

Tower-H EC

Roof centrifugal fans with EC motor

Use

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



Air flow:
up to 18270 m³/h
5075 l/s



Power:
from 101 W



Noise level:
from 47 dBA



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

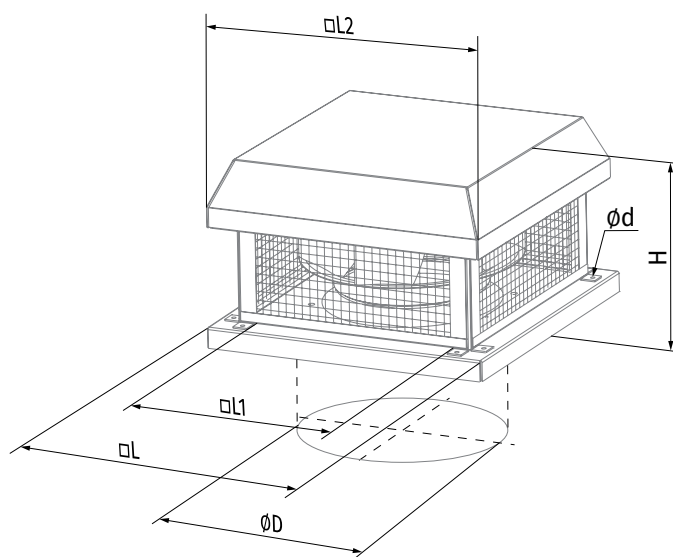
Series	Motor type	Impeller standard size	Casing material
Tower-H EC	EC: electronically commutated motor	190; 225; 250; 280; 310; 355; 400; 450; 500; 560; 630	.. steel with polymeric coating A: aluminum

Accessories

Backdraft damper	Flexible connector for roof fans	Counterflange	Mounting frames	Silencers	Backdraft air damper	Air dampers	Speed controller
KDL	VDL	FDL	MRDL / MRIDL	SD / SDF	VRV	VK / VKA	CDT E/0-10

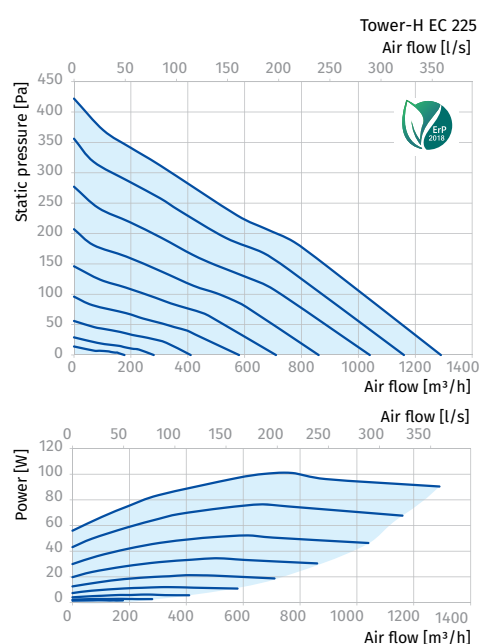
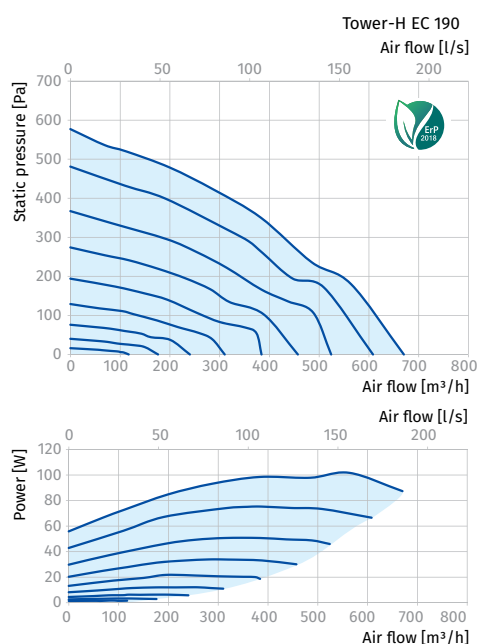
Overall dimensions [mm]

Type	Ø D	Ø d	H	L	L1	L2	Weight [kg]
Tower-H EC 190	213	11	189	350	245	351	8
Tower-H EC 225	213	11	234	350	245	351	8
Tower-H EC 250	285	11	237	450	330	451	13
Tower-H EC 280	285	11	263	450	330	451	13
Tower-H EC 310	285	11	263	450	330	451	16
Tower-H EC 355	438	11	322	620	450	625	27
Tower-H EC 400	438	11	384	620	450	625	27
Tower-H EC 450	438	11	420	700	535	710	46
Tower-H EC 500	445	11	467	700	535	710	51
Tower-H EC 560	605	11	489	895	750	900	71
Tower-H EC 630	600	20	520	990	750	1000	101



