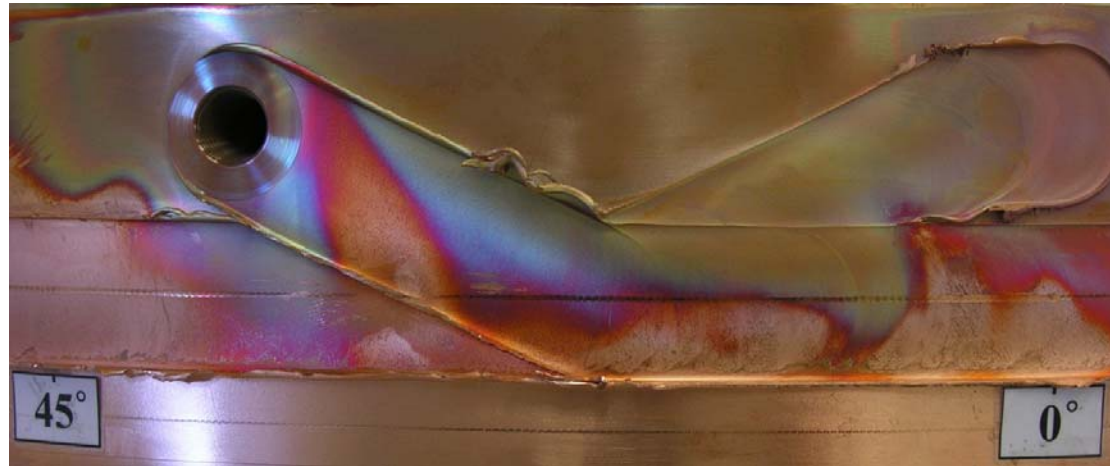
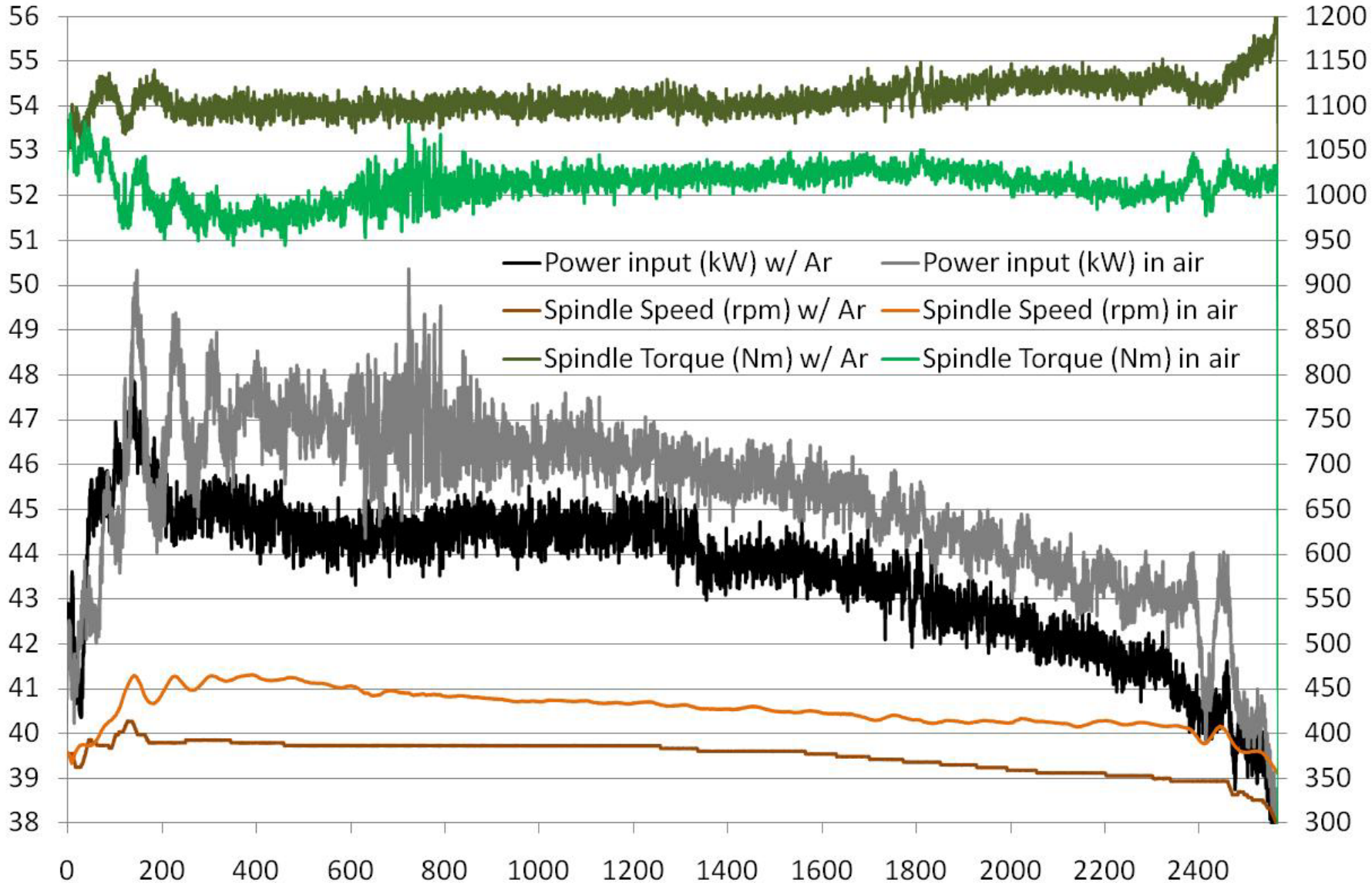


