

Retrofit or New Machine?

Rexroth's open automation architecture simplifies CNC Cutting Machine Retrofit



EXECUTIVE SUMMARY

Situation Aging machine that was failing due to an outdated control system causing interruptions in supply chain.

Solution Retrofit of existing components and integration of Rexroth's CNC controller and servo drives with 3rd party servo motors to ensure fastest and most economical solution.

Electric automation components are some of the most vital pieces of equipment on a machine and represent a significant capital investment. Updating machines with the latest hardware and software is crucial to improving uptime and extending machine life.

Aging machinery presents manufacturers with the decision to either buy new or retrofit. From working with machine builders and end users, Bosch Rexroth has gathered years of experience advising customers on making the most economical and sustainable decision.

CHALLENGE

Rexroth's distribution partner AAP Automation (Englewood, CO, > www.aapautomation.com) was recently approached by Prodigm (Masonville, CO, > www.prodigm.net) to revive a failing Motion-Waterjet CNC cutting machine for their local customer High Plains Automation (Denver, CO). Like many older machines prevalent throughout the industry, the machine was failing due to an outdated control system. The mechanical components were still functional with a good overall design. As the machine was in an inconsistent functional state, High Plains Automation had to outsource this production step, increasing costs and interrupting their supply chain.

SOLUTION & SUCCESS FACTORS

As High Plains Automation was looking for a partner who could design, fabricate and install the new control system, Prodigm turned to AAP Automation and Rexroth for help. Additionally, they needed support programming the CNC and optimizing the NC post processor. Rexroth is one of the few companies in the field that can support all of these services.

The machine had an integrated (built-in) control cabinet, so the team had to come up with a way to design a space-saving control solution. Prodigm decided to design the new system leveraging Bosch Rexroth's



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> [IndraMotion MTX CNC controller](#) and > [IndraDrive CS servo drives](#) . In order to reduce project risk and overall cost, Prodigm left the existing third party linear servo motors in place. Since all Rexroth products can be integrated with 3rd party components, this was not an issue. Many of the motor parameters had to be commissioned in the field, using the drive recognition routines in Rexroth's IndraDrive firmware.



FAST LEAD TIMES & GLOBAL SUPPORT



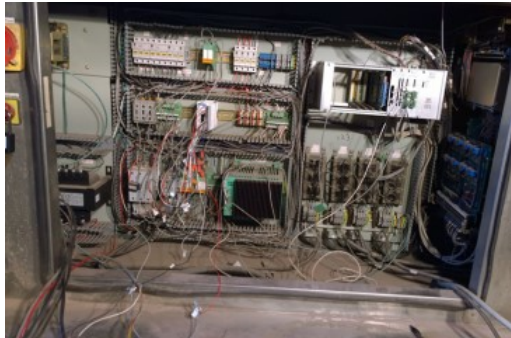
FLEXIBLE CONTROL SYSTEM



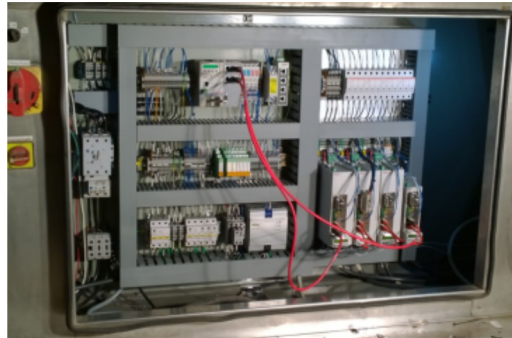
ONE-STOP PROVIDER: DESIGN, FABRICATE, INSTALL

RESULTS

Thanks to Rexroth's and AAP's fast lead times and outstanding field service, with remote support from Rexroth experts at the German headquarters, High Plains Automation was able to get the machine up and running quickly, ensuring reliable machine uptime.



MACHINE CABINET BEFORE RETROFIT



MACHINE CABINET AFTER RETROFIT