

# DUPLEX Easy2

## Compact ventilation units

### with heat recovery

#### Intended use

Compact ventilation units with heat recovery are designed for central equal-pressure ventilation of houses or apartments.

#### Units description

The units can be installed in an under-ceiling or wall-mounted position. The heart of the unit consists of a counterflow high efficiency plate heat recovery exchanger. Airflow is provided by high efficiency EBM radial fans. The unit includes filters for supply and extract air filtration.

#### Units advantages

- Very low noise level to surroundings
- Compliant with energy class **A+/A**
- Very low height
- Connection ports without thermal bridges
- Installation possible for ceiling suspended or wall mounted position

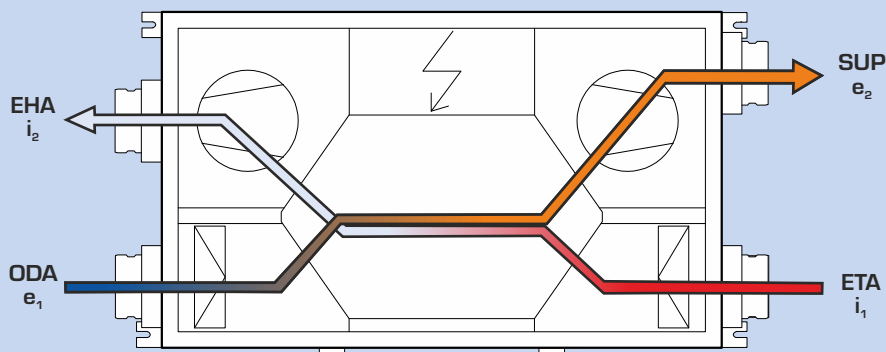
#### Units comply with:

- EU Commission Regulation 1253/2014 (Ecodesign) valid from 2018
- Energy class of units according to 1253/2014 **A+/A** (for average climate)



### OPERATING MODES

#### DUPLEX Easy2



#### Key:

- ➔ **ODA** (e<sub>1</sub>) fresh outdoor air inlet
- ➔ **SUP** (e<sub>2</sub>) fresh heated air outlet
- ➔ **ETA** (i<sub>1</sub>) exhaust air inlet
- ➔ **EHA** (i<sub>2</sub>) exhaust air outlet

equal pressure ventilation  
with heat recovery

### SELECTION SOFTWARE



For the detailed design of DUPLEX series units, accessories and control systems we recommend using our selection software. You can find it on our website at [www.atrea.eu](http://www.atrea.eu).

**Altea**<sup>®</sup>

VENTILATION UNITS WITH HEAT RECOVERY

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# DUPLEX Easy2 UNITS

## DUPLEX Easy2 GENERAL DESCRIPTION

### General description

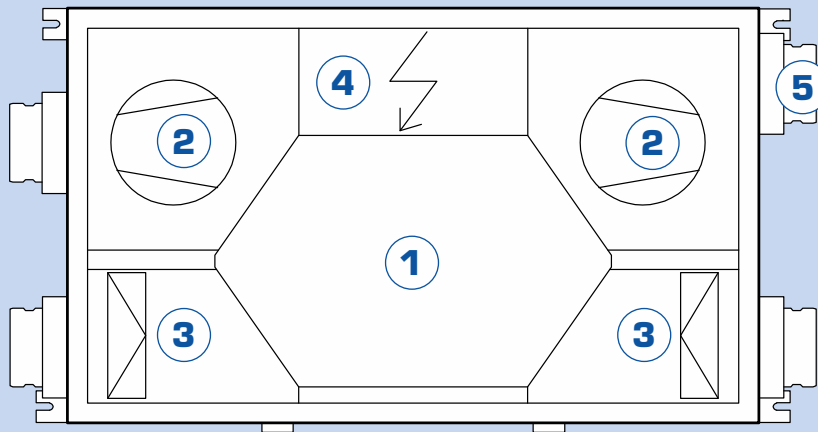
The units are used in systems for comfortable ventilation of family houses, apartments, offices or smaller commercial premises.

