

SINGLE PHASE - QUOTATION

Heat Exchanger : B120THx105/2P-SC-S (2x2" / 2x2")

Art No : 14156-105

Connection Data

F3 -	ISO-G 2" A NON-CASTED(27)
F4 -	ISO-G 2" A NON-CASTED(27)
P3 -	ISO-G 2" A NON-CASTED(27)
P4 -	ISO-G 2" A NON-CASTED(27)

Connection Locations

Side 1:	F3/P3 (In / Out)
Side 2:	P4/F4 (In / Out)

Fluid Side 1 : Water
Fluid Side 2 : Water

Side 1 : Primary circuit
Side 2 : Secondary circuit

Flow Type : Counter-Current
SSP Alias : B120T

DUTY REQUIREMENTS

		Side 1	Side 2
Heat load	kW		50,00
Inlet temperature	°C	7,00	13,00
Outlet temperature	°C	12,00	8,00
Flow rate	m ³ /h	8,586	8,591
Max. pressure drop	kPa	50,0	50,0
Thermal length		5,000	5,000

PLATE HEAT EXCHANGER

		Side 1	Side 2
Total heat transfer area	m ²		13,6
Heat flux	kW/m ²		3,68
Mean temperature difference	K		1,00
O.H.T.C. (available/required)	W/m ² , °C		3650/3680
Pressure drop -total*	kPa	35,8	35,6
- in ports	kPa	1,89	1,89
Port diameter	mm	42,0/42,0 (up/down)	42,0/42,0 (up/down)
Number of channels per pass		26	26
Number of plates			105
Oversurfacing	%		0
Fouling factor	m ² , °C/kW		-0,002
Reynolds number		581,3	598,5
Port velocity	m/s	1,72/1,72 (up/down)	1,72/1,72 (up/down)

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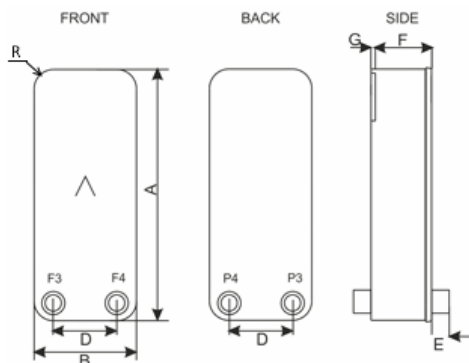
PHYSICAL PROPERTIES

		Side 1	Side 2
Reference temperature	°C	9,50	10,50
Dynamic viscosity	cP	1,33	1,29
Dynamic viscosity - wall	cP	1,31	1,31
Density	kg/m ³	999,7	999,6
Heat capacity	kJ/kg, °C	4,194	4,192
Thermal conductivity	W/m, °C	0,5791	0,5809
Largest wall temperature difference	K		0,08
Minimum wall temperature	°C	7,46	7,54
Maximum wall temperature	°C	12,46	12,54
Film coefficient	W/m ² , °C	7940	8000
Average wall temperature	°C	9,97	10,04
Channel velocity	m/s	0,193	0,193
Shear stress	Pa	37,2	37,0

TOTALS

		Side 1	Side 2
Total weight empty	kg	52,2	
Total weight filled	kg	77,2	
Hold-up volume, inner circuit	dm ³	12,5	
Hold-up volume, outer circuit	dm ³	12,5	
Port size F1/P1	mm	42,0	
Port size F2/P2	mm	42,0	
Port size F3/P3	mm	42,0	
Port size F4/P4	mm	42,0	
NND F1/P1	mm	42,0	
NND F2/P2	mm	42,0	
NND F3/P3	mm	42,0	
NND F4/P4	mm	42,0	
Carbon footprint	kg	357	
Plate Material		316 Stainless Steel	
Braze material		Copper	
Max operating pressure	bar	32/27	
Test pressure	bar	50	
Max working temperature	°C	135/225	

DIMENSIONS



A	mm	525 +/-2
B	mm	243 +/-1
C	mm	456 +/-1
D	mm	174 +/-1
E (F-Side)	mm	27,0
E (P-Side)	mm	27,0
F	mm	250
G	mm	4,00 +/-1
R	mm	35,0

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



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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.