

SECESPOL HEAT EXCHANGERS CALCULATION SHEET

CUSTOMER :



PROJECT : BTB2506

CALC. NO. : HE1 - WYMIENNIK BASENU WIELOFUNKCYJNEGO

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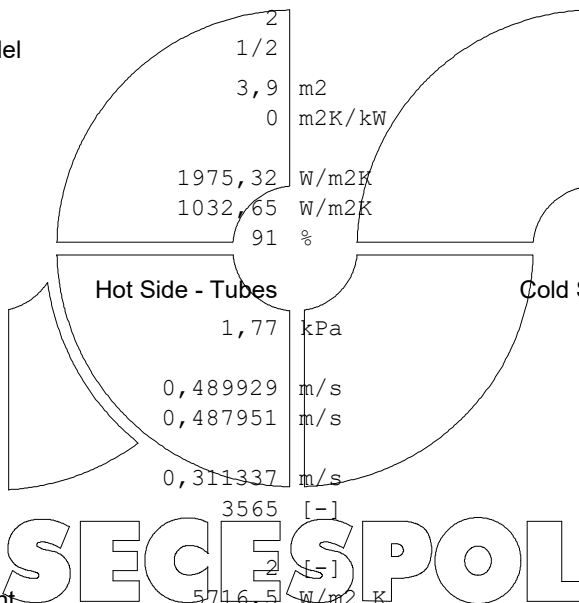
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PROJECT DATA SHEET

Heat Load	99,00	kW	
LMTD	24,33	deg.C	
Min. Oversizing	20	%	
Hot Side - Tubes		Cold Side - Shell	
Fluid	Water	Water	
Inlet Temperature	50,00	deg.C	8,00 deg.C
Outlet Temperature	40,00	deg.C	32,00 deg.C
Mass Flow	2,371826	kg/s	0,984252 kg/s
Inlet Volume Flow	8,651036	m3/h	3,541890 m3/h
Outlet Volume Flow	8,616117	m3/h	3,566130 m3/h
Min. Pressure Drop	0,00	kPa	0,00 kPa
Max. Pressure Drop	25,00	kPa	25,00 kPa

SECESPOL - HEAT EXCHANGER SELECTION

Heat Exchanger Type	B1000	(0170-0008)	
Total No. of Units	2		
No. of Units in Series/Parallel	1/2		
Heat Transfer Area	3,9	m2	
Fouling Factor	0	m2K/kW	
OHTC			
Clean	1975,32	W/m2K	
Fouling	1032,65	W/m2K	
Oversize	91	%	
Hot Side - Tubes		Cold Side - Shell	
Calc. Pressure Drop	1,77	kPa	0,11 kPa
Connections			
Inlet Velocity	0,489929	m/s	0,200586 m/s
Outlet Velocity	0,487951	m/s	0,201958 m/s
Internal			
Velocity	0,311337	m/s	0,039801 m/s
Reynolds No.	3565	[-]	333 [-]
Heat Transfer			
NTU	2	[-]	1 [-]
Heat Transfer Coefficient	5716,5	W/m2 K	3404,0 W/m2 K
Nusselt No.	62	[-]	48 [-]



PHYSICAL PROPERTIES

Hot Side		Cold Side	
Fluid	Water	Water	
Pressure	100,00	kPa	100,00 kPa
Ref. Temperature	45,00	deg.C	20,00 deg.C
Density	989,0000	kg/m3	997,0000 kg/m3
Heat Capacity	4,1740	kJ/kgK	4,1910 kJ/kgK
Thermal Conductivity	0,6360	W/m K	0,6030 W/m K
Dynamic Viscosity	0,0006	Ns/m2	0,0010 Ns/m2
Prandtl No.	4	[-]	7 [-]