

inWave EC

Sound-insulated inline mixed-flow fans with EC motor

Use

- Combined supply and exhaust ventilation systems of various commercial and industrial spaces with stringent noise requirements (such as libraries, conference halls, classrooms, kindergarten playrooms etc.).
- For ventilation air ducts requiring high pressure, powerful air flow and low noise level.
- Compatible with Ø 100 and 125 mm air ducts.



Air flow:
up to 350 m³/h
97 l/s

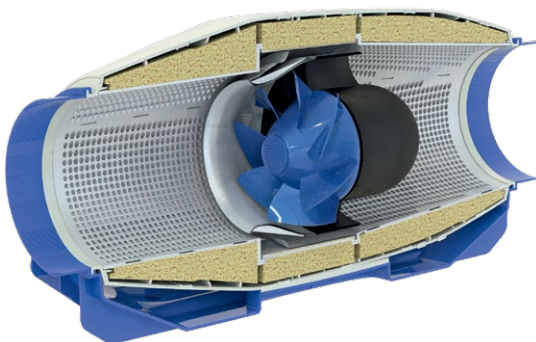


Features

- The new series of **inWave EC** is provided with a special sound-insulated casing which ensures silent operation and excellent aerodynamic characteristics.
- **inWave EC** fans combine the versatility and outstanding performance of both axial and centrifugal fans producing a powerful air flow and high pressure while retaining the signature energy-efficiency and response of EC motors.
- Several fans can be integrated into a single computer-controlled system with sensor feedback combined with speed control across the entire dynamic range.

Design

- The casing is made of high-quality durable plastic, internally filled with 50 mm mineral wool thermal- and sound-insulating layer.
- Special inner perforation of the casing and sound-insulating material are designed for wide-frequency sound absorbing.
- Mixed-flow impeller made of high-quality plastic.



- The diffuser, the specially profiled impeller and directing vanes provide high performance and powerful pressure combined with low noise operation.
- External airtight terminal block on the fan casing for power supply.
- Mounting brackets on the fan casing for mounting to the floor, to the wall or ceiling.



Motor

- High-efficient direct current EC motor.
- EC technology meets the up-to-date requirements to energy-saving and controllable ventilation and provides up to 35 % energy saving as compared to asynchronous motors.
- EC motor ensures totally controllable speed range for the fan and has integrated overheating protection with automatic restart.
- EC motor has no friction and wearing parts as capacitor and brushes. Instead a maintenance-free EC controller electronic circuit board is used.
- The impeller is dynamically balanced.
- The fan is compatible with 50 Hz and 60 Hz power mains and the maximum speed does not depend on power mains frequency.

Designation key

Series	Motor type	Spigot diameter [mm]	Options
inWave	EC: electronically commutated motor	100/125	FR1: smooth speed controller adjustable from 0 to 100 % and power cable with mains plug G1: speed controller, temperature controller with external temperature sensor, power cable with mains plug W: power cable with plug

Accessories

Silencers	Filter boxes	Electric heaters	Water heaters	Backdraft air dampers	Air dampers	Clamps	Speed controllers	
								
SD	KFBK	KFBT	EKH	WKH	VRV	VK / VKA	K	CDT E/0-10

Speed control

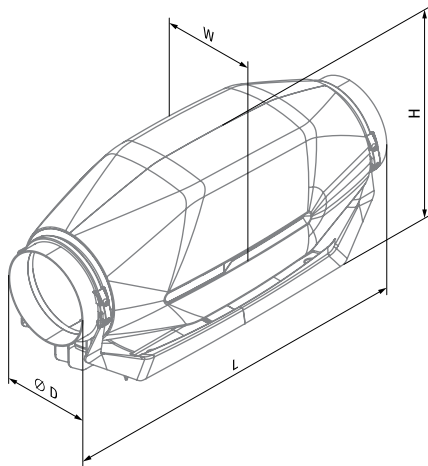
- o The fan speed is controlled with a 0–10 V control signal from the following sources:
 - integrated or external speed controller
 - controller with sensors
- o The control signal value changes depending on air temperature, pressure, smoke concentration and other parameters.
- o During signal value change the fan with EC motor correspondingly changes the rotations speed and delivers required air volume to the ventilation system.

Mounting

- o The fans are designed to be used with round air ducts.
- o The fan casing has mounting brackets for convenient installation onto the floor, walls or ceiling.
- o Make sure to provide sufficient maintenance access during fan installation. Electrical connection and installation must be performed in accordance with the instruction manual and the electrical connections diagram applied to the terminal box.
- o A single system may have several fans installed in parallel to boost the output capacity or in series to boost the working pressure.

Dimensions [mm]

Type	Ø D	H	L	W	Weight [kg]
inWave EC 100/125 max (spigot 100 mm)	100	224	579	207	3.6
inWave EC 100/125 max (spigot 125 mm)	125	224	502	207	3.6



Modifications and options

- o **FR1:** smooth speed controller adjustable from 0 to 100 % and power cable with mains plug.



- o **G1:** speed controller, temperature controller with external temperature sensor (cable length 4 m), power cable with mains plug.
- o The **G1** modification enables automatic speed control depending on indoor temperature. The optimal ventilation solution for premises requiring permanent temperature control as greenhouses, orangeries, etc.
- o **W:** power cable with plug.



inWave EC 100/125 (spigot 100 mm)



inWave EC 100/125 (spigot 125 mm)

SOUND-INSULATED INLINE FANS

Technical data

Parameters	inWave EC 100/125	inWave EC 100/125
Spigot diameter	100	125
Voltage [V / 50 (60) Hz]	1 ~ 230	1 ~ 230
Power [W]	19	20
Current [A]	0.70	0.77
Maximum air flow [m ³ /h (l/s)]	225 (63)	350 (97)
RPM [min ⁻¹]	3002	3002
Sound pressure at 3 m [dBA]	29	28
Transported air temperature [°C]	-25...+55	-25...+55
IP rating	IPX4	IPX4
Motor IP rating	IP44	IP44
ErP	2018	2018

To comply with ErP 2018 it is necessary to use a local demand control typology (connect the sensor).

INWAVE EC 100/125 (SPIGOT 100 MM)

Sound power level, A-weighted	Total	Octave frequency bands [Hz]								LpA 3 m	LpA 1 m
		63	125	250	500	1000	2000	4000	8000		
L _{WA} to inlet [dBA]	59	39	53	56	52	49	45	38	30	39	49
L _{WA} to outlet [dBA]	58	33	46	55	52	43	41	37	29	38	48
L _{WA} to environment [dBA]	50	32	44	45	42	41	36	27	22	29	39

INWAVE EC 100/125 (SPIGOT 125 MM)

Sound power level, A-weighted	Total	Octave frequency bands [Hz]								LpA 3 m	LpA 1 m
		63	125	250	500	1000	2000	4000	8000		
L _{WA} to inlet [dBA]	59	38	52	55	51	49	44	37	30	38	48
L _{WA} to outlet [dBA]	57	32	45	54	51	42	41	36	28	36	46
L _{WA} to environment [dBA]	48	31	42	43	41	40	35	26	21	28	38

