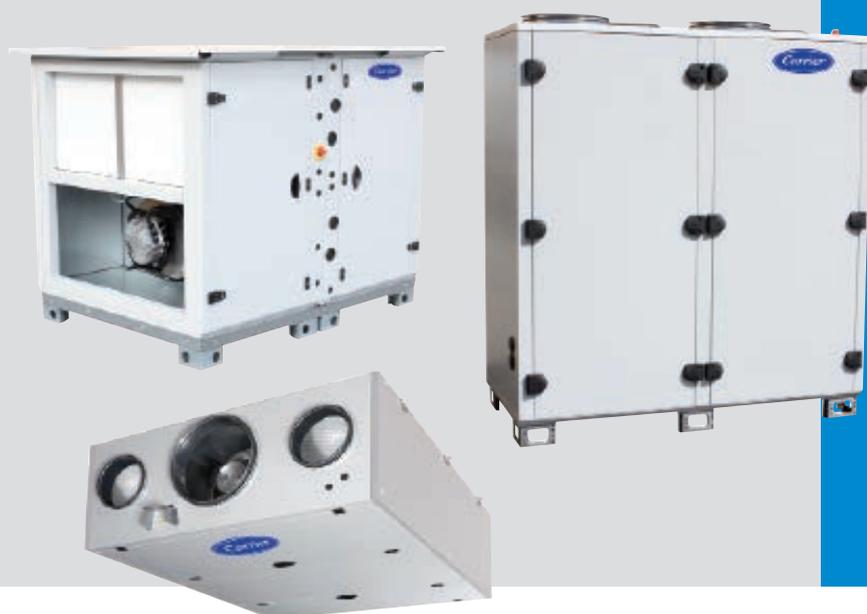


## PRODUCT SELECTION DATA



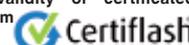
- Plug & play unit (built-in control)
- Class A+ across entire range
- Classic/Vertical/ceiling-mounted dual-flow units
- High-efficiency heat recovery unit
- High performance plug fan

High-efficiency dual-flow air handling unit

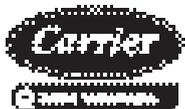
# 39HX



CARRIER participates in the ECP programme for LCP/HP. Check ongoing validity of certificated [www.eurovent-certification.com](http://www.eurovent-certification.com) [www.certiflash.com](http://www.certiflash.com)







# → High-efficiency dual-flow air handling unit

## USE

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).

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	L2
Filter bypass leak	F9
Thermal transmission	T3
Thermal bridge	TB2

**39HXE model:** 9 sizes, air flow from 300 to 18,000 m<sup>3</sup>/h. Floor-mounted horizontal unit with horizontal air flows and air connections on the sides.

**39HXA model:** 5 sizes, air flow from 350 to 8500m<sup>3</sup>/h.

**39HXC model:** 5 sizes, air flow from 300 to 6600 m<sup>3</sup>/h. Ground installation, horizontal position, horizontal air flow, air circuits on the sides.

**39HXV model:** 3 sizes, air flow from 300 to 2600 m<sup>3</sup>/h. Ground installation, vertical position, vertical air flow, air circuits on the top.

**39HXH model:** 3 sizes, air flow from 300 to 1900 m<sup>3</sup>/h. Ceiling-mounted horizontal unit with vertical air flows and air connections on the sides.

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 equipped with a bypass (C, V, H models)



Rotary heat exchanger (39HXA and 39HXE models) Year-round optimal heat recovery unit

## RANGE

### Classic 39HXC & 39HXE

MODELS	Nominal flow rate (m <sup>3</sup> /h)	Max. power* (kW)	Max current* (A)	Voltage (V)
010	1000	1,43	6,2	1-Ph 230
020	2000	2,50	3,6	
030	3000	3,82	5,5	3-Ph 400
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

MODELS	Nominal flow rate (m <sup>3</sup> /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	

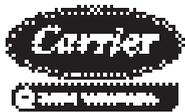
### Vertical 39HXV

MODELS	Nominal flow rate (m <sup>3</sup> /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	

### Ceiling-mounted 39HXH

MODELS	Nominal flow rate (m <sup>3</sup> /h)	Max. power* (kW)	Max current* (A)	Voltage (V)
007	700	1,43	6,2	1-Ph 230
012	1200	1,43	6,2	
016	1600	2,50	3,6	3-Ph 400

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



# → High-efficiency dual-flow air handling unit

## DESCRIPTION

### Casing

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

### Filtration

M5 HEE, F7 HEE, F9 HEE filters.  
Filter cells kept compressed by a special system to ensure a leaktight seal.  
HXC, HXV, HXH models: fouling value monitored by analogue sensor and displayed by controller.  
HXA model: pressure switch control on each air flow.  
Pressure switch status displayed by 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, HXH and HXV models). Efficiency greater than 80% across the range of air flows.  
Rotary heat exchanger equipped with rotation variable speed control (39HXE model).  
Efficiency greater than 80% at nominal flow rate.  
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 0-10V actuator controlled by 39HX Control for setpoint accuracy.  
Stainless steel condensate drain pan (cooling coil or mixed coil only).

### Electrics box

#### Electric heaters

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

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).

### Accessories

- Damper formed of airfoil blades, powered by a servomotor
- On/off with return spring.
- Flexible sleeve.
- Adjustable feet.
- CO<sub>2</sub> air quality sensor.
- Roof.
- Canopy.
- Mixing section.
- Indoor environment switch.
- ModBus RTU, LON, KNX, ModBus communication
- TCP, Bacnet IP, web interface.

MODELS & SIZES	Power (kW)	Current (A)	Voltage (V)
C 010 & E 010 V 007 H 070 & H 012	4,5	20	1-Ph 230
V 015 (additional casing) H 016 (additional casing)	7,20	11	3-Ph 400
V 015	8,1	12	
C 020 & E 020	10,8	16	
C 030 & E 030	12,6	19	
C 040 & E 040	16,8	25	
E 050	19,8	29	
C 060 & E 060	22,8	34	
E 075	31,2	46	
E 100	N/A	N/A	
E 150	N/A	N/A	



## → High-efficiency dual-flow air handling unit

### CONTROL

#### 39HX Control

The 39HX features, as standard, an electrics 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	
	Frost protection	By fresh air temperature control By exhaust air flow pressure on heat recovery unit delta control (pressure sensor)	X	X
Safety	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 (potential free (dry) contact available (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
Free cooling	Shut down the rotary heat exchanger (HXE and HXA models)		X	
	Open the bypass on the Contra Flow plate heat exchanger (HXC, HXV and HXH models)		X	
Night cooling function	Shut down the rotary heat exchanger (HXE and HXA models)		X	
	Open the bypass on the Contra Flow plate heat exchanger (HXC, HXV and HXH models)		X	
Morning heating function	Control degree of opening of mixing bypass (HXE model)			X
Eco-recycling function	Control degree of opening of mixing bypass (HXE model)			X
Efficiency optimisation	Variation of the rotation speed of the rotary recovery unit (HXE 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	Signal 0-10V	CO <sub>2</sub> sensor	X
		Contact	Presence contact External contact	X X
	Multi zone	Air supply duct constant pressure operation		X
		ModBus RS485 protocol		X
Communicating mode	Management by CMS	LON protocol		X
		KNX protocol		X
		ModBus TCP/BACNET IP protocol		X
		Web interface		
Miscellaneous	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, CO<sub>2</sub> sensor, etc.

