QR230E

CENTRALISED ENERGY RECOVERY UNIT WITH **ENTHALPIC HEAT EXCHANGER**

APPLICATION

Whole-house energy recovery unit, suitable for ceiling or false-ceiling installation, for horizontal mounting.

SPECIFICATION

Outer fan casing manufactured from powder coated galvanised sheet steel providing long lasting and robust construction. The unit is finished in white RAL 9010.

Internal structure manufactured from EPP (expanded polypropylene) providing reduced sound emissions and maximised air tightness and thermal insulation.

EC external rotor motors fitted as standard for energy saving. Provided with integral thermal protection, mounted on sealed for life ball bearings.

Backward curved centrifugal impeller dynamically balanced and directly driven by the motor to provide a smooth airflow through the unit.

Enthalpic heat exchanger with high thermal and latent efficiency. Made of antimicrobial technology, the built-in polymer membrane is mould and bacteria resistant: it also prevents the air flows contamination and block the odours.
The special configuration generates low pressure drop.
Very easy to be cleaned.
Average efficiency:
85% thermal
65% humidity

FEATURES & BENEFITS

Easy of installation: 243mm height (259mm max., including fixing brackets) to overcome shallow ceiling voids.

Enthalpic heat exchanger suitable to transfer thermal energy and humidity from one airflow to the other, keeping the correct indoor humidity level (40-60%). During winter time, for example, it prevent that indoor air becomes too dry: in summer, instead, the humidity of the outdoor warm air is not transferred to the indoor cool air.

G4 filters easy removable for cleaning from the outside: no need to remove the access panel. Remote F7 filter cassette on request.

Integral automatic physical bypass for free cooling during the summer season.

Automatic anti-frost protection to prevent frost building up on the intake side of the heat exchanger.

No condensation drainage is required.

Tested to the latest standards: units are tested in the TÜV Rheinland recognised laboratory at Aerauliqa, meaning accurate, up to date information on electrical safety, performance and noise level that can be relied upon.
Designed and manufactured in accordance with EN60335-2-80 (Low Voltage Directive) and the EMC Directive (Electromagnetic Compatibility).

OPERATION

The unit is supplied with a multi-function LCD display (CTRL-DSP) for automatic control and convenience, providing:

- 3 speeds setting (adjustable).
- Boost option.
- Holiday mode.
- Night mode: during night time the automatic operation via sensors is deactivated to prevent undesired speed rise and consequent noise increase.
- Automatic Bypass.
- Airflow balancing.
- Filter replacement and fan failure indicator.
- Working hour counter.
- Setting saving and loading.
- Volt-free contacts for remote ambient sensors (SEN-HY, SEN-PIR, SEN-CO_2).
- Analogic input 1-10V for "slave" function if connected to BMS (home automation) system.
- Integral S/L terminal for boost from remote switch, i.e. light or dedicated switch.

