# OCHSNER high tech heat pumps **EXAMPLE 1** FROM PARTICIPATION FROM PARTICIPATICATA FROM PARTICIPATICA FROM PARTICIPATICA FROM PA



# CONTENTS

OCHSNER – THE COMPANY
OCHSNER BENEFITS
HEAT SOURCES
AIR/WATER HEAT PUMPS
GEOTHERMAL HEAT PUMPS
GROUNDWATER HEAT PUMPS
OCHSNER CUSTOM SOLUTIONS
OCHSNER MULTI TOWER / ÖKO-MASTER TANK SERIES®
HOT WATER HEAT PUMPS
OCHSNER HIGH CAPACITY HEAT
OTE HOME CLIMATE MANAGER
OCHSNER CUSTOMER SERVICE
SPECIFICATION





# WHY OCHSNER?

Our common goal has to be the economical handling of finite resources and the reduction of emissions. OCHSNER has the vision of being able to contribute to the future of our national and global energy situation through the use of environmental energy.

## COMPREHENSIVE RANGE OF PRODUCTS – FOR HEATING, COOLING AND DHW HEATING

OCHSNER offers a comprehensive range of products for ratings from 2 to 2500 kW utilising the air, ground or water as a heat source. On request, OCHSNER heat pumps are available with cooling as an additional function. This creates a pleasantly cool interior without draughts or noise from the existing heat distribution system (e.g. wall heating, underfloor heating or special convectors). As required, DHW heating can be provided in conjunction with the heating heat pump or by means of the Europa hot water heat pump.

#### FOR NEW BUILD AND RENOVATION PROJECTS

OCHSNER heat pumps are suitable for new build as well as renovation projects. Regardless of whether your building has panel heating or radiators.

#### MUCH MORE THAN JUST A HEATING SYSTEM

Apart from the standard functions, such as central heating and DHW heating, OCHSNER also enables houses to be cooled, swimming pools to be heated, a link-up between the heat pump and a PV system, connection to the internet, link-up to building management systems, bivalent operation in conjunction with other heat generators, and much more. All of this is made possible by the advanced OTE controller from OCHSNER.

# OCHSNER Heat Pumps

All OCHSNER heating heat pumps are manufactured specifically to customer requirements and then tested on a heat pump test bench in accordance with the EN 14511 European standard. The heat pump system is commissioned by our own technical customer service team, who also provide the necessary training.

#### SMART PRODUCTION - MADE IN AUSTRIA

OCHSNER heat pumps are manufactured exclusively in Austria using only high grade components. OCHSNER pays particular attention to Industrie 4.0 and the use of advanced processes, such as 3D printing. OCHSNER also makes an important contribution through its intensive research & development work to ever more efficient and resource saving products.

#### STRENGTH FROM TRADITION – 146 Years of ochsner

The OCHSNER family business goes all the way back to 1872. Many systems have been installed over the years for renowned customers across the world, including the US Navy and NASA.

The range includes both piston and screw compressors with ratings of up to 500 kW.

OCHSNER Wärmepumpen GmbH was founded in 1978 and the company has become synonymous with energy awareness, a pioneering spirit and a flair for innovation. OCHSNER was one of the first European manufacturers to produce heat pumps on an industrial scale. Today, the company is recognised as one of the sector's international technology leaders. Since 1992, OCHSNER has concentrated solely on the development and manufacture of heat pumps.

#### OCHSNER CUSTOMER SERVICE

The personal care of our customers does not end once a system is sold. Our customers still continue to receive professional and reliable support from the experts in OCHSNER's technical customer service team.

Our experts commission every OCHSNER heating heat pump, match it to the individual circumstances on site and provide training on how to operate it." Our employees are highly skilled heat pump specialists with F-gas certification.

#### CONFIRMED EFFICIENCY AND PROVEN QUALITY

For many years, OCHSNER heat pumps in the OCHSNER AIR (formerly GMLW) series have been achieving record-breaking levels of efficiency and outstandingly low noise levels, whilst ensuring the lowest possible heating costs. With geothermal energy in particular, OCHSNER is leading where energy efficiency is concerned. When choosing a heat pump, look for the EHPA European Quality Label.

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

VISIT OUR WEBSITE AT WWW.OCHSNER.COM FOR A WIDE SELECTION OF REFERENCE PROJECTS IN YOUR AREA.



# WÄRMEPUMPEN

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## TODAY, **140,000** OCH THAN **140,000** HEAT ARE SU

OCHSNER HEAT PUMPS Are successfully in use

## WELLNESS FOR YOUR HOME

Your OCHSNER heat pump is highly versatile, enabling cooling, swimming pool heating, connection to the internet and link-up to building management systems according to your particular situation.

#### **OCHSNER HEAT PUMPS**

# FOR ME AND NATURE



### **SUBSIDIES**

A high quality heat pump system increases your home's value and reduces running costs. In many places, subsidies are also offered. Please check the subsidy database on our website at www.ochsner.com for up to date information on subsidies.

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\* USE YOUR OCHSNER HEAT PUMP TO HEAT YOUR POOL AS WELL!

## FOR A CLEAN ENVIRONMENT

Heat pumps utilise solar energy stored in the air, in water or in the ground, thereby making a valuable contribution to our environment. Opting for a heat pump is a way to lead by example and actively contribute to climate protection.

# $2.5 \underset{OF}{\text{MILLION TONNES}}{\text{MILLION TONNES}}$

THANKS TO OUR OCHSNER HEAT PUMPS, CUSTOMERS HAVE BEEN ABLE TO REDUCE CO<sub>2</sub> EMISSIONS BY ALMOST 2.5 MILLION TONNES SINCE 1978!

## **OCHSNER IS SMART GRID READY**



Smart Grid functionality will allow you to take advantage of attractive tariffs for operating your heat pump interactively with the grid of the future. These tariffs result from power surpluses naturally associated with generation from renewable sources. Smart Grid-ready heat pumps switch on if surplus power is available at favourable tariffs and store this energy in the form of hot water. Smart Grid-ready heat pumps can also use power from a domestic PV system.

# OCHSNER Smart home



OCHSNER can be integrated at any time into Smart Home systems via building management systems. Not only that – if you wish, you can control your heat pump via PC, tablet or smartphone from home or anywhere else in the world!

# HEAT PUMPS AS ENERGY MULTIPLIERS

A heat pump's coefficient of performance shows how much useful energy is produced from one unit of drive energy. A COP of 4 means that 4 kW of heating output is generated from 1 kW of electricity. In turn, this means that 3 kW was delivered free of charge by the sun, environment or ground.

#### **HOW DOES A HEAT PUMP WORK?**

A heat pump transforms heat at a lower temperature into heat at a higher temperature – even in winter at temperatures below 0°C.

This is achieved in a sealed cycle by continuously changing the physical state of the heat transfer medium.

The heat pump uses solar energy stored in natural heat sources – ground, water or air – and transfers this, in the form of useful heat, to the heating and DHW circuits, aided by the drive energy.

