

# HRS

## Heat recovery unit WITH VERY HIGH EFFICIENCY HEAT RECOVERY from 100 to 5,300 m<sup>3</sup>/h

Ventilation unit designed and built for non-residential applications, enables to combine the need for air renewal with maximum energy savings.

Equipped with counter-flow heat recovery unit with aluminium plates.

By its nature, these units are generally integrated with traditional heating/air conditioning systems, even if, fitted by the appropriate accessories, these can be used autonomously.

The production series is available in both horizontal and vertical configurations, divided into six sizes, for air flows ranging from 100 to 5,300 m<sup>3</sup>/h.



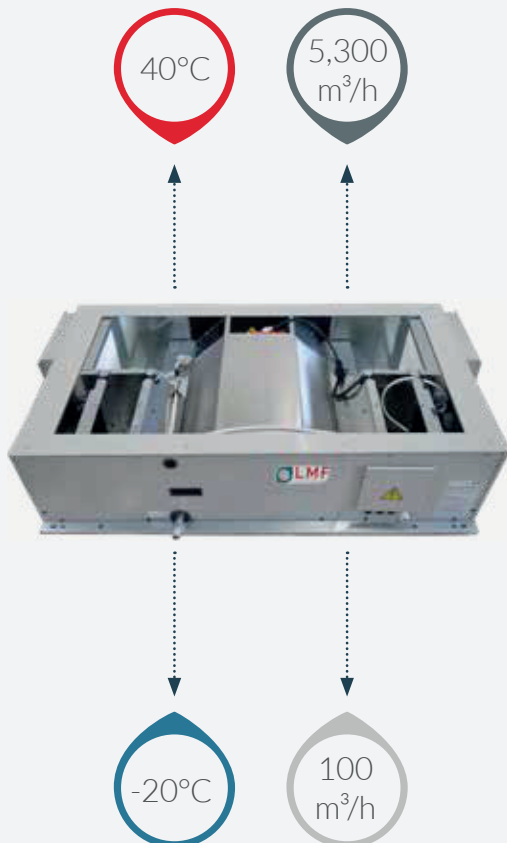
SHOPS



THEATERS



OFFICES

COMPLIANT  
ERP 2018

PLATES

EFFICIENCY  
>90%FANS  
EC

PLUG&amp;PLAY

INDOOR  
INSTALLATIONOUTDOOR  
INSTALLATIONHORIZONTAL  
ORIENTATIONVERTICAL  
ORIENTATION

### SIZE HRS 50

The HRS range is including the size 50, which is able to reach up to 5,300 m<sup>3</sup>/h

## TECHNICAL SPECIFICATIONS AND ACCESSORIES

- Self-supporting structure with sandwich panels th. 25 mm in internally galvanised sheet and pre-painted externally in RAL 9002 finish
- Non-flammable thermal and acoustic insulation in mineral wool
- Static heat recovery unit with very high efficiency (> 90%) of the counter flow air-to-air type with aluminium exchange plates fitted with additional sealing, integrated with an already motorised by-pass system. Aluminium condensate collection tank, with 1/2" M drain (lateral for horizontal unit, lower for vertical unit)
- Compact filters with synthetic media (external layer) and fiberglass (internal layer) and galvanised steel frame, efficiency class ePM10 50% on room return and ePM1 50% on outdoor air intake, removable at the bottom and side.
- Centrifugal fans with free-running impeller with backward curved blades directly coupled to EC technology electric motors. Impeller in fiberglass-reinforced plastic for sizes 05 and 10, in aluminium for larger sizes
- Recessed type electrical panel with electronic adjustment and remote user interface for complete control of all the key functions and specifically:
  - manual control of the EC fans
  - automatic control of the fans (for pressure, temperature or air quality)
  - modulating control of the water valve (mixed use)
  - electric heater management (pre and post)
  - recovery unit defrosting management
  - free-cooling on/off management
  - post-ventilation
  - weekly programming
  - alarm management and clogged filter warning
  - remote on/off
  - remote summer/Winter
  - fan management via fire alarm digital input
  - BMS via Modbus protocol and RS485 connection

