



PRODUCT SELECTION DATA

HIGH-EFFICIENCY DUAL-FLOW AIR HANDLING UNIT



Plug & play unit
(built-in control)

Class A+ across
entire range

Classic / Vertical dual-flow

High-efficiency
heat recovery unit

High performance plug fan

39HX

The 39HX dual-flow air handling unit is a PLUG & PLAY ventilation unit equipped with a highly efficient heat recovery unit with plug fans and high performance EC motors, designed to meet all the requirements of recent ecodesign regulations.

Unit supplied ready to use, prewired, preprogrammed in the factory and supplied with a remote control.

It draws clean, fresh air indoors using, on average, 80% less energy than that needed for air conditioning (cooling and heating).



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USE

These units are designed for use in the following applications:

- Administrative buildings, Offices
- Education facilities, Libraries, Community centres
- Cafés, Hotels, Restaurants
- Shopping Centres
- Nursing homes, Healthcare facilities
- Collective Housing

⇒ All facilities where ventilation is required.

Specifications	Class
Mechanical strength	D2
Airtightness	L1
Filter bypass leak	F9
Thermal transmission	T3
Thermal bridge	TB2

39HXE & HXEZ models: 9 sizes, air flow from 300 to 18,000 m³/h. Floor-mounted horizontal unit with horizontal air flows and air connections on the sides.

39HXEZ model: 9 sizes, air flow from 300 to 18,000 m³/h.

Wheel equipped with a purge sector as standard

39HXA model: 5 sizes, air flow from 350 to 8500 m³/h.

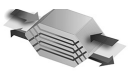
39HXC model: 5 sizes, air flow from 300 to 6600 m³/h.

Floor-mounted horizontal unit with horizontal air flows and air connections on the sides.

39HXV model: 3 sizes, air flow from 300 to 2600 m³/h. Floor-mounted vertical unit with vertical air flows and air connections on the top.

High energy-efficiency heat recovery unit

Depending on its layout, the 39HX offers two different high-efficiency heat recovery systems:



"CONTRA FLOW" plate heat exchanger fitted with a bypass (C, V, H models)



Rotary heat exchanger (39HXA and 39HXE & HXEZ models) Optimal heat recovery all year round

RANGE

Classic 39HXC, 39HXE & 39HXEZ

Sizes	Nominal flow rate (m ³ /h)	Max. power* (kW)	Max current* (A)	Voltage (V)
010	1000	1,43	6,2	1-Ph 230
020	2000	2,50	3,6	3-Ph 400
030	3000	3,82	5,5	
040	4000	4,23	6,1	
050	5000	4,23	6,1	
060	6000	6,03	8,7	
075	7500	6,03	8,7	
100	10000	12,06	17,4	
150	15000	15,45	22,3	

39HXA

Sizes	Nominal flow rate (m ³ /h)	Max. power* (kW)	Max current* (A)	Voltage (V)
010	1000	1,2	5,4	1-Ph 230
020	2000	2,5	2,9	3-Ph 400
030	3000	4,2	6,1	
050	5000	6,1	8,8	
075	7500	7,1	10,3	

Vertical 39HXV

Sizes	Nominal flow rate (m ³ /h)	Max. power* (kW)	Max current* (A)	Voltage (V)
007	1000	1,43	6,2	1-Ph 230
015	1500	2,50	3,6	3-Ph 400
020	2000	2,50	3,6	

* These values are provided for guidance only and are based on a standard dual-flow unit without electric heater option.

DESCRIPTION

Casing

- Double-skin panels made from steel sheet metal, galvanised on both sides, thickness 8/10 mm.
- RAL 7035 grey precoated external panels.
- Class M0/A1.
- Mineral wool, 50 mm thick.

Filtration

- M5 HEE, F7 HEE, F9 HEE filters.
- Filter cells kept compressed by a special system to ensure a leaktight seal.
- HXC, HXV models: fouling value monitored by analogue sensor and displayed by the controller.
- HXA model: pressure switch control on each air flow. Pressure switch status displayed by the controller.

Ventilation

- Plug fan driven by an electronically commutated motor (EC motor, built-in variable speed control).

Heat recovery units

- "Contra Flow" plate heat exchanger equipped with a motorised bypass (HXC and HXV models). Efficiency greater than 80% across the range of air flows.
- Rotary heat exchanger equipped with variable rotation speed control (39HXE & HXEZ models).
 - ⇒ Efficiency greater than 80% at nominal flow rate.
- Purge sector as standard (39HXEZ model)
- Constant speed rotary heat exchanger (HXA model)
 - ⇒ Efficiency greater than 80% at nominal flow rate.

Hydraulic coil

- Copper pipes, aluminium fins.
- Coil can be integrated or additional (cased).
- With the accessory fitted, 2- or 3-way control valve and 0-10 V actuator controlled by 39HX Control for setpoint accuracy.
- Stainless steel condensate drain pan (cooling coil or mixed coil only).

Electric heaters

- High-limit safety thermostat with automatic and manual reset.
- Control by 2-stage on/off operation fully controlled by 39HX Control.

DX coil

- Copper tubes, aluminium fins.
- For reversible heating/cooling operation.
- Internal space optimised for VRV units.
- Stainless steel condensate drain pan.

List of outdoor units optimised for 39HXA DX available on request.

