

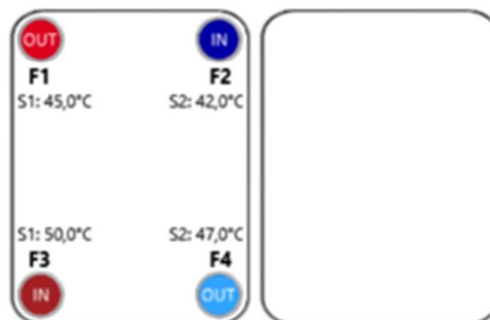
**HENNlich****ENERGY****SINGLE PHASE - DESIGN****HEAT EXCHANGER: B56Hx180/1P-SC-Y (B56H/1P-SC-Y 4X2 1/2")**

Date: 19/03/2025

CONNECTION DATA

Port	NND	Denomination
F1	73	ISO-G 2 1/2" A AISI 304 (54)
F2	73	ISO-G 2 1/2" A AISI 304 (54)
F3	73	ISO-G 2 1/2" A AISI 304 (54)
F4	73	ISO-G 2 1/2" A AISI 304 (54)

CONNECTION LOCATION	Side 1 (S1)	Side 2 (S2)
Inlet	F3	F2
Outlet	F1	F4

PORT FLOW CONFIGURATION

F - Side

P - Side

DUTY REQUIREMENTS

	Side 1	Side 2
Fluid	Ethylene Glycol - Water (30,0 mass%)	Water
Flow type	Counter-Current	
Circuit	Inner	Outer
Channel	Narrow	Wide
Heat load	kW	150,0
Inlet temperature	°C	42,0
Outlet temperature	°C	47,0
Flow rate	l/min	434,8
Pressure drop (Design PD)	kPa	5,50 (20,00)
Thermal length		1,67

PLATE HEAT EXCHANGER

	Side 1	Side 2
Total heat transfer area	m ²	20,3
Heat flux	kW/m ²	7,39
Mean temperature difference	K	3,0
Overall heat transfer coefficient required	W/m ² , °C	2460
Pressure drop - total	kPa	6,07
- in ports	kPa	1,71
- inlet connections	kPa	0,315
- outlet connections	kPa	0,257
Port diameter (up/down)	mm	70,0/70,0
Number of channels per pass		90
Number of plates		180
Oversurfacing	%	23
Fouling factor	m ² , °C/kW	0,075
Reynolds number		1114
Port velocity (up/down)	m/s	1,88/1,88
Channel velocity	m/s	0,161
Shear stress	Pa	9,24
Average wall temperature	°C	45,8
Largest wall temperature difference	K	0,2

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Zapsán do obchodního rejstříku u Krajského soudu v Ústí nad Labem v oddíle C, č. vložky 274

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**HENNLICH****ENERGY****PLATE HEAT EXCHANGER**

		Side 1	Side 2
Min./Max. wall temperature	°C	43,5/48,5	43,3/48,3

NOTES

i This is an asymmetric model. Side 1 refers to circuit F1-F3. Side 2 refers to circuit F2-F4.

PHYSICAL PROPERTIES

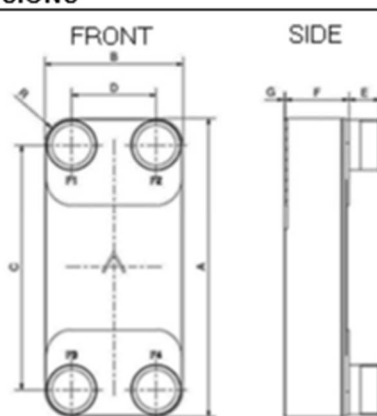
		Side 1	Side 2
Reference temperature	°C	47,5	44,5
Dynamic viscosity	cP	1,13	0,602
Density	kg/m³	1034	990,5
Heat capacity	kJ/kg, °C	3,727	4,179
Thermal conductivity	W/m, °C	0,4792	0,6367
Film coefficient	W/m², °C	6190	6860

TOTALS

		Side 1	Side 2
Total weight empty	kg		87,97
Total weight filled	kg		133,77
Hold-up volume (Inner Circuit)	dm³		18,69
Hold-up volume (Outer Circuit)	dm³		26,73
Port size F1/P1	mm		70
Port size F2/P2	mm		70
Port size F3/P3	mm		70
Port size F4/P4	mm		70
Plate material			AISI316 Stainless Steel
Braze material			Copper
Max operating pressure 20°C	bar(g)	31	31
Max operating pressure 225°C	bar(g)	25	25
Test pressure	bar(g)	45	45
Minimal/Maximal working temperature	°C		-196/225

DIMENSIONS

		A	mm	525 ±2
		B	mm	243 ±1
		C	mm	430 ±1
		D	mm	148 ±1
		E	mm	54 (opt. 81) ±1
		F	mm	453,2
		G	mm	3 ±1
		R	mm	48



*This is a schematic sketch.

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