

# Biddle

# FORCEFLOW

## CB Fan Convectors (Low Water Temperatures)

The Forceflow CB fan convector range has been specially designed for use with new heating technologies, such as heat pumps.

Heat pumps are proven to be a much more sustainable method of heating water, however they normally provide water temperatures at lower levels.

To ensure that the CB provides the same efficient and reliable heating performance, the fan convector has been designed with an oversized coil to provide higher heating duties using lower water temperatures.

The Forceflow CB is suitable for mounting almost anywhere on the wall or ceiling – either as an exposed/cased or concealed/recessed unit – the range is available in 21 styles, with a range of accessories and control options.

This product is also available as a LST (low surface temperature) variant. Building on the proven and patented technology in the H2 LST unit, the CB LST convector is manufactured to guarantee surface temperatures do not exceed 43°C with water flow temperatures up to 60°C. This limit is advised by the Health And Safety Executive in Document Health Services Information Sheet No 6 and applicable for health and social care premises particularly where here may be people who are vulnerable to the risk of scalding or burns. The product is tested in accordance with BS EN 442 and manufactured under a BS EN ISO 9001:2015 quality system.

### BENEFITS:

- High output with low water temperatures
- Available in 21 styles
- Quick heat up
- Good heat distribution
- Simple to install
- Various control options
- EU3 grade disposable panel filter simplifies maintenance
- Low noise levels

### HOW IT WORKS

A purpose-designed coil/heater battery with a greater surface area than those used in traditional fan convectors optimises heat transfer. Thus, although air volumes are reduced by circa 8%, similar heating duties are achieved. Control is via on/off and speed change thermostats. If the temperature in the coil drops below the adjustable low water temperature cut-out thermostat setting, (typically because the boiler is turned off), the cut-out thermostats switches the fans off.

### CONTROLS & ACCESSORIES

The Forceflow CB range have 3 fan speeds and are supplied as standard with:

- On/off thermostat (T1)
- Built-in on/off, fan speed and summer/winter rocker switches
- Medium/Low speed change thermostat (T2)
- Adjustable low water temperature cut-out thermostat (T4)
- White textured paint finish (RAL 9010)
- EU3 grade disposable panel filter
- A screw-fixed access panel
- Discharge and return air grilles
- Horizontal 3/4" BSP female pipe connections

### OPTIONAL:

- Adjustable or tamperproof remote thermostats
- Pencil and finger proof grilles
- Group control and fan enable relays
- 100mm high plinth
- Key lockable access panel
- Metal framed EU2 grade nylon non-woven filter
- Special paint colour
- Pre-fitted radiator and lockshields valves

## PERFORMANCE TABLE

Model	Fan speed	Air volume (l/s)	Heating duty (kW)	Noise level** (NR)	Water flow rate (l/s)	Water pressure drop (kPa)	Full load current (Amps)
915-CB	High	109	4.13	40	0.050	0.6	0.33
	Medium	80	3.11	35	0.038	0.4	0.28
	Low	54	2.26	27	0.027	0.2	0.21
930-CB	High	175	7.32	41	0.089	2.1	0.49
	Medium	162	6.88	35	0.084	1.8	0.48
	Low	96	4.08	25	0.049	0.7	0.43
935-CB	High	234	10.15	43	0.138	5.7	0.45
	Medium	186	8.10	35	0.109	3.7	0.42
	Low	125	5.30	24	0.073	1.8	0.38
940-CB	High	335	14.58	42	0.177	10.7	0.50
	Medium	267	11.60	35	0.142	7.1	0.43
	Low	172	7.49	30	0.092	3.2	0.39
975-CB	High	428	17.25	46	0.210	5.6	1.70
	Medium	375	15.41	37	0.188	4.6	0.91
	Low	230	9.38	29	0.115	1.9	0.74

\*Based on Entering Air Temperature of 20°C and Water Temperatures of 60°C Flow and 40°C Return. \*\*Noise levels are for guidance only.

