MARSTAIR

REFRIGERATION AND SPECIALIST AIR CONDITIONING

CD3

CLOSE CONTROL



refrigeration & specialist air conditioning

DESIGNED & BUILT IN THE UK

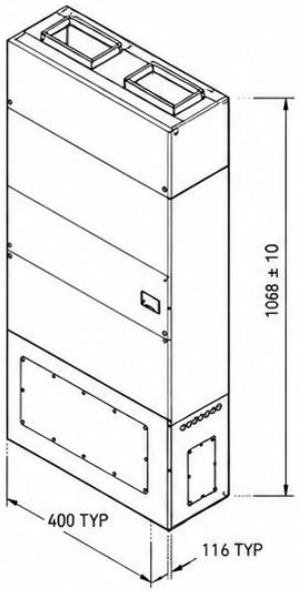
T: 01484 405 600
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CD3 CLOSE CONTROL

WHY CHOOSE MARSTAIR?

With over 50 years of HVAC-R expertise, Marstair has built a reputation for delivering high-quality, reliable, and technically engineered cooling and air conditioning solutions across a wide range of industries.

We combine British design, engineering excellence, and proven product reliability to provide customers with solutions that are built for performance, efficiency, and long-term confidence.

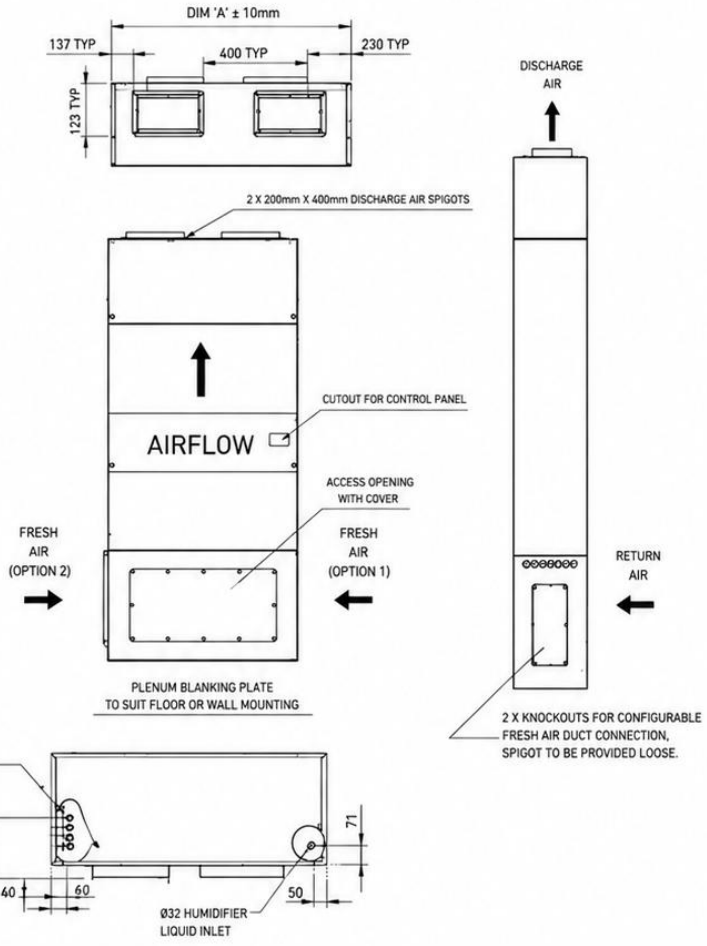


ENGINEERED FOR PERFORMANCE

Our systems are designed to deliver reliable operation across demanding applications, combining efficient performance with practical installation flexibility to meet modern project requirements.

TECHNICAL EXPERTISE YOU CAN TRUST

At Marstair, we understand that every project is different. Our experienced technical team provides expert support with equipment selection, system design, and bespoke application requirements to ensure the right solution for every installation.



MARSTAIR
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CD3 CLOSE CONTROL

PRECISON ENVIRONMENTAL CONTROL

The Marstair CD3 range has been developed to provide precise temperature and humidity control in mission-critical environments where reliability and operational stability are essential.

CD3 systems offer maximum flexibility for consultant's engineers and end users, with configurable airflow arrangements and close control performance designed for critical applications.

