



2024/2025

# PRODUCT CATALOGUE



From  
Development Phase  
to Final Product





Company headquarter and assembly plant in Backnang

## Kroll Energy GmbH – Your Partner for Efficient Heating and Air Conditioning Solutions

For over 60 years, **Kroll Energy GmbH** has stood for innovative solutions in the fields of heating, air conditioning and dehumidification/construction drying with high technical and sustainable standards.

Originally starting in 1963 with a solution for the utilisation of waste oil in car workshops, through the further development of full condensing technology to the development of a mobile air-to-air heat pump, our

engineers have been working towards one goal: to solve current problems through Swabian inventiveness. Quality, diligence and resourcefulness are at home with us and form the basis of our future-oriented progress.

With our MWK40, we have finally achieved a revolution: An automatically switching, mobile air-to-air heat pump that can heat and cool your properties in a completely CO<sub>2</sub>-neutral way thanks

to the absence of fossil fuels and purely electric operation. Thanks to the variable operating range between -10°C and +40°C ambient temperature, you can even use it all year round. Our MW40 and MW80 heat pumps are designed for extreme temperature ranges of up to -20°C – but without the cooling function. This allows the CO<sub>2</sub> footprint of properties to be reduced as early as the construction phase. Find out more from page 7.

### Mobile air-to-air heat pumps from Kroll Energy GmbH – a symbol of exclusivity and top performance on the market – made in Germany!



As the unchallenged market leader in the field of air-to-air heat pumps, Kroll Energy GmbH sets standards with its unique and innovative heating and cooling technology. Our MWK40, MW40 and MW80 models are characterised by independent research and development, careful assembly and thorough testing. As a result, our products are characterised by the highest quality, performance and sustainability.

User-friendliness and customer satisfaction are our top priorities. With intuitive operating elements and smart app functions, managing your heat pump is child's play.

**Experience maximum comfort according to your individual needs!**



**Kroll Energy GmbH**

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# Intelligent Air Conditioning Solutions for Industrial Applications

**Climate change and growing environmental awareness are particularly noticeable in the heating and air conditioning sector. Consequently, sustainable products and solutions are increasingly becoming the focus of attention, as air conditioning and building technology should contribute to reducing the ecological footprint more and more in the future.**

We, **Kroll Energy GmbH**, first specialised in air conditioning and ventilation

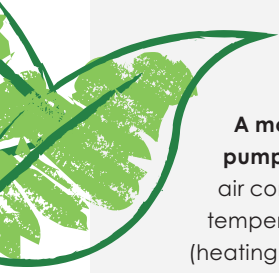
solutions in the industrial sector over 60 years ago and are still one of the leading companies in the industry today. Whether heating, cooling, or dehumidification, we develop a customised solution for every requirement in commercial properties. In doing so, we rely on German engineering expertise and quality. From development to production to service, the entire value chain is in our hands. This enables us to react flexibly to the changing requirements of our customers and at the same time

ensure that our products meet the highest quality.

Our research and development department is constantly working on innovations to ensure that our products always meet the highest standards. We place particular emphasis on integrating the latest technologies to ensure maximum energy efficiency and performance.

We have a sustainable, mobile innovation in our product portfolio:





**A mobile air-to-air heat pump** that enables fossil-free air conditioning at ambient temperatures from  $-20^{\circ}\text{C}$  (heating: MW model) to  $+40^{\circ}\text{C}$  (heating and cooling: MWK model).

The **MW/MWK series** complements our existing product range and sets an example for the future of air conditioning and heating technology. You can continue to rely on our solutions for new or existing buildings. Even during the construction of a

property, energy and resources can be saved with the help of mobile solutions for construction site air conditioning or accelerating the drying process.

When developing our products, we can draw not only on many years of experience, but also on practical relevance through customer proximity. Our customers' individual wishes often result in optimised devices or completely new products for specific requirement profiles.

Our customers' satisfaction and our "Made in Germany" quality standards are our most important corporate values: **development, production, delivery and subsequent service remain in our hands ensuring a fast response to current requirements at all times.**



**Would you like to find out more about us and our services?**

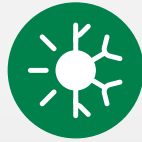
Then watch our company video, in which we take you on a tour of our production facilities and offices.



Watch it on Youtube



## Areas of Application



**MOBILE  
Heat Pumps**



**STATIONARY  
Heaters/  
Hot Air Generators**



**MOBILE  
Heaters/  
Hot Air Generators**



**Construction  
Dryer**

### GARAGE AND WORKSHOP

|                        |   |   |   |  |
|------------------------|---|---|---|--|
| Large-area heating     | ● | ● | ● |  |
| Large-area cooling     | ● |   |   |  |
| Large-area ventilation | ● | ● | ● |  |
| Spot heating           |   |   | ● |  |
| Spot ventilation       |   |   | ● |  |

### CONSTRUCTION SITE

|                        |   |  |   |   |
|------------------------|---|--|---|---|
| Large-area heating     | ● |  | ● |   |
| Large-area cooling     | ● |  |   |   |
| Large-area ventilation | ● |  | ● |   |
| Spot heating           |   |  | ● |   |
| Spot ventilation       |   |  | ● |   |
| Dehumidification       |   |  |   | ● |

### INDUSTRY AND EVENT

|                                    |   |   |   |  |
|------------------------------------|---|---|---|--|
| Large-area heating                 | ● |   | ● |  |
| Large-area cooling                 | ● |   |   |  |
| Large-area ventilation             | ● |   | ● |  |
| Spot ventilation                   |   |   | ● |  |
| Production and storage halls       | ● | ● | ● |  |
| Large capacity tent                | ● |   | ● |  |
| Emergency/<br>Transitional heating | ● |   | ● |  |

### AGRICULTURE

|                           |   |   |   |  |
|---------------------------|---|---|---|--|
| Large-area heating        | ● |   | ● |  |
| Large-area cooling        | ● |   |   |  |
| Large-area ventilation    | ● | ● | ● |  |
| Stable and barn           | ● | ● | ● |  |
| Animal rearing facilities | ● | ● |   |  |
| Landscaping               | ● |   | ● |  |
| Greenhouses               | ● | ● |   |  |

# MOBILE Heat Pumps



MWK

MW





## MOBILE Heat Pumps **MWK, MW**

Environmentally friendly heating and cooling for all demands



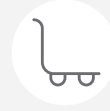
Environmentally friendly



Economical



Fossil-free



Mobile



Compact

The transformation in heat supply from fossil fuels to regenerative concepts faces challenges, especially in temporary operating conditions, as the complex solutions often cannot be combined with the necessary flexibility. The unstable price development of fossil fuels and increasing CO<sub>2</sub> taxation make heat pumps an uncomplicated and sustainable yet cost-effective heating solution. Depending on the

version, our robust and easily transportable air-to-air heat pumps enable heating as well as heating and cooling completely without fossil fuels. Heating oil and gas are no longer required – an electricity connection is all that is needed.

Our **MWK40** enables year-round temperature control with just one unit – mobile heating at up to –10°C and

cooling at up to +40°C. Our **MWK40** and **MW80** heat pumps are designed for extreme temperature ranges of down to –20°C – but without a cooling function. Thanks to their air-to-air functionality, there is generally no need for complex room installations. This eliminates the need for heating boilers, cooling units and radiators as well as their pipework distributions with pumps, fittings and control technology.

### Even in summer, you can always keep a cool head:

Our mobile heating/cooling combination **MWK40** defies outside temperatures of up to +40°C and cools your properties without any problems.



### Area of Application

- (Large) construction sites
- Warehouses and production halls
- Hangars
- Events and large-scale events
- (Festival) tents
- Agriculture
- Commercial, municipal and private requirements as temporary heating, replacement heating in the event of stationary heating systems or for temperature control/air conditioning.



### Honoured

The Plus X Award is one of the **world's largest innovation awards for technology, sport and lifestyle**, with independent expert jurors from over 80 sectors and more than 700 participating international brands.

The specialist jury, consisting of editors, designers and industry experts, awards various seals of approval to products that are characterised by genuine quality and innovation.

**Our MWK40 has earned the seal of approval in five of a total of seven categories.**







Heat pumps installed outdoors heat the room air directly to your desired target temperature via a circulating air flow. Mobile air-to-air heat pumps have been developed for quick connection and easy installation. This means that the temperature control solution is ready for use within a very short time. No tank systems, no storage of fuel and considerably less maintenance – thanks to air-to-air

operation, you don't have to worry about chillers as with air-to-water heat pumps. Intake and exhaust nozzles are recessed in the housing and there are no protruding components. Safe loading is guaranteed by the forklift truck mountings.

The high available air pressure enables long hose connections. Air-to-air heat pumps can also be used for stationary

applications with a permanently installed air duct system.

All device types can be clearly managed, monitored and billed using a web application and a mobile internet connection.

#### Features of the MWK40

- Scroll compressor
- Refrigerant R410A
- Axial fan with sickle blades
- Centrifugal blower
- Speed-controlled fan via frequency inverter for optimum air volume
- 200 Pa max. available air pressure
- Purely electrical operation with 400 V/3N~/50 Hz/31 A
- Pressure transmitter for low- and high-pressure side
- Dimensions: 2.400 x 1.200 x 2.200 mm (L x W x H)
- Nominal heat output 42,9 kW
- Nominal cooling output 33,5 kW
- Operating range outside temperature  $-10^{\circ}\text{C}$  to  $+40^{\circ}\text{C}$
- Volume flow 8.000 m<sup>3</sup>/h
- Protection IP44
- Sound pressure level 69 db(A)
- Refrigerant: Filling capacity 17 kg



#### Info

Even under extreme conditions of down to  $-10^{\circ}\text{C}$  or  $-20^{\circ}\text{C}$  outside temperature, our mobile heat pumps heat your properties 100 percent fossil-free – for a 100 percent comfortable room temperature.

Europe-wide remote control via web browser.

Special colours available on request.

MW80



## Technical data

### Power range 14 to 81 kW

|          |   | MWK40               | MW40             | MW80             |
|----------|---|---------------------|------------------|------------------|
| Item no. |   | 300686              | 301531           | 301532           |
|          | € | <b>48.000,00</b>    | <b>52.000,00</b> | <b>84.000,00</b> |
| Function |   | Heating and cooling | Heating          | Heating          |

### Performance data

| Parameter                                  | Code              | Unit | MWK40 | MW40 | MW80 |
|--|-------------------|------|-------|------|------|
| Nominal heat output                        | (A7/L35)          | kW   | 42,9  | 42,4 | 96,7 |
| Heat output                                | (A2/L35)          | kW   | 37,2  | 38,2 | 88,3 |
| Heat output                                | (A-7/L35)         | kW   | 29,0  | 25,8 | 63,8 |
| Nominal cooling output                     | (A30/L12)         | kW   | 33,5  | –    | –    |
| COP <sub>h</sub> without utilizable medium | (A7/L35)          | kW   | 3,31  | 3,07 | 3,06 |
| COP <sub>h</sub> without utilizable medium | (A2/L35)          | kW   | 2,88  | 2,76 | 2,77 |
| COP <sub>h</sub> without utilizable medium | (A-7/L35)         | kW   | 2,24  | 2,30 | 2,34 |
| COP <sub>h</sub> without utilizable medium | SCOP <sub>h</sub> | kW   | 2,88  | 2,72 | 2,73 |
| COP <sub>h</sub> with utilizable medium    | (A7/L35)          | kW   | 2,88  | 2,69 | 2,71 |
| COP <sub>h</sub> with utilizable medium    | (A2/L35)          | kW   | 2,50  | 2,42 | 2,46 |
| COP <sub>h</sub> with utilizable medium    | (A-7/L35)         | kW   | 1,95  | 1,96 | 2,04 |
| COP <sub>h</sub> with utilizable medium    | SCOP <sub>h</sub> | kW   | 2,45  | 2,34 | 2,38 |

### Operating and connection data

| Parameter                               | Unit    | MWK40      | MW40       | MW80       |
|---|---------|------------|------------|------------|
| Operating range outside temperature     | °C      | –10 to +40 | –20 to +25 | –20 to +25 |
| Electrical input                        | V/Ph/Hz | 400/3N~/50 | 400/3N~/50 | 400/3N~/50 |
| Connector plug                          |         | 32A CEE    | 32A CEE    | 63A CEE    |
| Max. rated current                      | A       | 31         | 31         | 62         |
| Protection                              | IP      | 44         | 44         | 44         |
| Max. available air pressure             | Pa      | 200        | 200        | 250        |
| Nominal volume flow                     | m³/h    | 8.000      | 8.000      | 16.000     |
| Sound pressure level                    | dB(A)   | 69         | 69         | 70         |
| Max. amount of condensate (outside air) | l/h     | 10         | 10         | 20         |

### Refrigeration circuit: Refrigerant and compressor

| Parameter              | Unit | MWK40                 | MW40                   | MW80                   |
|------------------------|------|-----------------------|------------------------|------------------------|
| Refrigerant            |      | R410A                 | R454C                  | R454C                  |
| Fill capacity          | kg   | 17                    | 15                     | 26                     |
| GWP                    |      | 2088                  | 148                    | 148                    |
| Classification         |      | A1<br>non-combustible | A2L<br>flame retardant | A2L<br>flame retardant |
| Compressor type        |      | Scroll                | Reciprocating piston   | Reciprocating piston   |
| Max. power consumption | kW   | 13,9                  | 17,0                   | 40,0                   |

### Dimensions and weight

| Parameter            | Unit | MWK40 | MW40  | MW80  |
|----------------------|------|-------|-------|-------|
| Weight               | kg   | 1.020 | 1.080 | 2.750 |
| Length               | mm   | 2.400 | 2.400 | 3.000 |
| Width                | mm   | 1.200 | 1.200 | 2.300 |
| Height               | mm   | 2.200 | 2.200 | 2.350 |
| Connection air hoses | mm   | 525   | 525   | 525   |

A – ambient temperature (°C) | L – room air temperature (°C) | COP – coefficient of performance (h – heating/c – cooling) | SCOP – annual performance

### Accessories

| Accessory   | Item no. | Price (€)     |
|---|----------|---------------|
| Heated condensate hose  | 301701   | <b>723,00</b> |
| Hot air hose 7,6 m, Ø 525 mm form-stable                          | 301622   | <b>812,00</b> |
| Hot air hose with 7,6 m Ø 525 mm fastening strap and carrying bag | 005597   | <b>460,00</b> |



## Key Benefits of our Heat Pumps MWK and MW

01



### What advantages do air-to-air heat pumps offer compared to other heating systems?

Our MWK/MW series has significant advantages over other heating systems:

**Fossil-free and sustainable**

**Fuel savings**

**Cost and energy efficient**, thanks to the absence of classic resistance heaters

**Low maintenance effort**

Ready for use within a very short time

No tank systems or chillers

02



### What factors make our air-to-air heat pumps mobile?

While designing our heat pumps, special emphasis was placed on:

**Compact in one unit**  
**100% electrical operation**

Robust design and high-quality materials

**Easy transportation** with a forklift truck

Space-saving installation, even in confined spaces

Quick connection and uncomplicated commissioning

03



### What aspects ensure that our air-to-air heat pumps are user-friendly?

During development, we placed particular emphasis on the following user-friendly points:

**Plug and play – Easy installation and handling**

Optional services such as **remote query and remote maintenance**

Control via **web app** and helpful additional functions

Intuitive user interface

04



### What temperature ranges can be covered with the air-to-air heat pumps?

Our devices are designed to cope with harsh temperature ranges and withstand even extreme hot and cold environments:

**MWK40**  
**-10°C to +40°C**  
for heating and cooling

**MW40 and MW80**  
**-20°C to +25°C**  
for heating

**Heat with our heat pump technology even at -20°C – without any resistance heaters.**

## Kroll Energy MWK40, MW40 and MW80 Web App Features and Available Extras

Many operational areas –  
one portal to keep an eye  
on everything.

Whether your MWK40,  
MW40 or MW80 is used  
on a construction site, for  
an event tent or as  
a temporary heating  
solution, you can access all  
key parameters via  
web app and manage  
your devices remotely.



## Our Web App for the Kroll Energy MWK40, MW40 and MW80 Monitor and operate your devices conveniently from afar!

The mobile heat pumps from Kroll  
Energy are suitable for many different  
application areas thanks to their  
flexible operating temperatures of  
-20°C to +40°C and their robust design.

We have developed the web app for  
the MWK40, MW40 and MW80 to help  
you manage all your devices at one  
glance.

In the basic version, you can  
manage the location, set the target  
temperature and call up error  
messages at a glance. Our optional  
add-ons allow you to customize the  
web app to suit your individual needs.

Whether you want to stop and restart  
remotely, set daily timers, adjust the  
operating mode or display historical

data for the process parameters –  
**no problem with our web app!**

### Advantages:

- Keep an eye on all devices via  
a portal
- Detect problems proactively and  
help your customers faster
- Flexibly book the functions you  
need for your particular case

Here are a few examples

**MWK 00000000**

ID: MWK00000000  
Client: John Doe  
Location: Stuttgart  
GPS ID: -  
Firmware: -  
Connected: YES  
Current temperature: 1 °C  
Target temp. heating: +20 °C  
Target temp. cooling: +18 °C  
Hysteresis: +1 -K  
Perm. ventilation: Off On  
El. consumption: 35217.9 kWh  
Critical error: NO

**Update data**

Last update: 05/24/2023 11:00:00 am

Show technical data

Hide technical data

|                              |          |
|------------------------------|----------|
| Mode                         | Waiting  |
| Condensation temp.           | 29.2 °C  |
| Evaporation temp.            | -24 °C   |
| Suction gas temp.            | -15.8 °C |
| Pressurised gas temp.        | 76 °C    |
| Ambient inlet temp.          | -0.8 °C  |
| Ambient outlet temp.         | -5.5 °C  |
| Room inlet temp.             | 8.3 °C   |
| Room outlet temp.            | 22.8 °C  |
| Heating capacity             | 72.5 kW  |
| Cooling capacity             | 50.4 kW  |
| Total el. power              | 32.4 kW  |
| Compressor speed             | 70 Hz    |
| Valve position               | 62.8 %   |
| Liquid temperature           | 19.1 °C  |
| Subcooled liquid temperature | 11.7 °C  |
| Total power consumption      | 57.1 A   |
| Compressor power consumption | 40.3 A   |

**Update data**

Last update: 05/24/2023 11:00:00 am

OPERATING TIME

Activate:  On

Start: 8 am

Stop: 18 pm

Starts and stops the heat pump automatically at the specified time.

---

PERMANENT VENTILATION

Perm. vent.:  Off  On

Activates or deactivates permanent ventilation.

---

SYSTEM LOCATION

Stuttgart

**Update location**

Shows the location of the heat pump.

Heating/Cooling Heating Cooling

Shows the current operating mode of the heat pump.

---

EVAPORATION AND CONDENSATION TEMPERATURE

Evaporation: -24 °C

Condensation: 29.2 °C

Shows the current evaporation and condensation temperature.

---

HYSTERESIS

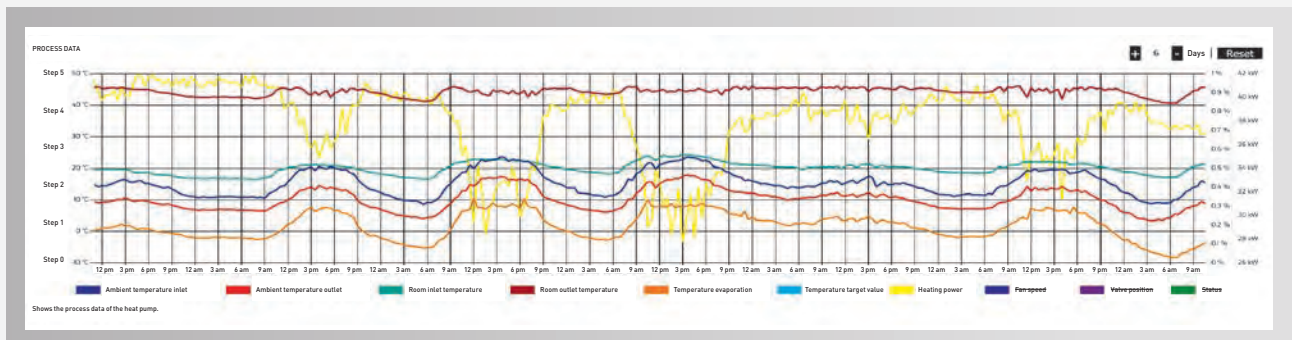
Hysteresis: +1 -K

Allows the hysteresis to be set.

| <p style="text-align: center;"><b>Our Basic Version</b></p> <p style="text-align: center; font-size: 24px; font-weight: bold;">25 €</p> <p style="text-align: center;">per device and per month</p> <p style="text-align: center;">Item no. 301776</p>   | <p style="text-align: center;"><b>Optional Extra Features</b></p> <p style="text-align: center; font-size: 24px; font-weight: bold;">7,95 € *</p> <p style="text-align: center;">*each per function, device and month</p> <p style="text-align: center;">Item no. 301 ...</p>   | <p style="text-align: center;"><b>Optional Extra Features</b></p> <p style="text-align: center; font-size: 24px; font-weight: bold;">15 € **</p> <p style="text-align: center;">**each per function, device and month</p> <p style="text-align: center;">Item no. 301 ...</p>   |
|--|---|---|
| <ul style="list-style-type: none"> <li><input checked="" type="checkbox"/> Enter customer name or serial number</li> <li><input checked="" type="checkbox"/> Display of the Kroll serial number</li> <li><input checked="" type="checkbox"/> Manual location entry</li> <li><input checked="" type="checkbox"/> Operating display of the system online "yes/no"</li> <li><input checked="" type="checkbox"/> Display of the current intake temperature</li> <li><input checked="" type="checkbox"/> Adjustable target temperature</li> <li><input checked="" type="checkbox"/> Adjustable hysteresis</li> <li><input checked="" type="checkbox"/> Display of permanent ventilation "yes/no"</li> <li><input checked="" type="checkbox"/> Display of the electrical consumption</li> <li><input checked="" type="checkbox"/> Display of critical error "no/number"</li> </ul> | <ul style="list-style-type: none"> <li><input checked="" type="checkbox"/> Function: *<br/>Push email notification for critical errors with error code<br/><b>Item no. 301769</b></li> <li><input checked="" type="checkbox"/> Function: *<br/>Restart function via web app<br/><b>Item no. 301770</b></li> <li><input checked="" type="checkbox"/> Function: *<br/>Stop function via web app<br/><b>Item no. 301771</b></li> <li><input checked="" type="checkbox"/> Function: *<br/>View actual values of the process parameters<br/><b>Item no. 301772</b></li> <li><input checked="" type="checkbox"/> Function: *<br/>Daily timer, e.g. device "on" from 8 am to 6 pm; respectively "off" during the remaining time of day<br/><b>Item no. 301773</b></li> </ul> | <ul style="list-style-type: none"> <li><input checked="" type="checkbox"/> Function: **<br/>Select between operating modes: In the case of the MWK40: "heating/cooling", "heating only", "cooling only"<br/><b>Item no. 301774</b></li> <li><input checked="" type="checkbox"/> Function: **<br/>Display of historical data of the process parameters (This is only possible if all previous features have already been booked)<br/><b>Item no. 301775</b></li> </ul> |

The web app options do not include a standby service from Kroll Energy GmbH.

Example display of the process data as a diagram



Examples of Application



# STATIONARY Heaters/Hot Air Generators



Stationary Warm Air Heaters **S**

Burner Overview

Universal Oil Burner **KG/UB**

Modulating Gas Condensing Boiler **NBX**

Air Heater **LH**

Ceiling Fan **DV**





# STATIONARY Warm Air Heaters S

Powerful hall heating for every requirement



Short lead time



Free choice of fuel



Longevity



Energy-saving technology



Suitable for every room

Warm air heaters heat the room air and are characterised by an even, pleasant heat transfer. Our **S-series warm air heaters** have been developed to meet the latest requirements for heating systems and fulfil your individual heating requirements exactly. They combine our long-established Kroll quality with modern, energy-saving technology for trouble-free continuous operation.

The units are ready for use after a short lead time and emit the generated heat directly into the air. In the process, you remain flexible: whether heating oil, liquid or natural gas operation, 2- or 1-stage burner, as a ducted or single unit, horizontal or vertical, full-touch or classic control: our S series can easily meet your individual demands in both new and existing buildings.

Thanks to the generous output range between 25 kilowatts and 652 kilowatts, the right version is available for every location. Customised duct systems can be used for hot air distribution in several rooms. Pressures of up to 1600 Pa are possible.

Our warm air heaters can be used in fresh, mixed and particularly environmentally friendly recirculation mode according to specific requirements. The systems help to reduce energy costs in winter and can also contribute to a pleasant room climate in summer by recirculating air.

## Flexibility in the choice of energy source:

Decide between heating oil, LPG and natural gas in compliance with national standards.



### Area of application

- Production halls and workshops
- Exhibition and trade fair halls
- Furniture and storage halls
- Showrooms
- Large garages and car workshops
- Sports halls
- Garden centres and greenhouses



### Important note

For **2-stage oil operation, an additional nozzle is required in addition to the burner.**

This is not optional and is not included in the scope of delivery.

The nozzle is already included with the gas and 1-stage oil versions.





