



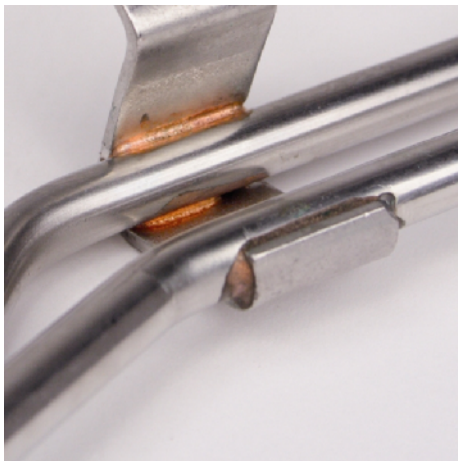
Application report

Project: Dosing of soldering pastes at brake / gear or motor parts (automotive applications)

Customer / Branch: Automotive industry (brake- or gear systems / OEM companies)

Description

For producing brake- or gear systems for automotive applications, a lot of metal parts have to be soldered. This soldering is done by an automatic dosing of soldering paste onto the parts and after that the soldering process itself is done in an oven. This process in the automotive branch is an automated process in combination with robot systems. Due to the high quality standard, the exactness, accuracy and repeatability of the dosing are the main issues to be considered.



Examples for soldering paste applications

ViscoTec Solution

The solution ViscoTec offers for the soldering pastes perfectly fits to the requirements of the automotive industry. It is a complete modular system. The customer could start with a simple unit of the ViscoPro-system (dispenser in combination with motor and control). In the next step he could extend his process with a buffering system (ViscoTreat-H) in order to avoid long production stops. As a next action he could add a complete treatment and product-supply-system (ViscoTreat-L). This system consists of a treatment-tank with a stirrer and circulation line (in order to have a homogenous paste without settlements of some ingredients). Also an evacuation (vacuum) unit could be added to this tank. With using this, the air or gas could be removed out of the paste, and the process result is better. The control of these units could also be done very easily. The ViscoPro is easy to control and only needs one signal for dosing. All necessary signals could also be controlled by the customer's PLC.

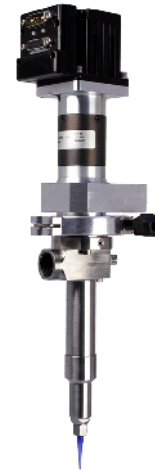




ViscoTreat-L



ViscoTreat-H



ViscoPro-unit

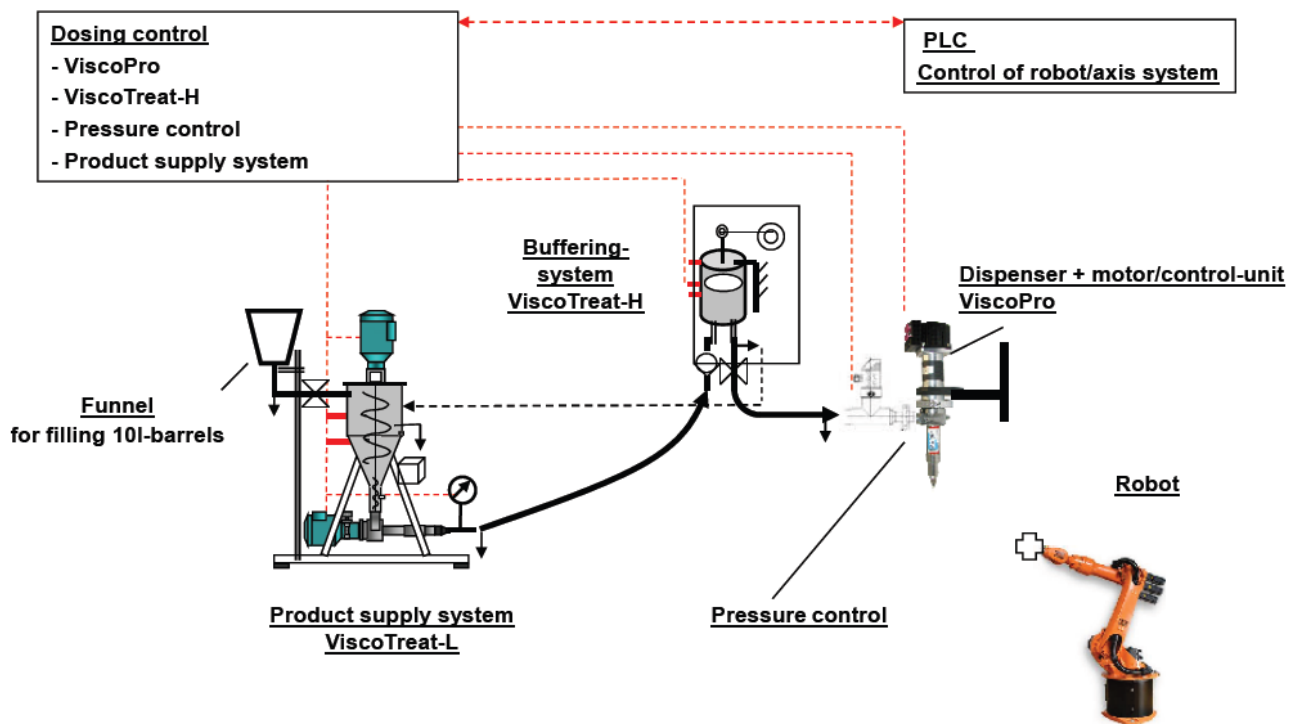
ViscoTec Advantages

The advantage of the ViscoTec system is, that it is completely modular: this means, that the customers have the possibility to build up the process regarding the exact technical requirements. In general the dispensing unit ViscoPro in combination with the RD-dispenser has perfect dosing results for soldering pastes. These pastes are often very abrasive and have a high solid content (metal particles). The ViscoTec-dispenser handle these pastes in the best way and the dosing results are very accurate and repeatable. The control by the ViscoPro-unit makes it possible, that all dosing parameters could be easily changed and programmed. One of the main advantages of the ViscoPro / RD-dispenser-system is the integration together with a robot system. In combination with the ViscoTec-buffer-unit ViscoTreat-H the complete soldering process gets more safe and is not interrupted. If there is a change or issue at the product-supply of the soldering paste, the buffering-unit feed the dispenser for a certain time, until new soldering-paste is supplied. If also the treatment and product-supply-system ViscoTreat-L is connected to the buffer and ViscoPro-system, the customer has the best solution for his process he could get. The ViscoTreat-L with a evacuation tank and a funnel allows to stir the product continuously and avoids settlement of the paste (e.g. binder and metal particles). Another advantage of the system is that you could degas the paste and put all air out of the paste. So the dosing results even get better through less air-bubbles. The special ViscoTec-technology (stator/rotor) allows pumping out the paste of the vacuum tank all the time, because the stator/rotor unit is vacuum- tight. The whole process is controlled by level and pressure sensors (e.g. signals for refilling). Also the control could be easily integrated in existing PLC's of the customer. So at the end the customer have the best automatic solution for his process of dispensing soldering paste.

Customer potential

Automotive suppliers / manufacturers of brake-/ gear-/ or motor systems.





Principle of the complete system

