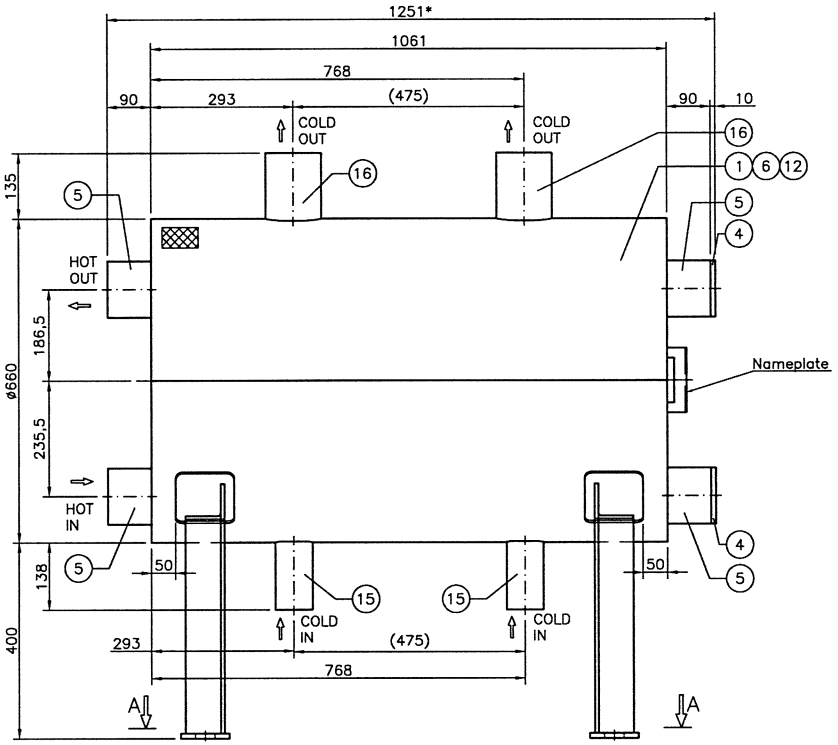
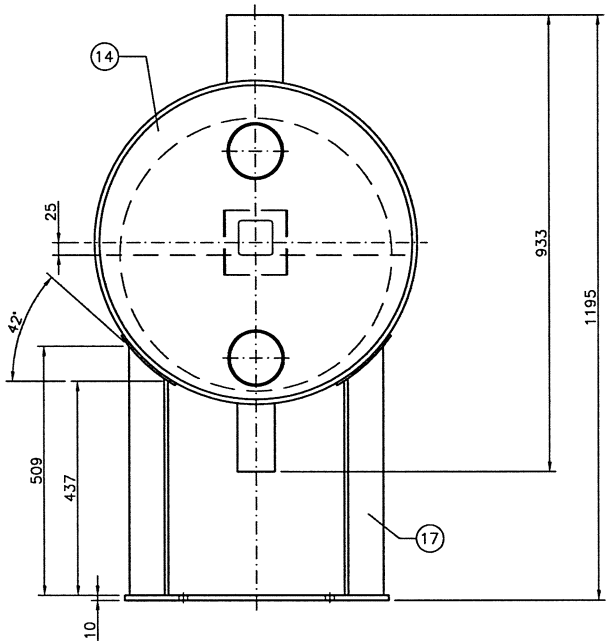
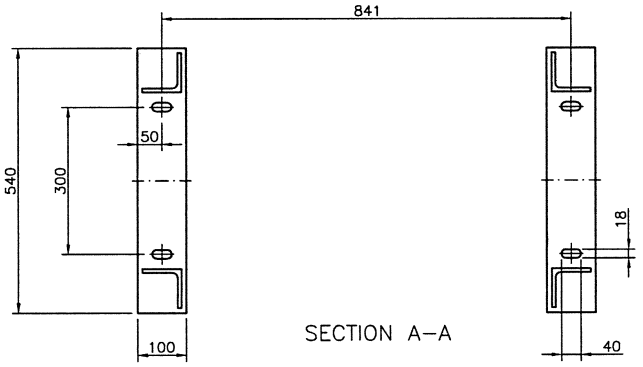




