



Focus on patients safety



Trends on the high-purity packaging market for pharmaceutical products



Hans J. Michael GmbH

MT-Messtechnik



The key to successfully developing an optimal, high-purity packaging solution is holistic advice by the Sales, Production and Quality Assurance Departments. This is pointed out by packaging and film specialist Bischof + Klein.

Within the pharmaceutical industry, demand for high-purity packaging produced under clean room conditions and under consideration of all material conformities is increasing continuously. Focus is now being placed on the patient and his needs, which vary depending on age, origin and gender. Pharmaceutical products are therefore much more diversified today. This results in new requirements on the pharmaceutical and the drug delivery form, which also particularly affects the packaging. „Off-the-peg“ packaging can no longer be used, since all aspects - whether these be dimensions, the materials which are used and their conformities, particle contamination or smaller batch sizes - have to be taken into consideration. Further requirements on the supplier, such as e.g. a change control policy which is lived out or an established internal and external auditing system, arise from the ISO 9001 and ISO 15378 certification which is required. Close co-

operation between the pharmaceutical company and the packaging producer is vitally necessary to cover all of these points and develop the optimally adapted packaging.

In a unique combination, B+K clean room experts in the Sales, Production and Quality Assurance departments holistically support pharmaceutical customers by offering them the appropriate solutions for all aspects and requirements or developing these tailor-made. Added to this is a globally operating network of sales employees, who advise the customer's international sites and thus round off customer support. B+K's broad CleanFlex® packaging product portfolio rounds off this concept. B+K supplies the pharmaceutical customers' entire supply chain, from LDPE flat bags for active substances and SteriBags for sterilising auxiliary items such as rubber stoppers or tools up to and including complex containment systems which are used for closed-loop product or auxiliary item transfer.

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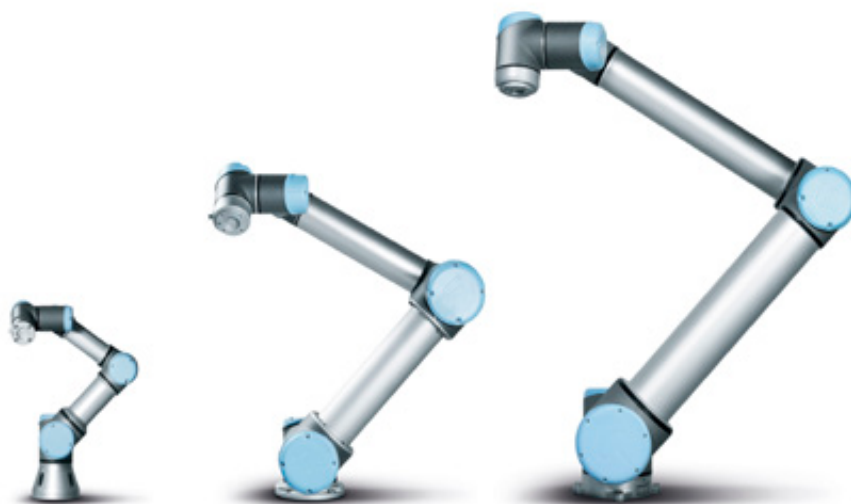
Safe, collaborative and clean

Universal Robots now certified for applications in cleanroom environments

Universal Robots' lightweight collaborative robot arms can now be implemented in controlled environments: After successful tests in accordance with VDI 2083 Part 9.1, the international industrial guideline concerning the various functions and measures of cleanroom technologies, the robot arms and the accompanying controller boxes made by the Danish pioneer in human-robot collaboration have been awarded the certification for cleanroom applications by the international certification organization TÜV SÜD. In compliance with the industrial norm ISO 14644-1, the robots UR3, UR5 and UR10 are now authorized for the global use in cleanroom environments of the cleanroom class ISO 5. The controller box, in turn, has received authorization for cleanroom class ISO 6.

"This certification will pave the way for a great number of new application opportunities for our robots", says Esben H. Østergaard, CTO and co-founder of Universal Robots. "We have taken another important step towards making our affordable and user-friendly collaborative robots accessible for companies of all industries and sizes."

