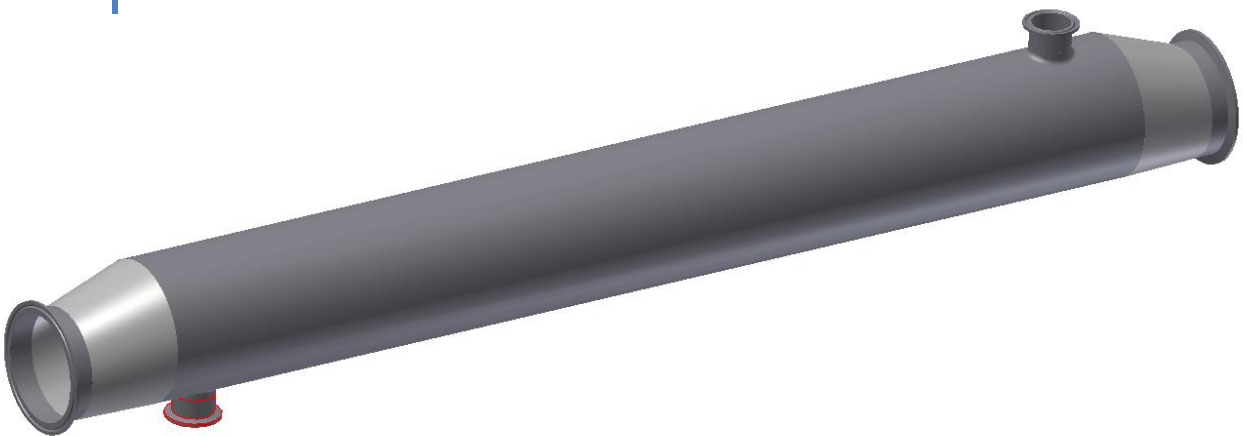




Multitube-  
Heatexchanger with  
eccentric reduction  
0,5 - 8,0M<sup>2</sup>

INSTALLATION AND OPERATION SPECIFICATION



## Installation

### Installation & Safety parameters

Before installing the Heat-exchanger, follow these requirement:

1. Make sure that all connections (Product, water, cooling media, steam and condensate) is made so that it is not possible to overhear/cool the heat-exchanger.
2. Make sure that the heat-exchanger is installed technical correct. (Welds, constructions, pipe holders, seal, etc.)
3. It is the user's responsibility that the installation are made correct in reference to safety. Valves and other security installations, check your local authority.
4. If the Heat-exchanger is supplied with steam, then your make sure that the condensate is taken out of the lowest point of the installation.
5. Make sure that Warning signs is placed on the Heat-exchanger. Heat-exchanger incl. pipes have to be installed without danger to the operators.
6. **Never run** the Heat-exchanger above the following limits.

Product:	Max. Pressure	40 Bar G.
	Max. Temperature	81 °C
Steam:	Max. Pressure	3 Bar G.
	Max. Temperature	143 °C
Cooling:	Max. Pressure	20 Bar G.
	Max. Temperature	-10 °C

The Heat-exchanger is connected (See drawing at page 5). The Heat exchanger should be installed horizontal or vertically.

#### Operation:

The Heat-exchanger is normally used in connection to process systems. The application is cooling or heating of products ore water, above standings limits.

## Technical specification

**Type:** WE-0,5-63-51 to WE-08-150-51

### Application:

In connection for cooling and heating water and other products.

### Design:

Sanitary design outside  $\varnothing 129 \times 2,0$  or  $\varnothing 209 \times 3,0$  pipes, made of stainless steel aisi 316L. Inside  $\varnothing 12 \times 1,0$ mm pipes made of stainless steel aisi 316L. The cooling/heating flow is outside of the  $\varnothing 12 \times 1,0$ mm pipes.