## CB CORRECTION FACTORS

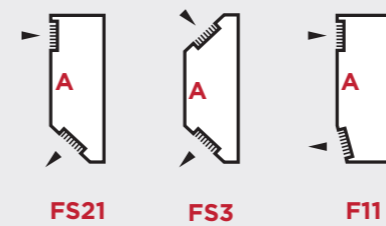
Water Flow Temp	Delta t (5°C)	Delta t (10°C)	Delta t (15°C)	Delta t (20°C)
60°C	-	1.05	1.02	1.00
55°C	0.97	0.95	0.92	0.88
50°C	0.83	0.81	0.79	0.75
45°C	0.68	0.67	0.64	0.60
40°C	0.55	0.52	-	-
35°C	0.41	-	-	-

## HOW TO SPECIFY YOUR PRODUCT

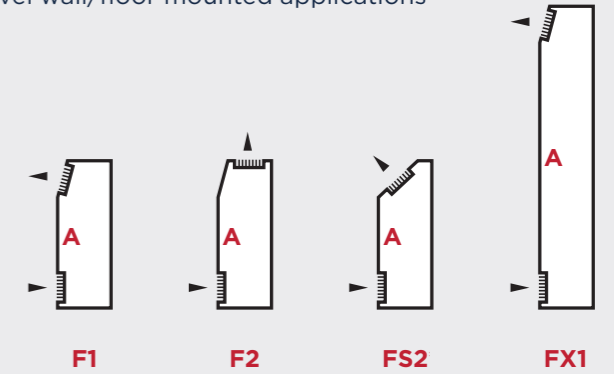
Placing an order couldn't be easier, simply tell us the model size, followed by the range and the casing style. For example 915 (Model size) CB (Range) F1 (Casing style).



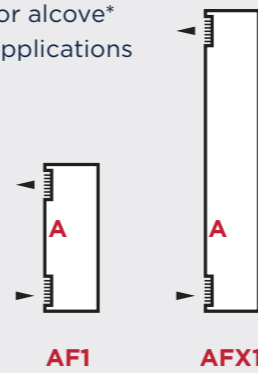
Inverted Exposed/  
Cased for high level wall  
mounted applications



Vertical Exposed/Cased for freestanding low  
level wall/floor mounted applications

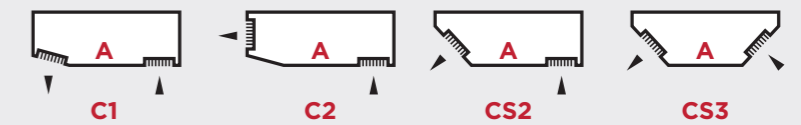


Exposed/Cased  
for alcove\*  
applications

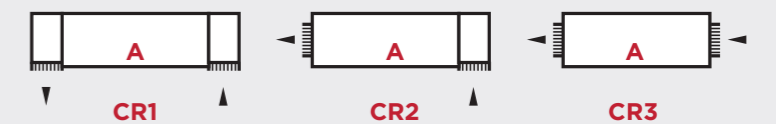


\*with bevelled or square ends

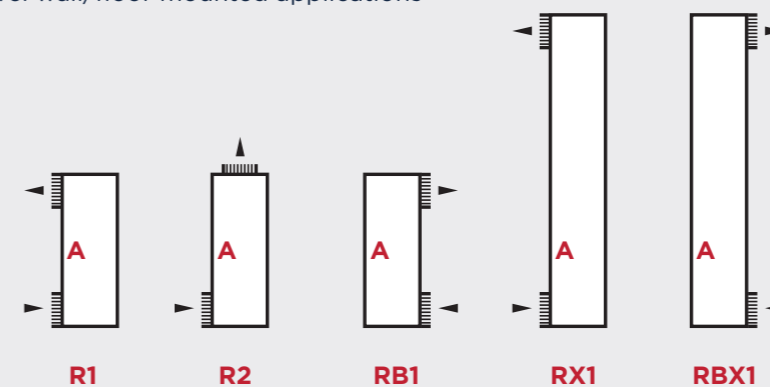
Horizontal Exposed/Cased for ceiling mounted applications



