

# STULZ CyberRow®

Intelligent Rack Cooling



CyberRow. Put the cooling where the heat is.

9 - 73 kW

**STULZ**

# Comprehensive rack cooling with STULZ CyberRow



Another innovative, economical, energy efficient data center cooling solution by STULZ.

Designed for scalability, reliability, and seamless integration into new or existing data centers; STULZ CyberRow rack cooling systems are suitable for use in open and contained hot aisle and cold aisle configurations. STULZ CyberRow is ideal for hot spot cooling in small to enterprise size data centers.



<b>Predictability - Put the cooling where the heat is.</b>
Front Discharge for <b>Hot</b> or <b>Cold Aisle</b> Capture
Side discharge for <b>Open Aisle</b> Configurations
<b>Versatility - Designed for easiest installation.</b>
Designed for installation on raised floor or non-raised floor applications
Suitable for new and existing data centers
Can be installed in the middle or at the end of a row - 12" and 24" cabinet widths
<b>Chilled Water</b> & <b>Direct Expansion</b> (Air, Water, or Glycol) Cooling Methods
Wide range of cooling capacities for small, medium, and the largest applications
Top and bottom pipe and power connections
100% front and rear service access
Highest cooling capacities in the industry - up to 73 kW per unit
Adapts to all major rack manufacturers racks and rack capture systems
Casters included to easily locate in place
<b>Availability - Stay on top of your operation.</b>
STULZ <b>E<sup>2</sup></b> Microprocessor Controls
pLAN communicates with up to 8 units without a BMS
Seamless integration with all BMS platforms
<b>ROI - Variable and Scalable Capacity.</b>
Fully adjustable fan speed control for energy savings
Built in redundancy
Capacity assist functionality saves energy and operating expenses
Scalability - add STULZ CyberRow cooling units as your data center grows
Single and three phase voltage available

Equipment Specifications			
		STULZ CyberRow 12"	STULZ CyberRow 24"
		CRS-090	CRS-135 / CRS-180
Air Flow, CFM		2,900	5,800
Coil Rows / Face Area, Ft. <sup>2</sup>		4 / 5.8	4 / 11.6
Fan Quantity / Type		3 Backward Curved, Direct-Drive EC Fans	
Maximum Fan Horsepower		1	4
Dimensions (H x W x D)	inches	78.4 x 11.6 x 42.1	78.4 x 23.4 x 42.1
	mm	1,991 x 294 x 1,069	1,991 x 594 x 1,069

Pair with **STULZ Ultrasonic Humidifiers** and **STULZ Perimeter Cooling** CRAC and CRAH for complete room temperature and humidity control



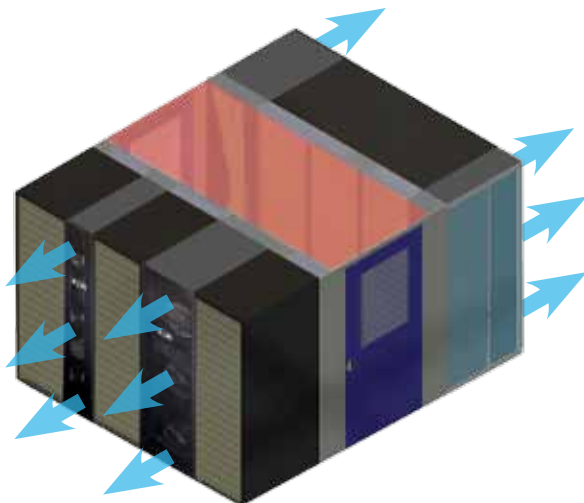
STULZ Direct Room Ultrasonic Humidifier

# Solutions: Row Cooling Configurations



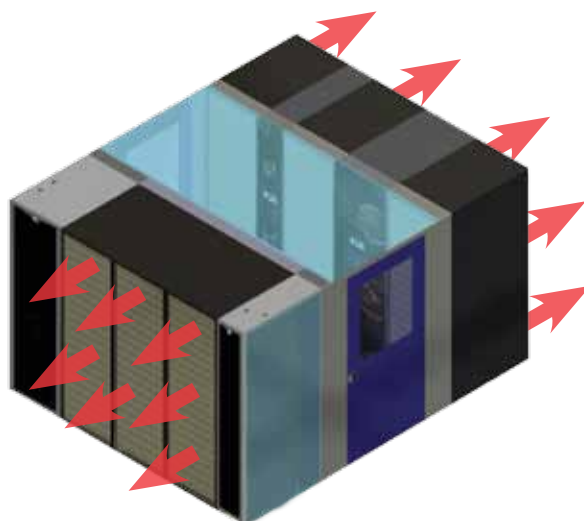
**Open Aisle Configuration** organizes racks in a single row or in hot and cold aisle rows, but without containment. The STULZ CyberRow draws hot air from the external environment or hot aisle, removes the heat, and supplies cooled air to the front of IT equipment in the cold aisle.

