

SIMPSON+HARTLEY®

On-Line Control & Automation System

Modern foundries worldwide demand continuous improvements in casting quality and process productivity as well as continuous reductions in process variability and costs. To achieve these goals, we've installed nearly 800 Simpson+Hartley brand mixer group control & automation systems all over the world, in all types and sizes of foundries and on nearly all types of mixers.

DESCRIPTION

A complete green sand mixer group control and automation system.

APPLICATION

Automation and control of mix preparation and machine function for any make and model of green sand mixer.

FEATURES

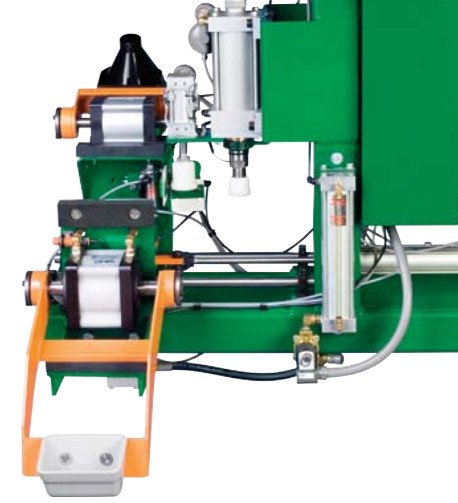
- Rugged design is easy to operate and maintain
- Complete automation of all mixer group functions
- Control of compactability to +/-3 points in 90%+ of tests
- Data acquisition and reporting

SIMPSON+HARTLEY TECHNICAL DATA

		2502		2552	
MODELS		17Mk2	18Mk2	17Mk2	18Mk2
APPLICATION	Batch		●		●
	Continuous	●		●	
MEASUREMENTS	Return Sand Conductivity	●	●	●	●
	Return Sand Temperature	●	●	●	●
	Batch Weight		●		●
	Compactability	●	●	●	●
	Green Strength			●	●
	Prepared Sand Moisture	●	●	●	●
CAPABILITIES	Mixer Group Automation	●	●	●	●
	Determine Available Bond			●	●
	Calculate Bond Addition			●	●
	Self-Correcting Logic	●	●	●	●
FEATURES	Conductivity Sensors	2 probes/1 point	2 probes/3 points	2 probes/1 point	2 probes/3 points
	Temperature Sensors	1 probe/1 point	3 probes/3 points	1 probe/1 point	3 probes/3 points
	Operator Interface	10" Color	10" Color	10" Color	10" Color
	Printer	●	●	●	●
	Ethernet Compatible	●	●	●	●
	Modem	●	●	●	●
	Remote Input/Output	●	●	●	●
	Water Addition Group	●	●	●	●
CONTROL	Deep (mm)	250	250	250	250
CABINET	Width (mm)	915	915	915	915
	Height (mm)	1,525	1,525	1,525	1,525
	Weight (kg)	180	180	180	80
HARTLEY TESTER	Length (mm)	1,100	1,100	1,100	1,100
	Width (mm)	1,400	1,400	1,400	1,400
	Height (mm)	730	730	730	730
	Weight (kg)	230	230	230	230

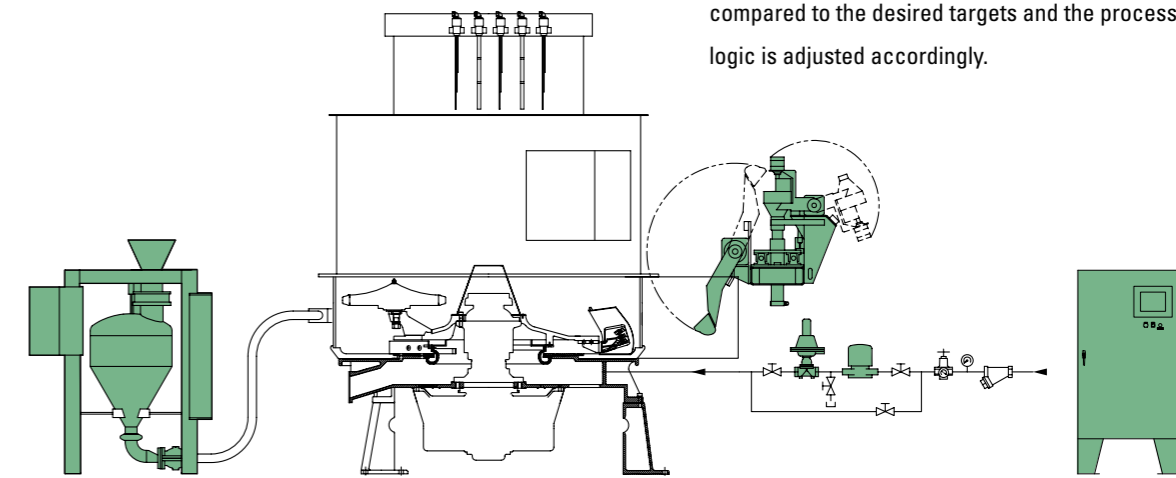
All figures are approximate and are subject to change depending upon your application.

CONSISTENCY MAKES YOU MORE COMPETITIVE



1 Measurements of the return sand temperature, moisture and actual batch weight are taken in the batch hopper prior to dosing to the mixer.

2 On discharge, the Hartley tester obtains a sample of the sand and conducts tests on the compactability, green strength (model 2552 only) and moisture. The results are compared to the desired targets and the process control logic is adjusted accordingly.



4 The data from each test (available for display or can be exported to a data system) on all model testers includes: time of day, test number, return sand temperature, return sand conductivity, target compactability, actual compactability, target water addition, actual water addition, maximum muller drive motor amperage, target bond weight, actual bond weight and compactability deviation. The model 2552 additionally provides green compression strength, available bond percentage and the available bond average (last five tests).

3 Once the process inputs have been measured, the Hartley Controller calculates the required water addition to be added through a water injection system consisting of a positive displacement pulse flow meter and diaphragm valve to maintain a targeted compactability. The model 2552 additionally calculates the needed bond addition automatically.



5 The control system is based on a high-performance, industrial programmable logic controller and has a touchscreen operator interface. The touchscreen provides display of, and the ability to adjust, all important parameters as well as diagnostic messages.

 **WANT TO KNOW MORE** www.simpsongroup.com/sandprep/hartley.htm