ComX-EC

Heat Recovery Units



VEHUM

www.vehum.com.au

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About Us

VEHUM is the commercial ventilation brand of DEHUM, created to meet the practical demands of modern commercial and industrial buildings. It builds on DEHUM's long experience in ventilation and humidity control and focuses solely on reliable ventilation systems.

Our systems are manufactured for us in Europe and built to high standards of performance and durability. This gives us confidence in the quality, consistency, and compliance of every unit we supply, even in demanding operating environments.

With over 17 years of direct experience in heat recovery ventilation, we understand how these systems perform in the real world and what the Australian market actually needs. That experience shapes the way VEHUM systems are designed — from component choice and layout to efficiency, access, and long-term serviceability.

VEHUM systems are designed to deliver steady airflow, effective heat recovery, and solid construction, providing practical solutions that installers, consultants, and end users can trust.

COMX-EC UNIT

Studies show that people in developed societies spend the majority of their time indoors, making indoor air quality a critical factor in occupant health, comfort, and productivity.

At the same time, rising energy costs and increasing efficiency requirements have made energy recovery ventilation an essential component of modern building design.

VEHUM ComX-EC heat recovery units are engineered for long-term, energy-efficient operation, delivering high indoor air quality together with exceptional ventilation performance.

The ComX-EC range consists of standard models from 500 m^3/h to 5000 m^3/h, with custom-built sizes and configurations available upon request.

These units recover thermal energy from exhaust air and transfer it to incoming fresh air, significantly reducing heating and cooling energy losses.

VEHUM ComX-EC Heat Recovery Ventilation

High-efficiency fresh air ventilation engineered for performance, efficiency, and installation flexibility.

What the ComX-EC Delivers

The ComX-EC heat recovery unit is designed to deliver balanced, filtered fresh air while recovering energy from exhaust air to reduce operating costs and improve indoor comfort.

- Continuous supply of **filtered fresh air**
- Controlled **exhaust air removal**
- **High-efficiency heat recovery** from exhaust air to incoming air
- Balanced ventilation for residential, commercial, and light industrial applications

Engineered Advantages

Every detail of the ComX-EC is designed to simplify installation, improve performance, and reduce lifetime maintenance.

- **Double drain pan** for improved condensate management
- **Galvanised steel casing** for long-term durability
- **Flexible left- or right-hand installation configuration**
- **Removable plate heat exchanger** for easy servicing
- Optional **electric heater or water coil** integration
- **Interchangeable air inlet and outlet connections** for faster on-site configuration
- Flexible **duct connection configurations** for simplified installation
- **Eurovent-certified, high-efficiency plate heat exchangers**
- **Low noise operation** with high-efficiency backward-curved plug fans
- Full **component access for maintenance** without dismantling the unit
- **High-performance thermal and acoustic insulation** with flame-retardant construction
- **Integrated user-friendly** control interface

Why Choose VEHUM Heat Recovery Ventilators

VEHUM ComX-EC systems are designed for projects where energy efficiency, low noise operation, and installation flexibility are essential.

- **Reduced operating costs** through high-efficiency EC fan technology
- **Eurovent-certified heat recovery exchangers**
- **Low specific fan power (SFP)**
- **Quiet operation for occupied spaces**
- **High-efficiency filtration** for improved indoor air quality
- **Variable speed airflow control**
- **Optional smart automation and BMS integration**
- **Standard models from 500 m^3/h to 5000 m^3/h**
- **Custom-built configurations** available
- Optional electric reheaters and water coils
- Compact ceiling-mounted installation

The VEHUM Difference

Flexible installation. Proven efficiency. Quiet operation.
The ComX-EC is engineered to adapt to your project.

UNIT SPECIFICATIONS

ComX-EC units utilise direct-driven EC plug fans with backward-curved impellers for high operating efficiency and low noise performance.

The aerodynamic blade design provides stable airflow delivery while minimising energy consumption and sound levels.

All major components are designed for simplified maintenance access and can be serviced or removed without dismantling the entire unit.

The flexible casing design also allows multiple duct connection arrangements for simplified installation.

