inVENTer
simply fresh air

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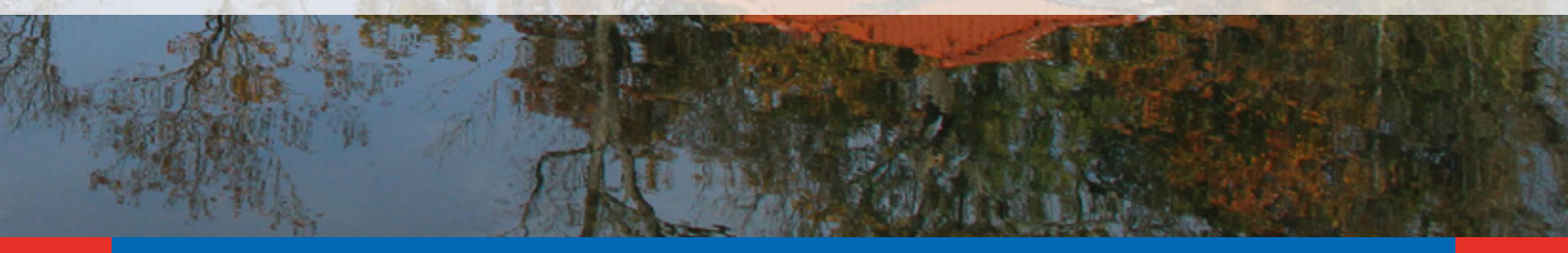
HIGH-TECH
MADE IN GERMANY

Decentralised ventilation systems

Trust the original.



Trust the original.

inVENTer is one of the first providers for decentralised ventilation systems and can rely on a longstanding company tradition. A lot has evolved, but one thing is certain: Our goal remains to provide quality, innovation and extraordinary service.

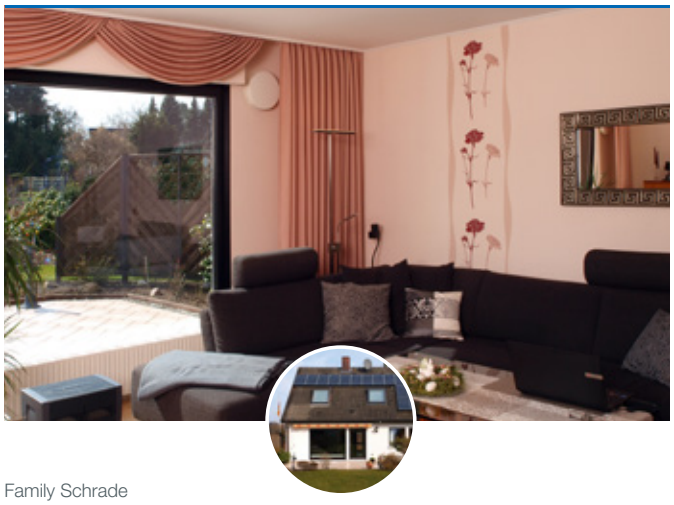
Decentralised ventilation systems by inVENTer

In 1999 ventilation with heat recovery was in their infancy. At that time inVENTer developed the ceramic heat accumulator and is, due to this, the most field-tested system on the market. Tradition is nothing to buy or copy, therefore our ventilation systems are respected by other manufacturers and appreciated by loyal customers around the world.

inVENTer – simply fresh air.

Family Schirmer

"It was important for us not to worry about ventilation in our new house. It is just a comfortable ambient climate."



Family Schrade

"Due to the renovation, we practically live in an energy-saving house. In this kind of houses, Fans are inevitable. My inVENTer Ventilation systems are still in use, even after more than a decade."

Municipal library Schleiz

Thomas Haberkern, urban planning and building authority leader in Schleiz: *"We decided on inVENTer's flexible decentralised ventilations systems. The ventilation devices almost completely vanish into the walls. Therefore, it was relatively easy to meet the requirements of the protection of historical buildings and monuments."*

Why is ventilation necessary?

A controlled ventilation of living spaces is important, because …

… in a modern, energy-efficient house, ventilation through windows alone is not sufficient for the required **minimum air exchange** (DIN 1946-6). The reason is the increased tightness of the building envelope.

… clean and healthy air can increase your **wellbeing** in your home, your ability to focus and also forestall respiratory diseases.

… due to the constant exchange of air, it can **prevent the development of mould** and extracts the polluted air in your home.

