Wood logs for 1/2 m split logs

englisch

BMK

Planing und Installation

BMK-02

EN-B31-004-V09-1215

GUNTAMATIC

Information on this documentation

BS-01

Please read through this documentation carefully.

It is intended as a reference document and contains important information on the design, safety, operation, maintenance and care of your heating system.

We are always looking to improve our products and documentation. Any ideas and suggestions you may have will be gratefully received.

GUNTAMATIC Heiztechnik GmbH

Bruck 7

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It is important that you pay particular attention to the safety issues highlighted in the text by these symbols.

Subject to printing errors and technical amendments.

CONTENTS

1 Introduction

1.1 Safety instructions

GUNTAMATIC heating systems represent state-of-the-art technology and meet all applicable safety regulations. Incorrect installation can endanger life and limb. Heating boilers are combustion systems and are potentially dangerous if handled incorrectly. Installation, commissioning and servicing must, therefore, only be carried out by adequately qualified technicians observing all regulations and the manufacturer's instructions.

1.2 Guarantee and warranty

The manufacturer's guarantee is subject to correct installation and commissioning of the heating system. Defects and damage caused by incorrect installation, commissioning or operation are not covered by the guarantee. To ensure that the system functions as intended, the manufacturer's instructions must be followed. Furthermore, only genuine replacement parts or parts explicitly approved by the manufacturer may be fitted to the system.

1.3 Commissioning

Commissioning of the boiler must be carried out by an authorised GUNTAMATIC specialist or other qualified persons. They will check whether the system has been installed according to the plans, adjust the system settings as required and explain to the system operator how to use the heating system.

1.4 Site requirements

When establishing the site requirements, it is absolutely essential to take account of the locally applicable planning, building and implementation regulations and the dimensional specifications in the fitting guidelines, installation examples and technical data. Compliance with the locally applicable regulations and the correct implementation of the measures required on site are solely the responsibility of the system owner and are a requirement of the manufacturer's guarantee. GUNTAMATIC provides no guarantee of any kind for any type of site work.

2 Planning 01

2.1 Fire safety BS-01

 **The fire security introductions are obligatory needed on the construction place** 

 **The Compliance from counties ore states fire security law is obligatory and stands higher then the GUNTAMATIC fire security instruction** 

Austria	State legislation of the federal states Technical Directive on Preventative Fire Safety (pr TRVB H118)
Germany	Standard boiler regulations (M-FeuVO) Hessen and Saarland – in these states §16 FeuVO Hessen applies
Switzerland	Fire safety regulations (www.vkf.ch)
any other exporting countries	Any fire safety office

 **You have to follow you specific country fire safety rules obligatory. Your country safety rules are higher then our GUNTAMATIC minimum rules.** 

 **If there are no specific fire security rules in your country, you have to follow the GUNTAMATIC introductions** 

2.2 Minimum fire safety requirements 01

Boiler room — Floor of concrete construction, either bare or tiled. All materials for floor, walls and ceiling must be fire-resistant to F60 rating. The boiler room door must be a Class T30 fire door which opens in the direction of escape and is self-closing. Connecting doors to the fuel storeroom must also be Class T30 fire doors, self-closing and lockable. There must be no direct connection to rooms in which flammable gases or liquids are stored (e.g. garage).

2.3 HEATING ROOM

BMK-02

Minimum Roomheight

ideal **H 220 cm**

possible at BMK 20-30 **H 145 cm**

possible ati BMK 40-50 **H 185 cm**

Minimum Room tallnes

ideal **B 200 cm x T 240 cm**
left 50 cm / right 50 cm / below 45 cm / above 100 cm

BMK with Ignition possible **B 147 cm x T 209 cm**
left 20 cm / right 30 cm / below 45 cm / above 70 cm

BMK without Ignition possible **B 147 cm x T 199 cm**
left 20 cm / right 30 cm / below 35 cm / above 70 cm

T = seeing from the boiler´s rear

Minimum Access opening

Ideal **B 100 cm x H 160 / 180 cm** BMK 20-30 / 40-50
Openining lift truck on the transport wood
(Boiler completely constructed / above Transportwood shortened)

possible **B 85 cm x H 150 / 170 cm**
Openining lift truck on the transport wood
(Boiler completely constructed / above Transportwood shortened)

possible **B 80 cm x H 80 cm**
Openining lift truck on the transport wood
(Boiler completely constructed / above Transportwood shortened)

Combustion air supply

The pressure in the boiler room must not be less than 3 Pa (0.3 mm H_2O). The air vents for boiler rooms must have a clear, net cross-sectional area of at least 400 cm² and must not be sealable. The air supply ducting must connect directly to the outside and if the ducting passes through other rooms, it must be jacketed to Class F90. On the outside of the building, air vents must be covered by a protective grille with a mesh size of > 5 mm. The supply of combustion air should, if possible, enter at floor level in order to prevent cooling of the boiler room.