KEY FEATURES & BENEFITS

- **±1°C TEMPERATURE CONTROL**
  Control tolerance of +/-1°C
- **±5% RH TEMPERATURE CONTROL**
  Control tolerance of +/-5 RH
- **UPFLOW OR DOWNFLOW**
  Flexible airflow configurations to suit application requirements.
- **DX SPLIT OR CHILLED WATER**
  Flexible system options to suit application requirements.
- **BACNET INTERFACE**
  Seamless BMS integration
- **MASTER/ SLAVE FUNCTIONALITY**
  Auto changeover for enhanced reliability
- **FLEXIBLE AIRFLOW CONFIGURATIONS**
  Grille and Ducted discharge.
- **4-20kW CAPACITY RANGE**
  High efficiency close control performance



APPLICATIONS | ARCHIVE ROOMS | MATERIAL STORAGE | LABORATORIES | COMMS ROOMS | HIGH VALUE COLLECTABLES | SPECIALIST STORAGE

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CD3 CLOSE CONTROL

CONFIGURABLE OPTIONS

DX PACKAGED UPFLOW & DOWNFLOW CD3				
DESCRIPTION		MODEL	PART NO.	PRICE (£)
Condensate Pump complete with high water alarm	Hot & Cold, 5m head)	All Models	92919077	POA
Fresh Air Spigot For use with fan and filter	100mm Dia	All Models	92911062	POA
	160mm Dia	All Models	92911063	POA
Fresh Air Fan and Filter	93m³/h	All Models	92911003	POA
	186m³/h	All Models	92911004	POA
Disposable Filter (BS EN 779 G3) - 50mm (Replaces washable filter)		8	92911038	POA
		010, 015	92911039	POA
		20	92911040	POA
Kit Common Alarm & Volt Freeze Contact	Hot & Cold, 5m head)	All Models	92911006	POA
Top Ducted Discharge Spigot		8	92911059	POA
		010, 015	929110560	POA
		20	92911061	POA

	DX & CHILLED WATER FACTORY FITTED OPTIONS CD3					
DESCRIPTION		MODEL	DX	CHILLED WATER	FACTORY FITTED	PRICE (£)
		CONFIGURED	CONFIGURED		PART NO.	
LPHW Coil (Add De-Ice Stat with DX Systems)	9.6kW	008 U/D	Option	Option	92900423	POA
	11.1kW	010 U/D	Option	Option	92900424	POA
	12.0kW	015 U/D	Option	Option	92900424	POA
	14.9kW	020 U/D	Option	Option	92900425	POA
LPHW VALVE	4 port modulating 0-10v	All Models	Option	Option	92919050	POA
CHILLED WATER VALVES	4 port	008/010	-	Option	92919046	POA
	modulating 0-10v	015/020	-	Option	92919155	POA
Condensate Pump (Complete with high water alarm)	(Hot & Cold, 5m head)	All Models	Option	Option	92919054	POA
Fresh Air Spigot (for use with fan)	100mm dia.	All Models	Option		92900462	POA
	150mm dia.	All Models	Option	Option	92900463	POA
Fresh Air Fan (for use with spigot)	93m³/h	All Models	Option	Option	92900403	POA
	186m³/h	All Models	Option	Option	92900404	POA
Downflow Plinth 300mm high	Front	008D	Option	Option	92900462	POA
	Front	010D, 015D	Option	Option	92900463	POA
	Front	020D	Option	Option	92900403	POA
	Rear	008D	Option		92900404	POA
	Rear	010D, 015D	Option	Option		POA
	Rear	020D	Option	Option	92900481	POA

CD3 CLOSE CONTROL

CONFIGURABLE OPTIONS

Return air plinth (Front duct) (Up flow only)		008 U	Option	Option	92919137	POA
		010U, 015U	Option	Option	92919138	POA
		020 U	Option	Option	92919139	POA
Double Deflection Grille (Up flow only)		008 U	Option	Option	92900494	POA
		010U, 015U	Option	Option	92900495	POA
		020 U	Option	Option	92900496	POA
Disposable Filter (BS EN 779 G3) - 50mm (Replaces washable filter)		008U	Option	Option	92900438	POA
		010U, 015U	Option	Option	92900439	POA
		020U	Option	Option	92900440	POA
		008D	Option	Option	92900441	POA
		010D, 015D	Option	Option	92900442	POA
		020D	Option	Option	92900443	POA
H.E. Filters (BS EN 779 F8) - 100mm (Includes additional plenum section		008 U/D	Option	Option	92900478	POA
		010U/D, 015U/D	Option	Option	92900479	POA
		020 U/D	Option	Option	92900480	POA
Return Plinth	Air Discharge					
	Rear	008U	Option	Option	92919105	POA
	Rear	010U, 015U	Option	Option	92919106	POA
	Rear	020U	Option	Option	92919107	POA
Plenum complete with spigot 430mm high	Air Discharge					
	Front / Rear	008D	Option	Option	92919108	POA
	Front / Rear	010D, 015D	Option	Option	92919109	POA
	Front / Rear	020D	Option	Option	92919110	POA
Top Ducting Spigot		008U	Option	Option	92900459	POA
When used as return air spigot on D units sound Attenuator section is required for. access to filters		010U, 015U	Option	Option	92900460	POA
		020U	Option	Option	92900461	POA
		008D	Option	Option	92919111	POA
		010D, 015D	Option	Option	92919112	POA
		020D	Option	Option	92919113	POA
Remote control panel (includes 6m cable) -Supplied Loose		008	Option	Option	92919081	POA
		010, 015	Option	Option	92919082	POA
		020	Option	Option	92919083	POA
BACnet interface card			Option	Option	92919134	POA
BACnet RS485 converter			Option	Option	92919136	POA
Fan Speed transformer		008 - 1-off per unit				
010-020 2-off per unit	Option	Option	92919118	POA		
Water spillage (if condensate pump fitted)		All Models	Option	Option	92919066	POA
Water spillage (if no condensate pump fitted)		All Models	Option	Option	92919067	POA
Common Alarm (Volt-free relay)		All Models	Option	Option	92919056	POA
INDOOR UNIT AUTO-CHANGE- OVER						
Changeover on Set Time and/or Alarm (including unit assist for high room condition)	All Models	Option	Option	92919095	POA	All Models
Master/Slave		All Models	Option	Option	92919096	POA