ECCENTRIC 25mm



SECTION A–A

ID Field / Tunnistekenttä
Unit to be equipped with lifting lugs M20, DIN 582

Rev.	Modification	Name	Date
	Marking of the unit: Serial number to be stamped to the shell, location marked in dwg with ▭	Customer: Wijbenga B.V.	
	Name / Date	Tolerances:	End Customer:
Designed by:	MS 021208	Acc. to ISO EN13920–C, except lenght marked *:	
Checked by:	VKe 031208	0–100 plates, ±10; 101–200 plates, ±15;	Order Nr.: RN/08725
Approved by:		201–300 plates, ±20; >300 plates, ±30.	

Manufacturer:

VAHTERUS®

Vahterus Oy
Pruukintie 7
FIN-23600 Kalanti
FINLAND
Phone: +358 2 8427000
Telefax: +358 2 8427029
E-mail: sales@vahterus.com
www.vahterus.com

Plate & Shell® Heat Exchanger
PSHE 5HH – 334/1/1
Flooded Evaporator

Ref.	Serial number(s)	Scale
V08/ 1072	23673	1:10

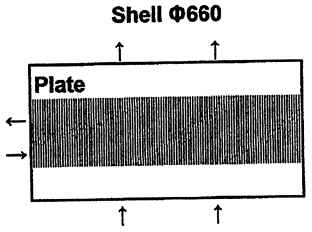
Drawing number	Sheet	Rev	Sheets	Size
23673	01	0	1	A3

Ver 2.9b

VAHTERUS

Vahterus PSHE- Data Sheet
Flooded Evaporator

Date	21-11-2008	**Type PSHE 5HH-334/1/1**
Offer number	Unnamed	
Made by		
Customer		
Reference		JS/0872T
Project		
Item name/no.		



Thermal Design:			
Capacity	kW	400	
Heat transfer area	m²	87,0	
Logaritmic mean T	°C	2,8	
K-value	W/m²K	1670	
Fouling factor	m²K/W	0,00009068	
Extra Capacity	%	18	
		Plate side (Hot)	**Shell side (Cold)**
Temp. IN	°C	5,4	0,5
Temp OUT	°C	2,0	0,5
Evaporating temperature	°C		0,5
Condensing temperature	°C		0,5
Flow rate	kg/h	100315,0	7037,0
Pressure drop	kPa	12,3	2,4
Liquid volume	dm³	95,6	155,4
Medium		Water 3.7°C	R22
Dynamic viscosity	kg/ms	0,001616000	
Specific gravity	kg/m³	999	
Specific heat	J/kgK	4222	
Thermal conductivity	W/mK	0,5678	

Connections:	Size (DN)	Nb.of pieces	Velocity m/s
Plate side IN	100	1	3.095
Plate side OUT	100	1	3.095
Shell side IN	50 - ONLY	2	0.3554
Shell side OUT	100	2	5.025

Construction Design:			
End Type		Standard Unit	External Circulation
Weight (dry)	kg	Welded Eccentric model 890	Content: Dangerous
Position		Horizontal	Category: IV
Design code		PED	Module: B+D
Design pressure	bar(g)	-1/25	Inspector: Vahterus Oy (CE)
Testing pressure	bar(g)	42,9	
Design temperature	°C	-50 / 110	
Support		No feet	

Materials:	
Plate material	AISI 316L
Shell material	Carbon Steel
Flow director material	EPDM
Plate connections	Stub End
Shell connections IN	
Shell connections OUT	
Finishing (Shell externally)	
- Stainless steel parts	Glasspearl blasting
- Carbon steel parts	Painted blue

