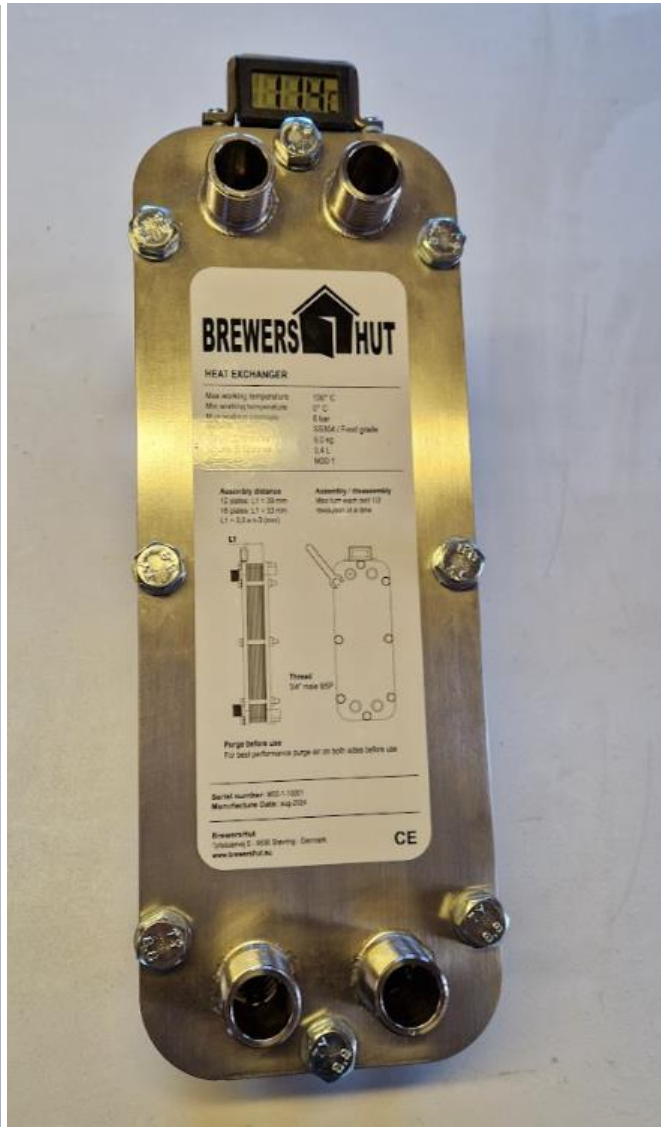
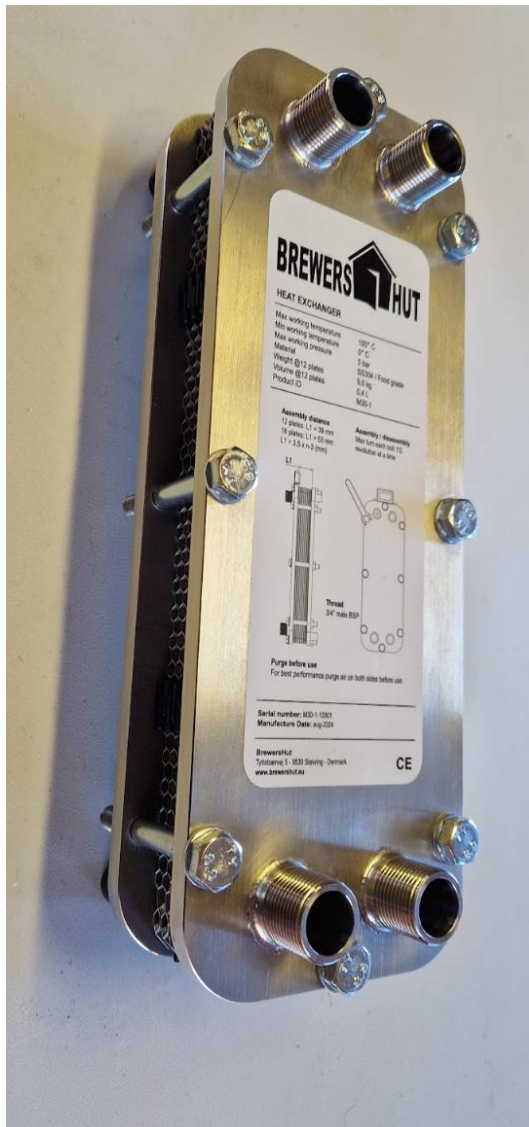


