duren

MATERIALS HANDLING SOLUTIONS

CATALOG

MODULAR SYSTEM DRII-V

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1 GENERAL PRESENTATION

With the growing industrial expansion and aiming to achieve light load handling processes combined with agility in material movement, Duren began activities with the construction of modular DR systems in 1995 in the national market, reaching various industry segments with high-quality and high-performance products.

The technology applied in the modular DRII-V systems allows for installations with less robustness, versatile arrangements for electrical installations, facilitating future changes in layouts for overhead material transport.

They can be used in fully manual systems (low-friction profile dragging) as well as automated systems, adapting to customer needs.

Eliminating the use of cable curtains, as is traditionally applied, allows for simpler installations by utilizing the internal electrified busbar feature within the profile, for electrical power supply at a single point, with the electrified profile responsible for conducting electrical energy to any point of the Overhead Crane or Monorail system.

Dimensioned according to DIN 15018, DIN 4132, DIN 18800, NBR 8800, and NBR 8400 standards, the application of DR Systems in projects and installations must comply with current Safety regulations that act in the prevention of workplace accidents, in addition to the Installation (assembly instructions) and Maintenance Manuals.

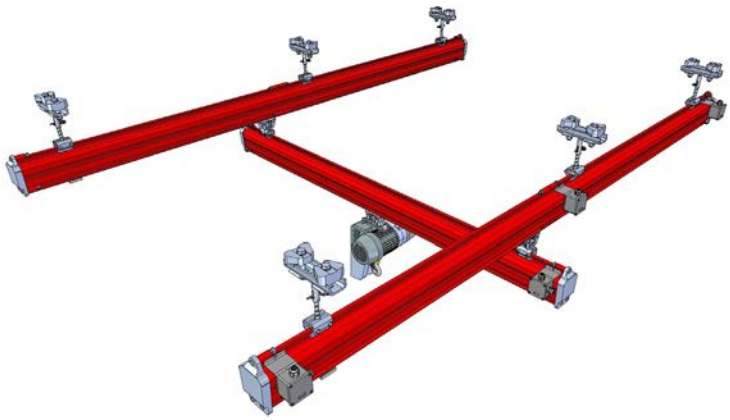
2 GENERAL DESCRIPTION DRII-V PROFILE

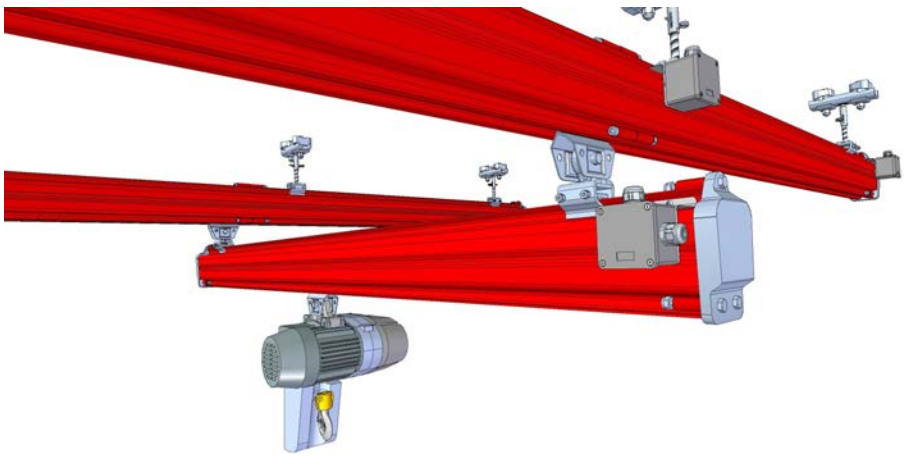
The DRII-V system consists of electrified modular components which, through copper bus-bars fixed internally to the DR-II profiles, allow the conduction of electricity and/or command signals to attached components such as hoist motors and single-track tractors. This type of application eliminates the need for electrical cable runs, for example, in a typical installation with a cable curtain.

This product can be used in the following applications:

DRII-V Overhead Crane

Eliminates cable curtains during the overhead crane's travel (runway). Additionally, the DRII-V can be used on the overhead crane itself, eliminating the use of cable curtains for hoist movement.