ComX-EC units incorporate high-efficiency Eurovent-certified heat exchangers that are laboratory tested and performance verified.

Optimised airflow geometry minimises pressure drop while maximising thermal recovery efficiency.



ComX-EC units utilise flame-retardant polyurethane insulation to provide excellent thermal and acoustic performance while minimising unwanted heat transfer.

Fans, filters, and heat recovery exchangers are accessible through service panels designed for maintenance access from below the false ceiling.

COMPONENTS



Heat Recovery Exchanger

- Long-life plate heat exchanger
- High thermal recovery efficiency
- Low pressure drop design
- Eurovent-certified performance
- Removable for easy maintenance
- Washable construction



Body of the Unit

- Powder-coated galvanised steel construction
- Corrosion-resistant casing
- Service access panels for simplified maintenance
- Flame-retardant thermal and acoustic insulation
- Suspension mounting points for easy installation



EC Fan

ComX-EC units utilise high-efficiency EC plug fans with backward-curved impellers.

Compared with conventional AC motor systems, EC motors provide:

- Significantly higher operating efficiency
- Reduced power consumption
- Quieter operation
- Lower Specific Fan Power (SFP)
- Fully variable speed control

This allows ComX-EC units to achieve superior energy performance while maintaining stable airflow control.



Filters

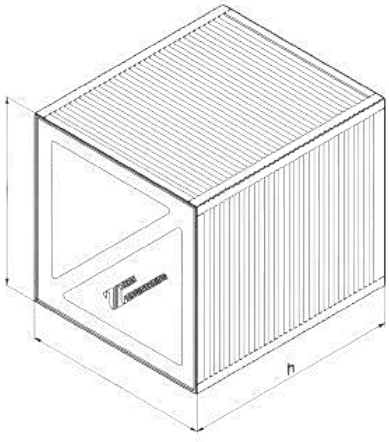
- G-class filtration in accordance with EN779
- Washable filter construction
- Leak-resistant filter frame design
- Easy access for servicing and replacement

‘Optional’

▶ Enthalpy Heat Exchanger detail below

Enthalpy cross-flow heat exchanger
E-EX4 300

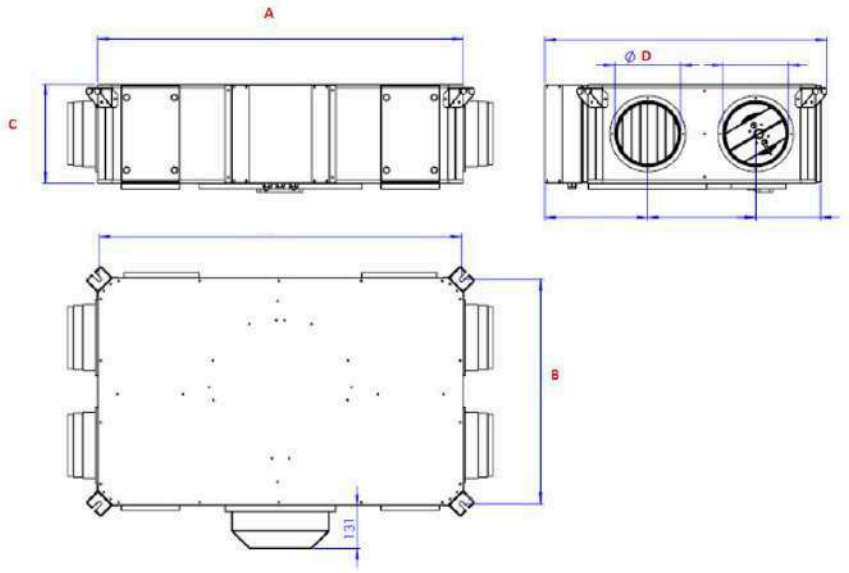
E-EX4 cross-flow enthalpy heat exchangers are available for applications requiring both sensible and latent heat recovery. The ultra-thin polymer membrane allows heat and moisture transfer while preventing the transfer of contaminants, odours, microorganisms, and airborne pollutants between air streams. This assists in maintaining stable indoor humidity levels during both dry winter conditions and humid summer operation.



