

Air-to-water heat pump with two performance levels

max. flow temperature: 58 °C
Casing colour: white aluminium

Air-to-water heat pumps for outdoor installation with external temperature controlled WPM 2006 plus heat pump manager and two compressors for output reduction when operating at partial load. Sound-optimised through the use of low-noise crescent wing axial-flow fans and deflector hoods. Energy-efficient defrosting by reverse circulation und inclined evaporator. Universal design with optional DHW preparation and the option of flexible expansion for:

- Bivalent or bivalent-renewable operating mode
- Distribution systems with unmixed and mixed heating circuits

Integrated flow sensor and soft starter, return flow sensor and external temperature sensor included in the scope of supply.

Electric cable EVL ... to connect the heat pump and heat pump manager, must be ordered separately.



Technical data

Dimplex Air-to-water heat pump with two performance levels (Low temperature)

Order reference	LA 28AS
Casing colour	white aluminium
max. flow temperature	58 °C
Lower operating limit heat source (heating operation) / Upper operating limit heat source (heating operation)	-25 to 35 °C
Heat output with 1 compressor / COP A-7/W35*	9,40 kW / 2,40
Heat output with 2 compressors / COP A-7/W35*	17,40 kW / 2,70
Heat output 1 compressor at A2/W35 / COP A2/W35*	12,40 kW / 3,00
Heat output 2 compressors at A2/W35 / COP A2/W35*	20,80 kW / 3,10
Heat output with 1 compressor / COP A7/W35*	13,90 kW / 3,20
Heat output with 2 compressors / COP A7/W35*	25,00 kW / 3,40
Heat output with 1 compressor / COP A10/W35*	14,30 kW / 3,20
Heat output with 2 compressors / COP A10/W35*	28,20 kW / 3,60
Nominal consumption according to EN 14511 at A2/W35	6,84 kW
Sound power level device	68 dB (A)
Sound pressure level in 10 m	41 dB (A)
Refrigerant / Amount of refrigerant	R404A / 4,20 kg
Maximum heating water flow rate / Pressure drop	4,90 m³/h / 13600 Pa
Heat source flow min.	8000 m³/h
Dimensions (W x H x D)**	1680 x 1710 x 1000 mm
Weight	355 kg
Connection voltage	3/N/PE ~400 V, 50 Hz
Starting current with soft starter	25 A
Fuse protection	C 25 A
Type of defrosting	Reverse circulation
Connection heating	1 ¼ inch

*Heat output and COP according to EN 14511 at A2/W35 (A2 = air intake temperature +2 °C, W35 = heating water outlet temperature +35 °C)