Sanitation modules with plasma technology and anti-virus filter	KVir-P
Electric heater for pre or post heating	SKE
External module with water coil	CCS-H / CCS-V
External module with R410A direct expansion coil	CDX-H / CDX-V
Face/top/bottom air damper (only with PLM)	SKR1
Side air damper (only with PLM)	SKR2
ON/OFF damper actuator	SSE
Modulating 3-way valve with actuator	V33
Filter differential pressure switch	PSTD
Differential pressure transducer	DPS
Ductable CO2 probe	AQS
Roof cover for base unit (horizontal versions)	TPR-H
Roof cover for base unit (vertical versions)	TPR-V
Roof cover for CCS module (horizontal versions)	TPR-CH
Roof cover for CCS module (vertical versions)	TPR-CV
Flexible connection – upper/lower (only with PLM)	GAT 1
Flexible connection – side (only with PLM)	GAT 2
Round adapter for circular ducts – upper/lower (only with PLM)	BCC 1
Round adapter for circular ducts – side (only with PLM)	BCC 2
Plenum with multiple connections	PLM
Touch Screen remote control panel	TMC



EC fan and high efficiency filter



Damper with actuator and filter removal access door



CCS section with water coil

## MODELS AND TECHNICAL DATA

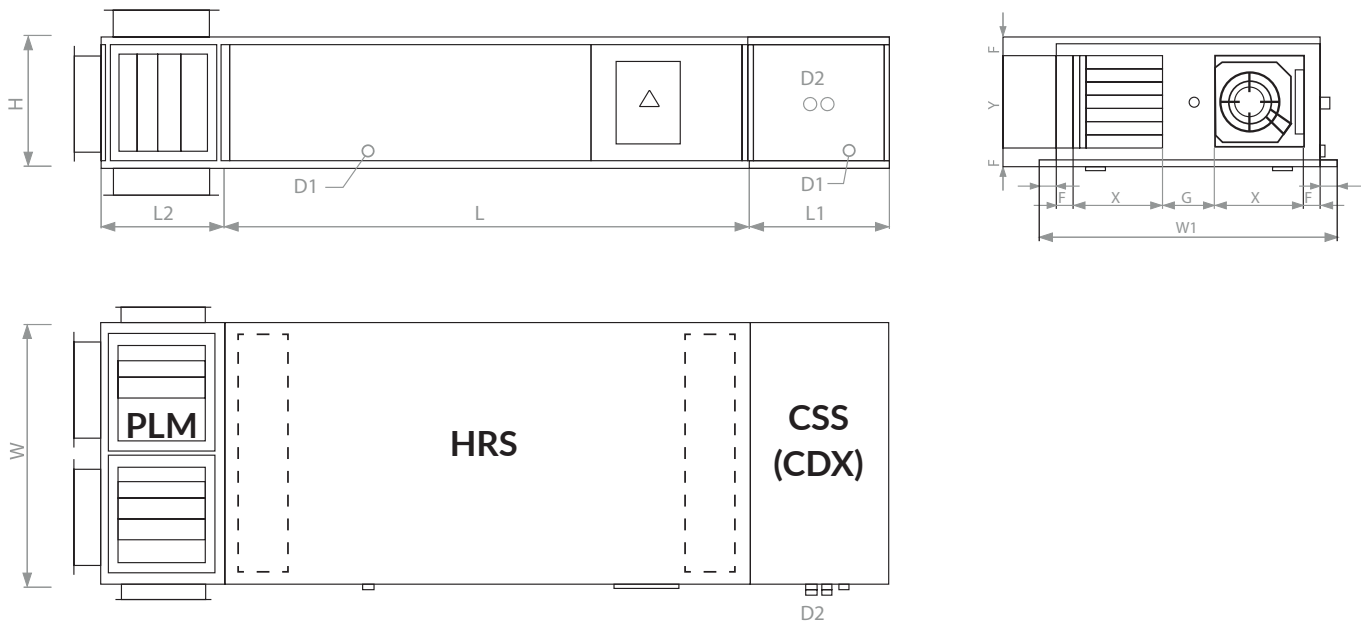
HRS		05	10	15	20	30	40	50	
Nominal airflow	m <sup>3</sup> /h	<b>380</b>	<b>720</b>	<b>1130</b>	<b>1710</b>	<b>2460</b>	<b>3300</b>	<b>4500</b>	
Useful static pressure (1)	Pa	300	205	220	250	220	270	470	
Sound pressure level at 1m	dB(A)	54	53	51	59	59	60	64	
Max. absorbed power	W	340	340	920	930	2000	2000	4850	
Maximum absorbed current	A	2,8	2,9	6,0	6,0	3,4	3,5	7,6	
Power supply	V-ph-Hz	230-1-50/60				400-3+N 50/60			
Efficiency ErP 2018	%	83,8	82,8	82,4	82,0	81,4	81,5	82,9	
Power recovered	W	3490	6570	10450	15600	22280	29920	35200	
Conformity range ErP 2018	m <sup>3</sup> /h	≤ 380	≤ 720	≤ 1130	≤ 1710	≤ 2460	≤ 3300	≤ 4500	
Operating temperature limit	°C	- 20 ÷ 40							
<b>INTERNAL PRE/POST HEATING ELECTRIC HEATING ELEMENT ACCESSORY - SKE</b>									
Power	kW	1,5	2,5	4,0	5,0	7,5	10,5	12,5	
Current	A	6,5	10,9	17,4	21,4	10,8	15,2	18,1	
ΔT	°C	9,8	9,2	9,0	7,7	7,9	8,1	8,1	
Power supply	V-ph-Hz	230-1-50				400-3-50			
<b>EXTERNAL SECTION ACCESSORY WITH COOLING/HEATING WATER COIL - CCS</b>									
Cooling power delivered (2)	kW	2,46	4,47	6,65	10,62	16,14	20,68	26,29	
Heating capacity delivered (3)	kW	3,30	5,86	9,08	12,97	20,83	27,50	33,36	