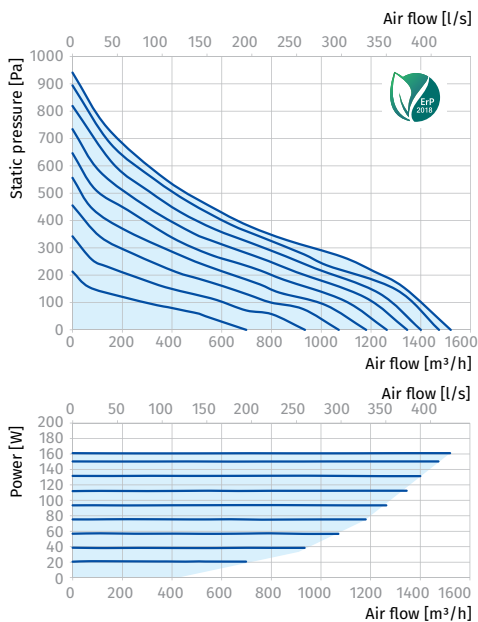
Technical data

Parameters	Tower-H EC 190	Tower-H EC 225
Voltage [V]	1 ~ 230	1 ~ 230
Frequency [Hz]	50/60	50/60
Power [kW]	102	101
Current [A]	0.77	0.80
Maximum air flow [m³/h (l/s)]	670 (186)	1290 (358)
RPM [min⁻¹]	3520	2400
Sound pressure at 3 m [dBA]	52	47
Transported air temperature [°C]	-25...+60	-25...+60
SEC class	B	-
IP rating	IPX4	IPX4
Motor IP rating	IP55	IP55
ErP	2018	2018

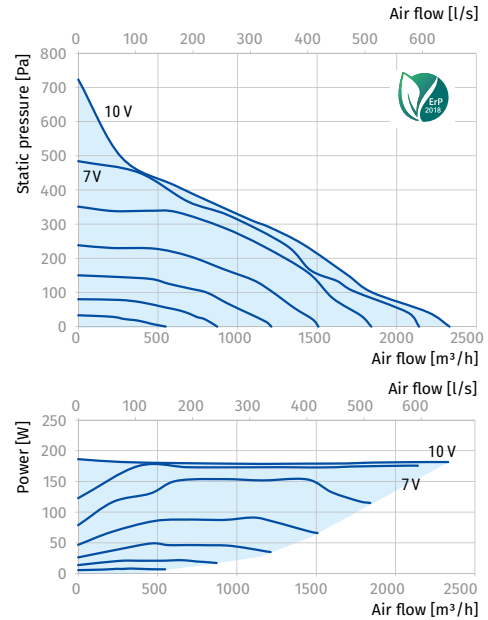


Parameters	Tower-H EC 250	Tower-H EC 280	Tower-H EC 310
Voltage [V]	1 ~ 230	1 ~ 200-277	1 ~ 200-277
Frequency [Hz]	50/60	50/60	50/60
Power [kW]	161	182	391
Current [A]	1.29	1.34	1.72
Maximum air flow [m³/h (l/s)]	1 470 (408)	2 330 (647)	3 100 (861)
RPM [min⁻¹]	3300	2610	2600
Sound pressure at 3 m [dBA]	54	48	49
Transported air temperature [°C]	-25...+60	-20...+60	-20...+60
SEC class	-	-	-
IP rating	IPX4	IPX4	IPX4
Motor IP rating	IP55	IP44	IP54
ErP	2018	2018	2018

