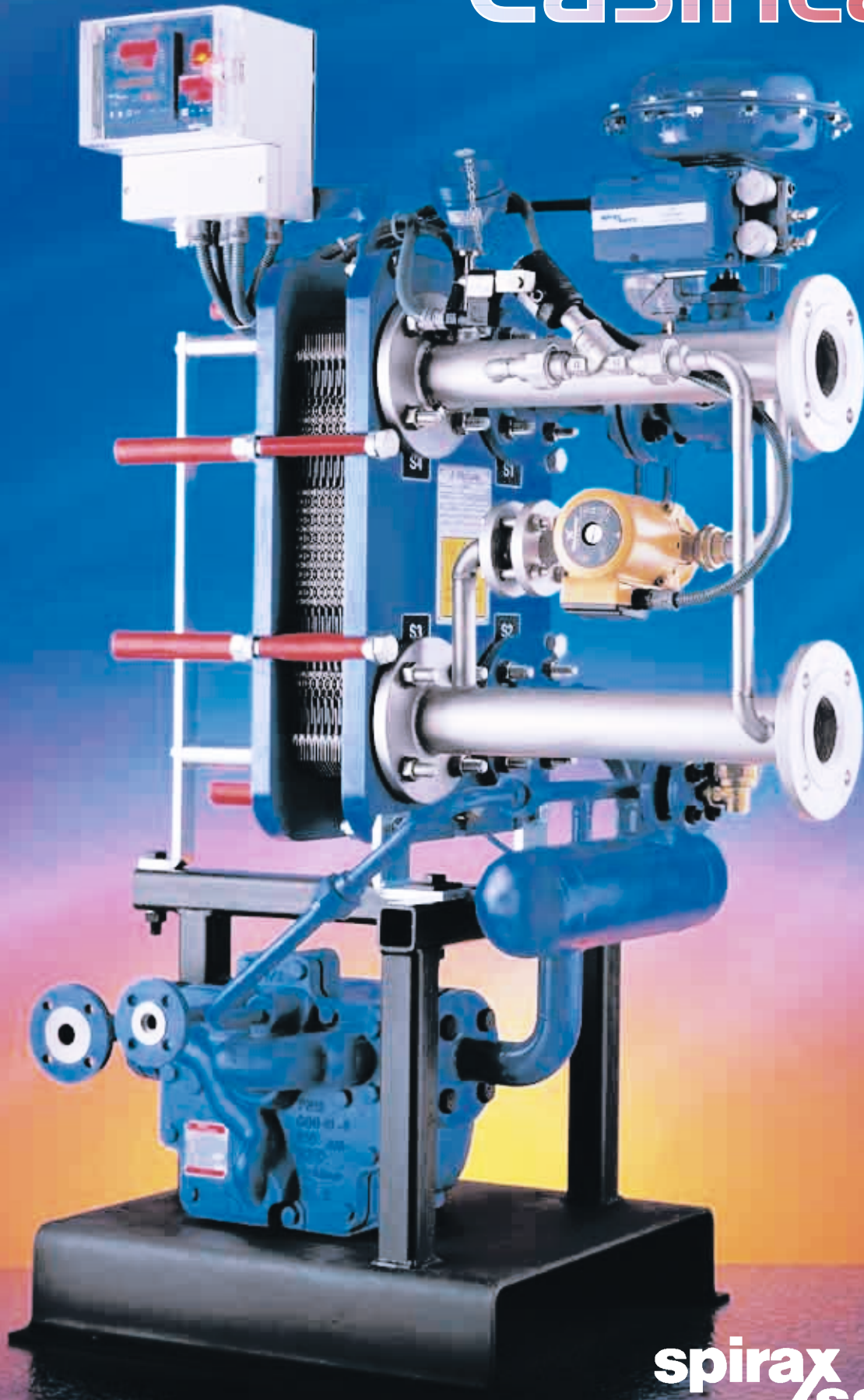
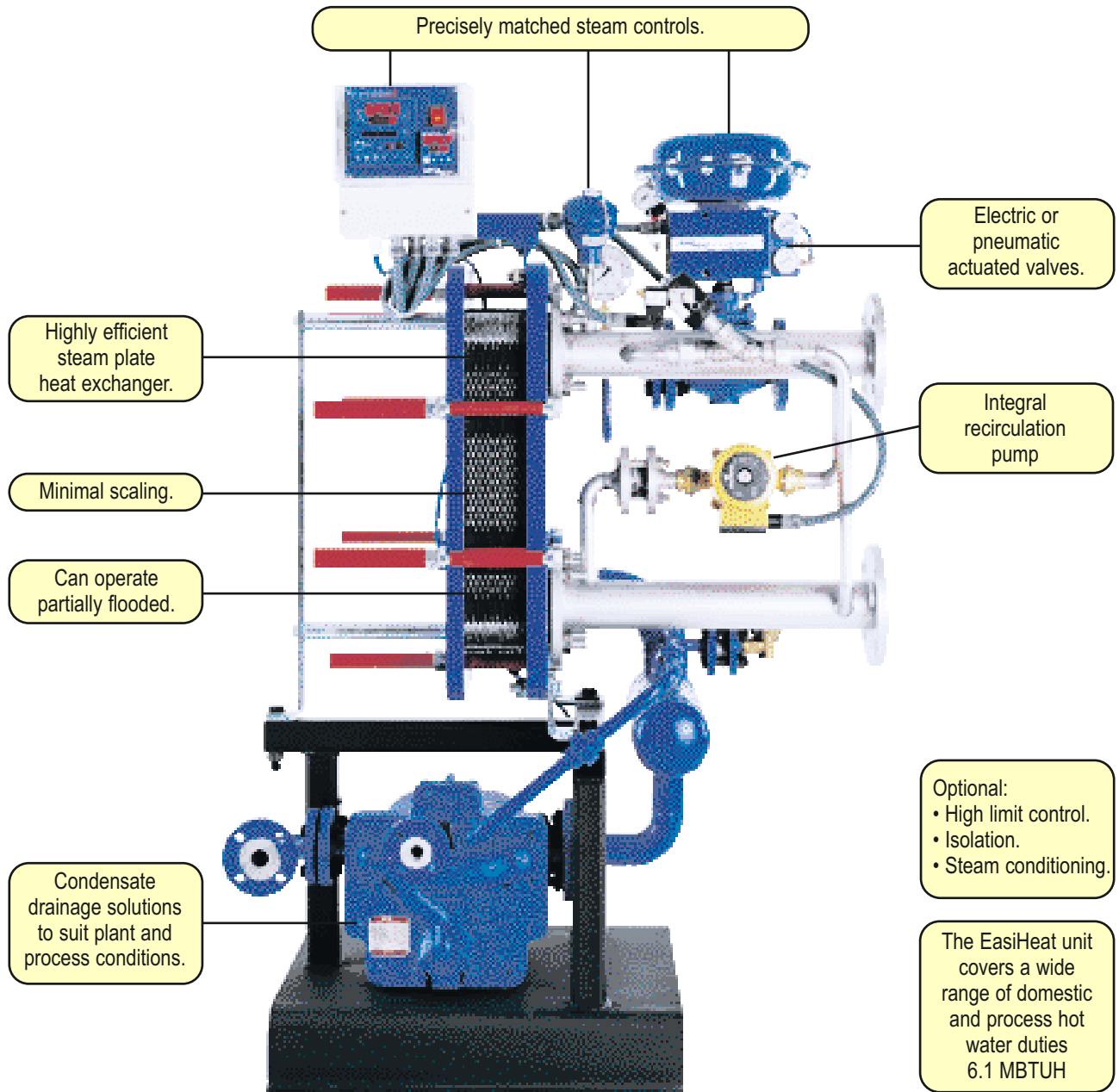


