HEAT TRANSFER STATIONS
FOR HEAT DISTRIBUTION IN HEATING NETWORKS AND BUILDINGS

LOCAL AND DISTRICT HEATING STATION
pewo V-max

PEWO LINE OF PRODUCTS
District heating substations pewoCAD · Heating and cooling manifolds pewoSplit · House substations pewoCompact and pewoV-max · Consumer units pewoTherm · Domestic hot water systems pewoAqua Supply registers pewoVario · Control and communications technology pewoControl · Monitoring technology pewoLive
Contents

4 V-MAX BASE MODULE
   Modular heat transfer stations up to 150 kW

6 BUNDLE 1
   pewoV-max V 15–V 50, heat transfer station

8 BUNDLE 2
   pewoV-max V 15–V 50, heat transfer station, 1 heating circuit unmixed

10 BUNDLE 3
   pewoV-max V 15–V 50, heat transfer station, 1 heating circuit unmixed, 1 storage charging circuit

12 BUNDLE 4
   pewoV-max V 15–V 50, heat transfer station, 1 heating circuit mixed, 1 heating circuit unmixed, 1 storage charging circuit

14 OTHER V-MAX VARIANTS

15 SPECIFICATIONS

16 OPTIONS

19 PERFORMANCE DATA

22 V-MAX ADD
   For expanding existing heating systems by adding a second heat generator
Superior heat insulation by PST – PEWO Sandwich Technology
seamless patented heat insulation, component attachment and wall bracket.

At 30 kg* – the lightweight solution!

Mixer heating circuit module*
*The various regulated and unregulated modules can be connected to the upper and lower side.

Various regulators

Plate heat exchanger

Heat meter

Differential pressure controller
Volumetric current regulator
Straightway valve

Direct heating circuit module*

Heating network connection on the upper or lower side
Primary side up to nominal pressure PN25

CAPABLE OF WITHSTANDING INTENSE HEAT
Rigid polyurethane foam (PUR) specifically for use in district heating networks. Durable 130 °C
**pewoV-max V base module**
Modular heat transfer stations with Pewo Sandwich Technology.
Transfer capacity up to 150 kW

The pewoV-max V heat transfer station is the connecting link between the district or local heating pipeline and the building’s heating system. If the heating system is converted from gas or heating oil to heat network supply, the pewoV-max basically replaces the gas or heating oil boiler. The building’s heating system is separated from the heating network by a plate heat exchanger. A heating circuit manifold is integrated as standard. All connections are located both on the upper and lower side. It is easy to connect suitable modules, such as heating circuits or domestic hot water heating, to the pewoV-max substation. An existing heating installation can be connected up as well.

**PST – PEWO SANDWICH TECHNOLOGY**

A cornerstone in the development of a new generation of systems.

Superior heat insulation
Plumbing and components are housed three-dimensionally in a noncorrosive, sandwich-style cabinet made of closed-cell polyurethane foam.

Compact design
This innovative construction format replaces the traditional support frame with a sandwich-style cabinet. Heat insulation, component attachment and wall bracket form one unit. These systems are very compact and lightweight. They are mechanically stable, stackable and impressively easy to handle. PST is also extremely easy to service. All components are accessible once the front part of the cabinet has been removed.

Figure on the left: pewoV-max V with two heating circuits
COMFORT/SAFETY

- Variety of connection configurations
- Heating circuit manifold is integrated as standard
- Exact metering of consumption by integrated heat meter (optional)
- Customised control system depending on outside temperature and/or inside temperature
- Options for connecting heating circuits and domestic hot water preparation system to the regulator
- Control panel on the front of the cabinet
- Ready for connection
- Quick installation
- Service/maintenance: all components are accessible from the front
- Available with wall-mounting kit or on standing frame

Standard features

Primary heating water
- Connections on upper and lower side
- Strainer
- Flow controller with electric actuator (without emergency function)
- Adapter for heat meter 110 mm DN 15 (3/4" ET)
  Sleeve for heat meter flow sensor M10 x 1 IT
- 2 thermometers

Secondary heating
- Connections on upper and lower side
- Stainless steel plate heat exchanger
- Flow temperature sensor
- Safety valve 3 bar
- Strainer
- 2 thermometers

Control system
- Control cabinet IP54 with 10 % spare space
- DDC controller PEWO PCr06 (can control 2 additional direct heating circuits)
- External temperature sensor (installation on site)

The system is fully thermally insulated within a sandwich frame.

APPLICATION

- Indirect heat transfer

Types
- pewoV-max V 15
  Code PV0011
- pewoV-max V 30
  Code PV0012
- pewoV-max V 50
  Code PV0013
- pewoV-max V 60
  Code PV0014
- pewoV-max V 75
  Code PV0015
- pewoV-max V 100
  Code PV0016
- pewoV-max V 125
  Code PV0017
- pewoV-max V 150
  Code PV0018

Figure: pewoV-max V design
Bundle 1

pewoV-max V15–V50, heat transfer station

Diagram

Connection principle
✓ Indirect heating

Types
pewoV-max V15
15 kW, Code PV0100
pewoV-max V30
30 kW, Code PV0104
pewoV-max V50
50 kW, Code PV0108

Transfer capacity
primary side 90/52 °C,
secondary side 70/50 °C

Base module
• PST – PEWO Sandwich Technology
• Insulation cover in black with powder-coated steel-plate panel in light grey
• Wall-mounting kit with bars and screws
Primary side (120 °C, PN 16, DN 25)
- 2 ball valves in flow and return, thermally insulated (DN 25, 1” internal thread, connections on upper or lower side)
- Strainer
- Combined valve volumetric current regulator and differential pressure controller with electric actuator (3-step, 230 V)
- Thermometer in flow and return
- 2 pressure gauges in flow and return (16 bar)
- Adapter for heat meter (110 mm, 3/4” external thread)
- Sleeve for heat meter in the flow line (M10x1 internal thread)

Consumer installation (110 °C, PN 10, DN 25)
- 2 ball valves in flow and return, thermally insulated (DN 25, 1” internal thread, connections on upper or lower side)
- Stainless steel plate heat exchanger
- Strainer
- Diaphragm safety valve (3 bar, heating component-tested)
- Thermometer in flow and return
- Draining valve
- Pressure gauge (6 bar)

Control system
- Control cabinet made of powder-coated steel plate in light grey with 10 % spare space
- Electronic regulator controlled by atmospheric conditions for heat transfer station (1 heating circuit unmixed, 1 heating circuit mixed, 1 storage charging circuit)
- External temperature sensor enclosed (PT 1000, installation on site)

