



De-centralised MVHR

Zero1 Manual



Zero

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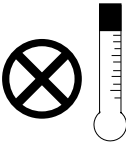
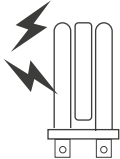
SAFETY REQUIREMENTS

- Read the user's manual carefully prior to the operation and installation of the decentralized ventilation with heat recovery.
- Installation and operation of the Zero1 shall be performed in accordance with the present user's manual as well as the provisions of all the applicable local and national construction, electrical and technical codes and standards.
- The warnings contained in the present user's manual must be considered most seriously since they contain vital personal safety information.
- Failure to follow the safety regulation may result in an injury or ventilator damage.
- Keep the manual in a safe place for future referencing




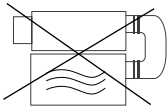
Symbol legend used in the manual:

	WARNING!
	DO NOT!



Ventilator mounting safety precautions

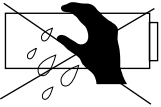
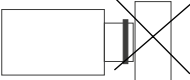


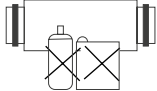
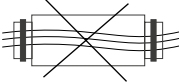
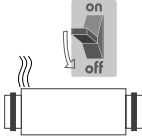
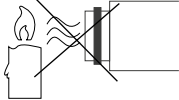
	The ventilator must be disconnected from the power supply prior to every installation or repair operation.
	The ventilator must not be operated outside the temperature range stated in the user's manual or in aggressive or explosive environments.
	The electrical connections must be completed by a competent and qualified person

Operation Instruction For the user and the qualified installer

	Do not use damaged equipment or conductors to connect the Zero1 to power mains.
	While installing the Zero1 follow the safety regulations specific to the use of electric tools.
	Unpack the Zero1 with care.
	Use the Zero1 only as intended by the manufacturer.

Zero1 operating safety precautions

	Do not touch the controller or the remote control with wet hands. Do not carry out the Zero1 maintenance with wet hands.
	Do not let children operate the Zero1.

	Do not wash the Zero1 with water. Protect the Zero1 electric parts from water ingress.
	Do not block the air duct when the Zero1 is on.
	Disconnect the Zero1 from power supply before maintenance.
	Do not damage the power cable while operating the Zero1. Do not put any objects on the power cable.
	Keep explosive and inflammable products away of the Zero1.
	Do not open the operating Zero1.
	In case of unusual sounds, or smoke, disconnect the Zero1 from power supply and contact the service centre.
	Do not let air flow from the Zero1 be directed to the open flame devices or candles.

INTRODUCTION

This user's manual included technical operation, installation and mounting guidelines for the de-centralised MVHR Zero1.

USE

- The Zero1 is designed for permanent air exchange in domestic and commercial buildings that are extremely well insulated and have got good airtightness with low heat loss. The Zero1 is suitable for nZEB and Passive type buildings
- The Zero1 is designed for wall mounting on external walls between 120 mm and 470 mm
- The Zero1 is rated for continuous operation always connected to power mains.
- Exchanged air must not contain any flammable or explosive mixtures, evaporation of chemicals, coarse dust, soot and oil particles, sticky substances, fibrous materials, pathogens or any other harmful substances.



THE ZERO1 IS NOT INTENDED TO BE USED BY CHILDREN OR PERSONS WITH PHYSICAL OR MENTAL DISABILITIES. ALL INSTALLATIONS MUST BE CARRIED OUT BY QUALIFIED AND COMPETENT PERSON

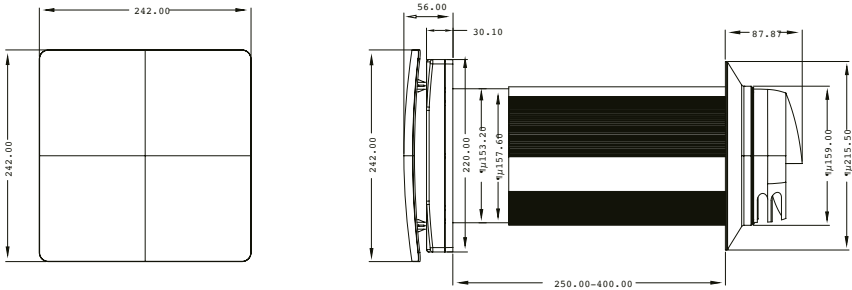
DELIVERY SET

Zero1	1 item
Fastening set	1 item
Remote controller	1 item
User's manual	1 item
Packing box	1 item