Electrics box

- Electrics box for power, control and internal regulation of the unit, comprising as standard:
 - Power supply (3-Ph 400 V + Earth or 1-Ph 230 V + Earth).
 - Main disconnect switch.
 - Protected transformer.
 - Protection and control of all electrical components by a circuit breaker and contact switch.
 - Peripheral options and power terminal block.
 - Factory-programmed PLC control.
 - Hand-held cabled micro-terminal.
 - Fault summary contact.
 - 3 temperature sensors.
 - 4 pressure sensors (2 pressure sensors and 2 pressure switches on the 39HXA model).
 - Control unit option for factory-fitted/wired DX unit (39HXA model)

Accessories

Damper formed of airfoil blades, powered by a servomotor
 On/off with return spring.
 Flexible sleeve.
 Adjustable feet.
 CO₂ air quality sensor.
 Roof.
 Canopy.
 Mixing section.
 Remote ambience control.
 ModBus RTU, LON, KNX, ModBus communication
 TCP, Bacnet IP, web interface.

MODELS & SIZES	Power (kW)	Current (A)	Voltage (V)
C 010 & E & EZ 010 V 007	4,5	20	1-Ph 230
V 015 (additional casing)	7,20	11	3-Ph 400
V 015	8,1	12	
C 020 & E & EZ 020	10,8	16	
C 030 & E & EZ 030	12,6	19	
C 040 & E & EZ 040	16,8	25	
E & EZ 050	19,8	29	
C 060 & E & EZ 060	22,8	34	
E & EZ 075	31,2	46	
E & EZ 100	50	74	
E & EZ 150	65	96	

CONTROL

39HX Control

The 39HX features, as standard, an electric box equipped with a factory-programmed PLC and a hand-held micro-terminal.

39HX Control function			Included	Options*
Fan time schedule	Built-in timer: management in series	4 events per year, per week and per day	X	
Safety	Frost protection	By fresh air temperature control	X	
		By monitoring the pressure difference from the heat recovery unit on the flow of exhaust air (analogue sensor)		X
	Monitoring of sensor status		X	
	Monitoring operation values (thresholds)		X	
	Operating control of EC fan motor assemblies		X	
	Filter fouling control (via analogue sensor or pressure switch, depending on the model)		X	
	Fault summary		X	
Fire monitoring (input available for potential free (dry) contact (normally closed))		X		
Alarms	Management of alarms and log (100)		X	
Control mode	Control of return air or supply air temperature		X	
	Regulated temperature control based on outdoor temperature		X	
	Control of room temperature with a room terminal			X
Hot air and/or cold air production	Gradual action on the 2- or 3-way control valve on the hydraulic coil			X
	Gradual action on the electric heater TRIAC			X
	On/Off action on the various stages of the electric heater			X
DX*** coil	Gradual action on a VRV outdoor unit			X
	Heating/cooling control			X
	Optimised defrost cycle management			X
Free cooling	Shut-down of the rotary heat exchanger (HXE & HXEZ and HXA models)		X	
	Opening of the bypass on the Contra Flow plate heat exchanger (HXC and HXH models)		X	
Night cooling function	Shut-down of the rotary heat exchanger (HXE & HXEZ and HXA models)		X	
	Opening of the bypass on the Contra Flow plate heat exchanger (HXC and HXH models)		X	
Efficiency optimisation	Variation of the rotation speed of the rotary recovery unit (HXE & HXEZ model)		X	
Configuration of the air flow rate	2 air flow rate setpoints per air flow		X	
	Display of the air flow rate		X	
Constant flow rate operation	Keeps the air flow rate constant regardless of how fouled the filters are		X	
Modulation of flow rates operation	Single zone	0-10V signal		X
		Contact	CO ₂ sensor	
			Presence contact	
	External contact		X	
Multi zone	Air supply duct constant pressure operation			X
Communicating mode	Management by CMS	ModBus RS485 protocol		X
		LON protocol		X
		KNX protocol		X
		ModBus TCP/BACNET IP protocol		X
		Web interface		X
Miscellaneous	Colour touchscreen interface with synoptic			X
	Languages supported (French/English/German/Dutch/Spanish/Italian)		X	
	Integrated temperature sensors (*3: fresh air supply and extraction, exhaust air extraction)		X	
	Integrated pressure checks (*4: fresh air and exhaust air filter fouling level, fresh air and exhaust air fan)		X	
	Damper control			X
	Information provided to the user via the hand-held micro terminal		X	
	Contact for controlling the pumps for the hydraulic coils (with operating control)**		X	
	Contact for controlling an external outdoor heat production system (boiler, etc.)**		X	
	Contact for controlling a humidifier**		X	
Electric heater load shedding input**		X		

Option*: Requires the component to be selected as an option: damper, coil, CO₂ sensor, etc.

