

# Caspian® SL

Warm air is discharged at an upward 45° angle to avoid causing discomfort to people sitting adjacent to appliance and with chamfered profile to avoid sharp corners



## 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 80%, and with variable speed control as standard, the Caspian delivers heat quickly and quietly. AC motor models are available on request
- 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

## 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.

## Filter

Class G3, 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

Variable heat output controller (mounted within the products).

## Mounting options



# Caspian® SL - EC



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## Heat output - EC

Model	Control Voltage VDC			Heat Output at 80°			Heat Output at 75°			Heat Output at 70°			Heat Output at 65°		
	Low (kW)	Medium (kW)	High (kW)	Low (kW)	Medium (kW)	High (kW)	Low (kW)	Medium (kW)	High (kW)	Low (kW)	Medium (kW)	High (kW)	Low (kW)	Medium (kW)	High (kW)
CASPIAN SL 60	3.80	5.65	7.50	3.2	4.5	5.9	2.9	4.0	5.0	2.6	4.0	5.0	2.3	3.2	4.2
CASPIAN SL 90	3.40	5.45	7.50	5.2	7.7	10.3	5.0	7.0	10.0	4.0	7.0	9.0	3.9	5.9	8.0
CASPIAN SL 120	4.94	6.77	8.60	9.0	11.8	14.5	8.0	11.0	13.0	7.0	10.0	12.0	6.6	8.6	10.6
CASPIAN SL 150	4.70	6.65	8.60	11.7	15.6	19.6	11.0	14.0	18.0	10.0	13.0	16.0	8.8	11.8	14.7
CASPIAN SL 180	4.70	6.65	8.60	16.3	21.3	26.2	15.0	19.0	24.0	14.0	17.0	21.0	12.3	15.2	18.2

Model	Heat Output at 60°			Heat Output at 55°			Heat Output at 50°			Heat Output at 45°			Heat Output at 40°		
	Low (kW)	Medium (kW)	High (kW)	Low (kW)	Medium (kW)	High (kW)	Low (kW)	Medium (kW)	High (kW)	Low (kW)	Medium (kW)	High (kW)	Low (kW)	Medium (kW)	High (kW)
CASPIAN SL 60	2.0	3.0	4.0	1.7	2.0	3.0	1.4	1.9	2.5	1.1	1.5	1.9	0.8	1.0	1.2
CASPIAN SL 90	4.0	5.0	7.0	3.0	5.0	6.0	2.6	3.9	5.3	2.0	3.0	4.1	1.5	2.2	2.9
CASPIAN SL 120	6.0	8.0	9.0	5.0	6.0	8.0	3.9	5.4	6.9	3.0	4.2	5.4	2.1	3.0	3.9
CASPIAN SL 150	8.0	10.0	13.0	7.0	9.0	12.0	5.9	7.9	9.9	4.9	6.6	8.3	3.9	5.3	6.8
CASPIAN SL 180	11.0	13.0	16.0	9.0	11.0	13.0	7.7	9.4	11.2	6.1	7.5	9.0	4.4	5.6	6.8

Model	Flow & return connections		Air Volume (m³/h)			Air Volume (l/s)			Total Power Consumption			Water Capacity (Litres)
	Flow	return	Low (kW)	Medium (kW)	High (kW)	Low (kW)	Medium (kW)	High (kW)	Low (Watts)	Medium (Watts)	High (Watts)	
CASPIAN SL 60	22mm	3A	201.0	290.5	380.0	55.9	80.7	105.6	8.0	24.0	40.0	0.92
CASPIAN SL 90	22mm	3A	297.0	450.5	604.0	80.7	124.4	168.0	15.0	42.5	70.0	1.50
CASPIAN SL 120	22mm	3A	512.0	692.0	872.0	142.2	192.2	242.2	41.8	75.9	110.0	2.08
CASPIAN SL 150	22mm	3A	566.7	789.9	1013.0	157.4	219.4	281.4	59.2	118.1	177.0	2.58
CASPIAN SL 180	22mm	3A	656.0	914.1	1172.2	182.2	253.9	325.6	74.5	147.2	220.0	3.18