# HEAT SOURCES HEAT SOURCES

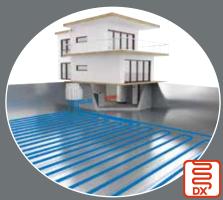


AIR

Air is available everywhere in unlimited supply. OCHSNER has developed horizontal split system technology even further, to make air source heat pumps more economical than ever.

This system is suitable for new builds and ideal when renovating heating systems in existing buildings. This applies particularly where disturbing the ground is generally undesirable and costly. Technical innovations by OCHSNER enable efficient use of air as the heat source, even at low outside temperatures. Our heat pumps are characterised by their high operational reliability and low noise emissions.

Air source heat pumps are also well suited for use in bivalent systems.



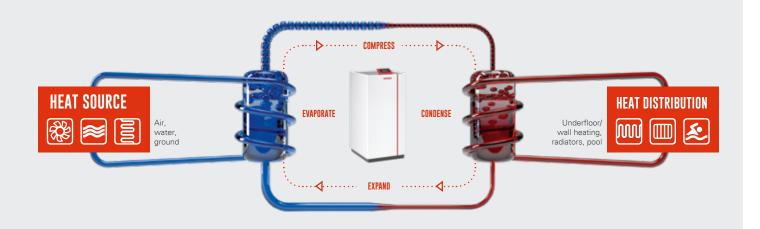
#### **GEOTHERMAL ENERGY** DIRECT EXTRACTION DX

The ground acts as a free and plentiful heat store, making it an ideal heat source.

Horizontal collectors work day and night, continuously harvesting what is, in fact, stored solar energy. When sized correctly, sufficient source energy will be available even in deepest winter.

Direct extraction systems (also referred to as direct evaporation systems) will enable you to achieve the lowest possible running costs of all currently known geothermal collector systems. You will achieve up to four-fifths free energy from the environment!

The heat transfer medium in the heat pump circuit is chlorine-free and ozone-neutral. It absorbs geothermal energy directly via the seamless duplex pipes of the horizontal collector (copper, PE protective sleeve). This is achieved by the direct expansion of the refrigerant inside the horizontal collector.





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THE HEAT PUMP IS AN ENERGY MULTIPLIER. At least three-quarters of the energy needed is freely provided by nature.

## WATER

Where groundwater is available at an acceptable depth and in sufficient amounts, it offers the best possible seasonal performance factors. A constant temperature of 8 to 12°C guarantees optimum heating operation.

It requires two wells – a supply well and a return well. The return well should be at least 15 metres away from the supply well in the flow direction of the groundwater.

1 kW of heating output requires approximately 250 litres of groundwater per hour. The capacity must be verified by a continuous pump test. The amount of suspended matter in the water must be within certain thresholds, so a water analysis must be carried out. A permit from the local water board is required.

### GEOTHERMAL ENERGY (BRINE)

With this system, geothermal energy is absorbed by means of a brine circuit and transferred to the heat pump.

Geothermal brine collectors can be installed in three different ways:

- Where there is sufficient land available, horizontal collectors are the most affordable option. The area covered depends on the method of construction and thermal insulation of the building, as well as the soil conditions.
- A spiral-shaped deep trench (Künette) collector would be an alternative that takes up somewhat less physical space.
- Geothermal probes which require deep drilling can also be set into the ground. The boreholes are typically drilled to a depth of 100 metres, and are ideal when little space is available. A permit from the local water board is required.







**OCHSNER AIR** 

# AIR/WATER HEAT PUMPS

WILLENNIUM
(0)

If someone mentions heat pumps, it is the air/water heat pump that often springs to mind.

And for a good reason, too, as it's these systems that are the most widely deployed. They are suitable for both new build and renovated energy systems in existing buildings, and can be installed easily and at low cost.

# AIR/WATER HEAT PUMPS



Air is the most popular heat source for heat pumps. There are many reasons for this.



#### STRAIGHTFORWARD INSTALLATION

Air/water heat pumps offer a significant advantage in that they are simple and economical to install. When it comes to location and installation, these systems are designed to be flexible and easy to handle.

Depending on the required heating output, the indoor units are typically not much bigger than a refrigerator and can therefore be easily located in a basement, utility, hobby or laundry room, or adjacent garage. The outdoor units can be installed in the garden or on top of a garage or flat roof, for example.

#### NO EXCAVATION WORK REQUIRED

Air/water heat pumps are a very popular option for both new builds and existing buildings. Disturbing the ground is generally undesirable and costly in renovation projects. Air/water heat pumps are also an economically interesting alternative where the ground or groundwater cannot be accessed efficiently.

#### PARTICULARLY QUIET OPERATION

You won't need to worry about noise protection: OCHSNER heat pumps have been achieving outstandingly low sound levels for many years and are usually approved even in areas with very strict noise level requirements.

#### A RANGE OF SYSTEMS

As a technology leader, OCHSNER offers various systems for utilising air as a heat source: split appliances with fixed speed or inverter technology, and compact appliances.

OCHSNER high tech air/water heat pumps are designed as split systems. This means that the fan unit and the actual heat pump are separated and linked by a suitable connection line. In this case, the fan is installed outdoors and the actual heat pump is installed inside the building.

It should be noted that the heating water is always heated without losses inside the house, no matter which model you choose.

The OCHSNER AIR BASIC series works with less expensive vertical fans; high end systems such as the OCHSNER AIR and OCHSNER AIR EAGLE use "table-top" evaporators with fans that are installed horizontally.

## THE BASIC PRINCIPLE OF AN AIR/WATER HEAT PUMP CAN BE EXPLAINED QUICKLY AND SIMPLY:

A fan draws in outdoor air; energy extraction in the heat exchanger then causes the refrigerant in the heat pump to evaporate. Within the heat pump circuit, the refrigerant is brought up to a higher temperature by compression, making useable energy available for space heating and domestic hot water heating. Air is available in unlimited amounts, everywhere and at all times. With OCHSNER systems, air even at sub-zero outdoor temperatures can be used as an efficient heat source.

**3-80** KW

# AIR/WATER HEAT PUMPS – OCHSNER AIR

Horizontal split appliances from the OCHSNER AIR series are the ideal solution for the highest demands in terms of energy efficiency, noise emissions and operational reliability. They are suited to both new builds and renovation projects, as well as bivalent systems.

OCHSNER AIR - UNMATCHED ON THE MARKET

AND UNQUESTIONABLY HIGH END

#### PERFECTLY DESIGNED FOR QUIET RUNNING

In the split appliances of the OCHSNER AIR series, the air heat exchanger is arranged horizontally (horizontal split evaporator). Higher energy efficiency is achieved through the optimum evaporator design, with large heat exchanger surface area and slow running fans.

The high efficiency horizontal split evaporator extracts the heat required from the outdoor air, whilst an optimised, automatic defrosting device keeps the evaporator free of ice when needed, using minimal energy.

OCHSNER horizontal split evaporators are manufactured in exclusive casings covered by a ten year warranty against rusting – OCHSNER is the only manufacturer to offer this.

The generously sized and optimally designed appliance extracts the maximum amount of heat from the air, even at temperatures far below zero. No other appliance on the market offers such a large heat exchanger surface area!

Special low speed fans provide whisper quiet operation with maximum energy efficiency. Furthermore, fully modulating fan operation ensures infinitely variable matching of the evaporator output for heat pump operation.



