



# Spirax EasiHeat™ HTG (Condensate Control) Heating System Compact Heat Transfer Solution

## Heating System

The Spirax EasiHeat™ HTG Condensate Control Heating System, incorporating SIMS technology, is a complete, compact and ready-to-use steam to water heat transfer solution. This unit delivers superior energy efficient performance that can be utilized for applications with stable load conditions such as closed circuit heating applications. Spirax EasiHeat™ HTG can help you lower costs, minimize waste and mitigate your environmental impact by reducing your CO<sub>2</sub> emissions and carbon footprint, making a positive change towards a more sustainable future.

## Principal features and benefits:

- Compact heat transfer solution incorporating SIMS technology.
- Energy usage monitoring, real-time CO<sub>2</sub> emission, multiple communications, remote monitoring and SMS or e-mail of system alarm notifications.
- Produces hot water for heating and process.
- Designed for sub-cooling condensate to provide high efficiency and zero flash steam loss.
- Maintains a stable temperature.
- Guaranteed performance.
- Fully assembled and tested ready to install.
- Options to suit all applications.

## Heat Exchanger

One of the components that guarantees system performance is the heat exchanger, which is precisely engineered to match the specific duty requirements.

With a high efficiency and low volume to pressure ratio. The plate and frame heat exchanger ensures reduced inspection requirements whilst being fully maintainable and expandable.

## Control Panel

The Spirax EasiHeat™ HTG features innovative control processes that incorporate SIMS technology to deliver increased monitoring and communications. The NEMA 4 enclosure houses a PLC with a color touch-screen HMI, providing ease of use and clear visual access to all system parameters. The EasiHeat™ also offers logging of energy data for a maximum of 30 days, outside weather compensation. It also offers various features such as alarm notification and remote access to all panel functions.

## Condensate Control

One of the components that guarantees system performance is the correctly selected control valve with either electric or pneumatic actuation, and ensures all of the useful energy in the steam is used within the unit, there's less waste than other available alternatives which, in turn, reduces both fuel demand and your CO<sub>2</sub> emissions. SIMS technology also provides functionality to accommodate low load conditions for condensate control.



## Metering

A key component guaranteeing accurate measurement of energy usage, CO<sub>2</sub> emissions and cost control. The TVA flowmeter (included when energy monitoring option selected), is specifically designed for large turndowns on steam applications.

## Materials

Steam and condensate (primary) side pipework	ASTM A105 carbon steel	≤2" nominal bore schedule 80 >2" nominal bore schedule 40
Steam control valve	Cast iron	
Water (secondary) side pipework	Carbon steel	≤2" nominal bore schedule 80 >2" nominal bore schedule 40
Heat exchanger plates	316L stainless steel	
Heat exchanger gaskets	EPDM	

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Local regulations may restrict the use of this product below the conditions quoted. Limiting conditions refer to standard connections only. In the interests of development and improvement of the product, we reserve the right to change the specification.

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## Pressure and Temperature Limits

Pipework design condition	ASME 150
Maximum saturated steam supply pressure to heat exchanger	45 psig
Maximum secondary pressure	130 psig
Maximum secondary temperature	221°F
Maximum gasket temperature	356°F

## Pipework

All pipework is correctly sized for the application and is fabricated using modern welding techniques, approved welders and weld procedures. Flanged products are used where possible for reliability and easy maintenance.

All pipework, components and fittings on the secondary side that come into contact with potable water meet and fully comply with the lead-free requirements of the Safe Drinking Water Act.

## Support Frame

The Spirax EasiHeat™ DHW system is delivered pre-assembled on a compact frame and baseplate ready to position at the installation location with a fork lift truck or other lifting device. The EasiHeat™ is designed to fit through a standard 36" door and can be fitted with optional wheels for easy maneuvering in tight locations.

## Electrics and Pneumatics

All control equipment is pre-wired and piped ready for connection to the air supply and power source.

