

EcoRail Travelling Axes

Function Robots can be moved parallel to the conveying direction of the body in the painting booth using *EcoRail* travelling axes. The *EcoRail* travelling axis is a freely programmable horizontal moving axis for adding a seventh axis to robot systems. The *EcoRail* travelling axis is designed to hold industrial robots and is used in the stations for:

- Body painting
- Underbody protection
- Cavity preservation
- Handling
- Seam sealing

The modules of the travelling axes are manufactured in lengths of 1.5 and 2 m. The length of the travelling axis can be individually adapted to the booth in accordance with the system design.

Depending on the type of robot, the space situation and the application area of the travelling axis, three travelling axis types are available in accordance with the arrangement of their guides.

- *EcoRail V*:
vertically arranged guides
(Versions V, VSS)
- *EcoRail H*:
horizontally arranged guides
(Versions HLL, HL, HS, HSS for loads of 500 - 2500 kg)
- *EcoRail L*:
Guides arranged in an L shape

Highlights

- Axis speed up to 1.5 m/sec.
- Axis acceleration of up to 5 m/sec² (4 m/s² to VSS)
- Positioning accuracy at TCP of up to 0.5 mm
- Rapid, low-cost maintenance by means of:
 - long service life of up to 150,000 km
 - replaceable guide elements
 - central lubrication system
 - special replacing equipment for replacing linear guide carriage, even with robot attached
- Full corrosion protection for use in areas with aggressive media
- Standard corrosion protection for all guide elements
- Extremely quiet operation and resistance to wear by using helical geared, hardened and ground pinions and toothed rack elements
- Repair station for *EcoRail V* (not for VSS) for swivelling the robot out of the painting booth for maintenance purposes



EcoRail V with *EcoOpener* and *EcoRP*



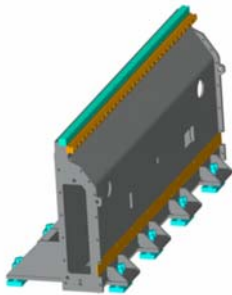
EcoRail L with one *EcoRP*



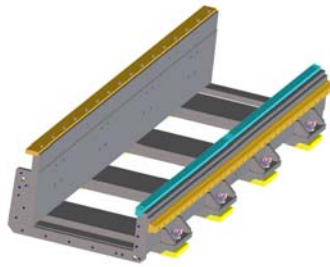
EcoRail HL with robots for seam sealing

Technical Data

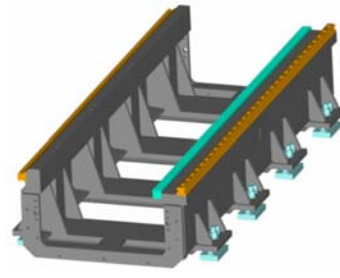
EcoRail V



EcoRail L



EcoRail H



Name	Eco Rail V	Eco Rail VSS	Eco Rail L	Eco Rail HLL	Eco Rail HL	Eco Rail HS	Eco Rail HSS
Performance Data							
Speed (m/sec.)	1,2	1,5	1,2	1,5	1,5	1,5	1,5
Acceleration (m/s ²)	5	4	5	5	5	5	5
Max. working stroke ²⁾ (mm)	18000 ⁵⁾	10000	18000 ⁵⁾	10500	10500	10500	10500
Load-bearing capacity (kg)	1600	3500	1600	500	750	1600	2500
Weight of travelling axis (kg/m)	300	800	250	200	220	250	420
Weight of carriage with drive (kg)	350	1200	300	150	200	300	620
Positioning accuracy in TCP (mm)	0,5	1	0,5	1,0	1,0	0,5	0,5
Maximum axis length (m)	20 ³⁾	12	20 ³⁾	12	12	12	12
Service life, guides (km)	27000	27000	27000	10000	27000	27000	13000
Service life, drive elements (h)	20000	20000	20000	20000	20000	20000	20000
Robot							
Dürr Eco RP6 /Eco Opener D/H	x	---	x	---	---	x	o
Dürr Eco RP7/8 Swing	---	x	---	---	---	---	x
Dürr Eco RS, Kuka KR 6 ⁴⁾	---	---	---	o	o	---	---
Dürr Eco RS, Kuka KR 15 / KR 16 ⁴⁾	---	---	---	x	x	---	---
Dürr Eco RS, Kuka KR 30 ⁴⁾	---	---	---	---	---	x	---
Dürr Eco RS, Kuka KR 125 /KR 150 ⁴⁾ / KR 200 ⁴⁾	---	o	---	---	---	x	o
Dürr Eco RS, Kuka KR 200 - 500 ⁴⁾	---	o	---	---	---	---	o
Application Area							
Exterior painting	x	x	x	---	---	---	---
Interior painting	x	x	x	---	---	---	x
Seam sealing	---	---	---	x	x	x	x
Cavity preservation	---	---	---	x	x	x	x
Heavy handling tasks	---	x	---	---	---	x	x
Underbody protection	---	---	---	x	x	x	x
Installation situation							
Horizontal, upright	x	x	x	x	x	x	x
Horizontal, suspended	---	---	---	---	x	o	---
Special versions							
Cover (safe to walk on)	---	---	x	---	o	o	---
Cover band	o	x	---	---	o ³⁾	o ³⁾	o ³⁾
Air curtain	o	o	---	o	o	o	---
Max.no. painting robots/axis	3	1	2	1	3	3	1
Central lubrication	o	o	o	o	o	o	o
Integration in painting booth	o	x	x	---	---	---	o
Travelling colour changer (no. colours)	24C	24C	up to 24C	---	---	---	---
Special mounting adapter for robot	o	o	---	---	---	---	o
Personnel protection switch	o	o	o	o	o	o	o
Repair station	o	---	---	---	---	---	---

- 1) x = Standard; o = Optional; --- = not possible
- 2) Depending on axis length
- 3) Only with carriage/travel distance of max. 5m
- 4) Other robots on request
- 5) Larger working stroke/axis length on request