** Except 39HXA model

*** Only available on the 39HXA model

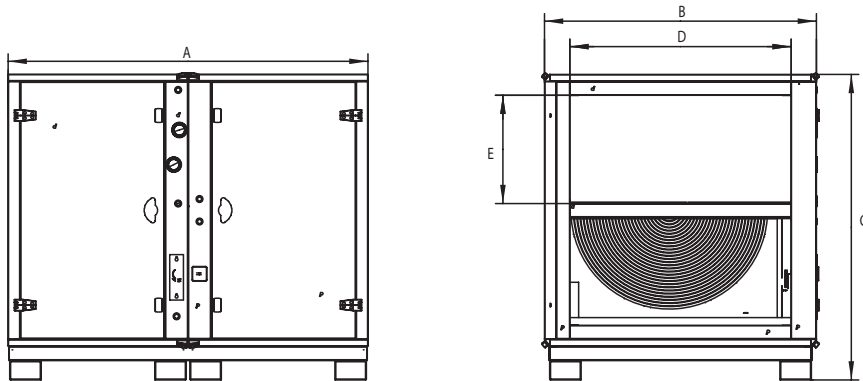
AIR FLOW DIMENSIONS AND ORIENTATION

Classic 39HXC, 39HXE & HXEZ & 39HXA

Sizes	39HXC, 39HXE & HXEZ & 39HXA									
	Height (C) (mm)	Width (B) (mm)	Length (A) (mm)				Weight (kg)*			
			HXC	HXA	HXE	HXEZ	HXC	HXA	HXE	HXEZ
010	958	810	1580	1266**	1266	1480	200	180	201	273
020	1158	1010	1150 + 800	1310**	510+800	800+800	350	250	309	382
030	1359	1210	1264 + 800	1600	800+800	1264+800	465	330	432	556
040	1659	1510	1264 + 800	-	800+800	1264+800	580	-	558	654
050	1659	1510	-	1600	800+800	1264+800	-	445	604	704
060	1959	1810	1407 + 800	-	800+800	1407+800	765	-	702	742
075	1959	1810	-	1600	800+800	1407+800	-	580	751	811
100	2090	1920	-	-	1100+1100	1820+1100	-	-	955	1065
150	2340	2192	-	-	1100+1200	1820+1200	-	-	1250	1357

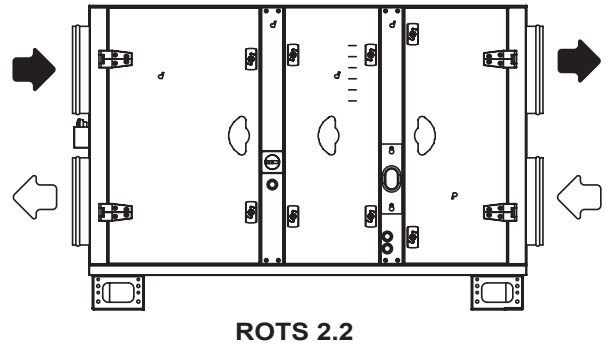
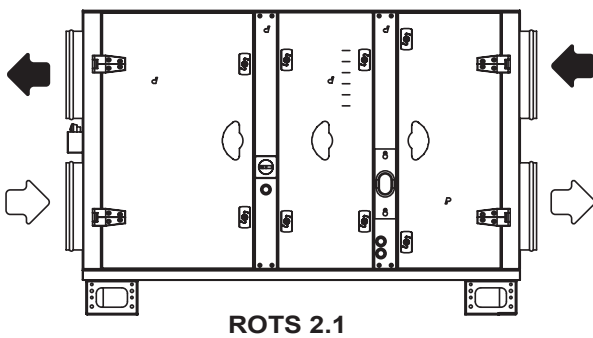
* Without internal option.



** Circular coupling; protrudes 47 mm on either side.



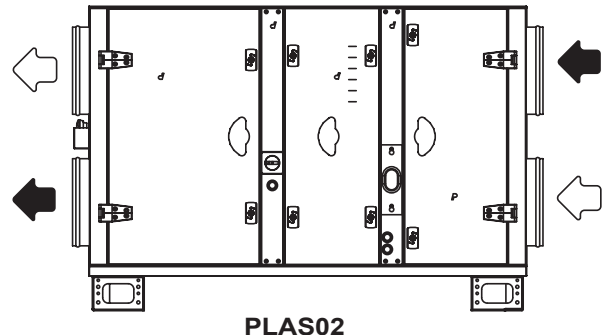
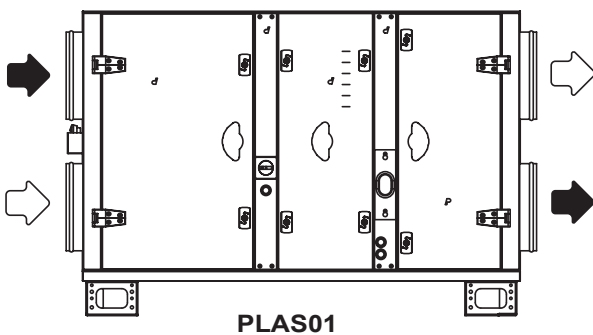
AIR FLOW ORIENTATION

