Data Sheet

ComfoAir 155 CM 80CS15V

Ceiling mounted mechanical supply and extract ventilation with heat recovery (MVHR) with humidity sensor

ComfoAir 155 CM

The ComfoAir 155 CM is a heat recovery unit designed to enable better and easier specification of ventilation in new properties. It contains features such as its automatic true summer by-pass, high heat recovery efficiency and integrated humidity sensor to provide a comfortable, healthy and energy-efficient indoor climate.

Key Benefits

- Left or right hand configuration through software alone, no mechanical alteration required.
- 100% full and filtered summer bypass.
- Independently tested sound data.
- Modern, discreet design.
- Easy installation to ceilings.
- Light to handle.
- BMS capability.
- Tool free filter access.
- Volt free contact boost capability.
- CommissionSMART™ is a commissioning wizard that enable a quick and simple set-up process.
- SummerSMART™ ensures automatic full by-pass activation providing filtered supply air 365 days a year.

ZGRC1 Speed Controller*

ZGS2 Switch*

ZGS1 Switch*

- TimerSMART™ eliminates nuisance noise and over-ventilation by determining the duration of occupancy and allocating a suitable overrun time.
- HumidiSMART™ continuously monitors the humidity level within the home and looks for a man-made spike before boosting the unit, irrespective of distance or dilution.
- 100% variable AUX speed for use as away mode, medium speed or purge boost.

zehnder

* Example controls – sold separately

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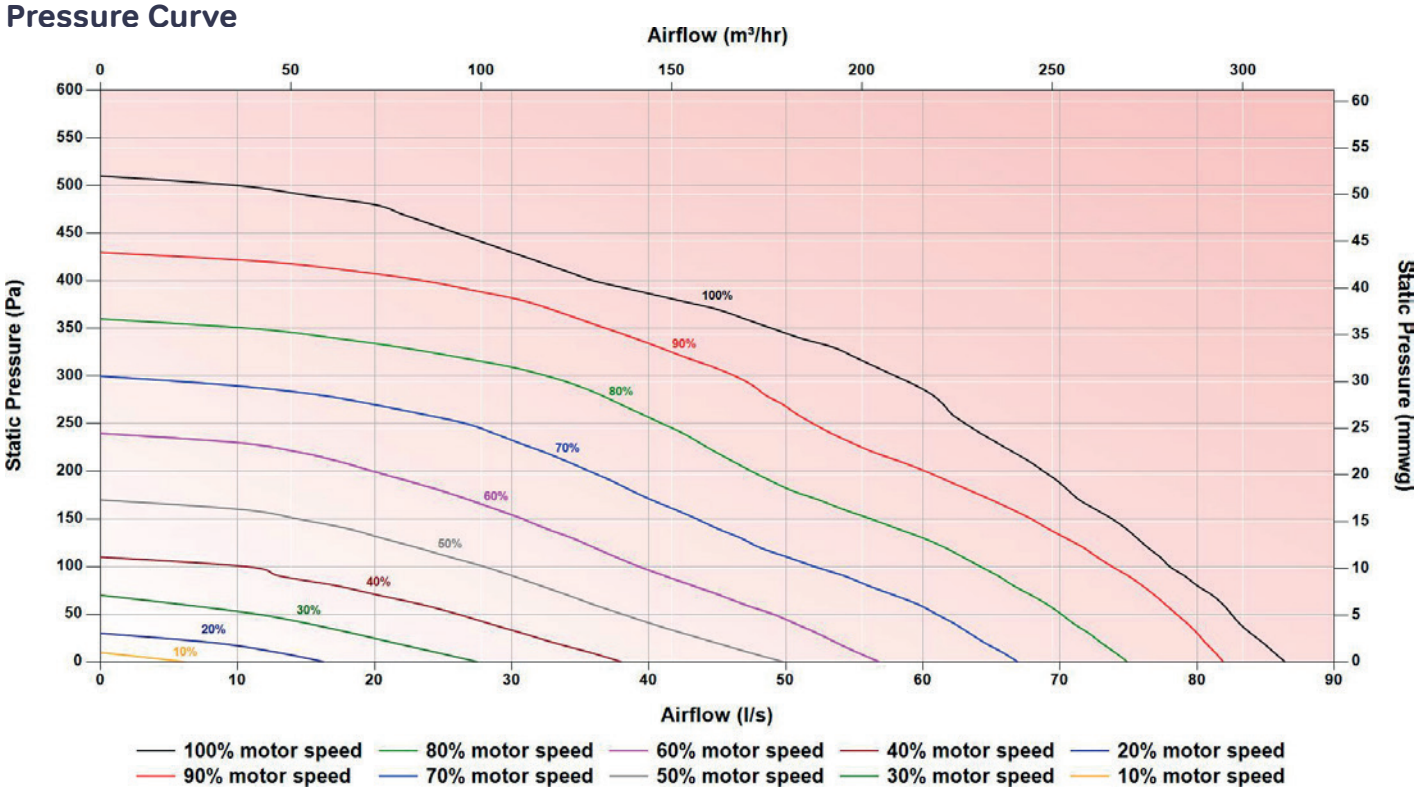
Article Numbers