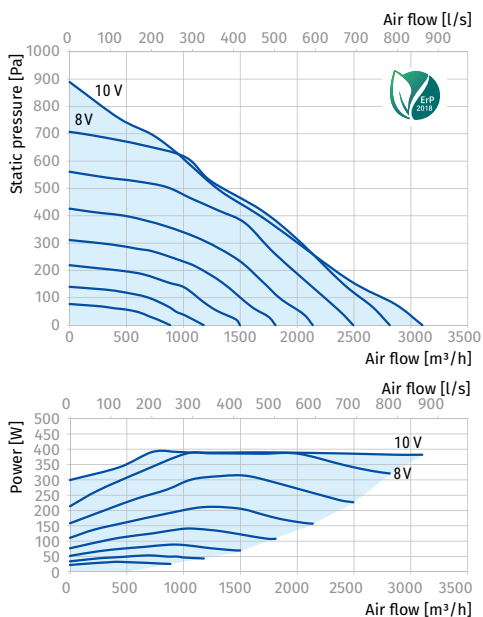
Tower-H EC 250



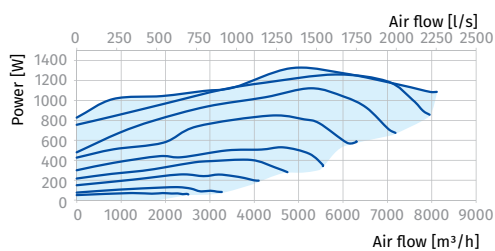
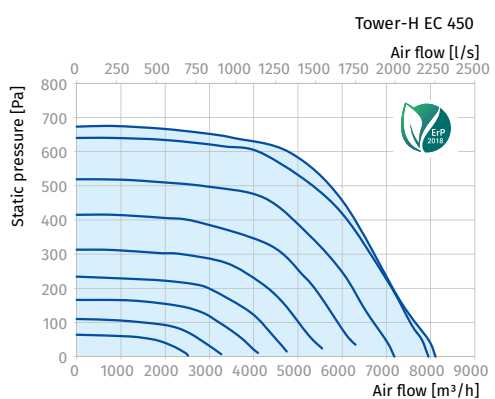
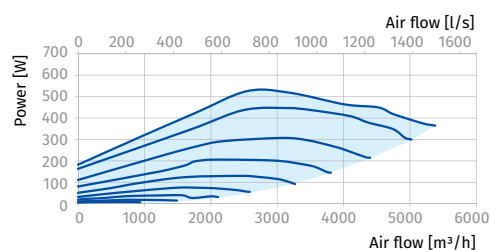
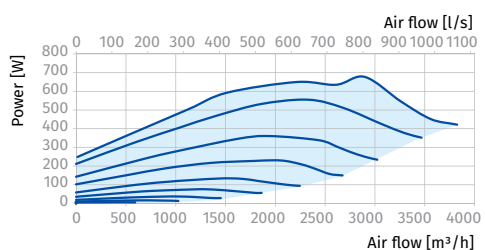
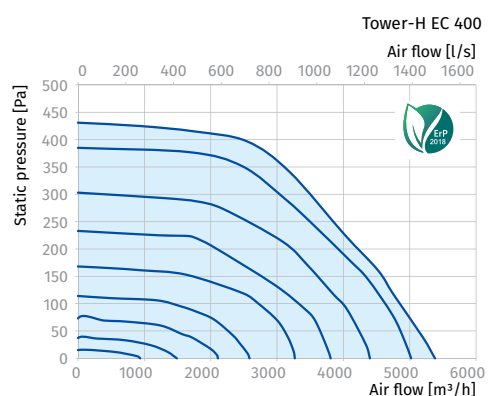
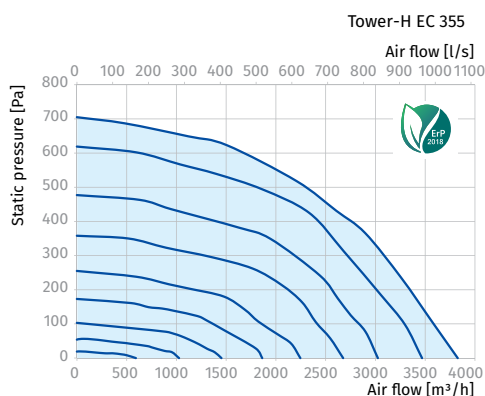
Tower-H EC 280



Tower-H EC 310



Parameters	Tower-H EC 355	Tower-H EC 400	Tower-H EC 450
Voltage [V]	1 ~ 200-277	1 ~ 200-277	3 ~ 380-480
Frequency [Hz]	50/60	50/60	50/60
Power [kW]	669	526	1323
Current [A]	9.36	3.90	3.27
Maximum air flow [m³/h (l/s)]	3 830 (1064)	5 380 (1495)	8 110 (2253)
RPM [min⁻¹]	1550	1450	1560
Sound pressure at 3 m [dBA]	51	58	63
Transported air temperature [°C]	-25...+50	-25...+50	-20...+60
SEC class	–	–	–
IP rating	IPX4	IPX4	IPX4
Motor IP rating	IP54	IP54	IP54
ErP	2018	2018	2018



Parameters	Tower-H EC 500	Tower-H EC 560	Tower-H EC 630
Voltage [V]	3 ~ 380-480	3 ~ 380-480	3 ~ 380-480
Frequency [Hz]	50/60	50/60	50/60
Power [kW]	1350	2412	2973
Current [A]	2,08	3,83	4,66
Maximum air flow [m³/h (l/s)]	10 900 (3028)	13 640 (3789)	18 270 (5075)
RPM [min⁻¹]	1480	1540	1450
Sound pressure at 3 m [dBA]	67	69	71
Transported air temperature [°C]	-25...+50	-25...+60	-25...+55
SEC class	-	-	-
IP rating	IPX4	IPX4	IPX4
Motor IP rating	IP54	IP54	IP54
ErP	2018	2018	2018

