COMPACT VENTILATION UNIT LG 150

AUSTRIA

Deutsches Institut für Bautechnik DIBt

LG 150 A,
LG 150 AF

CERTIFIED COMPONENT
Passive House Institute

LG 150 A,
LG 150 AF

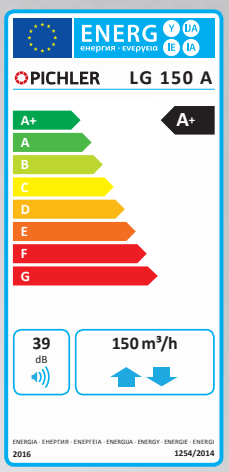
EN 13141-7:2011-01

TÜV AUSTRIA
TYPE TESTED
TÜV AUSTRIA SERVICES GMBH

LG 150 A,
LG 150 AF

ErP
2018

EU Regulation
1253/2014



The specified energy efficiency is applicable when controlled to local requirements and is valid up to the specified maximum air flow volume.

COMFORT VENTILATION

optional

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PICHLER

Systematic ventilation.

Product description

The compact ventilation unit LG 150 consists of a compact EPP-housing with equipment cladding that is free of thermal bridges and is thermally insulated, externally powder-coated in RAL 9003, a high efficiency heat recovery system with an air/air counterflow heat exchanger made of recyclable plastic with up to app. 95 % efficiency with an automatic 100 % bypass, with energy-saving radial fans with DC technology with constant volume flow control, filters ODA ISO ePM2,5 55% in the outdoor air and ETA filters ISO Coarse 70% in the extract air, integrated cabled control electronics, with an optional MINI or TOUCH (optional) operating control unit and with an inspection door for filter servicing such as a connection to the Internet (LAN connection) via the Pichler app.

Area of application

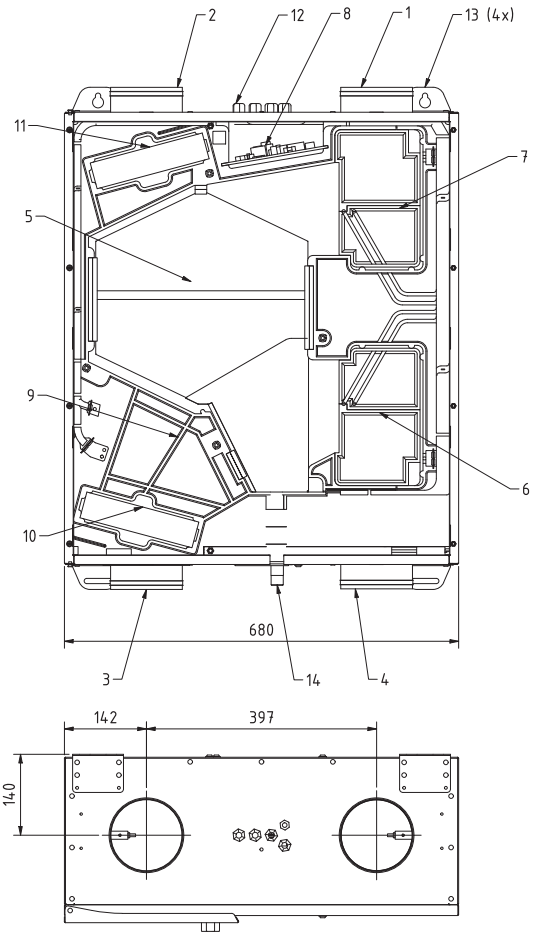
The compact ventilation unit LG 150 is used for the controlled mechanical supply and exhaust air ventilation of apartments in multi-storey buildings, smaller residential units and similar applications.

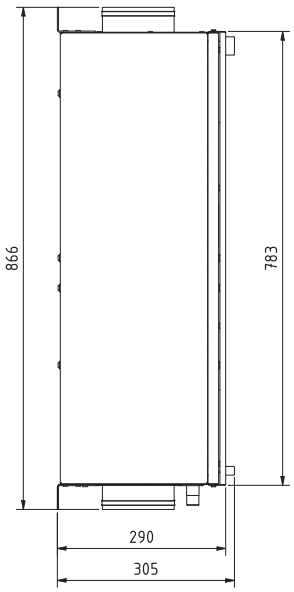
Regarding the LG 150 A the range of use extends fundamentally to residential areas of 40 m² to approx. 120 m² that are designed as passive or low energy structures,with an adjustable air volume flow up to 150 m3/h.

Regarding the LG 150 B with high ventilation system performance it extends fundamentally to residential areas to approx. 160 m² with an adjustable air volume flow up to 200 m³/h.

Layout sketch (wall-mounted or ceiling-mounted installation, right-hand-version)

Dimensions: (W x H x D) 680 x 783 x 290 mm
Air line connection: 4 x Ø 125 mm



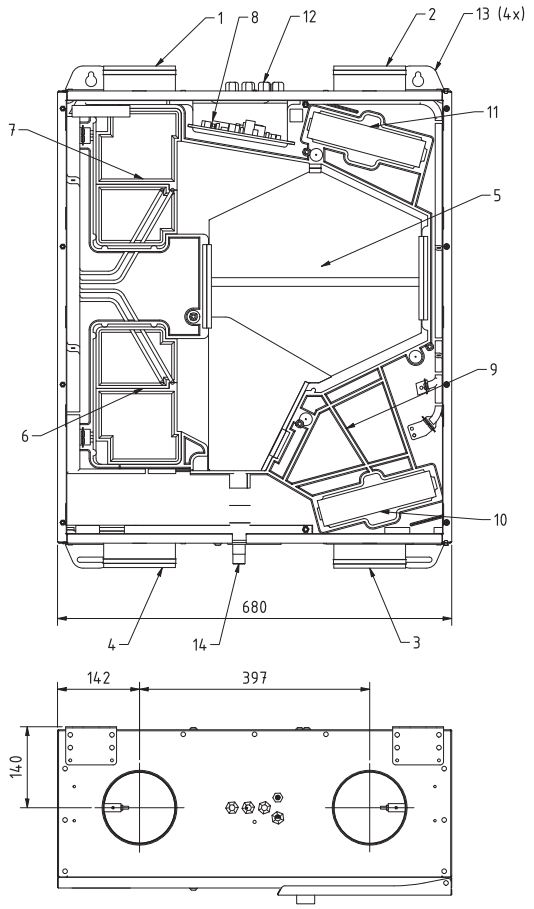


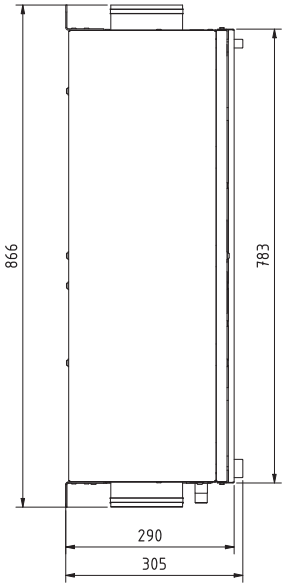
1 Supply air ø 125 mm
2 Extract air ø 125 mm
3 Outdoor air ø 125 mm
4 Exhaust air ø 125 mm
5 Counterflow heat exchanger with condensate tray
6 Exhaust air fan
7 Supply air fan
8 Control system
9 Bypass flap with preheater battery (optional)
10 Filter ODA ISO ePM2,5 55%
11 Filter ETA ISO Coarse 70%
12 Cable inlets
13 Mounting bracket
14 Condensate outlets R1/2“ AG

Illustration:
LG 150 AWR (right-hand version) (also applicable to LG 150 B)

Layout sketch
(wall-mounted or ceiling-mounted installation, left-hand-version)

Dimensions: (W x H x D) 680 x 783 x 290 mm
Air line connection: 4 x Ø 125 mm





1 Supply air ø 125 mm
2 Extract air ø 125 mm
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5 Counterflow heat exchanger with condensate tray
6 Exhaust air fan
7 Supply air fan
8 Control system
9 Bypass flap with preheater battery (optional)
10 Filter ODA ISO ePM2,5 55%
11 Filter ETA ISO Coarse 70%
12 Cable inlets
13 Mounting bracket
14 Condensate outlets R1/2" AG

Illustration:
LG 150 AWL (left-hand version)
(also applicable to LG 150 B)

Versions

The compact ventilation unit LG 150 is available in several different versions:

- right-hand or left-hand, depending on the location of the supply air connecting piece
- with or without an integrated PTC heater battery (frost protection for the counterflow heat exchanger)
- with a standard o an ethalpy exchanger for moisture recovery

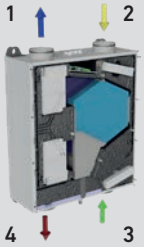
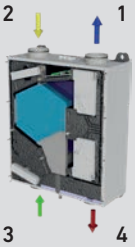
Advantages of the enthalpy exchanger:

Humidity-transferring counter flow enthalpy exchanger with selective polymer membrane for heat and moisture recovery.

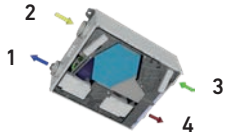
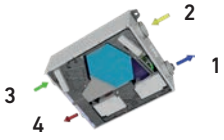
- Enthalpy exchangers ensure optimal comfort within your rooms.
- During normal operation, the generation of condensate is prevented as far as possible.
- In contrast to a standard heat exchanger, the enthalpy exchanger only stops at low temperatures.
- The enthalpy exchanger prevents your rooms from drying out in winter.

LG 150 A AND LG 150 B

Wall-mounted version LG 150 A	**Left-hand version**	**Right-hand version**
Item no. without an integrated PTC heater battery	08LG150AWL	08LG150AWR
Item no. with an integrated PTC preheater battery	08LG150AWLV	08LG150AWRV
Item no. without an integrated PTC heater battery and with an enthalpy exchanger for moisture recovery	08LG150AWLF	08LG150AWRF
Item no. with an integrated PTC heater battery and with an enthalpy exchanger for moisture recovery	08LG150AWLFV	08LG150AWRFV

Wall-mounted version LG 150 B	**Left-hand version**	**Right-hand version**
Item no. without an integrated PTC heater battery	08LG150BWL	08LG150BWR
Item no. with an integrated PTC preheater battery	08LG150BWLV	08LG150BWRV
Item no. without an integrated PTC heater battery and with an enthalpy exchanger for moisture recovery	08LG150BWLF	08LG150BWRF
Item no. with an integrated PTC heater battery and with an enthalpy exchanger for moisture recovery	08LG150BWLFV	08LG150BWRFV
Wall mounted		

Ceiling-mounted version LG 150 A (in final assembly min. 2 % inclined assembled)	**Left-hand version**	**Right-hand version**
Item no. without an integrated PTC heater battery	08LG150ADL	08LG150ADR
Item no. with an integrated PTC preheater battery	08LG150ADLV	08LG150ADRV
Item no. without an integrated PTC heater battery and with an enthalpy exchanger for moisture recovery	08LG150ADLF	08LG150ADRF
Item no. with an integrated PTC heater battery and with an enthalpy exchanger for moisture recovery	08LG150ADLFV	08LG150ADRFV

Ceiling-mounted version LG 150 B (in final installation min. 2 % inclined assembled)	**Left-hand version**	**Right-hand version**
Item no. without an integrated PTC heater battery	08LG150BDL	08LG150BDR
Item no. with an integrated PTC preheater battery	08LG150BDLV	08LG150BDRV
Item no. without an integrated PTC heater battery and with an enthalpy exchanger for moisture recovery	08LG150BDLF	08LG150BDRF
Item no. with an integrated PTC heater battery and with an enthalpy exchanger for moisture recovery	08LG150BDLFV	08LG150BDRFV
Ceiling mounted		

1 Supply air ***2 Extract air*** ***3 Outdoor air*** ***4 Exhaust air***

Technical specifications LG 150 A

VENTILATION UNIT

Dimensions:
(W x H x D) 680 x 783 x 290 mm
EPP-Housing with equipment cladding coated in RAL 9003, 22/18 mm of thermal insulation
Air line connection:
4 x Ø 125 mm
Condensate connection:
R 1/2" AG at the bottom
Electrical connection: 230 V/50 Hz
Fuse: 13A
Protection class: IP 20
Permitted ambient temperature for the unit:
+5 °C to +40 °C
Weight without accessories: approx. 30 kg

FANS

(factory setting)

Air volume flow:
Speed I: 50 m^3/h
Speed II: 90 m^3/h
Speed III: 130 m^3/h
Air volume flow setting range:
30 to 150 m^3/h
Power consumption
Standby mode: < 1,0 W

The characteristic curves shown are valid for the version of the unit with an outdoor air filter of filter class F7 (EN 779), extract air filter of quality class G4 (EN 779) and the version without a PTC preheater battery.

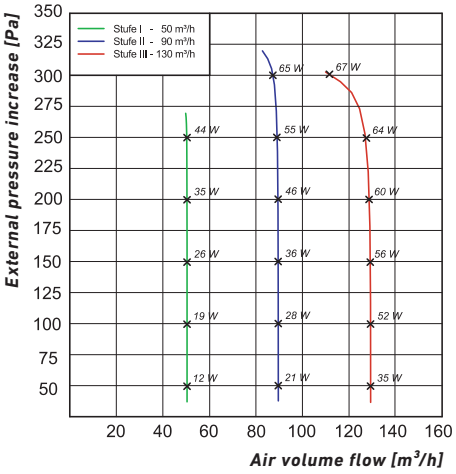
CHARACTERISTIC CURVE OF THE EXTERNAL PRESSURE INCREASE – AIR VOLUME FLOW

The characteristic curve specifies the external pressure ($p_{ext.}$) that is available for the ducting system.

TOTAL WATTAGE

The total electrical wattage specified takes into consideration the power consumption for both fans in the supply air and exhaust air lines and the power consumption of the control unit.

PRESSURE VOLUME FLOW CHARACTERISTIC CURVE FOR LG 150 A



SOUND DATA FOR LG 150 A

	Measuring point		Housing emission			Outdoor air connecting piece			Supply air connecting piece			Exhaust air connecting piece			Extract air connecting piece		
	Stufe		I	II	III	I	II	III	I	II	III	I	II	III	I	II	III
100 Pa	63 Hz	L_w in dB	51	48	47	62	64	66	64	66	68	62	64	66	63	65	67
	125 Hz		44	46	45	44	47	49	57	60	61	55	58	59	43	46	48
	250 Hz		41	42	43	43	46	48	57	60	61	58	61	62	48	51	52
	500 Hz		42	42	42	37	40	41	54	56	58	54	56	58	43	45	47
	1000 Hz		37	39	39	31	33	35	55	58	60	54	56	58	34	37	38
	2000 Hz		<20	22	37	23	26	28	47	50	52	45	48	49	25	28	29
	4000 Hz		<20	<20	21	15	17	19	39	42	43	36	39	41	16	18	20
	8000 Hz		<20	<20	<20	17	20	22	31	33	35	28	31	32	18	20	22
	Total L_{WA} in dB (A)		**42**	**43**	**44**	**41**	**43**	**45**	**58**	**61**	**62**	**57**	**60**	**61**	**44**	**47**	**48**
50 Pa	**Total L_{WA} in dB (A)**		**36**	**38**	**43**	**36**	**38**	**40**	**53**	**56**	**57**	**52**	**54**	**56**	**39**	**42**	**43**

(with an external pressure increase of 100 Pa and 50 Pa)

Remark: Tolerances ± 2 dB for acoustic data

Technical specifications LG 150 A

PASSIVE HOUSE CERTIFIED IN ACCORDANCE WITH PHI CRITERIA

Housing seal-tightness: External leakage 0.6 %, internal leakage 0.9 %
Degree of heat provision: $\eta_{eff,\,t,\,WRG}$ = 86 %
Comfort criterion: T_{SUP}= +17.2 °C where T_{ODA}= -10 °C
Flow efficiency: $\eta_{elec.}$ = 0.30 Wh/m³

INSPECTED ACCORDING TO DIN EN 13141-7:2011
APPROVED ACCORDING TO DIBT

Technical specifications LG 150 AF with moisture recovery

PASSIVE HOUSE CERTIFIED IN ACCORDANCE WITH PHI CRITERIA

Housing seal-tightness: External leakage 0.64 %, internal leakage 0.82 %
Degree of heat provision: $\eta_{eff,\,t,\,WRG}$ = 83 %
Average moisture ratio: η_x = 0.71
Comfort criterion: T_{SUP}= +17.2 °C where T_{ODA}= -10 °C
Flow efficiency: $\eta_{elec.}$ = 0.30 Wh/m³

INSPECTED ACCORDING TO DIN EN 13141-7:2011
APPROVED ACCORDING TO DIBT

Technical specifications LG 150 B for higher air capacities

VENTILATION UNIT

Dimensions:
(W x H x D) 680 x 783 x 290 mm
EPP-Housing with equipment cladding coated in RAL 9003, 22/18 mm of thermal insulation
Air line connection:
4 x Ø 125 mm
Condensate connection:
R 1/2" AG at the bottom
Electrical connection: 230 V/50 Hz
Fuse: 13A
Protection class: IP 20
Permitted ambient temperature for the unit:
+5 °C to +40 °C
Weight without accessories: approx. 30 kg

FANS

(factory setting)

Air volume flow:
Speed I: 60 m^3/h
Speed II: 110 m^3/h
Speed III: 180 m^3/h
Air volume flow setting range:
30 to 200 m^3/h
Power consumption
Standby mode: < 1,0 W

The characteristic curves shown are valid for the version of the unit with an outdoor air filter of filter class F7 (EN 779), extract air filter of quality class G4 (EN 779) and the version without a PTC preheater battery.

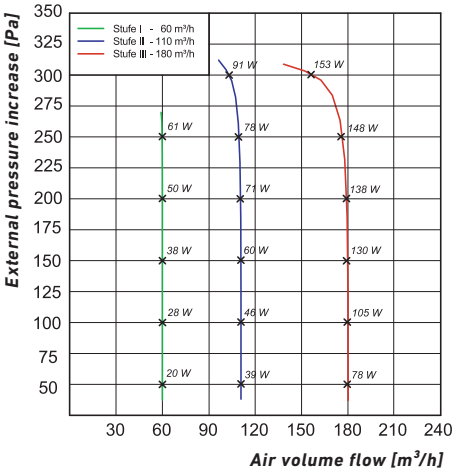
CHARACTERISTIC CURVE OF THE EXTERNAL PRESSURE INCREASE – AIR VOLUME FLOW

The characteristic curve specifies the external pressure ($p_{ext.}$) that is available for the ducting system.

TOTAL WATTAGE

The total electrical wattage specified takes into consideration the power consumption for both fans in the supply air and exhaust air lines and the power consumption of the control unit.

