

AIR HANDLING UNITS

Customisable modular air handling unit, designed
and built to suit your project requirements

PACAIR

PACIFIC HVAC ENGINEERING



PacAir Modular Air Handling Units by Pacific HVAC Engineering are customisable, designed and built for Australian, New Zealand and Asia Pacific conditions. From tropical climates to below freezing temperatures, PacAir modular units can be used in both indoor and outdoor installations. PacAir Air Handling Units have non-cold tracking options available to suit your thermal bridging requirements.

Manufactured in accordance with EN1886:2007 and built to comply with Australian Standards AS/NZS 3666, with particular attention to access for cleaning and maintenance, PacAir Modular Air Handling Units have all the features and accessories your project requires.

PacAir Modular Air Handling Units are constructed using aluminium penta-post frames with a 50mm polyurethane filled panel, with a thermally broken construction to prevent cold tracking. Panels can be removed without affecting the structural integrity of the unit. Access panels can be sized to suit the individual requirements of the project with hinged doors opening outward for negative pressure applications and inward opening doors for positive pressure applications.

PacAir Modular Air Handling Units come with stainless steel 304 drain pans as standard, which are inclined to ensure no pooling of water. The drain pans are designed to enable easy cleaning and have a 1½" drain pipe connection to enable drainage of water.

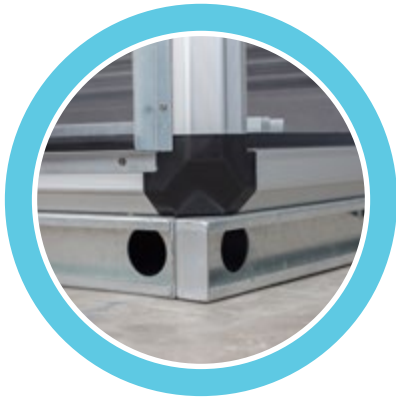
PacAir Modular Air Handling Units are supplied with a wide range of high efficiency fan solutions from EC plug wall grids, AC and belt driven forward curve or backward curve options to fully fabricated Chicago Blower industrial fans. Fans can be configured to run in parallel for complete redundancy or in series depending on your application.

PacAir Modular Air Handling Units are available in a variety of corrosion resistant options. Constructed from materials such as stainless steel 304, stainless steel 316, plastic coated galvanized sheet metals, spray or baked on applications for both coils and panel surfaces.

Available in horizontal, vertical and multizone configurations, chilled water, hot water, DX, steam and glycol coils solutions, PacAir Modular Air Handling Units are the solution for your project. Please contact our team to assist with more information.

*PMU - PacAir Modular Unit
Modular customised Air Handling Units built to suit your project and site requirements.*





UNITARY BASE

- Constructed from 3mm folded galvanised sheet metal, it is suitable for both lifting and installation.
- C Channel bases with hot dipped galvanized coating or with the option of epoxy coating for more severe environments.
- Customisable base heights are available, from the standard 100mm to 400mm to incorporate a U trap or removal of plinth.
- Base is suitable to be positioned directly on a flat surface with AV pads installed between the base and plinth, deck or floor surface.



INSULATED PANEL

The standard offer will be 50mm thick polyurethane panel with 0.5mm external pre-painted galvanised sheet metal (PPGI) and internal 0.8mm galvanised sheet metal insulated with polyurethane (PU material) of density no less than 40kg/m³.

Optional configurations:

- 25mm, 45mm, 75mm, 80mm or 100mm profile panel.
- Different skin materials: galvanized, SS304, SS316 or aluminium.
- Different insulation material: polyurethane, mineral wool (Rockwool) or PIR.
- 25mm polyurethane + 25mm Rockwool construction with perforated internal skin for sound attenuation purposes for acoustically sensitive installations.



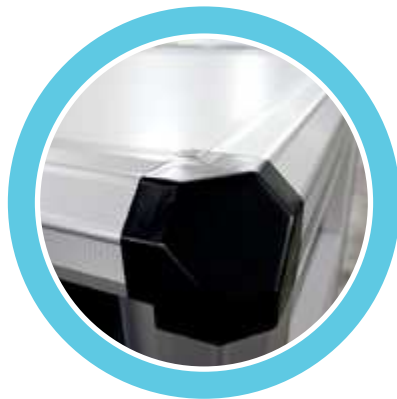
FILTERS AND FRAMES

- A wide range of filters for different applications ranging from:
 - G3, G4 and M5 washable pre-filters (standard aluminium frame)
 - M6, F7, F8 and F9 disposable deep bed filters (standard Galvanised Sheet Metal frame)
 - H13 and H14 for clean room applications (standard Galvanised Sheet Metal frame)
- Front and side loading/unloading of filter options are available.
- Galvanized or stainless steel 304 filter frame options available for corrosive environments.