BREWERS HEAT EXCHANGER

User Manual – rev 1.00

Product ID: M30-1



Brewers Hut
By brewers for brewers



Content

1	Safety instruction.....	3
2	Brewers Heat Exchanger.....	3
2.1	About the Product.....	3
2.2	Specification	4
2.3	Product ID's and spare parts	6
2.4	Heat Exchanger dimensions	7
3	Assembly and cleaning of the heat exchanger	7
3.1	Disassembly of the heat exchanger	7
3.2	Assembly of the heat exchanger	8
3.3	Installing The Temperature Sensor.....	11
4	Warranty and Declaration of Conformity	13
5	Certification (Declaration of Conformity)	14

1 Safety instruction

- Read this manual carefully before installation and usage.
- Be aware that failure to comply with the recommended operating parameters may result in personal injury. This may also increase the risk of other injuries.
- Only use the product as intended and described in the manual. The product is not intended for permanent plumbing installation in a building.
- The product has sharp edges due to the thin exchanger plates and there may be a risk of cutting yourself on the plates during handling. Avoid touching the thin plates during handling.
- The heat exchanger can become very hot during use and there may therefore be a risk of scalding if touched. Avoid handling the exchangers during use. Wear gloves if it is necessary to handle the exchangers during use.
- Before commissioning, a pressure test with water is performed to ensure that the exchanger is tight.
- Before usage, check that none of the bolts are loose
- **SPECIALY IMPORTANT:** Gaskets act like a spring, always follow the manual when assembling or disassembling the exchanger. The bolts may only be loosened ½ turn at a time.



2 Brewers Heat Exchanger

2.1 About the Product

Brewers heat exchanger is designed to cool the wort after brewing so that the fermentation process can start immediately after the brewing process. Brewers Heat exchanger is manufactured in industrial quality in stainless steel SS304 and food approved gaskets of NBR material.

The product is designed by brewers for brewers and offers an intuitive assembly process and the option of mounting a temperature sensor directly in the exchanger.

The exchanger offers a number of advantages for the brewer:

- Inline cooling of the wort to reduce the risk of contamination.
- The exchanger can be disassembled and cleaned, which is especially important in connection with beer brewing as hops and other spices can easily get stuck in an exchanger.
- Rapid cooling of the wort.
- Easy installation of temperature sensor.
- Possibility to reuse the cooling water.
- Possibility of upgrading to an even more efficient exchanger by installing additional exchanger plates in the exchanger.

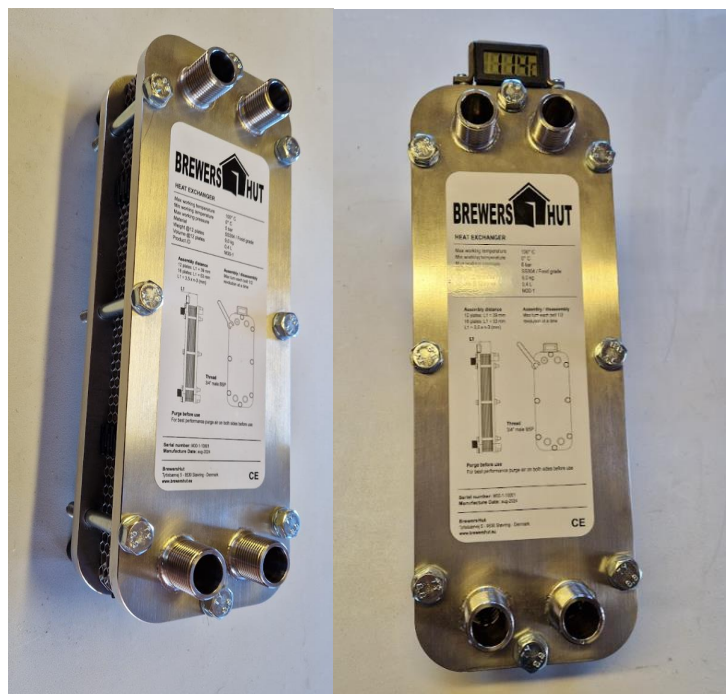
The image below shows how the exchanger can be used:



