ColdLogik

CL20 Rear Door Cooler

ColdLogik Rear Door Coolers are highly efficient cooling systems for use on data center/server cabinets. Designed to operate on a closed loop water circuit, ensuring optimum thermal and energy performance by removing heat generated by the active equipment directly at source.

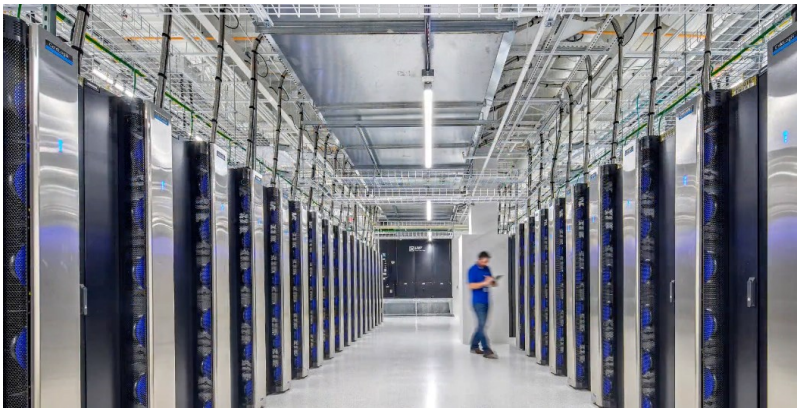
This single source solution replaces the traditional approach to data center cooling and permits load removal of over 90kW per cabinet, therefore has the capability to withstand low medium and the higher density demands experienced today.

The ColdLogik solution means that hot/cold aisles are no longer necessary therefore allowing customers to capitalise on the use of actual real estate within the data hall, permitting alternate room layout and enhanced scalability possibilities.

Significant OpEx and CapEx savings can be realised through the employment of ColdLogik particularly over mechanical cooling, usually by 86% while PUE of 1.03 has been achieved where ColdLogik has been used exclusively.

Low to High Density

Over 90kW cooling capacity per cabinet



USystems

We engineer for a sustainable tomorrow.

CL20 Rear Door Cooler Technical Specifications

Maximum Duty

Our highest duties based on 14°C water inlet – to avoid condensation – and wide ΔT to deliver reasonable DC temperatures. This deployment would require the use of mechanically cooled external plant but has the ability to offer exceptional cooling capacities per cabinet.

Cooling Capacity CL20		CL20-C14	CL20-C18
Maximum Duty	kW	62	93
Air flow (50Hz 230v)	m^3/h (cfm)	6847 (4030)	8217 (4836)
DB Air On	°C (°F)	50 (122)	58 (136)
DB Air Out	°C (°F)	20 (68)	20 (68)
Water In	°C (°F)	14 (57.2)	14 (57.2)
Water Out	°C (°F)	25 (77)	30 (86)
Volume Fluid Flow	m^3/h (l/s) / USGal/m	5 (1.4) / 22	5 (1.4) / 22
Fluid Velocity	m/s (ft/s)	0.99 (3.25)	0.82 (2.7)

Nominal Duty

This is a more general, workable duty with 18°C water inlet and covers most requirements in Europe while also maintaining an acceptable room temperature of 24°C. Operating with wide water ΔT also allows for lower power draw of the mechanically cooled external plant, reducing CapEx and OpEx costs while delivering leading cooling capacities per cabinet.

Cooling Capacity CL20		CL20-C14	CL20-C18
Nominal Duty	kW	55	80
Air flow (50Hz 230v)	m^3/h (cfm)	6847 (4030)	8217 (4836)
DB Air On	°C (°F)	50 (122)	55 (131)
DB Air Out	°C (°F)	23 (73.4)	22 (71.6)
Water In	°C (°F)	18 (64.4)	18 (64.4)
Water Out	°C (°F)	28 (82.4)	32 (89.6)
Volume Fluid Flow	m^3/h (l/s) / USGal/m	5 (1.4) / 22	5 (1.4) / 22
Fluid Velocity	m/s (ft/s)	0.99 (3.25)	0.82 (2.7)

Efficient Duty

Taking advantage of the higher allowable room temperatures in a DC of 27°C/80.6°F allows the use of higher water temperatures, therefore reducing the infrastructure required for mechanical cooling, and allows for most or all-day free cooling. This will provide customers with higher efficiency cooling and lower running costs thus beginning to obtain a return on their investment while maximising real estate.