TÜV SÜD's test seals for Universal Robots' robotic arms and controller boxes now allow the deployment of UR robots in areas where aspects regarding purity and hygiene - such as particle emission, easy-to-clean surfaces and extreme reliability - are decisive criteria for precise automation pro-



cesses. "UR robots can now increasingly be deployed in laboratory automation as well as throughout the medical and pharmaceutical sectors. There is also a significant variety of cleanroom applications in the food industry, the production of microchips and semiconductors as well as in the electrical and optoelectronic industries that can now implement our robots", says Østergaard.

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Dear subscribers,

autumn is coming up and we are already preparing for our participation in the Cleanzone Fair in Frankfurt this November 9 - 11 November. We hope to see you there and to meet you on our booth (No. J23).

With this edition we offer you quite a bit of information and some brand new articles and we hope you can use it.

Our newly installed search-and-find-function in our buyer's guide is broadly acclaimed and companies are increasingly taking benefit of the possibility to enregister as premium client with a lot of advantages. Are you interested as well? Then get in touch...

Yours sincerely

Reinhold Schuster



Sabrina Lenz, Manager Corporate Responsibility in the CWS-boco Group



CWS-boco Wäscherei

Committed to hygiene

CWS-boco publishes its intermediate sustainability report for 2016

In its latest intermediate sustainability report, the provider of textile rental services for workwear and washroom hygiene is once again offering an insight into the environmental record of its value-added chain. For example, intelligent route optimisation made it possible to cut the number of kilometres travelled by 1.2 million. The procurement of organic cotton for article production rose by 12 tonnes, representing an increase of 59 per cent. In addition, 2,567 used washroom dispensers were repaired as opposed to being thrown away in 2015.

Under the title, “Handle with Care”, the CWS-boco Group publishes a comprehensive sustainability report in line with the international reporting standard GRI 4 every two years. The report includes the indicators from the nine biggest national subsidiaries. The intermediate report is now available to read. “Our reports and international indicators offer readers an insight into this unknown market. We want to demonstrate that taking a responsible approach, particularly in energy-intensive sectors, can result in great successes,” explained Sabrina Lenz, Manager Corporate Responsibility in the CWS-boco Group.

With a great reputation comes great responsibility

In 2015, CWS-boco washed a total of 2,627 tonnes of textiles, and this figure is growing all the time. That means that CWS-boco delivers more than 124 million items to its customers each year. Despite this large volume and the challenges which come with it, CWS-boco was still able to optimise its detergent consumption in the mat, flat linen and cleanroom sectors.

Less is more

There are 1,596 service drivers out on the roads for CWS-boco international. They collect and return rental textiles, supply washroom products and deliver dust control mats. The efficiency of its logistics is central to a company’s sustainable success. Drivers at CWS-boco have been assisted by the “Optimize My Day” (OMD) software since 2012. Based on the tasks for the day ahead, the app calculates the shortest and most environmentally friendly route. Thanks to this initiative, 1.2 million kilometres fewer were driven in 2015, which equates to 144,000 litres of petrol. In 2015, 79 per cent of all drivers used the OMD app, 8 per cent higher than in the previous year.

Reuse: old becomes new

CWS-boco takes a stand against our “throw-away society” by using reusable towel rolls. The upcycling centre in Diepoldsau, Switzerland, services towel dispensers in need of repair. Each month, 2,567 dispensers are repaired here and thus saved from the scrap heap.

Fair standards: a social and ecological obligation

In 2014, CWS-boco introduced its Code of Conduct for suppliers, which regulates the fair treatment of employees. Today, CWS-boco procures 96 per cent of its purchasing volume from partners who have signed up to the principles of this code. In 2016, the figure is set to rise to 99 per cent. The “boco Profi Line” is further proof of CWS-boco’s commitment to fairness: The collection is produced using cotton from Fairtrade-certified farm cooperatives in Asia and Africa. The procurement of organic cotton for product production rose by 12 tonnes in 2015 to a total of 32 tonnes. This corresponds to an increase of 59 per cent.



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M+W Group presents an Integrated Waste Program for Semiconductor Facilities

The global high-tech engineering and construction company M+W Group has presented current and future trends, as well as state of the art solutions, for an integrated approach to waste reduction in order to improve the sustainability of semiconductor fabs. The presentation was held at the High-Tech Facility International Forum 2016 in Taipei on 8th September in conjunction with the Semicon Taiwan trade show.

