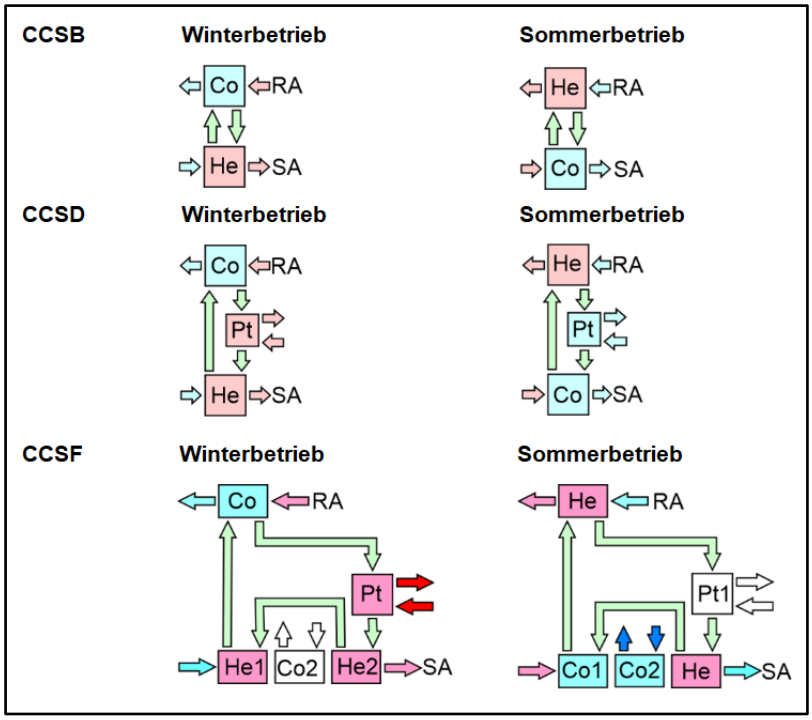
Quo vadis HLH

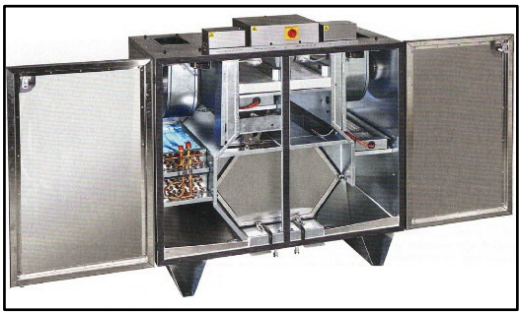
HLH 01-02 | 2026 | Page 31-33 | Heat recovery in modern HVAC systems

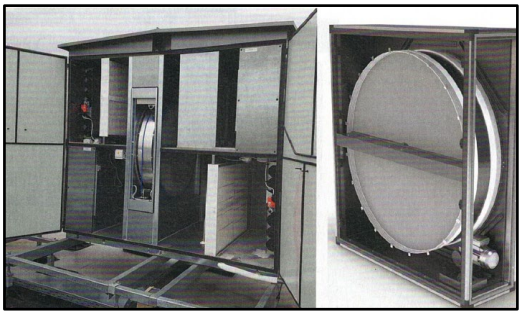
As a long-standing VDI member, the **trade journal HLH** has already brought to my attention a number of things, that go into my field of heat recovery in HVAC systems, **useful things** such as Prof. Dr.-Ing. Christoph Kaup, Managing Director at Howatherm GmbH, Brücken and now really absolutely **unusable things** such as Simon Morherr, Product Management Ventilation Units at Airflow Lufttechnik GmbH, Rheinbach, where one must seriously ask oneself, what the managing directors Werner Russ and Ralf Kaster and the editorial staff of HLH were thinking, when they approved **this bullshit and had it published**.

However, an inspection under www.airflow.de quickly showed, that one does not deal with the entirety of HVAC systems, but only operates in the **narrow gauge area** of the smallest air volumes, where the installation depth of counterflow plate heat exchangers really does not play a role. Just think about the fact, that a construction depth of 2,000 m would already be necessary if the air volume is a ridiculous 10,000 m3/h, see page 2. And what would be necessary for air volumes of 50,000 m3/h or 100,000 m3/h in construction depth?

With regard to **CC-Systems in general**, it can be read, that they are almost exclusively found in hospitals and in the food industry and that the **entire heat recovery system in particular** is merely a passive technology for temperature transfer, which makes it necessary for ***devices*** to be downstream for peak loads on cold winter days and hot summer days, in order to provide comfort. So-called ***devices*** mean finned air heaters and air coolers, because the author has apparently never heard of feeding into the intermediate circuit in CC-Systems.







The **CCSB-CC-System** is now only used by ***professionals*** where downstream ***equipment*** is needed, that increases fan performance and operating costs even when they are not in operation.

The **CCSD-CC-System** is used as a reasonable replacement for the CCSB-CC-System by **engineers**, where downstream ***equipment*** is not needed, thus significantly reducing fan power and operating costs, in the interests of the client.