DATA

		ComX-EC range						
		500	1000	1500	2400	3000	4000	5000
Electrical Connections		1~230 V 50 Hz						
Performance Data								
Air Flow [1]	m³/h	550	1000	1500	2400	3000	4000	5000
Sound Level [2]	dB(A)	44	45	46	48	49	50	52
Electrical Requirements								
Fan Power [3]	KW	240	310	420	450	750	960	1360
Maximum Current	(A)	0,9	1,36	1,8	2	3,5	4,8	6

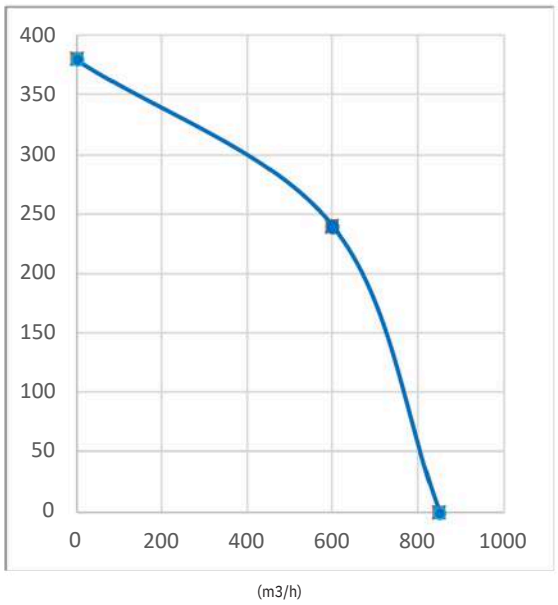
1. Air flow data when the ESP is 0 Pa.
2. Sound levels are measured at 250Hz and 1,5m distance.
3. Power consumption



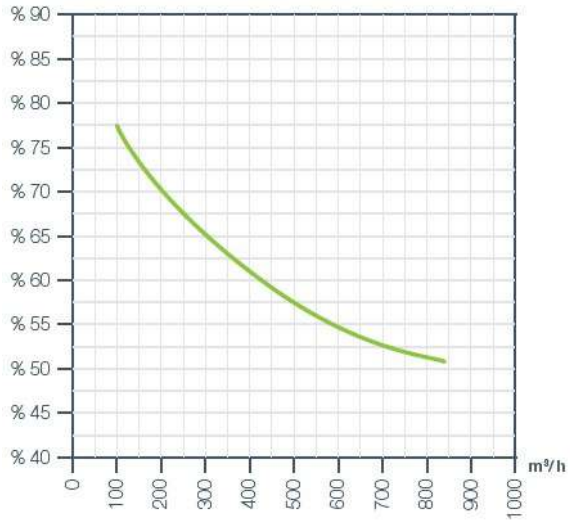
		Dimensions (mm)				
COMX-EC RANGE	MODEL	A	B	C	D	Weight (kg)
	500	680	1110	300	200	51
	1000	842	1260	375	250	52
	1500	842	1260	427	250	72
	2400	1040	1640	500	315	84
	3000	1140	1840	545	355	116
	4000	1190	2060	610	355	125
	5000	1190	2140	645	450	186

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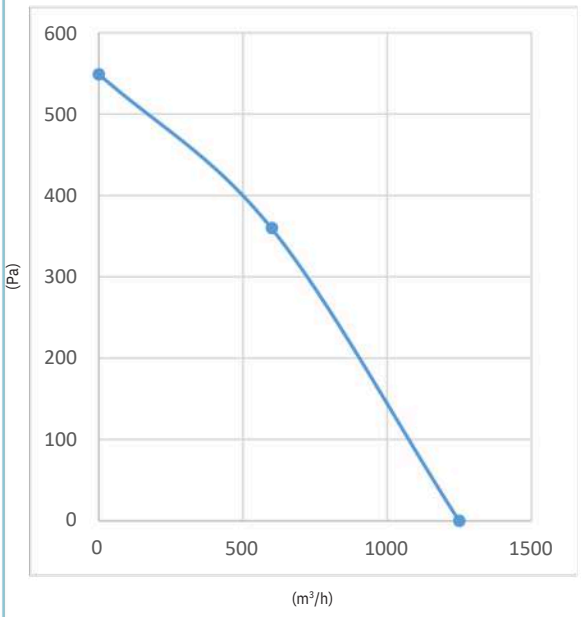
ComX-EC 500 / Air Flow Performance