Vahterus Oy
Pruukintie 7
FIN-23600 KALANTI

Phone +358 (0)2 840 70
Telefax +358 (0)2 840 7299

E-mail sales@vahterus.com
Internet www.vahterus.com

VAHTERUS

TECHNICAL DATA SHEET

Serial No.	23673	End Customer:		Rev.	0
Type:	PSHE 5HH - 334/1/1	Order No.	RN/08725	Date:	02.12.2008
Ref.	V08/ 1072	Certificate Nr	04-521144-06	Made by:	MS
Customer:	Wijbenga B.V.	Inspector:	Vahterus (CE)	Draw. nb:	23673-01-0
Industrial Sector	1	Design Code	PED/97/23/EC + AD 2000 Calculation	Application	3

Pos	pc	Mat.nro	Description	Dimensions	Material		Certi
1	334		Plate	Φ 556 x 0.7	1.4404	DIN 17440	3.1
4	2		End Plate for Nozzle	Φ 114.3 x 10	1.4404	DIN 17440	3.1
5	4		Nozzle DN 100	Φ 114.3 x 3.6	1.4571	DIN 17458	3.1
6	24		Flow Director		EPDM		
12	1		Shell	Φ 660 x 10 x 1061	P355NL2	EN 10028-3	3.1
14	2		End Plate	Φ 638 x 50	P355NL2	EN 10028-3	3.1
15	2		Nozzle DN 65	Φ 76.1 x 5.0	TTSt35N	DIN 17173	3.1
16	2		Nozzle DN 100	Φ 114.3 x 3.6	TTSt35N	DIN 17173	3.1
17	2		Shell Feet		S235JRG2		

Content:
Dangerous
Category: IV
Module: B+D

Technical Data:	Plate Stack: HOT	Shell: COLD
Design Pressure (barg)	-1/25	-1/25
Design Temperature (°C)	-50/110	-50/110
Operating Temperature (°C)	5.4/2	0.5/0.5
Volume (liter)	94.8	154.1
Test Pressure (barg)	42.9	42.9
Medium:	Water 3.7°C	R22

Note:
The thickness of connection pipes are **minimum dimensions.**

Weight: 905 kg
Nameplate material: Aluminium
Capacity: 400 kW

No heat treatment

Surface Preparation:

Steel grit blasting to SA 2 1/2

Painting: Temalac FD50 RAL 5010 , Blue

NDT:

1) Longitudinal seam: RTG 10%

Notes:

Shell side Drying

Heliumtest: 1 bar He+9 bar air

VAHTERUS

EC DECLARATION OF CONFORMITY

Issued in accordance with the

Pressure Equipment Directive (PED) 97/23/EC

The Manufacturer:	Vahterus Oy Pruukintie 7, FIN-23600 Kalanti, Finland

Hereby declares that product(s) detailed below have been manufactured in compliance with the above Directive, as staded below:

The product:	Plate&Shell Heat Exchanger
Type:	PSHE 5HH-334/1/1
Manufacturing number:	23673
Conformity assessment(s):	Module B + D acc. to Directive 97/23/EC
Category of vessel:	IV
Notified Body performing the assessment:	Inspecta Sweden AB (0409) Stockholm, Sweden
EC-type examination certificate:	04-521144-06
EC-design examination certificate:	-
QS assessment certificate:	02-SKM-PED-146097-00
Manufacturer's quality systems:	ISO 9001:2000 + ISO 3834-2:2005 Certificate No 30343-2008-AQ-FIN-FINAS DNV Certification OY/AB
Applied harmonized standards:	-
Applied other standards:	AD-Merkblatt 2000
Other Directives applicable:	-

Kalanti 14.1.2009

Vahterus Oy
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Internet www.vahterus.com

