

# Caspian® FF



Can be installed in an adjacent room, or storage cupboard, with the warm air outlets positioned at the rear of the appliance and ducted into the adjacent room such as a sports hall or even a narrow corridor, permitting an obstruction free wall space



## Features

- Caspian fan convectors are both a practical and high quality heating solution for any commercial project
- Incorporating the latest EC motor technology, which can result in running-cost savings as high as 70%, and with variable speed control as standard, the Caspian delivers heat quickly and quietly. AC motor models are available on request
- It is possible to have master and slave Caspian fan convectors that integrate the entire range of EC Caspian products. Please contact either our sales team or technical team to ensure that this is correctly specified
- Caspian are compatible with most types of wet central heating systems, functioning equally efficiently with conventional boilers, biomass technology or ground or air source heat pumps
- The airflow can be reversed so that the warm air is discharged from the lower vent. Please contact either our sales team or technical team to ensure that the correct inlet/discharge positioning is specified.
- Available with antibacterial paint, for more information download our [antibacterial paint datasheet](#)
- EC versions are now available with Caspian Smart Controls, for more information please visit our website: <https://smithsep.co.uk/catalogue/caspian-smart-controls/>

## Applications

Education, healthcare, places of worship, leisure and sport office, hospitality, retail, showroom and industrial.

## Motor

EC (BMS compliant) or AC.

## Finish

Casing: zinc-coated steel 1.2mm.  
Polyester powdercoated: white RAL 9010.  
Available to special order in any colour and with anti-microbial or anti-bacterial paint, for more information download our [antibacterial paint datasheet](#)

## Filter

Class G2, 100% polyester, non-washable.

## Installation

Suitable for two-pipe central heating systems.  
Maximum installation height for high or ceiling mounting, - 4m to underside.  
Pipework access holes on the rear and underside.  
Key operated front access panels.  
Bleed valve accessible on removal of front casing.  
Unit must be earthed.

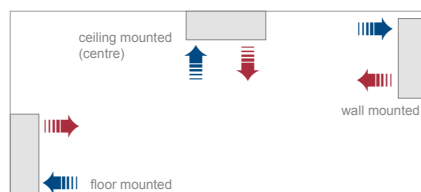
## Commissioning

Check water is hot enough to activate the low temperature cut-out thermostat.

## Controls

See accessories table.

## Mounting options



## Rear outlet



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## Heat output - EC (AC product also available)

Model Reference	Fan Speed	Control Voltage VDC	40°C MWT	45°C MWT	50°C MWT	55°C MWT	60°C MWT	65°C MWT	70°C MWT	75°C MWT	80°C MWT
EC 60	Low	3.4	0.85	1.20	1.45	1.80	2.16	2.35	2.73	3.08	3.40
	Mid	4.9	1.02	1.53	1.92	2.37	2.76	3.18	3.58	4.05	4.38
	High	6.4	1.18	1.85	2.38	2.93	3.36	4.00	4.43	5.02	5.36
EC 90	Low	3.2	1.68	2.23	3.01	3.49	4.05	4.45	5.12	5.49	6.03
	Mid	4.6	2.22	3.07	4.05	4.66	5.42	6.01	6.81	7.34	7.93
	High	6.1	2.75	3.90	5.08	5.82	6.78	7.56	8.49	9.19	9.83
EC 120	Low	3.1	1.62	2.34	3.32	3.98	4.71	5.62	6.32	6.99	7.61
	Mid	4.3	2.31	3.25	4.27	5.15	6.07	7.02	7.91	8.74	9.60
	High	5.5	2.99	4.15	5.21	6.31	7.42	8.41	9.50	10.48	11.59
EC 150	Low	2.8	2.95	3.72	4.49	5.27	6.045	6.79	7.54	8.29	9.04
	Mid	4.0	3.99	4.99	5.99	6.99	7.97	8.99	9.97	10.98	11.93
	High	5.1	5.02	6.26	7.49	8.71	9.90	11.19	12.39	13.67	14.82
EC 180	Low	2.8	3.64	5.20	6.78	8.24	9.39	10.33	11.24	12.15	13.01
	Mid	3.9	4.51	6.18	7.85	9.51	10.95	12.36	13.70	15.07	16.40
	High	4.9	5.38	7.16	8.91	10.77	12.50	14.39	16.16	18.0	19.78

