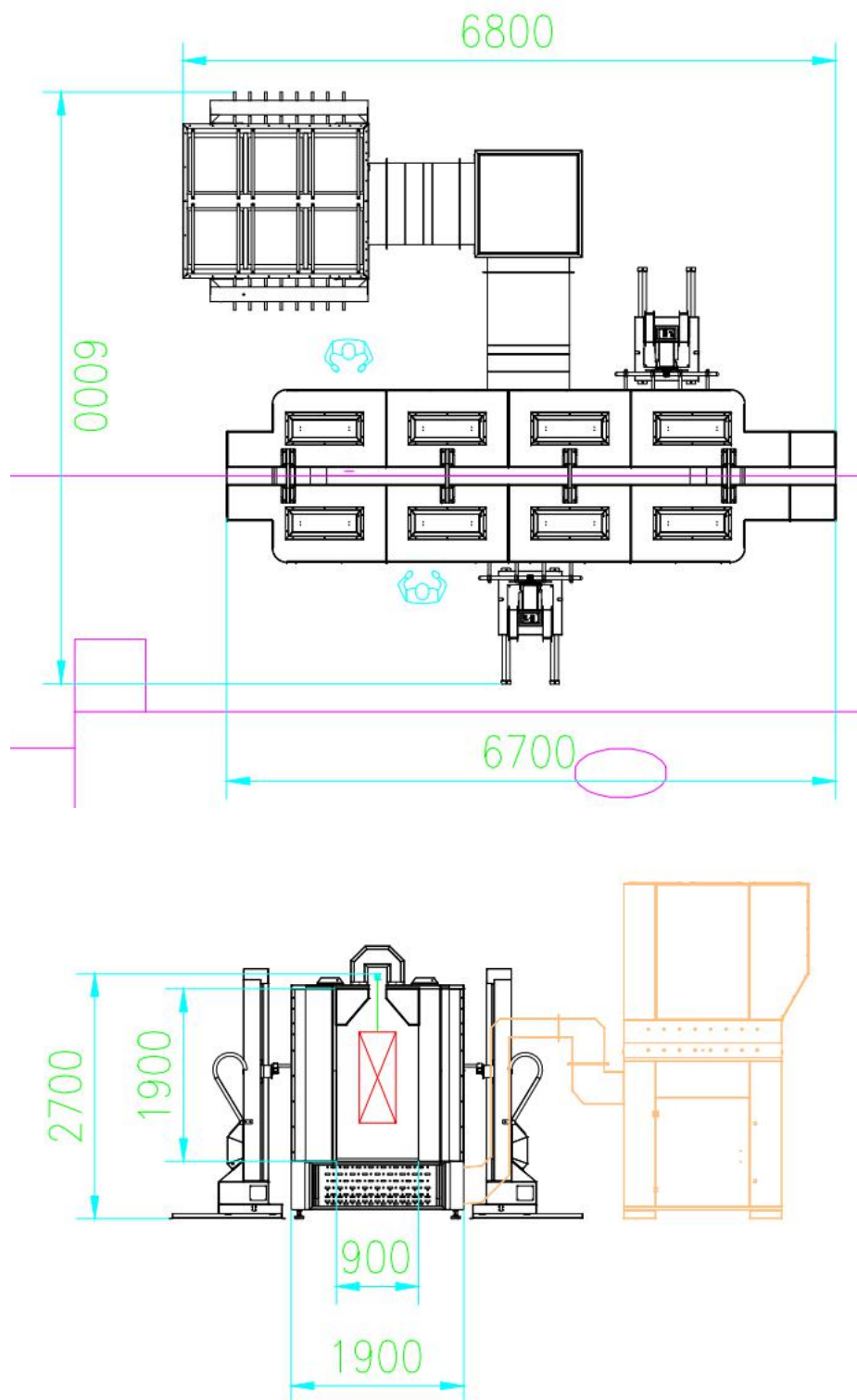




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Layout of Multi Cyclone Powder Coating Booth



*Suitable for Max size of wokparts: Length (no limited) * Width800 * Height1800mm

