SWEP International AB
Box 105, Hjalmar Brantings väg 5
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CONDENSER - PERFORMANCE
HEAT EXCHANGER: B85Hx120/1P

SWEP SSP G8 2022.824.1.0

Date: 01/10/2022

SSP Alias: B85

DUTY REQUIREMENTS		Side 1		Side 2
Fluid		**R410A**		**Water**
Flow type			**Counter-Current**	
Circuit		Inner		Outer
Heat load	kW		**60.00**	
Inlet vapor quality		**1.000**		
Outlet vapor quality		**0.000**		
Inlet temperature	°C	**60.00**		**43.00**
Condensation temperature (dew)	°C	51.27		
Subcooling	K	**4.00**		
Outlet temperature	°C	47.17		**50.00**
Flow rate	kg/s | m³/h	0.3826		7.460
Fluid condensed	kg/s	0.3826		

PLATE HEAT EXCHANGER		Side 1		Side 2
Total heat transfer area	m²		7.08	
Heat flux	kW/m²		8.47	
Mean temperature difference	K		3.99	
O.H.T.C. (available/required)	W/m²,°C		2120/2120	
Pressure drop - total*	kPa	0.685		15.3
- in ports (Inlet/Outlet)	kPa	-0.419/0.138		2.79
Operating pressure (outlet)	kPa	3150		
Number of channels per pass		59		60
Number of plates			120	
Oversurfacing	%		0	
Fouling factor	m²,°C/kW		0.001	
Port diameter (up/down)	mm	33.0/33.0		33.0/33.0
Recommended inlet connection diameter	mm	12.1 - 27.2		
Recommended outlet connection diameter	mm	16.4 - 32.9		
Reynolds number				1041
Inlet Port velocity	m/s	3.39		2.42
Channel velocity	m/s	0.263		0.185
Shear stress	Pa			21.9
Largest wall temperature difference	K		0.18	
Min./Max. wall temperature	°C	43.60/51.26		43.52/51.08

**Excluding pressure drop in connections.*

PHYSICAL PROPERTIES		Side 1	Side 2
Reference temperature	°C	51.23	46.50
Liquid • Dynamic viscosity	cP	0.0802	0.581
• Density	kg/m³	901.1	989.6
• Heat capacity	kJ/kg,°C	2.332	4.180
• Thermal conductivity	W/m,°C	0.07931	0.6393
Vapor • Dynamic viscosity	cP	0.0146	
• Density	kg/m³	132.1	
• Heat capacity	kJ/kg,°C	1.676	
• Thermal conductivity	W/m,°C	0.01404	
• Latent heat	kJ/kg	133.8	
Film coefficient	W/m²,°C	3240	12400

TOTALS	Side 1	Side 2

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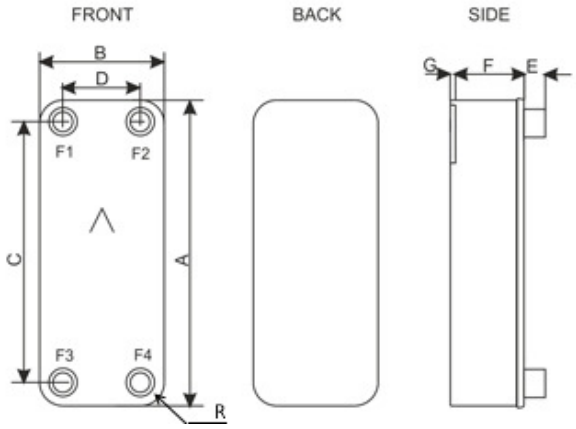
TOTALS		Side 1	Side 2
Total weight (no connections)*	kg		17.67 - 18.49
Hold-up volume (Inner Circuit)	dm^3		5.55
Estimated refrigerant charge	kg		1.74
Hold-up volume (Outer Circuit)	dm^3		5.64
Port size F1/P1	mm		33
Port size F2/P2	mm		33
Port size F3/P3	mm		33
Port size F4/P4	mm		33
Carbon footprint	kg		129.96

**Weight depends on the selected product.*

DIMENSIONS



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

A*	mm	524 - 526 ±2
B*	mm	117 - 119 ±1
C	mm	470 ±1
D	mm	63 ±1
E*	mm	20 - 27 / 45 ±1
F*	mm	224.8 - 230.8 ±3%
G	mm	6 ±1
R	mm	23

**Dimensions depend on the selected product.*