The units can be installed at ceiling suspended or wall-mounted position. The casing of the unit is designed as a sandwich construction of the composition of an external metal sheet (surface treatment aluzinc) - thermal and acoustic insulation (mineral wool thickness 30 mm, reaction to fire class A2/A1) internal metal sheet (surface treatment zinc coating).

The units are equipped with two radial fans, a plate counter-flow plastic heat recovery heat exchanger, air filtration at the supply and extract air with Coarse 90% (G4) or ePM1 55% (F7) filtration class and a control module with terminal block.

The unit has a ready connection for condensate drainage, connection ports with thermal bridge suppression, access for filters change, service access to the heat recovery exchanger via a fully opening door.

Supplied with **.CP control** module which allows full control by touch controller, power adjustment by calendar and control by air quality sensor (mostly CO<sub>2</sub>).

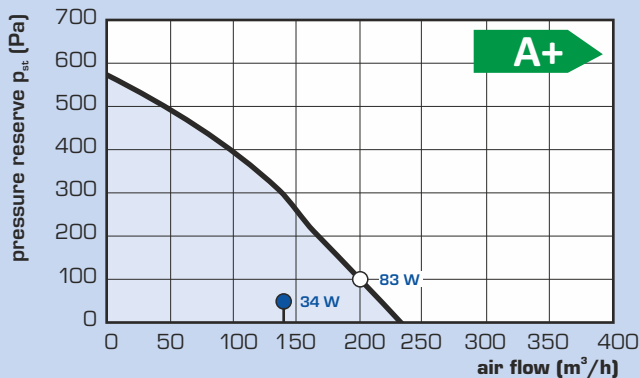


### Key:

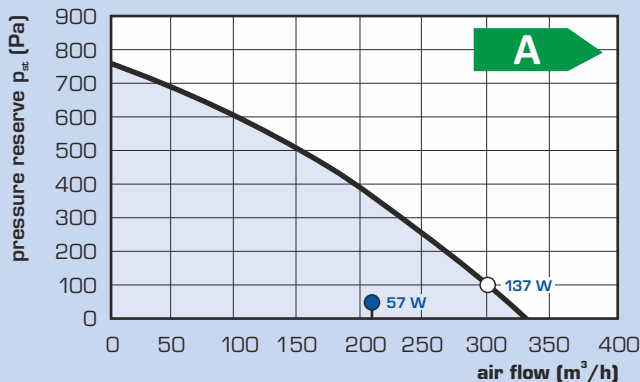
- 1 Counter-flow heat exchanger
- 2 Supply or extract air fan  
(depending on specific orientation)
- 3 Fresh or exhaust air filter  
(depending on specific orientation)
- 4 Control module with connection terminal block
- 5 Connection ports without thermal bridges

