TwinBox EC

Duct mixed-type fans in sound-insulated casing

Use

- Exhaust ventilation systems for commercial, office and other public or industrial premises with limited installation space.
- The **TwinBox EC** unit ensures uninterrupted ventilation operation: if one fan fails, the second fan automatically switches on.
- The modes are controlled by the controller, which is not included in the delivery set and must be ordered separately.
- Designed for connection to round air ducts with a diameter of 150 to 400 mm.

Air flow:
up to 4410 m³/h
1225 l/s

Power:
from 56 W

EC motor

ErP 2018

Design

- The fan casing is made of galvanized sheet steel using heat- and sound-insulation material.
- The round connecting spigots are rubber sealed.
- The hinged cover gives free access to the motors, simplifies installation and maintenance of the fans and ducts without dismantling.
- The air damper allows adjusting the direction of air flow. Controlled by the air flow.
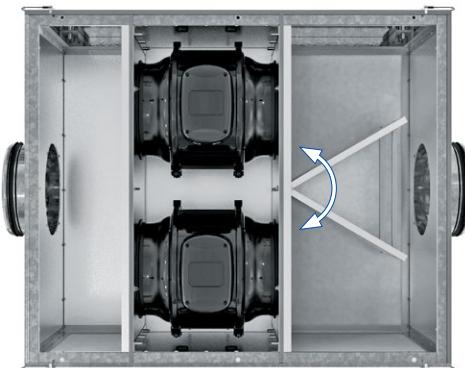
Motor

- The unit is equipped with high-efficient electronically commutated (EC) DC motors with mixed-type impellers.
- These state-of-the-art motors are the most advanced solution in energy efficiency today.
- The motors are equipped with built-in overheating protection.
- Ball bearings in the motor ensure long service life (40 000 hours).
- To achieve accurate performance, low noise levels and safe fan operation, each turbine is dynamically balanced during assembly.
- The motor ingress protection rating is IP44.

Impeller

- Thanks to the improved mixed-type impeller, which is a hybrid of axial and centrifugal impeller, the **TwinBox EC** unit has low power consumption and noise level with high performance.
- The diffuser, the specially profiled impeller and the directing vanes at the outlet of the fan casing distribute air flow in such a way as to attain the best combination of high performance and high pressure at low noise level.

Designation key

Series	Motor type	Duct diameter [mm]
TwinBox	**EC:** electronically commutated motor	150; 200; 315; 355; 400

Accessories

Silencers	Filter boxes	Electric heaters	Water heaters	Backdraft air dampers	Air dampers
SD	KFBK / KFBT	EKH	WKH	VRV	VK / VKA

Controller

- Allows tracking the motor failures and signalling them, as well as automatically switching the unit to operation with a functioning motor.
- The controller is not included in the delivery set and must be ordered separately.

OPERATION MODES:
- Automatic alternation of the active fan with preset switching period.
- Forced constant operation of the fan A. Forced constant operation of the fan B. Fan alarm. The failed fan is switched off, the second fan is switched on. The controller generates an error signal and corresponding indication.
- Fan speed control.
- Boost mode increases the performance of the fan. It is possible to set the time during which the fan will run in this mode.
- Test mode. Automatic alternation of the active fan with a period from 1 to 12 min.
- Checking motors at start-up.
- Possibility of connection to BMS.
- Possibility of connecting an external 0-10 V sensor. Possibility of connecting external devices (10 V and 24 V).

Mounting

- The duct fans are intended for mounting to round air ducts.
- The fans are installed between the air ducts.
- While mounting the fan provide enough access for servicing and repair operations.