Your advantages from inVENTer-products

- No additional ducting required, uncomplicated application into the external wall
- Suited for newly built houses and renovations; preservation of the realty through mould-prevention
- Easy cleaning and maintenance
- Low power consumption, low heating energy costs due to ceramic heat accumulator
- Integrated pollen-filter for people suffering from allergies
- From the roof to the basement – there is a solution for everyone

How inVENTer works

Ventilation with heat recovery

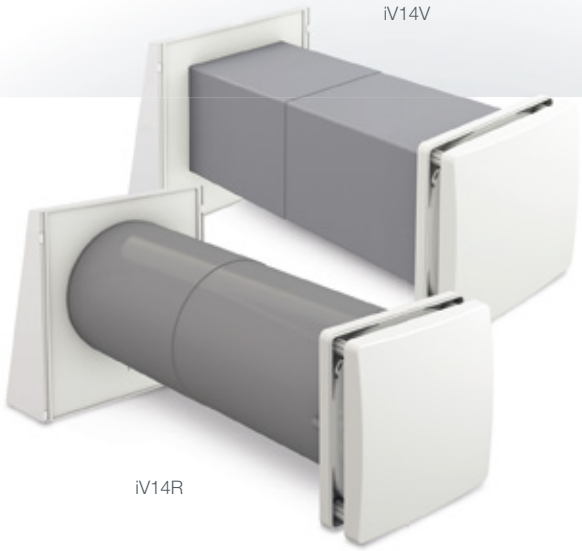
The inVENTer ventilation systems consist of ventilation devices arranged in pairs. They are always operating in push-pull mode.

1. The fan of a ventilation device rotates for 70 seconds and transports the stale air to the outside. While doing so, the ceramic heat accumulator saves the heat in the air. Afterwards the fan changes direction.
2. Now the fresh air flows from the outside into the living spaces, while the heat accumluator provides heat to the fresh air. Therefore it is possible to acquire a heat recovery of up to 91 %.

This is how inVENTer provides an ideal ambient climate.

inVENTer ventilation systems

Ventilation with heat recovery



iV14R & iV14V

- Easy application into the external wall
- DIBt-certified [Z-51.3-156]
- Up to 89 % heat recovery
- iV14R: for renovation projects
- iV14V: for construction projects

iV12-Smart
Compact-system, only 16 cm wall sleeve diameter

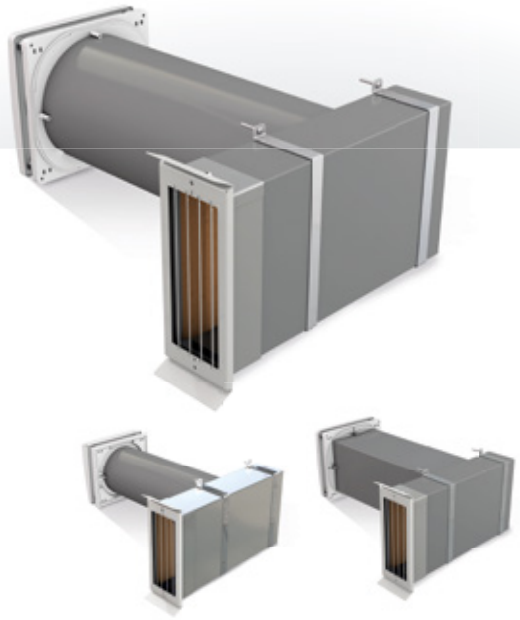
iV-Twin
System for single-room ventilation

iV25
Ventilation device for spaceous rooms

inVENTer PAX
Semi-central ventilation system with increased sound insulation

For special requirements

Systems with heat recovery



Corner-options

- Especially fit for the installation of decentralised ventilation systems during the insulation of the external wall with a heat recycling system
- Almost disappears into the external wall
- Corner-options available for iV14R, iV14V and iV12-Smart

Ohio-options
Installation into walls from 16 cm
Available for iV12-Smart, iV14V and iV14R

iV14V-Top
Ventilation for attic apartments

iV14R-Sylt
Ventilation below the ground

inVENTer controllers

inVENTer ventilation devices are being adjusted via their respective controllers that work intuitively. The settings include, depending on the controller, the ventilation-intensity, different operation-modes, as well as the innovative zone-control (Clust-Air®-technology).