· EasiHeat ·



spirax
/sarco®

EasiHeat



The base unit
occupies a maximum of 42 cubic feet.
The AEH-PT-DHW unit with all options,
occupies a maximum of 162 cubic feet.

A complete, compact steam heat exchange solution for process and domestic water heating requirements.

Applications

Domestic Hot Water (DHW)

- The EasiHeat domestic hot water unit will deliver a constant, stable temperature, even with the sudden and wide load changes found in domestic hot water applications.
- The EasiHeat can operate at low or even sub-atmospheric steam temperatures in areas with hard water.

Hydronic Hot Water (LTHW)

- The EasiHeat gives accurate temperature control whatever the heating load requirement.
- The EasiHeat provides excellent response to load changes for heating circuits.

Process heating

- A wide range of duties can be satisfied by using the EasiHeat.
- By using an EasiHeat unit, low pressure primary operation is available for temperature sensitive fluids.

Features and Benefits

Non-ferrous waterside construction.

- Offers rust free hot water.

Ready to install package.

- Saves design time.
- Small footprint frees up floor space.
- Easier to select and own than traditional shell-and-tube systems.

Flexible option packages for steam conditioning, isolation and high limit control.

- Results in a complete system: Steam in, hot water out.

Choice of electric or pneumatic controls.

- Suits any plant.

As a result of extensive development and testing, your hot water needs can be met by a small range of packages.

- Simply choose the package which suits your hot water requirements.

Unique plate heat exchanger design.

- Highly efficient, low maintenance solution to hot water heating by steam, without scaling problems.

Precisely matched steam controls.

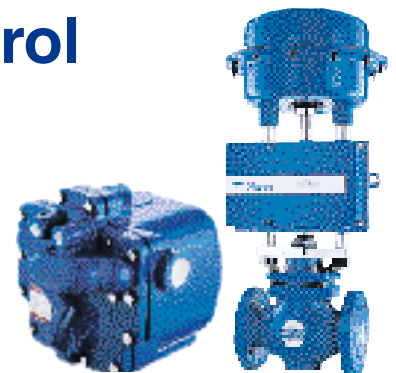
- Accurate temperature control and optimum condensate drainage.