Model Reference	Fan Speed	Air Volume (m³/h)	Air Volume (l/s)	Specific Fan Power w/l/s	Power Consumption (W)	NR in typical room*	Hydraulic Resistance (KPA)	Nominal Weight (KG)	Water Capacity (L)
EC 60	Low	201.00	55.90	0.14	8.00	34.00	1.38	23.00	0.92
	Mid	290.50	80.75	0.26	21.00	41.50	1.69		
	High	380.00	105.60	0.32	34.00	49.50	2.00		
EC 90	Low	297.00	80.75	0.20	16.00	34.00	4.70	36.00	1.50
	Mid	450.50	124.38	0.34	42.00	41.50	5.85		
	High	604.00	168.00	0.40	68.00	49.97	7.00		
EC 120	Low	419.30	116.50	0.14	16.00	34.00	17.78	45.00	2.08
	Mid	549.65	152.68	0.26	40.00	42.00	20.59		
	High	680.00	188.89	0.34	64.00	49.96	23.40		
EC 150	Low	459.80	127.72	0.17	22.00	34.70	22.23	60.00	2.58
	Mid	598.10	166.14	0.35	59.00	41.50	29.46		
	High	736.40	205.56	0.47	96.00	49.38	36.69		
EC 180	Low	542.00	150.56	0.19	29.00	34.90	47.83	78.00	3.18
	Mid	690.00	191.67	0.40	78.50	41.50	60.76		
	High	838.00	232.78	0.55	128.00	49.00	73.70		

\*a typical room is taken as a room with a volume of 173m³ and a reverberation time of 0.8 seconds at 500 Hz with one unit installed, situated against a wall or ceiling (radiating noise in a quartersphere). No allowance is made for attenuation provided by ceilings, enclosures or ductwork. Outputs based upon testing at EN442: 2014 using mean water temperature and an entering air temperature of 20°C with a 10°C temperature drop between flow and return.

## Correction factors

Mean Water Temp °C	45 - 80			
Water Temperature drop °C	5	10	15	20
Entering Air Temperature °C				
15	1.13	1.10	1.07	1.05
18	1.08	1.05	1.02	0.99
20	1.04	1.00	0.95	0.89
25	0.93	0.91	0.89	0.86

### How to calculate Mass Flow Rate (L/S)

$M = H / CP \times (\text{Flow } ^\circ\text{C} - \text{Return } ^\circ\text{C})$   
 M = Mass flow rate (L/S)  
 H = Output of product (W)  
 CP = Specific heat capacity [J/(kg·°C)].  
 Varies upon system temperature, approx. 4187 if fluid is water.

### How to calculate Mean Water Temperature (ΔT)

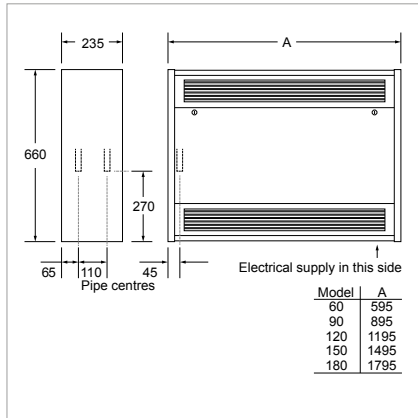
Mean water temperature (ΔT) =  $\left[ \frac{\text{Flow temperature} + \text{Return temperature}}{2} \right] - \text{Ambient Temperature}$

Factors are approximate data based upon a standard coil.

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## Ordering guide

Model	Packed Wt (kg)	AC Codes	EC Codes
CASPIAN FF 60	23	HPCA23001	HPCA22001
CASPIAN FF 90	36	HPCA23002	HPCA22002
CASPIAN FF 120	45	HPCA23003	HPCA22003
CASPIAN FF 150	60	HPCA23004	HPCA22004
CASPIAN FF 180	78	HPCA23005	HPCA22005
<b>Rear Outlet</b>			
CASPIAN FF 60	23	HPCA23006	HPCA22006
CASPIAN FF 90	36	HPCA23007	HPCA22007
CASPIAN FF 120	45	HPCA23008	HPCA22008
CASPIAN FF 150	60	HPCA23009	HPCA22009
CASPIAN FF 180	78	HPCA23010	HPCA22010

## Specification

To specify state:

Fan Convector with EC motor (or AC), in 1.2mm zinc coated steel, 660mm high and 595mm, 895mm, 1195mm, 1495mm or 1795mm wide. With variable heat output controller. As Smith's Caspian FF 60, 90, 120, 150, 180.