Having successfully contributed to the forum's widely recognized meetings over the past two years M+W Group was also invited to this year's expert meeting on high-tech facilities. There, M+W Group leading experts presented the company's solutions for an Integrated Waste Reduction Program for Semiconductor Facilities. It was emphasized that minimization of waste produced in semiconductor wafer fabs and other high-tech facilities begins during the buildings' design and must focus on both the construction as well as the operational phases.

Drawing on its globally recognized experience, M+W Group outlined how sustainability in a semiconductor wafer fab can best be evaluated, monitored and optimized through the application of a holistic Life Cycle Assessment (LCA) tool that provides systematic evaluation of all environmental aspects of a wafer fab during their construction, operational lifetime and decommissioning.

Herbert Blaschitz, CEO of M+W Group's Global Business Unit Advanced Technology Facilities, said "There is an ever-increasing interest in the industry to implement fully sustainable semiconductor wafer fab solutions. We at M+W Group have broad and successful experience in this field and are proud to be at the forefront of this development."

About the High-Tech Facility International Forum:

As part of SEMICON Taiwan the High-Tech Facility International Forum 2016 focuses on cost-efficient waste reduction for sustainable facilities. The forum builds a platform for major players in the high tech facility community to discuss latest trends, challenges and outstanding solutions for the Taiwanese high-tech industry. Other members besides M+W Group include TSMC, UMC (wafer fab foundries for Integrated Circuits (IC)), Macronix, Inotera (IC memory manufacturers), AUO, Chimei Innolux (flat panel display manufacturers), ASE, SPIL (IC assembly), Epistar (LED Manufacturer) and Motech (PV module manufacturer).

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CWS-boco increases its market shares with acquisitions in the mat and workwear development sectors

The CWS-boco Group continues to grow: The company takes over the mat business of the Bavarian company AMM GmbH and the insolvent corporate fashion provider Modeinstitut Berlin GmbH with immediate effect. With these acquisitions in the dust control mat and workwear development sectors, the company will further expand its shares and expertise on the German market. Furthermore, this move will serve to consolidate its two business areas of hygiene solutions and workwear as a rental service.

CWS-boco is among the leading providers on the German dust control mat market. CWS-boco offers companies a full mat service, including cleaning, collection and supply. With effect from 1st September, CWS-boco has taken over the mat business and the customer base of AMM GmbH based in the Bavarian town of Langenzenn. All 26 employees of the dust control mat division have also been taken on by CWS-boco. "Thanks to this acquisition, we complement our share of this segment on the market in Southern Germany. This represents an investment into the future viability of the company," stressed Max Teichner, CEO of the CWS-boco Group. AMM GmbH is one of the biggest operations in Germany specialising in carpet cleaning and washing as well as upholstery, mattress and leather cleaning.

CWS-boco develops and produces workwear itself via its own company CWS-boco Supply Chain Management GmbH, which acquired the bankrupt Modeinstitut Berlin GmbH on 1st September. The established workwear provider Modeinstitut Berlin boasts many years of expertise in the development and sale of workwear in the corporate business fashion sector and represents a valuable new asset for the CWS-boco Group. Modeinstitut Berlin offers a wide range of workwear collections. The takeover will have no impact on existing

customers. The former managing director, Nadine Thomas, will remain the contact partner for customers and will continue to manage operations in Berlin. The same also applies for the majority of the company's employees. "We are delighted that with the acquisition of this well-respected company we have been able to include a specialist in our Group which matches our range of services perfectly," explained Max Teichner.



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Solar panels on the roof of the Gerresheimer Triveni plant.

Solar roof for Gerresheimer/Triveni Plant

Gerresheimer banks on photovoltaics in Kundli, India

Being the leading global partner for the pharmaceutical and healthcare industries, Gerresheimer is committed to sustainability and environmental protection. The majority of Triveni Polymers in Kundli (India) belongs to the Gerresheimer Group since 2012. In order to meet its environmental and sustainability objectives the company put a photovoltaic system into operation to enable the production of pharmaceutical plastic packaging with environmental-friendly energy.

“We are proud to contribute to a “greener planet. Sustainability is one of our company’s priority objectives, said Subodh Gupta, Managing Director at Triveni and the person in charge of the whole project. Subodh is also responsible for energy costs,”

As a start 80 solar panels have been installed with a capacity of 20 KW. In addition to the environment benefits Triveni will significantly reduce the monthly electricity expenses.