With side discharge



**Hot Aisle Capture** captures the hot exhaust air from IT equipment and contains it so that it doesn't mix with cool air. The front of IT equipment is accessed in the external cold aisle. The STULZ CyberRow draws the contained hot air from the hot aisle, removes the heat, and supplies cooled air into the external cold aisle.

With front discharge



**Cold Aisle Capture** takes cooled air from the STULZ CyberRow and contains it so that it doesn't mix with hot air. The front of IT equipment is accessed in the contained cold aisle. The STULZ CyberRow draws hot air from the external environment, removes the heat, and supplies cooled air back into the captured cold aisle.

With front discharge

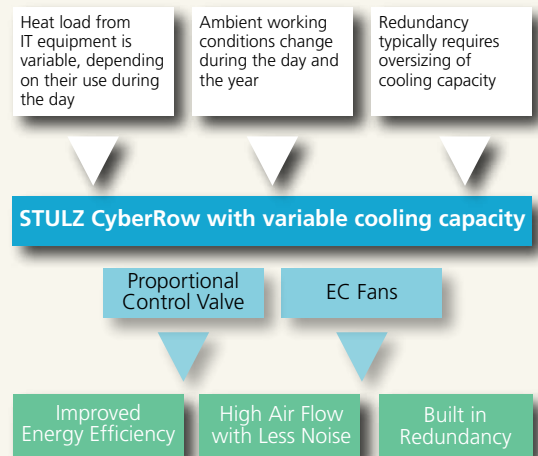
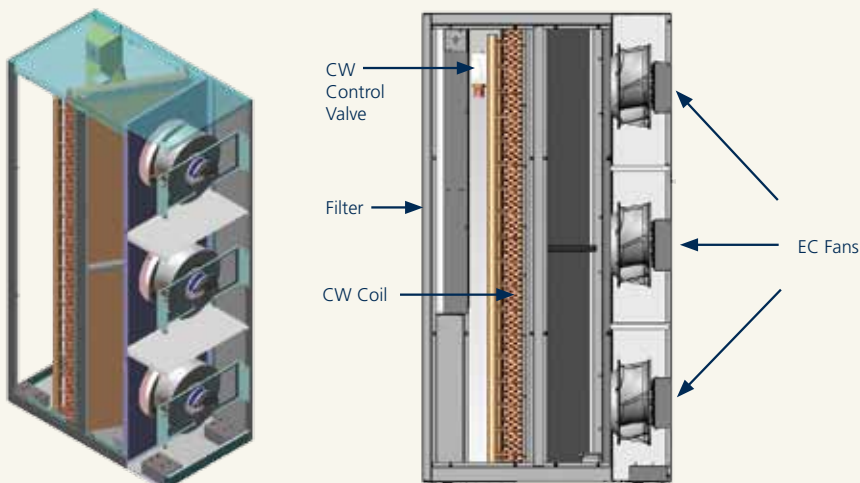
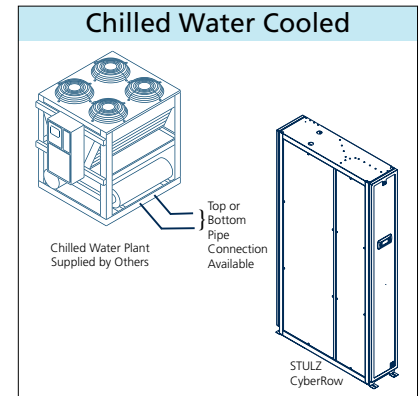
# STULZ CyberRow Chilled Water Solutions



Chilled water (CW) is supplied to the CyberRow unit via building chiller or other chilled water plant. Chilled water has high affinity for heat, thus making it a very efficient cooling method. STULZ E<sup>2</sup> controller allows for independent valve and fan control so the unit can adjust immediately, and precisely, to varying heat loads and optimizes energy efficiency.