## PERFORMANCE PARAMETERS DUPLEX Easy2

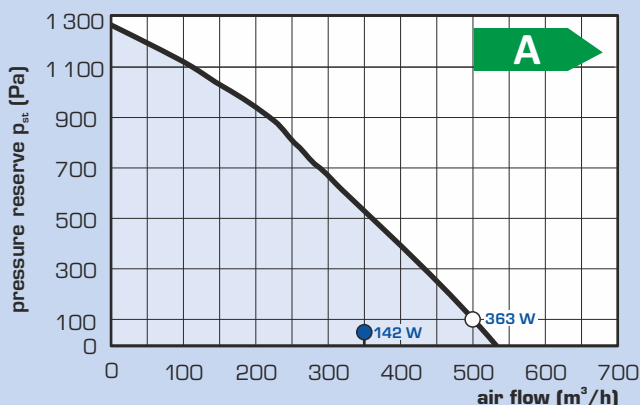
### DUPLEX 200 Easy2



### DUPLEX 300 Easy2



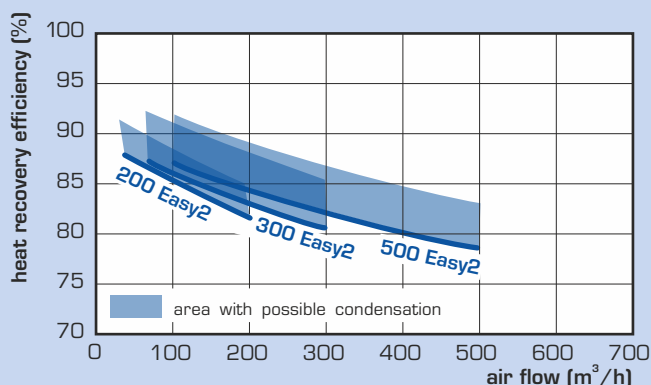
### DUPLEX 500 Easy2



#### Key:

- Pressure reserve with ISO Coarse 90% filter (G4)\*
- Q<sub>ref</sub> reference flow (70% Q<sub>max</sub>, 50 Pa)
- Q<sub>max</sub> maximum flow (100Pa)
- \* max. pressure reserve curve is listed
- \* the electrical input of the whole unit (both fans including controls) is listed

## HEAT RECOVERY EFFICIENCY DUPLEX Easy2



\*valid for balanced mass air flow at supply and exhaust

## TECHNICAL DATA DUPLEX Easy2

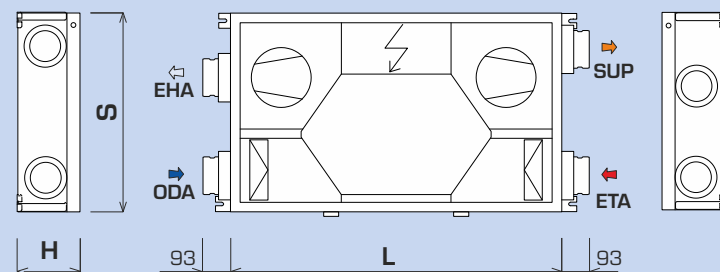
DUPLEX Pro	200	300	500	
energy class <sup>1)</sup>	-	A+	A	A
maximum flow rate <sup>2)</sup>	m³/h	200	300	500
sound power to ambient <sup>3)</sup>	dB (A)	38	43	49
max. heat recovery efficiency	%	91	92	92
diameter of the connection ports	mm	ø 125	ø 160	ø 200
weight	kg	49	50	61
ower supply, fuses	-	230 V / 50 Hz, 16A char: C		
supply air filtration class	-	ISO Coarse 90% (G4) alternatively ISO ePM1 55% (F7)		
condensate drainage	mm	ø 16 (2 m hose included) + 2 × G5/4" × ø32/40 (0.7 m hose included)		

<sup>1)</sup> All types of controls built into the unit normally include a minimum of two inputs to connect the electrical signals that result from human manipulation of the light or other devices that automatically control the unit's output. These inputs must always be connected, or other types of sensors (e.g. CO<sub>2</sub>, VOC, rH, etc.) must be connected instead.

<sup>2)</sup> The maximum flow rate is set at a pressure loss of 100 Pa

<sup>3)</sup> The listed value refers to the reference flow rate i.e. 70% of the maximum flow rate and a pressure loss of 50 Pa

## DUPLEX Easy2 DIMENSIONAL DIAGRAM



DUPLEX Easy2	200	300	500	
height H	mm	220	245	290
width S	mm	660	660	665
Length (without connection port) L	mm	1 100	1 100	1 200

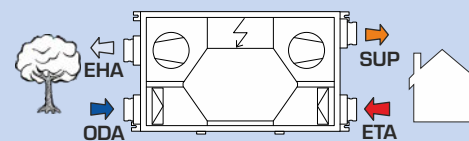
For detailed information and for 2D or 3D blocks in format DXF / IFC / RFA please use our selection software.

