Dimplex®
Making life comfortable

heat pumps

using nature's **energy**

GROUND SOURCE HEAT PUMPS
SI MS RANGE

ENERGY EFFICIENT HEATING FOR THE MODERN HOME

Drawing as much as 75% of the energy needed by the heating system from freely available, inexhaustible solar energy stored in the ground, Dimplex SI MS ground source heat pumps provide all the energy efficient heating and hot water you need.

SI MS RANGE KEY FEATURES

- Range of 5 models with heating capacities from 5 – 14kW.
- Compact dimensions, for versatile installation.
- Variable heating water flow temperatures up to 55°C.
- Typical CoP (B0/W35): 3.8 – 4.0 (depending on model).
- Variable options for ground loop and heating connections.
- Integrated WPM2004 Plus heat pump manager.
- Scroll compressor, providing efficient, low noise running.
- Economiser, providing high co-efficients of performance.
- Single phase electrical connection with electronic soft starter controls.
- Range of compatible space/cost saving hydraulic accessories available.

EVERYTHING IS UNDER CONTROL

Dimplex SI MS ground source heat pumps incorporate the WPM2004 Plus – a fully integrated Heat Pump Manager designed to regulate, control and monitor the entire heating system.

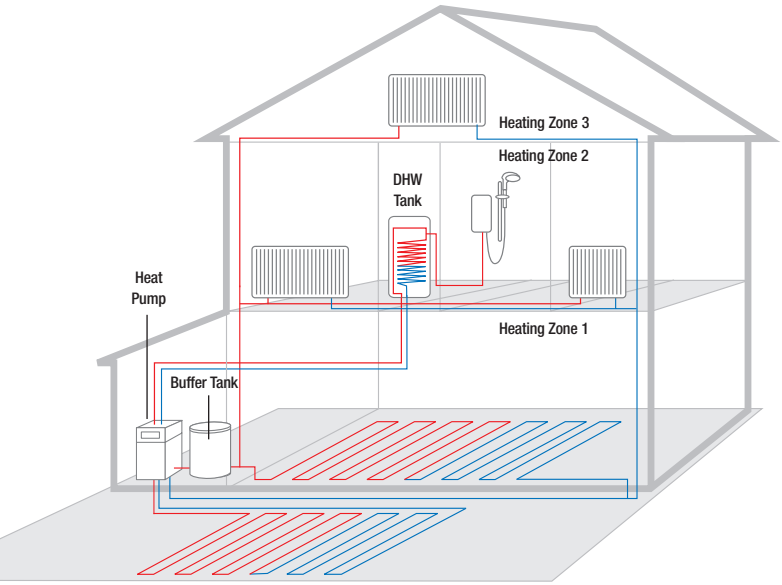
The heat pump, ground loop, heating and hot water pumps, mixer motor and supplementary heating sources are all automatically activated by the WPM2004 Plus unit.

Water temperatures for up to 3 space heating circuits plus domestic hot water are individually programmable, providing maximum comfort and efficiency.

Simple to understand 'warmer / cooler' buttons adjust the temperature settings, while the heating system can be programmed to operate on a timed basis if required.

Key features:

- Simple 6 key operation.
- Large, well laid out illuminated display with indication of present operating status and service messages.
- Dynamic menu-based user guidance, adapted to the configuration of the heat pump system.
- Interface for remote control unit with identical menu options.
- Outdoor temperature controlled heating cycle.
- Control over 3 heating circuits and domestic hot water.
- Priority control:
  – Water heating takes priority over space heating.
- Automatic actuation of supplementary heat sources (electric immersion heater or gas/oil boiler).
- Automatic actuation of mixer valves for supplementary heat source (gas/oil boiler or solar energy storage system).



The integrated WPM2004 Plus Heat Pump Manager allows Dimplex SI MS ground source heat pumps to provide full control over 3 separate heating circuits as well as the preparation of domestic hot water.

DIMPLEX HEAT PUMP ACCESSORIES

Dimplex heat pumps offer a variety of services – providing the home with comfortable warmth is only one of them. It can also produce all the hot water needed for the kitchen or bathroom.

Dimplex provides all the components needed for these applications, including buffer tanks, hot water cylinders and ground loop circuit / heating system manifolds and hydraulic accessories.

