

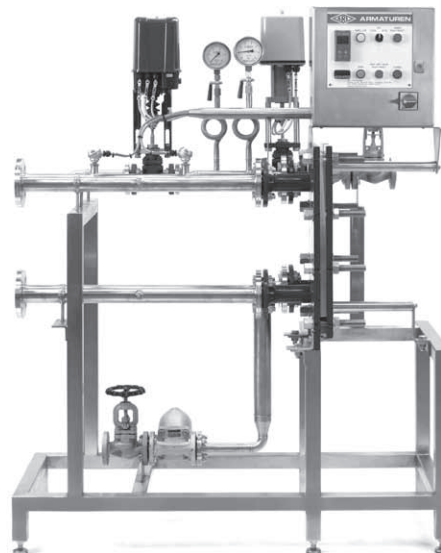
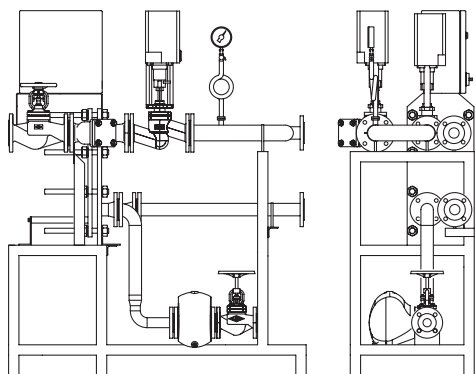
ARI-ENCosys® Compact steam to water plate heat exchanger system

Maximum Capacity: 2100kW

ARI-ENCosys® ECS 1 to 5

Standard design

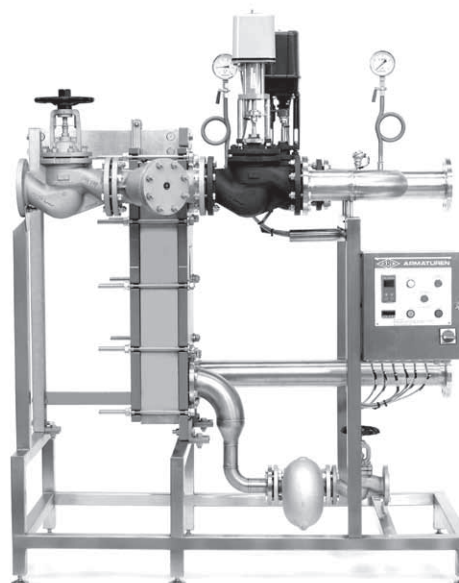
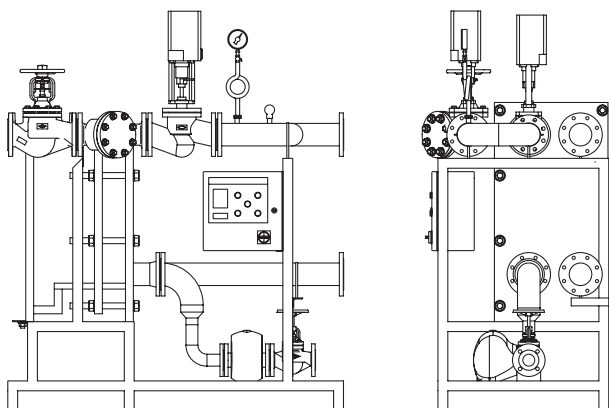
- Stainless steel frame
- Valves made of EN-JS1049