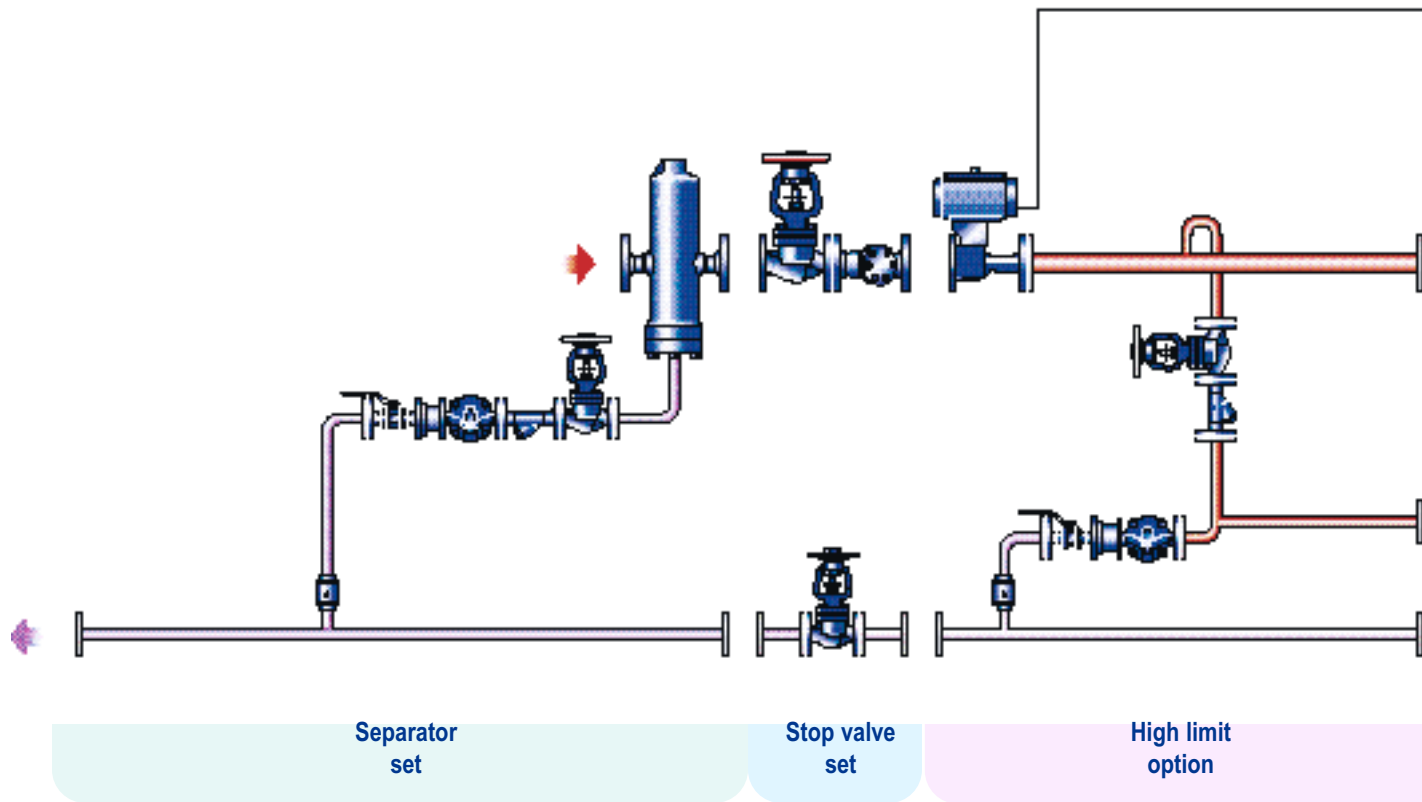


Heat exchanger

expertise in steam control and heat exchange

Controls, ancillaries and condensate removal





Steam conditioning

To operate at maximum efficiency a heat exchanger must be supplied with clean dry steam. A wide range of Spirax Sarco separators and strainers are available to ensure this is always the case. The EasiHeat can be supplied with steam conditioning as an option, with associated system ancillaries.

High limit control

High limit controls must always be provided to ensure the system will automatically and safely shut down, should a problem occur. The EasiHeat can be supplied with an independent, fail-safe high limit option package.

Pipeline ancillaries

Spirax Sarco has a wide range of pipeline ancillaries including check valves and stop valves, which are designed for use on steam and water systems.

The EasiHeat can be supplied with isolation valves and strainers as an option.

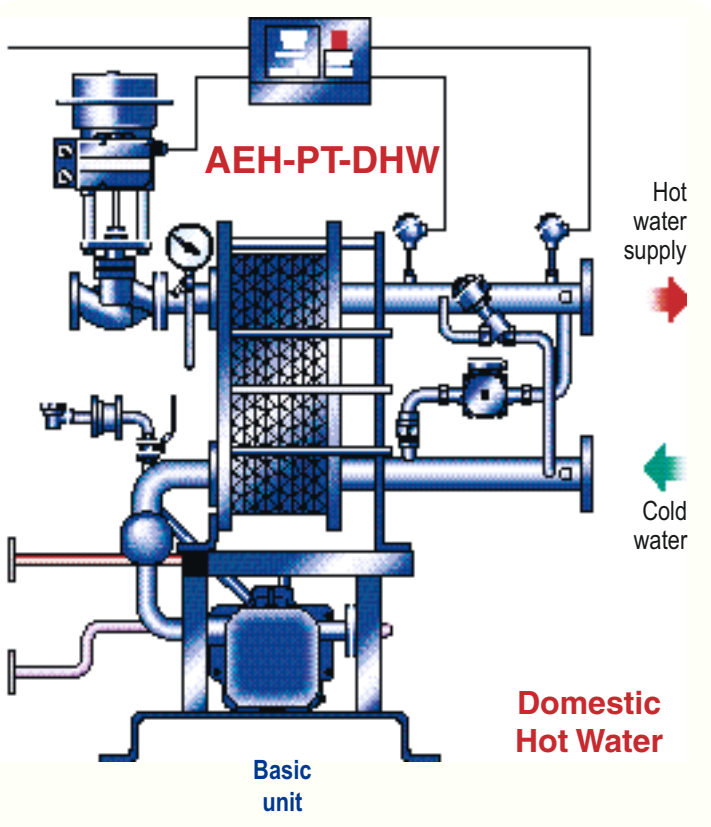
Steam pressure reduction and pressure relief

In most installations a steam pressure reducing valve is required. The EasiHeat will operate at steam temperatures up to 320°F (356°F peak), but it is often better to lower the steam pressure to optimize its performance or to ensure that scaling does not occur in hard water areas.

A pressure reducing valve must be installed when the available steam pressure is above the recommended operating pressure. When this is the case, there may be a need to fit a safety valve.

Spirax Sarco can advise on the best pressure reduction method and safety valve for your needs.

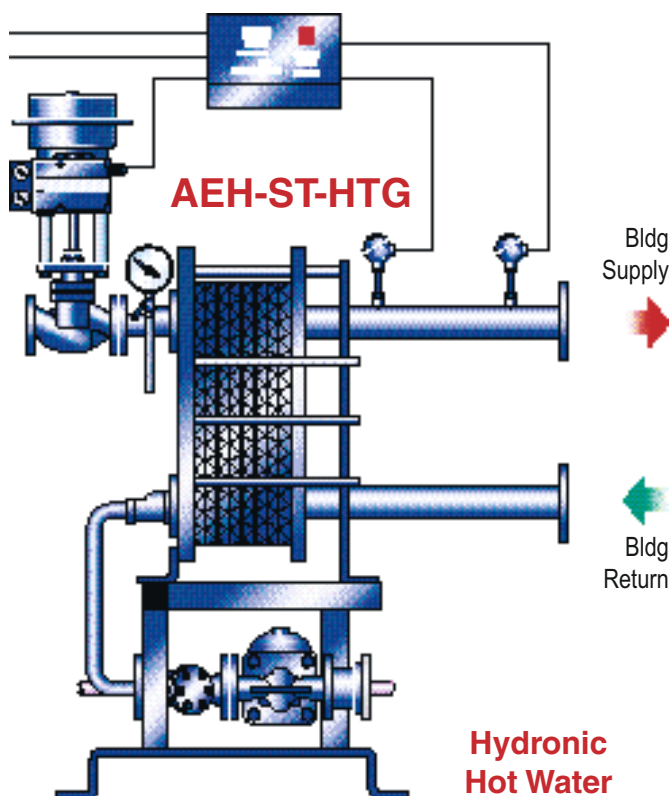
The complete steam heat exchange solution



EasiHeat, with its full range of option packages, provides the complete solution to steam heat exchange needs.