### Connection:

#### $\varnothing 129 \times 2,0$ pipes:

$\varnothing 25$  to  $\varnothing 51$  neck up pipe with  $\varnothing 25$  to  $\varnothing 51$  clamps for inlet/outlet cooling and heating.

$\varnothing 63$  to  $\varnothing 104$  clamps for inlet/outlet of the product.

#### $\varnothing 209 \times 3,0$ pipes:

$\varnothing 25$  to  $\varnothing 51$  neck up pipe with  $\varnothing 25$  to  $\varnothing 51$  clamps for inlet/outlet cooling and heating.

$\varnothing 76,1$  to  $\varnothing 154$  clamps for inlet/outlet of the product.

## Technical data:

Max pressure 4MPa (580 psi)

Min pressure 1,5MPa (217 psi)

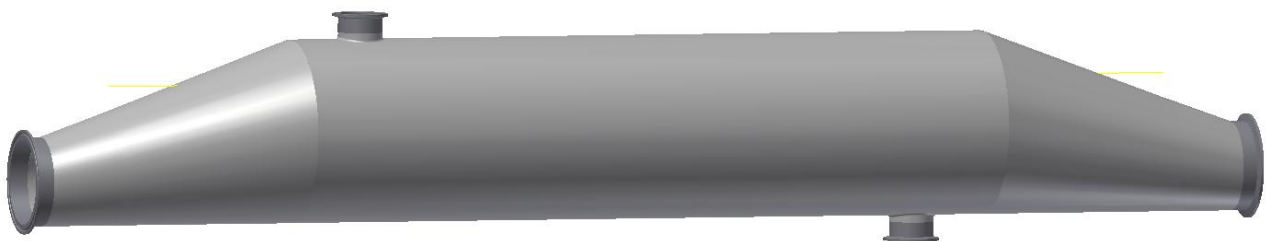
## Produced in according to:

Directive 97/23/EF - European

Approved for fluids gr. 2 "Non dangerous"

## Purpose

The purpose of using Multitube Heatexchanger with eccentric reduction, is that it's easier for the product to be drained.



## Key for ordering

<b>EXCAMPLE</b>	WE	-	02	-	101	-	51
<b>Type</b>							
<b>M<sup>2</sup></b>							
<b>Connection size, product</b>							
<b>Connection size, cooling/heating medium</b>							

## General Description

### Application:

In connection with filtration modules or other sanitary applications for cooling/heating of the product.

### Standard:

Sanitary design An external pipe made of stainless steel aisi 316L surrounds internal pipe also made of stainless steel aisi 316L.

The cooling/heating medium flow is on the outside of internal pipes.

### Connection:

See above key for ordering, clamps both for inlet and outlet of the cooling/heating medium and for inlet and outlet of the product.

Technical Data:

Example:

Cooling capacity 2,3 Kw/°C with 75m<sup>3</sup> product flow, 1 CP viscosity and 3m<sup>3</sup>/h cooling flow.

Max product pressure 4MPa (580 psi)

Min medium pressure 1,5MPa (217 psi)

