

Kroll®



MOBILE Heat Pumps

Air-to-Air Heat Pumps MWK, MW



From
Development Phase
to Final Product





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 CO₂ 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.



MWK40/
MW40

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.

MWK40	MW40	MW80
300686	301531	301532

Heating and cooling with just one unit.	Heating at extreme temperatures of up to –20°C	Heating at up to –20°C with up to 100 kW and 16.000 m ³ air volume flow
Temperature ranges from –10°C to +40°C		



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°C to +40°C
- Volume flow 8.000 m³/h
- Protection IP44
- Sound pressure level 69 db(A)
- Refrigerant: Filling capacity 17 kg



Info

Even under extreme conditions of down to -10°C or -20°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



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: 352179 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

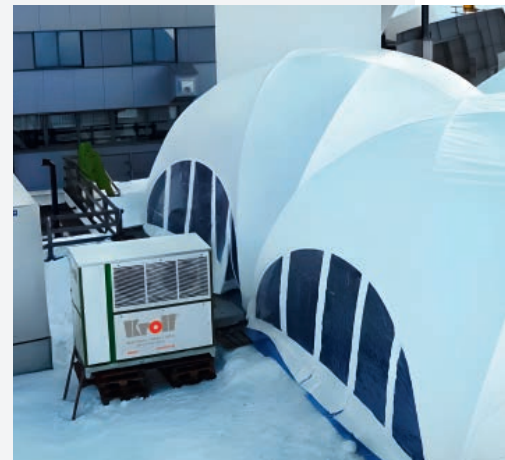
Shows the current evaporation and condensation temperature.

HYSTERESIS

Hysteresis: + 1 - K

Allows the hysteresis to be set.

Examples of Application



Technical data

Power range 14 to 81 kW

	MWK40	MW40	MW80
Item no.	300686	301531	301532

Function	Heating and cooling	Heating	Heating
----------	---------------------	---------	---------

Performance data

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 _h	without utilizable medium (A7/L35)	kW	3,31	3,07	3,06
COP _h	without utilizable medium (A2/L35)	kW	2,88	2,76	2,77
COP _h	without utilizable medium (A-7/L35)	kW	2,24	2,30	2,34
COP _h	without utilizable medium SCOP _h	kW	2,88	2,72	2,73
COP _h	with utilizable medium (A7/L35)	kW	2,88	2,69	2,71
COP _h	with utilizable medium (A2/L35)	kW	2,50	2,42	2,46
COP _h	with utilizable medium (A-7/L35)	kW	1,95	1,96	2,04
COP _h	with utilizable medium SCOP _h	kW	2,45	2,34	2,38

Operating and connection data

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	m ³ /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

Refrigerant		R410A	R454C	R454C
Fill capacity	kg	17	15	26
GWP		2088	148	148
Classification		A1 non-combustible	A2L flame retardant	A2L flame retardant
Compressor type		Scroll	Reciprocating piston	Reciprocating piston
Max. power consumption	kW	13,9	17,0	40,0

Dimensions and weight

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

Heated condensate hose			Item no.	301701
Hot air hose	7,6 m, form-stable	Ø 525 mm	Item no.	301622
Hot air hose with fastening strap and carrying bag	7,6 m	Ø 525 mm	Item no.	005597



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 GmbH

Eduard-Breuninger-Strasse 67
71522 Backnang
Phone +49 7191 9070-200
Fax +49 7191 9070-201
vertrieb@kroll.de

Technical Service

Phone +49 7191 9070-222
Fax +49 7191 9070-201
service@kroll.de

www.kroll.de

