

A close-up, low-angle shot of a heat pump's condenser coils and fan. The coils are made of copper and have a ribbed texture, reflecting light in a way that creates a series of bright, horizontal bands. The fan is a dark, curved plastic component that is partially visible on the right side of the frame. The background is a soft, out-of-focus blue.

Air/water heat pumps
Belaria®

Hoval

Responsibility for energy and environment

**Economical and ecological energy extraction from ambient air.
For new buildings and renovations.**



Front page:
Close-up view of the axial fan
in the outdoor unit of the Belaria® SRM.

Air/water heat pumps Belaria®

Belaria® air/water heat pumps use energy from the free ambient air for room and water heating. In this way, they are highly efficient and offer an attractive price/performance ratio.

Hoval offers solutions that fit every field of application. Even for old building renovations – where system requirements demand high temperatures of over 60 °C and conventional air/water heat pumps reach their limits – Hoval offers an option that provides outstanding efficiency values.



Strong Systems

A particularly strong system is the Belaria®, together with other components from Hoval, and centrally controlled by the TopTronic®E.

Hoval system controller
TopTronic®E



Hoval solar energy
systems



Hoval
comfort ventilation



Hoval
calorifiers



Hoval buffer
storage tanks



Hoval calorifier
heat pump



Hoval condensing
gas and oil boilers

Air/water heat pumps Belaria®.



A+++
mit Regelung

Belaria® compact IR
Heat pump with integrated technical storage tank in monoblock design for indoor installation; for renovations and new buildings.



A++
mit Regelung

Belaria® twin A, Belaria® twin AR
2-stage heat pump in monoblock design for outdoor installation; for renovations and new buildings.



A+++
mit Regelung

Belaria® twin A, Belaria® twin AR
2-stage heat pump in monoblock design for outdoor installation; for renovations and new buildings.



A++
mit Regelung

Belaria® dual AR
2-stage heat pump in monoblock design with two separate refrigerant circuit for outdoor installation; for renovations and new buildings.

Das ab
September 2015
gültige ErP-Label
klassifiziert
Raumheizgeräte,
Kombiheizgeräte,
Warmwasserbereiter
und Energie-
Pufferspeicher nach En-
ergie-Effizienz und Res-
ourcen-Schonung.



Belaria®.

Advantages at a glance.

Economical



Top marks for cost-effectiveness

- **Cost-efficient solution** for renovations and new buildings
- **First-rate efficiency levels**
- **Savings in energy costs** due to highly efficient pumps
- **Excellent cost-effectiveness** reflected in up to 50% lower heating costs
- **Energy Consumption Indicator** for permanent cost control

Ecological



Use of ecological environmental energy

- **Environmentally friendly energy** acquired from ambient air
- **CO₂-neutral and particularly ecological** when used in conjunction with green electricity
- **Simple adjustment of operating times** facilitates energy-conscious heating

Sophisticated



Complete and flexible

- **Tailored solutions** for renovations and new buildings
- **Fast installation** due to ready-to-fit complete systems
- **Suitable for bivalent operation** due to intelligent TopTronic® E controller
- **Smartphone -App** for easy adjustability whilst you're on the road, and receiving system messages in real time
- **The latest interface standards** for connection to building automation or expected smart grids

Easy to use



Simple planning, quiet operation

- **Low noise** due to RPM-regulated fan operation and outstanding sound insulation
- **Easily combined with solar installations** for even greater eco-balance
- Optional **cooling function**
- **High thermal comfort** due to its predicting the future outside temperature and sunlight (using an online weather forecast)
- **Maintenance indicator** which automatically reminds you when a service is required

System controller TopTronic® E. The new generation.



Smart – cosy climate even when the weather is changing.



Ecological

Take responsibility for Energy and Environment and live comfortably at the same time. This is now easier than ever before.

With the new generation boilers and heat pumps from Hoval you will use less energy, reduce your environmental footprint and preserve the planet.

Reliable

You can fully rely on us.

The new generation Hoval boilers and heat pumps will automatically inform you and our service when they need maintenance or repair.

A Hoval service partner is always near you. More than 500 000 satisfied customers worldwide can confirm this. Our references speak for themselves.

Economical

The new generation Hoval boilers and heat pumps have best in class efficiency helping you to cut your energy bill.

