

# MagicCylinder II

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## A new generation of color change

The well known Quick Color Change System MagicCylinder from ITW Gema has been renewed. The new generation MagicCylinder II features a new booth floor design that allows an easier integration into new and existing plant layouts. The new layout provides improved airflow conditions even for high exhaust air volumes, while maintaining the traditional outstanding quick color change capability.

### A new floor design

The new MagicCylinder II series features a flat floor provided with 2 exhaust channels closed by movable flaps.

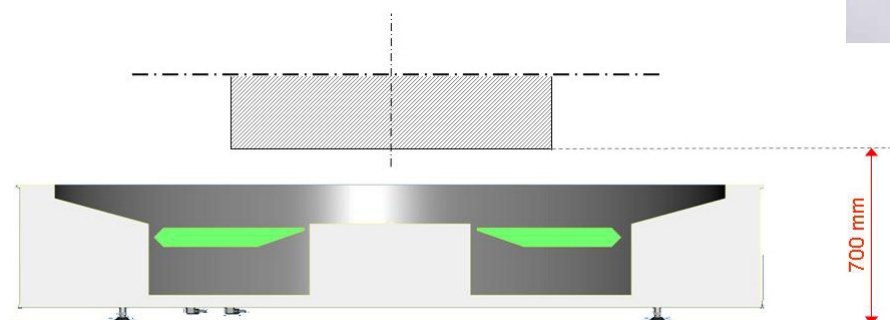
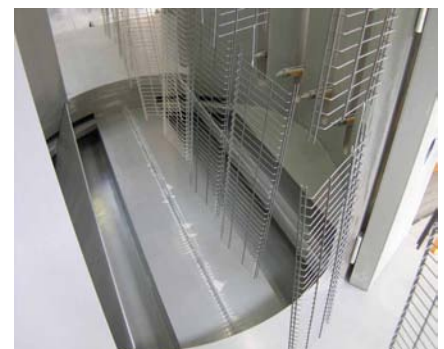
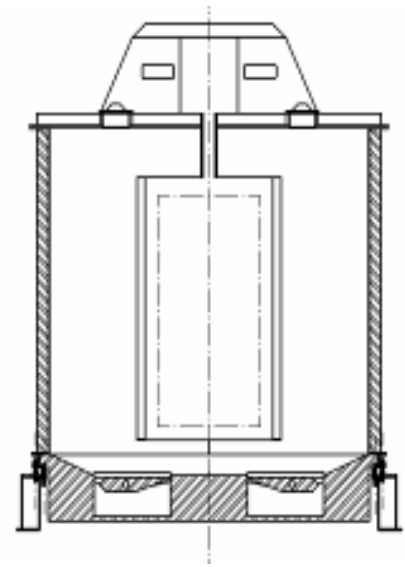
During operation the flaps remain closed: the 4 exhaust slots on the side of the flaps create a very gentle, homogeneous, symmetrical and vertical air-draft.

The blowing devices integrated in the booth floor keep its surface, as well as its flaps, constantly clean during operation.

When the cleaning procedure starts the flaps are opened. The air exhaust from the booth is consequently increased and asymmetrically sucked to the exit side of the booth.

The operator standing on the entrance platform can easily clean the whole booth by means of an air-lance. The cleaning process can be performed without entering the booth. Thanks to the unique opening mechanism of the flaps, the operator can also inspect the inside of the 2 exhaust channels and clean them if required.

The very low base structure provides a distance of the lower edge of the object to the hall floor of 700mm only! Therefore the booth with this new design is very versatile and can be easily integrated into new or existing plant configurations.