39HXE & HXEZ, 39HXA models



 WHITE ARROW = FRESH AIR
 BLACK ARROW = EXTRACTED AIR

39HXC models



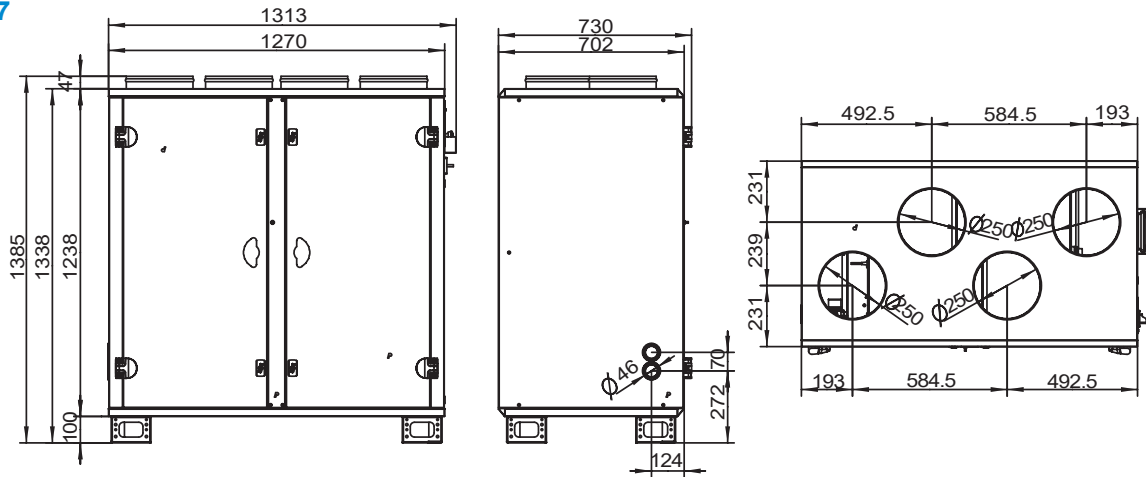
AIR FLOW DIMENSIONS AND ORIENTATION

Vertical 39HXV

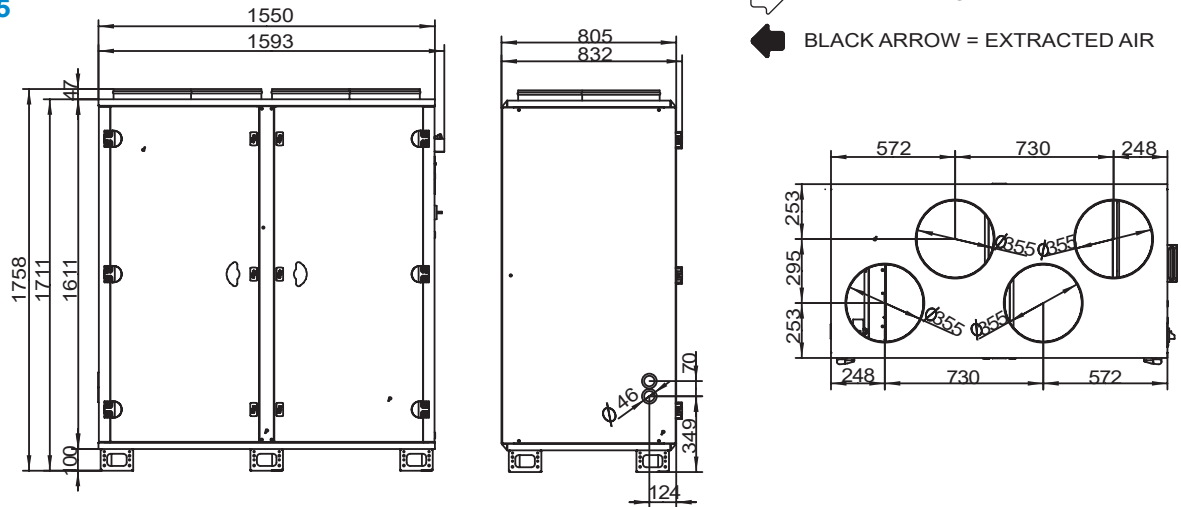
Sizes	Dimensions			Weight (kg)*
	Height	Length	Width	
007	1385	1313	730	202
015	1758	1593	832	330
020	1901	1735	832	389