Within this package, the key components are matched and configured for optimum performance.

EasiHeat



Optimized design

The EasiHeat can be supplied with an automatic pump-trap which enables system operation at low or sub-atmospheric steam pressure, even when a back pressure is imposed.

For duties where a large secondary temperature rise is required and sudden, large load changes are expected (such as instantaneous domestic hot water applications) a design has been developed which will provide stable secondary temperatures even under these most demanding of conditions.

Operating at a low condensing temperature will minimize the possibility of scaling, especially in open secondary circuits, when operating in hard water areas.

Key

High limit option

Stop valve set

Separator set

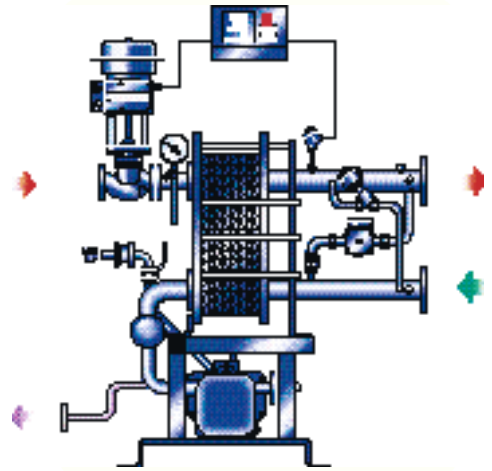
Basic unit

Option 1

Basic EasiHeat unit

The core of an effective, safe, well engineered steam heat exchange solution.

The basic package contains all the key components that contribute to the EasiHeat's unmatched performance.



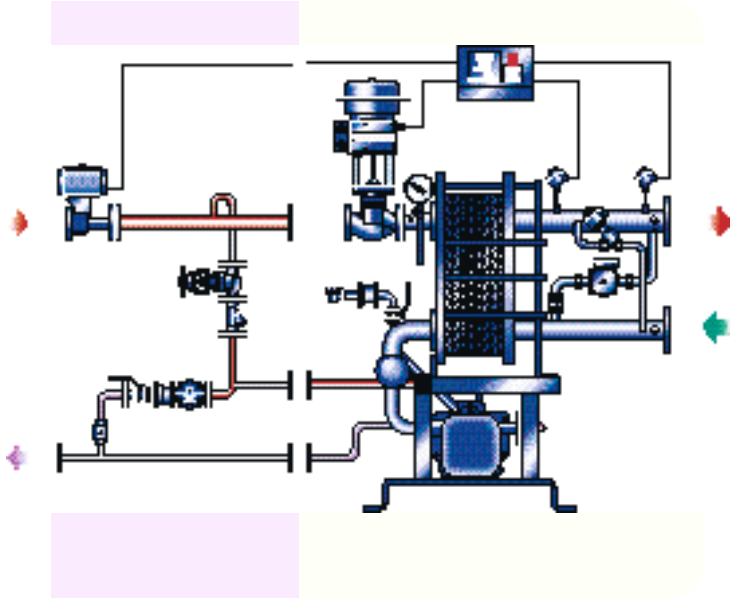
Option 2

High limit package

A pneumatic or electrically actuated, fail-safe, high limit function that will automatically isolate the steam supply if a pre-set secondary temperature is reached.

The high limit function has its own controller with manual reset, separate from the main temperature controller.

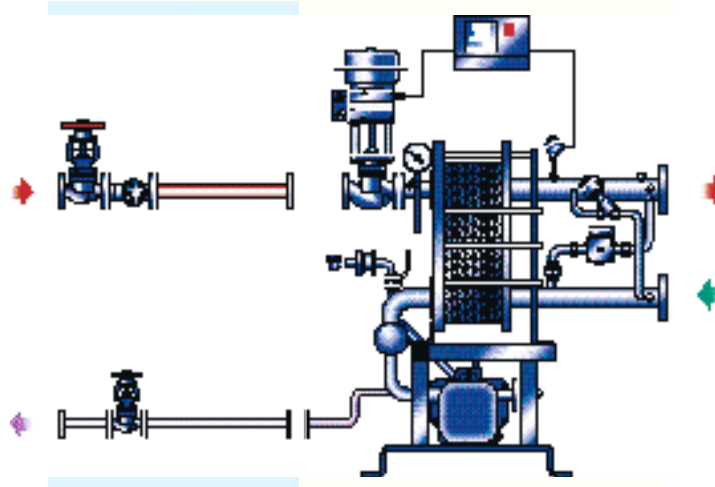
On EasiHeat DHW units, activation of the high limit option also isolates the motive steam supply to the APT14 combined pump-trap.



