SWEP International AB
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CONDENSER - RATING
HEAT EXCHANGER: B80Hx30/1P

SWEP SSP G8 2024.116.2.0

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		**29,30**	
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	555,8		5,083
Fluid condensed	kg/h	555,8		

PLATE HEAT EXCHANGER		Side 1		Side 2
Total heat transfer area	m²		1,68	
Heat flux	kW/m²		17,4	
Mean temperature difference	K		7,37	
O.H.T.C. (available/required)	W/m²,°C		2520/2370	
Pressure drop - total*	kPa	2,51		50,0
- in ports (Inlet/Outlet)	kPa	-0,0876/0,0209		1,28
Operating pressure (outlet)	kPa	2720		
Number of channels per pass		14		15
Number of plates			30	
Oversurfacing	%		6	
Fouling factor	m²,°C/kW		0,026	
Port diameter (up/down)	mm	33,0/33,0		33,0/33,0
Recommended inlet connection diameter	mm	8,50 - 19,0		
Recommended outlet connection diameter	mm	10,2 - 20,4		
Reynolds number				2414
Inlet Port velocity	m/s	1,66		1,65
Channel velocity	m/s	0,448		0,417
Shear stress	Pa			104
Largest wall temperature difference	K		0,34	
Min./Max. wall temperature	°C	35,74/40,78		35,58/40,61

**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	3640	18500

TOTALS	Side 1	Side 2

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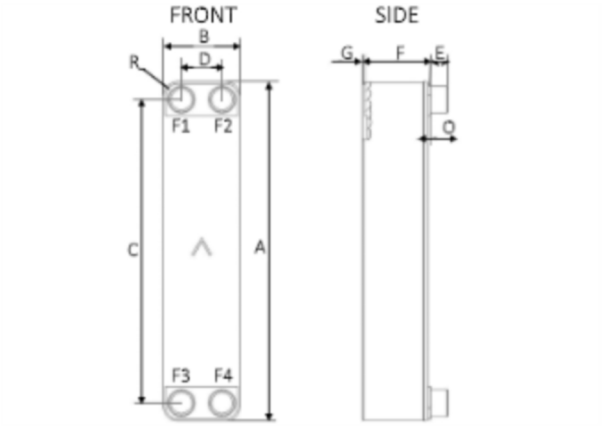
TOTALS		Side 1	Side 2
Total weight (no connections)*	kg		7,01 - 10,49
Hold-up volume (Inner Circuit)	dm³		1,5
Estimated refrigerant charge	kg		0,53
Hold-up volume (Outer Circuit)	dm³		1,6
Port size F1/P1	mm		33
Port size F2/P2	mm		33
Port size F3/P3	mm		33
Port size F4/P4	mm		33
Carbon footprint	kg		53,02

**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	71,2 - 79,2 ±2,5%
G*	mm	2 - 6 ±1
O	mm	4
R	mm	23

**Dimensions depend on the selected product.*