
Being Put Perfectly into Position: Transport System posyART of IEF- Werner Precisely Positions Trays to Be Laser Marked

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The transport system posyART of IEF-Werner precisely positions trays to be laser marked:

Being Put Perfectly into Position

A producer uses the transfer system posyART of IEF-Werner GmbH from Furtwangen in the Black Forest in order to laser mark varnishing trays made of plastic after the assembly. The transfer system brings the components on workpiece carriers precisely to the single stations. The automation specialist additionally supplies the control technology including a control station solution. The system meets all the requirements regarding short cycle times and the exact orientation of the component to the laser.

Furtwangen, 22.10.2019 – Scratches in the coating? Fingerprints or dirt, like dust particles, on the surface? This can end quickly in reclamations, especially regarding high quality plastic parts like decorative screens for the automotive industry. That's the reason why producers often use so-called varnishing trays made of plastic. Therewith they can transport the parts after the injection moulding and varnish them directly, without having to touch them or put them anywhere. A producer from southern Germany was assigned the production of these trays. The producer was looking for a transport system, that supplies the trays automatically, fast and especially precisely to the laser marking system in order to mark the series parts with logo and progressive numbers for the traceability. Moreover, a solution was requested that connects the single process steps, including the preceding processing stations.

"The company approached us with these demands", Oliver Koch, employee in the area sales systems at IEF-Werner, remembers. Therefore, the automation specialist delivered the assembly, transfer and inspection system posyART and adjusted it to the specifications of the new client. The modular and through the usage of welded frames stable construction of the IEF-solution makes a simple and economical marking of the parts possible. Thanks to the numerous standard components, nearly all tasks in the area transfer, assembly and logistics can be solved, starting with straight transfer lines between different automation stations or manual workplaces, up to branched transfer plants. The main components like belts, drives, turnouts and stopping elements are very long-lasting. The dovetail geometry at the long sides of the profiles allows a precise and smooth positioning of all posyART components. The posyART belt is also anti-static. In this case flat belts are used. By using pre-customized belts, the user is able to change them fast and simply in case of wear without complex adherence. The size of the distances is realized variably via the standard frames.

Reliable Transport System

"We equipped the system with workpiece carriers (WC) of 400 x 400 millimetres and six kilogram each, and the corresponding intakes", Oliver Koch explains. The employees put the trays one after the other in the right position onto the WC at the seven manual workplaces. In order to bring them in the right position for further processing, sideways positionings, centring stations as well as a turning unit are used. The trays are for example put centrally in the centring unit and then three dimensionally fixated with an accuracy of ± 0.05 millimetres. Therefore, the laser system is later able to mark the parts with a high repeat accuracy. A turntable changes the direction on the line, here the workpiece carriers are redirected by 180 degrees. The loaded WC moves with a speed of 21 metres per minute to the different processing stations. These include amongst others a unit that cleans the surface which is to be marked, one that blows off the component, two laser stations, which apply the labelling exactly on the right part, as well as an optical sensor, which examines the position of the marking.

A stopper stops the loaded WC in front of each station while the belt is running. "We arranged it centrally", Oliver Koch describes. "This prevents tilting of the workpiece carriers at the guide rails. The stoppers in this usage are driven pneumatically and are equipped with an integrated WC damping. They are triggered when the sensors recognize the MC on the belt."

Completely Documented

Next to the hardware, IEF-Werner delivered the complete control technology including the control station solution transLOGIC. Therewith information of the workpiece carriers as well as from the single stations are processed. "The carriers are prepared for the integration of RFID chips by default", Oliver Koch explains. "Therefore, information relevant to the production such as processing status or test parameter can be read out via reading heads, the plant conditions can be pictured, quotes managed, and production processes monitored." The control station solution also supports the plant's maintenance. The production data can be archived and evaluated via CSV file. transLOGIC is built based on a Siemens S7 and therefore offers all interfaces for the different plant parts. The connection happens via profiNET.

The experienced team of IEF-Werner supports the plastics processor with the project, with finding a solution and also with the after sales. "If a component has to be changed, they are always available also separately", Oliver Koch says. "Important wear parts are always in stock and therefore immediately available." The user can change those himself with a few movements. For example, the drive belts of the turnouts can be replaced within one minute by lifting out the stroke unit or by changing the complete plug-in unit. Nevertheless: the IEF-technicians are always available, if their help is needed.

Meta-Title: Transport system posyART by IEF-Werner supplies trays efficiently to be laser marked

Meta-Description: In order to put a laser marking on varnishing trays made of plastic after the production, a producer counts on the assembly, transfer and testing system posyART by IEF-Werner.

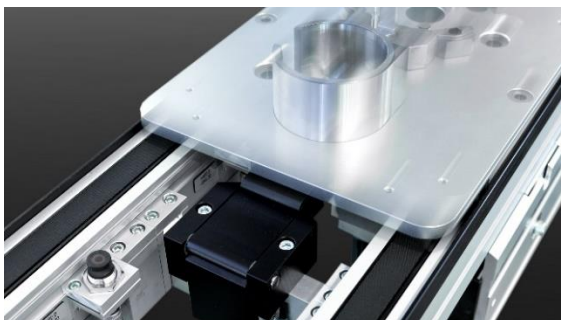
Keywords: IEF-Werner; posyART; system supplier; laser marking; assembly system, transfer system; testing system

5.655 characters (incl. blanks)

Captions:



Picture 1: The user can economically realize straight or branched transfer lines with the modular posyART system with the own drive for the individual process chain.



Picture 2: The central stopper prevents tilting of the workpiece carriers at the guide rails. Sensors make it possible to recognize the carrier on the belt and then trigger the stopper.

User Report

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Picture 3: The workpiece carriers are put into the processing position via sideways positioning. Through reading heads information relevant to the production is read out and therefore the paths controlled.



Picture 4: The stroke turning station is used to change the orientation of the workpiece carriers. They are turned in steps of 90-degrees.



Picture 5: Oliver Koch, employee in sales-systems at IEF-Werner.

Images: IEF-Werner GmbH