*Covering working space: W6m*L6.8m*H4.5m



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Multi-cyclone Powder coating Booth Features

- Compact multi-cyclone powder coating booth designed for limited factory space less than 4.3meter high.
- Increase your productivity, product quality and profitability, almost 98 % powder utilization.
- Work with auto spray guns, reciprocators, powder feed center, it achieves a high level powder recycling and powder coating efficiency.
- Easy to operate with PLC control, simple structure requires less maintenance, stainless steel ensure long lifespan

Technical Parameters

Booth Type	Multi-Cyclone Automatic Powder Booth
Operator Dimension	W1900 x H1900 x L6700(mm)
Pass Through Door Size	W900 xH1900
Manual Coating Station	2pcs
Reciprocator Working Station	2pcs
Weight	4000kgs
Booth & Cyclone Material	Stainless steel 304 (1.5mm)
Motor Power	15KW
Air Consumption	16000-22000m ³ /h
Voltage	380V 3phases, 50-60Hz
Cyclone	16pcs, Efficient Automatic Separation
Rotation wing self-cleaning cartridge filter unit	16pcs
Warranty	12 months

*We can design any size of powder booth as customers' precise requirements



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Multi-cyclone Powder Coating Booth Components

1) Booth Bottom Cleaning: The bottom of spray booth equipped with an automatic air cleaning system keeps the floor always no powders accumulation



2) Multi-cyclone: most powders are recycled into the cyclone and will be transferred to the powder feed center for re-utilization

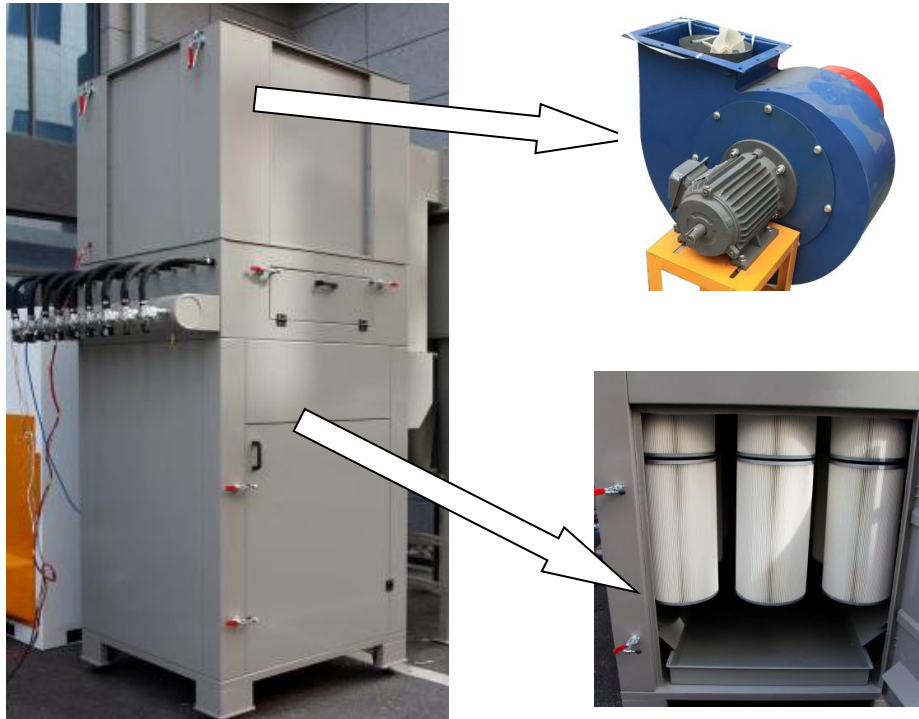




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3) **After-filter Unit:** A group of high-precision cartridge filters recycle waste ultra-fine powders that can be not used next time. Ensures a dustfree workshop.



