SWEP International AB
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CONDENSER - RATING

SWEP SSP G8 2024.116.2.0

HEAT EXCHANGER: B80Hx40/1P

Date: 07/03/2024

SSP Alias: B80

DUTY REQUIREMENTS		Side 1		Side 2
Fluid		**R410A**		**Water**
Flow type			**Counter-Current**	
Circuit		Inner		Outer
Heat load	kW		**38,70**	
Inlet vapor quality		**1,000**		
Outlet vapor quality		**0,000**		
Inlet temperature	°C	**70,00**		**35,00**
Condensation temperature (dew)	°C	**45,00**		
Subcooling	K	**3,00**		
Outlet temperature	°C	41,90		**40,00**
Flow rate	kg/h | m³/h	734,1		6,714
Fluid condensed	kg/h	734,1		

PLATE HEAT EXCHANGER		Side 1		Side 2
Total heat transfer area	m²		2,28	
Heat flux	kW/m²		17,0	
Mean temperature difference	K		7,37	
O.H.T.C. (available/required)	W/m²,°C		2500/2300	
Pressure drop - total*	kPa	2,26		50,0
- in ports (Inlet/Outlet)	kPa	-0,152/0,0365		2,24
Operating pressure (outlet)	kPa	2720		
Number of channels per pass		19		20
Number of plates			40	
Oversurfacing	%		8	
Fouling factor	m²,°C/kW		0,034	
Port diameter (up/down)	mm	33,0/33,0		33,0/33,0
Recommended inlet connection diameter	mm	9,76 - 21,8		
Recommended outlet connection diameter	mm	11,7 - 23,4		
Reynolds number				2391
Inlet Port velocity	m/s	2,19		2,18
Channel velocity	m/s	0,436		0,413
Shear stress	Pa			102
Largest wall temperature difference	K		0,34	
Min./Max. wall temperature	°C	35,73/40,78		35,57/40,61

**Excluding pressure drop in connections.*

PHYSICAL PROPERTIES		Side 1	Side 2
Reference temperature	°C	44,95	37,50
Liquid • Dynamic viscosity	cP	0,0899	0,685
• Density	kg/m³	947,3	993,2
• Heat capacity	kJ/kg,°C	2,033	4,178
• Thermal conductivity	W/m,°C	0,08406	0,6270
Vapor • Dynamic viscosity	cP	0,0143	
• Density	kg/m³	108,9	
• Heat capacity	kJ/kg,°C	1,490	
• Thermal conductivity	W/m,°C	0,01363	
• Latent heat	kJ/kg	149,3	
Film coefficient	W/m²,°C	3600	18400

TOTALS	Side 1	Side 2

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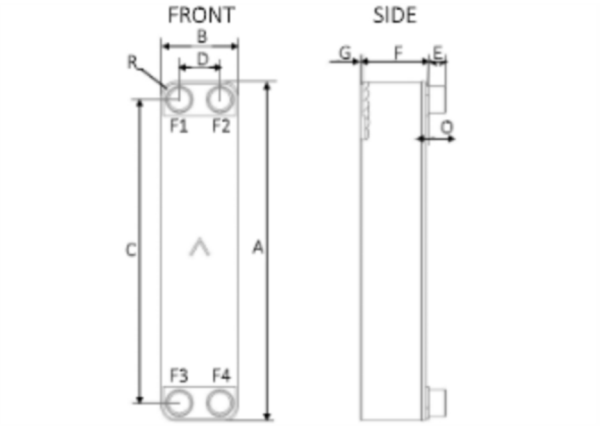
TOTALS		Side 1	Side 2
Total weight (no connections)*	kg		8,65 - 12,13
Hold-up volume (Inner Circuit)	dm³		2,03
Estimated refrigerant charge	kg		0,72
Hold-up volume (Outer Circuit)	dm³		2,14
Port size F1/P1	mm		33
Port size F2/P2	mm		33
Port size F3/P3	mm		33
Port size F4/P4	mm		33
Carbon footprint	kg		64,54

**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	526 ±2
B	mm	119 ±1
C	mm	470 ±1
D	mm	63 ±1
E	mm	27 (opt. 45) ±1
F*	mm	93,6 - 101,6 ±2,5%
G*	mm	2 - 6 ±1
O	mm	4
R	mm	23

**Dimensions depend on the selected product.*