

Advanced A-B Control System

for Stolle Compound End Liners

Stolle Compound End Liner

Technical Update 1206-1



After extensive research and testing, Stolle is pleased to offer an upgraded control system for our Compound End Liners. The new Allen-Bradley control package has a number of distinct advantages over previous control systems.

A single PLC with Ethernet communication allows seamless network integration so PLC data is available to the network directly from the control console processor. Previous control systems had 2 PLCs (in the console and compound tank), and information had to be transmitted from the tank to the console, and then to the network.

Color 5.5" touch screen display simplifies operator and maintenance operations. Eight password-protected screens allow the operator to adjust any function of the liner, and two information screens provide a production count and VFD diagnostics.



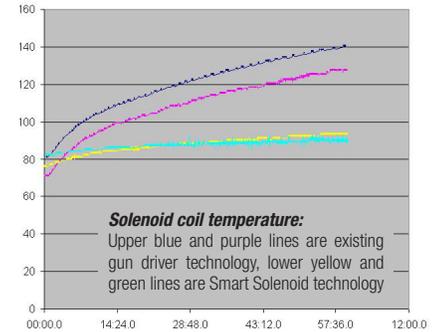
Home screen (left) and Main Menu screen (right)

DeviceNet communications to the compound tank is a more robust network than previous systems. It supports tank-to-console cable lengths up to 328 feet at a data rate of 500 Kbits/sec, and longer lengths are being studied with slightly lower data rates. DeviceNet is a proven network system that works reliably in applications from amusement park rides to nuclear warships.

Individual control modules for the compound guns run independently of the control console PLC, which means communications between the console PLC and the gun modules can be interrupted for up to second without affecting the operation of the liner. The gun control modules have ADR (Automatic Device Recovery), which means that if a module is replaced, the control console PLC will recognize the new module and automatically upload the program to it.

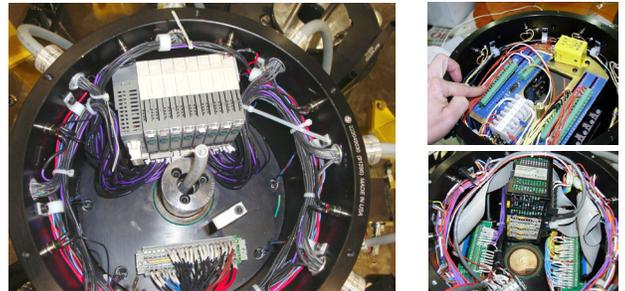
Smart solenoid gun drivers allow the solenoid coils to run much cooler. Dual currents inside the new gun solenoid, (lift and hold) result in a 4 to 1 reduction in the heat build-up in the solenoid coil. Since heat can affect the coil response time by as much as .01 second, the smart solenoid gun driver can reduce compound weight variations and provide more consistent lining quality.

Reducing solenoid heat also curtails or eliminates the curing of water-base compound on the needle valve, resulting in less gun maintenance. Finally, decreased temperature also extends the life of the solenoid coil and compound gun.



Solenoid coil temperature:
Upper blue and purple lines are existing gun driver technology, lower yellow and green lines are Smart Solenoid technology

The simplified design of the tank control modules means that they are quicker and easier to service. The internal wiring uses cage clamps instead of screw terminals, and the Stolle gun cable adaptor is a simple, robust design that's much more reliable than previous alternatives.



Compound tank with new A-B gun control modules (left), compared to tanks with previous control systems (right)

The new A-B liner control system brings a new level simplicity, precision and reliability to Stolle Compound End Liners. This system is available on new water or solvent-base compound liner machines, and it can be retrofitted to existing liners. All A-B control systems are backed up by Rockwell Automation's 24/7 worldwide customer support.

For more information and pricing on Stolle's advanced A-B control system for Compound End Liners, please contact Greg Williams at Stolle Sidney at +1 937-497-5441 or greg.williams@stollemachinery.com.



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