The picture shows how the exchanger is connected in counter flow configuration. Here the wort is cooled as it is pumped into the fermentation tank.

2.2 Specification

The Brewers heat exchanger is shown in the image below, configured with 12 exchanger plates on the left and 16 plates on the right. On the left, the integrated temperature sensor is not installed and on the right, the temperature sensor is installed.



Permissible operating parameters	
Minimum Temperature	0 °C
Maximum Temperature	100 °C
Maximum Pressure	5 bar
Weight with 12 plates	9 kg
Fluid Volume with 12 plates	0,4 Liter
Product ID	M30-1
Thread	G 3/4"
Material	SS304 / Gaskets as Food Grade NBR

The performance of the heat exchanger depends to a large extent on the flow and temperature on the primary and secondary sides. The table below shows some test results for the exchanger. **To achieve good performance with the exchangers, it is important to vent both the secondary and primary sides of the exchanger.**

Example of Exchanger performance with 12 plates				
Cooling Effect	Primary (wort)		Secondary (cooling water)	
	T.in	T.out	T.in	T.out
6,5 kW	90 °C	20 °C	12 °C	42 °C

Table: 25 liter wort cooled at approx 15 min

Example of Exchanger performance with 16 plates				
Cooling Effect	Primary (wort)		Secondary (cooling water)	
	T.in	T.out	T.in	T.out
9 kW	90 C°	21,5 C°	10 C°	37 C°