Electrical installation

The lighting and the electrical wiring in the boiler room must be permanently installed.

An Net connector 230 VAC, 50 Hz, 13 A is needed.

Fire extinguisher

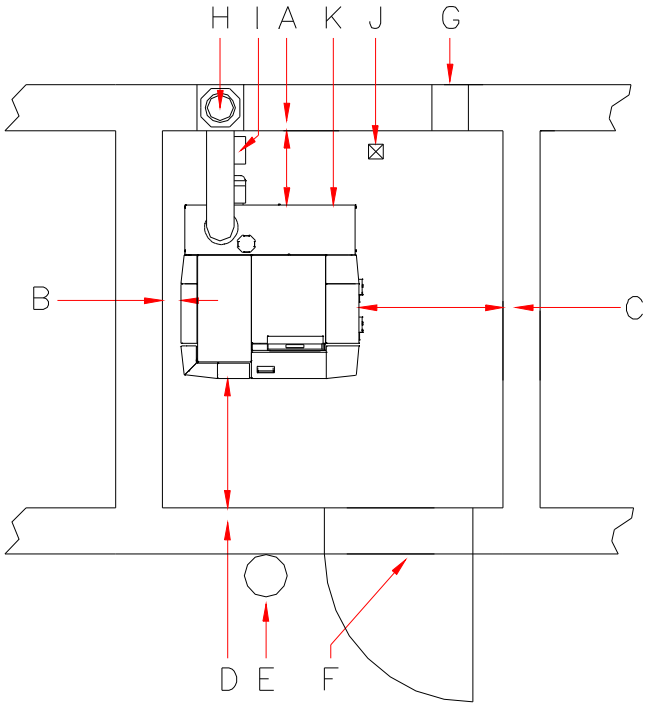
A hand-held fire extinguisher (6kg gross weight, EN3) must be mounted outside the boiler room near the boiler-room door.

Protection against freezing

The boiler room, pipes carrying water and any district heating pipes must be protected against freezing.

Installation side

You have to plan the furnace in the near of the chimney to avoid a long flue pipe. The heating has to be accesable from the left and the right site. The Outreach of burningroom and ashdoor must be kept free.



A → below Distance — ideal **45 cm minimum**; possible **35 cm** when the BMK is without Ignition

B → left Distance — ideal **50 cm minimum**; possible **20 cm** necaserry Distance for opening of the left door

C → right Distance — ideal **50 cm minimum**; possible **30 cm** necaserry Distance for Serviccing of Servermotor

D → front Distance — ideal **100 cm minimum**; possible **70 cm**

E → Fire extingiusher 6 kg Filler´s weightt EN3

F → Fire safety door T30 unlockable and self acted closed

G → Combustion air supply

H → Flue wet imun Chamotte-flue advised

I → Einbauvariante Energiesparzugregler mit Ex-Klappe im Kamin
ca. 50 cm under the flieconnector- please attend the local laws.

Einbauvariante Energiesparzugregler mit Ex-Klappe im Rauchrohr
möglichst nahe am Kaminanschluss – die örtlichen Vorschriften beachten – mögliche Staubbildung

J → Drain

K → Netconnector 230VAC 13A

2.4 Flue requirements

01

Use heat-insulated fireclay flues that are insensitive to damp.

GUNTAMATIC accepts no liability where stainless steel flues are used.

The system must only be connected to the flue if the flue meets the legal requirements and the technical specifications. The flue must be matched to the boiler output and dimensioned in accordance with DIN 4705. In order to be able to accurately dimension the flue, the calculations must be based on the flue gas figures. When designing new flues, high thermal insulation chimneys (DIN 18160 T1 heat transmission resistance group I) or suitable **fireclay flues** that are insusceptible to damp and have general building regulation approval should be used. It is advisable to involve those responsible for approving the flue system early on in the planning phase.

Flue height

The minimum flue height is 5 - 10 m depending on boiler output. The flue must terminate at least 0.5 m above the highest part of the building. In the case of flat rooves, the flue must terminate at least 1.5 m above the surface of the roof.

Flue diameter

The flue must be matched to the boiler output. The following details are guide figures and can be used for planning purposes. However, we recommend that the flue dimensions are calculated precisely by an expert.