Description	Product Code
Zehnder ComfoAir 155 WM unit for ceiling mounting with SMART technology	80CS15V
ZGS1, three position switch for ComfoAir 155 and CMEV range	80CS15D
ZGS2, two position switch for ComfoAir 155 and CMEV range	80CS15E
ZGRC1 dual speed controller for ComfoAir 155 range with operational and service indicators	80CS15C
Filter for Zehnder ComfoAir 155 CM, ISO Coarse >45% (G3), 2 Pieces	80CS15A
Filter for Zehnder ComfoAir 155 CM, ISO Coarse >60% (G4), 2 Pieces	80CS15B

SAP PCDB					SEC Class
	SFP (W/l/s)		Efficiency (%)		
	2009	2012	2009	2012	
K+1	0.50	0.57	93%	92%	A+ Based on average climate with local demand control
K+2	0.55	0.71	92%	91%	
K+3	0.65	0.92	91%	90%	
K+4	0.80		90%		

Pressure Curve



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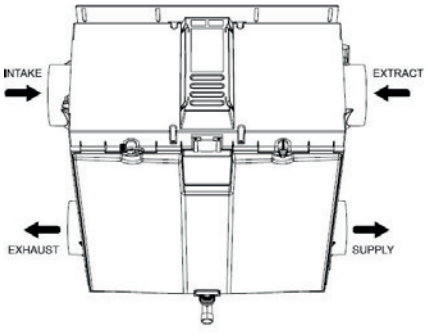
Sound Data

Speed	Test area	Octave Band (Hz) Sound Power Level, dB								dB(A) @ 3 m
		63	125	250	500	1000	2000	4000	8000	
20%	Casing	29.7	26.5	23.7	22.2	19.3	15.0	18.2	23.0	9.3
	Supply/Exhaust	48.3	42.7	37.9	31.5	23.9	16.2	17.9	22.7	
	Extract/Intake	46.5	37.7	33.4	24.9	17.7	14.5	18.0	22.8	
40%	Casing	36.7	41.5	36.0	34.1	32.8	24.0	19.7	23.0	19.0
	Supply/Exhaust	63.0	59.5	55.5	50.8	48.9	43.8	34.5	32.1	
	Extract/Intake	50.4	46.8	48.9	37.5	32.2	26.2	20.8	23.0	
60%	Casing	44.7	50.0	44.8	40.9	39.8	34.7	26.8	23.6	26.5
	Supply/Exhaust	68.9	71.0	63.0	55.5	56.2	55.9	46.7	46.0	
	Extract/Intake	57.5	54.8	54.2	44.5	38.8	34.2	26.2	24.5	
80%	Casing	45.8	54.7	48.5	45.1	43.8	40.1	32.5	25.7	30.9
	Supply/Exhaust	73.2	74.5	68.0	62.7	61.0	60.1	53.4	54.0	
	Extract/Intake	62.6	59.8	60.5	48.5	43.2	41.2	31.9	28.5	
100%	Casing	51.6	56.5	51.6	50.1	46.5	43.8	36.6	28.3	34.5
	Supply/Exhaust	74.9	75.2	71.3	65.0	63.0	62.7	53.2	57.4	
	Extract/Intake	63.8	61.6	63.7	51.3	45.6	44.0	35.5	31.1	

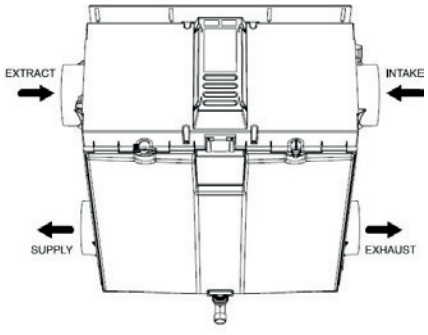
Tested according to BS EN 13141-7:2010. Supply and Extract showing induct sound power level. Casing dB(A) @ 3 m given as hemispherical.