**Please note that additional space is required for pipe connections, operation and maintenance.

Description	Order ref.	Article number	Sample item	Item	Price
Heat pumps					
Air-to-water heat pump with two performance levels	LA 28AS	339990	1		
10 m control line	EVL 996-1	321990			
20m control line	EVL 997-1	322000	1		
30m control line	EVL 998-1	322010			
40 m control line	EVL 999-1	359120			
DN 32 double-sphere rubber expansion joint	KOMP 32	362060			
DN 32 dirt trap	SMF 32	362140			
Air-to-water heat pump connection kit	VSF 32	361800			
Hydraulic accessories					
1 ¼" connecting hose (32 x 5,5mm)*	AS 976-1	330530			
Floor-mounted buffer tank (200l)	PSW 200	339830	1		
CTHK 630 immersion heater, 4.5 kW, ~230 V	CTHK 630	363610			
immersion heater, 2.0 kW, ~230 V	CTHK 631	336180			
CTHK 632 immersion heater, 2.9 kW	CTHK 632	335910			
CTHK 633 immersion heater, 4.5 kW	CTHK 633	322140			
CTHK 634 immersion heater, 6.0 kW	CTHK 634	322150	2		
Universal buffer tank (500 l)*	PSW 500	339210			
Dual differential pressureless manifold	DDV 32	348450	1		
Circulating pump for heating water	UP 70-32	354020	1		
Hot water module / unmixed heating circuit module	WWM 25	346600	1		
Electronically regulated wet running pump (0-10 V) with coupling relay	UPE 70-25	362790	1		
Electronically regulated wet running pump (0-10 V) with coupling relay	UPE 80-25	362810			
Manifold bar	VTB 25	339870			
Mixed heating circuit module with temperature sensor	MMH 25	348640			
District heating lines with ready-to-use 90° bend*	HVL 32-150	358680			
District heating lines with ready-to-use 90° bend*	HVL 32-200	358690			
District heating lines with ready-to-use 90° bend*	HVL 32-250	358700			
Ready-for-use DN 32 stainless steel Wellflex pipe	VSE 32-50	362520			
Ready-for-use DN 32 stainless steel Wellflex pipe	VSE 32-100	362530			
Ready-for-use DN 32 stainless steel Wellflex pipe	VSE 32-150	362540			
Ready-for-use DN 32 stainless steel Wellflex pipe	VSE 32-200	362550			
Ready-for-use DN 32 stainless steel Wellflex pipe	VSE 32-300	362560			
Heating accessories					
Fan convector for heating 800 W	SRX 080M	359080			
Fan convector for heating 1200 W	SRX 120M	359090			
Fan convector for heating 1400 W	SRX 140M	359100			
Fan convector for heating 1800 W	SRX 180M	359110			
Fan convector for heating/cooling	HL 11C	351730			
Fan convector for heating/cooling	HL 16C	351740			
Fan convector for heating/cooling	HL 26C	351750			
Fan convector for heating/cooling	HL 36C	351760			
Immersion heater pipe assembly*	HDLR 450	337450			
DHW preparation accessories					
Hot water cylinder (400l) with temperature sensor	WWSP 880	337880	1		
Flange heater for domestic hot water	FLH 60	338060			
Flange heater for domestic hot water	FLHU 70	338070	1		
FLH 25M flange heater	FLH 25M	349430			
Safety valve combination	SVK 852	326660			
Design hot water cylinder with sheet metal coverings and temperature sensor*	WWSP 442E	353370			
Hot water cylinder (500 l) with temperature sensor*	WWSP 900	339220			
500l solar cylinder for heat pump	WWSP 540 SOL	361090			
Combo tank for heating and domestic hot water preparation with central flow*	PWD 750	349100			
Combo tank for heating and domestic hot water preparation with central flow*	PWD 900	362860			
Pump unit DN 32 for direct connection of the hot water cylinder	WPG 32	356040	1		
Circulating pump for heating water	UP 70-32	354020	1		

Description	Order ref.	Article number	Sample item	Item	Price
Control accessories					
Extension for an Ethernet network connection	NWPM	356960			
Extension for a KNX/EIB bus connection	EWPM	356970			
Extension for a Modbus connection	LWPM 410	339410			
Swimming pool / remote fault indicator relay module	RBG WPM	339700			
Remote control for WPM 2006/2007/EconPlus/R*	AP PGD	356570			
External temperature sensor with casing	FG 3115	336620			
Temperature sensor NTC-2 with metal sleeve	NTC-2M	363710			
Strap-on sensor	FA 550	338550			
Thermostat for heating and domestic hot water	KRRV 003	322070			

