

4.1 SIDE MOUNT COOLING UNITS

CONTEG Side Mount Targeted Cooling is available in both closed and open air loop configurations. The Open Architecture units can be deployed in the cabinet row to deliver cooling air directly to the cold aisle. Closed Architecture units provide the ultimate in available cooling with capacities up to 36kW.

OPEN AIR LOOP ARCHITECTURE is ideally suited for use in hot/cold and contained cold aisle deployments and can be used to supplement the existing cooling system within a facility to add capacity on a zone by zone basis. Warm air is sucked directly from the hot aisle, cooled by the side mounted cooling units before being delivered back into the cold aisle for use by the equipment. The range of available capacities means that it is now easy to meet zone cooling requirements in a hot/cold aisle deployment without over-cooling the entire facility. Furthermore, side cooling can be combined with the CONTEG contained cold or hot aisle solution to further promote efficient use of chilled air leading to reduced facility operational costs.

CLOSED AIR LOOP ARCHITECTURE is ideally suited for very high heat density racks where traditionally delivered cooling air may not provide sufficient capacity for the very high thermal loads generated by equipment placed in the racks. Additionally, the side mount closed architecture ensures that heat generated within the cabinet is removed at the point of production and not released into the data center environment, thereby minimizing the chances of localized hot-spots forming in the high density zones.

Other cooling capacity up to 80kW upon request.
Contact us for more information on this cooling solution.



Side mount cooling units

DESCRIPTION:

- Cooling capacities: up to 36kW; even the most demanding computing equipment can be kept at the optimum temperature
- Height: 42, 45 or 48U
- Width: 300mm
- Depth: 1000 or 1200mm (1000mm not applicable for closed loop)
- Welded frame construction from 1.5 & 2mm sheet steel
- Available in Direct Expansion (DX) and Chilled Water (CW) variants
- Electronic Control Board – cooling and chilled air throughput are

- controlled with microprocessors to ensure optimum cooling levels are maintained at all times
- Plumbed to either outdoor condensers or the central chilled water systems. Pipes are laid below raised floor and routed to the chilled water or condenser installations
- EC fans available upon request
- Top connection (bottom as standard) of pipes with coolant available upon request

ORDERING AND SHIPPING INFORMATION: Configure the side mount cooling unit, which will meet your requirements. The below displayed ordering matrix will help you in creating the part number. As soon as you have the part number, please contact your distributor of CONTEG products. Please note, that all **SIDE MOUNT COOLING UNITS ARE DELIVERED FULLY ASSEMBLED** and palletized!

FOLLOW THE STEPS TO SET UP DESIRED SIDE MOUNT COOLING UNITS PRODUCT CODE!



1 ARCHITECTURE	
Code	Options
SO	Open architecture
SM	Closed architecture ¹

¹ only for depth 1200 mm

3 COOLING CAPACITY		
Code	Cooling capacity	Cooling system
A2	12 kW	DX
A8	20 kW	DX
B4	19.3 kW ¹	CW
C4	36 kW ²	CW

¹ for opened architecture
² for closed architecture

4 HEIGHT		
Code	Height in U	External height in mm
42	42	1978
45	45	2111
48	48	2245

5 WIDTH	
Code	Width in mm
30	300

2 COOLING SYSTEM	
Code	Options
CW	Chilled water
DX	Direct expansion

6 DEPTH	
Code	Depth in mm
100	1000
120	1200

An example of the correct product code

AC-SO-DX/A2-42-30/100*

*Add -T in the end of the cooling unit's code for top connection of water piping (bottom connection as standard); drain pump is standard part of delivery
Add -EC in the end of the cooling unit's code for having EC (enhanced) fans in your cooling unit
(example: AC-SO-CW/B4-45-30/120-TEC = side mount cooling unit, open architecture, chilled water, 19.3kW, (H/W/D) 45U/300mm/1200mm, top connection of piping, EC fans)



