PohlCon

PARTNER
FROM START
TO FUTURE.

Wireless Charging Protection System

Technical Information



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WCPS for in-ground instalaltion

WCPS

Wireless Charging Protection System

Contactless charging infrastructure – maximizing fleet utilization, time, space, logistics and work flow.
Autonomous transportation systems (AGVs & AMRs) are part of interlinked and highly efficient value chains where reliable and harmonized energy supplies are essential. The efficiency of autonomous logistics including robots, cobots, lifts and tugger trains depends significantly on optimized energy management. PohlCon's Wireless Charging Protection System (WCPS) is a flush with the floor, fully integrated, contactless charging protective infrastructure designed for optimal intralogistics workflow.

The flush in-floor system eliminates dedicated charging zones providing increased useful space and enhanced safety as cables and hazards are reduced and when non-productive off-line charging and AGV/AMR downtimes are avoided and vehicles are charged as part of the working process, enormous productivity potentials can be achieved.

Fully integrated with the Wiferion etaLink 3000 charging system, WCPS optimizes interoperable charging of a wide variety of autonomous vehicle types and classes and with a 3372 lbf of static capacity, the system allows for seamless vehicle traversing enabling mixed use traffic and intersecting routes.

Advantages

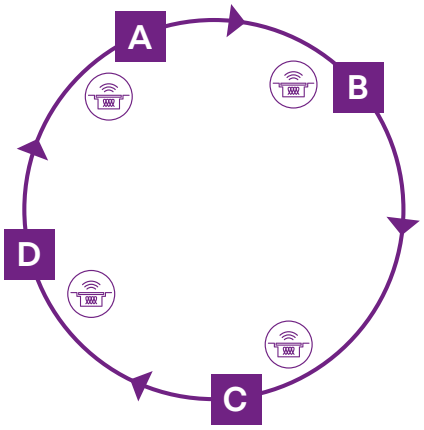
- **In-ground, flush mounted,** safe and traffic ready
- Process-optimised fleet management through **in-process charging**
- Up to 30 % smaller fleet and up to 50 % smaller batteries
- More added value through **elimination of separate charging zones and restricted areas**
- Interoperable system allows flexible vehicle deployment
- Avoidance of violent damage to the charging technology thanks to flush-floor integration
- **High level of occupational safety** thanks to the elimination of tripping hazards/exposed cables
- **Easy to integrate** in new builds and as a retrofit solution in existing buildings

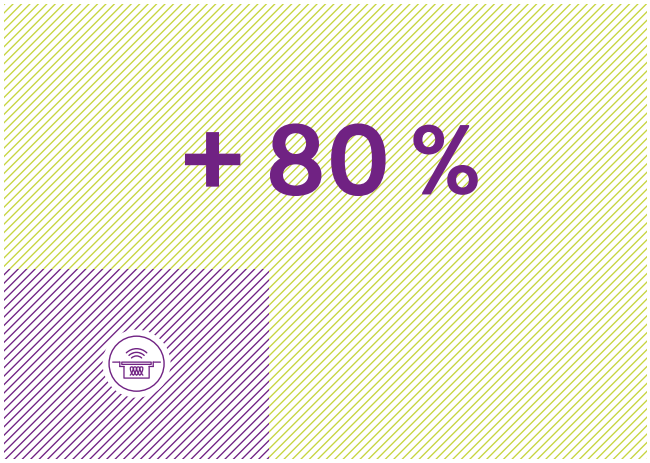
Utilising the potential of flush charging systems

Complex processes, simpler solutions

More complex logistics processes with faster cycles, rising demands on production and accelerated delivery times means intralogistics takes on an increasingly important role. Off-line charging methods slow down the overall process while larger fleets and greater space requirements are necessary to meet the high demand of work orders and satisfy maximum operational readiness.

WCPS offers a safe and simple solution. With the implementation of in-process opportunity charging the status of each vehicle can be maintained throughout the value chain allowing for optimized fleet management and vehicle uptime while smaller fleet sizes with higher utilization result in increased efficiency throughout the entire process.





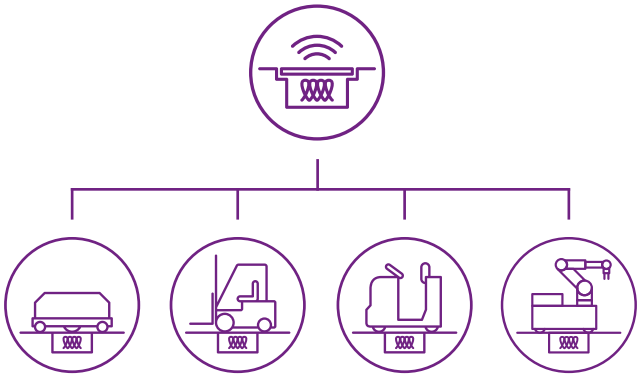
Small space, large gain

Until now, valuable space had to be reserved for dedicated areas to charge driverless transport systems. Additionally, charging stations are often equipped with open electrical contacts for the direct access of the vehicles, a risk for electronics and occupational safety that is often encountered in such restricted areas.

Thanks to the in-ground integration of the compact WCPS units directly into the logistics work flow, dedicated charging zones and related safety hazards are a thing of the past. The WCPS completely replaces these charging zones and frees up previously reserved space providing accessibility and availability for essential value-added use. .

One system, many uses

Different transport systems often share routes and tasks and modern logistics and industrial facilities rarely get by with just one type or class of vehicle. Regardless of the type, battery or weight of the vehicle, all AGVs can be equipped with the Wiferion etaLink 3000 wireless charging module and because the WCPS is designed for such mixed traffic and can be approached from all sides due to its in-ground installation, the integrated system provides maximum flexibility for the entire autonomous fleet