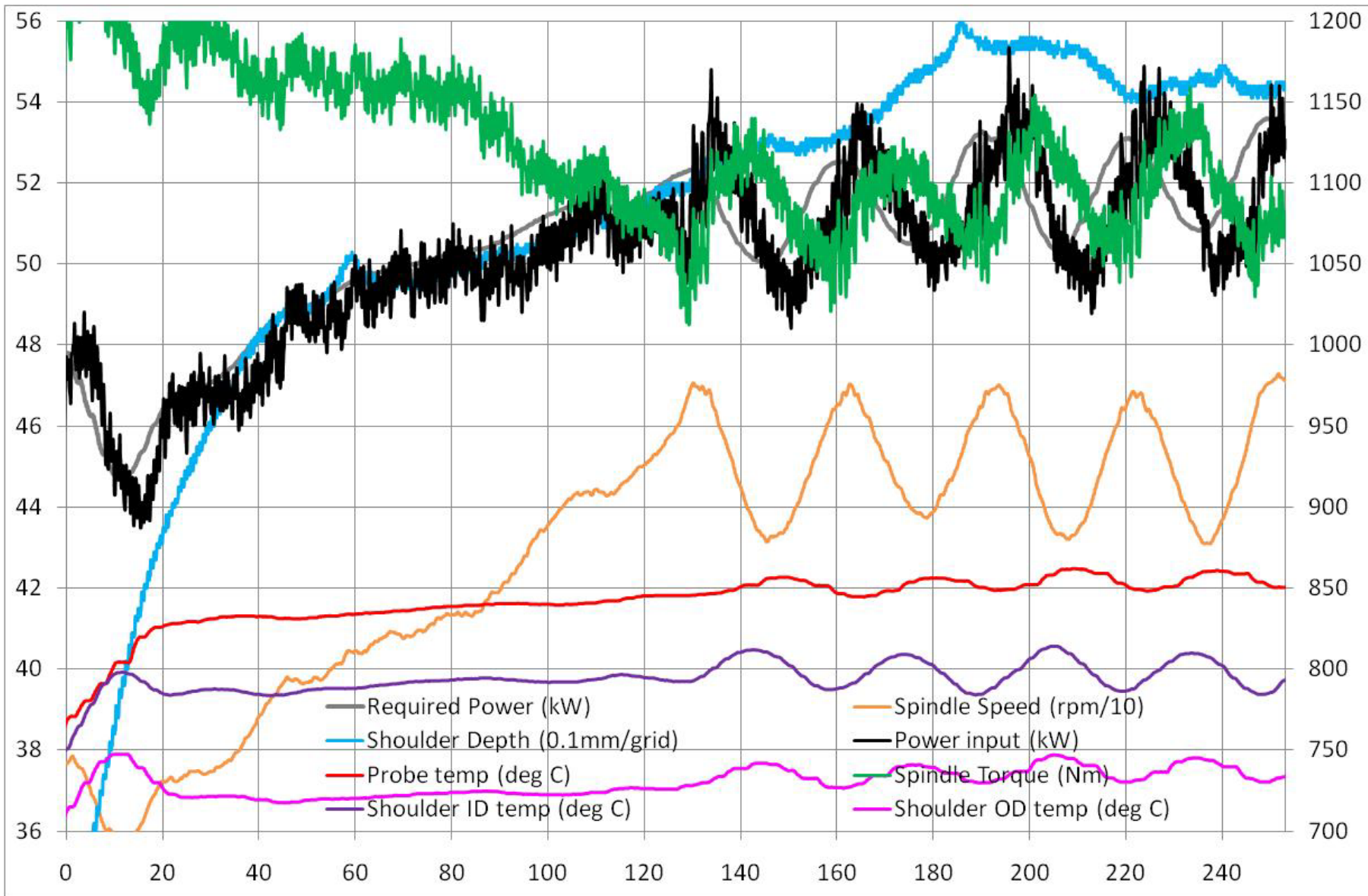
DIFFERENCES WHEN FSW COPPER CANISTERS IN AIR OR IN ARGON ATMOSPHERE