The P&I D shows the components of Bundle 1.
- 5 Pressure maintenance connection
- 6 External temperature sensor
- 7 DDC controller
- 24 Straightway valve
- 45 Diaphragm safety valve
- 48 Heat exchanger
- 58 Control cabinet
- 59 Strainer
- 72 Actuator
- 75 Temperature sensor
- 79 Thermometer
- 91 Volumetric current regulator
- 96 Heat meter
- 105 Sensor sleeve
- 106 STM sleeve

* Heat meter flow sensor sleeve M10 x 1 for Kamstrup, Siemens, ABB
Bundle 2

pewoV-max V15–V50, heat transfer station, 1 heating circuit unmixed

Diagram

Connection principle
✓ Indirect heating

Types
pewoV-max V15
15 kW, Code PV0101
pewoV-max V30
30 kW, Code PV0105
pewoV-max V50
50 kW, Code PV0109

Transfer capacity
primary side 90/52°C,
secondary side 70/50°C

Base module
- PST – PEWO Sandwich Technology
- Insulation cover in black with powder-coated steel-plate panel in light grey
- Wall-mounting kit with bars and screws

Primary side (120 °C, PN 16, DN 25)
- 2 ball valves in flow and return, thermally insulated (DN 25, 1” internal thread, connections on upper or lower side)
- Strainer
- Combined valve volumetric current regulator and differential pressure controller with electric actuator (3-step, 230 V)
- Thermometer in flow and return
- 2 pressure gauges in flow and return (16 bar)
- Adapter for heat meter (110 mm, 3/4” external thread)
- Sleeve for heat meter in the flow line (M10x1 internal thread)
**Consumer installation** (110 °C, PN 10, DN 25)
- Stainless steel plate heat exchanger
- Strainer
- Diaphragm safety valve (3 bar, heating component-tested)
- Thermometer in flow and return
- Draining valve
- Pressure gauge (6 bar)

**Heating circuit**
- 1 unmixed heating circuit for space heating, storage charging for domestic hot water heating or buffer storage charging
- 2 ball valves in flow and return, thermally insulated (DN 25, 1” internal thread, connections on upper or lower side)
- Volumetric current type V15: 1.2 m³/h
- Volumetric current type V30, V50: 2.3 m³/h

**Control system**
- Control cabinet made of powder-coated steel plate in light grey with 10 % spare space
- Electronic regulator controlled by atmospheric conditions for heat transfer station (1 heating circuit unmixed, 1 heating circuit mixed, 1 storage charging circuit)
- External temperature sensor enclosed (PT 1000, installation on site)
**Bundle 3**

pewoV-max V15-V50, heat transfer station, 1 heating circuit unmixed, 1 storage charging circuit

---

**Base module**

- PST – PEWO Sandwich Technology
- Insulation cover in black with powder-coated steel-plate panel in light grey
- Wall-mounting kit with bars and screws

**Primary side** (120 °C, PN 16, DN 25)

- 2 ball valves in flow and return, thermally insulated (DN 25, 1” internal thread, connections on upper or lower side)
- Strainer
- Combined valve volumetric current regulator and differential pressure controller with electric actuator (3-step, 230 V)
- Thermometer in flow and return
- 2 pressure gauges in flow and return (16 bar)
- Adapter for heat meter (110 mm, 3/4” external thread)
- Sleeve for heat meter in the flow line (M10x1 internal thread)

---

**Connection principle**

- ✓ Indirect heating
- ✓ Indirect hot water

**Types**

- pewoV-max V15
  - 15 kW, Code PV0102
- pewoV-max V30
  - 30 kW, Code PV0106
- pewoV-max V50
  - 50 kW, Code PV0110

**Transfer capacity**

- primary side 90/52°C,
- secondary side 70/50°C
**Consumer installation** (110 °C, PN 10, DN 25)
- Stainless steel plate heat exchanger
- Strainer
- Diaphragm safety valve (3 bar, heating component-tested)
- Thermometer in flow and return
- Draining valve
- Pressure gauge (6 bar)

**Domestic hot water heating**
- 2 ball valves in flow and return, thermally insulated (DN 25, 1" internal thread, connections on upper or lower side)
- 1 unmixed heating circuit for storage charging
- 1 circulation pump, 3-step
- Volumetric current type V15: 1.2 m³/h
- Volumetric current type V30, V50: 2.3 m³/h

**Heating circuit**
- 1 unmixed heating circuit for space heating (radiator or underfloor heating)
- 1 high-efficiency pump
- 2 ball valves in flow and return, thermally insulated (DN 25, 1" internal thread, connections on upper or lower side)
- Volumetric current type V15: 1.2 m³/h
- Volumetric current type V30, V50: 2.3 m³/h

**Control system**
- Control cabinet made of powder-coated steel plate in light grey with 10 % spare space
- Electronic regulator controlled by atmospheric conditions for heat transfer station (1 heating circuit unmixed, 1 heating circuit mixed, 1 storage charging circuit)
- External temperature sensor enclosed (PT 1000, installation on site)

---

The P&ID shows the components of Bundle 3.

5 Pressure maintenance connection
6 External temperature sensor
7 DDC controller
24 Straightway valve
31 Filling and draining valve
40 Ball valve
42 Pressure gauge
45 Diaphragm safety valve
48 Heat exchanger
58 Control cabinet
59 Strainer
72 Actuator
75 Temperature sensor
79 Thermometer
86 Circulating pump
91 Volumetric current regulator
96 Heat meter
105 Sensor sleeve
106 STM sleeve

* Heat meter flow sensor sleeve M10 x 1 for Kamstrup, Siemens, ABB
** Option of return connection to the domestic hot water charging circuit
Bundle 4

pewoV-max V15-V50, heat transfer station, 1 heating circuit mixed, 1 heating circuit unmixed, 1 storage charging circuit

Base module
- PST – PEWO Sandwich Technology
- Insulation cover in black with powder-coated steel-plate panel in light grey
- Wall-mounting kit with bars and screws

Primary side (120 °C, PN 16, DN 25)
- 2 ball valves in flow and return, thermally insulated (DN 25, 1" internal thread, connections on upper or lower side)
- Strainer
- Combined valve volumetric current regulator and differential pressure controller with electric actuator (3-step, 230 V)

Secondary side (110 °C, PN 10, DN 25)
- Thermometer and two pressure gauges (16 bar) in flow and return
- Adapter for heat meter (110 mm, 3/4" external thread)
- Sleeve for heat meter in the flow line (M10x1 internal thread)

Consumer installation (110 °C, PN 10, DN 25)
- Stainless steel plate heat exchanger
- Strainer
- Diaphragm safety valve (3 bar, heating component-tested)
- Thermometer in flow and return
- Draining valve
- Pressure gauge (6 bar)
Heating circuit 1
- 1 mixed heating circuit for underfloor heating
- 1 high-efficiency pump
- Mixing valve with actuator (230 V, 3-step)
- 2 ball valves in flow and return, thermally insulated (DN 25, 1" internal thread, connections on upper or lower side)
- Volumetric current type V15: 1.2 m³/h
- Volumetric current type V30, V50: 2.3 m³/h

