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Overall Summary

Calculation mode		Design
Exchanger type		Standard axial flow
Overall heat transfer calculated	**kW**	3.6
Overall surface area ratio		1.15
Mean temperature difference	**°K**	0.44
UA value of calculated duty	**W/K**	8256.1
Core length	**mm**	507.41
Core width	**mm**	522.28
Number of layers per exchanger		66
Number of fins		5
Core depth(stack height)	**mm**	565.62
Number of exchangers in parallel		1

Overall Summary

Main stream number		Stream 1	Stream 2	Stream 3
Stream name		6HPb>>7HPa	7MPb>>6MPa	7LPa>>6LPa
Stream type		Hot	Cold	Cold
Flow direction		End A to B (down)	End B to A (up)	End B to A (up)
Number of layers per exchanger		22	10	34
Total mass flow rate	**kg/s**	0.5847	0.2874	0.4555
Heat load	**kW**	-3.6	1.4	2.2
Percent of specified heat load		100	100	100
Area Ratio		1.15	1.21	1.11
Inlet temperature	**°K**	35.9	34.42	34.42
Outlet temperature	**°K**	34.77	35.35	35.35
Outlet temperature from input	**°K**	34.77	35.35	35.35
Inlet pressure	**bar**	19.5	5.24	1.25104
Outlet pressure	**bar**	19.49337	5.22161	1.2498
Pressure drop (friction)	**bar**	0.00663	0.01839	0.00124
Percent of allowed pressure drop		33.13	91.95	98.85
Allowed pressure drop	**bar**	0.02	0.02	0.00125
Estimated pressure drop	**bar**	0.02	0.02	0.00125

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Thermal Performance - Streams

Main stream number		Stream 1	Stream 2	Stream 3
Stream name		6HPb>>7HPa	7MPb>>6MPa	7LPa>>6LPa
Flow direction		End A to B (down)	End B to A (up)	End B to A (up)
Total mass flow rate	kg/s	0.5847	0.2874	0.4555
Heat load	kW	-3.6	1.4	2.2
Heat load per layer	kW	-0.2	0.1	0.1
Inlet temperature	°K	35.9	34.42	34.42
Outlet temperature	°K	34.77	35.35	35.35
Bubble point	°K			
Dew point	°K			
Inlet quality(vapor mass fraction)		1	1	1
Outlet quality(vapor mass fraction)		1	1	1
Inlet specific enthalpy	J/kg	201309	193684	193935
Outlet specific enthalpy	J/kg	195106	198612	198798
Fouling resistance	m² K/W	0	0	0
Minimum [T-Twall]	°K	0.15	0.2	0.2
Mean [T-Twall]	°K	0.2	-0.25	-0.25
Mean heat transfer coefficient	W/(m² K)	845.4	852.4	305
Mean fin efficiency		0.84	0.58	0.52
Solution method		Design	Design	Design
Heat load as fraction of maximum	-			
Theoretical maximum heat load	kW			

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Pressure Change - Streams

		Stream 1	Stream 2	Stream 3
Stream name		6HPb>>7HPa	7MPb>>6MPa	7LPa>>6LPa
Inlet nozzle	**bar**	-0.00107	-0.00089	-0.00004
Inlet distributor friction	**bar**	-0.0014	-0.00482	-0.00006
Inlet distributor gravity	**bar**	0	0	0
Main fin friction	**bar**	-0.00166	-0.00661	-0.00101
Main fin gravity	**bar**	0.00574	-0.00162	-0.00039
Redistributor(s) friction	**bar**			
Redistributor(s) gravity	**bar**			
Outlet distributor friction	**bar**	-0.00151	-0.0052	-0.00008
Outlet distributor gravity	**bar**	0	0	0
Outlet nozzle	**bar**	-0.00098	-0.00087	-0.00005
Total friction	**bar**	-0.00663	-0.01839	-0.00124
Total gravity	**bar**	0.00574	-0.00162	-0.00039
Total acceleration	**bar**	0	0	0
Pressure change (total)	**bar**	-0.00663	-0.01839	-0.00124
Predicts pressure below minimum permitted				

