

BREATHING LIFE INTO YOUR BUILDING

CM10

CEILING MOUNTED ACTIVE
CHILLED BEAM

PRODUCT INFORMATION



Dadanco participates in the ECC program
for the full range of the active chilled beams.

GENERAL INFORMATION

CM10 CEILING MOUNTED ACTIVE CHILLED BEAM

Dadanco CM10 ceiling mounted induction terminal units are well suited to hidden active chilled beam applications where the ceiling void is available as a return air plenum and a conventional air grille appearance is part of the design considerations.

Dadanco CM10 induction terminal units provide efficient, effective and whisper-quiet air conditioning for almost any perimeter zone application at lower static pressures than older induction units.

CM10 induction terminal units are ideally suited for ceiling mounted (in-ceiling) installations in perimeter zones with supply air discharged away from the facade.

Secondary room air is induced from the conditioned ceiling return air plenum space to provide a compact above-ceiling terminal unit suited for conventional ceiling air grilles and appearance.

CM10 induction terminal units are not suited to installations where the ceiling plenum void is not used as a return air space at equal pressure and temperature as that of the conditioned space as the CM10 unit cannot receive secondary air induced directly from the conditioned space.

ADVANTAGES OF INDUCTION TERMINAL UNITS

- Dadanco CM10 induction terminal units supply cooling, heating and the outdoor air required for ventilation in the conditioned space.
- Compact dimensions and intrinsically smaller duct sizes offer real savings in ceiling space requirements for new construction and HVAC refurbishment projects.
- Fan power is dramatically reduced. The low primary air quantity is treated by the AHU and distributed at low pressure. The primary air is typically only 30-35% of the total air supplied by Dadanco CM10 induction terminal units due to the use of efficient induction technology.
- Secondary air is induced over the secondary heat exchanger, delivering localized cooling, for NO FAN ENERGY REQUIREMENT.
- CM10 induction terminal units are designed for in-ceiling 'Lay-In' installation in ceiling tile systems or in plasterboard ceilings with builders' continuous grilles.
- CM10 induction terminal units operate at lower primary air pressures than most conventional induction units.
- CM10 induction terminal units deliver more sensible cooling capacity using less treated air than any all-air system.
- CM10 induction terminal units offer 2-stage capacity control through control of secondary water flow separate from primary air control.
- Noise radiated from Dadanco CM10 induction terminal units is very low.
- CM10 induction terminal units require minimal maintenance (no moving parts).

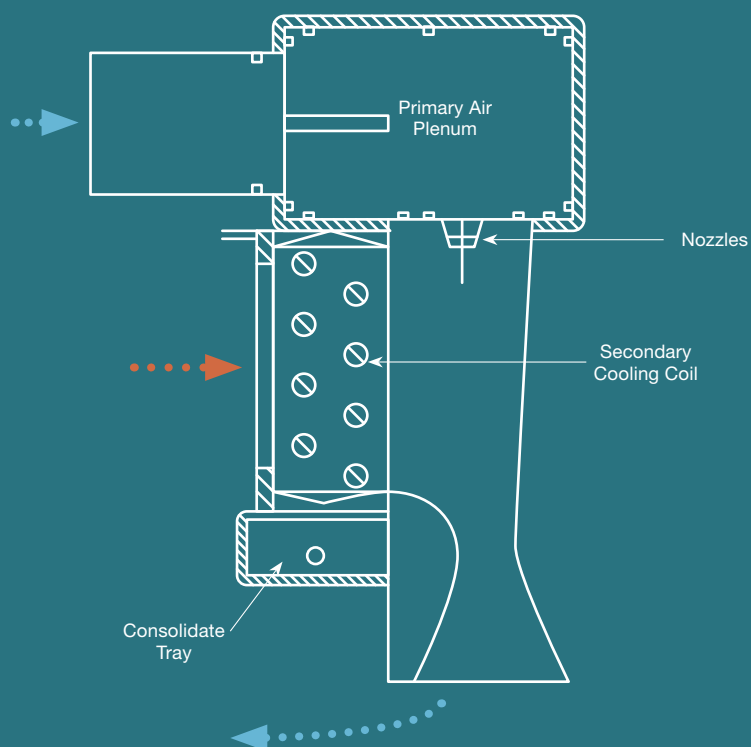
APPLICATION DATA – CM10

Cooling	40 to 250 W/m ²	Insulation	Thermal insulation for the primary air plenum is standard.
Length	Unit lengths from 700mm to 1500mm available on request for any application.	Water Connection	2 pipe or 4 pipe, 12.7mm tails or ½" BSP Taper fittings (male).
Width		Grille	Suitable for use with low resistance Individual or continuous ceiling grilles (supplied by others).
Features	Side or End entry primary air connections. Integral Condensate Drain tray. Secondary Air Lint Screen. (Optional)	Controls	CM10 units can be controlled individually or in groups of units as an optional extra.
Height	305 - 409mm 4 & 6 Tube High Unit Versions.		

