



Breathing Life Into Your Building



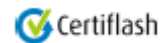
Proudly Australian
Owned, Designed, Manufactured & Supported



Eurovent Certified Product to Rating Standard EN15116



Dadanco Pty Ltd participates in the ECC programme for Active Chilled Beams. Check ongoing validity of the certificate: www.eurovent-certification.com or www.certiflash.com



Active Chilled Beam

ACB50

600mm Wide

1-way discharge perimeter Active Chilled Beam

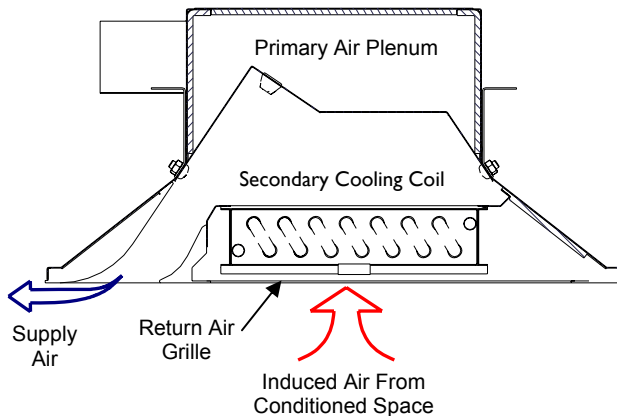
Product Information Release V.3—January 2012



General Information

ACB50

Dadanco ACB50 1-way discharge Active Chilled Beams incorporate new patented technologies to deliver a breakthrough for higher energy efficiency perimeter zone air conditioning using lower air quantities. Dadanco Active Chilled Beams provide efficient, effective and whisper-quiet air conditioning for almost any application.



ACB50 incorporates 1-way supply air discharge with one piece perforated return air grille and a single horizontal secondary cooling coil for use in typical perimeter zone applications

Secondary room air is induced directly from the conditioned space for localized secondary cooling and to eliminate cross contamination between rooms or units.

Advantages of Active Chilled Beams

Dadanco Active Chilled Beams 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.

Vertical water fittings ensure no interference with ceiling components to either side of the active chilled beam.

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% of the total air supplied by Dadanco Active Chilled Beams 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**

ACB50 Active Chilled Beams provide 1-way supply air distribution, specifically designed for perimeter zones

ACB50 Active Chilled Beams are designed for 'Lay-In' installation in ceiling tile systems or in plasterboard ceilings with builders' ceiling frames

ACB50 Active Chilled Beams deliver more cooling capacity using less treated air than any all-air system.

Active Chilled Beams offer 2-stage capacity control through control of secondary water flow separate from primary air control.

Noise radiated from Dadanco Active Chilled Beams is very low...

Active Chilled Beams require minimal maintenance (no moving parts).

Application Data – ACB50

COOLING	45 to 250 W/m ²
LENGTH	Nominal 600 x 1200mm grille to suit standard suspended ceiling tile systems or plasterboard ceilings, using builder's T-Bar frames Unit lengths from 1200mm to 1800mm available on request for any application
FEATURES	Side or end entry primary air spigot connections
HEIGHT	281mm
INSULATION	Thermal insulation for the primary air plenum is standard
GRILLE	1-way discharge supply air grille with one piece hinged centre return air grille.
CONTROLS	ACB50 perimeter Active Chilled Beams can be controlled individually or in groups of units.

APPLICATIONS:

Dadanco Active Chilled Beam ACB50 is specifically designed for perimeter zone in-ceiling installations in:

- Office Buildings
- New Construction & HVAC Refurbishment Projects
- Hospitals, Healthcare Facilities & Laboratories
- Schools and Institutional Buildings
- Airports



General Information

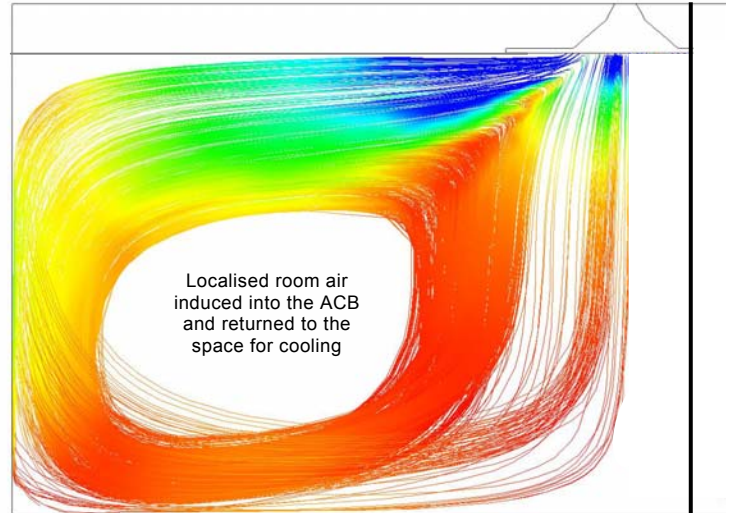
ACB50

The 1-way discharge air flow characteristics of Active Chilled Beam ACB50, created by the induction of secondary air through the centre of the unit, produces a unique air flow pattern resulting in thorough purging of air in the occupied space compared to most conventional all-air diffusion characteristics.

Entrainment of secondary air directly from within the conditioned space reduces the potential for cross-contamination between different zones within the building.

Relatively low terminal velocities can be maintained in the conditioned space.

Typical ACB50 Air Distribution



Eurovent Certified Product to Rating Standard EN15116

General Product Technical Data

ACB50 1-Way Discharge Perimeter Active Chilled Beam		
	Full Tile ACB50-1050	1-½ Tile ACB50-1650
Nominal Grille Face Size:	1200 x 600mm	1800 x 600mm
Nominal Active Coil Length	1050mm	1650mm
Primary Air Range ≤150Pa:	14 ~ 30 L/s	22 – 50 L/s
Nominal Cooling Capacity Range:	670 ~ 1210 Watts	912 – 2132 Watts
Configuration:	2-Pipe	2-Pipe

NOTE: Nominal cooling capacities based on 2-pipe cooling coil @ 24°C room air, 12°C primary air, 14°C Entering Secondary Water Temperature and Secondary Water Flow Rate to achieve average Leaving Water Temperature of 17°C ($\Delta T = 3^\circ C$) or minimum water flow of 0.03 L/s.