ARI-ENCosys® ECS 6 to 8

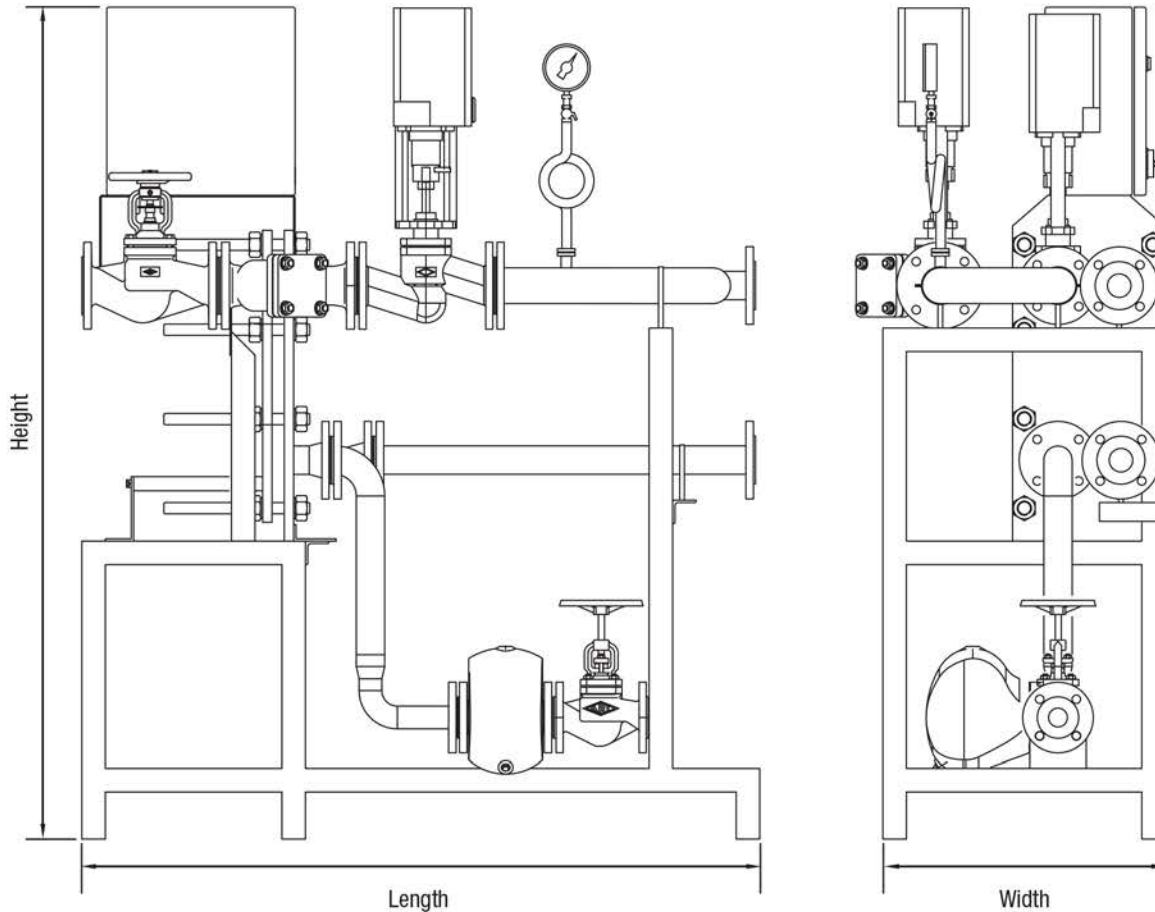
Standard design

- Stainless steel frame
- Valves made of EN-JS1049



Features:

- Hot water for HVAC and process applications
- Stainless steel frame
- Fully assembled skid-mounted system
- Extremely compact design
- Accurate temperature control

ARI-ENCosys® Compact steam to water plate heat exchanger system
Maximum Capacity: 875kW
ECS 1 – 5