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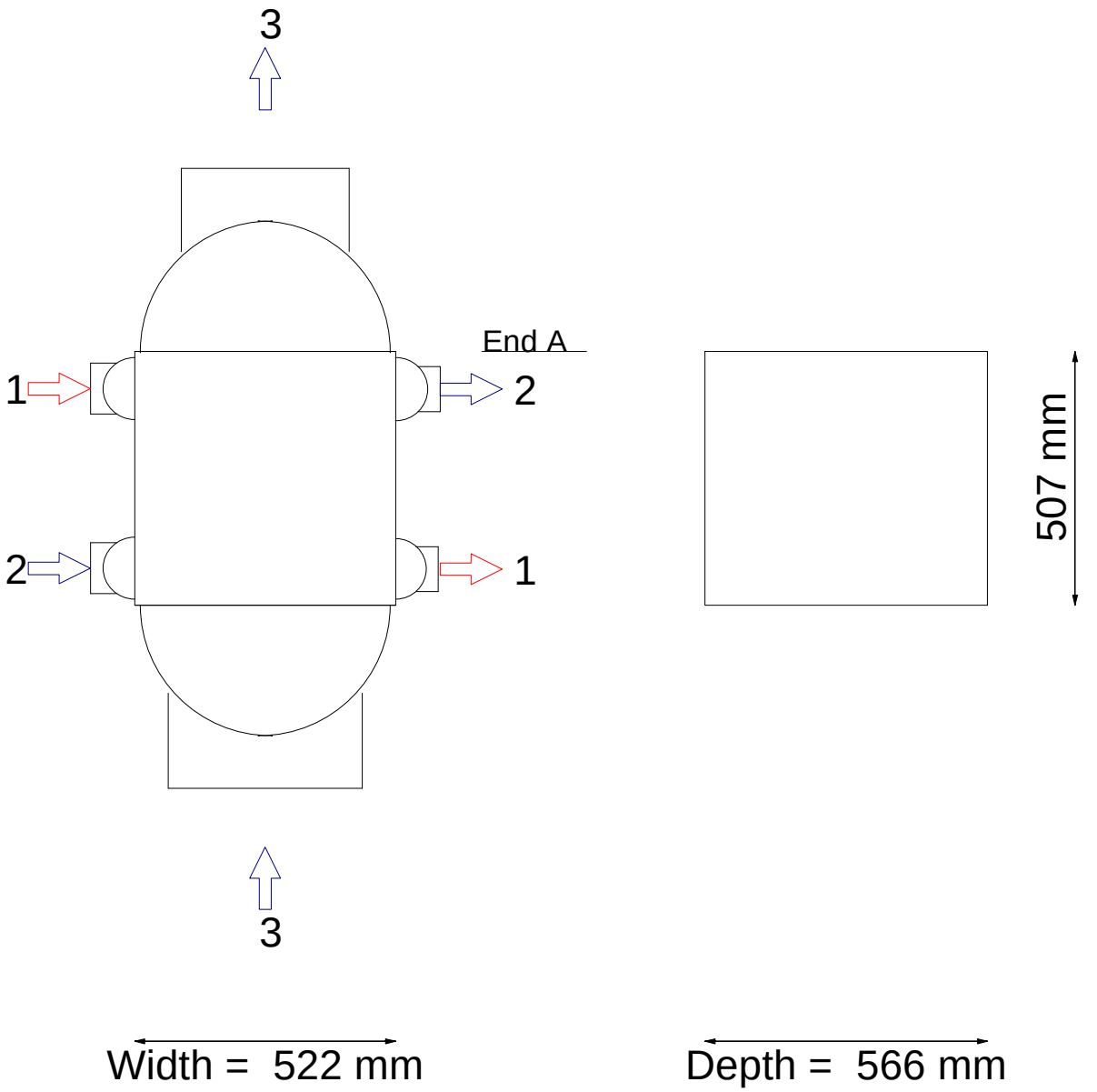
Exchanger Diagram

Job Title:



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Exchanger - Overall Geometry

Number of exchangers in parallel		1
Number of exchangers per unit		1
Number of layers per exchanger		66
Orientation		Horizontal, horizontal parting sheets
Core length	**mm**	507.41
Core width	**mm**	522.28
Core depth(stack height)	**mm**	565.62
Number of X-flow passes		0
Number of layer groups		1
Distributor length - end A	**mm**	138.68
Main heat transfer length	**mm**	231.87
Distributor length - end B	**mm**	136.87
Internal (effective) width	**mm**	499.28
Side bar width	**mm**	11.5
Parting sheet thickness	**mm**	1
Cap sheet thickness	**mm**	5
Exchanger metal		Aluminum
Exchanger weight - empty	**kg**	169.8
Exchanger weight - full of water	**kg**	388.4
Exchanger weight - operating	**kg**	170.9

Inlet Distributors

		Dist. 1	**Dist. 2**	**Dist. 3**
Stream number		1	2	3
Inlet distributor: Type		Indirect (side)	Indirect (side)	Full end
Inlet header location		Left	Left	Central
Dimension a (axial length)	**mm**	125.37	125.37	125.37
Dimension b	**mm**	249.64	249.64	439.74
Inlet nozzle diameter	**mm**	102.26	102.26	387.36
Number of inlet nozzles/unit		1	1	1
Header diameter - inlet	**mm**	155.37	155.37	529.28
Fin code number for pad 1		3	4	5
Distributor fin type		Perforated	Perforated	Perforated
Distributor fin height	**mm**	5.1	5.1	9.63
Distributor fin thickness	**mm**	0.61	0.51	0.51
Distributor fin frequency	**#/m**	236	236	236
Fin code number for pad 2		3	4	5
Distributor surface area	**m²**			
% area for heat transfer				

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Outlet Distributors

		Dist. 1	Dist. 2	Dist. 3
Stream number		1	2	3
Outlet distributor: Type		Indirect (side)	Indirect (side)	Full end
Outlet header location		Right	Right	Central
Dimension a (axial length)	**mm**	121.81	127.18	127.18
Dimension b	**mm**	249.64	249.64	442.52
Outlet nozzle diameter	**mm**	90.12	90.12	336.56
Number of outlet nozzles/unit		1	1	1
Header diameter - outlet	**mm**	151.81	157.18	529.28
Fin code number for pad 1		3	4	5
Distributor fin type		Perforated	Perforated	Perforated
Distributor fin height	**mm**	5.1	5.1	9.63
Distributor fin thickness	**mm**	0.61	0.51	0.51
Distributor fin frequency	**#/m**	236	236	236
Fin code number for pad 2		3	4	5
Distributor surface area	**m²**			
% area for heat transfer				