(1) referred to nominal flow rate

(2) inlet air at 28°C/60%UR; water in/out 7°/12°C

(3) inlet air at 13°C/; water in/out 45°/40°C

## DIMENSIONS AND WEIGHTS



### HORIZONTAL VERSION

HRS		05	10	15	20	30	40	50
L	mm	1350	1470	1850	1850	2150	2150	2350
W	mm	680	820	1030	1460	1460	1840	1900
H	mm	330	370	455	455	590	590	800
W1	mm	760	900	1110	1540	1540	1920	1980
X	mm	230	300	390	600	590	780	800
Y	mm	225	265	350	350	485	485	720
E	mm	52.5	52.5	52.5	52.5	52.5	52.5	40
F	mm	46	46	46	46	55	55	40
G	mm	128	130	158	170	170	170	220
D1	mm				1/2" M			
D2	mm	3/4" M	3/4" M	3/4" M	3/4" M	1" M	1" M	1" M
L1	mm	350	400	400	400	502	502	535
L2	mm	340	380	460	460	580	580	850
Peso	kg	86	106	181	236	297	367	520

### VERTICAL VERSION

HRS		05	10	15	20	30	40	50
L	mm	1350	1470	1850	1850	2150	2150	2350
W	mm	330	370	455	455	590	590	800
H	mm	680	820	1030	1460	1460	1840	1900
X	mm	230	300	390	600	590	780	800
Y	mm	225	265	350	350	485	485	720
E	mm	52.5	52.5	52.5	52.5	52.5	52.5	40
F	mm	46	46	46	46	55	55	40
G	mm	128	130	158	170	170	170	220
D1	mm				1/2" M			
D2	mm	3/4" M	3/4" M	3/4" M	3/4" M	1" M	1" M	1" M
L1	mm	350	400	400	400	502	502	535
L2	mm	340	380	460	460	580	580	850
Peso	kg	86	106	181	237	297	367	520