MAIN TECHNICAL PARAMETERS

- The Zero1 is designed for indoor application with the ambient temperature ranging from -20°C (-4°F) up to +50°C (+122 °F) and relative humidity up to 80%.
- The Zero1 is classified as a class I electric appliance.
- Ingress Protection (IP) rating from solid objects and liquids IP 24.
- The Zero1 design is regularly improved, so some models may slightly differ from those ones described in this manual.

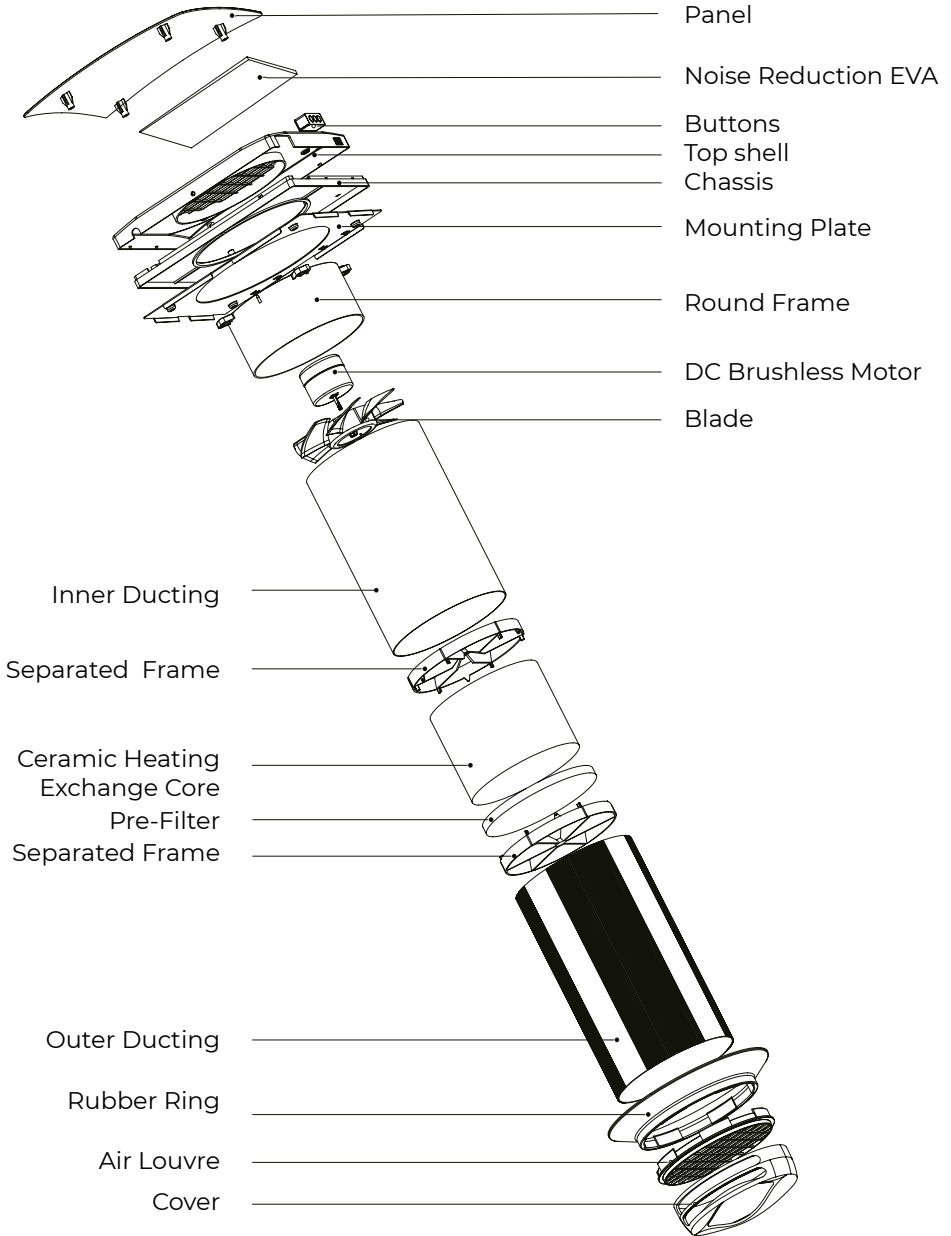
ZERO1 OVERALL DIMENSIONS (MM)