Option 3

Stop valve package

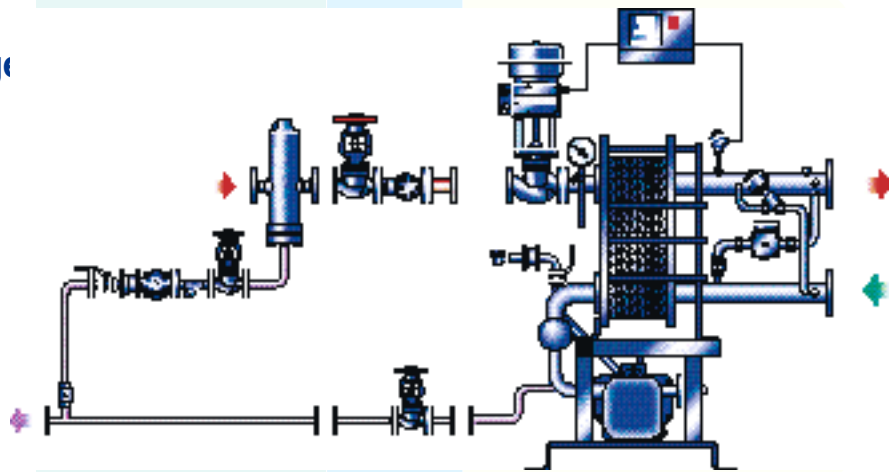
Bellows sealed stop valves fitted to the steam inlet and condensate outlet connections to enable isolation of the primary circuit, together with a strainer to protect the temperature control valve.



package options

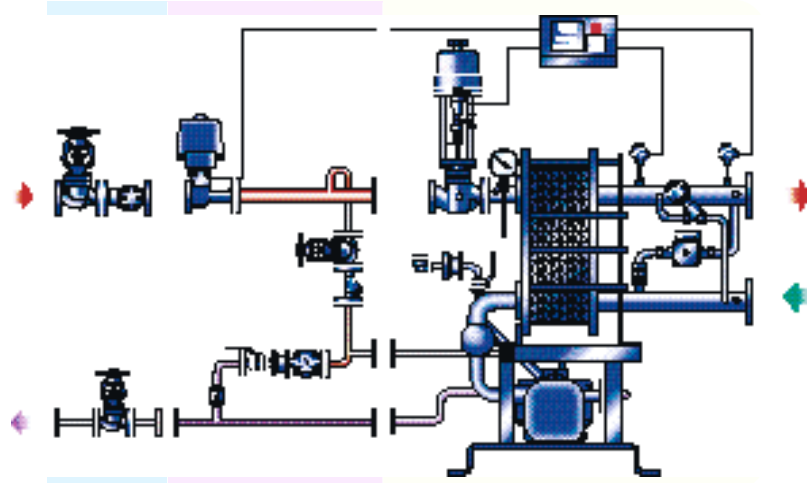
Option 4 Stop valve and separator package

The stop valve package together with a separator set, removes the entrained water droplets in the steam. This ensures that dry saturated steam is delivered to the EasiHeat unit.



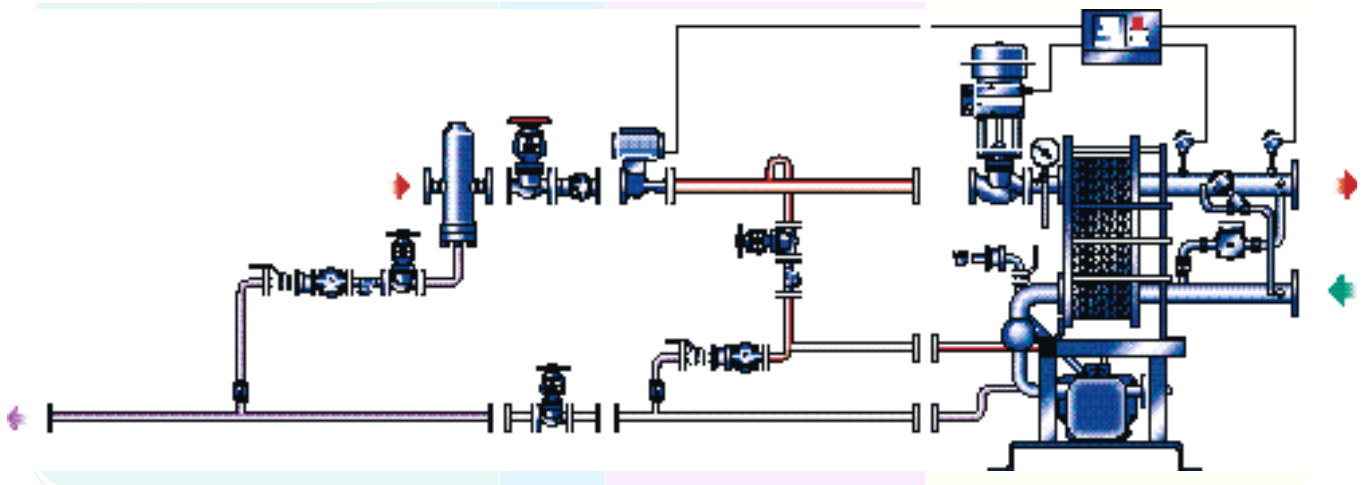
Option 5 High limit option and stop valve package

Both the high limit option and the stop valve set, combined into one package.



Option 6 Full option package

A combination of all the available options to provide a fully specified EasiHeat package.



Fully matched components

Control valve



- Control Valves specifically designed for steam
- Fast acting Pneumatic actuated valves with a full range of positioners
- High speed electrically actuated valves



Controller and sensor



EL2300

Controller

- Full function programmable controller.
- Real time clock.
- P + I + D control
- Fast acting sensor for control and high limit.



Sensor

- Fast acting sensor.
- High limit sensor available.

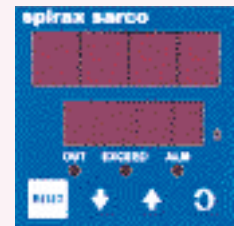
High limit control

Optional extras

The standard EL2300 controller that is supplied with the EasiHeat can provide a signal to operate a high limit cut-out device.

An independant high limit circuit is available as an options package.

A choice of electric or pneumatically actuated high limit valve options provide a fail-safe operation.



Condensate removal

The innovative Spirax Sarco APT is the smallest automatic pump-trap available. It ensures the system remains fully drained of condensate and enables the system to operate against high back pressure or allows the use of sub-atmospheric primary steam pressure to prevent:

- Scaling.
- Unwanted flash steam.



No additional steam trap is required with the APT. However, a full range of float and thermostatic traps is available for situations where the plant drainage conditions do not call for a pumping function.