* Without internal option

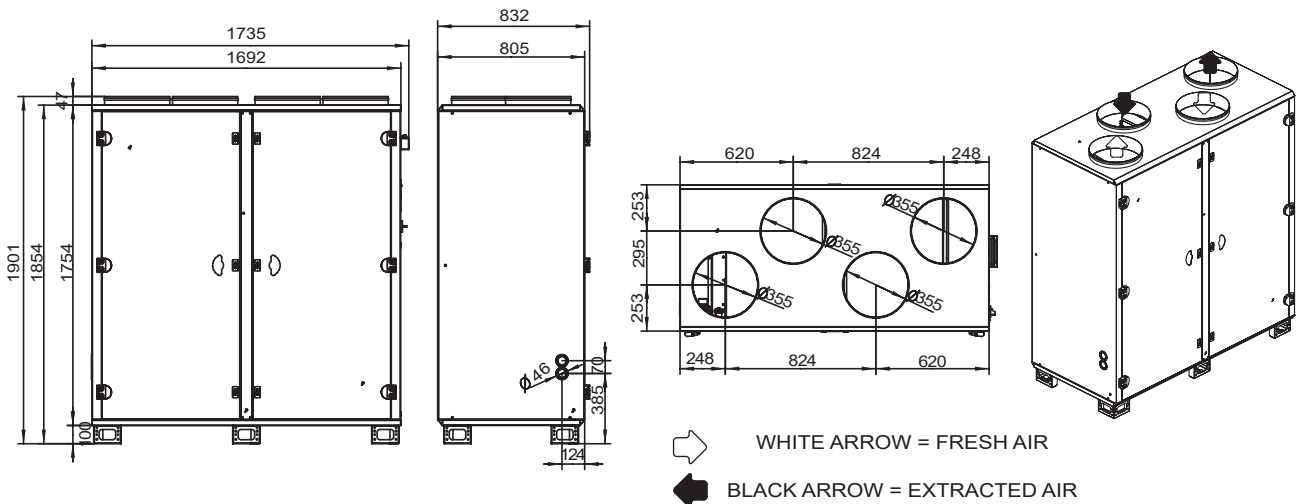
Size 007



Size 015



Size 020

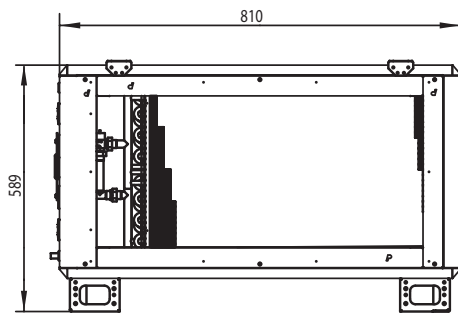


AIR FLOW DIMENSIONS AND ORIENTATION

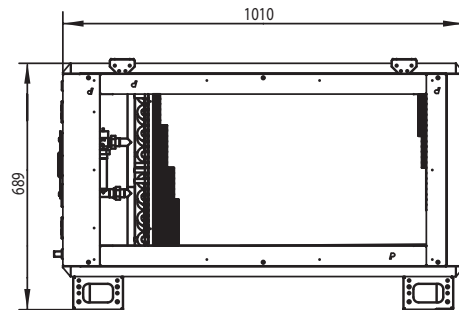
Additional casing (MUST ONLY BE POSITIONED IN A HORIZONTAL AIR FLOW)

39HX MODELS	Additional casing sizes (mm)	Weight (kg)
E & EZ 010 & C 010 V 007	Size 1 589 x 400 x 810	49 kg
E & EZ 020 & C 020 V 015 & V 020	Size 2 689 x 400 x 1010	62 kg
E & EZ 030 & C 030	Size 3 759 x 400 x 1210	68 kg
E & EZ 040 & E & EZ 050 C 040 & C 050	Size 4 909 x 400 x 1510	88 kg
E & EZ 060 & E & EZ 075 C 060 & C 075	Size 5 1059 x 400 x 1810	112 kg

