

AIR / WATER HEAT PUMP

5 – 20 kW

HARGASSNER



hargassner.com



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Winter sport is our passion

The fire burns in our eyes. Not just because we build sustainable boilers with renewable heat, but also because we are passionate sports fans. While it was once Anton Hargassner sr. himself who daringly pushed himself off the ski jump beam at a young age, he later kindled this fire for sport in Markus and Anton jr. Hargassner as well. This passion still burns in the Hargassner family today and the values of sport therefore also actively shape Hargassner's corporate culture. The "Hargassner Sport Family" unites this enthusiasm for sports, from youngsters to professionals, and shares it with the international fan community.

If you would like to be kept informed and experience everything first-hand that is going on in the world of the "Hargassner Sport Family", then follow them on Facebook & Instagram. **#hargassnerfamily**  





40 YEARS

4 decades of Hargassner = 4 decades of future heating technology

Hargassner. Since 1984, as a pioneer in automated biomass heating systems, we have stood by our customers as a reliable partner – with trustworthiness from Innviertel. With the addition of solar thermal collectors and heat pumps, we have consistently developed into a full-service provider for renewable heat. This is how we have grown into an internationally successful company with a strong innovative spirit.

- ✓ **40 years of experience**
- ✓ **185,000 customers** worldwide
- ✓ **75,000 m² company floor space**
- ✓ **1,200 employees**
at multiple locations
- ✓ **Export to 43 countries**
- ✓ **40 years of success with awards**



Executive Board (left to right)
Markus & Anton jr. Hargassner

Heat from air & water

Advantages

- ✓ **Independent**, uses good-value, freely available energy
- ✓ **Efficient and energy saving**
- ✓ **Perfect combinability**
- ✓ **Operational safety**
- ✓ **Effortless operation**
- ✓ **Maximum comfort and minimum space requirements**

Comfortable. Innovative.

Effortless operation in the familiar Hargassner environment via app & web application and smart home.

Ecological. Sustainable.

Sustainable for generations, no emissions on site and an infinite, free source of heat.

Crisis-proof. Reduces heating costs.

Always available energy source, high efficiency and consideration of variable energy prices.



FACTS

Wide operating range: $-25^{\circ}\text{C} \div +40^{\circ}\text{C}$
Heating water – flow temperature up to 65°C .

Ecology first and foremost: Our heat pumps use the climate-friendly refrigerant R452B.

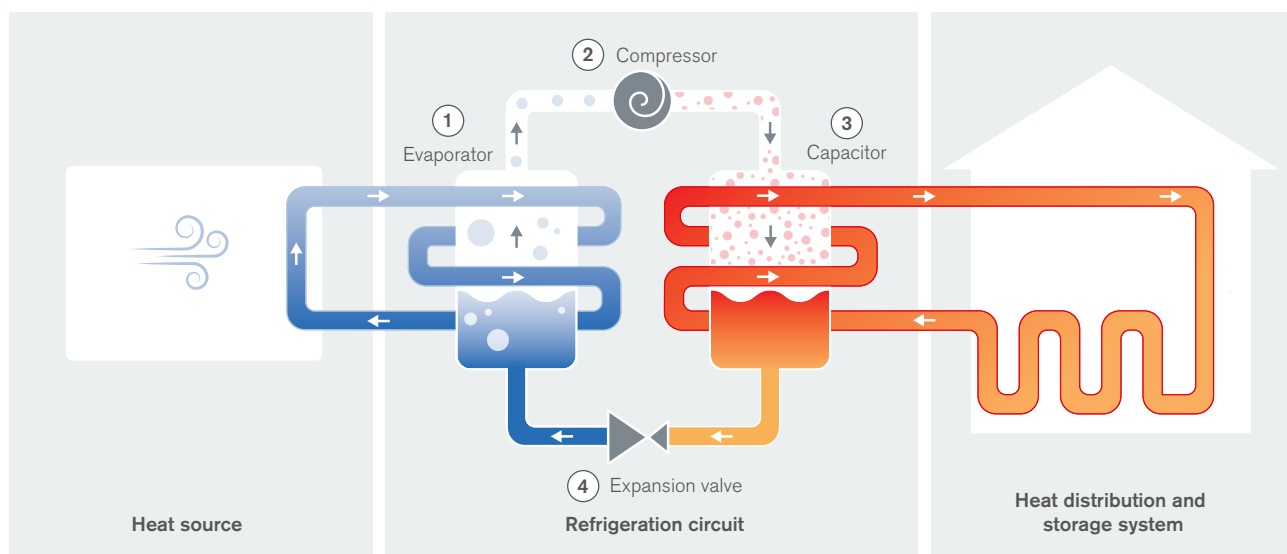
Efficiency: High energy efficiency – SCOP values up to 4.76.

