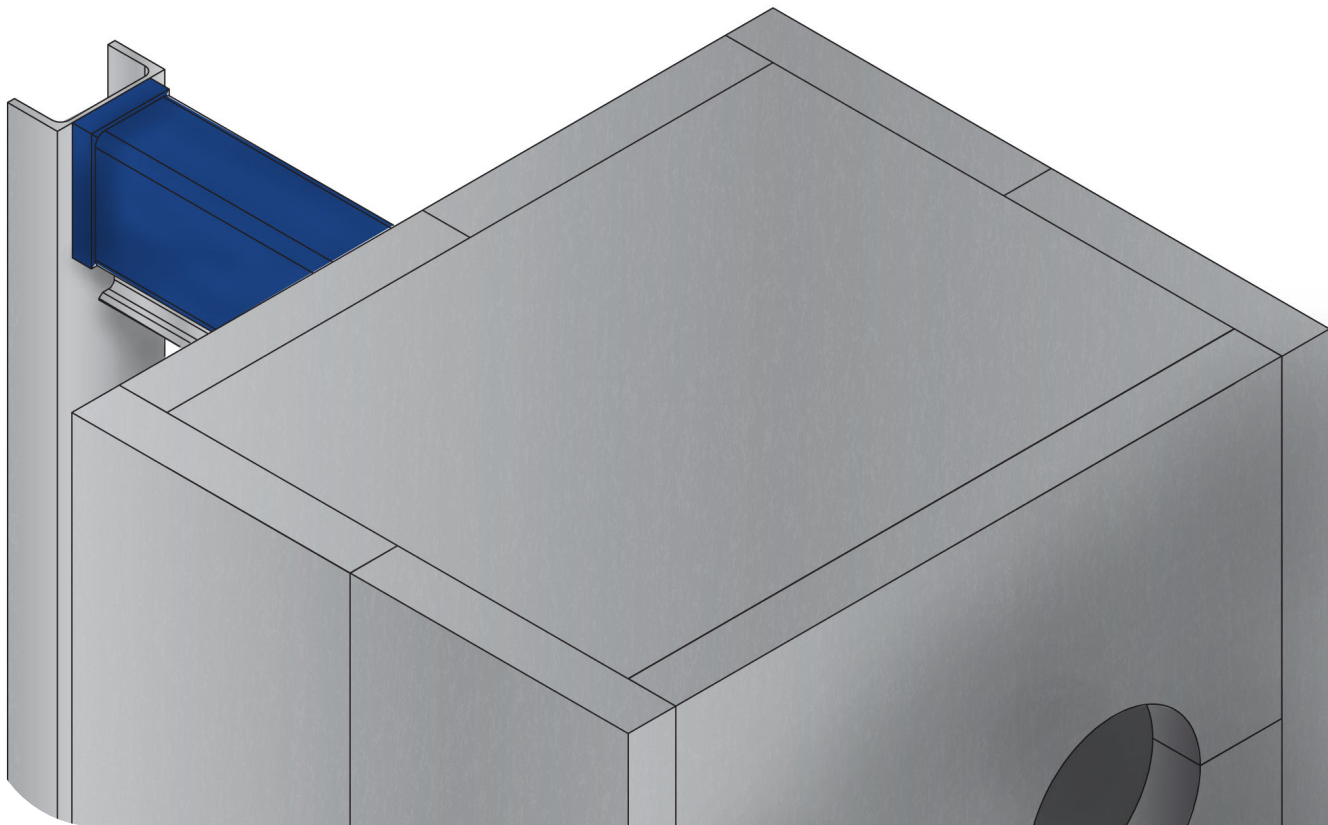


# Heating Insulation for Gasketed Plate Heat Exchangers

Instruction Manual

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Instruction Manual

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**The original instructions are in English**

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# 1 Introduction

This document describes heating insulation for gasketed plate heat exchangers. The insulation helps to protect against heat of the plate pack

Heating insulation design comes in three different sizes: small, medium and large. In the table below, GPHE products are specified in order.

