

Air-to-water heat pump

Max. flow temperature: 58 °C

Casing colour: White aluminium (similar to RAL 9006)

Air-to-water heat pump for outdoor installation with external temperature controlled WPM 2006 plus heat pump manager. Sound-optimised through the use of low-noise 'owl's wings' ventilator blades. Energy-efficient defrosting by reverse circulation. High coefficients of performance (COP) thanks to compliance with EN 255 for larger volume flows on the heat consumption side. Universal design with optional domestic hot water preparation and flexible expansion possibilities for:

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

The minimum clearances must be observed for installation close to walls. Integrated flow sensor and soft starter; return sensor and external temperature sensor included in the scope of supply.

The EVL ... electric cable for connecting the heat pump and the heat pump manager, must be ordered separately.



Technical data

Dimplex Air-to-water heat pump (Low temperature)

Order reference	LA 16TAS
Casing colour	White aluminium (similar to RAL 9006)
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 A7/W35*	10 kW / 2,7
Heat output 1 compressor / COP A2/W35*	11,7 kW / 3,2
Heat output with 1 compressor / COP A7/W35*	14,6 kW / 3,7
Heat output with 1 compressor / COP A10/W35*	16,6 kW / 3,9
Nominal power consumption according to EN 255 at A2/W35	3,7 kW
Sound power level device	62 dB (A)
Sound pressure level in 10 m	32 dB (A)
Refrigerant / Amount of refrigerant	R404A / 3,5 kg
Max. heating water flow rate / Pressure drop	2,6 m³/h / 11900 Pa
Heat source flow (min.)	4000 m³/h
Dimensions (W x H x D)**	1075 x 1550 x 852 mm
Weight	231 kg
Connection voltage	3/N/PE ~400 V, 50 Hz
Starting current with soft starter	20 A
Fuse protection	C 13 A
Type of defrosting	Reverse circulation
Connection heating	1 inch
Seal of approval EHPA (valid until)	Yes / 08.11.2013

*Heat output and COP according to EN 255 at A2/W35 (A2 = air intake temp. +2 °C, W35 = heating water outlet temp. +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	LA 16TAS	362580	1		
10m control line	EVL 996-1	321990	1		
20 m control line	EVL 997-1	322000			
30 m control line	EVL 998-1	322010			
40 m control line	EVL 999-1	359120			
DN 25 dirt trap	SMF 25	362130			
DN 25 double-sphere rubber expansion joint	KOMP 25	362050			
Air-to-water heat pump connection kit	VSF 25	361790			
Hydraulic accessories					
Free-standing buffer tank 200 l	PSW 200	339830	1		
Immersion heater 4.5 kW; ~230 V	CTHK 630	363610			
Immersion heater 2.0 kW; ~230 V	CTHK 631	336180			
Immersion heater 2.9 kW; ~400 V	CTHK 632	335910			
Immersion heater 4.5 kW; ~400 V	CTHK 633	322140			
Immersion heater 6.0 kW; ~400 V	CTHK 634	322150	1		
Universal buffer tank (500 l)*	PSW 500	339210			
Dual differential pressureless manifold	DDV 25	358390	1		
Circulating pump for heating water	UP 60	340300	1		
Circulating pump for heating water	UP 80	340310			
Domestic hot water module/unmixed heating circuit module	WWM 25	346600	1		
Electronically controlled circulating pump for heating water	UPE 60	358870	1		
Electronically regulated wet running pump (0-10 V) with coupling relay	UPE 70-25	362790			
Manifold bar	VTB 25	339870			
Mixed heating circuit module with temperature sensor	MMH 25	348640			
Mixer module for bivalent systems	MMB 25	348880			
District heating lines with ready-to-use 90° bend*	HVL 25-50	358650			
District heating lines with ready-to-use 90° bend*	HVL 25-75	358660			
District heating lines with ready-to-use 90° bend*	HVL 25-100	358670			
District heating lines with ready-to-use 90° bend*	HVL 25-150	358880			
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 convectors heating 800 W	SRX 080M	359080			
Fan convectors heating 1200 W	SRX 120M	359090			
Fan convectors heating 1400 W	SRX 140M	359100			
Fan convectors heating 1800 W	SRX 180M	359110			
3 kW pipe heater	HCT 300	351210			
Immersion heater pipe assembly*	HDLR 450	337450			
DHW preparation accessories					
Domestic hot water cylinder (400 l) 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		
Flange heater for domestic hot water	FLH 90	366130			
FLH 25M flange heater	FLH 25M	349430			
Safety valve combination	SVK 852	326660			
Design domestic hot water cylinder with sheet metal coverings and temperature sensor*	WWSP 442E	353370			
Domestic hot water cylinder (500 l) with temperature sensor*	WWSP 900	339220			
500 l 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 25 for direct connection of the domestic hot water cylinder	WPG 25	356030	1		
Circulating pump for heating water	UP 80	340310	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			