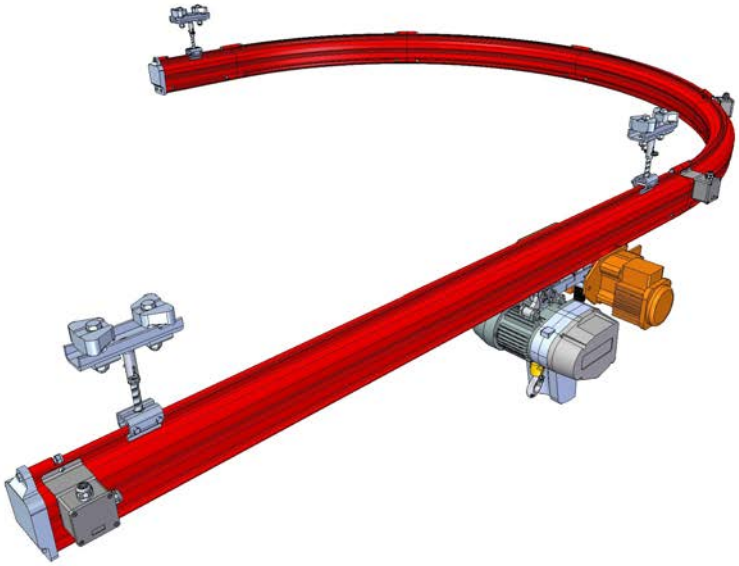




2 GENERAL DESCRIPTION DRII-V PROFILE

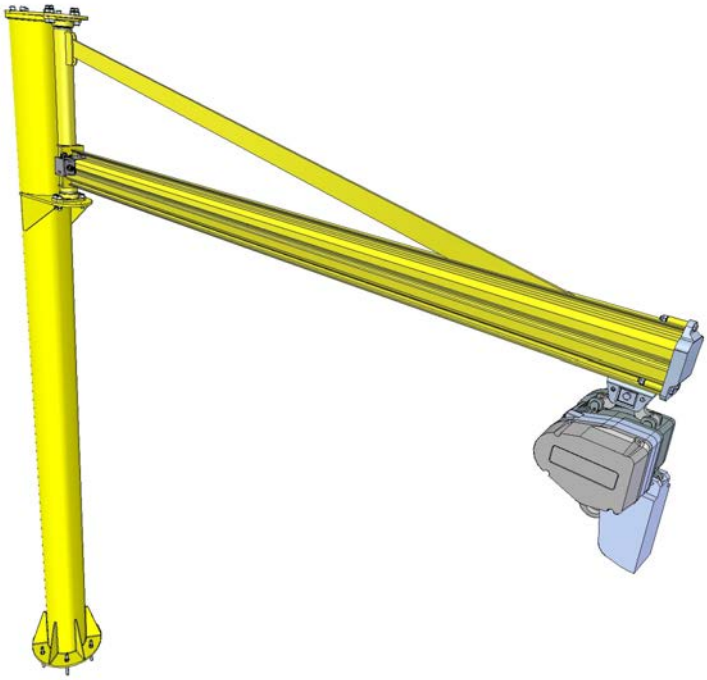
DRII-V Monorail

Eliminates cable curtains during the monorail's path, powering electric hoists and single--track tractors. Additionally, a bypass box, swivel base, and curved segments can be used, interconnecting the busbars along the entire monorail path.



DRII-V Swing Arm

Eliminates cable curtains along the swing arm's path, powering electric chain hoists without the need for cable routing.