Domestic hot water heating
- 2 ball valves in flow and return, thermally insulated (DN 25, 1" internal thread, connections on upper or lower side)
- 1 unmixed heating circuit for storage charging
- 1 circulation pump, 3-step
- Volumetric current type V15: 1.2 m³/h
- Volumetric current type V30, V50: 2.3 m³/h

Heating circuit 2
- 1 unmixed heating circuit for radiators
- 1 high-efficiency pump
- 2 ball valves in flow and return, thermally insulated (DN 25, 1" internal thread, connections on upper or lower side)
- Volumetric current type V15: 1.2 m³/h
- Volumetric current type V30, V50: 2.3 m³/h

Control system
- Control cabinet made of powder-coated steel plate in light grey with 10 % spare space
- Electronic regulator controlled by atmospheric conditions for heat transfer station (1 heating circuit unmixed, 1 heating circuit mixed, 1 storage charging circuit
- External temperature sensor enclosed (PT 1000, installation on site)
Other V-max variants
for heating and domestic hot water heating

The house substation pewoV-max V can be expanded by using heating circuit modules. Optimum heating circuit modules for heating and domestic hot water heating are available for virtually any application.

GREAT VARIETY

The V-max can be used in a wide range of variants. Solutions for different flow temperatures are easy to configure. The system also allows several heating circuits for radiators, underfloor or wall heating and domestic hot water heating to run parallel to each other.

The system adapts to future needs
The heating circuits can easily be upgraded later, and hence this scalable system can be adapted to changing requirements with no problems. If, for example, the heating system needs to be expanded as a result of an extension to the building, adding another heating circuit module or exchanging a previously installed module will provide the additional capacity required. The maximum possible transfer capacity is limited to the transfer capacity of the base station.
### pewoV-max V base module specifications

#### pewoV-max V15–V60 specifications

<table>
<thead>
<tr>
<th>Feature</th>
<th>Primary</th>
<th>Secondary</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flow temperature max.</td>
<td>120 °C/150 °C*</td>
<td>120 °C</td>
</tr>
<tr>
<td>Flow quantity max.</td>
<td>2.5 m³/h</td>
<td>3.1 m³/h</td>
</tr>
<tr>
<td>Nominal pressure PN</td>
<td>16 bar/25 bar*</td>
<td>10 bar</td>
</tr>
<tr>
<td>Nominal pipe size</td>
<td>1&quot;</td>
<td>1&quot;</td>
</tr>
<tr>
<td>Flat-sealing connections</td>
<td>5/4&quot; ET</td>
<td>5/4&quot; ET</td>
</tr>
<tr>
<td>Electrical connection</td>
<td>230 V 50 Hz approx. 80 W**</td>
<td></td>
</tr>
<tr>
<td>Dimensions (width x height x depth)</td>
<td>558 mm x 660 mm x 263 mm</td>
<td></td>
</tr>
</tbody>
</table>

* in case of the SAMSON volumetric current regulator and straightway valve PN25 (Code PV3040) or DANFOSS volumetric current regulator and straightway valve PN25 (Code PV3042) option ** if pumps and actuators are connected outside of the base station, the capacity must be added. Dimensions and weights refer exclusively to devices with standard equipment. ** the capacity of the pumps and actuators also connected to the pewoV-max base module must be added.

#### pewoV-max V75–V150 specifications

<table>
<thead>
<tr>
<th>Feature</th>
<th>Primary</th>
<th>Secondary</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flow temperature max.</td>
<td>120 °C/150 °C*</td>
<td>120 °C</td>
</tr>
<tr>
<td>Flow quantity max.</td>
<td>3.8 m³/h</td>
<td>7.0 m³/h</td>
</tr>
<tr>
<td>Nominal pressure PN</td>
<td>16 bar/25 bar*</td>
<td>10 bar</td>
</tr>
<tr>
<td>Nominal pipe size</td>
<td>5/4&quot;</td>
<td>6/4&quot;</td>
</tr>
<tr>
<td>Flat-sealing connections</td>
<td>6/4&quot; ET</td>
<td>2&quot; ET</td>
</tr>
<tr>
<td>Electrical connection</td>
<td>230 V 50 Hz approx. 80 W**</td>
<td></td>
</tr>
<tr>
<td>Dimensions (width x height x depth)</td>
<td>750 mm x 810 mm x 290 mm</td>
<td></td>
</tr>
</tbody>
</table>

* in case of the SAMSON volumetric current regulator and straightway valve PN25 (Code PV3050) or DANFOSS volumetric current regulator and straightway valve PN25 (Code PV3052) option ** if pumps and actuators are connected outside of the base station, the capacity must be added. Dimensions and weights refer exclusively to devices with standard equipment. ** the capacity of the pumps and actuators also connected to the pewoV-max base module must be added.

### pewoV-max V weight

<table>
<thead>
<tr>
<th>Model</th>
<th>Weight (kg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>pewoV-max V 15</td>
<td>30.0</td>
</tr>
<tr>
<td>pewoV-max V 30</td>
<td>32.0</td>
</tr>
<tr>
<td>pewoV-max V 50</td>
<td>33.5</td>
</tr>
<tr>
<td>pewoV-max V 60</td>
<td>35.5</td>
</tr>
<tr>
<td>pewoV-max V 75</td>
<td>55.0</td>
</tr>
<tr>
<td>pewoV-max V 100</td>
<td>57.5</td>
</tr>
<tr>
<td>pewoV-max V 125</td>
<td>62.5</td>
</tr>
<tr>
<td>pewoV-max V 150</td>
<td>67.0</td>
</tr>
</tbody>
</table>

---

5. Pressure maintenance connection
6. External temperature sensor
7. DDC controller
24. Straightway valve
45. Diaphragm safety valve
48. Heat exchanger
58. Control cabinet
59. Strainer
72. Actuator
75. Temperature sensor
79. Thermometer
91. Volumetric current regulator
* Heat meter flow sensor sleeve
M10x1 for Kamstrup, Siemens, ABB
### pewoV-max V15–V50 options

