

# YKL

## Compact Low Profile Air Handling Unit with Counterflow Plate Heat Exchanger



A complete range from 250 m<sup>3</sup>/h to 2,550 m<sup>3</sup>/h



### Heat Recovery Exchanger (Aluminum)

YKL heat recovery ventilation units have aluminum counterflow, high efficient plate heat recovery exchangers. Plate heat recovery exchangers have plates that are produced improved surface areas to provide high efficient and leakage free design. With the optimization of exchanger heat transfer is increased and pressure drop is decreased. Heat recovery exchanger has Eurovent certification.

### By-Pass

YKL units have by-pass ventilation as standard. During by-pass ventilation, no heat transfer occurs between exhaust and fresh air stream. In transition periods and at nights in summer, by-pass module helps to cool down (free-cooling) and heat up (free-heating) the building without any energy expense.

### Control System Plug&Play

YORK control unit is developed for controlling of heat recovery units' equipments, meeting the demands coming from the customers and is user friendly designed. The control is capable of controlling the standard equipments and optional accessories. YORK control unit can perform the basic functions. Besides, the control unit can be switched on/off via BMS, gets fault signals and controls all the functions via ModBus. Alternative controllers are listed in "Control System" part.

### Exhaust and Supply Air Filters

To increase indoor air quality and to protect the equipments used in unit, G class filters (according to EN 779 standard) are used for both exhaust and supply air streams. F class filters can be also used optionally in the unit. F class filters reduce the available static pressure of the unit for the nominal air flow rate.

### Casing & Insulation

High corrosion resistive 200 gr/m<sup>2</sup> galvanize coated steel is used for the casing. Inside of outdoor air stream is insulated with 10 mm, outside of outdoor air stream is insulated with 5 mm; inside of indoor air stream is insulated with 10 mm non-flammable acoustics foam against sound and thermal conduction.

The YKL-D unit's casing is made up of double skinned high corrosion resistive 200 gr/m<sup>2</sup> galvanize coated steel. 30 mm thickness and 50kg/m<sup>3</sup> density of Rockwool insulation between the walls is used for thermal and sound insulation. Non-flammable EPS modules are used for directing the air flow homogeneously. Density of EPS is 40 kg/m<sup>3</sup>.

### Exhaust and Supply Air Fans

The fans in heat recovery units are equipped with innovative Electronically Commutated EC motor technology. EC motors have higher efficiency and simple speed control. Fan blades have high aerodynamic efficient backward curved design. Using the EC motors reduce the energy consumption and increase the energy efficiency of the unit. With EC Fans, maintenance costs are reduced as the fans are directly connected to the motors; the belt and pulley problems are eliminated.

### Accessories

- Duct Type Electric Heaters
- Ventilation on Demand
- Sound Attenuator for Circular Ducts
- Final Filter (F Class - Optional)

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## YKL/YKL-D Low Profile Unit

### Technical features

		YKL 250	YKL 500	YKL 800	YKL 1000	YKL 1500	YKL 2000
		YKL-D 250	YKL-D 500	YKL-D 800	YKL-D 1000	YKL-D 1500	YKL-D 2000
Declared typology		NRVU					
Type of drive installed or intended to be installed		variable speed drive					
Type of HRS (run around, other, none)		other					
Thermal efficiency of heat recovery <sup>1</sup>	%	85	82	82	82	80	83
Nominal flow rate	m <sup>3</sup> /h	250	500	750	1000	1500	1900
Maximum flow rate	m <sup>3</sup> /h	392	760	869	1288	2450	2550
Effective electric power input	W	58	144	242	277	495	678
SFP <sub>int</sub> <sup>1</sup>	W(m <sup>3</sup> /s)	340	591	729	622	837	947
Face velocity at design flow rate	m/s	1	1.3	1.4	1.5	1.9	1.8
Nominal external pressure ( $\Delta P_{s,ext}$ ) <sup>1</sup>	Pa	100	100	100	100	100	100
Internal pressure drop of ventilation components ( $\Delta P_{s,int}$ )	Pa	69	133	187	143	239	280
Internal pressure drop of non-ventilation components ( $\Delta P_{s,add}$ )	Pa	There is no "non-ventilation" components					
Static efficiency of fans used in accordance with Regulation (EU) No. 327/2001		39	45	50	49	57	59
Declared max. external leakage rate	%	1.4	0.1	0.2	0.3	0.8	0.6
Declared max. internal leakage rate	%	5.4	1.9	1.6	2.3	2.4	2.1
Energy classification of the filters (Energy performance)	kWh	NA					
Description of visual filter warning for NRVUs intended for use with filters <sup>2</sup>		www.solutionnavigator.com					
Sound power level (LWA) <sup>3</sup>	dB(A)	42	44	48	47	43	58
Internet adress for pre-/dis-assembly instructions		www.solutionnavigator.com					

<sup>1</sup> Measured at balanced flow, EN 308.

<sup>2</sup> Including test pointing out the importance of regular filter changes for performance and energy efficiency of the unit.

<sup>3</sup> Sound power level values are valid for YKL units.



Manufacturer reserves the rights to change specifications without prior notice.