

Air-to-water heat pump with horizontal air circuit

Max. flow temperature: 58 °C
 Casing colour: White (similar to RAL 9003)
 Brown-red design screen (RAL 3011)

Heat pump for heating purposes for indoor installation with integrated WPM 2007 plus controller. The control panel is integrated into a brown-red design screen and can also be used as wired remote control using the wall mounting set (special accessories MS PGD). The integrated air circuit enables corner or wall installation with air ducts at the air intake and the air outlet side. Sound-optimised through low-noise axial fan and vibration-isolated compressor. High coefficients of performance (COP) using an evaporator optimised for heating operation and energy-efficient defrosting by reverse circulation. 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
- Built-in pipe heater (2/4/6 kW)

Soft starter, integrated flow and return sensors; external sensor (standard NTC-2) included in the scope of supply.



Technical data

Dimplex Air-to-water heat pump with horizontal air circuit (Low temperature)	
Order reference	LI 16TE
Casing colour	White (similar to RAL 9003)
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*	9,7 kW / 2,5
Heat output 1 compressor / COP A2/W35*	12,1 kW / 3,1
Heat output with 1 compressor / COP A7/W35*	15,1 kW / 3,6
Heat output with 1 compressor / COP A10/W35*	15,9 kW / 3,6
Nominal power consumption according to EN 14511 at A2/W35	3,91 kW
Sound power level device	57 dB (A)
Sound pressure level in 1 m (indoors)	52 dB (A)
Refrigerant / Amount of refrigerant	R404A / 3,1 kg
Max. heating water flow rate / Pressure drop	2,6 m³/h / 14600 Pa
Heat source flow (min.)	4000 m³/h
Dimensions (W x H x D)**	750 x 1570 x 880 mm
Weight	235 kg
Connection voltage	3/N/PE ~400 V, 50 Hz
Starting current with soft starter	25 A
Fuse protection	C 32 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 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 with horizontal air circuit	LI 16TE	352650	1		
Elasticated sound insulation underlay strips	SYL 250	352260	2		
DN 32 double-sphere rubber expansion joint	KOMP 32	362060			
DN 32 dirt trap	SMF 32	362140			
Heat source accessories					
Air duct hose kit for LI 16	LUS 16	337400			
Long air duct	LKL 700	339770			
Short air duct	LKK 700	339780			
90° air duct bend	LKB 700	339790			
90° air duct bend	LKB 700A	366160	1		
Installation hardware	VSK 700	341220			
Sealing collar 700	DMK 700	340280	1		
Deflector hood	LUH 700	358630			
Rain guard for LI	RSG 700	340240	1		
Hydraulic accessories					
Heating water hose connection set	SAS 110	340330	1		
Built-under buffer tank (140 l) for LI 11-20	PSP 140E	353970	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			
Immersion heater 7.5 kW; ~400 V	CTHK 635	322160			
Immersion heater 9.0 kW; ~400 V	CTHK 636	322170			
Free-standing buffer tank 200 l*	PSW 200	339830			
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			
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			
Immersion heater pipe assembly*	HDLR 450	337450			
3 kW pipe heater	HCT 300	351210			
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	PWD 750	349100			

Description	Order ref.	Article number	Sample item	Item	Price
central flow*					
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		
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			
MS PGD wall mounting kit	MS PGD	353810			
Remote control for WPM 2006/2007/EconPlus/R*	AP PGD	356570			
External temperature sensor with casing	FG 3115	336620			
Temperature sensor NTC-10 with metal sleeve	NTC-10M	363600			
Thermostat for heating and domestic hot water	KRRV 003	322070			

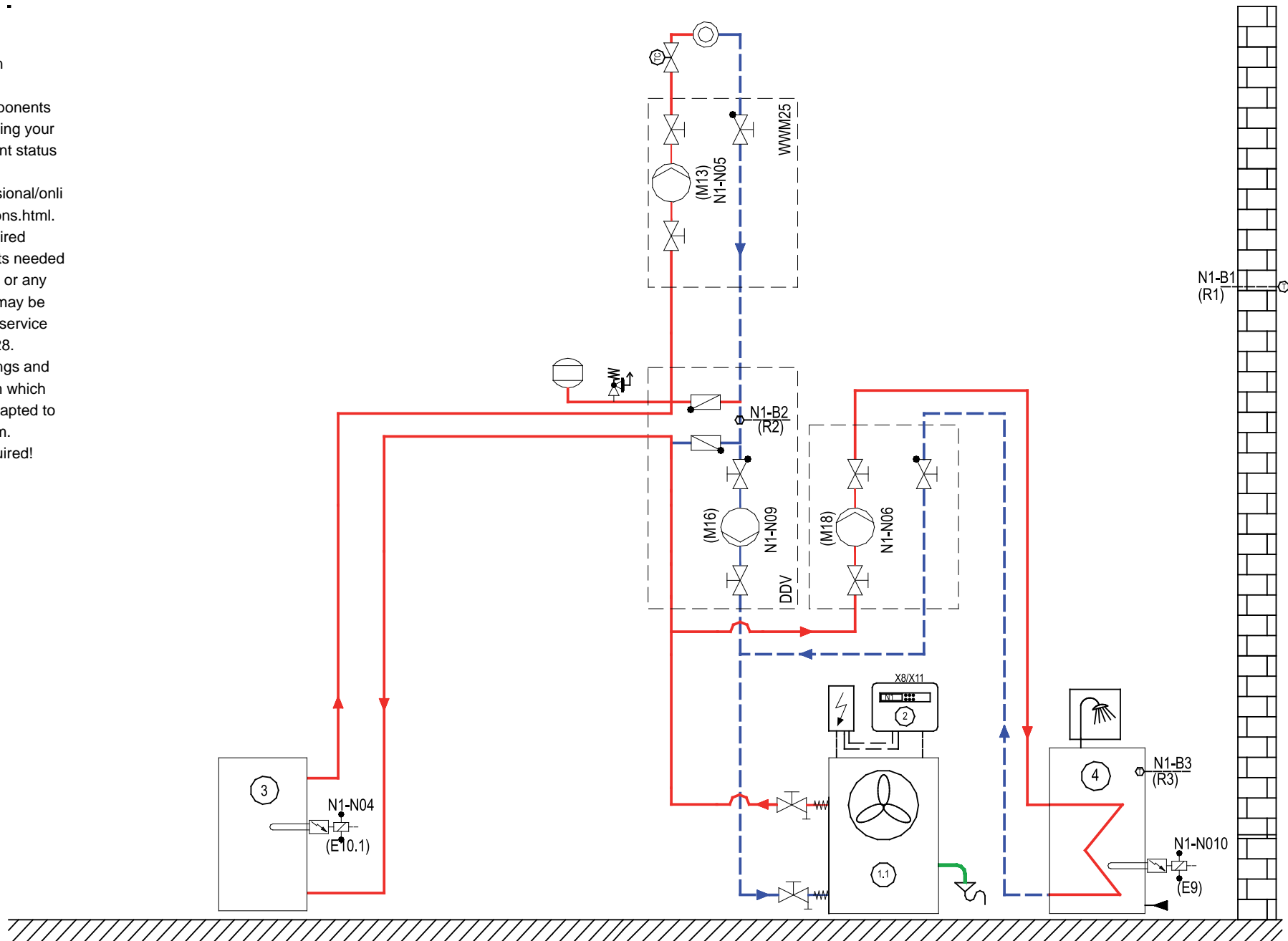
* Other specific accessories available / required

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