CD3 CLOSE CONTROL

R513A TECHNICAL INFORMATION

DIRECT EXPANSION COOLING CAPACITIES - kW													
CD3 MODEL	Ambient °C	30°C						35°C					
	Room Conditions	22°C/50% RH		24°C/50% RH		26°C/50% RH		22°C/50% RH		24°C/50% RH		26°C/50% RH	
	CKC+/DCU+	Total	Sensible	Total	Sensible	Total	Sensible	Total	Sensible	Total	Sensible	Total	Sensible
8	1 x 100	7.2	7.2	7.46	7.46	7.75	7.75	6.86	6.86	7.11	7.11	-	-
	2 x 50	7.36	7.36	7.74	7.74	8.09	8.09	7.17	7.17	7.39	7.39	-	-
10	1 x 150	10.63	10.58	11.23	10.86	11.89	11.13	10.11	10.11	10.6	10.6	11.22	10.88
	2 x 80	11.08	10.77	11.62	11.01	12.13	11.22	10.56	10.55	11.15	10.83	11.64	11.04
15	1 x 200	13.56	13.44	14.23	13.76	14.87	14.03	12.97	12.97	13.62	13.52	14.22	13.79
	2 x 100	13.86	13.57	14.44	13.84	14.98	14.07	13.19	13.19	13.72	13.56	14.22	13.79
20	1 x 200	16.76	16.56	17.6	16.96	18.4	17.29	16.03	16.03	16.78	16.63	17.79	17.07
	2 x 135	18.05	17.11	19.05	17.54	20.04	17.91	17.2	16.75	18.05	17.14	19	17.52

CD3 MODEL	Ambient °C	40°C						45°C					
	Room Conditions	22°C/50% RH		24°C/50% RH		26°C/50% RH		22°C/50% RH		24°C/50% RH		26°C/50% RH	
	CKC+/DCU+	Total	Sensible	Total	Sensible	Total	Sensible	Total	Sensible	Total	Sensible	Total	Sensible
8	1 x 100	6.57	-	6.79	6.79	-	-	-	-	-	-	-	-
	2 x 50	6.63	6.57	6.98	6.98	-	-	6.21	6.21	6.46	6.46	-	-
10	1 x 150	9.43	6.63	9.93	9.93	10.42	10.42	8.79	8.79	9.24	9.24	9.73	9.73
	2 x 80	10.15	9.43	10.6	10.6	10.5	10.82	9.75	9.75	10.2	10.2	10.65	10.65
15	1 x 200	12.28	10.15	12.85	12.85	13.43	13.43	11.52	11.52	12.09	12.09	12.73	12.73
	2 x 100	12.62	12.28	13.08	13.08	13.49	13.49	-	-	-	-	-	-
20	1 x 200	15.22	12.62	16	16	16.79	16.7	14.33	14.33	15.11	15.11	15.83	15.83
	2 x 135	15.83	15.22	16.78	16.63	17.54	16.98	14.88	14.88	15.59	15.59	16.31	16.31

