

Air to Water Source Heat Pump

DIAMANT heat pumps function according to the same physical principle as freezers, however, in the opposite way: heat is extracted from the external surroundings. In place of the cooling coils behind the freezer is the inner equipment of the heat pump. Heat extracted from the exterior is released here.

Heat is extracted from the exterior in an evaporator at low temperature, whereby the cooling agent evaporates. The working fluid then condenses with low electrical energy at a higher pressure. The environmental heat is applied to the working fluid in the evaporator. In the process, the state of the aggregate changes from fluid to gas form.

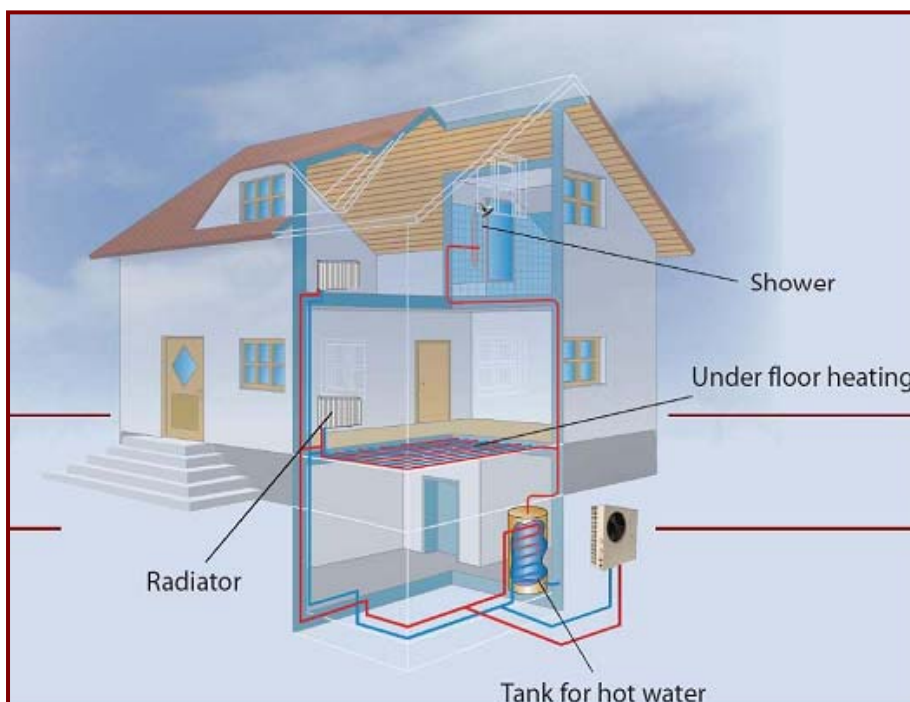
The gaseous agent is powerfully compressed in the compressor and thus brought to a level useful for heating purposes. A low amount of energy is needed to drive the condenser.

The heat energy from the working agent is released directly in the air via the liquifier. It again becomes fluid.

The working agent is then decompressed and thereby powerfully cooled in the release vent. The medium is reintroduced into the evaporator and the cycle begins anew.



DIAMANT® Heat pumps - a new generation in heating



Diamant were established in Germany in 1995 and have rapidly become known as one of Europe's leading manufacturers of quality heat pumps.

Diamant heat pumps are among the safest and most reliable heating systems available today. Moisture and rust resistant: powder-coated metal material with corrosion resistant stainless steel assuring that not even harsh weather will affect the quality or functionality of the heat pumps.

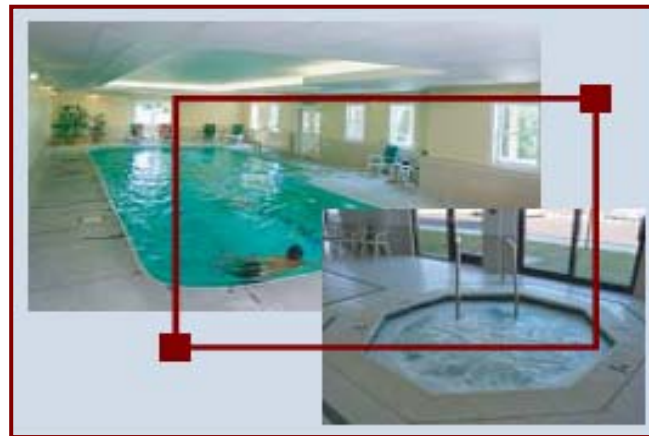
DIAMANT innovation heat pumps are designed to fit almost any structure of any size, from low energy new buildings to older houses. We offer heating systems ranging between 2.5kw-35kw. All models are approved with TUV certifications and able to generate flow temperatures of 55°C even in -20°C outside temperatures.

