Overview
Heat pump

Air-to-water heat pump HDG A11/18

NEW

A+++

Together with the modular hydraulic platform, the new HDG A11/18 forms a multifunctional heat pump system that is unrivalled in terms of both design and technology. With an outstanding SCOP of 5.3, the HDG A11/18 guarantees efficient energy utilisation with maximum heat yield. The sustainable approach is also reflected in the use of the climate-friendly refrigerant R290 (propane) with an extremely low GWP of 3 (Global Warming Potential) and the consistent avoidance of plastic on the outside.

Equipment features and scope of delivery

- Air-to-water heat pump for heating, cooling and domestic hot water preparation in monoblock design
- Output control with inverter technology and wide modulation range
- Efficient operation thanks to high SCOP and ETAs
- Future-proof, natural refrigerant R290 (propane) with a particularly low GWP (Global Warming Potential) of 3
- Suitable for use in existing buildings due to max. flow temperature of 70 °C
- Large-surface evaporator made of corrosion-resistant aluminium
- Particularly large and quiet axial fan, speed-controlled, installed at the rear
- Speed-controlled scroll compressor, vibration-damping bearings for extremely smooth running
- Optimally dimensioned condenser as a stainless steel plate heat exchanger
- Two electronic expansion valves for a high seasonal energy efficiency ratio (SEER)
- Cooling mode and energy-saving defrosting of the evaporator through circuit reversal
- Integrated circulation pump in R290 version, speed-controlled
- Integrated volume flow sensor, bleeder and safety valve
- Electronically controlled trace heating of the condensate tray
- Powder-coated housing, colour anthracite – metallic
- High-quality front made of flow-optimised vertical, anodised aluminium slats

HDG A11/18 heat pump	Item no.	EURO	RG
HDG A11	17001011		**5**
HDG A18	17001018		**5**

Accessories		Item no.	EURO	RG
	**Base frame** Optional base frame, for installing the heat pump on secured areas (e.g. existing base plate, terrace), incl. adjusting screws for adjustment and fastening straps for secure fastening	17000010		5
	**Design panels** Optional panel set (four-part) for affixing at the bottom of the heat pump. Covering of the otherwise visible electrical and hydraulic connections, powder-coated in the housing colour of the heat pump	17000011		5
	**Planter** As a replacement for the heat pump cover. Integrated overflow with drain pipe inside the heat pump housing. Can be used for extensive greening or as a herb garden. Utility model protected.	17000012		5
	**Heat transfer medium** 20 l canister, ready-mix -16 °C, 30 vol.%.	17000014		5
	**Carrying aid** Carrying aid for easier transport of the heat pump to the installation site on the construction site. Can be used with four people or a crane. Enables safe handling, damage can be avoided.	17000015		5

Wall duct accessories		Item no.	EURO	RG
	**Wall duct** For connection to the rear, incl. stainless steel connection hoses (extendable corrugated pipe), cable glands, installation in pipe lining or 200 mm core drill hole, approval for R290, wall thickness up to 500 mm	17000016		5
	**Intermediate segments (set of 4)** for wall thicknesses over 500 mm (+50 mm per segment), incl. expansion foam 500 ml	17000017		5
	**3.3 m compressed tape** for sealing on uneven wall surfaces (> 3 mm) as a replacement for the standard seal (foam rubber) on the outside	17000018		5

Accessories for regulation and control technology	Item no.	EURO	RG
HDG Control sensor packages for actuating the following hydraulic functions			
Buffer tank management (first buffer tank) 3 x immersion sensors for top, middle and bottom of buffer tank	16005050		3
Weather-compensated heating circuit, 1 x heating circuit contact sensor	16005005		3
Domestic hot water management, 1 x immersion sensor	16005006		3
Domestic hot water circulation, 1 x contact sensor	16005059		3
Solar charging on domestic hot water and, if applicable, buffer tank 1 x collector sensor, 1 x immersion sensor for domestic hot water at the bottom	16005015		3
External buffer bypass for cooling mode 2 x three-way changeover valve DN 20 (KVS 8/13), connection G1", 2 pcs. 230 V actuator, running time 15 s	16002089		3
Electrical sub-distribution 1 x residual current circuit breaker (all-current sensitive), type B, 40 A/0.03 , 2 x miniature circuit-breaker 3-pole, 16 A, 2 x miniature circuit breaker 1-pole, 16 A, dimensions of housing IP65 (WxHxD): 310x246x148 mm	17000019		5
Control module (A22) for wall mounting or mounting on the MS-WP module buffer tank. 1 x universal controller (IO circuit board), cable glands, housing dimensions IP65 (WxHxD): 254x180x111 mm	17000020		5