Electrical supply	Power supply	110–240 v AC / 50–60 Hz
	Supply fuse	5 Amps (T)
Actuators	Electric	24 v AC / 50-60 Hz
	Pneumatic	60-90 psig

## Communications

The Spirax EasiHeat™ offers a range of communication protocols including:

Modbus RTU	BACnet MS/TP (RS485)
Modbus TCP/IP (Client)	BACnet TCP/IP (Client)
Profinet	CANopen
Profibus (RS485)	

## Safety

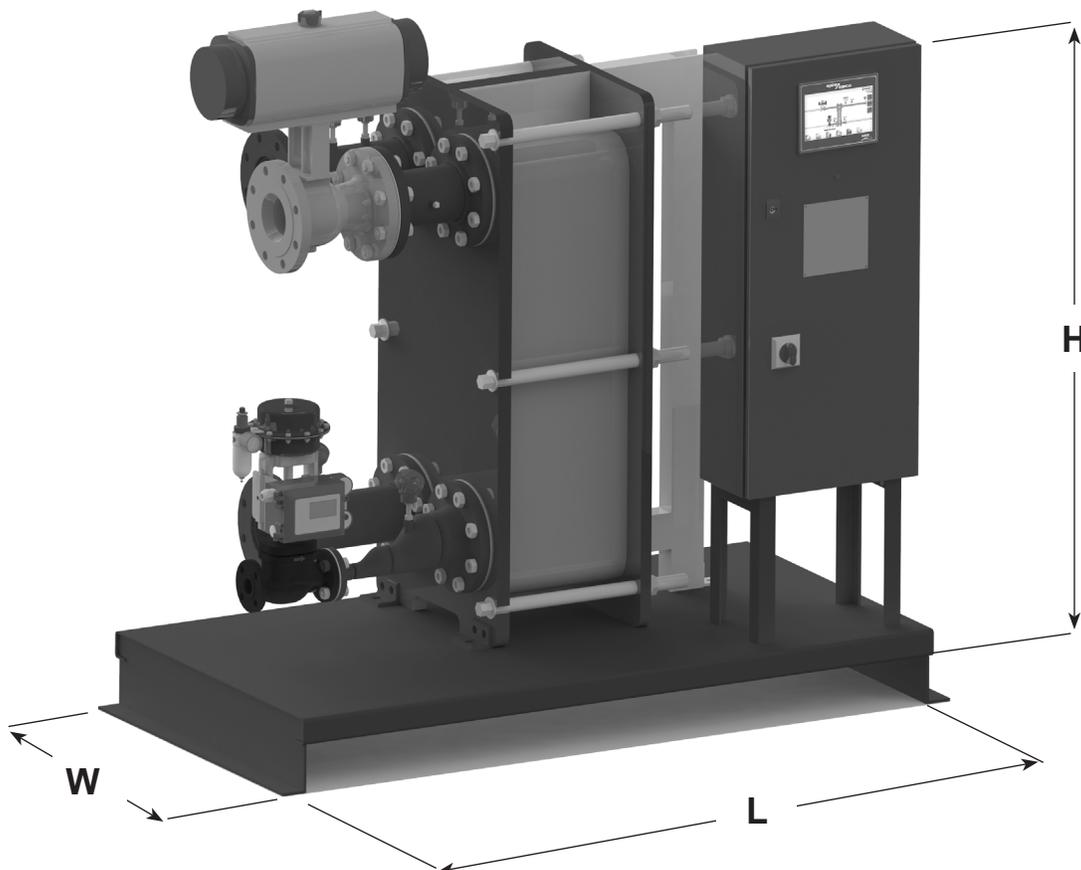
- The Spirax EasiHeat™ provides precise control of outgoing temperature.
- The Spirax EasiHeat™ modulates condensate via a pneumatic or electric actuated globe type control valve with smart positioner and class VI shut off.
- A steam isolating valve offers bubble tight shut off to protect against high temperature excursions and low load conditions. An integrated high limit alarm circuit actuates the valve and prevents steam from entering the heat exchanger. Also an integrated alarm circuit actuates the valve and prevents condensate entering the steam line. Both these functions automatically terminate once satisfactory outlet water temperature has been re-established.
- Optional manually operated isolation ball valve for secure steam shut off.
- UL® listed control panel enclosure, components and wiring.