BMK 20/30/40/50	eff. flue height over	6 m	D = 180 mm
	eff. flue height under	6 m	D = 200 mm

Flue dimensioning data

Dimension the flue for rated output!
(Averaged figures with used heat exchanger)

Rated output:

Type	Flue gas temp.	CO_2	Mass flow rate	Required draught
BMK 20-30	200 - 220°C	13 – 14 %	0,020 kg/s	15-20 Pa
BMK 40-50	200 – 230°C	13 – 14 %	0,034 kg/s	15-20 Pa

Sub-maximum output:

Type	Flue gas temp.	CO_2	Mass flow rate	Required draught
BMK 20-30	170 – 200°C	10 – 12 %	0,011 kg/s	2 Pascal
BMK 40-50	170 – 200°C	10 – 12 %	0,013 kg/s	2 Pascal

2.5 Flue draught regulator and pressure-surge compensator

BS-01

Fitting an energy-saving flue draught regulator/pressure-surge compensator (Class RE) is absolutely imperative.
(if possible 200 mm)

The flue draught should not differ by more than +/- 3 pascals from the figure specified in the flue dimensioning data. If the flue draught cannot be reduced to the required figure, either a larger draught regulator should be fitted or an additional flue baffle fitted between the flue and the draught regulator.

Purpose

- To ventilate the flue when the system is not in operation
- To compensate for pressure surges
- To regulate and limit the flue draught

Fitting requirement

The energy-saving flue draught regulator must be fitted in accordance with the local regulations, preferably in the flue approx. 0.5 m below the point where the flue connecting pipe joins or alternatively in the flue connecting pipe close to its junction with the flue.

Flue draught setting

- Adjusting the flue draught is only of any use at outside temperatures below +5°C.
- The system must have been in operation for at least an hour
- Ensure there is sufficient demand for heat for the boiler to be run at rated output for at least 15 minutes
- Measure the flue draught between the boiler and the flue draught regulator (distance of measuring point from boiler ideally 3 x flue diameter from connection between boiler and flue connecting pipe).

Too much flue draught

May cause the flue gas temperature to increase and accelerate combustion as a result. Poor boiler output adjustability, increased dust discharge and malfunctions can result.

Too little flue draught

Performance problems, incomplete combustion and malfunctions when operating below rated output can result.

2.6 HEATINGCIRCULATION RULE

BMK-01

The heating circle rule is optional offered.

You can decide between a MKR set or a wall mounted MK 261 set.

- per construction 3 controlled by atmospheric condition rules possible
- per construction could be actived just 1 MKR Set boiler
- pro Machine there are 3 remote control possible;
- per heatingcirculation one analogue room unit possible

without Heatingcirculation rule

Following functions could be activated:

Heatingcircle WW ..... • Warmwater- Memory

Heatingcircle 0 ..... • Pumping heatingcirculation

Heatingcircle 1 ..... • Pumping heatingcirculation

Heatingcircle 2 ..... • Pumpe heatingcirculation

Set-MKR

Following functions could be activated:

Heatingcircle • Warmwater-Memory

Heatingcirle 0 optional avalible ..... • pump heating circulation
• aditional warmwater memory
• external heatingcirculation

Heatingcircle 1 optional avalible..... • Pump heatingcirculation
• mixed heatingcirculation

Heatingcircle 2 optional avalible..... • Pump heatingcirculation
• mixed heatingcirculation

wall mounted Set-MK261

Following functions could be activated:

Heatingcirculations WW ..... • Warmwater-Memory

Heatingcirculation 0..... • Pumping heatingcirculation

Heatingcirculation 1 wahlweise als .. • Pumping heatingcirculation
• mixed heatingcirculation

Heatingcirculation 2 wahlweise als .. • Pump heatingcirculation
• mixed heatingcirculation

NOTES

GUNTAMATIC

Sketch:

3 CONSTRUCTION

01

3.1 Delivery

BMK-01

The boiler system is delivered packed in a wooden crate wrapped in foil. Please check that the delivery is complete according to the delivery note and in perfect condition.

Deficiencies

Please make a note of the deficiencies identified directly on the delivery note and contact the supplier, heating installer or our Customer Service.

3.2 CARRYING TO INSTALLATION SITE

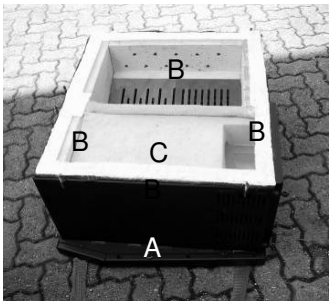
BMK-01

The system is delivered on a wooden pallet and can be lifted and carried to the installation site using a pallet truck.