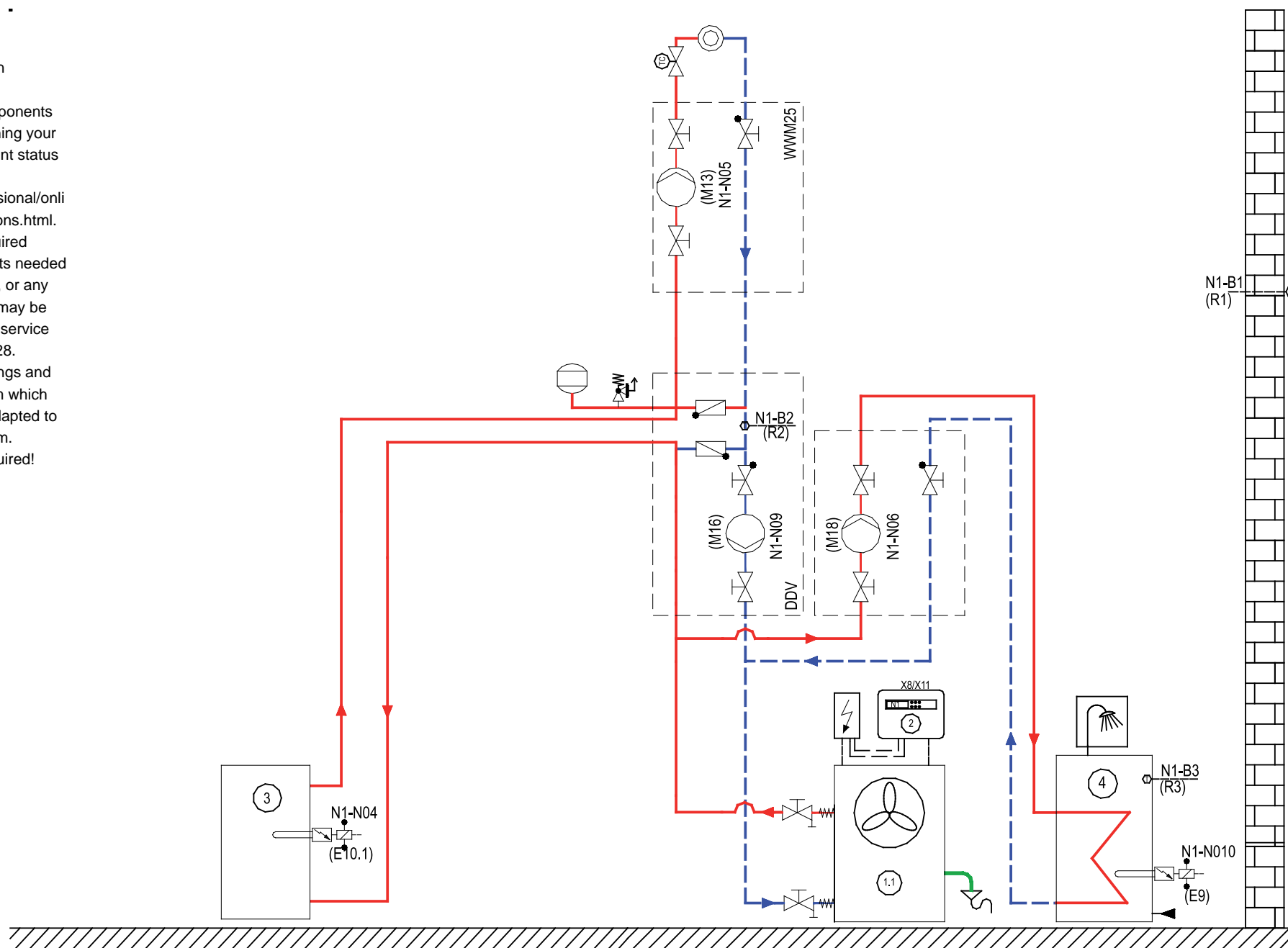
* Other specific accessories available / required

Important information:

The combination of the components and the quantities indicated represent a non-binding sample system, which needs to be tested and individually adapted as required. Pump dimensioning must be reviewed according to the pressure loss of the system and the minimum heating water flow rate of the heat pump.

Note:

The given hydraulic integration schematic is a schematic representation of the key components and serves as an aid for planning your customized system. The current status is available at all times under www.dimplex.de/nc/en/professional/online-planner/hydraulic-integrations.html. It does not contain all the required safety devices, the components needed to maintain constant pressure, or any other additional valves which may be required for maintenance and service work as stipulated by EN 12828. The heat pump manager settings and any external regulation system which may be connected must be adapted to the present integration diagram. Software updates may be required!



System description:

- Air-to-water heat pumps with defrosting by reverse circulation extract the energy required for defrosting from the heating system. In the case of air-to-water heat pumps, a buffer tank connected in series, into which the immersion heater is screwed, must be installed in the flow in mono energy systems to ensure defrosting. A dirt trap with a mesh size of between 0.6mm and 0.8mm is to be installed in order to protect the plate heat exchanger from larger dirt deposits. Clean the filter sieve of the dirt trap one day after start-up. These intervals can be extended as soon as no more impurities are detected. When the level of impurities is significantly high (e.g. due to corrosion found in the building), it is recommended that a sludge trap be installed in order to minimise the need for regular cleaning. A permanent corrosion process, caused by the entry of oxygen into the system, is characteristic of heating systems featuring open diffusion. This is best alleviated using an electrophysical anti-corrosion system. Condensate which forms during defrosting must be drained off without risk of frost. Acoustic emissions must be taken into account, and a free air circuit provided for, when the installation location is being selected. Heat pumps without weather-proof protective covers in particular need to be installed outdoors in such a manner that the air outlet is not positioned against the main wind direction.
- A buffer tank connected in series is recommended for heat pump heating systems, to ensure the minimum heat pump runtime of 6 minutes for all operating statuses.
- The heat pump supplies a large part of the required heat output. An electric heating element (immersion heater) supplements the heat pump on days when the external temperature lies below the bivalence point. In mono energy systems, the contactor for the immersion heater (E10.1) must be set according to the output. It is controlled (230 V AC) by the heat pump manager via terminals X1/N and J13/NO4.
- The heat exchanger in the hot water cylinder must transfer the maximum heat output at the maximum heat source temperature. In systems with high hot water consumption (multiple dwellings, industrial applications) the cylinder must be set to the maximum peak demand while taking the shut-off times into account. The maximum heat output and the maximum heating water flow must be adhered to!
- The contactor for the flange heater (E9) in the hot water cylinder should be dimensioned according to the output and must be supplied by the customer. It is controlled (230 V AC) by the heat pump manager via terminals X1/N and J16/NO10. The maximum heat output of the heat pump and the water flow are to be observed.
- The dual differential pressureless manifold ensures that the required minimum water flow rate is maintained, independent of both the number of open heating circuits and of how the system is used. Hydraulic isolation is carried out using two connections between flow and return; each connection is fitted with a check valve. The characteristic curve of the pump in the consumer circuit must be set in such a way that a maximum spread of 10 Kelvin is not exceeded, in order to prevent unnecessary surging of the heat pump. Electronically regulated pumps must be operated at a constant pressure.

