

SINGLE PHASE - DESIGN
HEAT EXCHANGER: B200Tx90

SWEP SSP™

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SSP Alias: B200T

DUTY REQUIREMENTS		Side 1	Side 2
Fluid		Water	Water
Flow type		Counter-Current	
Circuit		Inner	Outer
Heat load	kW		400.0
Inlet temperature	°C	85.0	50.0
Outlet temperature	°C	53.0	69.0
Flow rate	kg/s	2.983	5.030
Pressure drop (Design PD)	kPa	7.98 (20.00)	19.2 (20.00)
Thermal length		4.12	2.45

PLATE HEAT EXCHANGER		Side 1	Side 2
Total heat transfer area	m ²		11.4
Heat flux	kW/m ²		35.2
Mean temperature difference	K		7.8
Overall heat transfer coefficient required	W/m ² , °C		4540
Pressure drop - total*	kPa	7.98	19.2
- in ports	kPa	1.41	2.52
Port diameter (up/down)	mm	60.0/42.0	53.0/53.0
Number of channels per pass		44	45
Number of plates			90
Oversurfacing	%		5
Fouling factor	m ² , °C/kW		0.011
Reynolds number		1390	1997
Port velocity (up/down)	m/s	1.08/2.20	2.32/2.32
Channel velocity	m/s	0.146	0.239
Shear stress	kPa	0.0144	0.0367
Average wall temperature	°C	64.0	63.2
Largest wall temperature difference	K		1.5
Min./Max. wall temperature	°C	51.4/76.6	51.1/75.1

*Excluding pressure drop in connections.

PHYSICAL PROPERTIES		Side 1	Side 2
Reference temperature	°C	69.0	59.5
Dynamic viscosity	cP	0.410	0.470
Density	kg/m ³	978.3	983.5
Heat capacity	kJ/kg, °C	4.191	4.185
Thermal conductivity	W/m, °C	0.6623	0.6539
Film coefficient	W/m ² , °C	9150	12500

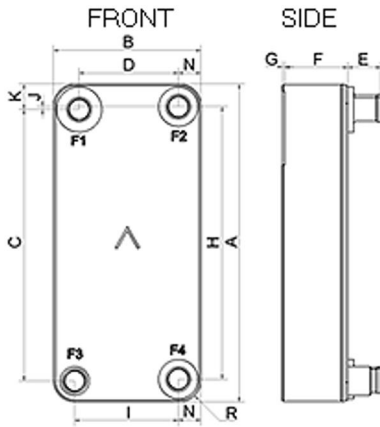
TOTALS		Side 1	Side 2
Total weight empty (no connections)*	kg	45.45 - 56.65	
Total weight filled (no connections)*	kg	66.49 - 77.69	
Hold-up volume (Inner Circuit)	dm ³	10.6	
Hold-up volume (Outer Circuit)	dm ³	10.84	
Port size F1/P1	mm	60	
Port size F2/P2	mm	53	
Port size F3/P3	mm	42	
Port size F4/P4	mm	53	

*Weight depends on the selected product.

DIMENSIONS



DIMENSIONS



A	mm	525 ±2
B	mm	243 ±1
C	mm	448.5 ±1
D	mm	163.5 ±1
E	mm	54 (opt. 27) ±1
F*	mm	216.1 - 228.1 +2%/-1.5%
G*	mm	0 - 4 ±1
H	mm	450 ±1
I	mm	171 ±1
J	mm	4.5
K	mm	42
N	mm	37.5
R	mm	35

*Dimensions depend on the selected product.

*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	234.1 - 291.7
USA - Tulsa	kg CO ₂ e	245.5 - 305.9
Slovakia - Košice	kg CO ₂ e	266.2 - 331.7
Malaysia - Kuala Lumpur	kg CO ₂ e	370.6 - 461.9
China - Suzhou	kg CO ₂ e	635.8 - 792.4

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