



THE ORIGINAL
Belgravia
Supreme Plus

FAN CONVECTOR
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FAN CONVECTOR Belgravia Supreme Plus

Belgravia Supreme Plus: General Information

The SPC Belgravia Supreme Plus range is based on the range of Belgravia Supreme fan convectors and incorporates a fresh air inlet spigot and motorised damper allowing the unit to provide both space heating and ventilation.

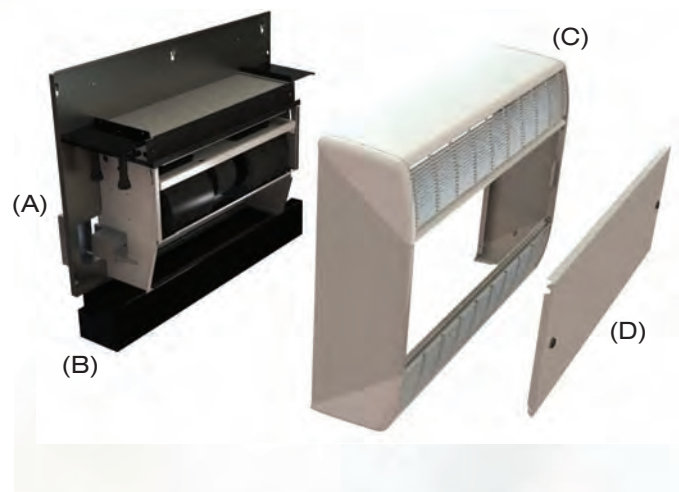
The specially designed damper is operated via a mechanism which simultaneously closes the room inlet grille when outside air is admitted. This outside air is treated by the heat exchanger prior to release to the space, preventing the possibility of draughts and offsetting the ventilation load at source.

Units can be wall or floor mounted. Wall mounted units have the fresh air inlet spigot in the back plate, floor mounted units have the option of the fresh air being drawn in from below the floor via a plinth which can be ordered with the unit.

Belgravia Supreme Plus: Construction

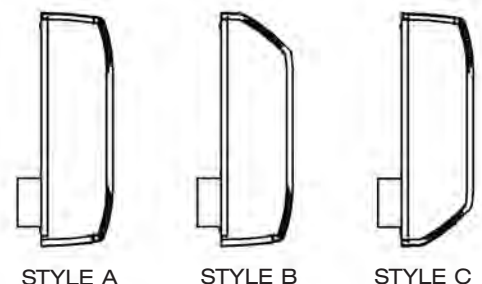
All Belgravia Supreme Plus units are composed of four basic parts:

- (A) **Back Plate Assembly** - including fans, heat exchanger, pipework and electric connections. This also incorporates the fresh air spigot, damper and actuator
- (B) **Plinth** - for floor mounted units
- (C) **Drop-Over Casing** - powder-coated side and front panel in dark grey (RAL 7044), top and bottom castings in light grey (RAL 9002) and pencilproof grilles in light grey (RAL 9002)
- (D) **Access Panel** - powder coated finish in dark grey (RAL 7004) as standard with tamperproof (accessed with an allen key) or lockable (accessed with a key) options.



Belgravia Supreme Plus: Sizes and Styles

Three styles of Belgravia Supreme Plus units are available, each comes in 7 models. All styles can have left-hand or right-hand coil connections with top or bottom pipe entry. The 3 styles are shown in the sketches opposite. Maximum dimensions and weight for each model are shown in the table below. Standard airflow is in through the bottom grille and out through the top. Units can be arranged with reversed airflow but must be specified when ordering.



DIMENSIONS							
MODEL	SPR 30	SPR 40	SPR 60	SPR 75	SPR 90	SPR 115	SPR 150
Length (mm)	800	800	1000	1300	1300	1600	1600
Height (mm)	740						
Depth (mm)	235						
Maximum Weight (kg)	36	36	46	51	51	57	57
Spigot Width (mm)	650	650	850	1150	1150	1450	1450
Spigot Height (mm)	155	155	155	155	155	155	155

