

Audi drives forward in Hungary

An automotive plant in Győr, Hungary that currently produces engines for Audi AG and other brands within the Volkswagen Group, plus Audi TT and A3 convertible models and has been automated thanks to pneumatic solutions from **Festo**

In April 2011, total engine production at Audi Hungaria reached the 20-million mark. This factory in the Hungarian city of Győr has been part of the Volkswagen Group's factory network since 1993. Festo automation technology was present right from the outset and ensures the efficient operation of the assembly lines.

Audi Hungaria's more than 6,000 employees develop and produce engines for Audi AG and other brands within the Volkswagen Group. Every day, 6,900 engines with four to 12 cylinders are produced. The factory also assembles the Audi models TT Coupé and Roadster, as well as the A3 Cabriolet. By 2013, the expansion of the assembly plant in Győr into a complete vehicle plant, with a press shop, body shop and paint shop, should be complete.

A total of 125,000 cars will then roll off the production line each year, compared with 38,000 in 2010. The expansion will create 1,800 more jobs. This, together with the new logistics and supplier park, means that Audi will provide employment in Győr for a total of 15,000 people.

Pneumatic production equipment

When it comes to automation technology, most Audi production facilities are equipped with solutions from Festo. To facilitate this, Festo has produced a product catalogue based on the approval list 'Audi/VW Powertrain Production', which applies to all the factories in the Volkswagen Group. This catalogue is used by the staff in Audi's equipment construction department and by machine and equipment suppliers in order to select appropriate automation products and integrate them into machines and equipment for engine and vehicle production.

Festo supports producers, plant and machine constructors, design consultants and suppliers to the automotive industry at all stages, from planning to production. Particularly in large production facilities, such as in the automotive industry, there is a great deal of potential for efficiency gains. This applies especially to the optimum use of energy and also safety.



Energy efficiency

With Festo components and systems, savings can be achieved with everything from valves and valve terminals to efficient compressed air preparation. Various installation concepts for valve terminals can be adapted to different control concepts. For example, decentrally installed valve terminals reduce the tubing length required and thus also the pressure drop to the drive. Sensors report energy losses, and flow sensors visualise air consumption and sound the alarm if leaks occur. Sensors are already integrated in the MS series of components for compressed air preparation.

In the case of systems including both pneumatic and electric drives, energy efficiency must always be con-



In April 2011, total engine production at Audi Hungaria reached the 20 million mark (Photos: Audi)

sidered from a holistic point of view. Any moving mass requires additional energy and must therefore be taken into account at the component selection stage. The design tools CACOS and PositioningDrives show potential for savings.

Small and light Festo vacuum generators can be installed close to grippers. Long tubing is therefore not necessary. This makes it possible to avoid long evacuation times, for which it would be necessary to compensate by fitting larger nozzles, resulting in higher air consumption.

Safety first

The EU Machinery Directive requires a risk analysis and risk assessment to be carried out for all machines. These then enable safety objectives to be defined that can be achieved by implementing various safety functions. Safety pneumatics from Festo in the form of components, circuits, and engineering provides users with a convenient means of achieving their safety objectives. These must have the aim of ensuring safe machine operation in all modes and all stages of machine service life.

Safety pneumatics from Festo offers solutions for commissioning, automatic and manual operation, setting-up, hazardous situations and emergency functions such as a safe stop or safe exhaust. Moreover, safety pneumatics provides protection against an accidental restart. Depending on the hazard risk, the occurrence of faults must not cause failure of safety functions.

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