

Results for RS300

Inside temperature	22,00	[Å°C]
Inside relative humidity	50	%
Outside temperature	-19,00	[Å°C]
Outside relative humidity	40	%
Flow	150,0	[mÅ³/h]
Type	RS300	Å
Height recuperator	0,50	[m]

effectiveness for RS300

dry	92,4	%
sensible fresh air	95,9	%
latent fresh air	0,0	%
sensible waste air	64,0	%
latent waste air	69,4	%
enthalpy	65,7	%
Å	Å	

heat transferred for RS300

heat transferred	1981	[W]
increase sensible heat	1981	[W]
increase latent heat	0	[W]
decrease sensible heat	1321	[W]
decrease latent heat	660	[W]

potential heat transfer RS300

sensible	2065	[W]
latent	952	[W]
total	3017	[W]
Å	Å	

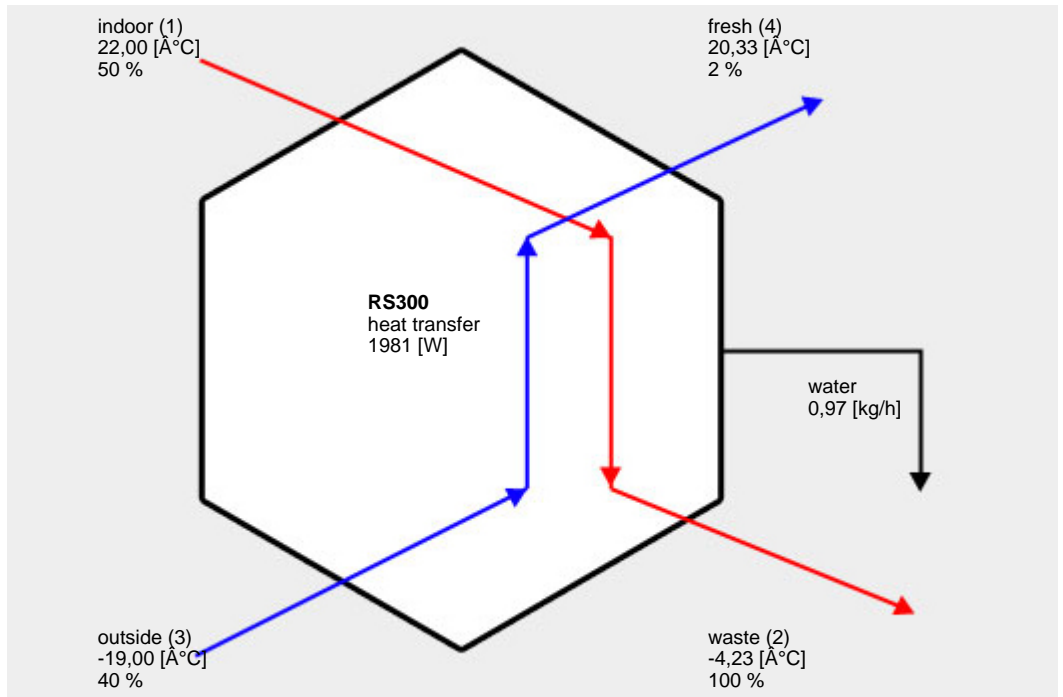
condensation/evaporization RS300

condensation	0,97	[kg/h]
Å	660	[W]
evaporization	0,00	[kg/h]
Å	0	[W]
water produced	0,97	[kg/h]
Å	660	[W]

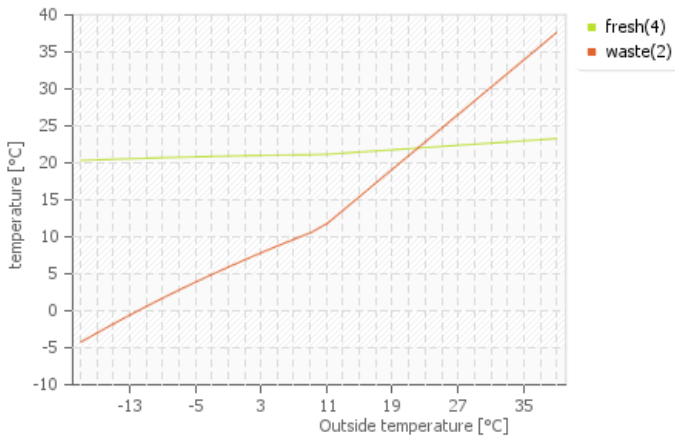
effectiveness	pressure drop	heat transferred
95,9 %	46,6 [Pa]	1981 [W]

calculations for RS300 overview all positions

Å	Å	indoor (1)	waste (2)	outside (3)	fresh (4)
temperature	[Å°C]	22,00	-4,23	-19,00	20,33
relative humidity	[-]	0,500	1,000	0,400	0,023
massflow moisture	[kg/s]	0,000405	0,000136	0,000017	0,000017
Å	[kg/h]	1,46	0,49	0,06	0,06
Å	[g/kg]	8,21	2,75	0,33	0,33
mass flow dry air	[kg/s]	0,0493	0,0493	0,0500	0,0500
Å	[kg/h]	177,49	177,49	180,07	180,07
flow (dry air)	[m3/h]	148,3	135,1	129,6	149,6
flow (wet air)	[m3/h]	150,0	135,8	129,7	149,7
rho (dry air)	[kg/mÅ³]	1,20	1,31	1,39	1,20
enthalpy flow	[W]	2101	120	-916	1065
enthalpy	[kJ/kg]	42,27	2,41	-18,17	21,13
start condensation	[Å°C]	11,11	-4,23	-29,21	-29,21
saturation pressure	[Pa]	2641,1	446,5	136,3	2384,3
partial pressure (H2O)	[Pa]	1320,6	446,5	54,5	54,5