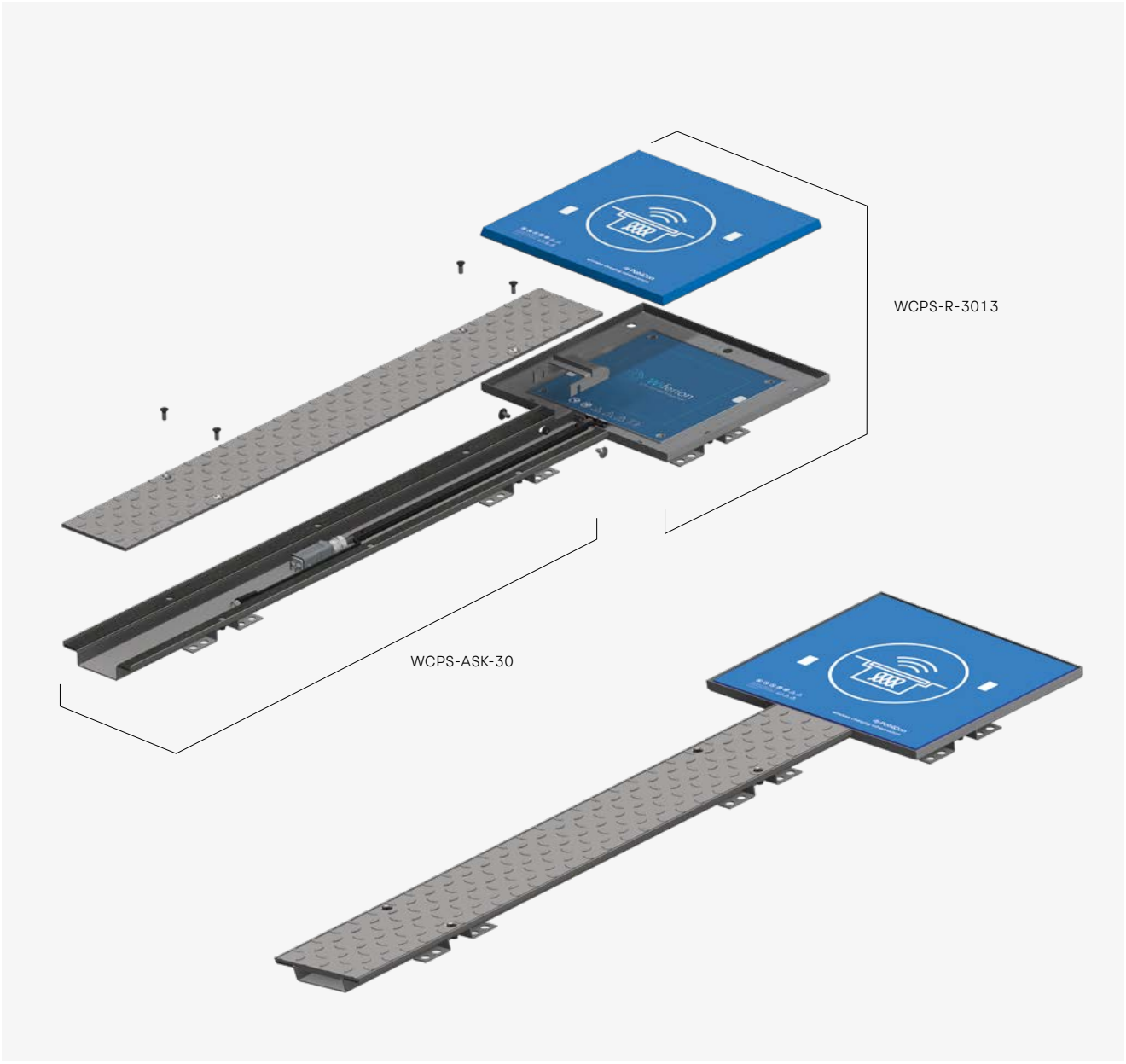
The system at a glance

WCPS is a flexible charging infrastructure for installing contactless charging stations flush with the floor. WCPS combines optimum usability with pioneering charging technology, whether flush with the floor, in a raised floor or as a flat ramp solution.

In-ground system: seamlessly integrated

The screed-flush version consists of two components: the charging protection housing, which accommodates the charging pad, and a cable duct system with heavy-duty covers. Both units are connected via a quick connector. In addition to the straight duct variant, the duct routing can be customised using T and L connectors. The protective cover is made from a specially developed, heavy-duty PCX material. WCPS can be integrated both in new buildings and for retrofit solutions in existing buildings.

The charging pad from Wiferion (etaLINK3000), which is harmonised with the WCPS-R-30, is placed in the charging protection housing at the installation site after installation and commissioned by a specialist.



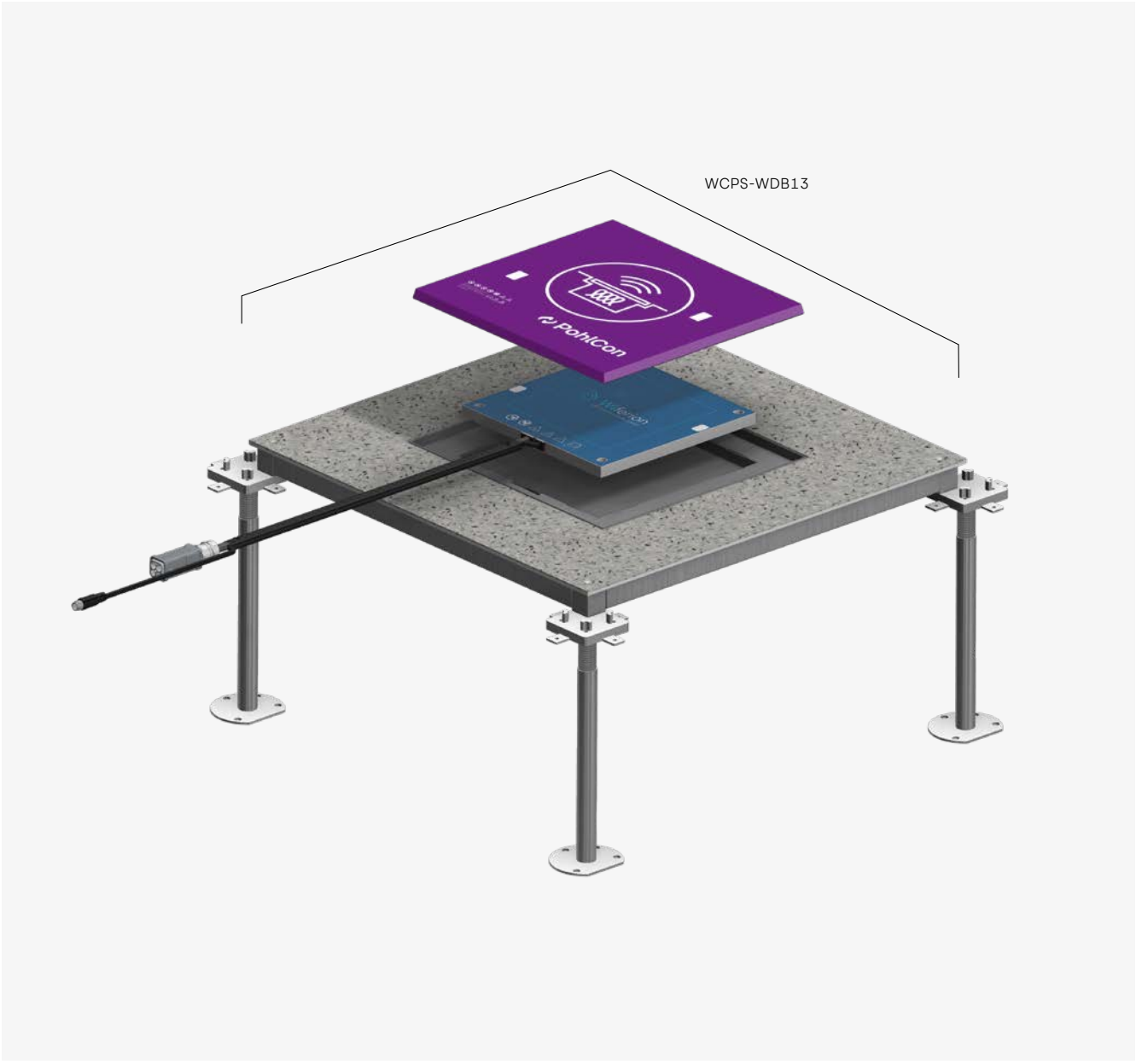
Raised floor solution for cleanrooms

Cleanrooms play a particularly important role in the semiconductor industry. The energy supply is a particular challenge for mobile robots, as the systems have to be operated 24 hours a day, 7 days a week. In order to fully utilise the potential of automated and flexibly plannable material flows in cleanrooms, an intelligently planned and process-reliable energy supply strategy for mobile robots is required.