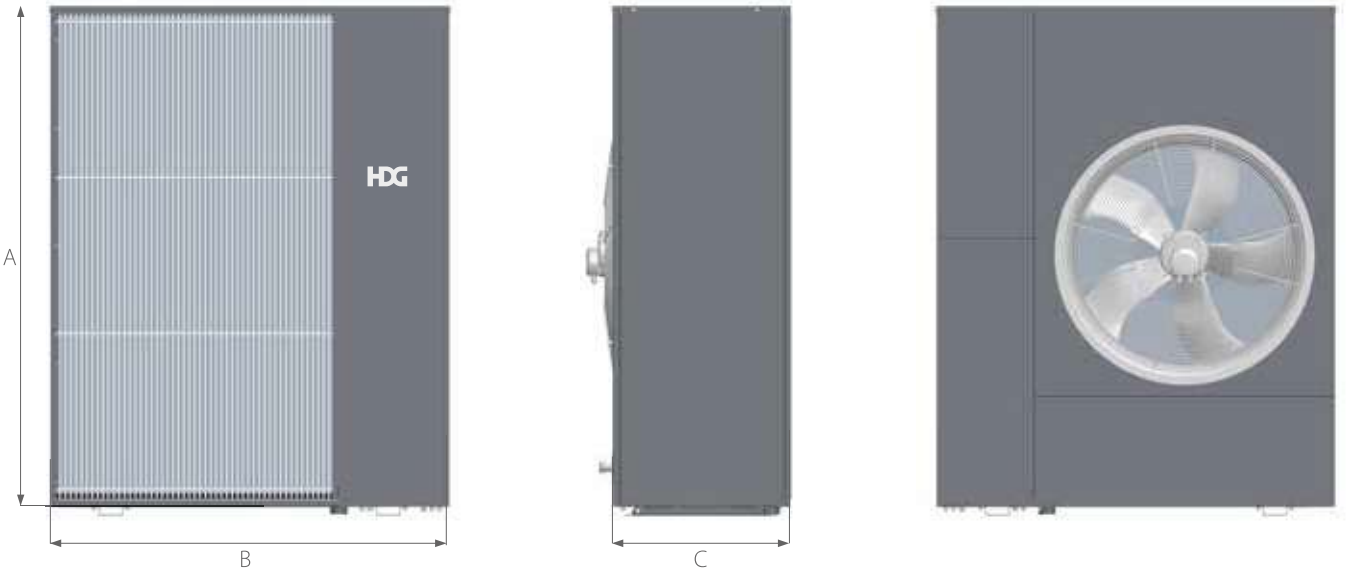
HDG A11/18 air-to-water heat pump
Technical data