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#### **OTHER BENEFITS OF HORIZONTAL CONFIGURATION**

Another advantage of the split evaporator's horizontal configuration is that the expelled air is blown upwards, which means no cold, unpleasant air flows towards a neighbour's property or your own garden, and there is minimal audible air flow noise.

The outdoor unit is linked to the heat pump, which is protected within the building, via a connection line. The connection is made simply by means of insulated copper pipes and a cable harness designed and made by OCHSNER. The pipes are usually laid in an underground pipe liner and can also be easily retrofitted (heating system renovation).

The "thermodynamic de-icing", "antiblocking" and "inverse running" features have been developed to maximise operational reliability:

Thermodynamic de-icing ensures that ice formation between the fan edge and air flow nozzle is quickly and effectively prevented, and defrosting energy is only provided for the fan itself. Even if you leave your heat pump operating in economy mode during an extended holiday, the anti-blocking feature will ensure your fan starts up again first time. It uses artificial intelligence to provide just the right power needed at all times to prevent any fan blockage.

The "inverse running" feature boosts efficiency and lowers energy bills, as the direction of rotation of the fan changes after each defrosting process so that any condensate from the heat exchanger is blown out downwards. This also maximises the intervals between defrosting.

THESE SAFETY FEATURES ARE ONLY AVAILABLE WITH THE OCHSNER AIR SERIES.



#### **CONFIRMED PEAK VALUES**

The OCHSNER AIR heat pump, working together with the OCHSNER split evaporator, achieves a COP of 4.4\* and has been awarded the EHPA Quality Label (see www.wpz.ch).

## **COOLING FUNCTION**

OCHSNER AIR series heat pumps are available with a cooling function on request.

## SOUND REDUCTION THROUGH WHISPER QUIET OPERATION

#### **SILENT MODE** (standard)

In silent mode, the fan speed is reduced by a fixed proportional function, subject to the outdoor air temperature. This ensures that the system's already extremely low sound emissions in standard operation are reduced even further, for example in summer during DHW or pool heating. Silent mode can be set to four freely selectable periods.

#### **SUPER SILENT PACKET**

The Super Silent Packet is an option for all models in the OCHSNER AIR series and is recommended for especially sensitive areas. The optimised design derived from the aerospace industry reduces sound levels by a further 3 dB(A).

# AIR/WATER HEAT PUMPS - OCHSNER AIR EAGLE THE SOLUTION FOR THE SOLUTION FOR THE HIGHEST ASPIRATIONS



The OCHSNER AIR EAGLE is a high end inverter heat pump for both sophisticated new builds and renovation projects.

# RECORD-BREAKING EFFICIENCY!

With a seasonal performance factor of 4.5, the OCHSNER AIR EAGLE is the world's most efficient variable speed air/water heat pump (tested in the heat pump test centre in Buchs with a P design of 15 kW, FLT 35°C).



# ADVANCED TECHNOLOGY FOR Maximum Efficiency – For heating and cooling

#### **OCHSNER AIR EAGLE**

This appliance combines the strengths of the unique horizontal split evaporator of the OCHSNER AIR series:

- Generous heat exchanger surfaces, large fin spacing, whisper quiet modulating fans
- Automatic defrosting, anti-blocking function, inverse running after defrosting
- An exclusive powder coated stainless steel casing with a ten year warranty against rusting –

with the benefits offered by inverter technology.

The intelligent controller for this technology was designed in-house by OCHSNER.

#### **INVERTER TECHNOLOGY**

The cutting edge, output-dependent European compressors deployed by OCHSNER continuously adapt to the actual heat demand. This keeps the level of efficiency and seasonal performance factor exceptionally high and eliminates unnecessary cycling. With an actual seasonal performance factor (SCOP) of 4.5, the OCHSNER AIR EAGLE is the world's most efficient variable speed air/water heat pump ever tested by the heat pump test centre in Buchs (Switzerland).

#### FIRST RATE COMPONENTS FOR WELLBEING AND RELIABILITY

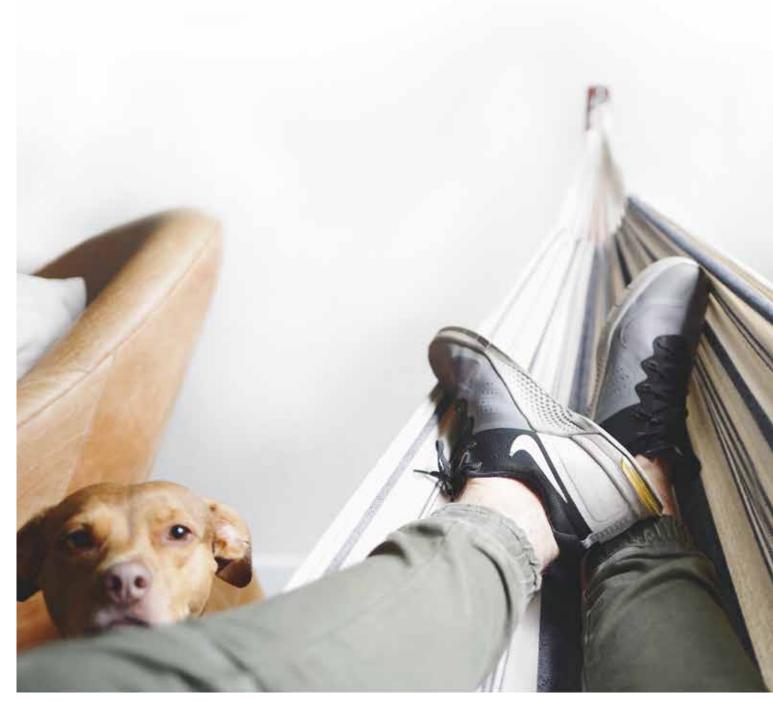
Top quality variable speed compressors adapt to space heating demands. In addition, the variable speed fans work in silent mode to reduce sound emissions even further. The outdoor unit is simply connected to the especially quiet heat pump indoor unit, along with all necessary heating components, via a cable harness designed and made by OCHSNER and two pre-assembled, high purity refrigeration copper pipes. OCHSNER uses twice the amount of insulation normally used on such pipes to avoid any undesired heat transfer losses.

#### **SOLUTION FOR TIGHT SPACES**

The OCHSNER AIR EAGLE is ideal where space is limited at the installation location. In combination with the T200 indoor unit, all of the hydraulic components plus the buffer tank, enamelled DHW tank and the controller are already integrated – on a footprint of half a square metre.

# AIR/WATER HEAT PUMPS – OCHSNER AIR BASIC PURISM FOR YOUR HOME

The OCHSNER AIR BASIC heat pump with inverter technology is ideal for new builds with surface heating systems, in combination with existing energy generators, as well as for bivalent systems. OCHSNER integrates all hydraulic components within the heat pump indoor unit as standard.





#### INSTALLATION

The especially quiet heat pump indoor unit is installed in the basement, utility room or any other room in the house where it is protected from the elements.