In order to turn the disadvantages of the current, mostly contact-based energy supply in cleanrooms into advantages for material handling, the charging process must be integrated unobtrusively into the work processes and be subordinate to them. The most suitable technology for this is inductive energy transfer with the appropriate and easy-to-implement charging infrastructure – the WCPS.

We have developed a WCPS raised floor variant so that wireless charging technology can be used in cleanroom environments. It is designed for a static wheel load of 0.5 t (5 kN) and enables safe contactless charging, e.g. of collaborative robots (cobots) in cleanrooms or grey rooms. You do not have to leave the work area to do this.

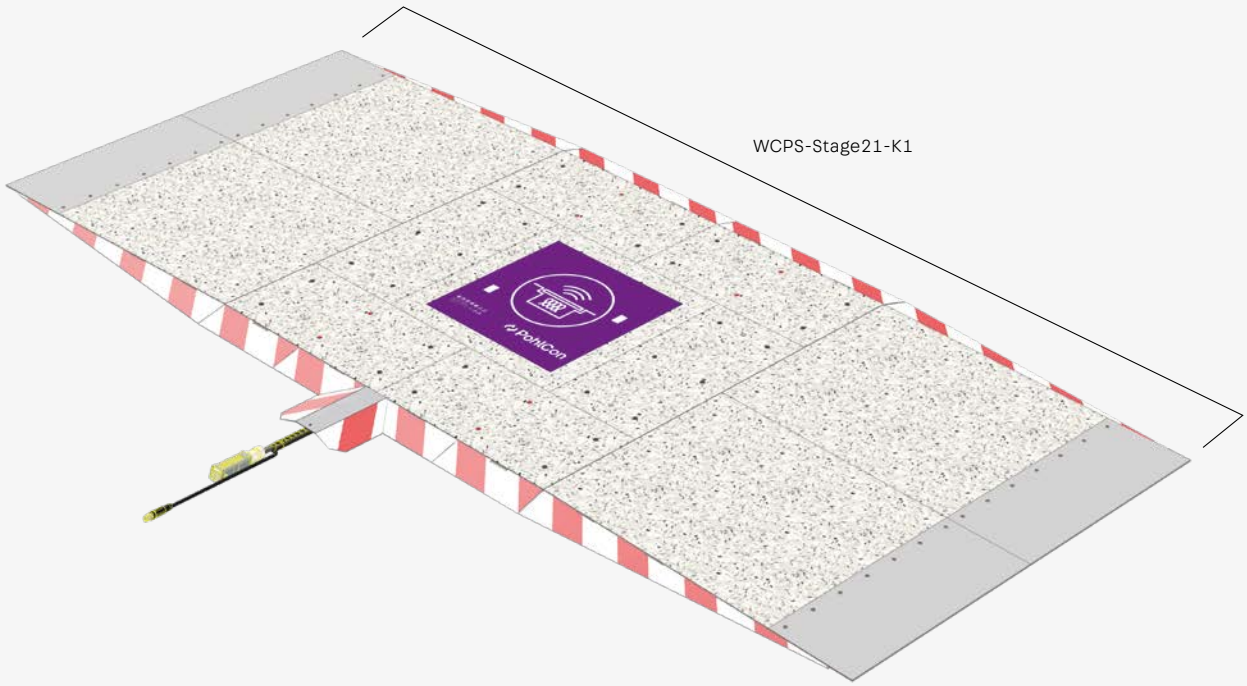
This variant can also demonstrate its strengths in other areas with special hygiene requirements, such as medical research, the food industry or optical and laser technology.
Use in raised floor structures without special requirements is of course also possible.



Drive-on platform solution

In certain hygiene and cleanroom areas, WCPS with contactless charging technology cannot be installed in the floor due to sealed floors or the lack of raised floor structures. The WCPS platform solution was developed for these and other application scenarios in order to enable contactless charging in the process even in such areas with building restrictions. With the drivable on-ground application, we offer an interoperable charging infrastructure solution for wireless charging technology, which ensures smooth work processes, fleet utilisation and material flow.

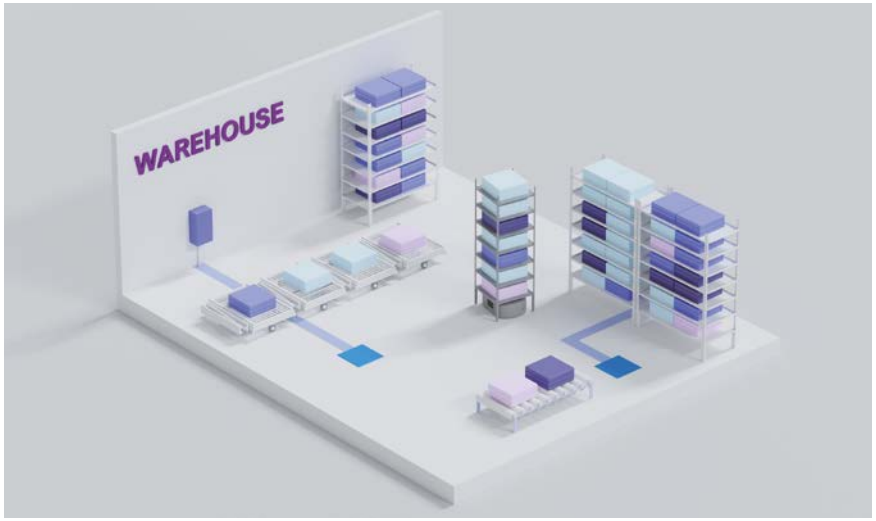
The WCPS platform solution is not limited to clean rooms. The plateau solution can also be used in so-called grey rooms or frequently changing production layouts.
The system consists of various plateau modules, which can be extended as required to accommodate different robot lengths and widths. They have a low installation height of just 21 mm. All four sides of the plateau can optionally be used as entry or exit points. The materials used are approved for use in hygienic and clean rooms (ISO3 clean rooms). The cassette unit with loading pad can be positioned differently within the superstructure.



Example configuration 800 x 2088 mm.
Other configurations on request.

WCPS in application

In the Warehouse



Zero Downtime
Efficient fleet planning is essential to meet the high demands of modern logistics that operate 24 hours a day, 7 days a week.
Intelligently planned charging points ensure a stable high state of charge and maximum fleet utilization and operation of the autonomous fleet avoiding down-timedue to off-line contact based charging.

AGV/AMR | Forklifts | Tugger trains

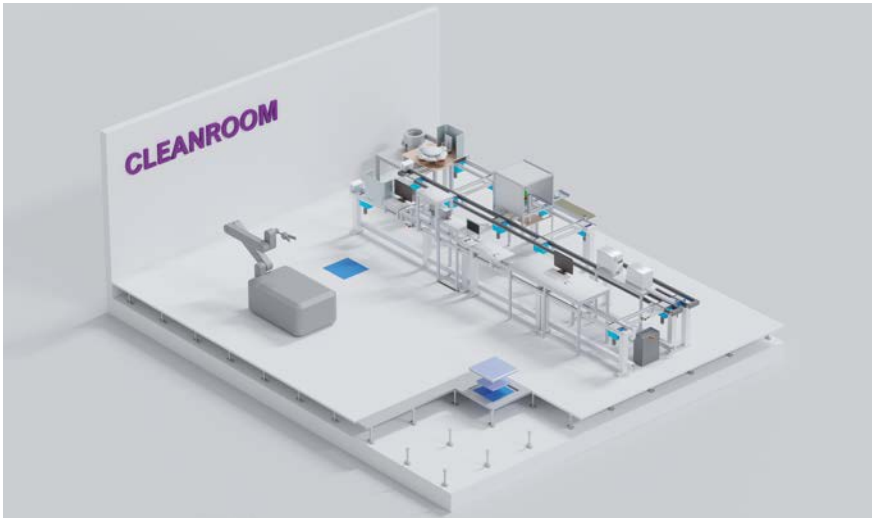
In Production Logistics



Choreographed down to the last detail
As it is in a well choreographed performance, where each participant must be in exactly the right place at the right time, in a state-of-the-art production facility, each autonomous vehicle must be in exactly the right place at the right time, a high standard unforgiving of planning errors. By eliminating restricted areas and detours for off-line charging, each process can be ideally interlocked optimally combining vehicle types with one another to create a smoother, more reliable and safer process.