## Technical data

### Power range 28 to 110 kW

|  |                   | Standard version |          |          |          |          |          |
|--|-------------------|------------------|----------|----------|----------|----------|----------|
|  |                   | 25S              | 40S      | 55S      | 70S      | 95S      | 110S     |
| Item no.   |                   | 027700           | 027701   | 027702   | 027703   | 030821   | 027704   |
| €  |                   | 4.950,00         | 5.155,00 | 6.600,00 | 8.050,00 | 8.870,00 | 9.285,00 |
| Nominal heat load (Hi)                                     | kW                | 26               | 40       | 51       | 73       | 95       | 108      |
| Nominal heat output  | kW                | 24,1             | 37,3     | 47,8     | 68,3     | 88,1     | 98,5     |
| Volume flow  | m <sup>3</sup> /h | 2.120            | 2.890    | 3.660    | 5.310    | 8.090    | 9.290    |
| Pressure max.*   | Pa                | freely blowing   |          |          |          |          |          |
| Temperature increase                                       | K                 | 35               | 36       | 37       | 35       | 31       | 31       |
| Oil consumption**  | kg/h              | 2,2              | 3,4      | 4,3      | 6,1      | 8,0      | 9,1      |
| Gas consumption (natural gas E)                            | m <sup>3</sup> /h | 2,8              | 4,2      | 5,4      | 7,7      | 10,1     | 11,4     |
| Gas consumption (LPG)                                      | kg/h              | 2,0              | 3,1      | 4,0      | 5,7      | 7,5      | 8,5      |
| Electrical input   | V/Hz              | 230/50           | 230/50   | 230/50   | 400/50   | 400/50   | 400/50   |
| Electrical power consumption                               | kW                | 0,64             | 1,12     | 1,59     | 1,11     | 1,74     | 1,89     |
| Stainless steel heat exchanger                             |                   | ●                | ●        | ●        | ●        | ●        | ●        |
| Outlet cover 3-sided with grille ZG2/<br>recirculating air |                   | ●                | ●        | ●        | ●        | ●        | ●        |
| Intake grille  |                   | ●                | ●        | ●        | ●        | ●        | ●        |
| Flue pipe  | ∅ mm              | 130              | 130      | 130      | 180      | 180      | 180      |
| Length   | mm                | 715              | 865      | 975      | 1.085    | 1.150    | 1.150    |
| Width  | mm                | 455              | 505      | 585      | 665      | 765      | 765      |
| Height   | mm                | 1.275            | 1.500    | 1.645    | 1.835    | 1.895    | 1.995    |
| Weight (without burner)                                    | kg                | 93               | 124      | 157      | 191      | 245      | 265      |
| Sound pressure level                                       | dB(A)             | 68               | 71       | 71       | 68       | 69       | 69       |

\* For available air pressure/duct connection or horizontal: see "special version"

\*\* Heating oil consumption: 1 kg/h = 1.17 l/h (at 15°C)

● Included in the scope of delivery.

|  |      | Dimensions in mm |     |       |       |     |
|--|------|------------------|-----|-------|-------|-----|
|  |      | A                | B   | C     | D     | E   |
|  | 25S  | 715              | 455 | 1.275 | 910   | 130 |
|  | 40S  | 865              | 505 | 1.500 | 1.110 | 130 |
|  | 55S  | 975              | 585 | 1.645 | 1.195 | 130 |
|  | 70S  | 1.085            | 665 | 1.835 | 1.425 | 180 |
|  | 95S  | 1.150            | 765 | 1.895 | 1.545 | 180 |
|  | 110S | 1.150            | 765 | 1.985 | 1.545 | 180 |

## Technical data

### Power range 129 to 280 kW

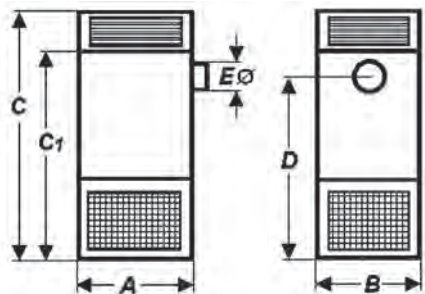
|  |       | Standard version |           |           |           |           |
|--|-------|------------------|-----------|-----------|-----------|-----------|
|  |       | 140S             | 170S      | 195S      | 260S      | 290S      |
| Item no.   |       | 021657           | 021658    | 021659    | 021618    | 021660    |
| €  |       | 12.000,00        | 13.495,00 | 17.525,00 | 18.610,00 | 21.550,00 |
| Nominal heat load (Hi)                                     | kW    | 129              | 163       | 194       | 250       | 280       |
| Nominal heat output  | kW    | 120              | 150       | 180       | 230       | 260       |
| Volume flow  | m³/h  | 9.200            | 11.800    | 13.800    | 18.400    | 20.600    |
| Pressure max. *  | Pa    | 50               | 60        | 70        | 100       | 100       |
| Temperature increase                                       | K     | 44               | 43        | 44        | 42        | 42        |
| Oil consumption**  | kg/h  | 10,8             | 13,7      | 16,3      | 21,0      | 23,5      |
| Gas consumption (natural gas E)                            | m³/h  | 13,7             | 17,2      | 20,5      | 26,5      | 29,6      |
| Gas consumption (LPG)                                      | kg/h  | 10,2             | 12,8      | 15,3      | 19,7      | 22,0      |
| Electrical input   | V/Hz  | 400/50           | 400/50    | 400/50    | 400/50    | 400/50    |
| Electrical power consumption                               | kW    | 1,1              | 2,2       | 1,5       | 3,0       | 4,0       |
| Stainless steel heat exchanger***                          |       | –                | –         | –         | –         | –         |
| Outlet cover 3-sided with grille ZG2/<br>recirculating air |       | ●                | ●         | ●         | ●         | ●         |
| Intake grille  |       | ●                | ●         | ●         | ●         | ●         |
| Flue pipe  | ∅ mm  | 250              | 250       | 250       | 250       | 250       |
| Length   | mm    | 1.250            | 1.250     | 1.750     | 1.750     | 2.200     |
| Width  | mm    | 1.025            | 1.025     | 1.025     | 1.025     | 1.025     |
| Height   | mm    | 2.180            | 2.180     | 2.180     | 2.180     | 2.180     |
| Weight (without burner)                                    | kg    | 399              | 405       | 495       | 503       | 662       |
| Sound pressure level (5 m)                                 | dB(A) | 63               | 66        | 61        | 66        | 67        |

\* Maximum pressure "standard" – can also be operated freely blowing out air – for more pressure, horizontal design etc. see "special version".

\*\* Heating oil consumption: 1 kg/h = 1.17 l/h (at 15°C)

\*\*\* Optionally available at extra cost.

● Included in the scope of delivery.



| Dimensions in mm | A     | B     | C     | C1    | D     | E   |
|------------------|-------|-------|-------|-------|-------|-----|
| 140S             | 1.250 | 1.025 | 2.180 | 1.780 | 1.600 | 250 |
| 170S             | 1.250 | 1.025 | 2.180 | 1.780 | 1.600 | 250 |
| 195S             | 1.750 | 1.025 | 2.180 | 1.780 | 1.600 | 250 |
| 260S             | 1.750 | 1.025 | 2.180 | 1.780 | 1.600 | 250 |
| 290S             | 2.200 | 1.025 | 2.180 | 1.780 | 1.600 | 250 |

## Technical data

### Power range 326 to 652 kW

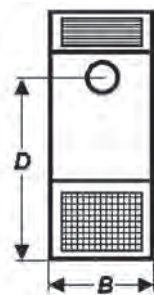
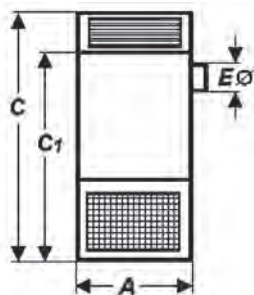
|  |       | Standard version |           |           |           |           |           |
|--|-------|------------------|-----------|-----------|-----------|-----------|-----------|
|  |       | 360S             | 430S      | 490S      | 580S      | 650S      | 730S      |
| Item no.   |       | 021661           | 021662    | 021663    | 021664    | 021665    | 021666    |
| €  |       | 22.190,00        | 28.770,00 | 29.585,00 | 39.900,00 | 40.855,00 | 41.455,00 |
| Nominal heat load (Hi)                                     | kW    | 326              | 423       | 489       | 544       | 598       | 652       |
| Nominal heat output  | kW    | 300              | 390       | 450       | 500       | 550       | 600       |
| Volume flow  | m³/h  | 23.400           | 29.500    | 35.000    | 37.500    | 42.600    | 48.300    |
| Pressure max. *  | Pa    | 100              | 180       | 250       | 160       | 180       | 260       |
| Temperature increase                                       | K     | 43               | 45        | 44        | 45        | 44        | 42        |
| Oil consumption**  | kg/h  | 27,4             | 35,5      | 41,1      | 45,7      | 50,3      | 54,8      |
| Gas consumption (natural gas E)                            | m³/h  | 34,5             | 44,8      | 51,7      | 57,6      | 63,3      | 69,0      |
| Gas consumption (LPG)                                      | kg/h  | 25,7             | 33,3      | 38,5      | 42,8      | 47,1      | 51,3      |
| Electrical input   | V/Hz  | 400/50           | 400/50    | 400/50    | 400/50    | 400/50    | 400/50    |
| Electrical power consumption                               | kW    | 5,5              | 5,5       | 11,0      | 7,5       | 11,0      | 15,0      |
| Stainless steel heat exchanger***                          |       | –                | –         | –         | –         | –         | –         |
| Outlet cover 3-sided with grille ZG2/<br>recirculating air |       | ●                | ●         | ●         | ●         | ●         | ●         |
| Intake grille  |       | ●                | ●         | ●         | ●         | ●         | ●         |
| Flue pipe  | ∅ mm  | 250              | 300       | 300       | 300       | 300       | 300       |
| Length   | mm    | 2.200            | 2.200     | 2.200     | 2.700     | 2.700     | 2.700     |
| Width  | mm    | 1.025            | 1.220     | 1.220     | 1.220     | 1.220     | 1.220     |
| Height   | mm    | 2.180            | 2.645     | 2.645     | 2.745     | 2.745     | 2.745     |
| Weight (without burner)                                    | kg    | 689              | 1.004     | 1.015     | 1.185     | 1.196     | 1.248     |
| Sound pressure level (5 m)                                 | dB(A) | 70               | 69        | 73        | 69        | 71        | 74        |

\* Maximum pressure "standard" – can also be operated freely blowing out air – for more pressure, horizontal design etc. see "special version".

\*\* Heating oil consumption: 1 kg/h = 1.17 l/h (at 15°C)

\*\*\* Optionally available at extra cost.

● Included in the scope of delivery.



| Dimensions in mm | A     | B     | C     | C1    | D     | E   |
|------------------|-------|-------|-------|-------|-------|-----|
| 360S             | 2.200 | 1.025 | 2.180 | 1.780 | 1.600 | 250 |
| 430S             | 2.200 | 1.220 | 2.645 | 2.245 | 2.020 | 300 |
| 490S             | 2.200 | 1.220 | 2.645 | 2.245 | 2.020 | 300 |
| 580S             | 2.700 | 1.220 | 2.745 | 2.245 | 2.020 | 300 |
| 650S             | 2.700 | 1.220 | 2.745 | 2.245 | 2.020 | 300 |
| 730S             | 2.700 | 1.220 | 2.745 | 2.245 | 2.020 | 300 |

## Technical data

### Power range 28 to 110 kW

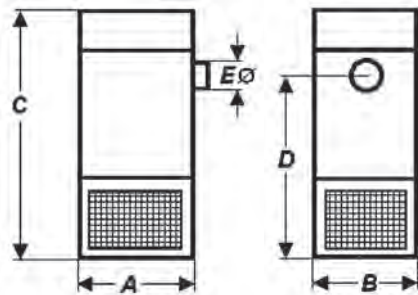
|                                 |                   | Special version  |                  |                  |          |          |           |
|---------------------------------|-------------------|------------------|------------------|------------------|----------|----------|-----------|
|                                 |                   | 25S              | 40S              | 55S              | 70S      | 95S      | 110S      |
| Item no.                        |                   | 101040           | 101041           | 101042           | 101043   | 101044   | 101045    |
| €                               |                   | 5.695,00         | 5.830,00         | 7.345,00         | 8.800,00 | 9.615,00 | 10.025,00 |
| Nominal heat load (Hi)          | kW                | 26               | 40               | 51               | 73       | 95       | 108       |
| Nominal heat output             | kW                | 24,1             | 37,3             | 47,8             | 68,3     | 88,1     | 98,5      |
| Volume flow                     | m <sup>3</sup> /h | 2.120            | 2.890            | 3.660            | 5.310    | 8.090    | 9.290     |
| Pressure max. *                 | Pa                | 350              | 350              | 350              | 350      | 350      | 350       |
| Temperature increase            | K                 | 35               | 36               | 37               | 35       | 31       | 31        |
| Oil consumption**               | kg/h              | 2,2              | 3,4              | 4,3              | 6,1      | 8,0      | 9,1       |
| Gas consumption (natural gas E) | m <sup>3</sup> /h | 2,8              | 4,2              | 5,4              | 7,7      | 10,1     | 11,4      |
| Gas consumption (LPG)           | kg/h              | 2,0              | 3,1              | 4,0              | 5,7      | 7,5      | 8,5       |
| Electrical input                | V/Hz              | 230/50<br>400/50 | 230/50<br>400/50 | 230/50<br>400/50 | 400/50   | 400/50   | 400/50    |
| Electrical power consumption*** | kW                | 0,64             | 1,12             | 1,59             | 1,11     | 1,74     | 1,89      |
| Stainless steel heat exchanger  |                   | ●                | ●                | ●                | ●        | ●        | ●         |
| Intake grille                   |                   | ●                | ●                | ●                | ●        | ●        | ●         |
| Flue pipe                       | ∅ mm              | 130              | 130              | 130              | 180      | 180      | 180       |
| Length                          | mm                | 715              | 865              | 975              | 1.085    | 1.150    | 1.150     |
| Width                           | mm                | 455              | 505              | 585              | 665      | 765      | 765       |
| Height                          | mm                | 1.275            | 1.500            | 1.645            | 1.835    | 1.895    | 1.995     |
| Weight (without burner)         | kg                | 93               | 124              | 157              | 191      | 245      | 265       |
| Sound pressure level            | dB(A)             | 68               | 71               | 71               | 68       | 69       | 69        |

\* Please specify required pressure, higher pressure up to 1600 Pa and further options on request.

\*\* Heating oil consumption: 1 kg/h = 1.17 l/h (at 15°C)

\*\*\* Electrical power consumption at 350 Pa – depending on the selected pressure.

● Included in the scope of delivery.



| Dimensions in mm | A     | B   | C     | D     | E   |
|------------------|-------|-----|-------|-------|-----|
| 25S              | 715   | 455 | 1.275 | 910   | 130 |
| 40S              | 865   | 505 | 1.500 | 1.110 | 130 |
| 55S              | 975   | 585 | 1.645 | 1.195 | 130 |
| 70S              | 1.085 | 665 | 1.835 | 1.425 | 180 |
| 95S              | 1.150 | 765 | 1.895 | 1.545 | 180 |
| 110S             | 1.150 | 765 | 1.985 | 1.545 | 180 |

## Technical data

### Power range 129 to 280 kW

|                                    |                   | Special version |           |           |           |           |
|------------------------------------|-------------------|-----------------|-----------|-----------|-----------|-----------|
|                                    |                   | 140S            | 170S      | 195S      | 260S      | 290S      |
| Item no.                           |                   | 021699          | 021711    | 021716    | 021720    | 021725    |
| €                                  |                   | 11.400,00       | 12.820,00 | 16.650,00 | 17.680,00 | 20.470,00 |
| Nominal heat load (Hi)             | kW                | 129             | 163       | 194       | 250       | 280       |
| Nominal heat output                | kW                | 120             | 150       | 180       | 230       | 260       |
| Volume flow                        | m <sup>3</sup> /h | 9.200           | 11.800    | 13.800    | 18.400    | 20.600    |
| Pressure max. *                    | Pa                | 350             | 350       | 350       | 350       | 350       |
| Temperature increase               | K                 | 44              | 43        | 44        | 42        | 42        |
| Oil consumption**                  | kg/h              | 10,8            | 13,7      | 16,3      | 21,0      | 23,5      |
| Gas consumption (natural gas E)    | m <sup>3</sup> /h | 13,7            | 17,2      | 20,5      | 26,5      | 29,6      |
| Gas consumption (LPG)              | kg/h              | 10,2            | 12,8      | 15,3      | 19,7      | 22,0      |
| Electrical input                   | V/Hz              | 400/50          | 400/50    | 400/50    | 400/50    | 400/50    |
| Electrical power consumption***    | kW                | 1,1             | 2,2       | 1,5       | 3,0       | 4,0       |
| Stainless steel heat exchanger**** |                   | –               | –         | –         | –         | –         |
| Intake grille                      |                   | ●               | ●         | ●         | ●         | ●         |
| Flue pipe                          | ∅ mm              | 250             | 250       | 250       | 250       | 250       |
| Length                             | mm                | 1.250           | 1.250     | 1.750     | 1.750     | 2.200     |
| Width                              | mm                | 1.025           | 1.025     | 1.025     | 1.025     | 1.025     |
| Height                             | mm                | 2.180           | 2.180     | 2.180     | 2.180     | 2.180     |
| Weight (without burner)            | kg                | 399             | 405       | 495       | 503       | 662       |
| Sound pressure level (5 m)         | dB(A)             | 63              | 66        | 61        | 66        | 67        |

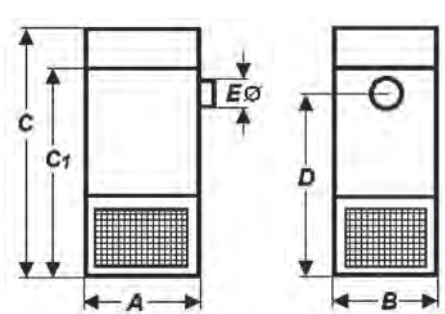
\* Please specify required pressure, higher pressure up to 1600 Pa and further options on request.

\*\* Heating oil consumption: 1 kg/h = 1.17 l/h (at 15°C)

\*\*\* Electrical power consumption at 350 Pa – depending on the selected pressure.

\*\*\*\* Optionally available at extra cost.

● Included in the scope of delivery.



| Dimensions in mm | A     | B     | C     | C1    | D     | E   |
|------------------|-------|-------|-------|-------|-------|-----|
| 140S             | 1.250 | 1.025 | 2.180 | 1.780 | 1.600 | 250 |
| 170S             | 1.250 | 1.025 | 2.180 | 1.780 | 1.600 | 250 |
| 195S             | 1.750 | 1.025 | 2.180 | 1.780 | 1.600 | 250 |
| 260S             | 1.750 | 1.025 | 2.180 | 1.780 | 1.600 | 250 |
| 290S             | 2.200 | 1.025 | 2.180 | 1.780 | 1.600 | 250 |

## Technical data

### Power range 326 to 652 kW

|                                    |       | Special version |           |           |           |           |           |
|------------------------------------|-------|-----------------|-----------|-----------|-----------|-----------|-----------|
|                                    |       | 360S            | 430S      | 490S      | 580S      | 650S      | 730S      |
| Item no.                           |       | 021730          | 021735    | 021740    | 021745    | 021750    | 021755    |
| €                                  |       | 21.080,00       | 27.330,00 | 28.105,00 | 37.905,00 | 38.815,00 | 39.380,00 |
| Nominal heat load (Hi)             | kW    | 326             | 423       | 489       | 544       | 598       | 652       |
| Nominal heat output                | kW    | 300             | 390       | 450       | 500       | 550       | 600       |
| Volume flow                        | m³/h  | 23.400          | 29.500    | 35.000    | 37.500    | 42.600    | 48.300    |
| Pressure max. *                    | Pa    | 350             | 350       | 350       | 350       | 350       | 350       |
| Temperature increase               | K     | 43              | 45        | 44        | 45        | 44        | 42        |
| Oil consumption**                  | kg/h  | 27,4            | 35,5      | 41,1      | 45,7      | 50,3      | 54,8      |
| Gas consumption (natural gas E)    | m³/h  | 34,5            | 44,8      | 51,7      | 57,6      | 63,3      | 69,0      |
| Gas consumption (LPG)              | kg/h  | 25,7            | 33,3      | 38,5      | 42,       | 47,1      | 51,3      |
| Electrical input                   | V/Hz  | 400/50          | 400/50    | 400/50    | 400/50    | 400/50    | 400/50    |
| Electrical power consumption***    | kW    | 5,5             | 5,5       | 11,0      | 7,5       | 11,0      | 15,0      |
| Stainless steel heat exchanger**** |       | –               | –         | –         | –         | –         | –         |
| Intake grille                      |       | ●               | ●         | ●         | ●         | ●         | –         |
| Flue pipe                          | ∅ mm  | 250             | 300       | 300       | 300       | 300       | 300       |
| Length                             | mm    | 2.200           | 2.200     | 2.200     | 2.700     | 2.700     | 2.700     |
| Width                              | mm    | 1.025           | 1.220     | 1.220     | 1.220     | 1.220     | 1.220     |
| Height                             | mm    | 2.180           | 2.645     | 2.645     | 2.745     | 2.745     | 2.745     |
| Weight (without burner)            | kg    | 689             | 1.004     | 1.015     | 1.185     | 1.196     | 1.248     |
| Sound pressure level (5 m)         | dB(A) | 70              | 69        | 73        | 69        | 71        | 74        |

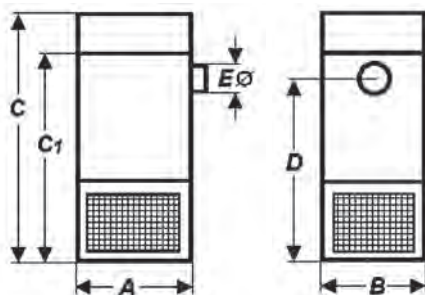
\* Please specify required pressure, higher pressure up to 1600 Pa and further options on request.

\*\* Heating oil consumption: 1 kg/h = 1.17 l/h (at 15°C)

\*\*\* Electrical power consumption at 350 Pa – depending on the selected pressure.

\*\*\*\* Optionally available at extra cost.

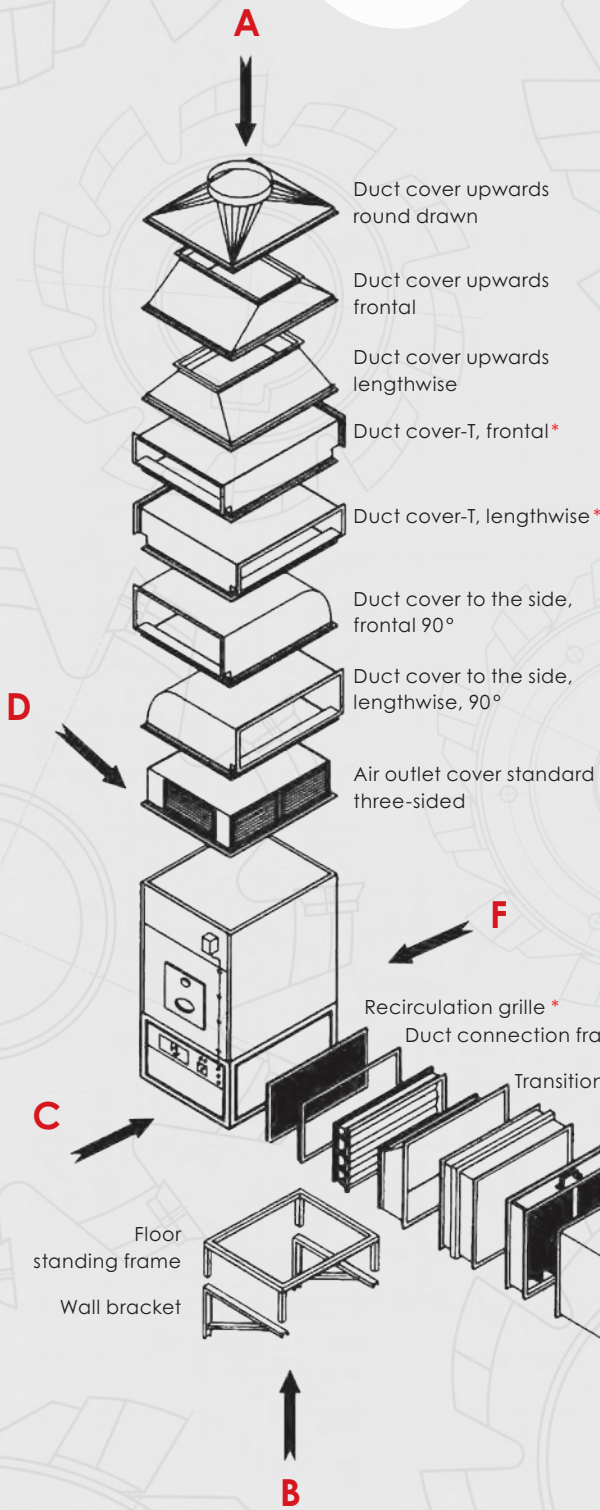
● Included in the scope of delivery.



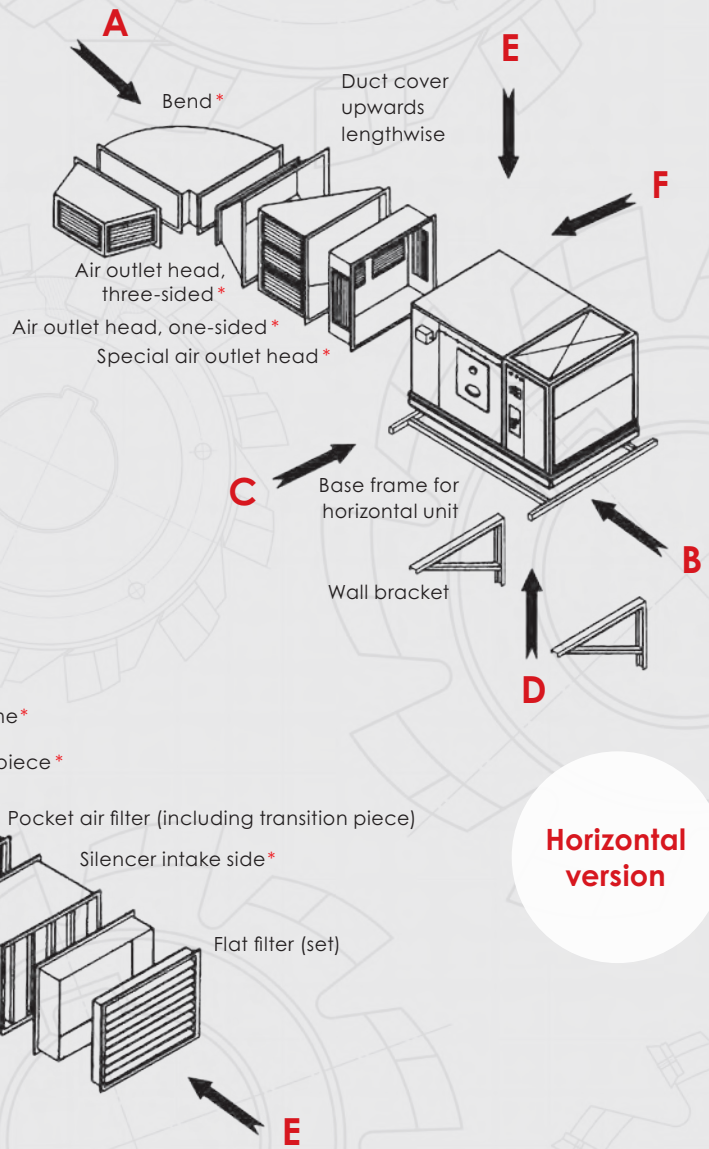
| Dimensions in mm | A     | B     | C     | C1    | D     | E   |
|------------------|-------|-------|-------|-------|-------|-----|
| 360S             | 2.200 | 1.025 | 2.180 | 1.780 | 1.600 | 250 |
| 430S             | 2.200 | 1.220 | 2.645 | 2.245 | 2.020 | 300 |
| 490S             | 2.200 | 1.220 | 2.645 | 2.245 | 2.020 | 300 |
| 580S             | 2.700 | 1.220 | 2.745 | 2.245 | 2.020 | 300 |
| 650S             | 2.700 | 1.220 | 2.745 | 2.245 | 2.020 | 300 |
| 730S             | 2.700 | 1.220 | 2.745 | 2.245 | 2.020 | 300 |

Explosion drawing

Upright version



horizontal left = LL (as drawn)  
horizontal right = LR



Horizontal version

\* User/customer-specific accessories available on request.

