OCHSNER High-Tech heat pumps

# ENERGY DIRECT FROM NATURE


**OCHSNER**
HEAT PUMPS

OCHSNER heat pumps

# **FOR YOU** AND YOUR ENVIRONMENT

The choice of the right heating system for one's own home is an important decision lasting for decades. The most important requirements for a heating system are: highest efficiency and thus lowest heating costs, comfort, operational safety, the best possible environment protection and long life.

### FOR A CLEAN ENVIRONMENT

Heat pumps use the sun's energy stored in the air, in water or the ground and thus provide a valuable contribution to the protection of our climate. Whoever decides on a heat pump not only reduces $CO_2$ emissions, but also eliminates concerns about volatile oil and gas prices and supply security.

### YOUR DECISION TODAY ALREADY AFFECTS THE OPERATIONAL COSTS OF YOUR HOME

The **efficiency values** of an OCHSNER heat pump help you to already reduce the total costs of your building and/or system engineering. With a high-efficiency OCHSNER heat pump you are fulfilling the regulations for residential construction (EnEV, KfW Haus, Energy Certificate etc.) as well as the relevant Standards. This is achieved even without investing in heat insulation or system engineering. The savings for the reference building according to DIN 18599 for instance run up to several thousand Euros. Furthermore, OCHSNER's significantly improved performance data compared to the standard values are the basis for improving the values in the energy pass ($CO_2$ savings and primary energy demand).

### THE RIGHT CHOICE AND THE SAFEST INVESTMENT

Investing today in a high quality heat pump system increases the value of your building and guarantees immediately high interest rates in the form of saved immediately high ROI (return of investment). Additionally, in many regions financial support is available for the installation of a heat pump. Further information can be found on our website www.ochsner.com

A heat pump makes you independent, requires little maintenance, is clean and odour-free. Storage space for fuel, a chimney sweep or boiler service is not necessary.

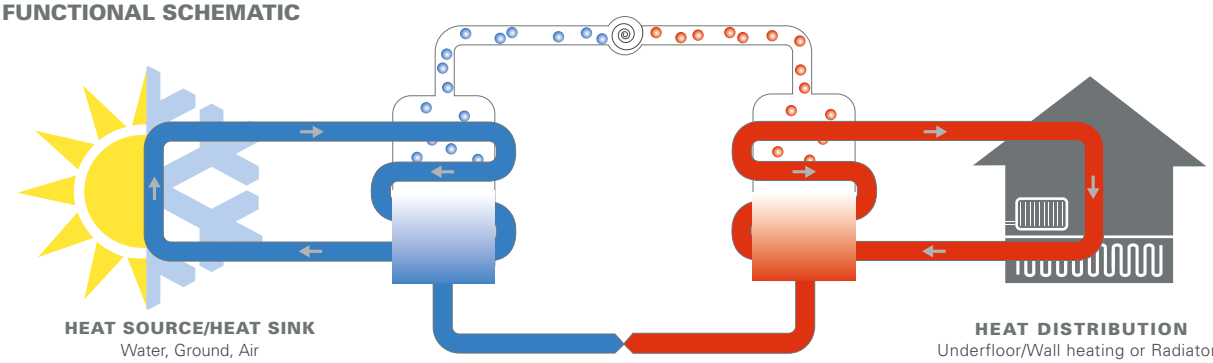
### FOR NEW BUILDINGS AND HEAT SYSTEM RENOVATION

Heat pumps are suitable for both new building as well as retrofitting. It is of no consequence whether the building has an under-floor or radiator heating system – many years ago, OCHSNER was the first manufacturer to supply a range of products up to 65°C and the newest developments have extended this range to 68°C. Thus, existing heating systems with conventional radiators can be run.

### HEAT PUMP WITH OWN-GENERATED ENERGY

Using an OCHSNER heat pump you can use the electricity from your own photovoltaic system as the priority energy for space heating and hot water. The input into the grid will only take place once the whole storage tank is heated up.

## FUNCTIONAL SCHEMATIC




1=evaporation, 2=compression, 3=condensation, 4=pressure release

### THE HEAT PUMP AS ENERGY MULTIPLIER

A heat pump's coefficient of performance (COP) indicates how much useful energy is supplied from one unit of drive energy. A COP of 4 means that **4 kW heating energy can be produced with 1 kW of electricity**. 3 kW are provided free-of-charge from the sun and the environment.

### HOW DOES A HEAT PUMP WORK?

The heat pump converts low temperature heat into heat of higher temperature – even in Winter at well below 0°C. This takes place in a closed circuit process through continuous changing of the aggregate condition of the refrigerant.

The heat pump uses the sun's energy stored in Mother Nature's heat sources and releases this plus the drive energy in the form of useful heat to the heating and warm water circuits.

### SELECT THE SYSTEM MOST SUITABLE FOR YOU

OCHSNER stands for quality – this you can put your trust in. High investment in Research and Development, long-term experience and components of the highest value make this possible. However, the system can only be perfect if it has been planned correctly to your requirements and wishes. This includes the selection of the correct heat source and also the right heat pump product for your system. Please read more on this on the following pages.

More than just a heating system

# **WHY** OCHSNER?

The economical use of our finite energy resources and the reduction of pollution emission have to be our common goal. OCHSNER has the vision of contributing to the successful shaping the future of our national and global energy by the use of heat pumps.

### COMPLETE PRODUCT RANGE – FOR HEATING, COOLING AND HOT WATER

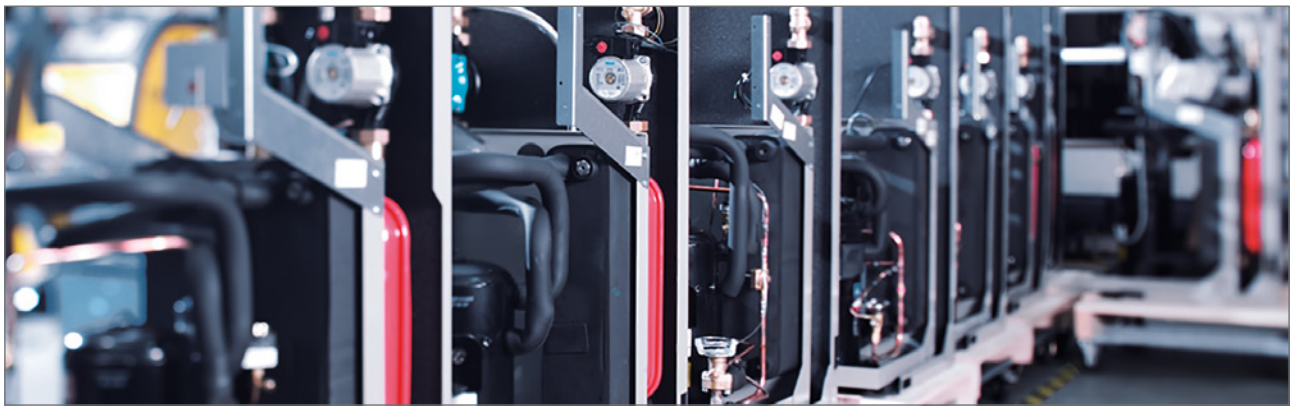
OCHSNER supplies a complete product range from 2 to 1,600 kW for heat sources air, ground or water. OCHSNER heat pumps can be equipped with the additional active cooling function – by reversing the refrigerant circuit, resulting in a quiet and pleasant room conditioning without draughts by means of the existing heat distribution system (e.g. wall heating, under-floor heating or special convectors).
Hot water can be heated either in connection with the heating heat pump or by using the hot water heat pump of the EUROPA Series.

### MUCH MORE THAN JUST A HEATER

The demands on a modern heating system are numerous and varied. Alongside the basic functions such as heating, cooling (optional) and hot water heating, OCHSNER provides the opportunity of heating your swimming pool, of integrating your photovoltaic system in the heat pump, internet connection, building management system, bivalent operation with other heat generators and much more. The modern OCHSNER OTE control makes it possible.