AGV/AMR | Forklifts | Tugger trains

In the Cleanroom



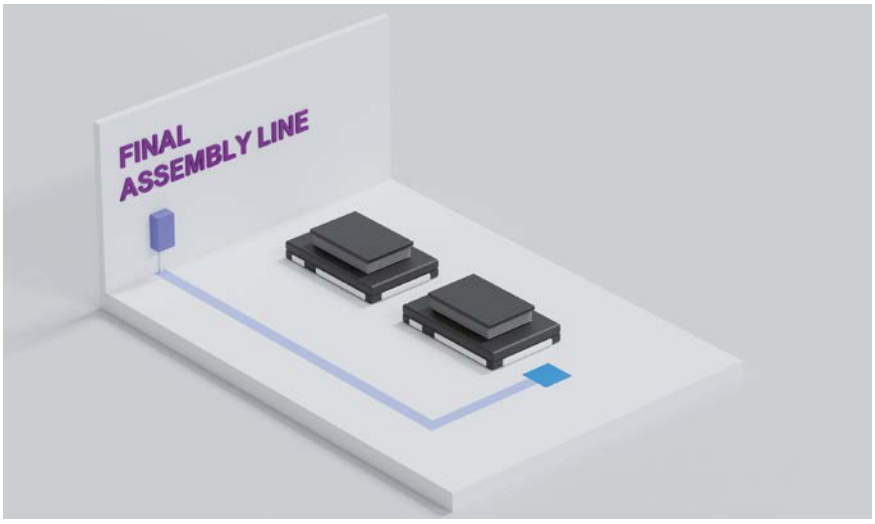
Performance under extreme conditions
Various industries rely on cleanrooms to ensure flawless product quality. Where every speck of dust becomes a risk, unnecessary contact points must be avoided at all costs.
The raised floor version of WCPS is designed specifically for such cleanroom constructions. The seamless integration into these floor constructions facilitates the efficient and safe use of cooperative robots, so-called cobots, for handling sensitive goods.



Cobots

Do you need raised floor solutions in other areas?
Feel free to contact us directly.
wcps@pohlcon.com

In the Assemby Line



A marathon, not a sprint
Production lines utilizing autonomous transport vehicles are dependent on the performance of each vehicle carrying components through the production process. Intelligently placed in-process opportunity charging optimizes battery weight and capacity reducing stress-load while increasing efficiency, performance and production.



AGV/AMR

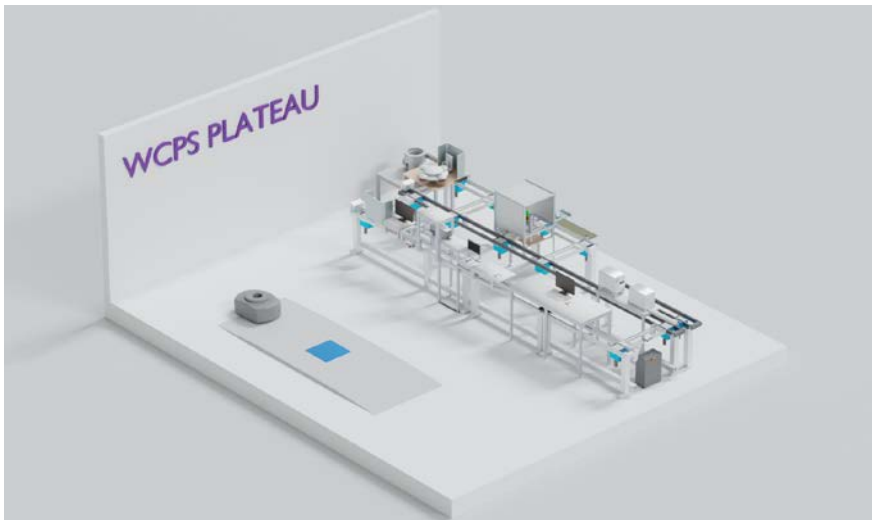


Tugger trains



Forklifts

Platform Solution



Flexible retrofitting
In some production and logistics areas, it is not possible to install the WCPS in-floor or raised floor solution. The specially developed on-floor charging infrastructure does not require any structural intervention in the floor and enables autonomous robots to be charged contactlessly during the work process without having to leave the work area. Particularly in special hygiene areas this platform solution can enable contactless charging despite difficult building structures, particularly in special hygiene sectors such as the food, pharmaceutical, chemical and semiconductor industries.



AGV/AMR



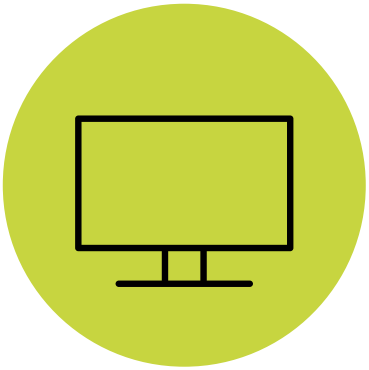
Tugger trains

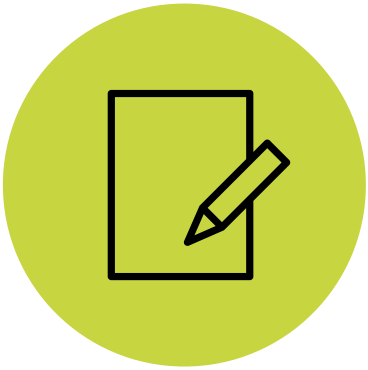
Planning WCPS

From Concept to Charge

Energy management in automation

When the decision is made to automate intralogistics processes by using robots, it is imperative to integrate the appropriate charging methodology as a part of the working process. An efficiently planned energy supply has a large impact on the optimal deployment and availability of the fleet as well as their operational readiness in the workflow. Addressing the power supply of AGVs early and opting for contactless in-ground charging technology unleashes the full potential of your autonomous fleet.





Project planning

The following questions must be clarified before installing a flush-mounted charging infrastructure:

- Are the AGVs equipped with the right charging technology?
- Where are the AGV routes and stopping points?
- How do I achieve high fleet productivity with little downtime?
- Where are the optimum charging points for efficient charging during the work process?
- What is the nature of the floor and where should the duct be laid?

Installation

When the ideal charging points are identified, the floor of existing buildings will be chiseled or milled to the needed measurements or in the case of new construction, corresponding locations will be formed as part of the construction process. The WCPS is then inserted according to the assembly instructions. Our system is adaptable to the local conditions. Thanks to the leveling possibilities, the height of the system is adjustable for a seamless integration into the floor.
Support is available for all project phases, from approval, planning and construction supervision to finished installation.