The vertically arranged evaporator, designed to absorb environmental energy, extracts the heat required from the outdoor air. The outputdependent compressor ensures flexible heat transfer to the system. The outdoor unit is installed outside. It is simply connected to the indoor unit via two refrigeration copper pipes. The OCHSNER AIR BASIC is particularly suitable when space in the house is tight. In combination with the T200 indoor unit, all of the hydraulic components plus the buffer tank, enamelled DHW tank and controller are already integrated – on a footprint of half a square metre.

#### HEATING IN WINTER, COOLING IN SUMMER

During the summer months, this heating heat pump has the option to be used for cooling. For this, the surplus warmth is simply transferred outdoors, actively cooling the house.



# COMPACT AIR/WATER HEAT PUMPS – OCHSNER AIR STATION OLWI

# Whenever the garden is not suitable for installing air source heat pump technology, customers are pleased to opt for our proven heat pumps in the OLWI series.

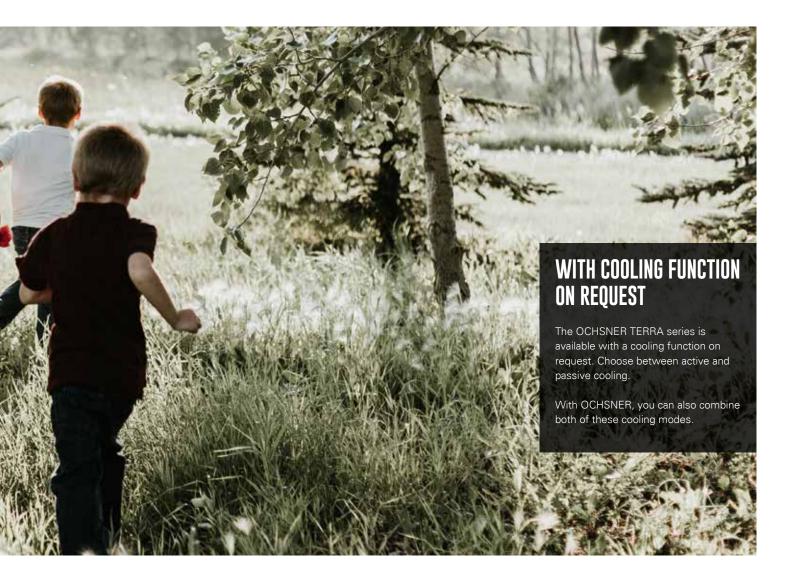


The OCHSNER AIR STATION OLWI is designed for indoor installation only, principally in new builds and for replacing existing systems. The series covers an application range of 5 to 20 kW and can easily heat even larger buildings. Outdoor air, which can be accessed in two different ways, is also used as a heat source in this model. A system installed underground in a basement requires two wall conduits. Existing light wells are typically used for this. For above-ground systems on a base plate, a visually appealing weather grille is used for the wall conduits. Ideally, the air should be ducted via the corner of the building with both modes of installation. Highly flexible, thermally insulated special air hoses function as air ducts. This air duct set is supplied as standard with the AIR STATION OLWI series. A standard integral switching module divides the heat provided between heating and DHW as needed, while an integral high efficiency circulation pump circulates the heat to the tank of your choosing. We recommend the Öko-Master Unifresh freshwater tank for this purpose, to ensure hygienic, freshly heated DHW in sufficient quantities at all times.



# **GEOTHERMAL HEAT PUMPS**

The ground acts as a free and plentiful heat store, making it an ideal heat source. Solar energy and heat stored in the ground are extracted using horizontal collectors or geothermal probes.



A distinction is made between direct evaporation and brine systems, depending on the heat transfer medium in the geothermal collector.

The OCHSNER TERRA DX **DIRECT EXTRACTION SYSTEM** uses horizontal collectors as standard. There is no need for a brine circuit, as required in brine systems, comprising a circulation pump, heat exchanger and expansion vessel.

All refrigeration components are brazed. This results in even greater operational reliability, as there are fewer components as well as improved system efficiency and lower running costs.

OCHSNER pioneered this technology 30 years ago. Thousands of systems, up and running without faults for decades, are proof of the company's expertise and experience in this sector. In 1992, OCHSNER was awarded the Austrian State Prize for Innovation for its direct extraction technology.

With commissioning, servicing and maintenance undertaken exclusively by certified OCHSNER Customer Service engineers, you are always assured of the highest possible energy efficiency and operational reliability.

In the OCHSNER TERRA **BRINE SYSTEM**, a water/antifreeze mixture circulates as a heat transfer medium in the collectors, absorbing heat and transporting it to the heat pump.

OCHSNER uses nothing less than high efficiency energy saving circulation pumps for this. Generously sized evaporators ensure minimal transfer losses to the refrigerant. Stainless steel plate heat exchangers are used as standard to ensure durability and a long service life.

# **5-310**

**1992** AUSTRIAN STATE PRIZE FOR INNOVATION



# OCHSNER AQUA WATER/WATER HEAT PUMPS

Groundwater heat pumps hold a special position in the heat pump sector. These systems draw heating energy not from the ground or the ambient air, but directly from groundwater.



## WITH COOLING FUNCTION ON REQUEST

#### SPEED CONTROLLED SUB-Mersible Pumps for Reduced Power Consumption

SHELL AND TUBE HEAT EX-Changers for extended Limits of use incl. Service Valves with flushing nozzles

HIGH EFFICIENCY CIRCULATION PUMPS

#### FLOW SENSOR WITH Continuous measurement

SOFT START WITH PHASE AND Rotational direction monitoring integrated as standard



#### HEAT PUMPS ACHIEVE THE HIGHEST COPS WITH THIS HEAT SOURCE, AS GROUNDWATER HAS A FAIRLY CON-SISTENT TEMPERATURE OF BETWEEN 8 AND 12°C ALL YEAR ROUND.

As groundwater has a consistent source temperature, its temperature level must be raised less than that of other heat sources for heating.

Permits are required from relevant water authorities to use groundwater as a heat

source for a heat pump. The well builder, drilling contractor or your OCHSNER system partner can assist you with your application. Several conditions must be met to use groundwater as a heat source:

• sufficient amount of water

- water quality (analysis)
- permit from the local water board
- supply and return wells



#### **EVEN GREATER RELIABILITY**

OCHSNER offers a special series based on **SHELL AND TUBE HEAT EX-CHANGERS** for even less sensitivity to water as the heat source.

#### THANKS TO

- Especially resistant materials
- Improved corrosion resistance due to thicker walls
- Less sensitivity to contamination from suspended sediment in the groundwater
- The possibility of flushing the heat exchanger/source system in compliance with relevant standards

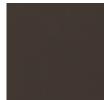
THE OPERATOR IS ASSURED OF EVEN GREATER EFFICIENCY AND OPERATIONAL RELIABILITY.