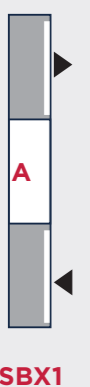
Horizontal Concealed/Recessed for ceiling void applications



Vertical Recessed for Concealed low  
level wall/floor mounted applications



Sectional

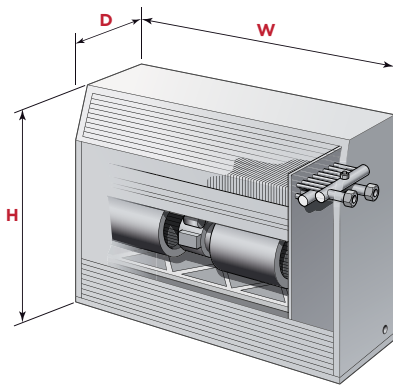


# DIMENSIONS

## VERTICAL STYLES

Model	'D'	'W'			
		All Vertical Styles	Exposed/Cased	Alcove (bevelled ends)	Alcove (square ends)
915	207	805	805	750	750
930	207	1055	1055	1000	1000
935	207	1305	1305	1250	1250
940	207	1555	1555	1500	1500
975	250	1805	1805	1750	1750

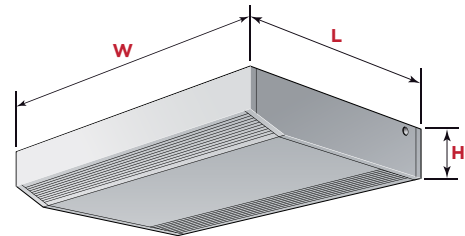
Style	'H'
F1, F2, FS2, AF1 (with bevelled ends), F11, FS21	660
AF1 (with square ends)	600
FS3	810
FX1, AFX1	1850
R1, R2, RB1	600
RX1, RBX1	1850



## HORIZONTAL STYLES

Model	'H'		'W'	
	All Horizontal Styles (except CR1, CR2)	CR1 & CR2	Exposed/Cased	Concealed/Recessed
915	207	290	805	750
930	207	290	1055	1000
935	207	290	1305	1250
940	207	290	1555	1500
975	250	333	1805	1750

Style	'L'
C1, C2, CS2	660
CS3	810
CR3	600
CR2	743
CR1	886



## UNIT WEIGHT

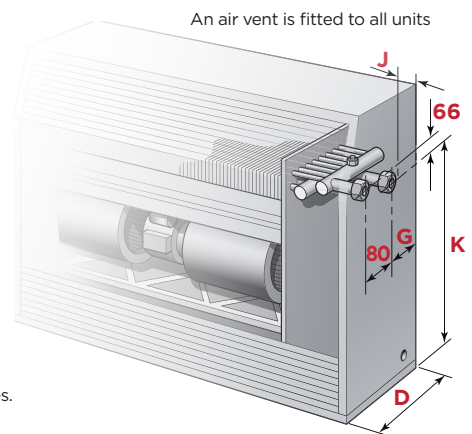
Unit	915	930	935	94	975
Approx. operating weight kg units 600 or 660mm high	29	39	45	52	66
Approx. operating weight kg units 1850mm high	49	65	75	88	109

## PIPE CONNECTIONS

### RC 3/4 (3/4" BSP EXTERNAL)

Model	D	G	J		K	
			Exposed/Cased	Concealed/Recessed	Exposed/Cased	Concealed/Recessed
915	207	64	158	130	405	392
930	207	64	158	130	405	392
935	207	64	158	130	405	392
940	207	64	158	130	405	392
975	250	86	158	130	405	392

Standard pipe entry is through the base, apart from CR1, CR2 and CR3 style units when pipe entry is through the side. If required, pipe entry through the top may be available on some styles. The flow header connection should be on the air leaving side of the coil.



For further detailed dimensional details for specific model types, please contact the Biddle Sales office

## BIDDLE AIR SYSTEMS

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Every effort has been made to ensure descriptions are correct at the time of print. Errors and omissions excepted. FORCEFLOWCB|V1|04|2023