PRESSURE VOLUME FLOW CHARACTERISTIC CURVE FOR LG 150 B



Speed	Air volume flow [m^3/h]	Flow efficiency: η_{elek} [Wh/m^3] With an external pressure increase of 50 Pa	Flow efficiency: η_{elek} [Wh/m^3] With an external pressure increase of 100 Pa
I	60	0,33	0,47
II	110	0,35	0,42
III	180	0,43	0,58

(values from internal test measurements)

SOUND DATA FOR LG 150 B

	Measuring point		Housing emission			Outdoor air connecting piece			Supply air connecting piece			Exhaust air connecting piece			Extract air connecting piece		
	Stufe		I	II	III	I	II	III	I	II	III	I	II	III	I	II	III
100 Pa	63 Hz	L_W in dB	55	56	56	77	78	77	82	83	84	80	82	83	75	79	78
	125 Hz		50	54	57	55	58	62	71	79	79	72	75	76	55	59	63
	250 Hz		37	44	52	55	56	60	67	70	73	65	68	70	55	56	59
	500 Hz		40	46	50	47	44	48	59	64	66	60	63	64	41	43	47
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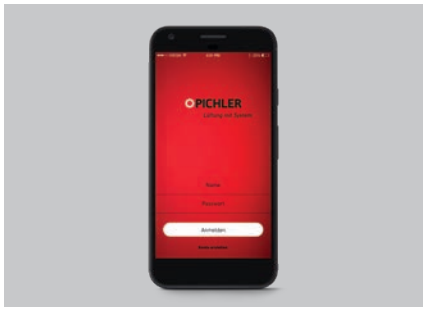
	4000 Hz		<20	23	30	17	18	24	42	50	54	41	50	53	18	19	24
	8000 Hz		<20	<20	<20	20	19	19	38	45	49	34	45	48	20	17	19
	Total L_{WA} in dB (A)		**40**	**46**	**51**	**53**	**54**	**55**	**65**	**69**	**70**	**64**	**68**	**69**	**52**	**55**	**56**
50 Pa	Total L_{WA} in dB (A)		**34**	**40**	**51**	**47**	**48**	**49**	**59**	**63**	**64**	**58**	**61**	**63**	**46**	**49**	**50**

(with an external pressure increase of 100 Pa and 50 Pa)

Remark: Tolerances ± 2 dB for acoustic data

MINI control unit

TOUCH control unit



Pichler-App

Operation

BYPASS FOR HEAT EXCHANGER

The 100% bypass is controlled as a function of the preset room temperature, the measured extract air temperature and the outdoor air temperature. As a result the heat exchanger can be circumvented in the summer and the cold outdoor air blown out either directly or via the earth collector into the living space.

CONTROL UNIT

The controller allows scalable configurations from low-cost to high-end. Further options comprise linking to an external building control system via Modbus RTU and sensors to monitor room air quality.
The settings on the ventilation unit are made via an operating control unit, which is supplied complete with the ventilation unit. For the purpose of triggering an operating the ventilation unit the operating control unit MINI or TOUCH (optional) can be selected.
Optionally, a gateway for the KNX bus system is also available.

MINI

The operating control unit MINI is for the purpose of activating the ventilation unit. It is easy to operate and allows setting of the fan speeds, switching between summer and winter modes and the setting of a basic volume flow, etc. Furthermore, operation, filter changes and any faults are displayed. The operating control unit USB interface is part of the standard configuration. Installation is on a flush-mounted box (not included in delivery).

TOUCH OPERATING CONTROL UNIT

The operating control unit with a 4.3'' colour-touch-display is used to control the ventilation unit. Operation is simple and intuitive. The most important settings and readings are very easy to make. The user-friendly handling provides for automatic or manual setting of the ventilation levels. In Automatic mode, the system is controlled by programmable time programmes, closed-loop humidity or CO_2 controls and works in a fully automated fashion, whereas in manual mode ventilation levels may, for instance, be individually increased (boost ventilation). Further functions are the changeover function between summer and winter operation as well as the setting for the volume flows. The operating mode, temperatures, a required filter change and possible faults are displayed in plain text. The operating control unit also has an integrated temperature sensor, which can be used as a room temperature sensor when needed. Installation is on a flush-mounted box (not included in delivery).

Advantages of controlling:
- Easy display of current operating settings
- Individually adjustable air volumes
- Time and weekly programs (TOUCH only)

CONTROL UNIT DIMENSIONS

Item	Dimensions	Item No.
STANDARD: operating control unit MINI for LG 150/250	w x h x d 80 x 80 x 19 mm	08LGMINI150200
OPTIONAL: operating control unit TOUCH for LG 150/250	w x h x d 110 x 84 x 25 mm	08LG150250TC

CABLE

Item	Type	Item No.
Cable LG control unit max. installation length 100 m	J-Y(ST)Y 2x2x0,8	40LG040340

EASY OPERATION WITH THE PICHLER APP

User-friendly: the compact ventilation unit can be operated easily with our free smartphone app for Android and iOS, whether you are at home or out and about (Gateway required, details on request).

JETZT BEI Google Play

Laden im App Store

REMOTE ACCESS / PICHLER CONNECT

Operational safety: Remote access faciliates a prompt response with minimal effort for the Pichler customer service in the event of a malfunction (Gateway required, details on request).

PICHLER connect.

CO_2 sensor

Humidity sensor

Accessories

SPARE FILTER

will ensure perfect hygiene and air quality given regular replacement, also proper functionality and efficient operation of the equipment.

Item	Item number
Filter ETA ISO Coarse 70% (extract air)	40LG050240
Filter ODA ISO ePM2,5 55% (outdoor air)	40LG050230
Filter ODA ISO ePM1 80 % (outdoor air)	40LG050250

DEMAND-ORIENTED VENTILATION CONTROL

CO_2 and humidity sensors for demand-oriented ventilation control. The ventilation unit will automatically increase or reduce the air volumes depending on the quality of the air in the room. The sensor in the surface-mounted housing is suitable for wall mounting.

Colour: white
Dimensions: W x H x D = 85 x 85 x 35 mm
Ambient temperature: 10-50°C
Measuring range: 0-2000 ppm
Sensor supply voltage: 24V AC/DC
Control signal: 0-10 V

Item	Item number
CO_2 sensor	07RCO248330

Colour: white
Dimensions: W x H x D = 85 x 85 x 35 mm
Ambient temperature: 0-60° C (no condensation)
Measuring range: 0-100% RH
Sensor supply voltage: 24V AC/DC
Control signal: 0-10 V

Item	Item number
Humidity sensor	07RHF49360

Demand-oriented plant operation via CO_2 and/or humidity control is only possible in Automatic mode and must be activated via the PC software.
Assignment of the ventilation levels, the ppm and humidity values can be changed using the PC software.

The following combinations of sensors can be used:
- Max 2 x CO_2 sensors
- Max 2 x RH% sensors
- 1 x CO_2 sensor & 1 x RH% sensor

FLEXIBLE CONNECTION

Made of laminated and highly tear-resistant fabric and with double-sided sleeves made of galvanized sheet steel. With diameter: 125 mm, socket size, elongated length 150 mm.

Item	Item number
flexible connection	01STR125

WALL ENDING

Serves to provide for the thermal bridge-free insulation of outdoor air and exhaust air ducts towards the wall. Self-adhesive.

Item	Dimensions W x H x D	Item number
Wall ending	675 x 160 x 22 mm	08LG150WA15

DEVICE SIPHON

Serves to provide for the hygienic, proper and spatial separation of the condensate inlet in the on-site siphon.

Item	Item number
Device siphon	40LG030620
PVC screw joint: ½ inch to 1 ¼ inch	08REDPVC11412
Connector HL40.2 for HT pipe ø 40 mm, made from PE	08UEGSHL40R12PE
Connector HL30.2 for HT pipe ø 32 mm, made from PE	08UEGSHL30R12PE

MODBUS/KNX-Gateway

MODBUS/NABTO-Gateway

External supply air temperature sensor

HOT WATER RE-HEATER BATTERY

Hot water reheater battery for supply air reheating, for pipe installation, ø 125 mm, with accessories.
Only in connection with the external supply air temperature sensor (item number: 40LG041920).

Air volume: 180 m^3/h
Medium: 60/40 °C
Output: ca. 700 W
Pipe diameter: Ø 125 mm
Dimensions: W x H x D = 238 x 180 x 276

Item	Item number
Hot water re-heater battery	01VBC125

3-WAY MOTOR CONTROL VALVE

Three-way control ball valve for the continuous closed-loop control of cold and warm water with a mounted closed-loop control actuator.

Belimo drive: TR 230-3
Drive voltage: 230 V AC
Control signal: 3-point
Control ball valve: R3015
Mounting position: optional
KVS-Value: 0,63 m^3/h

Item	Item number
3-Way Motor control valve	08MISCHER

EXTERNAL SUPPLY AIR TEMPERATURE SENSOR

NTC sensor with metal sleeve.

Item	Item number
NTC sensor, length 2 m	40LG041920

MODBUS/KNX GATEWAY

The Modbus/KNX gateway allows for the connection of the compact ventilation unit LG 150 to a KNX bus system.
In this process, the gateway serves as a connective link between the two bus systems. It is provided with a Modbus RTU and TCP interface and is always the master on the Modbus. On the KNX side, however, it responds like a common KNX TP-1 unit. This makes it possible to centrally control and monitor the ventilation unit by a KNX system. The configuration is implemented via the IP or USB interface.

Dimensions: W x H x L = 88 x 56 x 90 mm
Mounting: Top hat rail or wall
Permissible ambient temperature: 0 – 60 °C
Permissible humidity: 5 – 95% non-condensing
Protection class: IP20
Voltage: 24V AC/DC
Interfaces: Ethernet, EIA-485, KNX-TP1

Item	Item number
MODBUS/KNX-Gateway	08KNXGA150250A

MODBUS/NABTO-GATEWAY

Serves to connect the compact ventilation unit with the Internet and furthermore with the Pichler app. When using the gateway the Modbus RTU connection of the building control system is dispensed with.

Item	Item number
MODBUS/NABTO-Gateway	08GATEWAYNABTO

COMPLETE PROGRAM FOR AIR DISTRIBUTION SYSTEMS

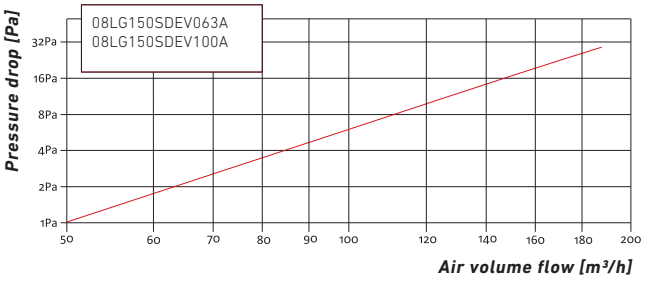
We offer a complete program of air distribution systems, such as Komflex (round or oval). Details of our air distribution program can be found in the technical documentation.

Sound reduction unit

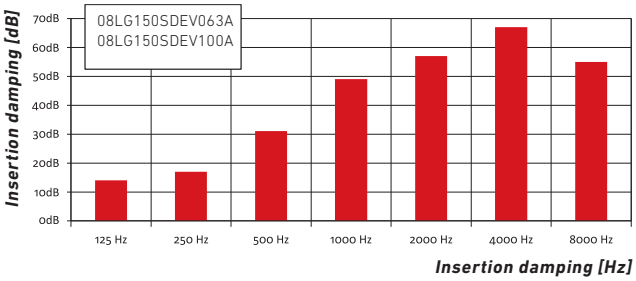
Compact sound reduction unit for direct mounting to the comfort ventilation unit with efficient especially acoustically shaped diversion splitters installed, galvanised steel sheet outer housing, powder-coated in RAL 9003. The inner part is designed as diversion chamber with acoustically and flow optimized splitters. The splitters are non combustible and consist of high-strength, wearresistant and moisture repellent glass silk surface. With absorption elements and resonance elements for optimal sound reduction. Adapter with SYSTEM SAFE plug-in fitting. The connections are closed with dust protection caps. With fastening clips for simple wall-mounted or ceilingmounted installation.

Technical specifications

PRESSURE DROP OF THE SOUND REDUCTION UNIT DEPENDING ON THE VOLUME FLOW

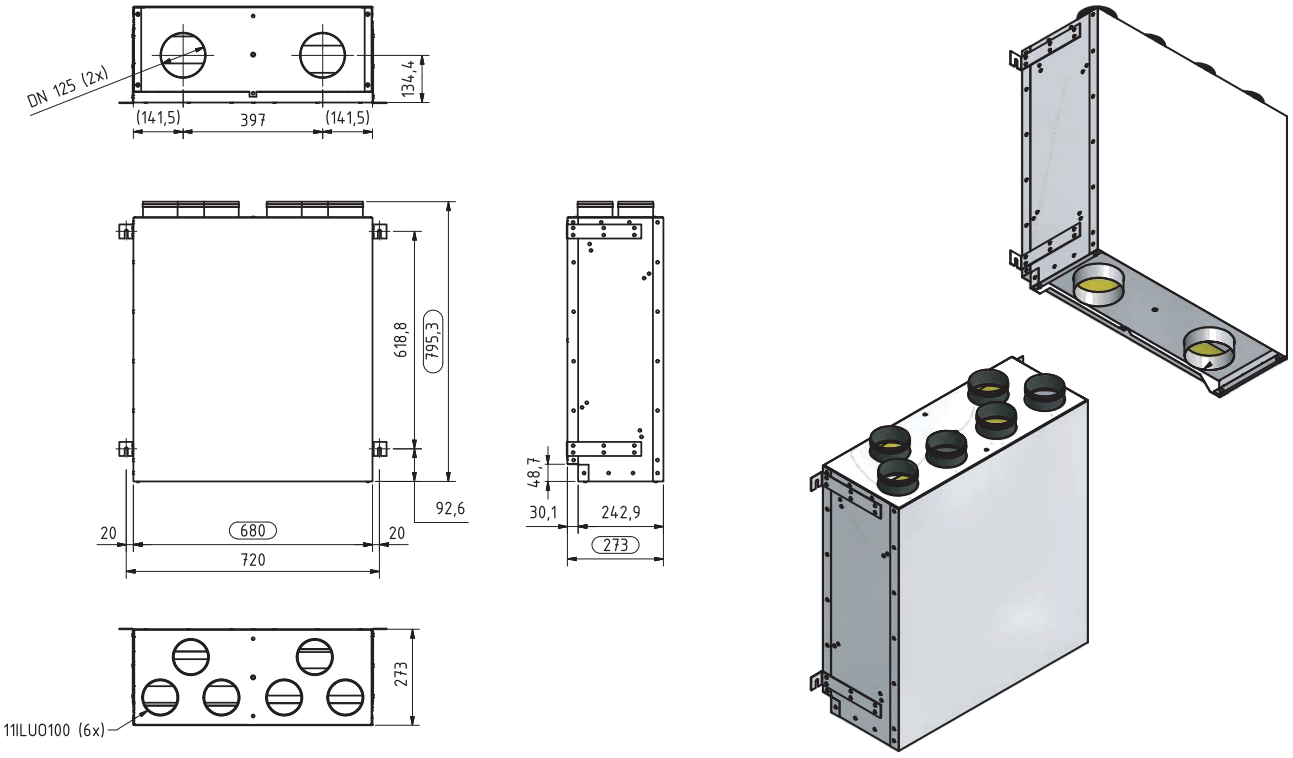


INSERTION DAMPING OF THE SOUND REDUCTION UNIT

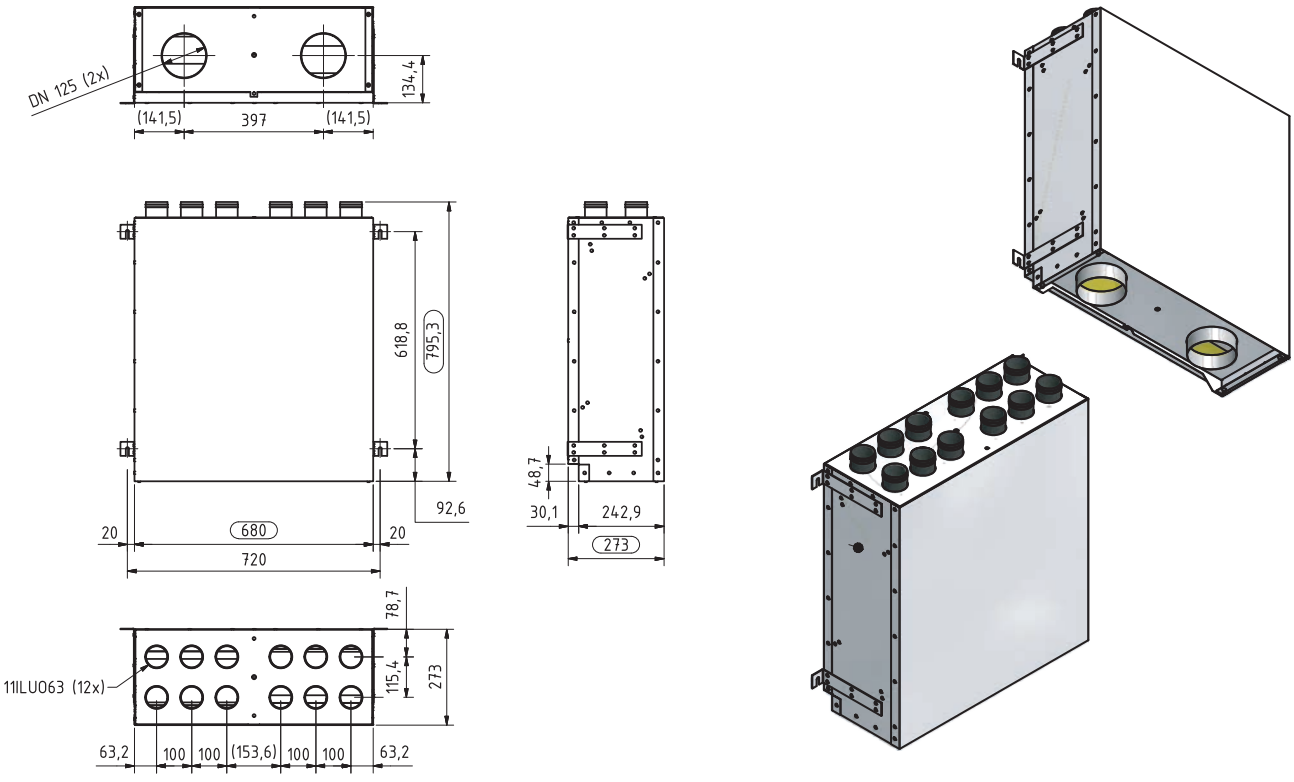


Item	Item number
Sound reduction unit for wall-mounted or ceiling-mounted installation Dimensions (W x H x D) 680 x 795 x 273 mm with 6 connectors ø 100 mm	08LG150SDEV100A
Sound reduction unit for wall-mounted or ceiling-mounted installation Dimensions (W x H x D) 680 x 795 x 273 mm with 12 connectors ø 63 mm for system Komflex	08LG150SDEV063A

Layout sketch sound reduction unit with 6 connections Ø 100, (wall-mounted or ceiling-mounted installation)



Layout sketch sound reduction unit with 12 connections Ø 63 for system Komflex 75 mm, (wall-mounted or ceiling-mounted installation)



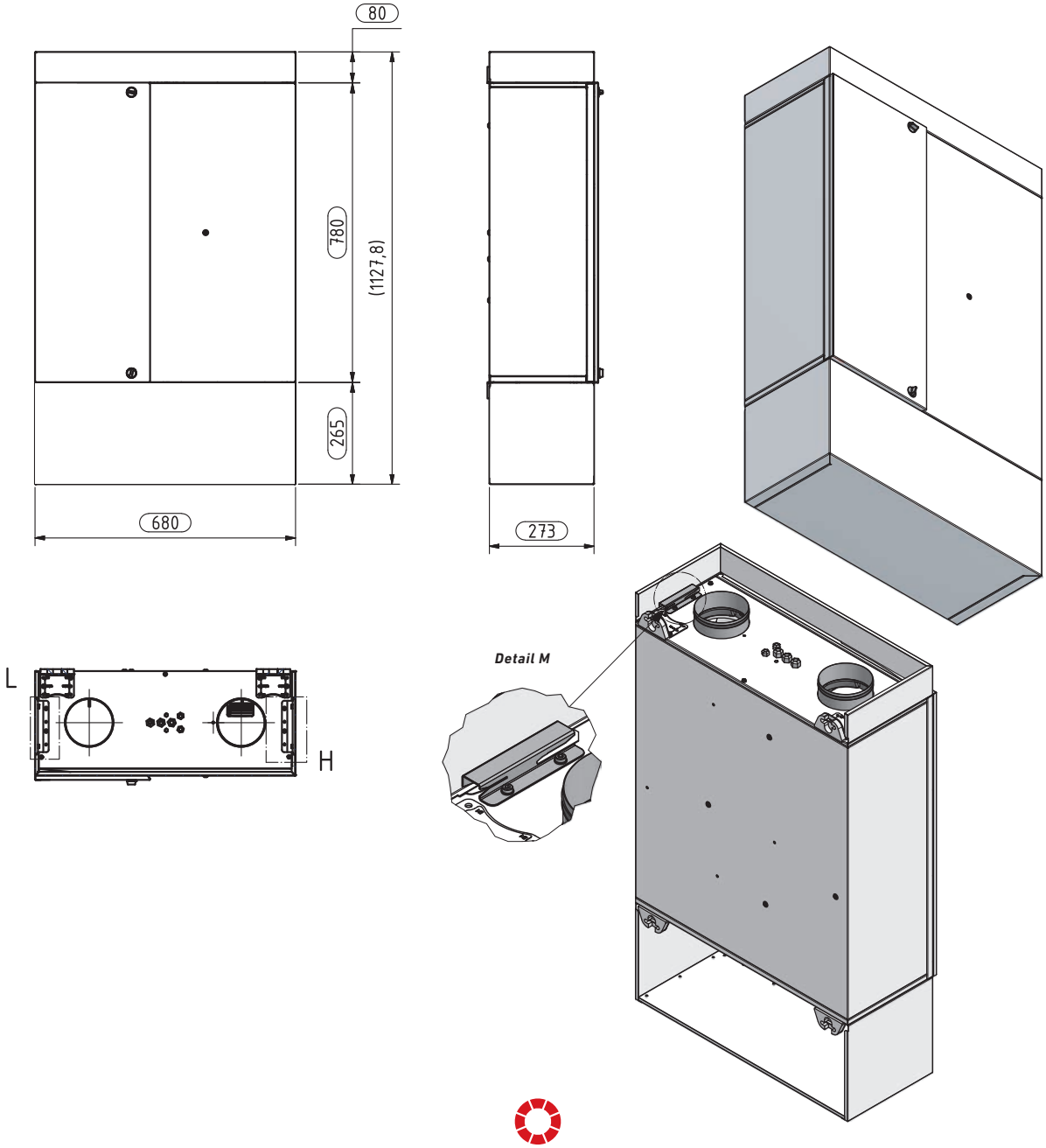
Cover element

Used for optical veneering of the air line connectors of the comfort ventilation unit towards the wall or the ceiling.