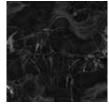
VULCANO



SPACE



AMARON



MYTHOS

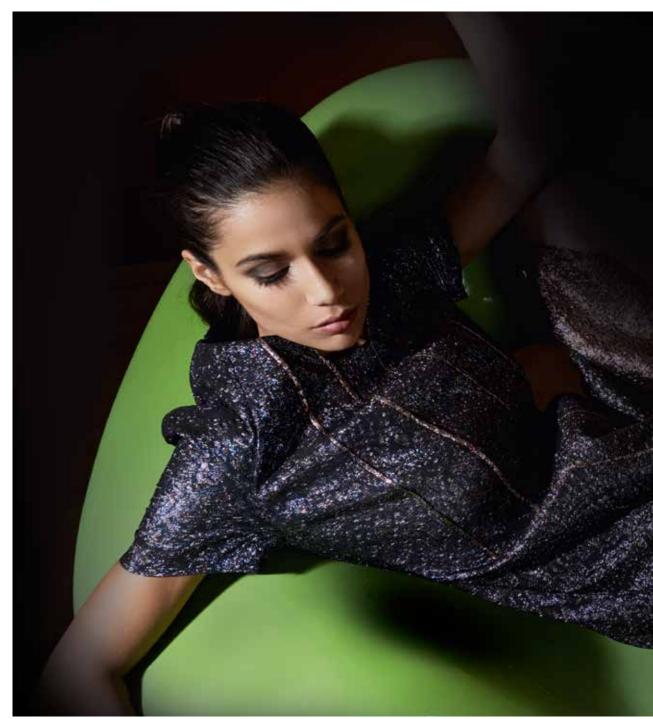


HAVANNA



MUSKAT

SURFACE DESIGNS





The customised solutions listed here are optional features which incur an additional charge. Further details are available from your OCHSNER system partner. Due to the printing process, the surfaces and colours depicted here may differ from the original surface finishes.

By incorporating natural, warm materials, a technical product can be transformed into a piece of furniture – why not configure your heat pump to suit your own personal preferences by selecting from the range of leather, wood or marble decorative trim effect? Silk matt and

satin finish surfaces make your heat pump pleasant to the touch.

# ATURE IS FULL OF COLOUR AS INDIVIDUAL AS YOUR HOME

Make your heat pump as versatile as your home. The new generation of OCHSNER heat pumps is designed to reduce sound emissions, save space and cut down on the time and effort needed for installation, while also optimising individuality and colour choice.



# OCHSNER MULTI TOWER T200 SPACE SAVING COMPACT SOLUTION

AS OCHSNER TANKS AND HEAT PUMPS ARE PERFECTLY MATCHED, YOU ARE GUARANTEED MAXIMUM EFFICIENCY, OPERATIONAL RELIABILITY, A LONG SERVICE LIFE AND INEXPENSIVE OPERATION.

OCHSNER MULTI TOWER ALL IN ONE

Installation made easy.

operational reliability.

Ideal in tight spaces. For even greater

Distinctive lines and gently rounded edges are the features that characterise the design of the OCHSNER MULTI TOWER – the combined solution where space is tight. On a surface area of barely half a square metre, it combines

the heat pump indoor unit, controller and hydraulics, as well as a buffer tank for heating and cooling, plus an enamelled DHW tank with signal anode, and all in a single appliance.

All hydraulic components such as the high efficiency circulation pumps for buffer charging and heating, and the 3-way switching and safety valves, are integrated in the MULTI TOWER as standard.

On request, a capacitive touchscreen can be supplied, allowing operation on the appliance itself, simultaneously making the heat pump internet-ready.

This appliance is optimised for quick and straightforward installation by means of fittings with flat gaskets. If the installation location is difficult to access, the appliance can be split into two and each section transported separately.

In combination with panel heating systems, the OCHSNER MULTI TOWER is also available with a cooling function.

## MULTIFUNCTIONAL

The MULTI TOWER can be used with all heat pumps in the OCHSNER AIR EAGLE and OCHSNER AIR BASIC ranges.

# öko-master tank series® **HEATING AND DHW – ANY TIME**

A perfect heating system needs more than just a good heat pump – it also requires the right storage solution.

## WITH ITS WIDE SPECTRUM OF TANKS, OCHSNER OFFERS THE RIGHT SOLUTION FOR EVERY APPLICATION.

#### **HEAT PUMP BUFFER TANKS\***

MCH1SMMS

**DRMSNIF** 

Buffer tanks (thermal stores) are used to absorb heat, store it with minimal losses and transfer it to the heating system on demand. OCHSNER recommends the use of special heat pump buffer tanks for optimum operation of your heat pump system. Their connection dimensions are perfectly matched to the heat pump.

#### **UNIFRESH® FRESH DHW HEATERS**

The Unifresh® fresh DHW heater combines high hygiene standards with economic efficiency and can be used purely as a DHW module or as a buffer tank with integral DHW generation.

- Suitable for heat pumps and/or boilers
- High delivery capacity due to extended corrugated indirect coil made from stainless steel with a large surface area for DHW heating
- Legionella bacteria cannot develop thanks to instantaneous DHW heating
- OCHSNER stratification principle for optimum stratification and heating system efficiency when used as a buffer tank
- Sufficient connections for various heat generators or heating systems, thermometers, sensors, electric immersion heater, etc.
- High quality rigid PU foam insulation
- Can be combined with solar thermal systems ("Unifresh Solar" model)

#### **HEAT PUMP FRESHWATER MODULES**

Heat pump freshwater modules provide the same functionality as the Unifresh®, since they also prevent the risk of legionella bacteria developing in the DHW tank, as only fresh water is heated.

Heat pump freshwater modules can be connected to any heat pump buffer tank.

#### HEAT PUMP DHW TANKS

If domestic hot water is heated by a heating heat pump instead of a hot water heat pump in the Europa series, this DHW is stored in an external heat pump DHW tank. OCHSNER's OTE home climate manager ensures that sufficient DHW is available at all times, on a priority basis.

In the future, heat pump buffer tanks and heat pump DHW tanks will gain in significance as energy buffers, including with regard to Smart Grid functionality.

\*Professionally designed buffer tanks are already eligible for an additional subsidy in Germany (market incentive programme).

# EUROPA HOT WATER HEAT PUMPS NATURALLY HOT WATER

With a hot water heat pump, you enjoy the benefits of solar energy around the clock, day and night, whatever the weather! Stored in the air or in the ground. The perfect complement to your boiler/tank, a hot water heat pump is also an ideal alternative to solar thermal systems.



YOU WILL FIND DETAILS AND APPLICATION EXAMPLES IN OUR "HOT WATER HEAT PUMPS" BROCHURE AND AT WWW.OCHSNER.COM.

# SAVE AND BENEFIT WITH THE Multi-talented Europa Series!



OCHSNER exclusively offers hot water heat pumps either as split appliances – for separate tanks with up to 500 litres capacity (larger households, commercial enterprises) – or as compact appliances with an integral 300 or 250 litre DHW tank.

## THE EUROPA SERIES OF HOT WATER HEAT PUMPS OFFERS THE FOLLOWING KEY BENEFITS:

- Highly efficient and durable
- Environmentally responsible DHW heating with air/exhaust air or geothermal energy as the heat source
- European EHPA Quality Label
- very quiet running
- Quick positioning and installation: plug in – switch on – ready to go!
- Smart, simple-to-operate control technology with touchscreen (depending on the model)
- DHW up to 65°C in heat pump mode
- Can be combined with PV systems
- Ideal for renovation projects as an addition to existing oil, gas or biomass boilers

#### MORE THAN JUST DHW HEATING

Enjoy all the many other benefits of an OCHSNER hot water heat pump as well. Europa multifunction appliances can also dry, cool and provide ventilation.