Table: 25 liter wort cooled at approx 15 min

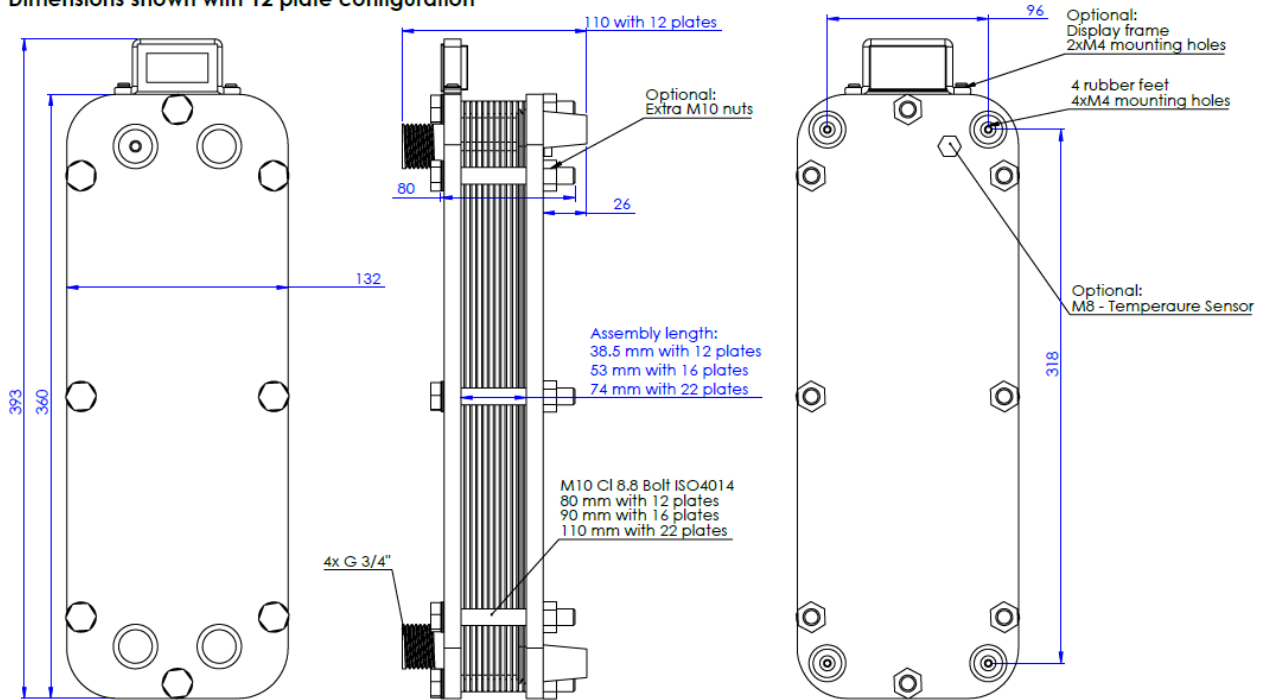
2.3 Product ID's and spare parts

Product ID'er		
Exchanger with 12 plates	M30-1-A12	
Exchanger with 16 plates	M30-1-A16	
Exchanger with 22 plates	M30-1-A22	
Temperature Sensor	M30-1-T	
Gaskets	M30-1-G1	
Cooling plate	M30-1-P1	

2.4 Heat Exchanger dimensions

Base dimensions for the product is shown below:

Dimensions shown with 12 plate configuration



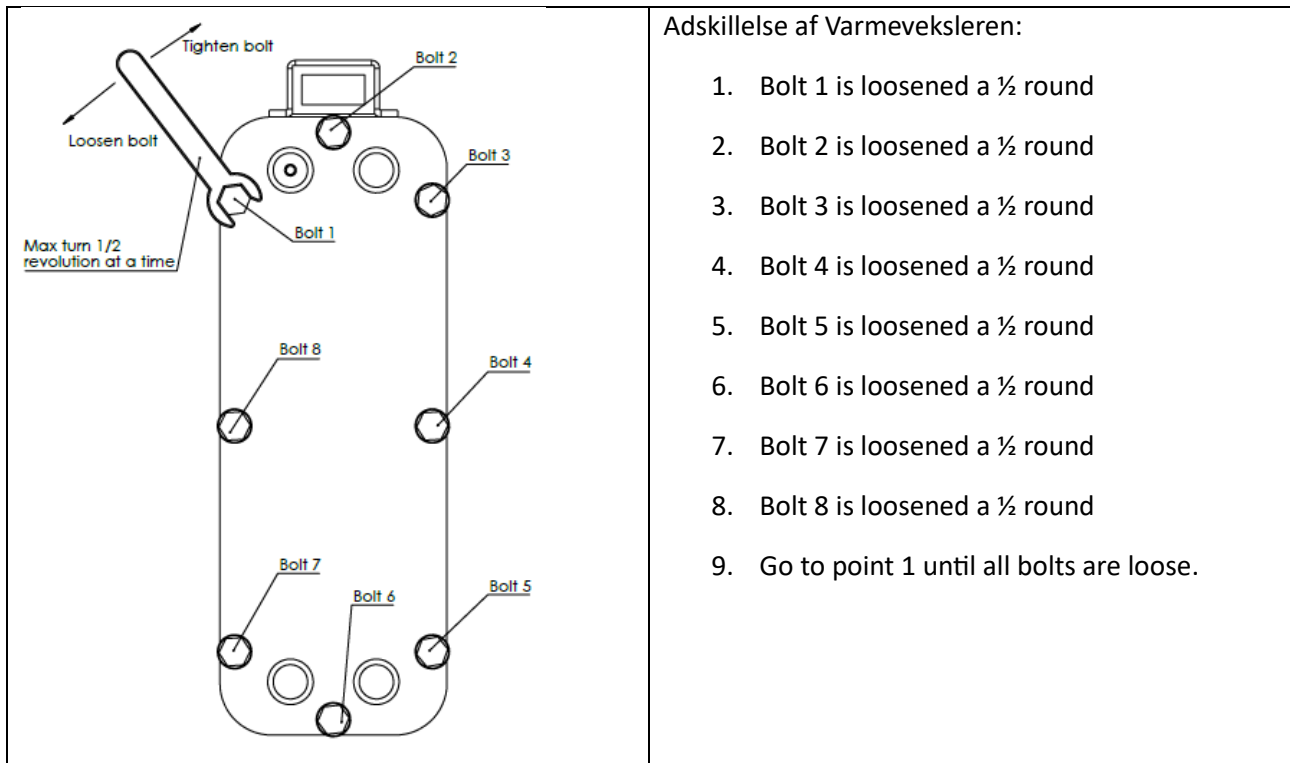
Figur 1: Shows the dimensions for Brewers heat exchanger when configured with 12 plates.

