

**SINGLE PHASE - DESIGN**  
**HEAT EXCHANGER: B16Hx100/1P**

SWEPP DThermX

Date: 01/07/2025

SSP Alias: B16

**DUTY REQUIREMENTS**

		Side 1	Side 2
Fluid		Propylene Glycol - Water (20.0 mass%)	Water
		Counter-Current	
Flow type		Outer	Inner
Circuit			
Heat load	kW	200.0	
Inlet temperature	°C	80.0	50.0
Outlet temperature	°C	60.0	70.0
Flow rate	kg/s	2.449	2.389
Pressure drop (Design PD)	kPa	14.3 (20.0)	13.6 (20.0)
Thermal length		2.00	2.00

**PLATE HEAT EXCHANGER**

		Side 1	Side 2
Total heat transfer area	m <sup>2</sup>		3.92
Heat flux	kW/m <sup>2</sup>		51.0
Mean temperature difference	K		10.0
Overall heat transfer coefficient required	W/m <sup>2</sup> ;°C		5100
Pressure drop - total*	kPa	14.3	13.6
- in ports	kPa	4.00	3.85
Port diameter (up/down)	mm	33.0/33.0	33.0/33.0
Number of channels per pass		50	49
Number of plates			100
Oversurfacing	%		0
Fouling factor	m <sup>2</sup> ;°C/kW		0.003
Reynolds number		1339	1849
Port velocity (up/down)	m/s	2.88/2.88	2.84/2.84
Channel velocity	m/s	0.218	0.219
Shear stress	kPa	0.0358	0.0340
Average wall temperature	°C	64.9	64.0
Largest wall temperature difference	K		0.9
Min./Max. wall temperature	°C	54.9/74.9	54.0/74.0

\*Excluding pressure drop in connections.

**PHYSICAL PROPERTIES**

		Side 1	Side 2
Reference temperature	°C	70.0	60.0
Dynamic viscosity	cP	0.648	0.467
Density	kg/m <sup>3</sup>	994.1	983.2
Heat capacity	kJ/kg;°C	4.084	4.185
Thermal conductivity	W/m;°C	0.5351	0.6544
Film coefficient	W/m <sup>2</sup> ;°C	10200	12900

**TOTALS**

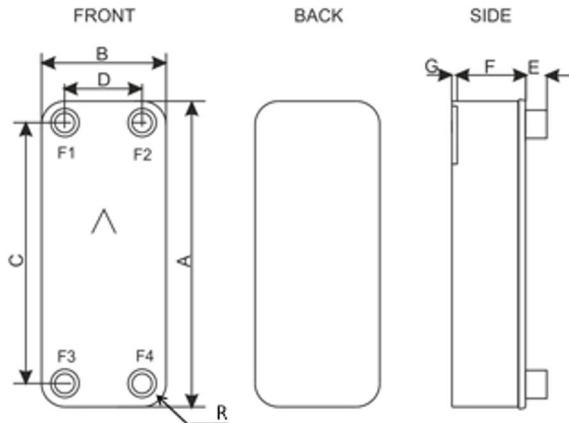
		Side 1	Side 2
Total weight empty (no connections)*	kg	13.48	
Total weight filled (no connections)*	kg	21.45	
Hold-up volume (Inner Circuit)	dm <sup>3</sup>	4.02	
Hold-up volume (Outer Circuit)	dm <sup>3</sup>	4.1	
Port size F1/P1	mm	33	
Port size F2/P2	mm	33	
Port size F3/P3	mm	33	
Port size F4/P4	mm	33	

\*Weight depends on the selected product.

**DIMENSIONS**



**DIMENSIONS**



A	mm	376 ±2
B	mm	119 ±1
C	mm	320 ±1
D	mm	63 ±1
E	mm	27 (opt. 45) ±1
F	mm	228 +3%/-1.5%
G	mm	6 ±2
R	mm	23

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

**CARBON FOOTPRINT**

	Unit	Value
Sweden - Landskrona	kg CO <sub>2</sub> e	69.4
USA - Tulsa	kg CO <sub>2</sub> e	72.8
Slovakia - Košice	kg CO <sub>2</sub> e	78.9
Malaysia - Kuala Lumpur	kg CO <sub>2</sub> e	109.9
China - Suzhou	kg CO <sub>2</sub> e	188.5

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