R407C TECHNICAL INFORMATION

DIRECT EXPANSION COOLING CAPACITIES - kW													
CD3 MODEL	Ambient °C	25°C				30°C				35°C			
	Room Conditions	22°C/50% RH		24°C/50% RH		22°C/50% RH		24°C/50% RH		22°C/50% RH		24°C/50% RH	
	CKC+/DCU+	Total	Sensible	Total	Sensible	Total	Sensible	Total	Sensible	Total	Sensible	Total	Sensible
008/1	1x80*	7.5	7.5	7.7	7.7	7.2	7.2	7.5	7.5	6.9	6.9	7.1	7.1
	1x100	10.2	9.0	10.8	9.2	9.8	8.8	10.4	9.0	9.3	8.6	9.9	8.8
008/02	2x30*	7.7	7.7	8.1	8.1	7.4	7.4	7.7	7.7	7.2	7.2	7.4	7.4
	2x50*	10.7	9.2	11.2	9.4	10.3	9.0	10.8	9.2	9.8	8.8	10.4	9.0
010/1	1x100	11.3	10.9	11.9	11.1	10.6	10.6	11.2	10.9	10.1	10.1	10.6	10.6
	1x130	12.2	11.2	12.8	11.5	11.7	11.0	12.3	11.3	11.1	10.8	11.8	11.1
010/2	2x50*	11.6	11.0	12.2	11.2	11.1	10.8	11.6	11.0	10.6	10.6	11.2	10.8
	2x60*	12.3	11.3	13.0	11.6	11.8	11.1	12.5	11.4	11.3	10.9	11.9	11.1
015/1	1x165	14.1	13.7	14.8	14.0	13.6	13.4	14.2	13.8	13.0	13.0	13.6	13.5
	1x180	16.8	14.8	17.5	15.1	16.0	14.5	16.8	14.8	15.2	14.1	16.1	14.5
015/2	2x80*	14.4	13.8	15.0	14.1	13.9	13.6	14.4	13.8	13.2	13.2	13.7	13.6
	2x100	19.5	16.1	20.8	16.5	18.8	15.7	20.0	16.1	17.9	15.3	19.0	15.7
020/1	1x180	17.4	16.8	18.3	17.2	16.8	16.6	17.6	17.0	16.0	16.0	16.8	16.6
	1x200	19.8	17.9	20.9	18.3	18.9	17.5	19.9	17.9	18.0	17.1	19.1	17.5
020/2	2x90	19.3	17.6	20.1	18.0	18.1	17.1	19.1	17.5	17.2	16.8	18.1	17.1
	2x130	22.8	19.2	24.0	19.6	21.9	18.8	23.1	19.2	20.9	18.4	22.1	18.8

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CD3 CLOSE CONTROL

CHILLED WATER- TECHNICAL INFORMATION

CHILLED WATER-COOLING CAPACITIES - kW						
CD3 Model	Chilled Water		Room Conditions			
			22°C/50% RH		24°C/50% RH	
	In °C	Out °C	Total	Sensible	Total	Sensible
008	5	11	7.80	7.80	11.25	9.38
	6	11	8.19	8.10	11.56	9.51
	6	12	7.00	7.00	9.63	8.70
	7	12	7.34	7.34	10.00	8.86
010	5	11	11.28	10.86	15.53	12.63
	6	11	11.49	10.95	15.52	12.63
	6	12	9.91	9.91	13.57	11.82
	7	12	10.04	10.04	13.61	11.83
015	5	11	15.41	14.24	20.93	16.55
	6	11	15.59	14.32	20.83	16.50
	6	12	13.04	13.04	18.41	15.48
	7	12	13.19	13.19	18.36	15.46
020	5	11	20.72	18.28	27.10	20.94
	6	11	20.38	18.13	26.49	20.68
	6	12	17.60	16.92	24.12	19.66
	7	12	17.34	16.81	23.57	19.42