\*\* Except 39HXA model



→ High-efficiency dual-flow air handling unit

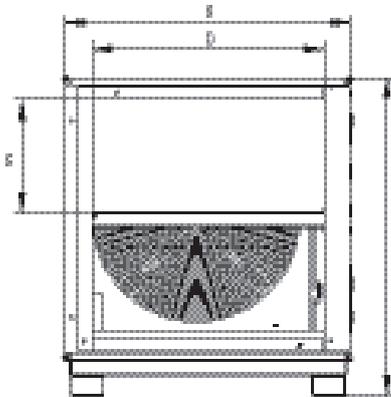
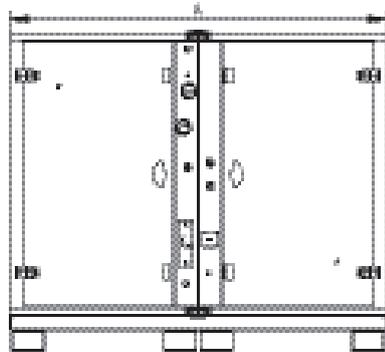
## AIR FLOW DIMENSIONS AND ORIENTATION

### Classic 39HXC, 39HXE & 39HXA

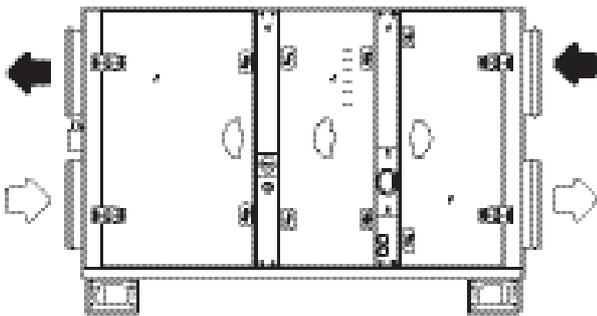
SIZES	39HXC, 39HXE & 39HXA							
	Height (C) (mm)	Width (B) (mm)	Length (A) (mm)			Weight (kg)*		
			HXC	HXA	HXE	HXC	HXA	HXE
010	958	810	1580**	1266	1266**	200	180	201
020	1158	1010	1150 + 800**	1310	510 + 800**	350	250	309
030	1359	1210	1264 + 800	1600	800 + 800	465	330	432
040	1659	1510	1264 + 800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

\* Without internal option.

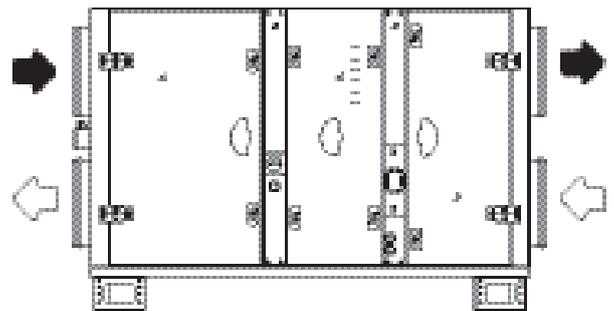
\*\* Circular coupling; protrudes 47 mm on either side.