The **CCSF-CC-System** is only used by **engineers**, when it comes to massively dehumidifying the supply air, which is an absolutely necessary prerequisite in the pharmaceutical industry, for example, in order to avoid perishable products such as expensive medicines at all costs. Everything else is **bullshit**, as I said.

I can therefore only hope, that the editorial staff of the **trade journal HLH** will come to their senses and refrain from publishing such monstrous **bullshit** in the future and thus not drift to **CCI level**!

Standard plate-HE: L2002 - H1442 - T1060		Cold air	Hot air	Definition
Height over sea level	m			0.000
Pressure	hPa			1013.250
Efficiency	%	70.174	55.866	
Capacity sensible	kW	75.024	60.054	
Capacity latent	kW		14.730	
Capacity frost	kW		0.240	
Capacity total	kW	75.024	75.024	
Present surface	m2			356.600
k-coeff.	W/m2K			21.881
Average temp. diff. (82.29 %)	K			9.615

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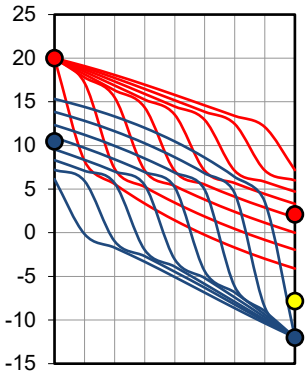
Plant
Object
Position

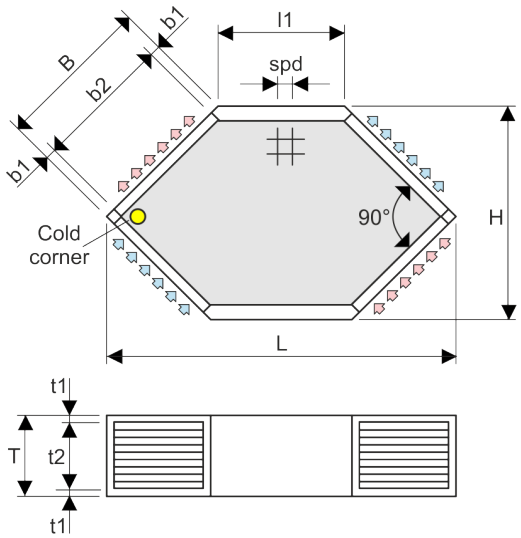
Cold air (ff = 0.00005 m2K/W)		Inlet	Outlet	Definition
Temp.	°C	-12.000	10.456	20.000
Rel. humidity	%	90.000	15.324	40.000
Abs. humidity	g/kg	1.193	1.193	
Density humid	kg/m3	1.350	1.243	
Enthalpy humid	kJ/kg	-9.116	13.527	
Volume flow humid	m3/h	8843.323	9603.713	10000.000
Mass flow dry	kg/h	11927.808	11927.808	
Velocity	m/s	4.277	4.645	
Pressure drop	Pa		176.350	

Hot air (ff = 0.00005 m2K/W)		Inlet	Outlet	Definition
Temp.	°C	20.000	2.123	20.000
Rel. humidity	%	40.000	91.433	40.000
Abs. humidity	g/kg	5.783	4.030	
Density humid	kg/m3	1.200	1.279	
Enthalpy humid	kJ/kg	34.801	12.230	
Volume flow humid	m3/h	10000.000	9363.991	10000.000
Mass flow dry	kg/h	11927.808	11927.808	
Surface temperature	°C	12.029	-1.793	
Condensate flow	kg/h		20.899	
Velocity	m/s	4.836	4.529	
Pressure drop (dry 189 Pa)	Pa		203.535	



Technical data — **Danger of freezing** — Software by www.zcs.ch

Cold corner - Surface temperature	°C	-7.841
Cold air - Outlet - Min.	°C	6.141
Cold air - Outlet - Max.	°C	15.331
Hot air - Outlet - Min.	°C	-4.102
Hot air - Outlet - Max.	°C	7.179



Standard plate-HE: L2002 - H1442 - T1060			
Plate-Material		---	Al
Box-Material		---	Al
Box-Thickness		mm	1.000
Weight		kg	213.384
Support plate distance	spd	mm	50.000
Width	b1	mm	10.000
Width	b2	mm	1000.000
Box-Width	B	mm	1020.000
Length	l1	mm	560.000
Box-Length	L	mm	2002.498
Box-Altitude	H	mm	1442.498
Depth	t1	mm	10.000
Depth	t2	mm	1040.200
Box-Depth	T	mm	1060.200
Number of splits per side	n	Piece	100.000
Split width on cold air side	sk	mm	5.000
Split width on hot air side	sw	mm	5.000
Plate thickness	ld	mm	0.200

Delivery:	5-6 weeks
Validity:	12 weeks
Condit.:	net, prepaid address
Payment:	30 days net
Price net:	**EUR 3237.00**