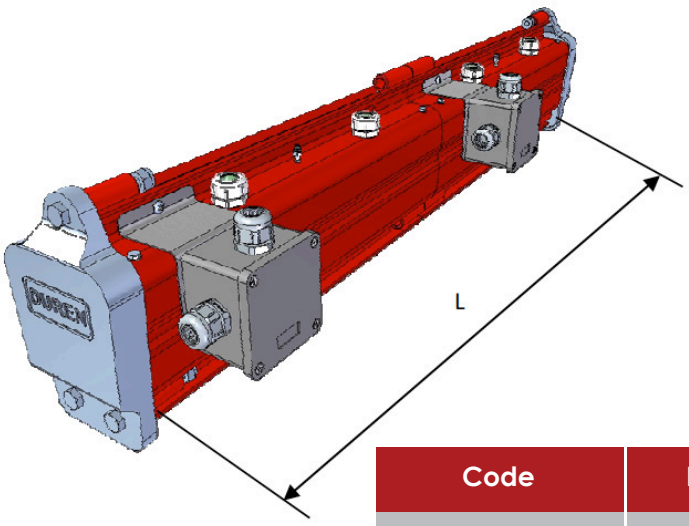
3 DRII-V STRAIGHT PROFILE

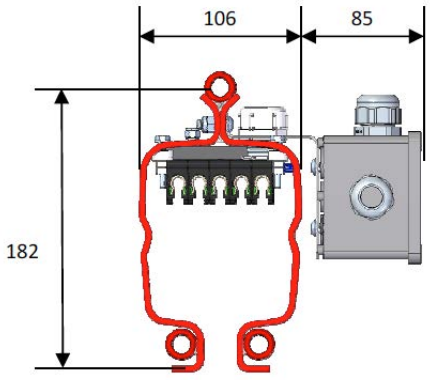
Similar to the DRII straight structural profile, this component features internal copper busbar tracks allowing for the conduction of power and/or signals, mounted on the upper part of the profile with options for 5 or 7 busbar tracks, depending on the desired application.

In this type of application, multiple power consumers such as hoists and monorail tractors can be used, limited to a current of 100A at three-phase voltages of 220 VAC, 380 VAC, and 440 VAC.

All junctions between electrified structural profiles have connection boxes interconnecting their busbars, allowing for continuous communication between the busbars.

External power supply can be provided through one of the monorail's ends, facilitating the electrical installation process. Multiple power inputs can also be added according to the application.





Code	L (mm)	Weight (kg)
02-2000-01-01V	1000	16,3
02-2000-01-02V	2000	31,6
02-2000-01-03V	3000	47,2
02-2000-01-04V	4000	62,3
02-2000-01-05V	5000	78,0
02-2000-01-06V	6000	93,6
02-2000-01-07V	7000	109,0
02-2000-01-08V	8000	125,0

Load capacity: 2000 kg*
*Maximum load may vary depending on the type of installation.

SYMBOLISM

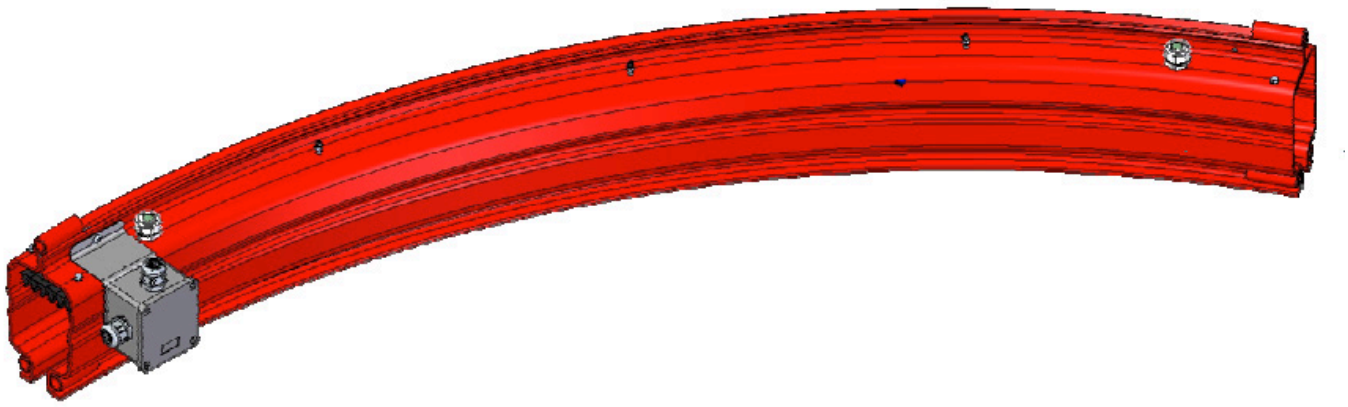
ELECTRICAL OR CONTROL

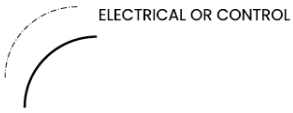
4 DRII-V CURVED STRUCTURAL PROFILE

The curved structural profile coupled with 5 or 7 electrified tracks is the component that allows deviation in the runway path through assemblies of different inclination angles such as 15°, 30°, 45°, and 60°, with a fixed radius of 1500 mm.

