

| Description of Technical Submittal for Approval:                 |
|------------------------------------------------------------------|
| External extract twin fan with speed control and auto changeover |
| Systemair KV DUO 150 EC                                          |
| Details on attached data sheet/s                                 |

|              |                                 |                                         |                                      |  |
|--------------|---------------------------------|-----------------------------------------|--------------------------------------|--|
| Response By: |                                 |                                         | Date:                                |  |
| Status:      | <b>A</b><br>Proceed no Comments | <b>B</b><br>Proceed subject to comments | <b>C</b><br>Rejected Please Resubmit |  |

# Technical Submittal Sheet



Comments:



## KVK DUO Insulated duct fans

### Run & Standby fan in one casing for non-stop operation

- Twin fan – **Run & Standby**
- **Low noise** level
- Suitable for **external installation** as standard
- Safe and **maintenance-free** operation

[Find more details in our online catalogue](#)

#### Run & Standby

KVK DUO is intended to use for **supply** or **extract** air in a variety of **commercial** and **domestic** applications with high demand for **non-interruptive ventilation**, required according to regulation. For transportation of **clean** or **contaminated** air.

#### Reliability

Corrosion resistance casing, thermal insulation and external terminal box with high protection class permits **outdoor** and **indoor** use. The combination of reliable casing and motor construction ensures to minimise the need for maintenance of the fans and allows long **continuous operation**.

#### Low noise level

KVK DUO has **fully insulated casing**. That ensures a good acoustic insulation in terms of the radiated sound. A wide range of recommended silencers for inlet and outlet allows further noise reduction.

#### Easy maintenance

To ensure long lifecycle it is recommended to inspect the fan according to the manual. The detachable service lid simplifies this process and makes the fan **easy to maintain**.

### Certifications



#### Ecodesign (ErP) compliant

Complies with stringent EU regulations on energy labelling and Ecodesign for Sustainable Products (ESPR) and Energy-related Products (ErP). Ready to meet future requirements.



#### Green Ventilation

Our proprietary environmental performance benchmark guides you towards the most sustainable solutions within our portfolio. Only products that meet a clear set of verifiable minimum requirements—covering aspects such as energy efficiency, indoor air quality, and safety—are eligible to carry the Green Ventilation™ label.

## Features

### Construction

Casing of **EC** models made of magnesium zinc plated sheet metal with corrosion **class C5**. Casing of **AC** models made of galvanised sheet steel, corrosion **class C3**. **Casing** of all fans is completely acoustically/thermally insulated and has internal surface liner that prevents the migration of insulation fibres into the airstream. **All castings** has circular connection **spigots** with **rubber seals**. **EC** models are also equipped with an external **terminal box** with protection class **IP65**.

### Impeller

**AC models** use double inlet radial fans with forward-curved impellers made of sheet steel. **EC models** use backward curved **radial** impellers. These are from lightweight, hard-wearing fiberglass reinforced **polyamide**. Impellers are dynamically **balanced** and paired with corresponding external rotor motors.

### Motor

Depending on type, fans are equipped with **AC** or high efficient **EC** external rotor motors. All motors are suitable for **50Hz** and **60Hz**. The input voltage for **EC motors** single phase can vary between 200 and 277V, for three phase between 380 and 480V.

### Motor protection

Models with **AC** motors have prewired integral **thermal contacts TK** with leads to external **motor protection device**. Models with **EC** motors have an **integrated** electronic **thermal protection**, including **locked-rotor protection** and **soft-start**.

### Control

**EC motor** with **built-in potentiometer** to adjust working point can be also controlled by external **signal 0-10V**. **AC motor** can be controlled by **5-step** or **stepless** speed regulator. Fans can be **demand-controlled** via additional accessories like sensors and controllers for CO<sub>2</sub>, temperature, humidity, presence indication, etc.

### Installation

KVK DUO fans can be installed in any position **indoor** and **outdoor**. Circular spigot with rubber seals is perfectly designed to connect to the circular ducts by using **fast clamps FK** **preventing vibration** to the duct. A service cover with screw connection and hinges with pins make cleaning and maintenance easy.

