

Flat Units

Guarantee of ventilation
with minimum consumption





* Cover photo of the unit taken from below.

► Flat Units ►►

Clean and comfortable ventilated indoor environments with high energy performance units

These new compact-shaped recovery units from TROX - height from 360 mm - are used in comfort facilities to renew indoor air and recover much of the energy previously used to air-condition the existing air. Thanks to the high efficiency of their recuperator (up to 85%) and to their electronically commutated fans (EC), more efficient ventilation is obtained, thus meeting the strictest requirements defined in the European Directive on Ecodesign (ErP).

Ideal use for ventilation of the services or tertiary sector such as offices, shops and bars and restaurants, schools, etc. and in large buildings where decentralised ventilation systems are chosen.

The new TROX Flat Units are installed horizontally and are prepared for being installed hanging from the ceiling.



*Blue line,
Zaragoza
manufacturing
plant for
small-sized air
conditioners and
Flat Units.*

Construction

These units have been specially designed to cover from decentralised ventilation systems to facilities with a low ventilation demand, with an airflow range of up to 5,400 m³/h.

They are made up of a painted self-supporting frame with sandwich type panels that are 27 mm thick made out of grey lacquered outer plate and galvanised inner plate, with mineral wool insulation. The thermal insulation and high efficiency of the EC fans combine with the high performance energy recovery, to present a unit with high energy performance.

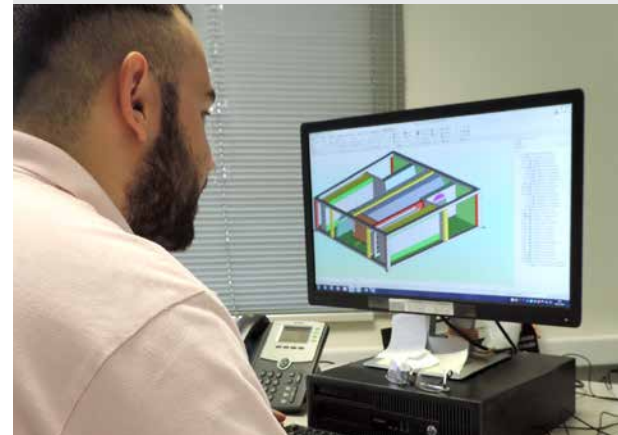
This range meets the current regulation (EU) No. 1253/2014 of European Directive 2009/125/EC on Ecodesign (ErP) for ventilation units.

Composition

The TROX Flat Units are made up of the induction fan, an extraction fan, filtering sections and a parallel flow exchanger with a thermal by-pass damper, all perfectly coupled inside a structure that is isolated thermally and acoustically.

The inside air extraction circuit crosses over without getting mixed up in the recoverer with the outdoor air induction circuit, where the heat exchange and use of the heat of the exhaust air occurs.

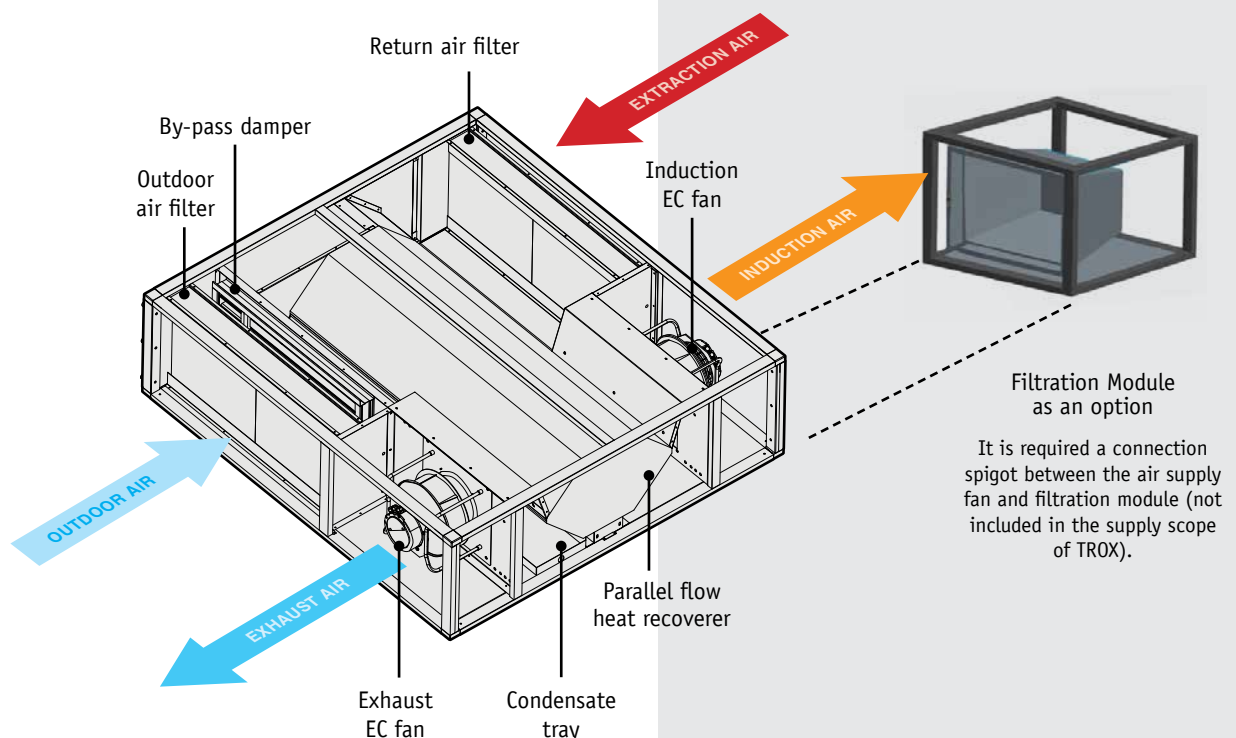
By means of ventilation with heat recoverer, a high percentage of the air extracted from the premises is recovered, which would otherwise be wasted.