Speed	I	II	III
Voltage, 50-60 Hz [V]	100~240		
Zero1 Total Power [W]	1.8	3.9	6.0
Max. Zero1 Current [A]	0.019	0.034	0.0533
Max. Air capacity [m ³ /h] CFM	48	54	60
RPM [min]	651	956	1261
Max. Transported Air Temperature [°C]/(°F)	-20°C (-4°F) up to +50°C (+122°F)		
Heat Recovery Efficiency	up to 90%		
Heating Core	Ceramic		

DESIGN AND OPERATING LOGIC

- The zero1 consists of the telescopic air duct with adjustable length to regulate the position of the inner air duct inside the outer air duct with the ventilation unit and external louver.
- The filters are designed to purify supply air and prevent foreign objects onto the ceramic core and the fan.
- The Zero1 generates an alarm sound when the filter requires cleaning or replacing
- The Zero1 uses the warm extracted air to heat up the ceramic core. The ceramic core is equipped with a pull cord to remove it from the inner sleeve, the ceramic core also acts as a sealant too.
- The ventilation part of the Zero1 must be installed on the inner section of the wall. During standby mode the unit is equipped with shutters to prevent any back draft. The ventilation louver must be installed on the external section of the wall.



ZERO1 OPERATING MODES

The Zero1 has three operating modes:

Fresh Air Mode: The unit supplies fresh air only

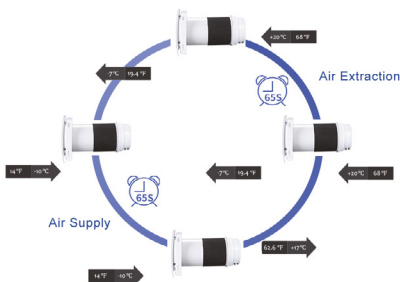
Extract Mode: The unit extracts stale and moist air only

Cycle Mode: The unit works in supply and extract mode

In cycle mode the Zero1 operates in two cycles for 65 seconds each. During cycle 1, the warm stale air is extracted from the room. As the air flows through the ceramic core, it transfers up to 90% of the heat to the core to be utilised in cycle 2.

During cycle 2 mode, the fan reverses and pulls fresh air from the outside. This fresh air passes through the ceramic core and is heated thus returning this heat back into the building.

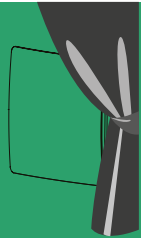
This process is repeated continuously



MOUNTING AND SET-UP



READ THE USER'S MANUAL PRIOR TO MOUNTING THE ZERO1

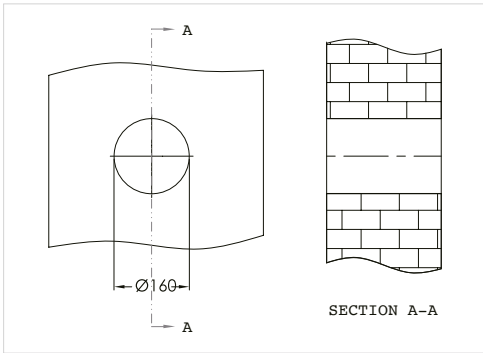


CAUTION!

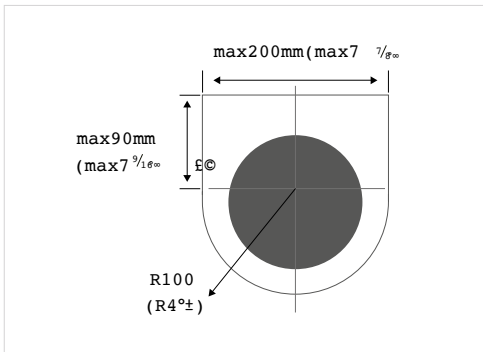
THE ZERO1 MUST NOT BE INSTALLED IN AREAS WHERE THEY WILL BE COVERED BY BLINDS, CURTAINS OR DRAPES