Model	NR in typical room*			Sound Pressure LP at 3m from unit, dB			Hydraulic resistance (KPA)			Nominal Weight (kg)
	Low (dBA)	Medium (dBA)	High (dBA)	Low (dBA)	Medium (dBA)	High (dBA)	Low (kW)	Medium (kW)	High (kW)	
CASPIAN SL 60	30	42	48	28	40	47	1.4	1.7	2.0	23
CASPIAN SL 90	31	43	52	28	41	50	4.7	5.8	7.0	36
CASPIAN SL 120	40	49	56	39	48	54	17.8	20.6	23.4	45
CASPIAN SL 150	41	51	59	40	50	57	22.2	36.7	51.2	60
CASPIAN SL 180	42	52	59	41	51	57	47.8	73.7	99.6	78

Heat output testing based on BS EN442 using mean water temperature, 18°C entering air temperature, 10° temperature drop.

\* 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 quarter sphere). No allowance is made for attenuation provided by ceilings, enclosures or ductwork.

Sound levels measured at 3m in front of the floor mounted model

## Correction factors

EAT°C	Mean water temperature °C	
	80 to 40	
15	1.10	
21	0.93	

Factor	Temperature drop °C			
	20	15	10	5
Factor	0.89	0.95	1.00	1.04

### 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)

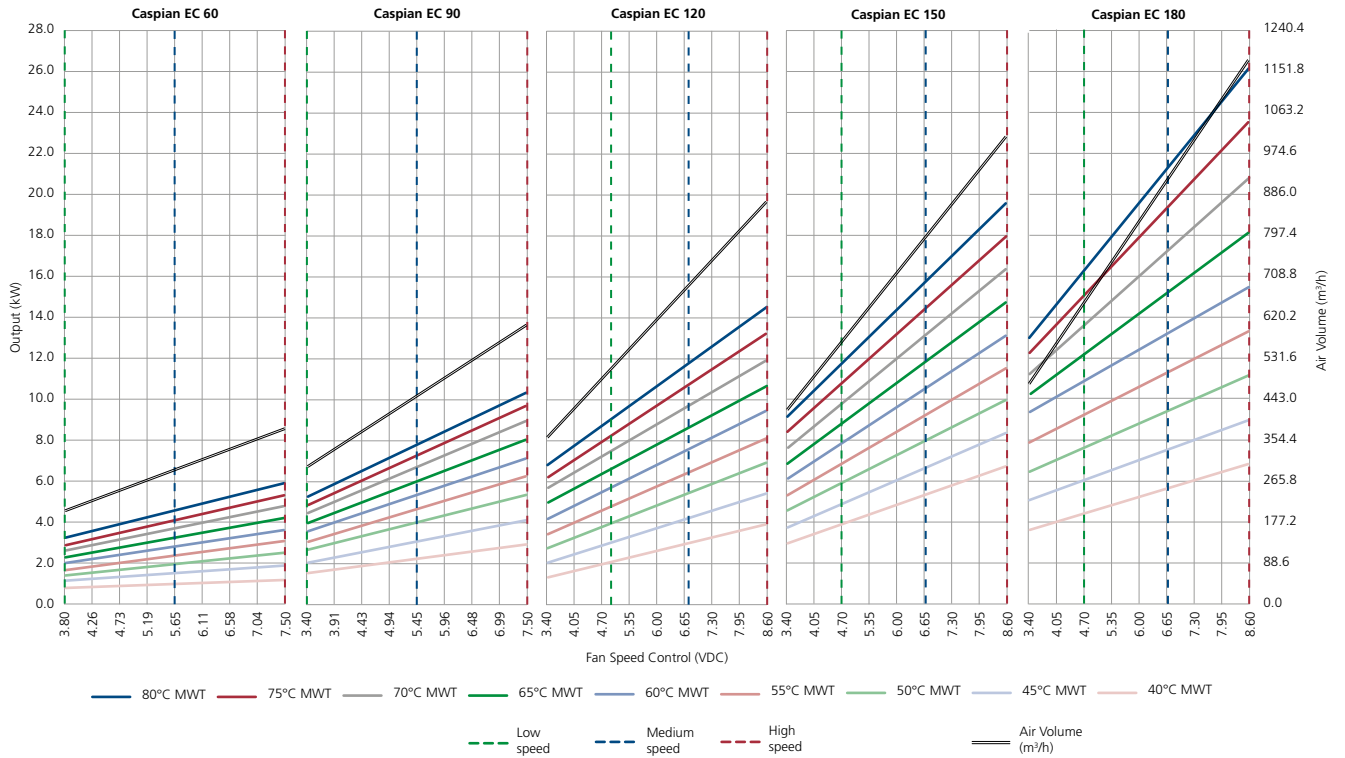
$$\text{Mean water temperature } (\Delta T) = \left[ \frac{\text{Flow temperature} + \text{Return temperature}}{2} \right] - \text{Ambient Temperature}$$