Overall dimensions [mm]

Type	⌀ D	H	L	L1	W	W1	Weight [kg]
TwinBox EC 150	149	321	975	850	621	540	28
TwinBox EC 200	199	375	975	850	791	710	39
TwinBox EC 315	314	520	1293	1170	1092	1010	97
TwinBox EC 355	354	520	1334	1170	1092	1010	97
TwinBox EC 400	399	551	1358	1194	1182	1101	129

SOUND-INSULATED INLINE FANS
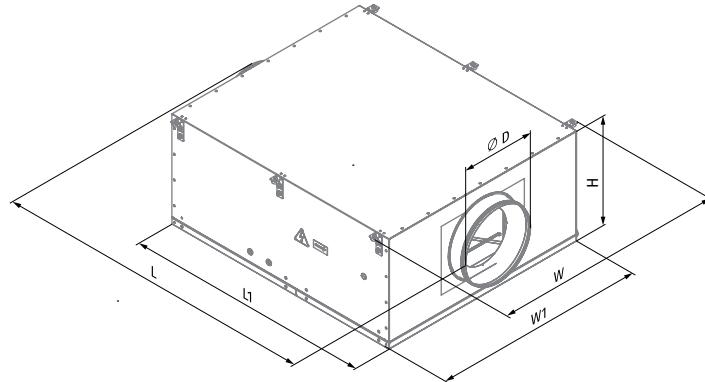
Technical data

Parameters	TwinBox EC 150	TwinBox EC 200	TwinBox EC 315	TwinBox EC 355	TwinBox EC 400
Voltage [V / 50/60 Hz]	1~220–240	1~220–240	1~220–240	1~220–240	1~220–240
Power [W]	56	117	535	354	737
Current [A]	0.48	0.94	1.56	1.57	4.65
Max. air flow [m³/h (l/s)]	450 (125)	910 (253)	2780 (772)	3060 (850)	4410 (1225)
RPM [min⁻¹]	3390	3404	2474	2470	2370
Sound pressure level at 3m [dBA]	37.5	43	45	45	48
Transported air temperature [°C]	−25…+55	−25…+55	−25…+55	−25…+55	−25…+55
Protection rating	IPX4	IPX4	IPX4	IPX4	IPX4
Motor protection rating	IP44	IP44	IP54	IP44	IP44
Erp compliance	2016, 2018	2016, 2018	2016, 2018	2016, 2018	2016, 2018

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

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TWINBOX EC 150

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]	**63**	39	58	61	49	42	39	42	35	**42**	**52**
L$_{wA}$ to outlet [dBA]	**62**	34	54	60	48	38	37	43	37	**41**	**51**
L$_{wA}$ to environment [dBA]	**58**	38	56	54	44	38	33	32	26	**37.5**	**47.5**
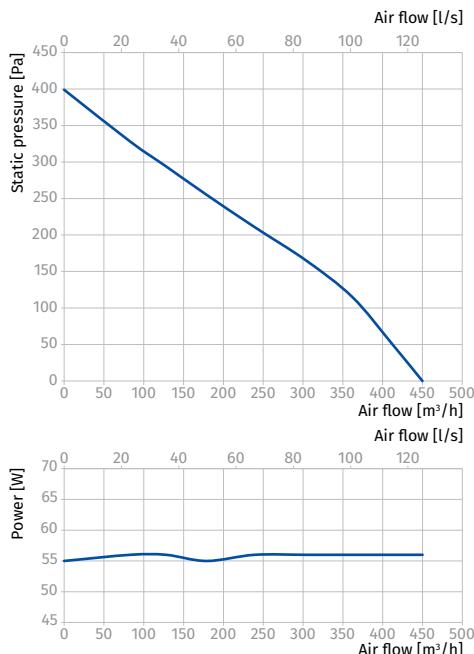
TWINBOX EC 200

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]	**69**	44	64	67	54	46	42	46	38	**48**	**58**
L$_{wA}$ to outlet [dBA]	**67**	39	60	66	53	41	40	46	40	**47**	**57**
L$_{wA}$ to environment [dBA]	**64**	43	61	59	48	41	35	35	29	**43**	**53**
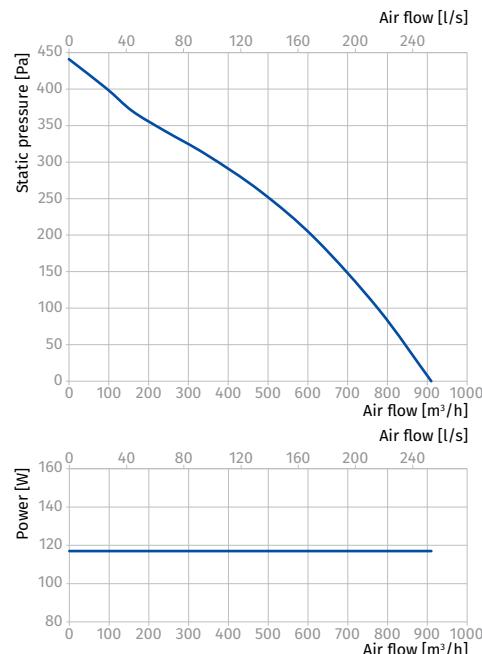
TWINBOX EC 315