MZ-One controller

- Zone-control for decentralised ventilation units (Clust-Air®-technology by inVENTer)
- Manages up to 16 inVENTer ventilation devices in up to four zones at the same time
- Individual programming of the 7-day timer
- Various functions: heat recovery, ventilation, pause function, port for e. g. a CO_2-, temperature- or humidity-sensor

ZR10-D controller

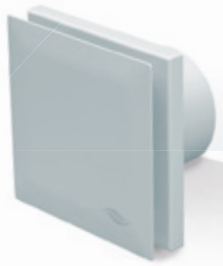
- Infinitely variable control of up to 4 ventilation units iV14 or iV12-Smart, or 2 ventilation units iV-Twin or iV25
- Two operation modes: heat recovery and ventilation

Regler ZR8

- Infinitely variable control of up to 2 inVENTer ventilation units iV14 or iV12-Smart, or 1 ventilation unit iV-Twin
- Two operation modes: heat recovery and ventilation

Extract air systems

Ideal for areas with increased humidity production: automatic ventilation with our quiet and also efficient extract air systems.



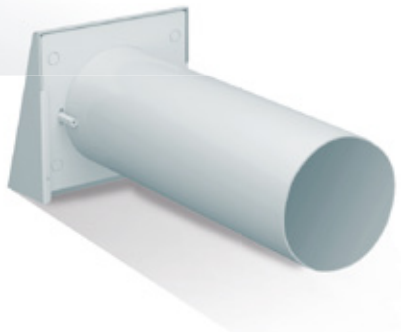
Avio N/NF 100

- Low-noise extract air fan
- Integrated run-on control
- Avio N 100: optional hygrostat
- Avio NF 100: int. humidity sensor
- Air volume flow up to 75 m³/h

Pulsar

- Extract air fan for wall installation or mounting in suspended ceiling
- Contol via „inVENTer Mobile“ app
- Integrated humidity sensor and light sensor
- Low-noise ventilation with air volume flow of up to110 m³/h

Extract air system aV100



- For systems Avio N/NF 100, Pulsar
- Installation into external wall
- Wall thickness of up to 100 cm possible
- Integrated non-return valve
- Standard version or with Corner-option

AC60

AC60 UP-Radial **AC60 UP-Axial** **AC60 AP-Axial**

- Installation to external wall or exhaust shaft possible
- Quiet, due to run-on control and optional hygrostat
- Ideal for internal humidors
- Available variants UP (flush mounted) radial and axial, AP (surface mounted) axial
- DIBt-approved [Z-51.1-215]
- Meets the requirements of DIN 18017-3

Planning with inVENTer

EnEV and DIN 1946-6

The EnEV requires the securing of the minimum air exchange (§6.2). The certificate will be provided via the DIN1946-6 with a so-called ventilation concept.
The ventilation concept is to be issued by the person who will execute relevant changes in an old building or plan the construction of a new building. That might be the craftsperson that will install the new windows or insulates the roof. Similarly, planners or architects are responsible when dealing with a newly built house.

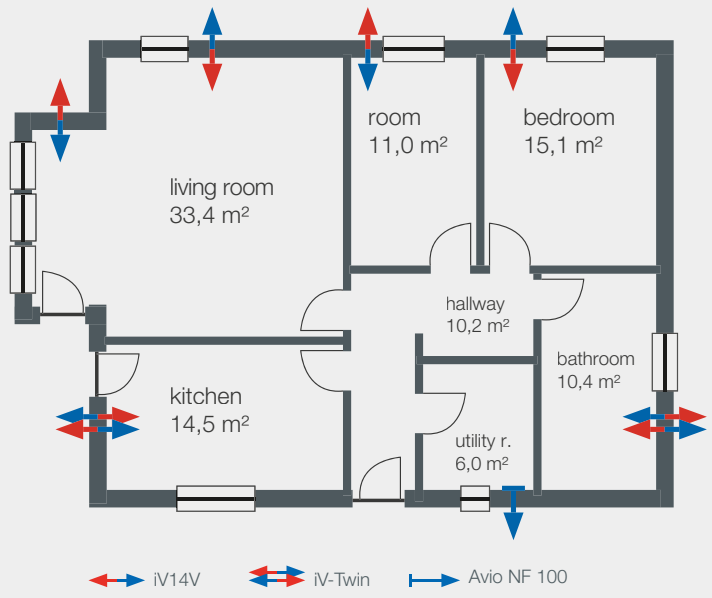
inVENTer®-representatives

Our inVENTer representatives function as your qualified contact person for questions about the topic ventilation of living spaces. Our ventilation planners will provide the issuing of the ventilation concept with dimensioning and planning suggestions according to your ground-plan, free of charge. You can find an overview of all necessary details there.