1. Buffer tank

A buffer tank extends operating times and ensures a minimum water flow rate through the heat pump in all operating conditions. Where the heat pump provides the sole source of heating, an electric immersion element can also be integrated to provide supplementary heating if required.

2. Heating system connections

A range of compact accessories are available to ensure a professional and trouble-free heat pump installation, with all the connections and individual components combined and assembled in the minimum of space. Options include:

- Compact manifold with shell-type insulation and integrated hot water connection.
- Hot water module for connection of an additional heating circuit (e.g. hot water heating).
- Simultaneous connection of compact manifold and hot water module to the heat pump via a manifold bar.

3. Hot water cylinder

For the central hot water supply Dimplex offers a range of unvented hot-water cylinders, sized correctly for the maximum heating capacity of the heat pump.

An integrated temperature sensor is connected to the heat pump manager, allowing the heat pump to automatically control the production of hot water as and when it is required.

COOLING USING GROUND COILS

Dimplex SI MS ground source heat pumps can also be used to provide 'passive' cooling by transferring excess heat from the building to the ground via the ground loop circuit during the summer months.

This is achieved with the addition of a retro-fittable passive cooling unit controlled by an additional cooling controller, which communicates with the heat pump manager to enable the combination of heating and cooling in a single system.

Domestic hot water can still be produced in parallel to the cooling operation as the heat pump is not active in the passive cooling mode.

For passive cooling, vertical bore hole installations are recommended.

TECHNICAL DATA

EQUIPMENT DATA for ground source heat pumps for heating purposes								
1	**TYPE AND COMMERCIAL DESCRIPTIONS**			SI 5MS	SI 7MS	SI 9MS	SI 11MS	SI 14MS
2	**MODEL**							
2.1	Enclosure type acc to EN 60 529			IP 20	IP 20	IP 20	IP 20	IP 20
2.2	Installation			Indoors	Indoors	Indoors	Indoors	Indoors
3	**PERFORMANCE DATA**							
3.1	Operating temperature limits:							
	Heating water supply	°C		Max. 55	Max. 55	Max. 55	Max. 55	Max. 55
	Brine (heat source)	°C		-5 to +25	-5 to +25	-5 to +25	-5 to +25	-5 to +25
	Anti-freeze agent			Monoethylene glycol	Monoethylene glycol	Monoethylene glycol	Monoethylene glycol	Monoethylene glycol
	Minimum brine concentration (-13°C freezing temperature)			25%	25%	25%	25%	25%
3.2	Heating water temperature spread at BO/W35		K	9.4	9.1	10.5	9.5	9.6
3.3	Heating capacity/coeff.of perform.	at B-5/W55 [1]	kW/---	4.0 / 2.0	5.4 / 2.1	7.6 / 2.1	9.4 / 2.0	12.3 / 2.1
		at B0/W50 [1]	kW/---	4.8 / 2.7	6.2 / 2.7	8.8 / 2.7	10.5 / 2.6	14.2 / 2.8
		at B0/W35 [1]	kW/---	4.9 / 3.9	6.4 / 3.8	9.2 / 4.0	11.0 / 4.0	14.5 / 4.0
3.4	Sound power level		dB(A)	54	55	56	56	56
3.5	Heating water flow rate at internal pressure difference		$m^3/h/Pa$	0.45/ 1900	0.6 / 3300	0.75 / 2300	1.0 / 4100	1.3 / 4800
3.6	Brine flow rate at internal pressure difference (heat source)		$m^3/h/Pa$	1.2 / 16000	1.7 / 29500	2.3 / 25000	3.0 / 24000	3.5 / 20000
3.7	Refrigerant: total charge weight		Type / kg	R407C / 0.9	R407C / 0.9	R407C / 1.25	R407C / 1.25	R407C / 1.5
4	**DIMENSIONS, CONNECTIONS AND WEIGHT**							
4.1	Equipment dimensions without connections [4]		H x W x L mm	800 x 600 x 450	800 x 600 x 450	800 x 600 x 450	800 x 600 x 450	800 x 600 x 450
4.2	Equipment connections for heating system		Inches	1¼" ext.thread	1¼" ext.thread	1¼" ext.thread	1¼" ext.thread	1¼" ext.thread
4.3	Equipment connections for heat source		Inches	1¼" ext.thread	1¼" ext.thread	1¼" ext.thread	1¼" ext.thread	1¼" ext.thread
4.4	Weight of transport unit(s) incl. packaging		kg	95	98	104	108	120
5	**ELECTRICAL CONNECTIONS**							
5.1	Nominal voltage; fusing		V/A	230 / 16	230 / 16	230 / 20	230 / 25	230 / 32
5.2	Nominal power consumption [1] B0 W35		kW	1.25	1.68	2.32	2.75	3.62
5.3	Starting current with soft starter		A	24	26	38	38	50
5.4	Nominal current B0 W35/cos		A /---	6.8 / 0.8	9.1 / 0.8	12.6 / 0.8	15.0 / 0.8	19.7 / 0.8
6	**COMPLIANCE WITH EUROPEAN SAFETY REGULATIONS**			[3]	[3]	[3]	[3]	[3]
7	**OTHER DESIGN CHARACTERISTICS**							
7.1	Water inside equipment protected against freezing [2]			Yes	Yes	Yes	Yes	Yes
7.2	Performance settings			1	1	1	1	1
7.3	Controller internal / external			Internal	Internal	Internal	Internal	Internal