## Features

- Highest cooling capacities in the industry
- 12" and 24" cabinet widths
- 3 EC fans: Independently, infinitely adjustable EC fans ensure maximum efficiency
- Highly efficient cold aisle or hot aisle containment systems can be implemented
- Ideal for data center without raised floors
- Use in low and high density areas
- Wide range of cooling capacities available
- 100% front and rear service access
- Adapts to fit most rack manufacturers - usable in any data center
- pLAN link 8 units without a BMS
- Seamless integration with all BMS platforms
- High air flow with less noise
- Built in redundancy and capacity assist saves energy
- 2-Way or 3-Way Valves



# Performance Data Chilled Water Solutions



Model	12" Chilled Water							24" Chilled Water					
	CRS-090-C							CRS-180-C					
	Total Capacity		Sensible Capacity		Flow Rate GPM	Pressure Drop, Ft. H <sub>2</sub> O	Total Capacity		Sensible Capacity		Flow Rate GPM	Pressure Drop Ft. H <sub>2</sub> O	
	BTU/Hr	kW	BTU/Hr	kW			BTU/Hr	kW	BTU/Hr	kW			
100°FDB / 69.2°FWB Entering Air Temperature													
40°F - EWT	10°ΔT	127,008	37.2	125,200	36.7	25.7	12.1	263,192	77.1	250,429	73.3	54.5	25.8
	12°ΔT	119,461	35.0	119,461	35.0	20.2	8.5	251,539	73.7	245,539	71.9	43.5	17.8
45°F - EWT	10°ΔT	107,333	31.4	107,333	31.4	21.8	9.4	219,854	64.4	219,854	64.4	45.9	19.3
	12°ΔT	102,855	30.1	102,855	30.1	17.4	6.9	211,927	62.1	211,927	62.1	37.0	13.7
50°F - EWT	10°ΔT	95,717	28.0	95,717	28.0	19.5	8.0	192,259	56.3	192,259	56.3	40.5	15.6
	12°ΔT	91,561	26.8	91,561	26.8	15.5	5.9	186,556	54.6	186,556	54.6	32.8	11.3
95°FDB/67.7°FWB Entering Air Temperature													
40°F - EWT	10°ΔT	116,107	34.0	113,554	33.2	23.5	10.6	242,729	71.1	227,717	66.7	50.5	22.7
	12°ΔT	108,271	31.7	108,271	31.7	18.3	7.4	230,726	67.6	222,663	65.2	40.1	15.7
45°F - EWT	10°ΔT	96,465	28.2	96,465	28.2	19.6	8.1	199,089	58.3	199,089	58.3	41.8	16.6
	12°ΔT	91,834	26.9	91,834	26.9	15.6	6.0	190,287	55.7	190,287	55.7	33.4	11.7
50°F - EWT	10°ΔT	84,669	24.8	84,669	24.8	17.3	6.8	170,772	50.0	170,772	50.0	36.2	13.1
	12°ΔT	80,417	23.5	80,417	23.5	13.7	5.1	164,228	48.1	164,228	48.1	29.0	9.5
90°FDB/66.1°FWB Entering Air Temperature													
40°F - EWT	10°ΔT	108,988	31.9	108,988	31.9	22.1	9.7	221,108	64.7	204,623	59.9	46.2	19.7
	12°ΔT	103,324	30.3	103,324	30.3	17.5	7.0	207,922	60.9	199,053	58.3	36.2	13.4
45°F - EWT	10°ΔT	96,139	28.2	96,139	28.2	19.5	8.1	177,357	51.9	177,357	51.9	37.4	14.0
	12°ΔT	91,959	26.9	91,959	26.9	15.6	6.0	167,355	49.0	167,355	49.0	29.5	9.8
50°F - EWT	10°ΔT	84,788	24.8	84,788	24.8	17.3	6.8	148,407	43.5	148,407	43.5	31.6	10.7
	12°ΔT	80,524	23.6	80,524	23.6	13.7	5.1	141,408	41.4	141,408	41.4	25.2	7.8
85°FDB/64.5°FWB Entering Air Temperature													
40°F - EWT	10°ΔT	93,105	27.3	89,517	26.2	18.9	7.8	199,491	58.4	180,880	53.0	41.8	16.8
	12°ΔT	84,791	24.8	84,791	24.8	14.4	5.5	184,737	54.1	174,604	51.1	32.4	11.3
45°F - EWT	10°ΔT	73,674	21.6	73,674	21.6	15.0	5.8	154,771	45.3	154,771	45.3	32.9	11.5
	12°ΔT	68,684	20.1	68,684	20.1	11.7	4.4	144,039	42.2	144,039	42.2	25.6	8.0
50°F - EWT	10°ΔT	61,689	18.1	61,689	18.1	12.7	4.8	125,357	36.7	125,357	36.7	27.0	8.6
	12°ΔT	56,942	16.7	56,942	16.7	9.8	3.7	117,882	34.5	117,882	34.5	21.3	6.3
80°FDB/62.8°FWB Entering Air Temperature													
40°F - EWT	10°ΔT	81,155	23.8	77,151	22.6	16.6	6.6	176,442	51.7	156,565	45.8	37.2	14.0
	12°ΔT	72,250	21.2	72,250	21.2	12.3	4.6	159,804	46.8	149,444	43.8	28.2	9.3
45°F - EWT	10°ΔT	61,703	18.1	61,703	18.1	12.6	4.7	130,953	38.3	130,953	38.3	28.2	9.2
	12°ΔT	56,587	16.6	56,587	16.6	9.7	3.7	119,742	35.1	119,742	35.1	21.6	6.5
50°F - EWT	10°ΔT	49,488	14.5	49,488	14.5	10.2	3.8	101,625	29.8	101,625	29.5	22.3	6.7
	12°ΔT	44,393	13.0	44,393	13.0	7.7	3.1	93,093	27.3	93,093	27.3	17.1	4.9