Insulation size	Product name (AQ-model)
Small	T2 (AQ1A)
	M3 (AQ1)
	TL3 (AQ1L)
Medium	T5 (AQ2A)
	TS6 (AQ2S)
	T6 (AQ2T)
	TL6 (AQ2L)
	M6 (AQ2T)
	T8 (AQ3)
Large	T10 (AQ4T)
	TL10 (AQ4L)
	M10 (AQ4)
	T15 (AQ6T)
	TL15 (AQ6L)
	MK15
	T20 (AQ8)
	TK20
	T21 (AQ8T)
	T25 (AQ10T)





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## 2 Description

The insulation panels are designed to ensure simple assembly and disassembly. They are equipped with connecting latches for the medium and large sizes and screws for the small size.



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## 3 Limitations

The heating insulation has the following limitations:

- The insulation can only be used for a certain temperature range. For more information, see the section *Technical data*.
- Insulation may not be available for all plate heat exchanger models with holed pressure plate.
- The insulation can not be used in combination with connectivity rings.
- Insulation in combination with protection sheet is not available.
- If longer stud bolts are selected, standard insulation does not fit.
- Insulation is only available up to size T25.
- The insulation is not diffusion tight.
- The insulation is for interior use only.

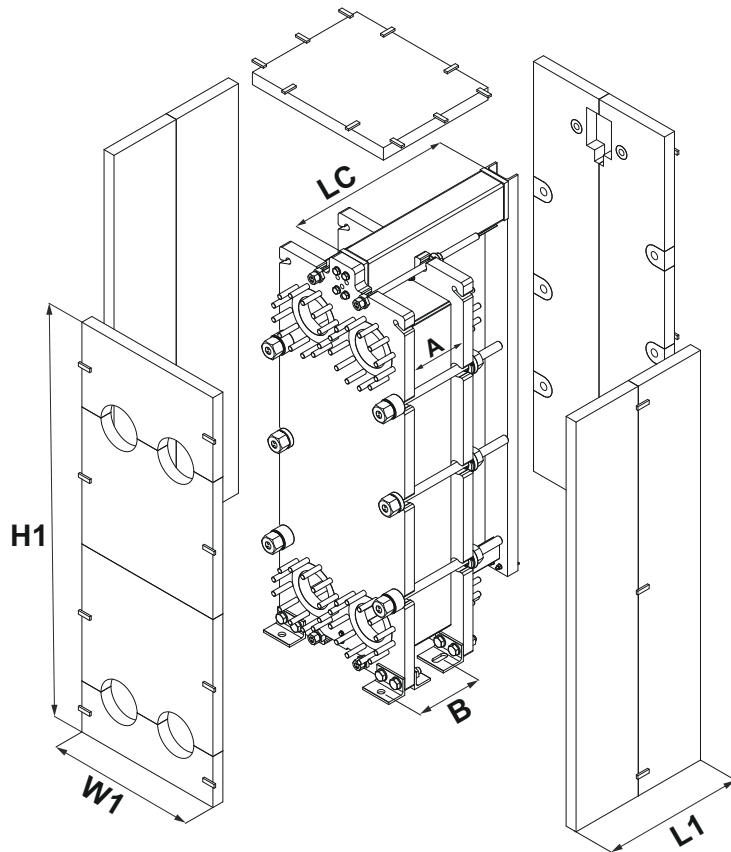


## 4 Technical data

Cladding material	Aluminium stucco sheet	
Insulation material	Mineral wool	
Inside layer material	Aluminium foil	
Total insulation thickness	60 mm (2.36")	
Panel fixation	Connecting latches Screws	Applies on some of the smaller models
Temperature range	20 to 200°C (68 to 392 °F)	



## 5 Dimensions



A = Plate pack length

B = Foot print length

H1 = Height of the insulation

L1 = Length of the insulation

LC = Length of the carrying bar

W1 = Width of the insulation





## 6 Measurements

The table below shows maximum dimensions and measurements in **mm (inch)**. For exact measurements, use the sales configuration tool. Only GPHE models available with heating insulation are shown below.

### NOTE

The data listed in the table below are for a standard plate heat exchanger with a standard carrying bar, hole only in the frame plate and standard connections. For non-standard plate heat exchangers, contact your Alfa Laval representative.