## THE EUROPA SERIES MODELS ALSO OFFER THE FOLLOWING UNIQUE FUNCTIONS:

The Europa 333 Genius, Europa 323 DK-EW, Europa 300 L and Europa Mini IWP are already prepared for smart metering thanks to their Smart Grid function.

This means you can exploit the favourable tariffs we expect to see with the power grid of the future, or take advantage now of electricity from your own PV system as your preferred option for DHW heating.

### TIPTRONIC PLUS Controller with Touchscreen

- DHW control with selectable hygiene/comfort function
- Ventilation function with integral speed control
- Real time clock (time programs for DHW, hygiene and ventilation modes)
- Heat pump operation with defrost function for use at air temperatures down to -10°C



EUROPA 333 GENIUS

The Europa 333 Genius is a hot water heat pump with a 300 litre tank volume, Modbus interface and adjustable booster heating element. When hooked up to a building management system or inverter, this combination of components allows for optimised use of on-site PV power.

Winner of the "Energie Genie" innovation award from the Austrian Federal Ministry of Sustainability and Tourism.

Available surplus power up to an electric output of 2100 W can be used on an infinitely variable basis via the heat pump and controllable electric immersion heater, with the energy being stored in the DHW. Depending on the surplus power and storage capacity available, the heat pump is switched ON/OFF and the remainder is regulated via the electric immersion heater. This allows very small amounts of solar energy to be converted into heat. The combination of a heat pump and controllable booster heating element in one appliance makes this concept absolutely unique on the market.

#### EFFECTS ON ENERGY SAVINGS AND ENERGY EFFICIENCY:

Considering the DHW volume and heating from 15°C to 65°C, 17 kWh of energy can be saved with the Europa 333 Genius.

EHPA Quality Label tests on the hot water heat pump performed at the heat pump test centre in Buchs (CH) according to EN 16147 resulted in an impressive COP of 3.8. Even if the full output of the electric heating element is used in addition to the heat pump, the COP is still 1.98 when utilising the maximum available surplus PV power.



# HIGH OUTPUTS - GREAT RESPONSIBILITY HIGH OUTPUTS - GREAT RESPONSIBILITY

OCHSNER has been developing, designing and manufacturing high capacity heat pumps for the highest demands for many years. Industrial plants, data centres, residential complexes and many other customers with challenging requirements trust in the reliable supply of heating and/or cooling energy from OCHSNER high capacity heat pumps. In such facilities, energy supply issues mean much more than simply a cold shower or living room – perhaps even production downtime, data loss or other serious system problems with hugely negative consequences in some cases.

# **30-2500**

## PORTFOLIO

With a broad heating output range of 30 to 2500 kW (W10/W35), our engineers can always choose the most suitable size of heat pump. Dual compressor heat pumps are used in systems with very high heating and/or cooling demands and a wide output control range.

There are practically no limits to the working temperature with OCHSNER high capacity heat pumps. Source temperatures of between -10°C and +80°C and flow temperatures of up to 130°C speak for themselves and further underline OCHSNER's technological leadership.

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#### OUR HIGH CAPACITY HEAT PUMPS ONLY EVER Leave the factory after exhaustive functional testing

OCHSNER has always been aware of its responsibility in this regard and is uncompromising in its approach to quality assurance and factory acceptance. Our high capacity heat pumps only ever leave the factory after exhaustive functional testing confirms they are fully operational and ready to reliably carry out their work for many years to come.

#### DESIGN

Hydraulic design principles apply equally to standard heating heat pumps and high capacity heat pumps. Having been involved in many different projects with the highest energy supply requirements over the years, our engineers have built up additional expertise in large scale system design. We are happy to advise you on your construction project – let's work together to explore the limits of high capacity heat pump physics!

#### TECHNOLOGY

Very few technical components can endure vibration-induced stress for long. That is why OCHSNER has always insisted on low-vibration screw compressors with purely rotary movement for refrigerant compression. This minimises the stress on all components, including electronic parts in control cabinets.

Quite simply, a heat pump cannot work without reliable heat transfer on both the source and heating sides. OCHSNER therefore chooses the highest grade system components here as well, such as robust shell and tube heat exchangers – optimised for maximum operational reliability and COPs. Advanced technology made in Austria!

#### **MULTI SERIES**

Even with tight spaces and difficult installation situations – when renovating, for example – high capacity heat pumps can still be used to supply energy. The new "Multi" series offers a modular design in impressively compact dimensions. With precise matching to the respective demand, up to four modules are used to supply environmentally friendly heating energy. The modules can be transported separately and then combined on site to deliver their full output. High redundancy is achieved through completely independent operation of the modules.

#### **MEGATRONIC CONTROLLER**

Mens sana in corpore sano – a healthy mind in a healthy body. This phrase from Roman times applies in a figurative sense to OCHSNER high capacity heat pumps as well. With the powerful "Megatronic" controller, a heat pump can maximise its full capacity to reliably deliver heating and cooling energy. Special solutions are usually quickly implemented with little bureaucracy – so lifelong learning is also a fact of life for our mastermind controller: the Megatronic.

#### HYDRAULIC MODULE

A multitude of operational requirements can be reliably met with the optional hydraulic module: heating, cooling, heating AND cooling, free cooling, and much more. The intelligent controller automatically determines the required demand and sets the actuators accordingly. The hydraulic module, like the heat pump, is factory tested and delivered in a fully operational state with all necessary pumps, plate heat exchangers, valves, etc. Tight spaces, short installation times on site and reliable hydraulic functions make the OCHSNER hydraulic module the first choice for sophisticated construction projects.

# OTE HOME CLIMATE MANAGER



OCHSNER RoomTerminal

## **OTE FEATURES AT A GLANCE:**

- Full graphic with plain text display
- Simplest operation with just two buttons and a straightforward, logical menu structure
- Weather-compensated or room temperature-dependent control of the heating curve
- Flexibly programmable timer
- Reliable DHW convenience using adaptive DHW control
- Anti-legionella function for DHW heating

- Central matching of all system components
- Heating mode automatically switched off in summer
- Safety management for maximum operational reliability and convenience
- Flow monitoring as standard for maximum operational reliability
- Internet-based remote control for worldwide, remote access with the RoomTerminal version (see photo)

OCHSNER focused on achieving a highly user friendly concept in its OTE home climate manager for heat pump system control. Advanced technology offers you the greatest convenience, maximum energy efficiency and the highest degree of operational reliability.

#### STRAIGHTFORWARD OPERATION THROUGH INTERACTIVE COMMUNICATION

The plain text display guides you safely through the menu. Clear graphics illustrate the system. Along with all functions for the heat pump, the OTE controller also universally regulates DHW heating, cooling mode and swimming pool heating. Additional heat generators such as boilers and other heat consumers can also be controlled.