Including 2 guide rails. Dimensionally stable construction of the cover made from galvanized steel, powder-coated in RAL 9003.

Item	Item number
Cover element for LG 150 Dimensions (W x H x D) 680 x 265 x 273 mm As bezel around the external and outdoor air connection of the ventilation unit, facing the wall. Powder-coated in RAL 9003. Including 2 guide rails.	08LG150ABDE265A
Cover element for LG 150 Dimensions (W x H x D) 680 x 80 x 273 mm As bezel around the supply and extract air connection of the ventilation unit, facing the wall or the ceiling. Powder-coated in RAL 9003. Including 2 guide rails.	08LG150ABDE080A

Layout sketch (wall-mounted installation)



Flush-mounted set (ceiling-mounted installation)

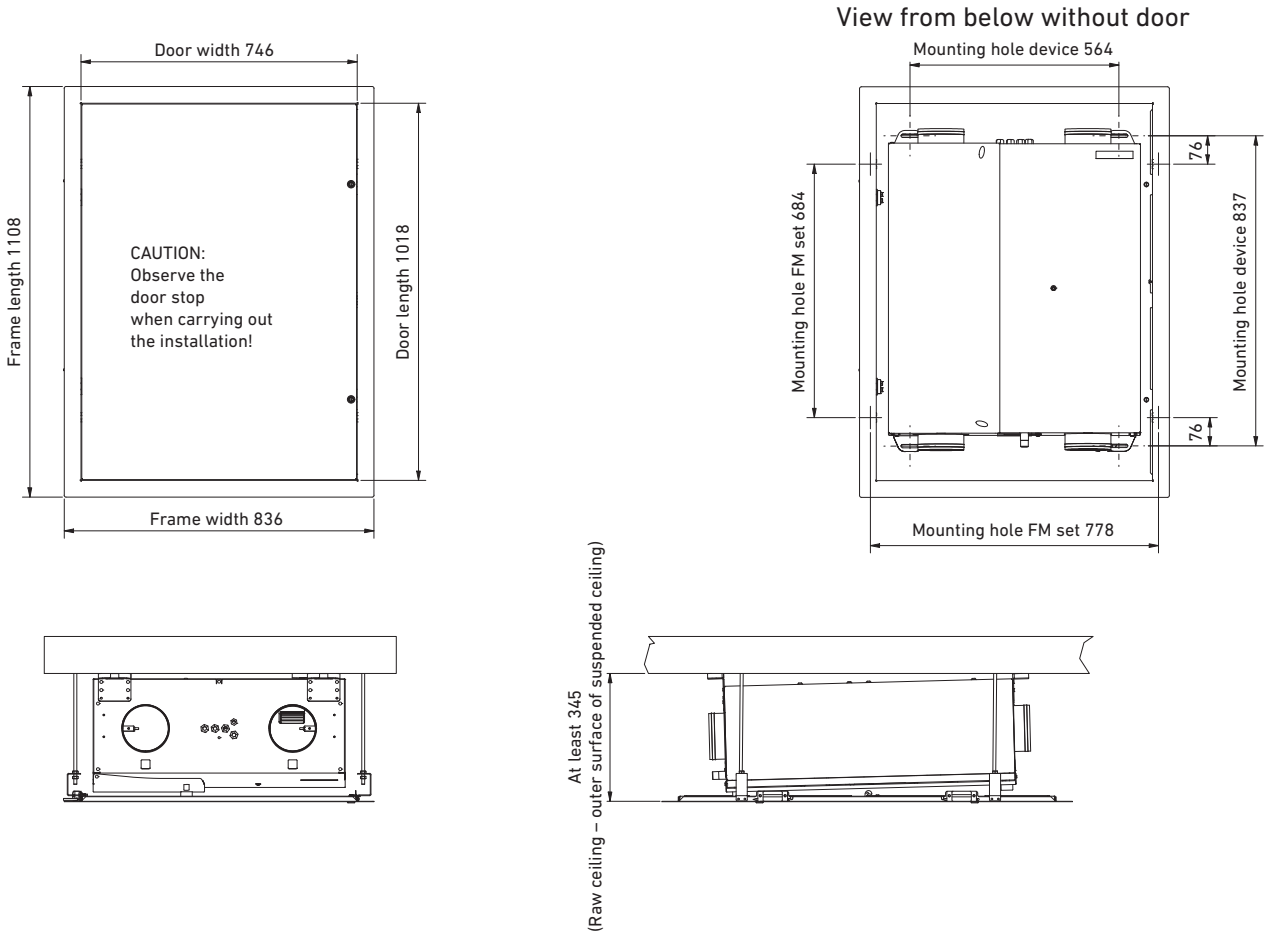
The flush-mounted set is integrated flush into the suspended/intermediate ceiling, the inspection front of the ceiling providing for the maintenance-friendly access to the ventilation unit installed above. This provides for full panelling of the LG 150 compact ventilation unit incl. the air ducts by a suspended/intermediate ceiling.

The kit consists of:
a pre-assembled frame incl. door leaf.
Fitting material for connecting the flush-mounted set to the concrete ceiling is not included in the scope of supply.

Material: sheet steel, galvanised
Colour: powder-coated in RAL 9003
Dimensions: W x H x D = 836 x 76 x 1108 mm
Dimensions of the ceiling recess: W x H = approx. 790 x 1065 mm

Item	Item number
Flush-mounted set for LG 150 In order to provide the whole comfort ventilation unit, including the air connection parts, with panelling behind the drywall. Powder-coated in RAL 9003.	08LG150UPSETDEA

Layout sketch (ceiling-mounted installation)



Flush-mounted set (for Huter frame)

Flush-mounted set suitable for Huter frame:
ASM WC/Wr.Lü.Pichlerluft (not included in the scope of supply). Provides for full facing of the compact ventilation unit LG 150 including air ducts in the rear wall of the toilet above the cistern. The inspection front allows for maintenance-friendly access to the device.

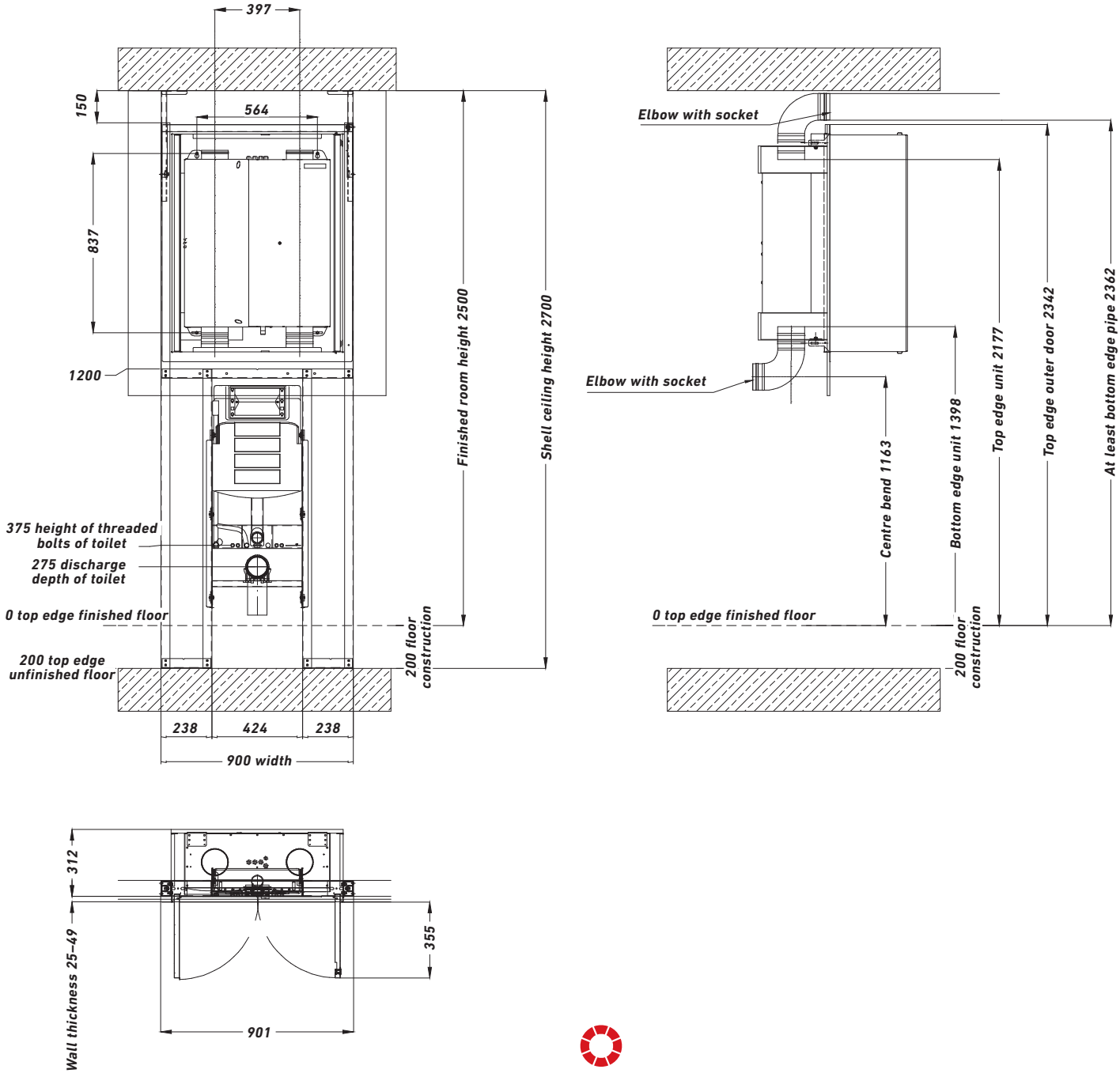
Material: sheet steel, galvanised
Colour: powder-coated in RAL 9003
Dimensions: W x H x D = 889 x 1108 x 100 mm

Required room heights:
Shell ceiling height: 2700 mm
Finished room height: 2500 mm
Room height with suspended ceiling: 2345 mm

Item	Item number
Flush-mounted set for Huter frame	08LG150UPSETHUA

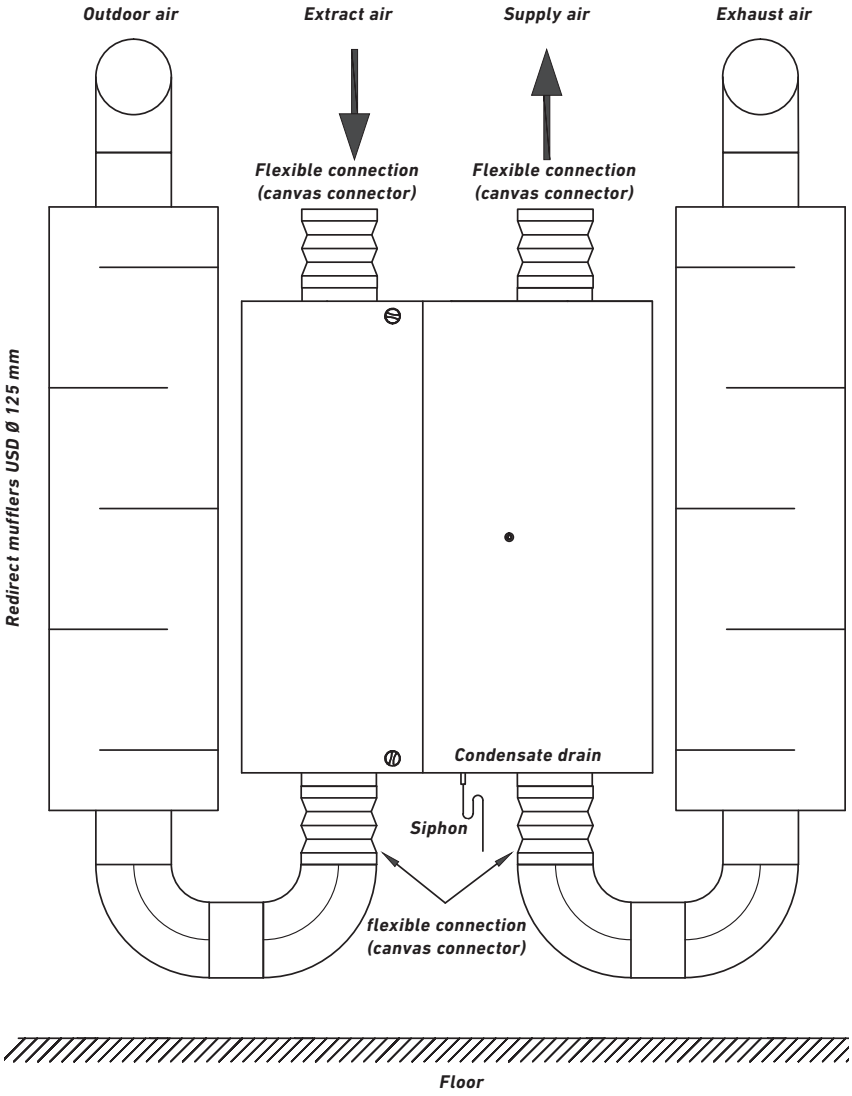
The availability of the required Huter frame (item designation: ASM WC/Wr.Lü. Pichlerluft) has to be checked at a regional or country-specific level.

Layout sketch (flush-mounted set with Huter frame)

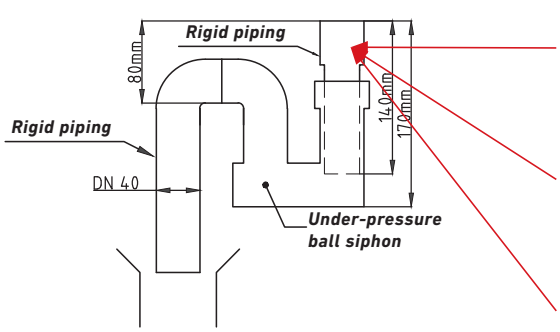


Mounting examples

WALL-MOUNTED INSTALLATION IN A TERRACED HOUSE – BASEMENT



DETAIL CONDENSATE CONNECTION WALL



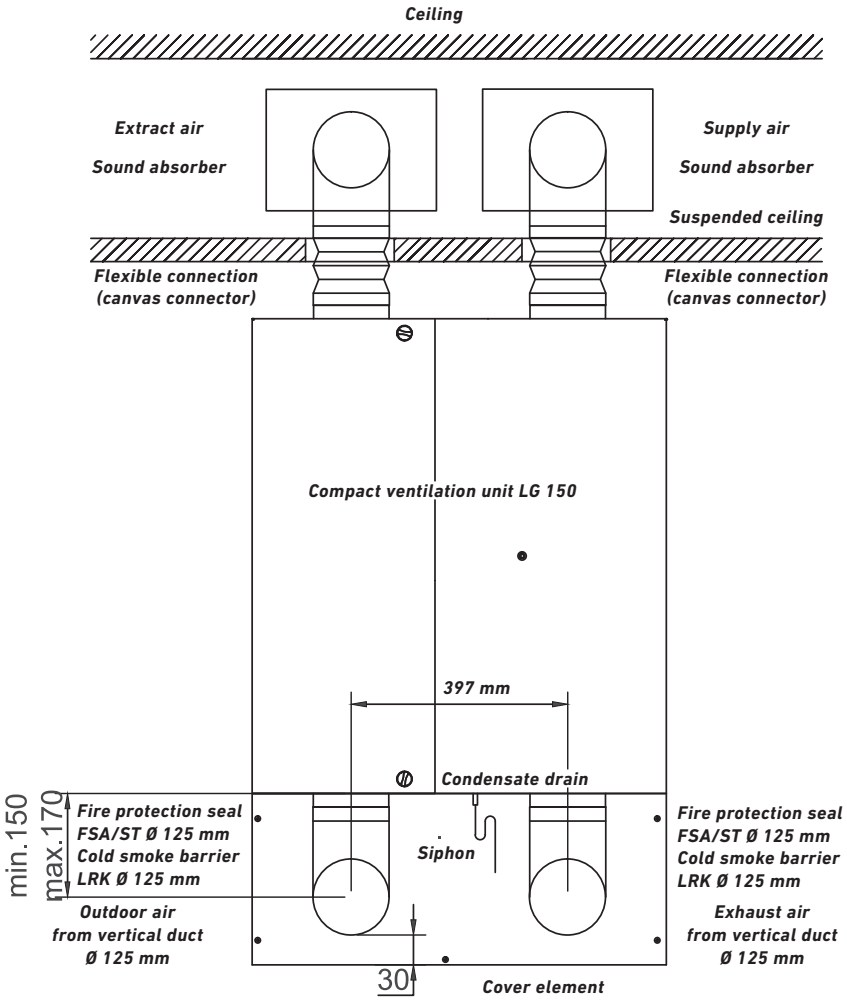
Example: Connector for condensate collection with screw-on connection and ball siphon