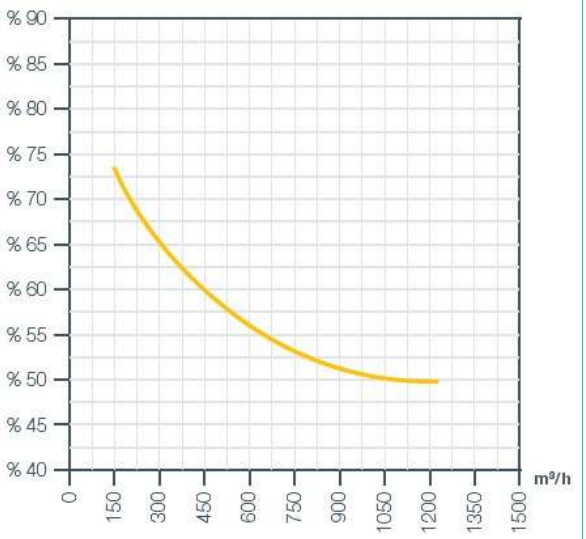
ComX- EC 500 / Efficiency



ComX-EC 1000 / Air Flow Performance

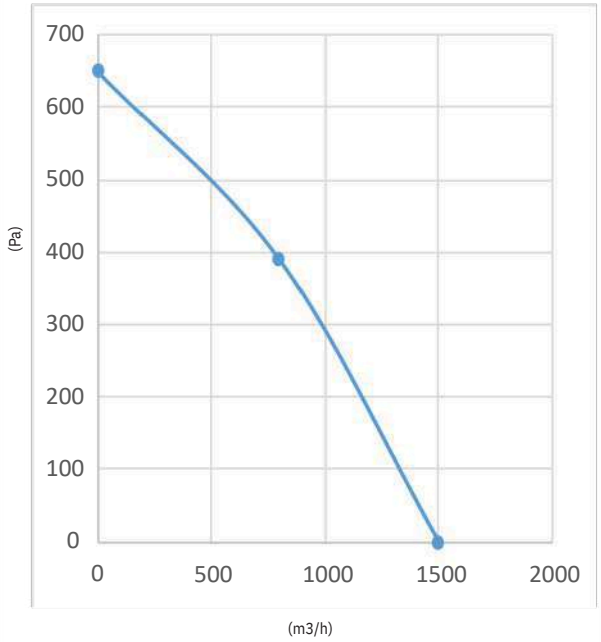


ComX-EC 1000 / Efficiency

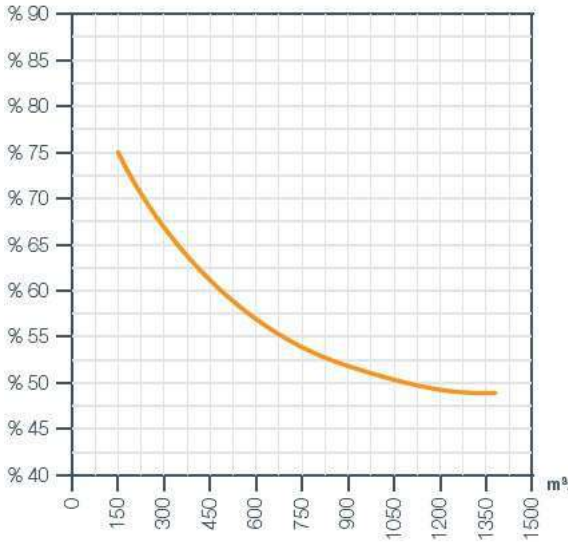


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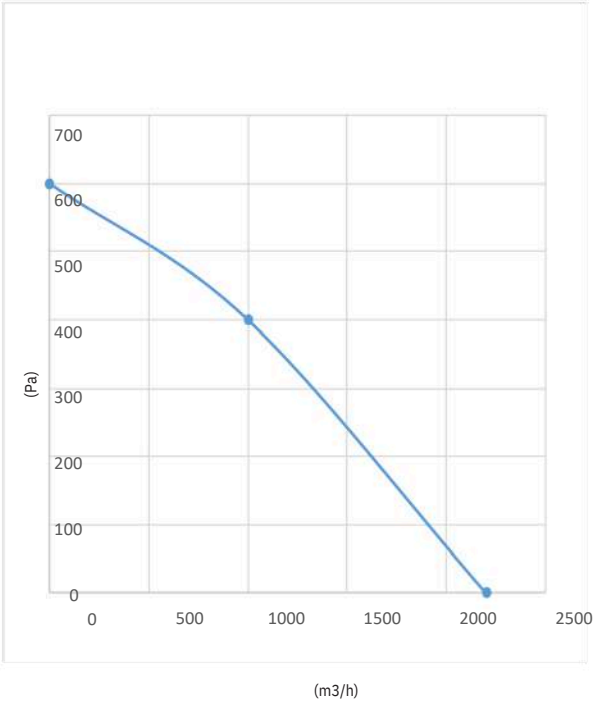
ComX-EC 1500 / Air Flow Performance



