



AIR  
SOURCE  
HEAT PUMPS  
2 - 17 KW

# 5 DECADES USE EXPERIENCE



## M-TEC HEAT PUMPS

M-TEC, based in Austria, is a "green tech" company with a special focus on the development and production of highly efficient heat pumps.

As a specialist in intelligent control technology and for a sustainable Energy management, we develop cross-system solutions for heating, cooling, ventilation, water heating, photovoltaics and solar thermal energy.

More than five decades of experience with over 20.000 heat pumps, patents in the field of innovative complete heat pump systems and the constant further development of heat pump technology are important cornerstones of the corporate strategy.

M-TEC Technology

HEATING

COOLING



**ESmart**  
TECHNOLOGY INSIDE



DR. HANNES JAKOB, MBA  
CEO-EXECUTIVE PARTNER

*"M-TEC stands for honesty, trust and the highest quality for more than 5 decades. As managing director, I see it as my task not only to support you in your heat pump project, but also to inspire you with our cooperation."*



## 100 % SUSTAINABLE:

M-TEC International heat pumps are produced in Upper Austria with 100% renewable energy - 100% energy generated from our own photovoltaic system and our own hydropower plant.

Our mission is people's independence in the energy supply of their homes through Heat pump, photovoltaic, storage and E-mobility, controlled by our innovative Energy management system E-Smart.





# HOW THE M-TEC HEAT PUMP WORKS

In principle, the heat pump works like a refrigerator: the same technique, only reversed utility. The heat pump receives energy from the heat source side (earth, water or air) at a low temperature and releases heat with a higher temperature on the heating side.

"The heat pump uses solar energy that is stored in the air." This energy is available at any time, day or night, summer or winter. With air source heat pumps, on the one hand, it is important that they are designed for our cold climate in order to be able to ensure maximum efficiency and, on the other hand, attention must be paid to the lowest possible noise emissions. Our heat pumps have been optimised for these criteria.



4 / 5



## SMART GRID

M-TEC International heat pumps are already "*Smart Grid Ready*" today. With this function, you can use the cost savings of future electricity networks. In times where generally less power is consumed, electricity is also cheaper. Therefore the operating time of the heat pump should be shifted to this period. This is fully automated by M-TEC International's intelligent control system.



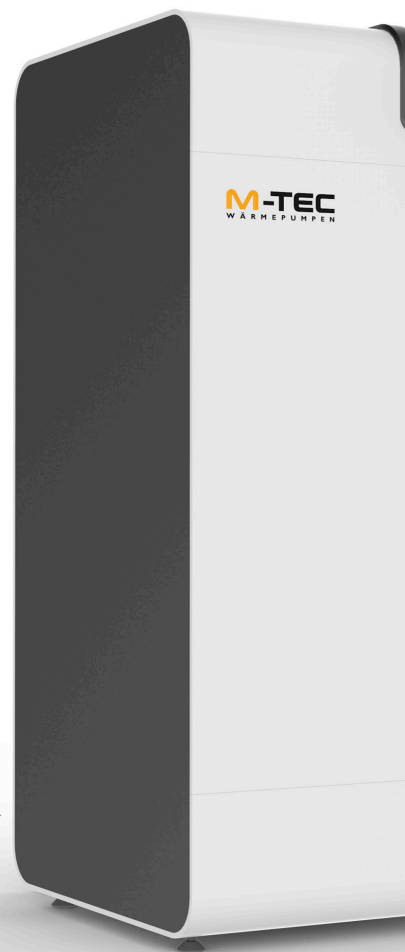
## INTERNET INSIDE

All M-TEC heat pumps are already equipped with the future technology of "*Internet Inside*". This allows you as a customer to control your heat pump from your mobile phone, tablet or PC. If the heat pump is no longer working optimally, the heat pump automatically signals the problem to your selected heat pump installer. Via "*Internet Inside*", these adjustments can be made to the control settings, without having to be on site. This saves your time and money.



## INTEGRATION OF EXTERNAL SYSTEMS

The integration of a photovoltaic system, solar system or house management system are possible thanks to the intelligent control of the M-TEC heat pump. Photovoltaic integration can use the self-generated electricity for space heating as well as hot water preparation, preferably for own consumption. Feeding your own PV electricity to the grid will only occur when the hot water storage tank is charged and the house is comfortably warm.







## NEW INJECTION TECHNOLOGY

Due to the constantly changing parameters of an inverter heat pump, special attention must be paid to the overheating control. The new, model-based control is a product of years of experience. Proactive reactances are made to future speed changes and therefore the efficiency of the heat pump is maximised.



## INTELLIGENT POWER CONTROL

The M-TEC International Power Inverter is a true innovation in the field of heat pump technology. The principle is very simple: The inverter adjusts the energy used to the actual needs of your home. The efficiency is thereby improved by approximately 20% and the life span of the compressor is prolonged due to significantly less switch-on cycles.

# TOP SYSTEM CONCEPT

The best heat pump is only as good as the designed system concept. M-TEC is always optimally oriented to this development! This results in heating systems with maximum efficiency, which is permanently tested and confirmed by independent authorised testing institutes.