DAMPER (VCDs)

- Standard PacAir modular unit is offered with aluminium dampers assembled from extruded frames and aerofoil blades.
- Dampers are design for manual operation via a quadrant or come with the facility to install or have a factory installed actuator.
- Dampers are available in stainless steel 304 or can be epoxy coated.



ALUMINIUM PROFILE

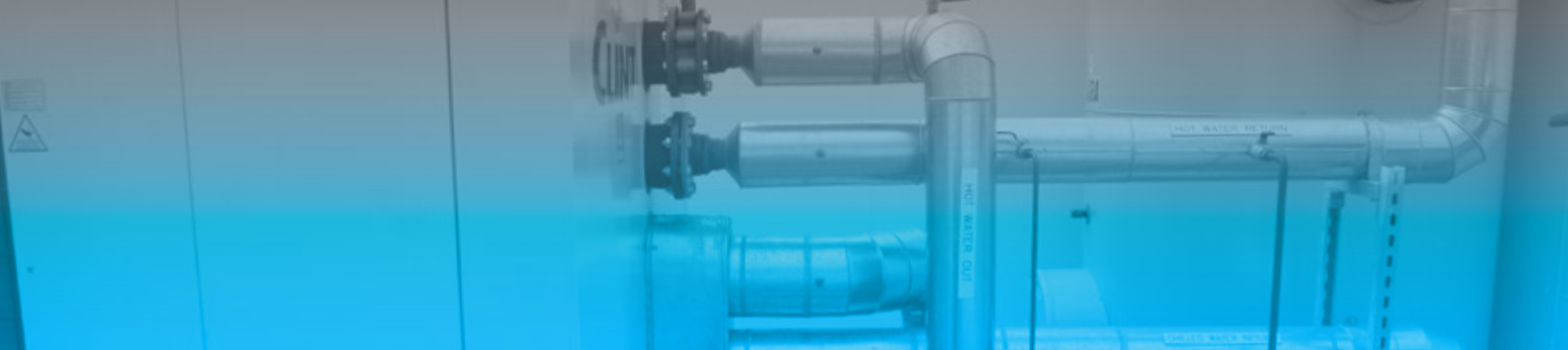
- Available with thermal break profile from 50mm, 75mm, 80mm and 100mm with additional PVC sleeve on the internal section to enhance thermal resistance in order to prevent cold tracking.
- Available in non-thermal break 25mm and 45mm profiles.
- Panels are mechanically attached to the profile using the aluminium "clip & lock" method for ease of panel removal during installation, maintenance and access.



DRAIN PAN

- Complies with Australian Standards AS NZS 3666.
- Standard drain pan is made from stainless steel 304 with a slope towards the drain pipe.
- Drain pipe size is 1 1/2" for ease of cleaning.





HEAT EXCHANGER COILS

- Coils are AHRI 410-2001 certified.
- Standard coils come with aluminium fins bonded mechanically to 1/2" copper tubes with copper header and brass connections. Other copper tube sizes (such as 5/8") are available.
- Standard coil frame is galvanised sheet metal with paint protection. Coil frames can also be manufactured out of aluminium or stainless steel 304.
- Coils come with an air trap release valve and drainage valve.
- Direct expansion coils, with optional thermal expansion valves (TXV) and solenoid valves are available.
- Coil fin protection options include Aeris, Blygold, Epoxy or Heresite treatment. Fins can also be changed to hydrophilic fins or copper fins where required.



FANS & MOTORS

A wide range of fans for different application:

- Centrifugal DIDW fans: forward, backward or Airfoil blades available. All fans are AMCA certified with impellers statically and dynamically balanced in accordance to ISO 1940.
- EC Plug fans and AC Plug fans.
- Each plug fan section comes with a protective grille on the fan inlet or belt guard and limit switch for safety of operators.
- Totally enclosed fan cooled (TEFC) induction motors are used ranging from standard efficiency (IE2) to high efficiency motors (IE3 and IE4).
- All motors used are MEPS certified.