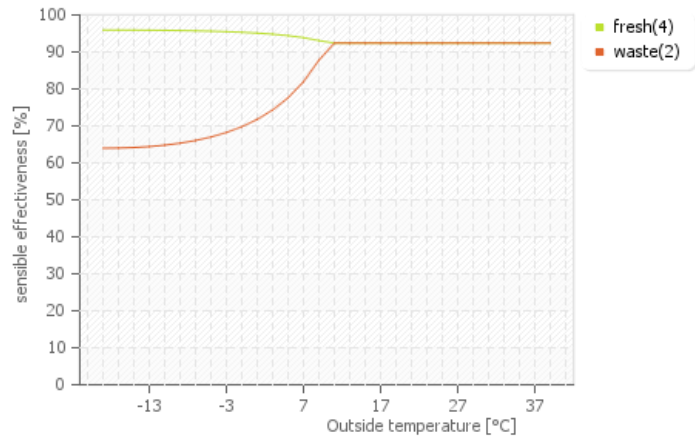


temperature of fresh air (4) and waste air (2) as a function of the outdoor temperature

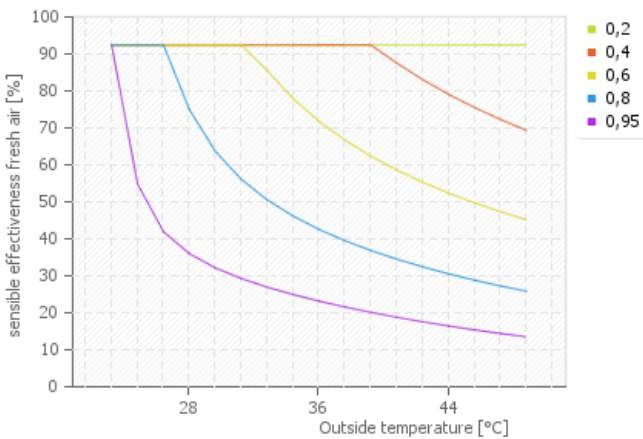


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effectiveness as a function of the outdoor temperature for

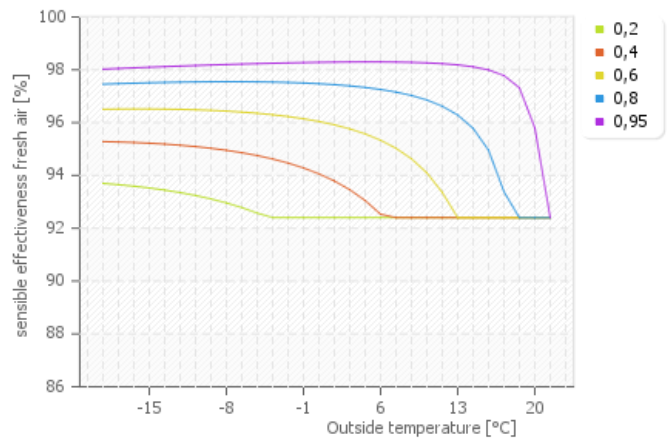


(T_{out} > T_{in}), effectiveness as a function of the outdoor temperature and RH

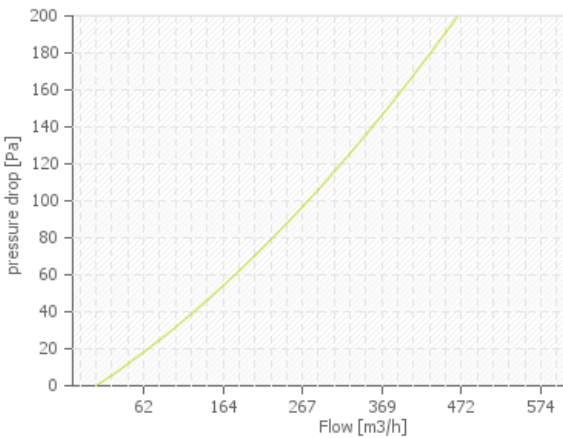


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(T_{out} < T_{in}), effectiveness as a function of the outdoor temperature and indoor RH

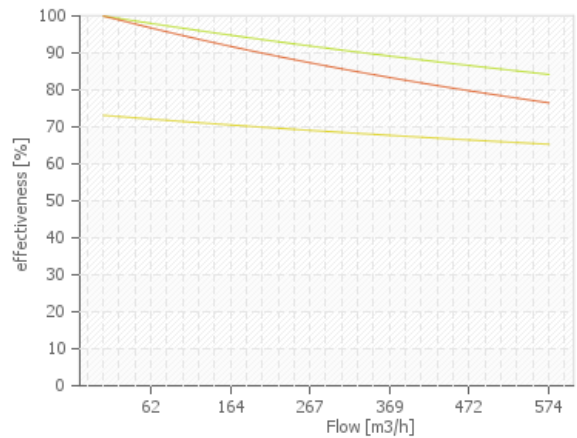


pressure drop as a function of the flow



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effectiveness as a function of the flow



effectiveness as ratio of transferred enthalpy to potential sensible heat as function of the outdoor temperature (indoor temperature 20 °C, RH indoor 50%)