CTRL-DSP

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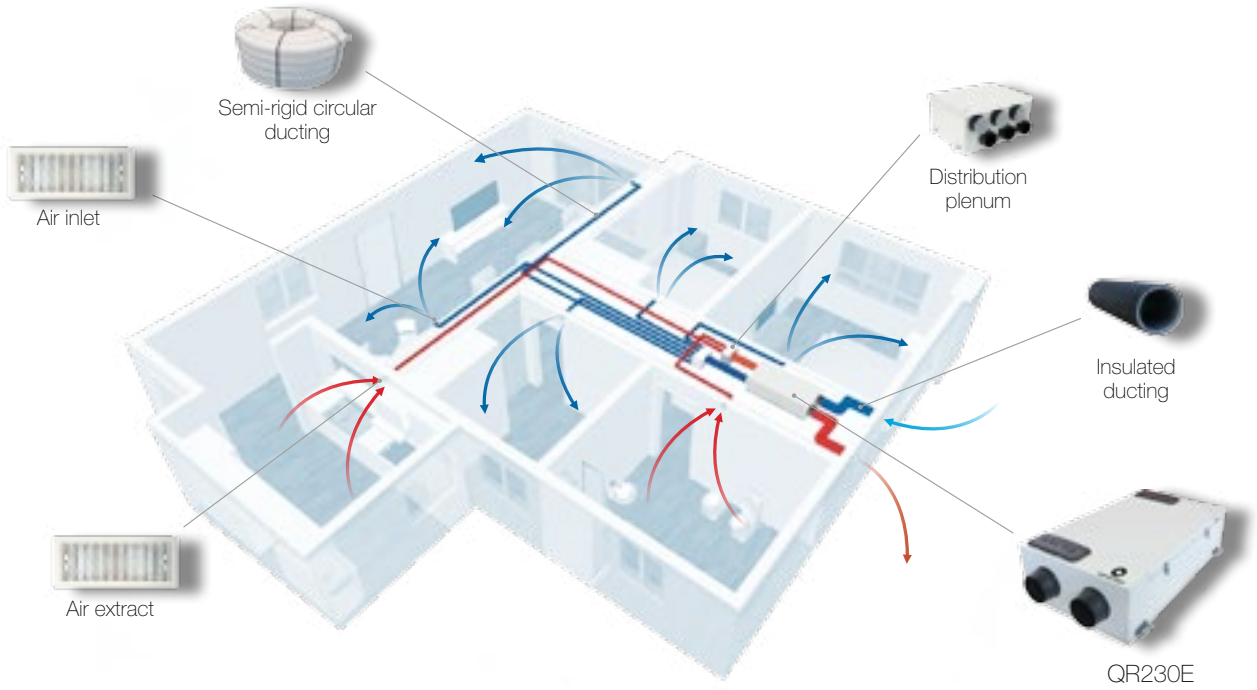
Example of a complete ventilation system



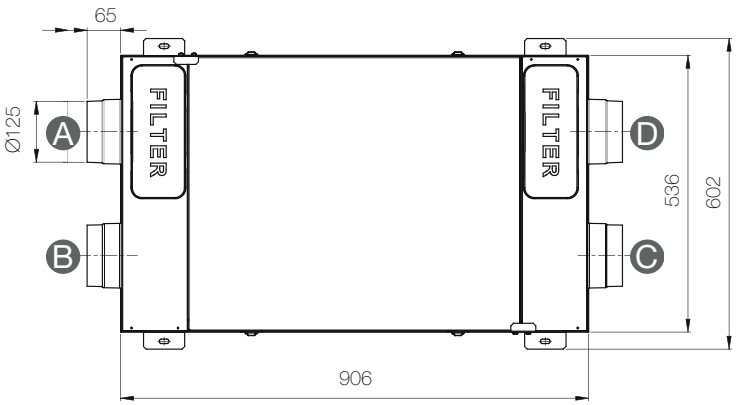
Application: new build.

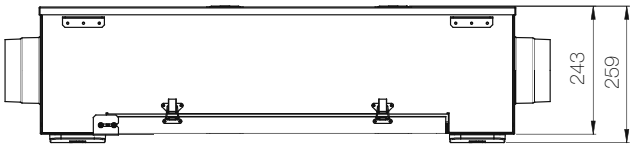
How it works: a continuous running energy recovery unit (QR230E) transfers thermal energy and humidity from humid air extracted from wet rooms to warm incoming fresh air which is ducted to habitable rooms. Thanks to the easy-to-fit air distribution system each single ambient can be properly ventilate: the boost function enables rapid extract of increased moisture or pollutant levels. It also provides discrete installation and very quite operation.
QR230E does not need any condensation drainage.

Energy saving: the preheated/precooled fresh air and continuous air changes reduce the demand for additional heating/air-conditioning.
The EC brushless motors significantly reduce the electricity consumption.

Indoor Air Quality: a correctly specified mechanical ventilation system can ensure the quality of the indoor air is constantly maintained for the health and well-being of the occupants as well as of the building. Duly maintained filters ensure that incoming air is suitably filtered of dust and pollen before if enters the home.