### AIR FLOW ORIENTATION 39HXE & 39HXA models



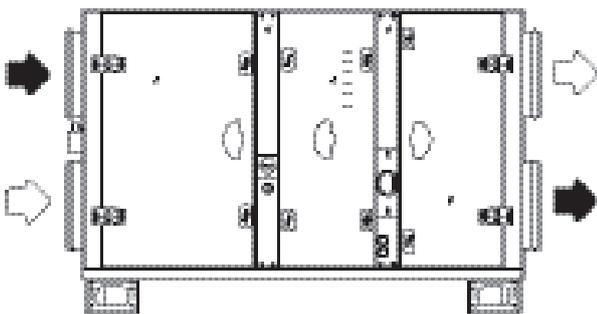
**ROTS 2.1**



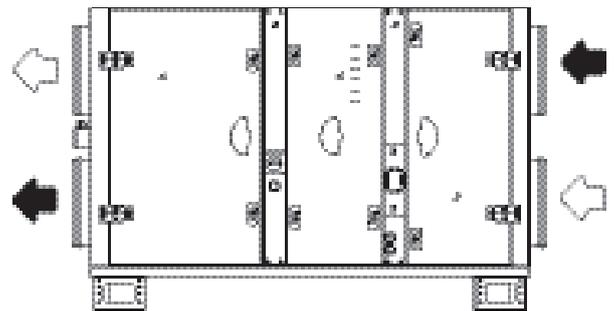
**ROTS 2.2**

☞ WHITE ARROW =  
☛ BLACK ARROW = EXTRACTED AIR

### 39HXC models



**PLAS01**



**PLAS02**



→ High-efficiency dual-flow air handling unit

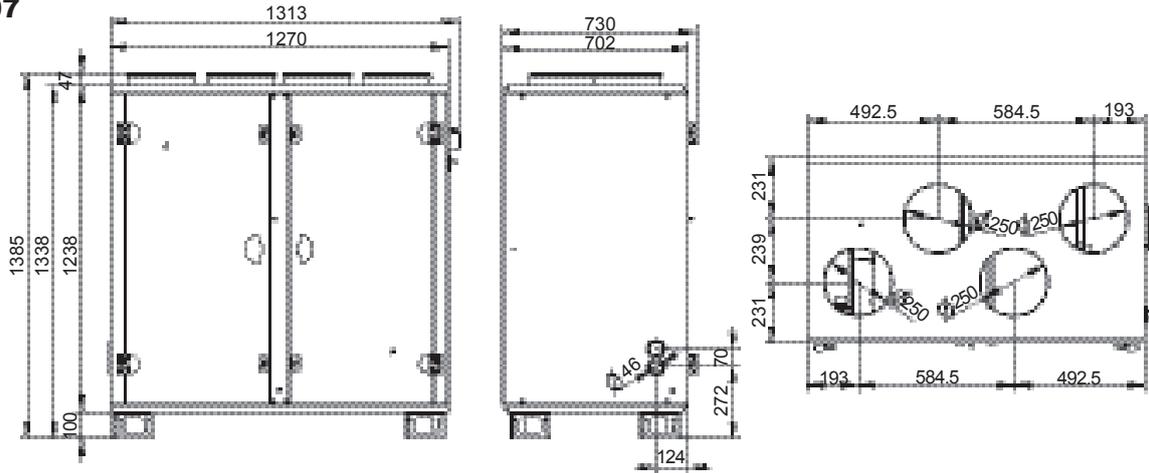
## Vertical 39HXV

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

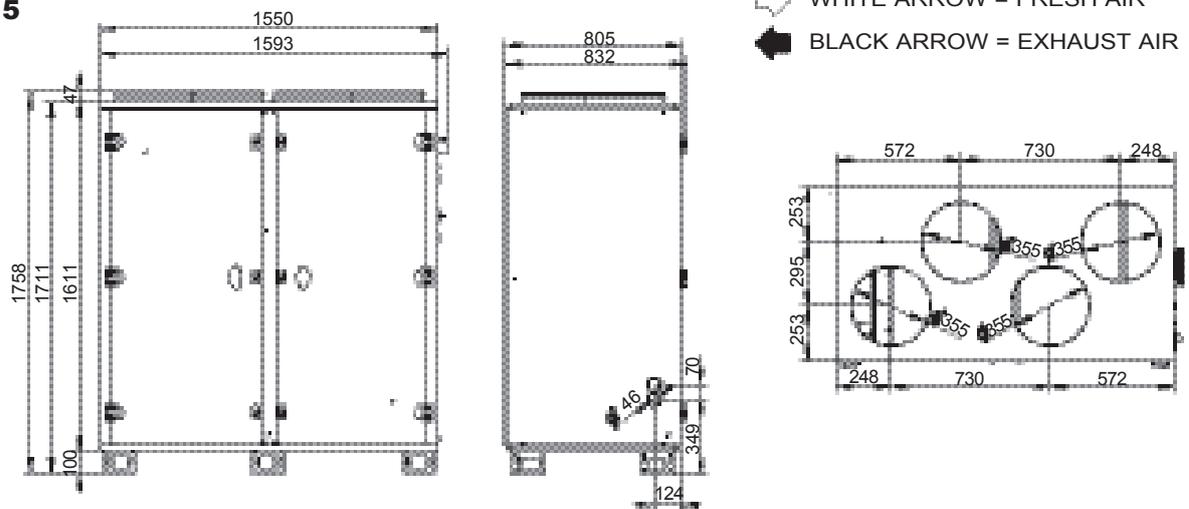
Ø 16 mm condensate drain pipe.

\* Without internal option

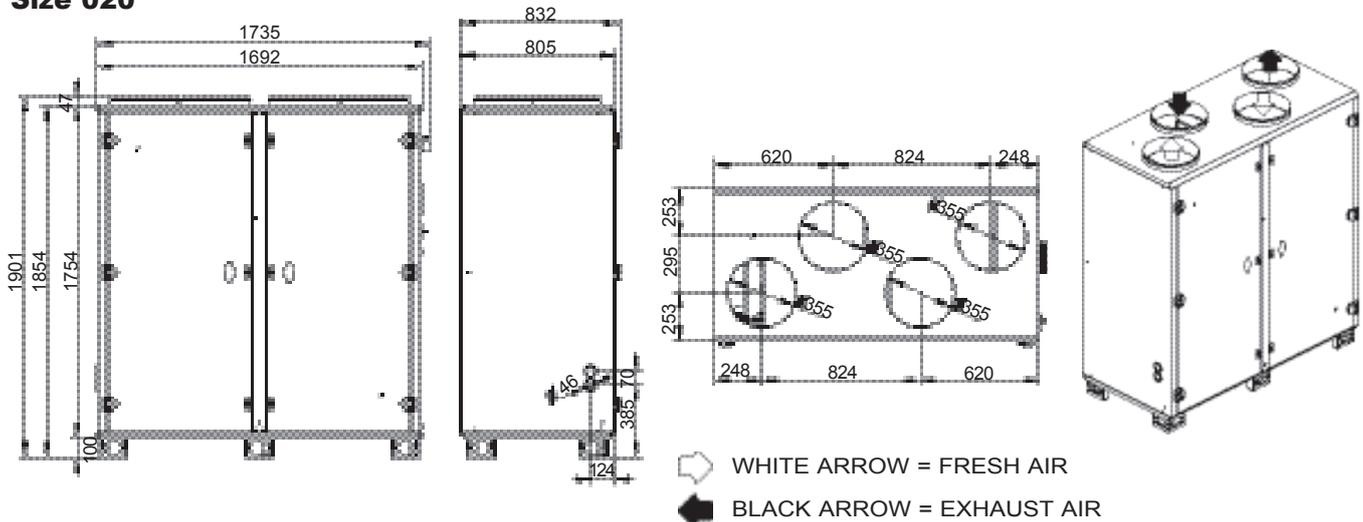
### Size 007



### Size 015



### Size 020





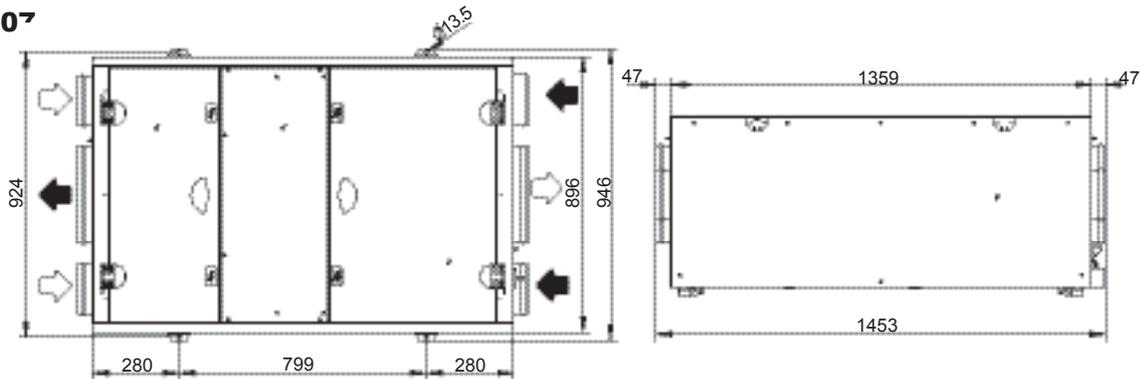
→ High-efficiency dual-flow air handling unit

## Ceiling-mounted 39HXH

MODELS	Dimensions			Weight (kg)
	Height	Length	Width	
007	585	1453	896	161
012	585	1592	1174	206
016	585	1850	1456	279

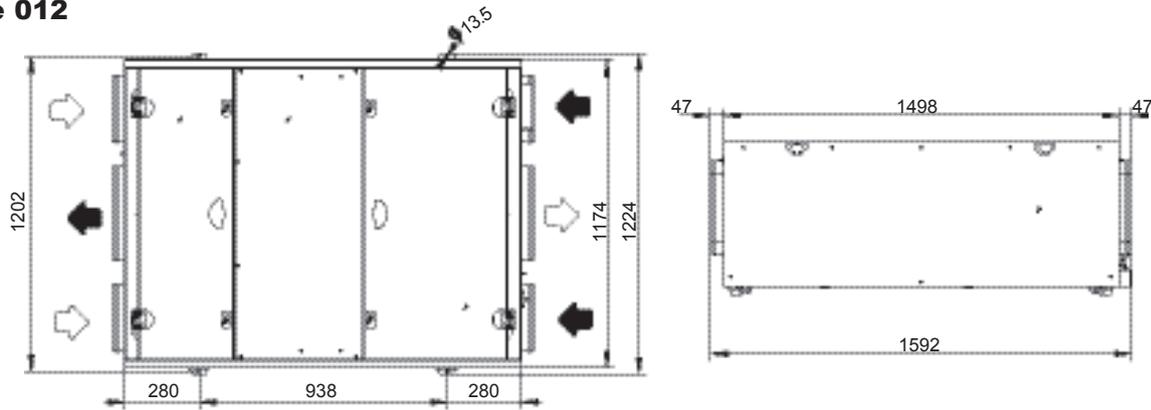
Ø 16 mm condensate drain pipe.