Product (AQ-model)	Frame	Type	L1 Unholed pressure plate	L1 Holed pressure plate	W1	H1
<b>T2 (AQ1A)</b>	FG	ALS	Static measurements. Depends on LC.	Static measurements. Depends on LC.	220 (8.66)	420 (16.53)
<b>M3 (AQ1)</b>	FG	ALS/ASME	Static measurements. Depends on LC.	Static measurements. Depends on LC.	260 (10.23)	520 (20.47)
<b>TL3 (AQ1L)</b>	FG	PED/ALS/ASME	Static measurements. Depends on LC.	Static measurements. Depends on LC.	270 (10.62)	830 (32.67)
<b>T5 (AQ2A)</b>	FG	ALS	Static measurements. Depends on LC.	Static measurements. Depends on LC.	380 (14.96)	766 (30.15)
<b>TS6 (AQ2S)</b>	FD/FG/FM	PED/ALS/ASME	A + 300 (A + 11.81)	A + 300 (A + 11.81)	445 (17.51)	708 (27.87)
<b>T6 (AQ2T)</b>	FD/FG/FM	PED/ALS/ASME	A + 320 (A + 12.59)	A + 320 (A + 12.59)	450 (17.71)	905 (35.62)
<b>TL6 (AQ2L)</b>	FD	PED/ALS	A + 360 (A + 14.17)	A + 360 (A + 14.17)	490 (19.29)	1265 (49.80)
		ASME	A + 360 (A + 14.17)	A + 360 (A + 14.17)	490 (19.29)	1313 (51.69)
	FG	PED/ALS	A + 360 (A + 14.17)	A + 360 (A + 14.17)	490 (19.29)	1265 (49.80)
		ASME	A + 360 (A + 14.17)	A + 360 (A + 14.17)	460 (18.11)	1304 (51.33)
	FM	PED/ALS	A + 360 (A + 14.17)	A + 360 (A + 14.17)	490 (19.29)	1265 (49.80)
	<b>M6 (AQ2T)</b>	FM	PED/ALS/ASME	Static measurements, depends on A mesure	Static measurements, depends on A mesure	450
FG		PED/ALS/ASME	Static measurements, depends on A mesure	Static measurements, depends on A mesure	450	925
FD		PED/ALS/ASME	Static measurements, depends on A mesure	Static measurements, depends on A mesure	450	925

Product (AQ-model)	Frame	Type	L1 Unholed pressure plate	L1 Holed pressure plate	W1	H1
<b>T8 (AQ3)</b>	FD/FG/FM	PED/ALS/ASME	A + 310 (A + 12.20)	A + 350 (A + 13.77 )	550 (21.65)	925 (36.41)
<b>T10 (AQ4T)</b>	FD/FG/FM	PED/ALS/ASME	A + 390 (A + 15.35)	A + 390 (A + 15.35)	600 (23.62)	1119 (45.05)
<b>TL10 (AQ4L)</b>	FM	PED/ALS/ASME	A+390	A+390	628	1997
	FG	PED/ALS/ASME	A+400	A+400	656	1346
	FD	PED/ALS/ASME	A+420	A+420	656	1346
<b>M10 (AQ4)</b>	FM	PED/ALS/ASME	Static measurements, depends on A mesure	Static measurements, depends on A mesure	600	1095
	FG	PED/ALS/ASME	Static measurements, depends on A mesure	Static measurements, depends on A mesure	600	1095
	FD	SA+TUV	Static measurements, depends on A mesure	Static measurements, depends on A mesure	600	1015
	FD	ASME	Static measurements, depends on A mesure	Static measurements, depends on A mesure	600	1095
<b>T15 (AQ6T)</b>	FM	PED/ALS	A + 370 (A + 14.56)	A + 370 (A + 14.56)	742 (29.21)	1879 (73.97)
	FG	PED/ALS	A + 480 (A + 18.89)	A + 480 (A + 18.89)	808 (31.81)	1919 (75.55)
		ASME	A + 460 (A + 18.11)	A + 460 (A + 18.11)	808 (31.81)	1904 (74.96)
	FD	ASME	A + 480 (A + 18.89)	A + 480 (A + 18.89)	808 (31.81)	1919 (75.55)
	FS	PED/ALS	A + 500 (A + 19.68)	A + 500 (A + 19.68)	808 (31.81)	1919 (75.55)
		ASME	A + 520 (A + 20.47)	A + 520 (A + 20.47)	828 (32.59)	1919 (75.55)
<b>TL15 (AQ6L)</b>	FM	PED/ALS/ASME	A+360	A+360	760	2710 (2775 when reinforced CB)
	FG	PED/ALS/ASME	A+450	A+450	820	2710 (2775 when reinforced CB)
	FD	PED/ALS/ASME	A+480	A+480	820	2710 (2775 when reinforced CB)
<b>MK15</b>	FG	PED/ALS/ASME	A+380	A+470	820	1550
	FD	PED/ALS/ASME	A+420	A+530	820	1550