Dimensions (mm) and Weight

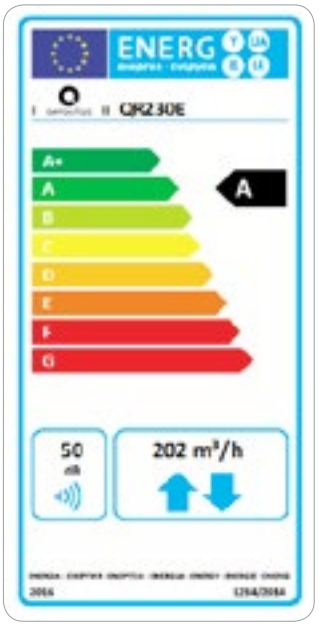




Model	QR230E
Weight Kg	25
A	Intake air from outiside
B	Exhaust air to outside
C	Supply air to inside
D	Extract air from inside

Product fiche - ErP Directive, Regulations 1253/2014 - 1254/2014

a)	Mark	-	AERAULIQA
b)	Model	-	QR230E
c)	SEC class	-	A
c1)	SEC warm climates	kWh/m².a	-14,6
c2)	SEC average climates	kWh/m².a	-37,6
c3)	SEC cold climates	kWh/m².a	-73,1
	Energy label	-	Yes
d)	Unit typology	-	Residential - bidirectional
e)	Type of drive	-	Variable speed drive
f)	Type of Heat Recovery System	-	Heat recovery
g)	Thermal efficiency of heat recovery	%	70
h)	Maximum flow rate @ 100 Pa	m³/h	202
i)	Electric power input (maximum flow rate)	W	114
j)	Sound power level (L_{WA})	dBA	50
k)	Reference flow rate	m³/h	142
l)	Reference pressure difference	Pa	50
m)	Specific power input (SPI)	W/m³/h	0,359
n1)	Control factor	-	0,65
n2)	Control typology	-	Local demand control
o1)	Maximum internal leakage rate	%	2,5
o2)	Maximum external leakage rate	%	1
p1)	Internal mixing rate	%	N/A
p2)	External mixing rate	%	N/A
q)	Visual filter warning	-	Visual filter warning on display
r)	Instructions to install regulated grilles	-	N/A
s)	Internet address for preassembly/disassembly instructions	-	www.aerauliqa.com
t)	Airflow sensitivity to pressure variations	%	N/A
u)	Indoor/outdoor air tightness	m³/h	N/A
v1)	AEC - Annual electricity consumption - warm climates	kWh	1,9
v2)	AEC - Annual electricity consumption - average climates	kWh	2,4
v3)	AEC - Annual electricity consumption - cold climates	kWh	7,7
w1)	AHS - Annual heating saved - warm climates	kWh	19,4
w2)	AHS - Annual heating saved - average climates	kWh	42,8
w3)	AHS - Annual heating saved - cold climates	kWh	83,7
	Ambient temperature max	°C	40
	Degree of protection IP	-	X4
	Marking	-	CE



- 220-240 V ~ 50-60Hz
- Air performance measured according to ISO 5801 a 230V 50Hz, air density 1,2 Kg/m³
- data measured in the TÜV Rheinland recognised laboratory in Aerauliqa