## Accessories

### Product allocation

| 25S | 40S | 55S | 70S | 95S<br>110S | 140S<br>170S | 195S<br>260S | 290S<br>360S | 430S<br>490S | 580S<br>650S<br>730S |
|-----|-----|-----|-----|-------------|--------------|--------------|--------------|--------------|----------------------|
|-----|-----|-----|-----|-------------|--------------|--------------|--------------|--------------|----------------------|

| Fastening components |                        |               |                  |                  |                  |                  |                    |                  |                    |                    |                    |                    |
|----------------------|------------------------|---------------|------------------|------------------|------------------|------------------|--------------------|------------------|--------------------|--------------------|--------------------|--------------------|
| Floor standing frame | Height 500 mm          | Item no.<br>€ | 030501<br>599,00 | 030502<br>603,00 | 030503<br>645,00 | 030504<br>659,00 | 034587<br>764,00   | 021833<br>857,00 | 021834<br>1.109,00 | 021835<br>1.387,00 | 022100<br>1.362,00 | 021836<br>1.373,00 |
| Wall brackets        | for vertical unit      | Item no.<br>€ | 030505<br>601,00 | 030506<br>579,00 | 030507<br>605,00 | 030508<br>624,00 | 034651<br>988,00   | 021842<br>623,00 | 011903<br>647,00   | 021843<br>657,00   | 022102<br>657,00   | 021844<br>932,00   |
| Wall brackets        | for horizontal Unit    | Item no.<br>€ | 030509<br>629,00 | 030510<br>632,00 | 030511<br>735,00 | 030512<br>833,00 | 034713<br>988,00   | 021840<br>975,00 | 021841<br>1.028,00 | –                  | –                  | –                  |
| Base frame           | for horizontal unit    | Item no.<br>€ | 030513<br>744,00 | 030514<br>833,00 | 030515<br>601,00 | 030516<br>638,00 | 034714<br>931,00   | 011906<br>679,00 | 021846<br>701,00   | 021847<br>718,00   | 022105<br>748,00   | 021848<br>768,00   |
| Base frame           | for ceiling suspension | Item no.<br>€ | 030517<br>649,00 | 030518<br>682,00 | 030519<br>627,00 | 030520<br>652,00 | 034715<br>1.097,00 | 011907<br>688,00 | 021850<br>711,00   | 021851<br>735,00   | 022107<br>762,00   | 021852<br>792,00   |

| Burner          |  |               |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |
|-----------------|--|---------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|
| Burner cladding |  | Item no.<br>€ | 030469<br>729,00 | 030469<br>729,00 | 030469<br>729,00 | 030473<br>749,00 | 030473<br>749,00 | 011910<br>974,00 | 011911<br>905,00 | 011912<br>945,00 | 011912<br>945,00 | 011912<br>945,00 |

| Burner air supply |              |               |                  |                  |                  |                  |                  |   |   |   |   |   |
|-------------------|--------------|---------------|------------------|------------------|------------------|------------------|------------------|---|---|---|---|---|
| Intake bend       | 90°          | Item no.<br>€ | 021853<br>119,00 | 021853<br>119,00 | 021853<br>119,00 | 021853<br>119,00 | 021853<br>119,00 | – | – | – | – | – |
| Intake bend       | 45°          | Item no.<br>€ | 011915<br>146,00 | 011915<br>146,00 | 011915<br>146,00 | 011915<br>146,00 | 011915<br>146,00 | – | – | – | – | – |
| Intake pipe       | 1-metre-long | Item no.<br>€ | 021856<br>102,00 | 021856<br>102,00 | 021856<br>102,00 | 021856<br>102,00 | 021856<br>102,00 | – | – | – | – | – |
| Intake end piece  | with grille  | Item no.<br>€ | 021859<br>132,00 | 021859<br>132,00 | 021859<br>132,00 | 021859<br>132,00 | 021859<br>132,00 | – | – | – | – | – |

| Duct air outlet accessories |                  |               |                           |                  |                  |                  |                  |                  |                    |                    |                    |                    |
|-----------------------------|------------------|---------------|---------------------------|------------------|------------------|------------------|------------------|------------------|--------------------|--------------------|--------------------|--------------------|
| Duct cover upwards          | round drawn      | Item no.<br>€ | 030537<br>403,00          | 030538<br>403,00 | 030539<br>403,00 | 030540<br>428,00 | 034719<br>692,00 | 011888<br>993,00 | 021897<br>1.212,00 | 021898<br>1.261,00 | 022113<br>1.615,00 | 021899<br>1.721,00 |
| Duct cover upwards          | rectangular *    | Item no.<br>€ | 030533<br>95,00           | 030534<br>120,00 | 030535<br>139,00 | 030536<br>**     | 021891<br>**     | 021892<br>**     | 021893<br>**       | 022247<br>**       | 022112<br>**       | 021894<br>**       |
| Duct cover to the side      | 90° frontal      | Item no.<br>€ | 030529<br>608,00          | 030530<br>629,00 | 030531<br>608,00 | 030532<br>709,00 | 301166<br>791,00 | 021887<br>869,00 | 011880<br>1.019,00 | 021888<br>1.585,00 | 022111<br>1.845,00 | 021889<br>2.030,00 |
| Duct cover to the side      | 90° lengthwise   | Item no.<br>€ | 030525<br>608,00          | 030526<br>608,00 | 030527<br>608,00 | 030528<br>675,00 | 021886<br>837,00 | 021887<br>869,00 | 011880<br>1.019,00 | 021888<br>1.585,00 | 022111<br>1.845,00 | 021889<br>2.030,00 |
| Air outlet cover            | standard 3-sided | Item no.<br>€ | Part of the standard unit |                  |                  |                  |                  | 011874<br>953,00 | 011875<br>1.274,00 | 011876<br>1.637,00 | 022109<br>1.893,00 | 011878<br>2.420,00 |

\* frontal, lengthwise, rectangular

\*\* on request



## Accessories

| Product allocation |     |     |     |             |              |              |              |              |                      |
|--------------------|-----|-----|-----|-------------|--------------|--------------|--------------|--------------|----------------------|
| 25S                | 40S | 55S | 70S | 95S<br>110S | 140S<br>170S | 195S<br>260S | 290S<br>360S | 430S<br>490S | 580S<br>650S<br>730S |

| Air intake accessories for vertical version     |          |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |
|---|----------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Transition piece<br>to pocket air filter        | Item no. | 030553          | 021938          | 021939          | 021940          | 034723          | –               | –               | –               | –               | –               |
|   | €        | <b>333,00</b>   | <b>336,00</b>   | <b>336,00</b>   | <b>346,00</b>   | <b>388,00</b>   | –               | –               | –               | –               | –               |
| Pocket air filter                               | Item no. | 030556          | 030561          | 021966          | 021967          | 034726          | –               | –               | –               | –               | –               |
|   | €        | <b>1.277,00</b> | <b>1.305,00</b> | <b>1.709,00</b> | <b>1.837,00</b> | <b>1.876,00</b> | –               | –               | –               | –               | –               |
| Pocket air filter<br>including transition piece | Item no. | –               | –               | –               | –               | –               | 021969          | 021970          | 021971          | 022127          | 021972          |
|   | €        | –               | –               | –               | –               | –               | <b>1.837,00</b> | <b>2.030,00</b> | <b>2.680,00</b> | <b>3.125,00</b> | <b>4.055,00</b> |
| Flat filter (set)                               | Item no. | 034182          | 034187          | 034192          | 034197          | 034202          | 021977          | 021978          | –               | –               | –               |
|   | €        | <b>1.511,00</b> | <b>1.524,00</b> | <b>1.538,00</b> | <b>1.751,00</b> | <b>1.299,00</b> | <b>1.424,00</b> | <b>1.582,00</b> | –               | –               | –               |

| Electrical accessories and oil filter S   |          |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |
|---|----------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Room thermostat RTI,<br>industrial version IP54   | Item no. | 005434          | 005434          | 005434          | 005434          | 005434          | 005434          | 005434          | 005434          | 005434          | 005434          |
|   | €        | <b>79,00</b>    | <b>79,00</b>    | <b>79,00</b>    | <b>79,00</b>    | <b>79,00</b>    | <b>79,00</b>    | <b>79,00</b>    | <b>79,00</b>    | <b>79,00</b>    | <b>79,00</b>    |
| Day-Night-Control<br>in plastic housing, for night setback,<br>with digital clock, power reserve,<br>daily and weekly programme,<br>including 1 room sensor | Item no. | 006708          | 006708          | 006708          | 006708          | 006708          | 006708          | 006708          | 006708          | 006708          | 006708          |
|   | €        | <b>1.039,00</b> | <b>1.039,00</b> | <b>1.039,00</b> | <b>1.039,00</b> | <b>1.039,00</b> | <b>1.039,00</b> | <b>1.039,00</b> | <b>1.039,00</b> | <b>1.039,00</b> | <b>1.039,00</b> |

Further accessories available on request.



**Not sure which burner to choose?**

On these pages you will find an overview of available burners and allocations in various designs  
**We would like to emphasise once again that you or your customer is only ErP-compliant with a 2-stage burner and that compliance with national standards is mandatory in all cases.**

**If in doubt, we will be happy to help you choose the right burner at any time.**

| Model | Suitable burner  | Nozzle               | Item no.        | €               |
|-------|--|----------------------|-----------------|-----------------|
| 25S   | Oil burner Riello, 2-stage                               | Nozzle 0,60 gph/60°S | 300631          | <b>2.580,00</b> |
|       | <b>CAUTION: Nozzle is necessary and must be ordered!</b> |                      | 005585          | <b>15,00</b>    |
|       | Oil burner Giersch, 1-stage                              | 027485               | <b>1.260,00</b> |                 |
|       | Multi-fuel oil burner KG/UB20                            | 027142               | <b>3.530,00</b> |                 |

| Model | Suitable burner  | Nozzle               | Item no.        | €               |
|-------|--|----------------------|-----------------|-----------------|
| 40S   | Oil burner Riello, 2-stage                               | Nozzle 0,75 gph/60°S | 300631          | <b>2.580,00</b> |
|       | <b>CAUTION: Nozzle is necessary and must be ordered!</b> |                      | 005853          | <b>15,00</b>    |
|       | Oil burner Giersch, 1-stage                              | 027486               | <b>1.260,00</b> |                 |
|       | Multi-fuel oil burner KG/UB20                            | 027142               | <b>3.530,00</b> |                 |

| Model                         | Suitable burner  | Nozzle           | Item no.        | €               |
|-------------------------------|--|------------------|-----------------|-----------------|
| 55S                           | Oil burner Giersch, 2-stage                              | Nozzle 0,85/60°S | 300575          | <b>2.950,00</b> |
|                               | <b>CAUTION: Nozzle is necessary and must be ordered!</b> |                  | 029692          | <b>16,00</b>    |
|                               | Oil burner Weishaupt, 2-stage                            | Nozzle 0,75/60°S | 300710          | <b>4.370,00</b> |
|                               | <b>CAUTION: Nozzle is necessary and must be ordered!</b> |                  | 005853          | <b>15,00</b>    |
|                               | Oil burner Giersch, 1-stage                              | 027487           | <b>1.260,00</b> |                 |
| Multi-fuel oil burner KG/UB55 | 027143   | <b>3.650,00</b>  |                 |                 |

| Model                         | Suitable burner  | Nozzle           | Item no.        | €               |
|-------------------------------|--|------------------|-----------------|-----------------|
| 70S                           | Oil burner Giersch, 2-stage                              | Nozzle 1,10/60°S | 300575          | <b>2.950,00</b> |
|                               | <b>CAUTION: Nozzle is necessary and must be ordered!</b> |                  | 005543          | <b>16,00</b>    |
|                               | Oil burner Weishaupt, 2-stage                            | Nozzle 1,00/60°S | 300710          | <b>4.370,00</b> |
|                               | <b>CAUTION: Nozzle is necessary and must be ordered!</b> |                  | 005538          | <b>16,00</b>    |
|                               | Oil burner Giersch, 1-stage                              | 005785           | <b>1.535,00</b> |                 |
| Multi-fuel oil burner KG/UB70 | 027144   | <b>4.050,00</b>  |                 |                 |

| Model                          | Suitable burner  | Nozzle           | Item no.        | €               |
|--------------------------------|--|------------------|-----------------|-----------------|
| 95S                            | Oil burner Giersch, 2-stage                              | Nozzle 1,50/60°S | 300575          | <b>2.950,00</b> |
|                                | <b>CAUTION: Nozzle is necessary and must be ordered!</b> |                  | 029473          | <b>19,00</b>    |
|                                | Oil burner Weishaupt, 2-stage                            | Nozzle 1,35/60°S | 300711          | <b>4.540,00</b> |
|                                | <b>CAUTION: Nozzle is necessary and must be ordered!</b> |                  | 005855          | <b>16,00</b>    |
|                                | Oil burner Giersch, 1-stage                              | 006224           | <b>1.700,00</b> |                 |
| Multi-fuel oil burner KG/UB100 | 027145   | <b>4.340,00</b>  |                 |                 |

| Model                          | Suitable burner  | Nozzle           | Item no.        | €               |
|--------------------------------|--|------------------|-----------------|-----------------|
| 110S                           | Oil burner Giersch, 2-stage                              | Nozzle 1,75/60°S | 300575          | <b>2.950,00</b> |
|                                | <b>CAUTION: Nozzle is necessary and must be ordered!</b> |                  | 030562          | <b>22,00</b>    |
|                                | Oil burner Weishaupt, 2-stage                            | Nozzle 1,65/60°H | 300712          | <b>5.340,00</b> |
|                                | <b>CAUTION: Nozzle is necessary and must be ordered!</b> |                  | 042061          | <b>26,00</b>    |
|                                | Oil burner Giersch, 1-stage                              | 006224           | <b>1.700,00</b> |                 |
| Multi-fuel oil burner KG/UB100 | 027145   | <b>4.340,00</b>  |                 |                 |

| Model | Suitable burner  | Nozzle           | Item no.        | €               |
|-------|--|------------------|-----------------|-----------------|
| 140S  | Oil burner Giersch, 2-stage                              | Nozzle 2,00/60°S | 300575          | <b>2.950,00</b> |
|       | <b>CAUTION: Nozzle is necessary and must be ordered!</b> |                  | 006098          | <b>28,00</b>    |
|       | Oil burner Giersch, 1-stage                              | 006224           | <b>1.700,00</b> |                 |
|       | Multi-fuel oil burner KG/UB150                           | 027146           | <b>5.450,00</b> |                 |

## Burner overview: Oil

| Model | Suitable burner   | Nozzle           | Item no.        | €               |
|-------|---|------------------|-----------------|-----------------|
| 170S  | Oil burner Giersch, 2-stage<br><b>CAUTION: Nozzle is necessary and must be ordered!</b> | Nozzle 2,50/60°S | 300643          | <b>3.965,00</b> |
|       | 005944  |                  | <b>28,00</b>    |                 |
|       | Oil burner Giersch, 1-stage   | 005811           | <b>2.580,00</b> |                 |
|       | Multi-fuel oil burner KG/UB200  | 027147           | <b>5.635,00</b> |                 |

| Model | Suitable burner   | Nozzle           | Item no.        | €               |
|-------|---|------------------|-----------------|-----------------|
| 190S  | Oil burner Giersch, 2-stage<br><b>CAUTION: Nozzle is necessary and must be ordered!</b> | Nozzle 3,00/60°S | 300643          | <b>3.965,00</b> |
|       | 028179  |                  | <b>28,00</b>    |                 |
|       | Oil burner Giersch, 1-stage   | 005811           | <b>2.580,00</b> |                 |
|       | Multi-fuel oil burner KG/UB200  | 027147           | <b>5.635,00</b> |                 |

| Model | Suitable burner   | Nozzle           | Item no.        | €               |
|-------|---|------------------|-----------------|-----------------|
| 260S  | Oil burner Giersch, 2-stage<br><b>CAUTION: Nozzle is necessary and must be ordered!</b> | Nozzle 4,00/60°S | 300643          | <b>3.965,00</b> |
|       | 035235  |                  | <b>28,00</b>    |                 |
|       | Oil burner Giersch, 1-stage   | 005811           | <b>2.580,00</b> |                 |

| Model | Suitable burner   | Nozzle           | Item no.     | €               |
|-------|---|------------------|--------------|-----------------|
| 290S  | Oil burner Giersch, 2-stage<br><b>CAUTION: Nozzle is necessary and must be ordered!</b> | Nozzle 4,50/60°S | 300695       | <b>6.010,00</b> |
|       | 056166  |                  | <b>28,00</b> |                 |

| Model | Suitable burner   | Nozzle          | Item no.     | €               |
|-------|---|-----------------|--------------|-----------------|
| 360S  | Oil burner Giersch, 2-stage<br><b>CAUTION: Nozzle is necessary and must be ordered!</b> | Nozzle 5,5/60°S | 300695       | <b>6.010,00</b> |
|       | 046746  |                 | <b>56,00</b> |                 |

| Model | Suitable burner   | Nozzle           | Item no.     | €               |
|-------|---|------------------|--------------|-----------------|
| 430S  | Oil burner Giersch, 2-stage<br><b>CAUTION: Nozzle is necessary and must be ordered!</b> | Nozzle 7,00/60°S | 300695       | <b>6.010,00</b> |
|       | 300708  |                  | <b>36,00</b> |                 |

| Model | Suitable burner   | Nozzle            | Item no.     | €               |
|-------|---|-------------------|--------------|-----------------|
| 490S  | Oil burner Giersch, 2-stage<br><b>CAUTION: Nozzle is necessary and must be ordered!</b> | Nozzle 7,50/60°SS | 300696       | <b>6.400,00</b> |
|       | 006320  |                   | <b>16,00</b> |                 |

| Model | Suitable burner   | Nozzle            | Item no.     | €                |
|-------|---|-------------------|--------------|------------------|
| 580S  | Oil burner Giersch, 2-stage<br><b>CAUTION: Nozzle is necessary and must be ordered!</b> | Nozzle 9,00/60°SS | 300697       | <b>10.080,00</b> |
|       | 032617  |                   | <b>16,00</b> |                  |

| Model | Suitable burner   | Nozzle            | Item no.     | €                |
|-------|---|-------------------|--------------|------------------|
| 650S  | Oil burner Giersch, 2-stage<br><b>CAUTION: Nozzle is necessary and must be ordered!</b> | Nozzle 9,00/60°SS | 300697       | <b>10.080,00</b> |
|       | 032617  |                   | <b>16,00</b> |                  |

| Model | Suitable burner   | Nozzle             | Item no.     | €                |
|-------|---|--------------------|--------------|------------------|
| 730S  | Oil burner Giersch, 2-stage<br><b>CAUTION: Nozzle is necessary and must be ordered!</b> | Nozzle 10,00/60°SS | 300697       | <b>10.080,00</b> |
|       | 300709  |                    | <b>35,00</b> |                  |

## Burner overview: Natural gas

| Model | Suitable burner                       | Item no. | €                |
|-------|---------------------------------------|----------|------------------|
| 25S   | Natural gas burner Riello, 2-stage    | 300633   | <b>3.870,00</b>  |
|       | Natural gas burner Weishaupt, 2-stage | 300680   | <b>7.470,00</b>  |
|       | Natural gas burner Giersch, 1-stage   | 005813   | <b>2.065,00</b>  |
| 40S   | Natural gas burner Riello, 2-stage    | 300633   | <b>3.870,00</b>  |
|       | Natural gas burner Weishaupt, 2-stage | 300680   | <b>7.470,00</b>  |
|       | Natural gas burner Giersch, 1-stage   | 005814   | <b>2.090,00</b>  |
| 55S   | Natural gas burner Riello, 2-stage    | 300634   | <b>3.955,00</b>  |
|       | Natural gas burner Weishaupt, 2-stage | 300680   | <b>7.470,00</b>  |
|       | Natural gas burner Weishaupt, 2-stage | 300681   | <b>7.890,00</b>  |
|       | Natural gas burner Giersch, 1-stage   | 005815   | <b>2.300,00</b>  |
| 70S   | Natural gas burner Giersch, 2-stage   | 300576   | <b>4.945,00</b>  |
|       | Natural gas burner Riello, 2-stage    | 300634   | <b>3.955,00</b>  |
|       | Natural gas burner Weishaupt, 2-stage | 300681   | <b>7.890,00</b>  |
|       | Natural gas burner Giersch, 1-stage   | 005816   | <b>2.890,00</b>  |
| 95S   | Natural gas burner Giersch, 2-stage   | 300576   | <b>4.945,00</b>  |
|       | Natural gas burner Weishaupt, 2-stage | 300681   | <b>7.890,00</b>  |
|       | Natural gas burner Giersch, 1-stage   | 005816   | <b>2.890,00</b>  |
| 110S  | Natural gas burner Giersch, 2-stage   | 300576   | <b>4.945,00</b>  |
|       | Natural gas burner Weishaupt, 2-stage | 300681   | <b>7.890,00</b>  |
|       | Natural gas burner Weishaupt, 2-stage | 300682   | <b>8.520,00</b>  |
|       | Natural gas burner Giersch, 1-stage   | 005816   | <b>2.890,00</b>  |
| 140S  | Natural gas burner Giersch, 2-stage   | 300576   | <b>4.945,00</b>  |
|       | Natural gas burner Giersch, 1-stage   | 006006   | <b>4.100,00</b>  |
| 170S  | Natural gas burner Giersch, 2-stage   | 300648   | <b>5.685,00</b>  |
|       | Natural gas burner Giersch, 1-stage   | 006006   | <b>4.100,00</b>  |
| 195S  | Natural gas burner Giersch, 2-stage   | 300644   | <b>7.040,00</b>  |
|       | Natural gas burner Giersch, 1-stage   | 006006   | <b>4.100,00</b>  |
| 260S  | Natural gas burner Giersch, 2-stage   | 300646   | <b>7.400,00</b>  |
|       | Natural gas burner Giersch, 1-stage   | 021669   | <b>4.480,00</b>  |
| 290S  | Natural gas burner Giersch, 2-stage   | 021793   | <b>7.390,00</b>  |
| 360S  | Natural gas burner Giersch, 2-stage   | 021793   | <b>7.390,00</b>  |
| 430S  | Natural gas burner Giersch, 2-stage   | 029199   | <b>8.630,00</b>  |
| 490S  | Natural gas burner Giersch, 2-stage   | 029201   | <b>12.580,00</b> |
| 580S  | Natural gas burner Giersch, 2-stage   | 021798   | <b>15.310,00</b> |
| 650S  | Natural gas burner Giersch, 2-stage   | 021798   | <b>15.310,00</b> |
| 730S  | Natural gas burner Giersch, 2-stage   | 021798   | <b>15.310,00</b> |

## Burner overview: LPG

| Model | Suitable burner  | Item no. | €                |
|-------|--|----------|------------------|
| 25S   | Gas burner Riello, 2-stage<br><b>CAUTION: upgrade kit for LPG must be ordered!</b> | 300633   | <b>3.870,00</b>  |
|       |  | 300635   | <b>139,00</b>    |
|       | LPG burner Weishaupt, 2-stage  | 300690   | <b>7.660,00</b>  |
|       | LPG burner Giersch, 1-stage  | 005821   | <b>2.055,00</b>  |
| 40S   | Gas burner Riello, 2-stage<br><b>CAUTION: upgrade kit for LPG must be ordered!</b> | 300633   | <b>3.870,00</b>  |
|       |  | 300635   | <b>139,00</b>    |
|       | LPG burner Weishaupt, 2-stage  | 300690   | <b>7.660,00</b>  |
|       | LPG burner Giersch, 1-stage  | 005822   | <b>2.055,00</b>  |
| 55S   | Gas burner Riello, 2-stage<br><b>CAUTION: upgrade kit for LPG must be ordered!</b> | 300634   | <b>3.955,00</b>  |
|       |  | 300636   | <b>118,00</b>    |
|       | LPG burner Weishaupt, 2-stage  | 300690   | <b>7.660,00</b>  |
|       | LPG burner Weishaupt, 2-stage  | 300691   | <b>8.080,00</b>  |
| 70S   | LPG burner Giersch, 1-stage  | 005822   | <b>2.055,00</b>  |
|       | LPG burner Giersch, 2-stage  | 300577   | <b>4.945,00</b>  |
|       | Gas burner Riello, 2-stage<br><b>CAUTION: upgrade kit for LPG must be ordered!</b> | 300634   | <b>3.955,00</b>  |
|       |  | 300636   | <b>118,00</b>    |
| 95S   | LPG burner Weishaupt, 2-stage  | 300691   | <b>8.080,00</b>  |
|       | LPG burner Giersch, 1-stage  | 005824   | <b>2.710,00</b>  |
|       | LPG burner Giersch, 2-stage  | 300577   | <b>4.945,00</b>  |
|       | LPG burner Weishaupt, 2-stage  | 300691   | <b>8.080,00</b>  |
| 110S  | LPG burner Giersch, 1-stage  | 005824   | <b>2.710,00</b>  |
|       | LPG burner Weishaupt, 2-stage  | 300692   | <b>8.710,00</b>  |
|       | LPG burner Weishaupt, 2-stage  | 300691   | <b>8.080,00</b>  |
|       | LPG burner Giersch, 2-stage  | 300577   | <b>4.945,00</b>  |
| 140S  | LPG burner Giersch, 1-stage  | 006009   | <b>3.785,00</b>  |
|       | LPG burner Giersch, 2-stage  | 300577   | <b>4.945,00</b>  |
| 170S  | LPG burner Giersch, 1-stage  | 006009   | <b>3.785,00</b>  |
|       | LPG burner Giersch, 2-stage  | 300577   | <b>4.945,00</b>  |
| 195S  | LPG burner Giersch, 1-stage  | 006009   | <b>3.785,00</b>  |
|       | LPG burner Giersch, 2-stage  | 300645   | <b>6.170,00</b>  |
| 260S  | LPG burner Giersch, 1-stage  | 006009   | <b>3.785,00</b>  |
|       | LPG burner Giersch, 2-stage  | 300647   | <b>8.075,00</b>  |
| 290S  | LPG burner Giersch, 2-stage  | 021806   | <b>8.980,00</b>  |
| 360S  | LPG burner Giersch, 2-stage  | 021806   | <b>8.980,00</b>  |
| 430S  | LPG burner Giersch, 2-stage  | 029326   | <b>8.635,00</b>  |
| 490S  | LPG burner Giersch, 2-stage  | 029326   | <b>8.635,00</b>  |
| 580S  | LPG burner Giersch, 2-stage  | 021810   | <b>13.470,00</b> |
| 650S  | LPG burner Giersch, 2-stage  | 021810   | <b>13.470,00</b> |
| 730S  | LPG burner Giersch, 2-stage  | 021810   | <b>13.470,00</b> |



# Universal Oil Burner KG/UB

Burner output based on individual heat requirement



Efficient



Maintenance-friendly



Free choice of fuel



Flexible



Suitable for every room

Our **highly modern universal oil burner KG/UB** is a true all-rounder among oil burners. The innovative device allows you to choose between different types of oil as fuel without the use of special tools and in strict compliance with national standards. The practical design requires only a few manual steps to set the optimal preheating temperature and the correct ratio between combustion air and fuel. This flexibility, combined with a powerful warm air generator, allows you to heat your large commercial or industrial spaces such as workshops,

production halls or storage areas in an economical and extremely convenient way. The fuel is atomized efficiently using compressed air through large nozzle diameters, which is particularly helpful in avoiding blockages with dirty or viscous oils.