Product (AQ-model)	Frame	Type	L1 Unholed pressure plate	L1 Holed pressure plate	W1	H1
<b>T20 (AQ8)</b>	FG	PED/ALS/ASME	A+460	A+460	920	2200
	FD	ASME	A+560	A+560	920	2235 (2385 when reinforced CB)
<b>TK20</b>	FD	ALS+PED	-	A+510	925	1560
	FD	ASME	-	A+520	925	1560
<b>T21 (AQ8T)</b>	FD	PED/ALS	A + 520 (A + 20.47)	A + 570 (A + 22.44)	950 (37.40)	2248 (88.50)
		ASME	A + 557 (A + 21.92)	A + 607 (A + 23.89)	950 (37.40)	2248 (88.50)
	FG	PED/ALS	A + 480 (A + 18.89)	A + 520 (A + 20.47)	950 (37.40)	2210 (87.00)
	FM	PED/ALS	A + 420 (A + 16.53)	A + 495 (A + 19.48)	950 (37.40)	2157 (84.92)
	FT	ALS	A + 582 (A + 22.91)	A + 629 (A + 24.76)	950 (37.40)	2248 (88.50)
		ASME	A + 592 (A + 23.30)	A + 634 (A + 24.96)	940 (37.00)	2248 (88.50)
<b>T25 (AQ10T)</b>	FD	PED/ALS	A + 555 (A + 21.85)	A + 555 (A + 21.85)	1070 (42.12)	2771 (109.09)
		ASME	A + 600 (A + 23.62)	A + 600 (A + 23.62)	1090 (42.91)	2771 (109.09)
	FG	PED/ALS	A + 520 (A + 20.47)	A + 520 (A + 20.47)	1070 (42.12)	2721 (107.12)
		ASME	A + 520 (A + 20.47)	A + 520 (A + 20.47)	1070 (42.12)	2721 (107.12)
	FM	PED/ALS	A + 505 (A + 19.88)	A + 505 (A + 19.88)	1070 (42.12)	2721 (107.12)
		ASME	A + 505 (A + 19.88)	A + 505 (A + 19.88)	1070 (42.12)	2721 (107.12)
	FS	PED/ALS	A + 590 (A + 23.22)	A + 590 (A + 23.22)	1070 (42.12)	2771 (109.09)
		ASME	A + 640 (A + 25.19)	A + 640 (A + 25.19)	1090 (42.91)	2771 (109.09)



## 7 Installation

### 7.1 Insulation for small units

This section is only valid for insulation intended for small units. See Chapter [Introduction](#) for sizing. The GPHE is totally built in for the small insulations (no bolts sticking out).

The GPHE is totally built in for the small insulations (no bolts sticking out).

#### 7.1.1 Installation



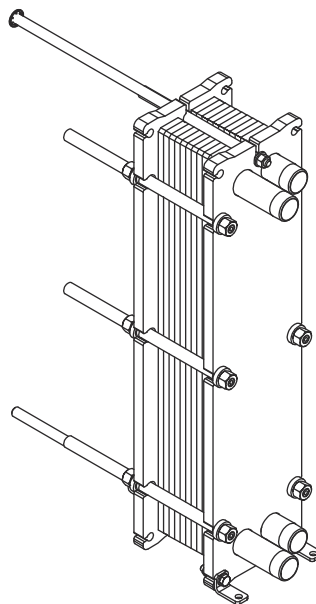
**WARNING** Risk of personal injury.

Wear personal protective equipment when handling the insulation panels.