Basic Technical Data

		Diamant 10LW	Diamant 11LW	Diamant 14LW	Diamant 16LW
Outlet temperature	°C	55	55	55	55
Outlet temperature max.	°C	60	60	60	60
Ambient temperature	°C	-20 bis +40		-20 bis +40	-20 bis +40
Heating capacity A10/W35 // A20/W35	kW	8.55 / 9.9	9.35 / 10.8	12.4 / 14.25	16.8 / 19.15
Input power A10/W35 // A20/W35	kW	2.35 / 2.55	2.36 / 2.54	3.35 / 3.65	4.2 / 4.4
COP by A10/W35/A20/W35	COP	3.64 / 3.88	3.96 / 4.25	3.7 / 3.9	4 / 4.35
Heating capacity A2/W35 // A7/W35	kW	6.9 / 7.7	7.75 / 8.76	9.5 / 11.3	13.55 / 15.2
Input power A2/W35/A7/W35	kW	2.2 / 2.3	2.28 / 2.43	3.01 / 3.3	4 / 4.1
COP by A2/W35 // A7/W35	COP	3.13 / 3.3	3.4 / 3.61	3.16 / 3.42	3.4 / 3.7
Heating capacity A-7/W35 // A-15/W35	kW	5.9 / 4.75	6.6 / 5.3	8.2 / 6.4	11.7 / 9.3
Input power A-7/W35 // A-15/W35	kW	2.1 / 1.95	2.13 / 1.93	2.9 / 2.7	3.71 / 3.26
COP by A-7/W35 // A-15/W35	COP	2.81 / 2.43	3.1 / 2.75	2.82 / 2.37	3.15 / 2.85
Power supply	V	230V / 1ph / 50Hz (400V / 3ph / 50Hz)	230V / 1ph / 50Hz (400V / 3ph / 50Hz)	400V / 3ph / 50Hz	400V / 3ph / 50Hz
Running current (A-max)	A	12.8 (6.7)	12.8 (6.7)	8.7	10.5
Max. starting current	A	48	48	45	48
Safety breaker	A	1 x C 25A (3 x C 25A)	1 x C 25A (3 x C 25A)	3 x C 25A	3 x C 25A
Size of electrical wires up to 15m	mm ²	3 x 2.5mm (5 x 2.5mm ²)	3 x 2.5mm ² (5x2.5mm ²)	5 x 2.5mm ²	5 x 2.5 mm ²
Amount of compressors		1	1	1	1
Compressor type		Scroll (Copeland)	Scroll (Copeland)	Scroll (Copeland)	Scroll (Copeland)
Hot water from 20°C to 55°C	l/h	245	245	420	550
Refrigerant		R417A	R417A	R417A	R417A
Recommended pump	W/h	200	200	350	450
Recommended tank	L	> 300	> 300	>450	>450
Recommended heat exchanger tank	m ²	> 3.2	> 3.2	> 5.2	> 5.2
Recommended distance from tank	M	< 10	< 10	< 10	< 10
Recommended water flow for pump	Kg/h	1300	1300	1900	2200
Connection		1"	1"	1"	1"
Size L*W*H	Mm	900 x 400 x 1000	900 x 400 x 1000	1000 x 450 x 1250	1000 x 450 x 1250
Weight	Kg	100	100	150	150
Recommended house size	m ²	> 100	> 100	> 140	> 260
Warranty	Years	2	2	2	2

The air-water heat pump can be connected to the following heating units:

- ▶ radiators
- ▶ underfloor heating
- ▶ fan coils
- ▶ ceiling heating
- ▶ wall heating



The Diamant swimming pool heat pump is the most efficient & cost effective way to heat a swimming pool. Heat pumps emit no hazardous pollution into the air like fuel or natural gas heating systems. The heat pump makes full use of the advanced refrigeration technology to capture the heat from the outside air and transfer it to the water of the pool.

The heart of the heat pump is the heat exchanger, responsible for transferring the heat from the heat pump to the water. All Diamant heat pumps are manufactured with titanium heat exchangers, assuring long life for the heat pump and maximum protection against corrosion and high concentrations of CU-Ionian.

Energy consumption comparison of various heating solutions