Belgravia Supreme Plus: Performance Data

PERFORMANCE DATA																
Fan Setting		Boost					Medium					Low				
Performance		Air Flow Rate l/s	Output kW	Exit Air Temp °C	Pressure Drop kPa	Water Flow Rate l/s	Air Flow Rate l/s	Output kW	Exit Air Temp °C	Pressure Drop kPa	Water Flow Rate l/s	Air Flow Rate l/s	Output kW	Exit Air Temp °C	Pressure Drop kPa	Water Flow Rate l/s
Model	SPR 30	155	3.9	36.0	0.5	0.09	124	3.5	38.5	0.4	0.08	99	2.9	39.4	0.3	0.07
	SPR 40	140	5.8	49.5	1.1	0.14	112	5.0	52.2	0.8	0.12	89	4.2	54.3	0.6	0.10
	SPR 60	236	9.3	47.8	3.0	0.22	172	7.3	50.4	1.9	0.17	105	5.2	56.3	1.0	0.12
	SPR 75	280	11.6	49.5	5.3	0.28	189	8.5	52.5	2.9	0.20	110	5.9	59.7	1.7	0.14
	SPR 90	317	13.0	49.2	6.3	0.31	231	10.3	52.2	4.3	0.25	120	6.8	62.2	1.9	0.16
	SPR 115	248	13.5	60.4	7.7	0.32	188	10.8	62.9	5.3	0.26	128	8.1	67.7	3.0	0.19
	SPR 150	329	15.9	55.3	10.4	0.38	289	14.6	57.1	9.0	0.35	180	10.7	64.5	4.9	0.25

CORRECTION FACTORS													
Mean Water Temperature °C		80			70			60			50		
Water Temperature Drop °C		5	10	20	5	10	20	5	10	20	5	10	20
Entering Air Temperature °C	-5	1.46	1.40	1.36	1.27	1.24	1.15	1.11	1.05	0.98	0.92	0.86	0.75
	0	1.38	1.36	1.27	1.20	1.17	1.08	1.02	0.96	0.88	0.83	0.79	0.63
	5	1.30	1.26	1.19	1.12	1.08	1.00	0.93	0.88	0.79	0.75	0.70	0.52
	10	1.23	1.18	1.11	1.02	1.00	0.92	0.85	0.81	0.69	0.67	0.61	-
	15	1.14	1.08	1.02	0.94	0.90	0.82	0.76	0.73	0.58	0.57	0.51	-
	20	1.05	1.00	0.94	0.87	0.82	0.73	0.67	0.63	0.46	0.49	0.42	-
	25	0.96	0.93	0.86	0.77	0.73	0.63	0.58	0.55	-	-	-	-

Belgravia Supreme Plus: Noise Data

NR LEVELS				
Fan Setting		Boost	Medium	Low
Model	SPR 30	46	39	33
	SPR 40	45	38	32
	SPR 60	46	41	35
	SPR 75	44	38	33
	SPR 90	43	37	32
	SPR 115	42	39	34
	SPR 150	45	44	39

NOTES:

- NR levels are based on a room volume that would normally be heated by a single unit of each size shown;
- Reverberation time of the room is taken to be 0.4 seconds.;
- The listener is assumed to be standing in the middle of the room;
- The unit is assumed to be wall mounted

Belgravia Supreme Plus: Fan Assembly Electrical Data

230 V / 50 Hz Supply										
Fan Setting		High			Medium			Low		
Performance		Airflow (l/s)	EC Power draw (W)	EC SPF (W/l/s)	Airflow (l/s)	EC Power draw (W)	EC SPF (W/l/s)	Airflow (l/s)	EC Power draw (W)	EC SPF (W/l/s)
Model	SPR 30	155	34	0.22	124	20	0.16	99	13	0.13
	SPR 40	140	27	0.19	112	16	0.14	89	11	0.12
	SPR 60	223	84	0.38	184	53	0.29	108	15	0.14
	SPR 75	280	53	0.19	189	23	0.12	110	19	0.17
	SPR 90	317	73	0.23	231	34	0.15	120	18	0.15
	SPR 115	248	40	0.16	188	23	0.12	128	18	0.14
	SPR 150	329	80	0.24	289	58	0.20	180	22	0.12

Belgravia Supreme Plus: Controls and Accessories

The units are designed such that the fresh air inlet damper is controlled independently of the fan converter heater. The damper would normally be opened to fresh air via a signal from a central control system (BMS), by others. In turn, the signal to the controller will be from a CO₂ or occupancy sensor opening the damper only when the level of pollutants requires their dilution. The units can also be used in summer for free cooling when the boiler is not operating.

All unit functions can be controlled remotely by a central system in which case the units are supplied with relays which will accept signals not only to operate the damper but also to control fan on/off, change speed and summer/winter switch over.

The units can, if required, be controlled locally in which case the units are equipped with a variety of switches and thermostats as shown in the table.