APPLICATIONS

Dadanco induction terminal unit CM10 is designed specifically for in-ceiling perimeter installations in:

- High efficiency office buildings
- HVAC refurbishment projects
- Ceiling mounted induction unit replacements
- Schools and institutional buildings
- Airports



PRODUCT DETAILS

CM10

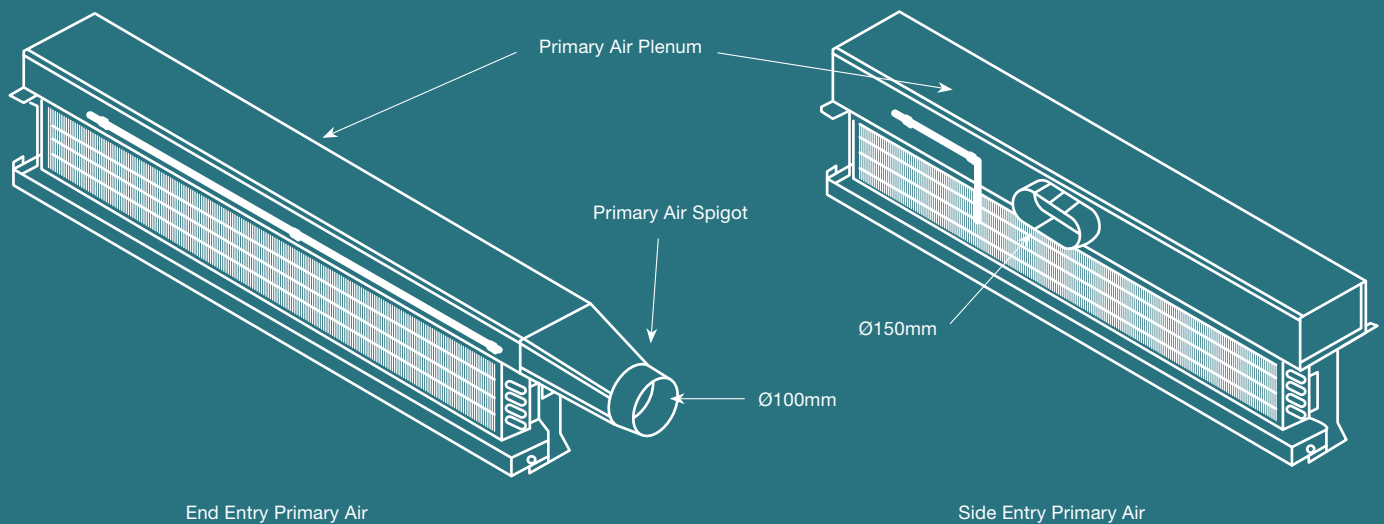
WATER HANDING OPTIONS

End Entry Primary Air

Left or right hand fittings as viewed looking into the secondary coil finned surface.

Side Entry Primary Air

Left or right hand fittings as viewed looking into the secondary coil finned surface.

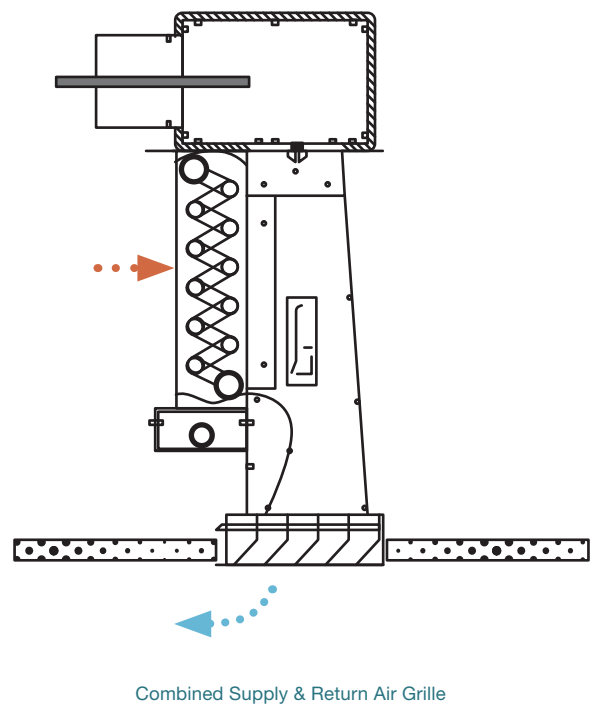
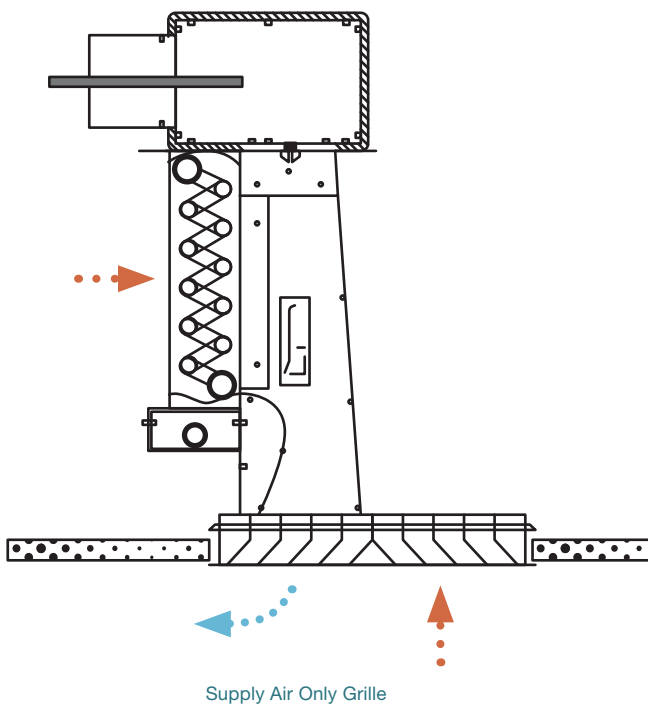


STANDARD FEATURES

- 1/2" male BSP flat face tapered thread fittings
- Insulated condensate drain tray
- Insulated primary air plenum
- Ø150mm ovalised primary air spigot (side entry)
- Ø100mm round primary air spigot transition (end entry)

OPTIONAL FEATURES

- Plain copper connections or other brass fittings
- Ø150mm 'rear' entry primary air spigot
- Un-insulated primary air plenum
- 1-way discharge supply air grille (on request)
- Combined supply/return air grille (on request)
- 4 tube high & 6 tube high versions
- Secondary air lint screen (fitted)



CEILING GRILLE VARIATIONS

Induction terminal units require the use of low resistance supply air grilles to avoid imposing resistance that may decrease the performance of the induction process and unit sensible cooling performance.