<table>
<thead>
<tr>
<th>Mounting</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>PV2201</td>
<td>Standing installation frame, powder-coated</td>
</tr>
<tr>
<td>PV2202</td>
<td>Standing installation frame, galvanised</td>
</tr>
<tr>
<td>PV2203</td>
<td>Standing installation frame, galvanised and powder-coated</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Regulation/control system</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>RTR013</td>
<td>Room temperature controller for PCR 06 with setpoint adjuster and switch</td>
</tr>
<tr>
<td>DDC001</td>
<td>DDC controller SAMSON 5576 with RS232 2 heating circuits and 1 DHW heating</td>
</tr>
<tr>
<td>DDC002</td>
<td>DDC controller SAMSON 5576 with RS232 and M-BUS 2 heating circuits and 1 DHW heating</td>
</tr>
<tr>
<td>DDC003</td>
<td>DDC controller SAMSON 5579 with RS232 2 heating circuits and 1 DHW heating</td>
</tr>
<tr>
<td>DDC004</td>
<td>DDC controller SAMSON 5579 with RS232 and M-BUS 2 heating circuits and 1 DHW heating</td>
</tr>
<tr>
<td>DDC105</td>
<td>Overvoltage protection for DDC controller pewoV-max infeed 230 VAC without BUS</td>
</tr>
<tr>
<td>DDC416</td>
<td>DDC controller MR08 3.XX with M-BUS and PEWO data bus, 4 heating circuits and 1 DHW heating</td>
</tr>
<tr>
<td>DDC100</td>
<td>DDC controller SIEMENS RV0145, 1 heating circuit, 1 DHW heating</td>
</tr>
<tr>
<td>DDC102</td>
<td>DDC controller SIEMENS RV0235 with M-BUS 1 heating circuit and 1 DHW heating</td>
</tr>
<tr>
<td>DDC103</td>
<td>DDC controller SIEMENS RV0245 with M-BUS 2 heating circuits and 1 DHW heating</td>
</tr>
<tr>
<td>DDC201</td>
<td>DDC controller RICCIUS+SOHN RU94-1F-110 1 heating circuit and 1 DHW heating</td>
</tr>
<tr>
<td>DDC202</td>
<td>DDC controller RICCIUS+SOHN RU98-1F-110 1 heating circuit and 1 DHW heating</td>
</tr>
<tr>
<td>DDC204</td>
<td>DDC controller RICCIUS+SOHN RU98-1F-120, 2 heating circuits and 1 DHW heating</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Safety</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>PV3005</td>
<td>Safety temperature monitor secondary side with safety function according to DIN 4747-1</td>
</tr>
<tr>
<td>PV3006</td>
<td>Temperature controller and STM secondary side with safety function according to DIN 4747-1</td>
</tr>
<tr>
<td>PV3032</td>
<td>Safety temperature monitor secondary side without safety function</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Regulators/valves</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>PV3040</td>
<td>SAMSON volumetric current regulator and straightway valve in PN25</td>
</tr>
<tr>
<td>PV3041</td>
<td>DANFOSS volumetric current regulator and straightway valve in PN16</td>
</tr>
<tr>
<td>PV3042</td>
<td>DANFOSS volumetric current regulator and straightway valve in PN25 AVOM-2</td>
</tr>
<tr>
<td>PV3053</td>
<td>Volumetric current regulator and straightway valve in the flow line instead of the return line</td>
</tr>
<tr>
<td>PV3056</td>
<td>Straightway valve in the flow line and differential pressure controller and volumetric flow limiter in the return line instead of volumetric current regulator and straightway valve</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Meters</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>WZ0020</td>
<td>Kamstrup M402 heat meter Qn 1.5 pewoV-max</td>
</tr>
<tr>
<td>WZ0021</td>
<td>M-BUS for Kamstrup M401 heat meter pewoV-max</td>
</tr>
<tr>
<td>WZ0030</td>
<td>SIEMENS UH50 heat meter Qn 1.5 pewoV-max</td>
</tr>
<tr>
<td>WZ0031</td>
<td>M-BUS for SIEMENS heat meter ZWR5</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Connections</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Dummy caps</td>
<td></td>
</tr>
<tr>
<td>PV3008</td>
<td>Dummy cap with O-ring seal</td>
</tr>
<tr>
<td>Welding socket pieces</td>
<td></td>
</tr>
<tr>
<td>PV3009</td>
<td>Welding socket piece DN25 with spigot nut and O-ring</td>
</tr>
</tbody>
</table>

### pewoV-max V15–V50 options

<table>
<thead>
<tr>
<th>Threaded nozzles</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>PV3010</td>
<td>Threaded nozzle DN15 (½&quot;ET) with spigot nut and O-ring</td>
</tr>
<tr>
<td>PV3011</td>
<td>Threaded nozzle DN20 (¼&quot;ET) with spigot nut and O-ring</td>
</tr>
<tr>
<td>PV3012</td>
<td>Threaded nozzle DN25 (¹/₄&quot;ET) with spigot nut and O-ring</td>
</tr>
<tr>
<td>PV3013</td>
<td>Threaded nozzle DN32 (5/₄&quot;ET) with spigot nut and O-ring</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Ball valves</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>PV3014</td>
<td>Ball valve with welding end DN20 PN25 140°C primary side</td>
</tr>
<tr>
<td>PV3024</td>
<td>Ball valve with welding end insulation DN20 PN25 140°C</td>
</tr>
<tr>
<td>PV3015</td>
<td>Ball valve with welding end DN25 PN25 140°C primary side</td>
</tr>
<tr>
<td>PV3025</td>
<td>Ball valve with welding end insulation DN25 PN25 140°C</td>
</tr>
<tr>
<td>PV3016</td>
<td>Ball valve (can be insulated) DN15 (½&quot;IT) PN16 120°C</td>
</tr>
<tr>
<td>PV3026</td>
<td>Ball valve with internal thread insulation DN15 PN16 120°C</td>
</tr>
<tr>
<td>PV3017</td>
<td>Ball valve (can be insulated) DN20 (¼&quot;IT) PN16 120°C</td>
</tr>
<tr>
<td>PV3027</td>
<td>Ball valve with internal thread insulation DN20 PN16 120°C</td>
</tr>
<tr>
<td>PV3018</td>
<td>Ball valve (can be insulated) DN25 (1&quot;IT) PN16 120°C</td>
</tr>
<tr>
<td>PV3028</td>
<td>Ball valve with internal thread insulation DN25 PN16 120°C</td>
</tr>
<tr>
<td>PV3019</td>
<td>Ball valve (can be insulated) DN32 (5/₄&quot;IT) PN16 120°C</td>
</tr>
<tr>
<td>PV3029</td>
<td>Ball valve with internal thread insulation DN32 PN16 120°C</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Emptying/venting</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>PV3060</td>
<td>Emptying or venting in connection DN15 PN16 120°C</td>
</tr>
<tr>
<td>PV3061</td>
<td>Emptying or venting in connection DN15 PN16 150°C</td>
</tr>
<tr>
<td>PV3062</td>
<td>Emptying or venting in connection DN15 PN25 150°C</td>
</tr>
<tr>
<td>PV3064</td>
<td>Emptying in strainer secondary side DN15 PN16 120°C</td>
</tr>
<tr>
<td>PV3065</td>
<td>Emptying in strainer secondary side DN15 PN16 150°C</td>
</tr>
<tr>
<td>PV3066</td>
<td>Emptying and pressure gauge 6 bar in strainer secondary side DN15 PN16 120°C; 6 bar, accuracy class 1.6 ¼&quot; ø 63 mm;</td>
</tr>
<tr>
<td>PV3067</td>
<td>Emptying and pressure gauge 6 bar in strainer secondary side DN15 PN16 150°C; 6 bar, accuracy class 1.6 ¼&quot; ø 63 mm;</td>
</tr>
<tr>
<td>PV3068</td>
<td>Pressure gauge 6 bar, accuracy class 1.6 ¼&quot; ø 63 mm in strainer secondary side</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Pressure gauges</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>PV3070</td>
<td>Pressure gauge 6 bar, accuracy class 1.6 ¼&quot; ø 63 mm in connection upper or lower side</td>
</tr>
<tr>
<td>PV3071</td>
<td>Pressure gauge 6 bar, accuracy class 1.0 ½&quot; ø 100 mm in connection upper side</td>
</tr>
<tr>
<td>PV3072</td>
<td>Pressure gauge 10 bar, accuracy class 1.6 ¼&quot; ø 63 mm in connection upper or lower side</td>
</tr>
<tr>
<td>PV3073</td>
<td>Pressure gauge 10 bar, accuracy class 1.0 ½&quot; ø 100 mm in connection upper side</td>
</tr>
<tr>
<td>PV3074</td>
<td>Pressure gauge 16 bar, accuracy class 1.6 ¼&quot; ø 63 mm in connection upper or lower side</td>
</tr>
<tr>
<td>PV3075</td>
<td>Pressure gauge 16 bar, accuracy class 1.0 ½&quot; ø 100 mm in connection upper side</td>
</tr>
<tr>
<td>PV3076</td>
<td>Pressure gauge 25 bar, accuracy class 1.6 ¼&quot; ø 63 mm in connection upper or lower side</td>
</tr>
<tr>
<td>PV3077</td>
<td>Pressure gauge 25 bar, accuracy class 1.0 ½&quot; ø 100 mm in connection upper side</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Design</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>PV2111</td>
<td>Steel-plate panel, powder-coated light grey, lockable incl. lock</td>
</tr>
<tr>
<td>PV2112</td>
<td>Steel-plate panel, powder-coated, RAL colour, single-coloured</td>
</tr>
<tr>
<td>PV2113</td>
<td>Steel-plate panel, powder-coated, RAL colour, single-coloured, lockable incl. lock</td>
</tr>
<tr>
<td>PV2117</td>
<td>Insulation cover top and bottom in traffic red RAL 3020</td>
</tr>
<tr>
<td>PV2118</td>
<td>Insulation cover top and bottom in sky blue RAL 5015</td>
</tr>
<tr>
<td>PV2119</td>
<td>Insulation cover top and bottom in night blue RAL 5022</td>
</tr>
<tr>
<td>PV2120</td>
<td>Insulation cover top and bottom in pale green RAL 6021</td>
</tr>
</tbody>
</table>
### pewoV-max V75–V150 options