In the future Triveni is planning to install more panels and the target is to reach a level where at least 3 % of the total requirement of electricity is met by the use of solar energy. Gerresheimer/Triveni is aiming for 100 KW of solar power in the future.

With clearly defined objectives, the entire Gerresheimer Group is taking part in one of the world’s biggest environmental initiatives, the Carbon Disclosure Project. This non-profit organization was founded in London, UK. It checks and monitors greenhouse emissions of companies on a worldwide basis and also identifies the strategies companies implement in response to climate change.



A glimpse inside the clean room of the Triveni plant.



New klericide pressurised spray system from Ecolab Life Sciences helps ensure efficacy, while saving time and money

Ecolab Life Sciences, a leading global provider of products and services for microbial contamination control in the cleanroom environment, has launched the Klericide Pressurised Spray System for use in cleanrooms to help ensure efficacy.

The fully autoclavable, stainless steel system incorporates a platinum cured silicone with double internal steel braided hose and is suitable for all grades of cleanroom. It uses a quick-fit lance and a range of versatile nozzle options designed to deliver a controlled fine layer of disinfectant or detergent fluid onto all surfaces, including hard-to-reach areas, equipment and structures without excess run-off.

The new system saves both contamination control process time and money by significantly reducing the amount of fluid used whilst ensuring there is no compromise to efficacy.

In tests to assess the relative efficiencies of the total process time, including dry or wet wiping using a flat mop head, the Klericide Pressurised Spray System followed by dry wiping showed a process efficiency saving of up to 56 per cent when compared to the classic triple bucket system technique.*

For the biocide application phase only, the process time saving with the system in comparison to a triple bucket system increased to 70 percent.*

In addition, because of the need to dispose of the fluid in the rinse bucket and active disinfectant solution after use of a standard bucket system, regardless of the amount actually applied to the surface, the Klericide Pressurised Spray System can significantly reduce the quantity of disinfection solution required and the amount of waste produced.

A series of controlled tests* carried out by Ecolab Life Sciences demonstrated that the total fluid consumption using the Klericide

Pressurised Spray System was less than half when compared to using a triple bucket.

James Tucker, Commercial Director at Life Sciences, Ecolab says: 'Testing clearly demonstrates that the Klericide Pressurised Spray System offers significant efficiencies over traditional large surface disinfection techniques, while ensuring excellent results by creating an even surface coverage of fluid, even in hard-to-reach areas. This is particularly true for older cleanrooms which were not designed for optimal disinfection processes and often have difficult and time-consuming surfaces to manage.'

The Klericide Pressurised Spray System operates either by being connected to a compressed air supply or independently, and a stable wheeled 'dolly' makes it easy to manoeuvre on wheels, which are of cleanroom standard. It is simple to dismantle and fits comfortably in an autoclave trolley.

Mr Tucker adds: 'Customers are under increasing pressure to do more with fewer resources so this new system has been designed to provide a cost-efficient cleaning regime, which delivers contamination control without compromise.'



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ILMAC, Switzerland's most important specialist trade fair for process and laboratory technology, came to an end on Friday, 23 September 2016. In the course of the four-day event, more than 12 000 professional visitors obtained information about product innovations, technological applications and process solutions. The issue of "Industrie 4.0", a topical one affecting the entire sector, was the central subject dealt with at the ILMAC Forum and was examined from both the theoretical and practical perspectives. The "Lunch & Learn" sessions, in particular, organised by the Swiss Chemical Society aroused intense interest amongst the audience.

ILMAC 2016 a convincing industry meeting point and specialist trade fair for process and laboratory technology

The 20th ILMAC, held from 20 to 23 September 2016 at Messe Basel, has been an encouraging event. The issue of "Industrie 4.0" has definitely arrived in process and laboratory technology and will keep on exercising the specialists for a long time to come. The sector is, however, displaying dynamism and interest in facing up to the current challenges of automation and digitisation. The 12 000 and more specialists from the pharmaceutical, chemical, biotechnology, cosmetics, food and drinks segments attended their "in-house trade fair" at the very heart of the life science cluster in the Basel region. On the final day of the trade fair, high-ranking representatives from government and the chemical industry in the Upper Rhine region visited ILMAC in person and were convinced by what they experienced there.