Carrying in dismantled

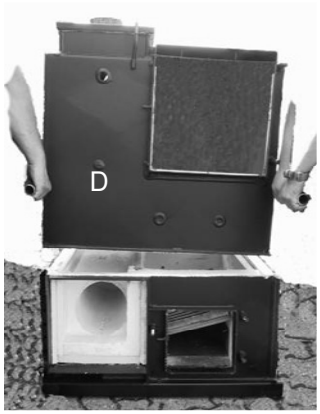
The boiler body can be dismantled into parts for carrying in. If that is done, a person authorised by GUNTAMATIC must be consulted.

To be able to undo the heat exchanger unions, all of the insulation must be removed from the boiler. Take care not to damage the gaskets (B) when lifting off the heat exchanger.



Important: damaged gaskets must always be replaced without exception.

Pull in carrying straps and position lower section (A) in boiler room; place gasket strips (B) precisely in position all the way round; place gasket cord (C) precisely in position on upper section



Contribute the upper part (D) of the boiler with harrnes or 1 pipes in the heatingroom and put it carefully to the boiler´s lower part.

ATTENTION: The Sealing strip (B) and the rope seal (C) might not slipped away!

ATTENTION: The warmwaterexchanger with shirp and srew it with maximal 30 Nm torque.

3.3 LOCATE AND ANGLE THE BOILER

BMK-01

Keep to the minimum wall clearances specified by the system planner and manufacturer. If important details are missing, please refer to the planning documentation or ask our Technical Support. Position the system as close as possible to the flue to avoid having a long flue connecting pipe. The system must be accessible from the left or right side.

Clearance at rear	ideal	**45 cm minimum**	
		BMK with Ignition	
	possible	**35 cm**	BMK without Ignition
Clearance on left	ideal	**50 cm minimum**	
	possible	**20 cm**	Freespace fort he left cover panel´s door
Clearance on right	ideal	**50 cm minimum**	
	possible	**30 cm**	Freespace for Servermotor Servicing
Clearance at front	ideal	**100 cm minimum**	
	possible	**70 cm**	
Floor clearance	ideal	**2,5 cm minimum**	attend with screwfeed
	possible	**8 cm**	

Set the boiler at a slant

Unscrew the rear adjustable feet slightly further so that the boiler is slightly **higher at the rear**. That will allow the air inside the boiler to escape easily when the system is filled.

3.4 Plumbing connections

BMK-03

A → Flow 5/4“

B → Security warm heatexchanger 3/4“

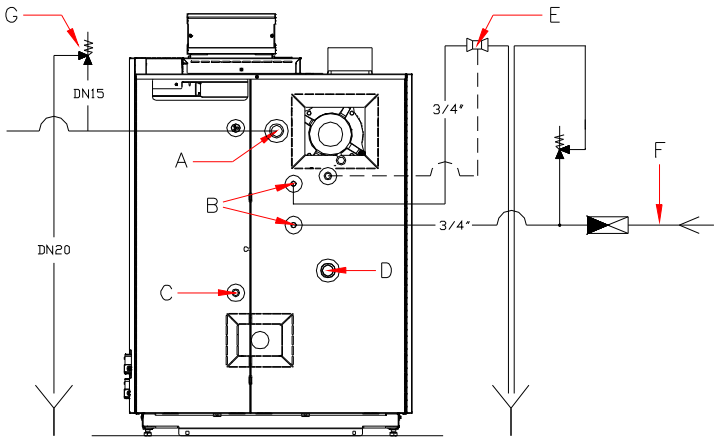
C → Emtying 1/2"

D → Backrun 5/4

E → therm. drainvalve 3/4"
residual operation temperaturer 95°C

F → Cold water supply

G → Security valve 1/2"
Inlet DN15
Outlet DN20



Security warmexchanger

A temperature-relief valve to ÖNORM B 8131 and DIN 4751 with an opening temperature of 95°C must be provided on site and connected to the temperature-relief heat exchanger. The supply pressure must be at least 2 bar but no more than 6 bar. The temperature-relief valve must be connected to the cold water mains supply by a connection that cannot be turned off. The outlet of the discharge pipe must be routed and installed in such a way that functional capacity cannot be impaired and no danger can arise when the temperature-relief valve responds. The instructions for the temperature-relief valve must be followed.

Security valve

A security valve ½ for heatingcontens after EN 128 28 with opening pressure has to be installed. The Finish of the sequence pipe has to be so misplaced, that there is no impairment of Functionality and there is no Danger. The instruction for security valves are attented.

buffer memory

Installation of an adequately dimensioned thermal store is absolutely imperative. No guarantee liability is accepted for systems **with a thermal store capacity under 1,000 litres**
(= 1,000 litres excluding DHW capacity in the case off combination cylinders).