## Technical parameters

### Nominal data

|                                                           |            |                   |
|-----------------------------------------------------------|------------|-------------------|
| Voltage (nominal)                                         | 230        | V                 |
| Frequency                                                 | 50         | Hz                |
| Phases                                                    | 1~         |                   |
| Input power                                               | 86         | W                 |
| Input power kW                                            | 0.086      | kW                |
| Input current                                             | 0.73       | A                 |
| Impeller speed                                            | 3676       | rpm               |
| Air flow                                                  | max. 0.152 | m <sup>3</sup> /s |
| Temperature of transported air                            | max. 60    | °C                |
| Max temperature of transported air, when speed controlled | 60         | °C                |

### Sound data

|                                                     |    |       |
|-----------------------------------------------------|----|-------|
| Sound pressure level at 3m (20m <sup>2</sup> Sabin) | 51 | dB(A) |
|-----------------------------------------------------|----|-------|

### Protection/Classification

|                        |      |
|------------------------|------|
| Enclosure class, motor | IP44 |
| Insulation class       | B    |

### Data according to ErP

|           |          |
|-----------|----------|
| ErP ready | ErP 2016 |
|-----------|----------|

### Dimensions and weights

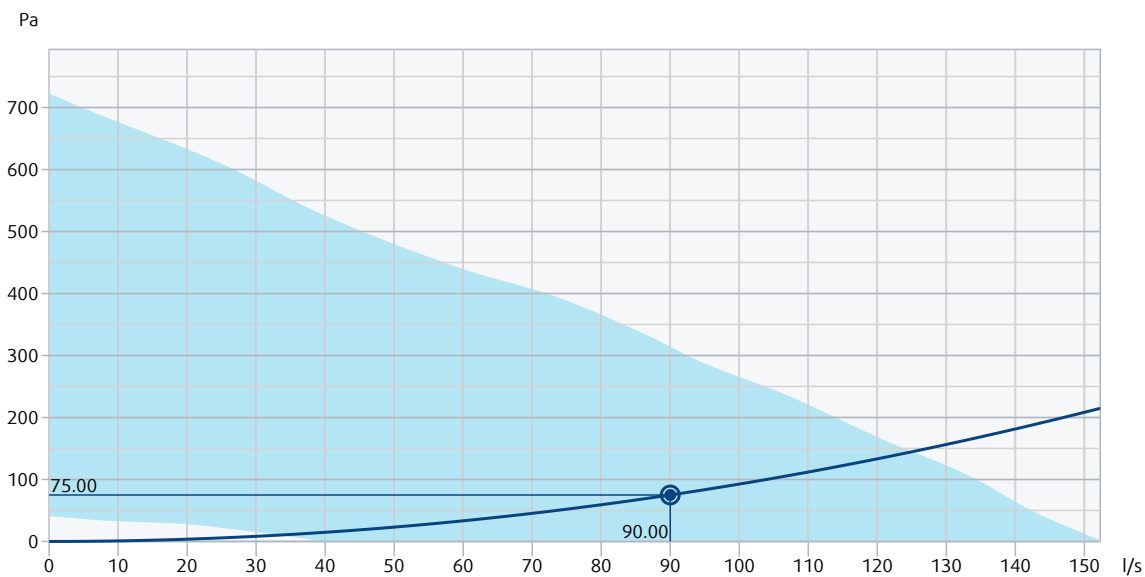
|                                 |      |    |
|---------------------------------|------|----|
| Duct dimension; Circular, inlet | 150  | mm |
| Weight                          | 16.2 | kg |

### Others

|            |    |
|------------|----|
| Motor type | EC |
|------------|----|

## Performance

### Performance curve



### Hydraulic data

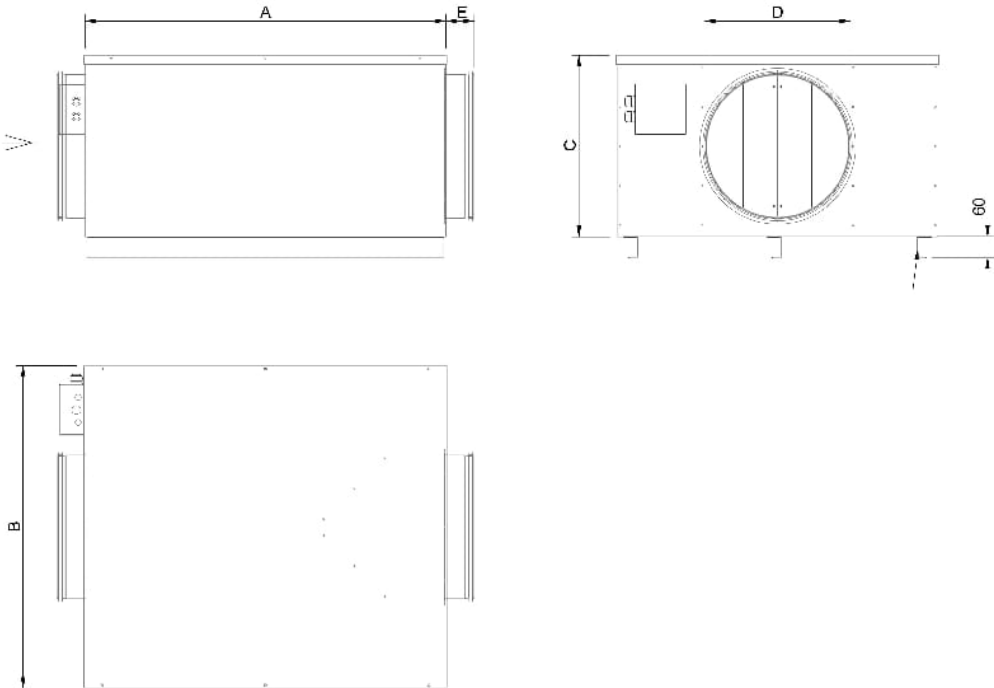
|                          |                            |
|--------------------------|----------------------------|
| Required air flow        | 90.00 l/s                  |
| Required static pressure | 75 Pa                      |
| Working air flow         | 90.00 l/s                  |
| Working static pressure  | 75 Pa                      |
| Air density              | 1.204 kg/m <sup>3</sup>    |
| Power                    | 34.4 W                     |
| Fan control - RPM        | 2,526 rpm                  |
| Current                  | 0.30 A                     |
| SFP                      | 0.382 kW/m <sup>3</sup> /s |
| Control voltage          | 6.2 V                      |
| Supply voltage           | 230 V                      |