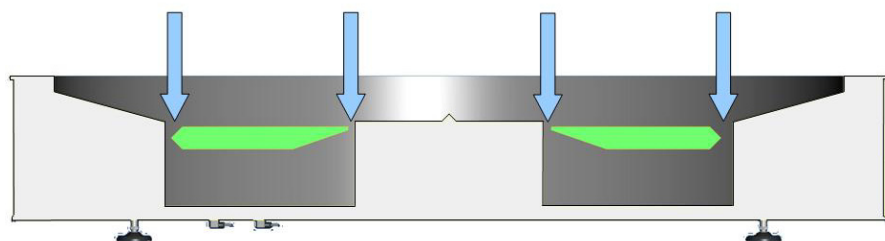
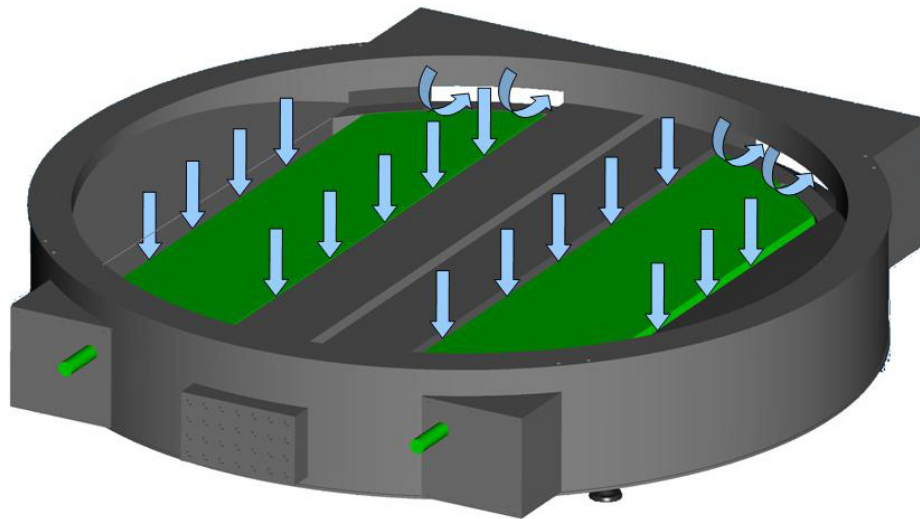


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**Excellent airflow conditions during operation**

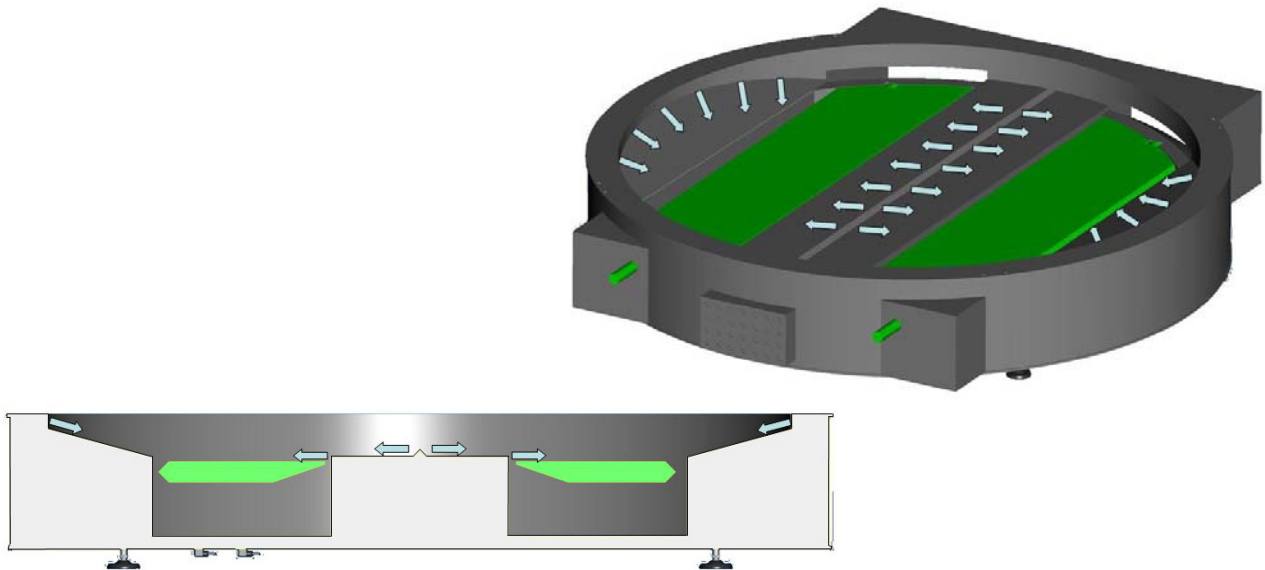
(Blue arrows = exhaust direction)