- Min. thermal store capacity 1,000 litres
- Recommended thermal store capacity Over 1,400 litres
- Ideal thermal store capacity 2,000 – 3,000 litres

Make sure any regulations regarding thermal store size are observed.

In system with a **pure thermal store capacity under 1,400 litres** (= 1,400 litres excluding DHW capacity in the case of combination cylinders) the boiler must be fuelled according to required output, i.e. it should only be loaded with as much wood as can be coped with by the system and the thermal store in the hours that follow.

When you put the programme „OUT“, the antifreeze function has to be secured, if the E heating system is built with an manual thermostat..

Return boost

The boiler return temperature must be at least 55°C and must be held at the required level by a return boost set. Return-temperature regulators in the bypass are not allowed. If this requirement is not complied with, there is an increased risk of corrosion and guarantee entitlement will be lost as a result.

If aditional components, such as e.g heat equality counter integrated into the system hydraulics, ort he total buffer line length over 30 m (flow and return) can make reinterpreting boiler/ charge pump (KLP) necaserry.

When using foreign return boost which is not correspond to these in the flow or control speed of GUNTAMATIC, any warranty is rejected.

Sludge separator with magnetite

Magnetite and the sludge separator in the Heatngwater could become a problem for energysaver pumps. By installin a prperly sized and applied sludge sperator with a magnet can remided cost effenciently.

Either old pipes could be meant

Expansion vessel

The boiler operates in a sealed heating system and must be provided with an expansion vessel for pressure compensation. To calculate the expansion volume, the volume of the system when cold must be known. Please select the expansion vessel on the basis of the manufacturer's specifications. The expansion volume of the system is calculated as follows:

System volume x Expansion factor x Additional allowance factor

- Expansion factor for wood-fuel boilers = 0.03
- Additional allowance factor = 3.0 for systems under 30 kW
- Additional allowance factor = 2.0 for 30-150 kW systems

Example calculation: 2200 litres x 0,03 x 3 = ~ 200 litres

Pump selection

The choice of pump must be made by the installer or building technology planner on the basis of the friction data, the pipe cross-sectional area and the required delivery pressure for the piping system planned.

Plastics pipeline

At connection for plastic pipelines for floorheating or district heating pipeline these temperatures are aditional protected for a limit thermostat.

Danger of overheating

Faulty operation, wrong fuil or disturbance could be lead to overheating. To avoid disturbance you have to install additional fuse protections for maximum process water and fuses for heatingcircle temperatures. You have to install an aditional door for the tap water.

3.5 Filling and blending the system

BS-01

Please attend the guideline for corrision and boiler´s protection in heating and service water system!

Water quality

The water quality of hot water systems with flow temperatures of max. 100°C is subject to VDI 2035. According to VDI 2035 Part 1, "Avoiding damage to hot water systems", which comply with EN12828, the first-fill and replenishment water, must be conditioned (preferably softened) if the following overall hardness limits [°dH] according to total heat output (kW) are exceeded:

- < 50kW: with circulating flow heaters, if °dH > 16.8
- 50 to 200 kW: if °dH > 11.2
- 200 to 500 kW: if °dH > 8.4
- > 500kW: if °dH > 0.11

Water heater

If a water heater is also used in addition to the GUNTAMATIC boiler, it should be filled according to the installation instructions for it.

Flush the Construction

- Before filling of the construction flush the whole pipesystem, to eliminate rust mud and magnetite

Filling the system

- Match the pressure of the system when cold to the air charge pressure of the expansion vessel
- Check the operating pressure on the pressure gauge

Bleeding the system

- Switch off and bleed circulation pumps.
- Bleed boiler by opening the bleed valve on the boiler and allowing air to escape until water runs out.
- Bleed radiator heating system (if present) by opening the bleed valve on every radiator and allowing air to escape until water runs out.
- Bleed underfloor heating system (if present) by opening each heating circuit and flushing through thoroughly until there are no more air bubbles in the heating circuit pipes.
- Important: perform sequence in the correct order!
  Start bleeding in the cellar or on the ground floor and finish in the attic.
- Check the system operating pressure on the pressure gauge and add more water if necessary.
- Restart circulation pumps.

Only systems that have been properly bled guarantee effective conveyance of heat.

3.6 Connecting the flue

BMK-01

The boiler is connected to the flue by means of a flue connecting pipe which must be gas-tight and insulated between the heating boiler and the chimney.