LPHW HEATING- TECHNICAL INFORMATION

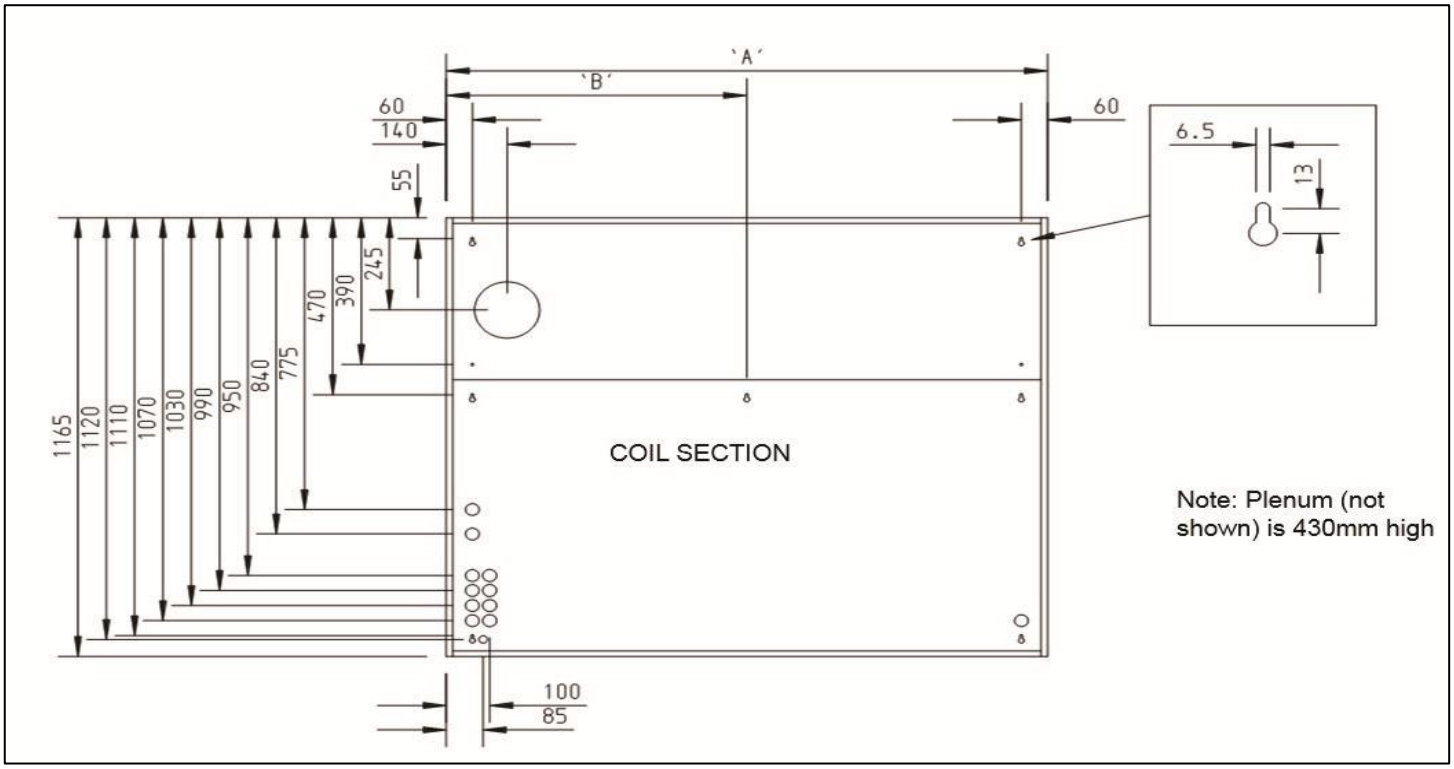
LOW PRESSURE HOT WATER (LPHW) HEATING CAPACITIES - kW						
MODEL	LPHW		ROOM TEMPERATURE			
	In ˚C	Out ˚C	16 ˚C	18 ˚C	20 ˚C	22 ˚C
008	80	70	9.4	9.0	8.6	8.3
010	80	70	12.0	11.5	11.1	10.6
015	80	70	13.0	12.6	12.0	11.5
020	80	70	16.1	15.5	14.9	14.3

WEIGHTS & DIMENSIONS

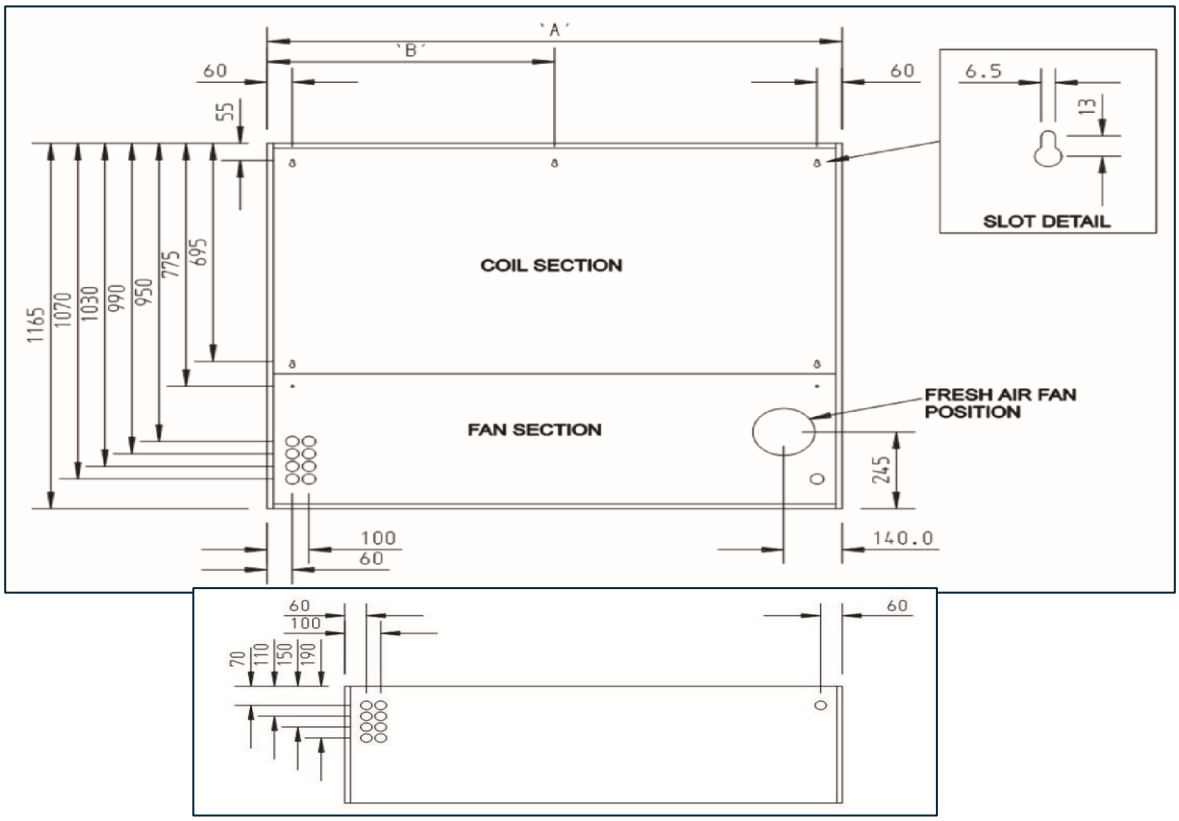
WEIGHTS AND DIMENSIONS UNPACKED								
MODEL	HEIGHT mm	WIDTH (A) mm	WIDTH (B) mm	DEPTH mm	WEIGHT Kg	Additional Plenum* Height mm	Additional Plenum* Weight Kg	Additional Floor Plinth Height mm
008	1165	1230	-	430	124	430	18	75
010	1165	1380	690	430	142	430	20	75
015	1165	1380	690	430	151	430	20	75
020	1165	1580	790	430	160	430	22	75