## MOUNTING POSITIONS DUPLEX Easy2

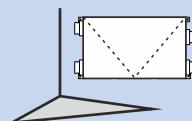
### UNDER-CEILING POSITION



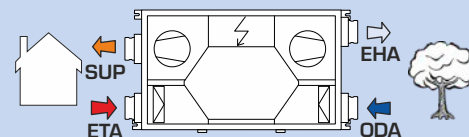
### RIGHT ORIENTATION



### WALL-MOUNTED POSITION



### LEFT ORIENTATION



The DUPLEX Easy2 units can be installed at ceiling suspended or wall mounted position. The design of the units is universal, i.e. the selection between the "right" and "left" orientation, as shown in the picture above, is made for the .CP type control by switching the fans and relocating the thermostat for frost protection of the heat exchanger.

## ACOUSTIC PARAMETERS DUPLEX Easy2

Sound power levels for specific unit of DUPLEX Easy2 and the selected operation point to be found in the ATREA selection software.

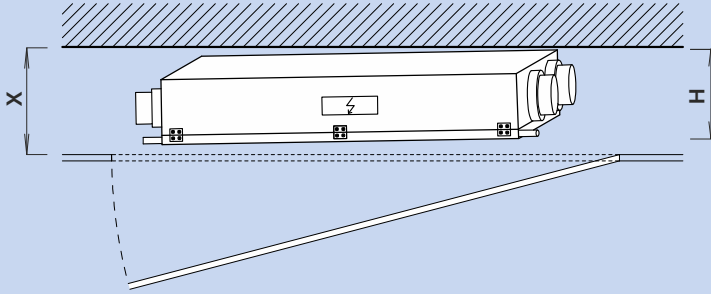
### KEY

- ➡ ODA (e<sub>1</sub>) fresh outdoor air intake
- ➡ SUP (e<sub>2</sub>) fresh heated air outlet
- ➡ ETA (i<sub>1</sub>) extract air inlet
- ➡ EHA (i<sub>2</sub>) exhaust air outlet

# DUPLEX Easy2

## DUPLEX Easy2 INSTALLATION

The new **DUPLEX Easy2** units provide a very flat design that allows the units to be installed in very low ceilings. The minimum height requirements for the installation at the ceiling are shown in the table below. A plasterboard hatch can be fitted under the unit. In bathrooms it is necessary to ensure that the ceiling, including the inspection door, is vapour proof.

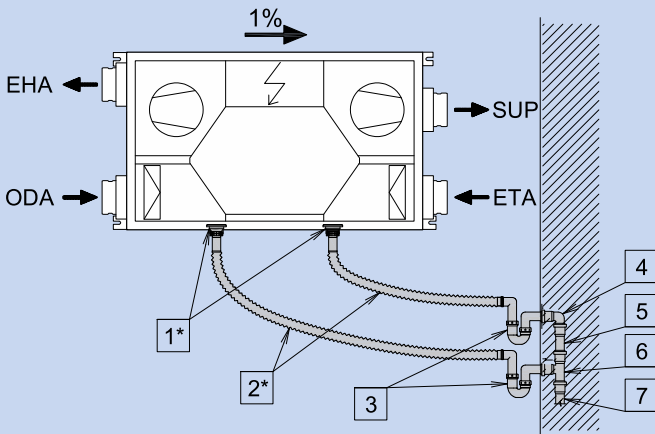


### PLACEMENT OF THE UNIT IN THE SUSPENDED CEILING

DUPLEX Easy2		200	300	500
unit height H	mm	220	245	290
min. ceiling height X	mm	245	270	305