Flue connecting pipe → **The following diameters should be used:**

BMK 20/30/40/50 Ø = 150 mm

→ **Flue connecting pipes longer than 4 m or with more than 3 bends:**

BMK 20/30/40/50 Ø = 180 mm

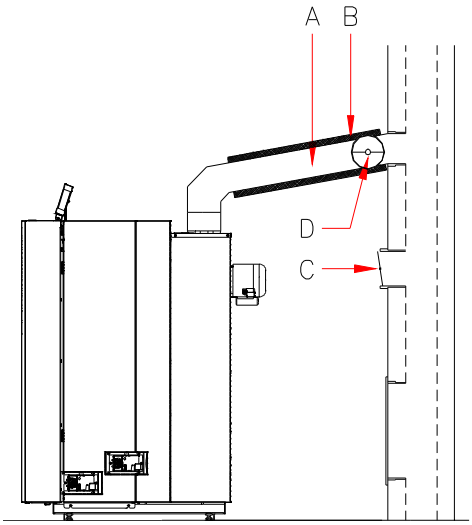
The hole in the wall for connecting the flue pipe must be lined with a built-in double-skinned lining tube or fireproof material. The flue connecting pipe must rise upwards from the boiler to the flue at an angle of at least 6° and be connected with gas-tight joints. An inspection cover must be provided for cleaning the flue connecting pipe.

A → Smokepipe (minimum 6° grade)

B → Isolation (z.B. Rockwool)

C → Flue draft regulator with Ex-Clape in the Flue
(you have to prefer this method)

D → Flue draft regulator with Ex-Klap in the Smokepipe
(If possible in the near of the flue connector)



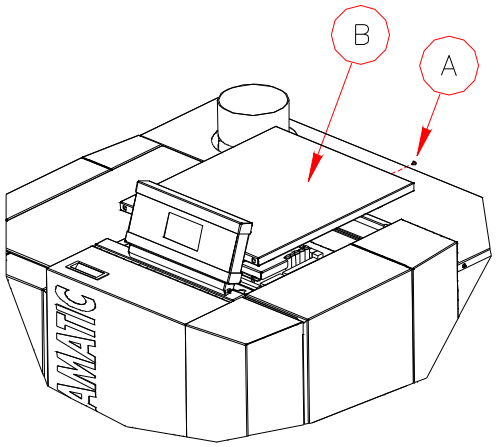
- The flue connecting pipe must be gas-tight
- An energy-saving flue draught regulator with pressure-surge compensator (Class RE) must be fitted
- Insulate the flue connecting pipe
- Do not brick in the flue connecting pipe (noise transmission)
- The flue connecting pipe must not extend into the flue

4 ELECTRICAL CONNECTIONS

BMK-01

The electrical connections to the boiler system on site may only be made by an approved electrical installer observing all the applicable regulations. In addition, it is essential that electrical system components are protected against damage from heat radiation.

All boiler system internal wiring is wired up at the factory ready for use. The work required on site by the electrical installer consists only of connecting the mains power and wiring up and connecting the system components such as thermal store, CAN bus, heating circuit pumps, mixer valve motors, etc.



open the control panel

- solve the security screw (A);
- cap the control panel (B);
- the circuit board with connecting plugs and securitys is under in a good accesible position.

Net connector 230 VAC, 50 Hz, 13 A (over voltage conductor advised)

The mains power must be connected by means of the standard non-reversible power socket on the rear panel of the boiler. It must possible to isolate the system entirely from the mains without opening the switch panel cover, e.g. by means of an automatic circuit-breaker

Attend on the correct phase Net connection!

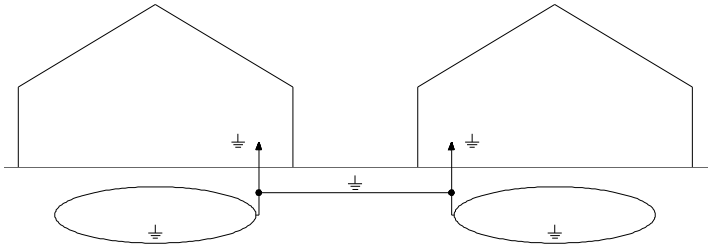
Please attend on in that Phase (L) and zero Signal (N) can´t be changed, becauseo of the bypassfunction and the securitychain couldn´t be warranted.

Cabeling

- Feeder 3 x 1,5 mm²
- Sensor 2 x 1 mm²
- Roomconstruction 2 x 1 mm²
- CAN-Bus 2 x 2 x 0,5 mm² (paired cable / screened)

Overvoltage protection

Where CAN bus cables run between different buildings, the earthing conductors of the buildings must be connected to each other for potential equalisation purposes. If the earthing conductors cannot be interconnected, a 10 mm ring earth must be laid along with the CAN bus cable in the ground. The earthing conductors and ring earth must then be connected to one another.