Heat transfer area = 2,0m<sup>2</sup>

Liquid volume = Product 6,7L and Medium 7,3L

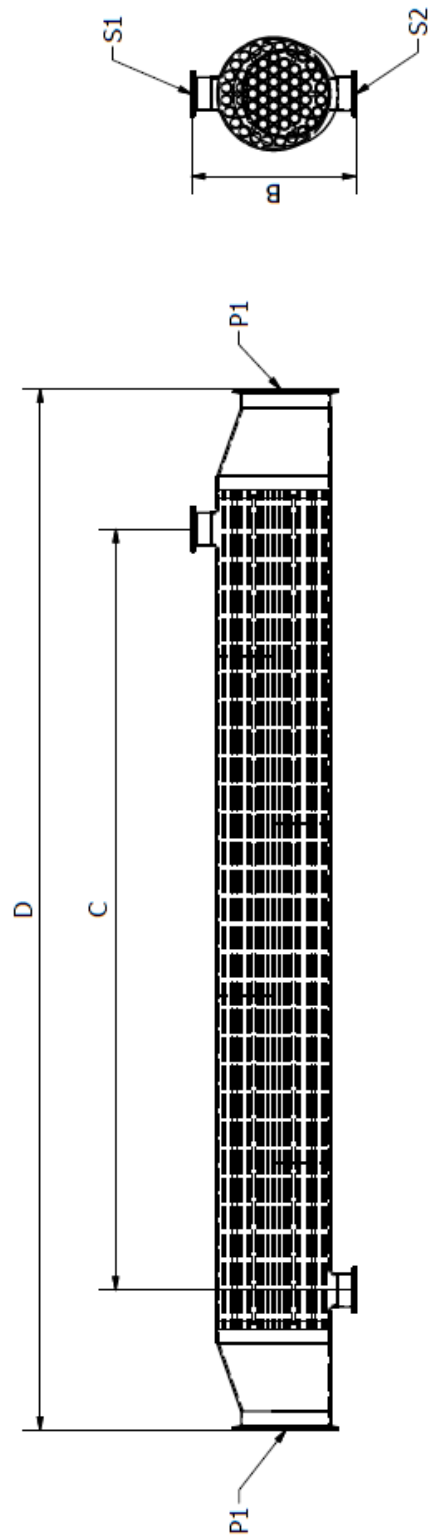
FDA approved materials:

3.1.B certificate, welding certificate and pressure test-sheet.

Rørkøler & Varmerechser		Rørside / Tube side		Svøbroside / Shell side		<small>Er fremstillet i overensstemmelse med artikel 5 stk. 3 i EUROPA-PARLAMENTETS OG RÅDET'S DIREKTIV 97/23/EF af 23. maj 1997 om indbyrdes samordning af medlemsstaternes lovgivning om trykberedte udstyr og om de tilfældige arbejdslove i anførte områder.</small> <small>Is manufactured in accordance with article 3.3 in the DIRECTIVE 97/23/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 29 May 1997 on the approximation of the laws of the Member States concerning pressure equipment and the other Community Directive stated above.</small>	Kontrol niveau:		 <b>Maskinfabrik a/s</b> <b>Mads Clausensvej 54</b> <b>8000 Silkeborg</b>	Materiale:	
Cooler and Heat Exchanger	PS	40 [bar G]	20 [bar G]	3 [bar G]			2				Rørkøler 3m <sup>2</sup> Ø129, Exc. konus. Tilslut. Prod. / Serv. Ø101,6 / Ø38 W.4404
Max. Tryk											
Max. Temperatur	TS	Minus 10°C / Plus 85 °C	Minus 10°C	Plus 143°C							
Volume	V	Ca. / Approx 9,2 [liter]	Ca. / Approx 7,8 [liter]								
Provingtryk	PT	57 [bar]	[bar]								
Fluidnummer	2	Fluidac	Ufarligt								
Fluidart			Non-dangerous								
								 Densite lesping tilhører Wila maskinfabrik A/S, og må ikke kopieres eller videregives til tredjepart uden tilladelse.			
								Efterbehandling: Full pickling / Full bejdning Overflade: Grinding / Slibes Laser / vandskæring			
								Tegnenummer: 05-02-2014 AH Godkendt: 05-02-2014 AH			
								Vægt: 36,480 kg Tegnenummer: WE-03-101-38 Rev.: 1 A3			

## Dimensions

Multitube Heatexchanger with eccentric reduction 0,5 to 8,0m<sup>2</sup>



Type	P1	S1/S2	A	B	C	*D	Antal rør
WE-0,5-100-(S1/S2)	DN100	Ø25-Ø51	Ø129	187	129	437	61
WE-0,5-101-(S1/S2)	ISO 4"	Ø25-Ø51	Ø129	187	129	443	61
WE-0,5-80-(S1/S2)	DN80	Ø25-Ø51	Ø129	187	129	539	61
WE-0,5-76-(S1/S2)	ISO 3"	Ø25-Ø51	Ø129	187	129	595	61
WE-0,5-63-(S1/S2)	ISO 2,5"	Ø25-Ø51	Ø129	187	129	645	61