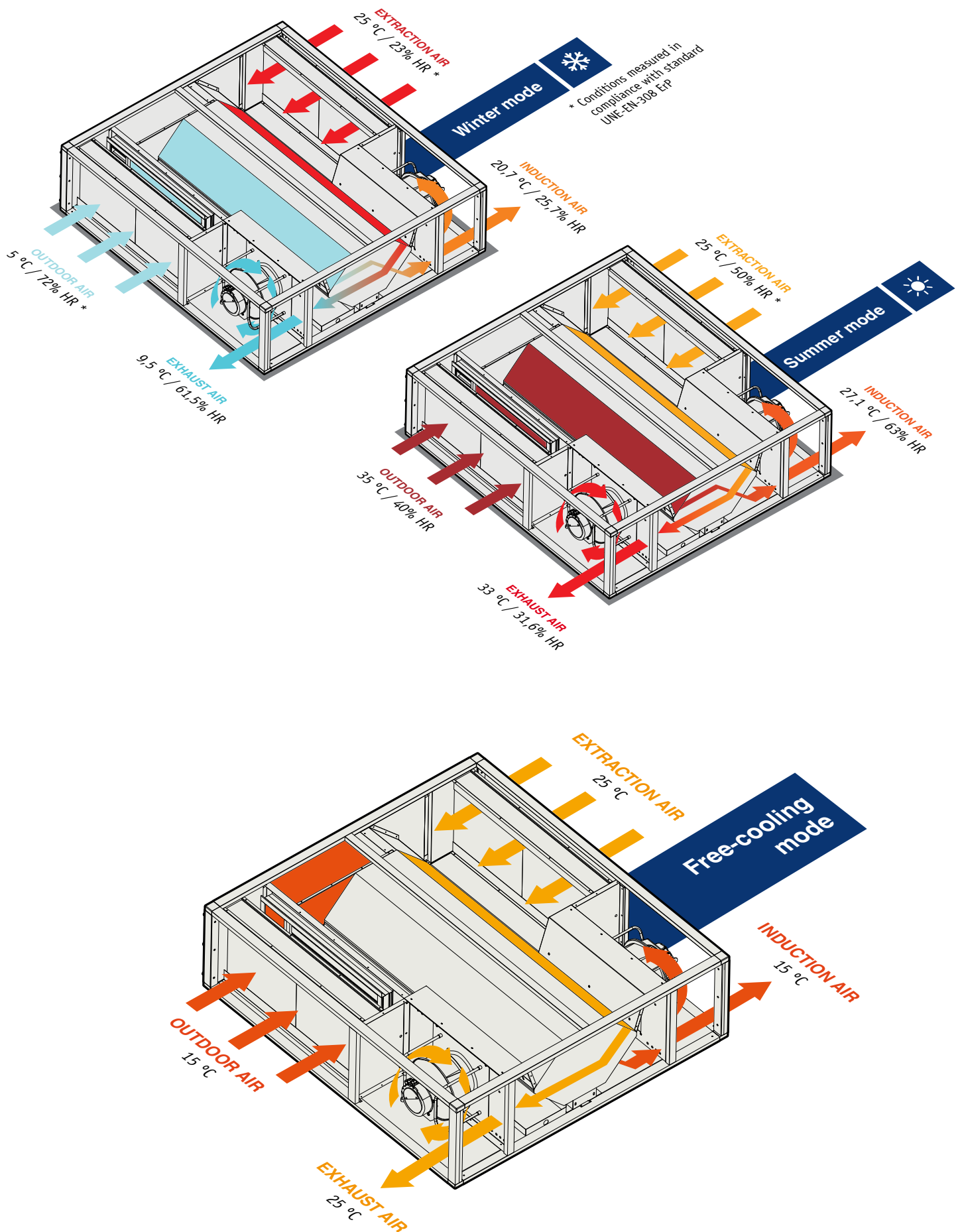
Development of units in technical office



Energy requirements (ErP) for ventilation Units applicable from 1 January 2016 and new requirements from 1 January 2018



Operating modes



Components

Guarantee of ventilation with minimum consumption



- High efficiency parallel flow heat recoverer
- Aluminium damper for thermal by-pass of the recoverer enabling operating in free-cooling of the device
- Plug-fans with EC motor with IE4 class efficiency
- Compact filters according to ISO 16890 ePM10-75% (classification M6)
- Stainless steel condensate collection tray
- Side access for maintenance and cleaning of elements
- Possibility of additional module with compact filters according to ISO 16890 ePM1-85% (classification F9)
- With possibility of supplying unit with built-in control module



Recoverer

Includes high performance parallel flow recoverer and tray for collection of condensate.