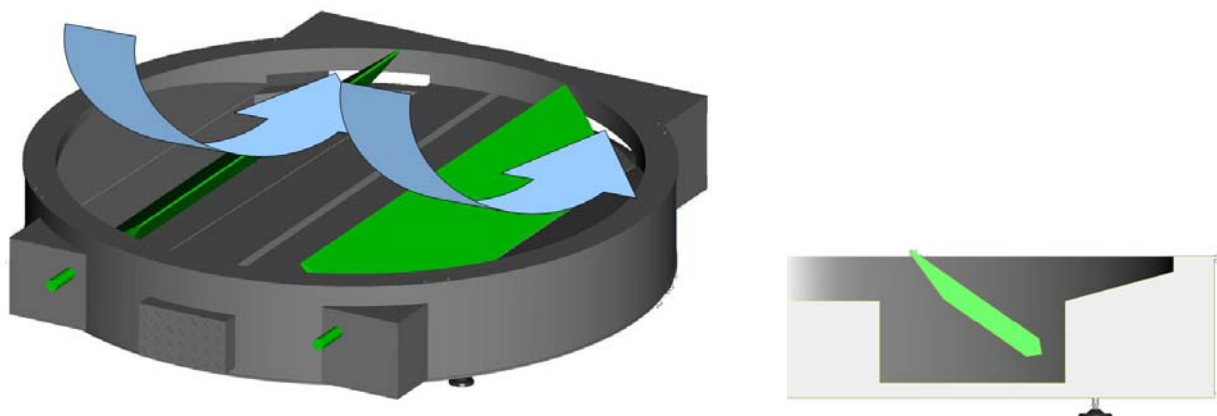
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**The blowing system of the new floor**  
(Blue arrows = Blow direction)



**The booth floor in cleaning mode**  
with increased air flow



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## General system overview

The MagicCylinder system is a field-proven technology capable to meet the needs of rapidly changing manufacturing environment. It is designed to be a fully integrated system that delivers the speed and flexibility needed to handle the frequent color changes of any Just-in-time operation environment.

The new MagicCylinder II outperforms the original design and offers a series of clear customer advantages:

- **Round shape is the easiest and quickest to clean**
- **No need to enter the booth for color changes**
- **Continuous automatic cleaning of the booth floor**
- **No complicated cleaning mechanism required**
- **Minimal floor space required**
- **Distance from lower edge of the object to hall floor 700mm only**
- **Powder quantity in the circuit reduced to a minimum**
- **Ideal airflow conditions for an efficient powder application**
- **No powder losses and no contamination in the ambient**
- **Easy to use and safe for the operators**

Markus Lenherr, Sales Director at ITW Gema AG, comments: "Particularly the minimal distance of the lower edge of the object to the hall floor (700mm) allows a versatile integration into new or existing plant configurations."

Silvano Gelain, in charge of the booth development at ITW Gema, adds: "The precise uniform airflow inside the booth represents another significant customer benefit. The booth floor with its unique 4-slots design creates ideal coating conditions even for high exhaust air volumes. The result is a more uniform powder deposition on the object and, ultimately, quality improvements and powder savings for the customer".



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## The booth concept of the MagicCylinder II

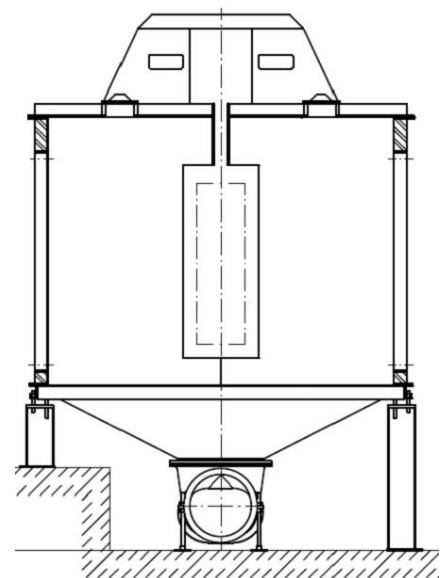
The cylindrical plastic booth is designed to minimize powder accumulation on the walls and to facilitate a faster color change. The use of non conductive plastic material is very important to prevent the charged powder from depositing on the booth surface. The particular type of PVC used, and the "sandwich" construction with welded seamless surfaces, allow the cleaning of the booth to be just by means of air-blow.

Integrated blowing devices keep the floor constantly clean during operation, prevent powder accumulations and clearly reduce the color change time.

The small dimensions of the booth (just 2.5 m inside diameter) makes it easy for the operator to complete the cleaning from outside using just an air lance, without the need to enter the booth.