This component allows for flexible installation layouts, enabling deviations around existing interfering structures/parts. Applied in monorail processes.

Constructed from cold-rolled steel and painted with RAL 2002 Orange synthetic enamel.





SYMBOLISM

Code	Angle of Inclination	Radius (mm)	Weight (kg)
02-2000-17V	15°	1500	7,2
02-2000-18V	30°	1500	13,3
02-2000-19V	45°	1500	19,4
02-2000-20V	60°	1500	25,5

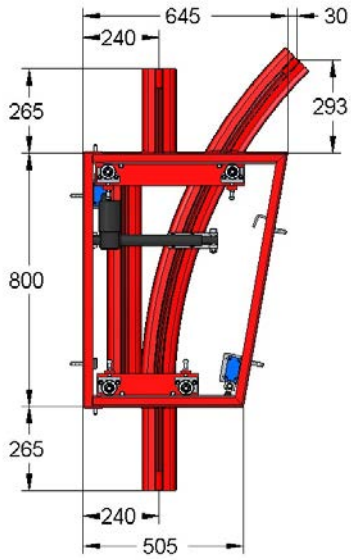
Load capacity: 2000 kg*
*Maximum load may vary depending on the type of installation.

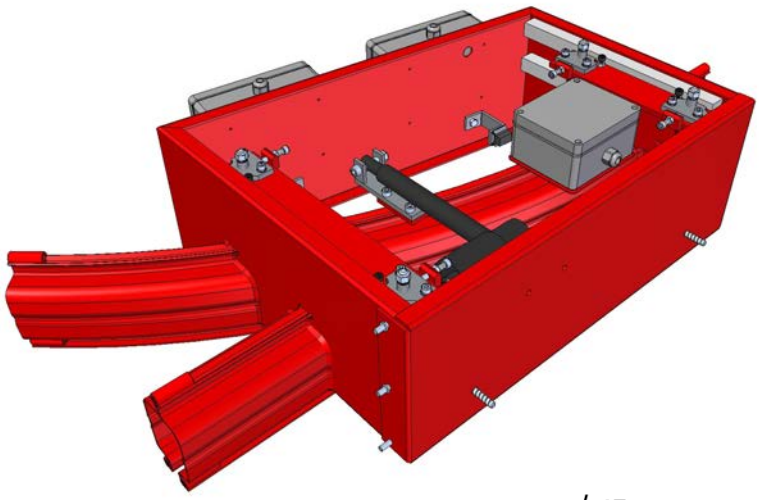
5 DRII-V DIVERSION BOX

Similar to the DRII system's diversion box, it is a component inserted into monorail systems that allows for a change in the runway's course to two path options: one straight track and one curved track with a standardized diversion angle of 45° inside the box. It features an integrated electrified busbar (5 or 7 tracks) which is interconnected with the electrified profiles connected to the box's 3 tracks.

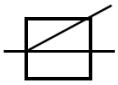
The trolley assembly will be guided by the track to which the positioning mechanism is directed (the power collector assembly is also mandatory to collect power from the internal busbar), with options for manual lever, electric, or pneumatic actuation. The ends of the box are prepared with connections to link DRII-V structural profiles or other DUREN components compatible with DRII-V profiles.

External box constructed from A-36 structural steel, with internal assembly of DRII-V structural profiles, and standard RAL 2002 Orange synthetic enamel paint.





DIRECTION / 45° CURVE SYMBOLISM



Code	Movement Mechanism	Diversion Direction	Weight (kg)
02-2000-21-DM-V	Manual	Right	138,0
02-2000-21-EM-V	Manual	Left	138,0
02-2000-21-DP-V	Pneumatic	Right	148,0
02-2000-21-EP-V	Pneumatic	Left	148,0
02-2000-21-DE-V	Eletric	Right	130,0
02-2000-21-EE-V	Eletric	Left	130,0