Mirroring the market

For the first time, the stands of the exhibitors presenting process and laboratory

technology were interspersed. In that way, ILMAC reflected the trend of technological applications moving closer to one another on the market and the holistic planning of processes. That concept turned out to be successful, and the trade fair came in for praise on account of its clear arrangement and top quality.

First-hand information

Visitors were able to use the ILMAC Forum, the Lunch & Learn sessions, the LabTec 4.0 and the Cleanroom Control Forum to benefit from the practical experience and valuable knowledge of successful business people and experts from research, development and education and to experience live demonstra-

Networking event well attended

The networking event held on the Wednesday, in conjunction with longer opening

hours, encouraged many visitors, including expats, who would not have been familiar with the trade fair from their training days, to spend the evening at ILMAC after finishing work.

The military as an innovation driver in the kitchen

The Swiss Armed Forces Culinary Team surprised the ILMAC visitors with the performance they put on. The innovative Cooks' Training Corps demonstrated that chemical processes also play a role in the kitchen and distributed samples of molecular military cuisine.

24th - 27th Sept. 2019: ILMAC 2019, Basel (CH)

Messe Basel
CH Basel

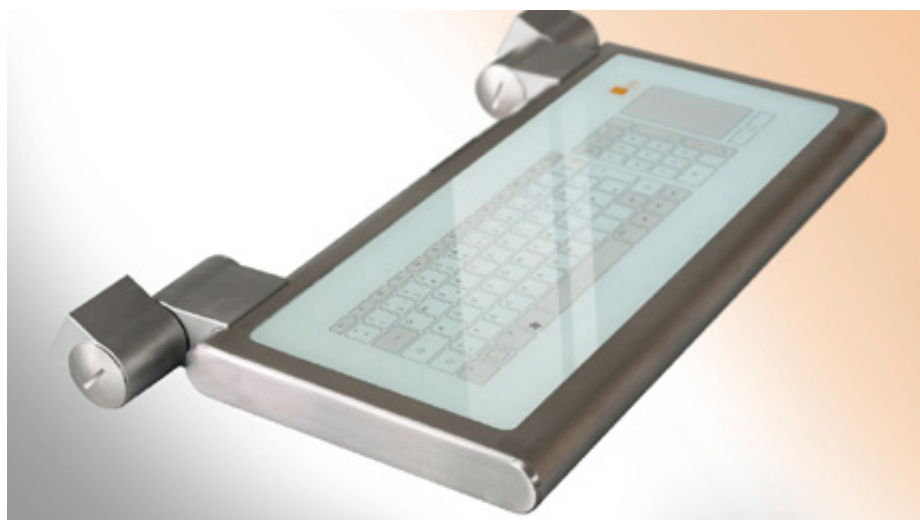
Industrial keyboards used in cleanrooms have to satisfy highly diverse requirements. In addition to being easy to clean and resistant to disinfectants and cleaning agents, they should also offer user-friendly operation. Another increasingly important aspect these days is the topic of ergonomics.

Industrial keyboards conforming to protection class IP65 and integration into the working environment

Die Systec & Solutions Edelstahl-tastaturen, neigbar mittels Drehmomentscharnier, erfüllen all diese Anforderungen und eignen sich optimal für einen Einsatz unter GMP-Bedingungen und im Reinraum.

Die Tastaturen werden kantenfrei in ein hochwertiges Edelstahlgehäuse integriert. Dabei besteht die Oberfläche wahlweise aus Glas oder Folie. Beide Versionen bilden eine geschlossene, leicht zu reinigende Oberfläche. Die Glastastaturen sind mit kapazitiven Tasten und einer akustischen Rückmeldung ausgestattet. Hierbei bestätigt ein Signal die erfolgreiche Betätigung der Tasten. Die Folientastaturen verfügen über Kurzhubtasten mit taktile Rückmeldung. Sowohl die Glas- als auch die Folientastaturen sind mit Reinraumhandschuhen bedienbar und bieten eine ergonomische Fingerführung. Das Layout der Tastaturen ist in verschiedenen Sprachen erhältlich.