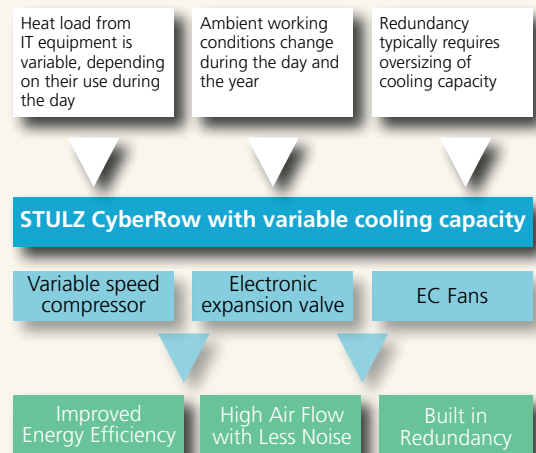
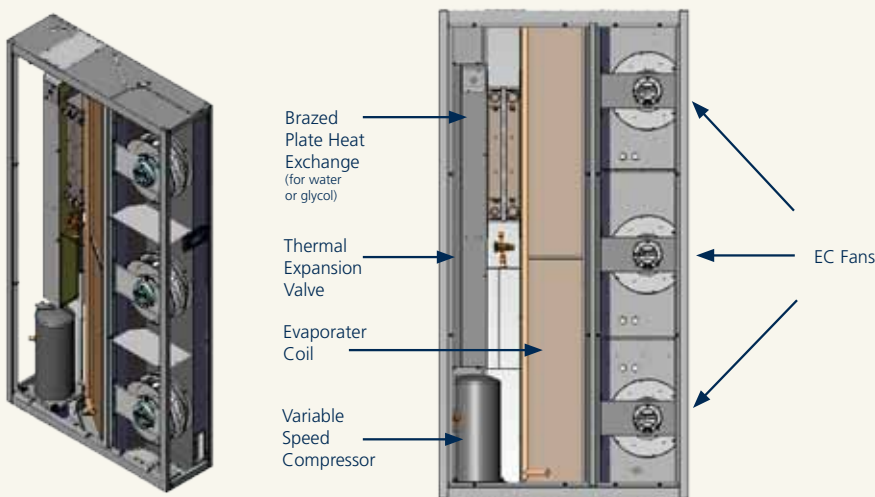
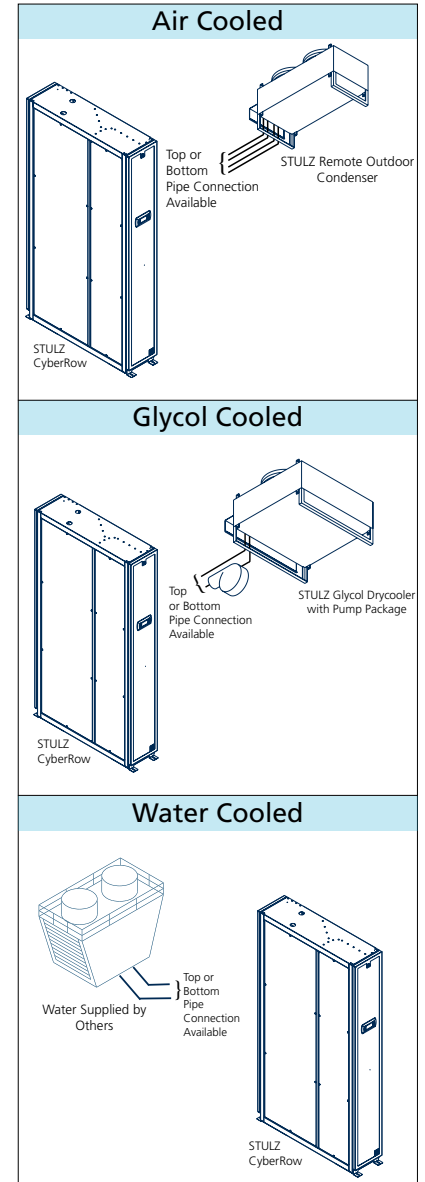
# STULZ CyberRow DX Solutions



