

# EcoOpener Handling Robot

## Function **EcoOpener Handling Robot**

The *EcoOpener* handling robot is designed to open body components such as hoods and doors, hold them open during painting and close them when painting is complete.

Three different models are available to deal with the necessary handling tasks in the relevant handling area.

## Structure **EcoOpener D "Scara"**

### **3-Axis Door Opener**

#### **Application Area: Stop & Go Operation**

This door opener is designed in accordance with the Scara principle. Axes 1 and 2 are used for horizontal tool positioning, and the Z axis is used for vertical positioning.

The gripping tool on the Z axis is usually in the form of a hook. For safety reasons there is a force sensor/proximity switch at the tool attachment point that registers various operating statuses and therefore helps to avoid handling errors and collisions.

### **EcoOpener H/D Travelling on EcoRail**

#### **4-Axis Door and Hood Opener**

#### **Application Area: Rail Tracking**

The handling unit, which is designed as an articulated arm robot, can perform all the necessary opening, holding and closing movements during the continuous movement of the body, which serves as a reference variable. As a rule, the door or hood is always held in the same relative position during the entire painting process whilst the body is in motion.

### **EcoRP6/7 Robot as Door and Hood Opener with 6/7 Axes**

#### **Application Area: Rail Tracking**

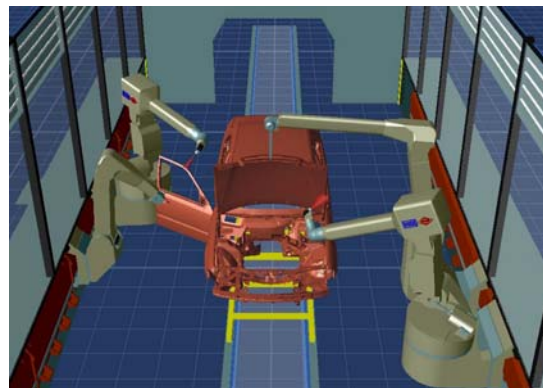
This robot is used for special movement sequences in combination with complicated tool shapes, using the three axes of the robot hand axis for handling tasks or as a combined painting/handling robot with a tool attached near the atomizer for handling purposes.

## Highlights

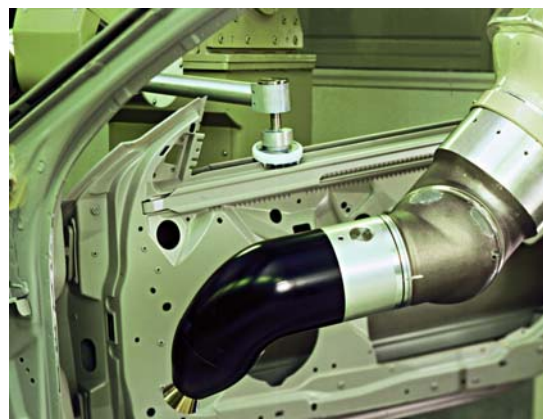
- Modular design for ease of start-up and maintenance
- Streamlined, easy to clean, sleek but strong construction
- Special opening tools ensure that processes can be reliably reproduced
- Different arm lengths and spacers allow equipment to be adapted to customer-specific painting process
- Same drives and controller as painting robot



*EcoOpener D Scara*



*Interior painting simulation with EcoOpener H (rear right) EcoOpener D (front left) and two painting robots EcoRP7*



