



CENTRALISED HEAT RECOVERY UNIT

APPLICATION

Whole-house heat 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.

Highly efficient **counterflow heat exchanger** to maximise thermal recovery.

FEATURES & BENEFITS

Ease of installation: 290mm height (315mm max., including fixing brackets and drain connection) to overcome shallow ceiling voids.

Simplified connection: the product is supplied pre-cabled.

ISO Coarse 60% (G4) filters easy removable for cleaning from the outside; no need to remove the access panel. **ISO ePM1 60% (F7) filter** on request.

Integral automatic bypass for free cooling during the summer season.

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

Double drain connections to meet climate requirement.

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:

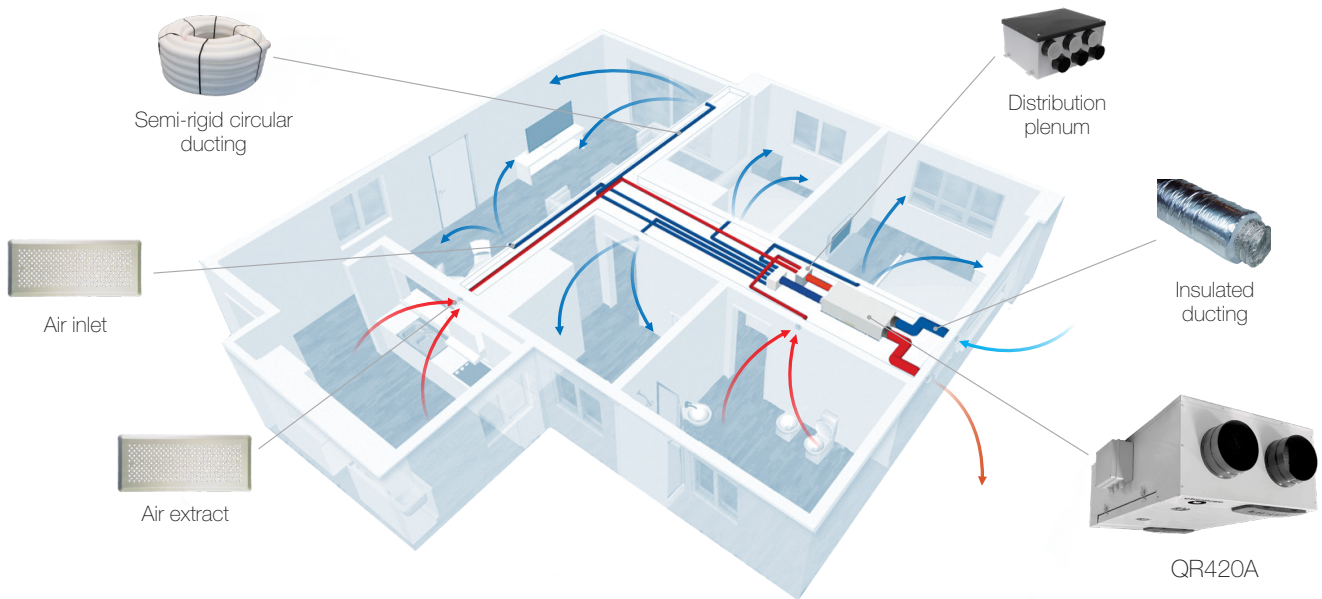
- 3 speed settings (adjustable).
- Boost option.
- Holiday mode.
- Night mode.
- Weekly timer.
- Bypass setting.
- Airflow balancing.
- Filter replacement and fan failure indicator.
- Working hour counter.
- Setting saving and loading.
- Suitable for remote ambient sensors (SEN-HY, SEN-CO2 or SEN-PIR).
- ModBus interface.
- Connection to remote pre/post heating element.
- Connection to remote water coil for heating.