Typically, CM10 units can use single direction supply only grilles where the ceiling space is a return air plenum or combination supply & return air grilles where localised return air near the unit is preferred.

Supply Air Only Grille

Low resistance supply air grilles can be used where the ceiling plenum is a return air space through light fixtures or other return air openings.

Combined Supply & Return Air Grille

Low resistance combination supply & return air grilles can be used where the ceiling plenum is a return air space and more localised return air to the units is needed.

UNIT NOMENCLATURE

Model Number **CM10.03 – A. 2 6 2** _ _

Example: **CM10.03-1100.262SE**

- 1 – Product family and generation
2 – Unit coil face length (mm)
3 – 2 pipe coil circuit
4 – Coil height (tube rows)
5 – Coil depth (2 rows)
6 – Air entry style:
EE = end entry (either end)
SE = Side entry (front)

GENERAL PRODUCT TECHNICAL DATA

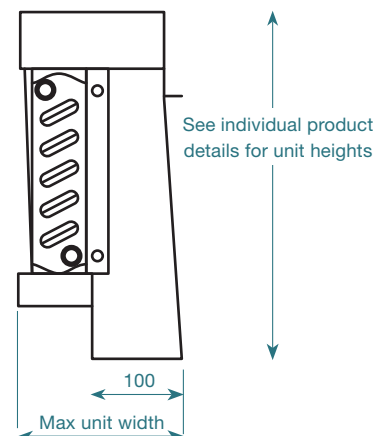
Model	Coil Finned Length	Air Plenum Length	H = Unit Height (mm) Without Air Grille		Max. Unit Width	Primary Air Flow Range (≤250Pa)	Sensible Cooling Capacity Range	Unit Weight (kg)	
	(mm)	(mm)	4 Tube	6 Tube	(mm)	(L/s) *	(W) *	4 Row	6 Row
CM10.03-0700	700	800	301 or 346	364 or 409	180	10 ~ 29	466 ~ 1071	11.2	11.6
CM10.03-0800	800	900				12 ~ 33	548 ~ 1208	12.7	13.5
CM10.03-0900	900	1000				13 ~ 36	629 ~ 1340	14.3	14.8
CM10.03-1000	1000	1100				15 ~ 41	711 ~ 1503	15.9	16.7
CM10.03-1100	1100	1200				16 ~ 46	715 ~ 1650	17.5	18.2
CM10.03-1200	1200	1300				18 ~ 50	846 ~ 1780	19.1	19.8
CM10.03-1300	1300	1400				20 ~ 53	815 ~ 1905	20.7	21.5
CM10.03-1400	1400	1500				22 ~ 58	950 ~ 2036	22.3	23.2
CM10.03-1500	1500	1600				23 ~ 62	1031 ~ 2162	23.9	24.9

NOTE: Nominal cooling capacities @ 24°C room air, 12°C primary air, 13°C Secondary Chilled Water & 0.09 L/s Water Flow

*Minimum primary air & capacity from 4TH unit ≤ 100 Pa. Maximum primary air & capacity from 6TH unit ≤ 250Pa.

Different performance results can be achieved for varying secondary water flow rates, entering water temperatures, primary air conditions and air static pressures.

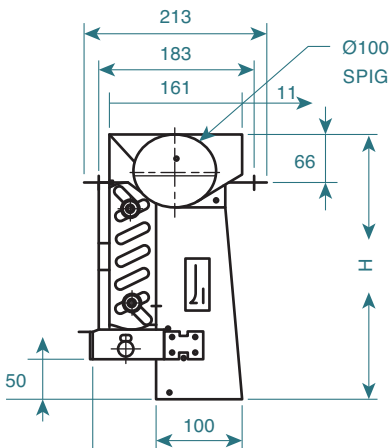
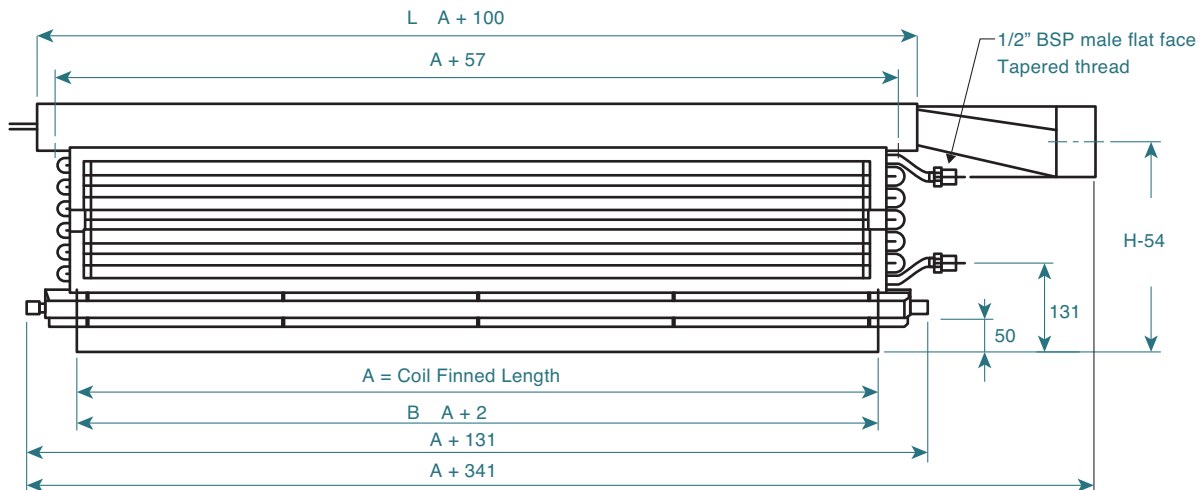
For selections at conditions other than those above please refer to selection tables or contact Reece HVAC for further assistance.