Adapter HL40.2 for HT pipe ø 40 mm

Adapter HL30.2 for HT pipe ø 32 mm

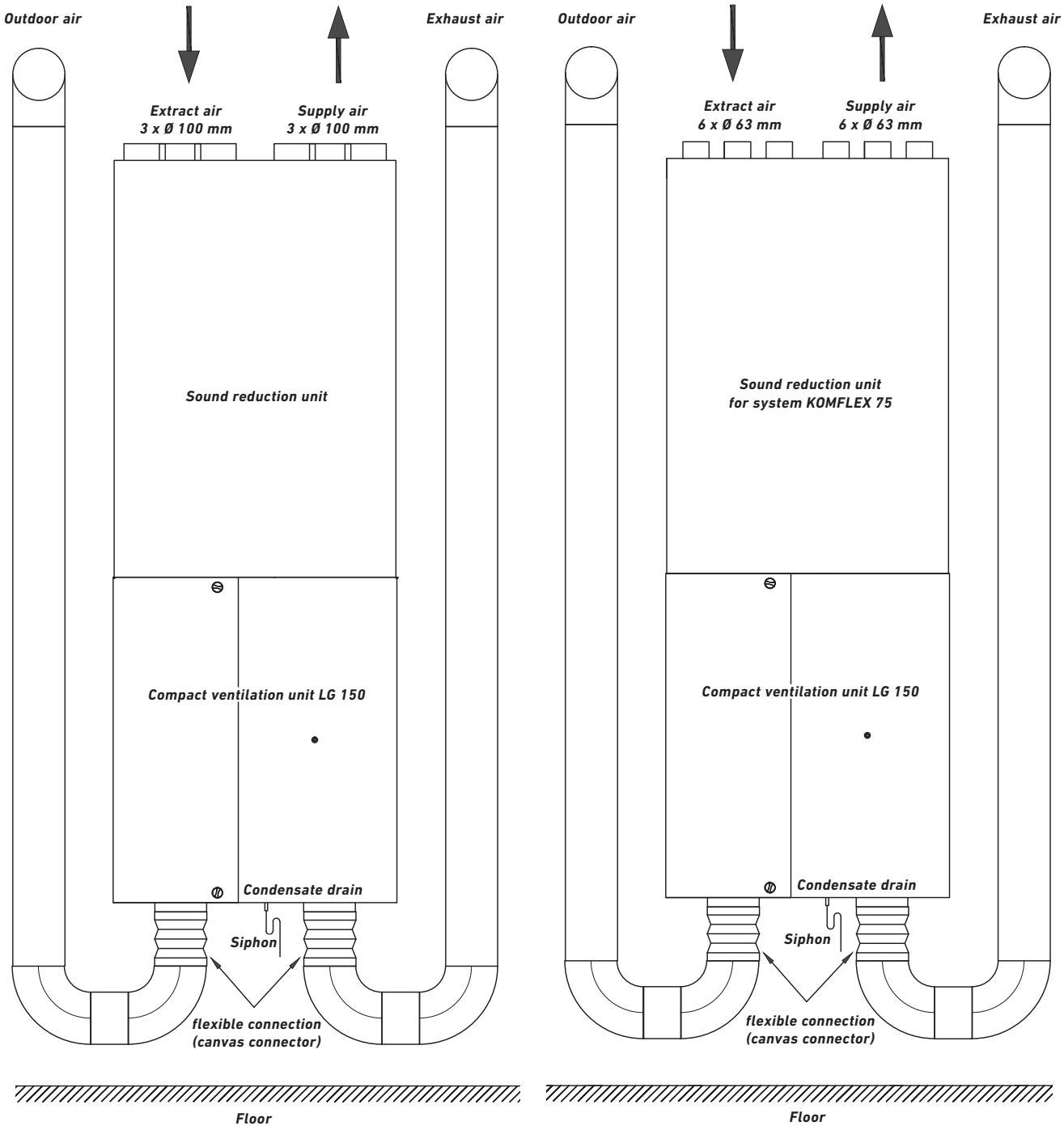
Screw-on connection for ball siphon HL 136.3

WALL-MOUNTED INSTALLATION WITH A COVER ELEMENT ABOVE THE TOILET TANK IN MULTI-STORY BUILDINGS



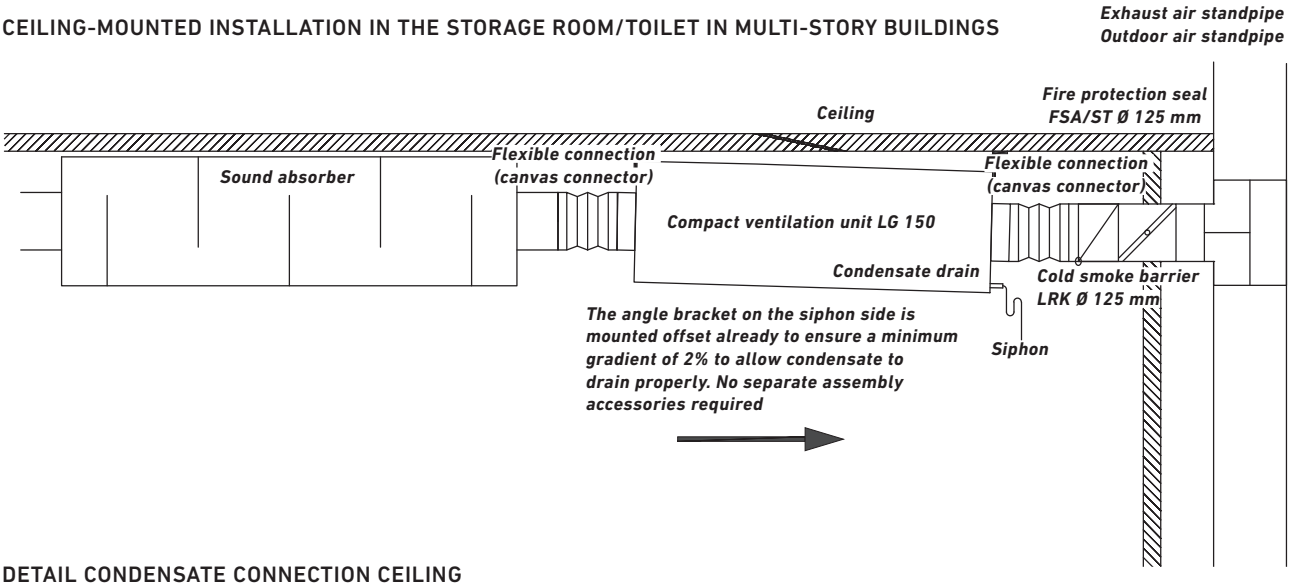
DETAIL CONDENSATE CONNECTION WALL SEE PAGE 19

WALL-MOUNTED INSTALLATION WITH A SOUND INSTALLATION UNIT IN THE STORAGE ROOM IN MULTI-STORY BUILDINGS

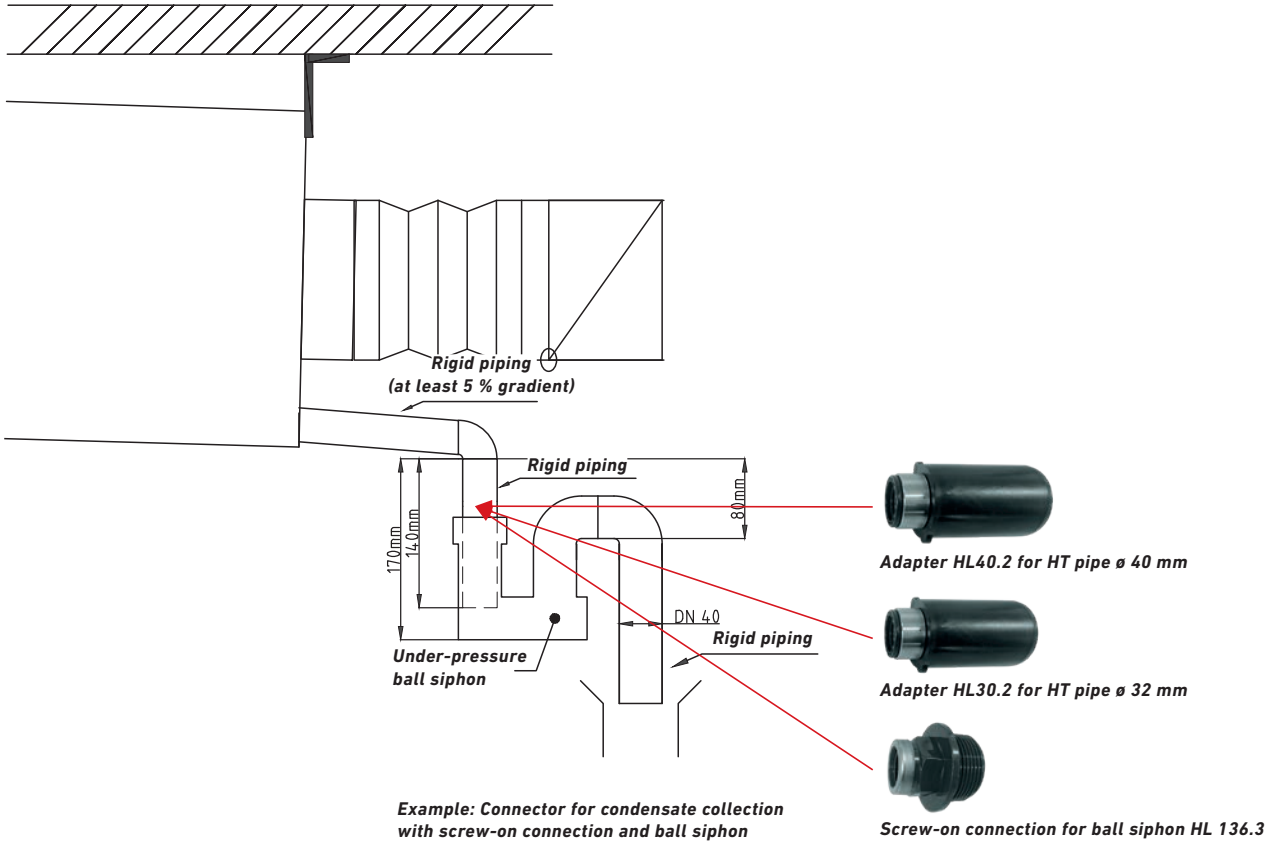


DETAIL CONDENSATE CONNECTION WALL SEE PAGE 19

CEILING-MOUNTED INSTALLATION IN THE STORAGE ROOM/TOILET IN MULTI-STORY BUILDINGS



DETAIL CONDENSATE CONNECTION CEILING



Example: Connector for condensate collection with screw-on connection and ball siphon

Data in accordance with EU Regulations 1253/1254-2014

The Pichler ventilation unit meets the requirements of the Eco-design Directive, in accordance with the EU Regulations 1253/1254-2014, and is based on the current state of knowledge (07/07/2014).

LG 150 A/AF

Specific energy consumption:

- A+ is applicable when controlled to local requirements.
- A is applicable when controlled with a manual control, a clock control or a central demand control.

LG 150 B

Specific energy consumption:

- A+ is applicable when controlled to local requirements.
- A is applicable when controlled with a manual control, clock control or a central demand control

LG 150 BF

Specific energy consumption:

- A is applicable when controlled with a central demand control or when controlled to local requirements.
- B is applicable when controlled with a manual control or a clock control.

Maximum air volume flow: 150 m^3/h
The specified energy efficiency is applicable when controlled to local requirements and is valid up to the specified maximum air volume flow.
Sound power level LWA at the reference volume flow: 39 db(A)

Maximum air volume flow: 180 m^3/h
The specified energy efficiency is applicable when controlled to local requirements and is valid up to the specified maximum air volume flow.
Sound power level LWA at the reference volume flow: 45 db(A)

Maximum air volume flow: 180 m^3/h
The specified energy efficiency is applicable when controlled to local requirements and is valid up to the specified maximum air volume flow.
Sound power level LWA at the reference volume flow: 45 db(A)

Download the product fiches on www.pichlerluft.at

Overview energy efficiency classes

Air control options		manual control			clock control			central demand control			local demand control		
ventilation unit	LG 150	A/AF	B	BF	A/AF	B	BF	A/AF	B	BF	A/AF	B	BF
LG + operating control unit MINI		A	A	B	–	–	–	–	–	–	–	–	–
LG + operating control unit MINI + 1 x CO_2 sensor*		–	–	–	–	–	–	A	A	A	–	–	–
LG + operating control unit MINI + 1 x RH sensor*		–	–	–	–	–	–	A	A	A	–	–	–
LG + operating control unit MINI + 2 x CO_2 sensor*		–	–	–	–	–	–	–	–	–	A+	A+	A
LG + operating control unit MINI + 2 x RH sensor*		–	–	–	–	–	–	–	–	–	A+	A+	A
LG + operating control unit MINI + 1 x CO_2 + 1 x RH sensor*		–	–	–	–	–	–	–	–	–	A+	A+	A
LG + operating control unit TOUCH		–	–	–	A	A	B	–	–	–	–	–	–
LG + operating control unit TOUCH + 1 x CO_2 sensor*		–	–	–	–	–	–	A	A	A	–	–	–
LG + operating control unit TOUCH + 1 x RH sensor*		–	–	–	–	–	–	A	A	A	–	–	–
LG + operating control unit TOUCH + 2 x CO_2 sensor*		–	–	–	–	–	–	–	–	–	A+	A+	A
LG + operating control unit TOUCH + 2 x RH sensor*		–	–	–	–	–	–	–	–	–	A+	A+	A
LG + operating control unit TOUCH + 1 x CO_2 + 1 x RH sensor*		–	–	–	–	–	–	–	–	–	A+	A+	A

see page 10, optional accessories for needs-based operation

The LG 150 at a glance!

Fans:
Energy-saving radial fans with DC technology (state-of-the-art EC motor technology) with automatic constant volume flow control

Counterflow heat exchanger:
Highly efficient heat recovery system with an air/air counterflow heat exchanger made of recyclable plastic with an automatic 100% bypass

Air volume flow:
LG 150 A of 30 to 150 m^3/h
LG 150 B of 30 to 200 m^3/h
with an external pressure of 50 to 250 Pa

PTC electrical preheater battery:
Optionally available as an internal version

PTC electrical reheater battery:
Optionally available as an external version

Filters:
Filter ODA ISO ePM2,5 55% in the outdoor air, filter ETA ISO Coarse 70% in the extract air

Housing:
EPP-housing with equipment cladding, powdercoated in RAL 9003

Air connections:
Left and right-hand versions of the unit. ODA/EHA/SUP/ETA: each Ø 125 mm with a double lip seal

Installation position:
Wall-mounted installation (covering ODA/EHA). Ceiling-mounted installation (in final installation min. 2 % inclined assembled)

Summer changeover:
Integrated 100% bypass flap with seal

Service – maintenance – initial startup

OUR COMPACT VENTILATION UNIT LG 150 A/AF HASBEEN CERTIFIED BY

- Passivhausinstitut (Passive House Institute) Darmstadt

OUR COMPACT VENTILATION UNIT LG 150 A/AF HAS BEEN APPROVED BY

- DIBt – Deutsches Institut für Bautechnik

OUR COMPACT VENTILATION UNIT LG 150 A/AF HAS BEEN TYPE TESTED BY

- TÜV-AUSTRIA Services GmbH, Testing, Inspection and Certifiation Centre/Vienna

Notice:
Our product range includes units with a size up to 10,000 m^3/h as well as comprehensive accessories.

Notes

Notes

ErP 2018

ErP 2018

Fulfils the requirements of the Ecodesign Directive, in accordance with EU Regulation 1253/2014.

Your partner/installer:

klimaaktiv Partner

PASSIVHAUS Austria

Mitglied NETZWERK PASSIVHAUS www.passivhaus.at

Responsible for the content: J. Pichler Gesellschaft m.b.H. | ***Graphics and layout:*** WERK1
Photos: Ferdinand Neumüller, Archiv J. Pichler Gesellschaft m.b.H. | ***Text:*** J. Pichler Gesellschaft m.b.H.
 Version: 04/2021 en/P

PICHLER

Systematic ventilation.

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Sales offices in Slovenia and Serbia. Sales partners in Europe.

COMPACT VENTILATION UNIT LG 250 A

COMFORT VENTILATION

optional

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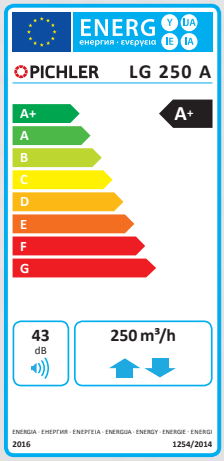
CERTIFIED COMPONENT Passive House Institute

ErP 2018

EU-Regulation 1253/2014



The specified energy efficiency is applicable when controlled to local requirements and is valid up to the specified maximum air flow volume.

PICHLER

Systematic ventilation.

COMPACT VENTILATION UNITS LG 350 & LG 450

AUSTRIA

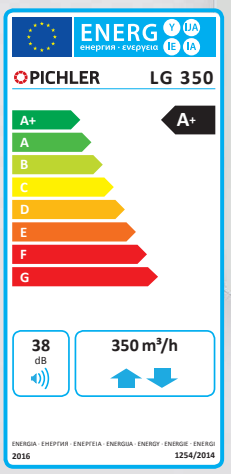
Deutsches Institut für Bautechnik DIBt

Z-51.3-428

CERTIFIED COMPONENT Passive House Institute

ErP 2018

EU-Regulation 1253/2014



For details – see the brochure

COMFORT VENTILATION

optional

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Systematic Ventilation.

Product description

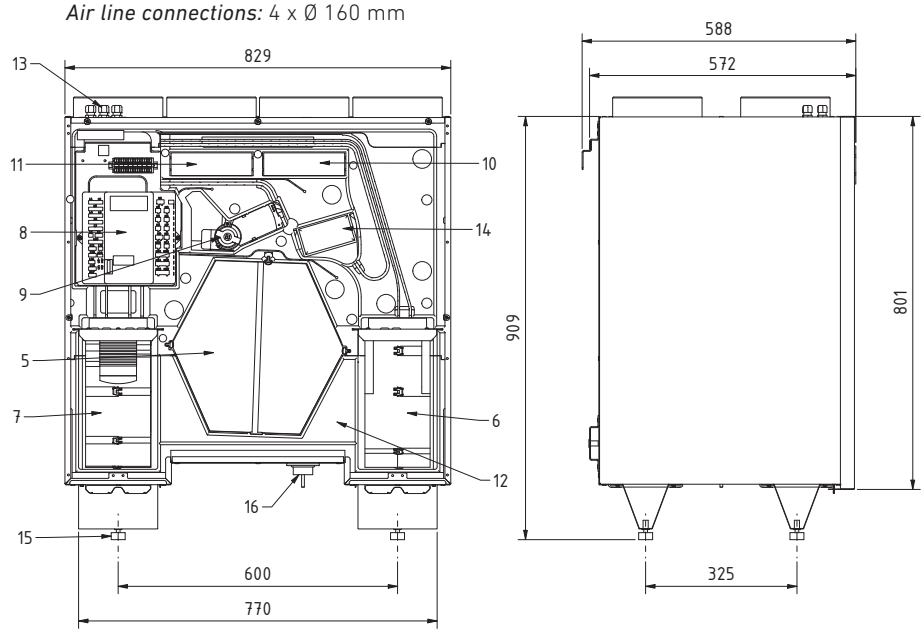
The compact ventilation unit LG 350 and LG 450 comprise a compact thermally insulated EPP housing without thermal bridges, of galvanized sheet steel, externally powder-coated in RAL 9010. They have a highly efficient heat recovery system with an air/air counterflow heat exchanger made of recyclable plastic, with automatic 100 % bypass and energy-saving radial fans driven by the latest EC motor technology. The integrated air flow rate measurement guarantees balanced operation on the supply and extract air sides. The standard air filters used are of filter class ODA ISO ePM1 70 % for the outdoor air and of filter class ETA ISO Coarse 80 % for the extract air. The operation is simple and intuitive via the MINI or TOUCH (optional) operating control unit and with connection to the Internet (LAN connection) via the Pichler app. The optional expansion options for the CO_2 sensor module and the humidity sensor allow for demand-driven ventilation operation. The compact ventilation units LG 350 and LG 450 are suitable for floor or wall mounting (removable adjustable foot brackets) in frost-free rooms.

