Specification Sheet

Project: 202512-2360

Date: 15/12/25

Contact:
Direct Line:

Plate & Frame Heat Exchanger

Version: 4.19.16 (20/1/2)

Item:	**Unit: F 405-109-1-NH**

Technical data per HX		Hot side			Cold side	
Fluid		**Water**			**Glycol/Water 10/90**	
Mass flow rate		[kg/s]	47.26		[kg/s]	45.76
Volume flow rate		[m³/h]	170.832		[m³/h]	161.883
Inlet temperature		[°C]	26.70		[°C]	7.00
Outlet temperature		[°C]	22.00		[°C]	12.00
Operating pressure		[barg]	2.00		[barg]	2.00
Physical properties			In	Out	In	Out
Dynamic viscosity		[cP]	0.853	0.945	2.058	1.758
Density		[kg/m³]	995.1	996.7	1018.	1017.
Specific heat capacity		[kJ/kgK]	4.185	4.189	4.064	4.065
Thermal conductivity		[W/mK]	0.628	0.625	0.543	0.547

P.H.E characteristic values

Heat duty		[kW]		930.00		
Eff. heat transfer area		[m²]		49.22		
Log./Effective temperature difference		[K]		14.85 / 14.85		
Heat transfer coeff. req./act.		[W/m²K]		1272 / 2154		
Fouling factor total		[m²K/W]		0.0003217		
Overdesign		[%]		69.29		
Pressure loss		[kPa]	9.971		[kPa]	9.538
Channel Velocity		[m/s]	0.55 / 0.55		[m/s]	0.52 / 0.52
Connection Velocity		[m/s]	1.54		[m/s]	1.46
No. of passes in series			1			1
No. of plates total				109		
Mix of Channeltype				54*LL		

Construction

Weight Dry/Wet		[kg]		approx. 1104/1245	
Volume		[dm³]	70.200		70.200
Design pressure		[barg]		10.0	
Max. working temperature		[°C]		110.00	
Material		DIN			
	Plates	AISI 316L / 1.4404 (0.50 mm)			
	Gaskets	NBR HT			
	Frame	S 355 J2+N (Pressure Plates), max. plates: 110, Extensibility 1%			
	Painting	Standard, RAL 5002, <= 150°C,			
Connection	Hot side	F1 => F4 : Rubber Liner, DN 200, NBR, for flange PN 10, EN 1092-1			
	Cold side	F3 => F2 : Rubber Liner, DN 200, NBR, for flange PN 10, EN 1092-1			
Design Code		AD-2000			
Inspection Code		PED 2014/68/EU			

Remark

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Plate & Frame Heat Exchanger

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Item:	**Unit: F 405-109-1-NH**

Technical data per HX		Hot side			Cold side	
Fluid		**Water**			**Glycol/Water 10/90**	
Mass flow rate		[kg/s]	37.05		[kg/s]	35.87
Volume flow rate		[m³/h]	133.911		[m³/h]	126.895
Inlet temperature		[°C]	26.70		[°C]	7.00
Outlet temperature		[°C]	22.00		[°C]	12.00
Operating pressure		[barg]	2.00		[barg]	2.00
Physical properties			In	Out	In	Out
Dynamic viscosity		[cP]	0.853	0.945	2.058	1.758
Density		[kg/m³]	995.1	996.7	1018.	1017.
Specific heat capacity		[kJ/kgK]	4.185	4.189	4.064	4.065
Thermal conductivity		[W/mK]	0.628	0.625	0.543	0.547

P.H.E characteristic values

Heat duty	[kW]		729.00		
Eff. heat transfer area	[m²]		49.22		
Log./Effective temperature difference	[K]		14.85 / 14.85		
Heat transfer coeff. req./act.	[W/m²K]		997 / 1804		
Fouling factor total	[m²K/W]		0.0004482		
Overdesign	[%]		80.86		
Pressure loss	[kPa]	6.377		[kPa]	6.030
Channel Velocity	[m/s]	0.43 / 0.43		[m/s]	0.41 / 0.41
Connection Velocity	[m/s]	1.21		[m/s]	1.14
No. of passes in series		1			1
No. of plates total			109		
Mix of Channeltype			54*LL		