Heat pumps	Unit	HDG A11	HDG A18
Weight	kg	170	210
Refrigeration circuit			
Refrigerant		R290	R290
GWP		3	3
Fill quantity	kg	0.9	1.1
Machine oil		PAG	PAG
Heating output and efficiency			
at low temperature (35°, medium climate): Energy efficiency class ETAs SCOP		 A+++ 209% 5.30	 A+++ 210% 5.32
at medium temperature (55°, medium climate): Energy efficiency class ETAs SCOP		 A+++ 157% 4.00	 A+++ 159% 4.04
Variable heat output A7W35	kW	3.1–12.7	4.9–19.0
Variable heat output A2W35	kW	2.7–11.4	4.4–17.5
Variable heat output A-7W35	kW	2.5–10.0	3.9–15.1
Variable heat output A-7W55	kW	2.4–9.7	3.9–15.0
Cooling output and efficiency			
Variable cooling output A35W18	kW	2.7–11.2	4.8–17.5
Variable cooling output A35W7	kW	1.8–8.3	2.8–11.4
Sound			
Sound power level EN12102	dB(A)	48	51
Tonality/tone incorporation	dB(A)	0	0
Application limits			
Heating water temperature	°C	+12 to +70	+12 to +70
Cooling water temperature	°C	+7 to +35	+7 to +35
Heating outside air temperature	°C	-22 to +40	-22 to +40
Outside air cooling	°C	+5 to +45	+5 to +45
Hydraulics			
Operating pressure	bar	0.5 to 2.5	0.5 to 2.5
Connections		5/4" external thread	5/4" external thread
Minimum nominal diameter of connecting cable	DN	25	32
Heat source			
Air volume flow	m^3/h	1500 to 8500	1500 to 8500
Condensate per defrosting process approx.	l	6	8
Electrical connection			
Heat pumps		IP54	IP54
Power connection		400 VAC/50 Hz (L1,L2,L3,PE)	400 VAC/50 Hz (L1,L2,L3,PE)
Protection		16A(B)	16A(B)
Recommended minimum cross-section	mm^2	2.5	2.5
Max. current consumption/starting current	A	12	12
Max. power input	kW	3.7	5.7

Efficiency parameters in accordance with EN14511		HDG A11		HDG A18	
EN14511		**Output (kW)**	**COP**	**Output (kW)**	**COP**
Heating mode	A7W35	5.5	5.43	7.4	5.53
	A2W35	5.3	4.73	9.5	4.71
	A-7W35	9.7	3.26	15.1	3.03
	A-15W35	7.5	2.68	12.5	2.46
	A7W45	5.7	4.25	6.3	4.27
	A7W55	6.1	3.38	7.2	3.31
	A-7W55	9.7	2.19	15.0	2.08
Cooling mode	A35W18	7.5	3.72	10.6	4.05
	A35W7	7.2	2.71	9.3	3.17

Modular Hydraulic Platform (MHP)	Unit	
Hydraulic module		
Weight	kg	Max. 75
Height x width x depth	mm	1236 x 685 x 310
Heat output of instantaneous water heater	kW	Level 1: 3 Level 2: 6 Level 3: 9

HDG A11/18 air-to-water heat pump
Technical drawings, minimum clearances



	Designation	Dimensions HDG A11 heat pump (in mm)	Dimensions HDG A18 heat pump (in mm)	Dimensions Hydraulic module* (in mm)	Dimensions Hydraulic module with hybrid buffer* (in mm)
A	Height	1100	1500	1236	2076
B	Width	1150	1150	685	685
C	Depth	510	510	310	310