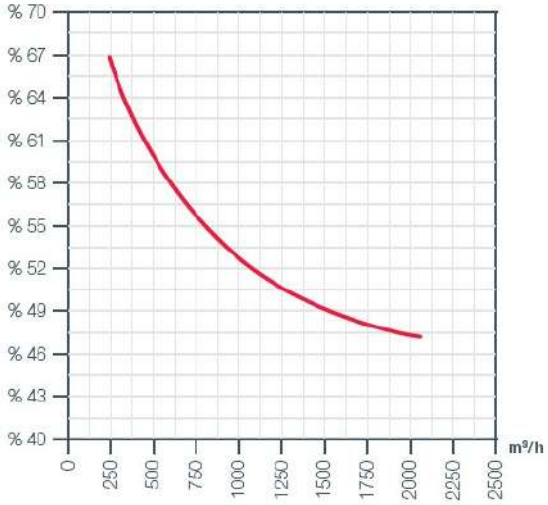
ComX-EC 1500/ Efficiency



ComX-EC 2400 / Air Flow Performance

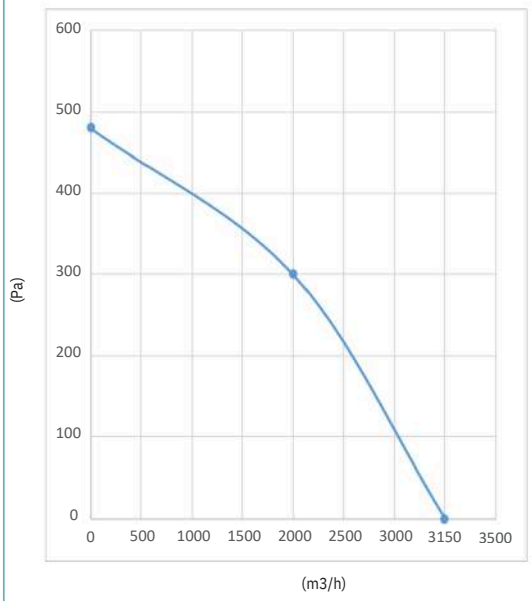


ComX-EC 2400 / Efficiency

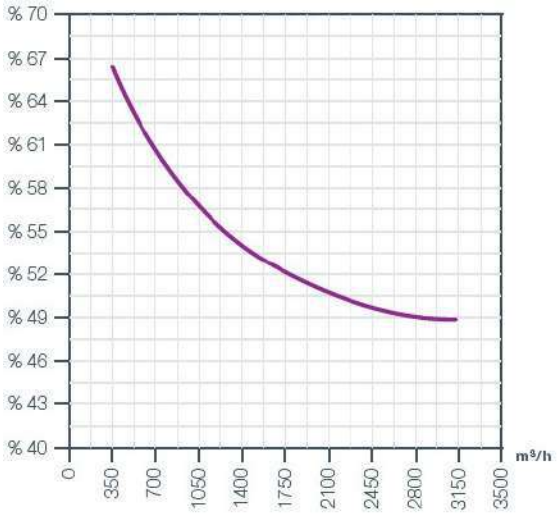


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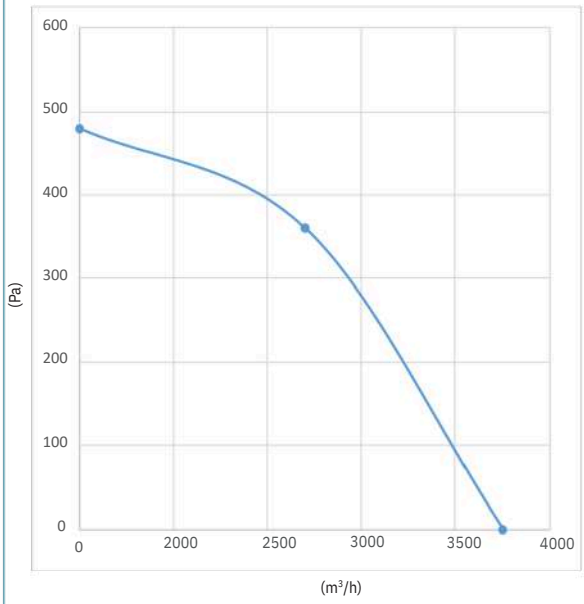
ComX-EC 3000/ Air Flow Performance