Construction

Weight Dry/Wet		[kg]	approx. 1104/1245	
Volume		[dm³]	70.200	70.200
Design pressure		[barg]	10.0	
Max. working temperature		[°C]	110.00	
Material		DIN		
	Plates	AISI 316L / 1.4404 (0.50 mm)		
	Gaskets	NBR HT		
	Frame	S 355 J2+N (Pressure Plates), max. plates: 110, Extensibility 1%		
	Painting	Standard, RAL 5002, <= 150°C,		
Connection	Hot side	F1 => F4 : Rubber Liner, DN 200, NBR, for flange PN 10, EN 1092-1		
	Cold side	F3 => F2 : Rubber Liner, DN 200, NBR, for flange PN 10, EN 1092-1		
Design Code		AD-2000		
Inspection Code		PED 2014/68/EU		

Remark

Construction sheet

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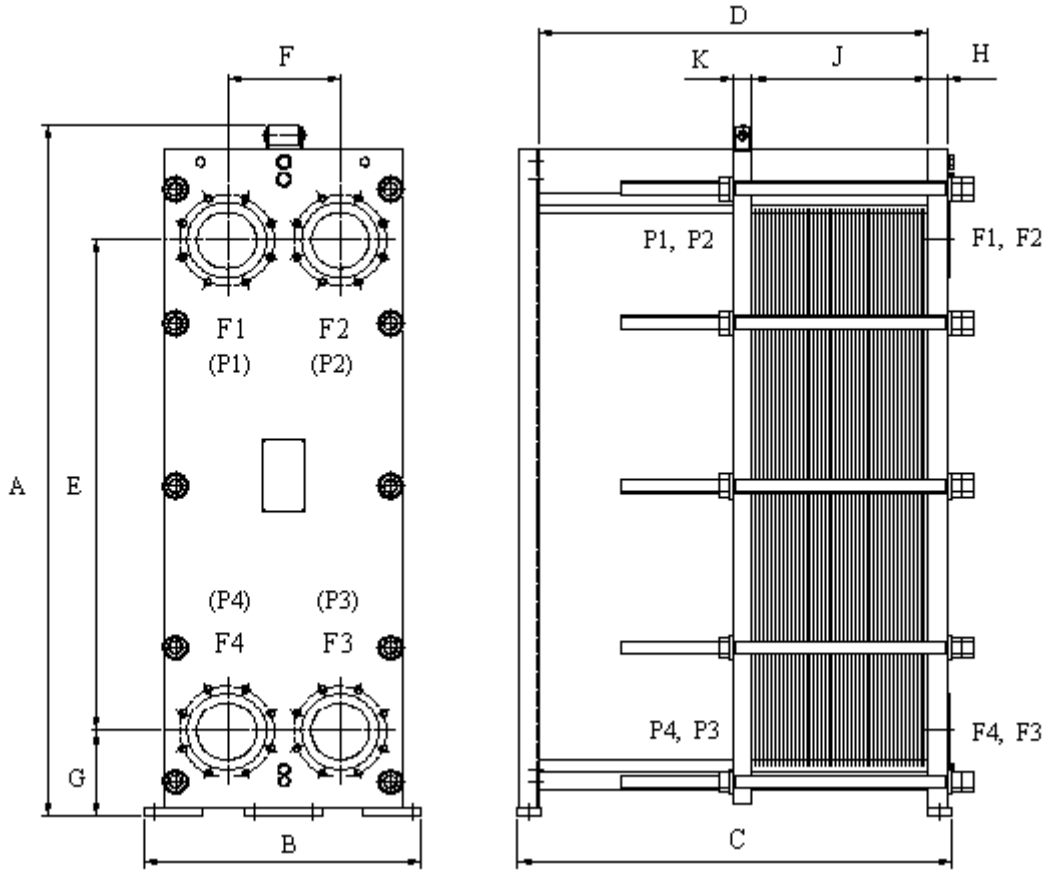
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Plate & Frame Heat Exchanger

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Item:	**Unit: F 405-109-1-NH**

Dimensional sketch - not Certified



Dimensions [appr. mm, inch], max. no. of plates 110		**:mm**	**:inch**
A:	Total height	:1370	:53.9
B:	Total width	:860	:33.9
C:	Total length	:860	:33.9
D:	Length of carrier bar	:745	:29.3
E:	Distance between connections, vertical	:770	:30.3
F:	Distance between connections,horizontal	:395	:15.6
G:	middlepoint of connection from the ground	:285	:11.2
H:	Thickness of frame plate	:60	:2.4
K:	Thickness of pressure plate	:50	:2.0
J:	Length of the plate-package	:337.9	:13.3

Connections

Hot side: F1 => F4 :
Rubber Liner, DN 200,
NBR, for flange PN 10, EN 1092-1

Cold side: F3 => F2 :
Rubber Liner, DN 200,
NBR, for flange PN 10, EN 1092-1

Preliminary Dimensions