A separate conveying system draws the required fuel from the storage tank, feeds it and preheats it if necessary. The tank ensures a constant volume flow of fuel to the ignition electrode, which ensures continuous and flawless combustion.

Whether your boiler has a cast iron or steel combustion chamber, the additional use of our patented ZVP pipe and a ceramic fibre plate ensures a so-called "hot combustion chamber".

The patented ZVP tube helps to lower the exhaust gas temperature, improves CO<sub>2</sub> values, reduces the soot count and significantly extends the service life of your burner. This innovative technology guarantees not only efficiency, but also environmental responsibility and longevity for your heating system.



### Help

#### Does the burner fit my present boiler?

Please pay attention to the dimensions. Check the **dimensions of the drilling in the burner plate** and the **dimensions of the burner tube**. If these dimensions match the flame tube of the burner, the burner flange can be fitted.

**If in doubt, we will be happy to help you choose the right burner at any time.**

### Area of application

Connected to our S devices, M devices or hot water boilers in general:

- Production halls and workshops
- Furniture and storage halls
- Exhibition and trade fair halls
- Sales rooms and other large rooms

### Features

- Free choice of fuel (comply with national standards)
- Intuitive operation
- Easy to maintain
- Optionally with patented ZVP pipe

Exemplary application of our KG/UB in combination with our S device



KG/UB

## Technical data

### Power range 14 to 81 kW

|                                    |      | KG/UB20         | KG/UB55         | KG/UB70         | KG/UB100        | KG/UB150        | KG/UB200        |
|------------------------------------|------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Item no.                           |      | 027142          | 027143          | 027144          | 027145          | 027146          | 027147          |
| €                                  |      | <b>3.530,00</b> | <b>3.650,00</b> | <b>4.050,00</b> | <b>4.340,00</b> | <b>5.450,00</b> | <b>5.635,00</b> |
| Heat output with rapeseed oil (Hi) | kW   | 26–38           | 37–54           | 56–81           | 81–100          | 93–147          | 131–190         |
| Oil consumption                    | kg/h | 2,5–3,7         | 3,6–5,2         | 5,4–7,8         | 7,8–9,6         | 8,9–14,1        | 12,7–18,0       |
| Electrical input                   | V/Hz | 230/50          | 230/50          | 230/50          | 230/50          | 230/50          | 230/50          |
| Electrical power consumption       | kW   | 1,21            | 1,21            | 1,21            | 1,21            | 1,35            | 1,35            |
| Weight                             | kg   | 15              | 15              | 16              | 16              | 26              | 26              |
| Drilling in the burner plate       | mm   | 150–170         | 150–170         | 150–170         | 150–170         | 160–200         | 160–200         |
| Burner pipe                        | Ø mm | 90              | 90              | 101             | 101             | 114             | 114             |

### Accessories

#### Product allocation

|   |               | KG/UB20                   | KG/UB55                   | KG/UB70                   | KG/UB100                  | KG/UB150                  | KG/UB200                  |
|---|---------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|
| Spacer flange with gasket<br>required for use on certain<br>boiler types  | Item no.<br>€ | 034129<br><b>172,00</b>   | 034129<br><b>172,00</b>   | 034129<br><b>172,00</b>   | 034129<br><b>172,00</b>   | 034131<br><b>157,00</b>   | 034131<br><b>157,00</b>   |
| Patented ZVP pipe for KG/UB20<br>only in conjunction with devices<br>25S and 40S  | Item no.<br>€ | 038768<br><b>369,00</b>   | –<br>–                    | –<br>–                    | –<br>–                    | –<br>–                    | –<br>–                    |
| Patented ZVP pipe<br>and ceramic fiber mat  | Item no.<br>€ | 038672<br><b>365,00</b>   | 038672<br><b>365,00</b>   | 038770<br><b>401,00</b>   | 038770<br><b>401,00</b>   | 038771<br><b>465,00</b>   | 038771<br><b>465,00</b>   |
| Ceramic fiber mat<br>6 mm, width 610 mm; running meter  | Item no.<br>€ | –<br>–                    | –<br>–                    | 034241<br><b>22,00</b>    | 034241<br><b>22,00</b>    | 034241<br><b>22,00</b>    | 034241<br><b>22,00</b>    |
| Ceramic fiber plate<br>approx. 25x500x500 mm  | Item no.<br>€ | –<br>–                    | –<br>–                    | 039363<br><b>243,00</b>   | 039363<br><b>243,00</b>   | 039363<br><b>243,00</b>   | 039363<br><b>243,00</b>   |
| Conveying system for<br>external storage tank,<br>conveying unit with heated filter<br>and floating suction unit  | Item no.<br>€ | 000901<br><b>1.318,00</b> | 000901<br><b>1.318,00</b> | 000901<br><b>1.318,00</b> | 000901<br><b>1.318,00</b> | 000901<br><b>1.318,00</b> | 000901<br><b>1.318,00</b> |
| Conveying system for<br>external storage tank,<br>conveying unit with unheated<br>filter and floating suction unit  | Item no.<br>€ | 047550<br><b>873,00</b>   | 047550<br><b>873,00</b>   | 047550<br><b>873,00</b>   | 047550<br><b>873,00</b>   | 047550<br><b>873,00</b>   | 047550<br><b>873,00</b>   |
| Conveying system with device<br>tank, conveying unit, heated filter<br>and floating suction unit<br>Tank capacity: 59 litres<br>KG/UB20 to KG/UB70<br>Tank capacity: 109 litres<br>KG/UB100 to KG/UB200 | Item no.<br>€ | 000900<br><b>2.405,00</b> | 000900<br><b>2.405,00</b> | 000900<br><b>2.405,00</b> | 000891<br><b>2.650,00</b> | 000891<br><b>2.650,00</b> | 000891<br><b>2.650,00</b> |

| ZVP pipe | Use for:   | Overall length (mm) | Outer-Ø (mm) |
|----------|--|---------------------|--------------|
| ZVP125   | Multi-fuel oil burner KG/UB20<br>on warm air heaters             | 1.025               | 2.180        |
| ZVP140   | Multi-fuel oil burner KG/UB20, KG/UB55<br>on hot water boilers   | 1.220               | 2.645        |
| ZVP160   | Multi-fuel oil burner KG/UB70, KG/UB100<br>on hot water boilers  | 1.220               | 2.645        |
| ZVP180   | Multi-fuel oil burner KG/UB150, KG/UB200<br>on hot water boilers | 1.220               | 2.745        |



# Modulating Gas Condensing Boiler **NBX**

Instant heat without lead time



Economical



Additional recirculation mode



Instantly ready for operation



Permanent condensing boiler



Avoidance of draughts

Our **modulating gas condensing boilers of the NBX series** not only offer an ideal solution for heating and ventilating industrial premises but are also characterized by their versatility. The precise control enables targeted heating of specific areas, for example in process handling, creating an optimum working environment. This flexibility is particularly invaluable in dynamic production environments.

By eliminating lead times, as with central heating, they provide quick and comfortable warmth both during spontaneous cold snaps and on particularly cold days. In summer, our NBX units can also be used to ventilate rooms.

A key feature of our systems is the patented stainless steel heat

exchanger, which ensures a remarkably high air flow rate. The high-performance burner is equipped with innovative burner tubes, electronic ignition and ionisation monitoring, which not only ensures efficient combustion but also meets the highest safety standards. The comprehensive thermal insulation minimises heat radiation and transmission losses, while the weld-free construction around the burner ensures exceptional durability and low maintenance.

Our units are designed to be flexible and adaptable to different installation requirements. They can be mounted on the wall or suspended from the ceiling. The option of chimney-mounted installation or the use of a flue gas routing system via the

roof or through the outer wall offers additional variability to suit a wide range of spatial conditions.

Thanks to condensing operation, our units not only achieve a significant increase in efficiency, but also make a significant contribution to reducing your operating costs. This makes them an economically viable solution for air conditioning and heating your industrial premises.

### Area of application

- Workshops
- Production halls
- Large garages
- Car workshops
- Exhibition and trade fair halls
- Furniture and storage halls
- Sports halls

### Features

- Maintenance-free motor
- Low-noise sickle blade fans
- Adjustable air flow direction
- Electronic ignition
- Fuel: Natural or LPG (pre-equipped for natural gas G20)





## Technical data

### Power range 9,4 to 115 kW

|  |                   | NBX30    | NBX40    | NBX50    | NBX60    | NBX90     | NBX120    |
|--|-------------------|----------|----------|----------|----------|-----------|-----------|
| Item no.   |                   | 300131   | 300132   | 300133   | 300134   | 300135    | 300136    |
| €  |                   | 5.520,00 | 6.100,00 | 6.820,00 | 7.550,00 | 10.600,00 | 11.615,00 |
| Nominal heat load max. (Hi)                                | kW                | 29,1     | 38,5     | 49,8     | 59,0     | 90,8      | 116,0     |
| Nominal heat output max.                                   | kW                | 28,0     | 37,0     | 48,0     | 57,0     | 89,0      | 115,0     |
| Nominal heat load min. (Hi)                                | kW                | 10,0     | 14,0     | 19,0     | 21,0     | 35,0      | 43,0      |
| Nominal heat output min.                                   | kW                | 9,4      | 13,3     | 18,4     | 20,0     | 33,3      | 40,6      |
| Volume flow  | m <sup>3</sup> /h | 3.200    | 4.400    | 5.500    | 6.500    | 10.000    | 13.000    |
| Electrical input   | V/Hz              | 230/50   | 230/50   | 230/50   | 230/50   | 230/50    | 400/50    |
| Electrical power consumption                               | kW                | 0,17     | 0,31     | 0,34     | 0,40     | 0,66      | 0,74      |
| Stainless steel heat exchanger                             |                   |          |          |          |          |           |           |
| <b>Natural gas membrane G20 mounted as delivered</b>       |                   |          |          |          |          |           |           |
| Natural gas  |                   | ●        | ●        | ●        | ●        | ●         | ●         |
| <b>Natural gas membrane G25 must be ordered separately</b> |                   |          |          |          |          |           |           |
| LPG  |                   | ●        | ●        | ●        | ●        | ●         | ●         |
| <b>LPG membrane G31 must be ordered separately</b>         |                   |          |          |          |          |           |           |
| Electronic ignition  |                   | ●        | ●        | ●        | ●        | ●         | ●         |
| Throw range*   | m                 | 20       | 28       | 32       | 35       | 39        | 42        |
| Condensate quantity**                                      | l/h               | 0,2–1,1  | 0,3–1,3  | 0,3–1,5  | 0,3–1,9  | 1,6–3,3   | 2,7–4,3   |
| Depth including fins                                       | mm                | 830      | 830      | 896      | 896      | 1.081     | 1.081     |
| Depth excluding fins                                       | mm                | 560      | 560      | 610      | 610      | 710       | 710       |
| Width  | mm                | 885      | 885      | 1.225    | 1.225    | 1.775     | 1.775     |
| Height   | mm                | 580      | 580      | 650      | 650      | 800       | 800       |
| Weight   | kg                | 65       | 75       | 90       | 95       | 205       | 215       |
| Exhaust connection   |                   | DN80     | DN80     | DN80     | DN80     | DN100     | DN100     |
| Supply air connection                                      |                   | DN80     | DN80     | DN80     | DN80     | DN100     | DN100     |
| Max. flue gas length (above roof)                          | m                 | 10       | 10       | 10       | 10       | 10        | 10        |
| Sound pressure level                                       | dB(A)             | 53       | 55       | 56       | 57       | 56        | 60        |

\* Based on ambient temperature + 20°C, residual speed 0.2 m/s.

\*\* Indicative variable value, depending on the ambient conditions.

● Included in the scope of delivery.

## Accessories

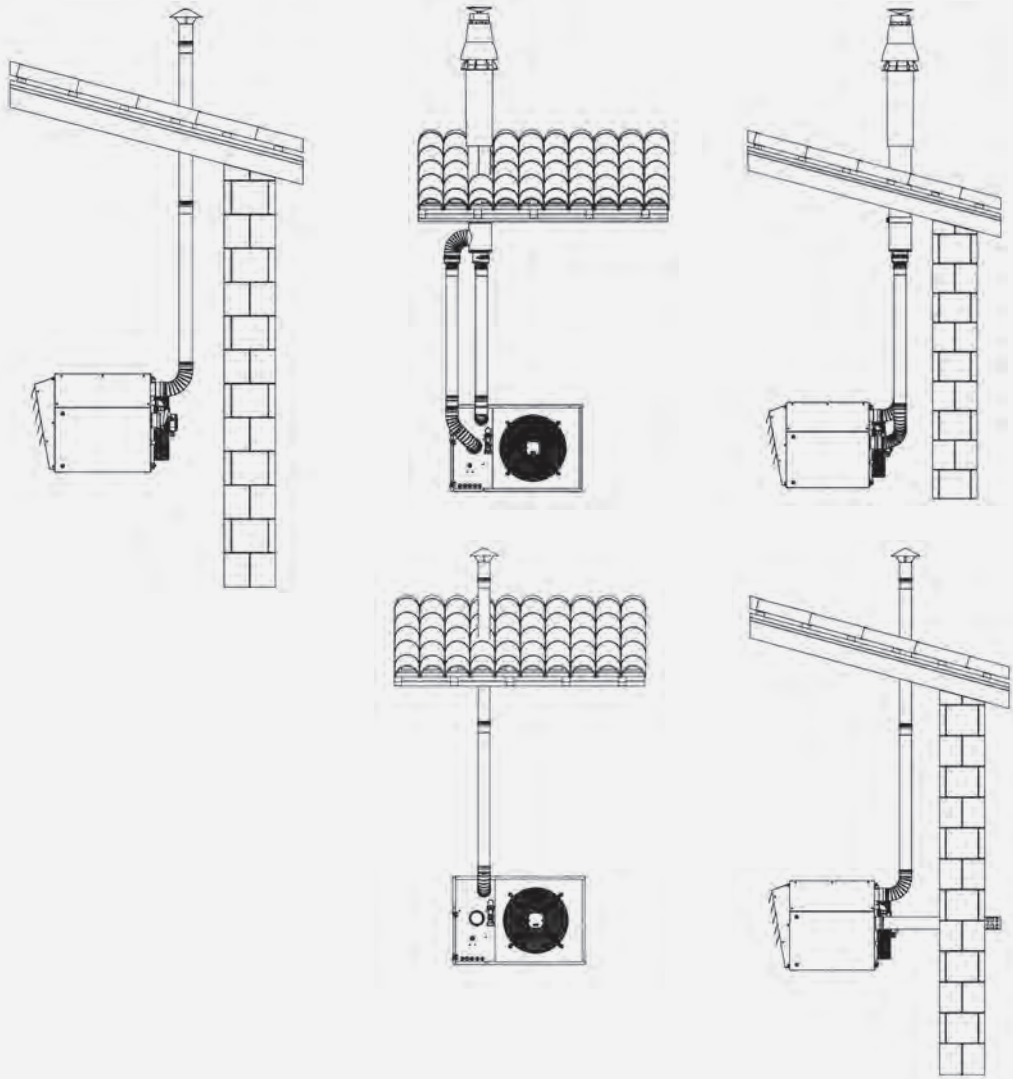
### Product allocation

|   |          |  | NBX30         | NBX40         | NBX50         | NBX60         | NBX90         | NBX120        |
|---|----------|--|---------------|---------------|---------------|---------------|---------------|---------------|
| Natural gas membrane G25<br>for natural gas   | Item no. |  | 300214        | 300215        | 300216        | 300216        | 300217        | 300213        |
|   | €        |  | <b>37,00</b>  | <b>37,00</b>  | <b>37,00</b>  | <b>37,00</b>  | <b>69,00</b>  | <b>69,00</b>  |
| LPG membrane G31<br>for LPG   | Item no. |  | 300218        | 300219        | 300220        | 300220        | 300221        | 300222        |
|   | €        |  | <b>37,00</b>  | <b>46,00</b>  | <b>37,00</b>  | <b>37,00</b>  | <b>69,00</b>  | <b>69,00</b>  |
| Control unit with serial communication<br>including day-night-control for up to 10 units<br><b>This is mandatory for operation.</b> | Item no. |  | 300139        | 300139        | 300139        | 300139        | 300139        | 300139        |
|   | €        |  | <b>282,00</b> | <b>282,00</b> | <b>282,00</b> | <b>282,00</b> | <b>282,00</b> | <b>282,00</b> |
| External room temperature sensor  | Item no. |  | 053293        | 053293        | 053293        | 053293        | 053293        | 053293        |
|   | €        |  | <b>119,00</b> | <b>119,00</b> | <b>119,00</b> | <b>119,00</b> | <b>119,00</b> | <b>119,00</b> |
| Wall brackets   | Item no. |  | 053288        | 053288        | 300138        | 300138        | 300138        | 300138        |
|   | €        |  | <b>329,00</b> | <b>329,00</b> | <b>329,00</b> | <b>329,00</b> | <b>329,00</b> | <b>329,00</b> |
| Hanging set   | Item no. |  | 300140        | 300140        | 300140        | 300140        | 300140        | 300140        |
|   | €        |  | <b>339,00</b> | <b>339,00</b> | <b>339,00</b> | <b>339,00</b> | <b>339,00</b> | <b>339,00</b> |
| Double pipe DN100/100<br>wall duct<br><b>For NBX30, NBX40, NBX50, NBX60,<br/>the transition piece 300144 is also required!</b>      | Item no. |  | 053294        | 053294        | 053294        | 053294        | 053294        | 053294        |
|   | €        |  | <b>483,00</b> | <b>483,00</b> | <b>483,00</b> | <b>483,00</b> | <b>483,00</b> | <b>483,00</b> |
| Double pipe DN100/100<br>roof duct<br><b>For NBX30, NBX40, NBX50, NBX60,<br/>transition piece 300144 is also required!</b>          | Item no. |  | 053296        | 053296        | 053296        | 053296        | 053296        | 053296        |
|   | €        |  | <b>709,00</b> | <b>709,00</b> | <b>709,00</b> | <b>709,00</b> | <b>709,00</b> | <b>709,00</b> |
| Length element 0,5 m DN80   | Item no. |  | 300141        | 300141        | 300141        | 300141        | –             | –             |
|   | €        |  | <b>56,00</b>  | <b>56,00</b>  | <b>56,00</b>  | <b>56,00</b>  | –             | –             |
| End piece (flue pipe) DN80  | Item no. |  | 300142        | 300142        | 300142        | 300142        | –             | –             |
|   | €        |  | <b>119,00</b> | <b>119,00</b> | <b>119,00</b> | <b>119,00</b> | –             | –             |
| Length element 0,5 m DN100  | Item no. |  | –             | –             | –             | –             | 034619        | 034619        |
|   | €        |  | –             | –             | –             | –             | <b>64,00</b>  | <b>64,00</b>  |
| End piece (flue pipe) DN100   | Item no. |  | –             | –             | –             | –             | 300143        | 300143        |
|   | €        |  | –             | –             | –             | –             | <b>127,00</b> | <b>127,00</b> |
| Adapter/<br>transition piece 80 mm<br>to 100 mm   | Item no. |  | 300144        | 300144        | 300144        | 300144        | –             | –             |
|   | €        |  | <b>46,00</b>  | <b>46,00</b>  | <b>46,00</b>  | <b>46,00</b>  | –             | –             |
| Bend 90° DN80 m/f   | Item no. |  | 300145        | 300145        | 300145        | 300145        | –             | –             |
|   | €        |  | <b>73,00</b>  | <b>73,00</b>  | <b>73,00</b>  | <b>73,00</b>  | –             | –             |
| Length component 1,0 m DN80   | Item no. |  | 300146        | 300146        | 300146        | 300146        | –             | –             |
|   | €        |  | <b>92,00</b>  | <b>92,00</b>  | <b>92,00</b>  | <b>92,00</b>  | –             | –             |
| Bend 90° DN100 m/f  | Item no. |  | –             | –             | –             | –             | 034630        | 034630        |
|   | €        |  | –             | –             | –             | –             | <b>92,00</b>  | <b>92,00</b>  |
| Length component 1,0 m DN100  | Item no. |  | –             | –             | –             | –             | 034617        | 034617        |
|   | €        |  | –             | –             | –             | –             | <b>109,00</b> | <b>109,00</b> |
| Bend 45° DN80 m/f   | Item no. |  | 300147        | 300147        | 300147        | 300147        | –             | –             |
|   | €        |  | <b>56,00</b>  | <b>56,00</b>  | <b>56,00</b>  | <b>56,00</b>  | –             | –             |
| Bend 45° DN100  | Item no. |  | –             | –             | –             | –             | 034626        | 034626        |
|   | €        |  | –             | –             | –             | –             | <b>73,00</b>  | <b>73,00</b>  |
| Rain cover DN80   | Item no. |  | 300148        | 300148        | 300148        | 300148        | –             | –             |
|   | €        |  | <b>83,00</b>  | <b>83,00</b>  | <b>83,00</b>  | <b>83,00</b>  | –             | –             |
| Rain cover DN100  | Item no. |  | –             | –             | –             | –             | 034621        | 034621        |
|   | €        |  | –             | –             | –             | –             | <b>99,00</b>  | <b>99,00</b>  |

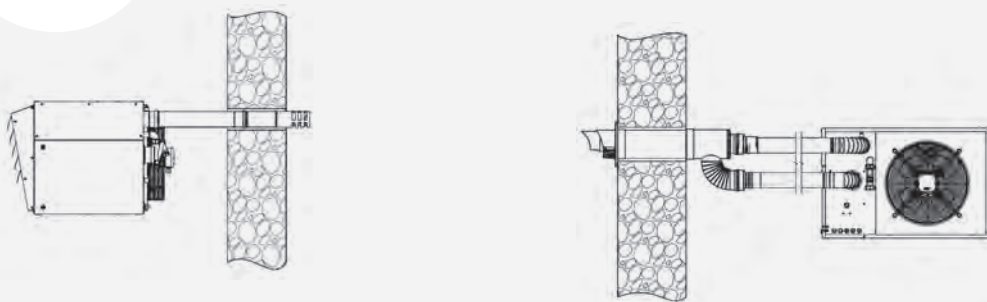
Further accessories available on request

Possible flue gas ducts

Roof duct

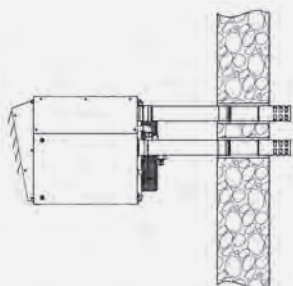


Wall duct



Wall duct  
exhaust gas

Separate  
wall duct  
exhaust gas





# Air Heater LH

## Draught-free and comfortable heat distribution



Economical



Additional recirculation mode



Space-saving



Multi-stage adjustable



Avoidance of draughts

The **air heaters** in the **LH series** are true all-rounders when it comes to heat and air distribution, whether for heating, ventilation as well as outdoor, mixed air or recirculation mode. The versatile devices are also characterised by multi-stage adjustment of the fan speed, which enables precise control over the air flow. They are equally suitable for wall or ceiling mounting and are suitable for any room, regardless of its size or purpose.

The air heaters are operated via the pipework system of a central heating system, whereby the integrated heat exchanger is made of high-

quality materials such as copper and aluminium and uses hot water as an efficient heating medium. With splash water protection rated at IP54, the devices are ideally equipped for different environments. An extensive range of models with a multi-stage fan enables a customised solution for every specific requirement.

The LH air heater ensures draught-free, comprehensive and extremely comfortable heat and air distribution in your premises. The low noise level ensures a pleasant room climate without disturbing noise pollution. Thanks to their compact design,

the LH air heaters are easy to install and extremely flexible to use. With the right accessories, a comfortable room climate becomes perfectly natural, and the LH series presents itself as a reliable solution for a wide range of heating and ventilation requirements in various environments.