Heat exchanger

The heat exchanger has created system capabilities not previously possible within the limits of traditional shell-and-tube systems, or other plate heat exchanger designs:

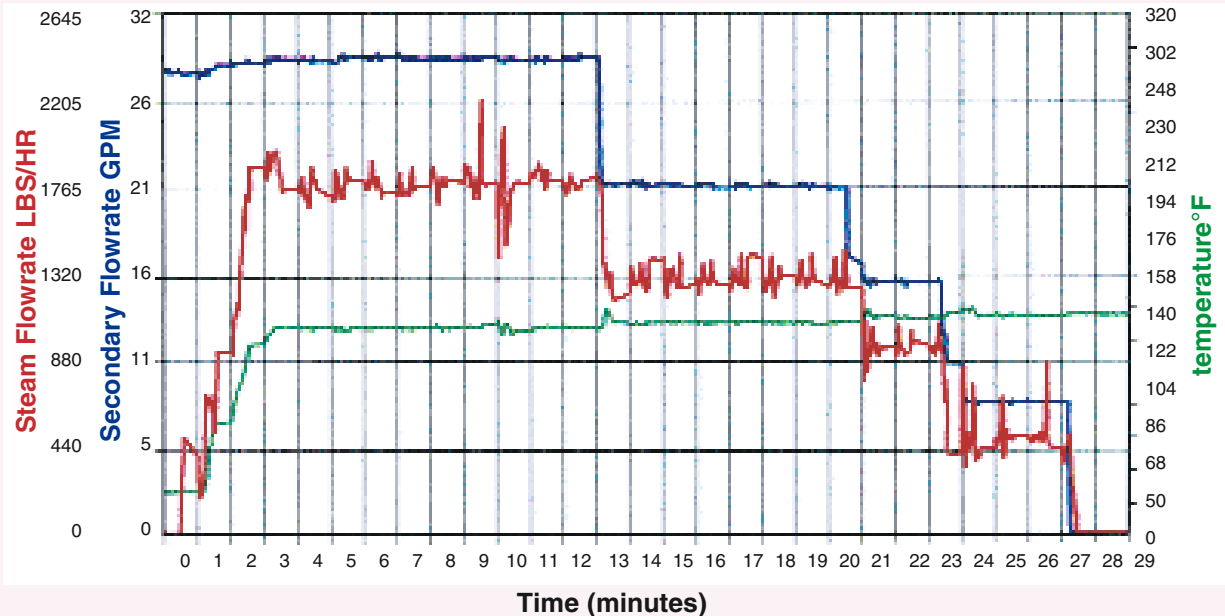
- Compact design.
- Easy to add or remove plates to alter capacity.
- Minimal maintenance.
- Flexible plates resistant to thermal fatigue.
- No tubes to crack or replace.
- Design and operation discourage scaling even in open systems.
- Superior corrosion resistance.
- Gaskets designed for steam allow peak temperatures up to 356°F.



Performance

The Easiheat system will deliver constant outlet temperatures of $\pm 2-3^{\circ}\text{F}$ under stable load conditions. When subjected to sudden load changes, typical in domestic water heating systems, Easiheat will provide instantaneous performance of $\pm 9^{\circ}\text{F}$ from set point without the use of a buffer tank or mixing valve.

EasiHeat PN Typical performance on instantaneous duty (No buffer tank or storage vessel)



— Steam flowrate

This is the steam being delivered to the EasiHeat unit at the correct pressure and temperature.

— Secondary flowrate

This is the cold water being delivered to the EasiHeat

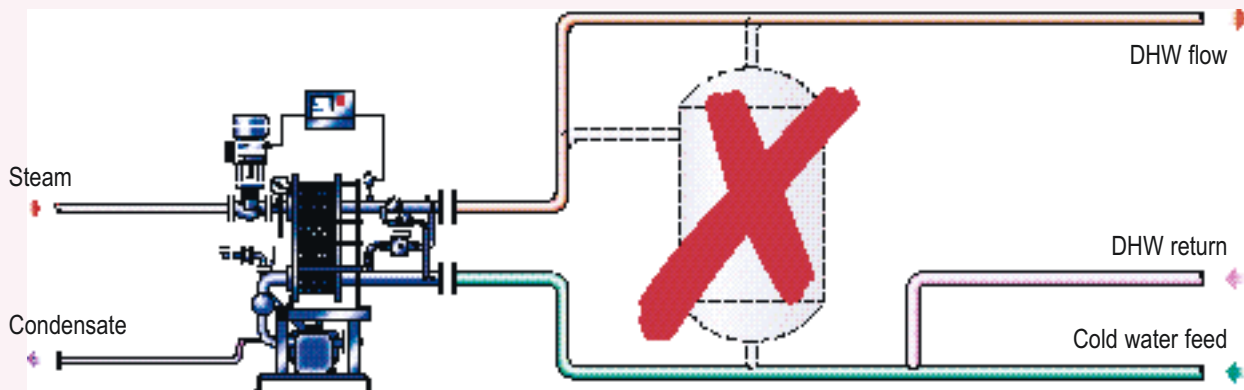
— Secondary temperature

This is the flow of hot water at a constant temperature for the heating requirements.

Performance benefit

Because EasiHeat provides a stable secondary temperature, a secondary circuit buffer tank is not always necessary to smooth out the large temperature swings that can occur with conventional heat exchange units servicing instantaneous Domestic Hot Water duties.

This provides savings in space, weight and the need to inspect for legionella in vessels which store potable water.