### Size 007

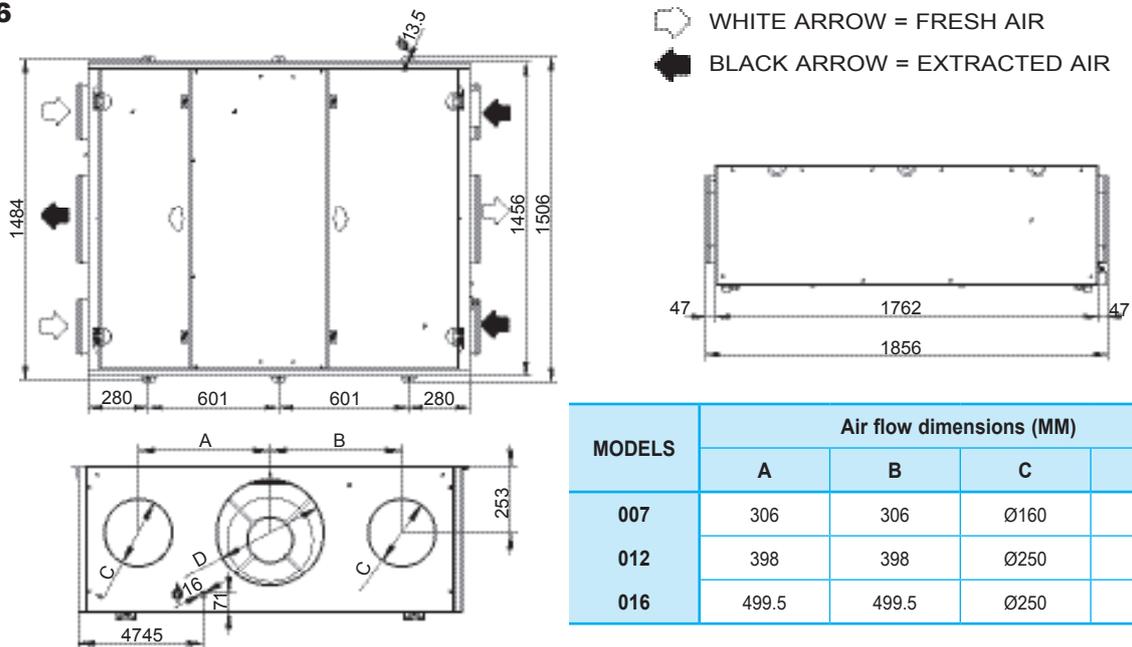


WHITE ARROW = FRESH AIR  
 BLACK ARROW = EXTRACTED AIR

### Size 012



### Size 016



MODELS	Air flow dimensions (MM)			
	A	B	C	D
007	306	306	Ø160	Ø315
012	398	398	Ø250	Ø355
016	499.5	499.5	Ø250	Ø400

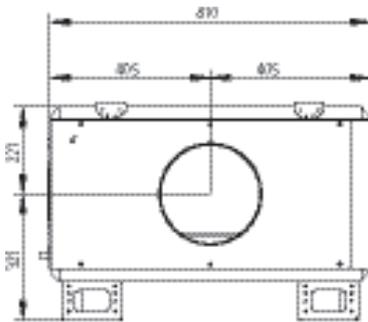


→ High-efficiency dual-flow air handling unit

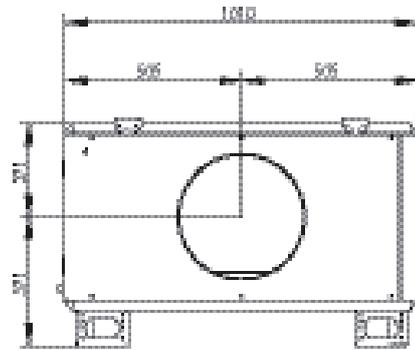
**Additional casing** (MUST ONLY BE POSITIONED IN A HORIZONTAL AIR FLOW)

39HX MODELS	Additional casing sizes (mm)	Weight (kg)
E 010 & C 010 V 007 H 007	Size1 542 x 496 x 810	49 kg
E 020 & C 020 V 015 & V 020 P 012 & P 016	Size 2 642 x 496 x 1010	62 kg
E 030 & C 030	Size 3 759 x 400 x 1210	68 kg
E 040 & E 050 C 040 & C 050	Size 4 909 x 400 x 1510	88 kg
E 060 & E 075 C 060 & C 075	Size 5 1059 x 400 x 1810	112 kg

