CONDENSER - Performance
Heat Exchanger : B200THx140/1P

Fluid Side 1 : R507A
Fluid Side 2 : Water

Side 1 : Inner circuit
Side 2 : Outer circuit

Flow Type : Counter-Current
SSP Alias : B200T

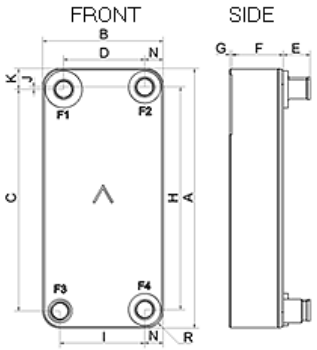
DUTY REQUIREMENTS		**Side 1**		**Side 2**
Heat load	kW		229,0	
Inlet temperature	°C	70,00		30,00
Condensation temperature (dew)	°C	40,31		
Subcooling	K	3,00		
Outlet temperature	°C	37,28		35,00
Flow rate	kg/s	1,450		10,96
Fluid condensed	kg/s	1,450		

PLATE HEAT EXCHANGER		**Side 1**		**Side 2**
Total heat transfer area	m²		17,8	
Heat flux	kW/m²		12,9	
Mean temperature difference	K		7,74	
O.H.T.C. (available/required)	W/m²,°C		1660/1660	
Pressure drop -total*	kPa	2,18		45,2
- in ports	kPa	-0,0273		12,0
Operating pressure - outlet	kPa	1890		
Number of channels per pass		69		70
Number of plates			140	
Oversurfacing	%		0	
Fouling factor	m²,°C/kW		0,000	
Port diameter	mm	60,0/42,0 (up/down)		53,0/53,0 (up/down)
Recommended inlet connection diameter	mm	From 27,1 to 60,6		
Recommended outlet connection diameter	mm	From 30,9 to 61,8		
Reynolds number				1737
Inlet port velocity	m/s	5,10		4,99

PHYSICAL PROPERTIES		Side 1		Side 2
Reference temperature	°C	40,31		32,50
Liquid - Dynamic viscosity	cP	0,0996		0,757
- Density	kg/m³	966,5		994,9
- Heat capacity	kJ/kg,°C	1,697		4,178
- Thermal conductivity	W/m,°C	0,05985		0,6194
Vapor - Dynamic viscosity	cP	0,0128		
- Density	kg/m³	100,4		
- Heat capacity	kJ/kg,°C	1,304		
- Thermal conductivity	W/m,°C	0,01579		
- Latent heat	kJ/kg	116,2		
Film coefficient	W/m²,°C	2320		13200
Minimum wall temperature	°C	30,64		30,52
Maximum wall temperature	°C	35,76		35,61
Largest wall temperature difference	K		0,28	
Channel velocity	m/s	0,439		0,331
Shear stress	Pa			72,8

TOTALS		
Total weight	kg	65,5 - 76,7
Hold-up volume, inner circuit	dm³	16,6
Estimated refrigerant charge	kg	5,71
Hold-up volume, outer circuit	dm³	16,9
Port size F1/P1	mm	60,0
Port size F2/P2	mm	53,0
Port size F3/P3	mm	42,0
Port size F4/P4	mm	53,0
NND F1/P1	mm	65,0
NND F2/P2	mm	58,0
NND F3/P3	mm	42,0
NND F4/P4	mm	58,0
Carbon footprint	kg	460

DIMENSIONS



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

A	mm	525 +/-2
B	mm	243 +/-1
C	mm	448,50 +/-1
D	mm	163,50 +/-1
E	mm	54 (opt. 27) +/-1
F	mm	330,60 to 342,60 +2%/-1,5%
G	mm	0,0 to 4 +/-1
H	mm	450 +/-1
I	mm	171 +/-1
J	mm	4,50
K	mm	42
N	mm	37,50
R	mm	35

Note :

Secondary side port pressure drop is high in relation to total pressure drop. This could cause secondary side maldistribution

Disclaimer: Data used in this calculation is subject to change without notice. SWEP strives to use ”best practice” for the calculations leading to the above results. Calculation is intended to show thermal and hydraulic performance, no consideration has been taken to mechanical strength of the product. Product restrictions - such as pressure, temperatures and corrosion resistance- can be found in SWEP product sheets and other technical documentation. SWEP may have patents, trademarks, copyrights or other intellectual property rights covering subject matter in this document. Except as expressly provided in any written license agreement from SWEP, the furnishing of this document does not give you any license to these patents, trademarks, copyrights, or other intellectual property. To the maximum extent permitted by applicable law, the software, the calculations and the results are provided without warranties of any kind, whether express or implied. No advice or information obtained through use of the software (including information provided in the results), will create any warranty not expressly stated in the applicable license terms. Without limiting the foregoing, SWEP does not warrant that the content (including the calculations and the results) is accurate, reliable or correct. SWEP does not warrant that any system comprising heat exchanger and other components, installed on the basis of calculations in this software, will meet your requirements or function to your satisfaction or expectations.

*Excluding pressure drop in connections.

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