#### Mounting
- **PV4001** Wall-mounting kit with bars and screws
- **PV2204** Standing frame, powder-coated
- **PV2205** Sanding frame, galvanised
- **PV2206** Standing frame, galvanised and powder-coated

#### Regulation/control system
- **RTR013** Room temperature controller for PCR06 with setpoint adjuster and switch
- **DDC001** DDC controller SAMSON 5576 with RS232 2 heating circuits, 1 DHW heating
- **DDC002** DDC controller SAMSON 5576 with RS232 and M-BUS, 2 heating circuits, 1 DHW heating
- **DDC003** DDC controller SAMSON 5579 with RS232 2 heating circuits, 1 DHW heating
- **DDC004** DDC controller SAMSON 5579 with RS232 and M-BUS, 2 heating circuits, 1 DHW heating
- **DDC105** Overvoltage protection for DDC controller pewoV-max infeed 230 VAC without BUS
- **DDC416** DDC controller MR08 3.XX with M-BUS and PEWO data bus, 4 heating circuits and 1 DHW heating
- **DDC100** DDC controller SIEMENS RVD145
- **DDC102** DDC controller SIEMENS RVD235 with M-BUS, 1 heating circuit, 1 DHW heating
- **DDC103** DDC controller SIEMENS RVD245 with M-BUS, 2 heating circuits, 1 DHW heating
- **DDC201** DDC controller RICCIUS+SOHN RU94-1F-110, 1 heating circuit, 1 DHW heating
- **DDC203** DDC controller RICCIUS+SOHN RU94-1F-110, 1 heating circuit, 1 DHW heating
- **DDC204** DDC controller RICCIUS+SOHN RU98-1F-120, 2 heating circuits and 1 DHW heating

#### Safety
- **PV3005** Safety temperature monitor secondary side with safety function according to DIN 4747-1
- **PV3006** Temperature controller and STM secondary side with safety function according to DIN 4747-1
- **PV3032** Safety temperature monitor secondary side without safety function

#### Regulators/valves
- **PV3050** MTR 02.15.130 fully assembled
- **PV3051** DANFOSS volumetric current regulator and straightway valve in PN 16
- **PV3052** DANFOSS volumetric current regulator and straightway valve in PN 25
- **PV3053** Volumetric current regulator and straightway valve in the flow line instead of the return line
- **PV3056** Straightway valve in the flow line and differential pressure controller and volumetric flow limiter in the return line instead of volumetric current regulator and straightway valve; pewoV-max V 15–75
- **PV3057** Straightway valve in the flow line and differential pressure controller and volumetric flow limiter in the return line instead of volumetric current regulator and straightway valve; pewoV-max V 100
- **PV3058** Straightway valve in the flow line and differential pressure controller and volumetric flow limiter in the return line instead of volumetric current regulator and straightway valve; pewoV-max V 125 & V 150

#### Meters
- **WZ0020** Kamstrup M402 heat meter Qn 1.5
- **WZ0022** Kamstrup M402 heat meter Qn 3.0
- **WZ0021** M-BUS for Kamstrup M402 heat meter
- **WZ0030** SIEMENS UH50 heat meter Qn 1.5
- **WZ0032** SIEMENS UH50 heat meter Qn 2.5
- **WZ0031** M-BUS for SIEMENS heat meter 2WR5