Supply air opening and unit height

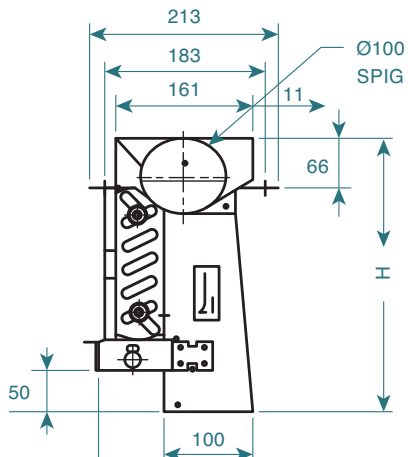
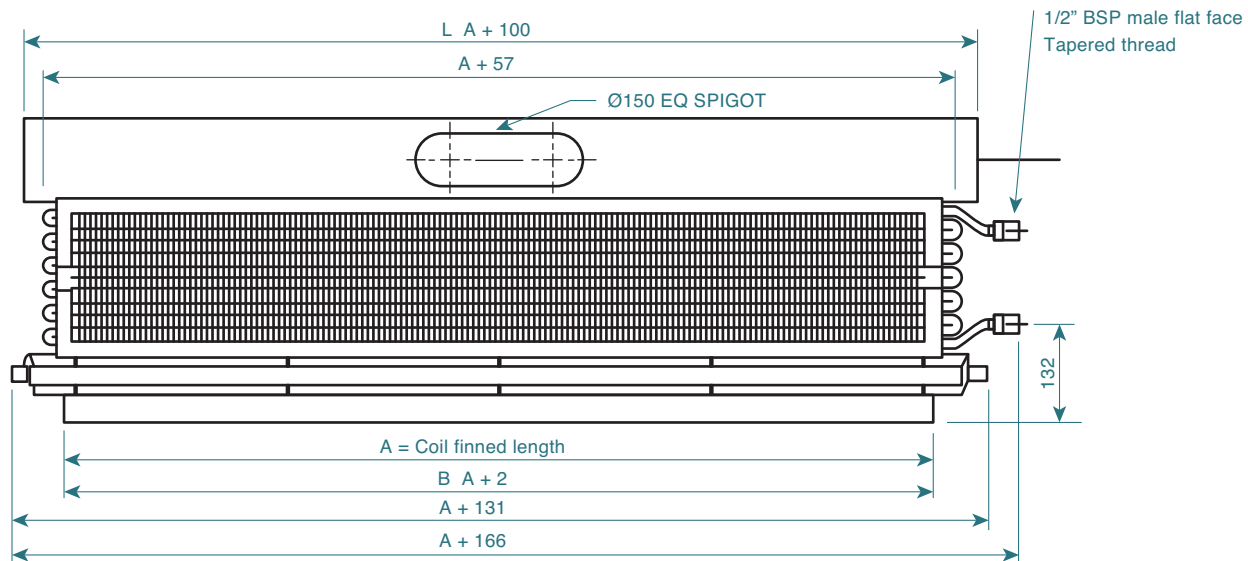
	Coil Finned Length	Air Plenum Length	Air Discharge Length	Overall Length	H = Unit Height (mm)	
Unit Model	A (mm)	L (mm)	B (mm)	(mm)	4 Row	6 Row
CM10-700	700	800	724	1028	301	364
CM10-800	800	900	824	1128		
CM10-900	900	1000	924	1228		
CM10-1000	1000	1100	1024	1328		
CM10-1100	1100	1200	1124	1428		
CM10-1200	1200	1300	1224	1528		
CM10-1300	1300	1400	1324	1628		
CM10-1400	1400	1500	1424	1728		
CM10-1500	1500	1600	1524	1828		

End Entry Primary Air Spigot Shown



	Coil Finned Length	Air Plenum Length	Air Discharge Length	Overall Length	H = Unit Height (mm)	
Unit Model	A (mm)	L (mm)	B (mm)	(mm)	4 Row	6 Row
CM10-700	700	800	724	853	346	409
CM10-800	800	900	824	953		
CM10-900	900	1000	924	1053		
CM10-1000	1000	1100	1024	1153		
CM10-1100	1100	1200	1124	1253		
CM10-1200	1200	1300	1224	1353		
CM10-1300	1300	1400	1324	1453		
CM10-1400	1400	1500	1424	1553		
CM10-1500	1500	1600	1524	1653		

Side Entry Primary Air Spigot Shown



GUIDE SPECIFICATION CM10

SCOPE

Supply Dadanco ceiling mounted induction terminal units type CM10-XXXX.XXX, or equal and approved, fitted with low-noise, high efficiency patented nozzles capable of delivering the primary air quantities as listed in the specification schedule. Connect the units to the primary air duct and secondary water circuit in the configuration shown on the drawings.

CONSTRUCTION

The Dadanco CM10 induction terminal unit shall be manufactured to provide a compact unit with a primary air plenum, mounting support points, air entrainment chamber with supply air opening, secondary heat exchanger coil with condensate drain tray and an inlet air lint screen (where specified).