Technical Specification		Dimensions	
Weight	20.5 Kg	Height	320 mm
Ducting ø	125 mm	Width	636 mm
Condensate connection ø	21.5 mm	Depth	752.5 mm
Filter grade	Standard - ISO Coarse >45% (G3) Optional - ISO Coarse >60% (G4)		
Materials	Internal PP/EPS External ABS		
Supply voltage	230 V / single-phase / 50Hz		
Maximum power consumption	165 W		
Current draw	1.1 A		
Fuse rating	3 amp		
Specific Fan Power	0.5 W/l/s		
Heat Recovery Efficiency	93%		

Air Direction/ Connection

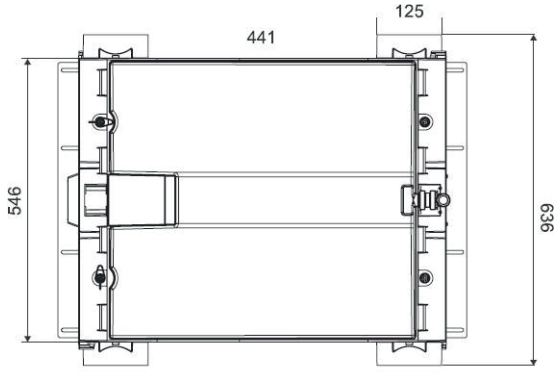


Right Hand (factory setting)

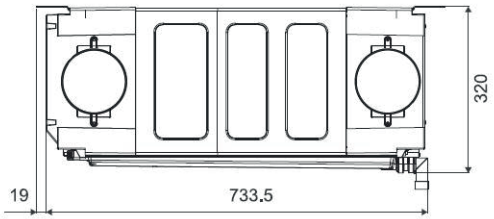


Left Hand

Dimensions



Front View



Side View

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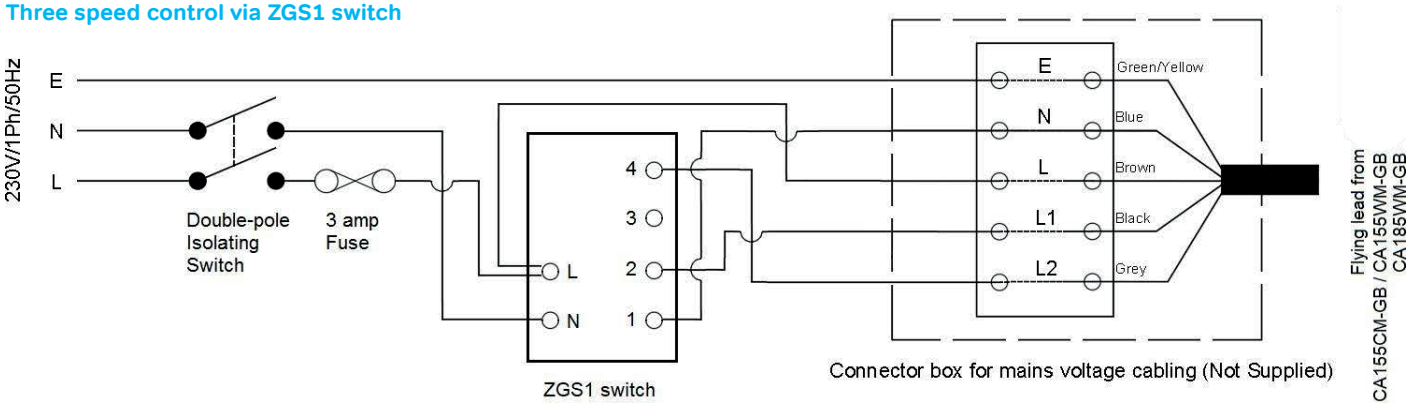
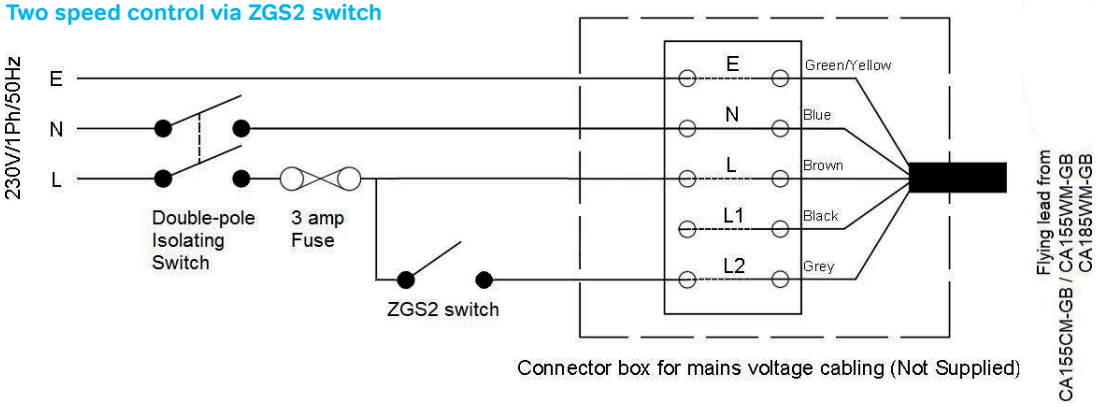
Wiring