#### Connections
- **PV4006** Dummy cap for 6/4" ET primary side with spigot nut and O-ring
- **PV4007** Dummy cap for 2" ET secondary side with spigot and O-ring
- **PV4050** Welding socket piece DN 15 with spigot nut and O-ring primary side
- **PV4051** Welding socket piece DN 20 with spigot nut and O-ring primary side
- **PV4052** Welding socket piece DN 25 with spigot nut and O-ring primary side
- **PV4053** Welding socket piece DN 32 with spigot nut and O-ring primary side
- **PV4055** Welding socket piece DN 32 with spigot nut and O-ring secondary side
- **PV4056** Welding socket piece DN 40 with spigot nut and O-ring secondary side
- **PV4060** Threaded nozzle DN 15 (½"IT) with spigot nut and O-ring primary side
- **PV4062** Threaded nozzle DN 25 (1.4"ET) with spigot nut and O-ring primary side
- **PV4063** Threaded nozzle DN 32 (5/4"ET) with spigot nut and O-ring primary side
- **PV4065** Threaded nozzle DN 15 (½"IT) with spigot nut and O-ring secondary side
- **PV4068** Threaded nozzle DN 32 (5/4"ET) with spigot nut and O-ring secondary side
- **PV4069** Threaded nozzle DN 40 (6/4"ET) with spigot nut and O-ring secondary side
- **PV4070** Threaded nozzle DN 50 (2"ET) with spigot nut and O-ring secondary side
pewoV-max V75–V150 options

<table>
<thead>
<tr>
<th>Ball valves</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>PV4075</td>
<td>Ball valve (can be insulated) DN 25 (1”IT) PN 16 120 °C primary side</td>
</tr>
<tr>
<td>PV4076</td>
<td>Ball valve (can be insulated) DN 32 (5/4”IT) PN 16 120 °C primary side</td>
</tr>
<tr>
<td>PV4080</td>
<td>Ball valve with welding end DN 25 PN 25 140 °C primary side</td>
</tr>
<tr>
<td>PV4090</td>
<td>Ball valve with welding end insulation DN 25 PN 25 140 °C primary side</td>
</tr>
<tr>
<td>PV4081</td>
<td>Ball valve with welding end DN 32 PN 25 140 °C primary side</td>
</tr>
<tr>
<td>PV4091</td>
<td>Ball valve with welding end insulation DN 32 PN 25 140 °C primary side</td>
</tr>
<tr>
<td>PV4085</td>
<td>Ball valve (can be insulated) DN 32 (5/4”IT) PN 16 120 °C secondary side</td>
</tr>
<tr>
<td>PV4094</td>
<td>Ball valve with internal thread insulation DN 32 PN 16 120 °C secondary side</td>
</tr>
<tr>
<td>PV4086</td>
<td>Ball valve (can be insulated) DN 40 (6/4”IT) PN 16 120 °C secondary side</td>
</tr>
<tr>
<td>PV4095</td>
<td>Ball valve with internal thread insulation DN 40 PN 16 120 °C secondary side</td>
</tr>
<tr>
<td>PV4087</td>
<td>Ball valve (can be insulated) DN 50 (2”IT) PN 16 120 °C secondary side</td>
</tr>
<tr>
<td>PV4096</td>
<td>Ball valve with internal thread insulation DN 50 PN 16 120 °C secondary side</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Emptying/venting</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>PV4020</td>
<td>Emptying or venting in connection DN 15 PN 16 120 °C primary side</td>
</tr>
<tr>
<td>PV4021</td>
<td>Emptying or venting in connection DN 15 PN 16 150 °C primary side</td>
</tr>
<tr>
<td>PV4022</td>
<td>Emptying or venting in connection DN 15 PN 25 150 °C primary side</td>
</tr>
<tr>
<td>PV4026</td>
<td>Emptying in strainer secondary side DN 15 PN 16 120 °C</td>
</tr>
<tr>
<td>PV4027</td>
<td>Emptying in strainer secondary side DN 15 PN 16 150 °C</td>
</tr>
<tr>
<td>PV4028</td>
<td>Emptying and pressure gauge 6 bar in strainer secondary side DN 15 PN 16 120 °C; 6 bar, accuracy class 1.6 ¼” ø 63 mm;</td>
</tr>
<tr>
<td>PV4029</td>
<td>Emptying and pressure gauge 6 bar in strainer secondary side DN 15 PN 16 150 °C; 6 bar, accuracy class 1.6 ¼” ø 63 mm;</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Pressure gauges</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>PV4030</td>
<td>Pressure gauge 10 bar, accuracy class 1.6 ¼” ø 63 mm in connection primary side</td>
</tr>
<tr>
<td>PV4031</td>
<td>Pressure gauge 10 bar, accuracy class 1.0 ½” ø 100 mm in connection upper side, primary side</td>
</tr>
<tr>
<td>PV4032</td>
<td>Pressure gauge 16 bar, accuracy class 1.6 ¼” ø 63 mm in connection primary side</td>
</tr>
<tr>
<td>PV4033</td>
<td>Pressure gauge 16 bar, accuracy class 1.0 ½” ø 100 mm in connection upper side, primary side</td>
</tr>
<tr>
<td>PV4034</td>
<td>Pressure gauge 25 bar, accuracy class 1.6 ¼” ø 63 mm in connection primary side</td>
</tr>
<tr>
<td>PV4035</td>
<td>Pressure gauge 25 bar, accuracy class 1.0 ½” ø 100 mm in connection upper side, primary side</td>
</tr>
<tr>
<td>PV4040</td>
<td>Pressure gauge 6 bar, accuracy class 1.6 ¼” ø 63 mm in connection secondary side</td>
</tr>
<tr>
<td>PV4041</td>
<td>Pressure gauge 6 bar, accuracy class 1.0 ½” ø 100 mm in connection upper side, secondary side</td>
</tr>
</tbody>
</table>

Design

<table>
<thead>
<tr>
<th>Design</th>
</tr>
</thead>
<tbody>
<tr>
<td>PV4106</td>
</tr>
<tr>
<td>PV4107</td>
</tr>
<tr>
<td>PV4110</td>
</tr>
<tr>
<td>PV4111</td>
</tr>
<tr>
<td>PV4112</td>
</tr>
<tr>
<td>PV4113</td>
</tr>
</tbody>
</table>
EXAMPLE

Specifications
Output: 10 kW, operation mode: 1
Primary temperatures flow: 130–110 °C, return: 60 °C
Secondary temperatures flow: 70 °C, return: 55 °C
Secondary volumetric current: 573 l/h

In the pewoV-max V 15 diagram, find the volumetric current value on the volumetric current axis. Then form a vertical axis and find the point of intersection with the characteristic curve of the relevant operation mode, in this case operation mode 1. A horizontal axis through this point shows the corresponding output of 10 kW on the value axis. In this case the pewoV-max V 15 is suitable.

