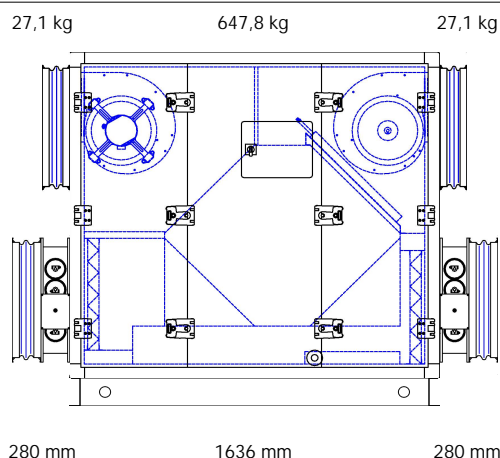


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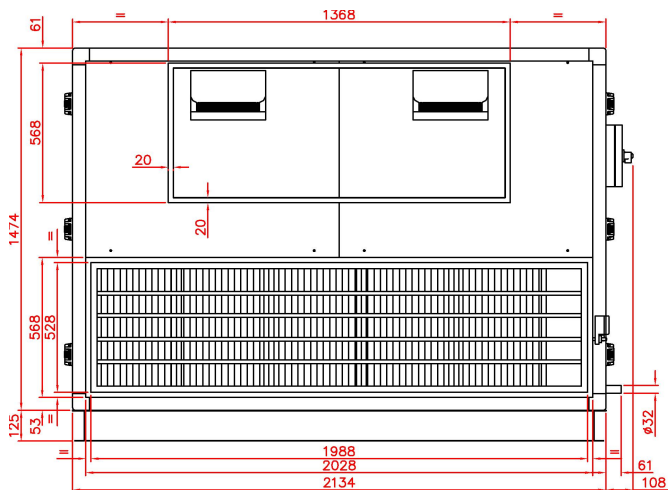
Date : 2016/11/03.  
From :  
Page : 1 / 5

Model : **HRglobal 5000 / NVr / MS / CTm / MS / MS / CTm / MS**

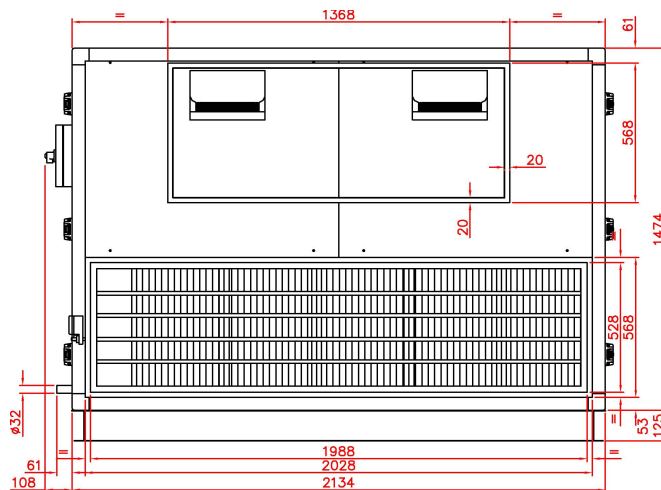
The HRglobal series is a range of mechanical home ventilation units (up to 6000 m<sup>3</sup>/h) with high efficiency (90 % and more) heat recovery, consisting of aluminium counterflow heat exchangers, a stainless steel drain pan, M5 and F7 class filters and of TAC technology centrifugal fans with high efficiency electronic motors. It will be delivered ready to use, entirely pre-cabled (the options as well) and with a remote control which will allow to control the unit without opening it. All that'll need to be done is to connect the power (outside the unit), to connect the remote control and to set the parameters and that's it ! The device will be delivered as standard with a modulating by-pass (100%), and its pre-cabled control. The new control is designed to receive and monitor the different options available according to your needs. The structure of the unit is in extruded anodized aluminium profile, articulated around strengthened polypropylene modules. Panels are 50 mm double skin. The outside is made of polyester pre-painted steel, and the inside is made of galvanized steel. The heat and sound insulation is made of mineral wool. The HRglobal series is mounted on base frame, and is made in one piece (mono block). The doors are equipped with handles and hinges. Airtightness of the group allows to classify the device in class 1 for the internal leaks and class 2 for the external leaks according to standard EN 13141-7. A unit with the same characteristics can be offered with all airflow connections oriented upwards. The HRup solution can solve many space availability problems, up to 2000 m<sup>3</sup>/h. In case of limited height, we can also offer the HRflat range, up to 2000 m<sup>3</sup>/h as well.