### OCHSNER IS ERP READY

Every OCHSNER heat pump and storage tank fullfills the obli-



gatory energy labelling according to the Eco-Design guidelines. The Energy Label informs you about the efficiency of new heat generators – with OCHSNER heat pumps you achieve efficiency factors (COPs) that no other heating system can offer.

### OCHSNER SMART HOME

OCHSNER is compatible at all times with SMART home systems via the building management technology or the SmartGrid interface. Control your heat pump as well via PC, Tablet or Smartphone from home or anywhere in the world!

### OCHSNER IS SMARTGRID READY

By means of the SmartGrid functionality, the favourable tariffs of future electricity networks can be used for heat pump operation. These tariffs result from the electricity surpluses which naturally accompany the generation of electricity from renewable energy sources such as wind and solar. Smartgrids serve as peak compensators; Smartgrid-capable heat pumps switch on only when surplus electricity is available at a favourable tariff, and store this energy in the form of hot water.

### CONFIRMED EFFICIENCY AND PROVEN QUALITY

OCHSNER heat pumps of the GMLW Series have been achieving efficiency records, peak values for noiselessness and ensuring lowest heating costs. OCHSNER is also ahead in terms of energy efficiency with ground heat sources.

Look out for the ehpa-seal of quality when buying a heat pump. Only those heat pumps that have been tested under strict test conditions by independent institutes and whose manufacturers fulfil the requirements as far as service and documentation have the right to carry this seal. By-the-way, OCHSNER heat pumps are manufactured exclusively in Austria using the highest quality components.

### STRENGTH FROM TRADITION

The original headquarters of the OCHSNER family business were established as long ago as 1872. Notable customers included international plant construction companies as well as the US-Navy and NASA. The compressor production program comprised both piston and screw compressors up to 500 kW.

The **OCHSNER Wärmepumpen GmbH** was founded in 1978 and since the beginning has been characterised by energy consciousness, pioneer spirit and innovation. As one of the first manufacturers in Europe, OCHSNER began the first industrial production of heat pumps and is today internationally ranked as one of the technology leaders in the industry.
Manufacturing takes place exclusively in Austria using high-quality components.
**Since 1992**, the OCHSNER company has been concentrating **exclusively** on the **heat pump** sector.

OCHSNER
HEAT PUMPS

OCHSNER factory customer service

# ALWAYS THERE **FOR YOU!**

Our personal customer support does not end with the sale of a system. You will continue to be supported competently and reliably by the OCHSNER customer service.*

**COMMISSIONING**
Our specialised customer service will commission your OCHSNER heat pump system and instruct you on the system operation on site. Your new heat pump system will be adjusted to your individual requirements and conditions.

**LEAKAGE TESTING**
Heat pumps are refrigeration appliances and are in part subject to the regulations of the F-gas regulation (EG – 517/2014). Your OCHSNER factory customer service would be pleased to carry out the testing, if necessary. The terms can be found on our home page www.ochsner.com. The refrigerants used in our heat pumps are non-flammable, non-toxic and ozone neutral.

**ACCESSIBILITY**
The OCHSNER specialist customer service is available to you on 365 days in the year – also on Sundays and Bank Holidays – area-wide in the main markets. The customer service hotline numbers can be found on our web-sites www.ochsner.com.

**SPARE PARTS**
Our factory customer service carries the most commonly required spare parts permanently in their service vehicles. Furthermore, the central spare parts store guarantees the immediate availability of more than 2000 parts that we can express deliver to you.



* The services listed above are only available in Austria, Germany and Switzerland.


## HEAT PUMP SERVICING

In order to protect your investment long-term, we recommend regular servicing of your heat pump. The OCHSNER factory customer service inspects the condition of the system. This allows permanently low running costs, increases the longevity of your system and prevents possible malfunctions. A correctly carried out servicing not only helps to save energy, it also protects the environment.
Furthermore, legal requirements call for the regular servicing and monitoring of heating appliances by the user. For this, the OCHSNER customer service department is to be assigned with the control of the functionality, efficiency and safety functions of the heat pump as well as the control and regulation equipment.

## A SERVICE CONTRACT ENSURES CONTINUITY*

In order to ensure that the inspection and maintenance of the heat pump takes place at regular intervals, it is recommended that a service contract be concluded. A fully filled out protocol documents the working results and the machines condition

## UP TO 7 YEARS FACTORY GUARANTEE*

By concluding a service contract, the OCHSNER statutory warranty can be extended to a factory warranty of up to 7 years.

Our factory Customer Service Department is distinguished by highest quality throughout our service sector. Our engineers are continuously re-trained and certified for their duties by external nationally-recognized institutes.

The OCHSNER Customer Service Department is the only specialized heat pump customer service in which all our engineers fulfill all the certification criteria for refrigerant engineering. Thus, individual customer service solutions can be developed without having to call on outside experts.

OCHSNER customers can also be certain that their investment is always in the most competent hands of heat pump experts.

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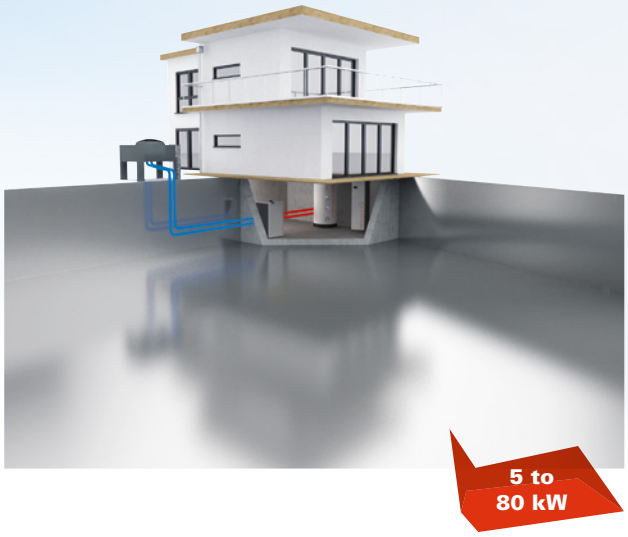
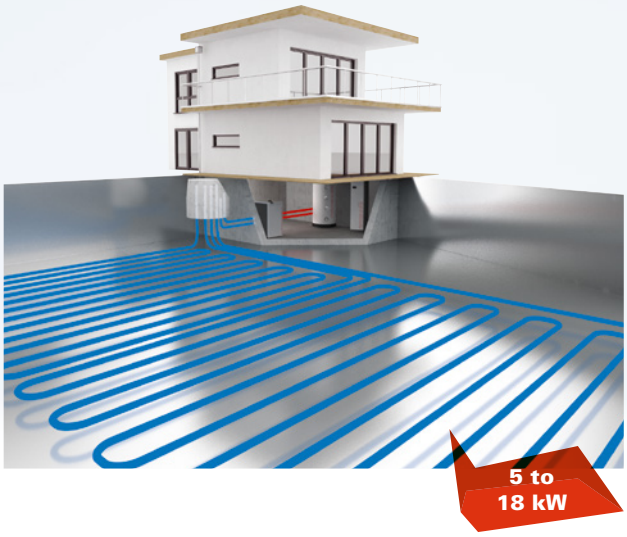
OCHSNER
HEAT PUMPS

Energy supplies - direct from nature

# THE HEAT **SOURCES**




## AIR

Air is available everywhere and in unlimited supply.
Due to the further development of the **horizontal**-split system technology, OCHSNER has advanced the use of air as a heat source to be even more economic.

This system is also especially suitable for the renovation of heating systems in existing buildings, where retrofitting installations in the ground are mostly undesirable or too costly.

Due to OCHSNER's technical innovation, the heat source air can be efficiently used, even at low outside temperatures. High operational safety and low noise levels especially characterize this product.

The heat source air is also ideally suited for use in bivalent operated systems as well.