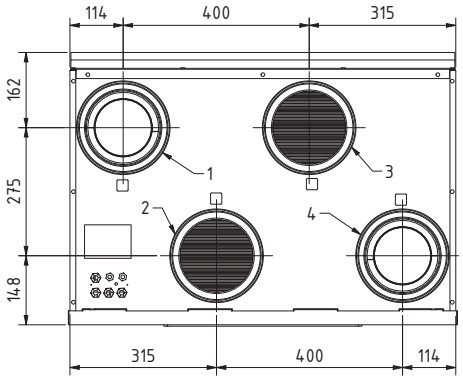
Area of application

The compact ventilation unit LG 350 and LG 450 are used for the controlled mechanical supply and extract air ventilation of larger residental houses, offices and similar applications. The range of use extends fundamentally to living spaces from approx. 100 m^2 to approx. 350 m^2 in passive or low energy structures, with an adjustable air volume flow of up to 350 m^3/h (LG 350) or 450 m^3/h (LG 450).

Layout sketch (standing or wall-mounted installation, left-hand version)

Dimensions: (W x H x D) 829 x 950 x 571 mm
Air line connections: 4 x Ø 160 mm



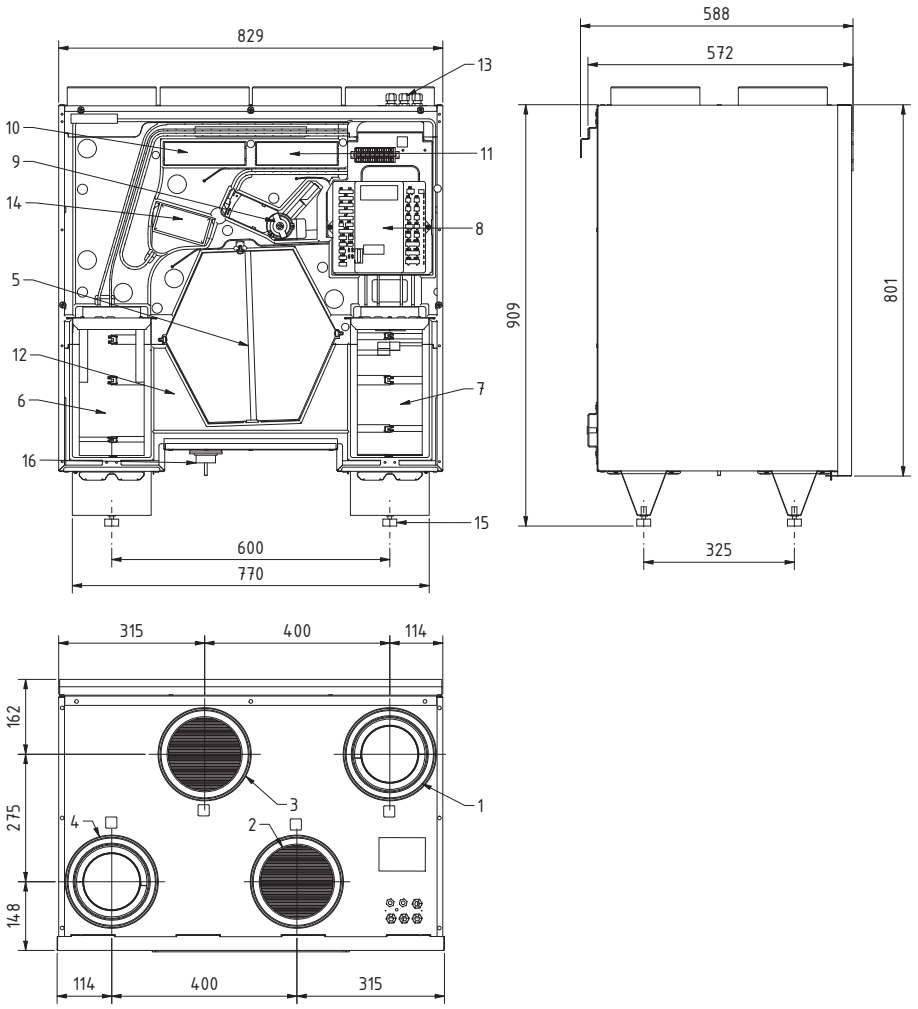


1 Supply air DN160
2 Extract air DN160
3 Outdoor air DN160
4 Exhaust air DN160
5 Counterflow heat exchanger
6 Exhaust air fan
7 Supply air fan
8 Control system
9 Bypass flap
10 Filter ODA ISO ePM1 70%
11 Filter ETA filter ISO Coarse 80%
12 Condensate tray
13 Cable inlets
14 Electric preheater battery (optional)
15 Height-adjustable feet (removable brackets)
16 Condensate outlets DN40

Illustration: **LG 350 & LG 450 (left-hand version)**

Layout sketch (standing or wall-mounted installation, right-hand version)

Dimensions: (W x H x D) 829 x 950 x 571 mm
Air line connections: 4 x Ø 160 mm

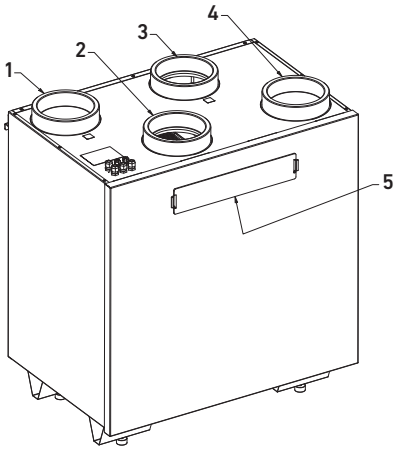
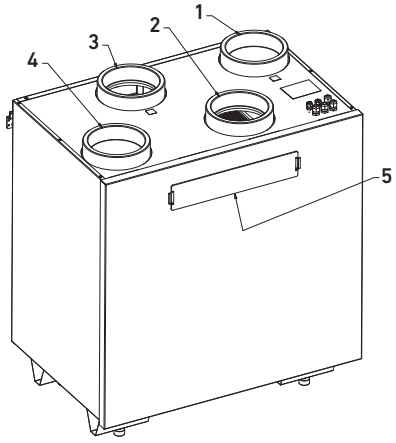


1 Supply air DN160
2 Extract air DN160
3 Outdoor air DN160
4 Exhaust air DN160
5 Counterflow heat exchanger
6 Exhaust air fan
7 Supply air fan
8 Control system
9 Bypass flap
10 Filter ODA ISO ePM1 70%
11 Filter ETA filter ISO Coarse 80%
12 Condensate tray
13 Cable inlets
14 Electric preheater battery (optional)
15 Height-adjustable feet (removable brackets)
16 Condensate outlets DN40

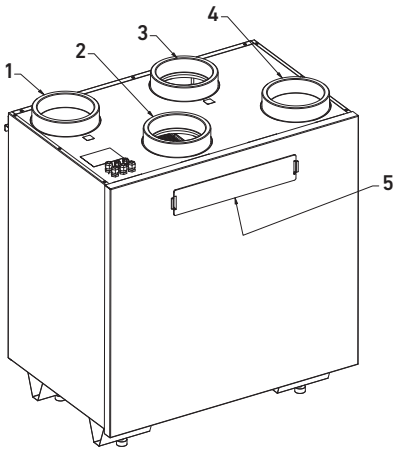
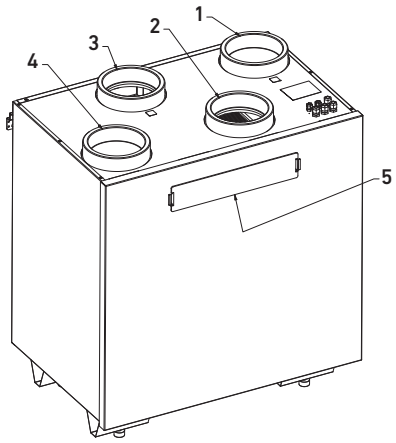
Illustration: LG 350 & LG 450 (right-hand version)

Versions

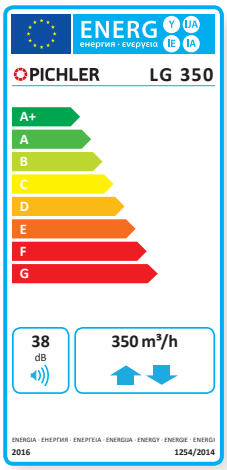
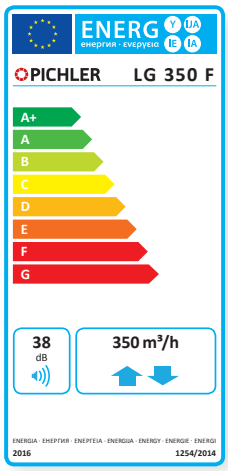
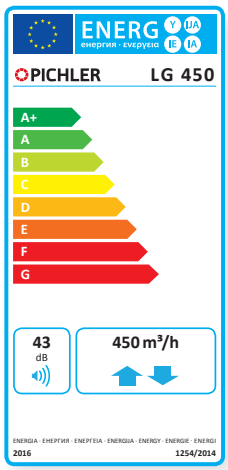
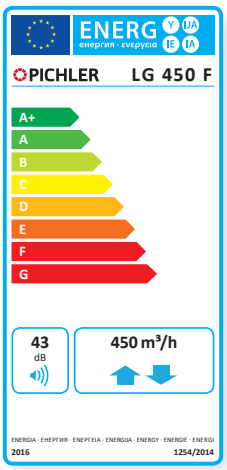
LG 350

Standing or wall-mounted LG 350	Left-hand version	Right-hand version
Item no. without a preheater battery	08LG350L	08LG350R
Item no. with an integrated preheater battery	08LG350LV	08LG350RV
Item no. with enthalpy exchanger	08LG350LF	08LG350RF
Item no. with enthalpy exchanger and an integrated preheater battery	08LG350LFV	08LG350RFV
1 Supply air *2 Extract air* *3 Outdoor air* *4 Exhaust air* *5 Filter revision*		

LG 450

Standing or wall-mounted LG 450	Left-hand version	Right-hand version
Item no. without a preheater battery	08LG450L	08LG450R
Item no. with an integrated preheater battery	08LG450LV	08LG450RV
Item no. with enthalpy exchanger	08LG450LF	08LG450RF
Item no. with enthalpy exchanger and an integrated preheater battery	08LG450LFV	08LG450RFV
1 Supply air *2 Extract air* *3 Outdoor air* *4 Exhaust air* *5 Filter revision*		

Overview energy efficiency classes

	LG 350 (V)	LG 350 F (V)	LG 450 (V)	LG 450 F (V)
Manual control	A	A	A	A
Clock control	A	A	A	A
Central demand control	A+	A	A	A
Local demand control	A+	A+	A+	A
				

Download the product fiches from: www.pichlerluft.at

Technical data

Equipment type	LG 350 (V)	LG 350 F (V)	LG 450 (V)	LG 450 F (V)
Heat exchanger	Standard	Enthalpy exchanger	Standard	Enthalpy exchanger
Air volume flow min. - max. (adjustable in steps of 5 m^3/h)	50 - 350 m^3/h	50 - 350 m^3/h	50 - 450 m^3/h	50 - 450 m^3/h

Characteristic values in compliance with EN13141-7:2010				
Temperature ratio $\eta_{\Theta,SU}$ [1]	93 %	81 %	91 %	79 %
Temperature ratio $\eta_{\Theta,EX}$ [1]	86 %	75 %	84 %	71 %
Specific input power SIP [1]	0,18 Wh/m^3	0,16 Wh/m^3	0,22 Wh/m^3	0,21 Wh/m^3
Specific input power SIP [2]	0,19 Wh/m^3	0,17 Wh/m^3	0,24 Wh/m^3	0,21 Wh/m^3
External leakage	< 0,50 %		< 0,40 %	
Internal leakage	< 0,50 %		< 0,40 %	

Characteristic values in compliance with PHI criteria				
Certified range of application	71 - 277 m^3/h		71 - 350 m^3/h	
Heat provision level $\eta_{ef,HR}$ Application range in compliance with PHI	90 %	85 %	89 %	81 %
Moisture recovery	-	76 %	-	76 %
Power efficiency η_{elec}	0,22 Wh/m^3	0,22 Wh/m^3	0,25 Wh/m^3	0,24 Wh/m^3
Power consumption in standby operation	3 W			

Classification of air filters in accordance with EN ISO 16890	
(Filter ODA (Outdoor air)	ISO ePM1 70%
Filter ETA (Extract air)	ISO Coarse 80%

Operating conditions	
Permissible ambient temperature (place of installation)	+5 to +35 °C
Permissible operating temperature (outside air)	-15 to +35 °C

Electrical system		
Electrical connection	230 V / 1 ~ / 50 Hz / 16 A	
IP classification	IP40 with connected air ducts	
Max. power without VHR	180 W	350 W
Max. power with VHR	2050 W	2250 W

Materials	
Inner part	EPP and galvanised sheet steel
Housing	Galvanised sheet steel and powder-coated in RAL 9010
Heat exchanger	Polystyrene with flame protection grid
Enthalpy exchanger	Polymer membrane

Housing	
Air duct connections	4 x Ø 160 mm (for steel nipples safe or EPP sleeve DN160)
Condensate drainage	AG 1 1/4"
Dimensions (W x H x D)	829 x 950 x 571 mm
Weight without optional accessories	approx. 56 kg

[1] with 70 % of the max. volume flow
[2] according to the calculation basis in compliance with prEN13171-7: 2018 based on air temperature 20 °C

SOUND DATA

LG 350		Pos.	Housing emission			Outdoor air connecting piece			Supply air connecting piece			Exhaust air connecting piece			Extract air connecting piece		
		m^3/h	245	277	350	245	277	350	245	277	350	245	277	350	245	277	350
		Pa	50	100	100	50	100	100	50	100	100	50	100	100	50	100	100
Measuring point	125 Hz	L_w in dB	37	38	41	36	37	39	45	47	50	41	49	51	37	39	44
	250 Hz		46	49	50	43	43	41	55	55	57	51	54	56	43	43	43
	500 Hz		31	34	38	26	30	34	43	46	49	42	45	49	25	28	32
	1000 Hz		27	30	34	23	28	30	40	44	47	40	44	48	23	26	30
	2000 Hz		21	25	30	17	21	26	42	45	50	41	46	50	18	21	26
	4000 Hz		< 15	< 15	19	< 15	< 15	< 15	33	38	44	32	38	44	< 15	< 15	17
	8000 Hz		< 15	< 15	< 15	< 15	< 15	< 15	23	29	36	21	28	37	< 15	< 15	< 15
	Total L_{WA} in dB(A)		**38**	**41**	**45**	**34**	**36**	**37**	**49**	**52**	**56**	**47**	**51**	**55**	**33**	**36**	**38**

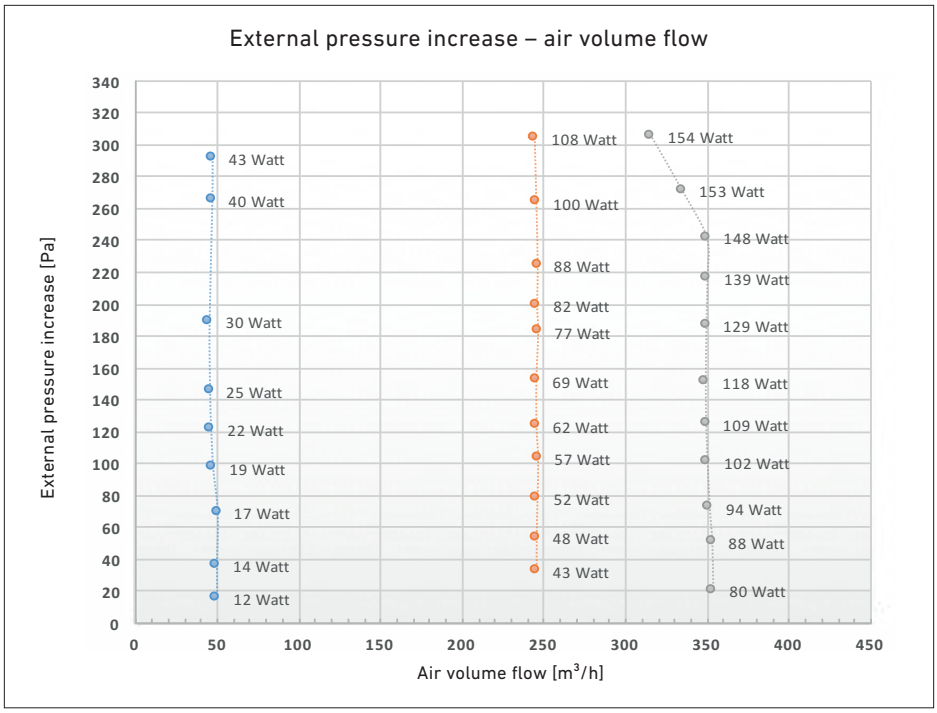
Remark: Tolerances for sound data ± 2 dB, measured in compliance with EN ISO 9614-2

LG 450		Pos.	Housing emission			Outdoor air connecting piece			Supply air connecting piece			Exhaust air connecting piece			Extract air connecting piece		
		m^3/h	315	350	450	315	350	450	315	350	450	315	350	450	315	350	450
		Pa	50	100	100	50	100	100	50	100	100	50	100	100	50	100	100
Measuring point	125 Hz	L_w in dB	41	43	44	39	44	47	49	51	51	51	52	60	44	44	47
	250 Hz		50	51	50	43	42	44	56	57	61	53	56	61	44	43	45
	500 Hz		37	40	52	32	35	43	48	50	70	48	49	64	31	33	41
	1000 Hz		32	33	40	30	32	36	45	48	52	46	48	55	30	31	36
	2000 Hz		27	30	35	25	28	32	48	50	55	48	51	56	25	27	32
	4000 Hz		< 15	19	26	< 15	16	22	40	44	51	41	44	52	16	19	24
	8000 Hz		< 15	< 15	< 15	< 15	< 15	< 15	32	37	46	33	38	47	< 15	< 15	17
	Total L_{WA} in dB(A)		**43**	**45**	**49**	**37**	**38**	**43**	**53**	**56**	**67**	**53**	**56**	**63**	**37**	**39**	**42**

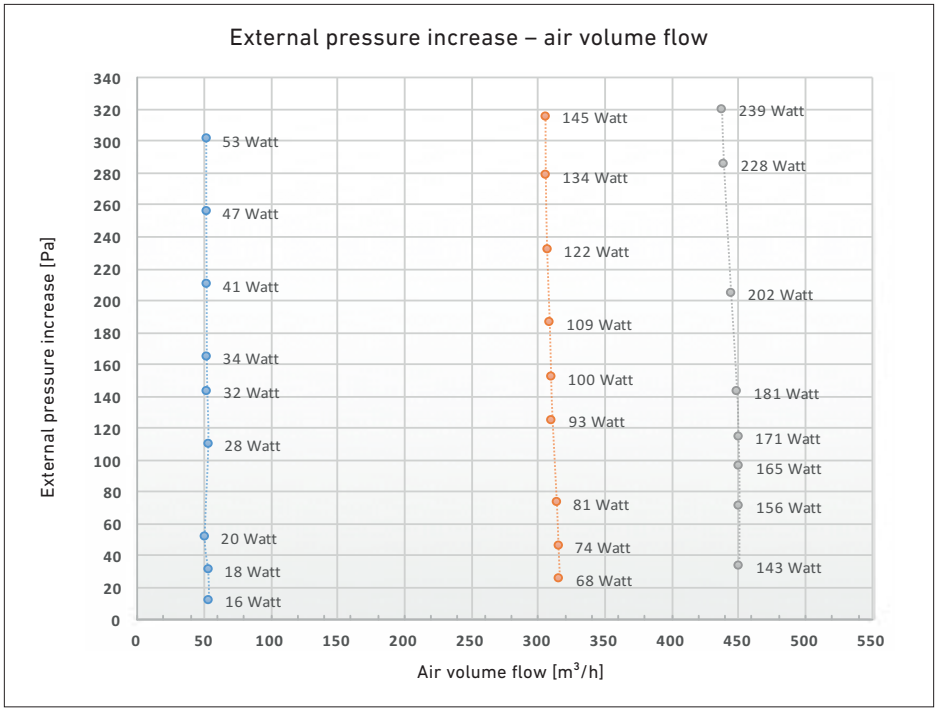
Remark: Tolerances for sound data ± 2 dB, measured in compliance with EN ISO 9614-2

Characteristic curve – external pressure increase – air volume flow rate

The characteristic curves shown are applicable to unit type with outdoor air (filter ODA ISO ePM1 70%) and extract air filter (filter ETA ISO Coarse 80%) and with an electrical pre-heater battery. The total power specified takes the power consumption for the two fans in the supply air and exhaust air as well as the power consumption of the controller into consideration.