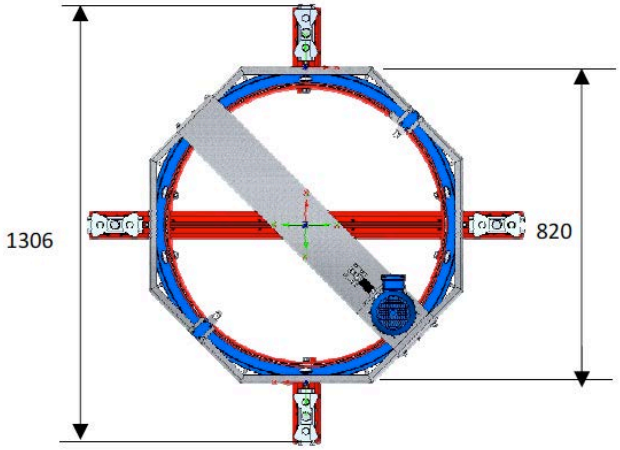
Load capacity: 2000 kg*
*Maximum load may vary depending on the type of installation.

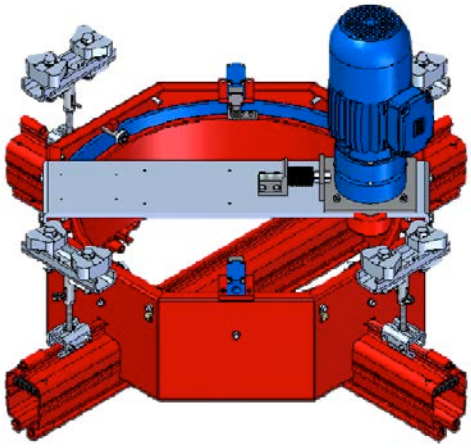
6 DRII-V 90° ROTARY BASE

The rotary base is a component used in monorails that allows for a change in the runway's course in a perpendicular direction, preventing cross-interference between two distinct runways. It has an integrated electrified busbar (5 or 7 tracks) which is interconnected with the electrified profiles connected to the box's 4 tracks.

The trolley and power collector trolley assembly will be guided by the track to which the positioning mechanism is directed, with options for lever, pneumatic, or motorized actuation. The ends of the rotary base are prepared with connections to link DRII-V structural profiles or other DUREN components compatible with DRII-V profiles.

The box is constructed from A-36 structural steel, with internal assembly of DRII-V structural profiles and standard RAL 2002 Orange synthetic enamel paint.





HORIZONTAL OR VERTICAL ALIGNMENT

SYMBOLISM

Code	Movement Mechanism	Weight (kg)
02-2000-39-M-V	Manual	164,6
02-2000-39-P-V	Pneumatic	174,6
02-2000-39-E-V	Eletric	184,6

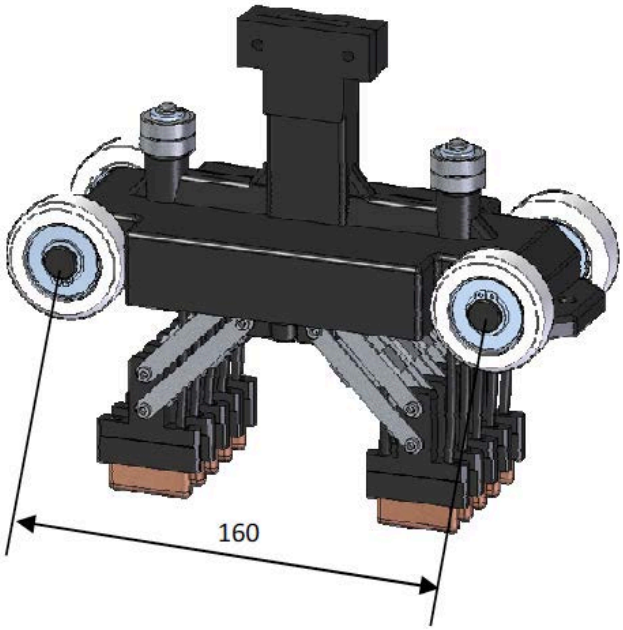
Load capacity: 2000 kg*
Maximum load may vary depending on the type of installation.

7 DRII-V POWER COLLECTOR TROLLEY

This essential component for transmitting power or communication through electrified tracks is used to accompany equipment that needs electrical power or control during its travel along the electrified profile, whether in Monorails or Overhead Cranes.

