

# Motion equipment for all coating tasks

## Electric motion machines

Electric motion machines are subject to permanent loading so reliability and the robustness of the stroke mechanism are particularly important. The electronic controllers make state-of-the-art motion control possible for precise application requirements and optimum surface quality.

When a range of work pieces are to be coated the intelligent motion equipment produces a better quality finish with optimized powder consumption. The motion machines are controlled using the following concepts:

### PrimaTech control system:

CCM Prima central control module and MCS1 reciprocator module

### ProfiTech M control system:

MCM central control module with modern touch-and-twist operating concept

### ProfiTech S control system:

Touch control (PLC)



	Reciprocators	Sliding table		Axis technology		
	Short & long stroke					
	VU 1	Roller base 8	HU 1	Z-axes	Y-axes	Rotary axes
<b>Direction of motion</b>	↕	↔	↔	↔	↕	↻
<b>Range of motion</b>	100 mm - 3,000 mm	0 mm - 1,200 mm	0 mm - 1,600 mm	individual	individual	0° to 300°
<b>Speed (max.)</b>	30 m/min	manual	6 m/min	30 m/min	30 m/min	180°/sec
<b>Number of guns* (max.)</b>	12	-	-	1	individual	1
<b>Gun arrangement</b>	horizontal/vertical	-	-	individual	-	individual

\* WAGNER guns PEA-C4 or PEA-C4 XL 1.4



# The latest motion equipment from WAGNER!

VERTICAL MOTION EQUIPMENT V1  
HORIZONTAL TRANSFER EQUIPMENT H1

With the latest motion equipment from WAGNER you are well equipped for perfect coating results in automatic applications. WAGNER's motion unit can be used with both a long and short stroke, allowing every individual motion process to be carried out with precision and, when combined with WAGNER's horizontal sliding table a pre-set application distance from the work piece is maintained, thus will optimise the coating efficiency

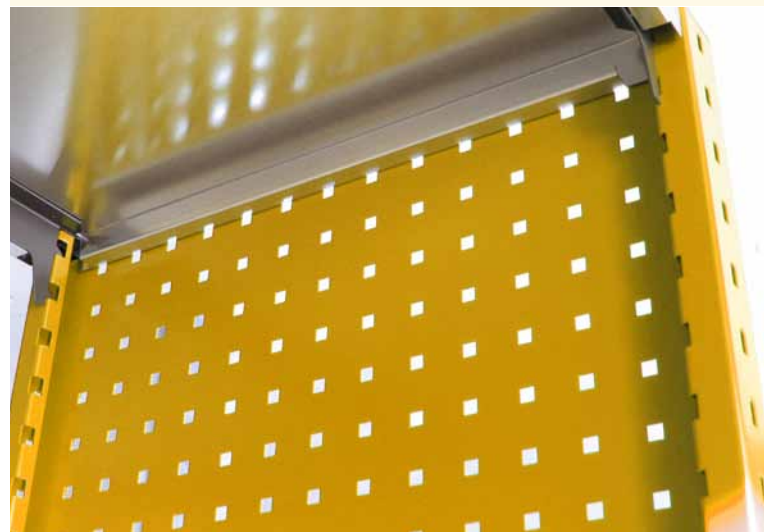
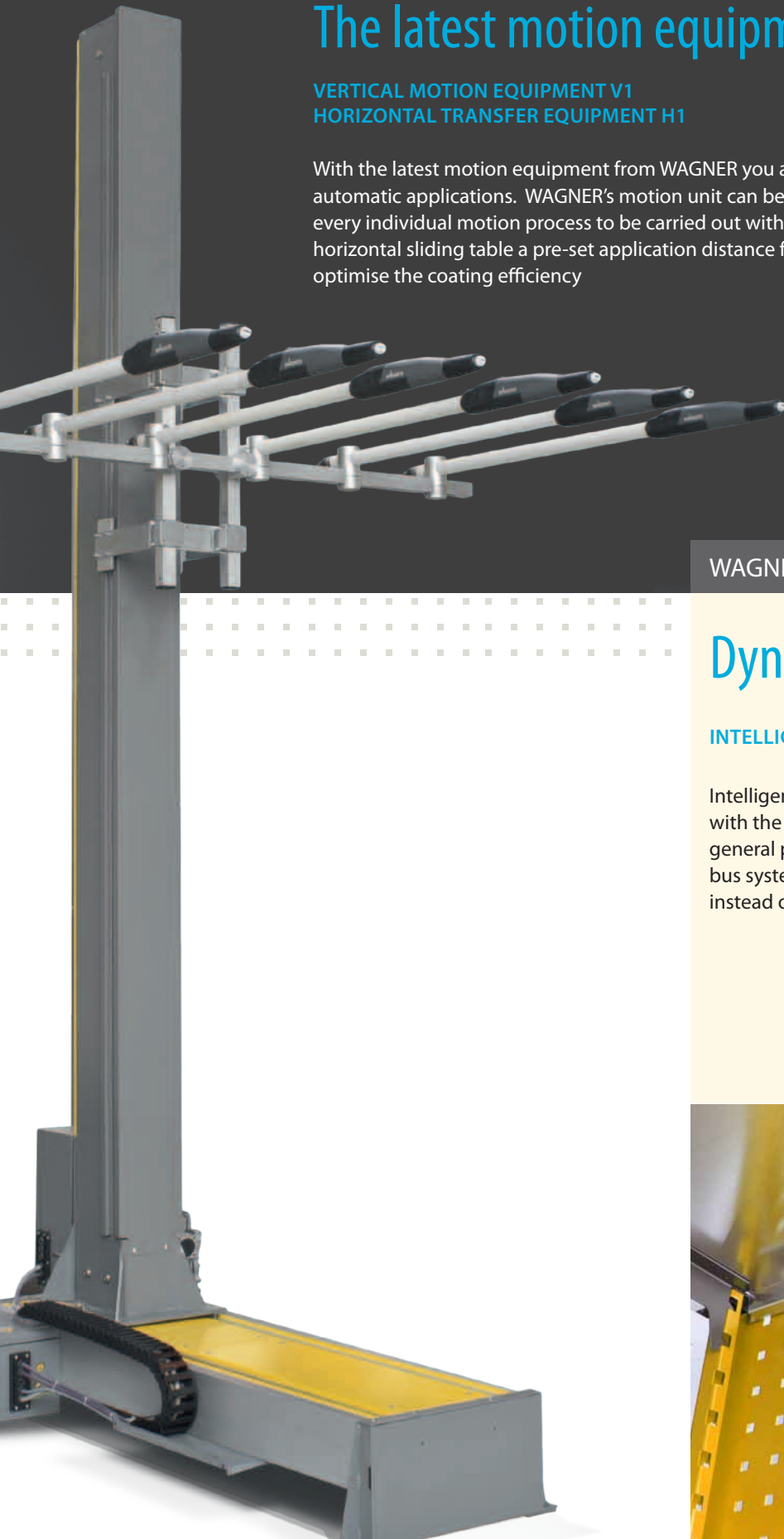
- Maintenance-friendly and robust mechanical structure
- Low-vibration movements
- Ensures a precise and long-life route measurement with an intelligent frequency inverter