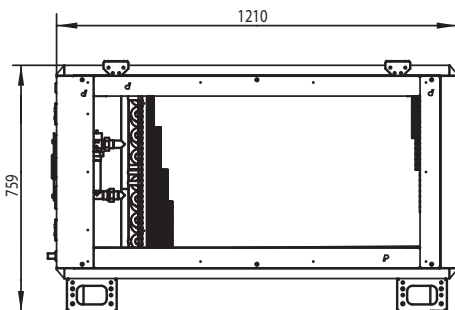
Size 1



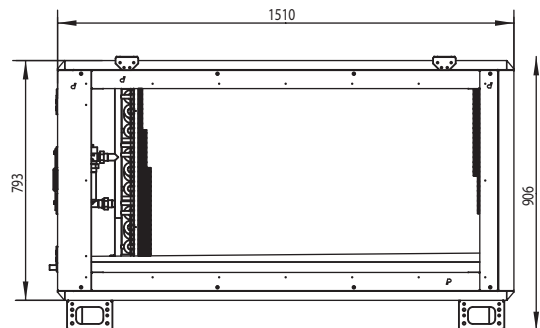
Size 2



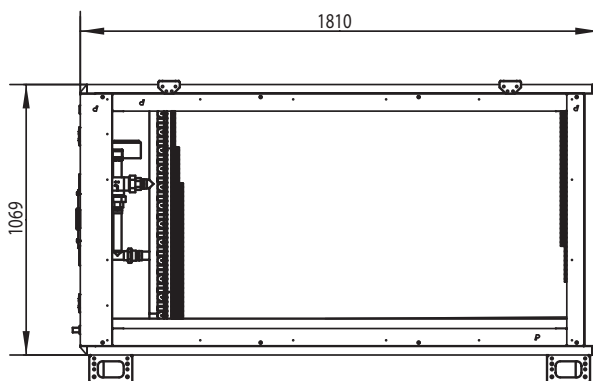
Size 3



Size 4



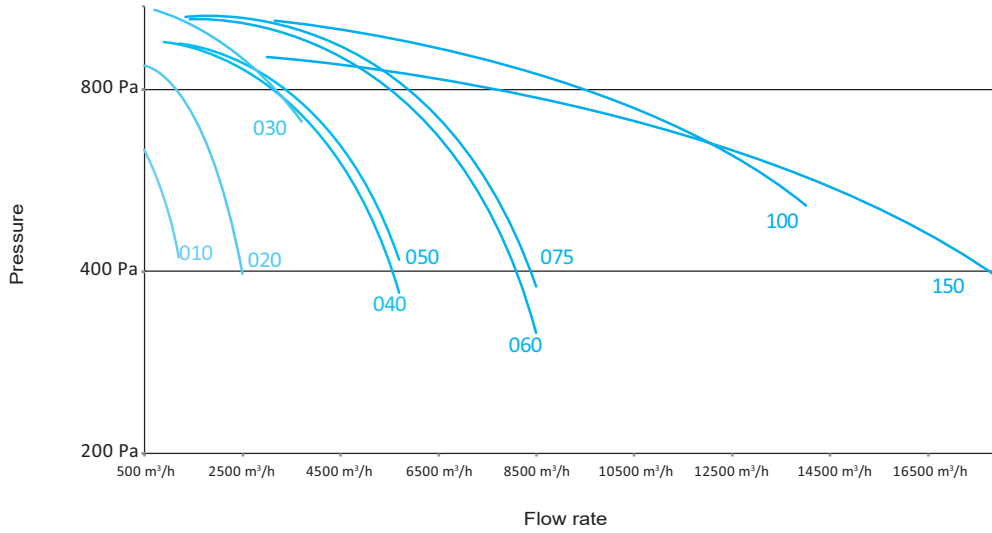
Size 5



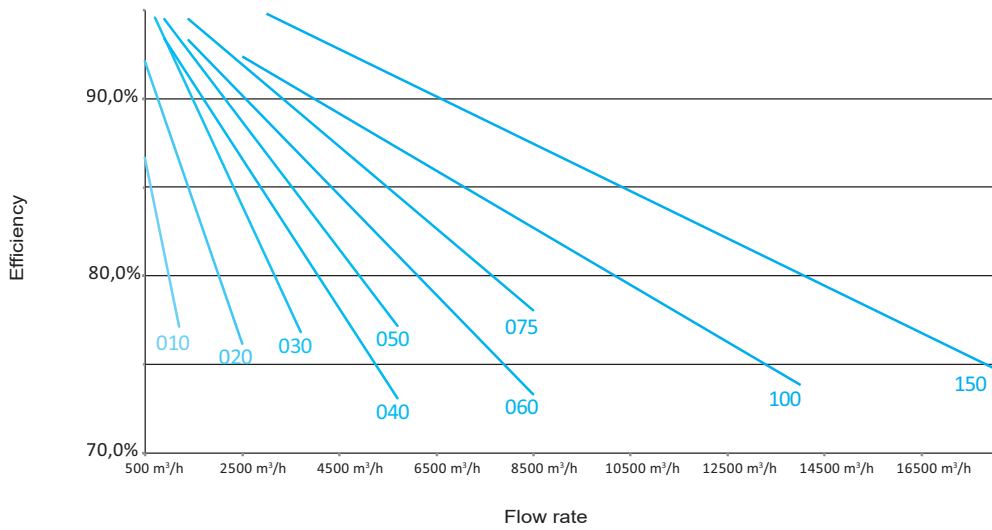
CLASSIC 39HXE & HXEZ MODEL PERFORMANCE

F5 exhaust filter, F7 intake filter, duct pressure: 200 Pa, heat recovery unit conditions: 0°C/90% - 20°C/50%

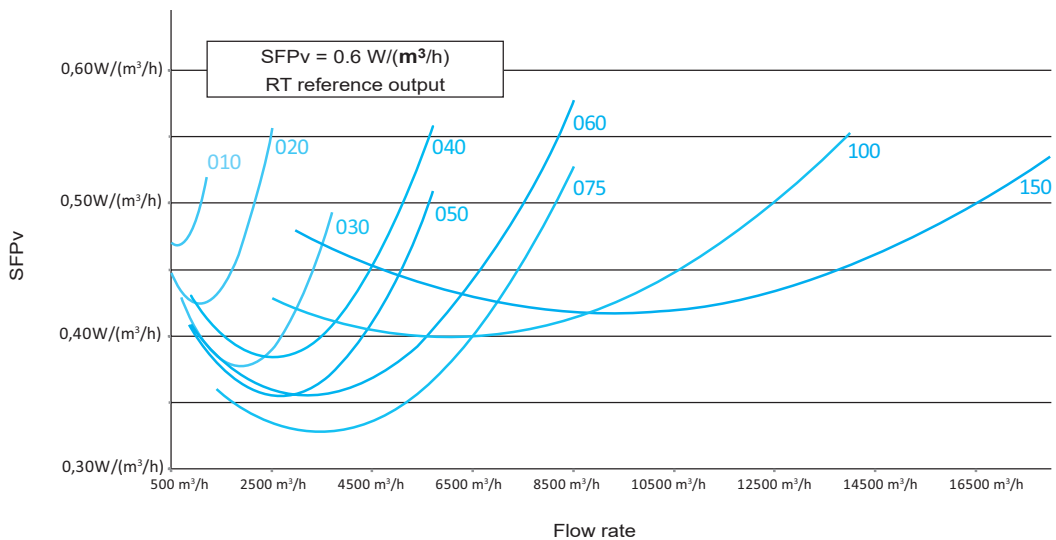
Operating pressure = f(flow rate)



Heat recovery unit efficiency = f (flow rate)



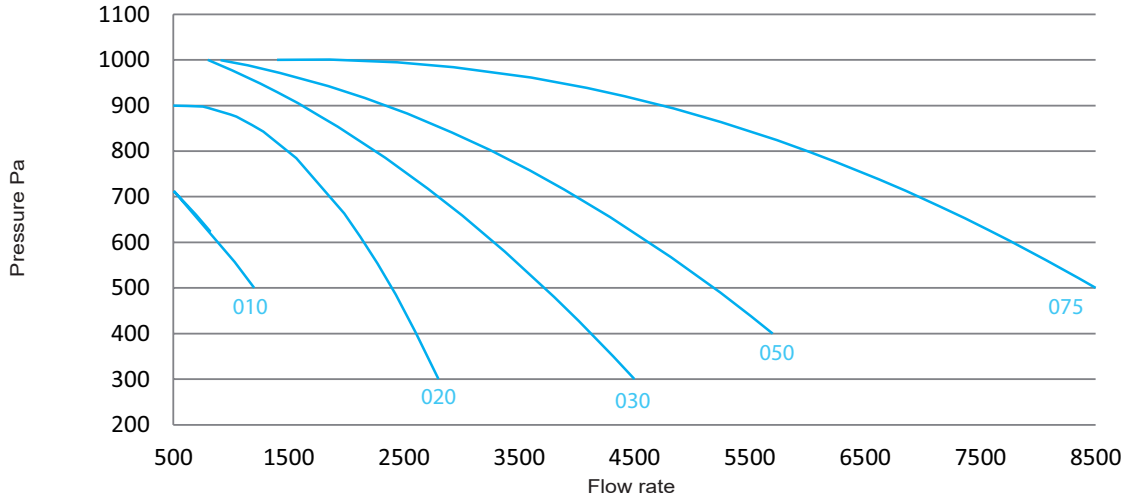
SFPv^{ahu} = f (flow rate)