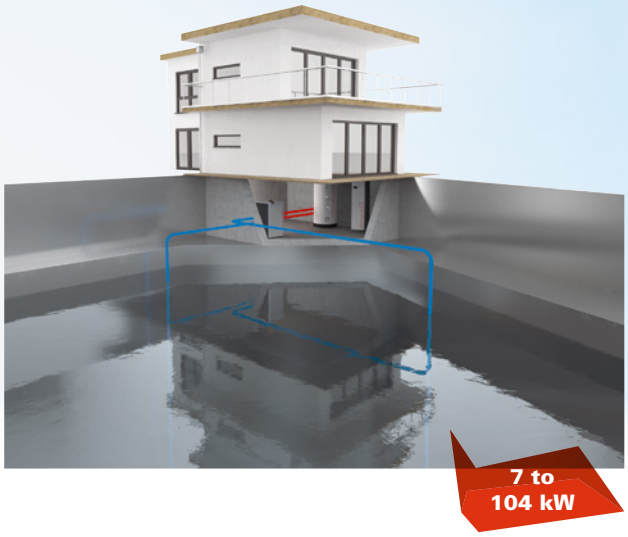
**ACTIVE COOLING**
During active cooling operation, the warmth from inside the building is exhausted to the air by means of the external evaporator– which then technically becomes a condenser. Active cooling is possible with all Models in the GMLW, AIR BASIC and AIR STATION -Series.

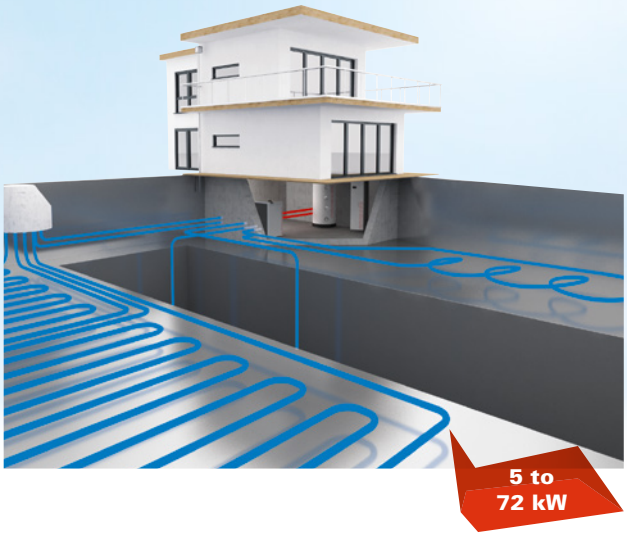
## GROUND HEAT
Direct expansion

The ground is a free-of-charge and abundant heat store and thus represents an ideal heat source.
Using flat plate collectors, stored solar energy is mainly used – constantly and completely independent of the time of day or night. If installed correctly, sufficient source energy is available even in the deepest of winters.

Using **direct expansion systems** (also known as direct evaporation), you can achieve the lowest operating costs of all known ground collector systems known today. They use **up to 4/5 free environmental energy**!

The chlorine-free and ozone-neutral refrigerant in the heat pump circuit extracts the heat direct from the ground by means of the double-walled, seamless tubes of the flat-plate collector (copper with PE-protective sheath). This takes place via the direct evaporation of the refrigerant in the flat-plate collector.




# WATER

If ground water is available at a reasonable depth and in sufficient quantity, one can reach the highest seasonal performance factors. A constant temperature of 8 – 12°C guarantees an optimum heating operation.

Two wells are necessary for this: a **source well** and a **sink well**. The sink well should be located at least 15 metres from the source well in the direction of the ground water flow.

The amount of ground water necessary for 1 kW heating performance is around 250 litres per hour. The yield is to be established by means of a continuous pump test. Certain limiting values for the contents of the water must not be exceeded or fallen below. Therefore, a water analysis is to be carried out. Approval from the water authorities is often necessary.

### ACTIVE OR PASSIVE COOLING

Water as a heat sink is also suitable both for active as well as passive cooling of the building.

# GROUND HEAT – BRINE

Using this system, the ground heat is extracted by means of a brine circuit and then transferred to the heat pump.

**Brine ground collectors** can be laid in **three ways:**

- If the garden area is sufficient, **flat-plate collectors** are the least expensive solution. The area to be laid is dependent upon the type of construction and the insulation properties of the house as well as the composition of the soil.
- As an alternative, spirally formed **deep-trench collectors** can be installed as they require somewhat less area.
- **Ground probes** can also be inserted in the ground by means of deep drilling. These will normally be placed at around 100 metres depth each and are ideally suitable for buildings with little ground space. Approval from the water authorities is necessary.

### ACTIVE OR PASSIVE COOLING

During active cooling operation in summer, heat is "pumped" out of the living areas and into the ground by means of the existing heating system. In active cooling operation, the maximum cooling performance is fully available, even after week-long heat waves.

OCHSNER
HEAT PUMPS

OCHSNER Product diversity

# HIGH-TECH OVERVIEW


**GOLF MIDI PLUS**
Heat pump for heating buildings with a small heat load. For all heat sources.


**GOLF MAXI PLUS**
Heat pump for heating and cooling - for buildings with a medium heat load.
For all heat sources.


**STANDARD**
Heat pump for heating and cooling - for buildings with a high heat load. For heat sources air, water, ground heat with brine.
In a new design: Clear-cut form, gently rounded edges and a refined matt finish


**OCHSNER GMLW – VHS-M HORIZONTAL SPLIT EVAPORATOR**
Split outside unit for air/water heat pumps of the GMLW Series. Very quiet operation, highest efficiency and highest quality materials.
Depending on the heat load, available either as single- or double-split evaporator in white or anthracite. Installation in combination with GOLF MIDI, MAXI or STANDARDindoor unit.
Optional: Cover for split evaporator.


**OCHSNER AIR EAGLE SPLIT OUTDOOR UNIT**
Split outside appliance for high-performance inverter heat pump with variable-speed high-end compressors and fans. Air/water heat pump for heating and cooling, with Inverter technology.

**STORAGE TANKS**
Heating and hot water storage with heat pump separation tanks, heat pump hot water tanks or the fresh hot water heater Unifresh.

**EUROPA MINI IWP(L) & MINI EWP**
Hot water heat pump for external storage tanks up to 500 litres, for heat sources air/exhaust air or ground.

**EUROPA 323 DK, 250 DK(L) & 323 DK-EW**
Hot water heat pump with integral 300 or 250 l tank, for heat sources air/exhaust air or ground.


**OCHSNER AIR BASIC SPLIT OUTDOOR UNIT**
Vertical air/split heat pump with inverter technology

**OCHSNER AIR STATION (OLWA/OLWI)**
Air/water compact heat pump for outdoor or indoor installation. Ideal for limited spaces.


**HIGH-CAPACITY HEAT PUMP**
For heating, active cooling and hot water heating in large-scale buildings in commerce, industry, large-volume dwellings and in the municipal sector. Up to 75°C flow temperature, high-temperature heat pumps up to 95°C flow temperature.

OCHSNER
HEAT PUMPS

Heat source air - GMLW SERIES

# **EFFICIENCY** DOES NOT NEED TO BE HEARD

Horizontal-split appliances of the GMLW-Series are, with regard to energy efficiency, noise development and operational safety, the ideal solution for highest demands. They are thus ideally suited both for new buildings and for retrofitting or bivalent operation systems.

**OPTIMUM CONSTRUCTION FOR LOWEST NOISE LEVELS**
In the split appliances of the GMLW Series, the air heat exchanger is mounted horizontally (Horizontal-split evaporator). The increased energy efficiency is the result of the optimum evaporator construction – for instance the large heat exchanger area and the slow-running fans.

The **high-efficiency horizontal-split evaporator** extracts the necessary amount of warmth from the outside air, whereby an optimised, automatic de-icing system keeps the evaporator, if required, ice-free using minimal energy. Our horizontal-split evaporators are manufactured in exclusive housings. Here, OCHSNER offers a 10-year guarantee against rusting through.