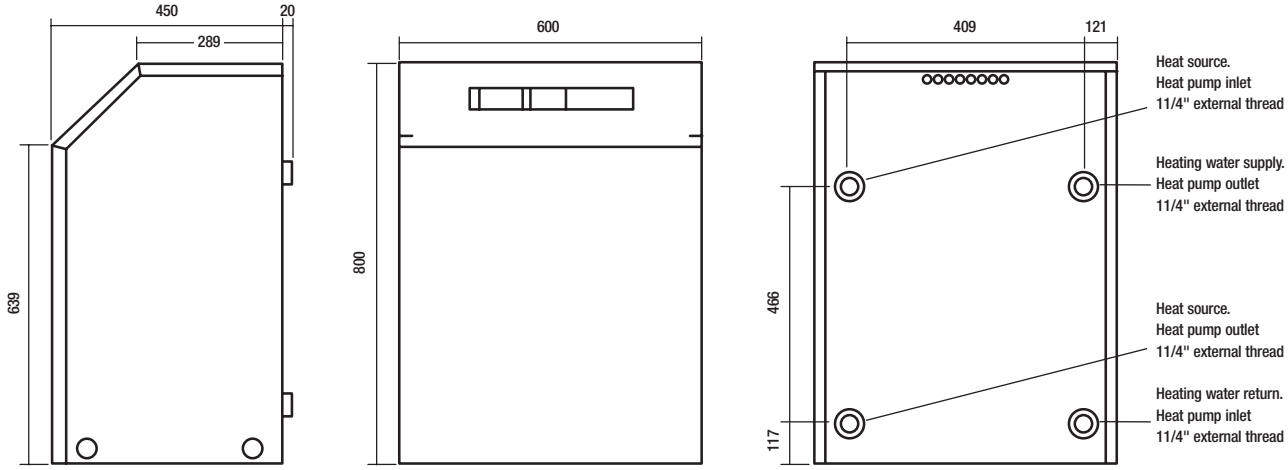
[1] This data characterises the size and performance capacity of the system. For economic and energy consumption reasons, additional factors such as balance point and control need to be taken into consideration. Abbreviations have the following meaning e.g. B10 / W55: heat source temperature 10°C and heating water supply temperature 55°C.

[2] The heat circulating pump and the controller of the heat pump must be ready for operation at all times.

[3] See CE Declaration of Conformity.

[4] Please keep in mind that more space is required for pipe connection, operation and maintenance.
Subject to technical modifications