CAN-Bus cabeling

wirring linear: (you have to prefer this variation)

The connection is rewire linear, further cabling the CAN bus, for example, from the operating unit to the wall unit and the wall-mounted unit to the remote unity.

wirring radial:

The connection is radial wiring, means the CAN bus, for example, from the operating unit to the wall unit and the space station. The total length of the CAN bus connection must not exceed 100 m in this case.

The terminals +/- and H / L connect each twisted pair.

Potencial equalizer splint

The whole construction and the conneced pipesystem has to be connected as prescribed on the potencial equalize splint system.

Attend on the connection on the potencial equalizer splint on a short connection.

Cable stain relieved

To avoid electrical defects or errors all cables have to be stain relieved.

Emergency power supply

Only use regulated generators.

4.1 Connections on the Constructions

BMK-09

Net connecting

- 230 VAC, 50 Hz, 13 A

Standard specifications

- Boiler control panel (BCE)
- Boiler circuit board (230 VAC)
- Safety temperature limiter (STB)
- Boiler sensor (KVT 20 Ω)
- Flue gas temperature sensor (thermocouple)
- Oxygen sensor (12 VDC)
- Flue draught fan (230 VAC)
- TKS 1 (right casing door switch, 24V DC)
- Primary/secondary air vent motor (24 VDC)
- Ignition fan (230V AC – optional)
- Boiler charging pump output KLP (230 VAC)
- Special output HP0 (230 VAC)
- Backrunmixer (230 VAC)
- 1 Memoryloadingpumpexit (230 VAC)
- 3 Heatingpumpexit (230 VAC – just time controlled)

Optional equipment

- Pump outputs (230 VAC)
- Mixer valve outputs (230 VAC)
- Sensor´s entrance (KVT 20 Ω)
- Analouge Roomconstruction
- Digital Roomstations

Resistances

Temperature	KVT20
-20°C	1383 Ω
-16°C	1434 Ω
-8°C	1537 Ω
-4°C	1590 Ω
0°C	1644 Ω
10°C	1783 Ω
20°C	1928 Ω
30°C	2078 Ω
40°C	2234 Ω
50°C	2395 Ω
60°C	2563 Ω
70°C	2735 Ω
80°C	2914 Ω

5 Final checks

BS-05-PI-01

Final checks

- After completing installation of the system, check again that all joints and pipes are properly tightened and not leaking.
- Check that all covers are fitted and secured.
- Check that the fitting of all connections (water, flue, electrical) has been done correctly.
- Check that all required safety signs and instructions are attached and hand over all documentation (operating and installation instructions) for the system.
- Check that all electrical connections have been properly wired before connecting the system to the power supply.
- Clean the system and clear up the installation site.
- Always leave the boiler room clean.

Initial commissioning

Commissioning must only be carried out by GUNTAMATIC or a qualified specialist. The precondition is that the flue technician, heating installer and electrician have cleared the system for operation. The authorised GUNTAMATIC specialist will carry out the following work during commissioning:

- Check the entire system
- Check the electrical functions
- Adjust the programmer to the system
- Commission the system
- Explain to the user how the system functions and how to operate and clean it
- Record the details of the customer and the system and complete the commissioning log

Any deficiencies identified must be recorded in writing and rectified within the following 4 weeks in order to maintain guarantee entitlement.

The fully completed commissioning checklist must be sent to GUNTAMATIC immediately as otherwise the guarantee will be void.

These installation instructions should not be destroyed after commissioning but kept permanently with the system together with the operating instructions.

6 Standards / Regulations

BS-01

The heater equates Class 3/ EN 303-5. The original certification report is deposited at the manufacture, Public Police and Fire safety rules have to be respected.

- **ÖNORM / DIN EN 303-5**
  Heaters for pillar fuel, automatic and manual sanded up to 300 KW. Terms, requirements, and checkups.

- **ÖNORM / DIN EN 12828**
  heaters for pillar fuel, automatic and manual sanded up to 300 kw, terms, requirements, checkups and marking

- **ÖNORM / DIN EN 12831**
  Heating for Buildings; method for calculating usual heating board

- **ÖNORM M 7137**
  Requirements on the Pelletstorage at the private customer.

- **ÖNORM M 7510**
  Guideline for the review from central heaters

- **ÖNORM H 5195-1** (Austria)
  Prevention from damage through nest and Store origin with working temperature.