KfW requirements „Energy-efficient construction“

If you provided the factory data of the inVENTer ventilation to the calculation of the EnEV, there is a possibility, often in addition to a gas-fired condensing boiler, to meet the requirements for a KfW energy-efficiency house 70 and therefore overfulfil the requirements of the EEWärmeG.

A calculation example



Example of a typical utilisation unit with an energetic evaluation, air volume flow and the number of the necessary inVENTer devices (exemplary ground plan).

Energetic evaluation

Heat output $q_{L,g,WE,WRG}$ (kWh/m²a)	20,6
External power $p_{el,Vent}$ (W/m³/h)	0,10
External power $q_{L,g,HE,WRG}$ (kWh/m²a)	0,6
Heat output / year (kWh/a)	2070,5
External power / year (kWh/a)	62,9
(As per DIN 4701-10:2003-08)	

Volume flow

	Value $q_{v,total}$	Value fan	Controller setting	Is $q_{v,vent}$	LVS pp
Humidity protection vent. FL	37,7	24,4	25 %	82,3	41,2
Reduced ventilation RL	87,9	74,7	25 %	82,3	41,2
User-based ventilation NL	125,6	112,4	40 %	112,5	56,2
Intensive ventilation IL	163,2	150,0	65 %	152,7	76,4

(Ventilation levels DIN 1946-6 q_v in m³/h)

Summary

Infiltration volume flow (m³/h)	13,2
System air volume flow (m³/h)	112,5
Total air volume flow (m³/h)	127,2
Total air volume flow / person (m³/h)	64
System air exchange (1/h)	0,45
Total air exchange (1/h)	0,51
Heat recovery level	0,86

All information is subject to a controller setting of 40 % and an operating time of 60 minutes of the Avio N 100 per day.

New building single-family home
Location: Medebach
Architect: Christoph Hesse Architekten
Ventilation devices: iV14R-Corner

Renovation multi-family home
Location: Korschenbroich
Architect: Hartmann Architekten
Ventilation devices: iV14R, iV14V

New building multi-family home
Location: Vomp (Austria)
Architect: team2 [architects] ZT GmbH
Ventilation devices: iV14V, iV-Twin

Technical data

Ventilation systems





	iV12-Smart THE COMPACT FAN	iV12-Smart Corner IN THE WINDOW REVEAL	iV12-Smart Ohio THIN WALLS	iV14R DIBt approved: [Z-51.3-156] IDEAL F. RENOVATIONS	iV14V DIBt approved: [Z-51.3-156] IDEAL F. NEW HOUSES
Wall opening (mm)	Ø 180	Ø 180	Ø 180	Ø 225	210 x 210
Wall thickness (mm) w. plaster	> 250	> 230 / >120 mm insul.	> 160	> 250	> 250
Air volume flow (m³/h)	7,5 – 23	7,5 – 23	7,5 – 23	12 – 27,5	13,5 – 28
Extract air volume flow (m³/h)	15 – 46	15 – 46	15 – 46	24 – 55	27 – 56
Power consumption (W)	1 – 3	1 – 3	1 – 3	1 – 3	1 – 3
Sound emission (dB(A))	20 – 44	20 – 44	20 – 44	20 – 39 [1]	20 – 39 [1]
Heat recovery	up to 80 %	up to 80 %	up to 80 %	up to 89 %	up to 89 %
electr. ventilation capacity of volume flow (W/[m³/h])	0,1 – 0,13	0,1 – 0,13	0,1 – 0,13	0,09 – 0,1	0,09 – 0,1
Weather prot. hood WxH (mm)	222 x 285	104 x 282	230 x 247	279 x 313	279 x 313
Inner cover (mm)	223 x 203	223 x 203	223 x 203	233 x 233 / Ø 290	233 x 233 / Ø 290
Ambient temperature	-20°C to 50°C	-20°C to 50°C	-20°C to 50°C	-20°C to 50°C	-20°C to 50°C
Standard sound level diff. (dB)	34 – 42 [3]	--	--	36 – 42	36 – 42
Energy efficiency class	A	A	A	A	A