Presettings:

Pre-configuration	Setting
Operating mode	Mono energy
Heating circuit 1	Yes
Heating circuit 2	No
DHW preparation	Yes
DHW preparation request by	Sensor
Domestic hot water preparation flange heater	Yes
Swimming pool water preparation	No

Legend:

- 1. Heat Pump
- 1.1 Air-to-water heat pump
- 1.2 Brine-to-water heat pump
- 1.3 Water-to-water heat pump
- 1.4 Reversible air-to-water heat pump
- 1.5 Reversible brine-to-water heat pump
- 1.6 Reversible water-to-water heat pump
- 2. Heat pump manager
- 3. Parallel buffer tank
- 3.1 Buffer tank
- 4. Hot water cylinder
- 5. Swimming pool heat exchanger
- 6. Passive cooling station with cooling controller N6
- 7. Heating and silent or dynamic cooling
- 8. Fan convector with 4-wire connection
- 9. Cooling circuit only
- 10. Heating circuit only
- 13. Heat source
- 15. Hydraulic tower
- 16. Scalding protection
- 17. Hydro tower HWK 332

Domestic hot water distribution system:

- DDV 32 Dual differential pressureless manifold (up to 2.5 m³/h)*
- EB KPV Extension module for compact manifold (up to 2.0 m³/h)*
- KPV 25 Compact manifold with overflow valve (up to 1.3 m³/h)*
- In combination with EB KPV (up to 2.0 m³/h)*
- MMB 25 Mixer module, bivalent (up to 2.0 m³/h)*
- MMH 25 Mixer module for heating circuit
- VTB 25 Manifold bar (up to 2.5 m³/h)*
- WWM 25 Hot water module / unmixed heating circuit (up to 2.5 m³/h)*

* Recommended max. heating waterflow

Solarthermics:

- SST 25 Solar station for hot water
- SOLK 1204 Collector field
- SOLPU 1 Solar station
- SOLCU 1 Solar controller
- SOLCU 2 Solar controller
- T1 Temperature sensor (collector sensor)
- T2 Temperature sensor (cylinder 1)
- T3 Temperature sensor (cylinder 2 /optional display function)

- B3 Hot water thermostat
- B4 Swimming pool thermostat
- E9 Flange heater, hot water
- E10 2nd heat generator (HG2)
- E10.1 Immersion heater
- E10.2 Oil/gas boiler
- E10.3 Solid fuel boiler
- E10.5 Solar energy system
- F7 Safety temperature monitor
- K20 Contactor for 2nd heat generator
- K21 Contactor for immersion heater hot water
- M11 Primary pump for heating operation
- M12 Primary pump for cooling operation
- M13 Heat circulating pump for main circuit
- M14 Heat circulating pump for heating circuit 1
- M15 Heat circulating pump for heating circuit 2
- M16 Auxiliary circulating pump
- M17 Cooling circulating pump
- M18 Hot water circulating pump
- M19 Swimming pool water circulating pump
- M21 Mixer
- N1 Heating controller
- N2 Cooling controller for reversible heat pumps
- N3/N4 Room climate control stations
- N6 Cooling controller for passive cooling
- N12 Solar controller
- R1 External wall sensor
- R2/2.1 Return flow sensor
- R3 Hot water sensor
- R4 Return flow sensor for cooling water
- R5 Temperature sensor for heating circuit 2
- R9 Flow sensor (antifreeze)
- R11 Flow sensor for cooling water
- R13 Sensor for heating circuit 3 / bivalent-renewable
- SMF Dirt trap
- TC Room temperature controller
- Y5 Three-way distribution valve
- Y6 Two-way valve
- Y7 Three-way mixing valve
- Y8 Three-way valve (closing time max. 10 sec.)
- Y12 External 4-way reversing valve