Primary Air Pressure ≤150Pa.

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

For selections at conditions and unit sizes other than those above please contact DADANCO for further assistance.

New Technologies

Dadanco's Starline™ multi-lobe high performance induction nozzles and superior fluid dynamics design are combined into Dadanco ACB50 Active Chilled Beams for improved performance and lower noise characteristics.

Rather than relying on natural convection as with passive chilled beams, Dadanco ACB50 Active Chilled Beams use primary air to deliver ventilation air and induce secondary room air through the secondary cooling coil within the unit, delivering enhanced performance in one simple ceiling mounted package.

All Dadanco Active Chilled Beams utilize modern Computational fluid dynamics (CFD) analysis in product design and development.

DISCLAIMER

While every effort is made to ensure the details contained herein are kept up to date, in the interests of ongoing product development, Dadanco reserves the right to alter the information without notice

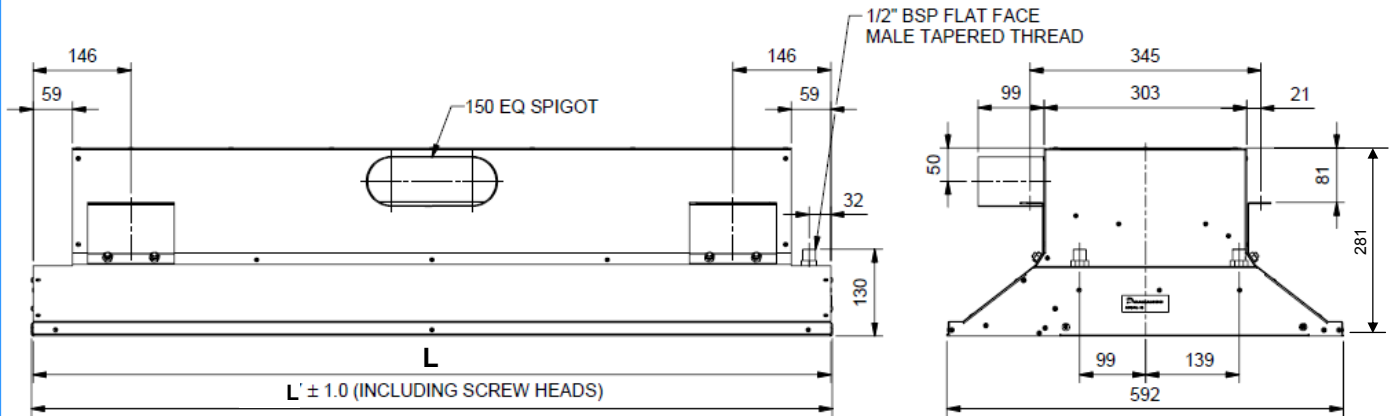


Proudly Australian
Owned, Designed, Manufactured & Supported

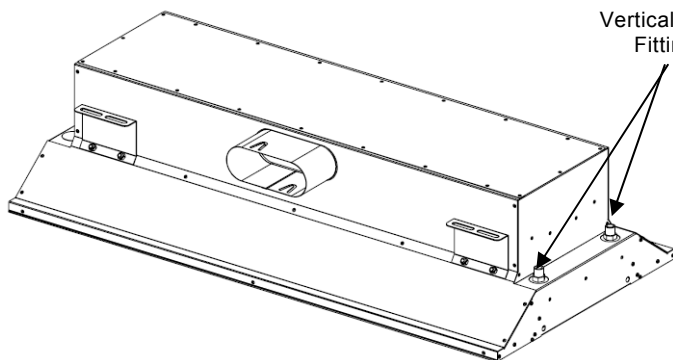
DIMENSIONS

Standard ACB50 Active Chilled Beams are dimensioned as below based on active coil length to determine overall length

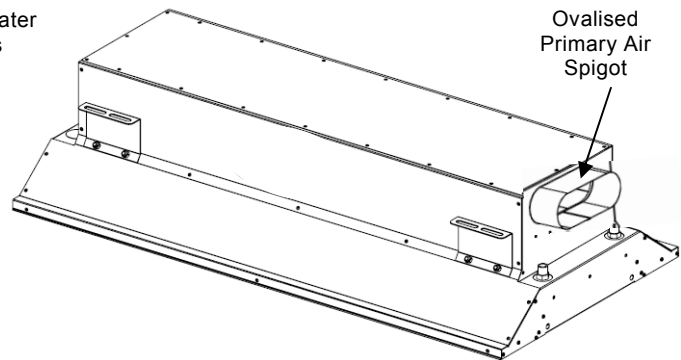
Nominal Length	Active Coil Length	Overall Case & Grille Length (L)	Unit Weight
1200mm	1050mm	1192mm	30 Kg
1800mm	1650mm	1792mm	50 Kg



PRIMARY AIR CONNECTION OPTIONS



Side Entry Primary Air with Right Hand Water Fittings



End Entry Primary Air

WATER HANDING OPTIONS

Side Entry Primary Air — Left or Right Hand water fittings as viewed from the primary air spigot side

Rear Entry Primary Air — Left or Right Hand water fittings as viewed from the opposite side from primary air spigot side

End Entry Primary Air— Opposite End water fittings as viewed from the primary side of the unit

STANDARD FEATURES

- 1/2" male BSP flat face tapered thread fittings
- 2-Pipe cooling coil configuration
- Vertical water fittings
- One-piece perforated aluminium return air grille
- Grille powdercoat finish Interpon MA/GA124A 'Satin White'
- Ø150mm ovalised primary air spigot
- Side entry primary air connection
- Insulated primary air plenum

OPTIONAL FEATURES

- Plain copper connections or other brass fittings
- 4-Pipe Cooling/Heating coil configuration
- 'Swing Down' accessible coil for healthcare installations
- Ø100mm ovalised primary air spigot
- End entry primary air spigot
- Un-Insulated primary air plenum (Special Request Only)
- Non-standard grille colors (on request)

DISCLAIMER

While every effort is made to ensure the details contained herein are kept up to date, in the interests of ongoing product development, Dadanco reserves the right to alter the information without notice

ACB50 Guide Specification

GUIDE SPECIFICATION ACB50

Scope

Provide Dadanco single-direction ACB50, in-ceiling Active Chilled Beam units; fitted with low-noise, high efficiency patented Starline™ nozzles, with capacities as listed in the equipment schedule. The configuration of the units is shown on the drawings.

