

## Plate Heat Exchanger Customer Data Sheet

Quotation title:	Vertex - Various PHE	Solution Number:	ASK005P3WV01-004-S01
Customer Name:	AxFlow BV admin@axflow.nl	Revision date:	11/5/2025 9:21 AM
Customer Reference:	15019	Item Responsible:	Godse Sachin
Item Title:	Thermaliser	Created by:	Leandro Fontanarrosa

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### Plate Heat Exchanger Specifications

PHE Type	H17			
Frame Type / Size	RKS-10X/5. Sanitary, max 226 plates			
Dimensions (H x W x L) mm	1395 x 390 x 1526			
Total Number of Plates	149			
Total Area m <sup>2</sup>	23.97			
Plate Material, Section 1, 2, 3, 4	0.5 mm S. Steel AISI 316L, Paraclip			
Gasket Material, Section 1, 2, 3, 4	NBR per. (FDA)			
No. Grids, Thickness	3x80 mm;			
Divider Plates				
Design Code	Chinese Standard (NB/T 47004)			
Inspector				
Design Temperature °C	Max	95.0	Min	0
Design Pressure kPa	Hot	1,000	Cold	1,000
Test pressure kPa	Balanced	1,300	Differential	1,300
Mass kg	Flooded	611	Empty	530
Approx. Shipping Mass & Volume	kg	0	l	0

### Remarks


### Accessories

Basic Drawing (1); Cover Letter in English (1); Name plate in English (1); Standard Order Handling (1);

CIP Fluid	Water	
CIP flow kg/h	5,000	
CIP Pressure Drop (Total) kPa	319	
Density kg/m <sup>3</sup>	969	
Viscosity mPa s	0.335	
Temperature °C	85.0	

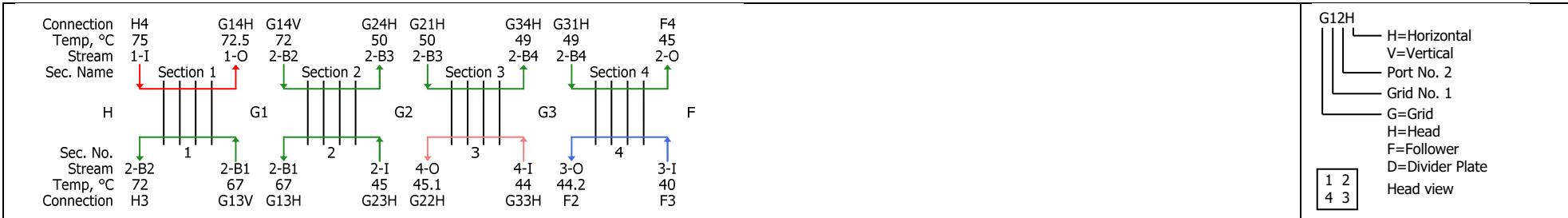
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## Duty

requested (4/10/25)



Process data by Stream		Water : 1	Butter Oil : 2	Water : 3	Water : 4
Mass flow rate	kg/h	2,500	2,500	1,190	1,188
Volume flow rate	l/s	0.712	0.772	0.333	0.333
Inlet temperature	°C	75.0	45.0	40.0	44.0
1 Bypass Temperature, Duty	°C		67.0		
2 Bypass Temperature, Duty	°C		72.0		
3 Bypass Temperature, Duty	°C		50.0		
4 Bypass Temperature, Duty	°C		49.0		
Outlet Temperature, Duty	°C	72.5	45.0	44.2	45.1
Pressure drop, Calculated	kPa	4.56	368	0.765	0.232
Fluid Volume in PHE	l	4.66	68.2	4.37	3.85

## Connections

Stream	Connection	Connection Placement
1 Water	51mm Clamp (Complete in) SS 316 ISO 2852	H4
	51mm Clamp (Complete in) SS 316 ISO 2852	G14H
2 Butter Oil	51mm Clamp (Complete in) SS 316 ISO 2852	G23H G13H G13V G14V G24H G21H G34H G31H
	51mm Clamp (Complete in) SS 316 ISO 2852	H3 F4
3 Water	51mm Clamp (Complete in) SS 316 ISO 2852	F3 F2
4 Water	51mm Clamp (Complete in) SS 316 ISO 2852	G33H G22H

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Duty requested (4/10/25)

Process data by Section	1: Section 1		2: Section 2		3: Section 3		4: Section 4	
	Hot	Cold	Hot	Cold	Hot	Cold	Hot	Cold
Fluid	Water	Butter Oil	Butter Oil	Butter Oil	Butter Oil	Water	Butter Oil	Water
Bypass mass flow rate	kg/h							
Mass flow rate	kg/h	2,500	2,500	2,500	2,500	1,188	2,500	1,190
Inlet temperature	°C	75.0	67.0	72.0	45.0	50.0	44.0	49.0
Outlet Temperature, Duty	°C	72.5	72.0	50.0	67.0	49.0	45.1	45.0
Pressure drop, Calculated	kPa	4.56	21.8	159	166	5.92	0.232	15.6
Flow Through Time	Sec	6.547	6.039	35.64	35.64	5.702	11.55	5.327
Heat Exchange Rate, Duty	kW	7.27		32.0		1.45		5.81
Design (Duty) HTC	W/K m <sup>2</sup>	691		380		123		538
Log Mean Temp Difference, Duty	°C	4.1		5.0		5.0		4.9
Hot Side Flow Arrangement		2*4		10*5		1*8		1*7
Cold Side Flow Arrangement		2*4		10*5		1*7		1*7
Number of Plates in Section		17		101		16		15
Active Area in Section	m <sup>2</sup>	2.55		16.83		2.38		2.21

Fluid Properties	Hot	Cold	Hot	Cold	Hot	Cold	Hot	Cold
Density	kg/m <sup>3</sup>	976	900	900	900	900	990	900
Specific Heat Capacity	kJ/kg K	4.19	2.09	2.09	2.09	2.09	4.18	2.09
Thermal Conductivity	W/m K	0.665	0.208	0.208	0.208	0.208	0.635	0.208
Inlet Viscosity	mPa s	0.379	15.4	14.1	23.7	21.4	0.605	21.8
Outlet viscosity	mPa s	0.391	14.1	21.4	15.4	21.8	0.594	23.7
Newtonian	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Calculations are based on the specified fluid properties. Deviation from the specified properties might have influence on the thermal performance and/or pressure drops. Actual performance of the quoted PHE configuration may vary from the specifications set forth herein based on operating and environmental conditions, as well as design and manufacturing tolerances.