The 4 rubber feet can be removed so that it is possible to mount the heat exchanger on a frame in the 4xM4 holes in which the feet are mounted.

3 Assembly and cleaning of the heat exchanger

3.1 Disassembly of the heat exchanger

When disassembling the heat exchanger, unscrew the bolts a little at a time. Bolt 1 is turned $\frac{1}{2}$ turn counterclockwise, this is then repeated for bolts 2, 3, 4, 5, 6, 7 and 8. Now the plate is slightly loosened and the process is repeated for bolts 1 to 8 until all bolts are tensioned. The process takes a little time, but is important so that the plates and bolts do not become overloaded.

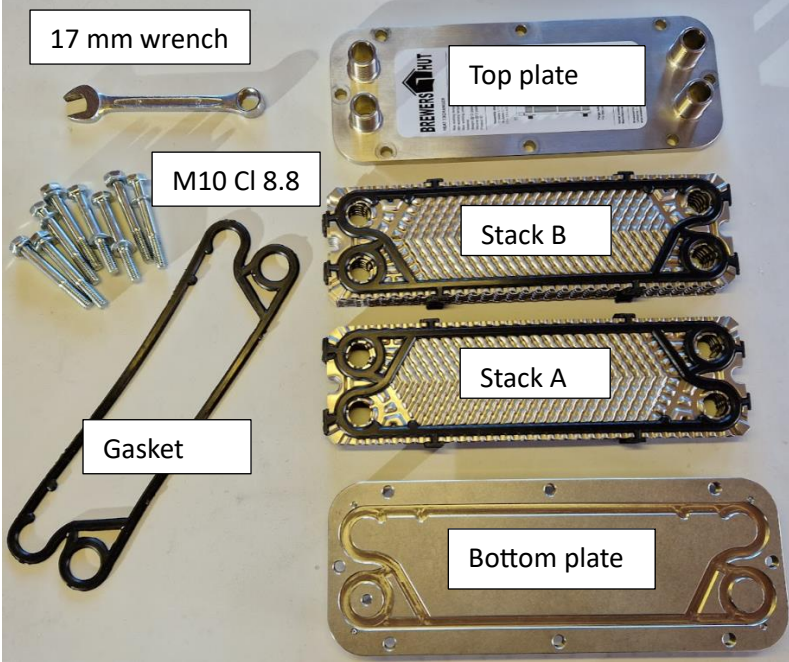
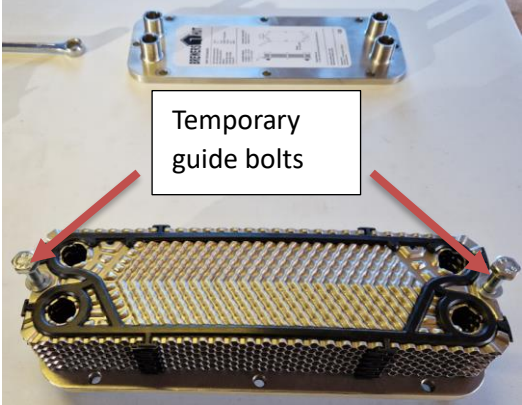