LG 350 V compact ventilation unit



LG 450 V compact ventilation unit

Technical specifications LG 350 (V)

PASSIVE HOUSE CERTIFIED IN ACCORDANCE WITH PHI CRITERIA

Degree of heat provision: $\eta_{eff,\,t,\,WRG}$ = 90 %
Comfort criterion: T_{SUP}= +16,5 °C bei T_{ODA}= -10 °C
Flow efficiency: $\eta_{elec.}$ = 0,22 Wh/m³

Technical specifications LG 350 F (V) with moisture recovery

PASSIVE HOUSE CERTIFIED IN ACCORDANCE WITH PHI CRITERIA

Degree of heat provision: $\eta_{eff,\,t,\,WRG}$ = 85 %
Average moisture ratio: η_X = 0,76
Comfort criterion: T_{SUP}= +16,5 °C bei T_{ODA}= -10 °C
Flow efficiency: $\eta_{elec.}$ = 0,22 Wh/m³

Technical specifications LG 450 (V)

PASSIVE HOUSE CERTIFIED IN ACCORDANCE WITH PHI CRITERIA

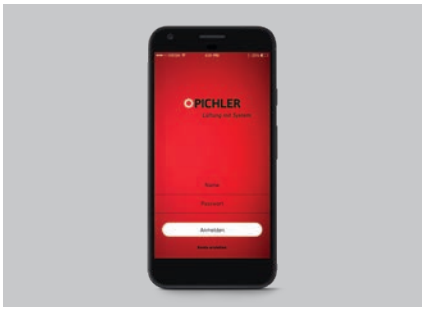
Degree of heat provision: $\eta_{eff,\,t,\,WRG}$ = 89 %
Comfort criterion: T_{SUP}= +16,5 °C bei T_{ODA}= -10 °C
Flow efficiency: $\eta_{elec.}$ = 0,25 Wh/m³

Technical specifications LG 450 F (V) with moisture recovery

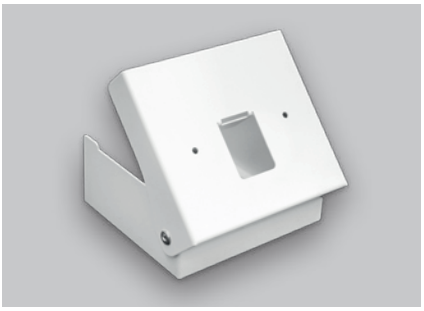
PASSIVE HOUSE CERTIFIED IN ACCORDANCE WITH PHI CRITERIA

Degree of heat provision: $\eta_{eff,\,t,\,WRG}$ = 81 %
Average moisture ratio: η_X = 0,76
Comfort criterion: T_{SUP}= +16,5 °C bei T_{ODA}= -10 °C
Flow efficiency: $\eta_{elec.}$ = 0,24 Wh/m³

TOUCH operating control unit



Pichler-App



Swiveling console

Operation

BYPASS FOR HEAT EXCHANGER

The 100% bypass is controlled based on the measured exhaust air and outdoor temperatures. In this way, the heat exchanger is bypassed in summer and the cool outdoor air can be blown directly into the living area, or via an existing ground collector.

CONTROLLER

Scalable expansion of the control system is possible, from low-cost to high-end. Further options include connections to an external building control system using Modbus RTU and sensors to monitor room air quality.
Ventilation unit settings are made via a control unit. A MINI operating unit as a compact flush operating unit or optional a TOUCH operating unit as a surface-mounted version can be chosen to control and operate the ventilation unit.
Connection to a building automation via integrated Modbus RTU interface. Optionally, a gateway for the KNX bus system is also available.

MINI CONTROL UNIT

The MINI control unit is used to control the ventilation unit. It is easy to operate and enables the configuration of ventilation levels, switching between summer and winter mode, setting of basic volume flow, etc. In addition, the control unit displays operating status and any faults that may occur. The USB interface on the operating unit is fitted as standard. Installation is on a flush-mounted box (not included in delivery).

TOUCH CONTROL UNIT

The control unit with a 4.3" colour-touch-display is used to control the ventilation unit. Operation is simple and intuitive. The most important settings and readings are very easy to make. The user-friendly handling provides for automatic or manual setting of the ventilation levels. In Automatic mode, the system is controlled by programmable time programmes, closed-loop humidity or CO_2 controls and works in a fully automated fashion, whereas in manual mode ventilation levels may, for instance, be individually increased (boost ventilation). Further functions are the changeover function between summer and winter operation as well as the setting for the volume flows. The operating mode, temperatures, a required filter change and possible faults are displayed in plain text. The control unit also has an integrated temperature sensor, which can be used as a room temperature sensor when needed. Installation is on a flush-mounted box (not included in delivery).

Advantages of controlling:
- Easy display of current operating settings
- Individually adjustable air volumes
- Time and weekly programs (TOUCH only)

Item	Item number
STANDARD: operating control unit MINI for LG 350 and 450	08LGMINI350450
OPTIONAL: operating control unit TOUCH for LG 350 and LG 450	08LG350450T
OPTIONAL: Swiveling console for attaching the TOUCH operating control unit directly to the ventilation unit	40LG350BG140

EASY OPERATION WITH THE PICHLER APP

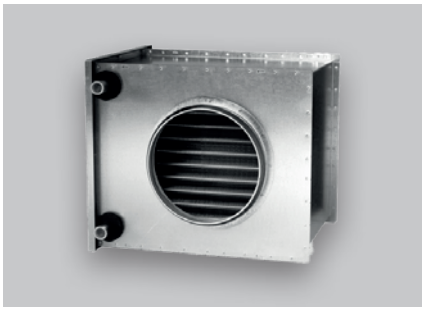
User-friendly: the compact ventilation unit can be operated easily with our free smartphone app for Android and iOS, whether you are at home or out and about.

REMOTE ACCESS / PICHLER CONNECT

Operational safety: Remote access faciliates a prompt response with minimal effort for the Pichler customer service in the event of a malfunction.

PICHLER connect.

CO_2 sensor



Hot water heater battery

Accessories

SPARE FILTER

will ensure perfect hygiene and air quality given regular replacement, also proper functionality and efficient operation of the equipment.

Item	Item number
Filter ETA ISO Coarse 80% (Extract air)	40LG0500000A
Filter ODA ISO ePM1 70% (Outdoor air)	40LG0500001A

DEMAND-ORIENTED VENTILATION CONTROL

CO_2, humidity and room temperature sensors for demand-oriented ventilation control. The ventilation unit will automatically increase or reduce the air volumes depending on the quality of the air in the room. The sensor in the surface-mounted housing is suitable for wall mounting.

Colour: white
Dimensions: W x H x D = 85 x 85 x 35 mm
Ambient temperature: 10-50°C
Measuring range: 0-2000 ppm
Sensor supply voltage: 24V AC/DC
Control signal: 0-10 V

Item	Item number
CO_2 sensor	07RCO248330

Colour: white
Dimensions: W x H x D = 85 x 85 x 35 mm
Ambient temperature: 0-60° C (no condensation)
Measuring range: 0-100% RH
Sensor supply voltage: 24V AC/DC
Control signal: 0-10 V

Item	Item number
Humidity sensor	07RHF49360

Type of room temperature sensor: NTC 10k
Dimensions: W x H x D = 85 x 85 x 35 mm

Item	Artikelnummer
Room temperature sensor	07RTF49357

UNITS FOR INSTALLATION INTO THE AIR SUPPLY DUCT

LG 350	
Item	**Item number**
Combination register (cold water coil) for duct installation Ø 160 mm	01CWK160
Hot water heating coil for duct installation Ø 160 mm	01VBC160
DN15 KVS 0.63 three-way valve with LR24ASR actuator	07R3015P6LR24ASR
External electric re-heating battery	08CV16121MTXL

LG 450	
Item	**Item number**
Combination register (cold water coil) for duct installation Ø 200 mm	01CWK200
Hot water heating coil for duct installation Ø 200 mm	01VBC200
DN15 KVS 1.00 three-way valve with LR24ASR actuator	07R30151SLR24ASR
External electric re-heating battery	08CV16121MTXL

EXTERNAL CABLE TEMPERATURE SENSOR

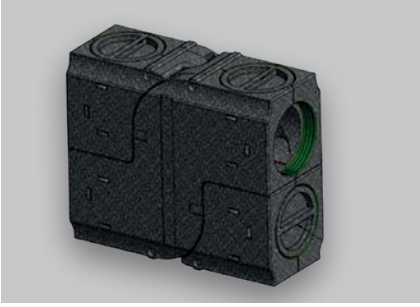
NTC thermistor sensor with metal sleeve required for operation of the cold water coil, hot water heating coil, or electric re-heating battery.

Item	Item number
NTC thermistor sensor, length 2 m	40LG041920

CONDENSATE SIPHON

DN40 condensate siphon with vertical connection 5/4", water odour seal (60 mm) and mechanical odour seal.

Item	Item number
Condensate siphon DN40 x 5/4"	40LG030620



Air exchange module

Accessories

SHUT-OFF VALVE

Shut-off valve. Made from galvanized sheet steel with double-lip sealing.

Item	Item number
Shut-off valve AKR Ø 160 mm with motor LF 230	02AKR160LF230
Shut-off valve AKR Ø 200 mm with motor LF 230	02AKR200LF230

COMPLETE PROGRAM FOR AIR DISTRIBUTION SYSTEMS

We offer a complete program of air distribution systems, such as Komflex (round or oval). Details of our air distribution program can be found in the technical documentation.

AIR EXCHANGE MODULE Ø 160 / S15 MM

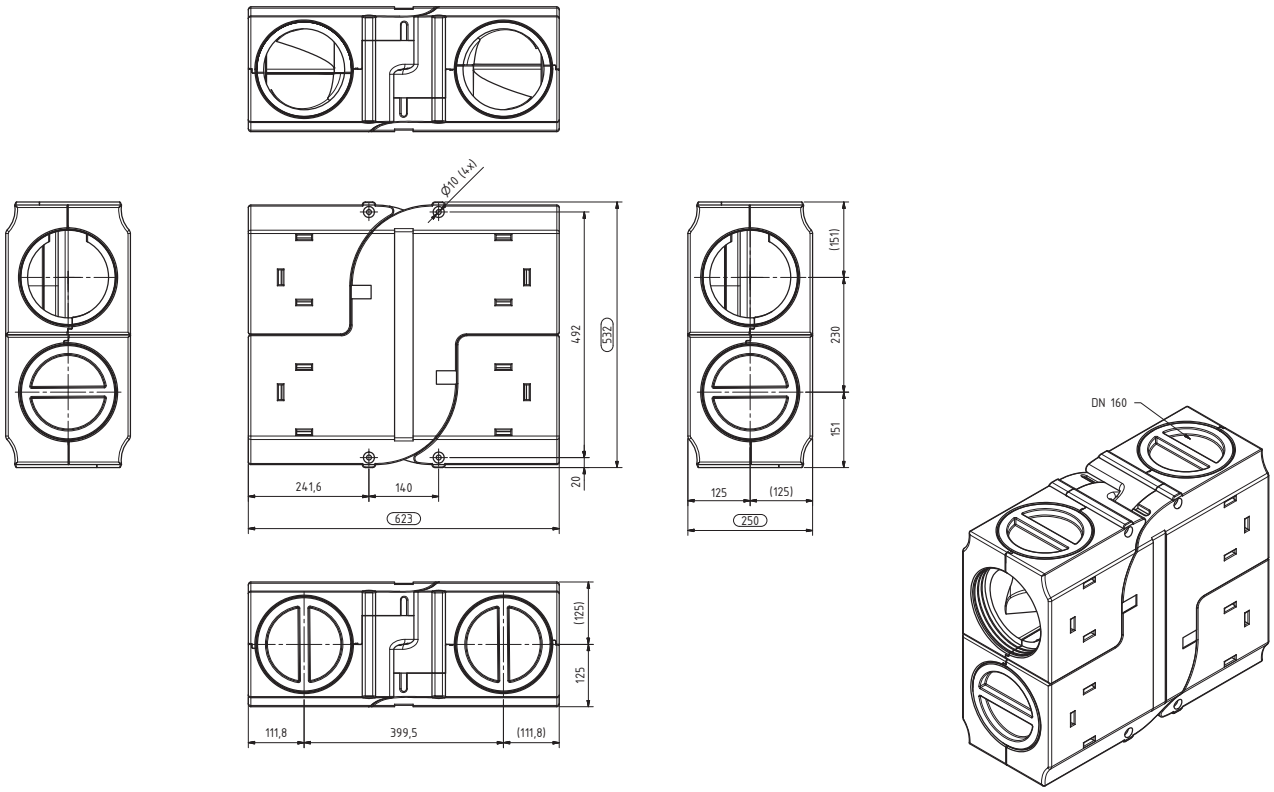
The air exchange module serves to exchange the outdoor air with the supply air or the extract air with the exhaust air. It consists of a thermal bridge-free and thermally insulated EPP enclosure with optional connection positions at the top or at the side. Direct connection of EPP ducts with DN160 mm and a wall thickness of 15 mm without additional connecting elements.

The connections that are not required can be sealed by means of the sealing plugs included in the scope of delivery. Galvanised, cylindrical reductions with a dual lip seal are required for the transition to spiral ducts with Ø 200 or Ø 160 mm.

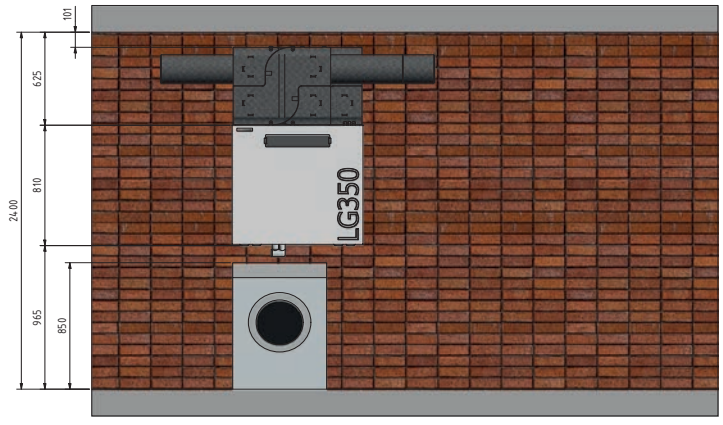
Item	Dimensions (w x h x d)	Item number
Air exchange module Ø 160 / S15 mm	**623 x 532 x 250 mm**	08EPPAKM160MF
Reduction for the transition to spiral ducts with Ø 160 mm		11RCU190160
Reduction for the transition to spiral ducts with Ø 200 mm		11RCU200190

Note: To cross out all 4 air connections, 2 air exchange modules are required.

Layout sketch

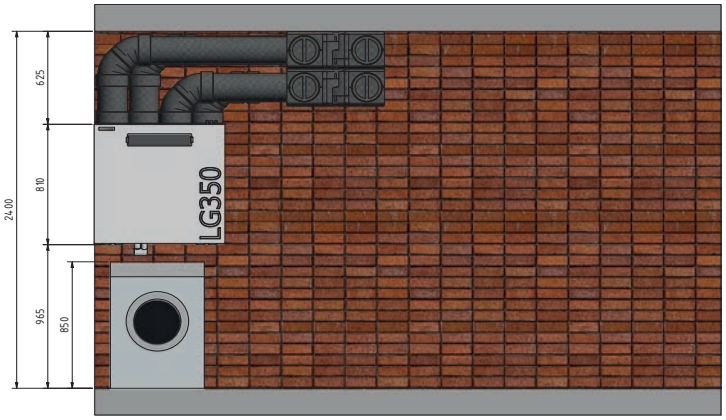


Mounting example for wall-mounted installation



Wall-mounted installation with air exchange module

Wall-mounted installation with air exchange silencers



Corner mounting with air exchange module
(note: here two bends must be mitre-cut at approx. 10°)

LG 350 & LG 450 at a glance!

Fans:
Energy-saving radial fans direct current (latest EC motor technology)

Counterflow heat exchanger:
High-efficiency heat recovery system with air/air-counterflow heat exchanger made from recyclable plastic with automatic 100% bypass

Air volume flow:
Up to 350 m^3/h (LG 350) or 450 m^3/h (LG 450) for external pressures to 250 Pa

Filters:
Filter ODA ISO ePM1 70% in the outdoor air, filter ETA ISO Coarse 80% in the extract air

Electrical preheater battery for frost protection:
With stepless control, optional

Housing:
Made from galvanised steel sheeting, powder-coated in RAL 9010 with thermal insulation

Air connections:
Left-hand and right-hand unit versions. ODA/EHA/SUP/ETA: each Ø 160 mm

Installation position:
Standing or wall-mounted device (removable adjustable foot brackets)

Summer changeover:
Integrated 100% bypass flap

Electrical connection:
Supplied ready to plug in

Operation:
Via the MINI or TOUCH (optional) operating control unit and with connection to the Internet (LAN connection) via the Pichler app.

Service – Maintenance – Initial startup

Can be combined with the LBE 500 air humidification unit

OUR LG 350 & LG 450 COMPACT-VENTILATION UNITS HAVE BEEN EXTERNALLY TESTED BY

- TÜV SÜD München

OUR COMPACT VENTILATION UNITS LG 350 & LG 450 HAVE BEEN APPROVED BY

- DIBt – Deutsches Institut für Bautechnik (Z-51.3-428)

OUR COMPACT VENTILATION UNITS LG 350 & LG 450 HAVE BEEN CERTIFIED BY

- Passivhausinstitut Darmstadt

Note:
Our supplier range includes unit sizes up to 10.000 m^3/h as well as a wide range of accessories.

Notes

ErP 2018

ErP 2018
Fulfils the requirements of the Ecodesign Directive, in accordance with EU Regulation 1253/2014.

Your partner/installer:

klimaaktiv Partner | PASSIVHAUS Austria | Mitglied NETZWERK PASSIVHAUS www.passivhaus.at

Responsible for the content: J. Pichler Gesellschaft m.b.H. | ***Graphics and layout:*** WERK1
Photos: Archiv J. Pichler Gesellschaft m.b.H. | ***Text:*** J. Pichler Gesellschaft m.b.H.
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Systematic ventilation.

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Sales offices in Slovenia and Serbia.
Sales partners in Germany, Switzerland and Italy.