Fans

Of the plug-fan type with turbine formed by slats with an aerodynamic profile and directly attached to EC motors.



Connections

Junction boxes and pressure tapings for measuring flow rate and the filter clogging level.



Filters

Incorporates flat filters according to ISO 16890 ePM10-75% (M6).



Multi-slat dampers

Adjustment dampers manufactured in aerodynamic profile aluminium for control of operation in free-cooling mode.

Includes motorisation using all-or-nothing actuator.



Control module

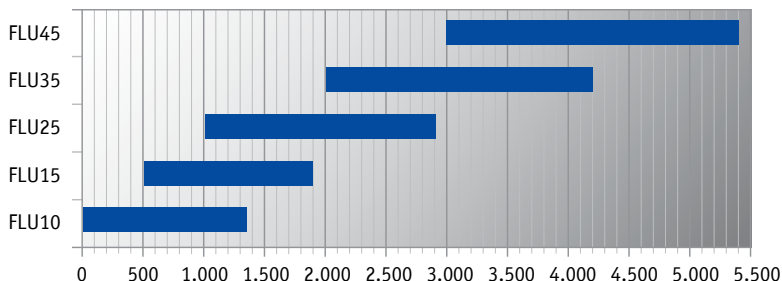
Regulates induction, extraction airflow and operation in free-cooling mode.

Includes clogging alarm for filtering units.

Indicated for connection to the building's management system using: ModBus and BACnet.

Sizes, flow rates and weights

The TROX Flat Units are manufactured in 5 standard sizes for an airflow range of up to 5,400 m³/h. Depending on the size, the units can have different sizes and weights.



Flat Units: Air flow rate range according to the series. Q in m³/h.

Reference Flow rate (m ³ /h)		FLU10 1,350	FLU15 1,900	FLU25 2,900	FLU35 4,200	FLU45 5,400
Dimensions (mm)	(H) Nominal height	360	360	500	660	775
	(B) Nominal width	1,150	1,460	1,800	2,000	2,200
	(L) Length	1,360	1,360	1,650	1,850	2,100
Weight (kg)		150	175	215	275	340

Selection of devices

The YAHUS program allows for calculating the devices that belong to the Flat Unit series.

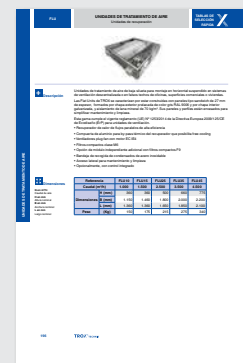
YAHUS by TROX guarantees a fast and reliable selection of components using already defined templates, which minimises the risks of the user.

All settings carried out offer multiple displays of the drawn element, which are exportable to different formats, including 2D ".dxf".

TROX[®] TECHNIK
The art of handling air

TROX España

Pol. Ind. La Cartuja
E-50720 Saragossa - Spain
Tel: +34 976 50 02 50
trox-es@troxgroup.com
www.trox.es

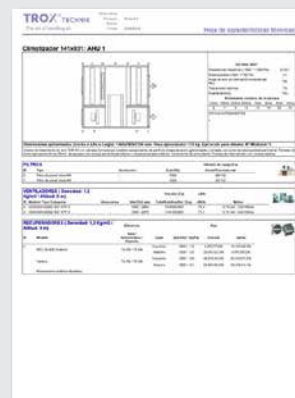
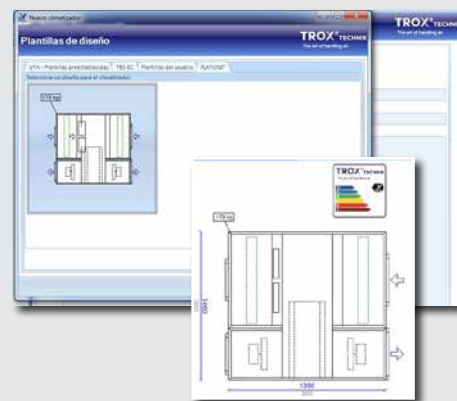


See Quick Selection Tables for more information on dimensions and configurations of Flat Units.

Additional filtration module

Air volume flow (m ³ /h)		Up to 2,900	Up to 5,400
Dimensions (mm)	(H) Nominal height	360	660
	(B) Nominal width	660	660
	(L) Length	510	510
Weight (kg)		35	55

Dimensions and weights to be considered just for FLU units provided with an additional filtration module.



Technical data sheet