MOUNTING THE ZERO1

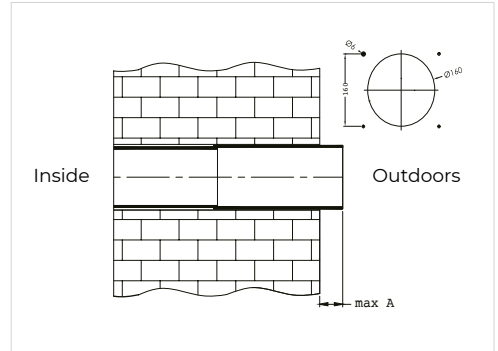
1. Identify the location where the unit will be mounted. Drill or core a 180mm hole through the wall envelope as shown below.



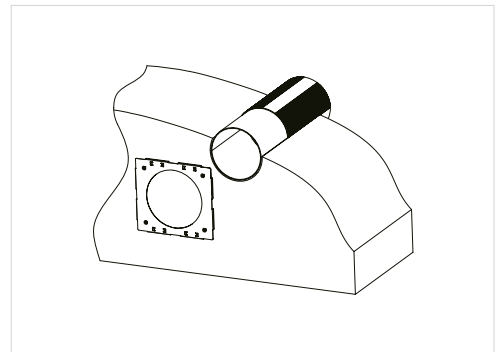
2. Install the telescopic air duct into the hole first. The duct must protrude past the external wall as shown below

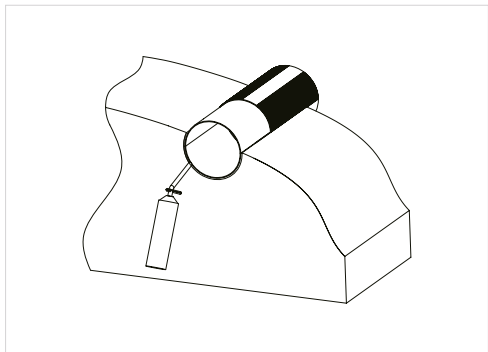


3. Mark the cable entry for the power cables and drill a hole in the mounting plate for the cables. Ensure the airtightness layer for the building is not compromised at this point.

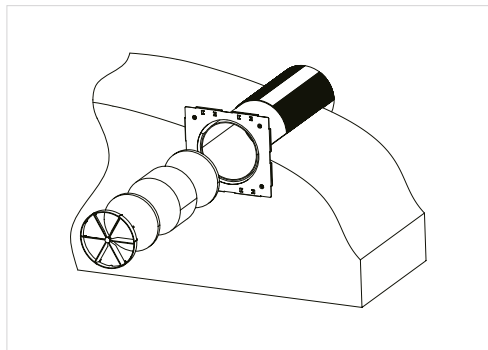


4. Connect the mounting plate following the wiring diagram on page 13-14. Fix the mounting plate to the wall with the screws and plugs provided. Align the telescopic duct to the mounting plate and seal the gap between the wall and the telescopic duct with approved air tightness sealant or tape. The telescopic duct is to finish flush with the finished wall level of the internal wall.

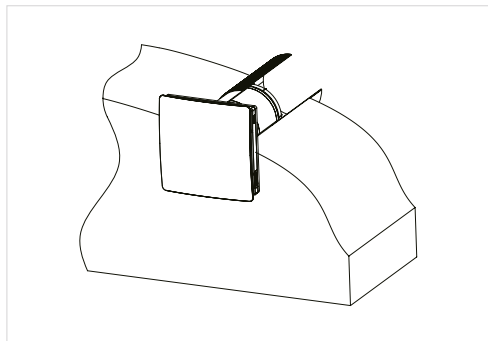




5. Install the first filter, the ceramic core and the second filter into the duct in that order.



6. Install the ventilation unit onto the mounting plate. The ventilation unit is fixed with magnets



CONNECTION TO MAINS POWER



ALL ELECTRICAL WORK MUST BE
CARRIED OUT BY QUALIFIED
PERSON

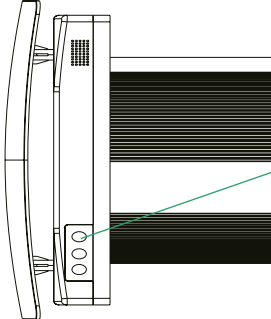



Switch off the mains power at the consumer unit. Connect the live conductor to the live terminal marked L. Connect the neutral conductor to the terminal marked N. Connect the earth conductor (PE) to the terminal marked E.

