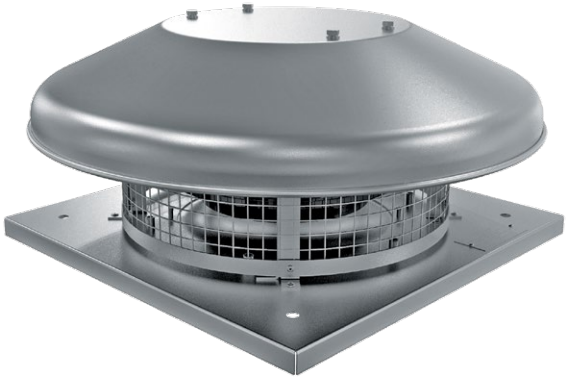
Tower-HC EC

Roof centrifugal fans with EC motor

Use

- Extract ventilation systems installed in various premises.
- Roof mounting.
- Any roof types.
- For arranging energy-saving and controllable ventilation systems.

Air flow:
up to 2700 m³/h
750 l/s



Design

- The casing is made of steel with a polymer atmospheric resistant coating.
- Horizontal air exhaust.
- The fan is equipped with a terminal box for connection to power mains.
- The fan is rated for continuous operation always connected to power mains.
- The impeller has a protecting grille.
- The upper cover is equipped with two eye bolts for easy fan lifting on the roof with hoisting mechanism.
- A connecting plate is provided to facilitate mounting to the roof surface or to the mounting frame.

Motor

- High-efficient direct current EC motor with external rotor and backward curved blades.
- 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 und 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.

Operation and speed control

- The fan speed is controlled with a 0–10 V control signal from the following sources:
  - integrated or external speed controller
  - controller with sensors
  - central BMS system.
- The control signal value changes depending on air temperature, pressure, smoke concentration and other parameters.
- During signal value change the fan with EC motor correspondingly changes the rotations speed and delivers required air volume to the ventilation system.
- The computer central building management systems (BMS) enable integration of several EC motors in network and precise individual operation control for each fan.

Mounting

- Roof mounting directly above a ventilation shaft or an air duct.
- The fan is attached to a square air duct or to the **MRDL/MRIDL** mounting frame (see accessories).
- The counterflange **FDL** mounted on the fan bottom (see accessories) is designed for the fan connection to a round air duct.
- The **KDL** backdraft dampers (see Accessories) are designed to prevent air back drafting when the fan is off.
- The **VDL** flexible connectors (see Accessories) are designed to absorb vibration from the fan to the air duct.
- External terminal box for connection to power mains.

Designation key

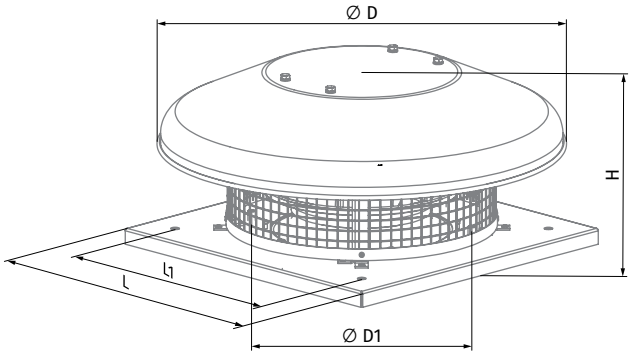
Series	Motor type	Impeller standard size	Casing material
Tower-HC	**EC:** electronically commutated motor	**190; 225; 250; 280; 310**	**_:** steel with polymeric coating **A:** aluminum

Accessories

Backdraft dampers	Flexible connectors for roof fans	Counterflanges	Mounting frames	Speed controllers
				
KDL	**VDL**	**FDL**	**MRDL / MRIDL**	**CDT E/0-10**

Overall dimensions [mm]

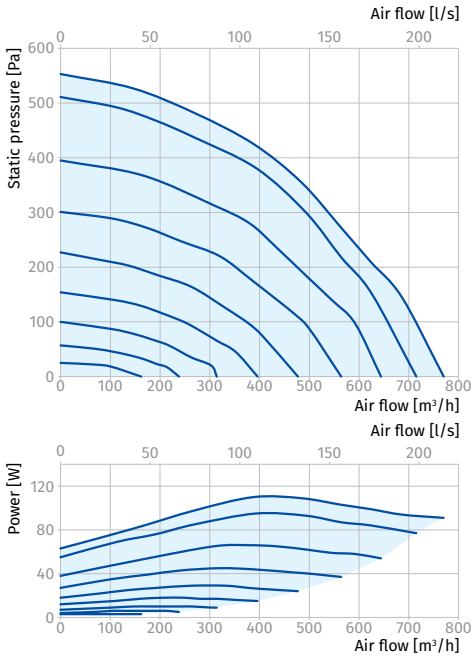
Type	∅ D	∅ D1	H	L	L1	Weight (kg)
Tower-HC EC 190	503	210	178	330	245	6
Tower-HC EC 225	503	210	224	330	245	7
Tower-HC EC 250	503	285	224	420	330	8
Tower-HC EC 280	623	285	254	420	330	10
Tower-HC EC 310	623	285	254	420	330	12