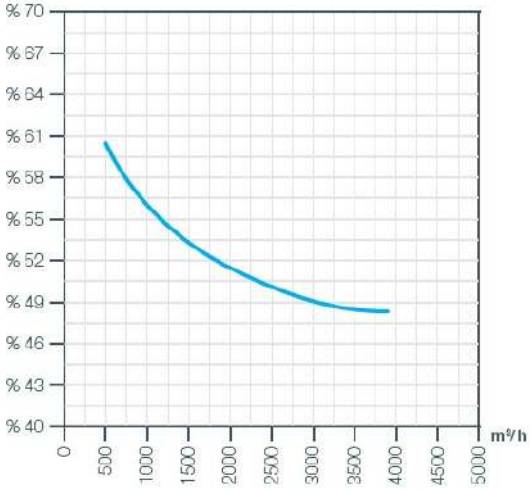
ComX-EC 3000/ Efficiency



ComX-EC 4000 / Air Flow Performance

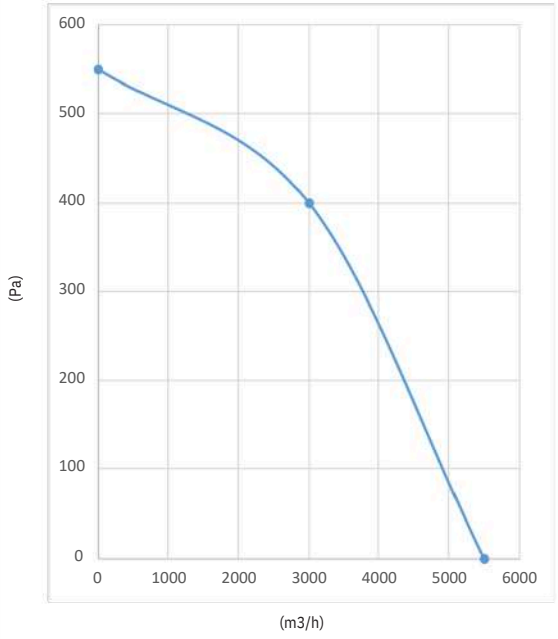


ComX-EC 4000 / Efficiency

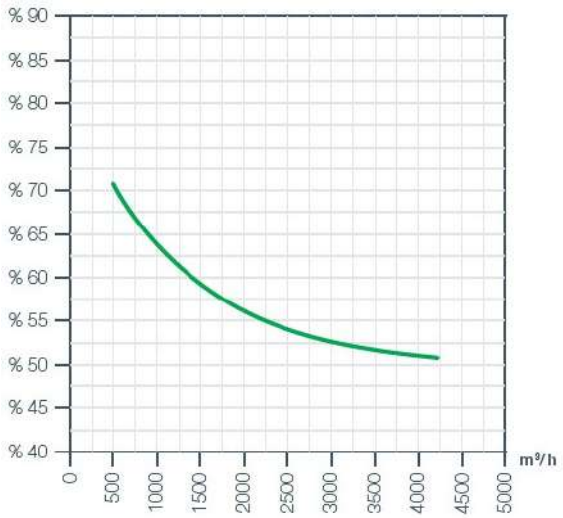


DATA

ComX-EC 5000 / Air Flow Performance



ComX-EC 5000 / Efficiency



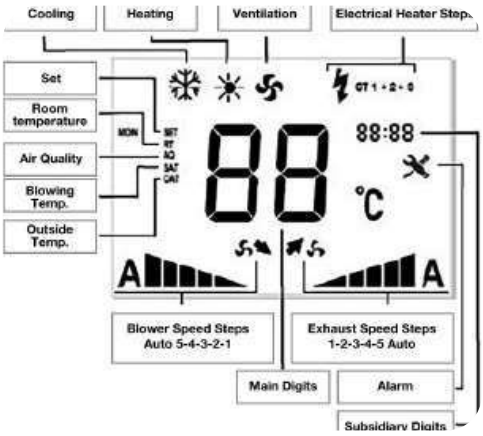
ACCESSORIES

Digital Room Controller

ComX-EC units are supplied with a digital wall-mounted controller for airflow and operating mode adjustment.

The controller allows independent adjustment of supply and exhaust airflow rates across multiple speed settings.





The LCD interface displays operating status, temperature settings, and system modes.

Summer mode allows ventilation-only operation, while winter mode enables integrated heater operation where fitted.

Optional integration with Building Management Systems (BMS) is available via Modbus RS485 communication.

Optional CO_2 and air quality sensors can also be integrated to provide demand-controlled ventilation operation.

Advanced Panel Specifications

1. Independent supply and exhaust airflow control
2. Filter service timer and maintenance alarm
3. Motor thermal protection
4. Electric heater integration
5. Water coil integration
6. Heater over-temperature protection
7. Boost mode operation
8. CO_2 sensor compatibility
9. Damper motor control