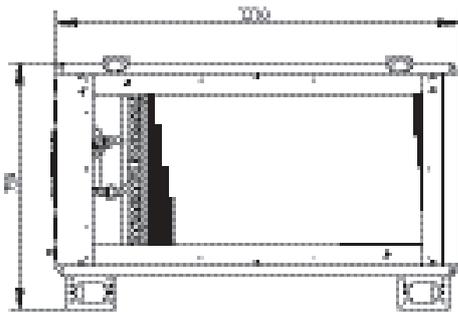
**Size 1**



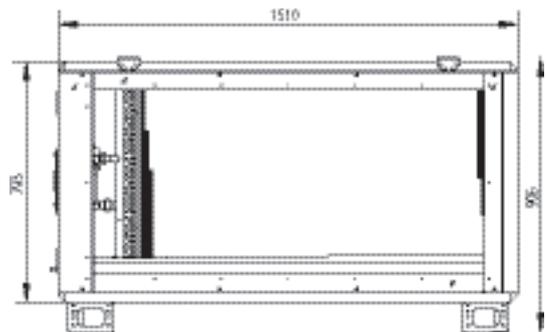
**Size 2**



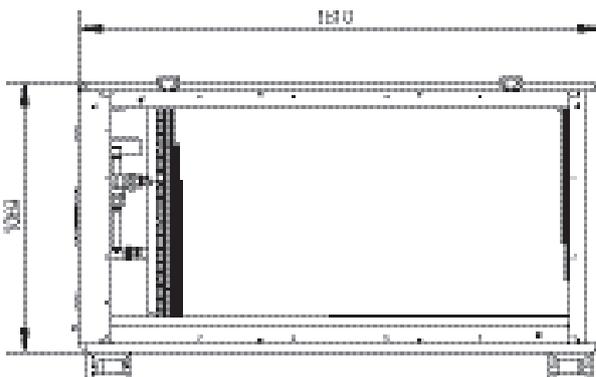
**Size 3**



**Size 4**



**Size 5**



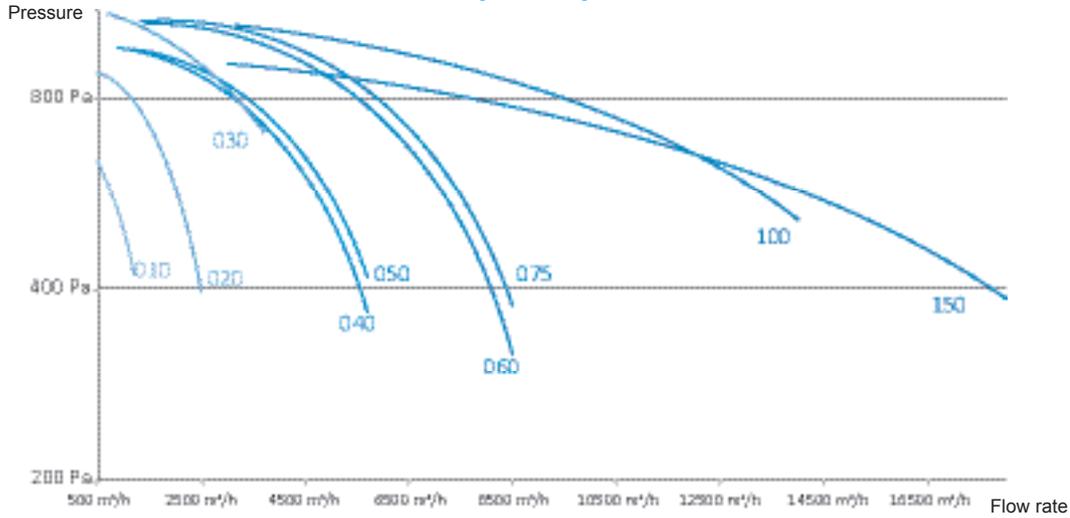


→ High-efficiency dual-flow air handling unit

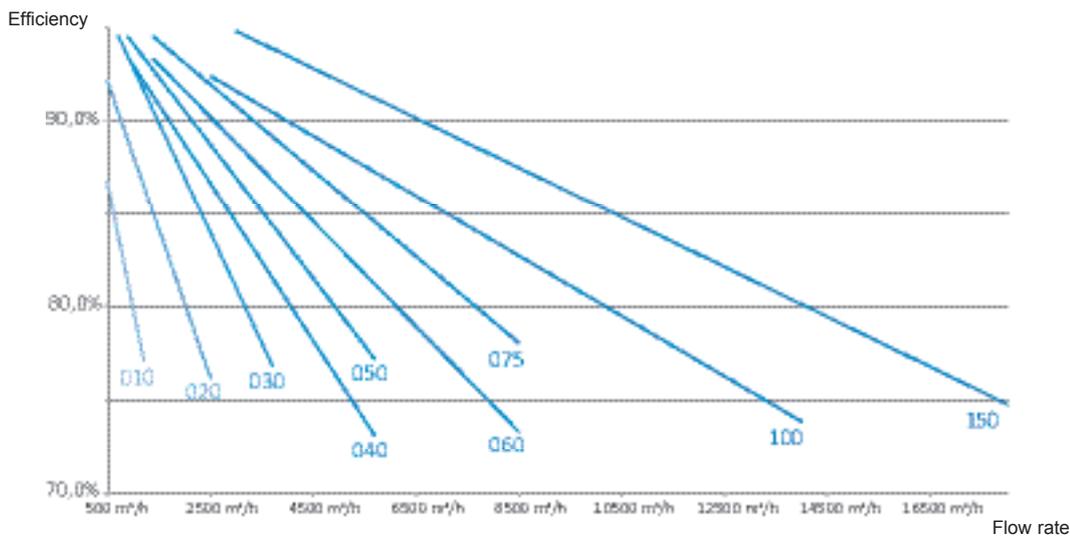
## CLASSIC 39HXE MODEL PERFORMANCE

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

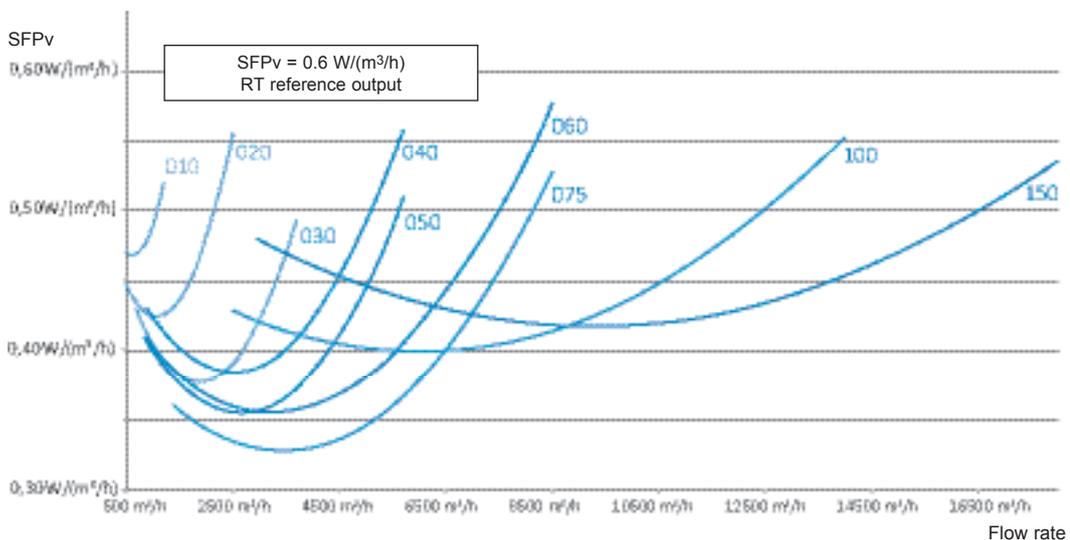
### OPERATING PRESSURE = F (FLOW)



### HEAT RECOVERY UNIT EFFICIENCY = F (FLOW RATE)



### SFPv AHU = F (FLOW RATE)





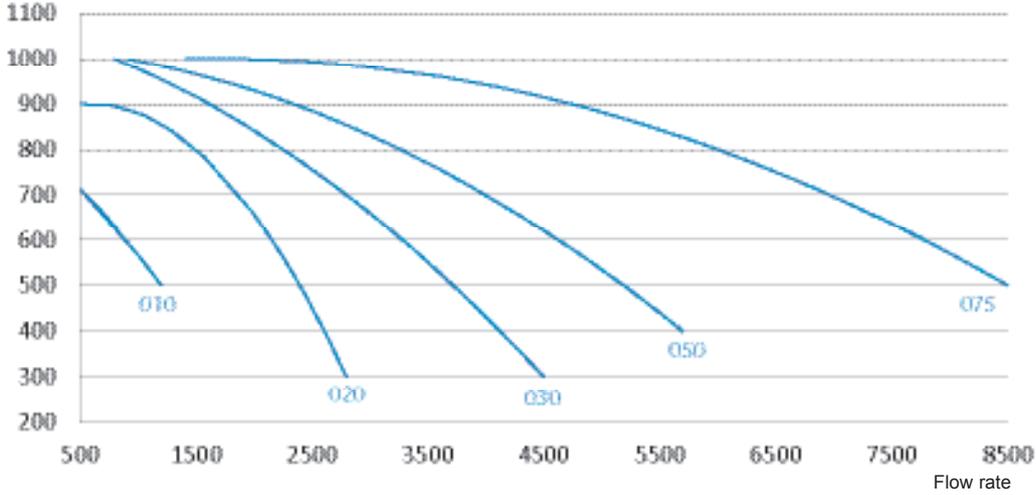
→ High-efficiency dual-flow air handling unit