Sound power level, A-weighted	Total	Octave frequency bands [Hz]								LpA 3 m	LpA 1 m
		63	125	250	500	1000	2000	4000	8000		
LwA to inlet [dBA]	70	46	66	68	55	47	43	47	39	**50**	**60**
LwA to outlet [dBA]	68	40	61	67	53	42	40	47	40	**48**	**58**
LwA to environment [dBA]	66	45	64	61	49	42	36	36	29	**45**	**55**
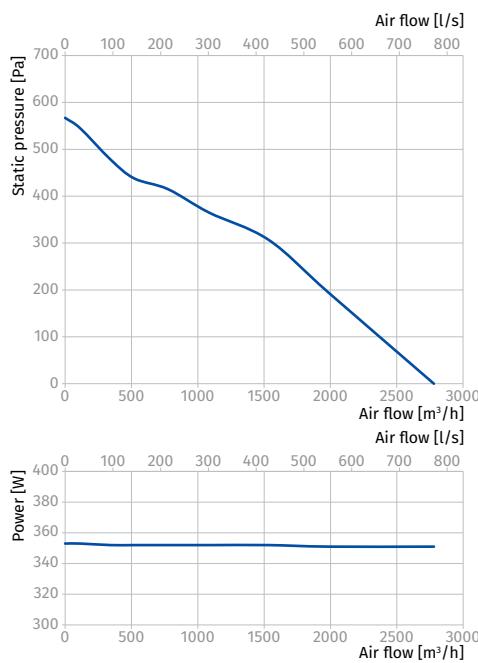
TWINBOX EC 355

Sound power level, A-weighted	Total	Octave frequency bands [Hz]								LpA 3 m	LpA 1 m
		63	125	250	500	1000	2000	4000	8000		
LwA to inlet [dBA]	72	47	68	70	56	48	44	48	39	**52**	**62**
LwA to outlet [dBA]	71	42	63	70	55	43	41	48	42	**50**	**60**
LwA to environment [dBA]	66	45	64	61	49	42	36	36	29	**45**	**55**
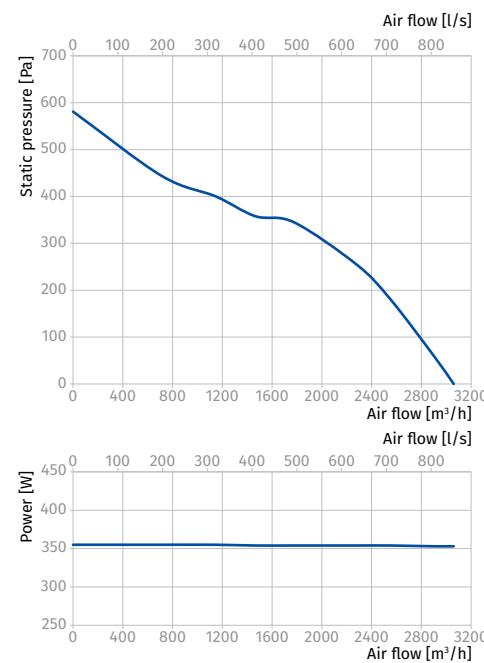
TWINBOX EC 400

Sound power level, A-weighted	Total	Octave frequency bands [Hz]								LpA 3 m	LpA 1 m
		63	125	250	500	1000	2000	4000	8000		
LwA to inlet [dBA]	76	50	71	74	59	50	46	50	41	**55**	**65**
LwA to outlet [dBA]	75	46	68	74	58	45	43	51	44	**54**	**64**
LwA to environment [dBA]	68	47	66	63	51	44	37	37	30	**48**	**58**

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