VAT No. FI08393566
Trade Reg. No. 507.788
Domicile Uusikaupunki

VAHTERUS

TECHNICAL DATA SHEET

Serial No.	23673	End Customer:		Rev.	0
Type:	PSHE 5HH - 334/1/1	Order No.	RN/08725	Date:	02.12.2008
Ref.	V08/ 1072	Certificate Nr	04-521144-06	Made by:	MS
Customer:	Wijbenga B.V.	Inspector:	Vahterus (CE)	Draw. nb:	23673-01-0
Industrial Sector	1	Design Code	PED/97/23/EC + AD 2000 Calculation	Application	3

Pos	pc	Mat.nro	Description	Dimensions	Material		Certi
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6	24		Flow Director		EPDM		
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17	2		Shell Feet		S235JRG2		

Content:
Dangerous
Category: IV
Module: B+D

Technical Data:	Plate Stack: HOT	Shell: COLD
Design Pressure (barg)	-1/25	-1/25
Design Temperature (°C)	-50/110	-50/110
Operating Temperature (°C)	5.4/2	0.5/0.5
Volume (liter)	94.8	154.1
Test Pressure (barg)	42.9	42.9
Medium:	Water 3.7°C	R22

Weight: 905 kg
Capacity: 400 kW

Nameplate material: Aluminium

Note:
The thickness of connection pipes are **minimum dimensions.**

Unit has been tested with 42,9 **bar**
Accepted by quality department
Date: 9.1.2009
Sign. Raija Tuovila
VAHTERUS OY

No heat treatment

Surface Preparation:
Steel grit blasting to SA 2 1/2
Painting: Temalac FD50 RAL 5010 , Blue