## DUPLEX Easy2 CONDENSATE DRAINAGE

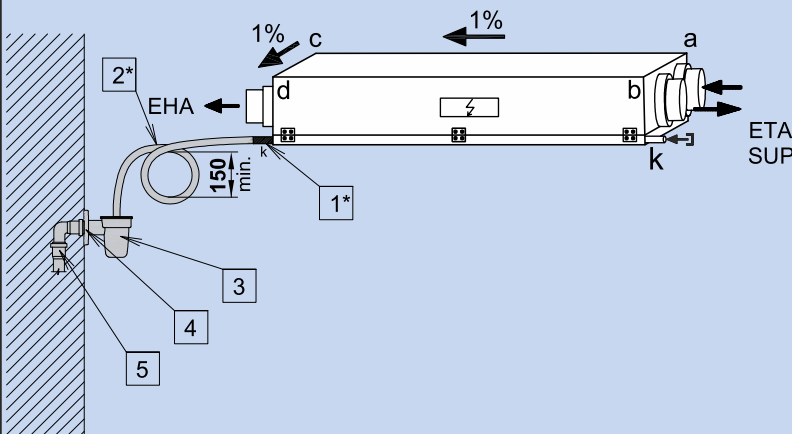
### WALL-MOUNTED POSITION



1*	2× outlet G5/4"
2*	2× flexi connection G5/4" × 32/40 (length 300 to 700 mm)
3	Odour stopper (e.g. AKS2)
4	Elbow (e.g. HT DN 40)
5	Pipe (e.g. HT DN 40)
6	Tap (e.g. HT DN 40/DN 40).
7	Connection to sewer DN 40

\*included in the delivery of the unit

### UNDER-CEILING POSITION



1*	Outlet sleeve 16 mm
2*	Flexible hose, inner diameter 16 mm, length 1.5 m, <b>make a siphon loop min. 150 mm</b>
3	Funnel with ball (e.g. AKS1Z)
4	Elbow (e.g. HT DN 32)
5	Connection to sewer DN 32

\*included in the delivery of the unit

### INCLINE OF THE UNIT FOR CONDENSATE DRAIN

DUPLEX Easy2		200	300	500
Distance from the corner of the unit to the horizontal ceiling structure (mm)	a	±0	±0	±0
	b	7	7	9
	c	11	11	12
	d	18	18	21

### Unit incline and condensate drainage

During the heat recovery process, when the exhaust air is cooled, an air humidity condenses and precipitates on the walls of the heat exchanger, further increasing the efficiency of the recovery. The condensate drains out of the heat exchanger in the direction of the exhaust air flow and is discharged from the DUPLEX unit to the sewer:

For the condensate drainage function, the unit must be properly inclined towards the outlet  $i_2$  (EHA). The following table shows the minimum slope. It is necessary to separate the unit and the sewer using a **siphon loop with a minimum height of 150 mm** or a "dry" ball siphon. Small condensate pumps may be used where the recommended connection to the sewer cannot be made.

## CONTROL SYSTEMS - GENERAL DIVISION

type of the control system	range of power settings	external inputs		control of external elements		
		delay + (run time)	input 0-10 V	shut off dampers	electric reheater / preheater	weekly program
CP + CPA	10-100 %	1+n*	1	●	●	●
CP + CPB						