Plenum; The medium pressure primary air plenum shall be manufactured of 0.8mm galvanised sheet steel designed to incorporate Dadanco's multi lobe induction nozzles of the nominated number and size to discharge the specified primary air quantity into the air entrainment chamber.

Insulation (if required): Self-adhesive, fire retardant thermal insulation to the exterior of the primary air plenum and condensate tray to prevent condensation forming on the outside of the unit.

Nozzles; Nozzles shall be Dadanco multi-lobed induction nozzles of flexible fire retardant polymer, designed for low noise generation and rapid secondary air entrainment.

Where specified, the unit shall be provided with a front facing metal fabricated ovalised primary air spigot collar of 100mm or 150mm equivalent diameter suitable for at-site connection of primary air flexible duct.

The secondary air entrainment chamber shall be constructed of galvanised sheet steel end panels and back plate sealed as an integral part to the primary air plenum and secondary heat exchanger. The entrainment chamber will facilitate mounting of the secondary heat exchanger coil

above a condensate drain tray capable of collecting and discharging secondary air condensate in humid conditions if specified.

Pressure testing; Coil shall be factory pressure tested to 25 bar (2500kPa) with an advisory operating pressure of 16 bar (1600kPa).

The unit shall incorporate a removable secondary air heat exchanger coil of the nominated tube height and number of tube rows designed to process the specified secondary air quantity into the entrainment chamber to obtain the specified secondary sensible cooling capacity. The coil construction shall be of 12.7mm seamless copper tubes mechanically expanded into 0.145mm rippled edge aluminium fins spaced at the specified fin density per meter with drawn collars and galvanised end plates with top and bottom support frames. Coils will be fitted with ½" BSP male tapered thread flat face inlet and outlet fittings at one end of the coil.

The unit shall incorporate a commissioning tube to measure the static pressure in the plenum, made from flexible clear plastic tube, sealed air tight to the plenum casing and accessible from below for commissioning purposes.

Lint Screen; If selected fitted to the frame of the secondary heat exchanger above the openable return air grille. This is to be fabricated from fine plastic fibre mesh secured onto a rectangular aluminium extrusion frame. This is secured with fixing clips to the secondary coil frame.

INSTALLATION

To ensure the performance of induction terminal unit, allow for the following:

- The unit shall be mounted by its plenum mounting points to a suitable building member or support structure in a manner to ensure unrestricted secondary air entry to the unit, secure level alignment and leak free connection to the supply air ductwork and secondary water circuits.
- Connect the main primary air duct using a short length of flexible ductwork (not included), one size larger than the 150mm diameter (100mm for end entry) or 200mm diameter ovalised duct, as straight as possible or with gentle radius bends – make all joints air tight.
- The unit shall be aligned in the ceiling to a low resistance supply air ceiling outlet capable of discharging the total supply air grille in one direction. Where specified, a combination supply and return air ceiling grille shall be used.

TECHNICAL DATA

CM10

HIGH WATER FLOW (rTw=3°K)

			Primary Air		Supply Air	Water Cooling							
						$\Delta T_{SCA} = 8K$				$\Delta T_{SCA} = 10K$			
Length	Model	Nozzle Config	Flow L/s	P Pa	Flow L/s	Flow L/s	ΔP kPa	Q_{SC} W	Q_{TOT} W	Flow L/s	ΔP kPa	Q_{SC} W	Q_{TOT} W
800mm	CM10-700.262	14SN	7	92	33	0.035	2.0	-218	-286	0.045	3.0	271	356
			10	188	57	0.045	3.0	-333	-430	0.055	4.3	-418	-539
		18SN	9	92	43	0.035	2.0	-261	-349	0.045	3.0	-329	-438
			12	163	65	0.045	3.0	-355	-471	0.055	4.3	-450	-595
		22SN	11	92	52	0.035	2.0	-282	-388	0.045	3.0	-342	-476
			15	171	83	0.045	3.0	-379	-524	0.055	4.3	-456	0.045
900mm	CM10-800.262	18SN	10	114	50	0.035	2.1	-304	-401	0.045	3.1	-381	-502
			12	163	65	0.045	3.1	-374	-491	0.055	4.4	-471	-616
		22SN	12	109	59	0.035	2.1	-329	-446	0.045	3.8	-355	-476
			15	171	83	0.045	3.1	-414	-560	0.055	4.4	-529	-711
		26SN	14	107	68	0.04	2.6	-343	-479	0.05	3.8	-441	-611
			17	157	92	0.05	4.0	-416	-581	0.06	5.1	-535	-741
1000mm	CM10-900.262	24SN	13	108	64	0.04	2.7	-365	-491	0.05	4.0	-462	-620
			16	163	87	0.05	4.0	-452	-608	0.06	5.5	-574	-768
		28SN	15	106	73	0.04	2.7	-377	-523	0.06	5.5	-493	-675
			18	152	96	0.05	4.0	-450	-625	0.07	7.1	-594	-812
		30SN	16	105	78	0.06	5.5	-401	-557	0.07	7.1	-508	-702
			19	148	100	0.07	7.1	-481	-665	0.08	8.9	-608	-838
1100mm	CM10-1000.262	26SN	14	107	68	0.06	5.8	-410	-546	0.07	7.5	-513	-683
			17	157	92	0.07	7.5	-506	-671	0.08	9.4	-635	-841
		30SN	16	105	78	0.06	5.8	-429	-585	0.07	7.5	-542	-736
			19	148	100	0.07	7.5	-514	-698	0.08	9.4	-648	-879
		36SN	18	92	85	0.065	6.6	-423	-598	0.075	8.5	-537	-756
			23	150	122	0.075	8.5	-532	-755	0.085	10.5	-676	-955
1200mm	CM10-1100.262	28SN	15	106	73	0.065	6.9	-443	-589	0.075	8.9	-553	-735
			18	152	96	0.075	8.9	-540	-715	0.085	11.0	-676	-894
		32SN	18	116	90	0.065	6.9	-490	-665	0.075	8.9	-618	-836
			21	158	113	0.075	8.9	-577	-781	0.085	11.0	-727	-982
		38SN	20	102	97	0.065	6.9	-476	-670	0.075	6.0	-530	-714
			24	147	127	0.075	8.9	-566	-799	0.085	11.0	-771	-1086
1300mm	CM10-1200.262	30SN	16	105	78	0.065	7.3	-473	-628	0.075	9.3	-591	-785
			19	148	100	0.075	9.3	-569	-754	0.085	11.6	-712	-943
		38SN	20	102	97	0.065	7.3	-509	-703	0.075	9.3	-646	-888
			24	147	127	0.075	9.3	-605	-839	0.085	11.6	-768	-1059
		40SN	21	101	102	0.065	7.3	-510	-714	0.075	9.3	-651	-905
			25	144	131	0.075	9.3	-601	-844	0.085	11.6	-765	-1068

