QR400

CENTRALISED
HEAT RECOVERY UNIT

APPLICATION

Whole-house heat recovery unit, suitable for vertical 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 counter flow heat exchanger to maximise thermal recovery. Thermal efficiency of the heat exchanger upto 90% (test method in conformity with the norm EN308).

FEATURES & BENEFITS

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

Heat exchange of the unit upto 92% efficiency.

G4 filters easy removable for cleaning from the outside: no need to remove the access panel. The unit is also provided with an F7 filter at the intake side.

Integrated automatic bypass for free cooling (automatic version only).

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. Thermal efficiency and SFP (Specific Fan Power) measured at BRE independent laboratory (UK).
Designed and manufactured in accordance with EN60335-2-80 (Low Voltage Directive) and the EMC Directive (Electromagnetic Compatibility).

VERSIONS

QR400M

- One speed
- Two speed
- Variable speed with remote control CTRL-M
- Variable speed with remote home automation system (BMS) or ballast potentiometer
- 3 speed with remote control CTRL-S: free cooling option included.

QR400ABP

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

- 3 speeds setting
- 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.
- Woking 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.
- Connection to remote pre/post heating element.
- Connection to remote dehumidifying element.

CTRL-DSP

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Performance

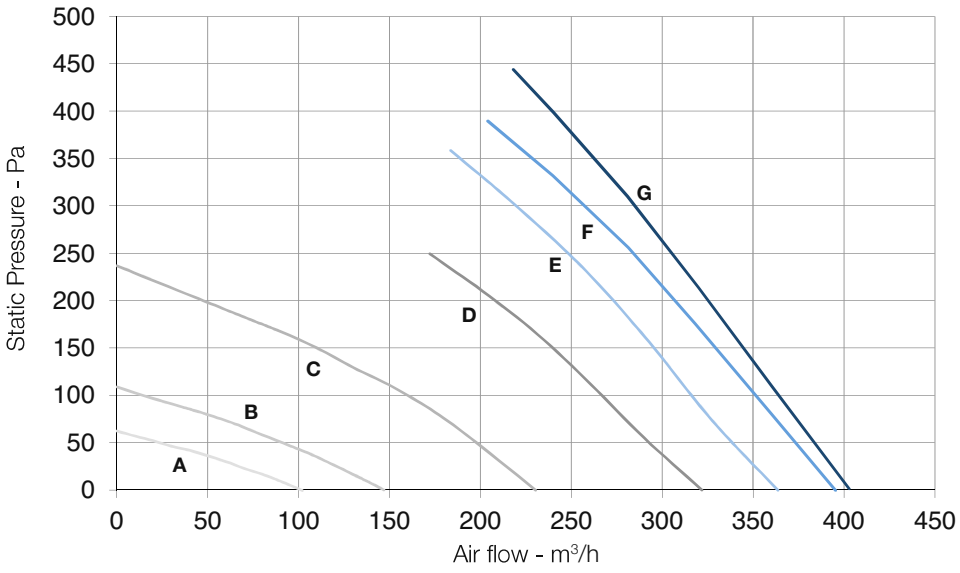
Model	QR400
Air flow m³/h max	403
Power W max (total)	160
Sound Pressure dB(A) @3m	26
Unit Efficiency %	92
Ambient temperature °C max	40
Marking	CE

- 220-240 V ~ 50-60Hz
- air performance measured according to ISO 5801 at 230V 50Hz, air density 1,2 Kg/m3
- data measured in the TÜV Rheinland recognised laboratory in Aerauliqa
- sound pressure level at 3m in free field, 40% speed

Exhaust Terminal Configuration	Flow Rate m³/h - l/s	SFP W/(l/s)	Heat Exchange Efficiency %
Configuration 1	76 - 21	0,59	92
Configuration 2	104 - 29	0,60	90
Configuration 3	133 - 37	0,64	89
Configuration 4	162 - 45	0,78	89
Configuration 5	191 - 45	0,89	88
Configuration 6	221 - 61	1,06	87
Configuration 7	248 - 69	1,27	86

- Thermal efficiency and SFP (Specific Fan Power) measured at BRE independent laboratory (UK)

Curves



Position	W max	m³/h max
A (min)	12	102
B	19	149
C	43	230
D	88	322
E	134	364
F	149	395
G (max)	160	403

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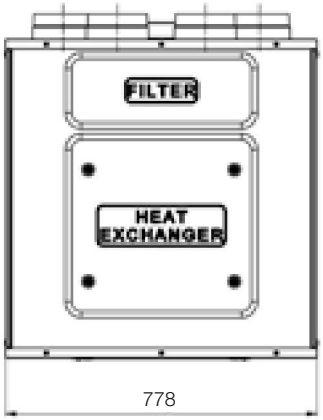
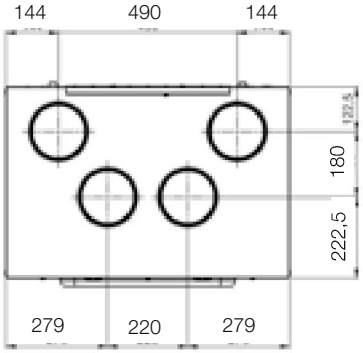
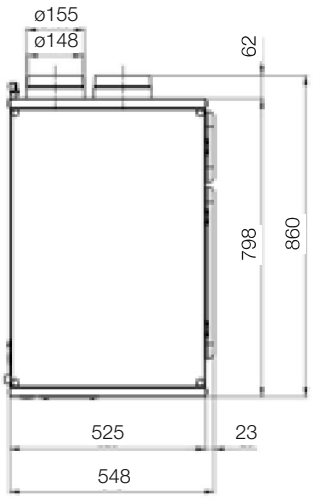
Dimensions (mm)



front view



top view



side view

Sound power

	Lw dB - SOUND POWER OCTAVE BAND									Lp dB(A)
10V	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)
8V	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)
6V	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

	Lw dB - SOUND POWER OCTAVE BAND									Lp dB(A)
4V	63	125	250	500	1 K	2 K	4 K	8K	Tot	@3m
Intake	50	50	57	46	39	37	27	20	59	30
Supply	52	50	56	43	36	30	22	15	58	28
Extract	52	47	54	43	37	31	21	15	57	26
Exhaust	51	49	55	47	39	36	28	21	58	29
Breakout	52	47	52	44	38	31	21	15	56	26