# Caspian<sup>®</sup> SL - EC



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## Caspian EC - Performance Graph



# Caspian® SL - AC



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## Heat output - AC

Model	Transformer Voltage VDC			Heat Output at 80°			Heat Output at 75°			Heat Output at 70°			Heat Output at 65°		
	Low (kW)	Medium (kW)	High (kW)	Low (kW)	Medium (kW)	High (kW)	Low (kW)	Medium (kW)	High (kW)	Low (kW)	Medium (kW)	High (kW)	Low (kW)	Medium (kW)	High (kW)
CASPIAN SL 60	90	100	110	4.0	4.5	5.1	3.6	4.0	5.0	3.2	4.0	4.0	2.8	3.2	3.6
CASPIAN SL 90	90	100	110	6.8	7.7	8.6	6.0	7.0	8.0	6.0	6.0	7.0	4.9	5.5	6.2
CASPIAN SL 120	110	130	140	11.4	13.4	14.4	10.0	12.0	13.0	9.0	11.0	12.0	8.2	9.6	10.3
CASPIAN SL 150	110	130	140	14.8	15.4	16.2	14.0	14.0	15.0	13.0	13.0	14.0	11.3	11.9	12.8
CASPIAN SL 180	110	130	140	17.2	18.2	19.2	16.0	17.0	18.0	15.0	16.0	17.0	13.6	14.4	15.4

Model	Heat Output at 60°			Heat Output at 55°			Heat Output at 50°			Heat Output at 45°			Heat Output at 40°		
	Low (kW)	Medium (kW)	High (kW)	Low (kW)	Medium (kW)	High (kW)	Low (kW)	Medium (kW)	High (kW)	Low (kW)	Medium (kW)	High (kW)	Low (kW)	Medium (kW)	High (kW)
CASPIAN SL 60	2.5	3.0	3.0	2.2	3.0	3.0	1.8	2.1	2.3	1.4	1.6	1.8	1.1	1.3	1.4
CASPIAN SL 90	4.0	5.0	5.0	4.0	4.0	5.0	3.2	3.6	4.0	2.5	2.8	3.1	1.9	2.2	2.4
CASPIAN SL 120	7.0	8.0	9.0	6.0	7.0	8.0	5.3	6.2	6.7	4.2	4.9	5.2	3.2	3.8	4.1
CASPIAN SL 150	10.0	11.0	12.0	9.0	10.0	10.0	7.5	8.2	9.0	6.2	6.9	7.5	4.8	5.4	6.1
CASPIAN SL 180	12.0	13.0	14.0	11.0	12.0	13.0	9.8	10.5	11.2	8.4	9.1	9.4	6.6	7.3	7.8

Model	Flow & return connections		Air Volume (m³/h)			Air Volume (l/s)			Total Power Consumption			Water Capacity (Litres)
	Flow	return	Low (kW)	Medium (kW)	High (kW)	Low (kW)	Medium (kW)	High (kW)	Low (Watts)	Medium (Watts)	High (Watts)	
CASPIAN SL 60	22mm	3A	220.0	248.0	281.0	61.1	68.9	78.1	29	36	51	0.92
CASPIAN SL 90	22mm	3A	367.0	414.0	461.0	101.9	115.0	128.1	53	60	98	1.50
CASPIAN SL 120	22mm	3A	608.0	720.0	781.0	168.9	200.0	216.9	99	135	151	2.08
CASPIAN SL 150	22mm	3A	822.9	896.4	969.8	228.6	249.0	269.4	149	203	227	2.58
CASPIAN SL 180	22mm	3A	981.0	1168.0	1258.0	272.5	324.4	349.4	198	270	302	3.18