They give you real time and historical information about their performance and efficiency so you always have an overview on your energy costs. With a click of a mouse.

Smart

Automatically use the weather forecast in real time to heat up your house in cold mornings but reduce the power in a warm afternoon.

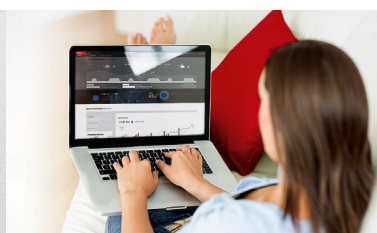
Let you control your heating over your smartphone to adjust it to your daily or weekly routine - so you save energy during a working day but enjoy a cosy warmth in the evening.



Control your heating over your smartphone.



Easy control in the living room.



Hoval desk – overview on energy costs.



Automatic service information.

Belaria®.

Maximum efficiency saves valuable energy.

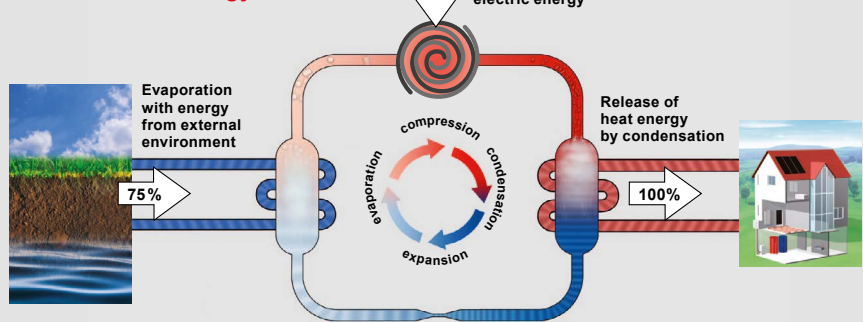


Sustainable heat comfort

With a Belaria® air/water heat pump, the ambient heat content of the air is used to produce thermal heat for the entire house using electricity as the drive energy. 1 kilowatt of electricity can produce up to 5 kilowatts of heat.

The Belaria® air/water heat pumps are particularly cost-effective, a fact that is reflected in the high COP (coefficient of performance) values for the devices. The COP values show the ratio of heat output to electrical energy input. The higher the value, the more cost-effective and energy-efficient the heat pump. The COP values of all Hoval heat pumps are tested and verified by independent testing institutes.

The heat pump principle: Thermal heat from free ambient energy*



Heat pumps generate the thermal heat from free ambient energy by means of a 4-stage cycle:

1. The refrigerant in the heat pump is made to evaporate. The huge amount of energy required for this purpose is obtained from the ambient energy (air, ground, water).
2. The refrigerant vapour is heated to a higher temperature by compressing it in a compressor. Electrical energy is used to drive the compressor.
3. The heated refrigerant vapour condenses (becomes liquid) and releases the energy stored inside it (approx. 75% «evaporation energy» + 25% drive energy) in the form of heat to the heating system.
4. The refrigerant is expanded and the cycle begins again.

* This example relates to a COP of 4, i.e. 1 part (25%) electrical energy generates 4 parts (100%) heating energy.



Reliable heat supply, even in temperatures below freezing

With the Belaria® air/water heat pumps, it is possible to utilise fresh air as energy at temperatures as low as -20 °C. However, the lower the temperature, the lower the heat output. For this reason, air/water heat pumps are equipped with additional heaters in some cases, and these cover peak heat demands when outside temperatures are extremely low.



A perfect solution for any field of application

Switching from fossil fuel energy to the future technology of heat pumps always pays off. Whether you are dealing with a new building, a complete renovation or a cost-efficient boiler replacement project, the Belaria® range offers a tailored solution to meet all requirements and fields of application.



Low noise and silent operation

Outstanding sound insulation and RPM-regulated fan operation make the Belaria® air/water heat pumps particularly quiet. When “silent operation” is activated, the noise level is reduced even further.



Increased comfort due to optional cooling function



Hoval air/water heat pumps can also be used in the summer to actively cool your indoor climate. This extended comfort function is integrated into the Belaria® SRM, Belaria® compact SRM, Belaria® twin IR and Belaria® twin AR models.



Certified quality



Hoval air/water heat pumps have been awarded the international heat pump quality seal. This official label guarantees excellent energy efficiency, great reliability and comprehensive customer service.

Belaria® compact IR (7-11).