Product description

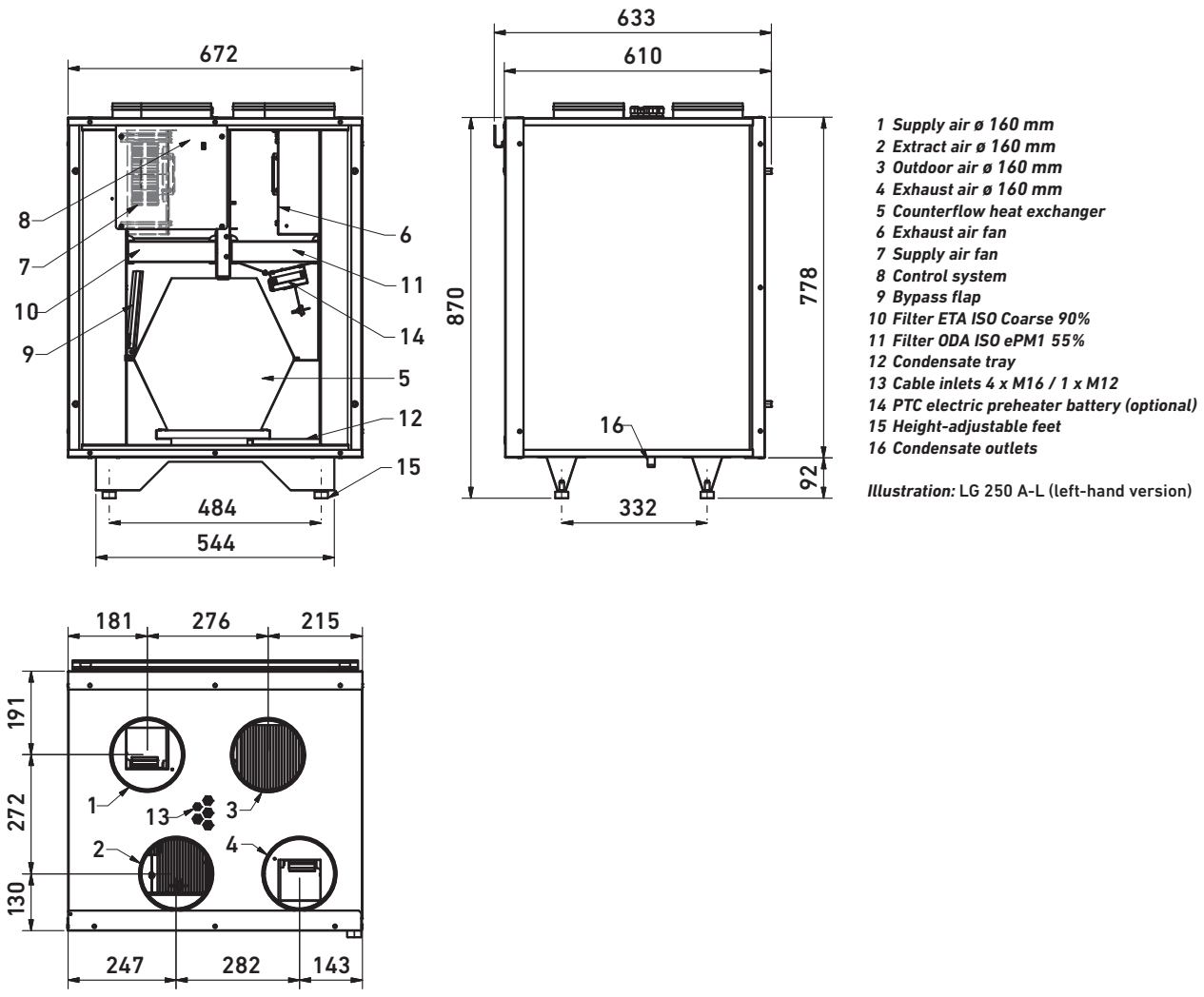
The LG 250 A compact ventilation unit with passive house certification, comprising a compact, non-heat bridging and thermally-insulated housing made from galvanised steel sheeting, externally powder-coated in RAL 9010, a high-efficiency heat recovery system with air/air-counterflow heat exchanger made from recyclable plastic, automatic 100% bypass, with energy-saving DC radial fans (with the latest EC motor technology) with a volume flow constant control, filters ODA ISO ePM1 55% in the outdoor air and filters ETA ISO Coarse 90% in the extract air, an internally wired electronic control system and a MINI or TOUCH control unit (optional). Compact ventilation unit for floor or wall mounting in frost-free spaces.

Area of application

The LG 250 A compact ventilation unit is used for controlled, mechanical ventilation and deaeration of homes, large residential units and offices and for similar purposes.

The scope of application normally extends to living spaces between 80 m^2 and approx. 200 m^2 in passive or low-energy structures, with an adjustable air flow of up to 250 m^3/h.

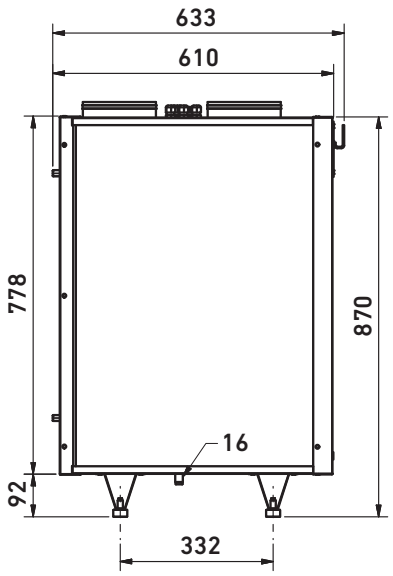
Layout sketch (stand or wall mounting, left-hand version)

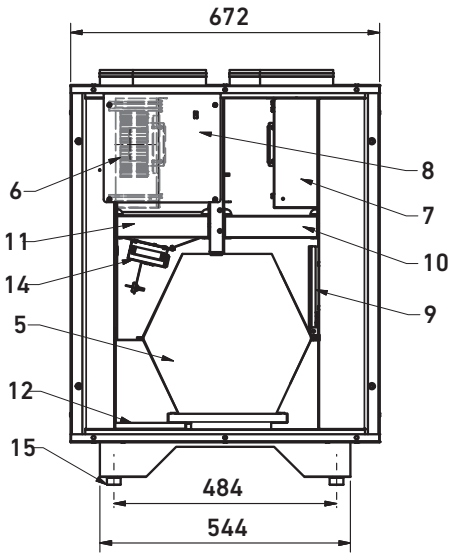


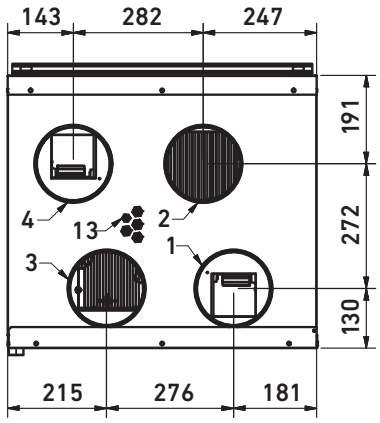
1 Supply air ø 160 mm
2 Extract air ø 160 mm
3 Outdoor air ø 160 mm
4 Exhaust air ø 160 mm
5 Counterflow heat exchanger
6 Exhaust air fan
7 Supply air fan
8 Control system
9 Bypass flap
10 Filter ETA ISO Coarse 90%
11 Filter ODA ISO ePM1 55%
12 Condensate tray
13 Cable inlets 4 x M16 / 1 x M12
14 PTC electric preheater battery (optional)
15 Height-adjustable feet
16 Condensate outlets

Illustration: LG 250 A-L (left-hand version)

Layout sketch (stand or wall mounting, right-hand version)







1 Supply air ø 160 mm
2 Extract air ø 160 mm
3 Outdoor air ø 160 mm
4 Exhaust air ø 160 mm
5 Counterflow heat exchanger
6 Exhaust air fan
7 Supply air fan
8 Control system
9 Bypass flap
10 Filter ETA ISO Coarse 90%
11 Filter ODA ISO ePM1 55%
12 Condensate tray
13 Cable inlets 4 x M16 / 1 x M12
14 PTC electric preheater battery (optional)
15 Height-adjustable feet
16 Condensate outlets

Illustration: LG 250 A-R (right-hand version)

Versions

The LG 250 A compact ventilation unit is available in several different versions:

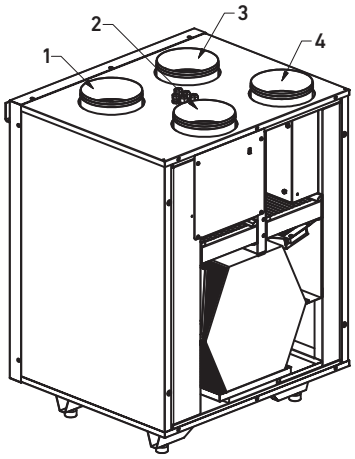
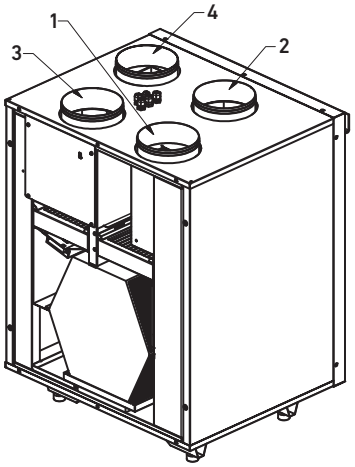
- Right or left, depending on the position of the supply air connection.
- With or without an integrated PTC preheater battery integrated into the ventilation unit (Frost protection for the counterflow heat exchanger. Mounted in a grid frame. Continuous control and adjustment of integrated preheater battery for energy-efficient frost protection in accordance with current PHI regulations).
- With standard or enthalpy exchanger for moisture recovery.

ENTHALPY EXCHANGER

Humidity-transferring counter flow enthalpy exchanger with selective polymer membrane for heat and moisture recovery.

Advantages of the enthalpy exchanger:

- Enthalpy exchangers ensure optimal comfort within your rooms.
- During normal operation, the generation of condensate is prevented as far as possible. In contrast to a standard heat exchanger, the enthalpy exchanger only stops at low temperatures.
- The enthalpy exchanger prevents your rooms from drying out in winter.

Version	Left-hand version	Right-hand version
Item no. without an integrated preheater battery	08LG250A-L	08LG250A-R
Item no. with an integrated preheater battery	08LG250A-L-V	08LG250A-R-V
Item no. without an integrated preheater battery and with an enthalpy exchanger for moisture recovery	08LG250A-L-F	08LG250A-R-F
Item no. with an integrated preheater battery and with an enthalpy exchanger for moisture recovery	08LG250A-L-FV	08LG250A-R-FV
For standing or wall-mounted installation ***1 Supply air*** ***2 Extract air*** ***3 Outdoor air*** ***4 Exhaust air***		

Technical specifications

Technical specifications have been measured by Lucerne University of Applied Sciences and Arts – Engineering and Architecture Centre for integral building technology

VENTILATION UNIT

Dimensions:
(W x H x D) 672 x 870 x 610 mm
Thermally-insulated housing, made from galvanised steel sheeting, coated in RAL 9010 – white
Air line connection:
4 x ø 160 mm
Condensate connection:
ø 16,5 mm, underside
Electrical connection:
230 V/50 Hz
Fuse: 16 A
Protection class: IP 20
Permissible unit ambient temperature:
+5°C to +40°C
Weight without accessories: approx. 65 kg

FANS

(factory setting)

Air volume flow:
Speed I: 80 m^3/h
Speed II: 160 m^3/h
Speed III: 250 m^3/h
Power consumption
at external 50 Pa/100 Pa:
Speed I: 24/33 W
Speed II: 37/50 W
Speed III: 70/91 W
Air volume flow rate setting range:
80 to 250 m^3/h
Power consumption
Standby mode: 1.9 W

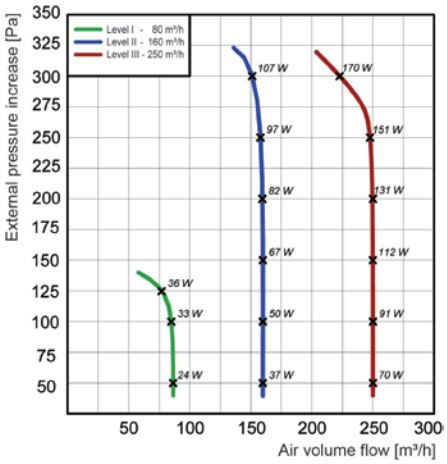
The characteristic curves shown are valid for the unit version with Class F7 (EN 779) outdoor air and G4 (EN 779) extract air filters, as well as the version with no PTC preheater battery.

CHARACTERISTIC CURVE – EXTERNAL PRESSURE INCREASE – AIR VOLUME FLOW RATE

The characteristic curve indicates the external pressure ($p_{ext.}$) available to the channel system.

TOTAL OUTPUT

The rated overall electrical output comprises the power consumption of the two supply and exhaust air fans as well as the power consumption of the control system.



PASSIVE HOUSING-CERTIFIED IN ACCORDANCE WITH PHI CRITERIA

Housing tightness: External leakage 0.6%, internal leakage 1%
Heat supply efficiency: $\eta_{eff,\,t,\,WRG}$ = 88 %
Comfort criterion: T_{SUP}= +18,2°C at T_{ODA}= -10°C
Power efficiency: $\eta_{elec.}$ = 0.3 Wh/m³

TEMPERATURE BEHAVIOUR IN ACC. WITH EN13141-7

Reference: Supply airflow 161 m³/h
Temperature behaviour – Supply air side = 90%
Temperature behaviour – Exhaust air side = 81%
Auxiliary power requirement relating to supply airflow = 0.21 Wh/m³

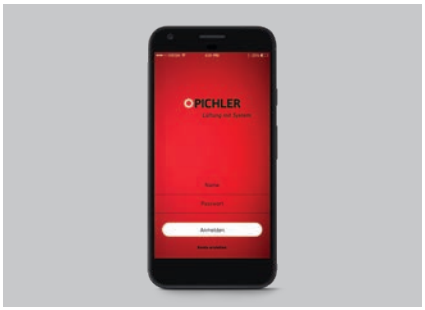
SOUND DATA

Measuring point		Housing radiation			Outdoor air outlet			Supply air inlet			Exhaust air outlet			Extract air outlet		
Level		I	II	III	I	II	III	I	II	III	I	II	III	I	II	III
63 Hz	L_W in dB	55	57	57	64	65	65	79	80	81	76	73	75	66	69	67
125 Hz		50	53	55	55	59	61	67	71	73	69	69	71	52	57	60
250 Hz		41	45	50	51	57	60	63	70	73	62	65	70	49	55	59
500 Hz		35	38	42	39	44	46	55	61	66	55	55	60	34	42	45
1000 Hz		32	36	40	30	33	37	55	62	66	54	56	59	24	31	36
2000 Hz		22	27	34	19	24	29	46	56	61	46	48	53	21	31	36
4000 Hz		15	17	25	12	17	22	39	49	55	39	42	48	17	28	33
8000 Hz		18	18	18	11	12	15	35	46	52	35	37	44	12	17	23
Total	L_{WA}	**39**	**42**	**46**	**45**	**49**	**52**	**60**	**67**	**70**	**59**	**61**	**65**	**43**	**48**	**51**
in dB (A)																

(at external pressure increase of 100 Pa)

Remark: Tolerances ± 2 dB for acoustic data

MINI control unit



Pichler-App

TOUCH control unit

Operation

BYPASS FOR HEAT EXCHANGER

The 100% bypass is controlled based on the measured exhaust air and outdoor temperatures. In this way, the heat exchanger is bypassed in summer and the cool outdoor air can be blown directly into the living area, or via an existing ground collector.

CONTROLLER

Scalable expansion of the control system is possible, from low-cost to high-end. Further options include connections to an external building control system using Modbus RTU and sensors to monitor room air quality.
Ventilation unit settings are made via a control unit. A MINI operating unit as a compact flush operating unit or optional a TOUCH operating unit as a surface-mounted version can be chosen to control and operate the ventilation unit.
Connection to a building automation via integrated Modbus RTU interface. Optionally, a gateway for the KNX bus system is also available.

MINI CONTROL UNIT

The MINI control unit is used to control the ventilation unit. It is easy to operate and enables the configuration of ventilation levels, switching between summer and winter mode, setting of basic volume flow, etc. In addition, the control unit displays operating status and any faults that may occur. The USB interface on the operating unit is fitted as standard. Installation is on a flush-mounted box (not included in delivery).

TOUCH CONTROL UNIT

The control unit with a 4.3" colour-touch-display is used to control the ventilation unit. Operation is simple and intuitive. The most important settings and readings are very easy to make. The user-friendly handling provides for automatic or manual setting of the ventilation levels. In Automatic mode, the system is controlled by programmable time programmes or a higher-level closed-loop humidity or CO_2 controls and works in a fully automated fashion. Whereas in manual mode ventilation levels may, for instance, be individually increased (boost ventilation). Further functions are the changeover function between summer and winter operation as well as the setting for the volume flows. The operating mode, temperatures, a required filter change and possible faults are displayed in plain text. The control unit also has an integrated temperature sensor, which can be used as a room temperature sensor when needed. Installation is on a flush-mounted box (not included in delivery).

Advantages of controlling:
- Easy display of current operating settings
- Individually adjustable air volumes
- Time and weekly programs (TOUCH only)

CONTROL UNIT DIMENSIONS

Item	Dimensions	Item number
STANDARD: Control unit MINI	W x H x D 80 x 80 x 19 mm	08LGMINI150200
OPTIONAL: Control unit TOUCH	W x H x D 110 x 84 x 25 mm	08LG150250TC

CONNECTOR CABLE

Item	Type	Item number
Cable MINI/TOUCH control unit (Max. installation length 100 m)	J-Y(ST)Y 2x2x0.8	40LG040340

EASY OPERATION WITH THE PICHLER APP

User-friendly: the compact ventilation unit can be operated easily with our free smartphone app for Android and iOS, whether you are at home or out and about (Gateway required, details on request).

GET IT ON Google Play

Download on the App Store

REMOTE ACCESS / PICHLER CONNECT

Operational safety: Remote access faciliates a prompt response with minimal effort for the Pichler customer service in the event of a malfunction.

PICHLER connect.

CO_2 sensor

Humidity sensor

Accessories

SPARE FILTER

will ensure perfect hygiene and air quality given regular replacement, also proper functionality and efficient operation of the equipment.

Item	Item number
Filter ETA ISO ePM10 75% (extract air)	40LG050080
Filter ETA ISO Coarse 90% (extract air)	40LG050050 (standard)
Filter ODA ISO ePM1 55% (outdoor air)	40LG050060 (standard)
Filter ODA ISO ePM1 80% (outdoor air)	40LG050070

DEMAND-ORIENTED VENTILATION CONTROL

CO_2 and humidity sensors for demand-oriented ventilation control. The ventilation unit will automatically increase or reduce the air volumes depending on the quality of the air in the room. The sensor in the surface-mounted housing is suitable for wall mounting.

Colour: white
Dimensions: W x H x D = 85 x 85 x 35 mm
Ambient temperature: 10-50°C
Measuring range: 0-2000 ppm
Sensor supply voltage: 24V AC/DC
Control signal: 0-10 V

Item	Item number
CO_2 sensor	07RCO248330

Colour: white
Dimensions: W x H x D = 85 x 85 x 35 mm
Ambient temperature: 0-60° C (no condensation)
Measuring range: 0-100% RH
Sensor supply voltage: 24V AC/DC
Control signal: 0-10 V

Item	Item number
Humidity sensor	07RHF49360

Demand-oriented plant operation via CO_2 and/or humidity control is only possible in Automatic mode and must be activated via the PC software.
Assignment of the ventilation levels, the ppm and humidity values can be changed using the PC software.

The following combinations of sensors can be used:
- Max 2 x CO_2 sensors
- Max 2 x RH% sensors
- 1 x CO_2 sensor & 1 x RH% sensor

FLEXIBLE CONNECTION

Made of laminated and highly tear-resistant fabric and with double-sided sleeves made of galvanized sheet steel. With diameter: 160 mm, socket size, elongated length 150 mm.

Item	Item number
flexible connection	01STR0160

MODBUS/KNX-Gateway

MODBUS/NABTO-Gateway

HOT WATER RE-HEATER BATTERY, 3-WAY MOTORISED MIXING VALVE

Hot water reheater battery for supply air reheating, for pipe installation, ø 160 mm, with accessories.
Only in connection with the external supply air temperature sensor (item number: 40LG041920).

Item	Item number
Low-temperature water heater battery (NHR)	08PWW250
3-way motorised mixing valve R3015-P63-S1-TR230-3	08MISCHER

EXTERNAL PTC ELECTRIC RE-HEATER BATTERY

For supply air reheating, for pipe installation, ø 160 mm.
Only in connection with the external supply air temperature sensor (item number: 40LG041920).
Output: 600 W

Item	Item number
PTC electric reheater battery	08GEPTC160

EXTERNAL SUPPLY AIR TEMPERATURE SENSOR

NTC thermistor sensor with metal sleeve required for operation of the hot water re-heater battery, or electric re-heater battery.