Model	NR in typical room*			Sound Pressure LP at 3m from unit, dB			Hydraulic resistance (KPA)			Nominal Weight (kg)
	Low (dBA)	Medium (dBA)	High (dBA)	Low (dBA)	Medium (dBA)	High (dBA)	Low (kW)	Medium (kW)	High (kW)	
CASPIAN SL 60	33	36	39	32	34	37	1.4	1.7	2.0	23
CASPIAN SL 90	38	41	44	36	40	42	4.7	5.8	7.0	36
CASPIAN SL 120	42	47	50	40	45	48	17.8	20.6	23.4	45
CASPIAN SL 150	45	50	52	42	48	50	22.2	36.7	51.2	60
CASPIAN SL 180	46	51	54	44	49	51	47.8	73.7	99.6	78

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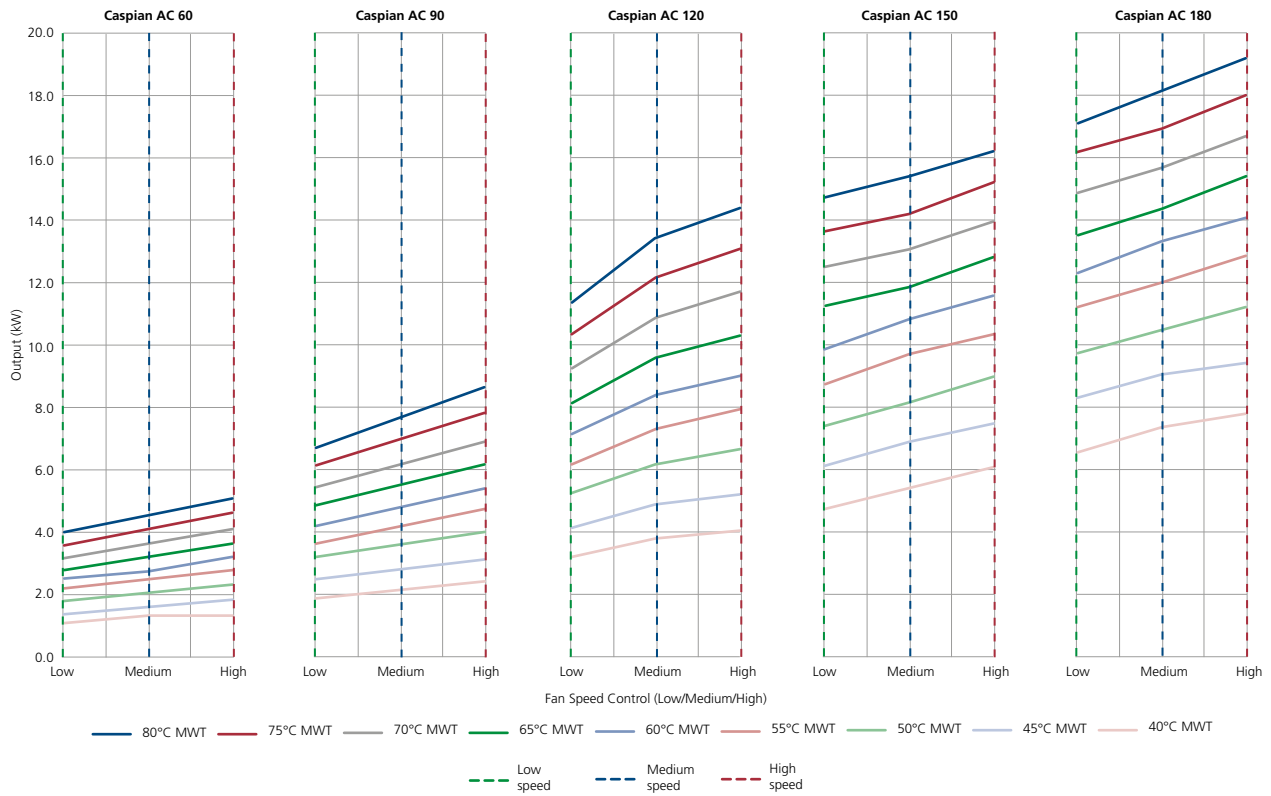
$$\text{Mean water temperature } (\Delta T) = \left[ \frac{\text{Flow temperature} + \text{Return temperature}}{2} \right] - \text{Ambient Temperature}$$