### Area of application

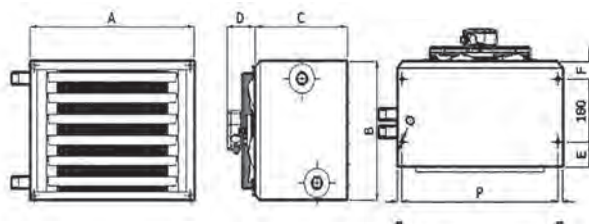
- Production halls
- Large garages
- Car workshops
- Exhibition and trade fair halls
- Sports halls

### Features

- Suitable for wall and ceiling mounting
- Fresh air, mixed air and recirculation mode possible
- For heating and ventilation
- Including air outlet louvre
- Heat exchanger made of Cu/Al
- Fans with crescent impeller



LH630



| Dimensions in mm | A   | B   | C     | D     | E  | F  | P   | Ø   |
|------------------|-----|-----|-------|-------|----|----|-----|-----|
| LH130            | 550 | 400 | 425   | 425   | 79 | 72 | 489 | M6* |
| LH230            | 600 | 450 | 446   | 446   | 79 | 72 | 539 | M6* |
| LH330            | 700 | 550 | 441   | 441   | 79 | 72 | 639 | M6* |
| LH430            | 750 | 600 | 451   | 451   | 79 | 72 | 689 | M6* |
| LH530            | 800 | 650 | 481   | 481   | 79 | 72 | 739 | M6* |
| LH630            | 850 | 700 | 1.031 | 1.031 | 79 | 72 | 789 | M6* |

## Technical data

### Power range 13 to 64 kW

|   |          | LH130           | LH230           | LH330           | LH430           | LH530           | LH630           |
|---|----------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Powder-coated housing                   | Item no. | 038973          | 038975          | 038977          | 038979          | 038981          | 038983          |
|   | €        | <b>1.567,00</b> | <b>1.287,00</b> | <b>1.429,00</b> | <b>1.521,00</b> | <b>1.712,00</b> | <b>2.110,00</b> |
| Heating capacity                        | kW       | 13,0–17,8       | 20,5–24,5       | 23,3–37,4       | 30,3–44,0       | 36,0–54,0       | 54,4–64,7       |
| Heating medium water, 90/70°C, air 15°C |          |                 |                 |                 |                 |                 |                 |
| Volume flow                             | m³/h     | 850–1.550       | 1.550–2.300     | 1.350–3.400     | 1.850–3.900     | 2.200–4.900     | 4.250–6.700     |
| Electrical input                        | V/Hz     | 230/50          | 230/50          | 230/50          | 230/50          | 230/50          | 400/50          |
| Electrical power consumption            | A        | 0.34            | 0.38            | 0.58            | 0.9             | 0.95            | 1,04            |
| Length                                  | mm       | 550             | 600             | 700             | 750             | 800             | 850             |
| Depth                                   | mm       | 425             | 446             | 441             | 451             | 481             | 1.031           |
| Height                                  | mm       | 400             | 450             | 550             | 600             | 650             | 700             |
| Weight                                  | kg       | 18              | 21              | 27              | 32              | 36              | 44              |
| Sound pressure level                    | dB(A)    | 50              | 51              | 53              | 53              | 53              | 52              |

### Accessories

#### Product allocation

|   |          | LH130           | LH230           | LH330           | LH430           | LH530           | LH630           |
|---|----------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| 5-step switch ST 5-1<br>for maximum 1.5 amps  | Item no. | 058499          | 058499          | 058499          | 058499          | 058499          | –               |
|   | €        | <b>291,00</b>   | <b>291,00</b>   | <b>291,00</b>   | <b>291,00</b>   | <b>291,00</b>   | –               |
| 5-step switch ST 5-7<br>for a maximum of 7 amps   | Item no. | 040121          | 040121          | 040121          | 040121          | 040121          | –               |
|   | €        | <b>733,00</b>   | <b>733,00</b>   | <b>733,00</b>   | <b>733,00</b>   | <b>733,00</b>   | –               |
| 1-step switch DST1  | Item no. | –               | –               | –               | –               | –               | 022071          |
|   | €        | –               | –               | –               | –               | –               | <b>401,00</b>   |
| 2-step switch DST2  | Item no. | –               | –               | –               | –               | –               | 022072          |
|   | €        | –               | –               | –               | –               | –               | <b>455,00</b>   |
| 5-step switch DST5-2  | Item no. | –               | –               | –               | –               | –               | 022074          |
|   | €        | –               | –               | –               | –               | –               | <b>1.008,00</b> |
| 5-step switch DST5-4  | Item no. | –               | –               | –               | –               | –               | 022075          |
|   | €        | –               | –               | –               | –               | –               | <b>1.165,00</b> |
| 5-step switch DST5-7  | Item no. | –               | –               | –               | –               | –               | 022076          |
|   | €        | –               | –               | –               | –               | –               | <b>1.388,00</b> |
| 5-step switch DST5-10   | Item no. | –               | –               | –               | –               | –               | 022077          |
|   | €        | –               | –               | –               | –               | –               | <b>1.768,00</b> |
| Intermediate terminal box IP65<br>for 2 to 5 devices  | Item no. | –               | –               | –               | –               | –               | 024361          |
|   | €        | –               | –               | –               | –               | –               | <b>303,00</b>   |
| Room thermostat RTI,<br>industrial version IP54<br>(splash-proof)   | Item no. | 005434          | 005434          | 005434          | 005434          | 005434          | 005434          |
|   | €        | <b>79,00</b>    | <b>79,00</b>    | <b>79,00</b>    | <b>79,00</b>    | <b>79,00</b>    | <b>79,00</b>    |
| Day-Night-Control<br>in plastic housing, for night setback,<br>with digital clock, power reserve,<br>daily and weekly programme,<br>including 1 room sensor | Item no. | 006708          | 006708          | 006708          | 006708          | 006708          | 006708          |
|   | €        | <b>1.039,00</b> | <b>1.039,00</b> | <b>1.039,00</b> | <b>1.039,00</b> | <b>1.039,00</b> | <b>1.039,00</b> |
| Brackets<br>for wall mounting   | Item no. | 039024          | 039024          | 039024          | 039024          | 039024          | 039024          |
|   | €        | <b>126,00</b>   | <b>126,00</b>   | <b>126,00</b>   | <b>126,00</b>   | <b>126,00</b>   | <b>126,00</b>   |
| Suspension brackets<br>for ceiling mounting   | Item no. | 042870          | 042870          | 042870          | 042870          | 042870          | 042870          |
|   | €        | <b>69,00</b>    | <b>69,00</b>    | <b>69,00</b>    | <b>69,00</b>    | <b>69,00</b>    | <b>69,00</b>    |
| Wide air outlet<br>galvanised   | Item no. | 042871          | 042873          | 042874          | 042875          | 042876          | 042877          |
|   | €        | <b>92,00</b>    | <b>95,00</b>    | <b>159,00</b>   | <b>186,00</b>   | <b>206,00</b>   | <b>234,00</b>   |
| Four-sided air outlet   | Item no. | 042881          | 042882          | 042890          | 042891          | 042892          | 042893          |
|   | €        | <b>351,00</b>   | <b>409,00</b>   | <b>277,00</b>   | <b>371,00</b>   | <b>358,00</b>   | <b>366,00</b>   |
| Air outlet cone   | Item no. | 042896          | 042897          | 042898          | 042899          | 042900          | 042901          |
|   | €        | <b>512,00</b>   | <b>575,00</b>   | <b>648,00</b>   | <b>713,00</b>   | <b>748,00</b>   | <b>836,00</b>   |



## Ceiling Fan DV

Saving energy through efficient heat distribution



Economical



Quiet



Immediately ready for use



Protected



Avoidance of draughts

The natural buoyancy causes heat to rise upwards, where it is not needed and is therefore lost. The **innovative Kroll ceiling fans DV** offer the ideal solution by actively guiding warm air downwards, thereby significantly reducing your heating costs. The use of ceiling fans for heat recirculation is particularly useful and effective in large, high-ceilinged rooms such as production and storage halls, workshops, sales rooms, industrial tents, greenhouses and animal breeding facilities.

The problem that often arises in such rooms is that warm air collects under the ceiling while the floor remains cold. To achieve a comfortable room temperature, the setpoint temperature is often increased unnecessarily, which leads to excessive fuel consumption. Heating costs can be reduced by up to 30 per cent thanks to even air distribution and the resulting temperature balance. The ceiling fans can be combined with

our various heating units such as S, M, NBX and LH series.

With an impressive air circulation rate of 15,000 m<sup>3</sup>/h and 300 rpm, our ceiling fans ensure fast and even heating of areas without long pre-heating times. Specially designed blades create a narrow air cone, which prevents shallow draughts. Our ceiling fans are also suitable for continuous operation, even at full capacity 24 hours a day.

Our practical accessories make operation child's play: stepless controls for up to twelve ceiling fans, optionally equipped with room sensors or speed controllers, ensure that the warm air reaches the desired area draught-free and energy-efficiently – for perfect temperature balancing in your space.



### Area of application

- Industrial and commercial buildings
- Greenhouses
- Production halls
- Sports facilities
- Warehouses
- Sales and showrooms
- Cooling in summer (recirculation mode)

### Features

- High air circulation rate
- Quiet operation
- Energy-saving high-performance motor
- All-metal design
- Long service life
- High operational reliability



### Recommendation

We recommend the use of ceiling fans from a ceiling height of three metres.

## Technical data

|                      |       | DV            |
|----------------------|-------|---------------|
| Item no.             |       | 006245        |
|                      | €     | <b>229,00</b> |
| Colour               |       | white         |
| Electrical input     | V/Hz  | 230/50        |
| Power consumption    | W     | 75            |
| Max. current         | A     | 0,35          |
| Max. speed           | U/min | 300           |
| Air circulation      | m³/h  | 15.000        |
| Sound pressure level | dB(A) | 52            |
| Weight               | kg    | 9,5           |
| Rotor diameter       | mm    | 1.420         |
| Overall height       | mm    | 690           |
| Packaging LxWxH      | mm    | 235x255x690   |
| Throw range*         | m     | 10            |

## Accessories

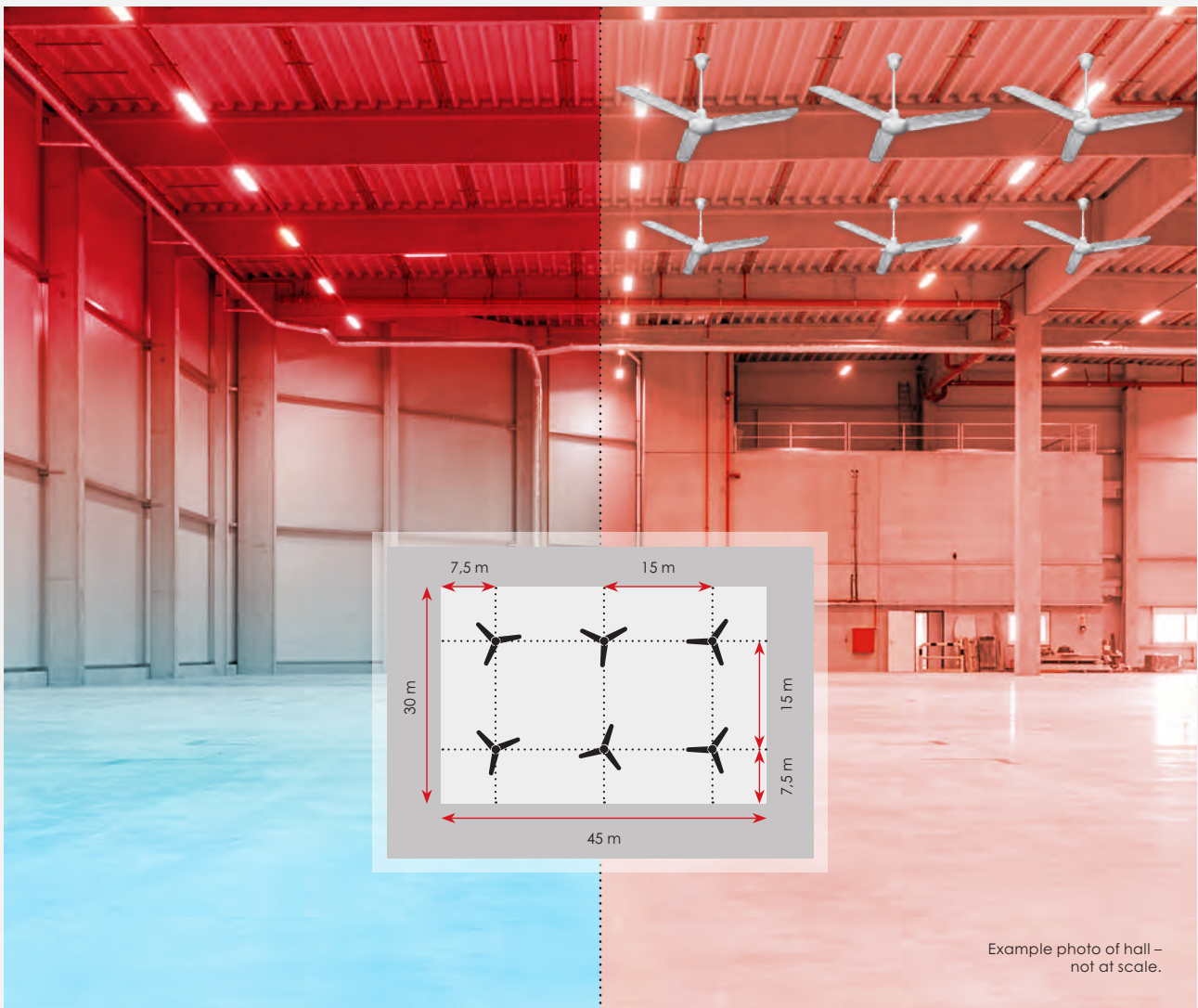
### Ceiling fans, also for air heaters and for all hot air generators

|  |          |                 |
|--|----------|-----------------|
| Ceiling fan  | Item no. | 006245          |
|  | €        | <b>229,00</b>   |
| Speed controller infinitely variable for up to 5 ceiling fans  | Item no. | 006735          |
|  | €        | <b>225,00</b>   |
| Control for 1 to 12 ceiling fans, including speed controller and 1 room sensor   | Item no. | 006900          |
|  | €        | <b>774,00</b>   |
| Control for 1 to 12 ceiling fans, including 2 room sensors, speed controller and digital clock, with day-night-control | Item no. | 006901          |
|  | €        | <b>1.846,00</b> |
| Differential temperature control for 1 to 12 ceiling fans, including 2 room sensors                                    | Item no. | 006902          |
|  | €        | <b>649,00</b>   |

\* Larger throw ranges on request.

**Without heat recovery:** high transmission losses

**With heat recovery through DV:** balanced temperatures



Example photo of hall – not at scale.

# Find the device that matches your requirements

Help us to recommend the right product for you by completing our checklist as far as possible and sending it to us.

We will get back to you as soon as possible.



Here you can download the checklist and digitally fill it out.



## Checklist Stationary Warm Air Heaters

### 1 Your contact details

Company: \_\_\_\_\_

Contact person: \_\_\_\_\_

Address: \_\_\_\_\_

Phone: \_\_\_\_\_ E-Mail: \_\_\_\_\_

### 2 Your object

Production hall  Storage hall  Showroom  Tent  \_\_\_\_\_

Year of construction \_\_\_\_\_

What is produced/stored in the hall? \_\_\_\_\_

#### Room size (room volume in m<sup>3</sup>)

Length (m) \_\_\_\_\_ Width (m) \_\_\_\_\_ Eave (m) \_\_\_\_\_ Ridge (m) \_\_\_\_\_

Gates: \_\_\_\_\_ Piece(s) \_\_\_\_\_ Often used:  Yes  No

Insulation of the building:  Good  Bad  None Or k-value \_\_\_\_\_ W/m<sup>2</sup>K

#### Temperatures

Outside temperature: \_\_\_\_\_ °C

Desired room temperature: \_\_\_\_\_ °C

### 3 Our product

Do you wish to receive a performance recommendation by Kroll?  Yes  No

Alternatively, you can specify your desired heating power: \_\_\_\_\_ kW

#### Device version

Place of installation:  In the room to be heated  In another room/heating room

Mounting:  Standing on the floor  Wall mounting  Suspended

Version:  Upright  Horizontal

Air intake:  Recirculating air  Mixed air  Fresh air

Air outlet:  Freely blowing  Duct system

Accessories:  Floor standing frame  Wall brackets

Other: \_\_\_\_\_

### 4 Energy source/combustible

Oil  Natural gas  LPG

Other: \_\_\_\_\_

### 5 Combustion air

From inside

From outside  Wall  Roof

### 6 Control

Room thermostat  Day-Night-Control  Control cabinet on site

### 7 Ceiling fans

Yes  No

Control:  Direct  In combination with S devices

### 8 Flue gas chimney

Inside, through roof  Outside, laterally via roof

### 9 Other – please add information regarding object or situation on site by sketches, drawings, photos etc.!

#### Use of equipment

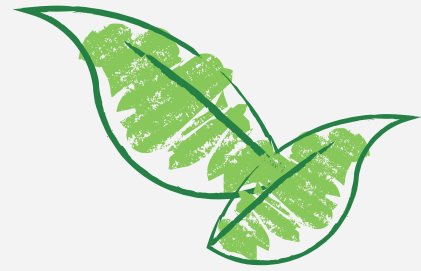
New  As replacement (in this case, please give us the technical data of the old unit)





# ErP Directive for Warm Air Heaters

## Heat requirement formula



### Explanation

ErP stands for Energy-related Products. The ErP Directive 2009/125/EC of the European Parliament and of the European Council of 21 October 2009 deals with the definition of requirements for the environmentally conscious design of energy-related products. This is implemented in Regulation 2016/2281 EC for warm air heaters. Once this regulation comes into force, hot-air heaters that do not fulfil the necessary requirements may no longer be placed on the market!

### Requirements

1. efficiency requirements (gas and oil)
2. limit values for nitrogen oxide emissions:
  - From 26 September 2018 maximum **100 mg/kWh** (180 mg/kWh oil)
  - From 01 January 2021 maximum **70 mg/kWh** (150 mg/kWh oil)
3. Information must be made freely and publicly available

### Implementation in two stages

1. from 01.01.2018: annual space heating utilization rate  $\eta_s$  at least 72 percent
2. from 01.01.2021: Annual space heating utilization rate  $\eta_s$  at least 78 percent

### Annual Space Heating Utilization Rate Definition

The annual space heating utilization rate is a key figure that considers the actual operation of heating systems. It is not the combustion efficiency.

The commission responsible for the directive has recognised that heating systems operate on average 85 percent at partial load – i. e. in the transitional periods – and only about 15 percent at full load, and therefore weights the heating efficiencies. Furthermore, inefficient burners, poor insulation and permanent ignition flames are considered with negative factors.

This means that different manufacturers can be compared objectively for the first time.

## Calculation for warm air heaters

The annual space heating utilization rate is calculated from various individual factors.

The formula for the calculation is attached.

Annual space heating utilisation factor  $\eta_s$ :

$$\eta_s = \eta_{s,ON} - \sum F_i$$

$$\eta_{s,ON} = \eta_{s,th} \cdot \eta_{s,flow}$$

$$\eta_{s,th} = (0,85 \eta_{min} + 0,15 \eta_{nom}) - F_{env}$$

$$\eta_{s,flow} = 1 - 9,78 \left( \frac{0,15P_{nom}}{AF_{nom}} + \frac{0,85P_{min}}{AF_{min}} \right)$$

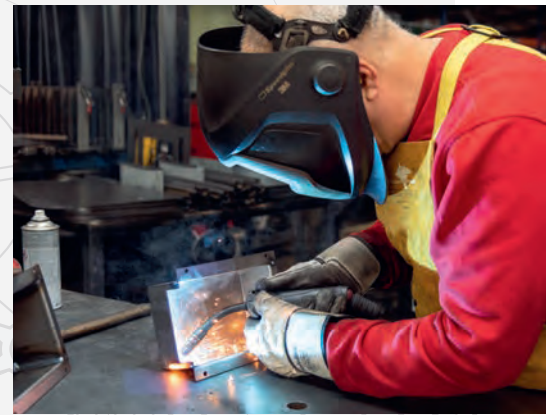
$\Sigma F_i$  = Correction factors

- Burner modulation
- Electric energy consumption
- Exhaust gas conveying
- Permanent pilot flame

Thermal efficiency                      Efficiency at heat output

# Planning, production, manufacturing

A look behind the scenes in our team



**Our employees are not just part of our company, they are the backbone of our success:**

With their experience and creativity, they create both proven classics and personalised customer solutions that take all needs into account.

From development and design to sales and the appropriate service – **with us you get everything from one source.**



# MOBILE Heaters/Hot Air Generators



Electric Heater **E**

Mobile Warm Air Heater **M**

Oil Heater **MA**

Gas Heater **P, PX**

Mobile Heating Centre **HM**





## Electric Heater E

Compact and portable heating and ventilation



Room thermostat  
(built-in)



Intuitive  
operation



Additional  
recirculation mode



Frost protection



Powered  
electrically

The **portable electric heaters** by Kroll offer the ideal solution for heating small to medium-sized rooms and serve as perfect auxiliary heaters in larger spaces. Their area of application ranges from workshops and horticulture to sales and exhibition rooms, storage rooms, building sites and construction containers. In these environments, Kroll's electric heaters provide pleasant and rapid warmth, especially during cold snaps or transitional periods.

Thanks to their electric operation, the electric heaters are also ideal for rooms that are poorly ventilated or not ventilated at all. Another outstanding feature is their instant operational availability without additional installations. The warm air is distributed efficiently via resistance heaters and is fed directly into the room by an axial

fan. The warm air temperature can be individually adjusted and is precisely regulated by an integrated thermostat. This enables flexible adjustment to the respective heating requirements.

One particularly useful function is during the summer months, when the electric heaters can also be used to ventilate rooms in recirculation mode. This versatility makes them year-round companions in different environments. The compact dimensions and portable design make them easy to transport and allow them to be quickly adapted to various locations.

In summary, the Kroll electric heaters offer a reliable and efficient heating solution for a wide range of applications, both in small workshops and in larger commercial or industrial environments.

### Area of application

- Workshops
- Garden centres
- Tents
- Sales and showrooms
- Warehouses
- Agriculture
- Building sites and construction containers

### Features

- No oxygen consumption
- No installations necessary
- Summer switch for recirculation mode available
- Integrated room thermostat
- No exhaust gases, odourless, no condensation



E18SH



Illustration  
with hose accessories.

## Technical data

### Power range 3 to 18 kW

|                              |       | E3            | E8              | E12             | E18             | E18SH           |
|------------------------------|-------|---------------|-----------------|-----------------|-----------------|-----------------|
| Item no.                     |       | 000138        | 000143          | 000147          | 000153          | 053432          |
| €                            |       | <b>618,00</b> | <b>1.099,00</b> | <b>1.240,00</b> | <b>1.375,00</b> | <b>2.385,00</b> |
| Nominal heat load            | kW    | 3             | 4/8             | 6/12            | 12/18           | 12/18           |
| Volume flow max.             | m³/h  | 185           | 420             | 735             | 960             | 1.450           |
| Pressure max.                | Pa    | –             | –               | –               | –               | 100             |
| Ambient temperature max.     | °C    | 40            | 40              | 40              | 40              | 60              |
| Temperature increase         | K     | 44            | 28/56           | 24/48           | 36,5/55         | 36/55           |
| Connector plug               |       | Schuko-plug   | 16 A CEE        | 32 A CEE        | 32 A CEE        | 32 A CEE        |
| Electrical input             | V/Hz  | 230/50        | 400/3N~         | 400/3N~         | 400/3N~         | 400/3N~         |
| Electrical power consumption | A     | 13,5          | 3x12            | 3x16,5          | 3x24,5          | 3x24,5          |
| Built-in room thermostat     |       | ●             | ●               | ●               | ●               | ●               |
| Heating capacity 2-stage     |       | –             | ●               | ●               | ●               | ●               |
| Width                        | mm    | 195           | 282             | 322             | 322             | 322             |
| Length                       | mm    | 333           | 532             | 667             | 667             | 990             |
| Height                       | mm    | 280           | 461             | 501             | 501             | 501             |
| Weight                       | kg    | 7,1           | 16,9            | 22,8            | 24,8            | 32,0            |
| Sound pressure level         | dB(A) | 52            | 56              | 56              | 56              | 64              |
| Protection                   | IP    | 20            | 20              | 20              | 20              | 20              |

● Included in the scope of delivery.

### Accessories

#### Product allocation

E18SH

|   |                                |          |               |                         |
|---|--------------------------------|----------|---------------|-------------------------|
| Hot air hose<br>muffle on both side                           | 3.0 m                          | Ø 305 mm | Item no.<br>€ | 045720<br><b>219,00</b> |
| Connecting piece<br>for hose extension for hot air hoses with |                                | Ø 305 mm | Item no.<br>€ | 002873<br><b>58,00</b>  |
| Room thermostat IP54<br>10 m cable, including plug            | adjustable from<br>0°C to 70°C |          | Item no.<br>€ | 056355<br><b>365,00</b> |

E12/E18



E8



E3





## MOBILE Warm Air Heater M

Efficient heating and drying on all construction sites



Economical



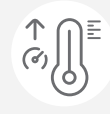
Heated  
oil filter



Free choice  
of fuel



Longevity



Fast  
heat supply

Our **mobile warm air heaters** of the **M series** not only convince with their fast and efficient heat supply, but also offer a range of features that make them a first-class choice for a wide selection of applications.

The broad spectrum of possible uses covers everything from the heating of tents and additional hall heating to construction heating and the associated drying and frost protection. This impressive flexibility enables even demanding construction projects to proceed without delay during the winter months, whether for new builds, renovations or modernisations.

Thanks to their compact design and high mobility, our units can be used almost anywhere, whether as a temporary heat source, emergency or transitional heater. The small M25, M50 and M70T models are characterised by their integrated oil tank and heating cartridge, which not only save space, but are also ready for immediate use when equipped with fuel. The larger models M70, M100, M150 and M200, on the other hand, are characterised by their drum fitting and heated oil filter, which ensure a quick start to operation.