OPTIONAL ACCESSORIES



UV rated viewing portholes



Magnehelic gauges and service lights



Heavy gauge hinges and lockable door handles



Extended Stubs and Additional Insulation



PACAIR - AHU CASE SIZING BY DESIGN AIR FLOW RATE

		MODULE WIDTH											
		10	15	20	25	30	35	40	45	50	55	60	65
MODULE HEIGHT	CASING SIZE	840	1145	1450	1755	2060	2365	2670	2975	3280	3585	3890	4195
10	840	600	980	1370	1760	2150							
15	1145		1600	2230	2860	3490	4120						
20	1450			3090	3960	4830	5700	6570					
25	1755				4950	6040	7130	8220	9310				
30	2060					7380	8710	10040	11370	12700			
35	2365						10130	11680	13230	14780	16330	17880	19440

- Notes**
1. Air flow rate listed is in l/s.
 2. Air flow rate shown as maximum allowed based on 2.5m/s face velocity.
 3. Casing size shown is in mm.
 4. All models shown are able to fit into standard container of 20', 40' or 40'HC where applicable.
 5. Unit height to add AHU metal base 100mm.
 6. Unit height to add damper height 125mm where applicable.
 7. Unit length to add damper depth 125mm where applicable.
 8. Unit width with coil heat exchanger, coil pipe header extended out from side panel maximum 150mm.

PACAIR - AIR FILTER CONFIGURATION

		MODULE WIDTH																							
		10		15		20		25		30		35		40		45		50		55		60		65	
		FULL	HALF	FULL	HALF	FULL	HALF	FULL	HALF	FULL	HALF	FULL	HALF	FULL	HALF	FULL	HALF	FULL	HALF	FULL	HALF	FULL	HALF	FULL	HALF
MODULE HEIGHT	10	1	0	1	1	2	0	2	1	3	0														
	15			1	2	2	2	2	3	3	3	3	4												
	20					4	0	4	2	6	0	6	2	8	0										
	25							4	4	6	3	6	5	8	4	8	6								
	30									9	0	9	3	12	0	12	3	15	0						
	35												9	6	12	4	12	7	15	5	15	8	18	6	18

- Notes**
1. Full size filter dimension is nominal at 610mm height x 610mm width.
 2. Half size filter dimension is nominal at 305mm height x 610mm width.
 3. Standard pleated synthetic fibre filter class is G3, G4 and M5.
 4. Thickness of aluminium casing is nominal 50mm.
 5. Standard deepbed filter class is M6, F7, F8 and F9. Thickness of GI casing is nominal 25mm. Standard filter lengths of 380 and 530mm.
 6. Filters can be either front loading or side loading as per requirement, selection or space availability.



COOLING PERFORMANCE DATASHEET @ 2.5m/s COIL FACE VELOCITY

MODEL NO	MODEL	UNIT CASING MEASUREMENT, mm	
		HEIGHT	WIDTH
1	1010	825	825
2	1015	825	1130
3	1020	825	1435
4	1025	825	1740
5	1030	825	2045
6	1515	1130	1130
7	1520	1130	1435
8	1525	1130	1740
9	1530	1130	2045
10	1535	1130	2350
11	2020	1435	1435
12	2025	1435	1740
13	2030	1435	2045
14	2035	1435	2350
15	2040	1435	2655
16	2525	1740	1740
17	2530	1740	2045
18	2535	1740	2350
19	2540	1740	2655
20	2545	1740	2960
21	3030	2045	2045
22	3035	2045	2350
23	3040	2045	2655
24	3045	2045	2960
25	3050	2045	3265
26	3535	2350	2350
27	3540	2350	2655
28	3545	2350	2960
29	3550	2350	3265
30	3555	2350	3570
31	3560	2350	3875
32	3565	2350	4180