## OCHSNER ROOMTERMINAL WITH TOUCHSCREEN (optional)

Operate your heating system from the convenience of your living room or anywhere in the world! The OCHSNER RoomTerminal with the latest capacitive touchscreen technology offers outstanding ease of use in a modern design. The device is surface mounted to cater for the integral temperature and humidity sensors, while a cable provides a reliable connection.

## **CONVENIENTLY FROM** YOUR LIVING ROOM OR ANYWHERE IN THE WORLD

The RoomTerminal version allows you to easily and quickly incorporate the heating system into your home network and control everything from your PC, tablet or smartphone.



\*Function also depends on the internet/mobile provider and the system user's network firewall settings

# OCHSNER CUSTOMER SERVICE ALWAYS THERE FOR YOU!

Our support does not end once a system is sold. Our customers still continue to receive professional and reliable care from the experts within OCHSNER's own technical customer service team.\*

#### COMMISSIONING

Our technical customer service team commissions your OCHSNER heating heat pump and provides on-site system training. Your new heat pump system is matched to your individual circumstances and conditions.

#### **LEAKAGE TEST**

Heat pumps are classed as refrigeration equipment and are partially subject to the provisions of the F-gas Regulation (EU 517/2014). Your OCHSNER Customer Service would be pleased to carry out any required tests. Please check the terms on our website at www.ochsner.com. The refrigerants used in our heat pumps are non-combustible, non-toxic and ozone-neutral.

#### AVAILABILITY

The OCHSNER technical customer service team is available to you in the main markets across all of Austria, Germany, Poland and Switzerland 365 days a year, including Sundays and public holidays. The customer service hotline numbers are listed below and at www.ochsner.com.

#### **SPARE PARTS**

Our Customer Service engineers always carry the most frequently needed spare parts in their service vehicles. More than 2000 products are also available immediately for express dispatch from our central spare parts warehouse.

#### HEAT PUMP MAINTENANCE

To ensure that your investment is safeguarded over the long term, we recommend regular maintenance of your heat pump system by OCHSNER Customer Service. This assures you of permanently low running costs, extends the service life of your system and prevents possible faults. A correctly performed service not only helps to save energy but also protects the environment.

Furthermore, statutory regulations require regular testing and maintenance of heating systems by the operator. You can rely on OCHSNER Customer Service, which will check the appliance's functionality, efficiency and safety features, as well as the equipment used to control and regulate the system.

#### CONTINUITY WITH A MAINTENANCE CONTRACT

A maintenance contract is a good way to ensure regular inspection and care of your heat pump. A duly completed log also documents the results of operations and the condition of the appliance.

#### **UP TO SEVEN YEAR MANUFACTURER'S WARRANTY**

When you opt for a maintenance contract, OCHSNER's statutory warranty can be upgraded to a manufacturer's warranty lasting up to seven years. If you would like individual advice on this, simply contact us using one of the options below.

Our Customer Service department provides high quality services across the board. Our technicians receive continuing professional training and are certified by external state-approved institutes for the work they perform for our customers.

The OCHSNER Customer Service department is the only specialist heat pump service that is exclusively staffed by employees who meet all approval requirements in respect of refrigeration. This means we can find the right solution for a specific situation on the spot, without having to consult with outside experts.

OCHSNER customers have the security of knowing that their investment is always in the best hands – with our heat pump experts.

#### YOU CAN REACH OUR CUSTOMER SERVICE DEPARTMENT VIA THESE HOTLINES:

Austria+43 (0)5 04245 - 499Germany+49 (0)69 256694 - 495Switzerland+41 (0)800 100 911

kundendienst@ochsner.at kundendienst@ochsner.de kundendienst@ochsner.com

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



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# OCHSNER HIGH TECH HEAT PUMPS SPECIFICATION

#### OCHSNER HIGH TECH HEAT PUMPS

APPLIANCE TYPE	DIM	ENSIONS	FLT	PERFORMANCE FIGURES		ENERGY	VERSION
	Indoor unit [HxWxD] [mm]	Outdoor unit [HxWxD] [mm]	max.	Heating output [kW]	COP EN 14511	EFFICIENCY CLASS	
AIR/WATER HORIZONTAL SPLIT SYSTE	MS			Standard po	int A2/W35		OCHSNER AIR
OCHSNER AIR 7	1285 x 600 x 681	1080 x 1290 x 960	65°C	5.4	4.1	35°C A++	Heating/cooling
OCHSNER AIR 11*	1285 x 600 x 681	1080 x 1290 x 960	65°C	8.8	4.0	35°C A++	Heating/cooling
OCHSNER AIR 18*	1285 x 600 x 681	1080 x 1290 x 960	65°C	13.2	4.4	35°C A+++	Heating/cooling
OCHSNER AIR 23	1285 x 600 x 681	1080 x 2220 x 960	65°C	17.2	4.2	35°C A++	Heating/cooling
OCHSNER AIR 29	1285 x 600 x 681	1080 x 2220 x 960	65°C	21.8	4.2	35°C A++	Heating/cooling
OCHSNER AIR 41	1285 x 600 x 681	1080 x 2220 x 960	65°C	30.3	4.1	35°C A++	Heating/cooling
OCHSNER AIR 80 C13A	1900 x 680 x 680	1149 x 2965 x 1288	65°C	65.1	3.6	35°C A+	Heating/cooling
OCHSNER AIR 80 C22A	1900 x 680 x 680	2 × 1080 × 2220 × 960	65°C	65.1	3.6	35°C <b>A+</b>	Heating/cooling
AIR/WATER HEAT PUMPS							OCHSNER AIR EAGLE
OCHSNER AIR EAGLE 414	1150 x 400 x 650	1260 x 1480 x 965	65°C	5.5	4.0	35°C A++	Heating/cooling
OCHSNER AIR EAGLE 717	1150 x 400 x 650	1260 x 1480 x 965	65°C	7.1	4.2	35°C A++	Heating/cooling
AIR/WATER HEAT PUMPS						·	OCHSNER AIR BASIC
OCHSNER AIR BASIC 109	1150 x 400 x 650	610 x 869 x 290	55°C	3.09	3.35	35°C A++	Heating/cooling
OCHSNER AIR BASIC 211	1150 x 400 x 650	865 x 1040 x 340	55°C	5.5	3.70	35°C A++	Heating/cooling
OCHSNER AIR BASIC 416	1150 x 400 x 650	1377 x 950 x 340	55°C	9.27	3.23	35°C A++	Heating/cooling
OCHSNER AIR BASIC 618	1150 x 400 x 650	1377 x 950 x 340	55°C	9.27	3.23	35°C A++	Heating/cooling
COMPACT AIR/WATER HEAT PUMPS						0	CHSNER AIR STATION
OCHSNER OLWI 9 AIR STATION	1820 x 800 x 1240	-	60°C	8.1	3.8	35°C A++	Heating
OCHSNER OLWI 13 AIR STATION	1820 x 800 x 1240	-	60°C	11.3	3.8	35°C A++	Heating
OCHSNER OLWI 18 AIR STATION	1820 x 800 x 1240	-	60°C	15.7	3.6	35°C 🗚	Heating
GEOTHERMAL HEAT PUMPS DIRECT EX	(TRACTION			Standard poi	nt G-1/W35		OCHSNER TERRA DX
OCHSNER TERRA DX 5	1285 x 600 x 681	-	65°C	5.2	4.1	35°C A+++	Heating
OCHSNER TERRA DX 8	1285 x 600 x 681	-	65°C	6.8	4.2	35°C A+++	Heating
OCHSNER TERRA DX 11	1285 x 600 x 681	-	65°C	10.1	4.6	35°C A+++	Heating
OCHSNER TERRA DX 13	1285 x 600 x 681	-	65°C	11.3	4.4	35°C A+++	Heating
OCHSNER TERRA DX 15	1285 x 600 x 681	-	65°C	14.0	4.4	35°C A+++	Heating
OCHSNER TERRA DX 18	1285 x 600 x 681	-	65°C	16.3	4.4	35°C <b>A+++</b>	Heating
GEOTHERMAL HEAT PUMPS BRINE				Standard po	int B0/W35		OCHSNER TERRA
OCHSNER TERRA 6*	1285 x 600 x 681	-	65°C	5.8	4.8	35°C <b>A+++</b>	Heating/passive cooling
OCHSNER TERRA 8*	1285 x 600 x 681	-	65°C	7.5	4.8	35°C <b>A+++</b>	Heating/passive cooling
OCHSNER TERRA 11*	1285 x 600 x 681	-	65°C	10.3	5.0	35°C A+++	Heating/passive cooling
OCHSNER TERRA 14*	1285 x 600 x 681	-	65°C	13.2	4.8	35°C <b>A+++</b>	Heating/passive cooling
OCHSNER TERRA 18	1285 x 600 x 681	-	65°C	17.0	4.5	35°C A+++	Heating/passive cooling
OCHSNER TERRA 27	1285 x 600 x 681	-	65°C	26.1	4.5	35°C A+++	Heating/passive cooling

