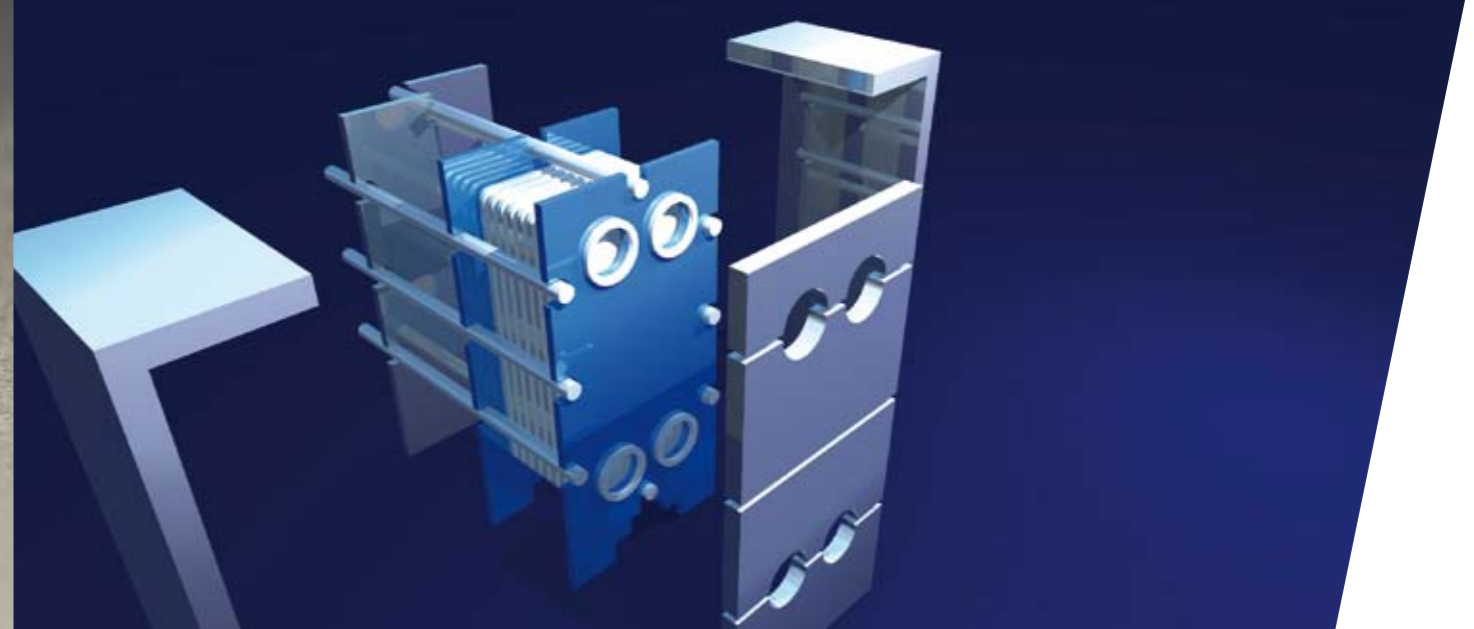




**WE SUPPLY ON A REGULAR BASIS THE FOLLOWING CUSTOMERS**

- ALFA LAVAL
- APV
- GEA-ECOFLEX
- IN-THERM
- SONDEX
- THERMOWAVE
- TRANTER



*EXAMPLE OF ENERGY SAVING CALCULATION*

*COVERINGS FOR THERMAL INSULATION*

**STAERMOSE INDUSTRY**

## Energy saving by mounting of an insulation covering

**An insulation covering provides:**

- Lower operational costs
- Reduced consumption of energy
- Lower CO<sub>2</sub> emissions

The saving by mounting an insulation covering is calculated by use of the formula:

**$K \times T \times O = \text{SAVING}$**

K = Jeres KWh pris

T = Difference of temperature between the exchanger and the building

O = the surface of the heat exchanger

**EXAMPLE CALCULATION OF ENERGY SAVING**

**Price for the energy (K)**

0,1 €/kWh

(use the actual price)

**Energy saving (T):**

Average surface temperature on the heat exchanger:

70 °C (90-60, 80-50)