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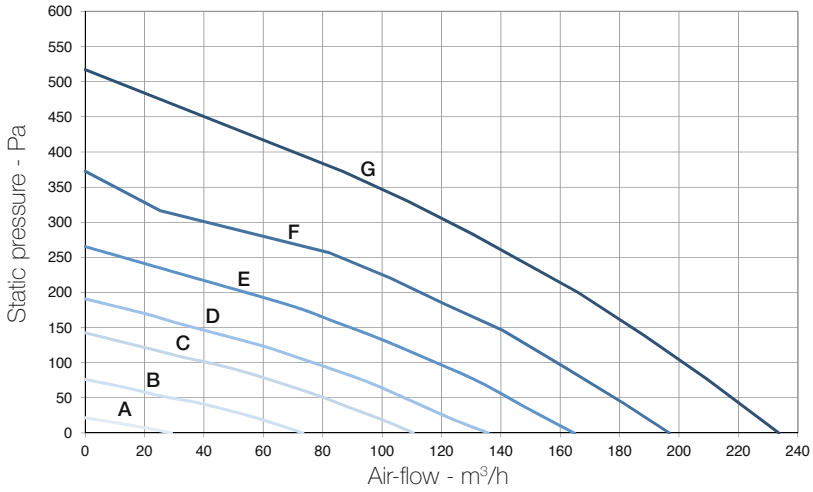
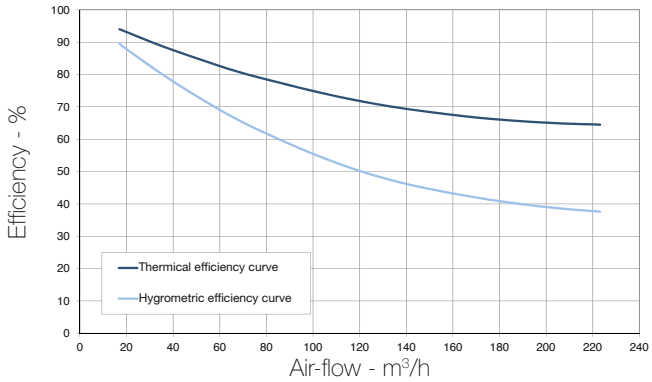
Performance curve



Curve	Speed %	W max	m³/h max
A (min)	20	10	29
B	40	16	73
C	53	26	110
D	60	36	136
E	72	51	165
F	84	76	197
G (max)	100	114	234

Intake curve according to Reg. 1253/2014 (ErP)



Data of the enthalpic heat exchanger.
Test conditions:
Indoor air 25°C 50% RH
External air 5°C 70% RH

Sound level

	Lw dB - SOUND POWER OCTAVE BAND									Lp dB(A)
Speed 100%	63	125	250	500	1 K	2 K	4 K	8K	Tot	@3m
Intake	57	62	69	64	58	56	49	46	71	45
Supply	56	62	65	61	55	50	40	31	68	41
Extract	57	61	65	60	55	49	41	32	68	41
Exhaust	59	64	68	62	57	57	54	47	71	44
Breakout	56	61	64	59	58	50	40	35	68	41

	Lw dB - SOUND POWER OCTAVE BAND									Lp dB(A)
Speed 80%	63	125	250	500	1 K	2 K	4 K	8K	Tot	@3m
Intake	55	59	65	60	53	50	44	40	67	41
Supply	55	59	62	57	51	44	35	28	65	37
Extract	55	58	62	55	51	43	35	28	65	37
Exhaust	58	61	65	58	53	52	49	41	68	40
Breakout	55	58	60	55	53	45	35	28	64	37

	Lw dB - SOUND POWER OCTAVE BAND									Lp dB(A)
Speed 60%	63	125	250	500	1 K	2 K	4 K	8K	Tot	@3m
Intake	52	55	61	51	45	42	36	31	63	34
Supply	51	54	56	47	42	37	27	25	59	30
Extract	51	54	57	46	42	35	27	23	60	30
Exhaust	52	57	61	49	45	44	40	32	63	34
Breakout	51	54	55	45	44	37	29	24	59	29

	Lw dB - SOUND POWER OCTAVE BAND									Lp dB(A)
Speed 40%	63	125	250	500	1 K	2 K	4 K	8K	Tot	@3m
Intake	47	50	50	42	35	32	25	22	54	24
Supply	47	48	48	38	33	27	22	20	53	21
Extract	47	49	48	37	33	25	20	20	53	21
Exhaust	49	51	54	40	36	34	28	23	57	26
Breakout	47	48	46	37	34	30	22	19	52	21

Lp dB(A) @3m for comparative purposes only