Quiet operation: Extremely quiet operation of the outdoor unit. The volume of the Airflow - M9 is 46 dB.





Functional principle of the heat pump



1. Vaporize

Heat is extracted from the ambient air, which heats the refrigerant in the refrigeration circuit and causes it to vaporize. This also works at low outside temperatures down to -25°C .

2. Compress

The refrigerant, now in gaseous form, moves on to the compressor. This is where the gas is compressed in order to reach the required operating temperature.

3. Condense

The generated heat is transferred to the heat distribution and storage system via a condenser/heat exchanger. Here the refrigerant changes from a gaseous to a liquid state. This process is reversed when cooling in summer.

4. Depressurize

The condensed refrigerant is then depressurized back to the initial pressure and thus cools down further. Then the cycle can start all over again.

The world of our heat pumps

AIRFLOW M

5 - 7

For single-family and low-energy houses.

For details, see p. 8-9



AIRFLOW M

9 - 12

For single-family and low-energy houses.

For details, see p. 8-9



AIRFLOW M





14 - 20

For use in two-family houses and for renovation projects.

For details, see p. 8-9



Application areas

-  Detached houses
-  Semi-detached houses
-  Low-energy houses
-  Renovation projects

Heat pump technology at its best

Expertise in heat pumps has been built up since 2011 and has been continuously developed since then. Production takes place in modern production facilities with high-tech machines, laser cutting systems, numerically controlled press brakes, and robot welding systems.

Products from Hargassner combine the highest quality, expertise, and decades of proven technology. Hargassner researches and develops the future of heating with a keen sense of the environment.



AIRFLOW^M BASIC

For simple control
of the heating system.

For details, see p. 10



AIRFLOW^M STYLE

The wall-mounted
hydraulic unit.

For details, see p. 11



AIRFLOW^M COMFORT / COMFORT II

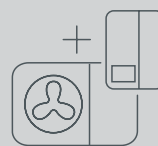
The compact indoor unit
with a hot-water storage
tank and one or two
heat circuits.

For details, see p. 12 - 13



Quality control and customer benefits therefore characterize the daily tasks to a high degree. International awards and over 185,000 satisfied buyers worldwide are proof of the top level of Hargassner technology.

Discover the world of Hargassner heat pumps on the following pages.



It's the combination that counts. The indoor units shown can be combined with the outdoor units. **This provides the optimal solution for every customer requirement.**



Air/water heat pump Outdoor units

Modern and economical heating is now possible with innovative heat pumps. Our Airflow-M is a modern, infinitely variable air/water heat pump. **It serves as an independent heat generator with a room cooling function** for the warm summer months. It can be used both in **new buildings and in renovated**

buildings with underfloor and radiator heating. Har-gassner offers not only reliable, but also affordable heat pump technology "Made in Europe".

Advantages



Quick and easy installation



Modern design



Effortless operation - app & web application and smart home



Intelligent hybrid function



Effective operation down to -25°C



Flow temperature of up to 65°C possible



Standard heating and cooling





- ✓ **Very good energy efficiency**
with an SCOP of up to 4.76
- ✓ **Quiet operation** with only 46 dB at AFM 9
- ✓ **Powder-coated aluminium housing**
high weather resistance

- ⊕ — Energy efficiency class up to **A+++**
- ⊕ — Efficiency of ETAs up to 187%
- ⊕ — Up to 5-year warranty

In monobloc heat pumps, the entire cooling circuit with evaporator, compressor, and condenser is in the outdoor unit. There the heating water is heated and channeled into the interior of the house via insulated pipes.