## ADVANTAGES

- Maximum efficiency of heat pump systems
- High innovative power also in the field of control technology
  - Inverter technology
  - Latest overheating control
  - PV Self-consumption optimization
  - Advanced "Smart Grid" functionality
  - External systems can be integrated
  - LAN interface in each heat pump
  - Easy to use touch screen technology, tablets or smartphones
- Energy-Managementsystem **E-SMART\*** for best integration of photovoltaics, Battery storage, e-mobility, ...



display model Premium



\* optionally included in the E-Smart Premium package

# THE PHOTOVOLTAIC AIR SOURCE HEAT PUMP

Outstanding features of M-TEC heat pumps are their efficiency and future-oriented control technology. Compared to conventional heating systems, this results in exceptionally low operating costs for heating and hot water. Solar Thermal and Solar Photovoltaic systems can easily be integrated with the heat pump both enhancing and complementing the heat pump to attain even higher levels of efficiency, reducing energy consumption and cutting emissions.



## ADVANTAGES

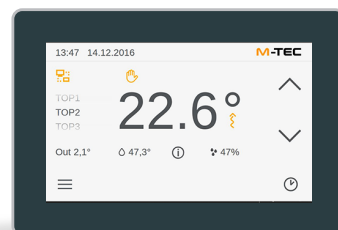
- Maximum self-consumption of free photovoltaic power
- High degree of comfort
- Long-term security of supply at the lowest cost
- Low maintenance
- Ready for that with the **E-SMART** Energy management system of the future.

Thanks to the sophisticated M-TEC controller with TouchScreen, self-generated electricity from the photovoltaic system can be used for heating and cooling of the house.

The speed control of the heat pump adapts itself to the photovoltaic power independently. The free photovoltaic electricity can thus be used as best as possible to heat the house, hot water and swimming pool.

## CONNECT ALL THE DEVICES IN YOUR HOME EASILY AND EFFICIENTLY

Thanks to "Internet Inside", M-TEC heat pumps have been able to take advantage of current developments for years. The advantages of digital networking are obvious. Maintenance and fault diagnosis can be carried out quickly and easily via remote maintenance. Travel costs and time are eliminated. In addition, you can control your heating from anywhere: Whether smartphone or tablet - use the various options to manage your room temperatures..



## INDIVIDUAL WARRANTY EXTENSIONS



Benefit from a specialist in geothermal energy with modern heat pump technology. M-TEC International heat pumps are the product of over 40 years experience in heat pumps and a cooperation in the field of control technology with the global company KEBA. Due to the high quality requirements, it is easy for us to offer extended warranties in addition to the guarantees.

It can be chosen between

**3 years, 5 years or 10 years Warranty-Extension**

on all materials..\*

\* Prices according to valid M-TEC International price list and valid warranty conditions



Technical Specifications	Air/Water-Heat Pumps		
	Models	WPL 412	WPL 618
Power Range [kW]		2-12 kW	4-17 kW
Energy Class VL35 °C		A+++	A+++
Energy Class VL55 °C		A++	A++
Dimensions H x W x D [mm]		1300 x 600 x 650	
Weight [kg]		157	167
Dimensions Evaporator H x W x D [mm]		1055x1088x790	1330x1275x810
Weight Evaporator [kg]		145	180
Refrigerant		R410A	
Sound power level acc. EN12102 [dB(A)]		44,5	44,6
Sound power level Evaporator according EN12102 [dB(A)]		47	46
Sound level add. for low-frequency noise characteristics Lz [dB]		0	
Fuse Main Current [A]		3 x C16	
Fuse Controller [A]		1 x B13	
Hydraulic Connection [Zoll]		1" External Thread	
Max. Flow temperatur		up to 62 °C	

#### PERFORMANCE DATA ACCORDING EN 14825

Climate: average	SCOP 35°C	4,59	4,55
	$\eta_s$ 35°C [%]	180	179
	SCOP 55°C	3,66	3,59
	$\eta_s$ 55°C [%]	143	141

#### PERFORMANCE DATA ACCORDING EN 14511

Heating Output/COP	A10/W35	Partial Load 33%	kW/COP	5,0 / 5,36	7,5 / 5,31
	A7/W35	Partial Load 33%	kW/COP	4,8 / 5,12	7,3 / 5,08
	A2/W35	Partial Load 52%	kW/COP	5,9 / 3,96	9,0 / 3,91
	A2/W35	Full Load 100%	kW/COP	11,8 / 3,76	17,2 / 3,68
	A-7/W35	Partial Load 88%	kW/COP	8,3 / 3,11	12,6 / 3,06
	A-7/W52	Full Load 100%	kW/COP	8,8 / 2,33	13,3 / 2,3
	A20/W55	Minimal	kW/COP	6,0 / 3,72	9,0 / 3,79
Cooling Capacity /EER	A35/W18	Partial Load 54%	kW/EER	8,1 / 3,58	12,5 / 3,66
	A35/W18	Partial Load 54%	kW/EER	5,6 / 2,45	8,6 / 2,54

All data include any defrosting that may be necessary.

Compressor-related power deviations of up to 10% are possible. All Rights Reserved. Typesetting and printing errors reserved. \*

# THE E-SMART GENERATION



More and more companies are recognizing the opportunities of an independent energy cycle. This smart Combination opens up considerable savings potential

- Own power supply
- sustainable production of heat and cooling
- Kcost reduction through electromobility

With M-TEC Energy Systems you use a complete system for the production and management of energy.

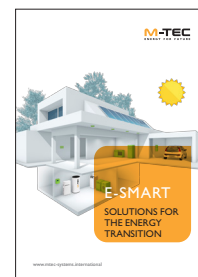
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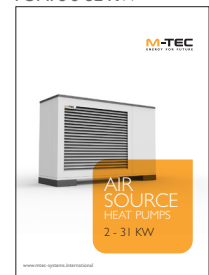
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SOLUTIONS FOR THE  
ENERGY TRANSITION



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GROUND SOURCE HEAT  
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GROUND SOURCE HEAT  
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