

CONDENSER - RATING

HEAT EXCHANGER: B200THx80/1P

SWEP SSP G8 2024.116.2.0

Date: 07/03/2024

SSP Alias: B200T

DUTY REQUIREMENTS		Side 1	Side 2
Fluid		R410A	Water
Flow type		Counter-Current	
Circuit		Inner	Outer
Heat load	kW		155,0
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	2940	26,89
Fluid condensed	kg/h	2940	

PLATE HEAT EXCHANGER		Side 1	Side 2
Total heat transfer area	m²		10,1
Heat flux	kW/m²		15,4
Mean temperature difference	K		7,37
O.H.T.C. (available/required)	W/m², °C		2150/2090
Pressure drop - total*	kPa	1,91	50,1
- in ports (Inlet/Outlet)	kPa	-0,222/0,225	5,43
Operating pressure (outlet)	kPa	2720	
Number of channels per pass		39	40
Number of plates			80
Oversurfacing	%		3
Fouling factor	m², °C/kW		0,013
Port diameter (up/down)	mm	60,0/42,0	53,0/53,0
Recommended inlet connection diameter	mm	19,5 - 43,7	
Recommended outlet connection diameter	mm	23,4 - 46,9	
Reynolds number			2274
Inlet Port velocity	m/s	2,65	3,39
Channel velocity	m/s	0,403	0,392
Shear stress	Pa		98,1
Largest wall temperature difference	K		0,34
Min./Max. wall temperature	°C	35,71/40,84	35,56/40,65

*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	109,0	
• 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	3120	15400

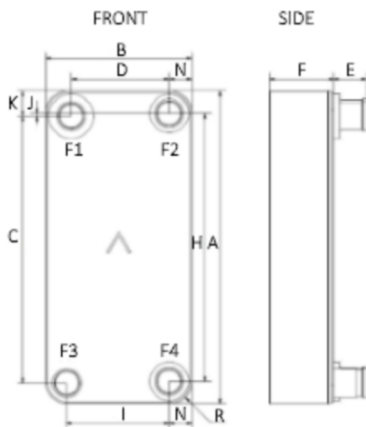
TOTALS		Side 1	Side 2
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TOTALS		Side 1	Side 2
Total weight (no connections)*	kg		41,45 - 52,65
Hold-up volume (Inner Circuit)	dm ³		9,4
Estimated refrigerant charge	kg		3,24
Hold-up volume (Outer Circuit)	dm ³		9,64
Port size F1/P1	mm		60
Port size F2/P2	mm		53
Port size F3/P3	mm		42
Port size F4/P4	mm		53
Carbon footprint	kg		369,99

*Weight depends on the selected product.

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	193,2 - 205,2 +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.

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