Maximum mobility is ensured by additional swivel castors, crane eyes

and forklift mounts, allowing the units to be positioned flexibly as required.

The choice of fuel is in your hands, as the units are approved for use with both oil and gas. With an impressive efficiency of 93 per cent (Hi), our mobile hot air heaters set standards in terms of efficiency.

The integrated high-performance radial fans with a maximum pressure of up to 180 Pa enable the connection of hot air hose systems, even over long distances. This means that even remote areas or outdoor surfaces can be heated without any problems. Effective





Examples of application

heating is even guaranteed when the units are installed outdoors. The optional recirculation module, integrated as standard in the M150/ M200, contributes to efficient and economical operation.

The use of high-quality components such as the stainless steel combustion chamber and stainless steel heat exchanger with a chrome content of around 15 percent guarantees a long service life for the units. In addition, all fittings and control elements are designed to be service-friendly to enable convenient maintenance. When you choose our mobile air heaters, you are not only opting for

extremely reliable heat, but also for outstanding performance and durability that meets even the highest demands.

**i** **Note for units with air circulation module**

**M25 to M100:**  
One hose connection to the front on the suction side

**M150 to M200:**  
Two hose connections on the suction side, one on the right and one on the left of the unit

**The connection options can be found on pages 50 and 51.**

If the hose connection is on the suction side, it must be ensured that the hose(s) are not sucked together.

**We recommend dimensionally stable suction hoses.**

**Area of application**

- Tent heating
- Hall heating
- Construction heating
- Drying and frost protection
- Hire and rental

**Features**

- Burner connection for oil, natural gas, LPG and universal oil burners
- Heated oil filter
- Combustion chamber and heat exchanger made of stainless steel 1.4512
- Swivel castors from M70
- Radial blower with pressing power up to 180 Pa



Air outlet box with open blades



Air outlet box rear side

**Maintenance kits\***

|                      |               |          |               |
|----------------------|---------------|----------|---------------|
| Maintenance kit M25  | from index 17 | Item no. | S00007        |
|                      |               | €        | <b>145,00</b> |
| Maintenance kit M50  | from index 17 | Item no. | S00008        |
|                      |               | €        | <b>145,00</b> |
| Maintenance kit M70  | from index 17 | Item no. | S00010        |
|                      |               | €        | <b>298,00</b> |
| Maintenance kit M100 | from index 17 | Item no. | S00011        |
|                      |               | €        | <b>298,00</b> |
| Maintenance kit M150 | from index 17 | Item no. | S00012        |
|                      |               | €        | <b>305,00</b> |
| Maintenance kit M200 | from index 17 | Item no. | S00013        |
|                      |               | €        | <b>305,00</b> |

\* Maintenance kit includes pump filter, ignition electrode, nozzle and oil filter

## Technical data

### Power range 25 to 71 kW

| With tank                       |          |          |          |
|---------------------------------|----------|----------|----------|
| With oil burner                 |          |          |          |
|                                 | M25      | M50      | M70T     |
| Item no.                        | 040720   | 000296   | 101912   |
| €                               | 6.490,00 | 7.530,00 | 9.630,00 |
| With natural gas burner         |          |          |          |
|                                 | M25N     | M50N     | –        |
| Item no.                        | 050600   | 050602   | –        |
| €                               | 7.115,00 | 8.370,00 | –        |
| With LPG burner                 |          |          |          |
|                                 | M25F     | M50F     | –        |
| Item no.                        | 050601   | 050603   | –        |
| €                               | 7.115,00 | 8.160,00 | –        |
| With universal oil burner KG/UB |          |          |          |
|                                 | –        | M50U     | –        |
| Item no.                        | –        | 056382   | –        |
| €                               | –        | 8.970,00 | –        |

|                                 |        |             |            |            |
|---------------------------------|--------|-------------|------------|------------|
| Nominal heat load (Hi)          | kW     | 25          | 51         | 71         |
| Nominal heat output             | kW     | 22          | 46         | 64         |
| Volume flow (warm)              | m³/h   | 1.690       | 3.460      | 4.800      |
| Pressure max.                   | Pa     | 150         | 170        | 180        |
| Temperature increase            | K      | 78          | 54         | 56         |
| Oil consumption*                | kg/h   | 2,1         | 4,3        | 6,0        |
| Gas consumption (natural gas E) | m³/h   | 2,1         | 4,9        | –          |
| Gas consumption (LPG)           | kg/h   | 1,9         | 3,9        | –          |
| Electrical input                | V/Hz/A | 230/50/1,75 | 230/50/3,0 | 230/50/7,5 |
| Electrical power consumption    | kW     | 0,4         | 0,69       | 1,72       |
| Tank capacity                   | l      | 27          | 46         | 74         |
| Flue pipe                       | Ø mm   | 100         | 130        | 180        |
| Air outlet                      | Ø mm   | 295         | 385        | 445        |
| Air intake                      | Ø mm   | 295         | 385        | 445        |
| Width                           | mm     | 560         | 610        | 770        |
| Length                          | mm     | 1.140       | 1.220      | 1.480      |
| Height                          | mm     | 980         | 1.050      | 1.330      |
| Weight (without burner)         | kg     | 62          | 108        | 175        |
| Sound pressure level            | dB(A)  | 68          | 72         | 78         |

\* Heating oil consumption: 1 kg/h = 1.17 l/h (at 15°C)

Recirculation module for M25 to M70 on request!

Optional connections for hot air hoses on pages 50 and 51.



## Technical data

### Power range 25 to 71 kW

#### Without tank

| With oil burner |          |           |           |           |
|-----------------|----------|-----------|-----------|-----------|
|                 | M70      | M100      | M150      | M200      |
| Item no.        | 000301   | 000282    | 000284    | 000287    |
| €               | 9.205,00 | 10.880,00 | 15.480,00 | 19.670,00 |

#### With natural gas burner

|          | M70N      | M100N     | M150N     | M200N     |
|----------|-----------|-----------|-----------|-----------|
| Item no. | 050604    | 050606    | 050608    | 050610    |
| €        | 10.045,00 | 11.720,00 | 17.790,00 | 20.720,00 |

#### With LPG burner

|          | M70F     | M100F     | M150F     | M200F     |
|----------|----------|-----------|-----------|-----------|
| Item no. | 050605   | 050607    | 050609    | 050611    |
| €        | 9.835,00 | 11.720,00 | 16.745,00 | 20.090,00 |

#### With universal oil burner KG/UB

|          | M70U      | M100U     | M150U     | M200U**   |
|----------|-----------|-----------|-----------|-----------|
| Item no. | 056383    | 056384    | 056385    | 056386    |
| €        | 10.935,00 | 12.375,00 | 18.080,00 | 21.790,00 |

|                                 |        |              |            |            |            |
|---------------------------------|--------|--------------|------------|------------|------------|
| Nominal heat load (Hi)          | kW     | 71           | 100        | 140        | 188        |
| Nominal heat output             | kW     | 64           | 90         | 125        | 173        |
| Volume flow (warm)              | m³/h   | 4.800        | 6.750      | 9.850      | 12.210     |
| Pressure max.                   | Pa     | 180          | 150        | 150        | 150        |
| Temperature increase            | K      | 56           | 70         | 50         | 60         |
| Oil consumption*                | kg/h   | 6,0          | 8,4        | 11,8       | 15,8       |
| Gas consumption (natural gas E) | m³/h   | 6,8          | 9,6        | 13,5       | 18,1       |
| Gas consumption (LPG)           | kg/h   | 5,5          | 7,7        | 10,8       | 14,6       |
| Electrical input                | V/Hz/A | 230/50/6,4   | 400/50/2,0 | 400/50/2,0 | 400/50/4,2 |
| Electrical power consumption    | kW     | 1,47         | 1,38       | 1,38       | 2,9        |
| Tank capacity                   | l      | Without tank |            |            |            |
| Flue pipe                       | ∅ mm   | 180          | 180        | 180        | 180        |
| Air outlet                      | ∅ mm   | 445          | 550        | 550        | 550        |
| Air intake                      | ∅ mm   | 445          | 550        | 2 x 520    | 2 x 520    |
| Width                           | mm     | 770          | 940        | 940        | 940        |
| Length                          | mm     | 1.480        | 1.830      | 2.310      | 2.450      |
| Height                          | mm     | 1.120        | 1.300      | 1.430      | 1.630      |
| Weight (without burner)         | kg     | 134          | 190        | 270        | 330        |
| Sound pressure level            | dB(A)  | 78           | 77         | 75         | 75         |

\* Heating oil consumption: 1 kg/h = 1.17 l/h (at 15°C)

\*\* Attention: Supply line with 16 A (C16) cable protection required!

Recirculation module for M70 to M100 on request!

Connection options for hot air hoses on pages 50 and 51.

## Accessories

### Product allocation

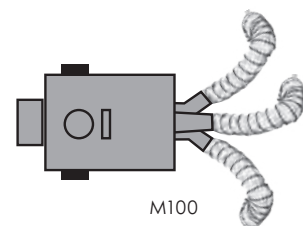
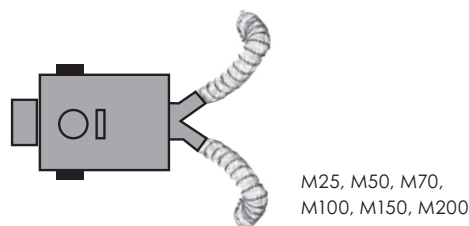
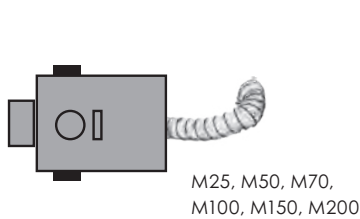
| M25<br>M25N<br>M25F | M50<br>M50N<br>M50F<br>M50U | M70<br>M70T<br>M70N<br>M70F<br>M70U | M100<br>M100N<br>M100F<br>M100U | M150<br>M150N<br>M150F<br>M150U | M200<br>M200N<br>M200F<br>M200U |
|---------------------|-----------------------------|-------------------------------------|---------------------------------|---------------------------------|---------------------------------|
|---------------------|-----------------------------|-------------------------------------|---------------------------------|---------------------------------|---------------------------------|

| Item description   | Item no.      | 000729                  | 049585                  | 002419                  | 012575                  | 012527                  | 037789                  | 012566                  | 012576                  | 012528                  | 065076                  | 012529                  | 065077                  | 012530                  |
|--|---------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| Room thermostat IP54<br>10 m cable, including plug adjustable from 0°C to 50°C | Item no.<br>€ | 000729<br><b>183,00</b> | 000729<br><b>183,00</b> | 000729<br><b>183,00</b> | 000729<br><b>183,00</b> | 000729<br><b>183,00</b> | 000729<br><b>183,00</b> | 000729<br><b>183,00</b> | 000729<br><b>183,00</b> | 000729<br><b>183,00</b> | 000729<br><b>183,00</b> | 000729<br><b>183,00</b> | 000729<br><b>183,00</b> | 000729<br><b>183,00</b> |
| Room thermostat IP54<br>22 m cable, including plug adjustable from 0°C to 50°C | Item no.<br>€ | 049585<br><b>223,00</b> | 049585<br><b>223,00</b> | 049585<br><b>223,00</b> | 049585<br><b>223,00</b> | 049585<br><b>223,00</b> | 049585<br><b>223,00</b> | 049585<br><b>223,00</b> | 049585<br><b>223,00</b> | 049585<br><b>223,00</b> | 049585<br><b>223,00</b> | 049585<br><b>223,00</b> | 049585<br><b>223,00</b> | 049585<br><b>223,00</b> |
| Air outlet adapter 1 way Ø 425 mm  | Item no.<br>€ | -<br>-                  | 002419<br><b>151,00</b> | -<br>-                  | -<br>-                  | -<br>-                  | -<br>-                  | -<br>-                  | -<br>-                  | -<br>-                  | -<br>-                  | -<br>-                  | -<br>-                  | -<br>-                  |
| Air outlet adapter 1 way Ø 425 mm  | Item no.<br>€ | -<br>-                  | -<br>-                  | 012575<br><b>164,00</b> | -<br>-                  | -<br>-                  | -<br>-                  | -<br>-                  | -<br>-                  | -<br>-                  | -<br>-                  | -<br>-                  | -<br>-                  | -<br>-                  |
| Air outlet adapter 1 way Ø 525 mm  | Item no.<br>€ | -<br>-                  | -<br>-                  | -<br>-                  | 012527<br><b>255,00</b> | 012527<br><b>255,00</b> | 012527<br><b>255,00</b> | 012527<br><b>255,00</b> | 012527<br><b>255,00</b> | 012527<br><b>255,00</b> | 012527<br><b>255,00</b> | 012527<br><b>255,00</b> | 012527<br><b>255,00</b> | 012527<br><b>255,00</b> |
| Air outlet adapter 2 ways Ø 254 mm   | Item no.<br>€ | 037789<br><b>289,00</b> | -<br>-                  | -<br>-                  | -<br>-                  | -<br>-                  | -<br>-                  | -<br>-                  | -<br>-                  | -<br>-                  | -<br>-                  | -<br>-                  | -<br>-                  | -<br>-                  |
| Air outlet adapter 2 ways Ø 305 mm   | Item no.<br>€ | -<br>-                  | 012566<br><b>313,00</b> | -<br>-                  | -<br>-                  | -<br>-                  | -<br>-                  | -<br>-                  | -<br>-                  | -<br>-                  | -<br>-                  | -<br>-                  | -<br>-                  | -<br>-                  |
| Air outlet adapter 2 ways Ø 305 mm   | Item no.<br>€ | -<br>-                  | -<br>-                  | 012576<br><b>343,00</b> | -<br>-                  | -<br>-                  | -<br>-                  | -<br>-                  | -<br>-                  | -<br>-                  | -<br>-                  | -<br>-                  | -<br>-                  | -<br>-                  |
| Air outlet adapter 2 ways Ø 305 mm   | Item no.<br>€ | -<br>-                  | -<br>-                  | -<br>-                  | 012528<br><b>428,00</b> | -<br>-                  | -<br>-                  | -<br>-                  | -<br>-                  | -<br>-                  | -<br>-                  | -<br>-                  | -<br>-                  | -<br>-                  |
| Air outlet adapter 2 ways Ø 525 mm   | Item no.<br>€ | -<br>-                  | -<br>-                  | -<br>-                  | -<br>-                  | 065076<br><b>875,00</b> | 065076<br><b>875,00</b> | 065076<br><b>875,00</b> | 065076<br><b>875,00</b> | 065076<br><b>875,00</b> | 065076<br><b>875,00</b> | 065076<br><b>875,00</b> | 065076<br><b>875,00</b> | 065076<br><b>875,00</b> |
| Air outlet adapter 3 ways Ø 305 mm   | Item no.<br>€ | -<br>-                  | -<br>-                  | -<br>-                  | 012529<br><b>527,00</b> | 012529<br><b>527,00</b> | -<br>-                  | -<br>-                  | -<br>-                  | -<br>-                  | -<br>-                  | -<br>-                  | -<br>-                  | -<br>-                  |
| Air outlet adapter 3 ways Ø 425 mm   | Item no.<br>€ | -<br>-                  | -<br>-                  | -<br>-                  | -<br>-                  | -<br>-                  | -<br>-                  | -<br>-                  | -<br>-                  | -<br>-                  | -<br>-                  | 065077<br><b>646,00</b> | 065077<br><b>646,00</b> | 065077<br><b>646,00</b> |
| Air outlet adapter 4 ways Ø 305 mm   | Item no.<br>€ | -<br>-                  | -<br>-                  | -<br>-                  | -<br>-                  | -<br>-                  | -<br>-                  | -<br>-                  | 012530<br><b>646,00</b> | 012530<br><b>646,00</b> | 012530<br><b>646,00</b> | 012530<br><b>646,00</b> | 012530<br><b>646,00</b> | 012530<br><b>646,00</b> |

### Connection variants for hot air hoses

- M25 to M100:** One hose connection to the front on the suction side.
- M150 to M200:** Two hose connections on the suction side, one on the right and one on the left of the unit

With a hose connection on the intake side, it must be ensured that the hose(s) are not sucked together. **We recommend dimensionally stable intake hoses.**



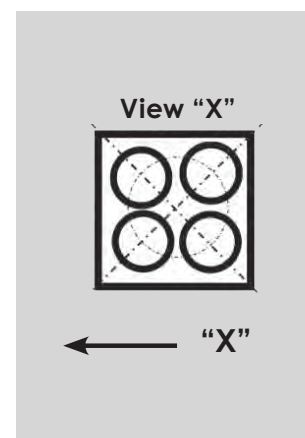
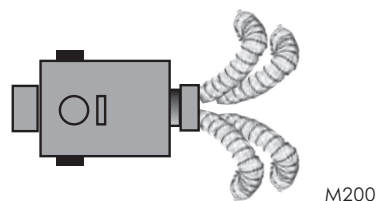
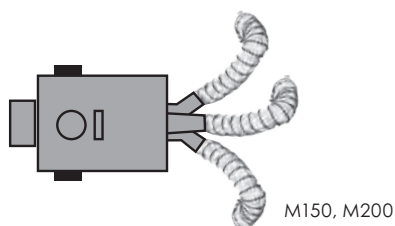
## Accessories

### Product allocation

| M25<br>M25N<br>M25F | M50<br>M50N<br>M50F<br>M50U | M70<br>M70T<br>M70N<br>M70F<br>M70U | M100<br>M100N<br>M100F<br>M100U | M150<br>M150N<br>M150F<br>M150U | M200<br>M200N<br>M200F<br>M200U |
|---------------------|-----------------------------|-------------------------------------|---------------------------------|---------------------------------|---------------------------------|
|---------------------|-----------------------------|-------------------------------------|---------------------------------|---------------------------------|---------------------------------|

| Description  | Ø              | Item no.   | €             | M25           | M50           | M70           | M100            | M150            | M200            |
|--|----------------|------------|---------------|---------------|---------------|---------------|-----------------|-----------------|-----------------|
| Connecting piece for extending hot air hoses with  | Ø 305 mm       | Item no. € | –             | 002873        | 002873        | 002873        | 002873          | 002873          | 002873          |
|  |                |            | –             | <b>58,00</b>  | <b>58,00</b>  | <b>58,00</b>  | <b>58,00</b>    | <b>58,00</b>    | <b>58,00</b>    |
| Connecting piece for extending hot air hoses with  | Ø 425 mm       | Item no. € | –             | 002909        | 002909        | –             | –               | –               | –               |
|  |                |            | –             | <b>83,00</b>  | <b>83,00</b>  | –             | –               | –               | –               |
| Connecting piece for extending hot air hoses with  | Ø 525 mm       | Item no. € | –             | –             | –             | –             | 002800          | 002800          | 002800          |
|  |                |            | –             | –             | –             | –             | <b>120,00</b>   | <b>120,00</b>   | <b>120,00</b>   |
| Connecting piece for extending hot air hoses with  | Ø 560 mm       | Item no. € | –             | –             | –             | –             | 026985          | 026985          | –               |
|  |                |            | –             | –             | –             | –             | <b>204,00</b>   | <b>204,00</b>   | –               |
| Air outlet box for hoses with                      | Ø 560 mm       | Item no. € | –             | –             | –             | –             | 052623          | 052623          | 052623          |
|  |                |            | –             | –             | –             | –             | <b>1.559,00</b> | <b>1.559,00</b> | <b>1.559,00</b> |
| Connection adapter from Ø 305 mm to air outlet box |                | Item no. € | –             | 300105        | 300105        | 300105        | 300105          | 300105          | 300105          |
|  |                |            | –             | <b>186,00</b> | <b>186,00</b> | <b>186,00</b> | <b>186,00</b>   | <b>186,00</b>   | <b>186,00</b>   |
| Connection adapter from Ø 425 mm to air outlet box |                | Item no. € | –             | 300106        | 300106        | –             | –               | –               | –               |
|  |                |            | –             | <b>179,00</b> | <b>179,00</b> | –             | –               | –               | –               |
| Connection adapter from Ø 525 mm to air outlet box |                | Item no. € | –             | –             | –             | –             | 300107          | 300107          | 300107          |
|  |                |            | –             | –             | –             | –             | <b>179,00</b>   | <b>179,00</b>   | <b>179,00</b>   |
| Flue pipe made of stainless steel, flexible        | 3,0 m Ø 100 mm | Item no. € | 006305        | –             | –             | –             | –               | –               | –               |
|  |                |            | <b>289,00</b> | –             | –             | –             | –               | –               | –               |
| Flue pipe made of stainless steel, flexible        | 3,0 m Ø 130 mm | Item no. € | –             | 006306        | –             | –             | –               | –               | –               |
|  |                |            | –             | <b>406,00</b> | –             | –             | –               | –               | –               |
| Flue pipe made of stainless steel, flexible        | 3,0 m Ø 180 mm | Item no. € | –             | –             | 006307        | 006307        | 006307          | 006307          | 006307          |
|  |                |            | –             | –             | <b>502,00</b> | <b>502,00</b> | <b>502,00</b>   | <b>502,00</b>   | <b>502,00</b>   |
| Flue pipe made of sheet steel, fire-aluminised     | 1,0 m Ø 100 mm | Item no. € | 012473        | –             | –             | –             | –               | –               | –               |
|  |                |            | <b>69,00</b>  | –             | –             | –             | –               | –               | –               |
| Flue pipe made of sheet steel, fire-aluminised     | 1,0 m Ø 130 mm | Item no. € | –             | 012474        | –             | –             | –               | –               | –               |
|  |                |            | –             | <b>75,00</b>  | –             | –             | –               | –               | –               |

### Connection variants for hot air hoses



## Accessories

### Product allocation

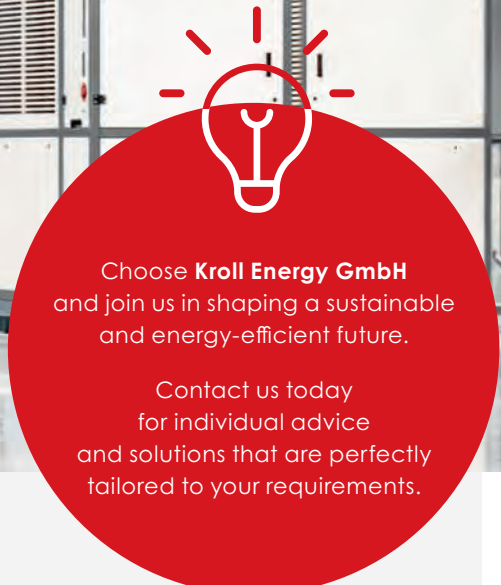
| M25<br>M25N<br>M25F | M50<br>M50N<br>M50F<br>M50U | M70<br>M70T<br>M70N<br>M70F<br>M70U | M100<br>M100N<br>M100F<br>M100U | M150<br>M150N<br>M150F<br>M150U | M200<br>M200N<br>M200F<br>M200U |
|---------------------|-----------------------------|-------------------------------------|---------------------------------|---------------------------------|---------------------------------|
|---------------------|-----------------------------|-------------------------------------|---------------------------------|---------------------------------|---------------------------------|

|  |       |          | Item no.      | M25                     | M50                     | M70                     | M100                    | M150                    | M200                    |
|--|-------|----------|---------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| Flue pipe<br>made of sheet steel, fire-aluminised                      | 1,0 m | Ø 180 mm | Item no.<br>€ | –<br>–                  | –<br>–                  | 012477<br><b>123,00</b> | 012477<br><b>123,00</b> | 012477<br><b>123,00</b> | 012477<br><b>123,00</b> |
| Flue pipe<br>made of sheet steel, fire-aluminised                      | 90°   | Ø 100 mm | Item no.<br>€ | 012488<br><b>53,00</b>  | –<br>–                  | –<br>–                  | –<br>–                  | –<br>–                  | –<br>–                  |
| Flue pipe<br>made of sheet steel, fire-aluminised                      | 90°   | Ø 130 mm | Item no.<br>€ | –<br>–                  | 012489<br><b>61,00</b>  | –<br>–                  | –<br>–                  | –<br>–                  | –<br>–                  |
| Flue pipe<br>made of sheet steel, fire-aluminised                      | 90°   | Ø 180 mm | Item no.<br>€ | –<br>–                  | –<br>–                  | 012492<br><b>136,00</b> | 012492<br><b>136,00</b> | 012492<br><b>136,00</b> | 012492<br><b>136,00</b> |
| Rain cover for flue pipe<br>made of sheet steel, fire-aluminised       |       | Ø 100 mm | Item no.<br>€ | 012503<br><b>87,00</b>  | –<br>–                  | –<br>–                  | –<br>–                  | –<br>–                  | –<br>–                  |
| Rain cover for flue pipe<br>made of sheet steel, fire-aluminised       |       | Ø 130 mm | Item no.<br>€ | –<br>–                  | 012504<br><b>105,00</b> | –<br>–                  | –<br>–                  | –<br>–                  | –<br>–                  |
| Rain cover for flue pipe<br>made of sheet steel, fire-aluminised       |       | Ø 180 mm | Item no.<br>€ | –<br>–                  | –<br>–                  | 012507<br><b>136,00</b> | 012507<br><b>136,00</b> | 012507<br><b>136,00</b> | 012507<br><b>136,00</b> |
| Recirculation module<br>including burner cladding                      |       | Ø 295 mm | Item no.<br>€ | 050620<br><b>684,00</b> | –<br>–                  | –<br>–                  | –<br>–                  | –<br>–                  | –<br>–                  |
| Recirculation module<br>including burner cladding                      |       | Ø 385 mm | Item no.<br>€ | –<br>–                  | 050621<br><b>690,00</b> | –<br>–                  | –<br>–                  | –<br>–                  | –<br>–                  |
| Recirculation module<br>including burner cladding                      |       | Ø 445 mm | Item no.<br>€ | –<br>–                  | –<br>–                  | 050622<br><b>720,00</b> | –<br>–                  | –<br>–                  | –<br>–                  |
| Recirculation module<br>including burner cladding                      |       | Ø 550 mm | Item no.<br>€ | –<br>–                  | –<br>–                  | –<br>–                  | 050623<br><b>980,00</b> | –<br>–                  | –<br>–                  |
| Hot air hose*<br>with fastening strap and carrying bag                 | 7,6 m | Ø 254 mm | Item no.<br>€ | 059881<br><b>289,00</b> | –<br>–                  | –<br>–                  | –<br>–                  | –<br>–                  | –<br>–                  |
| Hot air hose**<br>with fastening strap and carrying bag                | 7,6 m | Ø 305 mm | Item no.<br>€ | 005417<br><b>324,00</b> | 005417<br><b>324,00</b> | 005417<br><b>324,00</b> | 005417<br><b>324,00</b> | 005417<br><b>324,00</b> | 005417<br><b>324,00</b> |
| Hot air hose***<br>with fastening strap and carrying bag               | 7,6 m | Ø 425 mm | Item no.<br>€ | –<br>–                  | 005418<br><b>398,00</b> | 005418<br><b>398,00</b> | –<br>–                  | –<br>–                  | –<br>–                  |
| Hot air hose****<br>with fastening strap and carrying bag              | 7,6 m | Ø 525 mm | Item no.<br>€ | –<br>–                  | –<br>–                  | –<br>–                  | 005597<br><b>460,00</b> | 005597<br><b>460,00</b> | 005597<br><b>460,00</b> |
| Hot air hose*****<br>with fastening strap and carrying bag             | 7,6 m | Ø 560 mm | Item no.<br>€ | –<br>–                  | –<br>–                  | –<br>–                  | 026991<br><b>474,00</b> | 026991<br><b>474,00</b> | 026991<br><b>474,00</b> |
| Form-stable hot air hose<br>with two fastening straps and carrying bag | 7,6 m | Ø 525 mm | Item no.<br>€ | –<br>–                  | –<br>–                  | –<br>–                  | 301622<br><b>812,00</b> | 301622<br><b>812,00</b> | 301622<br><b>812,00</b> |

Further form-stable hot air hoses on request!

