PROAIR SERIES

Fan Coils



Biddle

EFFICIENT, QUIET, EASY TO INSTALL

The ProAir Series is a reliable and versatile range of high performing and energy efficient fan coil units. Suited equally to new build and refurbishment projects, the ProAir Series meets the stringent requirements of the UK specification market.

The large range of options available allows customers to create a tailored climate solution for each individual space. The ProAir Series is available in two depths - 270 and 235 and can be selected to meet the exact requirements of your room.

Internally lined to ensure the quietest of operation, the ProAir Series of fan coils utilise the most energy efficient motors and quietest fans available on the market.

UK MANUFACTURED

Manufactured in the heart of the UK the ProAir Series of fan coil units is available with one of the quickest delivery times on the market.

CUSTOMISABLE SOLUTIONS

The ProAir Series is a versatile range of fan coil units offering a wide selection of sizes, performance capabilities, left and right hand orientation, blanking plates, extended acoustic enhancements and colour options. Available in two depths the ProAir series can fit in the tightest of spaces.

These units can be provided as a packaged unit including all controls and valves or we can fit all major brands of control ancillaries in our purpose built manufacturing facility.

MAINTENANCE & CLEANING

The ProAir Series is designed for long continuous operation with minimal maintenance. Components such as filters and drain trays can be easily accessed for fast, trouble-free cleaning. Filters are held in place by a hinged panel at the inlet of the fan coil which can be easily removed to change or clean the filter.

ACCESS

Access to all major internal components is via a one-piece removable panel which is held in place with 2 screws. The condensate tray is also removable to get to the underside of the coil.

APPLICATIONS

The ProAir fan coil units are ideal for exposed situations due to their low noise levels but are equally suitable for installation behind false ceilings. Painted options are also available so there really is a solution for every application.

Where a project has strict noise levels to meet, an acoustic inlet extension can be provided to minimise the speed of the motors to reduce the overall sound levels. Biddle's fan coil units have been proven over many years in commercial office buildings, installations in hotels, public buildings, commercial offices, universities, shops and schools.



SPECIFICATIONS

CASING

Manufactured from 1.2mm thick galvanised sheet steel, which is then formed in the factory here in the UK creating a rigid, robust and vibration free construction. The casing incorporates a rectangular inlet and a lined discharge plenum which is where the circular spigots are positioned.

FILTERS

For improved air quality, Biddle offers a selection of G2 or G3 filters. A removable wire frame filter, secured at the bottom of the unit, is fitted as standard at the inlet of the fan coil. Designed to protect the coil and fans from ingress of small particles, the filter is easily removed for cleaning by undoing two screws and opening the hinged panel.

FINISH

All units are supplied and manufactured, as standard, in unpainted galvanised sheet steel. A selected range of painted finishes are available on request.

COILS

Coils are manufactured from copper pipe which is mechanically bonded to aluminium fins. On a standard coil block, up to 8 tubes are used for heating with the remainder used for cooling. Coil terminations are 15mm for both the heating and cooling flow/return. The coil terminations are at 40mm centres to enable ease of fitting 4 port valves, PIC Valves or even full Commissioning Sets. Coils have been leak tested by our suppliers during the manufacturing stage @30 Bar. When factory fitted valves are required, a further leak test is carried out by Biddle.

Coils are rated for a working pressure of 16 Bar. Coils are circuited to provide a low pressure drop, of approximately 10 kPa, at normal operating outputs.

Coils are configured to provide counter flow where the water will always travel through the coil in the opposite direction of the air flow, providing the most efficient and cost effective heat exchange possible in a fan coil unit.



CONDENSATE TRAY

An internally powder coated galvanised condensate tray covers the whole of the coil and valve set arrangement. The tray has a fall to one end to a 15mm copper connection to attach to a drain. The underside of the tray is insulated with 3mm thick black foam to prevent moisture formation.

The condensate tray is extended at the drain end to accommodate, and support fitted valve sets including PIC Valves.

DISCHARGE PLENUM AND SPIGOTS

The discharge plenum incorporates a number of circular spigots on the front face, and a single spigot at either end of the plenum. Blanking plates with foam backing are then used in place of the spigot where a duct connection is not required. Both the spigots and blanking plates are simply secured in place with 4 screws, allowing them to be easily removed and exchanged for any future reconfiguring of active spigots on site.

FANS

The fans have a metal housing and metal impeller and are fitted with Electronically Commuted (EC), Direct Current (DC) motors. They incorporate sealed-for-life bearings and include features such as ‘soft start’ which help extend their life span.

Where required, a harmonic filter is fitted between the mains supply and the motor(s) to comply with the Electromagnetic Compatibility (EMC) Directive, 2014/30/EU.

The fans used are some of the most energy efficient available. Manufactured as dual inlet, with a direct-driven cylindrical rotor, they utilise state of the art motor electronics and have a lower level of sound emissions. They allow for precise speed control through the adjustment of the fan signal and can adapt to even the lowest levels of cooling needed.

INSULATION

Insulation is provided on all internal surfaces and on the bottom of the condensate tray. Internal insulation is from 12mm Class “O” open cell expanded foam for superior acoustic and thermal performance.

CONTROLS

The product's controls offer is designed to be flexible to suit project specific controls or can be supplied with a range of capable direct digital controllers.

