

# Fresh Air Ventilation

## Product Information

Lossnay Kanzen  
Air Handling Units

Making a  
World of  
Difference



## Lossnay Kanzen Air Handling Units



The new Lossnay Kanzen Air Handling Units (AHU's) utilise Mr Slim Power Inverter heat pump technology, Lossnay heat recovery technology and an integrated controls system making them highly advanced and efficient.

### Key Features

- Mr Slim Power Inverter heat pump technology
- Total heat recovery with Lossnay cores
- Integrated controls
- High efficiency system
- Flexible installation / configuration
- Compatible with Modbus (RS485)
- Customisable units with extensive optional extras available



Air Conditioning | Heating  
Ventilation | Controls



## Pre-heater

- Activated at external temperatures from 0°C to -5°C
- Modulated control

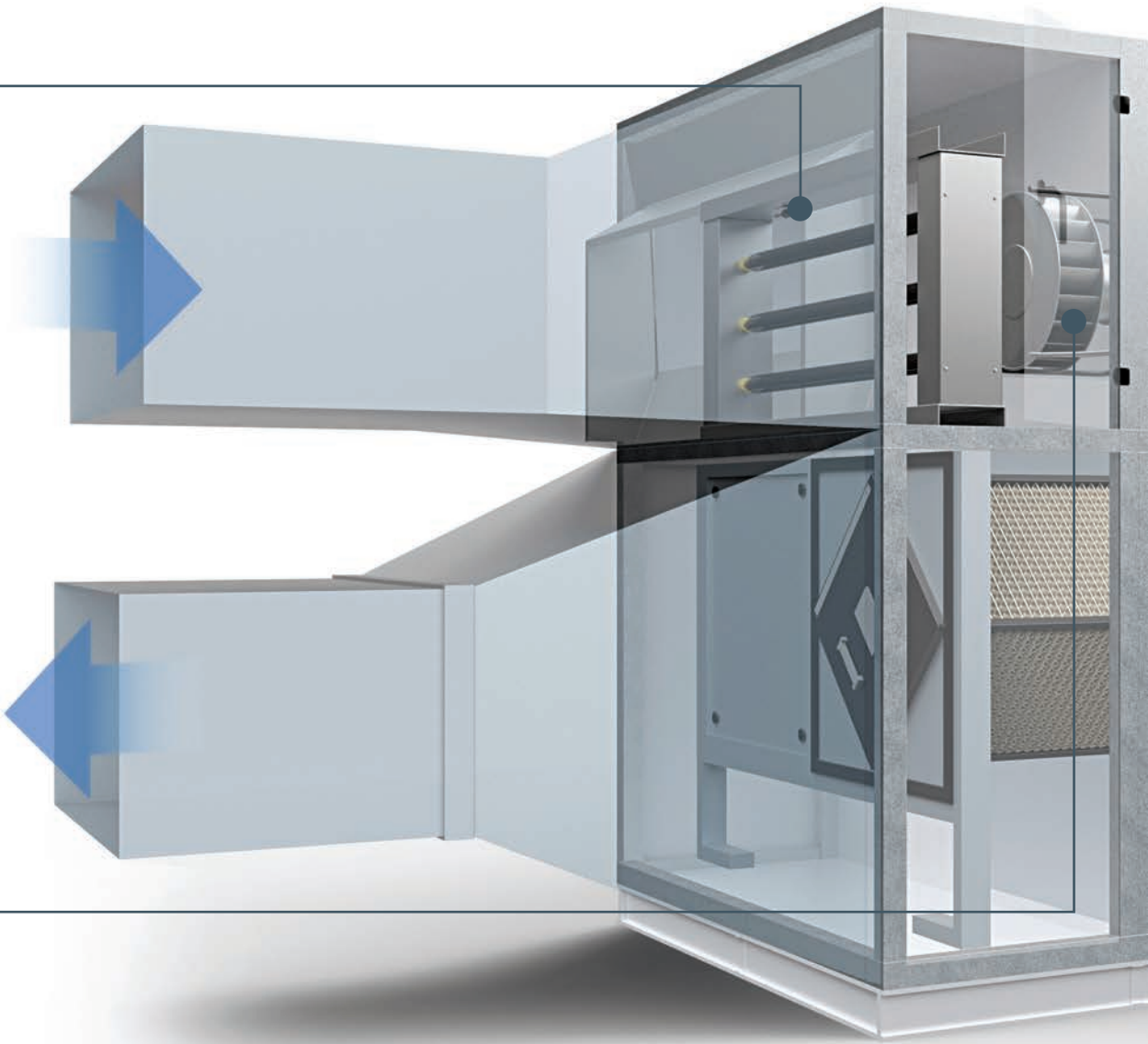


## Bypass Damper

- Free cooling & night purge bypass shutter
- Energy saving feature that uses cool outdoor air to lower the internal temperature

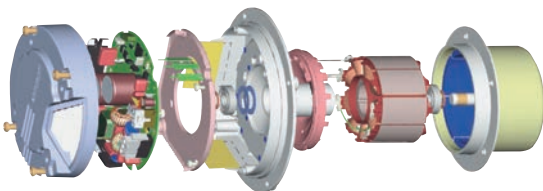
Outside Air

Exhaust Air



## Electric Motor

- High efficiency adjustable electric motor
- Low noise electronic switching technology
- Motor mated directly to external fan rotor



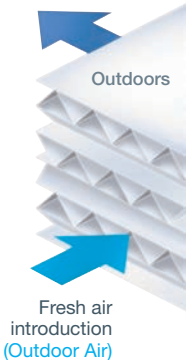
## Lossnay Core

- High efficiency Lossnay Core
- Total heat recovery (sensible & latent)
- Cross-flow plate fin structure
- Paper core

Stale dirty indoor air  
(Exhaust Air)

Outdoors

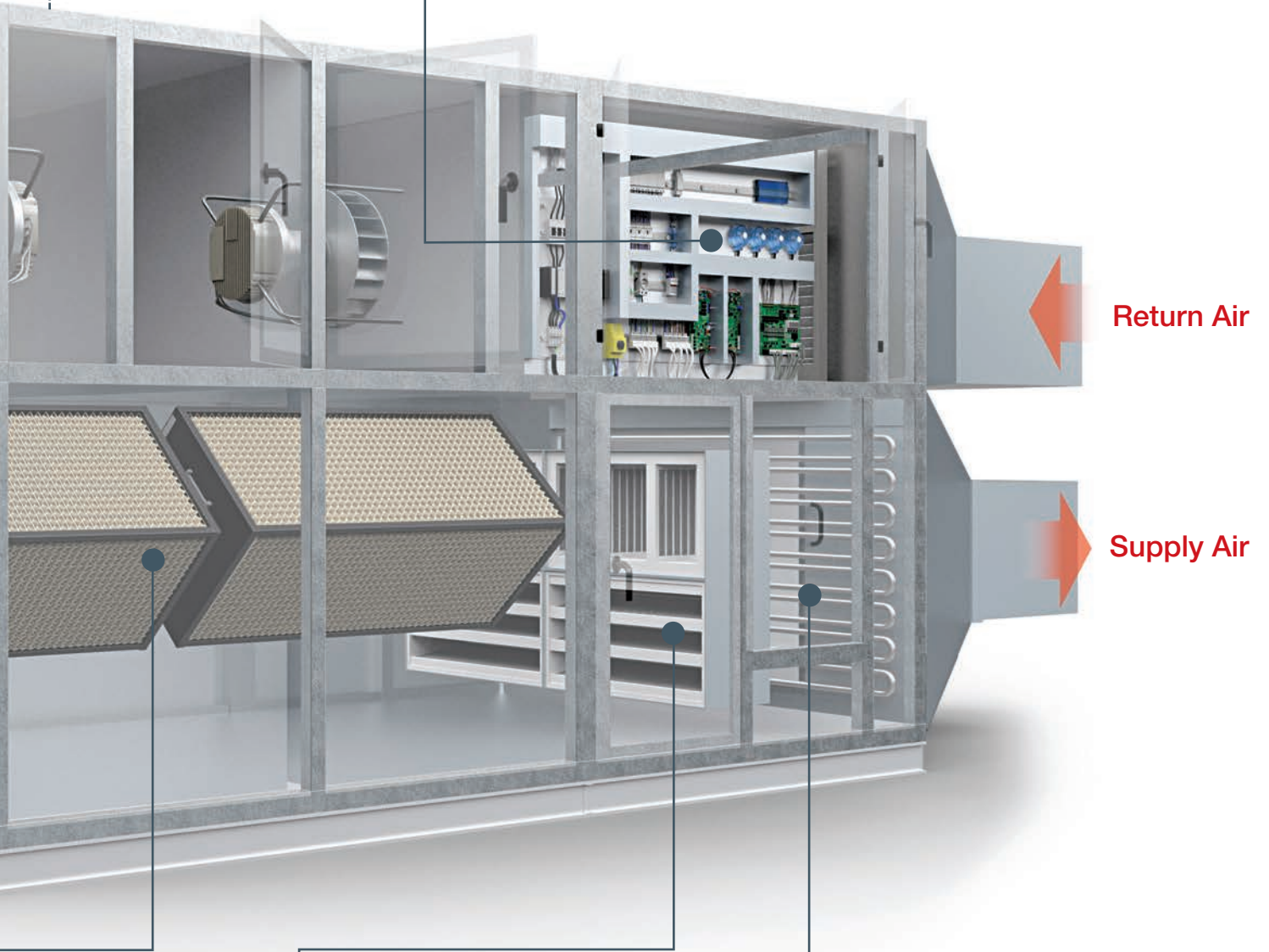
Fresh air  
introduction  
(Outdoor Air)