Perforated, textile hot air hoses on request!

- \* **M25:** for pressure-side connection to air outlet adapter 037789
- \*\* **M25:** direct connection  
**M50 to M200:** for pressure-side connection to diverse air outlet adapters
- \*\*\* **M50:** transition piece 002419 is required  
**M70:** transition piece 012575 is required
- \*\*\*\* **M100 to M200:** for connection to distribution piece 012527  
**M150 and M200:** intake-side direct connection
- \*\*\*\*\* **M100 to M200:** direct connection  
**M150 and M200:** pressure side only



Choose **Kroll Energy GmbH** and join us in shaping a sustainable and energy-efficient future.

Contact us today for individual advice and solutions that are perfectly tailored to your requirements.

## Why Kroll Energy?




**Products and services**

The core business of **Kroll Energy GmbH** focuses on a wide range of modern heating and air conditioning systems that meet the highest efficiency standards. Our experts will help you find the ideal product for your needs, be it a mobile heat pump or other stationary and mobile heating devices in our portfolio.




**Sustainability and environmental awareness**

Sustainability is at the heart of our business philosophy. By providing energy-efficient heating and air conditioning solutions, we help companies and private customers to reduce their energy costs and at the same time make a contribution to environmental protection.



**Quality standards**


Our products and services meet the highest quality standards. We work with renowned suppliers to ensure durable and efficient solutions. This is also proven by our exceptionally low complaint rates.



**Customer satisfaction**


The needs of our customers are at the heart of everything we do. We strive for long-term partnerships and attach great importance to

personal and competent advice. Our products and services are designed to be not only efficient, but also cost-effective and user-friendly.



**Innovation**

The world is changing and we are always on the lookout for new technologies and solutions to offer our customers the best and most sustainable options in the heating and air conditioning industry.



**Expertise and experience**

We have more than 60 years of experience in the heating and air conditioning industry. Our highly qualified team offers expertise and experience to realize the most demanding projects. Our long-standing presence and continuous development have earned us a reputation built on quality, innovation and reliability.





## Oil Heater MA

Direct and fast heat with our mobile heating cannons



Economical



Heated oil filter



Mobile



Intuitive operation



Fast heat supply

The **versatile oil heaters** of the **MA series** from Kroll Energy are suitable for a wide range of applications, whether in construction and agriculture, workshops, halls, tents, greenhouses, animal breeding facilities or other large spaces. The MA series is characterized by its cost-efficient and fast heat supply and is ready for operation extremely fast. The units are easily operated with diesel or heating oil and a 230 V/50 Hz connection, which makes them uncomplicated to use.

To ensure an optimum oil supply, each device in the MA range has an integrated high-pressure pump that efficiently pumps the oil from the attached tank. In addition, all MA models have a built-in room thermostat connection to enable precise control of the heat output.

Another practical feature is the factory-integrated heated oil filter (except MA22), which ensures smooth functionality.

For even heat distribution, the units in the MA range (except MA22) can be operated with a hot air hose. This only requires an additional adapter.

The compact dimensions of the devices combined with a practical handle make them particularly easy to transport, which makes the MA oil heaters ideal for use in changing locations.

Overall, the MA models from Kroll Energy therefore represent a reliable and flexible solution for a variety of heating applications in diverse environments.

### Area of application

- Construction and agriculture
- Workshops
- Halls
- Tents
- Greenhouses
- Animal breeding facilities
- Drying of new buildings or water damage

### Features

- Stainless steel combustion chamber
- Practical handle
- Economical
- Integrated high-pressure pump
- Approx. 90 percent efficiency
- Integrated heated oil filter from MA32
- Hot air hose connection from MA32



MA32

### Maintenance kits\*

|                      |          |              |
|----------------------|----------|--------------|
| Maintenance kit MA22 | Item no. | S00014       |
|                      | €        | <b>62,00</b> |
| Maintenance kit MA32 | Item no. | S00015       |
|                      | €        | <b>74,00</b> |
| Maintenance kit MA59 | Item no. | S00016       |
|                      | €        | <b>78,00</b> |
| Maintenance kit MA91 | Item no. | S00017       |
|                      | €        | <b>85,00</b> |

\* Maintenance kit includes ignition electrode, nozzle and oil filter

## Technical data

|                                |          | MA22            | MA32            | MA59            | MA91            |
|--------------------------------|----------|-----------------|-----------------|-----------------|-----------------|
| <b>Power range 23 to 90 kW</b> | Item no. | 046325          | 046439          | 046440          | 046441          |
|                                | €        | <b>1.985,00</b> | <b>2.650,00</b> | <b>2.975,00</b> | <b>3.580,00</b> |
| Nominal heat load (Hi)         | kW       | 22              | 32              | 55              | 85              |
| Volume flow                    | m³/h     | 550             | 1.150           | 2.500           | 4.300           |
| Temperature increase           | K        | 97              | 71              | 57              | 51              |
| Oil consumption*               | kg/h     | 1,85            | 2,70            | 4,64            | 7,17            |
| Electrical input               | V/Hz     | 230/50          | 230/50          | 230/50          | 230/50          |
| Electrical power consumption   | kW       | 0,3             | 0,37            | 0,85            | 1,14            |
| Tank capacity                  | l        | 42              | 42              | 65              | 105             |
| Flue pipe connection           | Ø mm     | 120             | 150             | 150             | 150             |
| Room thermostat connection     |          | ●               | ●               | ●               | ●               |
| Heated oil filter              |          | –               | ●               | ●               | ●               |
| Width                          | mm       | 482             | 482             | 555             | 690             |
| Length                         | mm       | 1.098           | 1.209           | 1.435           | 1.740           |
| Height                         | mm       | 664             | 738             | 940             | 1.025           |
| Weight                         | kg       | 43              | 55              | 81              | 110             |
| Sound pressure level at 1 m    | dB(A)    | 69              | 72              | 72              | 75              |
| Sound pressure level at 2 m    | dB(A)    | 65              | 69              | 70              | 71              |

\* Heating oil consumption: 1 kg/h = 1.17 l/h (at 15°C)

● Included in the scope of delivery.

## Accessories

|  |                 |          |          | Product allocation |               |               |               |
|--|-----------------|----------|----------|--------------------|---------------|---------------|---------------|
|  |                 |          |          | MA22               | MA32          | MA59          | MA91          |
| Room thermostat IP54   | adjustable from |          | Item no. | 000729             | 000729        | 000729        | 000729        |
| 10 m cable, including plug                                   | 0°C to 50°C     |          | €        | <b>183,00</b>      | <b>183,00</b> | <b>183,00</b> | <b>183,00</b> |
| Room thermostat IP54   | adjustable from |          | Item no. | 049585             | 049585        | 049585        | 049585        |
| 22 m cable, including plug                                   | 0°C to 50°C     |          | €        | <b>223,00</b>      | <b>223,00</b> | <b>223,00</b> | <b>223,00</b> |
| Air outlet adapter   | 1 way           | Ø 300 mm | Item no. | –                  | 046410        | –             | –             |
|  |                 |          | €        | –                  | <b>205,00</b> | –             | –             |
| Air outlet adapter   | 1 way           | Ø 350 mm | Item no. | –                  | –             | 046411        | –             |
|  |                 |          | €        | –                  | –             | <b>265,00</b> | –             |
| Air outlet adapter   | 1 way           | Ø 400 mm | Item no. | –                  | –             | –             | 046412        |
|  |                 |          | €        | –                  | –             | –             | <b>331,00</b> |
| Flue pipe<br>made of stainless steel                         | 1,0 m           | Ø 120 mm | Item no. | 046415             | –             | –             | –             |
|  |                 |          | €        | <b>105,00</b>      | –             | –             | –             |
| Flue pipe bend<br>made of stainless steel                    | 90°             | Ø 120 mm | Item no. | 046417             | –             | –             | –             |
|  |                 |          | €        | <b>105,00</b>      | –             | –             | –             |
| Flue pipe rain cover<br>made of stainless steel              |                 | Ø 120 mm | Item no. | 046419             | –             | –             | –             |
|  |                 |          | €        | <b>103,00</b>      | –             | –             | –             |
| Flue pipe<br>made of stainless steel, flexible               | 3,0 m           | Ø 150 mm | Item no. | –                  | 031267        | 031267        | 031267        |
|  |                 |          | €        | –                  | <b>423,00</b> | <b>423,00</b> | <b>423,00</b> |
| Flue pipe<br>made of sheet steel, fire-aluminised            | 1,0 m           | Ø 150 mm | Item no. | –                  | 012476        | 012476        | 012476        |
|  |                 |          | €        | –                  | <b>47,00</b>  | <b>47,00</b>  | <b>47,00</b>  |
| Flue pipe bend<br>made of sheet steel, fire-aluminised       | 90°             | Ø 150 mm | Item no. | –                  | 012491        | 012491        | 012491        |
|  |                 |          | €        | –                  | <b>46,00</b>  | <b>46,00</b>  | <b>46,00</b>  |
| Flue pipe T-piece<br>made of sheet steel, fire-aluminised    | 90°             | Ø 150 mm | Item no. | –                  | 012501        | 012501        | 012501        |
|  |                 |          | €        | –                  | <b>128,00</b> | <b>128,00</b> | <b>128,00</b> |
| Flue pipe rain cover<br>made of sheet steel, fire-aluminised |                 | Ø 150 mm | Item no. | –                  | 012506        | 012506        | 012506        |
|  |                 |          | €        | –                  | <b>62,00</b>  | <b>62,00</b>  | <b>62,00</b>  |
| Hot air hose<br>with fastening strap and carrying bag        | 7,6 m           | Ø 305 mm | Item no. | –                  | 005417        | –             | –             |
|  |                 |          | €        | –                  | <b>324,00</b> | –             | –             |
| Hot air hose<br>with fastening strap and carrying bag        | 7,6 m           | Ø 425 mm | Item no. | –                  | –             | 005418        | –             |
|  |                 |          | €        | –                  | –             | <b>398,00</b> | –             |
| Hot air hose<br>with fastening strap and carrying bag        | 7,6 m           | Ø 457 mm | Item no. | –                  | –             | –             | 031902        |
|  |                 |          | €        | –                  | –             | –             | <b>419,00</b> |



# Gas Heater P, PX

## Environmentally friendly and efficient instant heat



Mobile



Immediately ready for use



Extensive range of accessories



Permanent gas flame monitoring



Powered electrically

Kroll **gas heaters** represent an outstanding combination of environmental sustainability and economic efficiency. By using gas as a fuel, which is inherently environmentally friendly, our gas heaters position themselves as one of the most sustainable options among fossil fuels. The nearly residue-free combustion and high efficiency of our gas heaters help to minimize the environmental impact.

The PX model takes an even further step towards energy efficiency by offering the option of using a room thermostat for more precise control of the heat output. The devices are extremely user-friendly and, once connected to a gas cylinder and the 230 V supply, require no lead time to be ready for immediate operation. The wide range of outputs extends from 15 to 100 kilowatts, enabling versatile use in construction projects, agriculture, horticulture and

well-ventilated production halls and workshops.

To ensure the highest safety standards, all devices are equipped with a pressure regulator and the connection fitting is included in the scope of delivery. Our gas heaters comply with the strict DIN 30697 regulations and thus the European CE standard. Additional safety is guaranteed by the permanent monitoring of the gas flame using thermocouples, which stops the gas supply immediately if the flame goes out. A built-in thermostat also prevents the device from overheating, which contributes to reliable and safe use.

Robust technology and the highest quality workmanship guarantee trouble-free operation of our gas heaters. Thanks to their compact design, they are easy to transport, and an optional conversion kit for mobile and stackable use can be

fitted for additional flexibility. Overall, Kroll gas heaters offer an advanced, environmentally friendly and efficient solution for a variety of heating applications in different environments.

### Area of application

- Construction and agriculture
- Garden centres
- Well ventilated production and factory halls

### Features

- Powder-coated steel housing
- Low-noise and powerful housing
- Pressure regulator with hose rupture protection
- Robust technology
- Highest processing quality
- Stackable



PX



Version with conversion kit for driving and stacking capability (for P/PX32 to P/PX85).

The conversion kit **is not** included in the scope of delivery!



## Technical data

### Power range 15 to 84 kW

|                              |      | P32           | P45           | P65             |
|------------------------------|------|---------------|---------------|-----------------|
| Item no.                     |      | 057498        | 057501        | 057499          |
| €                            |      | <b>470,00</b> | <b>614,00</b> | <b>1.057,00</b> |
| Nominal heat load (Hi)       | kW   | 13,83–27,75   | 19,82–40,69   | 28,58–58,27     |
| Volume flow                  | m³/h | 1.100         | 1.250         | 1.950           |
| Gas consumption              | kg/h | 1,03–2,13     | 1,54–3,15     | 2,19–4,47       |
| Electrical input             | V/Hz | 230/50-60     | 230/50-60     | 230/50-60       |
| Electrical power consumption | kW   | 0,09          | 0,11          | 0,14            |
| LPG                          |      | ●             | ●             | ●               |
| Piezo ignition               |      | ●             | ●             | ●               |
| Connection fitting with hose |      | ●             | ●             | ●               |
| Length                       | mm   | 511           | 511           | 538             |
| Width                        | mm   | 277           | 277           | 317             |
| Height                       | mm   | 505           | 575           | 580             |
| Weight                       | kg   | 10            | 12            | 14              |

● Included in the scope of delivery.

### Power range 15 to 108 kW

PX = with ionization monitoring

|                              |      | PX32          | PX45          | PX65            |
|------------------------------|------|---------------|---------------|-----------------|
| Item no.                     |      | 057494        | 057492        | 057495          |
| €                            |      | <b>705,00</b> | <b>847,00</b> | <b>1.335,00</b> |
| Nominal heat load (Hi)       | kW   | 13,83–27,75   | 19,82–40,69   | 28,58–58,27     |
| Volume flow                  | m³/h | 1.100         | 1.250         | 1.950           |
| Gas consumption              | kg/h | 1,03–2,13     | 1,54–3,15     | 2,19–4,47       |
| Electrical input             | V/Hz | 230/50        | 230/50        | 230/50          |
| Electrical power consumption | kW   | 0,09          | 0,112         | 0,14            |
| LPG                          |      | ●             | ●             | ●               |
| Electronic ignition          |      | ●             | ●             | ●               |
| Connection fitting with hose |      | ●             | ●             | ●               |
| Length                       | mm   | 511           | 511           | 538             |
| Width                        | mm   | 277           | 277           | 317             |
| Height                       | mm   | 505           | 575           | 580             |
| Weight                       | kg   | 10            | 12            | 14              |

● Included in the scope of delivery.

### Accessories

|                            |                 |          | Product allocation |               |
|----------------------------|-----------------|----------|--------------------|---------------|
|                            |                 |          | P32 to P65         | PX32 to PX65  |
| Room thermostat IP54       | adjustable from | Item no. | –                  | 000729        |
| 10 m cable, including plug | 0°C to 50°C     | €        | –                  | <b>183,00</b> |
| Room thermostat IP54       | adjustable from | Item no. | –                  | 049585        |
| 22 m cable, including plug | 0°C to 50°C     | €        | –                  | <b>223,00</b> |
| Multi-bottle system        |                 | Item no. | 005346             | 005346        |
|                            |                 | €        | <b>176,00</b>      | <b>176,00</b> |

|                                 |  |          | Product allocation          |  |
|---------------------------------|--|----------|-----------------------------|--|
|                                 |  |          | P32 to P65 and PX32 to PX65 |  |
| Conversion kit                  |  | Item no. | 057508                      |  |
| for movability and stackability |  | €        | <b>108,00</b>               |  |



## Mobile Heating Centres **HM**

Backup heating for spontaneous use and emergencies



Room thermostat connection



Maintenance-friendly



Free choice of fuel



Safely stackable



Intuitive operation

Our **mobile heating centres HM** support your heating requirements quickly and efficiently. The units are used wherever heat is required and existing systems fail, are being replaced or do not yet exist. They are particularly suitable for construction heating and associated drying. This means new buildings, renovations or modernisations can be carried out without delay, even during the winter months. In addition to supporting your process heat, they are also ideal for heating trade fairs, events, warehouses or factories flexibly and conveniently.

A high-quality stainless steel heat exchanger ensures efficient use of the energy converted by the 2-stage burner in our mobile heating centres. The choice of fuel is up to you – our units are available in natural gas, LPG

or oil versions. Variable recirculating air, fresh air or mixed air operation is integrated ex works and can be set using a switch. Heat can be distributed via one or more air ducts or air hoses. Thanks to high pressure and high-performance radial fans, even long supply routes are no problem.

The robust housing is made of powder-coated sheet steel with resistance class RC2. All components are kept under lock and key. This means that our heating centre is securely protected against sabotage or tampering. At the same time, our heating centres have a compact design - there are no protruding components, the flue spigots are recessed in the housing, and the intake and exhaust spigots can also be recessed if required. Lifting holes

on the long and short sides ensure practical loading with a forklift truck, while additional crane eyes provide even more flexibility.

The unit can be safely stacked and makes optimum use of the loading space during transport, as it can be placed crosswise on the loading area of a truck.

### Area of application

- Tent heating
- Hall heating
- Construction heating
- Drying and frost protection
- Additional heating in the cold season
- Fast drying for new buildings

### Features

- Flexible choice of fuel
- Compact design
- Economical
- Flexible in use
- Maintenance-friendly
- Approx. 93 percent efficiency (Hi)
- Intuitive control via switch and optional room thermostat



## Technical data

### Power range 133 to 188 kW

|                              |                   | HM200/2<br>2-stage |
|------------------------------|-------------------|--------------------|
|                              | Item no.          | 049333             |
|                              | €                 | <b>25.500,00</b>   |
| Operating mode               |                   | Oil                |
| Nominal heat load (Hi)       | kW                | 133/188            |
| Nominal heat output          | kW                | 122/173            |
| Volume flow                  | m <sup>3</sup> /h | 8.500–12.200       |
| Pressure max.                | Pa                | 150                |
| Temperature increase         | K                 | 66/60              |
| Oil consumption*             | kg/h              | 11,1/15,7          |
| Electrical input             | V/Hz/A            | 400/50/13,5        |
| Electrical power consumption | kW                | 1,45/4,65          |
| Drum fitting                 |                   | ●                  |
| Heated oil filter            |                   | ●                  |
| Flue pipe                    | Ø mm              | 180                |
| Air outlet                   | Ø mm              | 550                |
| Air intake                   | Ø mm              | 550                |
| Width                        | mm                | 820                |
| Length                       | mm                | 2.400              |
| Height (without lifting eye) | mm                | 1.510              |
| Height (with lifting eye)    | mm                | 1.610              |
| Weight                       | kg                | 655                |
| Sound pressure level         | dB(A)             | 75                 |

\* Heating oil consumption: 1 kg/h = 1.17 l/h (at 15°C).

● Included in the scope of delivery.

## Accessories

### Product allocation

HM200/2  
2-stage

|  |                                |          |               |                           |
|--|--------------------------------|----------|---------------|---------------------------|
| Room thermostat IP54<br>10 m cable, including plug               | adjustable from<br>0°C to 50°C |          | Item no.<br>€ | 000729<br><b>183,00</b>   |
| Room thermostat IP54<br>22 m cable, including plug               | adjustable from<br>0°C to 50°C |          | Item no.<br>€ | 049585<br><b>223,00</b>   |
| RT fastening strap   |                                |          | Item no.<br>€ | 052494<br><b>79,00</b>    |
| Clock thermostat   |                                |          | Item no.<br>€ | 056714<br><b>1.564,00</b> |
| Flue pipe<br>made of sheet steel, fire-aluminised                | 1,0 m                          | Ø 180 mm | Item no.<br>€ | 012477<br><b>123,00</b>   |
| Rain cover for flue pipe<br>made of sheet steel, fire-aluminised |                                | Ø 180 mm | Item no.<br>€ | 012507<br><b>136,00</b>   |
| Hot air hose<br>with fastening strap and carrying bag            | 7,6 m                          | Ø 525 mm | Item no.<br>€ | 005597<br><b>460,00</b>   |
| Connecting piece<br>for extending hot air hoses with             |                                | Ø 525 mm | Item no.<br>€ | 002800<br><b>120,00</b>   |
| Hot air hose<br>with fastening strap and carrying bag            | 7,6 m                          | Ø 560 mm | Item no.<br>€ | 026991<br><b>474,00</b>   |
| Connecting piece<br>for extending hot air hoses with             |                                | Ø 560 mm | Item no.<br>€ | 026985<br><b>204,00</b>   |
| Air outlet adapter   | 1 way                          | Ø 525 mm | Item no.<br>€ | 012527<br><b>255,00</b>   |
| Air outlet adapter   | 2 ways                         | Ø 525 mm | Item no.<br>€ | 065076<br><b>875,00</b>   |
| Air outlet adapter   | 3 ways                         | Ø 425 mm | Item no.<br>€ | 065077<br><b>646,00</b>   |
| Air outlet adapter   | 4 ways                         | Ø 305 mm | Item no.<br>€ | 012530<br><b>646,00</b>   |
| Air outlet box<br>for hoses with                                 |                                | Ø 560 mm | Item no.<br>€ | 052623<br><b>1.559,00</b> |

# Construction Dryer



Dehumidifier TK, TE





# Dehumidifier TK, TE

Assistance with construction drying and water damage



Maintenance-friendly



Space-saving



Mobile



Operating hours counter



Suitable for every room

Most construction damage is caused by existing moisture in the building. The Kroll **T-series dehumidifiers** are your strong partner from the very first second – whether for new buildings, renovation work, water damage, accelerating the drying process or keeping rooms dry. Kroll offers an extensive range of dehumidifiers from 30 to 120 litres/24 hours dehumidification capacity, so we have the right device for a wide range of temperatures and humidity levels.

The units are easy to set up and start up electrically and operate quietly in a wide working range between 5 and 32 degrees Celsius at 50 to 90 percent relative humidity.

Automatic hot gas defrosting ensures trouble-free operation, even in continuous use or at colder temperatures.

Easily cleanable intake filters increase the service life of the units and reduce particle pollution in the room. Our TE models have a patented, cleanable long-term filter.

Overflowing of the condensed water in the tank is ruled out thanks to a magnetic contact overflow protection (TK models and TE40). The operating status can also be always observed on the LED display. Our dehumidifiers are practical and easily transportable thanks to their compact design, integrated wheels and handle.

### Area of application

- New build and renovation work
- Construction and water damage drying
- Hire and rental
- Industry and construction

### Features

- Quiet
- Stackable
- Operating hours counter
- Long service life due to intake filter
- Automatic hot gas defrosting
- Powder-coated steel housing
- Environmentally friendly, CFC-free refrigerant

TK



TE



## Technical data

### Power range 30 to 60 l/24h

|                                    |                   | TK30            | TK60            |
|------------------------------------|-------------------|-----------------|-----------------|
| Item no.                           |                   | 050653          | 050654          |
|                                    | €                 | <b>1.560,00</b> | <b>1.955,00</b> |
| Maximum dehumidification capacity* | l/24h             | 30              | 60              |
| Volume flow                        | m <sup>3</sup> /h | 580             | 1.000           |
| Working range humidity             | % RF              | 50–90           | 50–90           |
| Working range temperature          | °C                | 5–32            | 5–32            |
| Refrigerant                        |                   | R290            | R454C           |
| Volume flow                        | m <sup>3</sup> /h | 580             | 1.000           |
| Electrical input                   | V/Hz              | 220–240/~50     | 220–240/~50     |
| Electrical power consumption       | kW                | 0,57            | 1,40            |
| Width                              | mm                | 430             | 520             |
| Length                             | mm                | 500             | 560             |
| Height                             | mm                | 800             | 980             |
| Weight                             | kg                | 34              | 40              |
| Water collection tank              | l                 | 6               | 6               |
| Operating hours counter            |                   | ●               | ●               |
| Connection for condensate pump     |                   | ●               | ●               |
| Stackable                          |                   | ●               | ●               |
| Device socket                      |                   | ●               | ●               |
| Hot gas defrosting                 |                   | ●               | ●               |
| Sound pressure level               | dB(A)             | 52              | 56              |
| Protection                         | IP                | 21              | 21              |

\* 32°C/80% relative humidity

● Included in the scope of delivery.