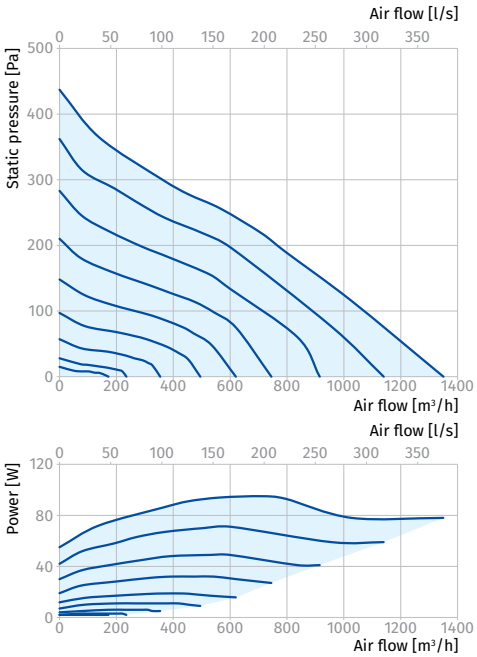
Technical data

Parameters	Tower-HC EC 190	Tower-HC EC 225	Tower-HC EC 250
Voltage [V]	1 ~ 230	1 ~ 230	1 ~ 230
Frequency [Hz]	50/60	50/60	50/60
Power [W]	110	95	164
Current [A]	0.87	0.80	1.25
Maximum air flow [m³/h (l/s)]	770 (214)	1350 (375)	1500 (417)
RPM [min⁻¹]	3538	2478	3310
Sound pressure at 3 m [dBA]	52	47	54
Transported air temperature [°C]	-25...+60	-25...+60	-25...+60
IP rating	IPX4	IPX4	IPX4
Motor IP rating	IP 55	IP 55	IP 55
ErP	2018	2018	2018

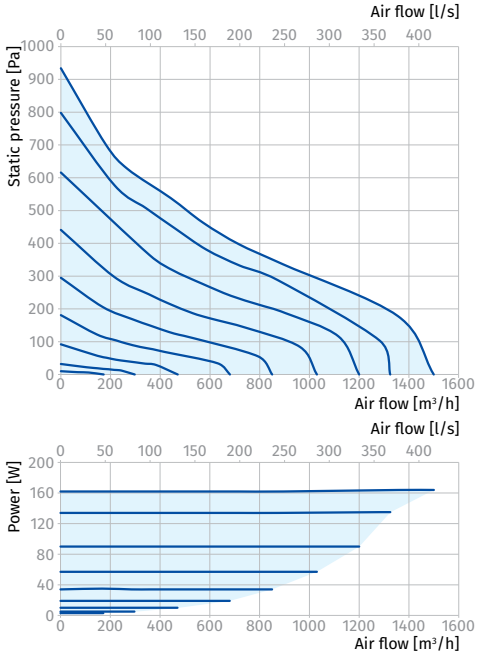
TOWER-HC EC 190



TOWER-HC EC 225



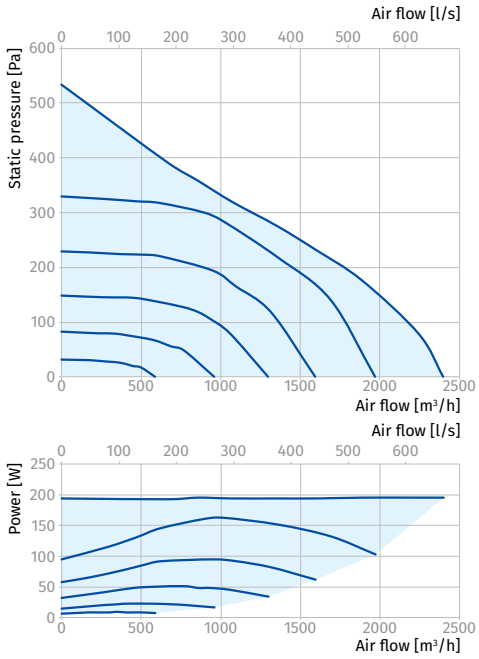
TOWER-HC EC 250



ROOF FANS

Parameters	Tower-HC EC 280	Tower-HC EC 310
Voltage [V]	1 ~ 230	1 ~ 230
Frequency [Hz]	50/60	50/60
Power [W]	195	408
Current [A]	1.53	1.79
Maximum air flow [m³/h (l/s)]	2400 (667)	2700 (750)
RPM [min⁻¹]	2610	2600
Sound pressure at 3 m [dBA]	48	49
Transported air temperature [°C]	-25...+60	-25...+60
IP rating	IPX4	IPX4
Motor IP rating	IP 55	IP 55
ErP	2018	2018

TOWER-HC EC 280



TOWER-HC EC 310