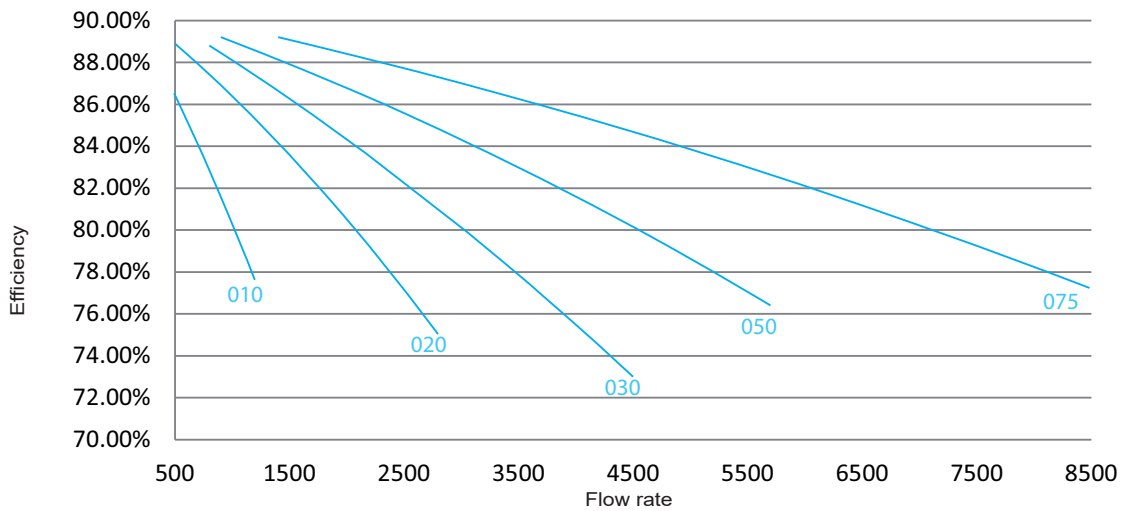
39HXA MODEL PERFORMANCE

F5 exhaust filter, F7 intake filter, duct pressure: 200 Pa, heat recovery unit conditions: 0°C/90% - 20°C/50%

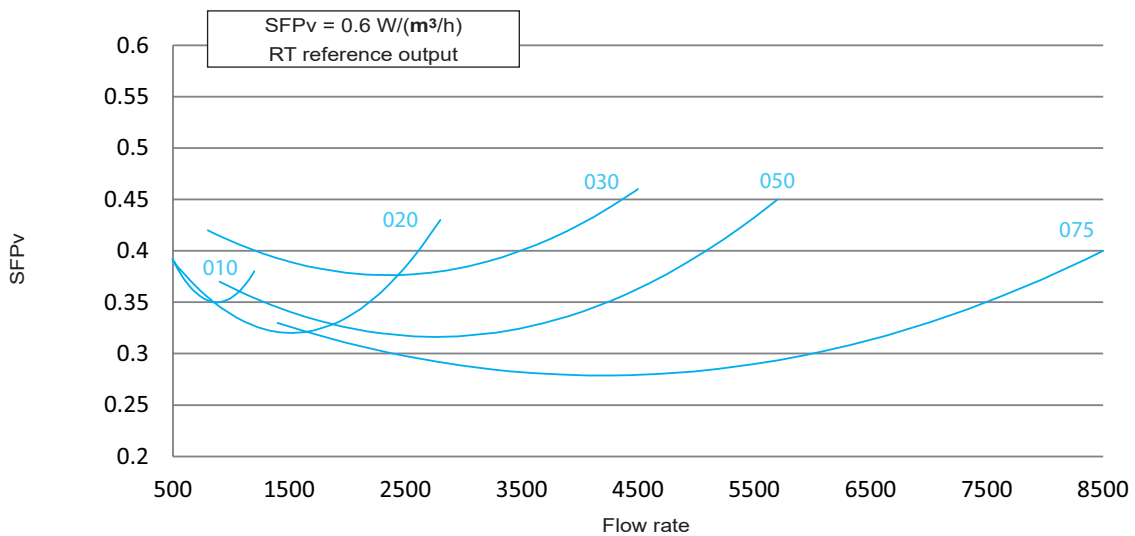
Operating pressure = f(flow rate)



Heat recovery unit efficiency = f (flow rate)