HIGH WATER FLOW (rTw=3°K) CONTINUED

			Primary Air		Supply Air	Water Cooling							
						$\Delta T_{SCA} = 8K$				$\Delta T_{SCA} = 10K$			
Length	Model	Nozzle Config	Flow L/s	P Pa	Flow L/s	Flow L/s	ΔP kPa	Q_{SC} W	Q_{TOT} W	Flow L/s	ΔP kPa	Q_{SC} W	Q_{TOT} W
1400mm	CM10-1300.262	32SN	17	104	83	0.065	7.8	-503	-668	0.075	10.0	-629	-835
			20	144	105	0.075	10.0	-598	-793	0.085	12.4	-749	-991
		40SN	21	101	102	0.065	7.8	-542	-746	0.075	10.0	-688	-942
			25	144	131	0.075	10.0	-539	-882	0.085	12.4	-811	-1114
		42SN	22	101	106	0.065	7.8	-545	-758	0.075	10.0	-694	-961
			26	141	136	0.075	10.0	-635	-888	0.085	12.4	-810	-1125
1500mm	CM10-1400.262	36SN	19	102	92	0.07	9.2	-551	-735	0.08	11.6	-690	-920
			22	137	114	0.08	11.6	-642	-856	0.09	14.2	-805	-1071
		40SN	21	101	102	0.07	9.2	-572	-776	0.08	11.6	-722	-976
			25	144	131	0.08	11.6	-679	-921	0.09	14.2	-856	-1159
		44SN	23	101	111	0.07	9.2	-584	-807	0.08	11.6	-741	-1020
			27	139	140	0.08	11.7	-679	-940	0.09	14.2	-860	-1188
1600mm	CM10-1500.262	42SN	22	101	106	0.07	9.5	-604	-818	0.08	12.0	-762	-1028
			26	141	136	0.08	12.0	-710	-963	0.09	14.8	-896	-1212
		46SN	24	100	116	0.07	9.5	-617	-850	0.08	12.0	-783	-1074
			29	146	153	0.08	12.0	-732	-1014	0.09	14.8	-931	-1282
		52SN	27	99	130	0.07	9.5	-619	-881	0.08	12.0	-795	-1123
			32	139	167	0.08	12.0	-714	-1025	0.09	14.8	-917	-1305

Q_{SC} : Secondary Air Cooling

Q_{TOT} : Primary & Secondary Air Cooling

Q_{SH} : Secondary Air Heating

$\Delta T_{SC} \& \Delta T_{SC} = (T_{ROOM} - T_{WATER\ INLET\ TEMPERATURE})$

Room Air 24°C

Primary Air 16°C

Water Supply 16°C

Water Return 18°C

Room Air 24°C

Primary Air 14°C

Water Supply 14°C

Water Return 16°C

Data is derived using the CT Select Tool 6.2.4. This software is available on request.

TECHNICAL DATA

CM10

MEDIUM WATER FLOW ($\Delta T_w=3^{\circ}\text{K}$)