WAGNER motion equipment

## Dynamic coating!

INTELLIGENT DRIVE CONCEPT

Intelligent frequency inverters perform position regulation with the highest precision. The central controller only sets the general parameters, e.g. the reversal points or speed via a CAN bus system. The route measurement via incremental encoder instead of potentiometers ensures precision and longevity.



## Automatic pre- and post-spraying

Work piece detection as the parts pass through the powder booth form the basis of all control variants. Synchronization with the speed of conveyance and light curtains mounted horizontally and vertically creates a silhouette of the work piece preventing the guns from colliding with the part. With the use of simple time controllers the speed of the conveyor can be changed at any time and the control parameters adjust automatically.

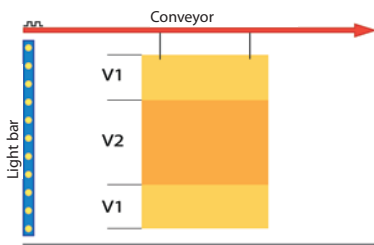
Detecting the parts means that the work piece's position is known precisely, the point at which the guns are triggered can be established with accuracy. Pre- and post-spraying of the work piece can also be set. The same applies when spraying above or under the work piece.

### Height control

Height control is used with a vertical gun arrangement to coat parts of different heights. The stroke remains constant. The operator is free to select the order and spacing between parts of different heights. Powder guns which would spray past the workpiece are not activated.

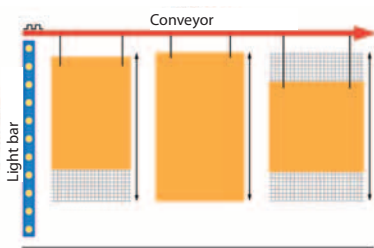
### Gap control

This ensures that spraying is carried out only when there is a workpiece in front of the spray guns. The supply of powder is deactivated in the gaps.



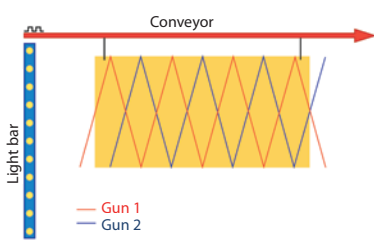
### One- and two-way operation for reciprocator machines

The stroke speed can either be entered as a constant or two different speeds can be set. For example, one particular coating zone can be processed at a slower or faster speed so that more or less powder is applied.