Outlet exhaust air / Inlet supply air



Outlet supply air / Inlet exhaust air



Company :	Date :	2016/11/03.
To :	From :	
Subject :		
Reference :	Page :	2 / 5

Model :	<b>HRglobal 5000 / NVr / MS / CTm / MS / MS / CTm / MS</b>
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<b>Supply : Fans + Regulation</b>		
Voltage :	3 x 400 V + N	
Intensity :	18,0 A max.	
Electrical protection :	D20A - 10kA - AC3	

Fans - TAC

Units are equipped with high efficiency TAC technology fans. They are driven by electronically commutated motors and allow accurate control of the fan's actual working point. The efficiency of the motor remains between 85% and 60%, whatever the working point. The motor is a permanent magnet DC driven motor but AC power supplied.

	<u>Supply</u>	<u>Exhaust</u>	
Airflow :	4940	4980	m³/h
Internal pressure drop :	270	256	Pa
External pressure drop :	300	300	Pa
Extra available pressure drop :	4	12	Pa
Rotation speed :	1388	1373	rpm
Voltage :	230	230	V
Intensity :	10,79	10,64	A
Power :	1863	1834	W
SFP W/(m³/h) [W/(l/s)] :	0,38 [1,36]	0,37 [1,33]	

Fan name :DD 11-9 TAC 3/4 HRg5000

Number of fans :2 + 2

Sound power spectrum (fan only)-(dB re.10E-12 W/m²)

	63	125	250	500	1000	2000	4000	8000	Hz
S	94,8	89,8	84,8	77,8	79,8	72,8	67,8	62,8	dBL
E	94,6	89,6	84,6	77,6	79,6	72,6	67,6	62,6	dBL

Radiated A weighted Sound pressure level for ducted unit  
in free field (d=3m)

42,9 dBA

(RF=600000000/DF=1/ZF=20,40)-(dB re. 20 µPa)

<b>Regulation</b>	
The units are delivered fully pre-wired as standard ('plug & play') with general switch and complete control of the unit. The latter includes all the necessary components and is fully wired to T° probes, fans, general switch, modulating by-pass , as well as all options such as pre and post heating, dampers. Connect the power supply and configure the parameters and the unit is ready to run.	
The regulation monitors each component:	
<ul style="list-style-type: none"> <li>•Setting and piloting of TAC fans in selected mode: CA (constant flow), CP (constant pressure measured by an optional external sensor), LS (link with signal 0 - 10V, for example a CO2 air quality sensor) or TQ (constant torque)</li> <li>•Automatic freecooling control via the modulating bypass</li> <li>•Antifrost system of the air/air heat exchanger (airflow modulation, electrical coil or via modulating bypass)</li> <li>•Control of internal post-heating coil (water or electrical)</li> <li>•Control of external post-heating coil (water or electrical) or cooling coil (water), or reversible coil (heating or cooling water coil)</li> <li>•Open/Close motorized dampers</li> <li>•Time slot management (scheduling)</li> <li>•Alarms management (fire, pressure, maintenance, component failure,...)</li> <li>•Display and management of all system parameters via RC, GRC, BMS or web page (option)</li> <li>•MODBUS communication (RTU, TCP/IP and GPRS) or KNX (option)</li> </ul>	

<b>Heat Recovery unit - CF</b>	
The heat exchanger is an air/air high efficiency counterflow heat exchanger, executed in sea water resistant aluminium, at a temperature of up to 80°C. The airtightness tests according to DIN1946 show a leakage rate of 0.017 % at 400 Pa difference between the 2 air streams. The heat exchanger is compliant to standard EN 308.	
Air pressure :	1013 mbar
	<u>Supply</u> <u>Exhaust</u>
Airflow :	4940 4980 m³/h
Airspeed through HRU :	1,37 1,38 m/s
Air inlet temperature :	1,46 1,76 m/s
Relative humidity in :	-25,0 22,0 °C
Humidity in :	90,0 40,0 %
	0,4 6,6 g/kg
	<u>Supply</u> <u>Exhaust</u>
Air outlet temperature :	18,7 -9,3 °C
Relative humidity out :	2,7 100,0 %
Humidity out :	0,4 1,7 g/kg
Total capacity (W.B.) :	72,4 kW
HRU efficiency (W.B.) :	93,0 %
Pressure drop in REC :	158 225 Pa