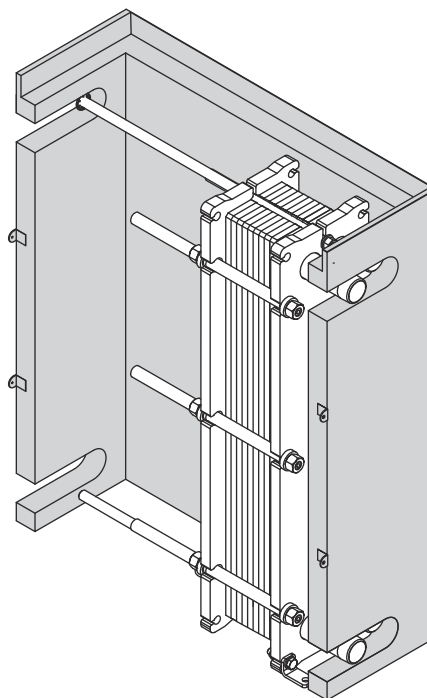
The gasketed plate heat exchanger shown in the illustrations is just an example of a product where the small insulation is used.

The piping is not shown in the illustrations.

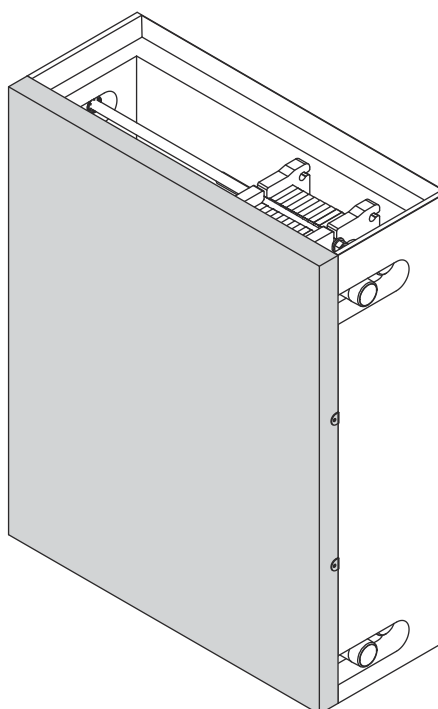
- 1 Install the gasketed plate heat exchanger and connect all piping according to separate documentation and publications.



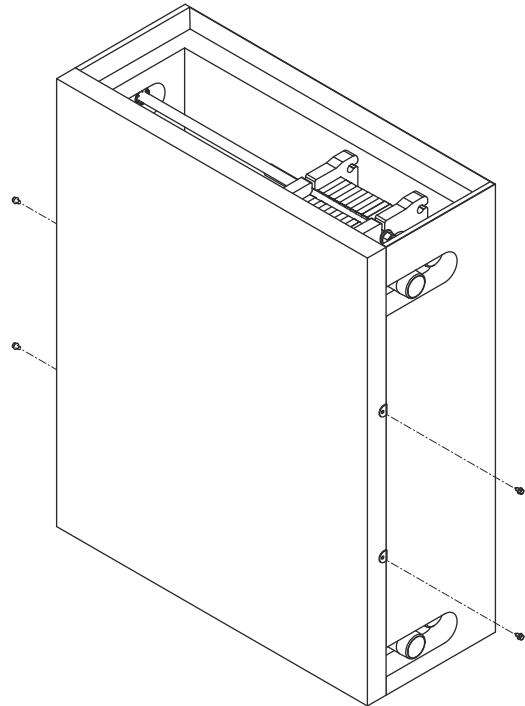
- 2 Assemble the right hand side insulation panel.



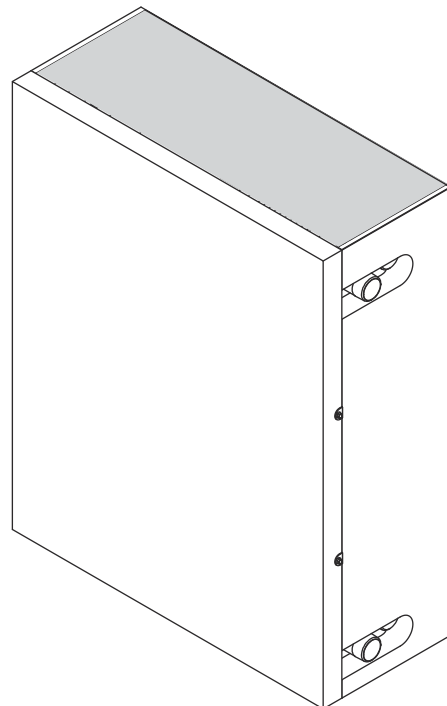
- 3 Assemble the left hand side insulation panel.