[1]) With sound isulation set [2]) Changed measurement as by LÜ-A-20 of DIBt [3]) As by DIN EN 10140

Controllers



	ZR8 controller	ZR10-D controller	MZ-One controller	
			Operating unit MZ-One	Clust-Air-Module
Power supply	230 V, 50 Hz	230 V, 50 Hz	230 V, 50 Hz	--
Operating voltage	AC 18 – 20 V	AC 18 – 20 V	DC 24 V	DC 24 V
Output voltage	DC 6 – 16 V	DC 6 – 16 V	DC 24 V	--
Fan	--	--	--	DC max. 16 V
External input	--	--	--	DC 0 – 10 V
Total switching current	0,4 A	1,0 A	--	max. 0,8 A
Power consumption (max.)	6,5 W	15 W	0,5 W	18 W
Standby	0,5 W	0,5 W	1,5 W (1 zone) – 2,5 W (4 zones)	
Protection class	II	II	II	

iV-Twin

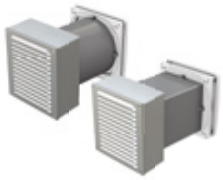
DIBt approved:
[Z-51.3-198]
SINGLE ROOM VENT.

iV14R/V-Corner

IN THE
WINDOW REVEAL

iV14R-Sylt

BELOW THE GROUND



iV14R/V-Ohio

THIN WALLS

iV14V-Top

IN THE ROOF

iV25

DIBt approved:
[Z-51.3-320]
F. SPACEOUS ROOMS

150 x 270	R Ø 225 / V 210 x 210	Ø 225	R Ø 225 / V 200 x 200	210 x 210	Ø 270
> 300	>230 / >120 mm insul.	> 250	> 160	--	> 270
15 – 40	10 – 25	10 – 25	10 – 25	10 – 25	23 – 55
15 – 40	20 – 50	20 – 50	20 – 50	20 – 50	46 – 110
2 – 5	1 – 3	1 – 3	1 – 3	1 – 3	2 – 5
22 – 41	20 – 39	20 – 39	20 – 39	20 – 39	--
up to 86 %	up to 89 %	up to 89 %	up to 89 %	up to 89 %	up to 77 % [2]
0,19	0,09 – 0,1	0,09 – 0,1	0,09 – 0,1	0,09 – 0,1	0,11 – 0,16
279 x 315	104 x 282	Ø 210 x 450	230 x 247	224 x 245 / 224 x 171	279 x 313
Ø 290 / 284 x 284	233 x 233 / Ø 290	233 x 233 / Ø 290	233 x 233 / Ø 290	Ø 290	Ø 290
-20°C to 50°C	-20°C to 50°C	-20°C to 50°C	-20°C to 50°C	-20°C to 50°C	-20°C to 50°C
31 – 36	42	--	--	--	36 – 40
A / B	A	A	A	A	A / B

Extract air systems

Avio N/NF 100

Pulsar

AC60

Wall opening (mm)	Ø 115 (aV100)	Ø 115 (aV100)	WxHxD 245x245x100
Wall thickness (mm) w. plaster	150 – 530 (aV100)	100 – 530 (aV100)	>100 (Radial)/>250 (Axial)
Extract air volume flow (m³/h)	75	110	60
Power consumption (W)	N: 6,4 / NF: 6,8	4	10,9
Sound emission (dB(A))	28	17 – 20	35
electr. ventilation capacitiy of volume flow (W/[m³/h])	--	--	0,18
Inner cover (mm)	159 x 159	Ø 177	260 x 260
Weather prot. hood (mm)	154 x 157 (aV100)	154 x 157 (aV100)	--
Protection class	II	II	II

Semi-centralised systems

inVENTer PAX

Air volume flow (m³/h)	30 – 78 (90 exhaust air)
Heat recovery	up to 80 %
Power consumption (W)	3,5 – 25
Preheating radiator (W)	< 375
Sound emission (dB (A)) in 3 m 0 PA	19 – 29 (35 extract air max.)
Operating voltage	AC 230 V, 50 Hz
Type of protection	IP 24
Supply-/extract air filter	G4/G4
Standard sound level diff.	47 dB exhaust air room 77 dB fresh air room
Energy efficiency class	A

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