The generous controls enclosure is supplied with every unit as standard.

The enclosure includes all electrics, switches and the room controller and is mounted on the side of the unit next to the coil terminations and valves. The enclosure is manufactured from galvanised sheet steel and is designed to house the majority of all controls on the market today.

BASIC CONTROL

Some projects require the ProAir unit to be controlled by remotely placed controllers pre-installed on site. For these applications the unit can be supplied with a basic speed controller (potentiometer) to allow for local setting and adjustment of the airflow at commissioning stage. The speed controller is fitted with a control housing mounted on the side of the unit. Control of the cooling and/or heating coils is to be provided by others.

PROJECT SPECIFIC CONTROLS

Biddle can work with a project's System Integrators to factory fit third party controls into the product, reducing installation and commissioning time on site with a fully flexible and tailored offer. The ProAir Series can be supplied with different transformers, fan enable relays and other key components to bridge the gap between the different controllers on the market to ensure all major brands of controller can be supported with ease for everyone involved. Where System Integrators haven't been appointed, the project timelines are short or a particular site must conform to a certain controls manufacturer, Biddle can work with their controls partners to help deliver the project. With an option to supply, factory fit, support and even commission the majority of the controls on the market today, Biddle can ensure that any project specific control requirements can be met.

DIRECT DIGITAL CONTROL

For projects where System Integrators haven't been appointed, or where a controls offer needs to be more advanced than just simple fan speed control, Biddle can supply a wide range of digital controllers with different room controllers to suit the installation. These controls can be fitted with the accessories to report faults, control temperatures to remote locations (useful for shop floor environments where controls are to be hidden) or group together to give zoned temperature control.

Where fan coils need to be integrated into a building management system, all the offered controllers support common BMS protocols to allow them to communicate with new and existing BMS systems. These systems can then further enhance the energy savings from the ProAir range, whilst giving additional benefits such as fault reporting, trend logging and remote off-site diagnoses.

DIRECT DIGITAL CONTROLLER RANGE

JOHNSON CONTROLS TUC03

Biddle can supply a Johnson Controls TUC03 controller to provide direct digital control of the ProAir Series with heating and/or cooling coils. Communication options are available to enable the controller to be integrated into a larger BACnet® network as part of a building automation system or alternatively multiple ProAir units can be connected together to allow a scalable system for larger rooms. With return and supply air sensors built in as standard, the controller will work to ensure that temperatures in the space are controlled and thermal comfort is maintained for the building's users. Where preferred or required, we can offer a room measuring device which provides a greater degree of control for the room occupier to set and adjust. The three JC options we offer are as follows:

Description	Wall sensor, adjuster and fan speed control	Monochrome wall unit	Monochrome touchscreen
Item code	TM-2160 -0007	RS-7080 -0002	TRM0312 -0W
Local fan speed adjustment	3-speed fan override	Auto fan speed	Auto fan speed
Adjustable temp. dial	±3°C	±3°C	±3°C
			

EASYIO FW-14

The FW-14 drives the operation of the fan coil unit and serves as the brain of the control loop. The controller accepts input from either a return air sensor the SH-TSX pictured below and uses its inbuilt ARM processor to calculate the necessary heating, cooling, and fan speeds to maintain a comfortable environment. The connectivity and reporting options make the FW-14 unique, as the unit can communicate using its built-in Wi-Fi access point or Ethernet ports to another device using MQTT, BACnet MS/TP, BACnet IP (BTL Approved), Web Sockets or REST protocols to ensure that your system is connected to the cloud just as your computer. Built in dashboards are also available and can be accessed via mobile phone on password protected pages by the facilities maintenance team.



EASYIO SH-TSX



Digital control options include the Biddle SH-TSX touch screen from EasyIO. The SH-TSX has an attractive 3.5" backlit touchscreen with a black and chrome surround and a customisable colour wheel that can be changed to match the applications' aesthetics.

The Touchscreen offers PIN code protection to stop unwanted changes to room settings and locking options to help maintain comfortable climates with either on/off/boost functionality, temperature adjustment only, or complete control of temperature, mode, and fan speed.

DISTECH CONTROLLERS



Leading on from the EasyIO controls are Distech's ECLYPSE controller with an Allure Unitouch interface. The wall controllers look smart, feature high-end finishes, and are designed for high-end type businesses. BTL approved to meet project specifications and guarantee interoperability with other manufacturers' hardware.

The controller offers wireless connectivity options for easier installation and commissioning. Also, the group control allows the unit to be used in larger spaces where additional units are required. Built in trending and dashboards to allow the facilities maintenance teams to investigate issues are also available.

VALVES & COMMISSIONING SETS

Biddle offers a range of valve options for the ProAir Series to suit the project's requirements. The options are summarised below but please ask our sales team to discuss the options available to you and help decide which is best suited for your application.

NO VALVES

The unit can be supplied with exposed 15mm copper pipe connections for connecting to valves on site. The pipework is positioned at 40mm centres to facilitate the most common valve types on the market today.

4 PORT

We can supply integrated 4 port valves to reduce site installation time on both the heating and cooling. Controlled by 0-10V motorised actuators these can be operated by either Biddle's own control options or customer specific.

