

Air Conditioning Company Triples Productivity and Improves Quality Using Movicon.NExT™ to Automate Testing Stations

RESULTS

- Tripled production capacity
- Enhanced quality and consistency, and reduced errors and test time
- Scalable, modular design enables the addition of future test stations



APPLICATION

Manufacturing testing automation.

CUSTOMER

Maxa Air Conditioning, a leading air conditioning and heating equipment manufacturing company, Arcole (VR), Italy.

CHALLENGE

Maxa Air Conditioning experienced a significant rise in market demand which required the company to build a new facility and production lines to meet that increase. Previously, production was limited due to legacy instrumentation and manual processes in heat pump testing that could not assure quality or deliver the required throughput. The existing heat pump testing production line consisted of two testing stations with a maximum throughput of only 19 units per shift. In addition, the testing was performed by operators who had to manually manage the actuators and double-check the data detected by the unit because it was unreliable. As a result of these manual processes, the quality was inconsistent due to the potential for human error, and as the market demand increased, the production line could not keep up to meet the required numbers.

SOLUTION

In order to increase production capacity, Maxa needed to automate its heat pump testing process and expand to add more testing stations. The solution also needed to be modular to improve efficiency and enable the plant to grow and scale for the future. The heat pump testing process includes several steps. Initially, a test is performed to check the tightness of the hydraulics, then the hot and cold cycles are started, and the thresholds for power, thermal capacity and efficiency are tested. In the cold cycle test, a trip test of the high-pressure switch is also performed. Once the tests are finished, the results are stored in the central database.

“We have chosen Movicon.NExT SCADA by Emerson because it is a modular, simple, and at the same time, highly customizable solution.”

Davide Mocellin

R&D Engineer - Electronics Department, Maxa Air Conditioning

FACTORY AUTOMATION

Maxa selected an Emerson programmable logic controller (PLC) and the Movicon.NEXt software platform to automate the test process. This enabled the production line to be expanded with additional modular stations. The Movicon™ solution enables the stations to be modular by using a station prototype and assigning variables through the parameterization functionality. The new production line now contains four workstations and has a maximum throughput of 60 units per shift, more than triple the previous capacity. The Movicon.NEXt solution controls and automates testing, allowing production operators to identify anomalies to immediately correct problems. The automation is managed directly by an Emerson PLC connected to the network. The Movicon.NEXt server, as a centralized service, collects data from the PLC.

The Movicon solution was selected because it offered several key advantages. Its modularity allowed Maxa to quickly and effectively add new workstations to expand and increase production capacity. Furthermore, Movicon supports the VB.NET programming language, which allows importing the various .NET libraries and custom design enhancements over the standard Movicon.NEXt functions. The Movicon solution tripled productivity and provided scalability for future growth. By automating testing, significantly improving test quality and consistency, and reducing manual processes and the potential for human error, Maxa can meet their required demand without additional personnel.

RESOURCES

Movicon

www.Emerson.com/Movicon



The Movicon.NEXt solution allowed Maxa to automate the test process, and thus, easily and effectively add new workstations and increase production capacity.

© 2023 Emerson Electric Co. All rights reserved.

The Emerson logo is a trademark and service mark of Emerson Electric Co. Brand logotype are registered trademarks of one of the Emerson family of companies. All other marks are the property of their respective owners.

www.Emerson.com/contactus

MOVICON™


EMERSON™