The technology achieves impressive values:

- Extremely quiet operation with up to 46 dB
- SCOP values from up to 4.76
- High flow temperatures of up to 65°C (without the use of electric heating)



Type Airflow-M 5 – 7



Type Airflow-M 9 – 12



Type Airflow-M 14 – 20



AIRFLOW^M BASIC 5 – 20

The BASIC indoor unit is designed for simple control of the heating system. The entire refrigeration circuit is located in the outdoor unit. The indoor unit controls the room heating and cooling as well as the production of hot water.

- ✓ **Control** of the entire heating system
- ✓ **7" color touch display**
- ✓ **Intelligent hybrid function**
- ✓ **Flow temperature** of up to **65°C** possible
- ✓ Standard **heating and cooling**
- ✓ **High-efficiency pump** infinitely variable



- + — H x B x T = 450 x 315 x 132 mm
- + — Weight = 8.2 kg
- + — Energy efficiency class **A⁺⁺** / **A⁺⁺⁺**
- + — Efficiency of ETAs up to 187%
- + — Up to 5-year warranty

In combination with outdoor unit



Type Airflow-M 5 - 7



Type Airflow-M 9 - 12



Type Airflow-M 14 - 20



AIRFLOW^M STYLE 5 – 20

The STYLE indoor unit includes the most important hydraulic components. This includes a high-efficiency pump, an electric heating element, a magnetic dirt separator, a safety group, and a 12-liter expansion tank. The entire refrigeration circuit is also located here in the outdoor unit.

- ✓ **High-efficiency pump** infinitely variable
- ✓ **Electric heating element** with automatic power gradation 3 / 6 / 9 kW
- ✓ **Magnetic dirt separator**
- ✓ **Safety group** integrated (safety valve 3 bar, automatic bleed valve, pressure gauge)
- ✓ **Expansion tank** 12 l

- + — H x B x T = 770 x 640 x 400 mm
- + — Weight = 40 kg
- + — Energy efficiency class **A⁺⁺** / **A⁺⁺⁺**
- + — Efficiency of ETAs up to 187%
- + — Up to 5-year warranty



In combination with outdoor unit



Type Airflow-M 5 - 7



Type Airflow-M 9 - 12



Type Airflow-M 14 - 20



AIRFLOW^M COMFORT

5 – 20

The COMFORT indoor unit contains the most important hydraulic components and a hot-water storage tank. A 250 l hot-water storage tank is used for AFM 5 – 12 and a 275 l hot-water storage tank is used for AFM 14 – 20. The entire refrigeration circuit is also located here in the outdoor unit.

- ✓ **Hot-water storage tank** with 250 or 275 l
- ✓ **3-way switching valve**
for hot water charging
- ✓ **Storage tank sacrificial anode**
- ✓ **One direct heat circuit**



- ⊕ — HxBxT = 1535 x 695 x 858 mm (AFM 5 – 12)
1770 x 695 x 858 mm (AFM 14 – 20)
- ⊕ — Weight = 195 kg or 255 kg
- ⊕ — Energy efficiency class **A⁺⁺** / **A⁺⁺⁺**
- ⊕ — Efficiency of ETAs up to 187%
- ⊕ — Up to 5-year warranty

In combination with outdoor unit



Type Airflow-M 5 - 7



Type Airflow-M 9 - 12



Type Airflow-M 14 - 20



AIRFLOW^M COMFORTII 5 – 20

The COMFORT II indoor unit includes a hot-water storage tank, a sliding heat circuit, and a mixed heat circuit. A 250 l hot-water storage tank is used for AFM 5 – 12 and a 275 l hot-water storage tank is used for AFM 14 – 20. The entire refrigeration circuit is located in the outdoor unit.