AIR FLOW, l/s	Cooling Capacity, kW		Leaving Coil Temp DB/WB, deg°C	Water Flow Rate, l/s	Water Pressure Drop, kPa	Pipe Connection Size OD, mm
	@2.5 m/s	Total				
600	14	10	12.4/11.9	0.57	32	34
980	25	17	12/11.6	0.97	30	42
1370	34	23	12.2/11.7	1.34	28	42
1760	43	30	12.2/11.8	1.71	32	42
2150	50	36	12.6/12.1	2.00	19	48
1600	37	26	12.7/12.2	1.47	21	42
2230	52	37	12.7/12.2	2.06	20	48
2860	70	49	12.2/11.8	2.78	22	61
3490	82	58	12.6/12.1	3.25	17	61
4120	100	70	12.3/11.8	3.97	26	61
3090	76	53	12.2/11.7	3.02	27	61
3960	97	67	12.2/11.8	3.85	28	61
4830	113	80	12.6/12.1	4.50	27	61
5700	138	96	12.3/11.8	5.50	40	61
6570	164	113	12.1/11.6	6.51	33	73
4950	111	80	13/12.5	4.40	23	61
6040	142	100	12.6/12.1	5.63	20	73
7130	160	115	13/12.5	6.34	20	73
8220	191	135	12.7/12.2	7.58	29	73
9310	204	148	13.1/12.6	8.12	29	73
7380	173	122	12.6/12.1	6.88	19	61
8710	212	147	12.3/11.8	8.41	28	61
10040	251	173	12.1/11.6	9.95	40	61
11370	290	198	11.9/11.4	11.5	38	73
12700	329	223	11.7/11.3	13.1	49	73
10130	246	171	12.3/11.8	9.78	34	61
11680	291	201	12.1/11.6	11.6	30	73
13230	290	210	13.1/12.6	11.5	16	73
14780	334	239	12.9/12.4	13.3	22	73
16330	379	268	12.7/12.2	15.0	28	73
17880	423	297	12.5/12	16.8	35	73
19440	468	327	12.4/11.9	18.6	26	89

Notes

- Cooling performance rated based on 6 rows coil 394 fins/m.
- Entering coil temperature. 26.0°C DB. 19.0°C WB.
- Coil face velocity 2.5m/s. Actual air pressure drop 190Pa.
- Chilled water in @ 6.0°C. Chilled water out @ 12.0°C.
- Chilled water pipe connection is brass type, BSPT male.
- Model 35XX comes with 2 coils stacked. Separate top and bottom coil header set.
- AHRI Standard 410 certified coil performance data.

COOLING PERFORMANCE DATASHEET @ 2.2m/s COIL FACE VELOCITY

MODEL NO	MODEL	UNIT CASING MEASUREMENT, mm	
		HEIGHT	WIDTH
1	1010	825	825
2	1015	825	1130
3	1020	825	1435
4	1025	825	1740
5	1030	825	2045
6	1515	1130	1130
7	1520	1130	1435
8	1525	1130	1740
9	1530	1130	2045
10	1535	1130	2350
11	2020	1435	1435
12	2025	1435	1740
13	2030	1435	2045
14	2035	1435	2350
15	2040	1435	2655
16	2525	1740	1740
17	2530	1740	2045
18	2535	1740	2350
19	2540	1740	2655
20	2545	1740	2960
21	3030	2045	2045
22	3035	2045	2350
23	3040	2045	2655
24	3045	2045	2960
25	3050	2045	3265
26	3535	2350	2350
27	3540	2350	2655
28	3545	2350	2960
29	3550	2350	3265
30	3555	2350	3570
31	3560	2350	3875
32	3565	2350	4180

AIR FLOW, l/s	Cooling Capacity, kW		Leaving Coil Temp DB/WB, deg°C	Water Flow Rate, l/s	Water Pressure Drop, kPa	Pipe Connection Size OD, mm
	@2.2 m/s	Total				
530	13	9	12/11.6	0.52	26	34
870	23	15	11.7/11.3	0.89	32	34
1210	31	21	11.8/11.4	1.23	24	42
1550	39	27	11.8/11.4	1.56	27	42
1890	46	32	12.2/11.8	1.83	16	48
1410	34	24	12.3/11.9	1.35	18	42
1960	47	33	12.3/11.9	1.88	17	48
2520	64	44	11.8/11.4	2.54	32	48
3070	75	52	12.2/11.8	2.97	15	61
3620	91	63	11.9/11.5	3.63	22	61
2720	70	48	11.8/11.4	2.76	37	48
3480	89	61	11.8/11.4	3.51	24	61
4250	104	72	12.2/11.8	4.12	22	61
5020	127	87	11.9/11.5	5.03	34	61
5780	150	102	11.7/11.3	5.94	28	73
4350	101	72	12.6/12.2	4.03	19	61
5310	130	90	12.2/11.8	5.15	32	61
6270	146	104	12.6/12.1	5.81	17	73
7230	175	122	12.3/11.9	6.93	24	73
8190	187	134	12.7/12.3	7.44	25	73
6490	159	110	12.2/11.8	6.30	16	61
7660	193	133	11.9/11.5	7.69	24	61
8840	229	156	11.7/11.3	9.09	34	61
10010	264	179	11.5/11.1	10.5	47	61
11180	300	202	11.3/11.1	11.9	42	73
8920	225	155	11.9/11.5	8.94	29	61
10280	266	181	11.7/11.3	10.6	40	61
11650	266	190	12.7/12.3	10.6	30	61
13010	306	216	12.5/12.1	12.2	18	73
14370	347	243	12.3/11.9	13.8	24	73
15740	387	269	12.1/11.7	15.4	30	73
17110	428	295	12/11.6	17.0	36	73