BG29 COMPLIANT PIC VALVES

The ProAir Series can be supplied with PIC Valves or Valve Commissioning Sets for easier maintenance after handover and better energy savings in use. We have worked with the top four manufacturers to ensure a robust product offer that includes options compliant to BSRIA's BG29/2021 Guide on Pre-Commission Cleaning of Pipework System (6th Edition).

A full PIC Valve Commissioning Set includes:

- 0-10V actuator
- Pressure test plug and drain so coil pressure drops, can be measured once installed to identify performance issues
- Flushing bypasses to allow service and maintenance staff to clear the unit of any debris within the system, and safely isolate it should it require future servicing
- Metering station/orifice plate to allow the measurement of flow rates at the FCU to help quantify a product's performance
- Euroconus connections as standard to maximise the options when connection your system pipework to the unit

ADDITIONAL VALVE OPTIONS AVAILABLE:

Branch valve sets – special PIC Valves Commissioning Sets that are designed to be installed at the end of a line to ensure the water can circulate continually within the system, maximising response times.

Strainers – Biddle always recommends fitting strainers to the central trunk in the hydronic system as it will reduce maintenance. In some projects, especially refurbishment and fit out, this is not possible, so Biddle can supply.

Raise lower actuators - with some controllers, a 0-10V actuator is unsuitable. In these cases, we can supply a raise lower actuator to ensure it will be fully compatible with your controls.

OPTIONAL EXTRAS

With configurability in mind, Biddle can also supply a range of items to suit on site requirements.

FAN MONITORING BOARD

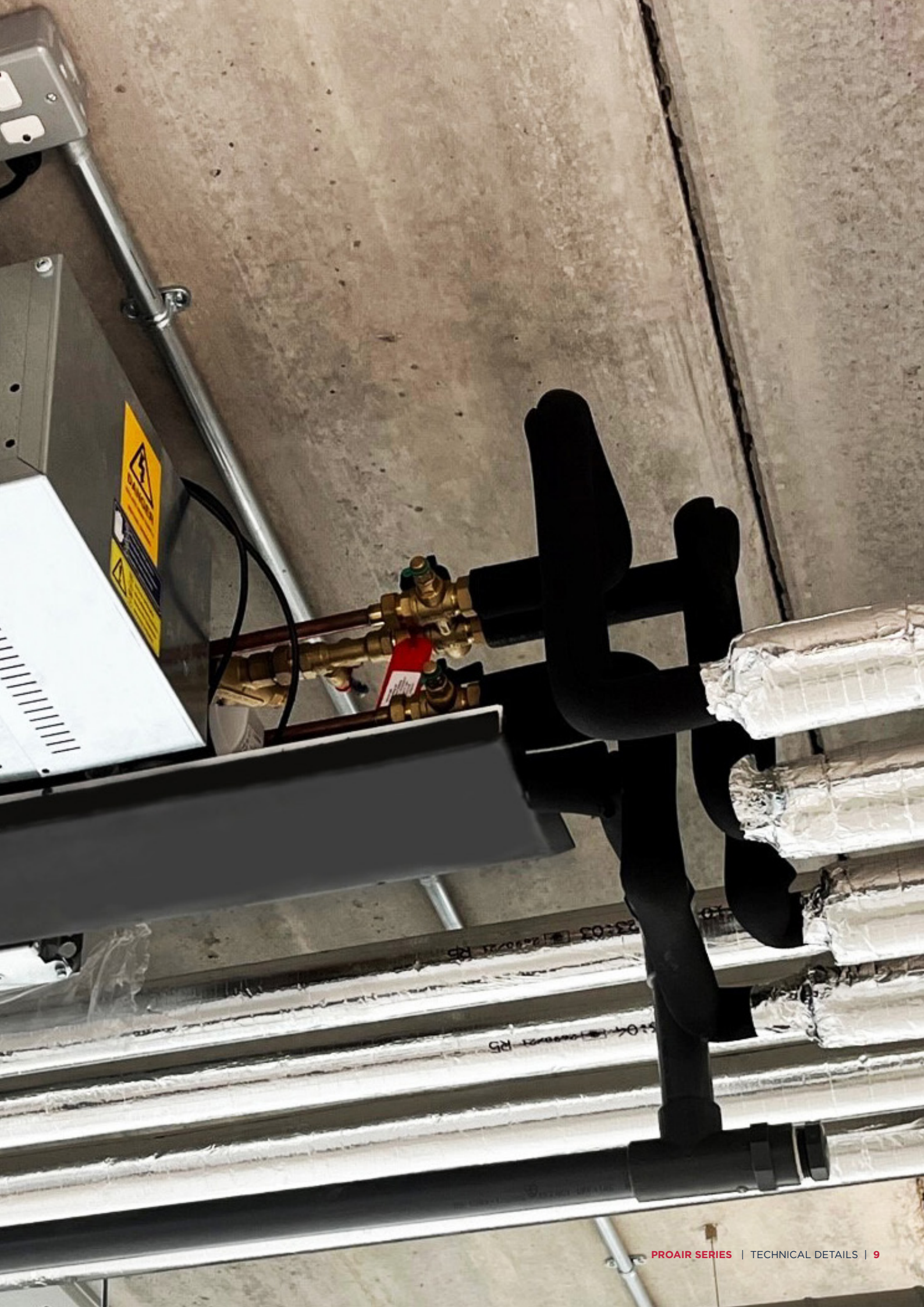
An FMB enables the fan's health to be continuously monitored. Fitted with the controller the device can send alerts in case there are problems with the unit, by monitoring the fan's speed.