- ✓ **Hot-water storage tank** with 250 or 275 l
- ✓ **3-way switching valve**
for hot water charging
- ✓ **Storage tank sacrificial anode**
- ✓ **One direct heat circuit**
- ✓ **One mixed heat circuit**

- ⊕ — HxBxT = 1535 x 695 x 858 mm (AFM 5 – 12)
1770 x 695 x 858 mm (AFM 14 – 20)
- ⊕ — Weight = 195 kg or 255 kg
- ⊕ — Energy efficiency class **A++** / **A+++**
- ⊕ — Efficiency of ETAs up to 187%
- ⊕ — Up to 5-year warranty



In combination with outdoor unit



Type Airflow-M 5 - 7



Type Airflow-M 9 - 12



Type Airflow-M 14 - 20



Defrost accumulator

HT BW 40 – HT BWS 150

- ✓ **Minimum space requirements**
- ✓ **Cheap** to purchase
- ✓ **Enough energy for the defrosting process**
- ✓ Upright, vertical or horizontal suspended assembly

Type	HT BW 40	HT BW 60	HT BWS 80	HT BWS 120	HT BWS 150
Volumes	40l	60l	80l	120l	150l
Dimensions B x T x H	459 x 459 x 519	459 x 459 x 694	459 x 459 x 879	459 x 459 x 1244	459 x 459 x 1519
Weight	36kg	45kg	53kg	71kg	84kg

Blackout antifreeze module

- ✓ **Bypass pump**
- ✓ Keeps the system **frost-proof even during a blackout**
- ✓ **Incorporated battery** BxTxH = 100x150x115mm
- ✓ Adjustable depending on outdoor / FL temperature



➕ — BxTxH = 254x252x160mm



Hargassner heat pumps

Anywhere, anytime

Safety and full control

Simply operate your heat pump on the move with the Hargassner app. As with other Hargassner heating systems, the clear user interface allows you to control the heating smartly using your cell phone, tablet or via the web – whenever and wherever you want.

ADVANTAGES

- Effortless operation in the familiar Hargassner environment
- Can also be used for your own pool via accessories
- Convenient service and updates via Hargassner with remote access
- Consideration of variable energy prices = efficient use of the entire system
- Can be operated via app, web, smart home means: make the most important settings yourself remotely in no time at all





Independently into the future

Intelligent hybrid functions

Hargassner heat pumps deliver perfect heat in stand-alone operation. However, they can also be intelligently combined with other heat generators, such as biomass boilers. This results in hybrid functions with synergies and advantages that meet very high demands for reliability and independence in the face of fluctuating

energy prices. The system automatically switches to the most sensible heating system at the moment.

The right solution for every customer requirement.



EFFICIENT, AUTOMATIC

- Can be perfectly combined with biomass and other renewable energies - even with external heat generators
- Greater flexibility and efficiency through the intelligent use of different heat generators
- More independent of fluctuating energy prices
- **NEW** – Weatherman function:
An automatic system decides which heat generator goes into operation based on energy prices and online weather data.

Our Airflow-M air/water monobloc heat pump can be perfectly combined with Hargassner biomass boilers.

The result is a hybrid system that makes optimum use of the advantages of both worlds. While the heat pump works effectively in the transitional period and mild winter months, the biomass boiler provides support in extreme outdoor temperatures and guarantees constant cozy warmth.

The heat pump controls the entire system and decides, based on energy costs and weather data, which heat generator is the most efficient and cost-effective at that moment. **This maximizes the efficiency and service life of both units and ensures that heating is always the most cost-effective option.** This guarantees maximum savings in times of strongly fluctuating energy prices and ensures independence. There are four possible combinations.

AIRFLOW M + NANO PK 5 – 20 kW 6 – 32 kW

Maximum comfort for sure

The combination of the Nano-PK pellet boiler and the Airflow-M heat pump is a fully automatic high-end hybrid solution. It guarantees both maximum comfort and efficiency. This version impresses with its compact size, an automatic pellet suction system and minimal maintenance requirements. Ideal in detached houses and for renovation projects.



AIRFLOW M + SMART PK 5 – 20 kW 17 – 32 kW

Optimal price for occasional use of pellets

The combination of the Smart-PK automatic pellet boiler and the Airflow-M impresses with great value for money and a high level of convenience. The Smart-PK has an automatic ignition system and a large pellet hopper in a small and compact design. Ideal if there is not enough space for a pellet store.



AIRFLOW M + NEO HV 5 – 20 kW 20 – 60 kW

Ideal solution for passionate wood log heaters

A hybrid offering with fully automatic premium quality and maximum convenience. Ideal if you have your own wood available and appreciate the safety of an automatic system. The heat pump recognizes independently whether the system has enough energy or whether additional heat is required. The wood log boiler impresses with a large filling chamber with lighting, a large filling chamber door and an automatic boiler cleaning device.