Due to the sizing and optimum appliance construction, a maximum of warmth is absorbed from the air. Even at extreme temperatures below zero. No other appliance on the market offers such large heat exchanger areas! Low-speed special fans provide whisper-quiet operation with the highest energy efficiency.

Furthermore, a continuous stage evaporator output adjustment and also the heat pump performance is achieved by the fully-modulating fan operation. A further advantage of the split evaporator's horizontal construction is that the exhaust air is blow upwards – thus causing no cold, unpleasant draughts towards the neighbours or into one's own garden.

The outside unit is connected to the heat pump which is installed protected inside the building by means of connecting pipework. The connection is simply made by means of insulated copper pipework and a cable assembly, developed and manufactured by OCHSNER. These are normally laid under the surface of the ground in a duct and are thus, even retroactively (heating system renovation) installed without any problem.

In order to maximise operational safety in extreme weather conditions, "Thermodynamic de-icing", "Anti-Bloc" and "inverted operation" were developed.


### CUTTING EDGE CONTROL TECHNOLOGY

The OCHSNER OTE interior climate manager (see page 26) provides highest comfort levels, maximum energy efficiency and best operational safety.

### CONFIRMED TOP VALUES

The Golf (GMLW) plus heat pump, along with the OCHSNER split evaporator achieved a COP of 4.4* and holds the ehpa seal of quality (see www.wpz.ch). Furthermore, this series achieved the lowest noise levels and are thus the quietest air/split heat pumps on the market.

### SOUND REDUCTION BY MEANS OF FLUSTER-MANAGEMENT

Thanks to the new, unique and patented Fluster-Management, the noise emission of the Ochsner VHS-M evaporator is reduced to an absolute minimum. Thus, they are hardly heard at all, even during operation.

### SILENT MODE

In silent mode, the speed of the fan is reduced, dependent on the outside air temperature, by a fixed proportional function. This is to ensure that, for example, in the summer in hot water or pool heater operation, the already extremely low noise emission is reduced once again. This feature is supplied as standard by Ochsner.

### SUPER SILENT PACKAGE

The Super Silent Package is available as an option for all Models in the GMLW Series and is recommended for especially sensitive conditions. The constructive optimisation, derived from the-aerospace industry, results in an additional noise reduction of -3 dB(A).

The GMLW Series of heat pumps are available with cooling function on request.

* Peak value – measured on a GMLW 14 plus Model at 2°C outside temperature and a water temperature of 35°C to the relevant testing Standard EN 14511

OCHSNER
HEAT PUMPS

HEAT SOURCE AIR – OCHSNER AIR EAGLE

# THE SOLUTION FOR THE **HIGHEST DEMANDS**

The OCHSNER AIR EAGLE is a high-end inverter heat pump, suitable both for high-quality new buildings as well as for renovation work.

The appliance combines the strengths of the unique horizontal split evaporator of the GMLW-series, such as:

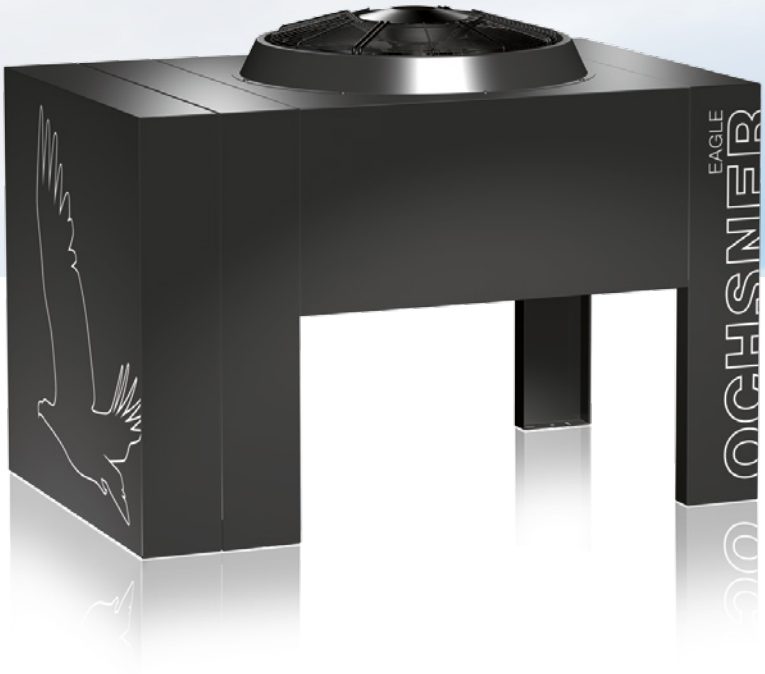
- large-scale heat exchanger surface area, large fin clearance and whisper-quiet modulating fans
- automatic de-icing, anti-bloc function, inverse running after de-icing and
- the exclusive housing construction in powder-coated stainless steel with a 10-year guarantee against rusting through

with the advantages of the inverter technology..
The intelligent control of this technology is a proprietary in-house OCHSNER development.

**INVERTER TECHNOLOGY**

The cutting-edge performance-regulated compressors used by OCHSNER continuously adjust to the actual heat load you need. This leads to an especially high efficiency and seasonal coefficient of performance and avoids unnecessary running short cycling times. With a measured SCOP of 4.5, the OCHSNER AIR EAGLE is the most efficient variable speed air/water heat pump world-wide that has ever been measured in the heat pump testing centre in Buchs (Switzerland).

The OCHSNER AIR EAGLE can normally be run without a buffer tank.




**SCOP 4.5*
EFFICIENCY RECORD**

65°

SG Ready

ErP READY

## HIGHEST-QUALITY COMPONENTS FOR COMFORT AND SAFETY

Variable-speed rotary top-quality compressors provide an accurate adjustment to the space heat required. Furthermore, the variable speed fans allow the realisation of the Silent Mode in order to reduce the noise emissions even further (see Page 13).
The connection to the noiseless heat pump inside unit with its complete array of heating system components is simply done the cable assembly. In order to avoid undesired losses due to heat transportation, these pipes are insulated by OCHSNER using an insulation that is twice as thick as conventional copper pipe insulation.

## SOLUTION FOR RESTRICTED CONDITIONS

OCHSNER recommends the AIR EAGLE in combination with the OCHSNER MULI TOWER especially where there is restricted space. This comprises an indoor unit with regulation and hydraulics as well as a buffer tank and a stove-enamelled hot water tank in ONE UNIT. All hydraulic components are factory-fitted.

## MOST MODERN CONTROL TECHNOLOGY

The OCHSNER OTE internal climate manager provides you with maximum comfort and simple operation. Maximum energy efficiency and highest operational safety of your heat pump system is guaranteed by this appliance.
Intelligent processor technology ensures the optimum deployment of your heating system and protects resources and thus our environment.

* SCOP 4.5 measured in the heat pump test centre in Buchs
At P-design of 15 KW, FLT 35°C

OCHSNER
HEAT PUMPS

OCHSNER AIR BASIC

# THE **ECONOMICAL** ALTERNATIVE


The OCHSNER AIR BASIC heat pump with inverter technology is ideal for passive and low-energy houses with large-surface heating systems in combination with existing heat generators as well as bivalent operating systems (hybrid). All the hydraulic components are factory-fitted into every OCHSNER heat pump inside unit.

**INSTALLATION**

The indoor unit of the heat pump is installed in the cellar or utility room of the house, and thus protected from weather. The indoor unit is absolutely quiet and can thus be installed in any type of room. The vertically constructed ambient heat absorbing evaporator extracts the required heat from the outside air. The output-controlled compressor provides a flexible performance. The unit is installed externally.

**MULTI TOWER**

This is combinable with all OCHSNER inverter split outside units (EAGLE and BASIC) and is THE solution for limited space conditions in the building. In combines in ONE appliance the inside unit with the control and hydraulics as well as the buffer and hot water tanks.

**CUTTING-EDGE CONTROL TECHNOLOGY**

The OCHSNER OTE 3 interior climate control manager provides you with the highest comfort levels, maximum energy efficiency and the highest operational safety.

