SWEP International AB
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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**
Flow type			**Counter-Current**	
Circuit		Outer		Inner
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	m²		3.92	
Heat flux	kW/m²		19.1	
Mean temperature difference	K		5.0	
Overall heat transfer coefficient required	W/m²,°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	m²,°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/m³	1009	992.3
Heat capacity	kJ/kg,°C	4.029	4.179
Thermal conductivity	W/m,°C	0.5178	0.6306
Film coefficient	W/m²,°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)	dm³	4.02	
Hold-up volume (Outer Circuit)	dm³	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

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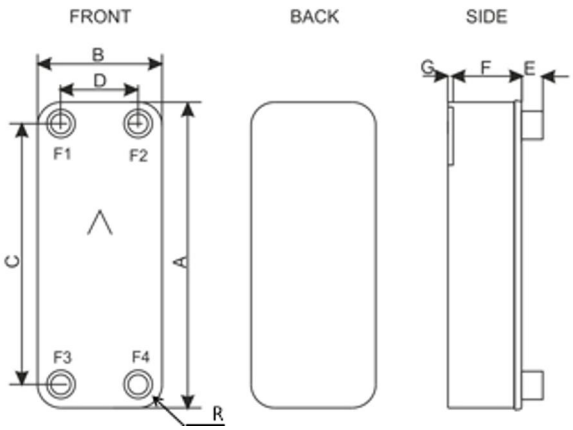

A	mm	376 ±2
B	mm	119 ±1
C	mm	320 ±1
D	mm	63 ±1
E	mm	27 (opt. 45) ±1
F	mm	228 +3%/-1.5%
G	mm	6 ±2
R	mm	23

**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_2e	69.4
USA - Tulsa	kg CO_2e	72.8
Slovakia - Košice	kg CO_2e	78.9
Malaysia - Kuala Lumpur	kg CO_2e	109.9
China - Suzhou	kg CO_2e	188.5