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Delta T	Heat Load MMbtu/hr (Flow - gpm)		Type	Valve Actuation	Maximum Dimensions			Piping Connections	
	Min	Max			H	L	W	Steam	Condensate
20	6.83 (6.9)	1.70 (170.3)	EHHCC1	EL or PN	52.5"	58"	33.5"	2" flanged	½" screwed
20	1.70 (170.4)	5.80 (579.3)	EHHCC2	EL or PN	59.1"	58"	33.5"	4" flanged	¾" screwed
40	0.69 (3.5)	1.19 (59.6)	EHHCC1	EL or PN	52.5"	58"	33.5"	2" flanged	½" screwed
40	1.19 (59.7)	7.67 (383.3)	EHHCC2	EL or PN	59.1"	58"	33.5"	4" flanged	¾" screwed
40	7.67 (383.4)	9.55 (477.1)	EHHCC3	EL or PN	59.1"	58"	33.5"	4" flanged	1" flanged

**Notes:**

1. The heat load has been based on a steam inlet pressure of 30 psig and a backpressure of 0 psig (7 psig pressure drop across the heat exchanger).
2. Capacities have been based on a 160°F-180°F (20°ΔT) and 160°F-200°F (40°ΔT) temperature rises.
3. Capacities are for single wall heat exchangers.
4. The height of the system will increase by 1" if wheels are fitted.
5. Dimensions shown are for units with: - high limit, and without: - split range control valves, energy monitoring and isolation valve.
6. Connection sizes are for units with:- high limit, and without: - energy monitoring and isolation valve. Connections will vary for energy monitoring and isolation valve options.
7. Length (longest horizontal plane) x width (shortest horizontal plane) x height (vertical plane)



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**Spirax EasiHeat™ HTG Condensate Control Nomenclature Example:**

EHHCC	2	L	A	EL4	-	HL	B	V1	G1	W	-	T6	E	R2	C1	O1
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## Spirax EasiHeat™ Heating Condensate Control Nomenclature

<b>Compulsory Selection</b>	Building Heating Unit	EHHCC = Spirax EasiHeat™ Heating Condensate Control	EHHCC
	Control valve size	1 = ½" 2 = ¾" 3 = 1"	2
	Pressure vessel code	A = ASME	A
	Actuation	EL4 = Electric (SIMS) PN = Pneumatic	EL4
	High limit	HL = High limit (SIMS) IHL = High limit (SX90)	HL
<b>Mechanical Options</b>	High limit actuation EL only	B = Battery back-up	B
	Manual isolation valve	V1 = Ball valve V2 = Gate valve	V1
	Gasket material	G1 = EPDM	G1
	Extras	W = Wheels	W
<b>Panel Options</b>	Panel type	T6 = 110V UL SIMS touch screen P2 = 110V UL process controller	T6
	Energy monitoring	E = With energy monitoring	E
	Remote access	R1 = Level 1 - SMS text and e-mail R2 = Level 2 - 3G web access R3 = Level 3 - both of the above (R1+R2)	R2
		C1 = Modbus RTU C2 = BACnet MS/TP (RS485) *C3 = Modbus TCP/IP (Client) C4 = Profinet C5 = CanOPEN *C6 = BACnet TCP/IP (Client) C7 = Profibus RS485	C2
<b>Options</b>	O1 = Selected option 1 O2 = Selected option 2 O3 = Selected option 3	O1	

*\* Note: not available when panel options R2 or R3 selected*

### Typical Specification

The heating system shall be a Spirax EasiHeat™ compact heat transfer system complete with PLC functionality and SIMS technology to provide energy monitoring and remote access. The system will be pre-assembled and mounted on a compact frame with either pneumatic or electric control option.

Using Spirax Sarco's advanced sizing suite, all systems are optimally designed for the required heat load with controls to suit the application. To ensure that all pertinent information for quotation and manufacture is accurately communicated, please contact your local Spirax Sarco engineer for sales support.