# Caspian® SL - AC



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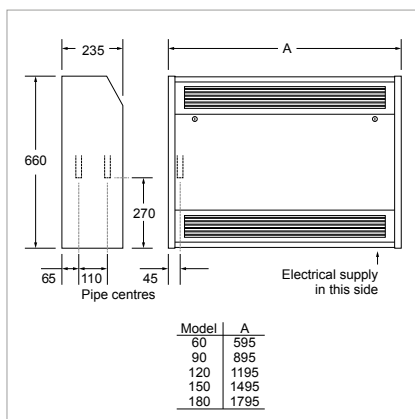
## Caspian AC - Performance Graph



# Caspian® SL



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## Ordering guide

Model	Packed Wt (kg)	Product Codes
<b>AC Codes</b>		
CASPIAN SL 60	23	HPCA31601
CASPIAN SL 90	36	HPCA31602
CASPIAN SL 120	45	HPCA31603
CASPIAN SL 150	60	HPCA31604
CASPIAN SL 180	78	HPCA31605
<b>EC Codes</b>		
CASPIAN SL 60	23	HPCA31501
CASPIAN SL 90	36	HPCA31502
CASPIAN SL 120	45	HPCA31503
CASPIAN SL 150	60	HPCA31504
CASPIAN SL 180	78	HPCA31505

## Specification

To specify state:

Fan Convecter 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 SL 60/90/120/150/180.

Accessories	Product Codes
CASPIAN FF/EXT/SL/TT 60 PLINTH WHITE (150MM)	HACA33092
CASPIAN FF/EXT/SL/TT 90 PLINTH WHITE (150MM)	HACA33093
CASPIAN FF/EXT/SL/TT 120 PLINTH WHITE (150MM)	HACA33094
CASPIAN FF/EXT/SL/TT 150 PLINTH WHITE (150MM)	HACA33095
CASPIAN FF/EXT/SL/TT 180 PLINTH WHITE (150MM)	HACA33096
CASPIAN FF/EXT/SL/TT 60 PLINTH BLACK (150MM)	HACA33082
CASPIAN FF/EXT/SL/TT 90 PLINTH BLACK (150MM)	HACA33083
CASPIAN FF/EXT/SL/TT 120 PLINTH BLACK (150MM)	HACA33084
CASPIAN FF/EXT/SL/TT 150 PLINTH BLACK (150MM)	HACA33085
CASPIAN FF/EXT/SL/TT 180 PLINTH BLACK (150MM)	HACA33086
CASPIAN ADJUSTABLE LOW TEMPERATURE CUT-OUT (EC AND AC)	HACA33001
CASPIAN THERMOSTAT (T1) (EC LOW LEVEL)	HACA33002
CASPIAN THERMOSTAT (T2) (AC LOW LEVEL)	HACA33036
CASPIAN THERMOSTAT (T1) & AUTO-SPEED CONTROL (T2) (AC LOW LEVEL)	HACA33003
CASPIAN EXTERNAL CONTROL HARNESS (EC)	HACA33004
CASPIAN PROPORTIONAL HEAT OUTPUT CONTROLLER 15°-25°C INTEGRAL (EC)	HACA33005
CASPIAN PROPORTIONAL HEAT OUTPUT CONTROLLER 15°-25°C REMOTE SENSOR (EC)	HACA33037
CASPIAN PROPORTIONAL HEAT OUTPUT CONTROLLER 11°-21°C INTEGRAL (EC)	HACA33117
CASPIAN PROPORTIONAL HEAT OUTPUT CONTROLLER 11°-21°C REMOTE SENSOR (EC)	HACA33118
ROOM THERMOSTAT HARD WIRED	HAGA95001
ROOM THERMOSTAT HARD WIRED SIEMENS	HACA33104
ROOM THERMOSTAT RF SIEMENS	HACA33074
ROOM THERMOSTAT TAMPER PROOF SIEMENS	HACA95004
FLEXIBLE HOSES 22MM PAIR	HAGA95003

100mm plinth also available, please contact us for further information

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