Checklist for successful WCPS planning

Vehicles
- AGVs are qualified for contactless charging
- Max. Air gap from floor to mobile coil taken into account
- Positioning tolerance taken into account

Workflow
- Routes & cross traffic identified
- Charging points identified
- Planning of energy requirements

Building
- Determination of charging points and wall boxes
- Planning the cable routing (e.g. max. 8 m from the wall box)
- Defining the laying route of the canal
- Consideration of floor conditions

Project management
- Construction supervision by a PohlCon supervisor
- Commissioning of PohlCon-qualified subcontractors

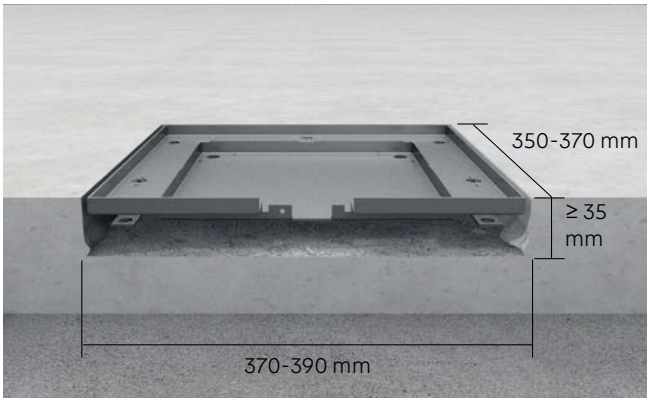
Groundwork on site
- Chiseling, milling or forming of the floor surface
- Eliminating of any bumps

System installation
- Channel pieces cut to final sizes
- Assembly of the components
- Installation in defined area

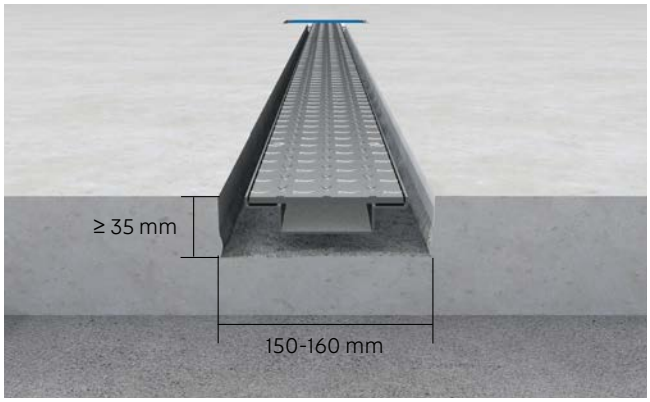
Start-up
- Inserting the charging pad into WCPS
- Connection of the system by a specialist

As a full-service provider with qualified subcontractors, we support you from planning through to installation.
Get in touch with us!
wcps@pohlcon.com

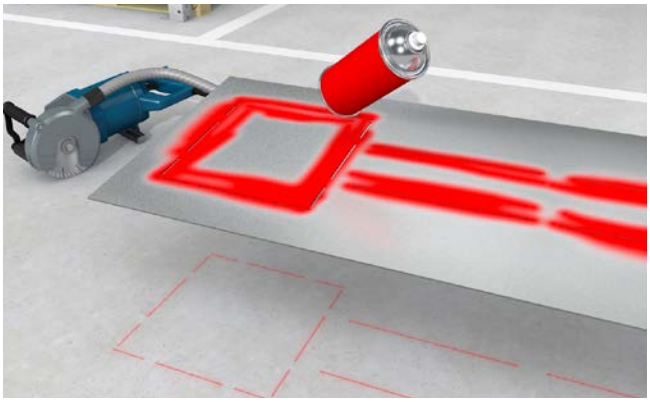
Quick and easy installation



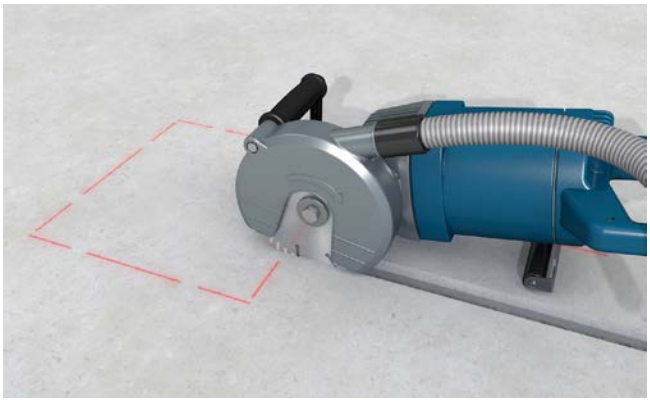
Milling concept cassette unit



Milling concept heavy duty channel



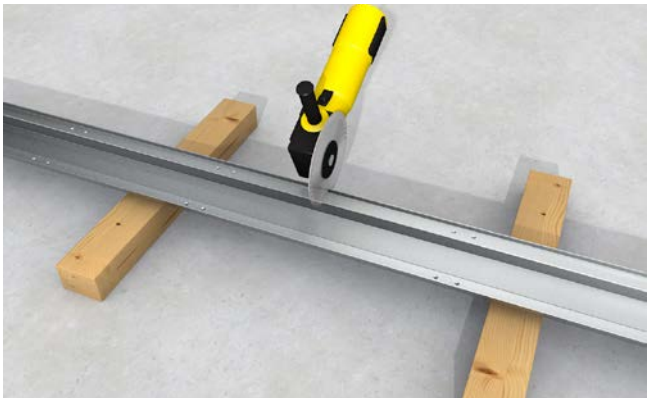
We offer a corresponding template for effortless floor marking of the installation site.



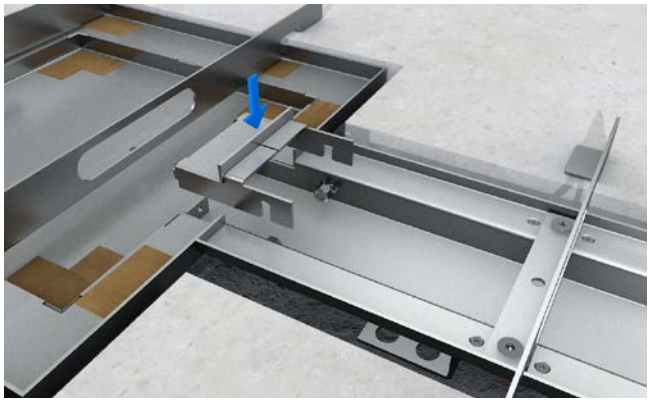
We recommend a joint cutter for the edge zones and a core drill for the corner areas.



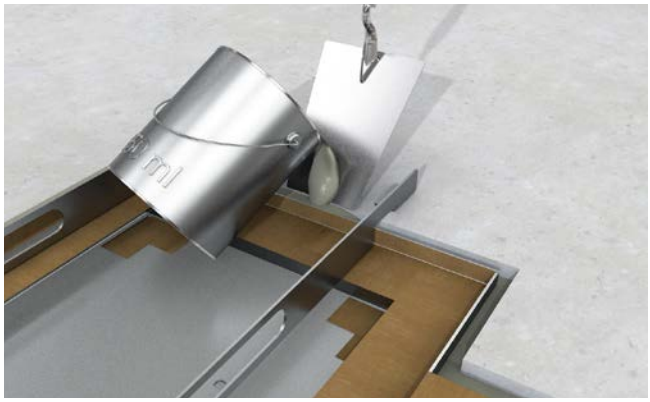
Correct any unevenness with a hand router or a caulking hammer.