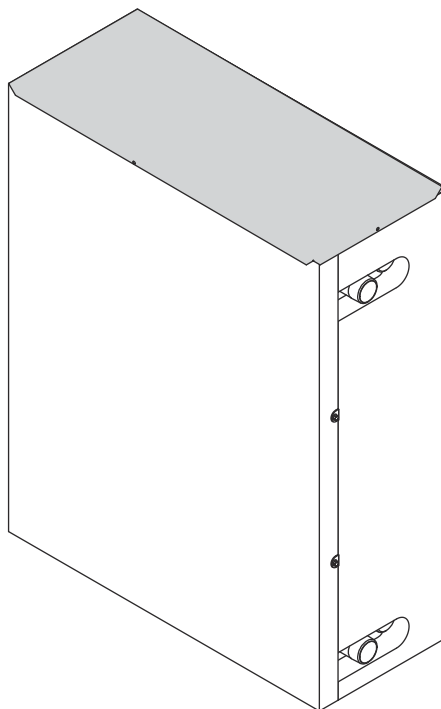
- 4 Tighten the screws.



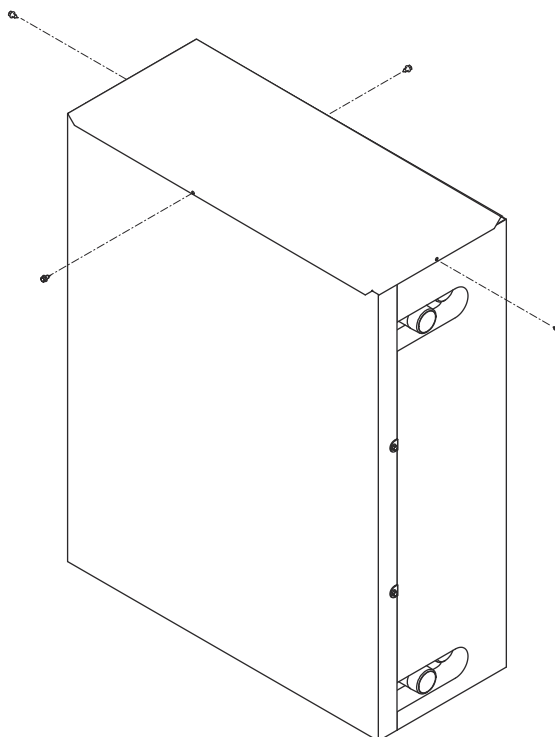
- 5 Assemble the inner top insulation panel.



6 Assemble the outer top insulation panel.



7 Tighten the screws.





## 7.2 Insulation for medium units

This section is only valid for insulation intended for medium units. See Chapter [Introduction](#) for sizing. On the rear insulation panel of medium sized insulations, cut out holes for tightening bolts and carrying bar.

On the rear insulation panel of medium/large sized insulations, cut out holes for tightening bolts and carrying bar.

### 7.2.1 Installation

**WARNING** Risk of personal injury.

Wear personal protective equipment when handling the insulation panels.

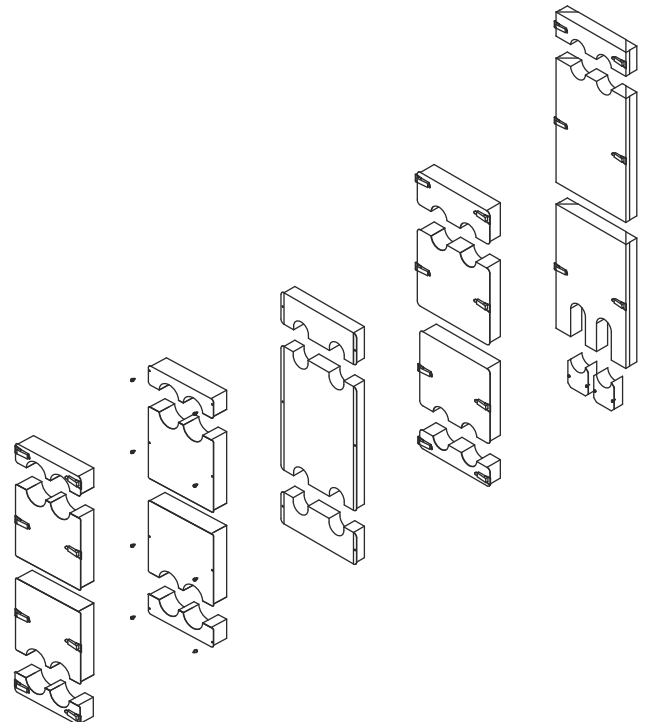
There are a few different designs of insulation within the medium range. Each step in the instruction shows variations of the design. Follow the one corresponding to your actual gasketed plate heat exchanger insulation.