Construction

Construct the active chilled beam casing(s) from 0.8mm galvanised steel panels to provide a compact unit with a primary air plenum, secondary air cooling coil, one air entrainment and discharge chamber and mounting support provisions.

Plenum: Fit one row of the specified number and size of STARLINE™ induction nozzles to the primary air plenum, to discharge primary air into the air entrainment chamber. Provide an ovalised 150mm-diameter sheetmetal spigot located centrally on the longitude of the primary air plenum, or at one end of the primary air plenum, to permit connection of primary air flexible ductwork to the unit plenum.

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

Nozzles: Fit multi-lobed patented Starline™ induction nozzles designed for low noise generation and rapid secondary air entrainment. Provide the number and size of nozzles required to provide the primary airflow capacity specified for each unit.

Secondary cooling coil: Fit a single two-row (2-Pipe or 4-Pipe) secondary air coil of the specified length as required to achieve the specified secondary cooling capacity. Coil shall be constructed of galvanised steel end plates and frame with ½" copper tubes mechanically expanded into 0.145mm thickness rippled edge aluminium fins.

Provide ½" BSP male flat face tapered thread fittings on all coil connections. Water fittings are to be in a vertical arrangement to ensure no water pipes or connections overhand the overall length or width of the unit.

Secondary coil maximum recommended site test pressure not to exceed 2500 kPa (25 Bar) with continuous maximum recommended operating pressure of 1680 kPa (16.8 Bar). Coil to be factory pressure tested to 2500 kPa and conform to a burst pressure rating of 13,000 kPa (130 Bar) at 50°C.

Grille: Provide an integral powder coat satin white finished combination supply/return air grille for each unit. The supply air grille to be 1-active slot grille along one longitudinal side and a pivot hinged one-piece perforated metal return air grille panel in the centre to provide ready access to the lint screen (if required) and secondary cooling coil. Provide for a captive return air grille panel openable by swinging the grille panel down on hinge pins secured to the unit return air opening frame.

The unit shall incorporate a commissioning tube to measure the static pressure in the plenum. The tube is to be made from flexible plastic, sealed air tight into the plenum and accessible through the return air grille opening for commissioning purposes.

Lint screen (if required): Fit a serviceable lint screen with frame to the face of the secondary heat exchanger above the openable return air grille. Fabricate the lint screen from fine plastic fabric mesh retained in a rectangular aluminium extrusion frame. Provide fixing clips to secure the lint screen frame to the secondary coil.

Installation

To ensure the performance of the Active Chilled Beam, allow for the following:

- Ensure that the unit is level and the fixing is secure. Do not support weight of unit on T-Bar ceiling members.
- Connect to the main primary air duct with straight or gently radiused flexible duct. Make all joints airtight.
- Connect the secondary chilled water flow and return piping to the secondary air coil, including the supply and installation of the isolating and control valves as shown on the piping schematic.

ACB50 Active Chilled Beam Selection Tables

The following tables provide selection data for ACB50 unit sensible cooling performance across a range of primary air pressures and air quantities, primary air ΔT and secondary air to entering water ΔT for fixed value secondary water ΔT of 2K or 3K.

Selections where primary air quantity and operating parameters are known

Step 1: Choose 2-Pipe ACB50 Active Chilled Beam and locate the correct table for the preferred unit size

Step 2: Determine the design secondary chilled water temperature differential (2K or 3K) — locate tables based on this value

Step 3: Determine the design primary air quantity and choose the value from one of the selection tables

Step 4: Determine the design primary air ΔT_{PA} (Room Air—Primary Air) from the Primary Air Cooling header row and select the value where primary air quantity from Step 3 and primary air ΔT_{PA} from Step 4 intersect.

Steps 3 & 4 will determine the primary air sensible cooling capacity (W)

Step 5: Determine the value where primary air quantity from Step 3 and primary air ΔT_{PA} from Step 4 intersect.

Step 5 will determine the primary air sensible cooling capacity (W)

Step 6: Determine the design Room Air—Entering Secondary Water ΔT_{SCA} from the correct water ΔT table header row.

Move vertically from the selected water ΔT_{SCA} value to the horizontal row corresponding to the primary air quantity and sensible cooling capacity selections in Steps 3 and 5 to determine Secondary Air Sensible Cooling (Coil Cooling) at that value.