### Accessories

|                         |          | Product allocation |               |
|-------------------------|----------|--------------------|---------------|
|                         |          | TK30               | TK60          |
| Hygrostat               |          | integrated         | integrated    |
| Condensate pump         | Item no. | 049946             | 049946        |
|                         | €        | <b>573,00</b>      | <b>573,00</b> |
| Maximum delivery height |          | 4,3                | 4,3           |
| Dual counter            | Item no. | 301665             | 301665        |
|                         | €        | <b>640,00</b>      | <b>640,00</b> |

## Technical data

### Power range 40 to 120 l/24h

|                                    |       | With additional electric heater |                 |                 |                 |
|------------------------------------|-------|---------------------------------|-----------------|-----------------|-----------------|
|                                    |       | TE40                            | TE80            | TE100           | TE120           |
| Item no.                           |       | 000114                          | 038856          | 039239          | 039368          |
|                                    | €     | <b>2.350,00</b>                 | <b>3.285,00</b> | <b>3.570,00</b> | <b>4.385,00</b> |
| Maximum dehumidification capacity* | l/24h | 33                              | 56              | 74              | 90              |
| Volume flow                        | m³/h  | 580                             | 1.000           | 1.000           | 1.160           |
| Working range humidity             | % RF  | 50–90                           | 50–90           | 50–90           | 50–90           |
| Working range temperature          | °C    | 5–32                            | 5–32            | 5–32            | 5–32            |
| Refrigerant                        |       | R290                            | R454C           | R454C           | R454C           |
| Volume flow                        | m³/h  | 580                             | 1.000           | 1.000           | 1.160           |
| Electrical input                   | V/Hz  | 220–240/~50                     | 220–240/~50     | 220–240/~50     | 220–240/~50     |
| Electrical power consumption       | kW    | 0,50/2,50                       | 1,35/3,35       | 1,90/3,50       | 1,93/3,53       |
| Width                              | mm    | 495                             | 620             | 620             | 620             |
| Length                             | mm    | 830                             | 615             | 615             | 580             |
| Height                             | mm    | 610                             | 860             | 860             | 1.070           |
| Weight                             | kg    | 37                              | 52              | 53              | 58              |
| Water collection tank              | l     | 14                              | –               | –               | –               |
| Operating hours counter            |       | ●                               | ●               | ●               | ●               |
| Connection for condensate pump     |       | ●                               | ●               | ●               | ●               |
| Stackable                          |       | ●                               | ●               | ●               | ●               |
| Hot gas defrosting                 |       | ●                               | ●               | ●               | ●               |
| Auxiliary heater                   |       | ●                               | ●               | ●               | ●               |
| Sound pressure level               | dB(A) | 50                              | 57              | 57              | 59              |
| Protection                         | IP    | 23                              | 23              | 23              | 23              |

\* 32°C/80% relative humidity

● Included in the scope of delivery.

### Accessories

|   |          | Product allocation |               |               |               |
|---|----------|--------------------|---------------|---------------|---------------|
|   |          | TE40               | TE80          | TE100         | TE120         |
| Hygrostat   | Item no. | 046075             | 046075        | 046075        | 046075        |
|   | €        | <b>146,00</b>      | <b>146,00</b> | <b>146,00</b> | <b>146,00</b> |
| Condensate pump                                       | Item no. | 021779             | 021779        | 021779        | 021779        |
|   | €        | <b>534,00</b>      | <b>534,00</b> | <b>534,00</b> | <b>534,00</b> |
| Maximum delivery height                               |          | 5,4                | 5,4           | 5,4           | 5,4           |
| Overflow protection for external collection container | Item no. | –                  | 021780        | 021780        | 021780        |
|   | €        | –                  | <b>176,00</b> | <b>176,00</b> | <b>176,00</b> |





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to consulting you.**



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**We are only satisfied when you are.**

## GENERAL



Glossary

Terms of Sale and Delivery

# Glossary

## A

### Air outlet cone

An air outlet cone is a part of a ventilation system or air conditioning system that is used to direct, distribute an airflow from a duct or opening and/or direct it in a specific direction. It helps to distribute the air flow evenly in the room and thus ensures efficient ventilation or cooling. The air outlet cone can have different shapes and sizes, depending on the requirements of the system and the desired airflow pattern.

### Annual space heating utilization rate

This is an indication of how efficiently a room heating system works throughout the year. The value indicates what percentage of the energy used is used for heating the room, including losses due to, for example, heat dissipation to the environment and other inefficient factors. A high value means that the heating system is working efficiently, while low annual utilization rates indicate that a considerable amount of energy is being lost. In general, it is desirable to choose space heating systems with high annual efficiency values to minimize energy consumption and reduce operating costs.

### Available air pressure (Pa)

This value indicates how much pressure is available to move air through the product.

### Axial fan

An axial fan is like a large fan with flat, shovel-like blades that look

like a propeller. It moves the air forwards or backwards along its axis. This type of blower is usually installed in products where a lot of air movement is required, for example ventilation systems or air conditioning systems.

## C

### Centrifugal blower

A centrifugal blower is like a fan with blades that push the air from the centre outwards, creating an airflow in a circular direction. This type of blower is often found in products that need to transport air over longer distances or generate a higher pressure difference.

### COP

"Coefficient of Performance". The COP is a key figure that indicates how efficiently a heat pump or cooling compressor works.

The COP is calculated by dividing the heating or cooling output generated by the electrical power supplied.

A higher COP means that the device works more efficiently, as it generates more heating or cooling capacity per electrical power input.

The formula is

$$\text{COP} = \frac{Q_{\text{ab}}}{W_{\text{auf}}}$$

$Q_{\text{ab}}$  is the amount of heat emitted (heat output) and

$W_{\text{auf}}$  is the electrical work consumed (drive power).

## D

### Differential temperature control

A control strategy used to optimize the operation of heating or cooling systems. With this type of control, the difference between the desired target temperature and the actual room temperature is measured and heating or cooling systems are controlled based on this. Differential temperature control enables efficient and convenient control of heating or cooling systems by optimizing energy consumption while ensuring the desired level of comfort in the room.

## E

### EER

EER stands for "Energy Efficiency Ratio". Like the COP, the EER is a measure of the efficiency of heat pumps and air conditioning systems.

It is calculated from the ratio of the cooling capacity of a device to the electrical power supplied at a certain temperature.

The formula is

$$\text{EER} = \frac{Q_{\text{cooling}}}{W_{\text{electric}}}$$

$Q_{\text{cooling}}$  is the cooling capacity in BTU/h (British Thermal Units per hour) and

$W_{\text{electric}}$  is the electrical power consumption in watts (W)

The higher the EER value, the more energy-efficient the device.

# Glossary

## Efficiency ( $\eta$ )

Efficiency is a measure of how efficiently a system converts or transfers energy. The value is given as a percentage and indicates what proportion of the energy used is converted into the desired form.

The efficiency formula is

$$\eta (\%) = \frac{E_{\text{use}}}{E_{\text{total}}} \times 100$$

$\eta$  is the efficiency (often expressed as a percentage)

$E_{\text{use}}$  is the energy output by the machine,

$E_{\text{total}}$  is the total energy supplied or the energy supplied to the system

A high efficiency indicates that little energy is lost and the system is operating efficiently, while a low efficiency indicates that a significant amount of energy is converted into unwanted forms, which is inefficient.

## Energy analysis

An energy analysis is a review that aims to scrutinize the energy consumption of an object. It examines how energy is used in a building (a machine or a process) to identify possible improvements or increases in efficiency.

## Electrical power consumption

This is the amount of power in watts (W) consumed by a device or indicates how much energy the device requires to function. A low electrical power consumption can indicate efficient energy consumption. This value is important to understand the energy requirements of a product,

especially in terms of energy efficiency and cost.

## Electronic ignition

Electronic ignition is a modern method of igniting gas devices using electrical control. Electronic ignition comprises a control unit, sensors and other electrical components that monitor and control the ignition process. When the user presses the ignition button or switch, the control unit sends an electrical pulse to an ignition transformer or spark plug. Through this process, electronic ignitions provide precise control over the ignition process and are generally reliable and durable. They can also improve the efficiency of the ignition process.

## ErP Directive

The ErP Directive, also known as the Ecodesign Directive, for energy-related products is a legal regulation of the European Union (EU) that aims to reduce the environmental impact of energy-related products and improve energy efficiency.

## F

### Flue gas loss

The flue gas loss describes the difference between the nominal heat load and the nominal heat output. The lower the flue gas loss, the more efficient the device.

### Frequency converter

A frequency converter is a power converter that generates

a different AC voltage from the AC voltage being supplied. When we talk about a frequency converter, it is usually in the context of cooling systems. Here, the frequency converter is an electrical device that controls the speed of the compressor or motor. Instead of running the motor at a constant speed, as is the case with conventional systems, a frequency converter allows the speed to be adjusted according to actual requirements. It is like the accelerator pedal in a car; it controls the speed at which the motor runs. In air conditioning systems, the frequency inverter regulates the speed of the motor to precisely adjust cooling or heating. This saves energy and ensures that the system runs efficiently, like a car that only accelerates as much as necessary to reach the desired speed.

## H

### Heat exchanger

A device used to transfer heat from one medium to another without the two media coming into direct contact with each other. The media can be either gaseous or liquid. By using a heat exchanger, energy can be saved as it allows heat to be transferred from one process to another instead of simply being lost.

### Heat recirculation

Heat recirculation is a process in which heat that would otherwise be lost is fed back into a system or room to be reused. During the heating process, for example in a building, some of the heat

## Glossary

normally escapes outside through windows, doors or other openings. With a heat recirculation system, some of this lost heat can be fed back into the building and used to heat the rooms instead of being lost. In industrial applications, heat recirculation can mean that the waste heat from machines or processes is fed back into production processes to save energy and increase efficiency.

### Hot gas defrosting

A method used in refrigeration and air conditioning systems to melt ice or frost from the evaporators. If ice forms on the evaporators, the efficiency of the system can be impaired as this affects heat transfer. During hot gas defrosting, the refrigerant is passed through the evaporator in its gaseous state instead of going through the normal refrigeration cycle. This hot gas heats the evaporator and melts the ice/frost that has formed on it. The melted water is then discharged via a condensate drain system. This enables efficient and rapid defrosting of the evaporators without having to drain the refrigerant and helps to reduce energy consumption and maintain performance.

### Hygrostat

A device used to monitor and control the humidity in a room. It works in a similar way to a thermostat, but instead of the temperature, it controls the humidity for a comfortable and healthy indoor climate.

Alternatively, a hygrostat is also used after water damage, in new buildings, during renovation work or to speed up the drying process in combination with a construction dryer/dehumidifier.

## K

### Kelvin (K)

Kelvin is a unit of measurement for temperatures. Unlike Celsius or Fahrenheit, the Kelvin scale starts at absolute zero and has no negative values. 0°C corresponds to 273.15 K, whereby °C and K have the same "step range". Temperature differences are technically correctly expressed in Kelvin – i. e. the difference between 20°C and 60°C is 40 K.

## N

### Nominal heat load (Hi)

This value indicates the maximum amount of energy that a device can use to heat or cool a room. A high value merely means that the unit can handle more energy and does not represent any indication of efficiency, economy, etc.

### Nominal heat output (Qn)

This value refers to the maximum amount of energy that the device can generate or emit. This value is important to ensure correct dimensioning of the system.

## P

### Piezo ignition

Piezo ignition is an ignition device that is often used in gas-powered devices. It generates a spark using so-called piezo elements, which are mechanically deformed to generate

an electrical charge. The way it works is quite simple, but reliable; inside the igniter is a piezo element consisting of a crystal that generates an electrical charge under pressure. If the element is now mechanically deformed by (button) pressure, this generates a high-voltage discharge. This discharge generates a spark between two electrodes, which ignites the connected gas-air mixture. As neither batteries nor external power sources are required, piezo ignitions also work in various weather conditions, including rain and cold, making them very reliable.

### Piston compressor

The piston compressor is the oldest form of air compressor. It works by pistons sliding up and down, drawing in the refrigerant, compressing it and discharging it again. This process is controlled by intake and outlet valves. Thanks to its robust design and versatile application options, the piston compressor can now be used in both trade and industry. It is low-maintenance, durable and often the most economical solution.

### Pressure transmitter

In the context of air conditioning and cooling systems, the pressure transmitter measures the pressure of the refrigerant or liquid within the system. If the pressure is too high or too low, the pressure transmitter can trigger alarms to initiate repairs and ensure that everything is running smoothly.

## R

### Refrigerant

Refrigerant is a chemical substance used in refrigeration and air

## Glossary

conditioning systems to absorb and release heat. The main function of a refrigerant is to absorb heat in one area (evaporate) and release heat in another area (condense). Refrigerant circulates through the system and changes between a liquid and gaseous state, thereby transporting heat. It is like the "fuel" in air conditioning systems or heat pumps that makes them work.

### Return flow addition

Return flow addition describes a process within a heating system in which part of the already heated medium (water, air, oil, etc.) is returned and mixed with the still cold supply. This is done to lower the temperature of the returned medium and thus increase the efficiency of the heating system. In the example of a boiler, this means that hot water flows through radiators or pipes, releases heat there and returns to the boiler as a so-called "return flow". By adding cold water to the return flow, the temperature can be lowered – this has the advantage that the boiler then works more efficiently, as it can handle a colder return flow and therefore consumes less energy. The addition of return water helps to improve the overall efficiency of heating systems and is also often used in hydronic heating systems.

## S

### (Scroll) compressor

A scroll compressor is a special type of compressor that is used in air conditioning systems, heat pumps or cooling systems. In contrast to conventional piston compressors, the scroll compressor works with a spiral design in which one spiral is

fixed and the other moves. As the moving scroll rotates, the refrigerant is trapped and compressed. This continuous process leads to efficient compression of the gas. This makes the compressor efficient, reliable and quiet. Scroll compressors are used to cool or heat the air.

### Sound pressure level dB(A)

The sound pressure level is a value that indicates how loud a noise is, in our case our devices. It is measured in decibels (dB). The higher the decibel value, the louder the noise.

Please note: decibels are expressed on a so-called logarithmic scale, which means that ratios are shown, not values. An increase of ten decibels corresponds to a doubling of the sound intensity/volume.

## T

### Throw distance

The throw distance describes how far the air flow blows away from an outlet point. In a room, a longer throw distance means that the air flows further before it is distributed. A good throw ensures that the air is distributed evenly throughout the room to achieve a comfortable temperature and air quality. A great example is our ceiling fan with a throw of 10 metres or more.

Thanks to its good throw range, it can distribute the air far enough across the room to create a pleasant air circulation. The air flow is not only noticeable under the fan, but also in other places in the room (see also illustration on page 39).

## V

### Volume flow

This is the amount of air that flows through a device, usually measured/specified in cubic meters per hour (m<sup>3</sup>/h). The air flow rate is important for assessing the efficiency of a device and ensuring that sufficient fresh air enters or leaves a room.

**§ 1 General**

1. Our terms and conditions of sale and delivery shall apply exclusively. Any general terms and conditions of business of the Purchaser that conflict with or deviate from our supplement terms and conditions shall not be recognized, even if they have not been expressly objected to and/or the delivery has been carried out without reservation despite knowledge thereof.
2. These terms and conditions of sale and delivery shall apply to

**§ 2 Conclusion of contract**

1. Our offers are subject to change.
2. Technical and constructive changes, as well as changes in form, color and/or weight remain reserved within the scope of reasonableness.
3. Orders, additions and changes to an order shall only be deemed to have been accepted when they have been confirmed by us in writing or the goods have been delivered to the purchaser.
4. We reserve the property rights and copyrights to cost estimates, drawings and similar documents.

**§ 3 Delivery**

1. Agreed periods shall commence upon conclusion of the contract, but not before the customer has provided any documents to be procured, including complete technical specifications, approvals, releases, provisions or other prerequisites essential for the performance of the contract, and also not before receipt of any agreed payment.
2. We are entitled to make partial deliveries if this is operationally necessary and reasonable.
3. Events of force majeure and other circumstances unforeseeable by us, in particular procurement, manufacturing, delivery disruptions, strikes, lockouts and the like. At our premises or those of our suppliers shall release us from our delivery obligations for the duration of the disruption as well as a reasonable start-up period – also during an already existing delay – unless the disruption was caused by us, our legal representatives, agents or vicarious agents intentionally or by gross negligence. If the delivery becomes impossible or economically unreasonable due to the aforementioned circumstances, we shall be released from our contractual obligations. Claims for damages on the part of the customer are excluded.
4. Our obligation to deliver shall be suspended as long as the customer is not only insignificantly in arrears with an obligation.

**§ 4 Prices/Payment**

1. The prices confirmed by us shall apply ex works, excluding packaging, plus the respective statutory value added tax.
2. If the net value of the goods is less than 50.00 €, a minimum quantity surcharge of 25.00 € shall be levied.
3. If there is no individual contractual agreement, we reserve the right to charge for additional packaging costs exceeding the usual amount.
4. We calculate shipping and delivery costs as follows:

For shipment by parcel service, max. 31.5 kg (within the specified dimensions of the parcel service)  
per package 12,00 € net

For deliveries by forwarding agent, we charge a flat-rate freight charge, which is staggered according to the net order value:

|                                 |   |
|---------------------------------|---|
| a. up to 2,000.00 €             | 4 % of the net order value; at least however 45,00 € / delivery |
| b. from 2,001.00 to 3,000.00 €  | 3 % of the net order value                                      |
| c. from 3,001.00 to 10,000.00 € | 2 % of the net order value                                      |
| d. from 10,001.00 €             | 1 % of the net order value                                      |

Project business, heat pumps and plant construction ex works.

Excluded from this regulation are German islands and port surcharges, these will be calculated separately and on a daily basis.

Additional costs incurred for deliveries abroad will be charged on a time and material basis. Additional costs directly related to shipping will be charged as follows:

|                                    |         |
|------------------------------------|---------|
| a. Notification by telephone       | 13,00 € |
| b. Technical notification (e-mail) | 7,00 €  |
| c. Agreement of a time window      | 20,00 € |
| d. Acknowledged delivery bill      | 10,00 € |
| e. Exchange of pallet cages        | 10,00 € |

In the context of express deliveries (so-called "Next Day") the following surcharges apply:

|  |         |
|--|---------|
| a. Next Day, arrival time not influenceable    | 30,00 € |
| b. Delivery by 10:00 a.m. on the following day | 70,00 € |
| c. Delivery by 12:00 noon the following day    | 55,00 € |

Valid working days Monday to Friday, Sundays and holidays excluded, individual inquiry required in any case, as not all zip code areas are covered.

5. Expenses incurred due to changes, type or scope of delivery at the request of the purchaser after our order confirmation and/or which arise due to the fulfillment of subsequent or unforeseeable official conditions and requirements will also be invoiced separately at the quoted purchase price.
6. If, after conclusion of the contract, there is a significant change in the price factors for materials, vendor parts, wages, social benefits, energy costs, sales and transfer taxes or customs duties, we shall be entitled to increase the prices stated in the order confirmation for the goods to be delivered more than 6 weeks after conclusion of the contract accordingly. If the price increase would be more than 5% of the price stated in the order confirmation, the customer shall be entitled to withdraw from the contract within one month from notification of the price change.
7. Assembly costs will be charged separately.
8. The deduction of a discount requires a special written agreement.
9. The customer shall only be entitled to a right of set-off if his counterclaims have been legally established, are undisputed or have been acknowledged by us. The customer may only exercise rights of retention insofar as his counterclaim is based on the same contractual relationship.
10. If we become aware of circumstances that give rise to justified doubts about the creditworthiness of the customer and if the customer is not prepared to pay in advance or to provide appropriate securities despite a corresponding request, we shall be entitled to withdraw from the contract.



## Terms of Sale and Delivery

### § 5 Transfer of risk

1. Delivery shall always be ex works.
2. The risk of accidental loss and accidental deterioration of the goods shall pass to the customer upon handover in the case of sale by delivery to a place other than the place of performance upon delivery to the transport company. If the customer is in default of acceptance, the risk of accidental loss and accidental deterioration of the goods shall pass to him from the day of readiness for dispatch. Any storage costs incurred shall be borne by the customer.

### § 6 Retention of title

1. We reserve title to our goods until full payment of all claims arising from the entire business relationship.
2. In the event of breach of contract by the customer, in particular in the event of default in payment, we shall be entitled to withdraw from the contract after setting a reasonable deadline and to demand the return of our goods. After taking back the goods, we shall be entitled to utilize them. The proceeds of the realization shall be credited against the customer's liabilities less reasonable costs of realization. If the right of withdrawal cannot be realized, we shall be entitled to a corresponding claim for damages.
3. The purchaser is permitted to resell our goods within the scope of his ordinary business operations. The purchaser hereby assigns to us all claims against his customers arising from the resale. We hereby accept the assignment. The customer shall remain authorized to collect the claims assigned to us. This authorization shall expire upon cessation of payments by the customer.
4. In the event of seizure, other interventions by third parties or any damage to or destruction of the goods, the customer shall notify us immediately. Likewise, a change of ownership of the purchased goods as well as a possible change of domicile of the purchaser must be notified immediately.

### § 7 Claims for defects

1. The Purchaser shall only be entitled to make claims for defects if it has duly fulfilled its obligations to inspect the goods and give notice of defects in accordance with § 377 of the German Commercial Code (HGB).
2. If the goods have a defect for which we are responsible, we shall, at our discretion, either remedy the defect at our expense or deliver goods free of defects (subsequent performance). The purchaser is obliged to allow us to inspect the goods upon request, also by third parties.
3. Only our product description shall apply as the quality of the purchased item. Public statements, recommendations or advertising do not constitute a contractual description of the quality of the goods.
4. We shall be liable in accordance with the statutory provisions if the customer asserts claims for damages based on intent or gross negligence. Insofar as we cannot be accused of intentional or grossly negligent breach of duty, the liability for damages shall be limited to the foreseeable, typically occurring damage. This shall not apply to liability for culpable injury to life, limb or health, nor to mandatory liability under the Product Liability Act.
5. The period of limitation for claims for defects of the purchaser is one year from delivery of the goods.
6. The customer does not receive guarantees in the legal sense from us. Manufacturer's guarantees shall remain unaffected by this.

### § 8 Liability

1. In the case of other claims for damages, we shall be liable in the event of a slightly negligent breach of duty at most only for the damage typically occurring in accordance with the type of purchased item. This shall also apply to slightly negligent breaches of duty by our legal representatives or vicarious agents.
2. Our liability for slightly negligent breaches of non-essential contractual obligations is excluded.
3. Liability for culpable injury to life, body or health remains unaffected. Likewise, the mandatory liability under the Product Liability Act.

### § 9 Place of performance

The place of performance for the delivery is the respective shipping point, for payments and all other obligations arising from this contractual relationship the registered office of our company.

### § 10 Final Provisions

1. The law of the Federal Republic of Germany shall apply. The provisions of the UN Convention on Contracts for the International Sale of Goods shall not apply and are expressly excluded.
2. The exclusive place of jurisdiction for all disputes arising from this contract shall be the local or regional court of Stuttgart, depending on the amount in dispute.
3. The data of the orderer necessary in the context of the contract winding up are stored and processed for own purposes. A notification according to § 33 BDSG is hereby made. Our detailed privacy policy is available at any time at [www.kroll.de/datenschutz](http://www.kroll.de/datenschutz).
4. If individual provisions of the contract, including these terms and conditions of sale and delivery, are or become invalid in whole or in part, this shall not affect the validity of the remaining provisions. The wholly or partially invalid provision shall be replaced by a provision whose economic success comes as close as possible to that of the invalid provision. This also applies in the event of a loophole.

All shipments are checked by us at the outgoing goods and packed with the utmost care. Nevertheless, in rare cases items may arrive damaged at the recipient. Therefore, please check your shipment immediately upon delivery carefully for external defects and completeness. In case of visible damage (e.g. foil or packaging damaged, showing cracks, holes, dents or dented edges) we recommend to unpack and check the shipment in the presence of the carrier and to note the exact damage with date, time and signature on the proof of delivery and have it certified. The note "acceptance of goods with reservation" is not sufficient. Photographs to preserve evidence are also helpful. If complaints regarding quantity or damage are not made, not made sufficiently or not made in good time, the goods shall be deemed to have been delivered complete and undamaged in accordance with § 438 HGB. Claims for damages arising from transport damage or missing goods cannot be asserted at a later date either with us or with the transport insurance company.

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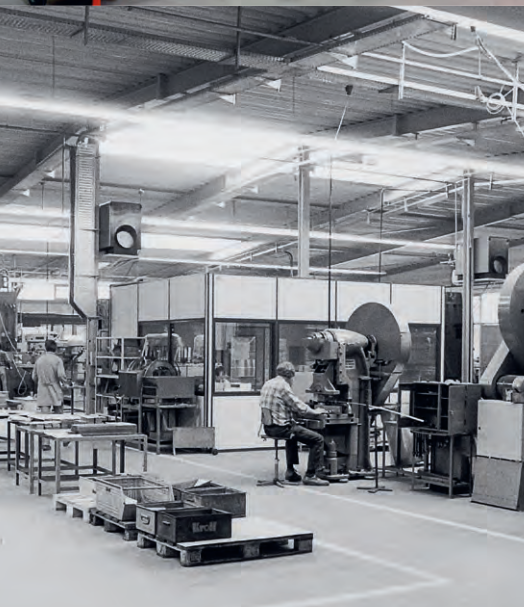


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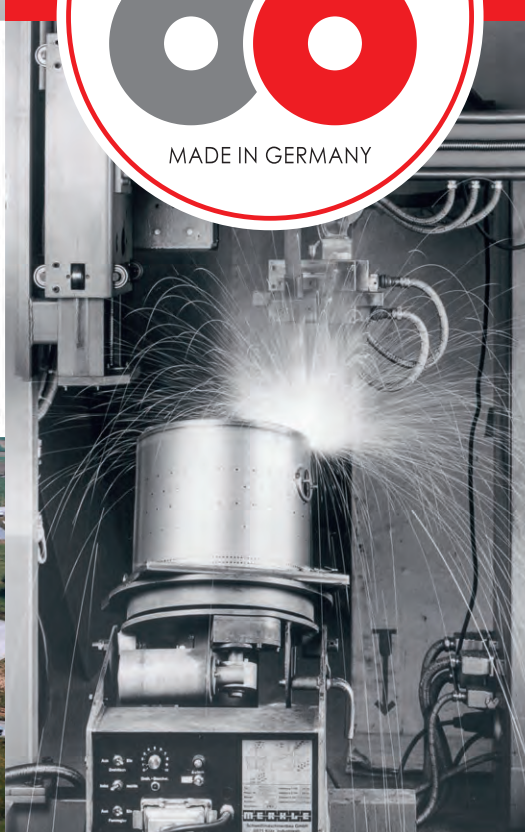
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