Direct expansion type units cool air in the space with a condenser based system using green R410A refrigerant and either air, water, or glycol. Water is supplied by the building water plant and heat is rejected to the outdoor environment via STULZ air cooled condensers for air cooled units, the water tower for water cooled units and STULZ fluid coolers for glycol cooled units.

## Features

- Highest cooling capacities in the industry
- 12" cabinet widths
- 3 EC fans: Independently, infinitely adjustable EC fans ensure maximum efficiency
- Highly efficient cold aisle or hot aisle containment systems can be implemented
- Ideal for data center without raised floors
- Use in low and high density areas
- Wide range of cooling capacities available
- 100% front and rear service access
- Adapts to fit most rack manufacturers - usable in any data center
- pLAN link 8 units without a BMS
- Seamless integration with all BMS platforms
- High air flow with less noise
- Built in redundancy and capacity assist saves energy
- Variable compressor: Infinitely adjustable for precise cooling capacity and 50% lower power consumption when starting the compressor, thanks to soft start function
- Electronic expansion valve: Finely controls the cooling capacity within a few seconds
- R410A refrigerant - efficient and green



# Performance Data DX Solutions



Model	12" DX - Air, Water, Glycol Cooled			
	CRS-090-AR/W/G			
	Total Capacity		Sensible Capacity	
	BTU/Hr	kW	BTU/Hr	kW
Capacity, BTU/HR: 100°FDB/69.2°FWB Entering Air Temperature				
Air	103,527	30.3	103,527	30.3
Glycol	101,276	29.7	101,276	29.7
Water	111,982	32.8	111,982	32.8
Capacity, BTU/HR: 95°FDB/67.7°FWB Entering Air Temperature				
Air	98,302	28.8	98,302	28.8
Glycol	96,123	28.2	96,123	28.2
Water	106,385	31.2	106,385	31.2
Capacity, BTU/HR: 90°FDB/66.1°FWB Entering Air Temperature				
Air	93,120	27.3	93,120	27.3
Glycol	91,037	26.7	91,037	26.7
Water	101,586	29.8	101,586	29.8
Capacity, BTU/HR: 85°FDB/64.5°FWB Entering Air Temperature				
Air	88,652	26.0	88,652	26.0
Glycol	86,288	25.3	86,288	25.3
Water	98,808	29.0	95,114	27.9
Capacity, BTU/HR: 80°FDB/62.8°FWB Entering Air Temperature				
Air	87,060	25.5	84,302	24.7
Glycol	84,430	24.7	83,951	24.6
Water	97,365	28.5	88,793	26.0

STULZ Heat Rejection			
	SCS Air Cooled Condensers	FSS Fluid Coolers	Water Tower
BTU/Hr	136,650	133,680	147,810
kW	40	39	43

Refer to STULZ Heat Rejection Engineering Manual for more specific data.



the greener way  
of cooling  
your data center



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