| Sound power level                                    |       | 63 | 125 | 250 | 500 | 1k | 2k | 4k | 8k | Total |
|------------------------------------------------------|-------|----|-----|-----|-----|----|----|----|----|-------|
| Inlet                                                | dB(A) | 52 | 55  | 61  | 62  | 59 | 60 | 55 | 46 | 68    |
| Outlet                                               | dB(A) | 54 | 54  | 67  | 66  | 63 | 62 | 58 | 49 | 72    |
| Surrounding                                          | dB(A) | 18 | 33  | 44  | 50  | 44 | 40 | 34 | 23 | 52    |
| Sound pressure level at 3m (20m <sup>2</sup> Sabine) | dB(A) | -  | -   | -   | -   | -  | -  | -  | -  | 45    |
| Sound pressure level at 3m free field                | dB(A) | -  | -   | -   | -   | -  | -  | -  | -  | 31    |

### Ecodesign

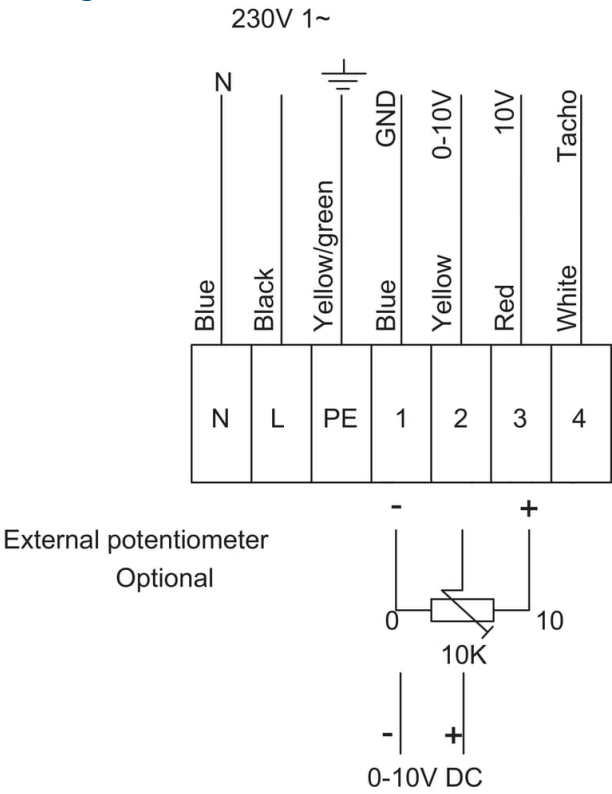
| Product                 |  |                |       |
|-------------------------|--|----------------|-------|
| Trade name              |  | Systemair      |       |
| Product name            |  | KV DUO 150 EC  |       |
|                         |  |                |       |
| Ecodesign               |  |                |       |
| ErP compliance          |  | 2018           |       |
| Unit category           |  | NRVU           |       |
| Drive                   |  | Integrated VSD |       |
| Unit type               |  | UVU            |       |
| Heat recovery type      |  | nan            |       |
| Temperature ratio (UVU) |  | Not applicable |       |
| qv nom                  |  | 0.0761         | m³/s  |
| P nom                   |  | 0.086          | kW    |
| Ps nom                  |  | 382            | Pa    |
| Fan efficiency          |  | 33.9           | %     |
| External Leakage        |  | 5              | %     |
| Sound power (LWA)       |  | 52             | dB(A) |