CONTROL RELAYS

Relays for 24V and 230V are available as standard, allowing the unit to be enabled by external controllers. Where these enable signals are absent, volt detecting relays can be utilised to turn on the fans when the control signal rises above a set threshold.

TRANSFORMERS

Some controllers need 24VAC supplies to function, and these are typically obtained from a transformer housed within the device. To fit a wide range of conventional controllers and, occasionally, additional actuators like shading or lights (where appropriate), we can provide two different sized 24V transformers continuously monitored by the unit's controller.



PROAIR SERIES

Technical Details



NOISE RATING PROAIR 270
PERFORMANCE DATA

Noise Rating 38			Cooling Performance								Heating Performance				
Unit Size	Air Vol l/s	SFP w/l/s	6°C - 12°C 23°C EAT		8°C - 14°C 23°C EAT		10°C - 16°C 23°C EAT		ECODESIGN 7°C - 12°C 27°C EAT		82°C - 71°C 21°C EAT	80°C - 60°C 21°C EAT	55°C - 45°C EAT=21°C	60°C - 40°C 21°C EAT	ECODESIGN 70°C - 60°C 20°C EAT
			Sensible	Total	Sensible	Total	Sensible	Total	Sensible	Total	Total	Total	Total	Total	Total
61	**170**	**0.22**	**2.31**	**3.01**	**1.93**	**2.22**	**1.55**	**1.55**	**2.94**	**4.99**	**3.93**	**3.72**	**2.28**	**1.65**	**3.93**
91	206	0.32	2.85	3.71	2.37	2.73	1.89	1.89	3.65	6.19	4.77	4.52	2.76	2.01	4.77
92	**312**	**0.30**	**4.29**	**5.58**	**3.59**	**4.13**	**2.90**	**2.90**	**5.57**	**9.44**	**7.24**	**6.86**	**4.19**	**3.05**	**7.24**
122	376	0.30	4.70	6.11	3.84	4.42	2.98	2.98	6.09	10.34	8.73	8.27	5.05	3.67	8.73
123	**440**	**0.27**	**5.69**	**7.40**	**4.72**	**5.43**	**3.76**	**3.76**	**7.24**	**12.27**	**10.20**	**9.66**	**5.90**	**4.29**	**10.20**
153	489	0.23	6.22	8.08	5.13	5.89	4.04	4.04	7.99	13.55	11.33	10.73	6.56	4.77	11.33
183	**544**	**0.28**	**7.16**	**9.30**	**5.94**	**6.83**	**4.72**	**4.72**	**9.18**	**15.57**	**12.60**	**11.94**	**7.30**	**5.30**	**12.60**
184	584	0.23	7.43	9.66	6.15	7.08	4.88	4.88	9.45	16.02	13.53	12.81	7.84	5.70	13.53
214	**642**	**0.24**	**8.58**	**11.15**	**7.14**	**8.21**	**5.71**	**5.71**	**10.94**	**18.56**	**14.87**	**14.09**	**8.62**	**6.26**	**14.87**
215	752	0.26	9.64	12.53	7.99	9.19	6.35	6.35	12.29	20.84	17.44	16.52	10.09	7.34	17.44

Noise Rating 35			Cooling Performance								Heating Performance				
Unit Size	Air Vol l/s	SFP w/l/s	6°C - 12°C 23°C EAT		8°C - 14°C 23°C EAT		10°C - 16°C 23°C EAT		ECODESIGN 7°C - 12°C 27°C EAT		82°C - 71°C 21°C EAT	80°C - 60°C 21°C EAT	55°C - 45°C EAT=21°C	60°C - 40°C 21°C EAT	ECODESIGN 70°C - 60°C 20°C EAT
			Sensible	Total	Sensible	Total	Sensible	Total	Sensible	Total	Total	Total	Total	Total	Total
61	**153**	**0.18**	**2.05**	**2.67**	**1.75**	**2.01**	**1.41**	**1.41**	**2.67**	**4.53**	**3.54**	**3.36**	**2.05**	**1.49**	**3.54**
91	175	0.25	2.35	3.05	2.06	2.37	1.65	1.65	3.16	5.37	4.05	3.84	2.35	1.71	4.05
92	**281**	**0.24**	**3.77**	**4.90**	**3.24**	**3.73**	**2.62**	**2.62**	**5.00**	**8.49**	**6.51**	**6.17**	**3.77**	**2.74**	**6.51**
122	332	0.24	4.24	5.52	3.48	4.00	2.71	2.71	5.50	9.32	7.69	7.28	4.46	3.24	7.69
123	**388**	**0.24**	**5.17**	**6.72**	**4.29**	**4.93**	**3.41**	**3.41**	**6.57**	**11.14**	**9.00**	**8.53**	**5.21**	**3.79**	**9.00**
153	433	0.21	5.65	7.34	4.66	5.36	3.68	3.68	7.27	12.33	10.04	9.52	5.81	4.23	10.04
183	**477**	**0.21**	**6.40**	**8.32**	**5.32**	**6.12**	**4.24**	**4.24**	**8.24**	**13.97**	**11.06**	**10.48**	**6.40**	**4.66**	**11.06**
184	515	0.18	6.82	8.87	5.67	6.52	4.51	4.51	8.71	14.77	11.93	11.30	6.91	5.02	11.93
214	**580**	**0.19**	**7.79**	**10.12**	**6.50**	**7.47**	**5.20**	**5.20**	**9.94**	**16.85**	**13.45**	**12.74**	**7.78**	**5.66**	**13.45**
215	652	0.20	8.70	11.31	7.24	8.32	5.77	5.77	11.08	18.79	15.12	14.33	8.75	6.37	15.12

