

INNOVATION 2012

**WATERKOTTE**

WATERKOTTE - The reference class\*

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Photos: WATERKOTTE, Fotolia



## DS 5027 Ai

Heat pump heating system for geothermal energy recovery, 6 to 26 kW

- + Refrigerant R410A - for maximum efficiency
- + Top value: COP 5.03
- + Reduced sound emission - ultra-quiet operation
- + New control with WEB interface (option)  
- designed for intuitive use
- + Fully equipped for heat source and heating

\* In relation to COP values of current BAFA list dated 24. 05. 2012 in brine/ water segment.



[www.waterkotte.de](http://www.waterkotte.de)

DS 5027 Ai - the system centre for thermal comfort: Heating, cooling and



Cosy heat at any time of day  
- comfortable and cost-efficient!

## and domestic water heating



### DS 5027 Ai series

- designed for the efficient production and use of renewable energy from the ground

In the process, the energy produced from the ground is made available for thermal comfort and, if desired, also for domestic water heating.

The characteristic feature of DS 5027 Ai is the virtually complete integration of the system technology on „source side“, i.e. on the side of heat production, as well as on „output side“, i.e. on the side of thermal use.

#### Thermal use:

- + Heating
- + Active or natural cooling (optional)
- + Domestic water heating
- + Solar connection (optional)
- + Pool heating (optional)

#### Accessories (options)

- + Connection set
- + Starting current damping (3x 400 V)

Heating	Cooling function, natural cooling	Cooling function, active cooling	Efficiency class A pumps	COP counter	Electric auxiliary heating	Anti-legionella system	Solar energy recovery
yes	Option	Option	yes	standard	6 kW	yes	ready for use, including control

<sup>\*)</sup> DS 5017.5 Ai with refrigerant R410A, tested by TÜV Rheinland



Feel-good climate and wellness, with a clear conscience  
- more cost-effective than ever before!

## Equipment

- + Complete system technology (heat source side and energy recovery side)
- + High performance control with intuitive operation
- + A-class circulation pumps
- + Refrigerant R410A

## Control technology

- + WATERKOTTE energy saving control
- + WATERKOTTE COP counter for consumption and efficiency monitoring
- + WEB-Interface (optional)

## Heat pump technology

- + Hermetically sealed compressor, scroll technology
- + Evaporator: soldered plate heat exchanger
- + Electronic refrigerant control valve
- + Condenser: soldered plate heat exchanger

## Hydraulic fittings

The hydraulic fittings are located on the rear of the unit and are connected with the pipe installation via flexible connections (see installation accessories).

## Equipment heat source side

Air separator, air diverter, filling pressure gauge (visibly arranged on the outside), overpressure valve, pressure expansion vessel (stainless steel design), circulation pump (energy class A).

## Equipment energy recovery side

Air separator, air diverter, filling pressure gauge (visibly arranged on the outside), overpressure valve, pressure expansion vessel (stainless steel design), circulation pump (energy class A).  
Electrical heating element 6 kW.

## Solar heat supply

The connection for the hydraulic supply of thermal solar collectors takes place in the flow line outside the unit. The flushing fittings, for instance, could be used for this purpose. (ref. to installation equipment). The WATERKOTTE energy saving control can be set to optimal solar use. If connected, hot water production is given the higher priority.

## Operation with photovoltaic system

You can either feed the produced energy into the grid, or consume the energy directly on site, e.g. by operating a heat pump. Here, the overall advantage continues to grow when electricity rates increase!

## Installation accessories

To ensure significantly shorter installation times, use the original WATERKOTTE connection kit. Adapted to the corresponding system solution, it contains all necessary components. This clearly saves time and costs during installation.