Dimension



| KV DUO | A    | B    | C   | D   | E  |
|--------|------|------|-----|-----|----|
| 150    | 500  | 360  | 280 | 150 | 40 |
| 250    | 580  | 430  | 360 | 250 | 60 |
| 315    | 740  | 650  | 425 | 315 | 60 |
| 400    | 1000 | 895  | 505 | 400 | 65 |
| 500    | 1265 | 940  | 605 | 500 | 80 |
| 630    | 1383 | 1205 | 884 | 630 | 80 |

Wiring



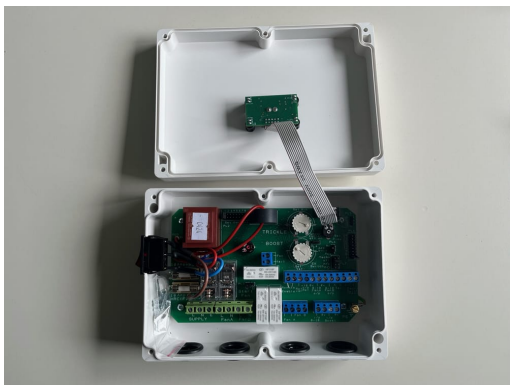
|                                 |              |
|---------------------------------|--------------|
| N                               | Blue         |
| L                               | Black        |
| PE                              | Yellow/green |
| 1                               | Blue         |
| 2                               | Yellow       |
| 3                               | Red          |
| 4                               | White        |
| External potentiometer optional |              |

## AHU Accessories

- AC08AC/EC AutoChangeover panel (93042)
- EC-Basic-CO2 and temperature, 24808 (24808)
- EC-Basic-T temperature, 24805 (24805)
- EC-Selector, 9908 (9908)
- EC-Vent Room Unit, 3018 (3018)
- MTP 10, 10K, Speed control, 32731 (32731)
- MTV-1/010 Controller 0..10V+, 30650 (30650)
- Presence detector/IR24-P, 6995 (6995)
- S-5EC/FRQ, 76738 (76738)
- Step switch S-5EC-2, 0-10V, 449084 (449084)
- CXE/AVC Modbus, 37256 (37256)
- EC-Basic-H humidity, 24807 (24807)
- EC-Basic-U universal 0-10V, 24806 (24806)
- EC-Vent control board, 3115 (3115)
- HR1 Room Humidistat, 215150 (215150)
- MTP 20, on/off, 3-step, 310220 (310220)
- PCA 1000D2 Pressure controller, 76739 (76739)
- RT 0-30 Room Thermostat, 5151 (5151)
- Safety switch 2-pole grey, 210679 (210679)

## Documents

- COMMISSIONING\_RECORD\_FANS\_\_EN\_002.PDF
- EPD\_977703\_Systemair\_KV\_DUO\_EC\_json
- EPD\_977703\_Systemair\_KV\_DUO\_EC\_pdf
- INSTALLATION\_\_OPERATION\_AND\_MAINTENANCE\_INSTRUCTION\_KV\_DUO\_\_KVK\_DUO\_\_KVK\_\_EN\_002.PDF
- KV DUO 150-315 EC - ACO EC.PDF



## ACO Controllers

[Find more details in our online catalogue](#)

### AC08AC/EC ACO Panel IP40

The dual AC/EC fan controller is a mains powered, twin fan controller with enclosure, suitable for all EC 0-10V speed controllable and AC fans. The fans run alternately based on a selectable changeover period. Potentiometers allow setting of the two fan speeds, normal and boost. The fan speeds are selected by volt free contacts or 0-10V input.

There is also an optional single-fan operation mode.

Two VFC inputs - Normal/Boost and Remote on/off

Alarm output for fan fail, solid state relay 230V/8A contacts

LED for Fan OK/Fault

LED Fan1/Fan2 run

Duty share/changeover 3/6/9/12/15/18/21/24 hour set via switch

Remote enable input, volt free contacts

Normal/Boost fan speed input.

Current sensing 1 to 8 amp

Option to external boost/run via 0-10V input via BMS

Max adjustable output 0-10V to fans

Fan fault volt free contacts

Can select to start fan A or fan B

Technical parameters

| Ambient and duct temperature |        |    |
|------------------------------|--------|----|
| Product type                 | Switch |    |
|                              |        |    |
| Dimensions and weights       |        |    |
| Depth                        | 70     | mm |
| Height                       | 130    | mm |
| Width                        | 190    | mm |
| Weight                       | 0.8    | kg |

Dimension

| Width (mm) | Height (mm) | Depth (mm) | Weight (kg) |
|------------|-------------|------------|-------------|
| 190        | 130         | 70         | 1.15        |

## Documents

- 93042 AC08AC-EC O&M and Wiring.pdf