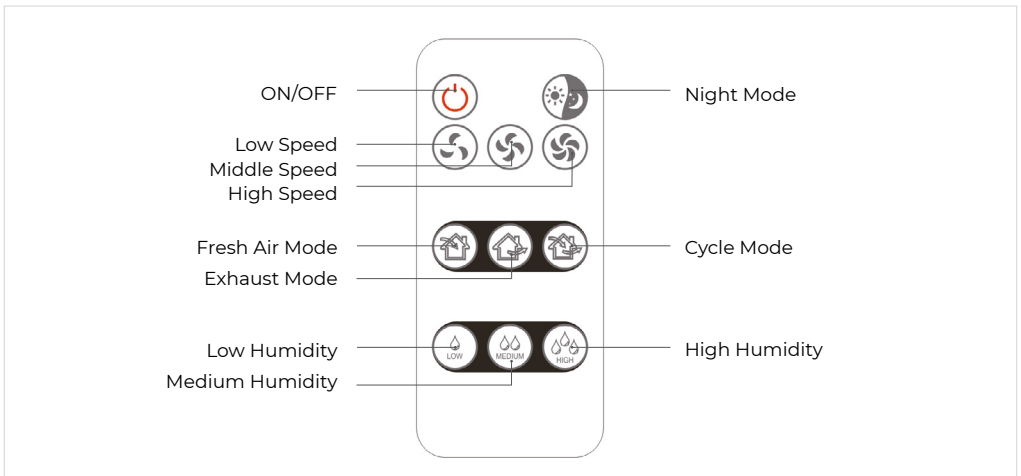
The Zero1 MVHR is rated for 230VAC.

ZERO1 CONTROLS AND REMOTE CONTROL OPTIONS

Electrical parameter

- Operating Voltage: DC3V(CR2025Button battery)
- Emission current<5mA
- Sleep standby current<10μA
- Effective control distance: partition
- Walls>15m, open>30m
- Carrier frequency: RF 433.92MHz

	 ON/OFF	ON/OFF	
	 Speed Switching	Press with a beep	Low Speed
		Press with two beeps	Middle Speed
		Press with three beeps	High Speed
	 Mode Switching	Press with a beep	Fresh Air Mode
		Press with two beeps	Exhaust Mode
Press with three beeps		Cycle Mode	



OPERATING CONTROLS FROM THE ZERO1 UNIT


1. Turning the Zero1 on. Adjusting the speed

	Press with a beep	Low Speed
	Press with two beeps	Middle Speed
	Press with three beeps	High Speed

2. Turning the Zero1 OFF

	Turning the ventilator OFF.
--	-----------------------------

REMOTE CONTROL

Set the speed switch to **OFF** position and the Zero1 mode switch to position  to enable remote control of the Zero1

1. Turning Zero1 ON/OFF




	ON/OFF
--	--------

2. Night Mode




	ON/OFF
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If Night mode is activated, the Zero1 switches to the first speed in the night, when the light is turned off. Activation of the night mode is confirmed by a long sound signal. Exiting the night mode is confirmed by a short sound signal.




3. Speed setting

	Low Speed
	Middle Speed
	High Speed

4. Operation mode

	Fresh Air mode. Air is supplied to the room at a set speed regardless of CN7 jumper.
	Exhaust mode. Air is extracted (factory setting) at a selected speed.
	Cycle mode. The Zero1 operates 65 seconds in Supply mode and then 65 seconds in Exhaust mode with heat regeneration.