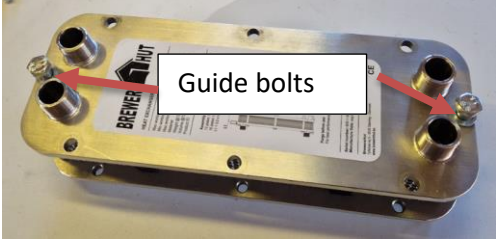
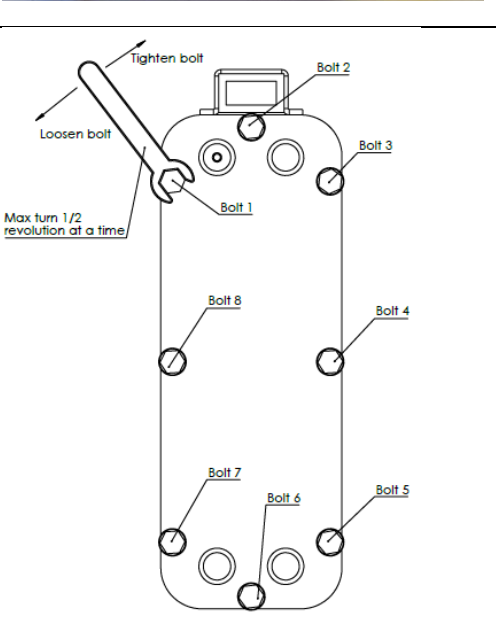
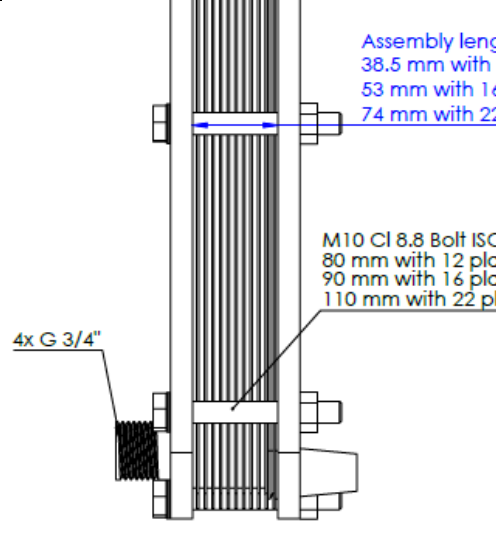
Figur 2: Shows how to disassemble the exchanger