NOTE: Secondary chilled water flow rate appears below the coil cooling capacity as the value in smaller font

Chilled Beam sensible cooling is the sum of Primary Air Cooling and Secondary Coil Cooling (300 + 806 = 1134W)

Example:

ACB50-1050.282 1200x600 1-way Active Chilled Beam 2-pipe Step 1																										
Primary Air	Supply Air	Static Pressure	Step 2												Secondary Water $\Delta T = 2K$		Secondary Water $\Delta T = 3K$									
			Primary Air Cooling (W)												Secondary Air Cooling (W)					Q_s	Secondary Air Cooling (W)					Q_s
			$\Delta T_{PA} (T_{Room} - T_{Primary Air})$												$\Delta T_{SCA} (T_{Room} - T_{Entering Secondary Water})$						$\Delta T_{SCA} (T_{Room} - T_{Entering Secondary Water})$					
L/s	L/s	Pa	8	9	10	11	12	13	14	8	9	10	11	12	(W)	8	9	10	11	12	(W)					
Configuration: 26-SN																										
15	73	97	-146	-164	-182	-200	-218	-237	-255	-400	-471	-541	-610	-679	-759	-330	-383	-456	-528	-600	-674					
										0.048	0.056	0.065	0.073	0.081		0.03*	0.031	0.036	0.042	0.048						
17.5	87	131	-170	-191	-212	-234	-255	-276	-297	-514	-599	-683	-767	-850	-938	-419	-508	-597	-684	-771	-852					
										0.062	0.072	0.082	0.092	0.102		0.033	0.041	0.048	0.055	0.062						
Configuration: 34-SN																										
20	90	119	-194	-218	-243	-267	-291	-315	-340	-525	-611	-697	-782	-867	-988	-429	-520	-610	-699	-787	-901					
										0.063	0.073	0.083	0.094	0.104		0.034	0.042	0.049	0.056	0.063						
22.5	103	149	-218	-246	-278	-300	-328	-355	-382	-611	-709	-806	-904	-1002	-1134	-514	-617	-718	-818	-917	-1046					
										0.073	0.085	0.097	0.108	0.12		0.041	0.049	0.057	0.065	0.073						
Configuration: 34-MN																										
22.5	89	84	-218	-246	-273	-300	-328	-355	-382	-486	-568	-649	-729	-808	-977	-392	-477	-562	-646	-729	-890					
										0.058	0.068	0.078	0.087	0.097		0.031	0.038	0.045	0.052	0.058						

Water flow value of 0.03* = minimum allowed water flow rate for all ACB models

Quick Select Values

Q_s value in bold font = Quick Select value based on Room Air—Primary Air ΔT of 12°C & Room Air - Entering Secondary Water ΔT of 10°C for the corresponding primary air quantity and secondary water design ΔT of 2K or 3K

NOTE: Higher or lower secondary coil capacities can be achieved for all ACB models for higher or lower secondary water flow rates and resulting changes in water ΔT . For alternative or more detailed selections at different conditions, primary air quantities or secondary water flow rates; contact Dadanco for assistance.