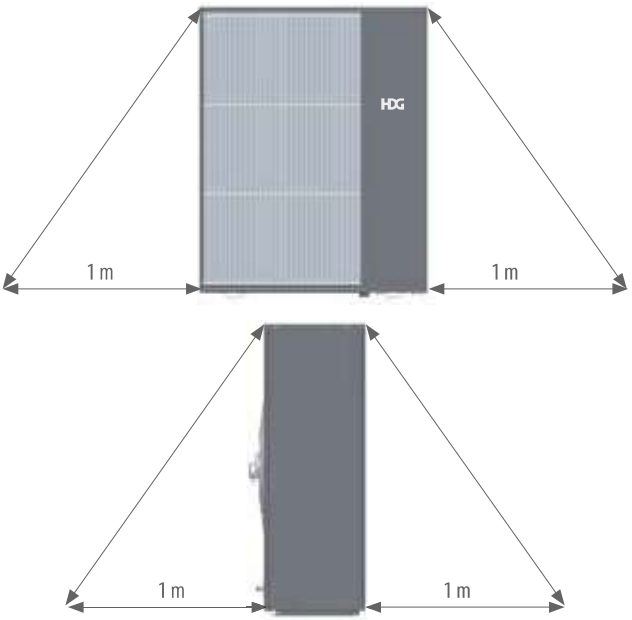
* Not shown

Protection zones

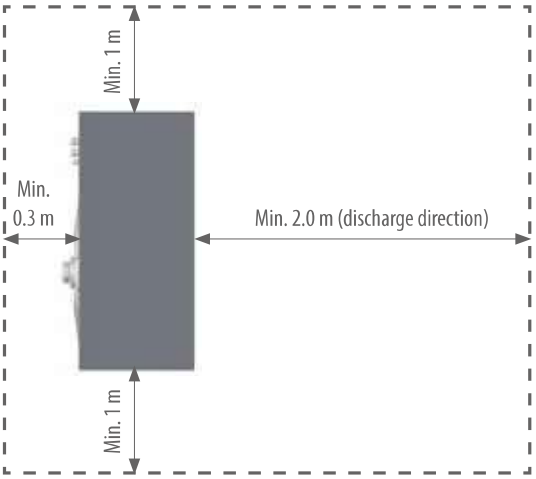
The described protection zones must be strictly observed. There must be no ignition sources such as electrical switches, naked flames or hot surfaces within the protection zones. In particular, it is pointed out that smoking is not permitted within the protection zones. It must be ensured that no refrigerant can enter enclosed spaces in the event of a leak. Therefore, no windows, doors, light wells, other openings or drains may be present within the protection zone. The protection zones must not extend onto traffic routes, neighbouring properties or public areas.

Minimum clearances

The minimum clearances shown must be observed to ensure trouble-free and efficient operation of the heat pump. This is particularly important for servicing, cleaning and maintenance purposes.
However, the protection zones described must be observed in all cases. The minimum clearance in air direction is an urgent recommendation. At ground temperatures below freezing, there is a risk of ice forming, especially during the defrosting process of the heat pump (risk of slipping).



Cone-shaped (1 m distance to the housing surface)



E
Heat pumps

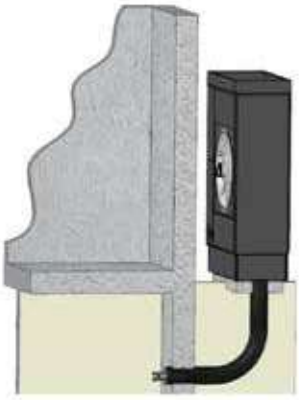
HDG A11/18 air-to-water heat pump
Installation options

Concrete strip foundations
On-site strip foundations in longitudinal direction (space for connections from below), attachment of panels possible (observe dimensions).

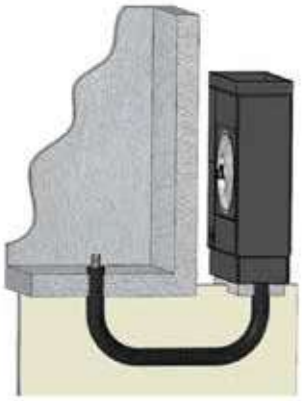
Base frame (HDG accessory)
Base frame for mounting on an existing surface (e.g. concrete slab), panels can be attached (shadow gap to the floor).

Base frame with panels
Base frame for mounting on an existing surface (e.g. concrete slab), including attached panels.

Wall connection
Direct connection to the rear, decoupling with HDG connection set, pipework and insulation on site.



Connection in the cellar
Connection with "long-distance pipe" to below the heat pump, wall duct into the basement.



Connection through the base plate
Connection with "long-distance pipe" to below the heat pump, penetration through the base plate (no cellar).

Example: WATTS

Heat pump connecting line to the building
The connecting line between the heat pump and the building (underground) is not included in the HDG delivery programme and must therefore be provided by the customer. The residual head of the circulation pump in the primary circuit specified in the technical data sheet must be observed to ensure the required maximum volume flow.

We recommend using special pipework systems suitable for heat pump connections, such as

- WATTS Microflex HP
- UPONOR Ecoflex Thermo Twin HP

In addition to the flow and return pipes, these products also have two empty pipes for the power supply and BUS connection to the heat pump.