Plinths	Product Codes			
	100mm Black	100mm White	150mm Black	150mm White
CASPIAN FF/EXT/SL/TT 60 PLINTH	HACA33077	HACA33087	HACA33082	HACA33092
CASPIAN FF/EXT/SL/TT 90 PLINTH	HACA33078	HACA33088	HACA33083	HACA33093
CASPIAN FF/EXT/SL/TT 120 PLINTH	HACA33079	HACA33089	HACA33084	HACA33094
CASPIAN FF/EXT/SL/TT 150 PLINTH	HACA33080	HACA33090	HACA33085	HACA33095
CASPIAN FF/EXT/SL/TT 180 PLINTH	HACA33081	HACA33091	HACA33086	HACA33096
<b>Accessories</b>			<b>White Steel</b>	<b>Black steel</b>
POWDER-COATED STEEL INLET/OUTLET GRILLE (TO SUIT FF & EXT RO 60)			HACA33048	HACA33053
POWDER-COATED STEEL INLET/OUTLET GRILLE (TO SUIT FF & EXT RO 90)			HACA33049	HACA33054
POWDER-COATED STEEL INLET/OUTLET GRILLE (TO SUIT FF & EXT RO 120)			HACA33050	HACA33055
POWDER-COATED STEEL INLET/OUTLET GRILLE (TO SUIT FF & EXT RO 150)			HACA33051	HACA33056
POWDER-COATED STEEL INLET/OUTLET GRILLE (TO SUIT FF & EXT RO 180)			HACA33052	HACA33057
<b>Accessories</b>			<b>Product Codes</b>	
ADJUSTABLE STRAIGHT AIR INLET/OUTLET EXTENSION DUCT (TO SUIT EXT & FF RO 60)			HACA33043	
ADJUSTABLE STRAIGHT AIR INLET/OUTLET EXTENSION DUCT (TO SUIT EXT & FF RO 90)			HACA33044	
ADJUSTABLE STRAIGHT AIR INLET/OUTLET EXTENSION DUCT (TO SUIT EXT & FF RO 120)			HACA33045	
ADJUSTABLE STRAIGHT AIR INLET/OUTLET EXTENSION DUCT (TO SUIT EXT & FF RO 150)			HACA33046	
ADJUSTABLE STRAIGHT AIR INLET/OUTLET EXTENSION DUCT (TO SUIT EXT & FF RO 180)			HACA33047	
ANODISED ALUMINIUM INLET/OUTLET GRILLE (TO SUIT FF & EXT RO 60)			HACA33058	
ANODISED ALUMINIUM INLET/OUTLET GRILLE (TO SUIT FF & EXT RO 90)			HACA33059	
ANODISED ALUMINIUM INLET/OUTLET GRILLE (TO SUIT FF & EXT RO 120)			HACA33060	
ANODISED ALUMINIUM INLET/OUTLET GRILLE (TO SUIT FF & EXT RO 150)			HACA33061	
ANODISED ALUMINIUM INLET/OUTLET GRILLE (TO SUIT FF & EXT RO 180)			HACA33062	
PENCIL PROOF GRILLE INSERT (PAIR TO SUIT FF, SL & UV 60)			HACA33069	
PENCIL PROOF GRILLE INSERT (PAIR TO SUIT FF, SL & UV 90)			HACA33070	
PENCIL PROOF GRILLE INSERT (PAIR TO SUIT FF, SL & UV 120)			HACA33071	
PENCIL PROOF GRILLE INSERT (PAIR TO SUIT FF, SL & UV 150)			HACA33072	
PENCIL PROOF GRILLE INSERT (PAIR TO SUIT FF, SL & UV 180)			HACA33073	
FLEXIBLE HOSES 22MM PAIR			HAGA95003	
ROOM THERMOSTAT HARD WIRED			HAGA95001	
ROOM THERMOSTAT TAMPER PROOF			HACA95004	
CASPIAN PROPORTIONAL HEAT OUTPUT CONTROLLER 15°-25° INTEGRAL (EC)			HACA33005	
CASPIAN PROPORTIONAL HEAT OUTPUT CONTROLLER 15°-25° REMOTE SENSOR (EC)			HACA33037	
CASPIAN PROPORTIONAL HEAT OUTPUT CONTROLLER 11°-21° INTEGRAL (EC)			HACA33117	
CASPIAN PROPORTIONAL HEAT OUTPUT CONTROLLER 11°-21° REMOTE SENSOR (EC)			HACA33118	
BLANK CONFIGURABLE PROPORTIONAL HEAT OUTPUT CONTROLLER (PROGRAMMED AT FACTORY)			HACA33126	
CASPIAN ADJUSTABLE LOW TEMPERATURE CUT-OUT (EC AND AC)			HACA33001	
CASPIAN EXTERNAL CONTROL HARNESS (EC)			HACA33004	
CASPIAN EC LINKING KIT (MASTER/SLAVE)			HACA33068	
CASPIAN REMOTE SWITCHING ON/OFF RELAY (24V AC COIL)			HACA33127	
CASPIAN THERMOSTAT (T1) & AUTO-SPEED CONTROL (T2) (AC LOW LEVEL)			HACA33003	
CASPIAN THERMOSTAT (T1) (EC & AC LOW LEVEL)			HACA33002	
CASPIAN THERMOSTAT (T2) (AC LOW LEVEL)			HACA33036	

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