10. BMS integration
11. Heating and cooling valve control
12. Fire alarm interface
13. Weekly scheduling functionality
14. Supply air temperature monitoring

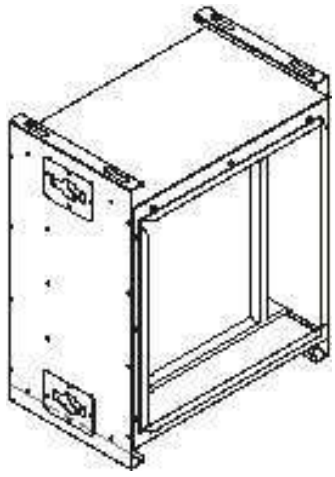
ACCESSORIES



Electrical Heater

- Integrated control board
- Over-temperature protection
- Flame-retardant electrical cable protection
- Low energy consumption with staged control
- Compact rectangular construction
- Galvanised steel casing

	Model	Electrical Power	Step
		kW	
ComX-EC range	500	2	1
	1000	3	1
	1500	3	1
	2400	7	3
	3000	8	3
	4000	10	3
	5000	13	3



Hot Water Coil

ComX-EC hot water coils are designed for installation within the fresh air stream, either internally or within ducted systems.

The coils are manufactured using copper tubing, aluminium fins, and brass headers for reliable thermal performance.

The control system automatically regulates coil operation according to the temperature setpoint configured on the room controller.

The coil design provides low pressure drop and simplified integration into duct systems.

Air flow	Heating Performance (90/70°C)		Waterside pressure drop
	Capacity	Blowing Temparature	
m3/h	kcal/h	°C	kPa
900	4190	34	3
1060	5784	36.5	5.34
1400	9129	40.5	21.5
1600	11070	41.5	31.8
1725	12760	45.5	37
1800	17620	49.5	32.4
1900	20551	55	66.8
2450	25778	54	30.6

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