- Noise rating guide based on standard office environment and units installed above a suspended ceiling with a Dncw/Dnfw of 35 dB with up to 30 Pa external static resistance.
- EAT - Entering air temperature.
- Specific fan powers are anticipated installed values and are dependant on final external static resistance and other factors.
- Heating outputs are based on a maximum supply air temperature of 40°C.
- Noise rating levels are for guidance only and we recommend a full acoustic analysis is carried out by the clients consultants.

NOISE RATING PROAIR 270
PERFORMANCE DATA

Noise Rating 30			Cooling Performance								Heating Performance				
Unit Size	Air Vol l/s	SFP w/l/s	6°C - 12°C 23°C EAT		8°C - 14°C 23°C EAT		10°C - 16°C 23°C EAT		ECODESIGN 7°C - 12°C 27°C EAT		82°C - 71°C 21°C EAT	80°C - 60°C 21°C EAT	55°C - 45°C EAT=21°C	60°C - 40°C 21°C EAT	ECODESIGN 70°C - 60°C 20°C EAT
			Sensible	Total	Sensible	Total	Sensible	Total	Sensible	Total	Total	Total	Total	Total	Total
61	**118**	**0.15**	**1.73**	**2.24**	**1.45**	**1.66**	**1.17**	**1.17**	**2.21**	**3.74**	**2.74**	**2.59**	**1.58**	**1.15**	**2.74**
91	135	0.18	2.01	2.61	1.68	1.94	1.36	1.36	2.58	4.38	3.13	2.96	1.81	1.32	3.13
92	**206**	**0.15**	**2.93**	**3.81**	**2.48**	**2.86**	**2.04**	**2.04**	**3.96**	**6.72**	**4.77**	**4.52**	**2.76**	**2.01**	**4.77**
122	266	0.14	3.59	4.67	3.02	3.47	2.45	2.45	4.89	8.29	6.16	5.84	3.57	2.59	6.16
123	**275**	**0.18**	**3.61**	**4.69**	**2.97**	**3.41**	**2.33**	**2.33**	**4.66**	**7.90**	**6.37**	**6.04**	**3.69**	**2.68**	**6.37**
153	322	0.16	4.24	5.51	3.54	4.07	2.84	2.84	5.78	9.81	7.47	7.08	4.32	3.15	7.47
183	**346**	**0.14**	**4.76**	**6.18**	**3.99**	**4.59**	**3.23**	**3.23**	**6.40**	**10.85**	**8.02**	**7.60**	**4.64**	**3.38**	**8.02**
184	391	0.15	5.48	7.12	4.58	5.26	3.67	3.67	7.03	11.93	9.07	8.59	5.25	3.82	9.07
214	**441**	**0.15**	**6.33**	**8.23**	**5.30**	**6.09**	**4.27**	**4.27**	**8.08**	**13.70**	**10.23**	**9.69**	**5.92**	**4.31**	**10.23**
215	482	0.15	6.80	8.84	5.69	6.54	4.58	4.58	8.65	14.67	11.17	10.58	6.47	4.70	11.17

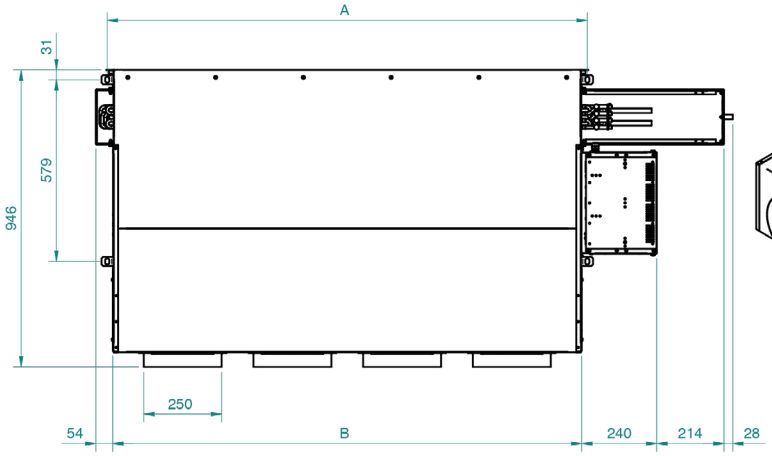
FAN ELECTRICAL DATA

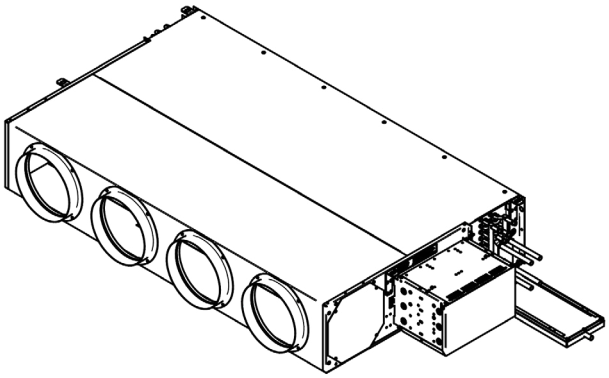
- The table below provides electrical data for the ProAir 270 range of fan coils.
- For project specific values please refer to Biddle.

