



Beispiele Wärmeaustauscher / Example heat exchanger

HTRI		Output Summary		Page 1	
		Released to the following HTRI Member Company: elwatec Waermetechnik GmbH Strobach			
Xist Ver. 6.00 04.04.2010 21:38 SN: 1500213469				bar g Units	
Auslegung / Design GRW 273.49.125 W2 U Rating - Horizontal Multipass Flow TEMA BFU Shell With Single-Segmental Baffles					
See Data Check Messages Report for Warning Messages. See Runtime Message Report for Warning Messages.					
Process Conditions		Cold Shellside		Hot Tubeside	
Fluid name		Wasser / Water		Mischgas / gas Mixture	
Flow rate	(kg/s)		1,2000		0,7100
Inlet/Outlet Y	(Wt. frac vap.)	0,000	0,000	1,000	0,761
Inlet/Outlet T	(Deg C)	30,00	199,00	380,00	122,80
Inlet P/Avg	(bar-G)	24,000	23,994	10,150	9,996
dP/Allow.	(bar)	0,013	0,500	0,308	0,450
Fouling	(m2-K/W)		0,000100		0,000000
Exchanger Performance					
Shell h	(W/m2-K)	4576,42	Actual U	(W/m2-K)	1156,82
Tube h	(W/m2-K)	2646,86	Required U	(W/m2-K)	1000,72
Hot regime	(--)	Sens Gas	Duty	(kW)	862,
Cold regime	(--)	Sens. Liquid	Area	(m2)	12,541
EMTD	(Deg C)	68,7	Overdesign	(%)	15,60
Shell Geometry			Baffle Geometry		
TEMA type	(--)	BFU	Baffle type	(--)	Single-Seg.
Shell ID	(mm)	247,000	Baffle cut	(Pct Dia.)	16,00
Series	(--)	1	Baffle orientation	(--)	Perpend.
Parallel	(--)	1	Central spacing	(mm)	221,697
Orientation	(deg)	0,00	Crosspasses	(--)	12
Tube Geometry			Nozzles		
Tube type	(--)	Plain	Shell inlet	(mm)	107,100
Tube OD	(mm)	16,000	Shell outlet	(mm)	107,100
Length	(m)	2,500	Inlet height	(mm)	5,897
Pitch ratio	(--)	1,2500	Outlet height	(mm)	5,897
Layout	(deg)	30	Tube inlet	(mm)	54,500
Tubecount	(--)	98	Tube outlet	(mm)	54,500
Tube Pass	(--)	2			
Thermal Resistance; %		Velocities; m/s		Flow Fractions	
Shell	25,28	Shellside	0,12	A	0,022
Tube	53,79	Tubeside	18,73	B	0,765
Fouling	11,57	Crossflow	0,11	C	0,123
Metal	9,36	Window	0,25	E	0,090
				F	0,000