## Integrated Controls System

- Electronic panel with integrated regulation systems
- Blue light backlit display
- Operating parameters display
- Error display
- Optional ON/OFF and time-clock schedule using AG-150 and PAC-YG66DCA
- Control interface that uses M2M technology
- BEMS control available

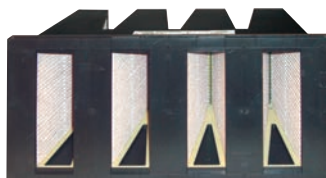


Return Air

Supply Air

## High Efficiency Active Carbon Filter Section

- F7 active carbon bag filter upstream of the DX coil
- G4 filters (outdoor air & return air) protect the Lossnay cores



## Direct Expansion Coil


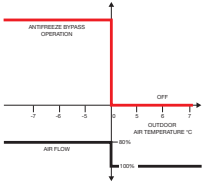
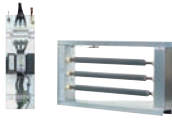
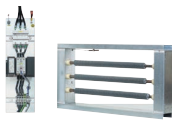



- R410A refrigerant direct expansion coil
- Copper tubing with Blu-Fin V Waffle louver fins in corrosion resistant aluminium
- 46 bar rated pressure



Fresh air into building  
(Supply Air)

Indoors

Stale air removed from building  
(Return Air)