With integrated technical storage tank for indoor installation.

Compact casing made from zinc-plated steel.

Cold bridge-free design prevents condensation. Side panels are powder-coated to ensure a long service life.

Electrical control panel

with starting stage and automatic heat pump devices. Hoval TopTronic® E system controller that can be operated from outside makes ecological, economical, reliable and smart heating easier than ever before.

Refrigerant circuit

with refrigerant R410A, controlled by an electronic expansion valve.

Scroll compressor

for maximum efficiency and low-vibration operation.

Large evaporator

with low pressure loss.

RPM-regulated centrifugal fan

in the latest design. Extremely quiet and efficient.

Left or right positioning of air outlet possible.

Integrated expansion tank.

Technical storage tank

integrated into the base. Guarantees reliable operation and reduces sound emissions.



Belaria compact IR in the latest design: air outlet can be positioned on the left or right.



- Integrated technical storage tank
- Extremely high COP
- Compact dimensions
- Disassembled 2-piece model available for easy transportation

Technical data Belaria® compact IR		(7)	(9)	(11)
Energy efficiency class (package label with controller)		A++	A+++	A++
Heat output	kW	6.6	9.5	10.9
COP* (coefficient of performance) (ΔT 5K; EN 14511)		4.1	4.2	4.0
Weight	kg	310	315	317
Dimensions (W/H/D)	mm	910 / 1830 / 780		

1) Performance data (heating): at an outside temperature of 2°C/heating water 45°C (EN 14511)

*COP = ratio of heat output to energy input. The higher this figure, the more economical the heat pump.

Subject to modification

Belaria® twin I (15-30) ▪ Belaria® twin IR (15-30). Indoor installation and 2 output levels for optimum efficiency.

Casing made from steel/plastic profile frame.

The robust design, including the thermal separation of the internal space, ensures maximum sound and heat insulation.

Large evaporator with low pressure loss.

Refrigerant circuit with refrigerant R407C, controlled by an electronic expansion valve.

RPM-regulated centrifugal fan.

Very quiet and efficient.

Left or right positioning of air outlet possible.

2 Scroll compressors for excellent efficiency and low-vibration operation.

System controller TopTronic®E makes ecological, economical, reliable and smart heating easier than ever before.



- Indoor and outdoor installation
- Broad power spectrum between 15 and 30 kW
- 2 compressors resulting in 2 output stages
- Optional cooling function (IR models)

Technical data Belaria® twin I/IR		twin I (15)	twin I (20)	twin I (25)	twin I (30)	twin IR (15)	twin IR (20)	twin IR (25)	twin IR (30)
Energy efficiency class (package label with controller)		A+	A++	A++	A++	A+	A++	A++	A++
Heat output (1st/2nd stage)	kW	8.0/15.9	10.4/20.8	12.5/25.0	15.2/30.4	8.0/15.9	10.4/20.8	12.5/25.0	15.2/30.4
COP* (1st/2nd stage)		3.9/3.6	3.9/3.5	3.9/3.5	3.8/3.4	3.9/3.5	3.9/3.5	3.9/3.5	3.8/3.4
Cooling capacity (1st/2nd stage)	kW	–				7.0/14.0	8.4/16.8	10.4/20.8	12.2/24.4
Weight	kg	370	400	455	485	370	400	455	485
Dimensions (W/H/D)	mm	1200/1630/780	1200/1735/880	1300/1935/980		1200/1630/780	1200/1735/880	1300/1935/980	

Performance data (heating): at an outside temperature of 2 °C/heating water 35 °C

Performance data (cooling): at an outside temperature of 35 °C/cooling water 10 °C

*COP (Coefficient of performance) (ΔT 5K; EN 14511) = ratio of heat output to energy input. The higher this figure, the more economical the heat pump.

Subject to modification

Belaria® twin A (17-32) - Belaria® twin AR (17-32). Outdoor installation and 2 output levels for optimum efficiency.

RPM-regulated axial fan
for very quiet operation and
low energy consumption.

Microprocessor control
for optimum operation
of the heat pump

**Weatherproof
casing**

Large evaporator
with low pressure loss
for quiet operation.

Refrigerant circuit
with refrigerant R410A

2 scroll compressors
for high efficiency.