From a determined secondary volumetric current, there is no point of intersection with the characteristic curve of the operation mode. For example, at a required output of around 38 kW and a volumetric current of 2,100 l/h, you would need to switch to the next largest system pewoV-max V 30. If any special circumstances are involved, please get in touch with us.

pewoV-max V base module performance data
**pewoV-max V** base module pressure losses

### Secondary pressure losses

#### Pressure loss of pewoV-max V15–V60 secondary side

![Graph showing pressure loss against volume flow for secondary side of pewoV-max V15–V60.](image1)

- **pewoV-max V15**
- **pewoV-max V30**
- **pewoV-max V50**
- **pewoV-max V60**

### Primary pressure losses

#### Pressure loss of pewoV-max V15–V60 primary side

**with regulation of flow rate = kvs 1**

![Graph showing pressure loss against volume flow for primary side of pewoV-max V15–V60 with kvs 1.](image2)

- **pewoV-max V15**
- **pewoV-max V30**
- **pewoV-max V50**
- **pewoV-max V60**

**with regulation of flow rate = kvs 2.5**

![Graph showing pressure loss against volume flow for primary side of pewoV-max V15–V60 with kvs 2.5.](image3)

- **pewoV-max V15**
- **pewoV-max V30**
- **pewoV-max V50**
- **pewoV-max V60**

**with regulation of flow rate = kvs 4**

![Graph showing pressure loss against volume flow for primary side of pewoV-max V15–V60 with kvs 4.](image4)

- **pewoV-max V15**
- **pewoV-max V30**
- **pewoV-max V50**
- **pewoV-max V60**

### Pressure loss of pewoV-max V75–V150 primary side

- **pewoV-max V15 mit WP5-50 Ventil 2488 kvs 4**
- **pewoV-max V100 mit WP5-60 Ventil 2488 kvs 6.3**
- **pewoV-max V125 mit WP5-80 Ventil 2488 kvs 8**
- **pewoV-max V150 mit WP5-100 Ventil 2488 kvs 8**
**pewoV-max ADD**

**Base module**
- PST – PEWO Sandwich Technology
- Insulation cover in black with powder-coated steel-plate panel in light grey
- Wall-mounting kit with bars and screws

**Primary side (120 °C, PN 16, DN 25)**
- 2 ball valves in flow and return, thermally insulated (DN 25, 1” internal thread, connections on upper or lower side)
- Strainer
- Thermometer in flow and return
- 2 pressure gauges in flow and return (16 bar)
- Adapter for heat meter (110 mm, 3/4” external thread)
- Sleeve for heat meter in the flow line (M10x1 internal thread)

**Consumer installation (110 °C, PN 10, DN 25)**
- 2 ball valves in flow and return, thermally insulated (DN 25, 1” internal thread, connections on upper or lower side)
- Stainless steel plate heat exchanger
- Strainer
- Diaphragm safety valve (3 bar, heating component-tested)
- Thermometer in flow and return
- Draining valve
- Pressure gauge (6 bar)

**Control system**
- Primary return temperature controller without auxiliary energy

**Options**
- Regulator for adjustable heating flow temperature
- Outside temperature-guided control with auxiliary energy
- Outside temperature-guided control with auxiliary energy and additional clearance, if necessary, for another heat generator (existing oil, gas or biomass boiler)

---

**Specifications**

<table>
<thead>
<tr>
<th>Specifications</th>
<th>Heating water</th>
<th>Heating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Connection</td>
<td>5/4&quot; ET</td>
<td>5/4&quot; ET, flat-sealing</td>
</tr>
<tr>
<td>Output</td>
<td>up to 150 kW</td>
<td></td>
</tr>
<tr>
<td>Heating water</td>
<td>85/55 °C</td>
<td></td>
</tr>
<tr>
<td>Secondary temperature</td>
<td>70/50 °C</td>
<td></td>
</tr>
<tr>
<td>Delta p min</td>
<td>0.40 bar</td>
<td></td>
</tr>
</tbody>
</table>

**Types**
- pewoV-max ADD 15  
  Code PV0031
- pewoV-max ADD 30  
  Code PV0032
- pewoV-max ADD 50  
  Code PV0033
- pewoV-max ADD 60  
  Code PV0034
- pewoV-max ADD 75  
  Code PV0035
- pewoV-max ADD 100  
  Code PV0036
- pewoV-max ADD 125  
  Code PV0037
- pewoV-max ADD 150  
  Code PV0038

---

**P&ID legend**

- 24 Straightway valve
- 40 Ball valve
- 45 Diaphragm safety valve
- 48 Heat exchanger
- 58 Control cabinet
- 59 Strainer
- 72 Actuator
- 75 Temperature sensor
- 79 Thermometer
- 91 Volumetric current regulator Samson 2469
- 96 Heat meter adapter
- 101 Dummy cap

*Heat meter flow sensor sleeve M10x1 for Kamstrup, Siemens, AB
**ADD – For expanding existing heating systems by adding a second heat generator**

The pewoV-max ADD heat transfer station can be integrated into the existing heating installation in the form of an additional heat generator. Suitable heat sources are local heating networks, which are supplied with heat by biogas plants or biomass (power) plants, for example. The device can also be supplied with waste or process heat. In principle, the pewoCompact ADD can be regarded as a preheater.

**HOW IT WORKS**

The heating system’s heating water is heated up indirectly via a plate heat exchanger in addition to an existing heat generator. This means that the heating return is first heated up via this device and then, if required, residually heated to the required flow temperature by the existing heat generator. If the required flow temperature has been attained already using the pewoCompact Add, then the existing heat generator (e.g. boiler) will not be activated. If the heat requirement drops or the secondary return temperature increases and exceeds the specified setpoint, then the primary control valve is throttled or closed.

**ADVANTAGES**

- Increased availability of the heat supply via the cascading of two heat generators
- Improved security of supply
- Increased peak power
- Continued use of existing boiler (oil/gas, woodchips, pellets)
System solutions for efficient heat distribution

BOILER HOUSE
- Producer-independent heat extraction
- Heat distribution systems
- Network pump systems
- Buffer tank integration systems
- Boiler house control

pewoControl – control and communication technology

District heating stations pewoCAD
Heating/cooling circuit distributors pewoSsplit
House substations pewoV-max, pewoCompact

Combined heat and power plants (CHP)
Geothermal systems, heat pumps
Biomass (power) plants
Pewo offers design and product consulting to support the planning of heat distribution systems in local heating networks and buildings. Exchanges of experience between designers and Pewo result in efficient control strategies, optimum product selection, or the creation of prerequisites for potential network optimisation during operation, for example. Pewo supports the product-related integration of local contractors into the overall concept.

**PEWO SERVICES**

- Complete solutions for efficient heat distribution and domestic hot water heating
- System consulting in support of design, planning and product selection
- Efficient control strategy consultation
- Training in operations management
- Post-commissioning system optimisation by monitoring

**SYSTEM CONSULTING**

PEWO offers design and product consulting to support the planning of heat distribution systems in local heating networks and buildings. Exchanges of experience between designers and PEWO result in efficient control strategies, optimum product selection, or the creation of prerequisites for potential network optimisation during operation, for example. PEWO supports the product-related integration of local contractors into the overall concept.

