QR550ABP

CENTRALISED HEAT RECOVERY UNIT

APPLICATION

Whole-house heat recovery unit, suitable for vertical installation.

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: fixing bracket supplied to hang the unit easily on the wall.

Removable front panel for quick access to filters and heat exchanger.

G4 filters easy removable for cleaning. The unit is also provided with the **F7 filter** accessory at the intake side.

Integral automatic 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.

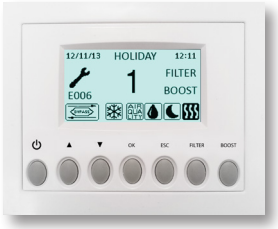
Two drainage holes to meet climate requirement.

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.
Unit thermal efficiency, air-leakage and energy efficiency measured at indipendent laboratory BRE (UK).
Designed and manufactured in accordance with EN60335-2-80 (Low Voltage Directive) and the EMC Directive (Electromagnetic Compatibility).

OPERATION

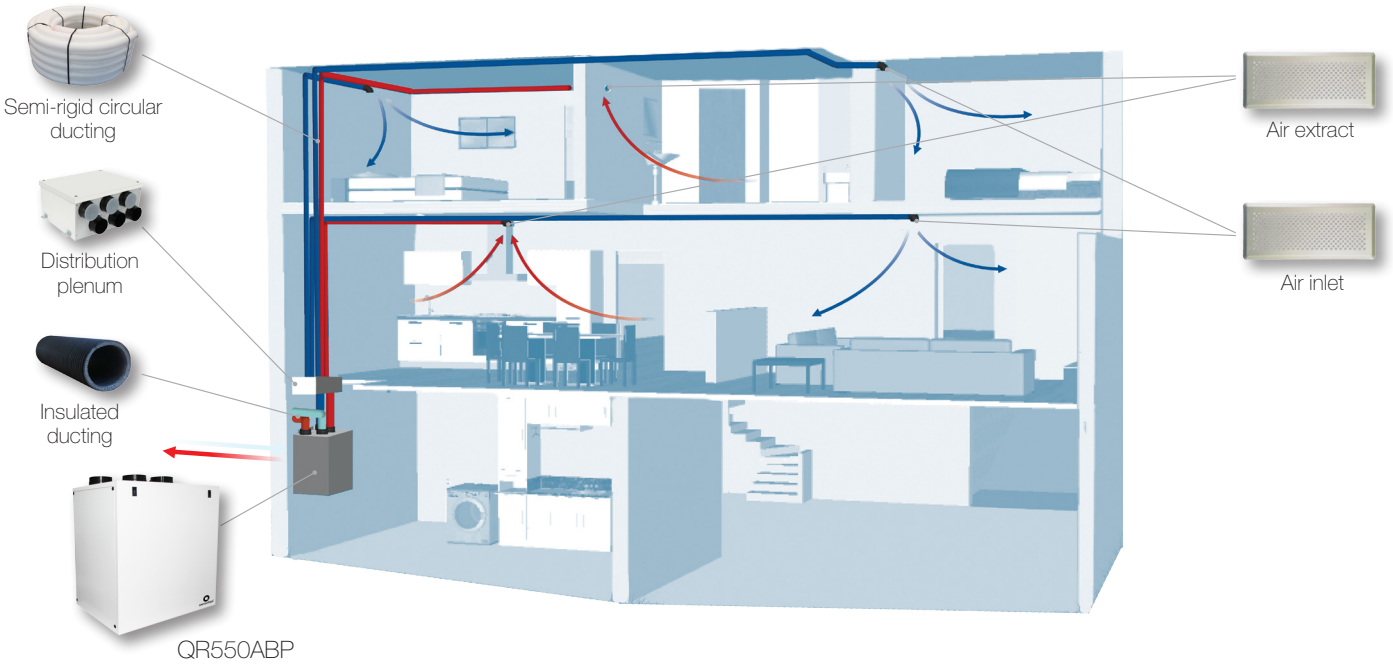
The unit is supplied with a multi-function LCD display (CTRL-DSP) for automatic control and convenience, providing:

- 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-CO2).
- MODBUS interface option.
- Integral S/L terminal for boost from remote switch, i.e. light or dedicated switch.
- Connection to remote pre/post heating element.
- Connection to remote water coil for heating/ dehumidification.
- Possible change of orientation of the atmosphere spigots.