Item	Item number
NTC thermistor sensor, length 2 m	40LG041920

MODBUS/KNX GATEWAY

The Modbus/KNX gateway allows for the connection of the compact ventilation unit LG 250 A to a KNX bus system. In this process, the gateway serves as a connective link between the two bus systems. It is provided with a Modbus RTU and TCP interface and is always the master on the Modbus. On the KNX side, however, it responds like a common KNX TP-1 unit. This makes it possible to centrally control and monitor the ventilation unit by a KNX system. The configuration is implemented via the IP or USB interface.

Dimensions: W x H x L = 88 x 56 x 90 mm
Mounting: Top hat rail or wall
Permissible ambient temperature: 0 – 60 °C
Permissible humidity: 5 – 95% non-condensing
Protection class: IP20
Voltage: 24V AC/DC
Interfaces: Ethernet, EIA-485, KNX-TP1

Item	Item number
MODBUS/KNX-Gateway	08KNXGA150250A

OPTIONALLY: MODBUS/NABTO GATEWAY

Serves to connect the compact ventilation unit with the Internet and furthermore with the Pichler app. When using the gateway the Modbus RTU connection of the building control system is dispensed with.

Item	Item number
MODBUS/NABTO-Gateway	08GATEWAYNABTO

COMPLETE PROGRAM FOR AIR DISTRIBUTION SYSTEMS

We offer a complete program of air distribution systems, such as Komflex (round or oval). Details of our air distribution program can be found in the technical documentation.

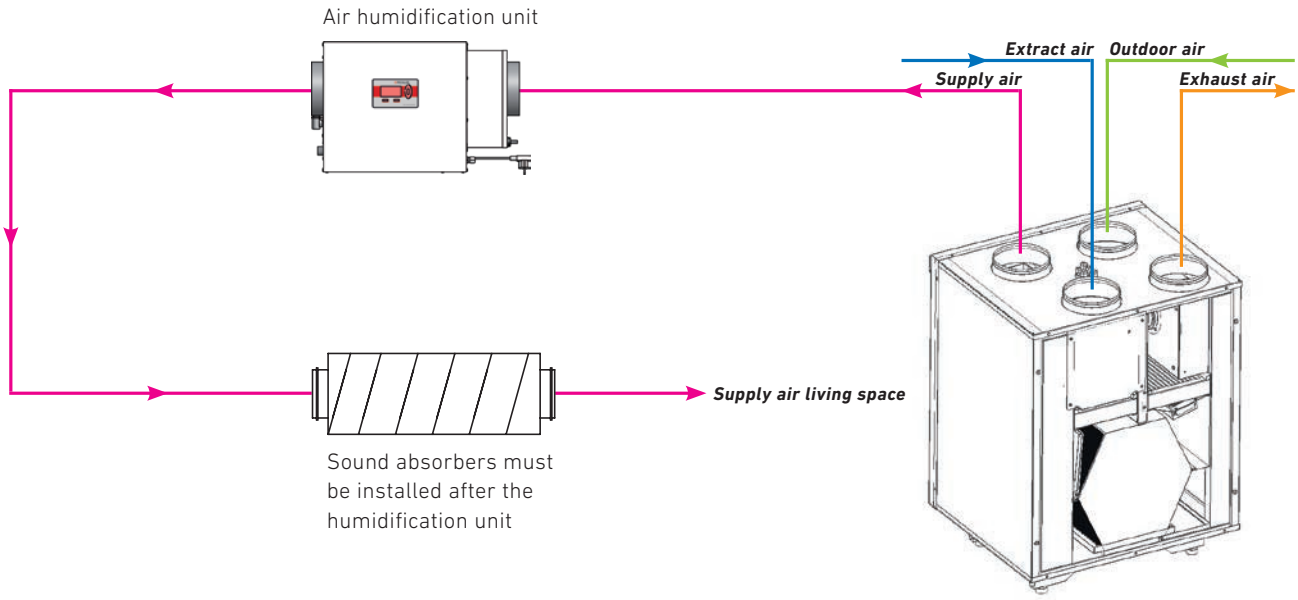
LBE 250 with hot water heater battery (right-hand version)

Accessories

COSINESS BY AIR HUMIDIFICATION WITH LBE 250

- Constant, optimal room air humidity wherever you are
- Active humidification of indoor air
- No over-humidification thanks to natural evaporation
- Compact, automatic humidification unit
- Easy to use
- Hygienically harmless operation, proven through health reports
- Installed in the central ventilation system, also suitable for retrofits
- Low maintenance cost

Standing or wall-mounted installation		**Air connection** [mm]	**Water connection** [inches]	**Flow** [m^3/h]	**Weight** [kg]	**W x H x D**
08 LBE250 LW	Left-hand version incl. PWW Hot water preheater battery	160	3/4	250	25.0	550 x 385 x 360
08 LBE250 RW	Right-hand version incl. PWW Hot water preheater battery	160	3/4	250	25.0	550 x 385 x 360
08 LBE250 LE	Left-hand version incl. PTC electric pre-heater battery (1300 Watt)	160	3/4	250	25.0	510 x 385 x 360
08 LBE250 RE	Right-hand version incl. PTC electric pre-heater battery (1300 Watt)	160	3/4	250	25.0	510x385x360

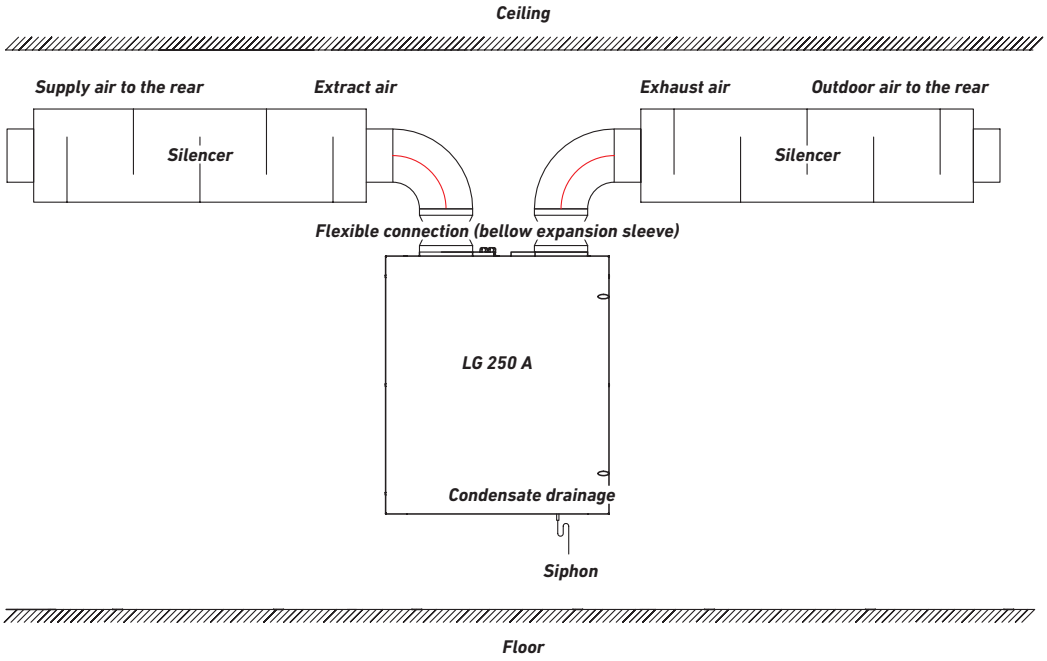


Schematic representation of the ventilation unit LG 250 A with LBE 250 air humidification unit and a silencer unit.

Compact ventilation unit with a counterflow heat exchanger

Mounting examples

WALL-MOUNTED INSTALLATION IN THE BASEMENT



Data in accordance with EU Regulations 1253/1254-2014

The ventilation unit fulfils the requirements of the eco-design directive in accordance with EU regulations 1253/1254-2014, and is based on the current state-of-the-art (07.07.2014).

LG 250 A

Specific energy consumption:

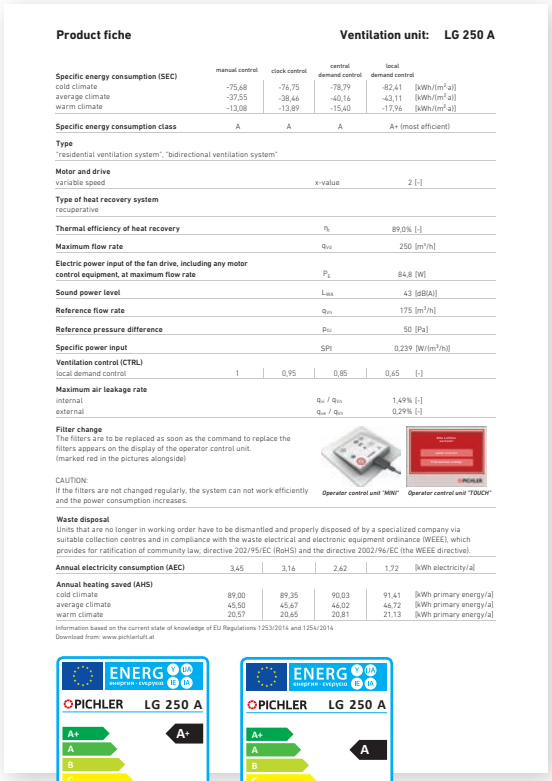
- A+ efficiency is applicable together with a control system in accordance with local requirements
- A efficiency is applicable together with manual control, time control or central requirements control.

LG 250 AF

Specific energy consumption:

- A efficiency is applicable together with manual control, time control, central requirements control systems or control system in accordance with local requirements

Maximum airflow: 250 m^3/h
The rated energy efficiency class is valid up to the specified maximum airflow.
Sound power level LWA at the reference volume flow: 43 db(A)



Product fiche **Ventilation unit: LG 250 A**

	manual control	clock control	central demand control	local demand control	
Specific energy consumption (SEC)					
cold climate	-75,68	-76,75	-78,79	-82,41	[kWh/(m²·a)]
average climate	-37,55	-38,46	-40,16	-43,11	[kWh/(m²·a)]
warm climate	-13,08	-13,89	-15,40	-17,96	[kWh/(m²·a)]
Specific energy consumption class	A	A	A	A+ (most efficient)	
Type	"residential ventilation system", "bidirectional ventilation system"				
Motor and drive					
variable speed			x-value	2	[-]
Type of heat recovery system					
recuperative					
Thermal efficiency of heat recovery			η_t	89,0%	[-]
Maximum flow rate			q_{mt}	250	[m³/h]
Electric power input of the fan drive, including any motor control equipment, at maximum flow rate			P_E	84,8	[W]
Sound power level			L_{WA}	43	[dB(A)]
Reference flow rate			q_{ref}	175	[m³/h]
Reference pressure difference			p_{ref}	50	[Pa]
Specific power input			SPI	0,239	[W/(m³/h)]
Ventilation control (CTRL)					
local demand control	1	0,95	0,85	0,65	[-]
Maximum air leakage rate					
internal			q_{sv} / q_{mt}	1,49%	[-]
external			q_{sx} / q_{mt}	0,29%	[-]

Filter change
The filters are to be replaced as soon as the command to replace the filters appears on the display of the operator control unit. (marked red in the pictures alongside)

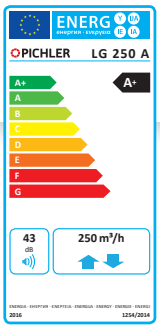
CAUTION:
If the filters are not changed regularly, the system can not work efficiently and the power consumption increases.

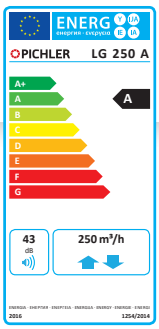
Operator control unit "MINI" *Operator control unit "TOUCH"*

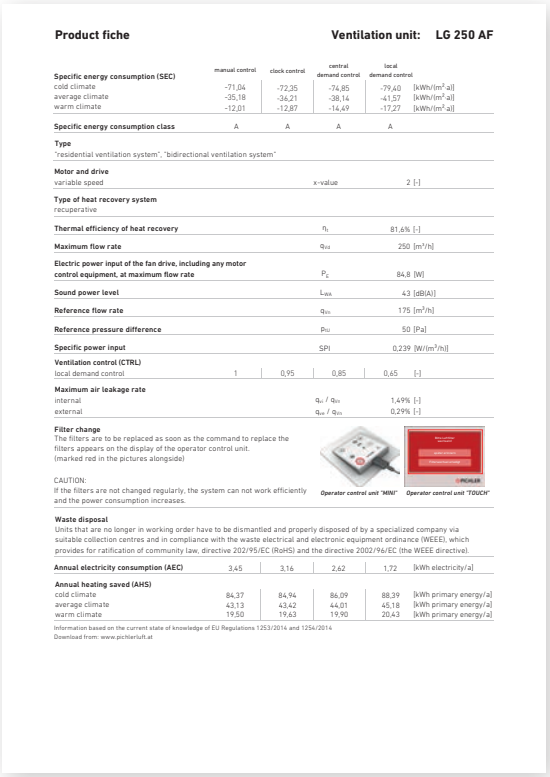
Waste disposal
Units that are no longer in working order have to be dismantled and properly disposed of by a specialized company via suitable collection centres and in compliance with the waste electrical and electronic equipment ordinance (WEEE), which provides for ratification of community law, directive 202/95/EC (RoHS) and the directive 2002/96/EC (the WEEE directive).

Annual electricity consumption (AEC)	3,45	3,16	2,62	1,72	[kWh electricity/a]
Annual heating saved (AHS)					
cold climate	89,00	89,35	90,03	91,41	[kWh primary energy/a]
average climate	45,50	45,67	46,02	44,72	[kWh primary energy/a]
warm climate	20,57	20,65	20,81	21,13	[kWh primary energy/a]

Information based on the current state of knowledge of EU Regulations 1253/2014 and 1254/2014
Download from: www.pichlerluft.at







Product fiche **Ventilation unit: LG 250 AF**

	manual control	clock control	central demand control	local demand control	
Specific energy consumption (SEC)					
cold climate	-71,04	-72,35	-74,85	-79,40	[kWh/(m²·a)]
average climate	-35,18	-36,21	-38,14	-41,57	[kWh/(m²·a)]
warm climate	-12,01	-12,87	-14,49	-17,27	[kWh/(m²·a)]
Specific energy consumption class	A	A	A	A	
Type	"residential ventilation system", "bidirectional ventilation system"				
Motor and drive					
variable speed			x-value	2	[-]
Type of heat recovery system					
recuperative					
Thermal efficiency of heat recovery			η_t	81,6%	[-]
Maximum flow rate			q_{mt}	250	[m³/h]
Electric power input of the fan drive, including any motor control equipment, at maximum flow rate			P_E	84,8	[W]
Sound power level			L_{WA}	43	[dB(A)]
Reference flow rate			q_{ref}	175	[m³/h]
Reference pressure difference			p_{ref}	50	[Pa]
Specific power input			SPI	0,239	[W/(m³/h)]
Ventilation control (CTRL)					
local demand control	1	0,95	0,85	0,65	[-]
Maximum air leakage rate					
internal			q_{sv} / q_{mt}	1,49%	[-]
external			q_{sx} / q_{mt}	0,29%	[-]

Filter change
The filters are to be replaced as soon as the command to replace the filters appears on the display of the operator control unit. (marked red in the pictures alongside)

CAUTION:
If the filters are not changed regularly, the system can not work efficiently and the power consumption increases.

Operator control unit "MINI" *Operator control unit "TOUCH"*

Waste disposal
Units that are no longer in working order have to be dismantled and properly disposed of by a specialized company via suitable collection centres and in compliance with the waste electrical and electronic equipment ordinance (WEEE), which provides for ratification of community law, directive 202/95/EC (RoHS) and the directive 2002/96/EC (the WEEE directive).

Annual electricity consumption (AEC)	3,45	3,16	2,62	1,72	[kWh electricity/a]
Annual heating saved (AHS)					
cold climate	84,37	84,94	86,09	88,39	[kWh primary energy/a]
average climate	43,13	43,42	44,01	45,18	[kWh primary energy/a]
warm climate	19,50	19,63	19,90	20,43	[kWh primary energy/a]

Information based on the current state of knowledge of EU Regulations 1253/2014 and 1254/2014
Download from: www.pichlerluft.at

Download from www.pichlerluft.at

Optional ventilation control systems	Manual control		Time control		Central requirements control system		Control system in accordance with local requirements	
Ventilation unit **LG 250 A**	**A**	**AF**	**A**	**AF**	**A**	**AF**	**A**	**AF**
LG + MINI control unit	A	A	–	–	–	–	–	–
LG + MINI control unit + 1 x CO_2 sensor*	–	–	–	–	A	A	–	–
LG + MINI control unit + 1 x RH sensor*	–	–	–	–	A	A	–	–
LG + MINI control unit + 2 x CO_2 sensor*	–	–	–	–	–	–	A+	A
LG + MINI control unit + 2 x RH sensor*	–	–	–	–	–	–	A+	A
LG + MINI control unit + 1 x CO_2 + 1 x RH sensor*	–	–	–	–	–	–	A+	A
LG + TOUCH control unit	–	–	A	A	–	–	–	–
LG + TOUCH control unit + 1 x CO_2 Sensor*	–	–	–	–	A	A	–	–
LG + TOUCH control unit + 1 x RH sensor*	–	–	–	–	A	A	–	–
LG + TOUCH control unit + 2 x CO_2 Sensor*	–	–	–	–	–	–	A+	A
LG + TOUCH control unit + 2 x RH sensor*	–	–	–	–	–	–	A+	A
LG + TOUCH control unit + 1 x CO_2 + 1 x RH sensor*	–	–	–	–	–	–	A+	A

See table on Page 7, Accessories for demand-oriented equipment operation

LG 250 A at a glance!

Fans:
Energy-saving radial fans Direct current (latest EC technology) with a volume flow constant control

Counterflow heat exchanger:
High-efficiency heat recovery system with air/air-counterflow heat exchanger made from recyclable plastic with automatic 100% bypass

Air volume flow:
From 80 to 250 m^3/h for external pressures from 50 to 250 Pa

Filters:
Filter ODA ISO ePM1 55% in the outdoor air, filter ETA ISO Coarse 90% in the extract air

PTC electrical preheater battery:
With stepless control, internal version

Housing:
Made from galvanised steel sheeting, powder-coated in RAL 9010 with thermal insulation

Air connections:
Left-hand and right-hand unit versions. Housing doors mountable on left or right, ODA/EHA/SUP/ETA: each ø 160 mm with dual rim seal

Installation position:
Standing or wall-mounted device

Summer changeover:
Integrated 100% bypass flap with seal

Electrical connection:
Supplied ready to plug in, 230V/16A

Service – Maintenance – Initial startup

Suitable for connection with LBE 250 air humidification unit

OUR LG 250 A COMPACT VENTILATION UNIT HAS BEEN EXTERNALLY TESTED BY

- Hochschule Luzern – Technik & Architektur
- TÜV SÜD München

OUR COMPACT VENTILATION UNIT LG 250 A HAS BEEN APPROVED BY

- DIBt - Deutsches Institut für Bautechnik

OUR COMPACT VENTILATION UNIT LG 250 A HAS BEEN CERTIFIED BY

- Passivhausinstitut Darmstadt

Note:
Our supplier range includes unit sizes up to 10.000 m^3/h as well as a wide range of accessories

Notes

ErP 2018

ErP 2018

Fulfils the requirements of the Ecodesign Directive, in accordance with EU Regulation 1253/2014.

Your partner/installer:

klimaaktiv Partner

PASSIVHAUS Austria

Mitglied NETZWERK PASSIVHAUS www.passivhaus.at

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