AIRFLOW M + SMART HV 5 – 20 kW 17 – 23 kW

Best value for money for occasional use of wood

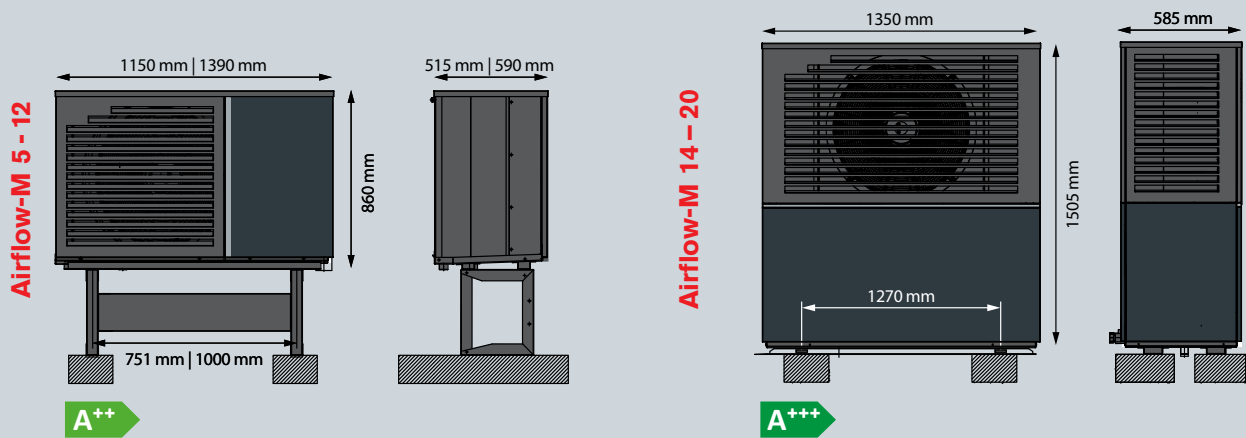
Hybrid systems for all those who like to heat wood themselves from time to time, but generally prefer to enjoy the benefits of fully automatic heating. The heat pump takes care of the main part of the heating period, while the Smart-HV is available as a low-cost wood log solution in case of extreme outdoor temperatures.



TECHNICAL DATA

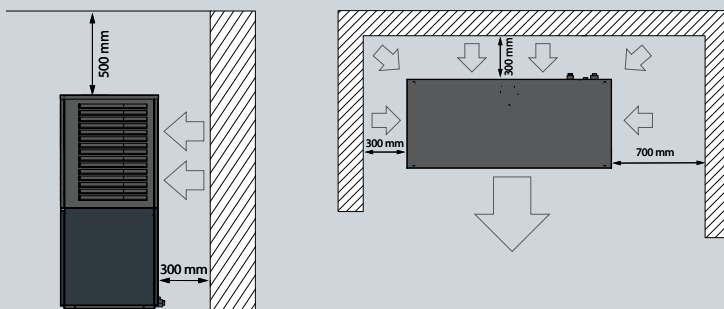
					
		Basic	Style	Comfort	Comfort II
Control of the entire heating system		•	•	•	•
Flow sensor		•	•	•	•
Highly efficient, infinitely variable circulation pump		•	•	•	•
Magnetic dirt separator			•	•	•
Electric heating element with automatic power gradation 3 / 6 / 9 kW			•	•	•
Safety group			•	•	•
3-way switching valve				•	•
Hydraulic connections to the top				•	•
Hydraulic connections to the bottom			•		
1 direct heat circuit				•	•
1 mixed heat circuit					•
Hot-water storage tank AFM 5 - 12 / AFM 14 - 20				250l / 275l	250l / 275l
Dimensions of the indoor unit (H x B x T)	250l	450 x 315 x 132	770 x 640 x 400	1535 x 695 x 858	1535 x 695 x 900
	275l			1770 x 695 x 858	1770 x 695 x 900
Weight	250l	8.2 kg	40 kg	195 kg	205 kg
	275l			255 kg	265 kg

Dimensions



Minimum distances

The distances listed below apply to both Airflow-M 5 – 12 and Airflow-M 14 – 20.