OPTIONAL EXTRAS			
FUNCTION	TYPE	IMAGE	DESCRIPTION
Vapour Humidification System	Configuration option - specifiable at order/ Accessory		Maintains relative ambient humidity at approximately 50% with external temperatures as low as -5°C and at rated capacity. This function is only enabled in heating mode and activates when a relative humidity of less than 50% is measured in the internal environment.
External Anti-freeze Bypass Function	Configuration option - specifiable at order		Available only in heating mode, this function raises the temperature at the inlet of the heat recovery module to approximately 0°C to prevent damage to the module itself. The system bypasses 1/5 of the rated airflow, exiting the direct expansion coil and feeds it upstream of the supply fans, mixing it with external air. The system is activated at ambient air temperatures from -5°C to 0°C.
Combined Anti-freeze Bypass/ Anti-freeze Pre-heating Coil System	Configuration option - specifiable at order		Available only in heating mode, this function is intended for extremely cold climates and offers an extended operating range of -10°C to 0°C.
Post-heating System	Accessory		Raises the supply air temperature by approximately 5°C (at rated capacity) at certain conditions.
Two Speed System	Accessory		Allows the supply and return air fans to be switched between 2 fan speeds by an external field supply switch as follows: 1) High Speed (rated capacity) - default factory setting 2) Low Speed (capacity between min and max).
High Static Pressure	Configuration option - specifiable at order		Allows the supply and return fans to be specified with high static pressure (400Pa).
High Efficiency Filter Section (Class F9)	Configuration option - specifiable at order		High efficiency F9 (EU9) filter which improves the filtration performance of the Lossnay Kanzen (average colorimetric efficiency 95%).
Left-hand Connection	Configuration option - specifiable at order		Connections for the direct expansion coil, access to the electrical panel and inspection hatch can be moved to the left hand side of the unit (viewed from air supply side).
Unit in 6 Sections	Configuration option - specifiable at order		Unit is supplied in a configuration subdivided into 6 sections.
Flatpack Unit	Configuration option - specifiable at order		Unit is supplied disassembled into its base components.

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MODEL			LK-500	LK-750	LK-1000	LK-1250	LK-1500
Rated Airflow		m³/h	5,000	7,500	10,000	12,500	15,000
		m³/s	1.39	2.08	2.78	3.47	4.17
Airflow Range		m³/h	3,500 - 5,000	5,500 - 7,500	8,000 - 10,000	10,500 - 12,500	13,000 - 15,000
		m³/s	0.97 - 1.39	1.53 - 2.08	2.22 - 2.78	2.92 - 3.47	3.61 - 4.17
Max. Static Pressure (factory settings)		Pa	250				
Max. Static Pressure (configuration option) *1		Pa	400				
Cooling	Coil Capacity	kW	21.3	26.6	42.3	46.0	51.5
	Recovery Module Capacity	kW	26.0	39.1	52.1	65.1	78.1
	Total Capacity	kW	47.3	65.7	94.4	111.1	129.6
Heating	Coil Capacity	kW	25.0	31.5	47.5	50.7	57.0
	Recovery Module Capacity	kW	20.3	30.5	40.6	50.8	61.0
	Total Capacity	kW	45.3	62.0	88.1	101.5	118.0
Sensible Heat Recovery Efficiency		%	72				
Total Heat Recovery Efficiency		Cooling	62				
Total Heat Recovery Efficiency		Heating	67				
Number of Lossnay Heat Recovery Modules			4	6	8	10	12
Power Input (Rated/Max)	Supply Fan(s) (250Pa)	kW	2.1 / 2.7	2.9 / 3.1	3.7 / 4.7	4.5 / 4.7	5.8 / 6.2
	Return Fan(s) (250Pa)	kW	1.6 / 2.7	1.6 / 2.7	2.9 / 3.1	3.6 / 4.7	4.6 / 5.4
	Auxillary Transformer	kW	0.15	0.15	0.2	0.2	0.3
	Total for Lossnay Kanzen	kW	3.85 / 5.55	4.65 / 5.95	6.8 / 8.0	8.3 / 9.6	10.4 / 11.9
EER			5.46	6.15	5.75	5.80	5.45
COP			5.18	5.69	5.31	5.22	4.88
Filter Section			Rigid pocket, Class F7 (EU7)				
Outdoor Unit	Mr Slim Heat Pump		PUHZ-RP200YKA	PUHZ-RP250YKA	2 x PUHZ-RP200YKA	PUHZ-RP200YKA + PUHZ-RP250YKA	2 x PUHZ-RP250YKA
Unit Dimensions	Monobloc *2 (WxDxH)	mm	4450 x 1200 x 2300	4450 x 1870 x 2300	4550 x 1870 x 2300	5150 x 2000 x 2300	5090 x 2780 x 2300
	6 Sections (WxDxH)	mm	4870 x 1200 x 2430	4450 x 1870 x 2430	4950 x 1870 x 2430	5500 x 2000 x 2430	5090 x 2780 x 2430
Unit Weight	Monobloc *2	kg	1950	2380	2540	2760	3190
	6 Sections	kg	2150	2650	2800	2960	3210
Outdoor Unit Dimensions (WxDxH)		mm	1050 x 330 + 30 x 1338	1050 x 330 + 30 x 1338	2 x (1050 x 330 + 30 x 1338)	2 x (1050 x 330 + 30 x 1338)	2 x (1050 x 330 + 30 x 1338)
Outdoor Unit Weight		kg	135	141	135 + 135	135 + 141	141 + 141

