

Digital Product Passports (DPP) for compressors – a standards based pilot

Burckhardt Compression, GS1 Switzerland and BloqSens have implemented a DPP pilot for a compressor valve

Background

With the new Eco-Design for Sustainable Products Regulation (EU 2024/1781) and its counterpart in construction, the revised Construction Products Regulation (EU 2024/3110), the technical concept of Digital Product Passports (DPP) will be introduced to many industries as a legal requirement.

DPPs, which are a digital record of a product characteristics throughout its life cycle, will most probably concern compressors at the latest in 2030. This, because compressors are already today classed as Energy Related Products (ErP). Further, key raw materials and components going into a compressor will start having DPPs by 2027 / 2028. This will impact how inbound logistics and data flows work as well as offer new possibilities to collect eco-design relevant data.

For this reason Burckhardt Compression, a world-leading, Winterthur based compressor manufacturer, GS1 Switzerland and BloqSens, a Swiss DPP service provider, have formed a project team to create a DPP pilot.



Burckhardt Compression compressor *Plate Valve™* DPP pilot product

Project goals

The goal of the pilot has been to:

- Gain a comprehensive understanding of potential future DPP requirements
- Gain experience with a demanding and complex topic
- Analyze the gaps between the potential DPP requirements and the current IT architecture and data management systems.
- Identify value-added potentials linked to DPP implementation
- Identify already existing data projects within Burckhardt Compression, which will be affected by the DPP
- Define a mid- to long-term future IT-architecture fully addressing the potentials and gaps

For the pilot mock-up a compressor *Plate Valve*[™] has been chosen due to its high representativeness and medium data complexity. It can be accessed through scanning of the QR code located on the below labels or by following GS1 Digital Link:

<https://id.gs1.ch/01/07649997749603/21/4711>



Lessons learned

The following findings have been obtained:

- 80% of the project time has been invested into obtaining eco-design data on components and raw materials, such as CO2-footprint or energy usage.
- The components and raw materials with the highest CO2-footprint per kg of finished goods also have had the highest inefficiencies in their production processes, such as a high percentage of scrap on input material.
- Early planning of the future IT-architecture allows for a cost-minimal, evolutionary integration of future DPP requirements. At the same time it becomes possible to leverage added-value potentials, such as "closer integration of the customer journey", "spare-parts distribution channels", "data on maintenance history / compressor lifetime" as early as possible.
- Using established GS1 standards, such as EPCIS ISO/IEC 19987 and 19988 allows for a high level of interoperability with other ERP systems and other traceability solutions. This, while at the same time building on worldwide used identifiers, such as the Global Trade Item Number (GTIN)(01) or the Global Location Number (GLN).

By engaging with DPP topics at an early stage, it has been possible to address required architecture changes in planned and manageable steps to enhance added value and minimize implementation costs.

Next steps

Based on the insights gained from the DPP pilot, follow-up projects are planned to step-by-step address the identified potentials and measures, ensuring all necessary elements are in place before the DPP becomes a productive obligation for the compressor industry.

- Thereby allowing for incremental IT-architecture development interwoven into ongoing projects
- Basing the technology solution stack on well-established solutions and standards

Are you interested in a DPP pilot?

If you are interested in a DPP pilot project, we are more than happy to assist you on this journey:

- GS1 Switzerland (www.gs1.ch), Dominik Halbeisen, Solutions Expert Technical Industries, doh@gs1.ch
- BloqSens AG (www.bloqsens.com), Peter Krummenacher, CEO, peter.krummenacher@bloqsens.com

Do you want to know more about the Burckhardt DPP pilot?

If you are interested in learning more about the pilot from Burckhardt, please contact:

- Burckhardt Compression (www.burckhardtcompression.com), Henry Stocker, Improvement Engineer, henry.stocker@burckhardtcompression.com