DOCKETED	
Docket Number:	18-MISC-01
Project Title:	Food Production Investment Program
TN #:	228251-4
Document Title:	Sidel Systems Brochure on Condensing Flue Gas Heat Recovery Units
Description:	N/A
Filer:	Patty Paul
Organization:	Sidel Systems/Sid Abma
Submitter Role:	Public
Submission Date:	5/13/2019 4:57:28 PM
Docketed Date:	5/13/2019

THE ENERGY SAVING COMPANY

sidelsystems.com

Sidel SRU Series

Condensing Flue Gas Heat Recovery Units

SIDEL SYSTEMS U.S.A. INC.

ENERGY STAR PARTNER

Sidel Therm and CO_2 Counter

MONITORING THE HEAT RECOVERED

In order to quantify the amount of heat recovered, Sidel Systems, in conjunction with Helman Automation, has created the Sidel Therm and CO_2 Counter. This is an industrial PLC capable of continuously storing data which shows how much energy is saved by the SRU Flue Gas Condenser. The Therm and CO_2 Counter control unit has two major components: the HMI (human machine interface), and the PLC (programmable logic units).

The HMI displays all the important information, is the gateway to change parameters, and can communicate collected data to other terminals via the internet.

One of the greatest advantages of the system is its capability to be adapted to the monitoring needs of the customer. The system can be programmed to perform all the automation control, data acquisition, and data storage.

The Sidel Therm and CO_2 Counter works in a similar way to any utility meter, with the exception of an additional audible buzzer which sounds in response to any hazard that may occur.

The display screen shows the amount of energy recovered as well as other vital information such as the temperature at several critical points, water flow, chimney valve position, and monitor any other information required to protect the SRU from damage. Any data that registers out of normal range will set off an alarm.

The HMI used in the Sidel Therm and CO_2 Counter has all the latest technology, such as: a high resolution touchscreen, Ethernet, USB and serial port connections. This allows the data collected to be displayed on any computer in the company.
The HMI can be customized to display in either Metric units or British units and also can be programmed for Multi languages.

This feature is very useful to see graphically how the changes of each parameter affect the heat recovery process.

HOW THE THERM AND CO_2 COUNTER WORKS

From 4 sensors that are inserted into the pipes connected to the Sidel SRU Flue Gas Heat recovery Unit, the Therm and CO_2 Counter takes the temperature of:

- Water flowing into the SRU unit.
- Water flowing out of the SRU unit.
- Flue gas flowing into the SRU unit.
- Flue gas flowing out of the SRU unit.

From the water flow sensor inserted into the water intake pipe, the PLC receives the rate of water flowing through the SRU in Gallons per minute (GPM).

This data is received by the PLC in 5 second intervals and is displayed on the screen.

The PLC calculates the Delta T in BTU's, and the flow rate in GPM and displays the resulting

HISTORY

Time	Date	Win(F)	Wout(F)	Air in(F)	Air out(F)	GPM	BTUs
12:58	15/1/2008	117.7	133.1	291.2	189.2	162	1018
10:58	15/1/2008	157.5	181.9	275.5	161.5	120	1284
09:58	15/1/2008	156.2	179.5	271.5	161.0	111	969
08:58	15/1/2008	155.4	156.7	190.8	94.8	61	373
07:58	15/1/2008	112.0	97.1	83.0	58.1	19	0
06:58	15/1/2008	60.9	58.0	51.0	53.8	0	0
05:58	15/1/2008	60.2	57.5	50.4	52.3	0	0
04:58	15/1/2008	60.2	57.7	50.3	51.1	0	0
03:58	15/1/2008	60.3	58.0	50.6	50.7	0	0
02:58	15/1/2008	61.0	58.8	51.7	50.4	0	0
01:58	15/1/2008	63.8	60.2	53.6	52.0	0	0
00:58	15/1/2008	60.3	59.8	52.9	52.5	1	1

DATA TRENDING

calculation as BTU's saved every 5 seconds.

From these figures it is possible to see, in real time, exactly how the SRU is performing.

This information is also saved as history in the PLC memory and can be displayed on the History Screen.

By using the touch screen the operator can open and close the Chimney Valve, control the alarm function set the system, and navigate between the displays.

The displayed calculations also can be sent over the internet or intranet to be displayed on any computer within the company.

