

CASE STUDY: VACUUM VALVES

Solution:	Embedded solutions
Country:	Switzerland
Company:	VAT Vakuumventile AG
Summary:	Vacuum valves with integrated CC-Link technology gain access to the fast developing asian automation market thanks to the Anybus CC-Link module from HMS



The effects

- ✓ A key selling advantage for the Asian market.
- ✓ Fast implementation.
- ✓ All CC-Link interface features are fully supported
- ✓ Instant access to other industrial networks when needed



"We chose HMS because of the amount of supported fieldbuses, the ability to provide a CC-Link module as a standard product and finally the size of the company which offers us some guarantees,"

Reto Kaufmann
VAT Vakuumventile AG

VAT offers its vacuum control valves in Asia thanks to the Anybus[®] CompactCom[™] CC-Link module

CC-Link fieldbus compliancy is key to accessing Asian markets. Thanks to HMS' Anybus CompactCom, it is both easily implemented and all features are fully supported.

Since its foundation in 1964, VAT has been entirely specialized in vacuum valve technology. Maintaining this strong focus has allowed VAT to develop and maintain a leading market position. Its main applications are the semiconductor industries, flat panels, solar and photovoltaic cells.

"VAT has a very strong position in its specific markets. Our customers are machine manufacturers, but the users of our products are the main semiconductor manufacturers in the world," explains Ronald Pschenitschnigg, Head of Business Unit Control Valves.

"Our product difference is that we have very sophisticated embedded software which enables us to control valve performance. It is the brain of the valve and the result of our broad experience. Our flexibility is also a strong point: we adapt to process recipes to provide customized solutions" says Pschenitschnigg

"CC-Link implementation was a very strong selling argument in Japan and Korea. Very often, Mitsubishi PLCs are implemented and so we needed to find a solution to interface with CC-Link. China is also increasingly using this standard. For the vacuum control valve, we are the only group on the market to offer a CC-Link interface" Pschenitschnigg adds.

VAT had to find a solution to implement CC-Link on their control valves and studied the different offers on the market: "We chose HMS because of the amount of supported fieldbuses, the ability to provide a CC-Link module as a standard product and finally the size of the company which offers us some guarantees," explains Reto Kaufmann.

"It also is easy to add new fieldbus compatibility to our control valves. With the Anybus CompactCom, we get access to other networks too which means our pressure controllers have worldwide communication connectivity capabilities".

**Left image**

Along with Semiconductor manufacturing, Solar silicon production shown left is a fast growing industry where vacuum valves are used today.

Bottom image

VAT's Butterfly Pendulum pressure valve with integrated CC-Link network connectivity

Implementation was simple

Embedded Anybus CompactCom modules are used in control valves with integrated pressure controller.

“Implementation is instantaneous and rather easy. Once the connection is made we just have to add some specific commands, create a test environment and proceed with the tests” adds Reto Kaufmann.

The Anybus CompactCom modules are now implemented on the 61 and 65 series. These are Butterfly and Pendulum pressure control valves for downstream applications.

They feature very fast and strong actuators, a powerful integrated controller and automatic maintenance indications. The controller ensures very fast and accurate pressure control.

By operating the LEARN function at start-up, the system parameters are automatically determined. Due to the adaptive algorithm, the controller continuously adapts to the process conditions (species of gas, gas flow) and thus ensures optimum pressure control.

**CC-Link****Learn more on www.anybus.com or www.vatvalve.com****Anybus CompactCom**

Anybus CompactCom is a range of embedded communication modules allowing communication with a specific industrial network. The modules are interchangeable which means that users can easily connect to any desired network. Anybus CompactCom works with all major fieldbus and Industrial Ethernet networks such as Profibus, DeviceNet, CC-Link, CANopen, Profinet, Ethernet/IP, EtherCAT and Modbus TCP.

Anybus CompactCom modules are used as communication interfaces in intelligent automation devices such as Drives, HMIs, Robots, Inverters, Instruments, Valves, Weighscales etc. By embedding Anybus CompactCom into a device, manufacturers get quicker time to market, decreased development costs by as much as 70%, and also the possibility to easily connect to another industrial network by simply switching Anybus module.