TECHNICAL DATA – CHILLED WATER SIDE MOUNT COOLING UNITS

	Unit	AC-SO-CW/B4	AC-SM-CW/C4	AC-SO-DX/A2	AC-SO-DX/A8	AC-SM-DX/A2	AC-SM-DX/A8
BASIC DATA							
Cooling system	-	Child water	Child water	Direct expansion	Direct expansion	Direct expansion	Direct expansion
Architecture	-	Open	Closed	Open	Open	Closed	Closed
Total cooling capacity	kW	5-19	5-36	5-14	7-22	5-14	7-22
Power supply	V/ph/Hz	230/1/50	230/1/50	230/1/50	230/1/50	230/1/50	230/1/50
Air flow	m³/h	3600	4000	3600	3600	4000	4000
AC FAN VERSION (delivered as standard)							
Number of fans	pcs	5	5	5	5	5	5
Fan motor max. (each)	W/A	160/0.7	160/0.7	160/0.7	160/0.7	160/0.7	160/0.7
EC FAN VERSION (optionally)							
Number of fans	pcs	5	5	5	5	5	5
Fan motor max. (each)	W/A	178/1.4	178/1.4	178/1.4	178/1.4	178/1.4	178/1.4
HEAT EXCHANGER							
Type	-	Copper tubes/Aluminum fins					
Air face velocity	m/s	2.5	2.8	2.5	2.5	2.8	2.8
WATER CIRCUIT							
Water flow	l/h	3330	6200	-	-	-	-
Water pressure drop total	kPa	75	142	-	-	-	-
Water valve	-	3-way modulating valve		-	-	-	-
REFRIGERANT CIRCUIT							
Refrigerant	-	-	-	R410A			
Outdoor unit	-	-	-	AC-DX-FDC125VN	AC-DX-FDC200VS	AC-DX-FDC125VN	AC-DX-FDC200VS
FILTER							
Quantity and shape	pcs/type	3 / zigzag	-	3 / zigzag	3 / zigzag	-	-
Size	mm	600 x 180	-	600 x 180	600 x 180	-	-
Depth	mm	100	-	100	100	-	-
Class	-	EU3	-	EU3	EU3	-	-
DIMENSIONS							
Height	mm	1978 (42U), 2111 (45U), 2245 (48U)					
Width	mm	300					
Depth	mm	1000 or 1200	1200	1000 or 1200	1000 or 1200	1200	1200
Weight – depth 1000 mm, height 42/45/48U	kg	173/178/183	-	173/178/183	173/178/183	-	-
Weight – depth 1200 mm, height 42/45/48U	kg	183/189/195	182/188/194	183/189/195	183/189/195	182/188/194	182/188/194
PIPING CONNECTION							
Supply pipe diameter and type	-	1" female	1" female	9.52 mm braze	9.52 mm braze	9.52 mm braze	9.52 mm braze
Return pipe diameter and type	-	1" female	1" female	15.88 mm braze	22.22 mm braze	15.88 mm braze	22.22 mm braze

Air flow in closed architecture models refers to the unit not installed in the rack

Presented nominal cooling capacity is valid under nominal conditions only:

Open architecture: water temperature 7/12 °C, air inlet temperature 30 °C

Closed architecture: water temperature 7/12 °C, air inlet temperature 45 °C

Refrigerant (CW): water without additives

side mount cooling units

TECHNICAL DATA – DIRECT EXPANSION OUTDOOR UNITS

	Unit	AC-DX-FDC125VN	AC-DX-FDC200VS
Nominal cooling capacity	kW	12.5 (5.0 – 14.0)	20.0 (7.0 – 22.4)
Phase		1 phase	3 phase
Power source		220-240V 50Hz / 220V 60Hz	380-415V 50Hz / 380V 60Hz
Cooling power consumption	kW	4.05/4.05	6.58/6.58
Running current	A	17.6/18.6	9.9/10.6
Power factor	%	99/99	96/94
Inrush current (L.R.A.) / max. running current	A/A	5/24	5/24
Noise level	dB(A)	50	57
Exterior dimensions	H/W/D in mm	845/970/370	1300/970/370
Net weight	kg	74	122
COMPRESSOR			
Type		RMT5126MDE2	GTC515ND70K
Starting method		direct line start	direct line start
Type of control		electronic expansion valve	electronic expansion valve
REFRIGERANT			
Type		R410A	R410A
Quantity	kg	3.8 (pre-charged up to piping length of 30m)	5.4 (pre-charged up to the piping length of 30m)
AIR HANDLING EQUIPMENT			
Fan	type/qty	propeler fan/1	propeler fan/2
Motor	W/qty	86/1	86/2
Air flow	CMM	75	150
INSTALLATION DATA			
Refrigerant piping size	mm	Liquid pipe: Ø 9.52 Gas pipe: Ø 15.88	Liquid pipe: Ø 9.52 Gas pipe: Ø 22.22
Connecting method		flare piping	brazing piping (outdoor liquid piping: flare)
Drain hose		holes size Ø20 x 3pcs	holes size Ø20 x 3pcs
Insulation for piping		necessary (both liquid & gas piping)	necessary (both liquid & gas piping)
OTHERS			
Refrigerant oil	l	0.9 (M-MA68)	1.45 (M-MA32R)
Defrost method		microcomputer controlled de-icer	microcomputer controlled de-icer
Shock & vibration absorber		rubber sleeve (for compressor)	rubber sleeve (for compressor)
Operation control		controlled by indoor unit	controlled by indoor unit
Safety equipment		internal thermostat for fan motor, anomalous discharge temperature protection	internal thermostat for fan motor, anomalous discharge temperature protection
Energy class		A	A

Data valid under nominal conditions: Outdoor temperature: 35°C DB, Indoor temperature: 27°C DB, Refrigerant piping length: 7.5m
Field of application - outdoor temperature -15 °C to +43 °C



AC-DX-FDC125VN



AC-DX-FDC200VS



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