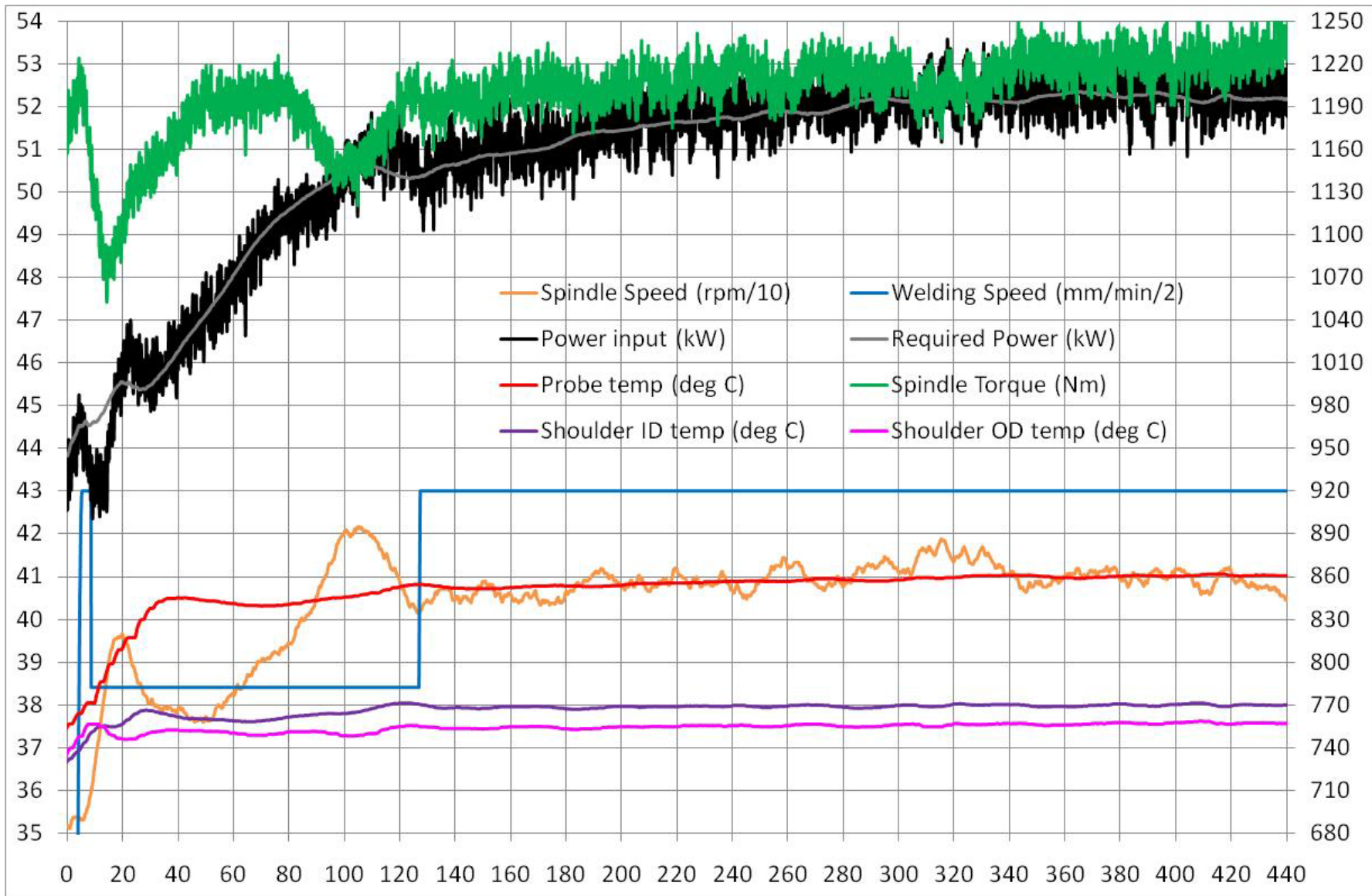
Results, full (manual) cycles in air vs Ar