For clarity some parts are not shown on the datasheet

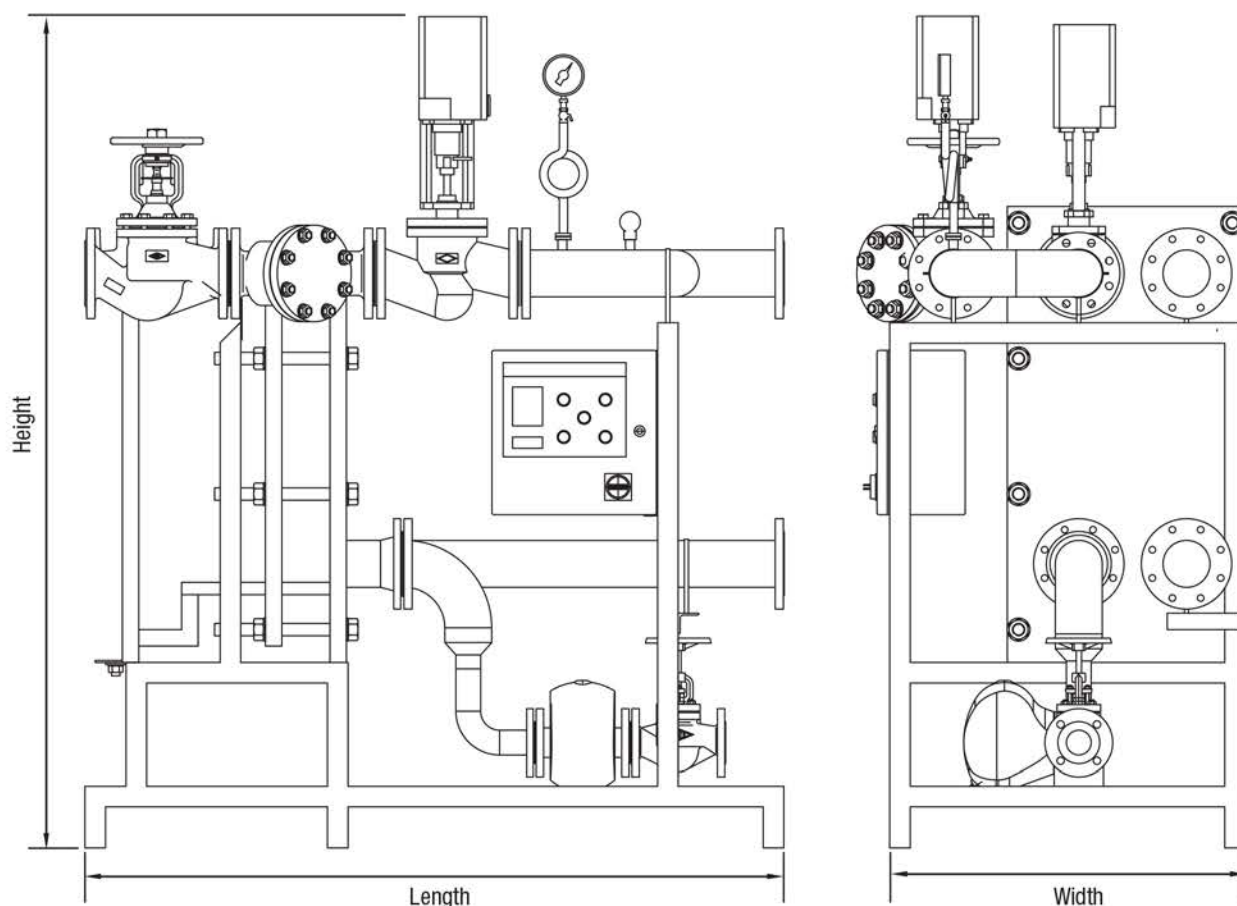
	ECS - 1	ECS - 2	ECS - 3	ECS - 4	ECS - 5
Length	1440mm	1440mm	1440mm	1440mm	1440mm
Width	800mm	800mm	800mm	800mm	800mm
Height	1865mm	1865mm	1865mm	1865mm	1865mm
Steam Inlet	25mm	32mm	40mm	50mm	65mm
Condensate Outlet	25mm	25mm	40mm	40mm	40mm
Water Inlet	50mm	50mm	50mm	50mm	50mm
Water Outlet	50mm	50mm	50mm	50mm	50mm
Max kW rating	189kW	290kW	482kW	755kW	875kW
Weight (dry)	420kg	430kg	445kg	464kg	490kg
Weight (wet)	435kg	445kg	460kg	479kg	505kg

Materials of Construction

Steam and condensate pipework	Stainless steel
Secondary pipework	Stainless steel
Steam valves and condensate steam trap	S.G. iron
Support frame	Stainless steel
Control panel	Stainless steel

Limiting Conditions

Pipework design rating	PN16
Maximum saturated steam pressure	10 bar gauge
Maximum secondary water pressure	10 bar gauge
Maximum secondary water temperature	150°C

ARI-ENCosys® Compact steam to water plate heat exchanger system
Maximum Capacity: 2100kW
ECS 6 – 8


For clarity some parts are not shown on the datasheet

	ECS – 6	ECS – 7	ECS - 8
Length	1700mm	1700mm	1700mm
Width	870mm	870mm	870mm
Height	2070mm	2090mm	2130mm
Steam Inlet	65mm	80mm	100mm
Condensate Outlet	40mm	50mm	50mm
Water Inlet	100mm	100mm	100mm
Water Outlet	100mm	100mm	100mm
Max kW rating	1150kW	1900kW	2100kW
Weight (dry)	783kg	825kg	903kg
Weight (wet)	807kg	860kg	941kg