CTRL-DSP
(supplied as standard)

Example of a complete ventilation system



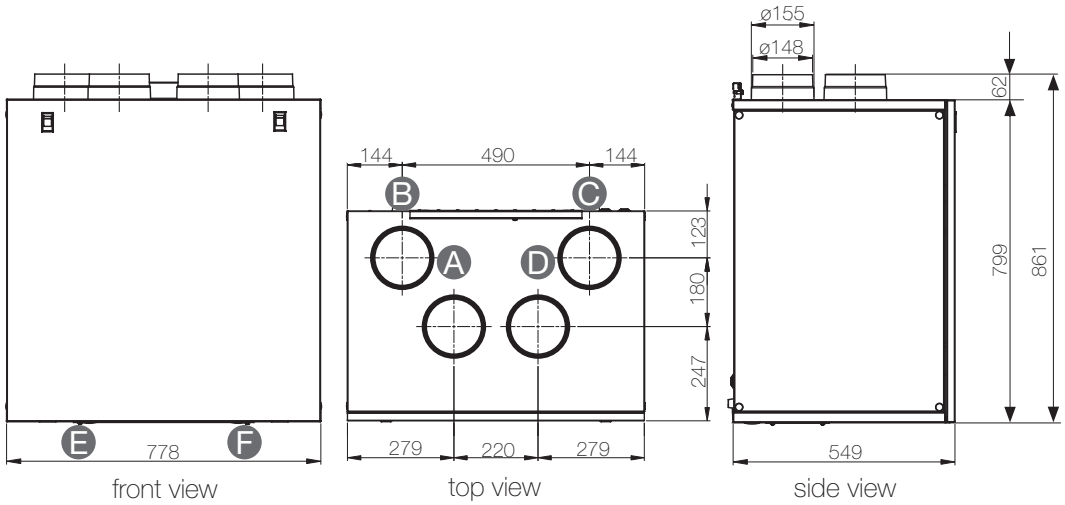
Application: recommended in case of new build.

How it works: a continuous running heat recovery unit (QR550ABP) 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 if enters the home.

Dimensions (mm) and Weight (kg)



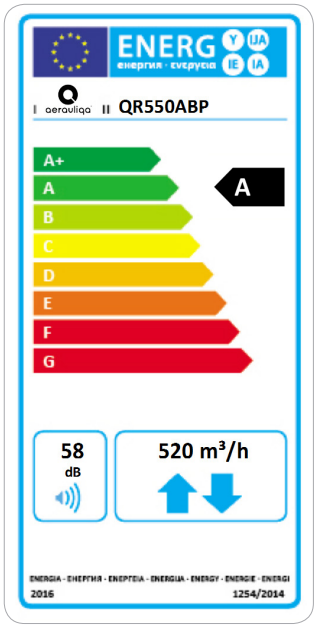
Model	QR550ABP
Weight	44
A	Intake air from outiside
B	Exhaust air to outside
C	Supply air to inside
D	Extract air from inside
E	Winter condensation drainage
F	Summer condensation drainage