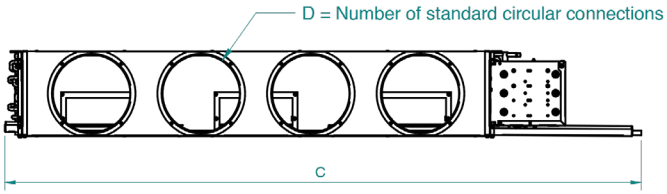
Unit Size	Max Running Current Amps	Max Running Power Watts	Starting Current Amps
61	**0.64**	**83**	**0.64**
91	0.64	83	0.64
92	**1.2**	**170**	**1.2**
122	1.22	170	1.22
123	**1.74**	**254**	**1.74**
153	1.74	254	1.74
183	**1.74**	**254**	**1.74**
184	2.26	338	2.24
214	**2.26**	**338**	**2.24**
215	2.72	420	2.72

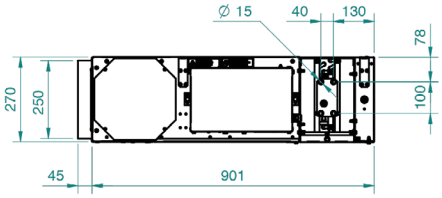
- Noise rating guide based on standard office environment and units installed above a suspended ceiling with a Dncw/Dnfw of 35 dB with up to 30 Pa external static resistance.
- EAT - Entering air temperature.
- Specific fan powers are anticipated installed values and are dependant on final external static resistance and other factors.
- Heating outputs are based on a maximum supply air temperature of 40°C.
- Noise rating levels are for guidance only and we recommend a full acoustic analysis is carried out by the clients consultants.

PROAIR 270









	A	B	C	Spigot Diameter	Number of Spigots as standard (D)
PROAIR 270-61	**632**	**596**	**1132**	**250mm**	**1**
PROAIR 270-91	932	896	1432	250mm	2
PROAIR 270-92	**932**	**896**	**1432**	**250mm**	**2**
PROAIR 270-122	1232	1196	1732	250mm	3
PROAIR 270-123	**1232**	**1196**	**1732**	**250mm**	**3**
PROAIR 270-153	1532	1496	2032	250mm	4
PROAIR 270-183	**1832**	**1796**	**2332**	**250mm**	**4**
PROAIR 270-184	1832	1796	2332	250mm	4
PROAIR 270-214	**2132**	**2096**	**2632**	**250mm**	**5**
PROAIR 270-215	2132	2096	2632	250mm	5

NOISE RATING PROAIR 235
PERFORMANCE DATA

Noise Rating 38			Cooling Performance								Heating Performance				
Unit Size	Air Vol l/s	SFP w/l/s	6°C - 12°C 23°C EAT		8°C - 14°C 23°C EAT		10°C - 16°C 23°C EAT		ECODESIGN 7°C - 12°C 27°C EAT		82°C - 71°C 21°C EAT	80°C - 60°C 21°C EAT	55°C - 45°C EAT=21°C	60°C - 40°C 21°C EAT	ECODESIGN 70°C - 60°C 20°C EAT
			Sensible	Total	Sensible	Total	Sensible	Total	Sensible	Total	Total	Total	Total	Total	Total
61	**148**	**0.28**	**2.33**	**2.91**	**1.81**	**2.02**	**1.42**	**1.42**	**2.98**	**4.90**	**3.46**	**3.27**	**2.00**	**1.45**	**3.30**
91	153	0.25	2.41	3.01	2.03	2.27	1.65	1.65	3.06	5.04	3.54	3.36	2.05	1.49	3.42
92	**241**	**0.25**	**3.29**	**4.11**	**2.76**	**3.09**	**2.20**	**2.20**	**4.30**	**7.06**	**5.58**	**5.29**	**3.23**	**2.35**	**5.38**
122	315	0.31	4.43	5.54	3.61	4.04	2.70	2.70	5.60	9.20	7.30	6.87	4.12	3.01	7.03
123	**329**	**0.27**	**4.77**	**5.96**	**3.71**	**4.16**	**2.87**	**2.87**	**6.12**	**10.06**	**7.62**	**7.22**	**4.40**	**3.20**	**7.35**
153	366	0.23	5.20	6.50	4.25	4.76	3.27	3.27	6.71	11.03	8.50	8.04	4.91	3.57	8.17
183	**452**	**0.28**	**6.44**	**8.04**	**5.27**	**5.90**	**4.10**	**4.10**	**8.28**	**13.60**	**10.50**	**9.93**	**6.07**	**4.42**	**10.09**
184	491	0.26	6.90	8.63	5.63	6.31	4.28	4.28	8.82	14.49	11.40	10.78	6.59	4.79	10.96
214	**512**	**0.27**	**7.19**	**8.99**	**5.86**	**6.56**	**4.80**	**4.80**	**9.15**	**15.03**	**11.90**	**11.24**	**6.95**	**4.98**	**11.43**
215	512	0.23	7.19	8.99	5.86	6.56	4.80	4.80	9.15	15.03	11.90	11.24	6.95	4.98	11.57