Electrical connections should be carried out in accordance to IEE regulations by a qualified electrician. The unit is supplied with a flying lead for connection to the mains supply.

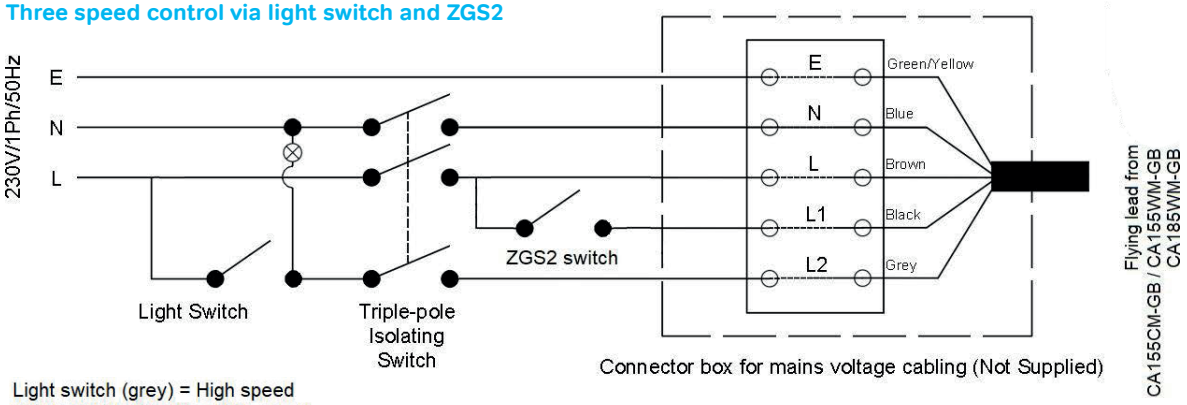
Three speed control via ZGS1 switch



Two speed control via ZGS2 switch

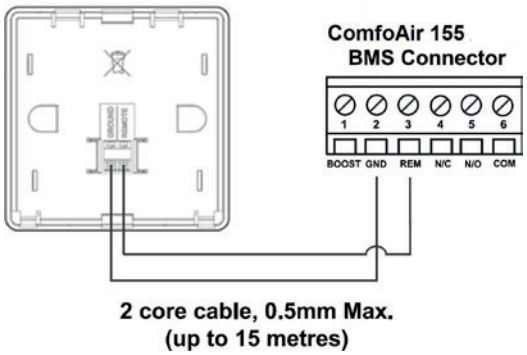


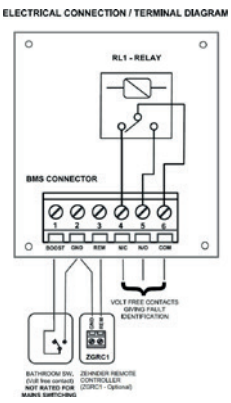
Three speed control via light switch and ZGS2



Light switch (grey) = High speed
ZGS2 switch (black) = AUX speed
AUX speed to override all other speed settings

Two speed control via ZGRC1 switch BMS connection





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Controls

ZGS1
Product code: 80CS15D

The ZGS1 is a three position switch designed to enable the user to manually select the desired ventilation systems flow rate

Key Benefits
- 3 separate ventilation flow rate options to select in 1 controller

Technical Specification		Dimensions (recessed)	
Mounting options	Recessed	Height	84 mm
Supply voltage	Mains power - 230 V / single-phase / 50Hz	Width	84 mm
		Depth	22 mm