## 39HXA MODEL PERFORMANCE

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

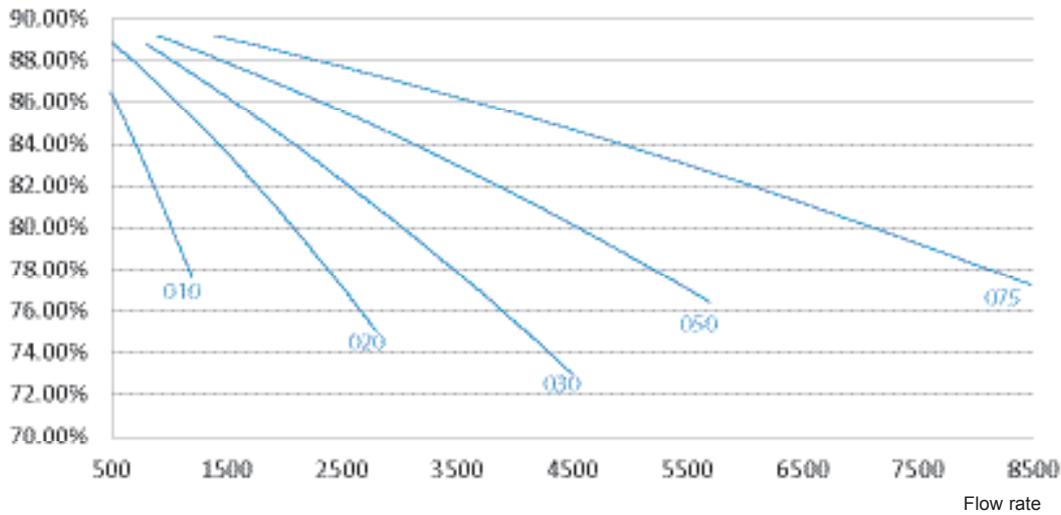


Pressure Pa



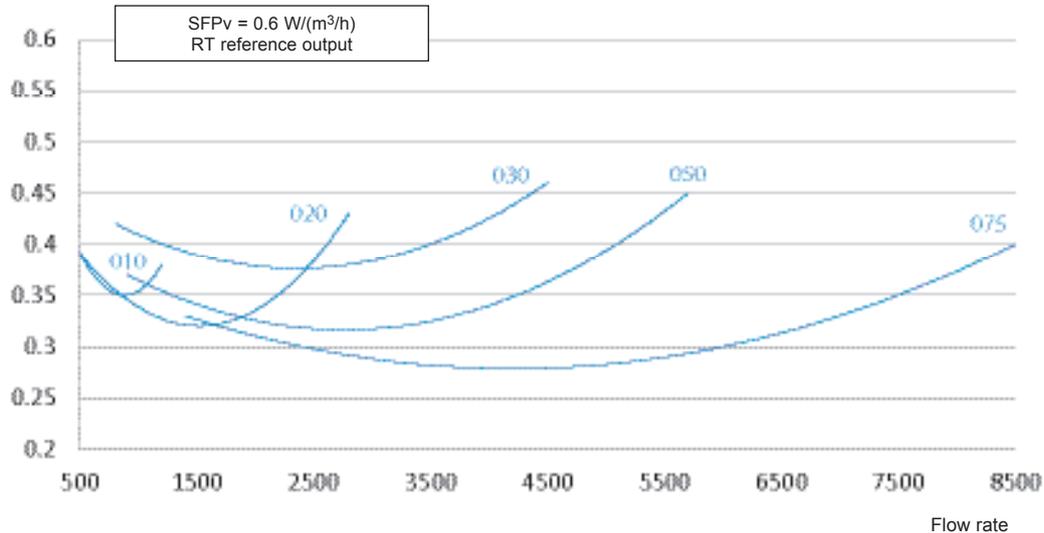
## HEAT RECOVERY UNIT EFFICIENCY = F (FLOW RATE)