Noise Rating 35			Cooling Performance								Heating Performance				
Unit Size	Air Vol l/s	SFP w/l/s	6°C - 12°C 23°C EAT		8°C - 14°C 23°C EAT		10°C - 16°C 23°C EAT		ECODESIGN 7°C - 12°C 27°C EAT		82°C - 71°C 21°C EAT	80°C - 60°C 21°C EAT	55°C - 45°C EAT=21°C	60°C - 40°C 21°C EAT	ECODESIGN 70°C - 60°C 20°C EAT
			Sensible	Total	Sensible	Total	Sensible	Total	Sensible	Total	Total	Total	Total	Total	Total
61	**132**	**0.23**	**2.10**	**2.63**	**1.78**	**1.99**	**1.46**	**1.46**	**2.67**	**4.39**	**3.05**	**2.90**	**1.77**	**1.29**	**2.95**
91	134	0.20	2.13	2.66	1.79	2.00	1.47	1.47	2.69	4.42	3.10	2.92	1.78	1.30	2.98
92	**192**	**0.19**	**2.93**	**3.66**	**2.44**	**2.73**	**1.96**	**1.96**	**3.75**	**6.16**	**4.45**	**4.22**	**2.58**	**1.87**	**4.33**
122	267	0.26	3.90	4.88	3.22	3.61	2.53	2.53	4.99	8.20	6.20	5.86	3.58	2.61	5.96
123	**274**	**0.21**	**3.92**	**4.90**	**3.22**	**3.61**	**2.55**	**2.55**	**5.05**	**8.29**	**6.34**	**6.02**	**3.68**	**2.67**	**6.12**
153	313	0.20	4.60	5.75	3.81	4.27	3.00	3.00	5.91	9.70	7.26	6.87	4.20	3.05	6.99
183	**391**	**0.23**	**5.80**	**7.25**	**4.81**	**5.38**	**3.79**	**3.79**	**7.43**	**12.20**	**9.12**	**8.63**	**5.27**	**3.84**	**8.73**
184	411	0.21	6.00	7.50	4.95	5.54	3.86	3.86	7.71	12.66	9.52	9.03	5.52	4.01	9.18
214	**419**	**0.19**	**6.16**	**7.70**	**5.10**	**5.71**	**4.07**	**4.07**	**7.84**	**12.88**	**9.78**	**9.20**	**5.56**	**4.09**	**9.35**
215	419	0.19	6.16	7.70	5.16	5.78	4.18	4.18	7.84	12.88	9.98	9.45	5.77	4.20	9.35

- Noise rating guide based on standard office environment and units installed above a suspended ceiling with a Dncw/Dnfw of 35 dB with up to 30 Pa external static resistance.
- EAT - Entering air temperature.
- Specific fan powers are anticipated installed values and are dependant on final external static resistance and other factors.
- Heating outputs are based on a maximum supply air temperature of 40°C.
- Noise rating levels are for guidance only and we recommend a full acoustic analysis is carried out by the clients consultants.

NOISE RATING PROAIR 235
PERFORMANCE DATA

Noise Rating 30			Cooling Performance								Heating Performance				
Unit Size	Air Vol l/s	SFP w/l/s	6°C - 12°C 23°C EAT		8°C - 14°C 23°C EAT		10°C - 16°C 23°C EAT		ECODESIGN 7°C - 12°C 27°C EAT		82°C - 71°C 21°C EAT	80°C - 60°C 21°C EAT	55°C - 45°C EAT=21°C	60°C - 40°C 21°C EAT	ECODESIGN 70°C - 60°C 20°C EAT
			Sensible	Total	Sensible	Total	Sensible	Total	Sensible	Total	Total	Total	Total	Total	Total
61	**92**	**0.14**	**1.50**	**1.88**	**1.28**	**1.43**	**1.06**	**1.06**	**1.90**	**3.13**	**2.13**	**2.02**	**1.23**	**0.90**	**2.05**
91	100	0.13	1.63	2.04	1.39	1.56	1.16	1.16	2.07	3.40	2.31	2.20	1.34	0.98	2.23
92	**136**	**0.14**	**2.16**	**2.70**	**1.83**	**2.05**	**1.50**	**1.50**	**2.75**	**4.52**	**3.16**	**2.99**	**1.83**	**1.33**	**3.04**
122	195	0.16	2.98	3.73	2.50	2.80	2.01	2.01	3.79	6.23	4.54	4.28	2.62	1.90	4.35
123	**185**	**0.13**	**2.82**	**3.53**	**2.37**	**2.65**	**1.91**	**1.91**	**3.60**	**5.91**	**4.28**	**4.06**	**2.48**	**1.81**	**4.13**
153	251	0.14	3.81	4.76	3.19	3.57	2.55	2.55	4.85	7.96	5.81	5.49	3.36	2.44	5.59
183	**275**	**0.15**	**4.30**	**5.38**	**3.62**	**4.06**	**2.94**	**2.94**	**5.46**	**8.97**	**6.35**	**6.04**	**3.69**	**2.68**	**6.14**
184	278	0.14	4.35	5.44	3.66	4.10	3.00	3.00	5.52	9.07	6.45	6.10	3.76	2.71	6.21
214	**273**	**0.12**	**4.36**	**5.45**	**3.69**	**4.13**	**3.00**	**3.00**	**5.56**	**9.13**	**6.49**	**6.15**	**3.76**	**2.73**	**6.25**
215	280	0.12	4.37	5.46	3.69	4.13	3.00	3.00	5.56	9.13	6.50	6.15	3.76	2.74	6.25