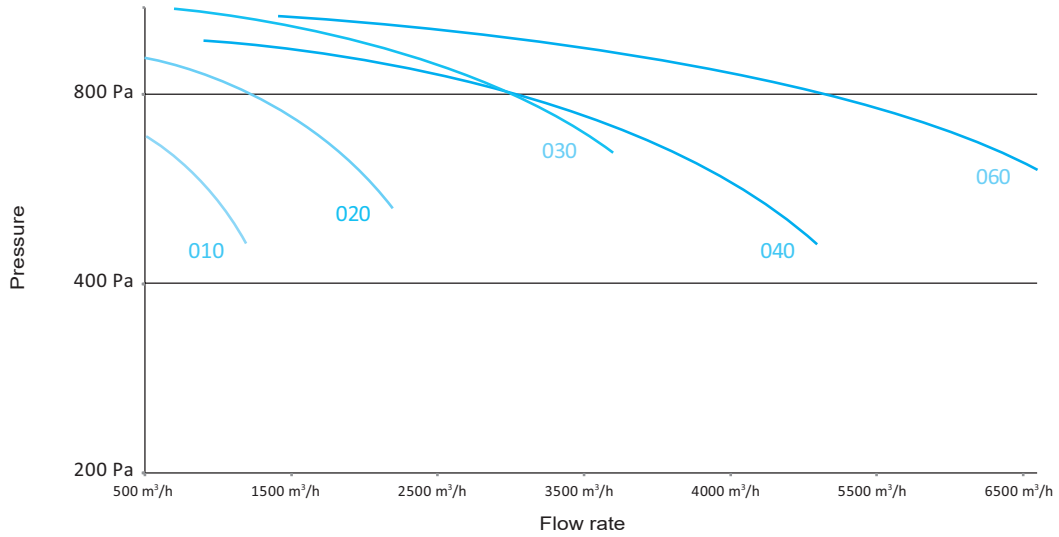
SFPv ahu = f (flow rate)



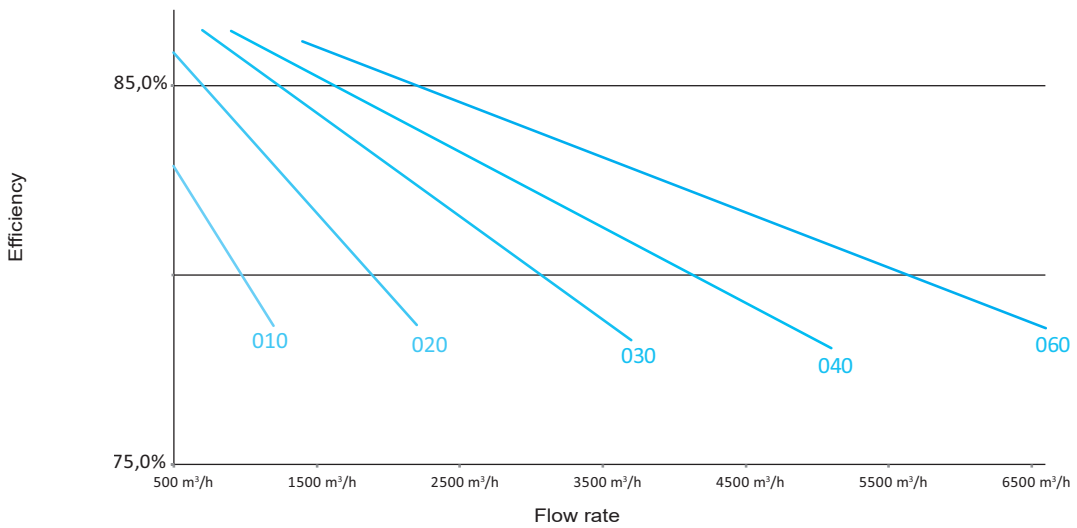
CLASSIC 39HC MODEL PERFORMANCE

F5 exhaust filter, F7 intake filter, duct pressure: 200 Pa, heat recovery unit conditions: 0°C/90% - 20°C/50%

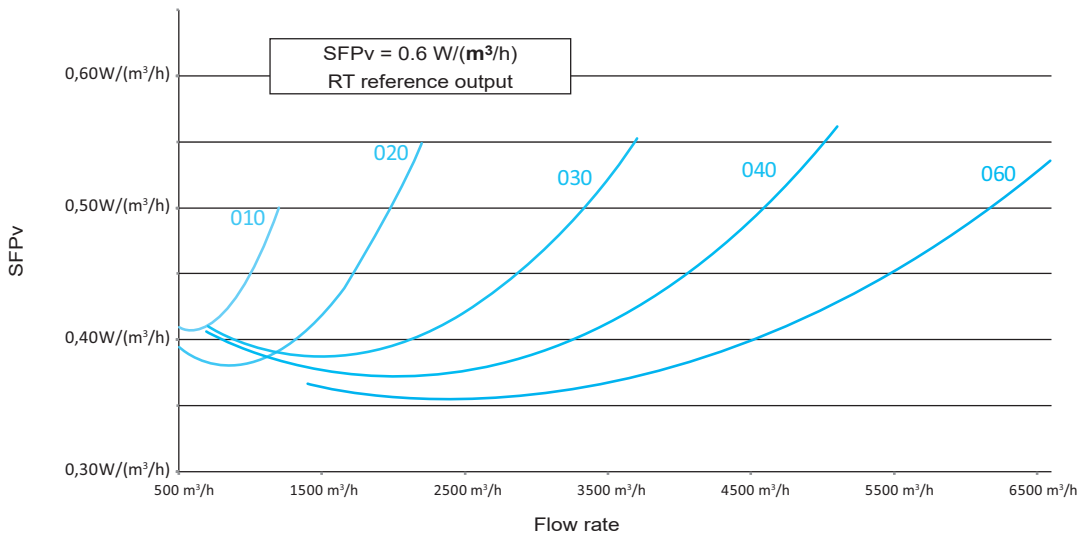
Operating pressure = f(flow rate)



Heat recovery unit efficiency = f (flow rate)



SFPv ahu = f (flow rate)





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Manufactured by: CIAT SA, Culoz, France.