- i** • Outdoor installation
- 3 output ratings from 17 to 32 kW
- 2 compressors resulting in 2 output stages
- Latest fan technology
for low noise emissions
- Optional cooling function (AR models)
- TopTronic® E controller
in wall-mounted control panel inside the building.



Systemregelung TopTronic® E
(wall-mounted)
makes ecological, economical, reliable
and smart heating easier than ever
before.

Technical data Belaria® twin A/AR		twin A (17)	twin A (24)	twin A (32)	twin AR (17)	twin AR (24)	twin AR (32)
Energy efficiency class (package label with controller)		A++	A++	A++	A+++	A+++	A+++
Heat output (1st/2nd stage)	kW	10,3/17,2	13,1/23,7	18,6/31,6	10,3/17,2	13,1/23,7	18,6/31,6
COP* (1st/2nd stage)		4,6/4,1	4,6/4,1	4,5/4,0	4,6/4,1	4,6/4,1	4,5/4,0
Cooling capacity (1st/2nd stage)	kW	–	–	–	9,2/17,6	12,7/24,3	16,2/30,9
Weight	kg	430	575	590	430	575	590
Dimensions (W/H/D)	mm	1923/1199/925	1923/1399/925		1923/1199/925	1923/1399/925	

Performance data (heating): at an outside temperature of 2 °C/heating water 35 °C

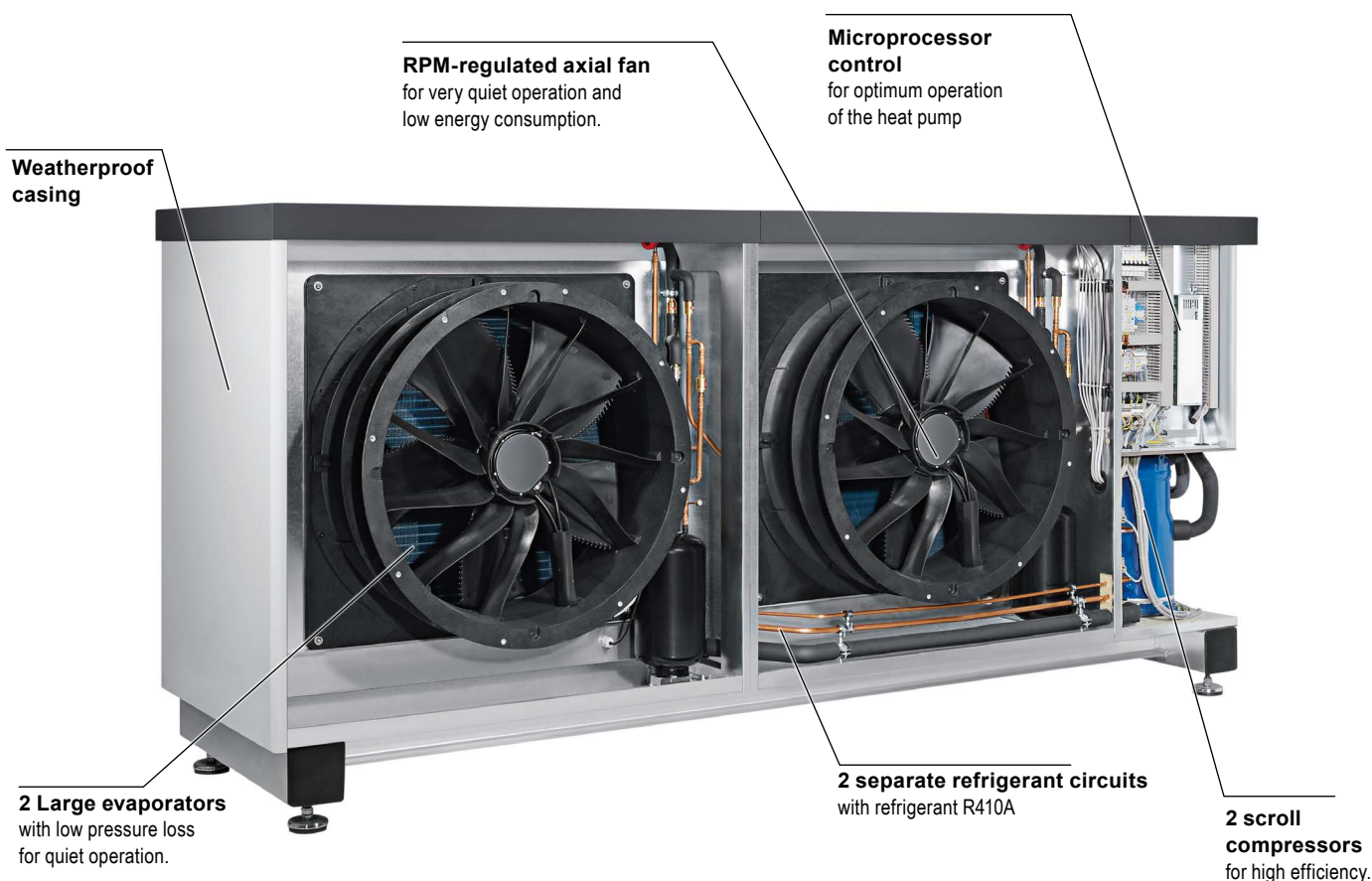
Performance data (cooling): at an outside temperature of 35 °C/cooling water 7 °C