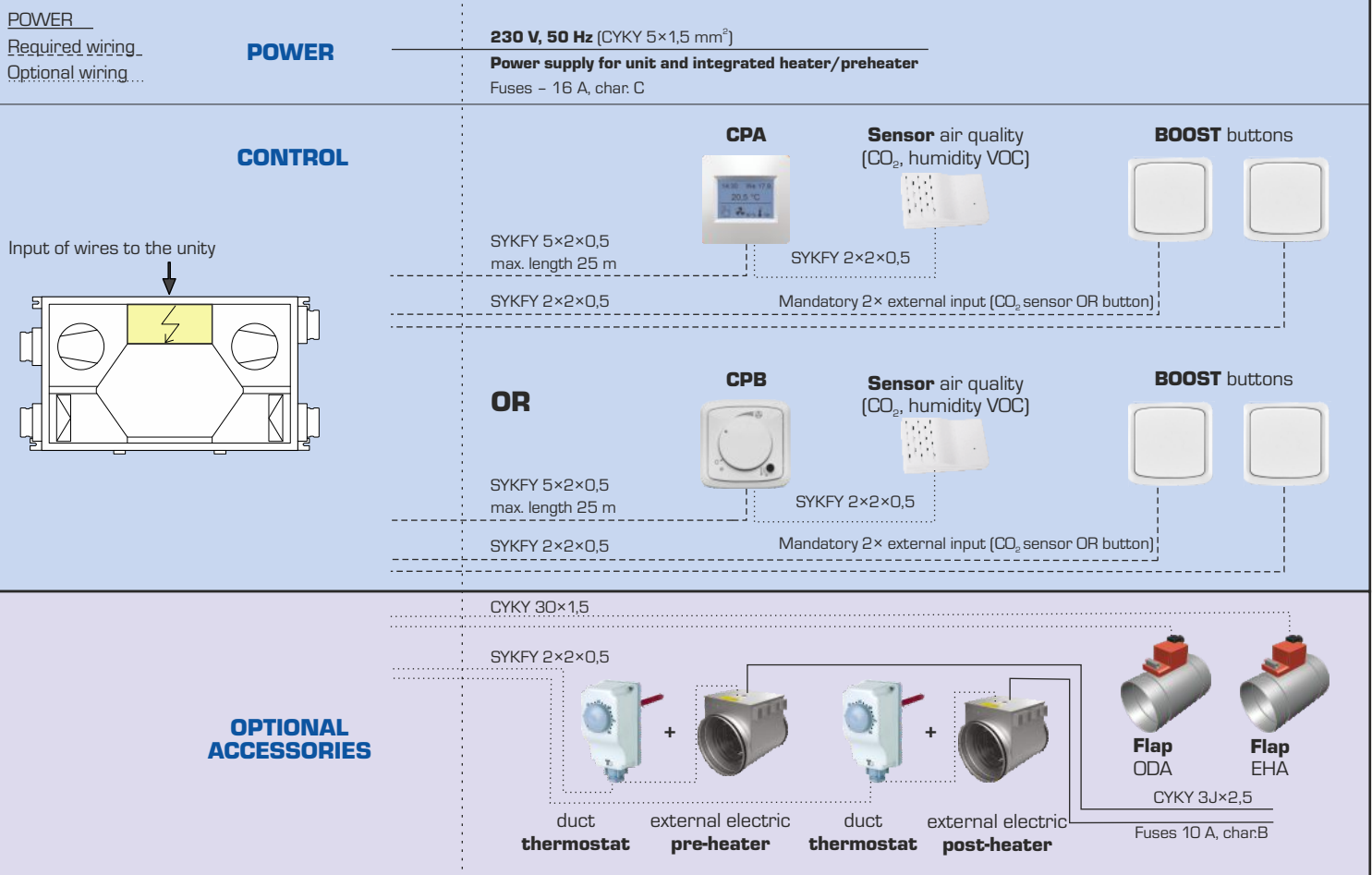
\*parallel connection of other external inputs possible

## CP CONTROLS - BUILT-IN CONTROL MODULE

Comfort control system offers intuitive operation and a wide range of adjustable parameters. The system allows the connection of an external input to increase the ventilation power (signals from rooms, e.g. toilet, bathroom, kitchen), 0-10 V input for power control according to air quality sensors (CO<sub>2</sub>, rH). It is also possible to connect an integrated or external electric preheater (to

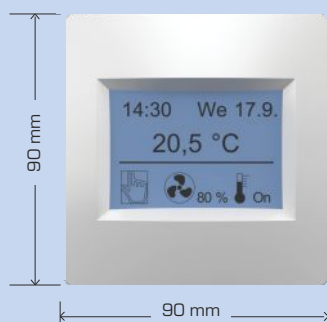
protect the heat exchanger from a freezing) and a reheater (to achieve the requested supply air temperature). The control also provides the possibility of controlling the shut-off dampers on the supply and extract. The uniqueness of the system is underlined by the **CPA wall-mounted digital touch controller**. As an alternative to the touch controller, a simple **mechanical CPB controller** can be used.