Materials of Construction

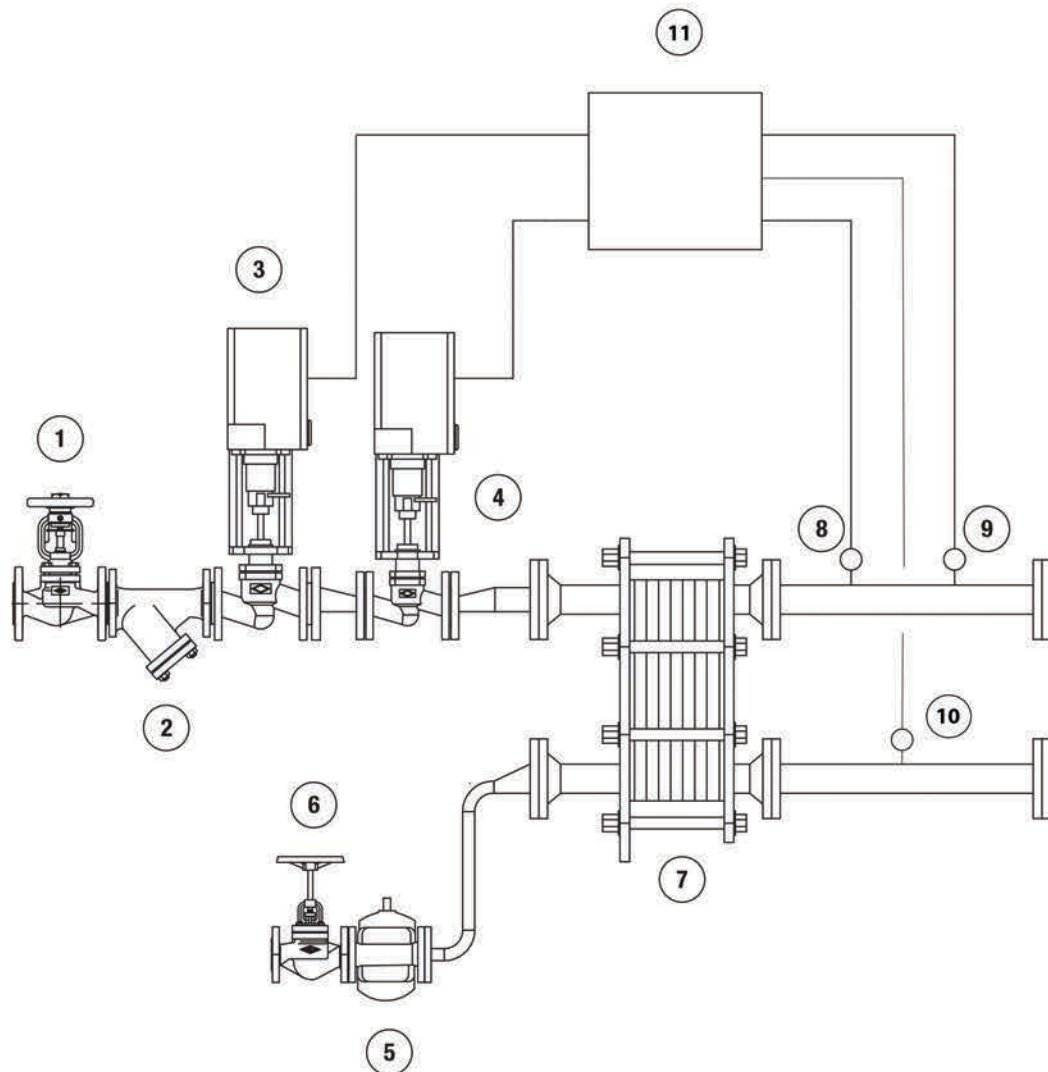
Steam and condensate pipework	Stainless steel
Secondary pipework	Stainless steel
Steam valves and condensate steam trap	S.G. iron
Support frame	Stainless steel
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Limiting Conditions

