

Güdel roboClean

Everything spick and span

New process for surface treatment

Langenthal, 21st October 2014. Güdel has launched a new process for surface treatment. Called roboClean, it is a robot- and laser-based solution that opens up new applications for cleaning, stripping and preparing. This new process is universal, yet highly versatile.

The conventional treatment of industrial surfaces usually involves either abrasive blasting or a wet-chemical process. Using either compressed air or a blast wheel, sand is employed as the abrasive or refrigerated carbon dioxide (in the form of dry ice) is blasted onto the surfaces.

Some of the disadvantages of these methods are the risk of damage to the surface, the high consumption of energy and the high space requirements. Moreover, considerable amounts of waste may be produced.

Light use of resources, environment-friendly and efficient due to laser technology

By using laser technology, Güdel avoids the disadvantages of conventional, abrasive surface finishing. Thanks to the accurate beam guidance and close adhesion to the geometric profiles, the ablation depth

can be controlled very precisely. Güdel's new system is especially suitable for cleaning tools and moulds, for stripping coatings such as paint and rust and for preparing surfaces for subsequent finishing. Moreover, it can be employed in other applications in the following fields: wood, plastics, metal, stone, glass, CFRP, pharmaceuticals, foodstuffs and many others.

The advantages are obvious: the processing time is greatly reduced, the base material incurs no damage and the standard of finish is very high.

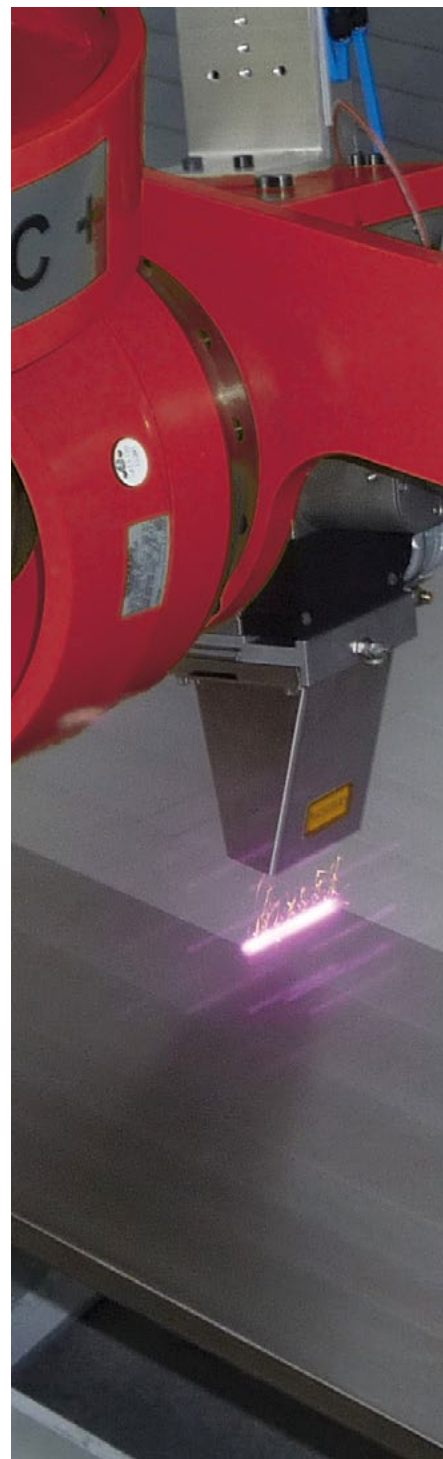
This method is particularly friendly to the environment. The equipment generates very low noise emissions and uses markedly less energy, while the workplace environment is not contaminated, since no chemicals are used. In addition, no flying cuttings are released and no waste is produced. The laser technology employed causes merely a few particles of residue, and these can be completely collected, sorted according to material, and disposed of with no negative environmental impact.

Easy to integrate into the production process

Güdel's new turnkey system is a complete solution consisting of a scalable four- to six-axis portal gantry robot. Repeatability is well under one millimetre. The roboClean can be operated either manually or automatically and is easily and quickly integrated into the production process. The working envelope – of between 1 and 360 m³ – can be matched to the customer's exact requirements.

The laser beam is scanned in order to keep its contact time as short as possible, which ensures that the substrate remains cold and incurs no damage. The advantages of this technology are also evident at high temperatures or in poorly-accessible areas.

It is also possible to treat only certain areas, rather than the whole piece. In such cases, the accuracy of the equipment means that it is no longer necessary to perform the time-consuming operation of masking off the areas that are not being treated. The piece's full data can be taken from the CAD system and programmed offline.



Güdel Group AG

The Güdel Group is a manufacturer of high-precision machine components and provider of sophisticated automation solutions. Its spectrum of products ranges from linear guideways, racks, pinions and drives right through to linear axes and gantry robots. Güdel assembles its products into systems with a high degree of control intelligence and complete plant installations, which can be used in the automotive, tire, metal, rail, intra-logistics, pharmaceutical, renewable energy, wood, and aerospace industries. Güdel's technology is characterized by its innovation, quality and modularity. The Güdel Group has a workforce of approximately 1,100 employees worldwide in over 30 locations. The Group has been owned by the same family since its foundation more than 60 years ago. The Güdel Group has its headquarters in Switzerland.

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