ACB50-1050.282 1200x600 1-way Active Chilled Beam 2-pipe

Primary Air	Supply Air	Static Pressure	Primary Air Cooling (W)							Secondary Water $\Delta T = 2K$					Secondary Water $\Delta T = 3K$						
										Secondary Air Cooling (W)					Qs (W)	Secondary Air Cooling (W)					Qs (W)
			$\Delta T_{PA} (T_{Room} - T_{Primary Air})$							$\Delta T_{SCA} (T_{Room} - T_{Entering Secondary Water})$						$\Delta T_{SCA} (T_{Room} - T_{Entering Secondary Water})$					
			L/s	L/s	Pa	8	9	10	11	12	13	14	8	9	10	11	12	8	9	10	11
Configuration: 30-SN																					
15	73	97	-146	-164	-182	-200	-218	-237	-255	-400 0.048	-471 0.056	-541 0.065	-610 0.073	-679 0.081	-759	-330 0.03*	-383 0.031	-456 0.036	-528 0.042	-600 0.048	-674
17.5	87	131	-170	-191	-212	-234	-255	-276	-297	-514 0.062	-599 0.072	-683 0.082	-767 0.092	-850 0.102	-938	-419 0.033	-508 0.041	-597 0.048	-684 0.055	-771 0.062	-852
Configuration: 36-SN																					
15	66	68	-146	-164	-182	-200	-218	-237	-255	-314 0.038	-374 0.045	-433 0.052	-492 0.059	-550 0.066	-651	-274 0.03*	-316 0.03*	-358 0.03*	-411 0.033	-471 0.038	-576
17.5	78	92	-170	-191	-212	-234	-255	-276	-297	-427 0.051	-501 0.06	-574 0.069	-647 0.077	-718 0.086	-829	-348 0.03*	-412 0.033	-488 0.039	-565 0.045	-640 0.051	-743
20	90	119	-194	-218	-243	-267	-291	-315	-340	-525 0.063	-611 0.073	-697 0.083	-782 0.094	-867 0.104	-988	-429 0.034	-520 0.042	-610 0.049	-699 0.056	-787 0.063	-901
22.5	103	149	-218	-246	-273	-300	-328	-355	-382	-611 0.073	-709 0.085	-806 0.097	-904 0.108	-1002 0.12	-1134	-514 0.041	-617 0.049	-718 0.057	-818 0.065	-917 0.073	-1046
Configuration: 28-MN																					
20	89	102	-194	-218	-243	-267	-291	-315	-340	-517 0.062	-602 0.072	-687 0.082	-771 0.092	-855 0.102	-978	-422 0.034	-511 0.041	-600 0.048	-688 0.055	-775 0.062	-891
22.5	102	128	-218	-246	-273	-300	-328	-355	-382	-604 0.072	-701 0.084	-797 0.095	-893 0.107	-990 0.119	-1125	-506 0.04	-608 0.049	-709 0.057	-808 0.065	-906 0.072	-1037
25	114	157	-243	-273	-303	-334	-364	-394	-425	-677 0.081	-784 0.094	-890 0.107	-998 0.119	-1107 0.133	-1254	-578 0.046	-690 0.055	-800 0.064	-908 0.073	-1016 0.081	-1164
Configuration: 32-MN																					
20	82	79	-194	-218	-243	-267	-291	-315	-340	-444 0.053	-520 0.062	-595 0.071	-670 0.08	-744 0.089	-886	-359 0.03*	-431 0.034	-510 0.041	-588 0.047	-665 0.053	-801
22.5	93	99	-218	-246	-273	-300	-328	-355	-382	-531 0.064	-618 0.074	-704 0.084	-790 0.095	-876 0.105	-1032	-435 0.035	-527 0.042	-618 0.049	-707 0.057	-796 0.064	-946
25	105	122	-243	-273	-303	-334	-364	-394	-425	-605 0.073	-702 0.084	-799 0.096	-895 0.107	-992 0.119	-1163	-508 0.041	-610 0.049	-710 0.057	-810 0.065	-908 0.073	-1074
27.5	116	146	-267	-300	-334	-367	-400	-434	-467	-672 0.081	-778 0.093	-884 0.106	-990 0.119	-1098 0.132	-1284	-573 0.046	-684 0.055	-793 0.063	-901 0.072	-1008 0.081	-1193
Configuration: 35-MN																					
22.5	89	84	-218	-246	-273	-300	-328	-355	-382	-486 0.058	-568 0.068	-649 0.078	-729 0.087	-808 0.097	-977	-392 0.031	-477 0.038	-562 0.045	-646 0.052	-729 0.058	-890
25	100	102	-243	-273	-303	-334	-364	-394	-425	-565 0.068	-657 0.079	-748 0.09	-838 0.1	-929 0.111	-1112	-468 0.037	-565 0.045	-660 0.053	-754 0.06	-847 0.068	-1024
27.5	110	123	-267	-300	-334	-367	-400	-434	-467	-630 0.076	-731 0.088	-831 0.099	-931 0.111	-1032 0.124	-1231	-532 0.043	-638 0.051	-742 0.059	-844 0.067	-946 0.076	-1142
30	121	145	-291	-328	-364	-400	-437	-473	-509	-690 0.083	-798 0.096	-907 0.109	-1016 0.122	-1127 0.135	-1344	-591 0.047	-704 0.056	-816 0.065	-926 0.074	-1035 0.083	-1253
32.5	131	169	-315	-355	-394	-434	-473	-512	-552	-745 0.089	-861 0.103	-978 0.117	-1096 0.131	-1216 0.146	-1451	-644 0.051	-764 0.061	-883 0.071	-1001 0.08	-1117 0.089	-1356
Configuration: 38-MN																					
27.5	106	105	-267	-300	-334	-367	-400	-434	-467	-596 0.071	-692 0.083	-788 0.094	-883 0.106	-978 0.117	-1188	-499 0.04	-600 0.048	-700 0.056	-798 0.064	-895 0.071	-1100
30	116	124	-291	-328	-364	-400	-437	-473	-509	-656 0.079	-759 0.091	-863 0.103	-967 0.116	-1072 0.128	-1300	-557 0.045	-666 0.053	-773 0.062	-879 0.07	-984 0.079	-1210
32.5	126	145	-315	-355	-394	-434	-473	-512	-552	-710 0.085	-821 0.098	-932 0.112	-1045 0.125	-1159 0.139	-1405	-610 0.049	-726 0.058	-840 0.067	-953 0.076	-1064 0.085	-1313
Configuration: 39-MN																					
25	94	83	-243	-273	-303	-334	-364	-394	-425	-513 0.061	-598 0.072	-682 0.082	-765 0.092	-849 0.102	-1046	-418 0.033	-507 0.041	-595 0.048	-683 0.055	-769 0.061	-959
27.5	104	100	-267	-300	-334	-367	-400	-434	-467	-583 0.07	-677 0.081	-770 0.092	-863 0.103	-957 0.115	-1170	-486 0.039	-585 0.047	-683 0.055	-779 0.062	-874 0.07	-1083
30	114	118	-291	-328	-364	-400	-437	-473	-509	-642 0.077	-744 0.089	-845 0.101	-947 0.113	-1050 0.126	-1282	-544 0.043	-651 0.052	-756 0.06	-860 0.069	-963 0.077	-1193
32.5	124	138	-315	-355	-394	-434	-473	-512	-552	-696 0.083	-805 0.096	-915 0.11	-1025 0.123	-1137 0.136	-1388	-597 0.048	-711 0.057	-823 0.066	-934 0.075	-1044 0.083	-1296

Q_s value in bold font = Quick Select value based on Room Air—Primary Air ΔT of 12°C & Room Air - Entering Secondary Water ΔT of 10°C for the corresponding primary air quantity and secondary water design ΔT of 2K or 3K

DISCLAIMER

While every effort is made to ensure the details contained herein are kept up to date, in the interests of ongoing product development, Dadanco reserves the right to alter the information without notice