LEFT orientation

QR550ABP

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

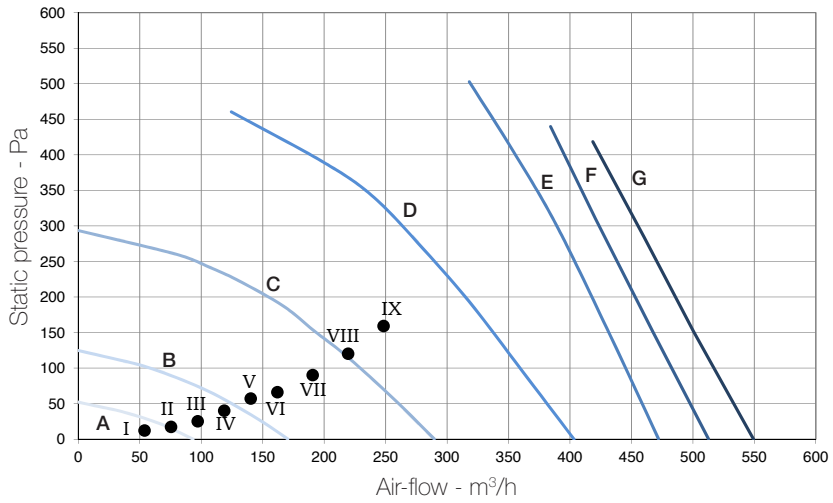
a)	Mark	-	AERAULIQA		
b)	Model	-	QR550ABP		
c)	SEC class	-	A	A	B
c1)	SEC warm climates	kWh/m².a	-15	-10,7	-6,7
c2)	SEC average climates	kWh/m².a	-39,4	-34,4	-30
c3)	SEC cold climates	kWh/m².a	-77,4	-71,3	-66,1
	Energy label	-	Yes		
d)	Unit typology	-	Residential - bidirectional		
e)	Type of drive	-	Variable speed drive		
f)	Type of Heat Recovery System	-	Heat recovery		
g)	Thermal efficiency of heat recovery	%	82		
h)	Maximum flow rate @ 100 Pa	m³/h	520		
i)	Electric power input (maximum flow rate)	W	333		
j)	Sound power level (L_{WA})	dBA	58		
k)	Reference flow rate	m³/h	364		
l)	Reference pressure difference	Pa	50		
m)	Specific power input (SPI)	W/m³/h	0,412		
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	%	0,8		
o2)	Maximum external leakage rate	%	0,5		
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 pre/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	2,2	3,7	5,2
v2)	AEC - Annual electricity consumption - average climates	kWh	2,6	4,2	5,6
v3)	AEC - Annual electricity consumption - cold climates	kWh	8	9,6	11
w1)	AHS - Annual heating saved - warm climates	kWh	20,5	20	19,6
w2)	AHS - Annual heating saved - average climates	kWh	45,3	44,2	43,4
w3)	AHS - Annual heating saved - cold climates	kWh	88,7	86,5	84,8
	Sound pressure @ 3m(1)	dB(A)	34		
	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 1,2 Kg/m³.
- data measured in the TÜV Rheinland recognised laboratory in Aerauliqa.

(1) sound pressure level @ 3m in free field, breakout, speed 40%, for comparative purposes only.

Performance curve



Intake curve according to Reg. 1253/2014 (ErP).
Product tested without F7 filter.

Curve	Speed %	W max	m³/h max
A (min)	23	10	94
B	32	24	170
C	46	68	289
D	60	150	403
E	75	286	472
F	90	311	513
G (max)	100	333	550

Working point	W	m³/h	SPI (W/m³/h)	ηt %(1)
I	8,6	54	0,1585	93
II	10,7	76	0,1413	93
III	13,9	97	0,1431	93
IV	19,3	119	0,1621	92
V	25,5	140	0,1818	91
VI	32,2	162	0,1990	91
VII	46,1	191	0,2414	90
VIII	63,4	220	0,2885	89
IX	84,5	248	0,3402	89

(1) thermal efficiency of the unit.

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	83	65	70	73	62	58	53	47	84	51
Supply	81	65	65	66	57	51	42	33	81	45
Extract	80	63	66	68	60	54	45	34	78	47
Exhaust	78	65	70	71	62	59	53	45	80	50
Breakout	81	69	67	69	62	56	48	36	82	48

	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	73	61	67	69	59	56	50	43	75	47
Supply	72	61	63	65	56	50	41	31	74	43
Extract	73	60	63	65	57	51	42	31	74	44
Exhaust	73	61	66	67	58	55	49	41	75	46
Breakout	71	64	62	67	59	53	45	33	74	45

	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	65	61	68	67	58	56	49	41	72	46
Supply	63	59	63	64	55	49	40	29	69	42
Extract	64	59	63	63	56	51	41	30	69	42
Exhaust	64	60	66	67	57	54	48	41	71	45
Breakout	59	64	63	65	57	51	43	31	70	44

	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	55	55	67	55	49	47	40	31	68	39
Supply	53	53	62	52	47	41	32	22	63	35
Extract	58	52	60	51	47	42	32	22	63	34
Exhaust	55	54	66	55	49	47	40	31	67	39
Breakout	54	53	59	52	48	43	33	23	62	34

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