**HEATING IN WINTER, COOLING IN SUMMER**

During the summer months, the heat pump can be used for cooling (optional). The excess heat in the house is simply transferred to the outside air and the house is cooled actively.

OCHSNER COMPACT HEAT PUMPS AIR STATION®

# THE **COMPACT** SOLUTION


For compact installations, OCHSNER supplies heat pumps both for indoor and outdoor installation. The AIR STATION® models, as with the GMLW series and AIR EAGLE are equipped with the OTE interior climate manager for highest comfort.

**OUTDOOR INSTALLATION**

The AIR STATION OLWA version is designed for outdoor installation. The specially coated construction guarantees resistance to weathering. Additional side cladding ensures extra noise and rain protection. Special emphasis was placed on quiet running. This was achieved using appropriately sized, slow-running special fans and special noise reducing external cladding.
A complete outdoor installation is of special advantage with retrofitting and limited available space. The OTE control is connected to the appliance by means of a corresponding cable and can be mounted on the heat pump or on the wall

**INDOOR INSTALLATION**

The AIR STATION OLWI is designed for indoor installation and is used for new buildings. A high-efficiency energy-saving circulation pump and a 3-way switching module for the hot water heating are part of the supply package. An air-routing set with suction and exhaust grilles ensure a simple installation and connection to the heat source.

OCHSNER
HEAT PUMPS

HEAT SOURCE GROUND

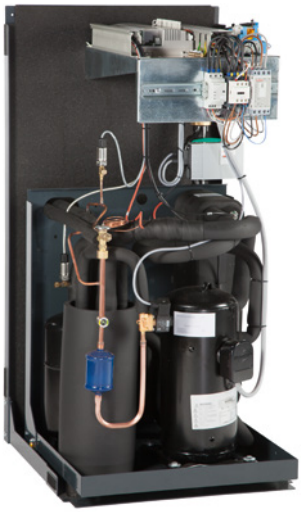
# UNLIMITED ENERGY FROM THE **GROUND**

When using ground as the heat source, flat-plate collectors or ground probes extract the sun's energy stored in the ground.

Depending on the heat carrier medium in the ground collector, a differentiation is made between the systems brine and direct expansion.

In the **direct expansion system (GMDW series)**, standard flat-plate collectors are used. The brine circuit, consisting of circulation pump, heat exchanger and expansion vessel, which is necessary for brine systems, can be dispensed with.

The refrigerant components are all brazed – no exceptions. This leads to even higher operational safety due to fewer components, as well as better efficiencies and thus lower running costs.



**Optimised ODV-injection group (GMDW)**

**Patented ground collectors O-Tube with seal indicator (GMDW)**

**Optimised pipework sizing and noise-reducing cladding for each size of unit**

**Noise reduction by means of 3-fold elastic compressor suspension**

OCHSNER was a pioneer in the introduction of this technology 30 years ago. Thousands of installed systems that have been running fault-free for decades are proof of this competence and experience.

In 1992, OCHSNER was awarded the Austrian State Prize for Innovation for this at that time new system.

The commissioning, undertaken exclusively by certified OCHSNER works customer service engineers, guarantees you today as well the highest measure of energy efficiency and operational safety.

In the brine system **(GMSW series)**, a water/anti-freeze mixture circulates as the heat carrier medium in the collectors. This absorbs the heat and transports it to the heat pump.

OCHSNER uses only high-efficiency energy-saving circulation pumps for the transport of the heat carrier medium. Amply sized evaporators ensure an almost loss-free transfer to the refrigerant. Factory-fitted stainless steel heat exchangers guarantee long life and resilience.

The GMSW Series is also available with cooling function if desired. You can choose between active and passive cooling. OCHSNER gives you the opportunity to combine both these cooling variants.

HEAT SOURCE WATER

# HIGHEST PERFORMANCE WITH THE POWER OF **WATER**

Using ground water as the heat source, heat pumps reach their highest COPs. Ground water has a more or less constant temperature between 8 and 12°C throughout the year.

Thus, the temperature level, compared with other heat sources, must be raised less in order to be used for heating purposes.
The use of ground water as heat source for the heat pump must be approved by the water authority. When applying for a permit, the well-driller, the drilling company or your OCHSNER system partner will be glad to be of assistance.
Several prerequisites must be fulfilled in order to be able to use ground water as a heat source:

**Sufficient quantities of water**

**Water quality (analysis)**

**Approval by the water authority**

**Source and sink wells**

**Variable speed immersion pumps reduce current draw.**

**Shell-and-pipe heat exchanger for extended limits of use incl. service valves with flushing fittings.**

**High-efficiency circulation pumps**

**Flow-rate sensor with permanent measurement**

**Soft-start with phase and rotational direction monitory, integrated as standard**

## EVEN GREATER SAFETY

OCHSNER offers a special series on the basis of **shell-and-tube heat exchangers** for additionally increased insensitivity to the heat source water.

This offers, due to

- special resilient materials
- an improved corrosion resistance due to thicker walls
- increased insensitivity to pollution due to floating particles in the ground water
- the possibility of flushing the heat exchanger and/or heat source conforming to the standards

even more efficiency and operational safety for the operator.

All heat pumps of the GMWW Series are equipped with the **OTE interior climate manager** for highest comfort, maximum efficiency and highest operational safety.

Heat pumps of the GMWW Series are available with cooling function on request.

OCHSNER
HEAT PUMPS

OCHSNER MULTI TOWER

# SPACE SAVING **COMPACT SOLUTION**


## OCHSNER MULTI TOWER
### All in One

Clear-cut design, gently rounded edges and a refined finish distinguish the OCHSNER MULTI TOWER - the competent solution for limited space conditions in the building.
In the space of just under one square metre, it combines in one appliance the inside unit with the control and hydraulics as well as the buffer tank for heating and cooling and a stove-enamelled hot water tank with signal anode.

All the hydraulic components such as the high-efficiency circulation pumps for buffer charging and heating as well as 3-way changeover and safety valves are factory-fitted into the MULTI TOWER.

Operation is, if desired, possible by means of a capacitive Touch Display directly on the appliance, thus making the heat pump web compatible. The appliance is optimised for a quick and simple installation by means of flush-fitting screw-thread connections. It can be disassembled into two parts for transport to installation areas that are difficult to access.

The MULTI TOWER can be deployed with all heat pumps of the AIR EAGLE and BASIC Series. In combination with surface heating systems, the OCHSNER MULTI TOWER is also available with cooling function (from 3rd quarter 2016 onwards).

Storage tanks – ÖKO-MASTER® Series

# HEATING AND HOT WATER AT **ALL TIMES**


OCHSNER offers a wide range of heat pump hot-water tanks that provide the optimum solution for each individual application.

**Depending on the application, a distinction between the following systems is made:**

### HEAT PUMP SEPARATING TANKS

Separating tanks (buffer tanks, energy storage tanks) serve to take in heat, to store it with a minimum of losses and, depending on requirements, to transfer this heat to the heating system. In order to extend the working life of the heat pump compressor, OCHSNER recommends the use of special heat pump separating tanks. These are ideally tailored to the heat pump due to their large connection dimensions.

### FRESH HOT-WATER HEATER UNIFRESH®

The fresh hot-water heater Unifresh® combines hygiene with economy and can be used as a purely hot-water heater or combined as a separating tank and hot-water heater.

- For use for heat pumps and/or heating furnaces
- High output capacity due to stainless steel spiral corrugated pipe with large surface for hot-water heating
- Legionella formation eliminated due to fresh hot-water Heating
- OCHSNER layering principle for optimum layering and economy of the heating system when used as a buffer tank
- Sufficient connections for diverse heat generators or heating systems, thermometers, sensors, E-heating rods etc.
- Removable PU insulation, recyclable
- Combination with solar possible (solar register optional)

### HEAT PUMP FRESH WATER MODULES

Heat pump fresh water modules are to be treated as identical to the Unifresh® as far as functionality is concerned as, here as well, the formation of Legionella is eliminated due to the fresh hot water heating. Heat pump fresh water modules can be connected to any type of heat pump separation tank, thus allowing any size of buffer tank to be used.