CTRL-DSP
(supplied as standard)

QR420A

Example of a complete ventilation system

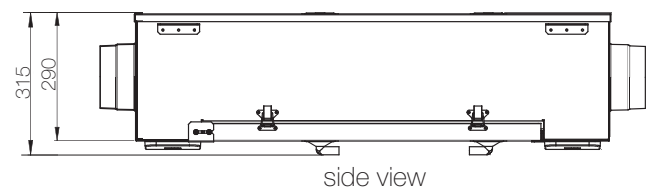
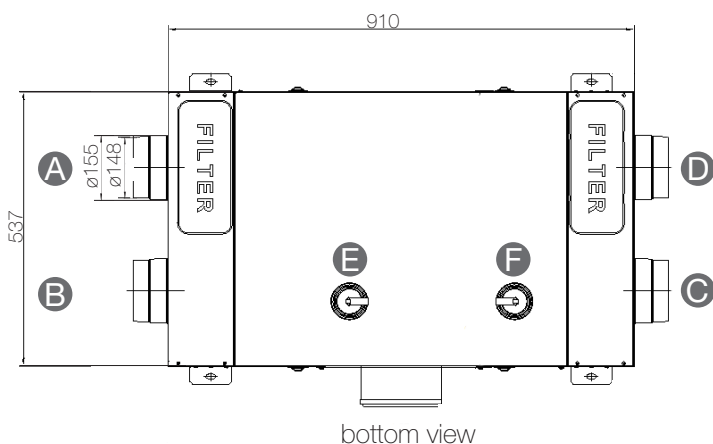


How it works: a continuous running heat recovery unit (QR420A) transfers heat from humid air extracted from wet rooms to warm incoming fresh air which is ducted to habitable rooms. Thanks to the easy-to-fit air distribution system each single ambient can be properly ventilate: the boost function enables rapid extract of increased moisture or pollutant levels. It also provides discrete installation and very quite operation.

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 it enters the home.

Dimensions (mm) and Weight (kg)

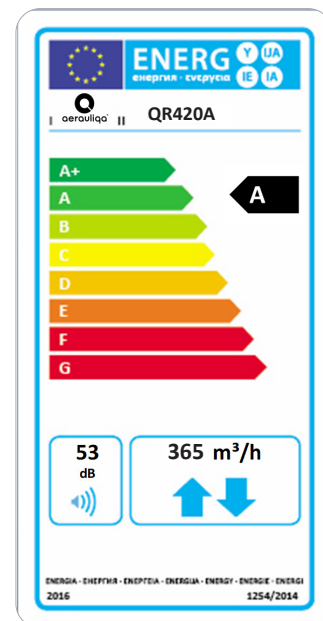


Modello	QR420A
Peso	
A	Intake air from outside
B	Exhaust air to outside
C	Supply air to inside
D	Extract air from inside
E	Winter condensation drainage
F	Summer condensation drainage