APPLIANCE TYPE	DIMENSIONS	FLT	PERFORMAN	CE FIGURES	ENERGY	VERSION
	[HxWxD] [mm]	max.	Heating output [kW]	COP EN 14511	EFFICIENCY CLASS	
GEOTHERMAL HEAT PUMPS BRINE			Standard poi	int B0/W35		OCHSNER TERRA
OCHSNER TERRA 40 CPLA	1900 x 680 x 680	65°C	40.4	4.7	35°C <b>A+++</b>	Heating/cooling
OCHSNER TERRA 40 HPLA	1900 x 680 x 680	65°C	40.4	4.7	35°C <b>A+++</b>	Heating
OCHSNER TERRA 61 CPLA	1900 x 680 x 680	65°C	62.4	4.4	35°C <b>A+++</b>	Heating/cooling
OCHSNER TERRA 61 HPLA	1900 x 680 x 680	65°C	62.4	4.4	35°C <b>A+++</b>	Heating
OCHSNER TERRA 76 CPLA	1900 x 680 x 680	65°C	77.5	4.4	35°C <b>A++</b>	Heating/cooling
OCHSNER TERRA 76 HPLA	1900 x 680 x 680	65°C	77.5	4.4	35°C <b>A++</b>	Heating
OCHSNER GMSW 7 HK PLUS*	1150 x 600 x 650	65°C	7.1	4.3	35°C <b>A++</b>	Heating/cooling
OCHSNER GMSW 10 HK PLUS*	1150 x 600 x 650	65°C	10.3	4.6	35°C <b>A+++</b>	Heating/cooling
OCHSNER GMSW 12 HK PLUS	1150 x 600 x 650	65°C	12.1	4.5	35°C <b>A+++</b>	Heating/cooling
OCHSNER GMSW 15 HK PLUS	1150 x 600 x 650	65°C	14.2	4.4	35°C <b>A+++</b>	Heating/cooling
OCHSNER GMSW 17 HK PLUS	1150 x 600 x 650	65°C	16.7	4.6	35°C <b>A+++</b>	Heating/cooling
OCHSNER GMSW 28 HK	1150 x 600 x 650	55°C	22.2	4.3	35°C <b>A+++</b>	Heating/cooling
OCHSNER GMSW 38 HK	1150 x 600 x 650	55°C	28.7	4.4	35°C <b>A+++</b>	Heating/cooling

OCHSNER AQUA		nt W10/W35	Standard po			WATER/WATER HEAT PUMPS
Shell and tube heat exchanger, heating	35°C <b>A+++</b>	5.1	6.7	65°C	1150 x 400 x 650	OCHSNER GMWW 7 plus
Shell and tube heat exchanger, heating	35°C • A+++	5.8	10.4	65°C	1150 x 400 x 650	OCHSNER GMWW 11 plus*
Shell and tube heat exchanger, heating	35°C <b>A+++</b>	5.8	12.3	65°C	1150 x 400 x 650	OCHSNER GMWW 14 plus*
Shell and tube heat exchanger, heating	35°C <b>A+++</b>	5.9	16.6	65°C	1150 x 600 x 650	OCHSNER GMWW 17 plus*
Shell and tube heat exchanger, heating	35°C <b>A+++</b>	5.9	22.1	65°C	1150 x 600 x 650	OCHSNER GMWW 22 plus
Heating	35°C <b>A+++</b>	5.7	35.3	65°C	1150 x 600 x 650	OCHSNER GMWW 36 plus
Heating	35°C • A+++	5.8	53.9	65°C	1900 x 680 x 680	OCHSNER AQUA 54 HPLA
Heating/cooling	35°C <b>A+++</b>	5.8	53.9	65°C	1900 x 680 x 680	OCHSNER AQUA 54 CPLA
Heating	35°C <b>A+++</b>	5.3	84.5	65°C	1900 x 680 x 680	OCHSNER AQUA 83 HPLA
Heating/cooling	35°C <b>A+++</b>	5.3	84.5	65°C	1900 x 680 x 680	OCHSNER AQUA 83 CPLA
Heating	35°C <b>A+++</b>	5.2	98.8	65°C	1900 x 680 x 680	OCHSNER AQUA 97 HPLA
Heating/cooling	35°C <b>A+++</b>	5.2	98.8	65°C	1900 x 680 x 680	OCHSNER AQUA 97 CPLA

#### OCHSNER HOT WATER HEAT PUMPS

APPLIANCE TYPE	DIMENSIONS	to EN 16147	to VDI 4650-1: 2016	LOAD PROFILE	MAX. WATER TEMPERATURE	ENERGY EFFICIENCY CLASS	VERSION
HOT WATER HEAT PUMPS			2010				OCHSNER EUROPA
OCHSNER EUROPA 333 GENIUS	650 x 1850	3,82	4,73	XL	65	A+	DHW heating
OCHSNER EUROPA 300 L	650 x 1850	3.4	4,25	XL	65	A+	DHW heating
OCHSNER EUROPA 250 DK	657 x 1625	2,71	3,38	L	65	A+	DHW heating
OCHSNER EUROPA 250 DKL	657 x 1625	2,71	3,38	L	65	A+	DHW heating
OCHSNER EUROPA MINI IWP	650 x 426	3,16	4,34	XL	60	A+	DHW heating
OCHSNER EUROPA MINI IWPL	650 x 426	2,71	3,38	L	60	A+	DHW heating
				L			





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