Notes

- Cooling performance rated based on 6 rows coil 394 fins/m.
- Entering coil temperature. 26.0°C DB. 19.0°C WB.
- Coil face velocity 2.2m/s. Actual air pressure drop 190Pa.
- Chilled water in @ 6.0°C. Chilled water out @ 12.0°C.
- Chilled water pipe connection is brass type, BSPT male.
- Model 35XX comes with 2 coils stacked. Separate top and bottom coil header set.
- AHRI Standard 410 certified coil performance data.



HEATING PERFORMANCE DATASHEET @ 2.5m/s COIL FACE VELOCITY

MODEL NO	MODEL	UNIT CASING MEASUREMENT, mm	
		HEIGHT	WIDTH
1	1010	825	825
2	1015	825	1130
3	1020	825	1435
4	1025	825	1740
5	1030	825	2045
6	1515	1130	1130
7	1520	1130	1435
8	1525	1130	1740
9	1530	1130	2045
10	1535	1130	2350
11	2020	1435	1435
12	2025	1435	1740
13	2030	1435	2045
14	2035	1435	2350
15	2040	1435	2655
16	2525	1740	1740
17	2530	1740	2045
18	2535	1740	2350
19	2540	1740	2655
20	2545	1740	2960
21	3030	2045	2045
22	3035	2045	2350
23	3040	2045	2655
24	3045	2045	2960
25	3050	2045	3265
26	3535	2350	2350
27	3540	2350	2655
28	3545	2350	2960
29	3550	2350	3265
30	3555	2350	3570
31	3560	2350	3875
32	3565	2350	4180

AIR FLOW, l/s @2.5m/s	Heating Capacity, kW	Leaving Coil Temp DB, deg°C	Water Flow Rate, l/s	Water Pressure Drop, kPa	Pipe Connection Size OD, mm
600	8.9	24.2	0.15	29	22
980	14.5	24.1	0.24	24	22
1370	19.5	23.7	0.32	28	22
1760	25.7	24.0	0.42	15	34
2150	31.9	24.2	0.52	23	34
1600	23.2	23.9	0.38	13	34
2230	33.1	24.2	0.54	27	34
2860	43.2	24.4	0.70	33	34
3490	52.0	24.2	0.85	24	34
4120	62.1	24.4	1.01	28	42
3090	45.7	24.1	0.74	19	34
3960	57.8	24.0	0.94	19	34
4830	71.6	24.2	1.17	19	42
5700	85.5	24.3	1.39	28	42
6570	94.3	23.8	1.54	18	42
4950	72.4	24.0	1.18	15	42
6040	89.7	24.2	1.46	24	42
7130	101.0	23.6	1.65	19	42
8220	118.2	23.8	1.93	14	48
9310	135.4	23.9	2.21	19	48
7380	109.8	24.2	1.79	24	34
8710	131.0	24.4	2.14	27	42
10040	144.3	23.8	2.35	12	42
11370	165.4	23.9	2.69	16	42
12700	186.5	24.1	3.04	21	42
10130	152.0	24.3	2.48	26	42
11680	167.6	23.8	2.74	15	42
13230	192.2	23.9	3.14	20	42
14780	216.6	24.0	3.54	25	42
16330	241.4	24.1	3.94	20	48
17880	265.8	24.2	4.34	24	48
19440	290.6	24.3	4.74	30	48

Notes

1. Heating performance rated based on 1 row coil 394 fins/m.
2. Entering coil temperature. 12.0°C DB.
3. Coil face velocity 2.5m/s. Actual air pressure drop 15Pa.
4. Heating water in @ 80.0°C. Chilled water out @ 65.0°C.
5. Heating water pipe connection is brass type, BSPT male.
6. Model 35XX comes with 2 coils stacked. Separate top and bottom coil header set.
7. AHRI Standard 410 certified coil performance data.

