

FELP chooses Datalogic Automation vision sensors for assembling verification in its production lines

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Relief valves are mechanical devices which are typically applied in thermo-hydraulic systems in order to prevent dangerous overpressure conditions. Their main task is to control and regulate pressure in piping to protect equipments from stresses that could exceed their design limits. Since they play a key role in the whole system, the quality of this kind of devices is extremely important. A valve failure can easily result in a risky situation.

Felp S.n.c. is an Italian manufacturer of customized assembling and testing systems that is present on the market since 1982. The company is specialized in the production of rotary table machines, cumulating pallet lines, mechanical lines, testing benches and working stations for the production of faucets, sanitary, valves, fittings, automotive and electrical components.

Customized assembling line manufacturing means application needs always new. Every control is unique and represents a different challenge to face. Felp has chosen Datalogic Automation DataVS2 vision sensors for assembling verification in its production lines. Thanks to a wide range of controls, the device represents the perfect solution for this kind of applications. The high DataVS2 flexibility allows to create customized quality inspections thus tailoring the quality control to the specific need.

In its latest relief valve assembling line project, Felp has designed four different check points in which eight DataVS2 have been installed. In the first control station, two vision sensors verify the position of a subassembly (composed of a shaft and a spring) that is placed inside the valve main body. This component is then pushed and blocked by a mechanical device thus bad positioning may results in broken parts or wrong assembling. In the second check point, one DataVS2 controls the presence of two different washers that are placed on the upper part of the valve.

These components are carried in the production line through vibrating feeders and sometimes two of them are perfectly overlapped. DataVS2 checks their presence and correct amount. In the third control area, a vision sensor verifies the orientation of a flap and the position of a pin that are assembled on the valve head. These two components have to be in the right place otherwise mechanical issues could arise in the following assembling stages. Lastly, in the forth check point, four DataVS2 perform a final quality verification by controlling the length of the Teflon layer which is applied on the relief valve bottom part.

Felp technicians have appreciated the DataVS2 ease of use and extreme flexibility. By combining the

several available software tools and exploiting other sensor functionalities they have been able to customize quality controls for different applications. Moreover, the availability of different focal lengths combined with the device extremely compact dimensions have allowed Felp not to modify the mechanical layout of the machine. For each verification the proper lens has been selected thus making all the controls very focused and accurate.

All these features make DataVS2 the ideal solution for tailor-made special machine manufacturers. The ease-of-use and flexibility of the vision sensor allows customers to use a single device in order to realize different quality inspections for almost every kind of assembling process.