Inspection report: Accepted

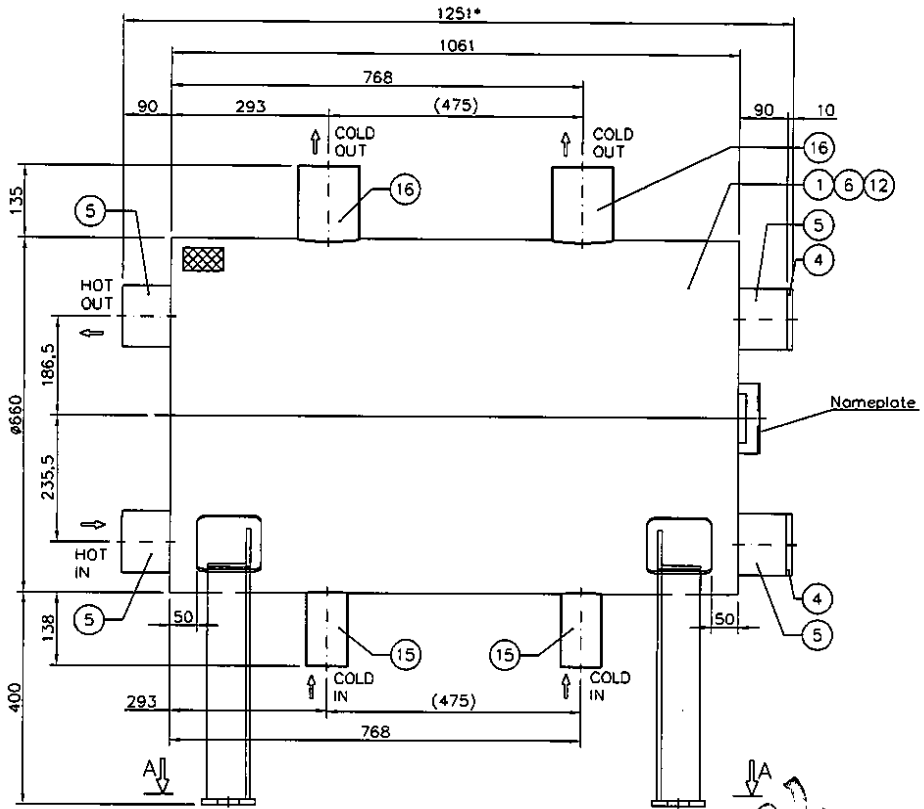
NDT:
1) Longitudinal seam: RTG 10%

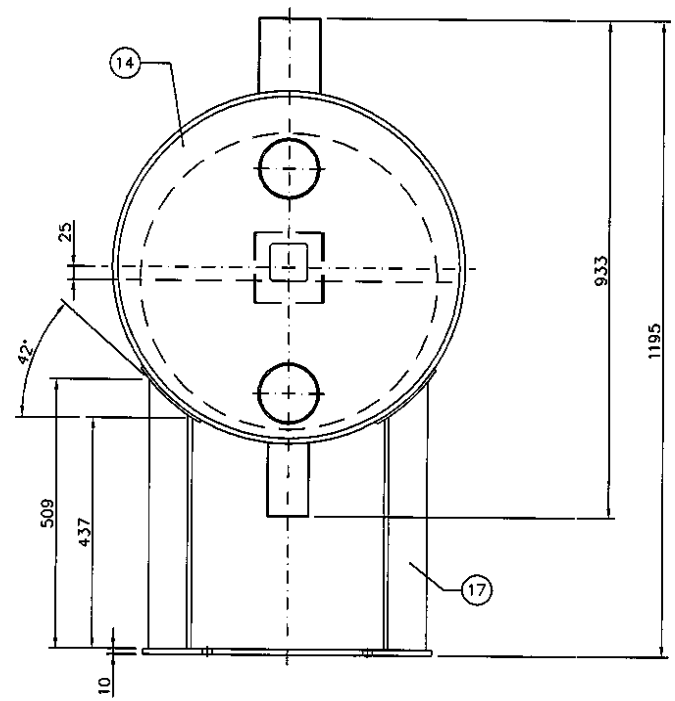
Visual inspection:
No remarks.

NDT-report: Accepted

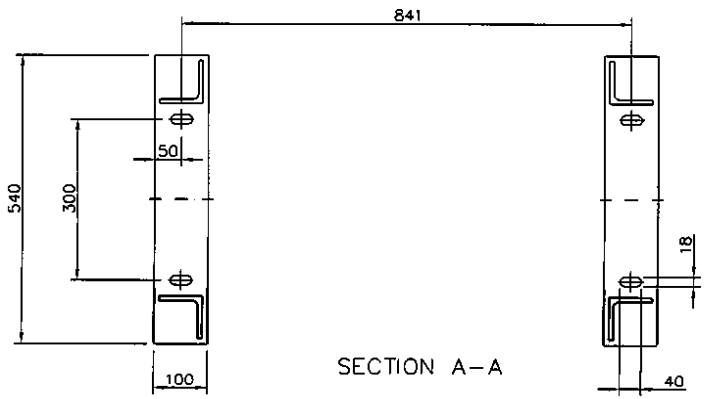
Notes:
Shell side Drying
Heliumtest: 1 bar He+9 bar air

VAHTERUS





ECCENTRIC 25mm



SECTION A–A

ID Field / Tunnistekenttä
Unit to be equipped with lifting lugs M20, DIN 582

Rev.	Modification	Name	Date

Marking of the unit: Serial number to be stamped to the shell, location marked in dwg with ▭

	Name	Date
Designed by:	MS	021208
Checked by:	VKe	031208
Approved by:		

Tolerances:
Acc. to ISO EN13920–C, except lenght marked *:
0–100 plates, ±10; 101–200 plates, ±15;
201–300 plates, ±20; >300 plates, ±30.

Customer: Wijbenga B.V.

End Customer:

Order Nr.: RN/08725

Manufacturer:

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PSHE 5HH – 334/1/1
Flooded Evaporator

Ref.	Serial number(s)	Scale
V08/ 1072	23673	1:10

Drawing number	Sheet	Rev	Sheets	Size
23673	01	0	1	A3