



**SSP G7**  
(v 7.0.3.32)

**EVAPORATOR - Design**  
**Heat Exchanger : B25Tx30**

Fluid Side 1 : R410A  
Fluid Side 2 : Ethylene Glycol - Water (35,0 %)

Flow Type : Counter-Current

<b>DUTY REQUIREMENTS</b>		<b>Side 1</b>	<b>Side 2</b>
Heat load	kW	5,500	
Inlet vapor quality		0,27	
Outlet vapor quality		1,00	
Inlet temperature	°C	-5,86	0,00
Evaporation temperature (dew)	°C	-6,00	
Superheating	K	5,00	
Outlet temperature	°C	-1,00	-3,00
Flow rate	kg/s	0,03233	0,5248
- inlet vapor	kg/s	8,825e-3	
Fluid vaporized	kg/s	0,02351	
Max. pressure drop	kPa	50,0	50,0
<b>PLATE HEAT EXCHANGER</b>		<b>Side 1</b>	<b>Side 2</b>
Total heat transfer area	m <sup>2</sup>	1,76	
Heat flux	kW/m <sup>2</sup>	3,12	
Mean temperature difference	K	4,55	
H.T.C. (available/required)	W/m <sup>2</sup> , °C	815/685	
Pressure drop -total*	kPa	4,81	16,9
- in ports	kPa	0,118	0,601
Pressure drop in fluid distribution	kPa	0,000 - 0,000	
Operating pressure - outlet	kPa	655	
Number of channels		14	15
Number of plates			30
Oversurfacing	%		19
Fouling factor	m <sup>2</sup> , °C/kW		0,233
Port diameter	mm	24,0/24,0 (up/down)	24,0
Recommended inlet connection diameter	mm	From 4,44 to 7,02	
Recommended outlet connection diameter	mm	From 8,29 to 18,5	
Reynolds number			114
Outlet port velocity	m/s	2,99	1,09



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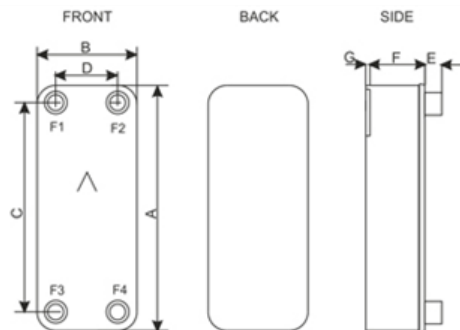
**PHYSICAL PROPERTIES**

Reference temperature	°C	<b>Side 1</b>	-5,93	<b>Side 2</b>	-1,54
Liquid - Dynamic viscosity	cP		0,178		5,42
- Density	kg/m <sup>3</sup>		1194		1061
- Heat capacity	kJ/kg, °C		1,494		3,493
- Thermal conductivity	W/m, °C		0,1176		0,4097
Vapor - Dynamic viscosity	cP		0,0120		
- Density	kg/m <sup>3</sup>		23,94		
- Heat capacity	kJ/kg, °C		0,8949		
- Thermal conductivity	W/m, °C		0,01050		
- Latent heat	kJ/kg		227,7		
Film coefficient	W/m <sup>2</sup> , °C		4500		3750
Minimum wall temperature	°C		-4,52		-4,44
Channel velocity	m/s		0,428		0,146

**Totals**

Total weight (no connections)	kg	<b>Side 1</b>	6,41 - 53,4	<b>Side 2</b>	
Hold-up volume, inner circuit	dm <sup>3</sup>		1,55 - 1,60		
Hold-up volume, outer circuit	dm <sup>3</sup>		1,66 - 1,71		
PortSize F1/P1	mm		24,0		
PortSize F2/P2	mm		24,0		
PortSize F3/P3	mm		24,0		
PortSize F4/P4	mm		24,0		
NND F1/P1	mm		27,0 and/or 18,0		
NND F2/P2	mm		18,0 and/or 27,0		
NND F3/P3	mm		27,0 and/or 18,0		
NND F4/P4	mm		18,0 and/or 27,0		
Carbon Footprint	kg		52,5		

**DIMENSIONS**



A	mm	524 to 566 +/-2
B	mm	117 to 159 +/-1
C	mm	479 +/-1
D	mm	72 +/-1
E	mm	20 to 54 (opt. 45) +/-1
F	mm	69,20 to 139,60 +/-3%
G	mm	0,0 to 7 +/-1
R	mm	22 to 23

This is a schematic sketch. For correct drawings please use the order drawing function or contact your SWEP representative.

Disclaimer: Data used in this calculation is subject to change without notice. Calculation is intended to show thermal and hydraulic performance, no consideration has been taken to mechanical strength of the product. Product restrictions - such as pressure, temperatures and corrosion resistance- can be found in SWEP product sheets and other technical documentation. SWEP may have patents, trademarks, copyrights or other intellectual property rights covering subject matter in this document. Except as expressly provided in any written license agreement from SWEP, the furnishing of this document does not give you any license to these patents, trademarks, copyrights, or other intellectual property.

\*Excluding pressure drop in connections.