*COP (Coefficient of performance) (ΔT 5K; EN 14511) = ratio of heat output to energy input. The higher this figure, the more economical the heat pump.

Subject to modification

Belaria® dual AR (60)

Outdoor installation and 2 output levels for optimum efficiency.



- **Outdoor installation**
- **Compressors resulting in 2 output stages**
- **2 separate refrigerant circuits** for high operating safety
- **Latest fan technology** for low noise emissions
- **With cooling mode**
- **TopTronic® E controller** in wall-mounted control panel inside the building



Systemregelung TopTronic®E
(wall-mounted)
makes ecological, economical, reliable and smart heating easier than ever before.

Technical data Belaria® dual AR (60)		dual AR (60)
Energy efficiency class (package label with controller)		A++
Heat output (1st/2nd stage)	kW	29 / 58,3
COP* (1st/2nd stage)		3,5 / 3,6
Cooling capacity (1st/2nd stage)	kW	24,5 / 49,2
Weight	kg	880
Dimensions (W/H/D)	mm	1439 / 3272 / 895

Performance data (heating): at an outside temperature of 2 °C/heating water 35 °C

Performance data (cooling): at an outside temperature of 35 °C/cooling water 7 °C

*COP (Coefficient of performance) (ΔT 5K; EN 14511) = ratio of heat output to energy input. The higher this figure, the more economical the heat pump.

Subject to modification

Belaria® in practice. As versatile as the requirements.

Heating renovation in a large single family home

Belaria® twin A (outdoor installation)

The existing oil-fired heating has been replaced by an Belaria® twin A (17). As a result of disposing of the oil-fired boiler and oil tanks, the former boiler room can now be used for other things.

In addition to the transition to environmentally friendly energy, energy costs for heating and hot water were significantly reduced.



Heating renovation with the Belaria® twin A (17)

Heating renovation in a small space

Belaria® compact IR (indoor installation)

With its compact dimensions, integrated technical storage tank and flexible air discharge, the Belaria® compact IR is the ideal choice for renovations.



Heating renovation with the Belaria® compact IR.



Space-saving and quiet.

Solutions you can rely on.

Hoval

Responsibility for energy and environment.

The Hoval brand is internationally recognised as one of the leading suppliers of indoor climate control solutions. Around 70 years of experience have given us the necessary capabilities and motivation to continuously develop exceptional solutions and technically superior equipment.

Maximising energy efficiency and thus protecting the environment are both our conviction and our incentive. Hoval has established itself as an expert provider of intelligent heating and climate control systems that are exported to over 50 countries worldwide.



Hoval indoor climate systems

Indoor climate systems ensure top air quality and economical usability. Hoval has been installing decentralised systems for many years. The key to its work is using combinations of multiple air conditioning units (even those of different types) that can be controlled individually, but also together as a single system. This enables Hoval to respond flexibly to a wide range of requirements for heating, cooling and ventilation.



Design support from experts.

Take advantage of the expertise of our experienced specialists. We will be happy to support you throughout all project phases when designing your system.

Working in close cooperation with you and taking into account all the specifications of the energy supplier, we develop the most efficient and cost-effective solution for you.



Hoval service expertise.

Hoval systems are professionally commissioned by specially trained and experienced Hoval service technicians, ensuring that the systems will operate perfectly from day one. Maintenance and troubleshooting are performed on-site by an expert customer service team.

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