Type	P1	S1/S2	A	B	C	*D	Antal rør
WE-01-100-(S1/S2)	DN100	Ø25-Ø51	Ø129	187	379	687	61
WE-01-101-(S1/S2)	ISO 4"	Ø25-Ø51	Ø129	187	379	693	61
WE-01-80-(S1/S2)	DN80	Ø25-Ø51	Ø129	187	379	789	61
WE-01-76-(S1/S2)	ISO 3"	Ø25-Ø51	Ø129	187	379	845	61
WE-01-63-(S1/S2)	ISO 2,5"	Ø25-Ø51	Ø129	187	379	895	61

Type	P1	S1/S2	A	B	C	*D	Antal rør
WE-02-100-(S1/S2)	DN100	Ø25-Ø51	Ø129	187	869	1177	61
WE-02-101-(S1/S2)	ISO 4"	Ø25-Ø51	Ø129	187	869	1183	61
WE-02-80-(S1/S2)	DN80	Ø25-Ø51	Ø129	187	869	1279	61
WE-02-76-(S1/S2)	ISO 3"	Ø25-Ø51	Ø129	187	869	1335	61
WE-02-63-(S1/S2)	ISO 2,5"	Ø25-Ø51	Ø129	187	869	1385	61

Type	P1	S1/S2	A	B	C	*D	Antal rør
WE-03-100-(S1/S2)	DN100	Ø25-Ø51	Ø129	187	1359	1667	61
WE-03-101-(S1/S2)	ISO 4"	Ø25-Ø51	Ø129	187	1359	1673	61
WE-03-80-(S1/S2)	DN80	Ø25-Ø51	Ø129	187	1359	1769	61
WE-03-76-(S1/S2)	ISO 3"	Ø25-Ø51	Ø129	187	1359	1825	61
WE-03-63-(S1/S2)	ISO 2,5"	Ø25-Ø51	Ø129	187	1359	1875	61

Type	P1	S1/S2	A	B	C	*D	Antal rør
WE-011-150-(S1/S2)	DN150(II)	Ø25-Ø63,5	Ø209	267	105	625	163
WE-011-125-(S1/S2)	DN125(II)	Ø25-Ø63,5	Ø209	267	105	763	163
WE-011-100-(S1/S2)	DN100	Ø25-Ø63,5	Ø209	267	105	898	163
WE-011-101-(S1/S2)	ISO 4"	Ø25-Ø63,5	Ø209	267	105	904	163
WE-011-80-(S1/S2)	DN80	Ø25-Ø63,5	Ø209	267	105	1000	163
WE-011-76-(S1/S2)	ISO 3"	Ø25-Ø63,5	Ø209	267	105	1056	163

\*Dimension after welding  $\pm 2,0$ . Shrinks by welding.



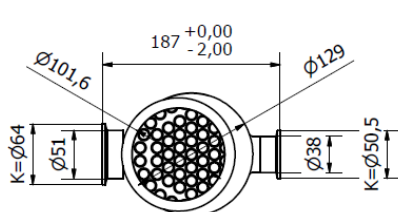
Type	P1	S1/S2	A	B	C	*D	Antal rør
WE-021-150-(S1/S2)	DN150(II)	Ø25-Ø63,5	Ø209	267	295	810	163
WE-021-125-(S1/S2)	DN125(II)	Ø25-Ø63,5	Ø209	267	295	948	163
WE-021-100-(S1/S2)	DN100	Ø25-Ø63,5	Ø209	267	295	1083	163
WE-021-101-(S1/S2)	ISO 4"	Ø25-Ø63,5	Ø209	267	295	1089	163
WE-021-80-(S1/S2)	DN80	Ø25-Ø63,5	Ø209	267	295	1185	163
WE-021-76-(S1/S2)	ISO 3"	Ø25-Ø63,5	Ø209	267	295	1241	163