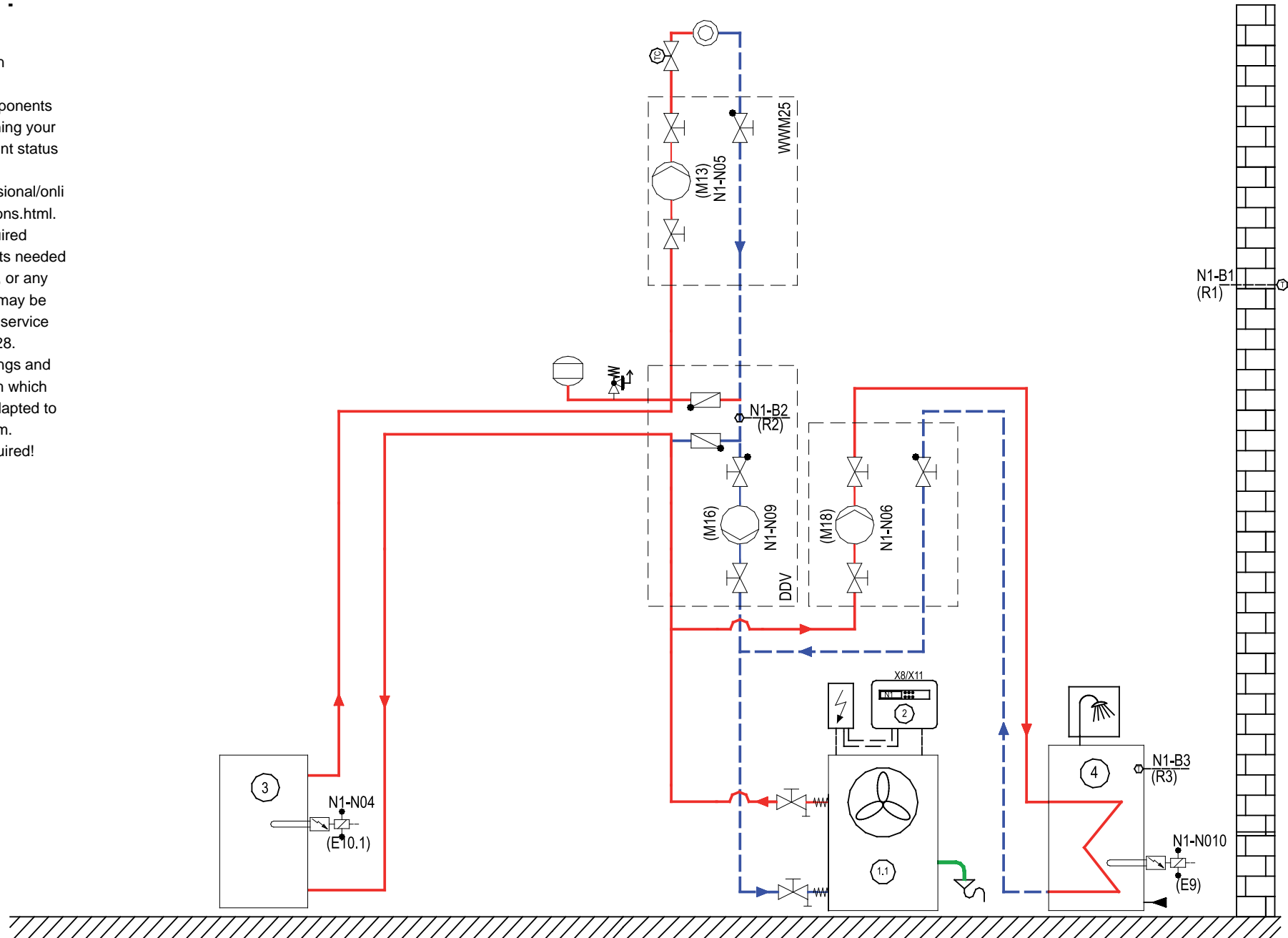
* Other specific accessories available / required

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 m ³ /h)*
EB KPV	Extension module for compact manifold (up to 2.0 m ³ /h)*
KPV 25	Compact manifold with overflow valve (up to 1.3 m ³ /h)* In combination with EB KPV (up to 2.0 m ³ /h)*
MMB 25	Mixer module, bivalent (up to 2.0 m ³ /h)*
MMH 25	Mixer module for heating circuit
VTB 25	Manifold bar (up to 2.5 m ³ /h)*
WWM 25	Hot water module / unmixed heating circuit (up to 2.5 m ³ /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	Contactora for 2nd heat generator
K21	Contactora 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