The component is made up of an injected polyurethane structure, sliding copper brushes, and plastic wheels with bearings to reduce friction during movement along the structural profile.

The collector trolley can be used for electrified profiles with 5 or 7 tracks.



SYMBOLISM

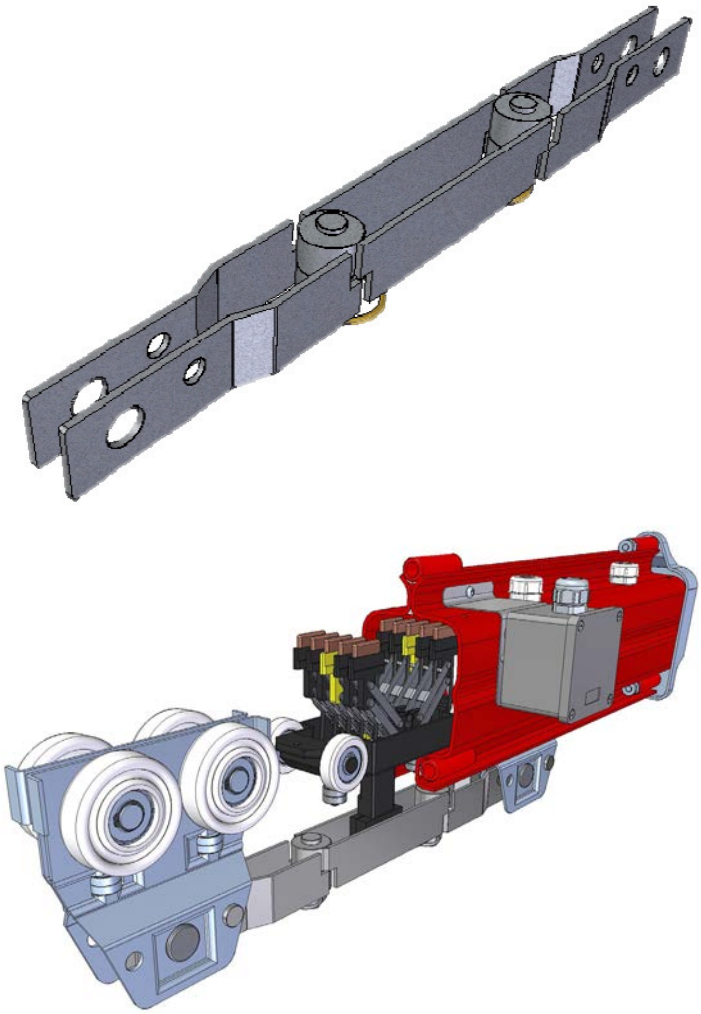
Code	Number of electrified tracks
02-2000-93	5
02-2000-94	7

8 DRII-V ARTICULATED CONNECTION BEAM

A mechanical element used for connection between the DRII-V Power Collector Trolley and the movement Trolley within the DRII-V profile.

They can be used in Monorails that have an internal electrified busbar or in Overhead Cranes.

These elements are secured by pins and locked with cotter pins (or finger-break pins). They are produced from stamped sheet metal with a galvanized finish.



Example of Electrical Supply Assembly Application

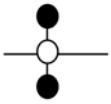
Code	Application	Weight (kg)	Features
02-2000-77	Monorail (curved and straight sections) and Overhead Crane	3,5	Articulated

9 COMPONENT SYMBOL SUMMARY

Straight Profile


Curved Profile


Hanger
(or Pendant Hanger)


V-shaped Hanger


End Stop Cap
(or Stop Cap)

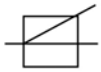

Rigid End Carriage
Single Girder


Rigid End Carriage
Double Girder

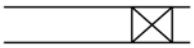
Profile Joint
(or Profile Splice)

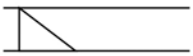
Bumper
(or End Stop)


Trolley


Diverter Box /
Junction Box


90° Swivel Base /
90° Rotating Base


Double Girder
Crane Trolley

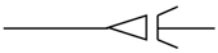

Diagonal Plate


Monotractor (often a single-drive
unit for a trolley)


Power Supply

Electrical Busbar /
Busbar System

Current Collector Trolley


Inspection Drawer


Trolley Connection Beam /
Trolley Linking Crossbar