<b>Post-heating (Warm water) - NVr</b>	
A post-heating water coil is placed inside the unit and makes it possible to control either the supply air temperature in the room, or to manage a comfort temperature of the room by controlling the temperature at the inlet of exhaust air. This coil is delivered ready to be connected to the heating network, with a complete set of controls including a motorized 3 way valve. Just key in the desired temperature and the controls will modulate the coil capacity to reach this set value, according to the supply or exhaust temperature (depending on the option chosen).	
Coil name :	HRg 5000-1
Number of rows :	1
Number of circuits :	2
Total capacity :	10,31 kW
Air inlet T° :	14,0 °C
Outlet air T° :	20,1 °C
Airflow :	4940 m³/h
Air speed :	1,77 m/s
Air pressure drop :	11 Pa
Connection diam. :	1/2"
Fluid type :	Water
Glycol %age :	0 %
Fluid T° in/out :	80,0 / 60,0 °C
Fluid flow :	453 l/h
Fluid pressure drop :	6,04 kPa

Company :	Date :	2016/11/03.
To :	From :	
Subject :		
Reference :	Page :	3 / 5

Model :	<b>HRglobal 5000 / NVr / MS / CTm / MS / MS / CTm / MS</b>
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**Filter - G/F**

The heat recovery ventilation unit is equipped with M5 class plane filters at the inlet of the polluted air and F7 class plane filters at inlet of the fresh air, to correctly protect the heat exchanger and guarantee optimum air quality inside the building. However, the unit is originally delivered with a G4/F7 starter kit of filter. Once the unit has been running for a few weeks, filters need to be replaced by a M5/F7 filters kit. Filters are easily accessible through the access doors for maintenance purposes. F7 plane filters on both sides (supply & exhaust) are available as an additional option.

				<u>Supply</u>	<u>Exhaust</u>	
Filter class :	F7	Dimensions :	503 x 370 x 50 mm	Air speed :	1,47	m/s
		Quantity :	5	Filter pressure drop :	97	Pa
Filter class :	M5	Dimensions :	503 x 370 x 50 mm	Air speed :	1,49	m/s
		Quantity :	5	Filter pressure drop :	28	Pa

**Damper(s) - CTm**

It 's a damper delivered motorized and pre-wired, to cut the draft during the powering off of the device. It comes with a pre-wired servo motor and is controlled by the regulation. The frame and the aerofoil blades are in galvanised steel, the bearings are in nylon. The external gears, in plastic material, allow a transmission without looseness or deformation.

			<u>Supply</u>	<u>Exhaust</u>	
External dimensions :	565 x 2025 mm	Air speed :	1,49	1,51	m/s
Internal dimensions :	475 x 1935 mm	Damper pressure drop :	3	3	Pa

**Base frame - BA**
**Flexible connection (air in) - MS**
**Flexible connection (air out) - MS**

## Regulation No 1253/2014 (Ecodesign Lot 6)

### Technical specifications for HRglobal 5000

Manufacturer		P. Lemmens Company
Product identification code		885247
Typology		NRVU / BVU
Motorization		Variable speed
Type heat exchanger		Counterflow
Thermal efficiency (%)	@ nominal	83
Nominal airflow (m³/s)		1,39
Electrical power absorbed (W)	@ nominal	2434
SFP int (W/(m³/s))	@ nominal	1274
Face velocity (m/s)	Supply	1,49
	Exhaust	1,49
Nominal external static pressure (Pa)		100
Internal pressure drop of ventilation components (Pa)	Supply	309
	Exhaust	242
Fan static efficiency as No 327/2011 (%)		49
External leakage rate (%)	@ 400 Pa	L2 ( < 1%)
Internal leakage rate or EATR (%)	@ 250 Pa	1
Radiated sound power level of the unit (dBA)	@ nominal	67
Energy consumption of the filters	Supply	NA
	Exhaust	NA
Disassembly instructions on internet		<a href="http://www.servolux.lv">www.servolux.lv</a>

To learn more about the directive Ecodesign, visit <http://eur-lex.europa.eu>

## Regulation No 1253/2014 (Ecodesign Lot 6)

### HRglobal 5000 at working point

Dry thermal efficiency (supply) (%)	84
Dry thermal efficiency limit (2016) (%)	67
Efficiency bonus E (2016) (W/(m³/s))	510
Filter correction F (2016) (W/(m³/s))	0
SFP_int (W/(m³/s))	1252
SFP_int limit (2016) (W/(m³/s))	1504

### Compliance area LOT 6 2016