### HEAT PUMP HOT WATER STORAGE TANKS

If the hot water heating is not carried out by a heat pump of the Europa Series, but with a heat pump for heating, the hot water is stored and heated in an external heat pump hot water tank. The heating regulation ensures that the priority is at all times on sufficient hot water being available.
Heat pump separating tanks and heat pump hot water tanks will gain a great deal of importance as energy buffers in the future with regard to SmartGrid functionality.

OCHSNER
HEAT PUMPS

Hot water heat pumps

# NATURAL **HOT** WATER

Use the sun's energy stored in the air or the ground with a hot-water heat pump, all day, every day and whatever the weather!

OCHSNER recommends a hot-water heat pump of the EUROPA Series for an efficient hot water heating system which is separated from the space heating system.

They can also be used as an **ideal supplement** to boilers, instead of solar thermic systems. As an OCHSNER exclusive, the hot water heat pumps are available either as split appliances – for external storage tanks up to 500 Litres (large households, commercial businesses), or as compact appliances with an integrated 300 or 250 Litre hot water tank.

**THE HOT WATER HEAT PUMP SERIES EUROPA OFFERS THE FOLLOWING DECISIVE ADVANTAGES:**

- highly efficient and with long life
- environmentally protective hot water heating with air/exhaust air or ground heat as heat source
- ehpa-seal of approval
- very quiet running
- rapid installation. Plug in – switch on – ready!
- intelligent control technology with most simple control and touch display
- Up to 65°C hot water
  A hot water temperature up to 65°C in heat pump operation provides you with more hot water when required. For an occasionally higher hot water demand E-rods are factory fitted in the tanks of the compact units.
- Additional functions such as cooling, drying and ventilating
- Combination with Solar or Photovoltaic possible
- Ideal for renovation work as supplement to existing oil-, gas- or biomass furnaces


## TIPTRONIC PLUS CONTROL WITH TOUCH DISPLAY**

Intelligent control technology with simplest operation

- Hot-water regulation with switchable Hygiene - Comfort function
- Ventilation function with integrated fan-speed regulation and timer program
- Real time clock (timer program for hot water, hygiene and ventilation modus)
- Heat pump operation with defrost function for deployment down to -10°C air temperature
- Solar regulation as standard for solar thermal system (to be supplied and configured on site)


## MORE THAN JUST A WATER HEATER

Take advantage of the numerous ancillary uses of an OCHSNER hot water heat pump. The Europa multifunctional appliances can also dry, cool and provide ventilation.

## ADDITIONALLY, THE EUROPA SERIES OFFERS THE FOLLOWING UNIQUE FUNCTIONS

With the SmartGrid function, the Models Europa 323 DK, Europa 323 DK-EW and Europa Mini IWP are already prepared for Smart Metering.

You can thus utilise the expected favourable tariffs from the electricity grid of the future or use today the electricity from your own PV system, preferentially for hot-water heating.

Save and make profit with the multitalented Europa Series!

Details and application examples can be found in our brochure “Hot water heat pumps” and at www.ochsner.com.

*SG ready for the following heat pumps: Europa 323 DK/323 DK-EW/Mini IWP
** for Models Europa 323 DK, 323 DK-EW and Mini IWP

OCHSNER
HEAT PUMPS

Interior climate manager OTE

# A QUESTION OF **PREFERENCE**


With the OTE interior climate manager, OCHSNER is putting the emphasis on intelligent user friendliness when controlling your heat pump. Cutting-edge technology provides you the highest comfort levels, maximum energy efficiency and the highest operational safety.

### MOST SIMPLE OPERATION IN DIALOGUE PROCESS

The clear text display leads you safely through the menu. Graphics depict the system in an easily understood manner. Alongside all the special functions for the heat pump, the OTE-control can, if desired, regulate hot water heating, cooling operation and swimming pool heating. Additional heat generators such as heating boilers and further heat use systems are also controllable.

## THE NEW OTE FEATURES AT A GLANCE!

- Full graphic display with clear-text display
- Most simple operation with just two buttons and simple, logical menu structure
- Weather or room temperature guided control of the heating curve
- Flexibly programmed timer clock
- Safe hot water comfort due to adaptive hot water control
- Legionella protection function for the hot water heating
- Central coordination of all system components
- Automatic heating operation switch-off in summer
- Safety management for maximum operational safety and comfort
- factory-fitted flow rate monitoring for maximum operational safety
- Internet based Telecontrol engineering web2com (optional) for world-wide access and remote maintenance

## OCHSNER ROOM TERMINAL WITH TOUCH DISPLAY (optional)

Operate your heating system from the comfort of your living room and from anywhere in the world! The OCHSNER room terminal with the latest capacitive touch-screen technology offers the highest operating comfort. The installation is surface mounted to the wall due to the integrated temperature and moisture sensors. A reliable connection takes place via cable.

The integrated web2com server allows a simple and rapid connection of the heating system into your house network as well as the full operation and control via PC, tablet and smartphone.


Access via internet compatible smartphone or tablet when using room terminal with factory-fitted touch display!* (Smartphone or tablet not included)

*Function is also dependent on your Internet and/or Mobile phone provider as well as the Firewall settings in the IT network of the system operator.

OCHSNER
HEAT PUMPS

Technical data

# HEAT PUMPS
# FOR HEATING

## AIR-HORIZONTAL SPLIT SYSTEMS SERIES GMLW



| TYPE | GMLW 5 plus | GMLW 9 plus | GMLW 14 plus | GMLW 19 plus | GMLW 25 plus | GMLW 35 plus | AIR 80 C | AIR 80 C 2 |
|---|---|---|---|---|---|---|---|---|
| **Max. flow temperature** | 65°C | | | | | | | |
| **Dimensions** | | | | | | | | |
| indoor unit (HxWxD) [mm] | 1150 x 400 x 650 | 1150 x 600 x 650 | | 1150 x 600 x 650 | | | 1850 x 695 x 585 | 1850 x 695 x 585 |
| outdoor unit (HxWxD) [mm] | 1080 x 1290 x 960 | 1080 x 1290 x 960 | | 1080 x 2220 x 960 | | | 2 x 1149 x 2965 x 1288 | 1080 x 2220 x 960 |
| **Standard point A2/W35** | | | | | | | | |
| Heating performance [kW] | 5,4 | 8,8 | 13,2 | 17,2 | 21,8 | 30,3 | 65,1 | 65,1 |
| COP EN14511/EN255 | 4,1/4,5 | 4,0 / 4,3 | 4,4 / 4,7 | 4,2 / 4,4 | 4,2 / 4,4 | 4,1 / 4,4 | 3,6 / 4,0 | 3,6 / 4,0 |
| **Operating point A2/W50** | | | | | | | | |
| Heating performance [kW] | 4,7 | 7,9 | 12,3 | 16,8 | 21,2 | 27,4 | 57,3 | 57,3 |
| COP EN14511/EN255 | 2,7/2,9 | 2,8 / 3,0 | 3,1 / 3,2 | 3,2 / 3,4 | 3,2 / 3,4 | 3,1 / 3,3 | 2,7 / 2,9 | 2,7 / 2,9 |
| **Energy efficiency class** at max. FLT | 35°C A++ / 55°C A+ | 35°C A++ | 55°C A++ | 35°C A++ | | 55°C A++ | 35°C A+ | 55°C A+ |