ACB50-1650.282 1800x600 1-way Active Chilled Beam 2-pipe

Primary Air	Supply Air	Static Pressure	Primary Air Cooling (W)												Secondary Water $\Delta T = 2K$					Secondary Water $\Delta T = 3K$											
			$\Delta T_{PA} (T_{Room} - T_{Primary Air})$												Secondary Air Cooling (W)					Qs (W)	Secondary Air Cooling (W)					Qs (W)					
			$\Delta T_{SCA} (T_{Room} - T_{Entering Secondary Water})$												Secondary Water Flow (L/s)						Secondary Water Flow (L/s)										
			L/s	L/s	Pa	8	9	10	11	12	13	14	8	9	10	11	12	8	9	10	11	12	8	9	10	11	12				
Configuration: 39-SN																															
22.5	119	128	-218	-246	-273	-300	-328	-355	-382	-737	-852	-967	-1085	-1203	-1295	-636	-756	-874	-990	-1105	-1202	0.088	0.102	0.116	0.13	0.144	0.051	0.06	0.07	0.079	0.088
25	134	157	-243	-273	-303	-334	-364	-394	-425	-856	-989	-1124	-1259	-1385	-1488	-751	-886	-1020	-1152	-1284	-1384	0.103	0.118	0.135	0.15	0.15	0.06	0.071	0.081	0.092	0.103
Configuration: 48-SN																															
22.5	108	86	-218	-246	-273	-300	-328	-355	-382	-608	-705	-802	-899	-996	-1130	-510	-613	-714	-813	-912	-1042	0.073	0.084	0.096	0.108	0.119	0.041	0.049	0.057	0.065	0.073
25	121	105	-243	-273	-303	-334	-364	-394	-425	-725	-839	-953	-1068	-1185	-1317	-625	-743	-859	-974	-1088	-1223	0.087	0.1	0.114	0.128	0.142	0.05	0.059	0.069	0.078	0.087
27.5	134	126	-267	-300	-334	-367	-400	-434	-467	-832	-961	-1092	-1224	-1349	-1492	-728	-860	-990	-1119	-1248	-1390	0.1	0.115	0.131	0.147	0.15	0.058	0.069	0.079	0.089	0.1
30	148	149	-291	-328	-364	-400	-437	-473	-509	-932	-1077	-1224	-1362	-1498	-1661	-823	-968	-1111	-1254	-1397	-1548	0.112	0.129	0.147	0.15	0.15	0.066	0.077	0.089	0.1	0.112
Configuration: 53-SN																															
22.5	102	71	-218	-246	-273	-300	-328	-355	-382	-531	-619	-705	-791	-877	-1033	-436	-527	-618	-708	-797	-946	0.064	0.074	0.084	0.095	0.105	0.035	0.042	0.049	0.057	0.064
25	114	87	-243	-273	-303	-334	-364	-394	-425	-649	-752	-854	-957	-1061	-1218	-551	-659	-765	-870	-973	-1129	0.078	0.09	0.102	0.115	0.127	0.044	0.053	0.061	0.069	0.078
27.5	126	104	-267	-300	-334	-367	-400	-434	-467	-756	-874	-992	-1113	-1234	-1392	-655	-777	-897	-1016	-1134	-1297	0.091	0.105	0.119	0.133	0.148	0.052	0.062	0.072	0.081	0.091
30	139	123	-291	-328	-364	-400	-437	-473	-509	-854	-986	-1121	-1256	-1382	-1558	-749	-884	-1017	-1149	-1281	-1454	0.102	0.118	0.134	0.15	0.15	0.06	0.071	0.081	0.092	0.102
32.5	152	144	-315	-355	-394	-434	-473	-512	-552	-944	-1092	-1240	-1379	-1517	-1713	-835	-982	-1127	-1271	-1417	-1600	0.113	0.131	0.149	0.15	0.15	0.067	0.078	0.09	0.102	0.113
35	164	166	-340	-382	-425	-467	-509	-552	-594	-1026	-1186	-1339	-1488	-1637	-1848	-911	-1068	-1224	-1380	-1538	-1733	0.123	0.142	0.15	0.15	0.15	0.073	0.085	0.098	0.11	0.123
Configuration: 57-SN																															
25	110	76	-243	-273	-303	-334	-364	-394	-425	-608	-706	-803	-899	-997	-1167	-511	-613	-714	-814	-912	-1078	0.073	0.085	0.096	0.108	0.119	0.041	0.049	0.057	0.065	0.073
27.5	122	91	-267	-300	-334	-367	-400	-434	-467	-713	-825	-937	-1050	-1165	-1337	-613	-729	-844	-957	-1069	-1244	0.085	0.099	0.112	0.126	0.139	0.049	0.058	0.067	0.076	0.085
30	134	107	-291	-328	-364	-400	-437	-473	-509	-809	-935	-1062	-1191	-1315	-1499	-706	-835	-962	-1088	-1214	-1399	0.097	0.112	0.127	0.143	0.15	0.056	0.067	0.077	0.087	0.097
32.5	147	125	-315	-355	-394	-434	-473	-512	-552	-899	-1039	-1181	-1318	-1449	-1654	-792	-933	-1072	-1210	-1348	-1545	0.108	0.124	0.141	0.15	0.15	0.063	0.075	0.086	0.097	0.108
35	159	144	-340	-382	-425	-467	-509	-552	-594	-984	-1137	-1289	-1432	-1575	-1798	-872	-1024	-1174	-1324	-1476	-1683	0.118	0.136	0.15	0.15	0.15	0.07	0.082	0.094	0.106	0.118
37.5	171	165	-364	-409	-455	-500	-546	-591	-637	-1058	-1224	-1379	-1532	-1685	-1925	-941	-1102	-1263	-1424	-1587	-1809	0.127	0.147	0.15	0.15	0.15	0.075	0.088	0.101	0.114	0.127
Configuration: 61-SN																															
27.5	120	80	-267	-300	-334	-367	-400	-434	-467	-688	-796	-904	-1013	-1124	-1304	-589	-702	-813	-923	-1032	-1213	0.082	0.095	0.108	0.121	0.135	0.047	0.056	0.065	0.074	0.082
30	131	94	-291	-328	-364	-400	-437	-473	-509	-782	-903	-1026	-1151	-1274	-1463	-680	-805	-929	-1051	-1172	-1366	0.094	0.108	0.123	0.138	0.15	0.054	0.064	0.074	0.084	0.094
32.5	143	110	-315	-355	-394	-434	-473	-512	-552	-869	-1004	-1141	-1276	-1404	-1614	-764	-900	-1035	-1169	-1303	-1508	0.104	0.12	0.137	0.15	0.15	0.061	0.072	0.083	0.093	0.104
35	155	127	-340	-382	-425	-467	-509	-552	-594	-951	-1099	-1249	-1388	-1526	-1758	-841	-989	-1134	-1280	-1426	-1643	0.114	0.132	0.149	0.15	0.15	0.067	0.079	0.091	0.102	0.114
37.5	167	145	-364	-409	-455	-500	-546	-591	-637	-1029	-1190	-1344	-1493	-1642	-1890	-914	-1072	-1228	-1385	-1544	-1774	0.123	0.143	0.15	0.15	0.15	0.073	0.086	0.098	0.111	0.123
40	179	164	-388	-437	-485	-534	-582	-631	-679	-1100	-1269	-1428	-1587	-1745	-2010	-979	-1145	-1312	-1479	-1649	-1894	0.132	0.15	0.15	0.15	0.15	0.078	0.091	0.105	0.118	0.132

