

K5 Autopilot®

Automatic Hydroheater Adjustment Optimizes Starch Conversion

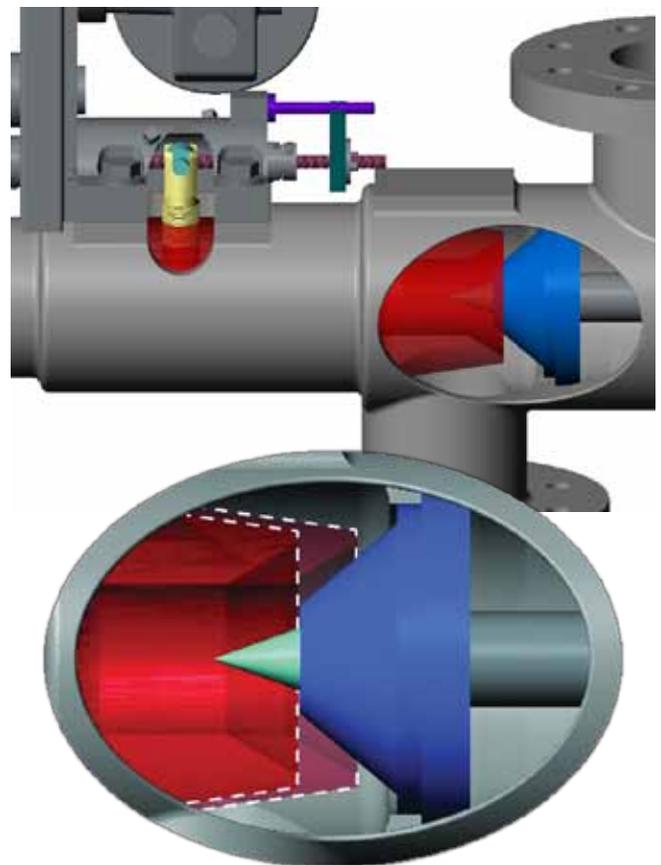
Heat completely, uniformly, optimally, without local operator intervention. The K5 Autopilot automatically adjusts the Hydroheater's product flow path as process conditions change to maintain a constant pressure drop across the unit. This results in optimized shear, mixing characteristics, and more effective starch conversion, leading to lower enzyme usage and higher yields.

How the K5 Autopilot Works

From a digital control system (DCS) or other control package, the K5 AUTOPILOT receives analog 4-20mA signals representing actual differential pressure and the differential pressure setpoint. The K5 AUTOPILOT automatically adjusts the position of the combining tube, as needed, to maintain a constant product pressure drop. The outputs to the DCS are the measured pressure drop, and the combining tube position. The alarm outputs are: analog range alarm, combining tube over travel alarm, and the no movement/reverse movement alarms. These are available locally at the control panel via indicator lights, and also provide output to a DCS as discrete signals.

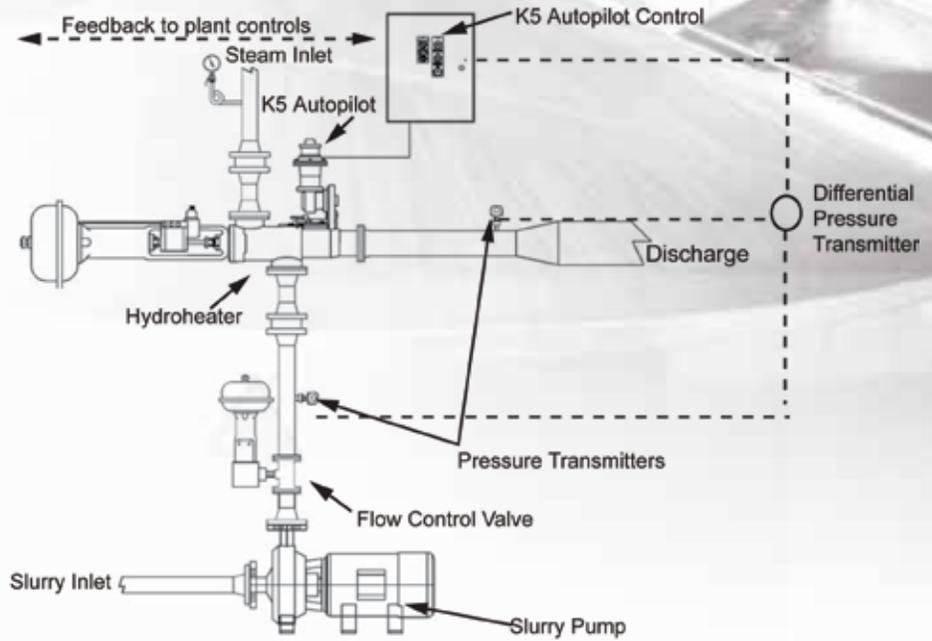
To adjust the flow path, the integral gear motor rotates the drive shaft through an air motor geared to the combining tube drive shaft; this moves the combining tube linearly, thereby adjusting the combining tube to nozzle gap. As the combining tube/nozzle gap is widened, the pressure drop is lowered. As the gap is narrowed or closed, the pressure drop is increased. The pressure drop is measured at the inlet and the discharge of the slurry connections on the Hydroheater.

- » Local control panel with inputs for differential pressure transmitter signal, pressure drop set point, and system enable (Auto/Manual).
- » Local panel displays for measured pressure drop and combining tube position.
- » Compatible with K510, K511, K512, K513, K514 and K515 Hydroheaters.
- » 100% Performance Warranty.
- » Start up assistance available.



Standard Construction and Compliances

- » Major components are treated for corrosion resistance.
- » Receives and sends 4-20 mA signals to DCS or other control package.
- » Hydroheater and actuator: See K500 information.
- » Control Panel: Remote mount, NEMA 4X.
- » Compliance standards with: UL, CSA, and NEC.



Dimensional Drawing

Model	A Inches (cm)	B Inches (cm)
K510	10.28 (41)	17.60 (44.70)
K511	16.00 (41)	26.00 (66.00)
K512	16.00 (41)	26.00 (66.00)
K513	16.00 (41)	26.75 (68.00)
K514	16.00 (41)	27.75 (70.50)
K515	16.00 (41)	29.00 (73.70)