For particular applications the MagicCylinder is still available in the traditional and well-known design. The main feature is the conical funnel with a central exhaust connection.

Thanks to its simple and effective design the MagicCylinder still represents the quickest color change system available on the market.



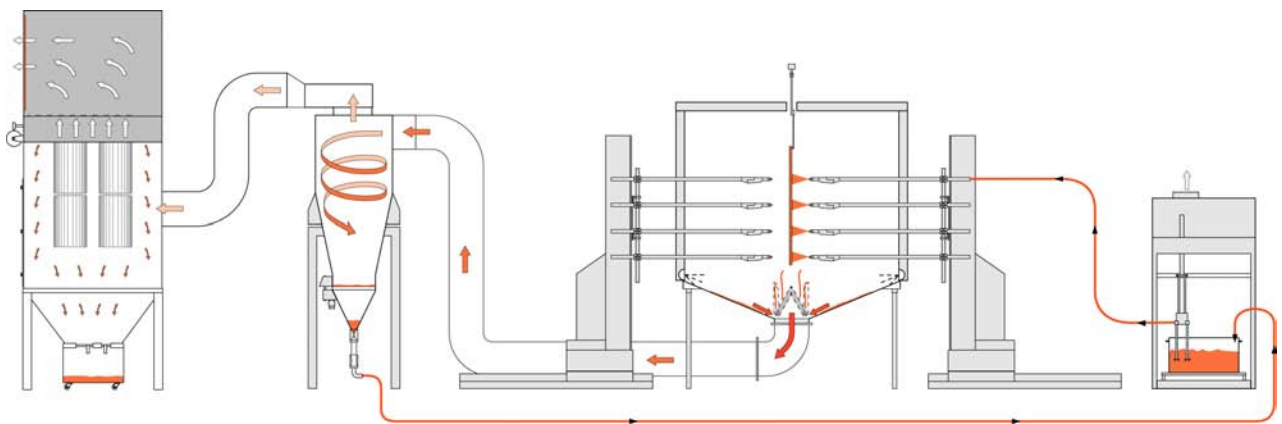


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## The powder circuit

The Powder Center is feeding the powder to the electrostatic guns. The Overspray is recovered from the booth floor to the Cyclone, where most of the powder is separated, sieved and transported back to the Powder Center. The exhaust air arrives at the final filter, where the residual waste powder is separated from the clean air.



## Individual system layout

The MagicCylinder II can be configured in a wide variety of solutions. Whether as a purely automatic booth or in combination with one or two manual stations. Despite its versatility, all MagicCylinder layouts are characterized by a very compact design.

Each quick color change system is tailored to the user's needs. In ITW Gema's state-of-the-art test lab in St. Gallen (Switzerland), the ideal systems configuration can be determined in cooperation with the customer.



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## The color change procedure

MagicCylinder means color changes in record times. The minimal booth dimensions, the integrated cleaning systems, the special design of all the components speed up each color change. The color change process can be easily carried-out, by a single operator, in a few minutes.

**Step 1** In the Powder Center the injector suction pipes are automatically lifted up. The powder hopper (or carton box) can be removed.



**Step 2** The motorized horizontal axes of the reciprocators extract the OptiGun-X Powder guns from the booth. Blow-out nozzles integrated in the booth slots automatically clean the external surface of the guns from powder accumulations.



**Step 3** By means of compressed air pulses the Powder Center automatically cleans the suction pipes, injectors, hoses, guns. In the meantime the operator can clean the outside of the suction pipes and the injector arm.



**Step 4** The operator cleans the booth inside by means of an air lance. It is not necessary to enter the booth for this operation.



**Step 5** The operator cleans the cyclone inside and the sieving machine.



**Step 6** The system is ready to re-start, as soon as the new powder is placed in the Powder Center.



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## A complete system built for color change environments

A quick color change system only works as a whole system. This means that all components have to be perfectly coordinated in order to achieve the best performance both during operation and during the color change process. The MagicCylinder systems feature OptiFlex advanced application technology, user-friendly powder conveying systems and efficient aspiration and filter solutions. As an overall system, the MagicCylinder impresses with its high efficiency, ease of application and perfect coating results.

ITW Gema's quick color change systems are a profitable investment, which quickly pays off with their short ROI.



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