Efficiency



## UNIT VOLUME FLOW RATE

SFPv



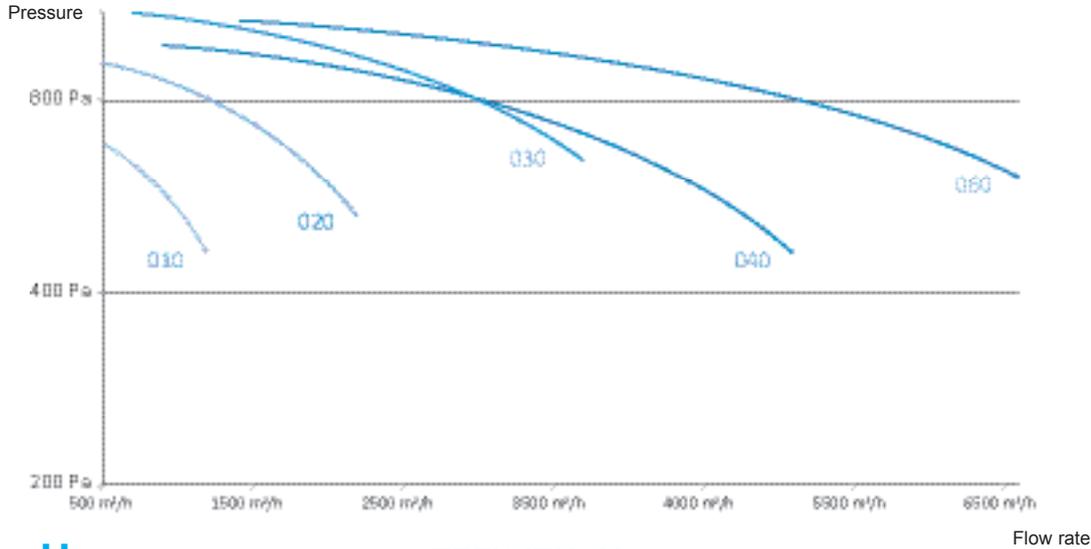


→ High-efficiency dual-flow air handling unit

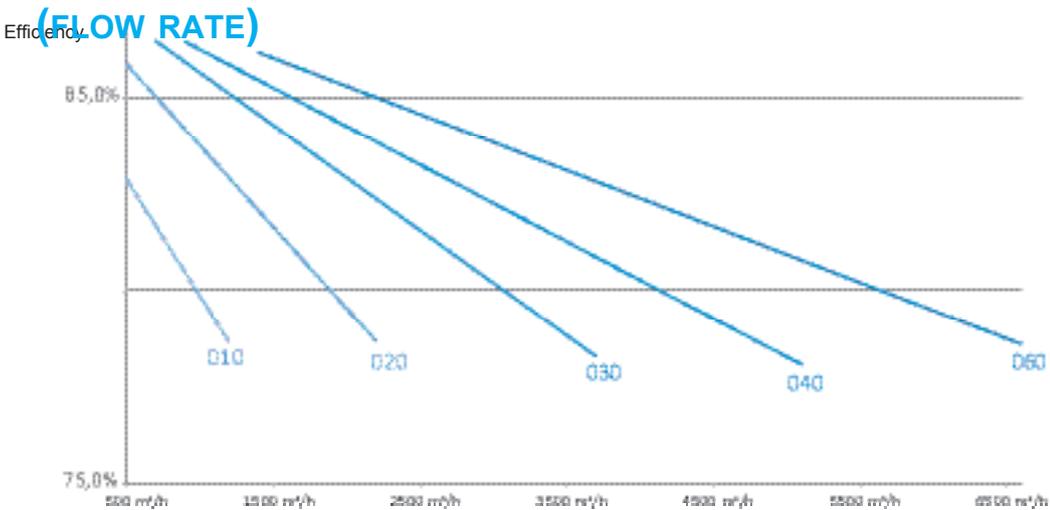
## CLASSIC 39HXC MODEL PERFORMANCE

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

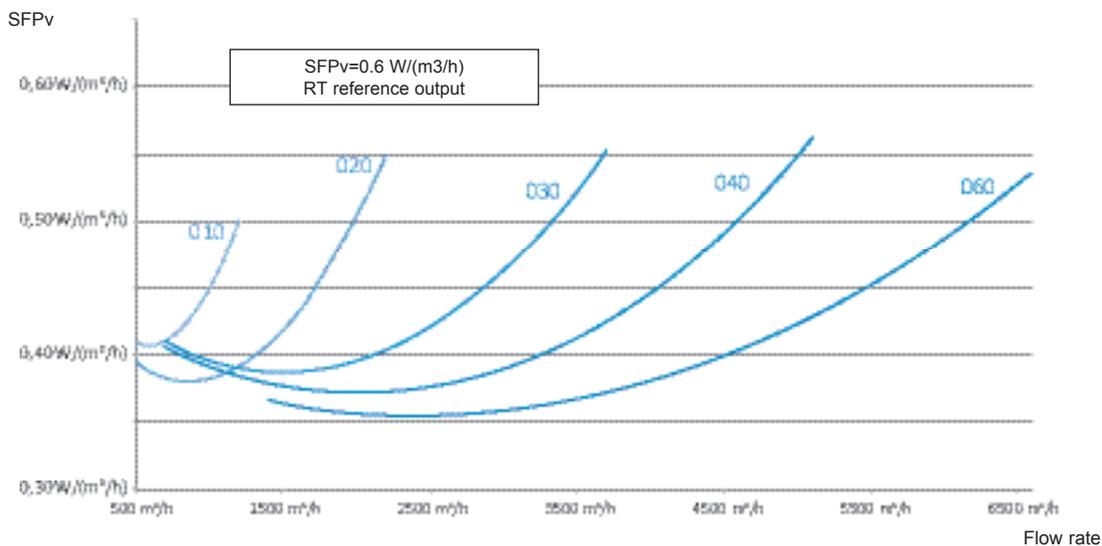
### OPERATING PRESSURE = F(FLOW)



### HEAT RECOVERY UNIT EFFICIENCY = F



### SFPv AHU = F (FLOW RATE)





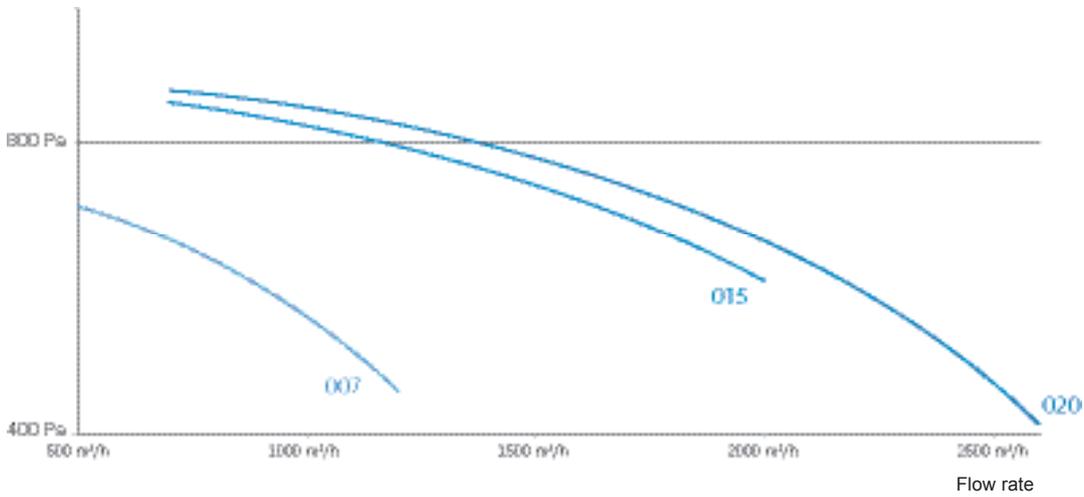
→ High-efficiency dual-flow air handling unit

## VERTICAL 39HXV MODEL PERFORMANCE

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

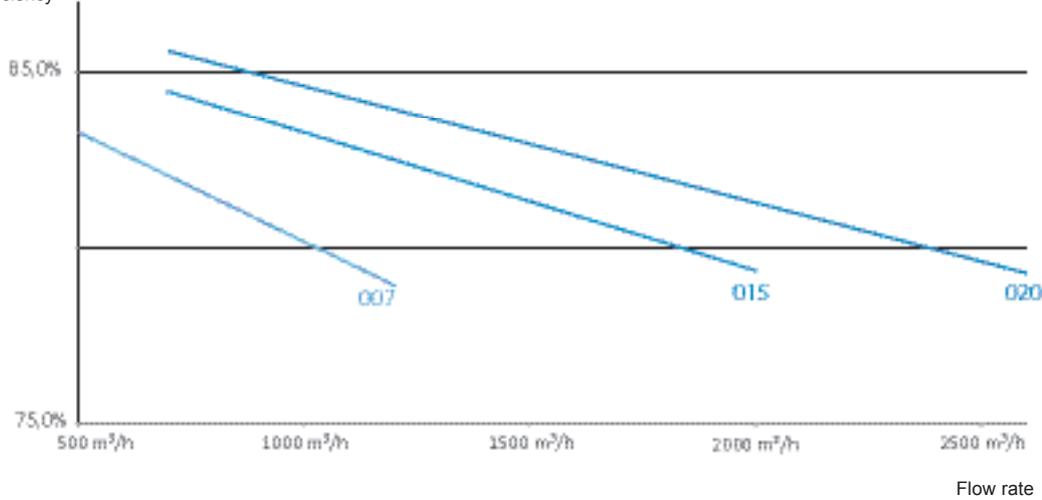
### OPERATING PRESSURE = F(FLOW)

Pressure



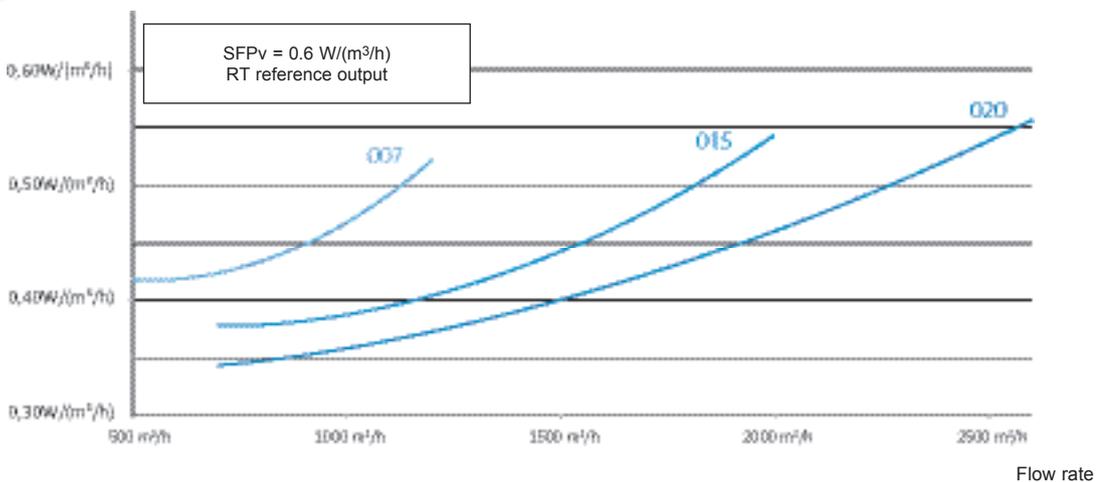
### HEAT RECOVERY UNIT EFFICIENCY = F (FLOW RATE)

