

Upgrade for weight fillers





Automation upgrade weightfiller

JBT builds weight fillers for the Dairy industry. To keep the machines up to date we introduced a continuous improvement plan. This plan results in maintenance and accuracy improvement on the machine.

This leaflet describes the automation upgrade for a weight filler including the Simatic S5-S7 conversion and a new HMI.

Where is the opportunity?

Siemens announced that for the SIMATIC S5 system, the product life cycle ends on 30 September 2020. As of 1 October 2020, spare parts will not be available, and repairs will not be possible. So spare parts and components become increasingly difficult to source. Therefore, JBT has developed an upgrade in which the Siemens S5 PLC and HMI is replaced by a Siemens S7-1500 PLC and a Siemens IPC 427 combined with a IFP 1900 Touch panel to ensure that your filler can continue to meet the highest production demands and is compatible with the latest network systems.



The Siemens IPC equipped with Windows 10 offers the opportunity to Connect the filler to the factory network or even to the Cloud, which in turn offers possibilities for Remote support and OEE monitoring.

Note: The SIMATIC S7 will NOT work together with the 1st generation Weight Control Unit. So if the filler is still with this generation of WCU a S5-S7 conversion should be combined with a WCU upgrade as well.

What is the new functionality?

The modification will move the software for PLC and HMI to a state-of-the-art and will benefit from enhanced operation, security levels, improved stability and more user friendly human machine interface (HMI). The type of PLC and HMI is supported by the Totally Integrated Automation Portal (TIA Portal). TIA Portal which has the flexibility to program PLC's, frequency drives, servo drives and HMI's. Resulting in higher efficiency and easier trouble shooting.



What will be modified?

A new Siemens S7-1500 PLC will be programmed as well as a Siemens IPC Combined with a UPS and Siemens 19" Touchscreen. PLC software, operator interface and data storage is based on JBT's latest standardized weight filler software. The new IPC running Windows10 LTSC (Long-Term Servicing Channel) and SQL Server for reliable data storage of recipe data and Historian production information. The new HMI will be installed in a stainless steel cabinet with communication via Ethernet. As the



experience shows that most Main Control Panels in case of a S5-S7 conversion, are outdated as well, we recommend replacing the complete Control panel including it's components. During the upgrade we replace the Siemens S5 PLC and reprogram the machine with new S7 components.

What's the impact?

The downtime is depending on the level of exchange. A low level conversion is approx. 5-6 days, a high level conversion where we renew the complete Main Control Cabinet including I/O and cabling is approx. 8-12 days.

What are the benefits?

- ✓ Greater reliability of the installation.
- ✓ Availability of spare parts and components
- ✓ More user friendly Human-Machine interface
- ✓ User-friendly Siemens software environment
- Siemens Tia Portal is the standard modular software for today's control- and service engineers
- 10 years parts supply by OEM
- ✓ Reliable data storage within SQL
- ✓ Remote support
- Offers opportunities for OEE integration
- Essential upgrade for companies on their path to Industry 4.0
- ✓ Offers opportunities for OEE integration
- Easy compatible with a other JBT products as iOPS which is a new cloud-based performance optimization platform



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