Cooling Capacity CL20		CL20-C14	CL20-C18
Efficient Duty	kW	50	74
Air flow (50Hz 230v)	m^3/h (cfm)	6847 (4030)	8217 (4836)
DB Air On	°C (°F)	50 (122)	55 (131)
DB Air Out	°C (°F)	26 (79)	25 (77)
Water In	°C (°F)	21 (69.8)	21 (69.8)
Water Out	°C (°F)	30 (86)	34 (93.4)
Volume Fluid Flow	m^3/h (l/s) / USGal/m	5 (1.4) / 22	5 (1.4) / 22
Fluid Velocity	m/s (ft/s)	0.99 (3.25)	0.82 (2.7)

Cooling capacity data is shown for illustration purposes. USystems work alongside their customers who largely have unique challenges and ambitions. The nature of our technology, capabilities and approach is emulated in the delivery of efficient designs and solutions across the globe.

Legend

DB - Dry Bulb

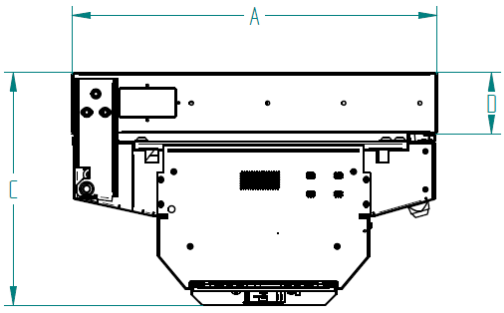
ΔT - Delta T / difference supply and return temperatures

Air On - Air onto coil / air off active equipment

Air Off - Air off coil / air out from ColdLogik cooler

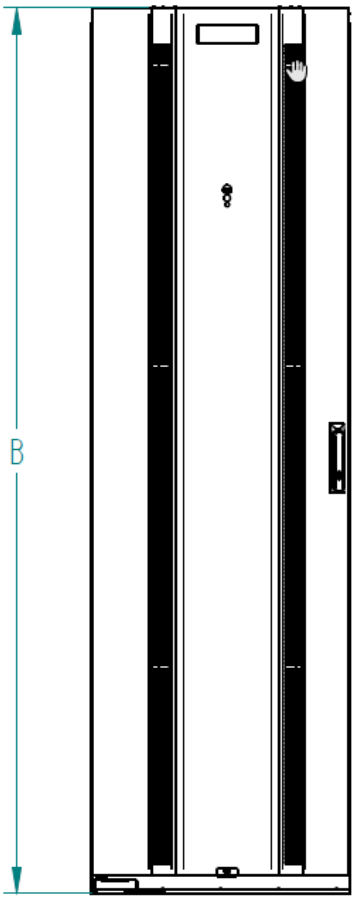
General Information

			CL20-C14	CL20-C18	
Height			42U or 48U	48U	52U
Width	mm (inch)		600 / 750 / 800 (23.62 / 29.53 / 31.5)	750 / 800 (29.53 / 31.5)	
Depth (cabinet face to RDC front face) Internal (coil guard to pipework OD) Interface frame (where required)	mm (inch)		280 (11) 54 (2.13) Plus 100 (3.94)		
Dry Weight	kg (lb)		70.3 (155)	79.8 (176)	
Wet Weight	kg (lb)		85.3 (188)	91.2 (201)	
Paint (finalised on order)	smooth finish		RAL 7035 (Light Grey) / RAL 9005 (Black)		
Communication Protocol			Modbus over TCP/IP (BACnet, SNMP optional)		
Hinge Side			Left-Hand Side - standard Right-Hand Side - available on request		
Connections	mm (inch)		1"		
Water Volume Capacity	L (U.S.gal)		11 (2.9)	15.4 (4)	
Maximum RDC Current Draw (including all additional options)	A		9.5		
Fans					
Type			Backward Curved Centrifugal		
Number of fans			5	6	
Air flow	m^3/h (cfm)	30%	2135 (1257)	2553 (1502)	
		70%	5262 (3097)	6293 (3703)	
		100%	6871 (4044)	8217 (4836)	
Current 50Hz 230v / 60Hz 208v	A	30%	0.65 / 0.72	0.79 / 0.87	
		70%	3.71 / 4.09	4.46 / 4.92	
		100%	7.54 / 8.33	9.04 / 9.98	
Power Input 50Hz 230v	W	30%	51	61	
		70%	398	478	
		100%	845	1014	
Total fan noise	dB	30%	69	67	
		70%	85	83	
		100%	90	89	



Overall Dimensions

	42U	48U	52U	RDC incl. Interface Frame	Interface Frame
	C14	C14, C18	C14 C18		
A - Width	B - Height			C - Depth	D - Depth
mm (inch)					
600 (23.62)	2040 (80)	2307 (90.8)	n/a	380 (14.96)	100 (3.94)
750 (29.53)			2485 (97.8)		
800 (31.5)					



Further Documentation

For additional information, please refer to the below. Available through your USystems representative, or our central enquires line at sales@usystems.com

Complete Product Range	Available at www.usystems.com
Operations and Maintenance Manual	Please contact sales@usystems.com
Troubleshooting Guide	Please contact sales@usystems.com
Product Brochure	Available at www.usystems.com

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by USystems

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