Room temperature 20 °C

Temperature difference

70 °C – 20 °C = 50 °C

Reading of the energy saving on the curve

4.200 KWh/år/m<sup>2</sup>

**The surface of the heat exchanger (O)**

2,3 m<sup>2</sup> (2x(HxB+HxL)+BxL)

**The saving in the example:**

0,1 x 4200 x 2,3 = 966 €/year

**The saving in the example:**

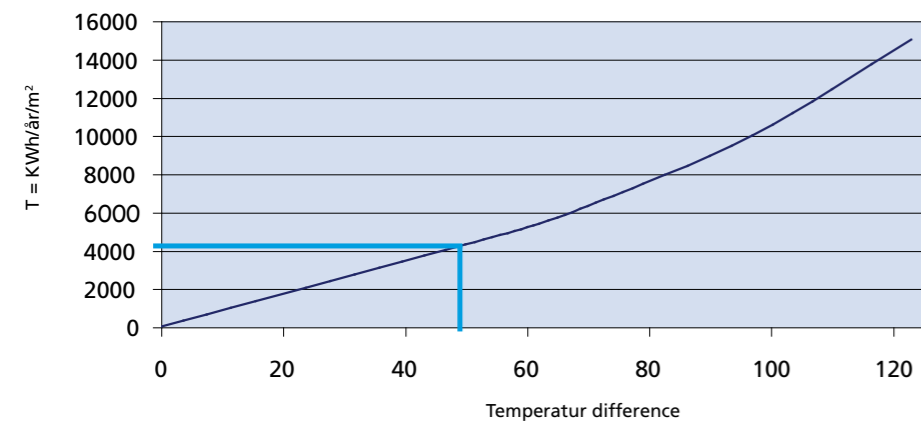
0,1 x 4200 x 2,3 = 966 €/year

*On a standard district heating installation the payback period is usually 1 – 2 years.*

## Series production of high quality coverings for thermal insulation

Staermose Industry is market leader in series production of coverings for thermal insulation. Our coverings for heat exchangers minimize waste of energy and improve the working environment in the room with the aim of avoiding excessive temperatures and preventing burns related to the heat exchanger. They are constructed to avoid dangers from leaks in the exchangers. The coverings for insulation are primarily used in district heating systems, exchange stations, heating plants, the oil industry and housing associations etc.

Coverings for cooling insulation of heat exchangers are used in order to prevent waste of energy and to avoid condensation and the formation of ice. Staermose Industry uses an insulation material with closed cells, preventing water to slip into the insulation material. All joints are provided with waterproof strips. It is essential to have the plated heat exchangers insulated in the bottom as cold moves downward. To solve this problem special drip trays have been constructed insulating the bottom of the exchanger. The coverings are typically applied in large cooling systems (e.g. Dubai) and in the manufacturing industry.



Find more information on [www.staermoseindustry.com](http://www.staermoseindustry.com) - or contact our salesdepartment for a discussion on your needs and demands.

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*Staermose Industry is an order producing company primarily in metal sheet manufacturing, laser cutting and manufacturing of cabinets for cool and heat insulation.*

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## Energy saving cabinets of high quality

As standard the coverings are encased with aluminium plate with an exterior Stucco pattern. The insulation material is a high quality glass wool or Polyurethane foam. All components and materials in the cabinet are meeting international standards. The coverings are manufactured in sections joined together with spring locks ensuring a smooth installation and an effective assembly/disassembly process for maintenance.

### Specifications

The typical technical standard descriptions of our thermal insulation coverings are shown in the table below. Insulation coverings in other specifications are also available, customized to suit our customers' requirements. Examples are stainless steel ANSI 304 & 316, Polyurethane insulation of other thicknesses etc.