CD3 CLOSE CONTROL

UP FLOW SERVICE AND FIXING HOLE CENTRES



DOWNFLOW SERVICE AND FIXING HOLE CENTRES



SOUND PRESSURE LEVELS

SOUND PRESSURE LEVELS (dBA)								
MODEL	Top discharge and front return		Front discharge with plenum and front return		Front discharge and front return		Downflow	
	Min	Max	Min	Max	Min	Max	Min	Max
008	52	67	52	59	47	67	41	53
010	55	67	53	59	50	65	46	54
015	56	65	56	57	50	65	46	54
020	57	68	59	58	52	67	48	56

*

Sound Pressure levels (SPL) at 3m distance from the front of the unit in an office installation

PIPE SIZES - DIRECT EXPANSION

ELECTRICAL DATA AND PIPE SIZES				
MODEL	CIRCUITS	CONNECTION SIZES (DX)		CONDENSATE MM OD
		SUCTION INS OD	LIQUID INS OD	
008/1	SINGLE	1 x 1/2	1 x 3/8	1 x 15
080/2	TWIN	2 x 3/8	2 x 3/8	1 x 15
010/1	SINGLE	1 x 3/8	1 x 3/8	1 x 15
010/2	TWIN	2 x 1/2	2 x 3/8	1 x 15
015/1	SINGLE	1 x 7/8	1 x 1/2	1 x 15
015/2	TWIN	2 x 5/8	2 x 3/8	1 x 15
020/1	SINGLE	1 x 7/8	1 x 1/2	1 x 15
020/2	TWIN	2 x 5/8	2 x 3/8	1 x 15

RECOMMENDED FUSE SIZES - DIRECT EXPANSION

System (Sensible)	S 08 S	S 10 S	S 15 S	S 20 S	S 08 T	S 10 T	S 15 T	S 20 T
Model Combination	CD008 + CKC(+) 100	CD010 + CKC(+) 130	CD015 + CKC(+) 180	CD020 + CKC(+) 200	CD008 +2x CKC(+) 50	CD010 +2x CKC(+) 60	CD015 +2x CKC(+) 100	CD020 +2x CKC(+) 130
1 Phase Cool Only	-	-	-	-	40	40	-	-
1 Phase Cool and Heat	-	-	-	-	50	50	-	-
3 Phase Cool Only	20	25	35	40	16	20	32	35
3 Phase Cool and Heat	20	32	40	40	20	32	40	40
3 Phase Cool/Heat/Hum/Dehum	40	40	63	63	40	40	50	63

System (High sensible)	HS 08 S	HS 10 S	HS 15 S	HS 20 S	HS 08 T	HS 10 T	HS 15 T	HS 20 T
Model Combination	CD008 + CKC(+) 80	CD010 + CKC(+) 100	CD015 + CKC(+) 165	CD020 + CKC(+) 180	CD008 +2x CKC(+) 30	CD010 +2x CKC(+) 50	CD015 +2x CKC(+) 80	CD020 +2x CKC(+) 90
1 Phase Cool Only	32	-	-	-	32	40	50	63
1 Phase Cool and Heat	50	-	-	-	50	50	50	63
3 Phase Cool Only	16	20	32	40	16	20	25	32
3 Phase Cool and Heat	20	32	40	40	20	32	40	40
3 Phase Cool/Heat/Hum/Dehum	40	40	63	63	40	40	50	63