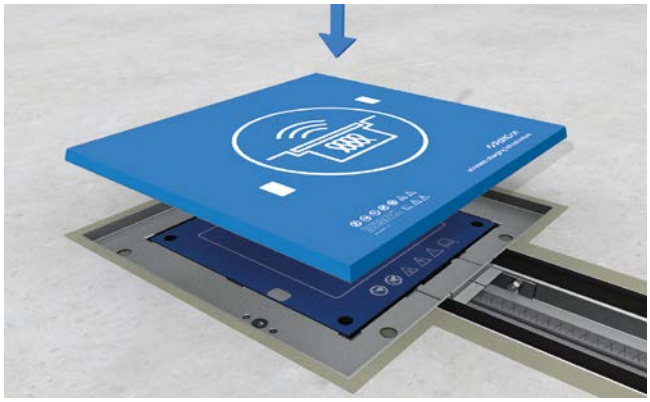
Cut the trunking segments and cover to size and check the fit in the milling zone.



Suspend the pre-assembled cable duct and cassette unit in the milling zone using levelling beams.



To fill the joints/edge zones, we recommend fast-setting and low-shrinkage grouting mortar or an epoxy filler. Observe the curing time of the grout!



Insert the PCX cover into the cassette.



To prevent water or dirt from entering the cassette, apply sealing compound to the joint between the PCX cover and the edge of the cassette.



The fully assembled WCPS including charging pad must now be commissioned by a suitable specialist or the charging pad manufacturer.

Detailed installation instructions can be found at **wcps.pohlcon.com**

If you wish, we can install the system on your premises with an experienced and qualified team. Please contact us!
wcps@pohlcon.com

In-ground system

Technical data

WCPS-R-3013 (Charging protection unit set)

Article numbers Set components	Description	Material	Height mm	Width mm	Length mm
WCPS-KE-L-3013	Charging protection unit cassette	stainless steel	30	350	328
WCPS-D-13-V	Charging protection cover	PCX	13	344	322
WCPS-KESV 30E	Quick connector	stainless steel	28	73	81



WCPS-ASK-30 (Connection heavy-duty duct set)

Article numbers Set components	Description	Material	Height mm	Width mm	Length mm
WCPS-AK 30S	Duct trough	hot-dip galvanised	30	127	3000
WCPS-SKD5-12F	Lid incl. connecting tab	hot-dip galvanised	5	120	1000
WCPS-KEB 30S	End plate	hot-dip galvanised	20	70	75



WCPS-SK-30 (heavy-duty duct set for extension)

Article numbers Set components	Description	Material	Height mm	Width mm	Length mm
WCPS-K 30S	Duct trough	hot-dip galvanised	30	127	3000
WCPS-SKD5-12F	Lid	hot-dip galvanised	5	120	1000
WCPS-KV 30S	Duct connector	hot-dip galvanised	20	2	150



Please note
Accessories are included in the scope of delivery.
A milling template can be ordered separately.

Formed parts & accessories



WCPS-KLV 30
L-Connector



WCPS-KTV 30
T-Connector

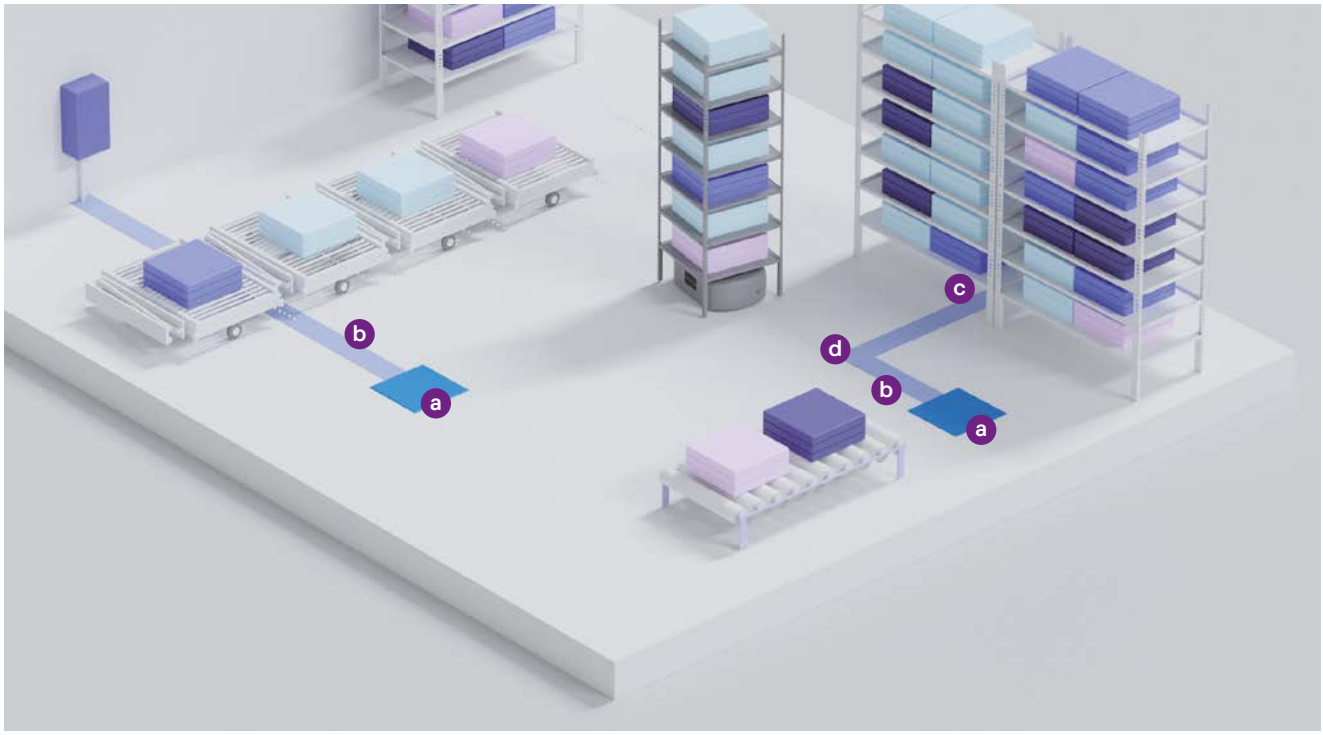
Order example

Two charging systems are to be retrofitted in a hall for a project. These are placed at strategically favourable points at different distances from the nearest supply point. A duct must run around the corners to reach the position of the charging point.

- A total of **two** charging points in the room
- **One** of them is **more than 3 metres away** from the supply point
- **One** cable must be laid at a 90° angle to reach the charging point

Parts list of the required parts:

- a 2 x WCPS-R-3013
- b 2 x WCPS-ASK-30
- c 1 x WCPS-SK-30
- d 1 x WCPS-KLV 30



Raised floor system

Technical data

WCPS-WDB13 (SetLoad protection enclosure)

Article numbers Set components	Description	Material	Height	Width mm	Length mm
WDB13-M1-XXX-YYY-ZZZ	Raised floor system metric	Stainless steel	variabel	600	600
WDB13-Z1-XXX-YYY-ZZZ	Raised floor system imperial	Stainless steel	variabel	24“	24“



The variables x, y and z stand for the height of the raised access floor panel, the diameter and the position of a possible fixing hole.