FACTORY FITTED ACCESSORIES		
	Reference	Function
Thermostat	LTC	Low water temperature fan cut-out
	ALTC	Adjustable low water temperature fan cut-out
	RT1	Remote mounted on-off control
	RT2	Remote mounted change speed control
	TLX1	Tamper-proof on-off control
	TLX2	Tamper-proof change speed control
	2 STAGE	Combined on-off/change speed control
Switches	RS1	On-off rocker switch
	RS2	Summer-winter switch
	RS3	Change speed rocker switch
	RS12	Combined on-off / summer-winter rockers
	RS13	Combined on-off / change speed rockers
	RS23	Combined summer-winter / change speed rockers
	RS123	Combined on-off, summer-winter / change speed rockers
Relays	BMS	12/24/230V relays to accept control signals from a central controller
Electrical Connections	FSB	Fused spur box
	CCB	Customer connection box for remote stats etc.
Case Options & Accessories	EAV	Extended air vent
	RAF	Reversed airflow
	AF3	Air filter
	SPF	Special paint finish
	P	Plinth
	LAP	Lockable access panel
	TAP	Tamper-proof access panel
	BOX1F	Metal flush mounting box for single rocker switch
	BOX1S	White plastic surface mounting box for single rocker switch
	BOX2F	Metal flush mounting box for combined rockers switches
	BOX2S	White plastic surface mounting box for combined rocker switches

Belgravia Supreme Plus: Ordering Information

Full technical support is available by contacting the SPC Office.

Units are delivered wrapped and display the SPC works order number, model reference, site reference (where appropriate), handing and site details. Installation, operation and maintenance instructions, together with wiring and any special instructions, are supplied with the unit.

Belgravia Supreme Plus: Standard Engineering Specification

The Belgravia Supreme fan convector shall be manufactured by S & P Coil Products Limited, SPC House, Evington Valley Road, Leicester. The heater shall be suitable for the duties as described in the literature, dependent on the model selected. The quantities and model references shall be indicated in the schedule, the constructional features complying with the under-mentioned specification.

Case	The case shall be manufactured from aluminium extrusions and end-castings, with medium gauge mild steel front and side panels. The detachable access panel shall be fully trayed, and be retained by two tamper-proof fasteners. The internal chassis shall be constructed from medium gauge mild steel. The casing will locate into angled slots on the internal chassis and will be locked in place with standard bolts.
Finish	The case and internal chassis components shall be degreased and treated with an approved priming process, followed by final coats of colour-specified powder-coat finish.
Grilles	Integral grilles to be of linear pattern complying with BSEN 60335, manufactured from extruded aluminium with treated finish.
Attachable Plinth	Plinth, where called for, shall be manufactured from medium gauge mild steel, treated and paint-finished to suit.
Filters	Filters shall be a washable-type Bondina P15/150 non-woven polyamide, or equivalent, bonded with synthetic resin, and rated at EU2 arrestance complying with BSEN 779. Filters should be removable for cleaning.
Heat Exchangers	The heat exchanger shall be of block fin construction, comprising aluminium fins mechanically bonded to copper primary tubes brazed, in turn, into copper headers having BSP female flow and return connections at the same end, and rated in accordance with BS 5141. 1/8" BSP air bleed and drain connections to be provided as standard.
Test Pressure	The heat exchanger shall be tested to 22 bar (2,200kPa) air under water.
Working Pressure	All heat exchangers to be suitable for a maximum working pressure of 10 bar (1,000 kPa).
Motor Plate, Fan & Motor Assembly	The motor plate assembly shall be readily withdrawable for ease of maintenance, being resiliently mounted on guide rails. Ceiling mounted units shall have motor plates fixed by Nylock retaining nuts.
Fans	The fan(s) shall be of the double inlet, centrifugal type with forward curved blades. The impeller and scroll shall be from galvanised sheet steel and the impeller shall be directly mounted on the external rotor motor. One or two fans shall be used according to size.
Motors	The motor shall be of the electronically commutated external rotor type with inbuilt electronics enclosure. The motor will incorporate maintenance free ball bearings. Motors shall be Ip44 and insulation class B rated. Rotational speed shall be controlled via a 0 to 10V signal to the terminal block of the rotor.
Dampor Actuator	230V, open/close actuator with a 5Nm torque rating. Power consumption 1.5W
Wiring & Controls	Provision shall be made for internal wiring with selected control options, and an internally-mounted customer connection box shall be provided for interfacing remote options to the unit. All internal wiring shall be tri-rated heat-resistant cable. Unit motors to be suitable for operation with a standard single phase 230V/50Hz supply.
Packaging	Each fan convector shall be despatched in a purpose-made carton, which will be clearly marked with the unit model reference, and instructions called for in the schedule.
C E Marking	The fan convector shall comply with all relevant EU directives currently in force.

S & P Coil Products reserve the right to amend specification whilst pursuing a policy of continual improvements in performance and design.