			Primary Air		Supply Air	Water Cooling							
						$\Delta T_{SCA} = 8\text{K}$				$\Delta T_{SCA} = 10\text{K}$			
Length	Model	Nozzle Config	Flow L/s	P Pa	Flow L/s	Flow L/s	ΔP kPa	Q_{SC} W	Q_{TOT} W	Flow Ls	ΔP kPa	Q_{SC} W	Q_{TOT} W
800mm	CM10-700.262	14SN	6	68	27	0.025	1.1	-181	-239	0.03	1.5	-223	-296
			8	120	40	0.03	1.5	-251	-329	0.04	2.5	-314	-411
		18SN	8	73	36	0.025	1.1	-230	-307	0.03	1.5	-288	-385
			10.5	125	53	0.03	1.5	-299	-400	0.04	2.5	-380	-507
		22SN	10	76	46	0.025	1.1	-254	-351	0.04	2.5	-329	450
			13	128	66	0.03	1.5	-315	-440	0.05	3.6	-423	-580
900mm	CM10-800.262	18SN	8	73	36	0.025	1.2	-238	-316	0.04	2.6	-299	-395
			10	114	50	0.03	1.6	-301	-398	0.05	3.8	-384	-504
		22SN	10	76	46	0.025	1.2	-276	-373	0.05	3.8	-355	-476
			13	128	66	0.03	1.6	-349	-474	0.06	5.1	-466	-623
		26SN	12	78	55	0.025	1.2	-293	-409	0.05	3.8	-388	-532
			15	122	76	0.03	1.6	-347	-492	0.06	5.1	-479	-660
1000mm	CM10-900.262	24SN	11	77	51	0.04	2.7	-313	-420	0.05	4.0	-394	-527
			14	125	71	0.05	4.0	-399	-535	0.06	5.5	-504	-673
		28SN	13	79	60	0.04	2.7	-337	-462	0.06	5.5	-434	-591
			16	120	80	0.05	4.0	-409	-563	0.07	7.1	-439	-564
		30SN	14	80	65	0.05	4.0	-350	-486	0.06	5.5	-445	-581
			17	118	85	0.06	5.5	-433	-586	0.07	7.1	-536	-700
1100mm	CM10-1000.262	26SN	12	78	55	0.04	2.9	-344	-460	0.06	5.8	-435	-551
			15	122	76	0.05	4.2	-430	-575	0.07	7.5	-550	-695
		30SN	14	80	65	0.04	2.9	-369	-504	0.06	5.8	-474	-610
			17	118	85	0.05	4.2	-442	-606	0.07	7.5	-573	-737
		36SN	16	73	73	0.05	4.2	-373	-528	0.06	5.8	-479	-633
			21	125	106	0.06	5.8	-467	-670	0.07	7.5	-601	-804
1200mm	CM10-1100.262	32SN	15	81	70	0.04	3.0	-401	-546	0.06	6.0	-514	-659
			18	116	90	0.05	4.4	-475	-649	0.07	7.9	-614	788
		38SN	17	74	78	0.04	3.0	-400	-564	0.06	6.0	-523	-687
			22	123	111	0.05	4.4	-487	-700	0.07	7.9	-648	-860
		42SN	19	75	87	0.05	4.4	-408	-593	0.06	6.0	-530	-714
			24	120	121	0.06	6.0	-488	-719	0.07	7.9	-634	-866
1300mm	CM10-1200.262	32SN	15	81	70	0.05	4.6	-425	-571	0.06	6.3	-535	-716
			19	130	97	0.06	6.3	-535	-720	0.07	8.3	-675	-906
		38SN	17	74	78	0.05	4.6	-436	-601	0.06	6.3	-555	-761
			22	123	111	0.06	6.3	-543	-756	0.07	8.3	-694	-961
		40SN	18	74	82	0.05	4.6	-442	-616	0.06	6.3	-566	-784
			23	122	116	0.06	6.3	-540	-763	0.07	8.3	-694	-973

MEDIUM WATER FLOW ($\Delta T_w=3^\circ\text{K}$) CONTINUED

			Primary Air		Supply Air	Water Cooling							
						$\Delta T_{SCA} = 8\text{K}$				$\Delta T_{SCA} = 10\text{K}$			
Length	Model	Nozzle Config	Flow L/s	P Pa	Flow L/s	Flow L/s	ΔP kPa	Q_{SC} W	Q_{TOT} W	Flow L/s	ΔP kPa	Q_{SC} W	Q_{TOT} W
1400mm	CM10-1300.262	32SN	15	81	70	0.05	4.9	-438	-584	0.06	6.8	-549	-731
			19	130	97	0.06	6.8	-557	-741	0.07	8.8	-699	-930
		40SN	18	74	82	0.05	4.9	-468	-643	0.06	6.8	-596	-814
			23	122	116	0.06	6.8	-577	-801	0.07	8.8	-738	-1016
		42SN	19	75	87	0.05	4.9	-475	-660	0.06	6.8	-608	-838
			24	120	121	0.06	6.8	-576	-809	0.07	8.8	-739	-1030
1500mm	CM10-1400.262	36SN	16	73	73	0.05	5.1	-459	-614	0.07	9.2	-579	-773
			21	125	106	0.06	7.0	-597	-800	0.08	11.6	-760	-963
		40SN	18	74	82	0.05	5.1	-490	-685	0.07	9.2	-623	797
			23	122	116	0.06	7.0	-609	-859	0.08	11.6	-784	-1006
		44SN	20	76	92	0.05	5.1	-508	725	0.07	9.2	-654	-848
			26	128	133	0.06	7.0	-629	-912	0.08	11.6	-821	-1072
1600mm	CM10-1500.262	42SN	19	75	87	0.06	7.2	-529	-732	0.07	9.5	-663	-846
			24	120	121	0.07	9.5	-652	-913	0.08	12	-824	-1056
		46SN	21	77	97	0.06	7.2	-547	-750	0.07	9.5	-696	-898
			27	127	137	0.07	9.5	-678	-939	0.08	12	-864	-1125
		52SN	24	78	111	0.06	7.2	-561	-793	0.08	12	-729	-961
			30	122	151	0.07	9.5	-665	-955	0.09	14.8	-873	-1163

Q_{SC} : Secondary Air Cooling

Q_{TOT} : Primary & Secondary Air Cooling

Q_{SH} : Secondary Air Heating

$\Delta T_{SC} \& \Delta T_{SC} = (T_{ROOM} - T_{WATER\ INLET\ TEMPERATURE})$

Room Air 24°C

Primary Air 16°C

Water Supply 16°C

Water Return 18°C

Room Air 24°C

Primary Air 14°C

Water Supply 14°C

Water Return 16°C

Data is derived using the CT Select Tool 6.2.4. This software is available on request.