Efficiency



### SFPv AHU = F (FLOW RATE)

SFPv



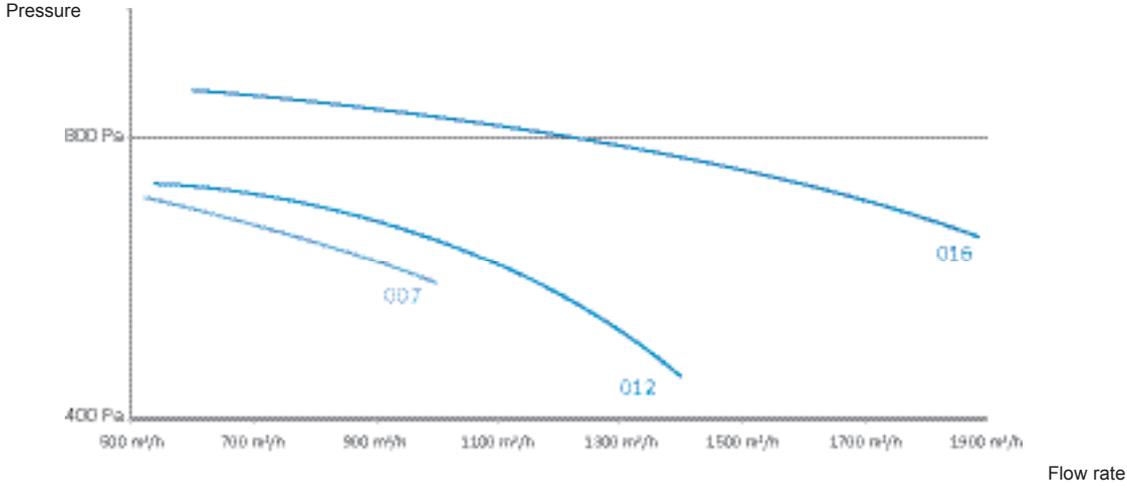


→ High-efficiency dual-flow air handling unit

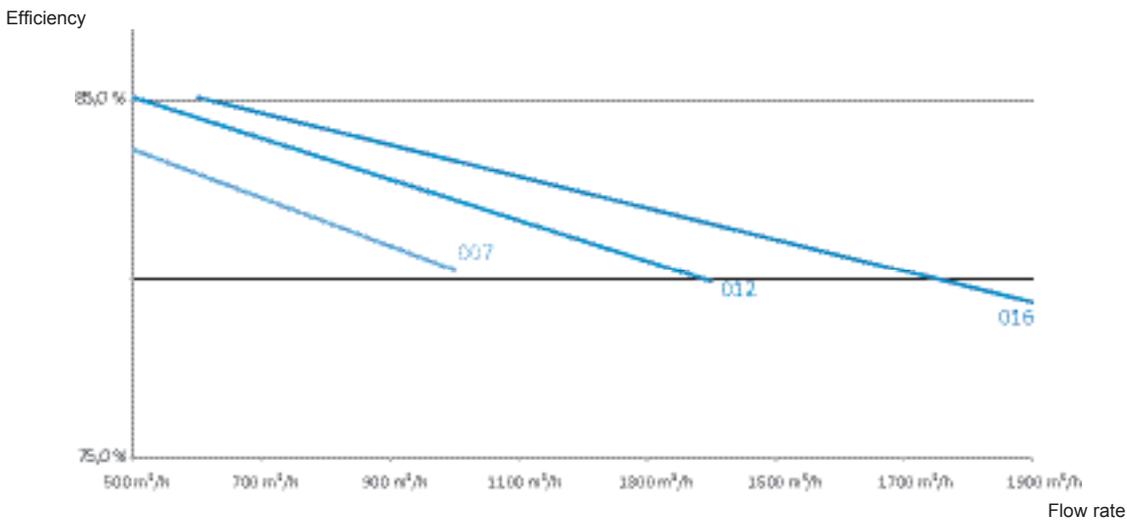
## CEILING-MOUNTED 39HXH MODEL PERFORMANCE

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

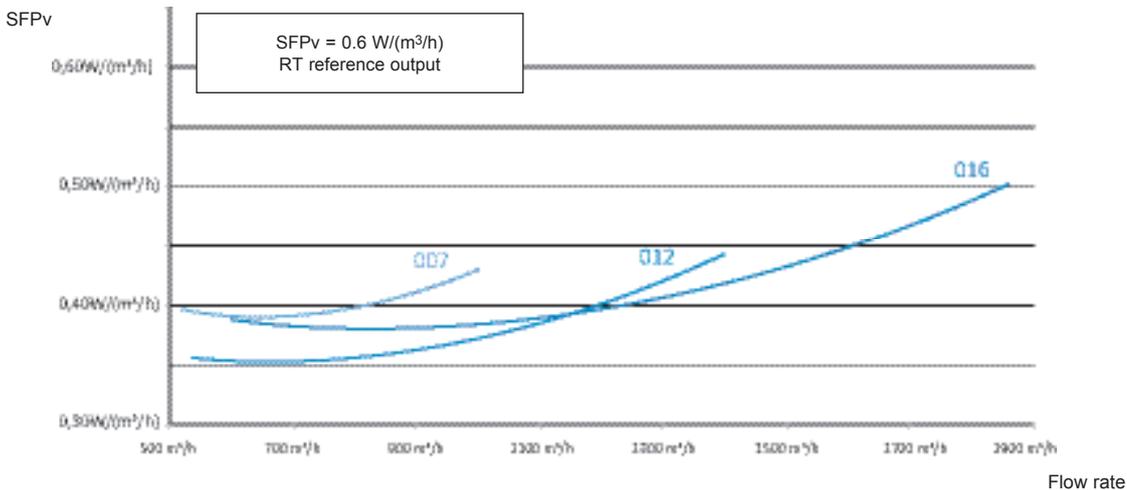
### OPERATING PRESSURE = F (FLOW)



### HEAT RECOVERY UNIT EFFICIENCY = F (FLOW RATE)



### SFPv AHU = F (FLOW RATE)





Order No.: 10024, 08.2016 - Supersedes order No.: New  
The manufacturer reserves the right to change any product specifications without notice.



Quality and Environment  
Management Systems  
Approval

Manufactured for Carrier in France.  
Printed in the European Union.