**SERVICE**

- Commissioning
- Training in operations management
- Training the operator in using control systems, training (at PEWO’s premises or on site) installers to operate the heat transfer stations
- Certification of installation companies
- Post-commissioning system optimisation by monitoring and data evaluation

**Apartment substations**

pewoTherm, pewoAqua
PEWO system technology

Heat transfer station pewoV-max 15–200 kW
Radiator Underfloor Heating
Domestic Hot water Cold Water

Heat transfer station pewoCompact 10–50 kW
Radiator Underfloor Heating
Domestic Hot Water Cold Water

Data Bus for Control Technology

Heating system

Heat Distribution and Control System pewoSwitch

Combined Heat and Power Unit
Heat Pump Cascade
Biomass-Power Plant
Gas-/Oil fired Boiler

Base Load Medium Load Peak Load Solar Supply Buffer
Domestic hot water systems pewoAqua

Fresh Water Stations

Storage Charging System

Heat Distribution in the Boiler House

Heat Transfer Station in Buildings

Control & Services

Copyright PEWO Energetechnik GmbH, reproduction or copying, even partially, is only allowed with the permission of PEWO Energetechnik GmbH, Goierswalder Straße 13, 02979 Elsterheide.
REFERENCES (excerpt): twk Versorgungs AG, Versorgungsgebiet Kaiserslautern · EVO Energieversorgung Offenbach AG, Versorgungsgebiet Offenbach · MVV Energie AG, Versorgungsgebiet Mannheim, Nahwärme Wiesloch · ESWE Versorgungs AG, Versorgungsgebiet Wiesbaden, U.S. Air Base Wiesbaden-Erbenheim · TWL Technische Werke Ludwigshafen AG, Versorgungsgebiet, Ludwigshafen · Stadtwerke Heidelberg AG, Versorgungsgebiet Heidelberg · EDG Energiedienstleistungsgesellschaft Rheinhessen-Nahe mbH, Nahwärmenetz Walldalgeheim · ESW Energiesparwerk GmbH & Co., Altötting, Deutschland · MVV Energie AG, Bad Endorf, Deutschland · BBT Thermotechnik GmbH, Berlin · Berliner Energie Agentur · BEWAG AG & Co.KG, Berlin · Charite Universitätsklinikum med. Fakultät der Humboldt Universität zu Berlin · Gropius-Passagen, Berlin · Hotel ADLON, Berlin · Niederländische Botschaft, Berlin · Olympiastadion, Berlin · Österreichische Botschaft, Berlin · Palais am Klostergarten, Berlin · Sony Center, Berlin · Tierpark, Berlin · Wohnsiedlung Schweizer Viertel, Berlin · ZDF-Studio, Berlin · Stadtwerke Bochum · Hardthöhe Verteidigungsministerium, Bonn · EN VIA, Chemnitz, Cottbus · DREWAG Stadtwerke Dresden · Kongress Center, Dresden · Mili. Museum, Dresden · Stadtwerke Düsseldorf AG · Baugebiet, Düsseldorf Wittlar · Stadtwerke Erfurt · Universität, Erlangen · MAINO VA, Frankfurt/Main · Bürocenter City-West, Frankfurt/Main · Flight Training Center Airport, Frankfurt/Main · Freiberger Wärmeversorgung · Stadt Geisingen · Rock & Popmuseum, Gronau · Energieversorgung Halle · Martin-Luther-Universität, Halle · Airport Hamburg, Hamburg · Fachhochschule, Hamburg · SA P-Schulungszentrum, Hamburg · Stadtwerke Hannover AG · Einkaufscenter Bothfeld, Hannover · Hauptbahnhof, Hannover · Fernwärme GmbH, Hohenmölsen · Bioenergiedorf Jühnde · Stadtwerke Kiel AG · Kai-City, Kiel · Kap am Südkai, Köln · Medienpark, Köln · Rheinau Hafen, Köln · Stadtwerke Leipzig/Zentral-Mesepalast, Leipzig · Flughafen, Leipzig/Halle · BBT Thermotechnik GmbH, Lollar · Theater, Magdeburg · Stadtwerke Merseburg GmbH · Fernwärmeversorgung Niederrhein, Moers · Stadtwerke München · EV Nordhausen GmbH · Flughafen, Nürnberg · TWO, Ostritz · Modellstadt, Ostritz · Fernwärme, Piesendorf · Innovative Energie für Pullach GmbH · Biomasse HW · Reit im Winkel · Naturwärme Reit im Winkel GmbH & Co.KG · Ostseestadion, Rostock · Stadtwerke Saarbrücken AG · Stadtwerke Traunstein GmbH & Co.KG · Fernwärme-Verbund Saar GmbH, Völklingen · Stadtwerke Wernigerode · Kirkeles, (GB) · Stadtwerke Bruneck (I) · Genossenschaft Heizwerk Feldthurns (I) · Fernheizwerk Lajen (I) · Fernheizwerk Klausen GmbH c/o SEL AG · Latzfons (I) · Fernheizwerk OLANG AG · Olang (I) · Biomasse-Heizwerk Ormea (I) · TLR S. Martino di Castrozza (I) · Heizwerk Sarntal GmbH (I) · Fernheizwerk Sexten GmbH (I) · Energiegenossenschaft Sulden GmbH (I) · Terrenten (I) · Fernheizkraftwerk Toblach Innichen (I) · Fernheizwerk Welsberg-NiederdorfGemhbh, Welsberg, (I) · Beckerich (LU) · Bertrange (LU) · Eich-Mühlbach (LU) · Howald (LU) · Luxemburg (LU) · Mertert-Wasserbillig (LU) · Moutfort (LU) · Strassen (LU) · Khaan Holding, Brauhaus Center, Ulaanbaatar (MN) · Biomasse Heizwerk Alberschwende GmbH & Co.KAT (AT) · Holzwärme Altenmarkt GmbH (AT) · Biomasse Heizwerk Bebau GmbH & Co (AT) · Fernwärme Bischofshofen (AT) · Biomasse Heizwerk Damüls GmbH (AT) · BWD Biowärme Dorfgastein GmbH (AT) · Biomasse HW, Düns/Vorarlberg (AT) · Biomasse HW, Gaschurn (AT) · Biomasse HW, Grödig (AT) · Hackschnitzel- und Heizgenossenschaft Großarl (AT) · Biowärme Imst GmbH (AT) · Nahwärme Kleinarl GmbH (AT) · Biomasse HW, Kuchl (AT) · Biomasse Heizwerk, Lech GmbH & Co.KG (AT) · Biomasse HW, Lech/Vorarlberg (AT) · Biomasse Heizkraftwerk Lingenau reg. Gen.m.b.H, Lingenau (AT) · Hackschnitzel- und Heizgenossenschaft, Maria Alm (AT) · Ortswärme Matrei (AT) · Biomasse Heizwerk Mellau · Lucian Burghotel