

**Date:** 19/11/2024

SSP Alias: B86

DUTY REQUIREMENTS		Side 1	Side 2
Fluid		Water	Water
Flow type		Counter-Current	
Circuit		Outer	Inner
Heat load	kW	72.00	
Inlet temperature	°C	60.00	8.00
Outlet temperature	°C	20.00	55.00
Flow rate	kg/s	0.4308	0.3666
Pressure drop (Design PD)	kPa	11.0 (15.00)	8.86 (15.00)
Thermal length		5.003	5.878

PLATE HEAT EXCHANGER		Side 1	Side 2
Total heat transfer area	m <sup>2</sup>		2.28
Heat flux	kW/m <sup>2</sup>		31.6
Mean temperature difference	K		8.00
O.H.T.C. (available/required)	W/m <sup>2</sup> , °C		4160/3950
Pressure drop - total*	kPa	11.0	8.86
- in ports	kPa	0.368	0.265
Port diameter (up/down)	mm	25.0/25.0	25.0/25.0
Number of channels per pass		20	19
Number of plates			40
Oversurfacing	%		5
Fouling factor	m <sup>2</sup> , °C/kW		0.013
Reynolds number		583.3	441.6
Port velocity (up/down)	m/s	0.884/0.884	0.750/0.750
Channel velocity	m/s	0.132	0.118
Shear stress	Pa	16.3	13.3
Average wall temperature	°C	36.23	35.76
Largest wall temperature difference	K		0.92
Min./Max. wall temperature	°C	14.80/57.83	13.88/57.45

\*Excluding pressure drop in connections.

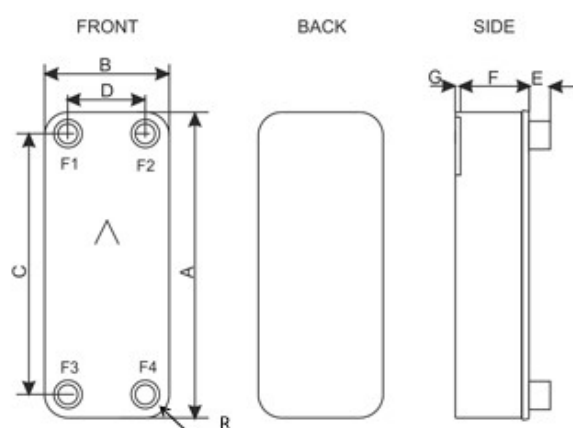
PHYSICAL PROPERTIES		Side 1	Side 2
Reference temperature	°C	40.00	31.50
Dynamic viscosity	cP	0.654	0.773
Dynamic viscosity - wall	cP	0.703	0.709
Density	kg/m³	992.3	995.2
Heat capacity	kJ/kg,°C	4.179	4.178
Thermal conductivity	W/m,°C	0.6306	0.6178
Film coefficient	W/m²,°C	9610	8500

TOTALS		Side 1	Side 2
Total weight empty (no connections)*	kg		7.56
Total weight filled (no connections)*	kg		10.58
Hold-up volume (Inner Circuit)	dm³		1.48
Hold-up volume (Outer Circuit)	dm³		1.56
Port size F1/P1	mm		24
Port size F2/P2	mm		24
Port size F3/P3	mm		24
Port size F4/P4	mm		24
Carbon footprint	kg		53.1



\*Weight depends on the selected product.

## DIMENSIONS



A	mm	526 ±2
B	mm	119 ±1
C	mm	470 ±1
D	mm	63 ±1
E	mm	20 (opt. 45) ±1
F	mm	71.2 ±3%
G	mm	6 ±1
R	mm	23

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

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