# CONFIGURATION AND NOISE LEVELS

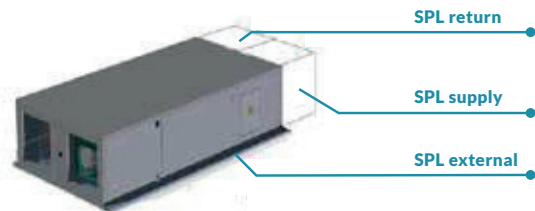
## HORIZONTAL VERSION | TOP VIEW



## VERTICAL VERSION | SIDE VIEW



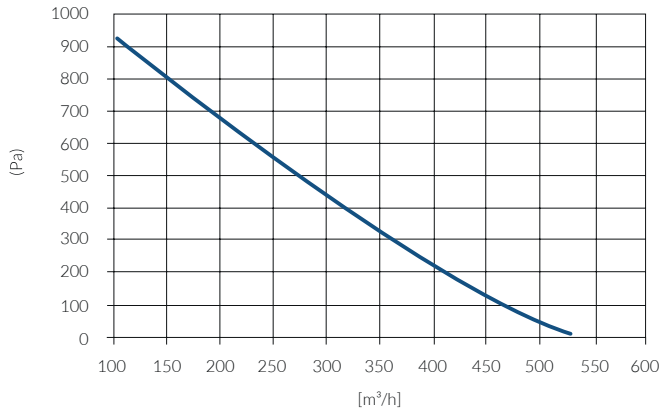
The table shows the sound power values (SWL) in octave and total bands. The sound pressure levels (SPL) at 1m, 5m and 10m in supply, return and outside the unit are also indicated. All values refer to the operation of the ducted unit at MAXIMUM speed and nominal flow rate.



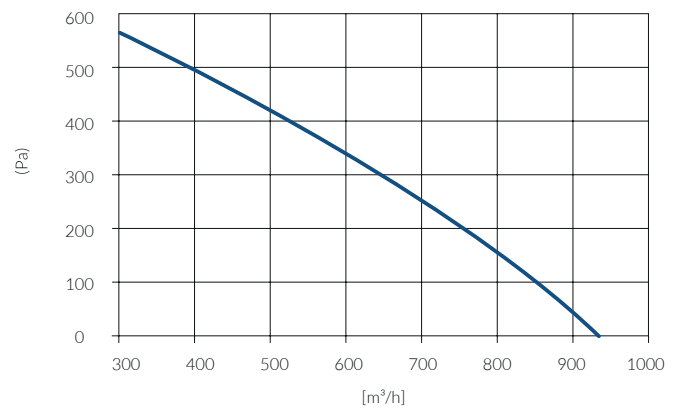
HRS	SWL [dB] IN OCTAVE BAND [HZ]								SWL		SPL SUPPLY			SPL RETURN			SPL EXTERNAL		
	63	125	250	500	1000	2000	4000	8000	dB	dB(A)	1 m	5 m	10 m	1 m	5 m	10 m	1 m	5 m	10 m
05	62	59	65	65	63	63	62	53	72	<b>69</b>	61	47	41	53	39	33	44	30	24
10	61	58	64	64	62	62	61	53	71	<b>68</b>	60	47	41	53	39	33	44	30	24
15	60	59	65	65	63	63	63	55	72	<b>70</b>	61	48	42	54	40	32	45	31	25
20	66	64	74	73	69	68	68	67	79	<b>76</b>	68	54	48	60	46	40	51	37	31
30	69	66	74	76	72	71	67	67	80	<b>77</b>	69	55	49	61	47	41	52	38	32
40	68	69	72	73	69	70	66	65	79	<b>76</b>	68	54	48	60	46	40	51	37	31
50	70	68	80	75	70	70	67	70	83	<b>79</b>	72	58	52	64	50	44	55	41	35