*EcoOpener D holds door open for interior painting with EcoBell2*

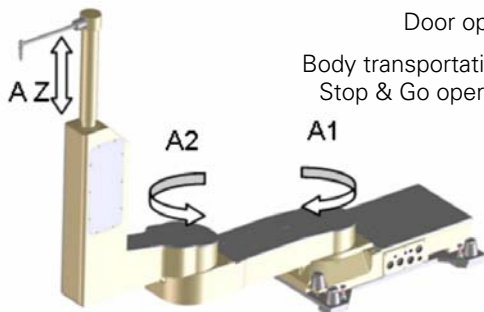


*EcoRP6/7 Robot as door and hood opener with robot hand axis*

# Technical Data

## Typical Application: **EcoOpener D "Scara"**

Handling robot  
*EcoOpener D*  
*Scara*

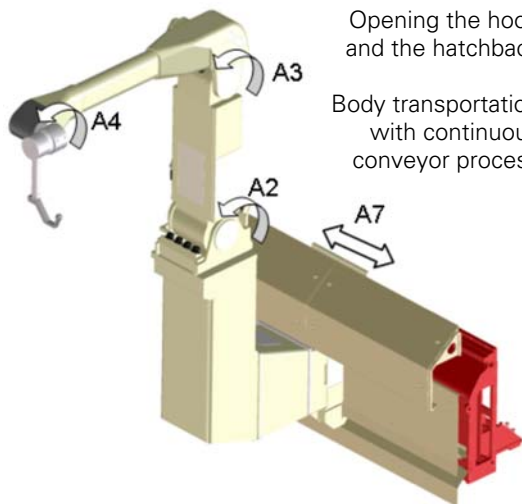


Door opener

Body transportation in  
Stop & Go operation

Axis 1:	Horizontal arm 1 swivelling	<i>Movement axes</i>
Axis 2:	Horizontal arm 2 swivelling	<i>EcoOpener D</i>
Axis Z:	Vertical lifting axis	<i>Scara</i>
Axis 1: (x°)	± 110	<i>Operating range</i>
Axis 2: (x°)	± 170	
Axis Z: (mm)	225	
Axis 1: (°/s)	100	<i>max. speeds</i>
Axis 2: (°/s)	180	
Axis Z: (mm/s)	250	
max. rotating speed: (°/s)	150	
max. acceleration: (°/s <sup>2</sup> )	300	<i>Load-bearing capacity</i>
Load-bearing capacity: (N)	500 at opening tool	<i>Explosion protection</i>
Explosion protection:	ATEX Category 2, 3 FM approval	<i>Weight</i>
Weight: (kg)	approx. 360	
Installation:	attached to grating	

Handling robot  
*EcoOpener H Rail*  
on travelling axis  
*EcoRail V*



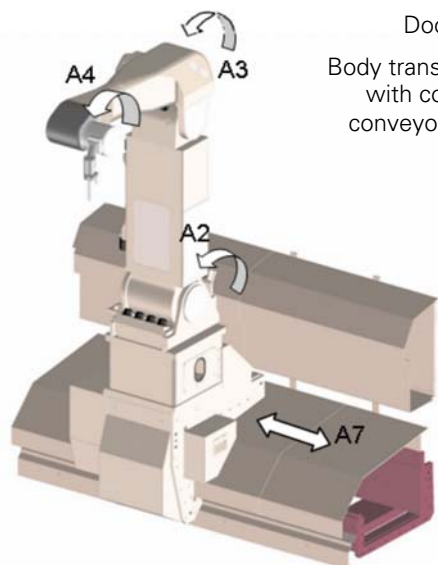
Opening the hood  
and the hatchback

Body transportation  
with continuous  
conveyor process

## **EcoOpener H/D Rail**

Axis 2:	Vertical arm swivelling	<i>Movement axes</i>
Axis 3:	Horizontal arm swivelling	<i>EcoOpener H/D</i>
Axis 4:	Wrist axis rotation	<i>Rail</i>
Axis 7:	<i>EcoRail V/H/L Travelling axis</i>	
Axis 2: (x°)	+ 6 / - 65	<i>Operating range</i>
Axis 3: (x°)	± 80	
Axis 4: (x°)	± 90	
Axis 7:	depending on travelling axis length	<i>max. speeds</i>
Axis 2: (°/s)	78,95	
Axis 3: (°/s)	166,67	
Axis 4: (°/s)	180	
Axis 7: (mm/s)	1500	
max. conveyor speed: (mm/s)	1200	<i>Load-bearing capacity</i>
max. acceleration: (mm/s <sup>2</sup> )	3500	
Load-bearing capacity: (N)	250 at opening tool	<i>Explosion protection</i>
Load on arm 1 and arm 2: (kg)	each 15	<i>Weight</i>
Explosion protection:	ATEX Category 2, 3 FM approval	
Weight: (kg)	approx. 400	
Installation:	to <i>EcoRail V</i> or <i>L</i>	

Handling robot  
*EcoOpener D Rail*  
on travelling axis  
*EcoRail L*



Door opener

Body transportation  
with continuous  
conveyor process

## **EcoRP6/7 Robot as Door and Hood Opener**

See data sheet for technical information  
"EcoRP Painting Robot"