

## Heat Exchanger Specification Sheet

1	Company: Brno University of Technology											
2	Service of Unit: -				Our Reference: -							
3	Item No.: -				Your Reference: -							
4	Date: 19.5.2019		Rev No.: -		Job No.: -							
5	Size: 210 -- 1396		mm		TEMA Type: BEM		Hor/Vert H		Connected in 1 parallel 1 series			
6	Surf/unit (eff.) 2,2		m <sup>2</sup>		Shells/unit 1		Surf/shell (eff.) 2,2 m <sup>2</sup>					
7	<b>PERFORMANCE OF ONE UNIT</b>											
8	Fluid allocation				Shell Side			Tube Side				
9	Fluid name				Air			Flue gas				
10	Fluid quantity, Total				kg/h			239				
11	Vapor (In/Out)				kg/h			239		239		
12	Liquid				kg/h			0		0		
13	Steam				kg/h			0		0		
14	Water				kg/h			0		0		
14	Noncondensable				kg/h			0		0		
15	Temperature (In/Out)				°C			22		120		
16	Dew / Bubble point				°C							
17	Density (Vap / Liq)				kg/m <sup>3</sup>			1,011 /		1,011 /		
18	Viscosity				mPa s			0,024 /		0,024 /		
19	Molecular wt, Vap									31,4		
20	Molecular wt, NC									31,4		
21	Specific heat (Vap / Liq)				kJ/(kg K)			1002,9 /		1002,9 /		
22	Thermal conductivity (Vap / Liq)				BTU/(ft <sup>2</sup> h°F)			0,0296 /		0,0296 /		
23	Latent heat				W/(m K)							
24	Pressure (abs)				bar			1		1		
25	Velocity				m/s			4,56		14,93		
26	Pressure drop, allow./calc.				Pa					822		
27	Fouling resist. (min)				m <sup>2</sup> K/W							
28	Heat exchanged 6,13				Kw			MTD corrected °C				
29	Transfer rate, Service				Dirty			Clean			W/(m <sup>2</sup> K)	
30	<b>CONSTRUCTION OF ONE SHELL</b>											
31					Shell Side			Tube Side				
32	Design/Ext Pressure bar				1 / 1			1 / 1				
33	Design temperature °C				120			230				
34	Number passes per shell											
35	Corrosion allowance mm											
36	Connections		In	mm	/			/				
37	Size/rating		Out		/			/				
38	Nominal		Intermediate		/			/				
39	Tube No. 37		OD 19		Tks- Avg mm		Length 980		mm Pitch 28,5		mm	
40	Tube type Plain		Material Carbon Steel					Tube pattern 30				
41	Shell Carbon Steel		ID 202	OD 210	mm		Shell cover					
42	Channel or bonnet						Channel cover					
43	Tubesheet-stationary						Tubesheet-floating					
44	Floating head cover						Impingement protection					
45	Baffle-crossing				Type	Single segmental	Cut(%d)	31,88	Spacing: c/c 125		mm	
46	Baffle-long				Seal type			Inlet 115		mm		
47	Supports-tube				U-bend			Type				
48	Bypass seal				Tube-tubesheet joint							
49	Expansion joint				Type							
50	RhoV2-Inlet nozzle				Bundle entrance			Bundle exit			kg/(m <sup>2</sup> s <sup>2</sup> )	
51	Gaskets - Shell side				Tube Side							
52	Floating head											
53	Code requirements TEMA class											
54	Weight/Shell				Filled with water			Bundle 69,5			kg	
55	Remarks											
56												
57												