Whether new build or retrofit: The use of raised access floors from different manufacturers can mean project-specific customisation of the WCPS raised access floor system. Talk to us.

The WCPS raised access floor system is customised and is compatible with almost any existing raised access floor system.

Advantages

- Cover and flooring meet the requirements for ISO class 3 cleanrooms
- Fire protection classification: Bfl-S1
- Floor covering is permanently dissipative
- Stainless steel substructure

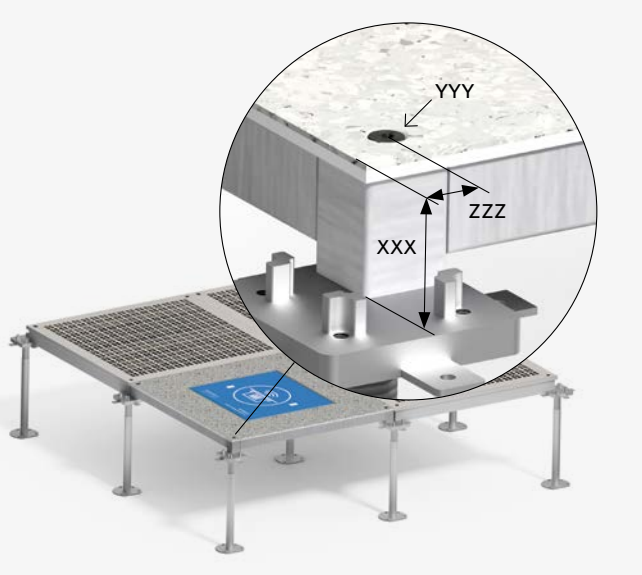
Order example

The customer has an existing raised floor system in his building. We need a drawing of the raised floor modules used.

Espacially:

- Height of the raised floor (XXX) = 44.5 mm
- If required for fastening:
  1. Drilling diameter (YYY) = 07.14 mm
  2. Details Counterbore
- Position of the drillhole (ZZZ) = 21.5 mm

The raised access floor shown has the following product code, which we assign with the information provided:
WDB13-M1-XXX-YYY-ZZZ →
WDB13-M1-445-072-215



On-floor plateau solution

Technical data

WCPS-Stage21-K1

Article numbers Set components	Material	Height mm	Width mm	Length mm
Plateau Type 1	Stainless steel	21	400	200
Plateau Type 2	Stainless steel	21	400	400
Ramp module 3 % gradient	Stainless steel	21	400	644
Cassette plateau incl. PCX cover	Stainless steel	21	400	644



- Red and white trip protection modules included in the scope of delivery
- Loadable up to 500 kg wheel load
- The WCPS platform solution follows a modular concept. Based on the various components, there are various configuration options with regard to the length, width and positioning of the ramps.
- Steel version also possible

Advantages

- Cover and flooring meet the requirements for ISO class 3 cleanrooms
- Fire protection classification: Bfl-S1
- Flooring is permanently dissipative
- Stainless steel substructure

Order example

Currently available configuration:

WCPS-Stage21-K1
L x B x H: 2088 mm x 800 mm x 21 mm

Parts list of the delivered parts:

- a 1 x Cassette plateau
- b 6 x Plateau Type1
- c 4 x Ramp module

incl. trip protection modules



References

Integrated charging for CPM ProFleet vehicles at the Lotus plant in Hethel (UK)



The project

Challanges:
- Line production with limited space
- Limited number of robots in use

Solution:
- Vehicle charging directly in the workflow
- Use of five in-ground systems

Result:
- No downtime for the robots
- Reduction of the charging zone area by 80 %
- Maximum occupational safety

The sports car manufacturer Lotus has the highest standards not only in terms of the outstanding quality and performance of its vehicles, but also in terms of the automation of the production process. The latest expansion at the plant in Hethel in the UK fully follows the vision of a „Smart Factory" and combines the complex and variant-rich assembly process with the use of automated guided vehicles (AGVs). The inno-vative and uncompromising approach to vehicle development also continues with regard to the electrification of their AGV fleet in the manufacturing process.

The goal: Zero downtime for robots
The goal for this project was to integrate the charging process of the innovative ProFleet-11 vehicles from the manufacturer CPM Dürr Group into the work process so smoothly that downtime for the Pro-Fleet-11 vehicles was eliminated. In ad-dition, there were to be no obstacles for the employees and no logistics vehicles on the ground or in the immediate vicinity. In order to avoid these exclusion zones in the production area our WCPS in combination with the etaLink 3000 from Wiferion was the means of choice.

The solution: Targeted use of WCPS with etaLINK 3000
Made of a specially developed PCX material capable of with-standing high static loads and vibrations, the charging cover is extremely resistant to liquids and chemicals yet remains very permeable to the magnetic field and signals from the IrDA communication interfaces providing full charging efficiency without losses. A high fire protection rating (Bfl-S1) coupled with the IP65 rating against liquids and dirt, demonstrate the performance of the WCPS even in challenging environments.

PohlCon, CPM Dürr Group and Wiferion have successfully installed the system in the highly demanding environment of the automotive industry, thus creating the logical link between driverless transport systems, contactless power supply and the associated flush-floor charging infrastructure.

Wireless Charging plateau solution for KUKA automation project



© KUKA

The project

Challenges:
- Installation of the WCPS in-floor or WCPS raised floor solution not possible
- Nevertheless, contactless charging technology via the underbody for the robot type KUKA KMR iiwa

Solution:
- Platform loading infrastructure for surface mounting: stainless steel ramp made of modular systems with dissipative, cleanroom-compatible special covering and PCX cover
- Flat installation height
- Also suitable for hygienic areas and ISO3 cleanrooms

Result:
- Successful implementation of in-process charging despite difficult technical building requirements

If the installation of the WCPS in-floor or WCPS raised floor solution is not possible in certain production and logistics areas, but robots are to be supplied with energy contactlessly via the subfloor in these environments, the WCPS plateau solution plays an important role.

The solution: The WCPS ramp system

The developed, very flat WCPS platform system serves as a protective on-floor charging infrastructure for contactless energy transfer technology. This makes it possible to contactlessly charge autonomous robots in the work process without structural intervention in the floor and without them having to leave the work area. The WCPS plateau system is positioned in or on travel paths so that the AGV can be recharged during short stops.

Fully operational

The WCPS plateau solution was first used by a large American semiconductor manufacturer and now enables contactless charging within the production zones in the process in highly demanding ISO3 cleanrooms. During process-related stops along the semiconductor production line, the robot is reloaded contactlessly without having to leave the work process. This optimises fleet utilisation and minimises non-value-adding empty runs and the volume of traffic.