TECHNICAL DATA

Type Airflow-M	Unit	AFM 5	AFM 7	AFM 9	AFM 12	AFM 14	AFM 16	AFM 18	AFM 20	
Modulation range	kW	2-5	2-7	2-9	3-12	4-14	5-16	5-18	5-20	
Heat output for A-7 / W35 medium climate (EN 14825)	kW	4.98	5.42	6.62	7.89	9.57	12.05	13.01	13.78	
Heat output for A-7 / W55 medium climate (EN 14825)	kW	4.77	5.18	6.45	7.79	9.33	11.95	12.87	13.65	
SCOP at 35 / 55°C medium climate (EN 14825) ¹		4.09 / 3.25	4.12 / 3.23	4.21 / 3.34	4.2 / 3.54	4.73 / 3.38	4.76 / 3.41	4.71 / 3.35	4.69 / 3.23	
Efficiency of ETAs at 35 / 55°C medium climate (EN 14825) ¹	%	160.5 / 127.1	161.8 / 126	165.5 / 130.6	165.1 / 138.7	186.3 / 132.2	187.2 / 133.5	185.2 / 131	184.4 / 126.3	
Energy efficiency class at 35 / 55°C medium climate ¹		A++ / A++	A++ / A++	A++ / A++	A++ / A++	A+++ / A++	A+++ / A++	A+++ / A++	A+++ / A++	
Dimensions of the outdoor unit (B x H x T)	mm	1150 x 860 x 515			1390 x 860 x 590		1350 x 1505 x 585			
Weight of the outdoor unit	kg	129			148		210		212	
Operating range	°C	-25 + +40								
Maximum flow temperature	°C	65								
Refrigerant		R452B								
Global warming potential	GWP	676								
Refrigerant quantity	kg	2.35			2.45		3.95			
Equivalent CO ₂	t	1.59			1.66		2.67			
Supply voltage	V/Hz	230 / 50			400 / 50					
Connected current	A	15			3 x 12					
Max. power consumption	kW	5.32			7.4					
Min. flow rate in heat/defrost mode	l/min	12 / 20			15 / 25					

Characteristics as per EN 14511		AFM 5	AFM 7	AFM 9	AFM 12	AFM 14	AFM 16	AFM 18	AFM 20
A7 / W35	Heat output in kW	4.1			5.5	4.22	8.01		
	COP	4.55		4.59	4.71	5.18	5.21		
A7 / W55	Heat output in kW	5.46			7.58	7.46	8.83		
	COP	2.89		2.93	2.98	3.25	3.19		

Acoustic emissions		AFM 5	AFM 7	AFM 9	AFM 12	AFM 14	AFM 16	AFM 18	AFM 20
Sound power level normal / night (EN 12102)	dB (A)	54 / 51	55 / 52	46 / 43	48 / 45	50 / 47	52 / 49	53 / 50	54 / 51
Sound pressure level at a distance of 5m / 8m, free field	dB (A)	32 / 28	33 / 29	24 / 20	26 / 22	28 / 24	30 / 26	31 / 27	32 / 28

Dimensioning of the connecting cable

Up to 10 m of connecting cable																	
	Diameter	Floor heating Δ5K								Radiator heating Δ8K							
		AFM 5	AFM 7	AFM 9	AFM 12	AFM 14	AFM 16	AFM 18	AFM 20	AFM 5	AFM 7	AFM 9	AFM 12	AFM 14	AFM 16	AFM 18	AFM 20
PEX	25 mm									•	•						
	26 mm									•	•						
	32 mm	•	•	•						•	•	•	•	•			
	40 mm	•	•	•	•	•	•			•	•	•	•	•	•	•	•
	50 mm	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
CU, steel, C-steel	22 mm									•	•						
	28 mm	•	•	•						•	•	•	•	•			
	35 mm	•	•	•	•	•	•			•	•	•	•	•	•	•	•
	42 mm	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
	54 mm	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•

HARGASSNER



Your specialist for **RENEWABLE HEAT**

Hargassner complete range: pellet boilers, wood chip boilers, wood log boilers, accumulator tanks, industrial boilers up to 2.5 MW, heating modules, filling augers, combined heat power (CHP), Power-Box warm-air module, heat pumps, solar collectors & hydraulic accessories

Your specialist retailer

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