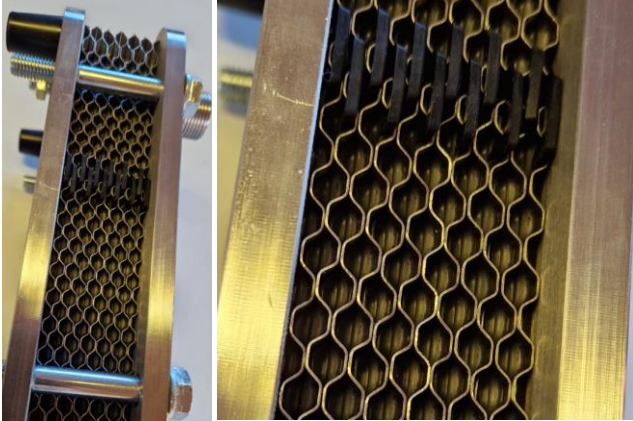
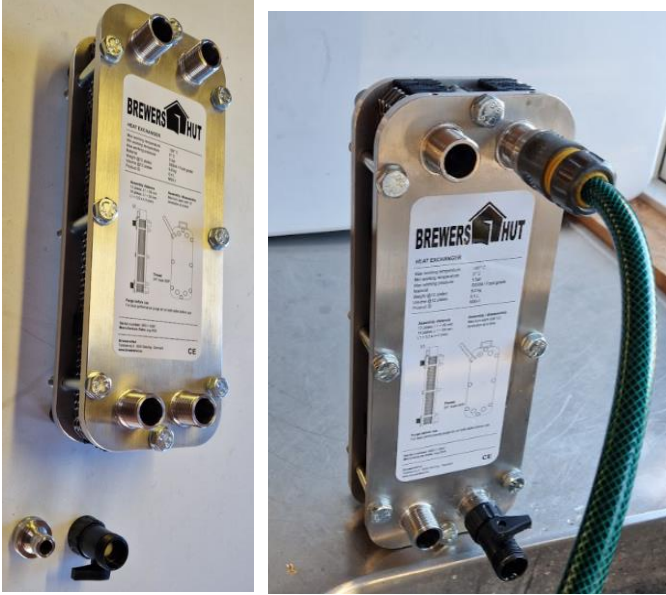
Plates and gaskets are cleaned with a dishwashing brush and detergent. The plates can be put in the dishwasher if they are difficult to clean.

3.2 Assembly of the heat exchanger

Before assembling the exchanger, check that the gaskets and exchanger plates are undamaged and that the gasket holders are pressed into the exchanger plates. The assembly process if a 12 plate exchanger is assembled is shown below.

 17 mm wrench M10 CI 8.8 Gasket Top plate Stack B Stack A Bottom plate	Place the exchanger parts as shown in the picture. Plates and gaskets in stacks A and B are the same but facing differently to make it easy to assemble the exchanger. There are 6 plates in both stacks.
 1)  2)	1. Place the gasket in the gasket groove of the bottom plate. 2. Take a plate from stack A and place on top of the bottom plate. 3. Take a plate from stack B and place it on top of the previous plate. 4. Take a plate from stack A and place it on top of the previous plate. 5. Continue placing a plate from the 2 stacks until there are no more.
 Temporary guide bolts	6. Install an M10 bolt in each end of the bottom plate and align the plates so that they are directly on top of each other. 7. Remove the 2 guide bolts again.

		8. Carefully place the top plate on top of the Exchanger plates and refit the 2 guide bolts. If necessary, re-align the plates so that they are exactly on top of each other. 9. Screw in the 2 guide bolts until they touch the top plate. The bolts must not be loaded.
		10. Install the remaining 6 bolts and screw them in until they touch the top plate. The bolts must not be loaded.
		11. Bolt 1 is tightened ½ round 12. Bolt 1 is tightened ½ round 13. Bolt 1 is tightened ½ round 14. Bolt 1 is tightened ½ round 15. Bolt 1 is tightened ½ round 16. Bolt 1 is tightened ½ round 17. Bolt 1 is tightened ½ round 18. Bolt 1 is tightened ½ round
 Assembly length: 38.5 mm with 12 plates 53 mm with 16 plates 74 mm with 22 plates M10 Cl 8.8 Bolt ISO4014 80 mm with 12 plates 90 mm with 16 plates 110 mm with 22 plates 4x G 3/4"		19. Go to point 11 until the distance between the plates is: a. 38.5 mm for a 12-plate b. 53 mm for a 16-plate c. 74 mm for 22-plate

	20. After installation, you can check that the panels are facing correctly if a 6-sided pattern is formed as shown in the picture.
	21. Install fittings and pressure test the cooling side with a garden hose and water tap. Note max pressure is 5 bar In the picture the fitting used is: M30-F-2 og M30-V1.