Guide values for dimensioning		
Pipe dimension	**HDG A11**	**HDG A18**
2 x 32 x 2.9 mm (DN 25) + 2 x empty pipe 25	Maximum 10 m	X
2 x 40 x 3.7 mm (DN 32) + 2 x empty pipe 25	Maximum 20 m	Maximum 15 m

The specified lengths refer to the distance between the heat pump and the hydraulic module (single length). In the event of deviations from this, always contact HDG.

Modular hydraulic platform HDG MHP

NEW

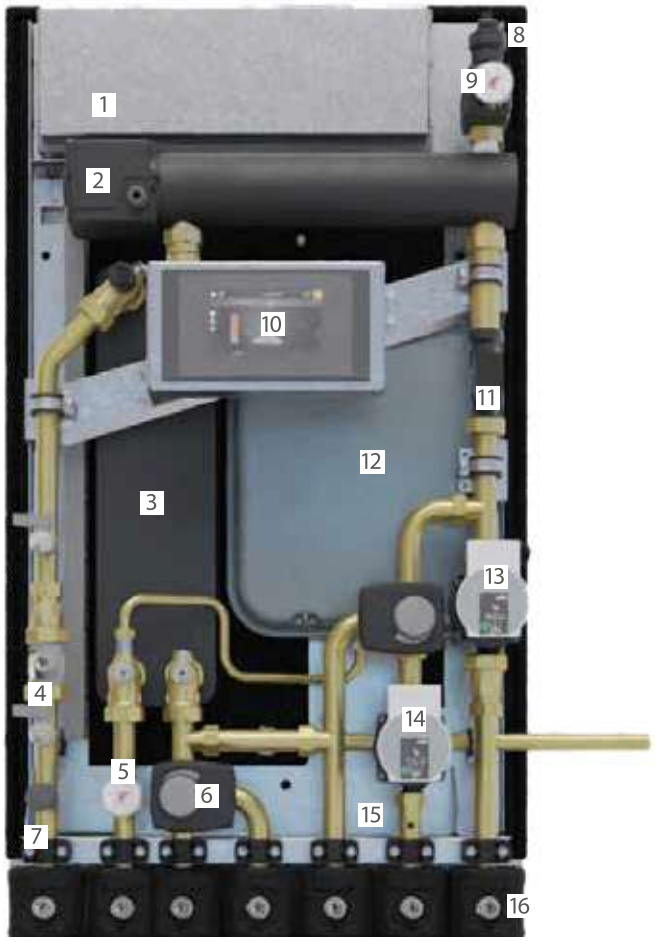
Hydraulic module
Hydraulic module with all necessary components, valves, pump(s) for the selected system hydraulics (diagram), fully piped and wired. Protected by utility model 20 2024 100 317.9 in Germany.

- Housing rear panel and cover made of high-quality EPP for thermal insulation
- Sturdy frame construction made of galvanised steel
- Mounting on wall bracket (scope of delivery)
- Integrated plate heat exchanger for system separation between the heat pump and the heating system
- Integrated diaphragm expansion tank for the intermediate circuit
- Flushing device for filling and flushing the intermediate circuit
- Flat-sealing ball valves on all connections (downwards)
- Manometer, bleeder and safety valve for the heating system
- Connection preparation for a diaphragm expansion tank (heating system) on the left or right
- Integrated 7" colour display HDG Control Touch XL
- Electronic control modules and sensors for all functions
- Pressure sensors for intermediate circuit and heating system
- Volume flow sensor for the heating system
- Speed-controlled heating circuit pump
- Weather-compensated heating control
- Buffer tank management
- Domestic hot water management
- Solar control
- Control/request for additional boilers
- Integration of photovoltaic systems for own power utilisation possible
- Smart Grid ready
- Can be operated via HDG Control Touch and the myHDG app (network connection required)
- Outside temperature sensor included

E
Heat pumps

HDG MHP variants		Primary circuit, brine	Secondary circuit, direct	Instantaneous water heater	DHW/buffer changeover valve	Buffer changeover valve	Item no.	EURO	RG
11-0-0	Intermediate circuit and direct heating circuit (sliding)	X	X	X			17000051		5
12-0-0	Intermediate circuit and direct heating circuit (sliding)	X	X				17000053		5
13-0-0	Intermediate circuit and direct heating circuit (sliding), changeover valve (e.g. buffer charging)	X	X	X	X		17000055		5
19-0-0	Intermediate circuit and direct heating circuit (sliding), 2 x changeover valves (e.g. top/bottom buffer charging)	X	X	X	X	X	17000065		5