HEATING PERFORMANCE DATASHEET @ 2.2m/s COIL FACE VELOCITY

MODEL NO	MODEL	UNIT CASING MEASUREMENT, mm	
		HEIGHT	WIDTH
1	1010	825	825
2	1015	825	1130
3	1020	825	1435
4	1025	825	1740
5	1030	825	2045
6	1515	1130	1130
7	1520	1130	1435
8	1525	1130	1740
9	1530	1130	2045
10	1535	1130	2350
11	2020	1435	1435
12	2025	1435	1740
13	2030	1435	2045
14	2035	1435	2350
15	2040	1435	2655
16	2525	1740	1740
17	2530	1740	2045
18	2535	1740	2350
19	2540	1740	2655
20	2545	1740	2960
21	3030	2045	2045
22	3035	2045	2350
23	3040	2045	2655
24	3045	2045	2960
25	3050	2045	3265
26	3535	2350	2350
27	3540	2350	2655
28	3545	2350	2960
29	3550	2350	3265
30	3555	2350	3570
31	3560	2350	3875
32	3565	2350	4180

AIR FLOW, l/s @2.2m/s	Heating Capacity, kW	Leaving Coil Temp DB, deg°C	Water Flow Rate, l/s	Water Pressure Drop, kPa	Pipe Connection Size OD, mm
530	8.2	24.9	0.13	24	22
870	13.4	24.7	0.22	21	22
1210	18.1	24.3	0.29	24	22
1550	23.7	24.6	0.39	12	34
1890	29.4	24.8	0.48	20	34
1410	21.4	24.5	0.35	11	34
1960	30.5	24.8	0.50	23	34
2520	39.8	25.0	0.65	29	34
3070	48.0	24.8	0.78	21	34
3620	57.2	25.0	0.93	30	34
2720	42.1	24.7	0.69	16	34
3480	53.3	24.6	0.87	17	34
4250	66.0	24.8	1.08	17	42
5020	78.9	24.9	1.29	25	42
5780	87.0	24.4	1.42	15	42
4350	66.7	24.6	1.09	13	42
5310	82.7	24.8	1.35	21	42
6270	93.2	24.2	1.52	16	42
7230	109.0	24.4	1.78	23	42
8190	124.9	24.5	2.04	17	48
6490	101.3	24.8	1.65	21	34
7660	120.8	24.9	1.97	23	42
8840	133.2	24.4	2.17	10	42
10010	152.6	24.5	2.49	14	42
11180	172.1	24.6	2.80	18	42
8920	140.2	24.9	2.28	22	42
10280	154.8	24.4	2.52	13	42
11650	177.2	24.5	2.88	17	42
13010	199.8	24.6	3.26	21	42
14370	222.6	24.7	3.62	17	48
15740	245.2	24.8	4.00	21	48
17110	268.0	24.9	4.36	25	48

Notes

1. Heating performance rated based on 1 row coil 394 fins/m.
2. Entering coil temperature. 12.0°C DB.
3. Coil face velocity 2.2m/s. Actual air pressure drop 12Pa.
4. Heating water in @ 80.0°C Chilled water out @ 65.0°C.
5. Heating water pipe connection is brass type, BSPT male.
6. Model 35XX comes with 2 coils stacked. Separate top and bottom coil header set.
7. AHRI Standard 410 certified coil performance data.



RECENT PROJECTS



Macquarie University
Sydney



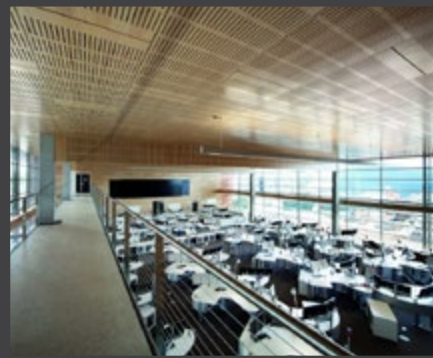
Stockland Shopping Centre
Townsville



QUT Vet Medical Centre
Gatton



St Andrews Hospital
Ipswich



PSBA Kedron Park
Brisbane



Marine Vessel
Singapore



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