SINGLE PHASE - Design
Heat Exchanger : B85Hx50/1P

Fluid Side 1 : Water
Fluid Side 2 : Water

Side 1 : Outer circuit
Side 2 : Inner circuit

Flow Type : Counter-Current
SSP Alias : B85

DUTY REQUIREMENTS		**Side 1**		**Side 2**
Heat load	kW		150,0	
Inlet temperature	°C	60,00		8,00
Outlet temperature	°C	25,00		55,00
Flow rate	kg/s	1,026		0,7638
Thermal length		3,569		4,793

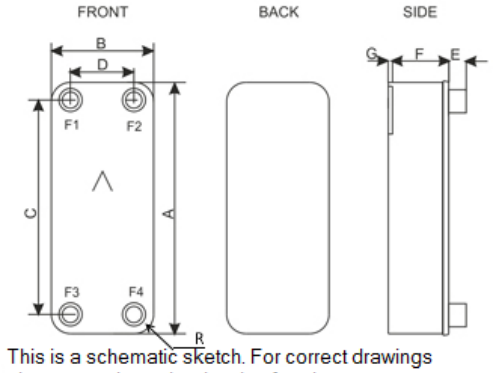
PLATE HEAT EXCHANGER		**Side 1**		**Side 2**
Total heat transfer area	m²		2,88	
Heat flux	kW/m²		52,1	
Mean temperature difference	K		9,81	
O.H.T.C. (available/required)	W/m²,°C		5520/5310	
Pressure drop -total*	kPa	18,0		11,6
- in ports	kPa	0,687		0,380
Port diameter	mm	33,0/33,0 (up/down)		33,0/33,0 (up/down)
Number of channels per pass		25		24
Number of plates			50	
Oversurfacing	%		4	
Fouling factor	m²,°C/kW		0,007	
Reynolds number		1164		728,4
Port velocity	m/s	1,21/1,21 (up/down)		0,897/0,897 (up/down)

PHYSICAL PROPERTIES		**Side 1**		**Side 2**
Reference temperature	°C	42,50		31,50
Dynamic viscosity	cP	0,624		0,773
Dynamic viscosity - wall	cP	0,680		0,690
Density	kg/m³	991,3		995,2
Heat capacity	kJ/kg,°C	4,179		4,178
Thermal conductivity	W/m,°C	0,6340		0,6178
Largest wall temperature difference	K		1,52	
Minimum wall temperature	°C	18,10		16,57
Maximum wall temperature	°C	57,97		57,52
Film coefficient	W/m²,°C	13600		11000
Average wall temperature	°C	37,95		37,15
Channel velocity	m/s	0,222		0,172
Shear stress	Pa	30,3		19,7

TOTALS

Total weight empty	kg	8,92
Total weight filled	kg	13,5
Hold-up volume, inner circuit	dm³	2,26
Hold-up volume, outer circuit	dm³	2,35
Port size F1/P1	mm	33,0
Port size F2/P2	mm	33,0
Port size F3/P3	mm	33,0
Port size F4/P4	mm	33,0
NND F1/P1	mm	36,0 and/or 27,0
NND F2/P2	mm	27,0 and/or 36,0
NND F3/P3	mm	36,0 and/or 27,0
NND F4/P4	mm	36,0 and/or 27,0
Carbon footprint	kg	62,7

DIMENSIONS



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

A	mm	526 +/-2
B	mm	119 +/-1
C	mm	470 +/-1
D	mm	63 +/-1
E	mm	27 (opt. 45) +/-1
F	mm	96,00 +/-3%
G	mm	6 +/-1
R	mm	23

*Excluding pressure drop in connections.

CW5RUEQRQPZTA76GKPJGSGYHMKQMFEYYWDLZU3Q