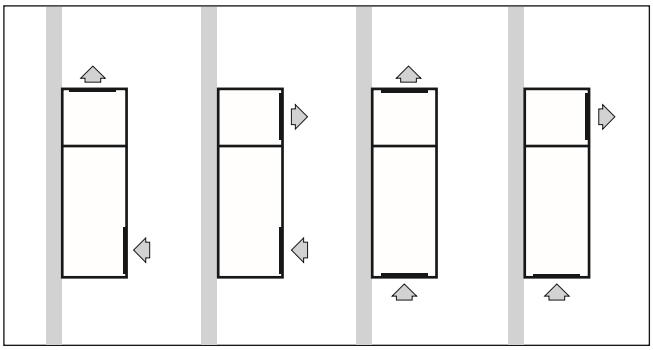
PIPE CONNECTIONS - CHILLED

CD3	CW inlet & outlet (mm)	LPHW inlet & outlet (mm)	Condensate connection (mm)
008	22	15	15
010	22	15	15
015	28	15	15
020	28	15	15

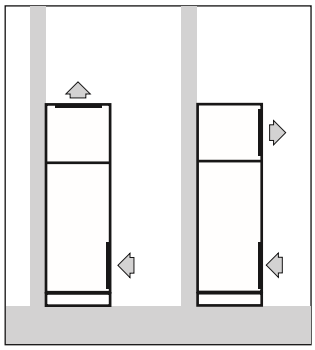
ELECTRICAL DATA - CHILLED

CD3	1Ph 230V 50Hz	3 Ph 400V 50Hz		
	Full Load Amps	Full Load Amps		
	Cooling Only	Cooling Only	Col & Heat	Cool / Heat / Hum / Dehum
	Amps	A/PH	A/PH	A/PH
008	5.4	5.4	16.7	32.7
010	7.4	7.4	17.7	32.7
015	9.0	9.0	26.0	41.0
020	9.4	9.4	33.3	49.3