DISCLAIMER

While every effort is made to ensure the details contained herein are kept up to date, in the interests of ongoing product development, Dadanco reserves the right to alter the information without notice

ACB50-1650.282 1800x600 1-way Active Chilled Beam 2-pipe

Primary Air	Supply Air	Static Pressure	Primary Air Cooling (W)								Secondary Water $\Delta T = 2K$					Secondary Water $\Delta T = 3K$					
											Secondary Air Cooling (W)					Qs	Secondary Air Cooling (W)				
			$\Delta T_{PA} (T_{Room} - T_{Primary Air})$					$\Delta T_{SCA} (T_{Room} - T_{Entering Secondary Water})$					$\Delta T_{SCA} (T_{Room} - T_{Entering Secondary Water})$								
L/s	L/s	Pa	8	9	10	11	12	13	14	8	9	10	11	12	(W)	8	9	10	11	12	(W)
Configuration: 47-MN																					
27.5	116	70	-267	-300	-334	-367	-400	-434	-467	-646	-748	-850	-953	-1057	-1250	-547	-655	-761	-865	-969	-1161
										0.077	0.09	0.102	0.114	0.127		0.044	0.052	0.061	0.069	0.077	
30	128	83	-291	-328	-364	-400	-437	-473	-509	-744	-859	-976	-1094	-1214	-1413	-643	-763	-882	-999	-1115	-1319
										0.089	0.103	0.117	0.131	0.145		0.051	0.061	0.07	0.08	0.089	
32.5	139	96	-315	-355	-394	-434	-473	-512	-552	-834	-963	-1094	-1227	-1351	-1567	-730	-862	-992	-1121	-1250	-1465
										0.1	0.115	0.131	0.147	0.15		0.058	0.069	0.079	0.09	0.1	
35	151	111	-340	-382	-425	-467	-509	-552	-594	-916	-1059	-1204	-1341	-1475	-1713	-809	-952	-1093	-1234	-1375	-1602
										0.11	0.127	0.144	0.15	0.15		0.065	0.076	0.087	0.099	0.11	
37.5	163	127	-364	-409	-455	-500	-546	-591	-637	-994	-1150	-1302	-1446	-1591	-1848	-882	-1035	-1187	-1339	-1492	-1733
										0.119	0.138	0.15	0.15	0.15		0.07	0.083	0.095	0.107	0.119	
40	175	143	-388	-437	-485	-534	-582	-631	-679	-1066	-1233	-1388	-1543	-1697	-1970	-948	-1111	-1273	-1435	-1599	-1855
										0.128	0.148	0.15	0.15	0.15		0.076	0.089	0.102	0.115	0.128	
Configuration: 50-MN																					
32.5	134	86	-315	-355	-394	-434	-473	-512	-552	-782	-904	-1026	-1151	-1274	-1499	-680	-805	-929	-1051	-1173	-1402
										0.094	0.108	0.123	0.138	0.15		0.054	0.064	0.074	0.084	0.094	
35	145	99	-340	-382	-425	-467	-509	-552	-594	-865	-1000	-1136	-1272	-1399	-1645	-760	-897	-1031	-1165	-1298	-1540
										0.104	0.12	0.136	0.15	0.15		0.061	0.072	0.082	0.093	0.104	
37.5	156	113	-364	-409	-455	-500	-546	-591	-637	-941	-1088	-1236	-1375	-1512	-1782	-832	-978	-1123	-1267	-1412	-1669
										0.113	0.13	0.148	0.15	0.15		0.066	0.078	0.09	0.101	0.113	
40	168	127	-388	-437	-485	-534	-582	-631	-679	-1013	-1171	-1324	-1471	-1618	-1906	-899	-1054	-1209	-1363	-1519	-1791
										0.121	0.14	0.15	0.15	0.15		0.072	0.084	0.097	0.109	0.121	
42.5	179	143	-412	-464	-516	-567	-619	-670	-722	-1080	-1248	-1405	-1561	-1717	-2024	-961	-1125	-1289	-1453	-1620	-1908
										0.129	0.149	0.15	0.15	0.15		0.077	0.09	0.103	0.116	0.129	
Configuration: 54-MN																					
37.5	150	97	-364	-409	-455	-500	-546	-591	-637	-886	-1024	-1164	-1301	-1431	-1710	-780	-919	-1057	-1193	-1330	-1603
										0.106	0.123	0.139	0.15	0.15		0.062	0.073	0.084	0.095	0.106	
40	161	110	-388	-437	-485	-534	-582	-631	-679	-957	-1106	-1256	-1396	-1536	-1838	-847	-995	-1142	-1288	-1435	-1724
										0.115	0.132	0.15	0.15	0.15		0.068	0.079	0.091	0.103	0.115	
42.5	171	123	-412	-464	-516	-567	-619	-670	-722	-1023	-1183	-1336	-1484	-1633	-1955	-908	-1065	-1221	-1377	-1534	-1840
										0.122	0.142	0.15	0.15	0.15		0.073	0.085	0.097	0.11	0.122	
45	182	138	-437	-491	-546	-600	-655	-710	-764	-1085	-1254	-1411	-1568	-1725	-2066	-966	-1131	-1295	-1460	-1628	-1950
										0.13	0.15	0.15	0.15	0.15		0.077	0.09	0.103	0.117	0.13	
47.5	193	153	-461	-519	-576	-634	-691	-749	-807	-1145	-1318	-1482	-1647	-1812	-2173	-1020	-1193	-1366	-1540	-1718	-2057
										0.137	0.15	0.15	0.15	0.15		0.081	0.095	0.109	0.123	0.137	
50	203	168	-485	-546	-606	-667	-728	-788	-849	-1202	-1378	-1550	-1722	-1894	-2278	-1071	-1252	-1433	-1617	-1803	-2161
										0.144	0.15	0.15	0.15	0.15		0.086	0.1	0.114	0.129	0.144	
Configuration: 56-MN																					
40	158	102	-388	-437	-485	-534	-582	-631	-679	-935	-1081	-1228	-1366	-1503	-1810	-827	-972	-1116	-1259	-1403	-1698
										0.112	0.129	0.147	0.15	0.15		0.066	0.078	0.089	0.101	0.112	
42.5	169	115	-412	-464	-516	-567	-619	-670	-722	-1000	-1156	-1309	-1454	-1599	-1928	-887	-1041	-1194	-1346	-1500	-1813
										0.12	0.138	0.15	0.15	0.15		0.071	0.083	0.095	0.107	0.12	
45	179	128	-437	-491	-546	-600	-655	-710	-764	-1062	-1228	-1383	-1537	-1690	-2038	-944	-1106	-1267	-1429	-1593	-1922
										0.127	0.147	0.15	0.15	0.15		0.075	0.088	0.101	0.114	0.127	
47.5	189	142	-461	-519	-576	-634	-691	-749	-807	-1121	-1292	-1454	-1615	-1777	-2145	-998	-1168	-1337	-1508	-1682	-2028
										0.134	0.15	0.15	0.15	0.15		0.08	0.093	0.107	0.12	0.134	
50	200	157	-485	-546	-606	-667	-728	-788	-849	-1177	-1352	-1520	-1689	-1858	-2248	-1049	-1226	-1404	-1584	-1766	-2132
										0.141	0.15	0.15	0.15	0.15		0.084	0.098	0.112	0.126	0.141	