Type	P1	S1/S2	A	B	C	*D	Antal rør
WE-031-150-(S1/S2)	DN150(II)	Ø25-Ø63,5	Ø209	267	510	1030	163
WE-031-125-(S1/S2)	DN125(II)	Ø25-Ø63,5	Ø209	267	510	1168	163
WE-031-100-(S1/S2)	DN100	Ø25-Ø63,5	Ø209	267	510	1303	163
WE-031-101-(S1/S2)	ISO 4"	Ø25-Ø63,5	Ø209	267	510	1309	163
WE-031-80-(S1/S2)	DN80	Ø25-Ø63,5	Ø209	267	510	1405	163
WE-031-76-(S1/S2)	ISO 3"	Ø25-Ø63,5	Ø209	267	510	1461	163

Type	P1	S1/S2	A	B	C	*D	Antal rør
WE-04-150-(S1/S2)	DN150(II)	Ø25-Ø63,5	Ø209	267	660	1177	163
WE-04-125-(S1/S2)	DN125(II)	Ø25-Ø63,5	Ø209	267	660	1315	163
WE-04-100-(S1/S2)	DN100	Ø25-Ø63,5	Ø209	267	660	1450	163
WE-04-101-(S1/S2)	ISO 4"	Ø25-Ø63,5	Ø209	267	660	1456	163
WE-04-80-(S1/S2)	DN80	Ø25-Ø63,5	Ø209	267	660	1552	163
WE-04-76-(S1/S2)	ISO 3"	Ø25-Ø63,5	Ø209	267	660	1608	163

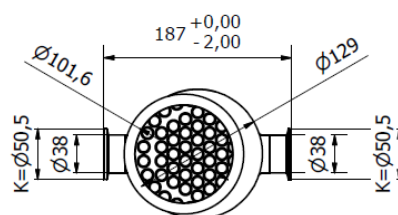
Type	P1	S1/S2	A	B	C	*D	Antal rør
WE-06-150-(S1/S2)	DN150(II)	Ø25-Ø76,1	Ø209	267	1040	1557	163
WE-06-125-(S1/S2)	DN125(II)	Ø25-Ø76,1	Ø209	267	1040	1695	163
WE-06-100-(S1/S2)	DN100	Ø25-Ø76,1	Ø209	267	1040	1830	163
WE-06-101-(S1/S2)	ISO 4"	Ø25-Ø76,1	Ø209	267	1040	1836	163
WE-06-80-(S1/S2)	DN80	Ø25-Ø76,1	Ø209	267	1040	1932	163
WE-06-76-(S1/S2)	ISO 3"	Ø25-Ø76,1	Ø209	267	1040	1988	163

Type	P1	S1/S2	A	B	C	*D	Antal rør
WE-08-150-(S1/S2)	DN150(II)	Ø25-Ø76,1	Ø209	267	1455	1972	163
WE-08-125-(S1/S2)	DN125(II)	Ø25-Ø76,1	Ø209	267	1455	2110	163
WE-08-100-(S1/S2)	DN100	Ø25-Ø76,1	Ø209	267	1455	2245	163
WE-08-101-(S1/S2)	ISO 4"	Ø25-Ø76,1	Ø209	267	1455	2251	163
WE-08-80-(S1/S2)	DN80	Ø25-Ø76,1	Ø209	267	1455	2347	163
WE-08-76-(S1/S2)	ISO 3"	Ø25-Ø76,1	Ø209	267	1455	2403	163



Example 1:

Key for ordering: WE-02-101-51/38



Example 2:

Key for ordering: WE-02-101-38