## AIR COMPACT SYSTEMS OCHSNER AIR STATION


| TYPE | OLWA 9 | OLWA 13 | OLWA 18 | OLWI 9 | OLWI 13 | OLWI 18 |
|---|---|---|---|---|---|---|
| **Max. flow temperature** | 60°C | | | | | |
| **Dimensions** HxWxD [mm] | 1435 x 1280 x 1240 | | | 1116 x 784 x 1182 | | |
| **Standard point A2/W35** | | | | | | |
| Heating performance [kW] | 8,1 | 11,3 | 15,7 | 8,1 | 11,3 | 15,7 |
| COP EN14511/EN255 | 3,8 / – | 3,8 / – | 3,6 / – | 3,8 / – | 3,8 / – | 3,6 / – |
| **Operating point A2/W50** | | | | | | |
| Heating performance [kW] | 8 | 11,8 | 16,2 | 8 | 11,8 | 16,2 |
| COP EN14511/EN255 | 2,9 | 2,8 | 2,9 | 2,9 | 2,8 | 2,9 |
| **Energy efficiency class** at max. FLT | 35°C A++ / 55°C A+ | 35°C A++ / 55°C A+ | 35°C A+ / 55°C A+ | 35°C A++ / 55°C A+ | 35°C A++ / 55°C A+ | 35°C A+ / 55°C A+ |

## AIR/WATER HEAT PUMPS OCHSNER AIR EAGLE

| TYPE | OCHSNER AIR 414 C EAGLE | | OCHSNER AIR 717 C EAGLE | |
|---|---|---|---|---|
| **Max. flow temperature** | 65°C | | | |
| **Dimensions** | | | | |
| indoor unit (HxWxD) [mm] | 1150 x 400 x 650 | | 1150 x 400 x 650 | |
| outdoor unit (HxWxD) [mm] | 1080 x 1480 x 960 | | 1080 x 1480 x 960 | |
| **Standard point A2/W35** | | | | |
| Heating capacity range [kW] | 3,1-10,2 | | 6,0-10,4 | |
| COP EN14511 | 4,0 | | 4,2 | |
| **Standard point A7/W35** | | | | |
| Heating capacity range [kW] | 3,5-10,6 | | 6,7-8,3 | |
| COP EN14511 | 4,5 | | 4,8 | |
| **Energy efficiency class** Nominal rating | 35°C A++ | 55°C A++ | 35°C A++ | 55°C A++ |

## ECO AIR/WATER HEAT PUMPS OCHSNER AIR BASIC

| TYPE | OCHSNER AIR 109 C BASIC | | OCHSNER AIR 211 C BASIC | | OCHSNER AIR 618 C BASIC | |
|---|---|---|---|---|---|---|
| **Max. flow temperature** | 55°C | | | | | |
| **Dimensions** | | | | | | |
| indoor unit (HxWxD) [mm] | 1150 x 400 x 650 | | 1150 x 400 x 650 | | 1150 x 400 x 650 | |
| outdoor unit (HxWxD) [mm] | 795 x 610 x 290 | | 865 x 1040 x 340 | | 1255 x 900 x 340 | |
| **Standard point A2/W35** | | | | | | |
| Heating performance [kW] | 1,1-5,0 | | 1,3-8,5 | | 4,9-13 | |
| COP EN14511 | 4,0 | | 3,7 | | 3,5 | |
| **Operating point A35/W7** | | | | | | |
| Cooling capacity range [kW] | 1,2-3,8 | | 1,4-9,1 | | 5-12,1 | |
| Energy efficiency ratio (EER) at nominal rating | 3,0 | | 2,6 | | 2,4 | |
| **Energy efficiency class /** Nominal rating | 35°C A+ | 55°C A+ | 35°C A+ | 55°C A+ | 35°C A+ | 55°C A+ |

## HEAT PUMPS HEAT SOURCE GROUND DIRECT EXTRACTION

| TYPE | GMDW 5 plus | GMDW 8 plus | GMDW 11 plus | GMDW 13 plus | GMDW 15 plus | GMDW 18 plus |
|---|---|---|---|---|---|---|
| **Max. flow temperature** | 65°C | | | | | |
| **Dimensions** HxWxD (mm) | 1150 x 400 x 650 | | | 1150 x 600 x 650 | | |
| **Standard point G-1/W35** | | | | | | |
| Heating performance [kW] | 5,2 | 6,8 | 10,1 | 11,3 | 14,0 | 16,3 |
| Leistungszahl EN14511/EN255 | 4,1/4,5 | 4,2/4,6 | 4,6/4,8 | 4,4/4,7 | 4,4/4,7 | 4,4/4,7 |
| **Operating point G4/W35** | | | | | | |
| Heating performance [kW] | 6,2 | 8,6 | 12,1 | 14,2 | 16,0 | 20,8 |
| COP EN14511/EN255 | 4,8 / 5,3 | 5,1 / 5,5 | 5,1 / 5,5 | 5,1 / 5,4 | 5,1 / 5,4 | 5,2 / 5,6 |
| **Operating point G4/W50** | | | | | | |
| Heating performance [kW] | 5,7 | 7,4 | 10,6 | 12,3 | 14,7 | 18,5 |
| COP EN14511/EN255 | 3,3/3,5 | 3,5/3,7 | 3,4/3,6 | 3,6/3,8 | 3,6/3,8 | 3,8/4,0 |
| **Energy efficiency class** at max. FLT | 35°C A++ / 55°C A++ | 35°C A++ / 55°C A++ | 35°C A++ / 55°C A++ | 35°C A++ / 55°C A++ | 35°C A++ / 55°C A++ | 35°C A++ / 55°C A++ |

OCHSNER HEAT PUMPS

## HEAT PUMPS
## HEAT SOURCE GROUND BRINE
## OCHSNER TERRA

| TYPE | GMSW 6 plus | GMSW 8 plus | GMSW 11 plus | GMSW 14 plus | GMSW 18 plus |
|---|---|---|---|---|---|
| **Max. flow temperature** | **65°C** | | | | |
| **Dimensions** HxWxD [mm] | 1150 x 400 x 650 | | | | |
| **Standard point B0/W35** | | | | | |
| Heating performance [kW] | 5,8 | 7,5 | 10,3 | 13,2 | 17,0 |
| COP EN14511/EN255 | 4,8/ - | 4,8/5,0 | 5,0/5,2 | 4,8/5,0 | 4,5/ - |
| **Operating point B0/W50** | | | | | |
| Heating performance [kW] | 5,3 | 7,0 | 9,3 | 11,9 | 16,1 |
| COP EN14511/EN255 | 3,1/ - | 3,0/3,2 | 3,1/3,3 | 3,1/3,3 | 3,2/ - |
| **Energy efficiency class** at max. FLT | 35°C A++ 55°C A++ | 35°C A++ 55°C A++ | 35°C A++ 55°C A++ | 35°C A++ 55°C A++ | 35°C A++ 55°C A++ |

| TYPE | GMSW 7 HK plus | GMSW 10 HK plus | GMSW 12 HK plus | GMSW 15 HK plus | GMSW 17 HK plus |
|---|---|---|---|---|---|
| **Max. flow temperature** | **65°C** | | | | |
| **Dimensions** HxWxD [mm] | 1150 x 600 x 650 | | | | |
| **Standard point B0/W35** | | | | | |
| Heating performance [kW] | 7,1 | 10,3 | 12,1 | 14,2 | 16,7 |
| Leistungszahl EN14511/EN255 | 4,2/4,8 | 4,6/4,8 | 4,5/4,9 | 4,4/4,7 | 4,6/4,9 |
| **Operating point B0/W50** | | | | | |
| Heating performance [kW] | 6,2 | 9,0 | 10,5 | 13,0 | 15,2 |
| COP EN14511/EN255 | 3,0/3,3 | 3,1/3,3 | 3,2/3,4 | 3,2/3,4 | 3,3/3,5 |
| **Energy efficiency class** at max. FLT | 35°C A++ 55°C A+ | 35°C A++ 55°C A+ | 35°C A++ 55°C A++ | 35°C A++ 55°C A++ | 35°C A++ 55°C A++ |