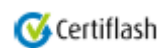
Q_s value in bold font = Quick Select value based on Room Air—Primary Air ΔT of 12°C & Room Air - Entering Secondary Water ΔT of 10°C for the corresponding primary air quantity and secondary water design ΔT of 2K or 3K

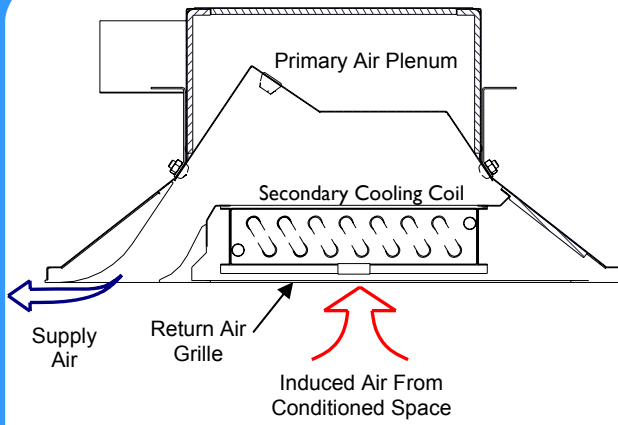
NOTE: Higher or lower secondary coil capacities can be achieved for all ACB models for higher or lower secondary water flow rates and resulting changes in water ΔT . For alternative or more detailed selections at different conditions, primary air quantities or secondary water flow rates; contact Dadanco for assistance.

This page deliberately left blank



Dadanco Pty Ltd participates in the ECC programme for Active Chilled Beams. Check ongoing validity of the certificate: www.eurovent-certification.com or www.certiflash.com





Product Information ACB50

1-Way Discharge Active Chilled Beam

ACB50 Secondary Coil water pressure drop, kPa

Unit	Water Flow in L/s												
	0.03	0.04	0.05	0.06	0.07	0.08	0.09	0.1	0.11	0.12	0.13	0.14	0.15
ACB50-1050.282 (1200x600mm)	2.2	3.6	5.3	7.3	9.6	12.1	14.8	17.9	21.1	24.6	28.3	32.3	36.4
ACB50-1650.282 (1800x600mm)	3.0	4.9	7.3	10.1	13.3	16.8	20.7	25.0	29.6	34.6	39.8	45.4	51.4

Acoustic Data

ACB50 Summary - June 2008											
	63	125	250	500	1K	2K	4K	8K	Guidance Lp		
									NR	dB(A)	
1050mm coil length - 150mm spigot	Lw - Sound Power level (zero weighted) dB										
Primary Air - Ls											
15		24	18	20	22	24	21	18	14	24	
20		23	20	22	24	24	21	18	13	25	
25		24	26	31	31	29	27	19	25	30	
30		26	26	30	24	25	22	18	28	31	
1650mm coil length - 150mm spigot	Lw - Sound Power level (zero weighted) dB										
Primary Air - L/s											
25		25	21	23	21	18	18	18	15	24	
30		26	26	30	34	25	22	18	28	31	
35		24	29	34	34	30	18	19	28	33	
40		27	32	38	38	34	31	21	17	36	
45		26	33	39	40	36	33	24	33	38	
50		27	35	41	42	39	36	28	36	41	
Measured Reverberation Time (Sec)		6.0	6.0	5.7	4.9	3.7	2.5	1.1			

Date: 11 June 2008

Room Dimensions: 4.72 x 6.84 x 25.65 (179.7m³)

Octave band sound pressure levels measured in University of Adelaide reverberation chamber

A-weighted values in Sound Power Level dB(A)

DISCLAIMER

While every effort is made to ensure the details contained herein are kept up to date, in the interests of ongoing product development, Dadanco reserves the right to alter the information without notice



Breathing Life Into Your Building



Proudly Australian

Owned, Designed, Manufactured & Supported



For more information on
Active Chilled Beams, or other
Dadanco solutions delivery,
products, contact:



Head Office

Dadanco Pty Ltd
89 South Road
Hindmarsh SA 5007
Australia
P. +61 8 8346 3588
F. +61 8 8346 7822
e. info@dadanco.com.au

New South Wales

e. nsw@dadanco.com.au

Brisbane Sales

e. qld@dadanco.com.au

Perth Sales

e. wa@dadanco.com.au

UK Sales Office

e. uksales@dadanco.com.au



Dadanco Pty Ltd participates in the ECC programme for Active Chilled Beams. Check ongoing validity of the certificate: www.eurovent-certification.com or www.certiflash.com