Structure and components of the modular hydraulic platform:



1 **Control components for IO circuit boards**

2 **Electric immersion heater (instantaneous water heater)**

3 **Plate heat exchanger (system separation)**

4 **Flushing device**

5 **Primary manometer**

6 **Changeover valve**

7 **Primary pressure sensor**

8 **Rear wall insulation**

9 **Safety group incl. secondary pressure sensor**

10 **HDG Control**

11 **Secondary volume flow sensor**

12 **Diaphragm expansion tank 12 litres (primary)**

13 **Secondary pump**

14 **Integrated mixer circuit (or additional changeover valve)**

15 **Base plate**

16 **Shut-off ball valves**

HDG compact heat pump K-WP 4.2

NEW

Compact heat pump for heating system support or domestic hot water preparation

With the HDG K-WP 4.2 compact heat pumps, it is possible to decouple domestic hot water preparation from the main heating system and use it purely as a hot water heat pump. The existing hot water tank is retained. Furthermore, the HDG K-WP 4.2 can also be used for heating system support due to its high output. This relieves the main heating system and only covers peak times.
In combination with a photovoltaic system, it is the ideal and cost-effective addition to greater independence from continuously rising energy costs.

Equipment

- Compact hot water heat pump (without tank) for charging a domestic hot water tank. Can also be integrated directly into domestic hot water (DHW) thanks to the integrated plate heat exchanger
- Or can be combined with a fresh water station or KS storage tank to load a buffer tank. Possibility of heating system support
- Recommended tank size (or usable section of the domestic hot water or buffer tank) 300 l
- Simple and space-saving installation inside the building with optional wall bracket
- Outdoor and recirculated air operation possible
- Highly efficient rotary compressor
- Adjustable feet for floor mounting, optional wall bracket for wall mounting
- Minimum source or air temperature 5 °C. If the temperature falls below the minimum temperature, the heat pump switches off automatically
- Connection of an additional immersion heater
- Integrated storage tank sensor. Target tank temperature can be selected. Second (higher) temperature can be switched externally via SG contact (Smart Grid start signal, e.g. from a self-consumption controller such as SMA Sunny Home Manager)

Smart control

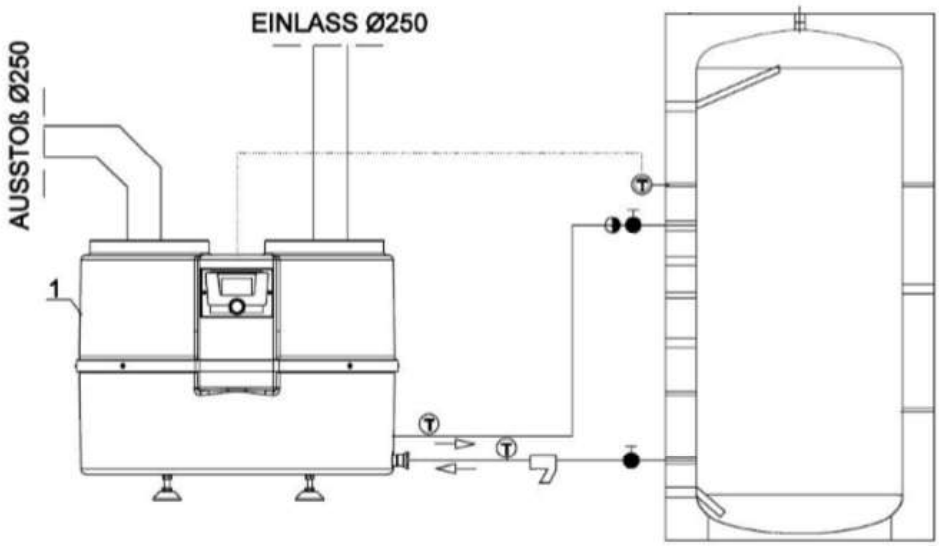
- Intuitive control (preset)
- SG operation for optimum utilisation in combination with a PV system
- Eco mode (reduced temperature)
- Comfort mode
- Timer function enables weekly schedule
- Holiday mode