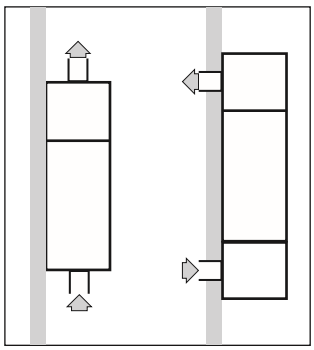
Up flow wall mounted with grilles



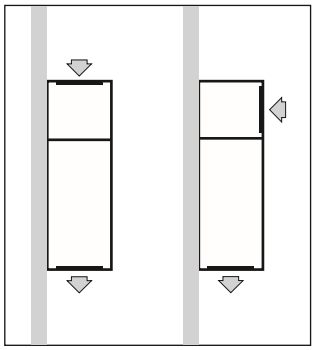
Up flow floor mounted with grilles



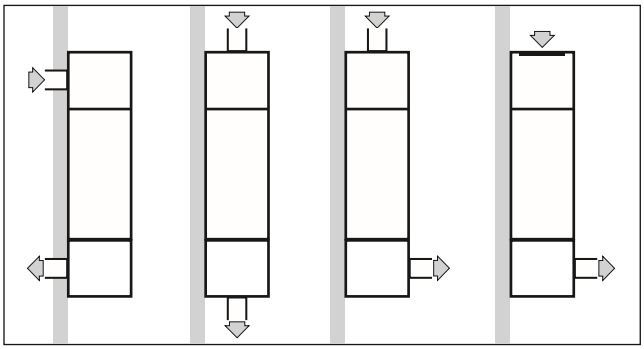
Up flow with ducts



Downflow wall mounted with grilles



Downflow ducted

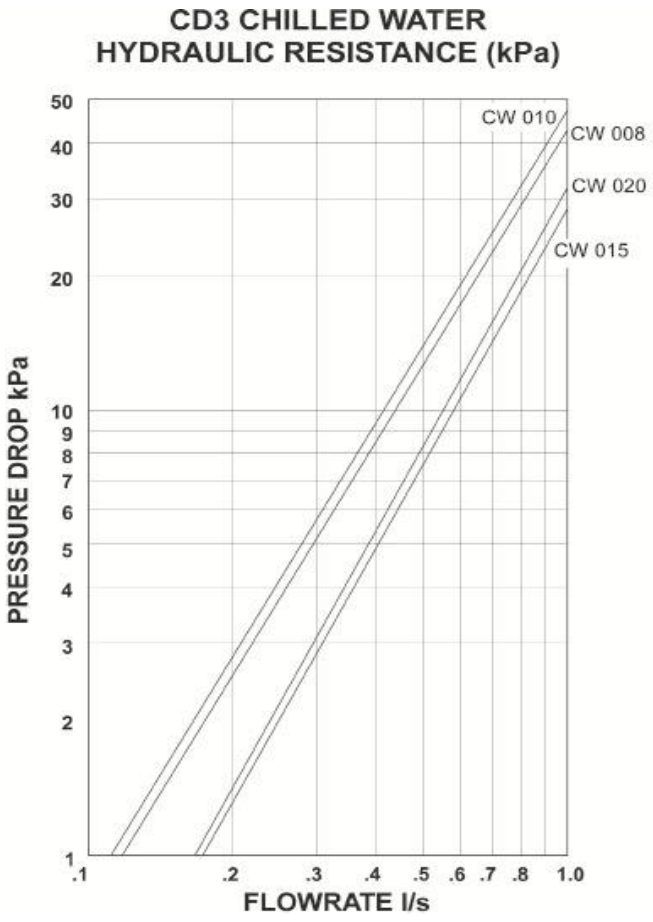


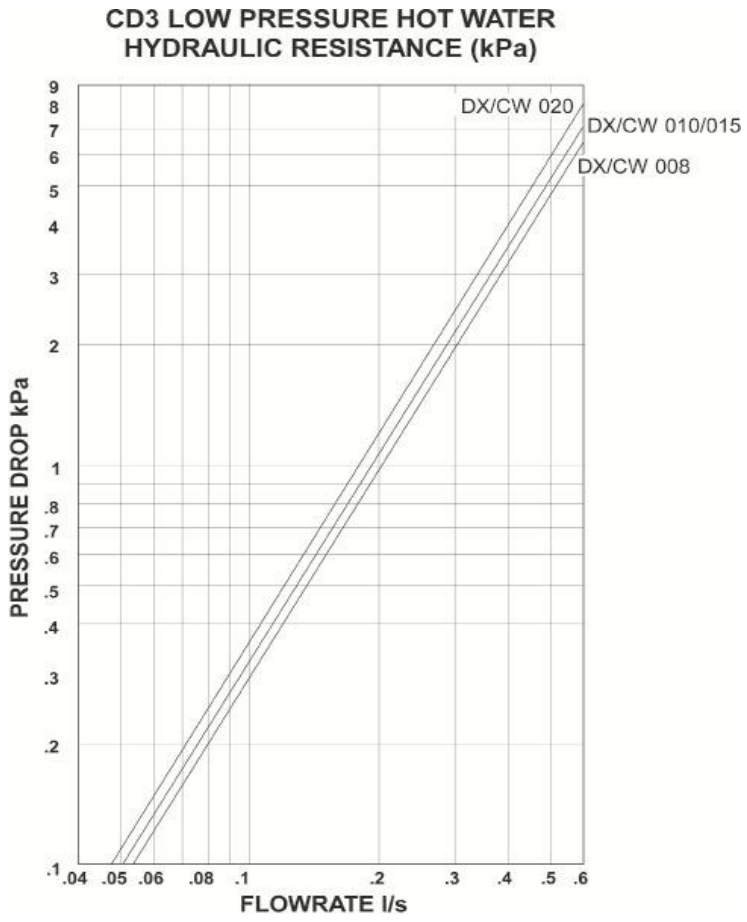
Front discharge

AIRFLOWS

AIRFLOWS		
MODEL	LOW FAN SPEED m^3/s	HIGH FAN SPEED m^3/s
008	0.42	0.78
010	0.67	1.04
015	0.72	1.23
020	0.92	1.51

CD3 HYDRAULIC RESISTANCE (KPA) CHILLED WATER & LPHW





CD3 CLOSE CONTROL

COMPATABLE CONDENSING UNITS

Matching CD3 models with Marstair CKC+) or DCU(+) condensing units allows further flexibility, standard or high sensible cooling may be satisfied with the selection of appropriate combinations.

The CKC(+) is suitable for wall mounting or free standing, these stylish and efficient outdoor units incorporate the latest technology to deliver low sound levels.

The DCU(+) are particularly suited to visually sensitive applications or where local planning regulations do not allow equipment on the outside of the buildings.



CKC(+)



DCU(+)

Specification

- Suction and liquid service valves
- Fan speed head pressure control
- Low ambient start timer
- 3-minute delay timer / random start timer
- Crankcase Heater (reciprocating only)
- Contactor
- LP switch (auto) & HP switch (auto)

Options

- CSR 1 Phase
- Overload on 1 Phase (Standard on 3ph)
- Wall mounting kit
- Volt free relay / HP switch (with alarm output)
- Isolator

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DESIGNED AND BUILT IN THE UK

bsi. ISO 9001 Quality Management ISO 14001 Environmental Management

In partnership with

UK CA CE

Part No: 06617482- 18