DS 5027 Ai with R410A (NC and RC)		DS 5008.5Ai	DS 5010.5Ai	DS 5012.5Ai	DS 5014.5Ai	DS 5017.5Ai	DS 5020.5Ai	DS 5023.5Ai	DS 5027.5Ai
<b>Heat source groundwater</b>									
Power input/output MONOVALENT at W10/W35	kW <sup>1)</sup>	1.2/8.0	1.5/9.8	1.9/12.3	2.1/13.9	2.6/18.0	3.1/19.9	3.7/23.1	4.2/26.3
Performance factor <sup>3)</sup>		6.50	6.80	6.68	6.89	6.96	6.38	6.14	6.00
Heating water flow rate	m <sup>3</sup> /h ( $\Delta t=5K$ )	1.4	1.7	2.1	2.4	3.1	3.4	4.0	4.5
Groundwater flow rate	m <sup>3</sup> /h ( $\Delta t=3K$ )	1.9	2.4	3.0	3.4	4.3	4.8	5.6	6.3
Groundwater flow rate, minimum	m <sup>3</sup> /h	1.0	1.2	1.5	1.7	2.1	2.4	2.8	3.2
Operating limit		W10/W63							
<b>Ground source heating (geothermal probes or geothermal absorbers)</b>									
Power input/output MONOVALENT at B0/W35	kW <sup>1)</sup>	1.2/5.9	1.5/7.3	1.9/9.2	2.1/10.3	2.6/13.3	3.2/15.0	3.6/17.4	4.1/19.7
Performance factor <sup>3)</sup>		4.7	4.9	5.0	4.9	5.0	4.7	4.8	4.8
Heating water flow rate	m <sup>3</sup> /h ( $\Delta t=5K$ )	1.0	1.2	1.6	1.8	2.3	2.6	3.0	3.4
Heat source flow rate <sup>2)</sup>	m <sup>3</sup> /h ( $\Delta t=3K$ )	1.5	1.8	2.3	2.6	3.4	3.7	4.4	4.9
Operating limit		B-5/W50 B0/W55 B5/W63 B10/W63							
Compressor		Hermetically sealed scroll							

<b>Electrical data 3 x 400 V, 50 Hz (execution 1x230 V, 50 Hz)</b>									
Unreduced starting current	A	26 (58)	38 (67)	46 (98)	43 (128)	51.5 (115.5)	64	75	101
Starting current soft start (optional) <sup>4)</sup>	A	13 (45)	19 (45)	23 (45)	22 (45)	26 (45)	32	38	51
Max. operating current	A	5.5 (16.0)	6.0 (16.0)	7.0 (22.0)	8.0 (26.0)	10.3 (31.0)	11.8	15.0	15.0
Main fuse on site (compressor)	A	C16 A (C 20 A)	C16 A (C 20 A)	C16 A (C25 A)	C16 A (C 32 A)	C 16 A (C 32 A)	C 16 A	C 20 A	C 20 A
Control fuse on site	A	B 10 A	B 10 A	B 10 A	B 10 A	B 10 A	B 10 A	B 10 A	B 10 A
Electrical heating element	kW	6							

<b>Filling capacities, dimension, weights, connections</b>									
Weight of unit	kg	163	155	161	163	172	178	178	183
Connections : Heat source / use		flat-sealing R 1¼ "a / R 1¼ "a							
Dimensions W x H x D	mm	700 x 1300 x 500							

<sup>1)</sup> Tolerances as per EN 12900 and EN 14511 apply to the performance data listed above.  
<sup>2)</sup> Fluid (70 % water + 30 % WATERKOTTE antifreeze concentrate). <sup>3)</sup> as per DIN EN 14511  
<sup>4)</sup> standard at series 230 V





### **DS 5027 Ai, All including**

– the system centre for thermal comfort, with complete hydraulic equipment (heat source side and energy recovery side).

### **Now also available with cooling function: DS 5027 Ai NC - with natural cooling**

#### **Natural Cooling:**

Version DS 5027 Ai-NC contains all basic characteristics. In addition, natural cooling expands the thermal comfort to the summer months.

### **DS 5027 Ai RC - with climate cooling**

#### **Reverse cooling:**

Version DS 5027 Ai-RC also contains all basic characteristics. Particularly in climate zones with a high level of cooling, reverse cooling ensures appealing thermal comfort even at extremely high outside temperatures.

**Cosy warmth or refreshing coolness?  
With DS 5027 Ai, ready for each season!**

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