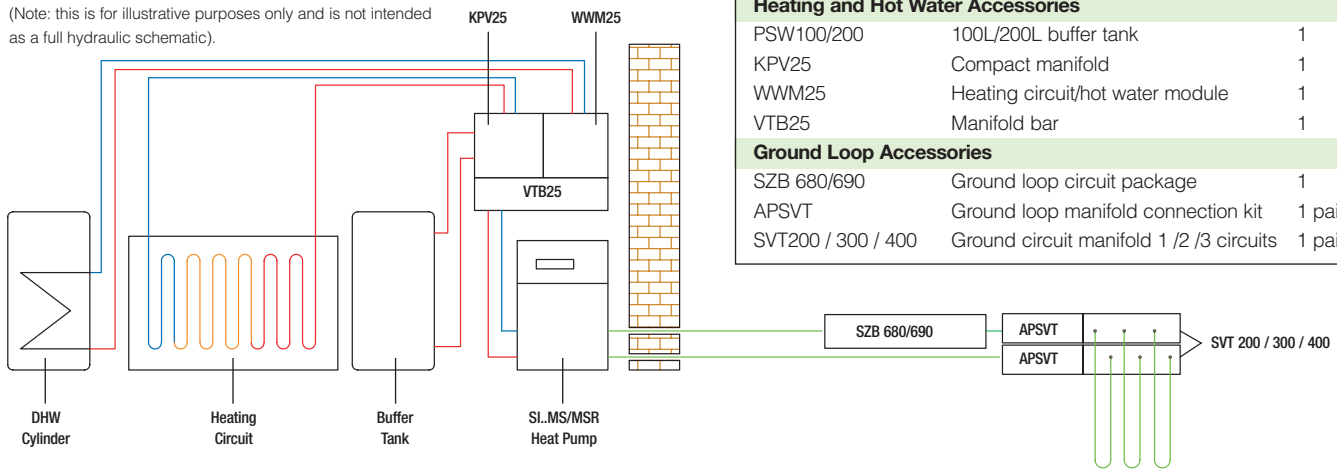
DIMENSIONS AND CONNECTIONS



TYPICAL SYSTEM CONFIGURATION AND ACCESSORIES

The diagram below shows a typical SI MS heat pump configuration for heating and domestic hot water, including typical accessories required for a single heating circuit.

(Note: this is for illustrative purposes only and is not intended as a full hydraulic schematic).



Heat Pump		Qty
SI 5/7/9/11/14 MS	Ground source heat pump	1
Heating and Hot Water Accessories		
PSW100/200	100L/200L buffer tank	1
KPV25	Compact manifold	1
WWM25	Heating circuit/hot water module	1
VTB25	Manifold bar	1
Ground Loop Accessories		
SZB 680/690	Ground loop circuit package	1
APSVT	Ground loop manifold connection kit	1 pair
SVT200 / 300 / 400	Ground circuit manifold 1 /2 /3 circuits	1 pair

TRUST OUR EXPERIENCE

As the world's largest manufacturer of electrical heating technology, Dimplex has been at the forefront of product development and innovation for nearly 60 years. We are well respected within the construction industry for producing products of the highest specification and quality and for our pre and post sales support. At our manufacturing plant in Kulmbach, Germany, we have been developing and producing innovative heat pumps for over 30 years.

EVERYTHING'S A MATTER OF PROPER PLANNING

Heat pumps are one of the most efficient and economical heating systems provided the individual components of the heat pump system, including the heat source, heat pump and connected heating system are properly matched. Dimplex can provide advice and guidance on the correct heat pump for your application and our network of experienced, fully trained installers will provide complete system planning assistance, installation and comprehensive after-sales service.

CERTIFIED QUALITY

Maximum operational reliability of all Dimplex appliances is ensured at all times due to continuous quality assurance during production and quality certification to EN ISO 9001. The international heat pump quality label for heat pump heating systems guarantees highest safety and quality standards.The tests conducted by recognised testing institutes provide comparability of results, ensure compliance with standards and guarantee an extensive after-sales network with at least 10-year spare parts availability. Dimplex is also a member of the UK Heat Pump Association.

SPECIFICATIONS

Dimplex policy is one of continuous improvement; the Company therefore reserves the right to alter specifications without notice. Although every care has been taken in the reproduction of product finishes in this brochure, photographs should be taken only as a guide. The information is correct at the time of printing.

CE MARK

Products carrying the CE mark comply with European safety standards and the European Standard for electro-magnetic compatibility.

FURTHER INFORMATION

For more information on Dimplex heat pumps please speak to your local Dimplex Installer Partner or contact us directly:

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Email: marketing@glendimplex.com Website: www.dimplex.co.uk

ADDITIONAL LITERATURE

In addition to this publication we have separate, more detailed brochures on the following products: • domestic heating • water heating • fires and surrounds • portable heating • commercial heating

Please ring our Brochureline for your copy:
Brochureline: Tel: 0870 727 0115 Fax: 0870 727 0123

Please note – these phone numbers are charged at standard rate, they are NOT premium rate numbers.

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