Type	Item no.	EURO	RG
HDG K-WP 4.2 heat pump	17002000		**5**
Wall bracket for HDG K-WP 4.2 	17002001		**5**

Technical data	
Dimensions (diameter/height)	670 mm / 500 mm
Weight	53 kg
Air duct diameter	250 mm
Connections (cold/hot water)	¾" internal thread
Refrigerant/filling quantity	R134a / 0.80 kg
Heat transfer medium	Water/glycol mixture
Max. pressure	6 bar
Operating temperature	-7 °C to +43 °C
Max. domestic hot water temperature	55 °C
Sound power level	57 dB(A)
Power supply	1/N/PE ~220–240 V/50 Hz
Required auxiliary energy	0.55 kW to 1.3 kW
COP (A15/W10-55)	3.0
COP (A20/W10-55)	3.42
Nominal thermal power (A15/W10-55)	2.85 kW
Max. thermal power	3.6 kW
Energy efficiency class	A+
Load profile	XL

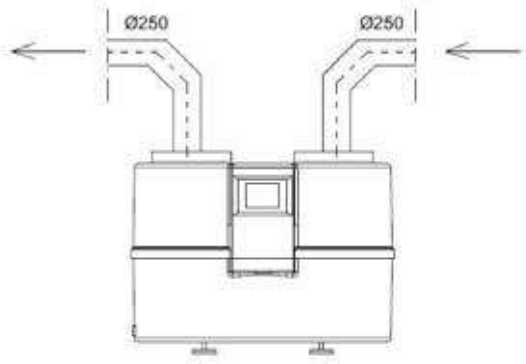
Hydraulic system

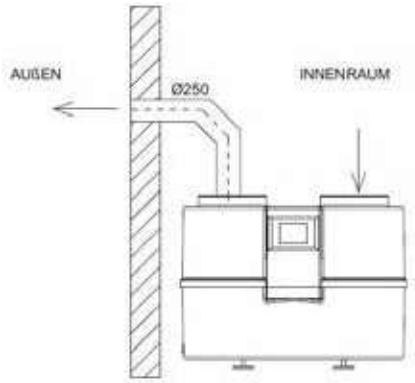
The HDG compact heat pump is installed directly on the existing storage tank, independently of the hydraulic system. It can be seen as an alternative to a solar thermal system and heats the storage tank, for example, if sufficient electricity is available. If the storage tank cannot be heated, this is done by the installed HDG heating system according to the system hydraulics.

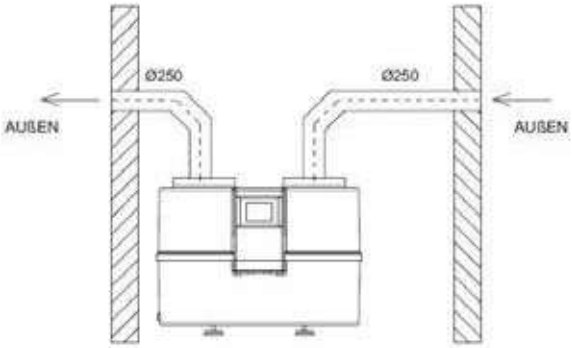


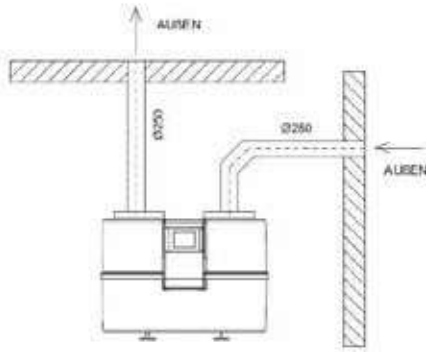
Air connection

The cooling or dehumidification function of the heat pump can be utilised if installed accordingly. This can be advantageous in damp cellars, for example.