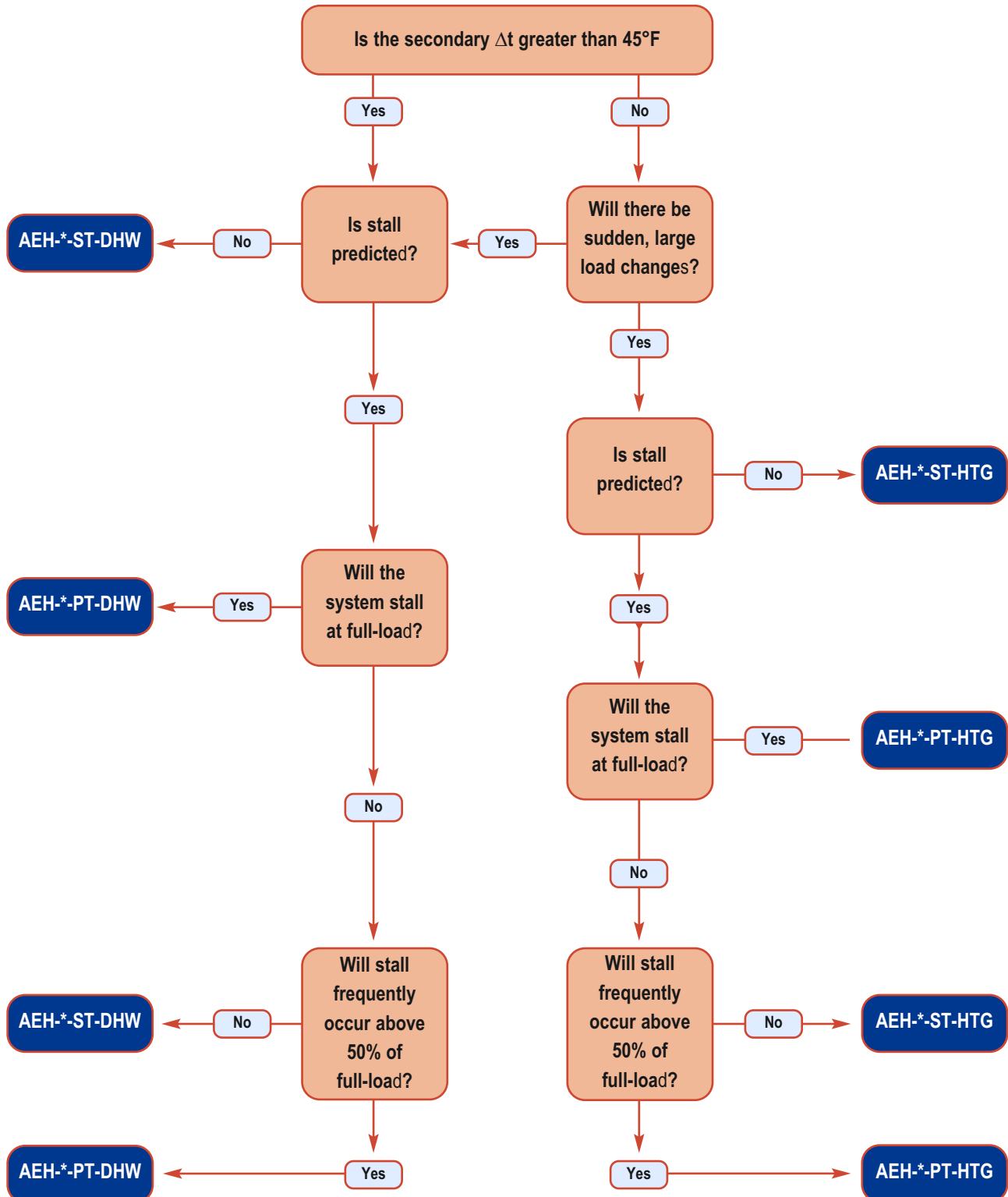


Selection guide

Explanatory text

The EasiHeat package is designed to provide a stable secondary temperature, instantaneously, under all types of secondary load conditions. To ensure that optimum performance is achieved under all operating conditions, different piping configurations and condensate removal options are available.

The Flow Chart below will help you to select the correct combination for your application.



EasiHeat capabilities and options

Range capabilities

The table below gives examples of the load capabilities of a single EasiHeat unit. Consult your local Spirax Sarco representative or engineer to determine your precise requirements.

	Minimum load (approx.) MBTU/H	Maximum load (approx.) MBTU/H
AEH-1_-ST-DHW	.631	.751
AEH-2_-ST-DHW	.785	1.23
AEH-3_-ST-DHW	1.24	2.03
AEH-4_-ST-DHW	2.04	3.14
AEH-5_-ST-DHW	3.19	4.50
AEH-6_-ST-DHW	4.65	6.15

Steam pressure before the control valve is 75 psig.

Secondary temperature is 50°F up to 149°F

EasiHeat compact steam heater

AEH

Steam control valve size	1 = 3/4"
	2 = 1"
	3 = 1-1/4"
	4 = 1-1/2"
	5 = 2"
	6 = 2-1/2"

Gasket material	H = HeatSeal
	E = EPDM

Condensate removal	ST = Steam trap
	PT = Automatic pump-trap

Secondary piping configuration	HTG = Without bypass and cold water injection
	DHW = With bypass and cold water injection

Valve actuation	PN = Pneumatic
	EL1 = Electric 230 Vac
	EL2 = Electric 115 Vac
	EL3 = 230 Vac/24 Vac

Additional option packages	HL = High limit package
	V = Stop valve package
	VS = Stop valve and separator package
	HL-V = High limit and stop valve package
	HL-VS = Full option package

Selection example

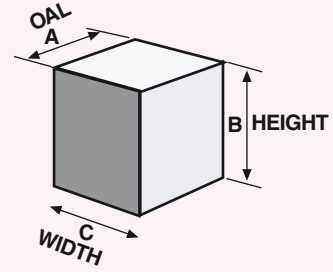
A basic EasiHeat unit, with a 3/4" steam control valve, an automatic pump-trap, for use without a bypass or cold water injection using a pneumatic valve and incorporating all the available options.