The result is impressive

- Maximum robot availability thanks to safe energy supply in demanding working environments
- Accessibility and drive-over capability of the charging infrastructure
- Extremely narrow base structure
- Easy expansion of the infrastructure on all routes thanks to modular design
- Ensuring a constant battery level along the working route
- Can be used in cleanrooms up to ISO3 (material classification)
- Load capacity up to 500 kg wheel load
- Length: 2088 mm / Width: 800 mm / Height: max. 21 mm / 3 % gradient

Integrated charging for robots at the Toyota plant in Mjölby (Sweden)



© Toyota Material Handling Europe

The project

Challenges:
- AGV and loading process automation of an island production of forklift components with previously manual movement of work tables between the individual assembly stations

Solution:
- Work tables mounted on robots move autonomously from one workstation to the next
- Loading of the robot as part of the work process thanks to a contactless charging infrastructure

Result:
- No separate loading zone area
- Successful implementation of in-process charging: no time and space lost thanks to WCPS in-floor charging infrastructure
- Highest level of occupational safety

In Mjölby, Sweden, Toyota Material Handling Manufacturing Sweden (TMHMS) produces forklifts of various sizes in a multi-stage assembly process at different stations. At the assembly station for the drive units, automated guided vehicles (AGVs) from the manufacturer EA Mobile Robotics were to be used to move the mobile assembly stations from one workstation to the next. Until now, these work tables had to be moved by hand.
With the help of AGVs, the production line could be automated. In this way, the work processes could be made much more efficient in a very short time.

The goal: no separate charging stations and extra charging times

The task now was to create a suitable charging infrastructure for the robots. A floor-mounted charging station was out of the question, mainly for occupational safety reasons due to the risk of tripping. In addition, there was no space available in the existing assembly environment for a floor-mounted or wall-mounted charging station. Separate charging stations were also to be avoided – above all to save time, which the robots would need both for the charging process itself and for the routes to and from the charging station.The goal was therefore to charge the robot during its downtime, which is part of the work process anyway – i.e., whenever it has reached the next workstation and the employee is doing his work at the mobile work table. After the assembly work is done, the robot drives to the next station, where the next assembler is already waiting, and the vehicle can be recharged.

The solution: WCPS charging infrastructure with etaLINK 3000 charging pad

The optimal solution was offered by the etaLINK 3000 charging pad from Wiferion, embedded in the charging protection housing system of the WCPS charging infrastructure from PohlCon. The advantages are obvious: As an in-ground solution, WCPS offers the highest level of occupational safety while at the same time providing full loading efficiency without losses. No separate loading zones, no extra loading times. The robot loads during the work process. At the same time, the charge level of the AGV remains at a constantly high level, which benefits the lifetime of the batteries.
The charging cover is made of the specially manufactured PCX material, which has a very high resistance and safety against breakage, while at the same time providing excellent permeability for the magnetic field and the communication of the safety electronics.Contactless energy supply and the integrated WCPS charging infrastructure from PohlCon ensure more efficient processes in interaction with automated guided vehicles.

Material handling in cleanrooms: How PohlCon is increasing the efficiency of Fabmatics' high-tech robots with its WCPS contactless charging infrastructure.



© Fabmatics / Sven Claus

The project

Challenges:

- Reloading in semiconductor factories often outside the direct working areas of the robots
- Time lost due to unnecessary journeys to and from the charging station as well as downtimes during the charging process itself

Solution:

- Integration of the loading process into the work process
- Inductive energy transfer with the matching and easy-to-implement WCPS raised floor unit charging infrastructure

Result:

- Uninterruptible and safe power supply for mobile robots in cleanrooms
- Charging „on-the-fly", without restrictions on productivity, traffic and working routes and process reliability
- Thanks to contactless energy transfer, contamination of the cleanroom through material wear is prevented

Fabmatics from Dresden specialises in the automation of handling, transport and storage processes in semiconductor factories. Everything revolves around the safe, precise and particle-free handling of high-quality wafers, the silicon discs on which microchips are manufactured. Fabmatics has developed the HERO®FAB mobile robot, among other things, to realise this challenging transport task.

Current challenge

As production structures in older semiconductor factories were designed for manual material transport, the loading stations for mobile robots often have to be relocated to separate loading zones due to a lack of space. This is inefficient as recharging takes place outside the robots' direct working areas. The frequently contact-based charging processes mean both time lost due to unnecessary journeys to and from the charging station and downtime during the charging process itself. The result: a lower work cycle and therefore less material movement.

Achieving goals with the right charging infrastructure

The aim must be to integrate the charging process unobtrusively into the work processes. The technology suitable for this is inductive energy transfer with the appropriate and easy-to-implement charging infrastructure – the WCPS from PohlCon. With the WCPS raised floor system and the integrated contactless charging technology from Wiferion, it is now possible to realise an uninterrupted and safe energy supply for mobile robots in cleanrooms within the work process.
The WCPS raised floor unit is flexibly integrated into existing cleanroom raised floor systems. In room and energy supply planning, there are now completely new degrees of freedom to focus on the interaction between production systems, material flow planning and robots. With the WCPS, non-value-adding secondary processes such as robot loading can be disregarded, as the WCPS raised floor unit can be installed anywhere in the cleanroom.
Thanks to the in-floor energy supply via the raised floor, charging takes place „on-the-fly", i.e. while the robot is being handled. Without any restrictions in terms of productivity, traffic and working routes or process safety. The combination of inductive energy transfer and the WCPS raised floor system makes it possible to utilise the flexibility of the HERO®FAB to the full. In addition, the contactless energy transfer prevents contamination of the cleanroom due to material wear.



About Wiferion

Efficient wireless power

Wiferion develops and sells energy systems for mobile robotics applications. Building on the etaLINK 3000 inductive charging system in combination with standardized battery modules, the company offers scalable and modular energy systems. Wiferion's battery modules were optimized for use along with wireless etaLINK chargers. In the system network, Wiferion implements optimal charging processes and can thus ensure the best possible and economical use of the energy storage system.

Energy systems built in this way are particularly distinctive:

- robustness and reliability
- high energy and power density
- long service life
- maximum system safety
- maintenance-free

Thanks to the modular concept, Wiferion can meet a wide range of customer requirements quickly and cost-effectively. Since Wiferion cooperates directly with the manufacturers of the battery cells, a consistently high quality of the components is guaranteed in the long term.

etaLINK 3000 wireless charging system
Wiferion offers the first market-ready and 100% contactless wireless charging system for industrial electric vehicles. Through intelligent internal communication, the charging process starts automatically in less than one second as soon as a vehicle reaches the charging point. The etaLINK 3000 system delivers a charging voltage of 15 to 60 volts, impresses with an efficiency of up to 93% and is also maintenance and wear-free.



For more information, see:
www.wiferion.com



About PohlCon

Synergies for your projects

With the combined expertise of our brands PUK, JORDAHL, and H-BAU Technik, we make the world of construction easier. Within the framework of the PohlCon synergy concept, we provide you with a single sales partner for numerous fields of application and diverse product categories. We combine a considerable range of products for building construction and building use.
The personal support of our customers is especially important to us. Throughout Germany, our employees are on-site for you at twelve locations. We support you with bundled competence and a variety of solutions, ensure smooth processes, and save you work, money, and time.

In the PohlCon synergy concept, PUK stands for reliable products and assembly solutions from the field of electrical installation and technical building equipment (TGA). Under the globally successful brand, high-quality cable support and underfloor systems as well as substructures for photovoltaic systems are developed and produced.

The PUK brand has its roots in the PUK Group GmbH & Co. KG, which was created in 1969 by merging the companies Hermann Pohl and Anton Klein and was transferred to PohlCon GmbH in 2022.

Wireless Charging Protection System (WCPS)
Specially designed to meet the requirements of logistics and industry, the WCPS in combination with the contactless charging systems from Wiferion forms a coordinated overall system. We can offer you the right protective enclosure for almost all dimensions of charging systems. If you are planning a solution that you do not see here, please do not hesitate to contact us. Together we will develop a project-specific solution that meets your requirements.



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