### Automatic stroke height control

This is used together with reciprocator and gap/height control with a horizontal gun arrangement. It offers significant advantages when workpieces with different dimensions are to be finished as part of one coating order. The guns are activated/deactivated during the up/down movement with a constant stroke such that spraying only takes place near the workpiece. Reducing the amount of overspray therefore reduces powder losses.



### ASR sine mode

ASR or automatic sine regulation is used for an even distribution of layer thickness on two-dimensional parts. This guarantees that the entire workpiece surface is covered evenly. The gap/height control module measures the current conveyor speed. The reciprocator's controller takes the stroke height and speed of conveyance to calculate the optimum lifting and lowering speed and adapts this accordingly.

## Dynamic 3D coating without robots

The coating of complex parts such as the inside of enclosures requires guns to move independently from each other. The Z-axis with rotary drive makes this possible without the need to purchase an expensive robot.

### BENEFITS FOR THE USER:

- Simple programming
- Low investment costs
- High surface coverage
- Small space requirements (short spray booth)
- For simple and complex applications
- Integration in color change systems
- Concept proven by numerous successful testimonials



### 3D coating

## Technical data

#### Speed:

X-axis	0.2 m /sec
Y-axis	0.5 m /sec
Z-axis	0.5 m /sec
D-axis	180° /sec
--> Angle of rotation	340°

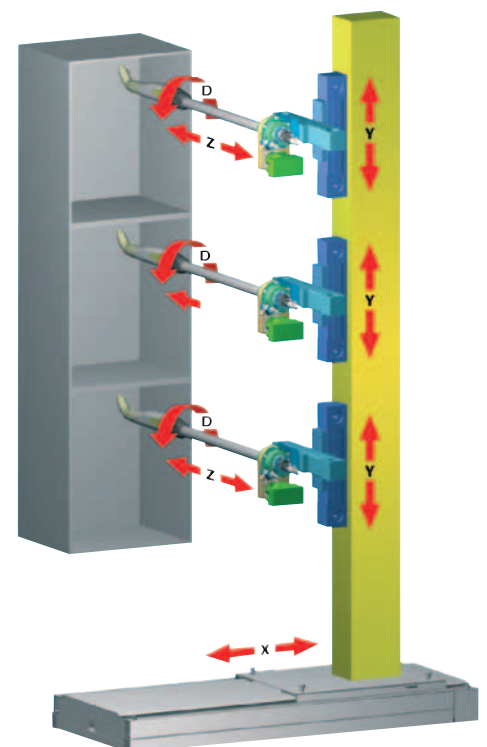
#### Position accuracy:

X-axis	+/- 5 mm
Y-axis	+/- 2 mm
Z-axis	+/- 0.5 mm
D-axis	+/- 0.1°

## A module for each axis!

THE DIRECTIONS OF MOVEMENT CAN BE COMBINED IN MODULES IF REQUIRED

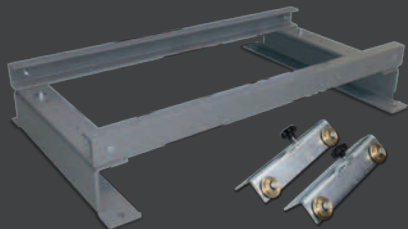
- X** X-axis: for surface and edge coating in synch with conveyance
- Y** Y-axis: for height positioning
- Z** Z-axis: for insertion and retraction
- D** D-rotary axis: for coating the insides of corners, edges, folds etc.



# Roller base RS8

Manual sliding unit to horizontally position reciprocators and set the distance of the gun from the workpiece.

- Sturdy U-profile frame
- Floor plate with 4 flange wheels



## WAGNER motion control

### MCS 1 controller

WAGNER supplies the new motion controller MCS 1, which can control up to 2 reciprocators VU1 and 2 sliding tables HU1.

It is used both as a standalone unit and in the PrimaTech CCM network.

Up to 50 motion profiles can be stored and quickly accessed. These include a motion profile for cleaning the outsides of guns, which is a great help when automatically changing color.



J. Wagner GmbH  
Industrial Solutions  
D-88677 Markdorf  
Tel. +49 (0) 75 44/5 05-0  
Fax +49 (0) 75 44/505-200

J. Wagner AG  
Industrial Solutions  
CH-9450 Altstätten/SG  
Tel. +41 (0) 71/7 57 22 11  
Fax +41 (0) 71/7 57 23 23



[www.wagner-group.com](http://www.wagner-group.com)

More information about the motion equipment and our range of accessories, can be found in the WAGNER powder catalog.



## Motion equipment

ECONOMICAL COATING WITH MAXIMUM PRECISION

- Precise linear guide way
- Intelligent drive technology
- Long-lasting and reliable