The nomenclature for the above selection would be displayed as follows:

AEH - 1H - PT - HTG - PN - HL-VS

Dimensions

(approximate in inches)



Option	1			2			3			4			5			6		
Dimension	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C
AEH*-PT-DHW-PN	44	58	28	44	58	28	44	58	28	44	58	28	44	58	28	44	65	29
AEH*-PT-DHW-PN-HL	54	58	29	54	58	29	54	58	29	54	58	28	54	58	28	54	65	29
AEH*-PT-DHW-PN-V	72	60	38	72	60	38	72	60	38	72	60	39	72	60	39	72	65	41
AEH*-PT-DHW-PN-VS	72	60	38	72	60	38	72	60	38	72	60	39	72	60	39	72	65	41
AEH*-PT-DHW-PN-HL-V	72	60	38	72	60	38	72	60	38	72	60	39	72	60	39	72	65	41
AEH*-PT-DHW-PN-HL-VS	72	60	38	72	60	38	72	60	38	72	60	39	72	60	39	72	65	41
AEH*-PT-DHW-EL	44	63	30	44	63	28	44	63	28	44	63	28	44	63	28	44	65	41
AEH*-PT-DHW-EL-HL	54	63	29	54	63	29	54	63	29	54	63	29	54	63	29	54	65	29
AEH*-PT-DHW-EL-V	72	60	38	72	60	38	72	60	38	72	60	39	72	60	39	54	65	29
AEH*-PT-DHW-EL-VS	72	60	38	72	60	38	72	60	38	72	60	39	72	60	39	54	65	29
AEH*-PT-DHW-EL-HL-V	72	60	38	72	60	38	72	60	38	72	60	39	72	60	39	54	65	29
AEH*-PT-DHW-EL-HL-VS	72	60	38	72	60	38	72	60	38	72	60	39	72	60	39	54	65	29
AEH*-ST-DHW-PN	44	58	25	44	58	25	44	58	25	44	58	25	44	58	25	44	65	25
AEH*-ST-DHW-PN-HL	54	58	30	54	58	30	54	58	30	54	58	30	54	58	30	54	65	30
AEH*-ST-DHW-PN-V	72	60	42	72	60	42	72	60	42	72	60	42	72	60	43	72	65	45
AEH*-ST-DHW-PN-VS	72	60	42	72	60	42	72	60	42	72	60	42	72	60	43	72	65	45
AEH*-ST-DHW-PN-HL-V	72	60	42	72	60	42	72	60	42	72	60	42	72	60	43	72	65	45
AEH*-ST-DHW-PN-HL-VS	72	60	42	72	60	42	72	60	42	72	60	42	72	60	43	72	65	45
AEH*-ST-DHW-EL	44	63	25	44	63	25	44	63	25	44	63	25	44	63	25	44	65	25
AEH*-ST-DHW-EL-HL	54	63	30	54	63	30	54	63	30	54	63	30	54	63	30	54	65	30
AEH*-ST-DHW-EL-V	72	66	42	72	66	42	72	66	42	72	66	42	72	66	43	72	67	45
AEH*-ST-DHW-EL-VS	72	66	42	72	66	42	72	66	42	72	66	42	72	66	43	72	67	45
AEH*-ST-DHW-EL-HL-V	72	66	42	72	66	42	72	66	42	72	66	42	72	66	43	72	67	45
AEH*-ST-DHW-EL-HL-VS	72	66	42	72	66	42	72	66	42	72	66	42	72	66	43	72	67	45
AEH*-PT-HTG-PN	39	58	28	39	58	28	39	58	28	39	58	28	40	58	28	42	65	29
AEH*-PT-HTG-PN-HL	54	58	29	54	58	29	54	58	29	54	58	29	54	58	29	54	65	29
AEH*-PT-HTG-PN-V	72	60	38	72	60	38	72	60	38	72	60	39	72	60	39	72	64	41
AEH*-PT-HTG-PN-VS	72	60	38	72	60	38	72	60	38	72	60	39	72	60	39	72	64	41
AEH*-PT-HTG-PN-HL-V	72	60	38	72	60	38	72	60	38	72	60	39	72	60	39	72	64	41
AEH*-PT-HTG-PN-HL-VS	72	60	38	72	60	38	72	60	38	72	60	39	72	60	39	72	64	41
AEH*-PT-HTG-EL	39	63	28	39	63	28	39	63	28	39	63	28	40	63	28	42	65	29
AEH*-PT-HTG-EL-HL	54	63	29	54	63	29	54	63	29	54	63	29	54	63	29	54	65	29
AEH*-PT-HTG-EL-V	72	65	38	72	65	38	72	66	38	72	66	39	77	66	39	72	67	41
AEH*-PT-HTG-EL-VS	72	65	38	72	65	38	72	66	38	72	66	39	77	66	39	72	67	41
AEH*-PT-HTG-EL-HL-V	72	65	38	72	65	38	72	66	38	72	66	39	77	66	39	72	67	41
AEH*-PT-HTG-EL-HL-VS	72	65	38	72	65	38	72	66	38	72	66	39	77	66	39	72	67	41
AEH*-ST-HTG-PN	39	58	25	39	58	25	39	58	26	39	58	26	40	58	26	42	65	26
AEH*-ST-HTG-PN-HL	54	58	30	54	58	30	54	58	30	54	58	30	54	58	30	53	65	30
AEH*-ST-HTG-PN-V	72	60	42	72	60	42	72	60	42	72	60	42	72	60	43	72	64	44
AEH*-ST-HTG-PN-VS	72	60	42	72	60	42	72	60	42	72	60	42	72	60	43	72	64	44
AEH*-ST-HTG-PN-HL-V	72	60	42	72	60	42	72	60	42	72	60	42	72	60	43	72	64	44
AEH*-ST-HTG-PN-HL-VS	72	60	42	72	60	42	72	60	42	72	60	42	72	60	43	72	64	44
AEH*-ST-HTG-EL	39	63	25	39	63	25	39	63	26	39	63	28	40	63	26	42	65	26
AEH*-ST-HTG-EL-HL	54	63	30	54	63	30	54	63	30	54	63	29	54	63	30	53	65	30
AEH*-ST-HTG-EL-V	72	65	42	72	65	42	72	66	42	72	66	39	72	66	43	72	67	44
AEH*-ST-HTG-EL-VS	72	65	42	72	65	42	72	66	42	72	66	39	72	66	43	72	67	44
AEH*-ST-HTG-EL-HL-V	72	65	42	72	65	42	72	66	42	72	66	39	72	66	43	72	67	44
AEH*-ST-HTG-EL-HL-VS	72	65	42	72	65	42	72	66	42	72	66	39	72	66	43	72	67	44



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