Automatic powder coating system & powder supply system

- 1) Powder coating reciprocator with auto spray guns
- 2) Central control cabinet for integrated management
- 3) Powder feed center, enhance efficiency during color change

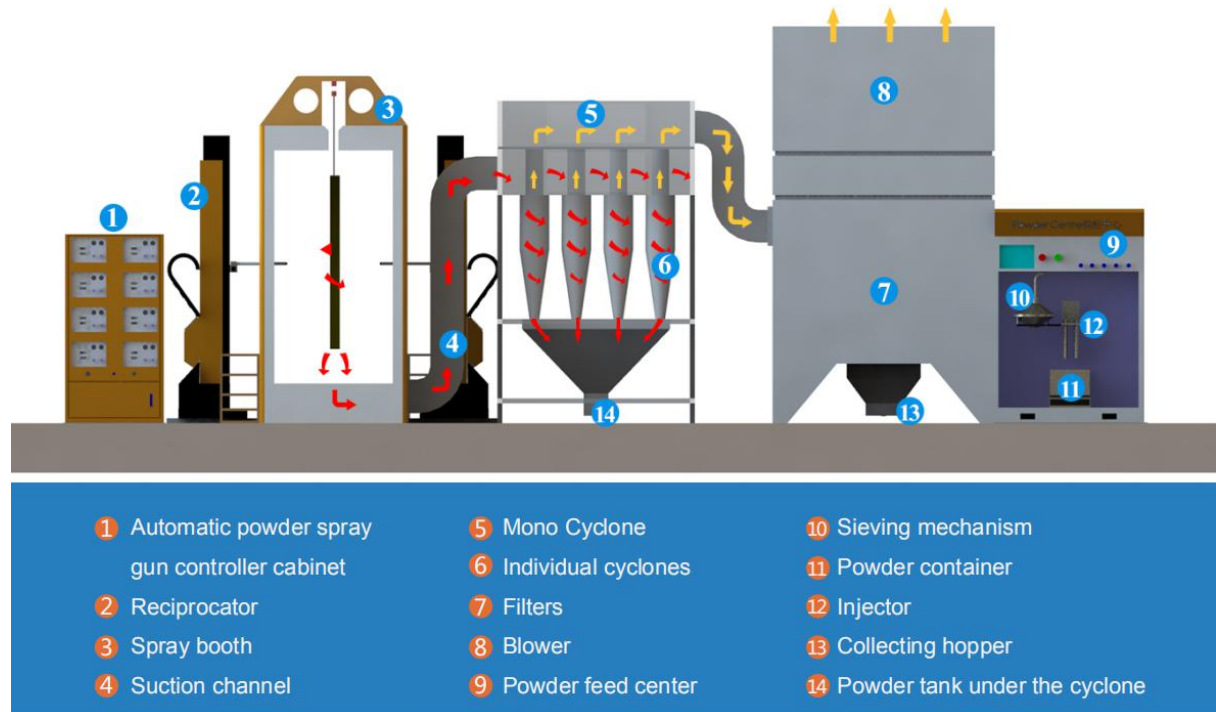




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Multi-cyclone Powder Coating Booth Working Process



The powders which are not attracted to the workpiece will be sucked by an extraction fan into exhaust tube.

The powder-air stream enters the cyclone (5) and is distributed between the individual cyclones (6) by the partial vacuum present. The actual separation process now follows the same natural laws as in individual cyclones, but the multi cyclones with relatively small diameter quickly leads to high centrifugal forces.

The powder which is flung outwards spirals downwards under gravity into the powder tank under the cyclone (14), will be sieved and transferred into the powder hopper (11).

The powder container which is connected directly to the base plate of the cyclone, is equipped with a fluid bed and injectors (12), this allows direct circulation of the powder

The exhaust air from the booth, now cleansed of powder, flows through pipes into an exhaust air cap and from there through an exhaust air channel into back filters and finally, through the fan which drives the system, into the workshop.

From the after filter unit, a tiny residue of the smallest powder particles goes into the powder collecting hopper (13). The 1% to 2% loss of the finest powder helps to stabilise the system because it has a beneficial effect on fluidization, sieve performance, powder conveying and on the electrostatic efficiency of the powder spray system.