Pipework design rating	PN16
Maximum saturated steam pressure	10 bar gauge
Maximum secondary water pressure	10 bar gauge
Maximum secondary water temperature	150°C

ARI-ENCOsys® Compact steam to water plate heat exchanger system

ENCOsys



- | | |
|--|---|
| <ul style="list-style-type: none"> 1 Bellows sealed stop valve 2 Strainer c/w fine screen 3 High limit control valve 4 Temperature control valve 5 Condensate removal system 6 Isolation valve | <ul style="list-style-type: none"> 7 Steam to water plate heat exchanger 8 pt100 resistance temperature sensor (temperature control sensor) 9 pt100 resistance temperature sensor (high limit temperature sensor) 10 Flow sensor 11 Electrical control panel incorporating main temperature controller and high limit temperature controller |
|--|---|

Notes

The above is given as a guide representative of the standard ENCOsys steam to hot water heat exchanger system. Pneumatic actuators for temperature and high limit control are also used for certain duties and process applications. A steam trap is fitted as standard, but a pumping steam trap is supplied for non gravity condensate return systems or when the duty/process requires it.

ARI-ENCOsys® Compact steam to water plate heat exchanger system ENCOsys

ENCOsys packaged system

Steam is used as the primary medium to provide heating for HVAC or other process applications. The steam flow is modulated through a control valve to precisely match the demand on the system. The control valve can be either electrically or pneumatically actuated and uses a resistance thermometer (pt100) and electronic controller for accurate temperature control. Each system can be sized to provide any heating duty from 50kW up to approximately 2000kW, and all units are supplied fully assembled, pressure and functional tested ready for site installation.

To ensure accurate temperature control, it is essential to remove the condensate from the heat exchanger under all load conditions. At certain loads the pressure inside the plate heat exchanger can be below atmospheric pressure, when this happens a pumping trap is used to ensure effective condensate removal. For certain applications a steam trap is used instead.

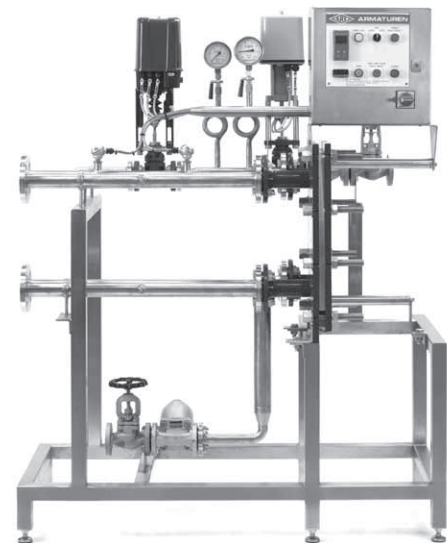
A steam plate heat exchanger is used for heat transfer within a compact frame. The high surface area/low hold up volume aids efficient heat transfer which provides instantaneous heating of water. The plate heat exchanger is easily dismantled for cleaning and examination of the plates, and the gaskets are bond cured to minimise the risk associated with clip/stud type gaskets that can be displaced resulting in leaks.

The steam, condensate and water pipework is adequately sized for the application and is manufactured using modern welding techniques, approved welders and weld procedures. To aid reliability and maintenance flanged products are used where possible. The entire system is pre-assembled on a stainless steel support frame suitable for positioning with a fork lift truck and comes complete with adjustable feet for uneven surfaces. All control equipment is pre-wired and piped ready for connection to the power supply and air supply.

In many applications the fast response of the ENCOsys eliminates the need for hot water storage vessels; the ENCOsys uses pumped hot water circulation and becomes an instantaneous water heater. We would recommend the first hot water draw off should be at least 6 metres from the plate heat exchanger.

Formation of scale

For systems where there is a need for continuous make-up water such as domestic hot water or certain process applications a scale formation may build up inside the plate heat exchanger. The extent of the scale build up will depend mainly upon the water quality which varies greatly from area to area. If scale formation is a potential issue we would recommend expert advice be sought from a water treatment specialist company. One way of minimising this scale build up is to use lower steam pressures within the design of the system, this will keep the temperature of the metal inside the plate heat exchanger low which can minimise scale formation. If it is found during routine maintenance that scale is forming on the plate heat exchanger, regular chemical cleaning should be considered.





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