The piping is not shown in the illustrations.

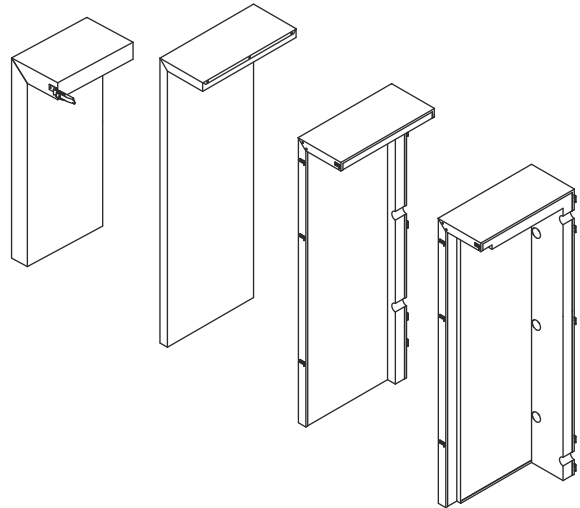
In the design with latches, lock the latches between the panels when it is suitable in the assemble sequence.

In the design with screws, tighten the screws between the insulation panel parts when suitable in the assemble sequence.

- 1 Install the gasketed plate heat exchanger and connect all piping according to separate documentation and publications.
- 2 Assemble the front insulation panel parts starting from the bottom.



3 Assemble the left hand side insulation panel.



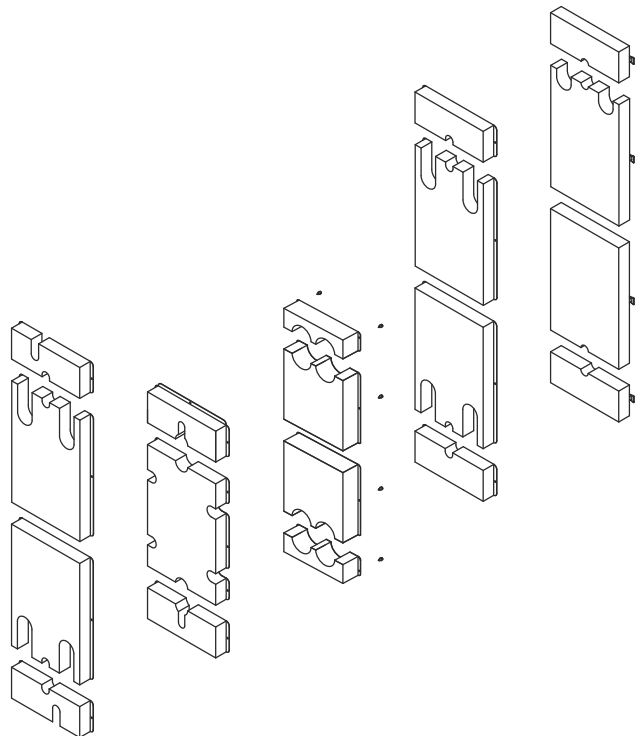
4

**NOTE**

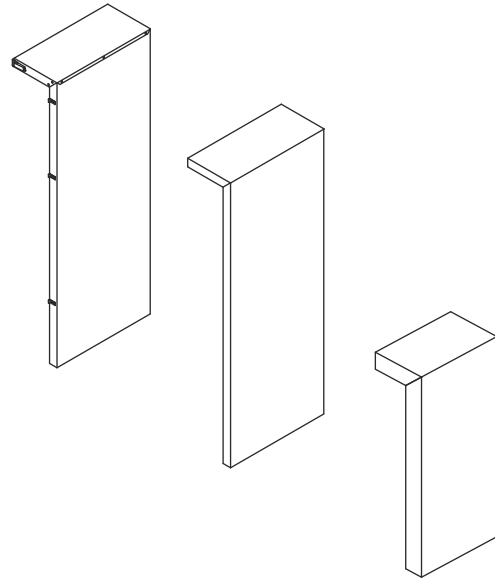
**This step is only valid for insulation designs with rear insulation panel parts.**

Go to the next step if you do not have these parts for your gasketed plate heat exchanger.