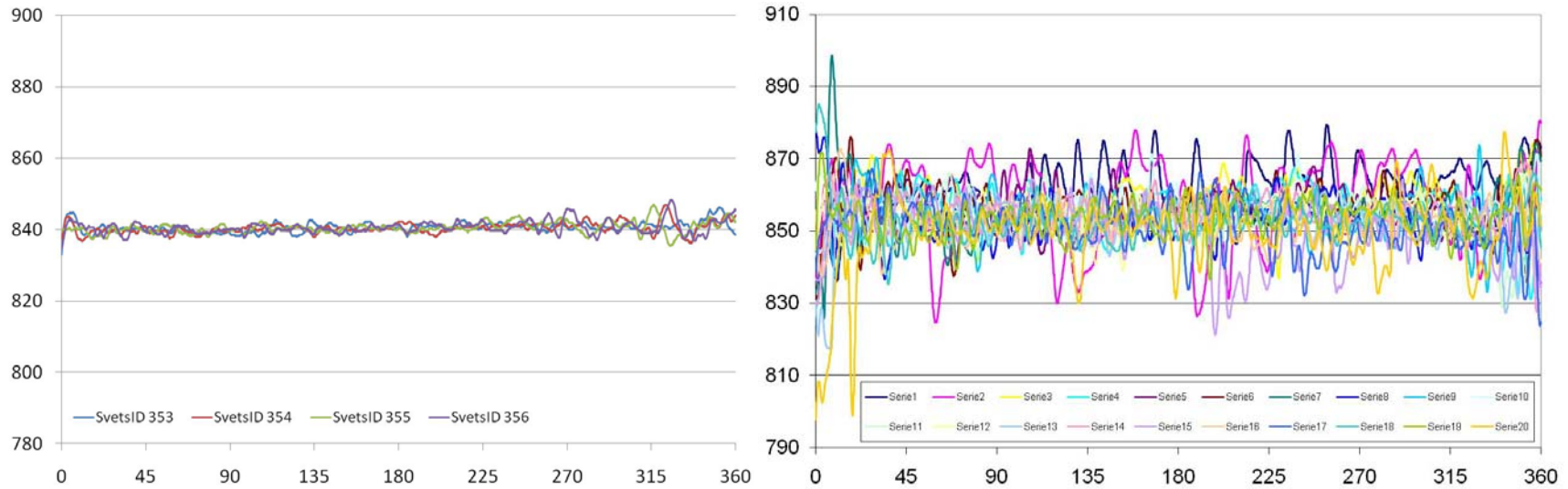
Results during 1st short weld cycles, in air



Results during 1st short weld cycles, in Ar



Results during cycles in Ar w/ regulator



4 full weld cycles with regulator vs. 20 cycles w/ operator

1 probe lasted all cycles (no fracture, but cracks forming)

Summary

- Increased process stability when welding in Ar, probably due to:
 - More uniform thermal boundary conditions when using Ar
 - Less wear of convex scroll shoulder resulting in fully working shoulder throughout cycle (no excess flash at end) and less disturbances

