

SINGLE PHASE - DESIGN
HEAT EXCHANGER: B16Hx100/1P

SWEP 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	75.00	
Inlet temperature	°C	50.0	35.0
Outlet temperature	°C	40.0	45.0
Flow rate	kg/s	1.861	1.795
Pressure drop (Design PD)	kPa	8.82 (20.00)	8.15 (20.00)
Thermal length		2.00	2.00

PLATE HEAT EXCHANGER

		Side 1	Side 2
Total heat transfer area	m ²	3.92	
Heat flux	kW/m ²	19.1	
Mean temperature difference	K	5.0	
Overall heat transfer coefficient required	W/m ² ;°C	3830	
Pressure drop - total*	kPa	8.82	8.15
- in ports	kPa	2.27	2.15
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 ² ;°C/kW	-0.003	
Reynolds number		636.5	992.0
Port velocity (up/down)	m/s	2.16/2.16	2.11/2.11
Channel velocity	m/s	0.163	0.163
Shear stress	kPa	0.0228	0.0209
Average wall temperature	°C	42.3	42.0
Largest wall temperature difference	K	0.3	
Min./Max. wall temperature	°C	37.3/47.3	37.0/47.0

*Excluding pressure drop in connections.

PHYSICAL PROPERTIES

		Side 1	Side 2
Reference temperature	°C	45.0	40.0
Dynamic viscosity	cP	1.04	0.654
Density	kg/m ³	1009	992.3
Heat capacity	kJ/kg;°C	4.029	4.179
Thermal conductivity	W/m;°C	0.5178	0.6306
Film coefficient	W/m ² ;°C	7130	9420

TOTALS

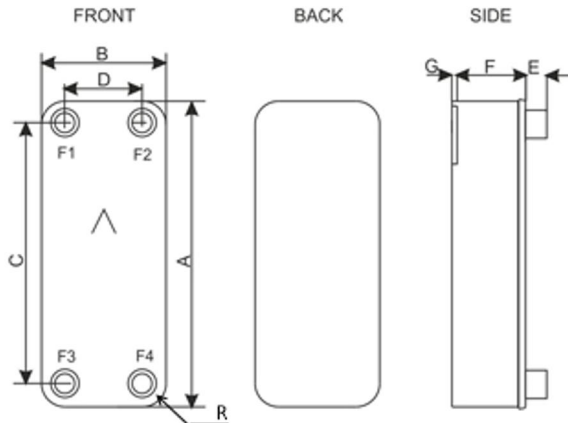
		Side 1	Side 2
Total weight empty (no connections)*	kg	13.48	
Total weight filled (no connections)*	kg	21.53	
Hold-up volume (Inner Circuit)	dm ³	4.02	
Hold-up volume (Outer Circuit)	dm ³	4.1	
Port size F1/P1	mm	33	
Port size F2/P2	mm	33	
Port size F3/P3	mm	33	
Port size F4/P4	mm	33	

*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 ₂ e	69.4
USA - Tulsa	kg CO ₂ e	72.8
Slovakia - Košice	kg CO ₂ e	78.9
Malaysia - Kuala Lumpur	kg CO ₂ e	109.9
China - Suzhou	kg CO ₂ e	188.5

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