# AERAILIC PERFORMANCE

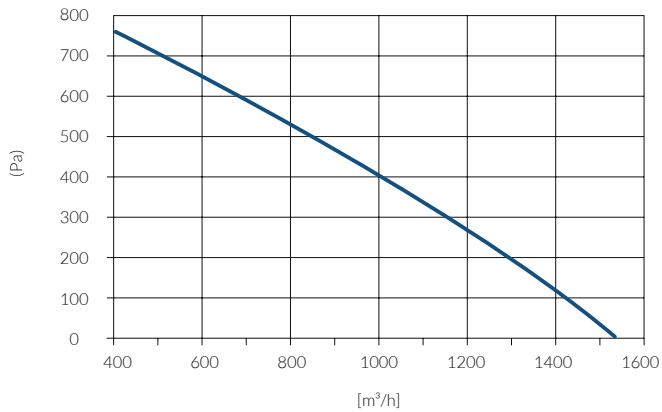
**HRS 05**



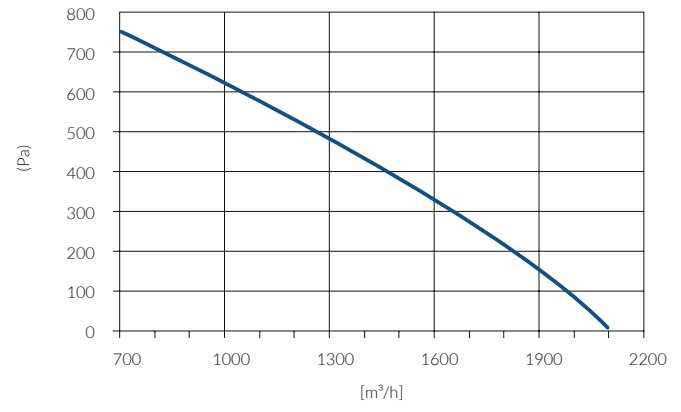
**HRS 10**



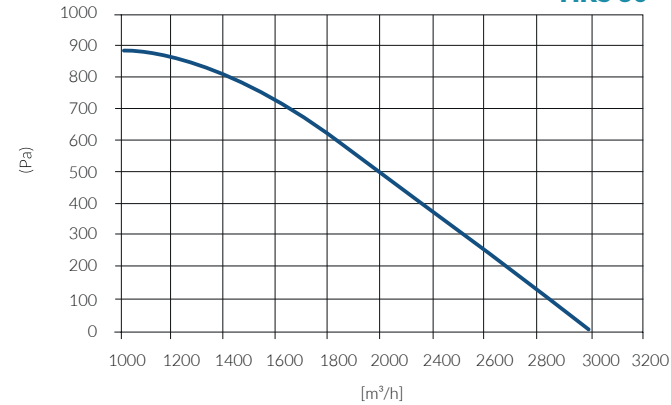
**HRS 15**



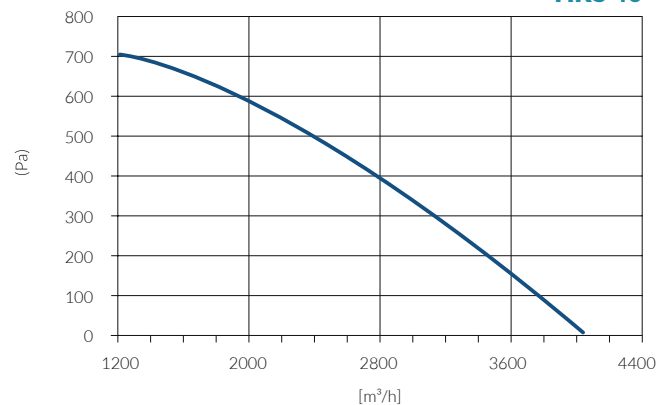
**HRS 20**



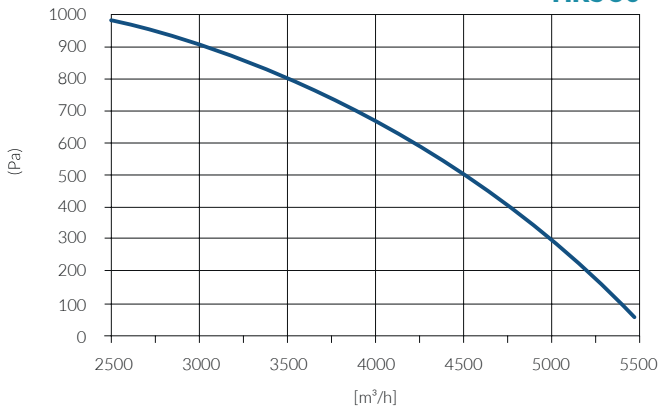
**HRS 30**



**HRS 40**



**HRS 50**



The graphs provide an indication of the useful static pressure (Pa) as the airflow [m<sup>3</sup>/h] supplied by the base inlet unit varies. Consult the technical bulletin to check the specific data of the unit's aerailic performance.