QR420A

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

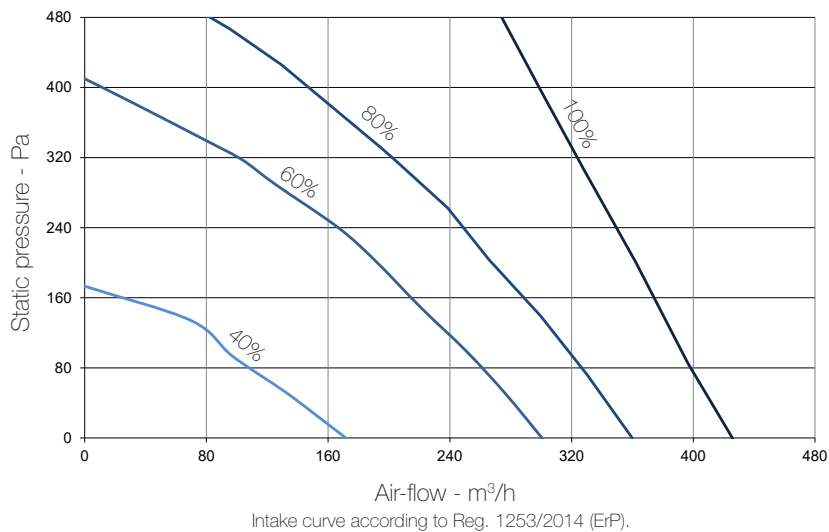
a)	Mark	-	AERAULIQA		
b)	Model	-	QR420A		
c)	SEC class	-	A	B	B
c1)	SEC warm climates	kWh/m ² .a	-14,5	-9,8	-5,6
c2)	SEC average climates	kWh/m ² .a	-38,8	-33,4	-28,7
c3)	SEC cold climates	kWh/m ² .a	-76,5	-69,9	-64,3
	Energy label	-	Yes		
d)	Unit typology	-	Residential - bidirectional		
e)	Type of drive	-	Variable speed drive		
f)	Type of Heat Recovery System	-	Heat recovery		
g)	Thermal efficiency of heat recovery	%	81		
h)	Maximum flow rate @ 100 Pa	m ³ /h	365		
i)	Electric power input (maximum flow rate)	W	337		
j)	Sound power level (L _{WA})	dBA	57		
k)	Reference flow rate	m ³ /h	255		
l)	Reference pressure difference	Pa	50		
m)	Specific power input (SPI)	W/m ³ /h	0,441		
n1)	Control factor	-	0,65	0,85	1
n2)	Control typology	-	Local demand control	Central demand control	Manual control (no DCV)
o1)	Maximum internal leakage rate	%	2		
o2)	Maximum external leakage rate	%	1		
p1)	Internal mixing rate	%	N/A		
p2)	External mixing rate	%	N/A		
q)	Visual filter warning	-	Warning on display "FILTER"		
r)	Instructions to install regulated grilles	-	N/A		
s)	Internet address for pre/disassembly instructions	-	www.aerauliqa.com		
t)	Airflow sensitivity to pressure variations	%	N/A		
u)	Indoor/outdoor air tightness	m ³ /h	N/A		
v1)	AEC - Annual electricity consumption - warm climates	kWh	2,3	4,0	5,5
v2)	AEC - Annual electricity consumption - average climates	kWh	2,8	4,4	6,0
v3)	AEC - Annual electricity consumption - cold climates	kWh	8,2	9,8	11,4
w1)	AHS - Annual heating saved - warm climates	kWh	20,4	19,8	19,4
w2)	AHS - Annual heating saved - average climates	kWh	45,1	43,8	42,9
w3)	AHS - Annual heating saved - cold climates	kWh	88,1	85,8	84,0
	Sound pressure @ 3m ⁽¹⁾	dB(A)	28		
	Ambient temperature max	°C	+40		
	Degree of protection IP	-	X4		
	Marking	-	CE		



- 220-240V ~ 50/60Hz
 - air performance measured according to ISO 5801 a 230V 50Hz, air density 1,2Kg/m³
 - data measured in the TÜV Rheinland accredited internal laboratory according to the operating document IEC OD 2048 (level CTF1) for the IEC 60335-1 and IEC 60335-2-80 Standards
 - prestazioni termiche secondo EN 13141-7
- (1) sound pressure level @ 3m in free field, breakout, speed 40%, for comparative purposes only.

QR420A

Performance curve



Speed %	W max	m³/h max
40	47	172
60	139	301
80	213	360
100	337	426

Sound level

Speed 100%	Lw dB - SOUND POWER OCTAVE BAND								Lp dB(A)
	125	250	500	1 K	2 K	4 K	8K	Tot	@3m
	61	66	66	64	63	56	43	71	48

Speed 80%	Lw dB - SOUND POWER OCTAVE BAND								Lp dB(A)
	125	250	500	1 K	2 K	4 K	8K	Tot	@3m
	58	63	62	57	58	51	37	67	43

Speed 60%	Lw dB - SOUND POWER OCTAVE BAND								Lp dB(A)
	125	250	500	1 K	2 K	4 K	8K	Tot	@3m
	54	60	58	53	53	45	32	63	39

Speed 40%	Lw dB - SOUND POWER OCTAVE BAND								Lp dB(A)
	125	250	500	1 K	2 K	4 K	8K	Tot	@3m
	47	52	47	42	40	32	18	55	28

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