### Coverings for heat insulation

Technical specifications and constructions, standard				
Type:plated heat exchanger	Small exchangers welded	Small exchangers bolted joint	Big exchangers bolted joint	Approvals
Construction type	Type 23	Type 02&03	Type 12	
	H42	H65	H65	
	Heat insulation	Heat insulation	Heat insulation	
Outer covering	1 mm. Aluminium stucco	1 mm. Aluminium stucco	1 mm. Aluminium stucco	Din EN 10204 5754 H22
Insulation	40 mm. Glass wool	65 mm. Glass wool	65 mm. Glass wool	Non flammable Din EN 4102A2
Insulation, internal	0,05 mm. Aluminium foil	0,05 mm. Aluminium foil	0,05 mm. Aluminium foil	
Spring locks	Galvanized steel	Galvanized steel	Galvanized steel	
Temperature	20 - 200 °C	20 - 200 °C	20 - 200 °C	
U-value	0,63 W/m2K	0,43 W/m2K	0,43 W/m2K	
Insulation Class DK	2*	3*	3*	
Heat loss	25,3 W/m2*	17,1 W/m2*	17,1 W/m2*	

### QUALITY CABINETS



The coverings are manufactured in sections joined together with spring locks ensuring a smooth installation and an effective assembly/disassembly process for maintenance.

### Please note:

Inlet and outlet temperatures in the exchanger have been based at 90/50-30/70°C

The loss of heat is stated per m<sup>2</sup> surface on the insulation covering.

The bottom of the exchanger is not insulated and this fact has been excluded – please see diagram

A specific calculation is always available from us.

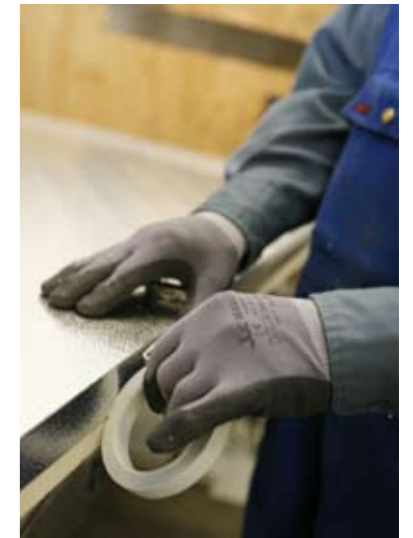
## Coverings, drip trays and shield plates

Coverings for cooling insulation of heat exchangers are used in order to prevent waste of energy and to avoid condensation and the formation of ice. These coverings are typically applied in large cooling systems (e.g. Dubai) and in the manufacturing industry. It is essential to have these coverings insulated in the bottom as cold moves downward. To solve this problem special drip trays have been constructed. Furthermore, it is important that the cooling insulation covering is sealed to the highest possible level. All joints are therefore provided with waterproof strips and the sharp edges of the corner plates have been sealed around the joints. Should an additional water tightness in insulation covering be required it is recommended that the extra joints are pointed with silicone in order to provide a seal against steam emission.

### Coverings for cooling insulation and drip trays

Technical specifications and constructions, standard				
Type: plated heat exchanger	Small exchangers bolted joints	Larger exchangers bolted joints	Drip trays	Approvals
Construction type	Type 51	Type 53	Type 61&62	
	C60	C60	D60	
	Cooling insulation	Cooling insulation	Cooling tray	
Outer covering	1 mm. Aluminium stucco	1 mm. Aluminium stucco	1 mm. galvanized plate	DIN EN 10204 5754 H22
Insulation	60 mm. PU-foam	60 mm. PU-foam	60 mm. PU-foam	DIN 4102-1 B2
Insulation, internal	0,05 mm. Aluminium foil	0,05 mm. Aluminium foil	1 mm. galvanized plate	
Spring locks	Galvanized steel	Galvanized steel		
Joints	Mounted with joint band	Mounted with joint band		
Temperatures	-50 - 80°C	-50 - 80°C	-50 - 80°C	
U-value	0,28 W/m2K	0,28 W/m2K	0,28 W/m2K	
Insulation Class DK	4	4	4	
Loss of cooling	-11,1 W/m2*	-11,1 W/m2*	-11,1 W/m2*	

### QUALITY INSULATION



Staermose Industry uses the best materials available on the market, all meeting the highest quality standards.

The materials consist of an insulation core, constructed on the basis of TAU-foam from Recticel, surrounded by a pure aluminium casing. The surface is finished with a Stucco pattern.

### Shield plates

Shield plates are typically designed to serve more purposes.

- To prevent injuries to the staff from leaks during packing
- To protect the thin plates against damage
- To facilitate the cleaning of the plated heat exchanger (health and safety).

The shield plate is a bent stainless steel plate protecting the thin plates in the exchanger.