5. Humidity control. Humidity control is possible only in Recovery mode.

	Setting humidity threshold -50%
	Setting humidity threshold -60%
	Setting humidity threshold -70%

HUMIDITY CONTROL CAN ONLY BE ACTIVATED BY THE REMOTE CONTROL

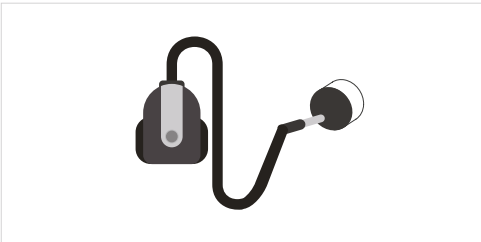
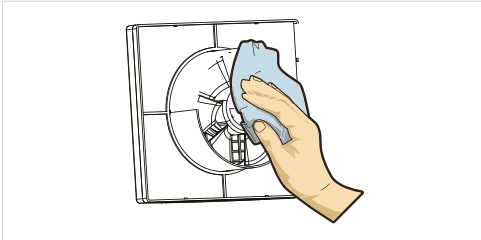
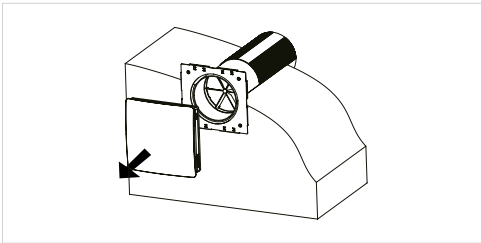
MAINTENANCE



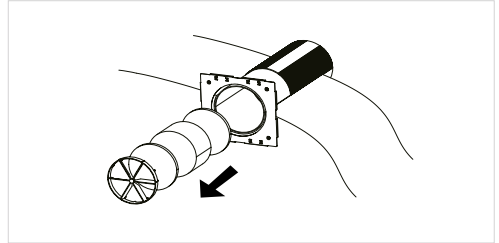
DISCONNECT THE ZERO1 FROM POWER SUPPLY PRIOR TO ANY MAINTENANCE OPERATIONS.

Maintenance of the Zero1 means regular cleaning of the ventilator surfaces of dust and cleaning or replacement of the filters.

Clean the impeller blades. To remove dust use a soft brush, doth or a vacuum cleaner. Do not use water, abrasive detergents, solvents, sharp objects. The impeller blades must be cleaned once in year. - to the following "Clean the fan blades, use a soft brush, cloth or vacuum cleaner. Do not use water, abrasive detergents, solvents or sharp objects. It is recommended to clean the fan blades once a year



2. Filter maintenance



It is recommended to do this twice a year or when required depending on site applications. Remove the airflow filter in front of the ceramic core. Using the pull cord, remove the ceramic core carefully from the ducting. Remove the second filter after the core. Clean both filters and the ceramic core using a hoover and soft cloth. The Zero1 is equipped with an alarm sounder to alert the user that the filters require cleaning. This alarm can be reset once the cleaning maintenance has been carried out. Place the clean filters and the ceramic core back into the ducting and attach the front cover. Regular cleaning and maintenance will ensure high heat recovery efficiency of the product. It is recommended to replace the filters every 3 years. Contact your local retailer for replacement filters.

TROUBLESHOOTING

Table

Fault	Possible reasons	Fault handling
The fan does not start during start up	No power supply	Make sure the unit is properly connected to the 230V supply
	Motor is jammed the blades are clogged	Turn the unit off and remove the debris from the blades of the fan
Automatic switch tripping following the Zero1 being switched on	Electrical fault inside the unit	Contact your local service centre
Low air flow	Fan speed set to low	Adjust the fan speed
	The filters, the fan or the ceramic core are dirty	Refer to page 14 for cleaning and maintenance
The Zero1 generates an alarm sound	The filters are dirty	Refer to page 14 for cleaning and maintenance
There is a vibrating noise coming from the unit	The fan blades are dirty	Clean the fan blades
	The unit was installed incorrectly	Check the fixing screws are not loose, tighten if necessary

STORAGE AND HANDLING

Store the product in its original packaging in a dry ventilated store room with temperatures between +5°C and +40°C. Keep away from aggressive vapours, moisture and chemical substances. Handle the product with care and avoid overloading or heavy objects been placed on the product.

WARRANTY

The product comes with a 2 year manufacturer's warranty from date of purchase or date of delivery. A full list of terms and conditions associated with the product's warranty can be found on the manufacturer's website.

RETURNS

If you have a faulty product, please return it to the address below. Ecovolt Limited, Unit 3B, Rosemount Park Drive, Rosemount Business Park, Ballycoolin Dublin 11, Ireland, D11 H029



+353 (0)1 5240387



Unit 3B Rosemount Park Drive,
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