This gives the Sidel SRU a unique advantage in providing real time cost savings analysis that can be used by managers to prove that their company is acting responsibly by reducing greenhouse gas emissions and using their energy as efficiently as possible.

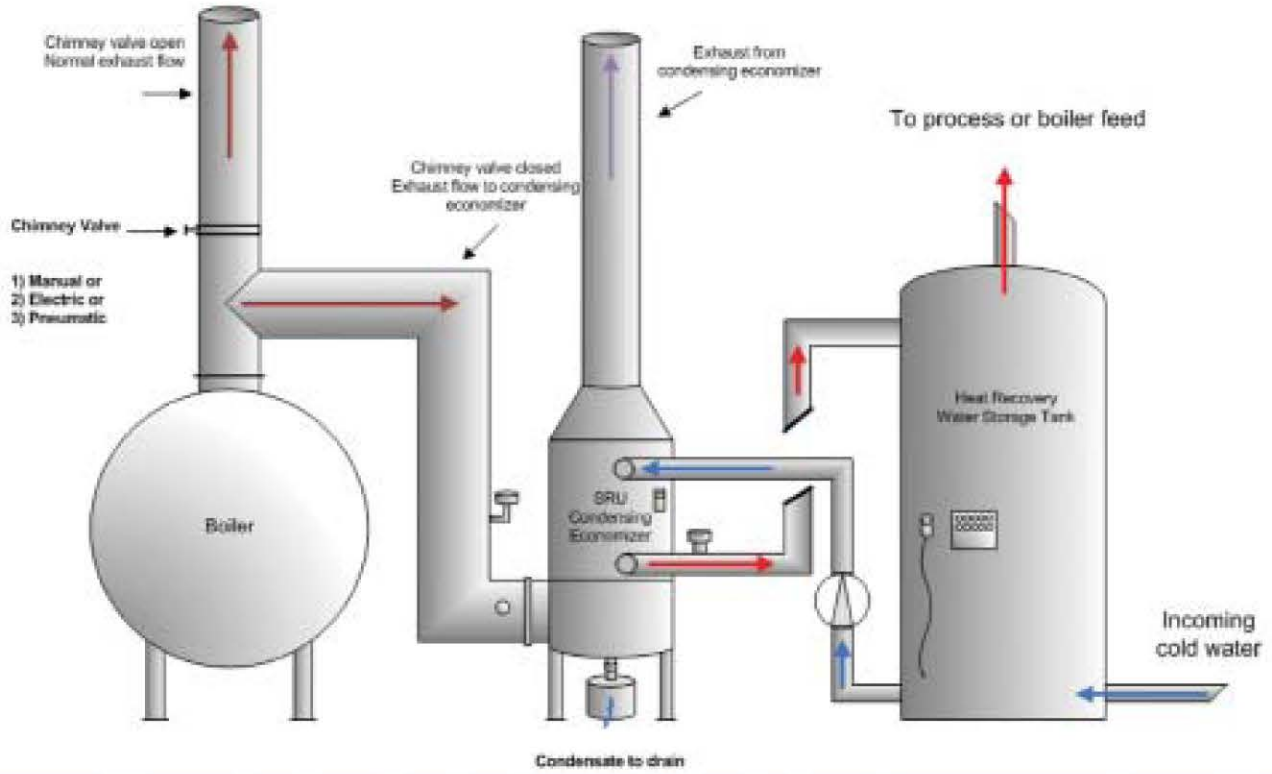
Flue gas recovery systems are being used around the world.

BENEFITS

- Increased system efficiency (typically to 90-95%)
- Fuel savings (typically 10-15%)
- Short payback
- Easy installation, low maintenance
- Reduced CO_2 and other noxious gas emissions
- Reduced stack noise emission
- Operates over a broad range of equipment conditions
- Computer-aided design (to ensure optimum sizing)
- Computer-aided investment analysis
- 7- year limited guarantee

Sidel Systems SRU Flue Gas Condenser

Potential Installation Option



*CA State License # 750097

SIDEL SYSTEMS U.S.A. INC.

TOLL FREE 1 800 668-5003
Tel: (805) 462-1250
Fax: (805) 464-0504
PO BOX 1868 Atascadero CA 93423
www.sidelsystems.com