HDG domestic hot water heat pump BRWP 300 (ES)

The HDG BRWP 300 (ES) domestic hot water heat pump enables flexible and cost-effective heating of domestic hot water. It can integrate a photovoltaic system and conveniently converts the self-produced electricity into heat. The domestic hot water heat pump draws in ambient air and expels cooler drier air. This means cellar rooms can be dehumidified and rooms can be air-conditioned.

Type	Item no.	EURO	RG
BRWP 300 domestic hot water heat pump 1	15402002		**5**
BRWP 300 ES domestic hot water heat pump Stainless steel tank and heat exchanger 2	15402003		**5**

Functional principle

The evaporator extracts the heat from the ambient air. To do this, it first draws in the air. The BRWP 300 (ES) domestic hot water heat pump contains a refrigerant with a boiling temperature below that of air. The ambient air heats the refrigerant and causes it to evaporate. The air cools down and is fed back into the environment. The refrigerant vapour is compressed under high pressure in the compressor. This generates heat, which further increases the temperature of the vapour. The core function of the pump takes place in the condenser: The hot steam heats the domestic hot water. The heat transfer causes the refrigerant to condense and become liquid again. The liquid refrigerant is depressurised to a low pressure in the throttle element. From there, it returns to the evaporator and the cycle starts all over again.

Equipment

- Robust HD steel tank with premium glazing (enamelled) or stainless steel tank for long life expectancy
- Standard signal anode guarantees permanent corrosion protection (with BRWP 300)
- Can be operated with room air or outside air (-10 °C to +35 °C).
- Additional heat exchanger (for BRWP 300 ES made of stainless steel) for connection of further energy generators (e.g. wood boiler or solar)
- Highly efficient, CFC-free thermal insulation ensures low standstill losses of only 20 W
- Safe hygiene by means of legionella programme

Control

- Intelligent Smart Grid Interface enables connectivity of photovoltaic systems and multi-tariff meters for optimal use of free self-generated electricity with maximum hot water convenience
- Boost function – for short-term increased hot water demand due to integrated electric heating element
- Timer function – individually adjustable when the domestic hot water heat pump runs
- Holiday function – reduces consumption during absence

Transport and installation

- Can be ideally integrated into any boiler room, due to low space requirement and installation height
- Plug-and-play installation with pre-set control saves time and guarantees easiest operation

Technical data	BRWP 300	BRWP 300 ES
Dimensions/connections		
Height	1768 mm	1768 mm
Diameter	707 mm	707 mm
Weight	153 kg	125 kg
Cold/hot water	R 1"	R 3/4"
Circulation	R 3/4"	R 3/4"
Heat exchanger	R 1"	R 3/4"
Condensate outlet	R 1/2"	R 1/2"
Signal anode	Magnesium R 5/4"	–
Air ducts (supply and exhaust air)	160 mm	160 mm
Electrical data		
Voltage/frequency/fuse	230 V / 50 Hz / 13 A	230 V / 50 Hz / 13 A
Compressor power input	0.395 kW	0.57 kW
Auxiliary heating output	2.0 kW	2.0 kW
Protection class	IP 21	IP 21
Storage tank		
Volume	258 l	296 l
Nominal pressure	1.0 Mpa	0.8 Mpa
Surface area of additional heat exchanger	1.0 m^2	0.9 m^2
Max. storage tank temperature	65 °C	65 °C
Supply air temperature range	-10 °C to +35 °C	-10 °C to +35 °C
Power coefficients		
COP (L20/W10 - 55)* – indoor air – XL tapping profile	3.62	3.62
Energy efficiency class (medium climate zone)	A+	A+
Energy efficiency (medium climate zone)	146%	142%
Standby output	20 W	22 W
Hot water output	950 l / 24 h	1200 l / 24 h
Sound pressure level(2 m distance / 1 m height)	37 dB(A)	37 dB(A)
Heat pumps		
Compressor heat output	1.6 kW	1.6 kW
Max. heat output	3.6 kW	3.6 kW
Air flow rate	200–300 m^3/h	200–300 m^3/h
Refrigerant	R290 – 0.15 kg	R290 – 0.15 kg