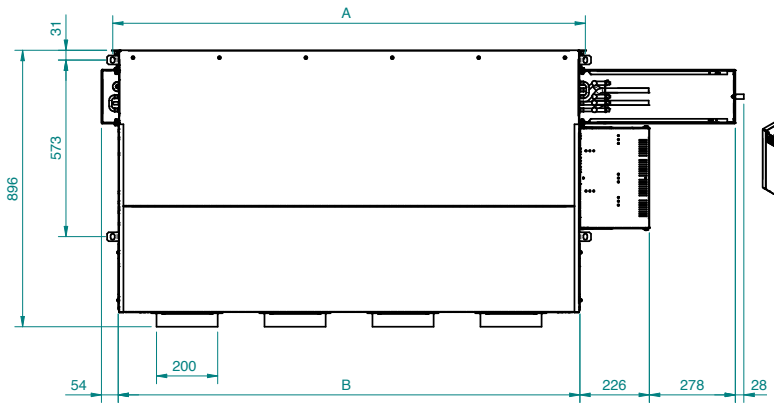
FAN ELECTRICAL DATA

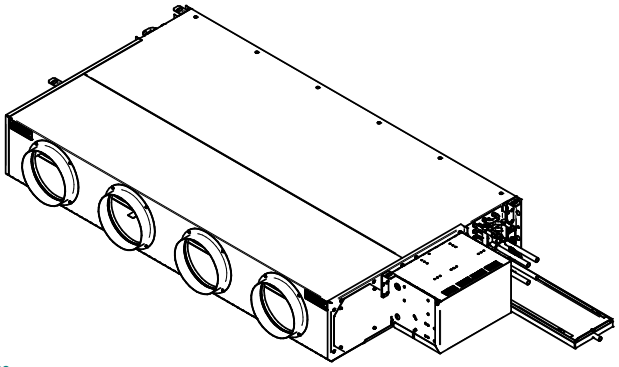
- The table below provides electrical data for the ProAir 235 range of fan coils.
- For project specific values please refer to Biddle.

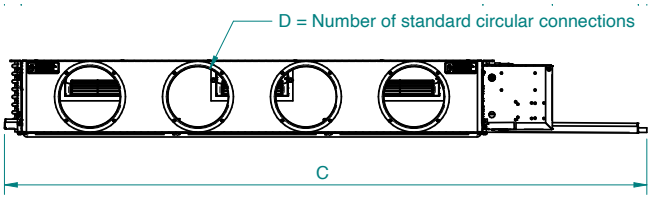
Unit Size	Max Running Current Amps	Max Running Power Watts	Starting Current Amps
PROAIR 235-61	**0.54**	**78**	**0.54**
PROAIR 235-91	0.57	81	0.57
PROAIR 235-92	**0.95**	**139**	**0.95**
PROAIR 235-122	1.09	159	1.09
PROAIR 235-123	**1.36**	**203**	**1.36**
PROAIR 235-153	1.41	214	1.41
PROAIR 235-183	**1.47**	**227**	**1.47**
PROAIR 235-184	1.81	273	1.81
PROAIR 235-214	**1.85**	**285**	**1.85**
PROAIR 235-215	2.1	329	2.1

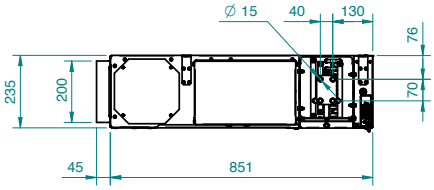
- Noise rating guide based on standard office environment and units installed above a suspended ceiling with a Dncw/Dnfw of 35 dB with up to 30 Pa external static resistance.
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- Noise rating levels are for guidance only and we recommend a full acoustic analysis is carried out by the clients consultants.

PROAIR 235









	A	B	C	Spigot Diameter	Number of Spigots as standard (D)
PROAIR 235-61	**632**	**596**	**1132**	**200mm**	**1**
PROAIR 235-91	932	896	1432	200mm	2
PROAIR 235-92	**932**	**896**	**1432**	**200mm**	**2**
PROAIR 235-122	1232	1196	1732	200mm	3
PROAIR 235-123	**1232**	**1196**	**1732**	**200mm**	**3**
PROAIR 235-153	1532	1496	2032	200mm	4
PROAIR 235-183	**1832**	**1796**	**2332**	**200mm**	**4**
PROAIR 235-184	1832	1796	2332	200mm	4
PROAIR 235-214	**2132**	**2096**	**2632**	**200mm**	**5**
PROAIR 235-215	2132	2096	2632	200mm	5

NOTES

NOTES

BIDDLE AIR SYSTEMS

St. Mary's Road
Nuneaton
Warwickshire
CV11 5AU

T +44 (0) 2476 384 233
E sales@biddle-air.co.uk
www.biddle-air.co.uk



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Every effort has been made to ensure descriptions are correct at the time of print.
Errors and omissions excepted. PROAIR/V2/12/2022