## CP CONTROL WIRING DIAGRAM

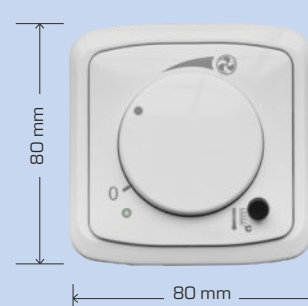


## CONTROLLERS FOR CP CONTROLS

CPA controller



CPB controller



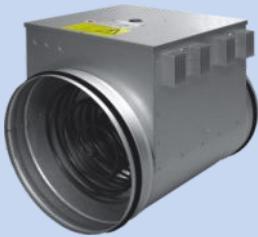
# OPTIONAL ACCESSORIES

## BUILT-IN ELECTRIC PREHEATERS EDO



- when used as a **pre-heater** it also works as one of the frost protection of the heat recovery core
- designed for to be **built-in into the unit**, installation at a predetermined place inside the unit incl. the installation frame
- operating temperature control is ensured by the unit control system
- the element is prepared for the easy installation into the unit incl. the cables
- the heater is equipped with SSR switch
- iBuilt-in EDO heaters don't reduce the pressure reserve of the unit
- it is equipped with two safety reverse acting thermostats (60 °C reversible and 90 °C manual reset)

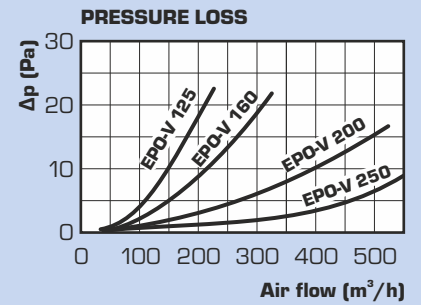
## DUCT ELECTRIC HEATER EPO-V



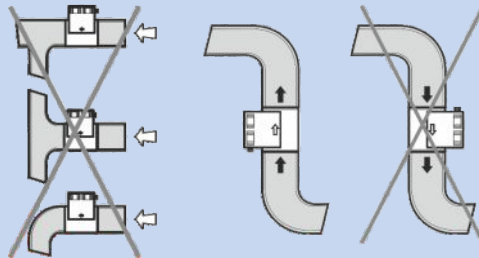
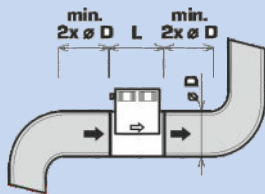
- used for the fresh air **preheating**, installing in the duct at the fresh air inlet
- to be used for the supply air **reheating**, installing in the duct downstream the unit
- it is required to be used a thermostat in the duct behind the heater together with CP controls
- the casing is made of galvanized metal sheet
- the casing includes the terminal board
- IP44 protection, to be installed only in normal environment
- it is equipped with two safety thermostats reversible (60°C returnable and 120°C manual reset)
- the heater is equipped with SSR switch
- the safety reset button is located on the heater cabinet casing, during the assembly the heater must be located with regard to access and must not be fitted with a cover downward
- minimum airflow in the heater is 1,5 m/s

typ	power input (kW)	voltage (V)	min. air. flowrate (m <sup>3</sup> /h)	ø D (mm)
EPO-V 125/0,9	0,9	230	45*	125
EPO-V 160/1,6	1,6	230	110*	160
EPO-V 200/2,1	2,1	230	170*	200
EPO-V 250/3,0	3,0	400	260*	250

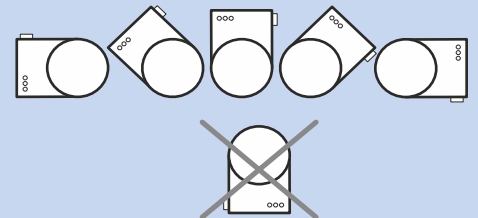
\* If requested lower flowrate than shown here, please use the built-in EDO integrated heaters.



Heater placement diagram



Permitted terminal board positions




## SELECTION OF HEATERS

Units with CP control systém			
DUPLEX	200 Easy2	300 Easy2	500 Easy2
integrated electric preheater	EDO - 1,1 - CP (Pro,Easy2, Slim) A160660		EDO - 2,2 - CP (Easy2) A160668
integrated electric reheater	Cannot be integrated in these units		
external electric preheater	EPO-V 125/0,9 A150101	EPO-V 160/1,6 A150102	EPO-V 200/2,0 A150103
	+		
	duct thermostat for EPO-V A150199		
external electric reheater	EPO-V 125/0,9 A150101	EPO-V 160/1,6 A150102	EPO-V 200/2,0 A150103
	+		
	duct thermostat for EPO-V A150199		



A wider range of electric preheaters and reheaters is configurable in the ATREA selection software.