ZGS2
Product code: 80CS15E

The ZGS2 is a two position switch designed to enable the user to manually select the desired ventilation systems flow rate

Key Benefits
- 2 separate ventilation flow rate options to select in 1 controller

Technical Specification		Dimensions (recessed)	
Mounting options	Recessed	Height	86 mm
Supply voltage	Mains power - 230 V / single-phase / 50Hz	Width	86 mm
		Depth	15 mm

ZGRC1
Product code: 80CS15C

The ZGRC1 is a two position switch designed to enable the user to manually select the desired ventilation systems flow rate and provide system notifications

Key Benefits
- 2 separate ventilation flow rate options to select in 1 controller
- Summer bypass indicator
- Frost protection indicator
- Service and Maintenance alert
- Automatic switching back to low speed after a pre-set time period to avoid the unit accidentally being left in its high speed

Technical Specification		Dimensions (recessed)	
Mounting options	Recessed / Surface	Height	90 mm
Supply voltage	Low voltage direct from the MVHR units BMS connector	Width	90 mm
Recommended cable	2 core cable, 0.5 mm Max. (up to 15 metres)	Depth	21 mm
RAL colour	9016	**Dimensions (surface mounted)**	
Maximum number per unit	1	Height	90 mm
		Width	90 mm
		Depth	37 mm

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Consultant Specification

Specification

The unit shall consist of a body manufactured in recyclable ABS. The unit shall be fully insulated with EPS to maintain excellent thermal characteristics. It shall have EC low energy motors with sealed for life bearings. The fan shall have a forward curved centrifugal impeller. The heat exchanger shall be a multi-plate, counter flow design constructed from Polystyrene with laser welded joints and shall retain up to 93% of the temperature differential of outgoing air.

The unit shall contain filters manufactured from synthetic material which has been tested to a minimum of ISO Coarse >45% (G3) standard with the option to upgrade to ISO Coarse >60% (G4). The filters shall be pleated to reduce the pressure drop whilst increasing the time between maintenance requirement. The unit shall have 125 mm duct connections and be suitable for ceiling mounting with the ability to allow left or right hand configuration through the unit's software alone – no mechanical reconfiguration shall be required. The unit shall be compatible with air conditioning systems as condensate can be taken from both sides of the product simultaneously.

The unit shall have 100% full summer by-pass and provide filtered supply air 365 days of the year, even under bypass conditions. The unit shall contain a temperature sensor for each air stream to ensure correct and logical operation of the bypass damper by evaluating differential as well as absolute temperature to maximise the opportunity for free cooling.

The unit shall be constructed to have a removable cover to allow full maintenance access.

The unit shall conform to LVD and EMC standards and be CE Marked in addition to having an EU compliant energy rating label (SEC) with a minimum grade of A. The unit shall conform to UK Electrical Equipment (Safety) Regulations and Electromagnetic Compatibility Regulations and be UKCA Marked. The unit shall be manufactured by Zehnder.

Operation

The supply and extract unit shall be a ComfoAir manufactured by Zehnder and shall be suitable to mount on the ceiling in accordance with the specification.

The fresh filtered air from outside shall be supplied to each of the habitable rooms and pre-heated by the warm extract air from the wet areas, such as kitchen or bathroom, via the plastic counter flow heat exchanger. The unit shall vary its speed of the EC motors automatically when it receives a signal from one of the inbuilt sensors or via external switches.

The unit shall have the ability to adjust and commission the supply and extract motors independently via the front mounted in-built LCD interface. The motors shall both offer 100% variable speed control.

Controls

All ComfoAir 155 units shall contain the following functions within the unit pre-wired and factory fitted by the manufacturer:

- 100% variable supply and extract motor control
- Variable low and high speed flow rate set point
- BMS compatibility offering speed control and status indication
- Switched live input
- Volt free contact
- Automatic filtered summer bypass with timed manual override option
- Heat exchanger frost protection
- Commissioning wizard to enable commissioning of the unit in just 8 simple steps
- Integral service, fault and operation indicators
- Control panel PIN protection
- Tool free filter access
- Runtime counter
- Humidity sensors to operate the unit in response to humidity spikes above natural background humidity levels as opposed to a single threshold humidity point to activate the high set point
- Variable overrun timer relative to high speed activation period
- 100% variable 3rd "AUX" speed for use as away mode, medium speed or purge boost activated via switched live input

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