SUMMARY

CM10

150MM SIDE ENTRY SPIGOT

Room Dimensions 8.72 x 3.62 22.7 H (92.3m3. Room conditions 23 OC, 42% Relative Humidity 1013hPa

Octave Band Centre Frequency (Hz)	125	250	500	1K	2K	4K	8K	NR	dB(A)
Primary Air - L/s	Lw - Sound Power level (zero weighted) dB								
25	48	45	34	28	24	25	26	29	34
30	48	44	39	33	26	25	26	29	35
35	38	42	39	38	26	25	26	32	35
40	45	42	40	37	29	26	26	33	36
45	45	41	43	40	34	28	27	34	39
50	45	44	44	43	37	31	28	37	41
55	45	45	45	45	40	35	29	39	42

100MM END ENTRY SPIGOT

Room Dimensions 8.72 x 3.62 22.7 H (92.3m3. Room conditions 23 OC, 42% Relative Humidity 1013hPa

Octave Band Centre Frequency (Hz)	125	250	500	1K	2K	4K	8K	NR	dB(A)
Primary Air - L/s	Lw - Sound Power level (zero weighted) dB								
25	50	39	35	33	24	25	26	27	34
30	40	37	35	37	26	25	26	31	34
35	40	37	37	40	26	26	26	34	35
40	47	40	42	38	30	26	26	34	38
45	47	41	43	43	34	28	27	37	40
50	47	44	46	45	37	33	29	39	42
55	47	45	47	46	40	36	32	40	43

CLIMATIC TESTING FACILITY

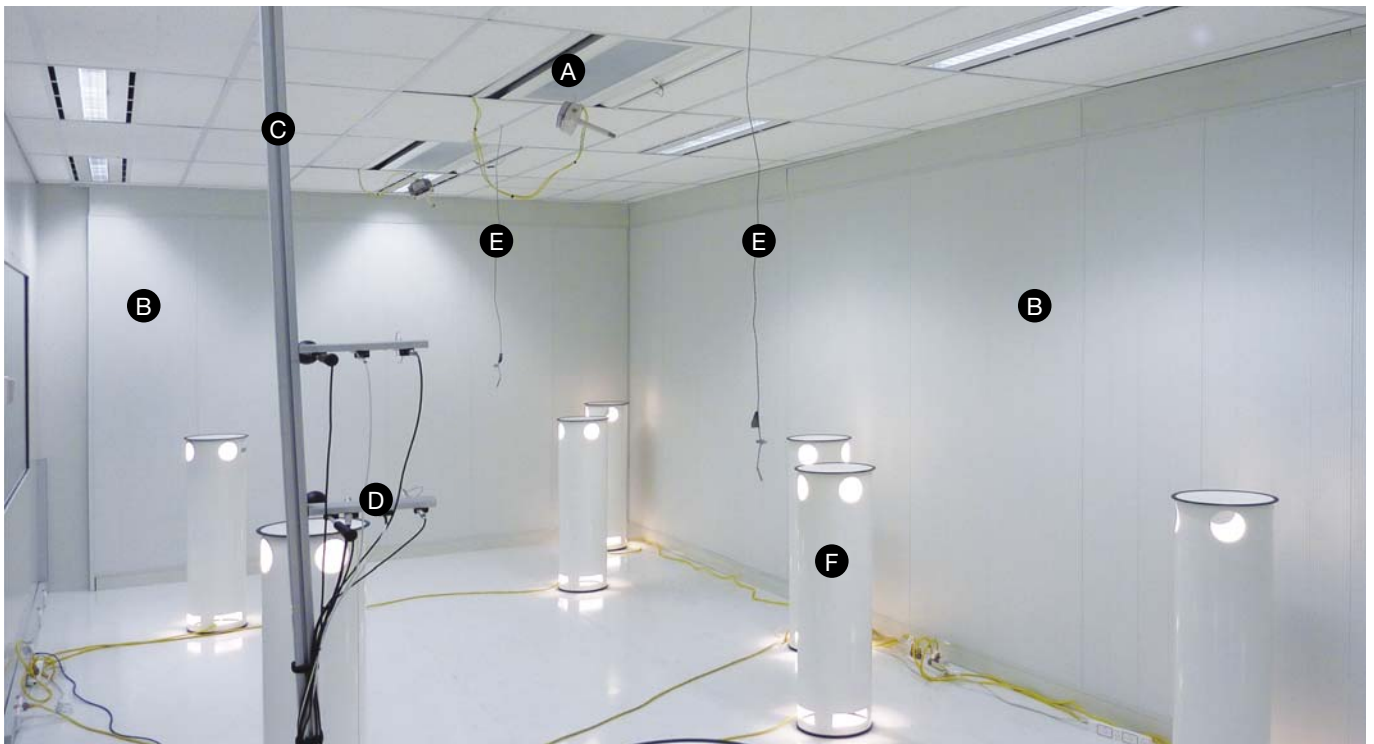
WITNESS TEST FACILITY

Australia's only "Scenario Analysis Facility", state of the art Climatic Test Laboratories are the flagship of Dadanco R&D Technical Centre based in Salisbury, SA.

Capable of Project Specific Testing including:

- Thermal capacity validation in accordance with EN15116:2008
- Project specific testing for occupied zone thermal comfort parameters according to ISO7730:2005.
- Solar heat gains including corner office simulation (having 2 radiant walls).
- Perimeter zone up to (and exceeding) 170W/m2.
- Centre zone 35-75W/m2 using Din men "thermal mannequins".
- Thermal and air velocity topographies at
 - 1.8m AFFL
 - 0.8m AFFL (working plane)
 - 0.2m AFFL
- Smoke visualisation testing.
- Acoustic data collection.

This provides a local key tool for Consultant Engineers to model space behaviour under strictly controlled conditions prior to any site installation, assisting to refine designs and avoid poor thermal comfort problems occurring at site once the building is fully occupied.



A. Active Chilled Beam

B. Radiant Wall

C. Acoustic Metre

D. Air Velocity Metre

E. Temperature Sensors

F. Din Man

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