Keyboards from Systec & Solutions can be individually integrated into the production environment (similar to illustration)



Double torque hinge for wall mounting



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Attachment to Systec & Solutions HMI system using torque hinge and additional support elements - for guaranteed stability



Desktop version in combination with a Systec & Solutions HMI system



Attachment to Systec & Solutions HMI system using torque hinge - with internal cable routing



Integrated into the TROLLEY COMPACT mobile workstation



Integrated into the TROLLEY MAXI mobile workstation

Suitable for Various Pipe Diameters

Modular In-Line Flow Meter for Compressed Air and Gases

The compact EE741 in-line flow meter from E+E Elektronik measures accurately the consumption of compressed air and technical gases. Thanks to the modular design, one and the same transmitter can be used for three different pipe diameters (DN15, DN20, DN25). To do so, the transmitter is simply combined with the appropriate gauge mounting block. The thermal hot-film anemometer measurement principle stands for best long-term stability and short response time.

Easy installation and low maintenance make the EE741 ideal for cost-effective consumption measurement of compressed air and technical gases such as nitrogen, oxygen, helium, CO₂ or argon. The flow meter can accurately monitor standard volume flow, mass flow, standard flow, temperature as well as the consumption of air or gas.

In combination with the corresponding gauge mounting block the transmitter can be employed for pipe diameters DN15, DN20 or DN25. The gauge mounting block is permanently mounted at an appropriate location of the pipeline. The transmitter, with its robust stainless steel sensing head can be installed and removed without disassembling the pipework and with only a short interruption of the air or gas flow. The gauge mounting block features a sealing plug for operation without transmitter. This construction facilitates the periodical calibration of the transmitter and its temporary use at several measuring points.

The EE741 employs the well proven E+E thin-film sensor, which operates on the thermal anemometer principle and stands out by excellent long-term stability and short response time. The thin-film sensor is highly insensitive to contamination and the operation principle eliminates the need for additional pressure or temperature compensation. The multi-point factory adjustment at 7 bar (102 psi), which is the common pressure of the compressed air supply, leads to best accuracy even in the lower measuring range. By this, EE741 can be optimally employed for leak detection.

The instantaneous measured values or the total consumption can be displayed on the optional state-of-the-art display. For optimum readability independent from the transmitter location, the display can be rotated in 90° increments. All the settings for commissioning can be performed with the push buttons and the display. The EE741 versions without display can be configured via USB interface with the free EE-PCS product configuration software.

One particularly useful feature of the EE741 is the integrated consumption meter which enables cost-effective consumption monitoring without an additional datalogger.

The EE741 flow meter can be easily integrated in any measurement and monitoring chain. It features a scalable analogue output (4-20 mA / 0-20 mA), two switch outputs and a pulse output. A Modbus RTU or M-Bus (Meter-Bus) interface makes the device future-proof and ready for Industry 4.0.



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Compact EE741 in-line flow meter. (Photo: E+E Elektronik GmbH)



Thanks to the modular design, the EE741 is suitable for three different pipe diameters. (Photo: E+E Elektronik GmbH)



Image Rights: Systec & Solutions GmbH

Version 2.0 of the TROLLEY LIGHT INDUCTIVE with inductive charging technology is now available with even more powerful charging electronics.

TROLLEY LIGHT INDUCTIVE 2.0

– new efficient charging technology

It permits the wireless charging of both high-efficiency Li-ion batteries with an extra-long service life and conventional AGM batteries. With the new inductive energy transmission method, the integrated batteries are charged twice as fast as with the technology previously employed. This is achieved by doubling the maximum wireless transmission capacity.

In particular, the compact TROLLEY LIGHT INDUCTIVE satisfies the demand for minimal space requirement coupled with the greatest possible flexibility and modularity. The sophisticated integration concept of the TROLLEY LIGHT INDUCTIVE for use in cleanrooms permits completely wireless 24/7 operation of the HMI system mounted on the trolley. For this purpose, inductive docking stations are provided at each of the most important workstations in the cleanroom, where they can be used as required by the trolleys as a source of power for charging the battery

- Sophisticated integration concept with wireless energy transmission for 24/7 operation
- Charging stations permit wireless energy transmission; versions available for both surface and flush wall-mounting
- Supports for various HMIs
- Optional height adjustment
- Casing made of stainless steel 1.4301, protection class IP65



Advantages of TROLLEY LIGHT INDUCTIVE:

- Completely wireless operation for energy and data transmission
- Different battery technologies – Li-ion or AGM
- Compact, mobile system for confined spaces in cleanrooms
- Integrated WLAN for wireless operation

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