# MODULAR AIR HANDLING SYSTEM OF ATREA


## DUPLEX Easy2 UNITS

	<b>DUPLEX 200 Easy2.CP</b>	Order no. A161300
	<b>DUPLEX 300 Easy2.CP</b>	Order no. A161301
	<b>DUPLEX 500 Easy2.CP</b>	Order no. A161302

## CONTROLLERS


	<b>Controller CPA</b> - possibility of selecting the colour of the cover - touch	Order no. A144100 colour covers see price list
	<b>Controller CPB</b> - colour white	Order no. A144110

## SPARE FILTER CASSETTES

	<b>FK 150 (150 P, 200 E2) - G4</b>	Order no. A160685
	<b>FK 150 (150 P, 200 E2) - F7</b>	Order no. A160688
	<b>FK 300 (300 - 500 E2) - G4</b>	Order no. A160697
	<b>FK 300 (300 - 500 E2) - F7</b>	Order no. A160698

Spare air filters are delivered in package of 1 pc.


## OPTIONAL ACCESSORIES - AIRHEATERS

	<b>EPO-V 125/0,9</b>	Order no. A150101
	<b>EPO-V 160/1,6</b>	Order no. A150102
	<b>EPO-V 200/2,1</b>	Order no. A150103
	<b>EPO-V 250/2,0</b>	Order no. A150116
	<b>EPO-V 250/3,0</b>	Order no. A150105
	<b>Termostat potrubní pro EPO-V</b> nutné pro předehřivače nebo dohřivače EPO-V (regulace CP)	Order no. A150199


## OPTIONAL ACCESSORIES - SENSORS

	<b>HYG 6001</b> room hygrostat - relative humidity sensor	Order no. A142303
	<b>ADS SMOKE 24</b> room sensor for cigarette smoke and air quality	Order no. A142311
	<b>ADS RH 24</b> room humidity sensor - relative humidity sensor	Order no. A142318
	<b>ADS CO<sub>2</sub> 24</b> room sensor continuously controlling the ventilation power according to the current CO <sub>2</sub> value	Order no. A142319
	<b>ADS CO<sub>2</sub> D</b> duct sensor continuously controlling the ventilation power according to the current CO <sub>2</sub> value	Order no. A142330
	<b>ADS VOC 24</b> room air quality sensor	Order no. A142331
	<b>SI2504</b> movement sensor	Order no. A142333


## OPTIONAL ACCESSORIES - AIR PREHEATERS

	<b>EDO - 1,1 - CP</b> (200 - 300 Easy2)	Order no. A160660
	<b>EDO - 2,2 - CP</b> (500 Easy2)	Order no. A160668

## OPTIONAL ACCESSORIES - SHUT-OFF DUMPERS

	<b>K.D125.LM24A</b> shut-off dumper with servo drive circular [round] diam. 125mm	Order no. A130191
	<b>K.D160.LM24A</b> shut-off dumper with servo drive circular [round] diam. 160mm	Order no. A130190
	<b>K.D200.LM24A</b> shut-off dumper with servo drive circular [round] diam. 200mm	Order no. A130192

## OPTIONAL ACCESSORIES - FLEXIBLE FLANGES

	<b>H.D125.P</b> flexible flange circular [round] diam. 125mm	Order no. A131163
	<b>H.D160.P</b> flexible flange circular [round] diam. 160mm	Order no. A131161
	<b>H.D200.P</b> flexible flange circular [round] diam. 200mm	Order no. A131160

## OPTIONAL ACCESSORIES - FLEXIBLE FITTING

	<b>SB5</b> - silent block set	Order no. A160530
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