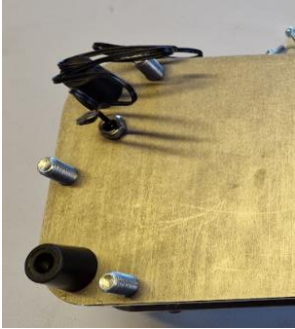
Figur 3: Shows assembly process of the heat exchanger

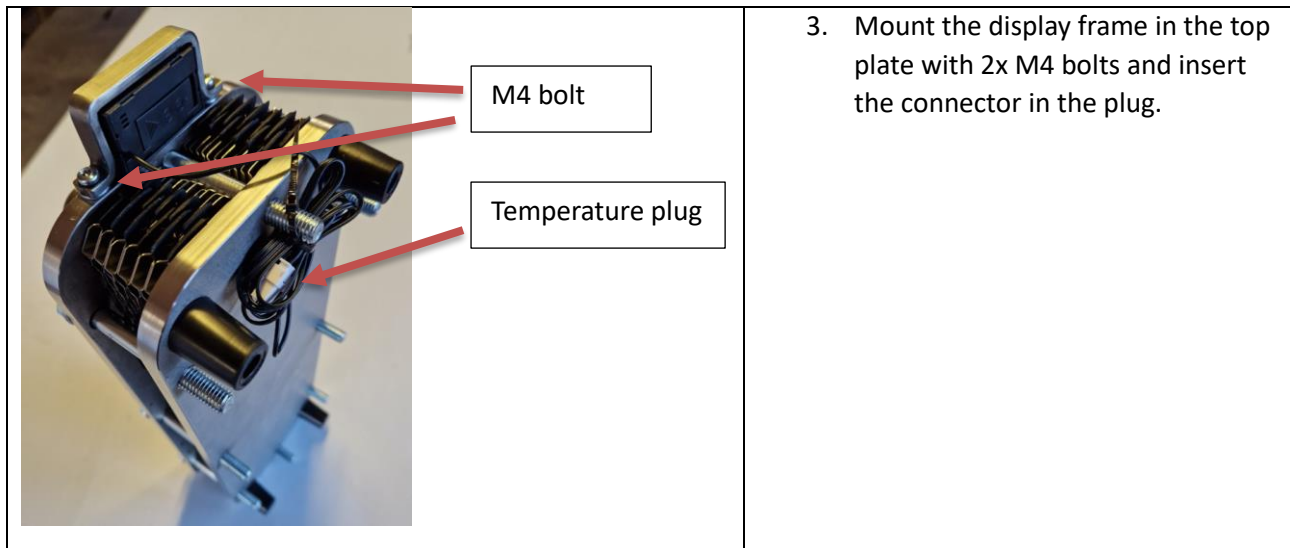
3.3 Installing The Temperature Sensor

The temperature sensor is installed as shown below. The digital display uses 2 x LR44 batteries. The display is not waterproof, it is recommended to click it out of the mounting frame when cleaning to prevent water from getting on it.



Temperature Kit ID: M30 -1-T

	1. Dismantle the M8 plug
	2. Mount the M8 temperature sensor in the M8 thread.



Figur 3: Shows how the temperature kit is installed in the exchanger

4 Warranty and Declaration of Conformity

The current Warranty Terms and Declaration of Conformity can be viewed on our website, www.brewershut.dk.

Please note that no warranty is provided if the exchangers have suffered damage during assembly or disassembly due to overload.

5 Certification (Declaration of Conformity)

	EC Declaration of conformity
We Mort Holding ApS 9530 Støvring Tyttebærvej 5 Denmark declare, on our own responsibility, that the type of product M30-1 Brewers Heat Exchanger (Serial number: M30-1-10001-1 to M30-1-10001-100) - which is covered by this declaration complies with the regulations stated in Directive 2006/42/EC (Machinery Directive) in accordance with relevant parts of international standards.	
<i>date and signature:</i> 17-Feb-2025 <u></u>	