| TYPE | GMSW 28 HK | GMSW 38 HK | GMSW 22 plus | GMSW 27 plus |
|---|---|---|---|---|
| **Max. flow temperature** | **55°C** | | **68°C** | |
| **Dimensions** HxWxD [mm] | 1150 x 600 x 650 | | 1150 x 600 x 650 | |
| **Standard point B0/W35** | | | | |
| Heating performance [kW] | 22,2 | 28,7 | 22,8 | 27,0 |
| COP EN14511/EN255 | 4,3/4,7 | 4,4/4,7 | 4,7/5,0 | 4,6/4,9 |
| **Operating point B0/W50** | | | | |
| Heating performance [kW] | 20,6 | 25,6 | 21,1 | 24,8 |
| COP EN14511/EN255 | 2,9/3,0 | 3,0/3,2 | 3,1/3,3 | 3,3/3,6 |
| **Energy efficiency class** at max. FLT | 35°C A++ 55°C A++ | 35°C A++ 55°C A++ | 35°C A++ 55°C A++ | 35°C A++ 55°C A++ |

| TYPE | TERRA 40 (C) | TERRA 61 (C) | TERRA 76 (C) |
|---|---|---|---|
| **Max. flow temperature** | **68°C** | | |
| **Dimensions** HxWxD [mm] | 1850 x 680 x 680 | | |
| **Standard point B0/W35** | | | |
| Heating performance [kW] | 40,4 | 62,4 | 77,5 |
| Leistungszahl EN14511/EN255 | 4,7/4,9 | 4,4/4,7 | 4,4/4,6 |
| **Operating point B0/W50** | | | |
| Heating performance [kW] | 37,4 | 57,6 | 70,7 |
| COP EN14511/EN255 | 3,4/3,6 | 3,3/3,6 | 3,2/3,5 |
| **Energy efficiency class** at max. FLT | 35°C A++ 55°C A++ | 35°C A++ 55°C A++ | 35°C A++ 55°C A++ |

HEAT PUMPS
HEAT SOURCE WATER
OCHSNER AQUA

| TYPE | GMWW 7 plus | GMWW 10 plus | GMWW 13 plus | GMWW 15 plus | GMWW 19 plus | GMWW 23 plus |
|---|---|---|---|---|---|---|
| **Max. flow temperature** | 65°C | | | | | |
| **Dimensions** HxWxD [mm] | 1150 x 400 x 650 | | | 1150 x 600 x 650 | | |
| **Standard point W10/W35** | | | | | | |
| Heating performance [kW] | 6,9 | 9,5 | 13,8 | 15,2 | 19,0 | 22,6 |
| COP EN14511/EN255 | 5,3/5,8 | 5,3/5,7 | 5,7/6,1 | 5,6/6,2 | 5,7/6,1 | 5,8/6,2 |
| **Operating point W10/W50** | | | | | | |
| Heating performance [kW] | 6,1 | 8,4 | 12,6 | 14,1 | 17,3 | 20,3 |
| COP EN14511/EN255 | 3,6/3,9 | 3,7/3,9 | 4,1/4,3 | 4,0/4,3 | 4,0/4,3 | 4,1/4,3 |
| **Energy efficiency class** at max. FLT | 35°C A++ 55°C A++ | 35°C A++ 55°C A++ | 35°C A++ 55°C A++ | 35°C A++ 55°C A++ | 35°C A++ 55°C A++ | 35°C A++ 55°C A++ |

| TYPE | GMWW 28 HK | GMWW 38 HK | GMWW 30 plus | GMWW 36 plus |
|---|---|---|---|---|
| **Max. flow temperature** | 55°C | | 68°C | |
| **Dimensions** HxWxD [mm] | 1150 x 600 x 650 | | 1150 x 600 x 650 | |
| **Standard point W10/W35** | | | | |
| Heating performance [kW] | 29,5 | 37,3 | 31,2 | 37,0 |
| COP EN14511/EN255 | 5,5/5,8 | 5,4/5,7 | 6,0/6,3 | 6,0/6,3 |
| **Operating point W10/W50** | | | | |
| Heating performance [kW] | 25,8 | 34,4 | 28,4 | 33,5 |
| COP EN14511/EN255 | 3,6/3,8 | 3,5/3,7 | 4,0/4,3 | 4,0/4,3 |
| **Energy efficiency class** at max. FLT | 35°C A++ 55°C A++ | 35°C A++ 55°C A++ | 35°C A++ 55°C A++ | 35°C A++ 55°C A++ |

| TYPE | AQUA 54 (C) | AQUA 83 (C) | AQUA 97 (C) |
|---|---|---|---|
| **Max. flow temperature** | 68°C | | |
| **Dimensions** HxWxD [mm] | 1850 x 680 x 680 | | |
| **Standard point W10/W35** | | | |
| Heating performance [kW] | 53,9 | 84,5 | 98,8 |
| COP EN14511/EN255 | 5,8/6,1 | 5,3/5,5 | 5,2/5,5 |
| **Operating point W10/W50** | | | |
| Heating performance [kW] | 49,7 | 76,2 | 89,4 |
| COP EN14511/EN255 | 4,2/4,4 | 4,0/4,3 | 4,1/4,2 |
| **Energy efficiency class** at max. FLT | 35°C A++ 55°C A++ | 35°C A++ 55°C A++ | 35°C A++ 55°C A++ |

| TYPE | GMWW 11 plus | GMWW 14 plus | GMWW 17 plus | GMWW 22 plus | GMWW 10 HK plus | GMWW 13 HK plus | GMWW 15 HK plus | GMWW 19 HK plus | GMWW 23 HK plus |
|---|---|---|---|---|---|---|---|---|---|
| | shell-and-tube heat exchangers | | | | | | | | |
| **Max. flow temperature** | 65°C | | | | | | | | |
| **Dimensions** HxWxD [mm] | 1150 x 400 x 650 | | 1150 x 600 x 650 | | 1150 x 600 x 650 | | | | |
| **Standard point W10/W35** | | | | | | | | | |
| Heating performance [kW] | 10,2 | 13,3 | 17,1 | 22,8 | 9,5 | 13,8 | 15,2 | 19,0 | 22,6 |
| COP EN14511/EN255 | 6,0/6,3 | 6,0/6,3 | 6,1/6,3 | 6,2/6,4 | 5,3/5,7 | 5,7/6,1 | 5,6/6,2 | 5,7/6,1 | 5,8/6,2 |
| **Operating point W10/W50** | | | | | | | | | |
| Heating performance [kW] | 9,4 | 12,5 | 15,9 | 20,6 | 8,4 | 12,6 | 14,1 | 17,3 | 20,3 |
| COP EN14511/EN255 | 4,1/4,3 | 4,2/4,4 | 4,2/4,4 | 4,0/4,2 | 3,7/3,9 | 4,1/4,3 | 4,0/4,3 | 4,0/4,3 | 4,1/4,3 |
| **Energy efficiency class** at max. FLT | 35°C A++ | | 55°C A++ | | 35°C A++ | | | 55°C A++ | |

OCHSNER
HEAT PUMPS

# OCHSNER
HEAT PUMPS

W746e P 02/2016

## WHAT DO THE SYMBOLS MEAN?

General **INFORMATION**

Heat source **AIR**

Heat source **GROUND BRINE**

Heat source **GROUND DIRECT EXTRACTION**

Flow temperature **68°**

Flow temperature **65°**

Flow temperature **60°**

Flow temperature **55°**

High-capacity heat pump up to **95°**

**HOT WATER** HEATING

Heat source **WATER**

**HEATING** Version

Heat source **GROUND PROBES**

**HEATING/ COOLING** Version

**ERP ready**
Every OCHSNER heat pump and storage tank fullfills the obligatory energy labelling according to the Eco-Design guidelines. The Energy Label informs you of the efficiency of new heat generators. Using OCHSNER heat pumps, you achieve efficiency factors that no other heating system offers.

**SMARTGRID**-compatible
ifactory-fitted in combination with heat pump separation tank and OTE 3 additional module with heating/cooling as well as Europa 323 DK / 323 DK-EW / MINI IWP.



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