CONFIGURATION OPTIONS			LK-500	LK-750	LK-1000	LK-1250	LK-1500
Supply Fan (400Pa) Power Input *1	Rated/Max	kW	2.9 / 5.5	3.7 / 5.5	5.7 / 11.0	6.4 / 11.0	7.3 / 11.0
Return Fan (400Pa) Power Input *1	Rated/Max	kW	1.9 / 2.7	2.9 / 3.0	3.5 / 4.7	4.4 / 4.7	5.8 / 6.0
Auxillary Transformer		kW	0.15	0.15	0.20	0.20	0.30
Total for Lossnay Kanzen	Rated/Max	kW	4.95/8.35	6.75/8.65	9.30/15.90	11.00/15.90	13.4/17.30

ACCESSORIES			LK-500	LK-750	LK-1000	LK-1250	LK-1500
Vapour Humidification Section		kg/h	15	18	25	35	45
	Power Input	kW	11.2	13.5	18.7	26.2	33.7
Electric Pre-heating Coil	Power Input	kW	8	12	16	20	24
Electric Post-heating Coil	Power Input	kW	8	12	16	20	24

RATED CONDITIONS	Summer			Winter		
	Indoor	21°C DB	50% RH	Indoor	21°C DB	50% RH
	Outdoor	27°C DB	50% RH	Outdoor	2.5°C DB	50% RH

Rated flow capacity for Lossnay Kanzen - Effective static pressure for Lossnay Kanzen: 250Pa

\*1 At rated conditions

\*2 The LK-1500 unit is not available as a Monobloc version and comes in 3 sections as standard.

## FEATURES



Optimised rotary or scroll compressor



Hot Start - draught prevention



High external static pressure



Inverter control



Factory charged refrigerant up to 30m



Optional high static fan motor



Auto-Restart



Standard filter



Demand Control



Quiet operation



Optional high efficiency filter

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### LOSSNAY KANZEN

The Lossnay Kanzen range of units are highly efficient packaged Air Handling Units (AHUs) that provide a tempered fresh air supply to commercial buildings alongside an air conditioning system.

The AHUs are connected to Mr Slim Power Inverter heat pump units allowing fresh air to be heated or cooled via a DX coil before being supplied to the internal environment as required, with the added benefit of total heat recovery (sensible and latent heat recovery) using Lossnay cores.

Efficiency is further enhanced as the Lossnay Kanzen units offer a free cooling function whereby in cooling mode, at a certain preset temperature, the AHU will stop the operation of the outdoor units and open the bypass damper to allow cooler ambient air to bypass the Lossnay cores and lower the internal temperature of the building, therefore reducing the load on the air conditioning system.

With an integrated controls system that includes an interface that uses M2M technology, the Lossnay Kanzen units offer a high level of in-built control to ensure that the demand for a comfortable supply of fresh air within a building is met, whilst making sure that the units are working in the most energy efficient manner possible. BEMS (Building Energy Management System) control of the Lossnay Kanzen units and up to 50 City Multi indoor units (On/Off Mode, Setpoint, Fault and Return Air) via the AG-150 centralised controller is possible.

Available in 5 different sizes and with a large range of optional extras available, the Lossnay Kanzen units are customisable and therefore suitable for most commercial applications.



 **Lossnay**

 **Kanzen**

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