Assemble the rear insulation panel parts starting from the bottom.



- 5 Assemble the right hand side insulation panel.



## 7.3 Insulation for large units

This section is only valid for insulation intended for large units. See Chapter [Introduction](#) for sizing. On the rear insulation panel of large sized insulations, cut out holes for tightening bolts and carrying bar.

On the rear insulation panel of medium/large sized insulations, cut out holes for tightening bolts and carrying bar.

### 7.3.1 Installation

**WARNING** Risk of personal injury.

Wear personal protective equipment when handling the insulation boards.

**NOTE**

It is recommended to be two persons when assemble the insulation.

The gasketed plate heat exchanger shown in the illustrations is just an example of a product where the large insulation is used.

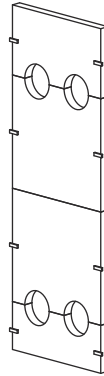
The piping is not shown in the illustrations.

The latches are not shown in the illustrations because the amount and position varies between the different gasketed plate heat exchanger models.

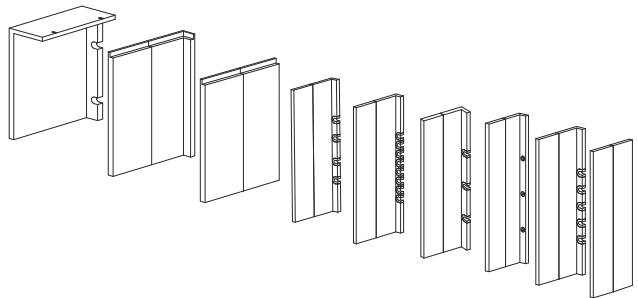
Lock the latches between the boards when it is suitable in the assemble sequence.

1 Install the plate heat exchanger and connect all piping according to separate documentation and publications.

2 Assemble the front insulation panel parts starting from the bottom.



3 Assemble the left hand side insulation panel.



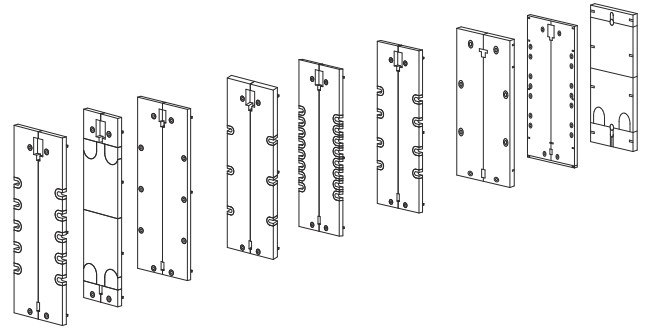
4

**NOTE**

**This step is only valid for insulation designs with rear insulation panel parts.**

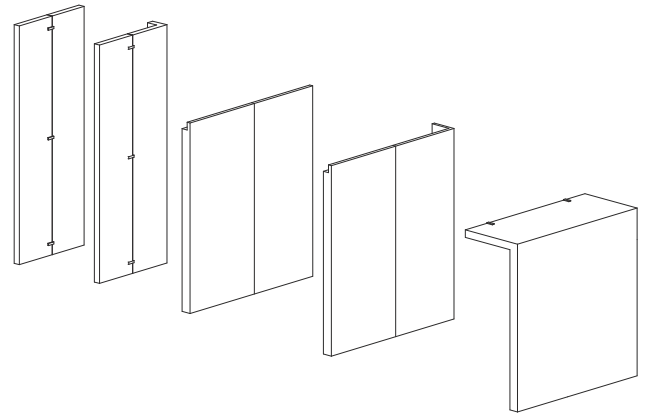
Go to the next step if you do not have these parts for your gasketed plate heat exchanger.

Assemble the rear insulation panel parts starting from the bottom.



5

Assemble the right hand side insulation panel.



6

Assemble the top insulation panel.

