

Coriolis for dosing small quantities - Equipment for painting robots

Sprayers and painting robots are used for the automatic surface coating of various components, from small parts to complete vehicle bodies.

They should be flexible enough to reach narrow spaces. Various arm and wrist variants ensure that they meet all the different requirements for the painting process.



The components of the robots, especially those that come into contact with paint, should be easy to clean and must be made of resistant materials against solvent-based paints, water and powder coatings. In addition, a compact design for a small plant structure is desired, whereby color changing unit, metering unit and valve units are often placed on the robot arm. As a result, the length of the color lines

and thereby also color loss and detergent consumption is significantly reduced.

The dosing unit is an essential component and significantly responsible for the quality of the painting result. An accurate and long-term stable control of the injection is essential for this. And this must also be guaranteed for different types of colors and changing viscosities at fluctuating temperatures.

The Oval Coriolis flowmeter ALTI_{mass} CA003 with the single tube design has been especially adapted for this purpose. The compact, cylindrical design allows installation on the robot arm. The Coriolis measuring principle works without moving parts, so that wear and maintenance could be minimized.

Oval's proprietary Tertiary vibration technology also provides the ALTI_{mass} CA003 with greatly improved resistance to vibration, which is particularly important in this application.

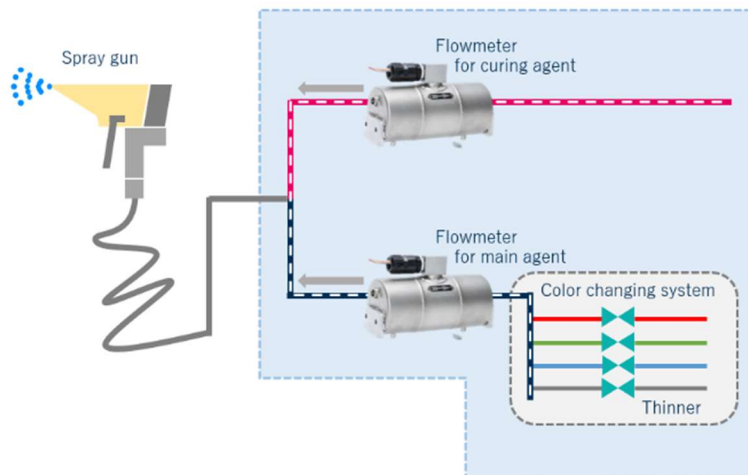


**ALTI_{mass} CA003
for a spraying application**

**ALTI_{mass} CA003 for a
coating robot**



The structure of the dosing unit is different, depending on the supplier's technology. Common to all, however, are the necessary components listed at this example:



In a paint application, a main agent begins to cure as soon as it comes into contact with the curing agent. Therefore, mixing must take place immediately before spraying. Highly accurate flow meters must be used to measure each constituent and monitor the mixing ratio.

As a result of the continuous monitoring of the flow

process, the layer thickness of the applied paint is precisely controlled and possible blocking is detected immediately.

But the ALTI_{mass} CA003 can do more. At the same time, it is measuring flow, it also measures the density of the medium with an accuracy of 0.0005 g / ml. Thus, quality parameters are also monitored in the same device, as well as the detection of possible air entrainment.

With ALTI_{mass} we offer for this application a highly accurate solution with additional quality features. For less demanding, more price sensitive applications, there are other OVAL solutions available as well, for example with the SHOTGEAR meters. Talk to the TrigasDM specialists about your project!

TrigasDM is manufacturer and supplier of highly accurate flow metering product lines which are particularly appreciated by customers in the automotive, aviation and test bench industries.

The service organization which is a member of our group of companies, TrigasFI is an ISO 17025, DAKKS accredited calibration laboratory for flow measurement of liquids and gases. With 35 years of experience in the calibration business, their accredited range and accuracy are among the best in Europe.

TrigasDM is the official distribution partner of OVAL Corporation in Germany. Oval looks back at over 60 years of high-end flowmeter manufacturing experience and is one of the first manufacturers of Coriolis flowmeters.