- **VDI 2035** (Germany)
  Avoidance from damages in Water heating systems

- **SWKI 97-1** (Suisse)
  Chalk and Rust Prevention in Waterheaters

- **TRVB H 118** (in Austria for automatic sended Machines)
  technical heating fire safety rule

- **DIN 1988**
  Technical Rules for drinking water installation

- **DIN 4751 Teil 1-4**
  Safety engineering equipment for water heaters

- Swiss decrees for aircleening

- Swiss decrees with smallfiremachines

- VKF Fire security thermaltechnical construction (Suisse)

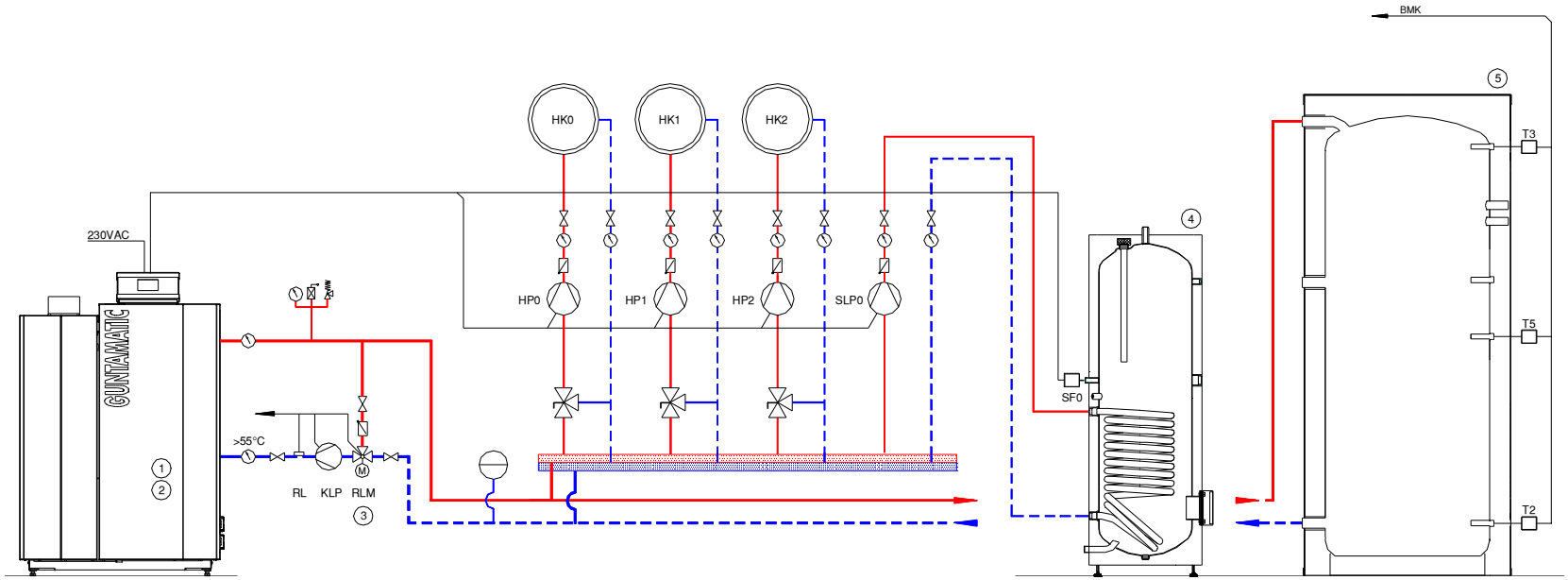
- SIA 384 (Swiss)

Sketch:

Diagram no : BMK-01-14

Electrical connections as per operating and installation instructions

1.	Firing BMK	as pricelist
2.	flue draft regulator with Ex-Clap RE20	H38-160
3.	Return boost group RA50 A	H39-021
4.	Warmwatermemoryr ECO	as price list
5.	buffermemory PS	as price list



Heatingcirculation time controlled – with atmospheric condition loaded rule

Warmwatermemory ECO – 2 buffermemory PS

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Diagramme Nr.: BMK-02-14

Electrical connections as per operating and installation instructions

1.	Firing	as Price list
2.	Flue draft regulator with Ex-Klappe RE20	H38-160
3.	Rule Set-MKR	S30-031
4.	Return boost group RA50 A	H39-021
5.	Mixer Servermotor	S50-501
6.	Roomconstruction / Roomstation	as Price list
7.	Warmwasserspeicher ECO	as Price list
8.	buffermemory PS	as Price list
9.	GSM-Module	S15-002

* The heating circulation could be operated roomtemperature controlled...

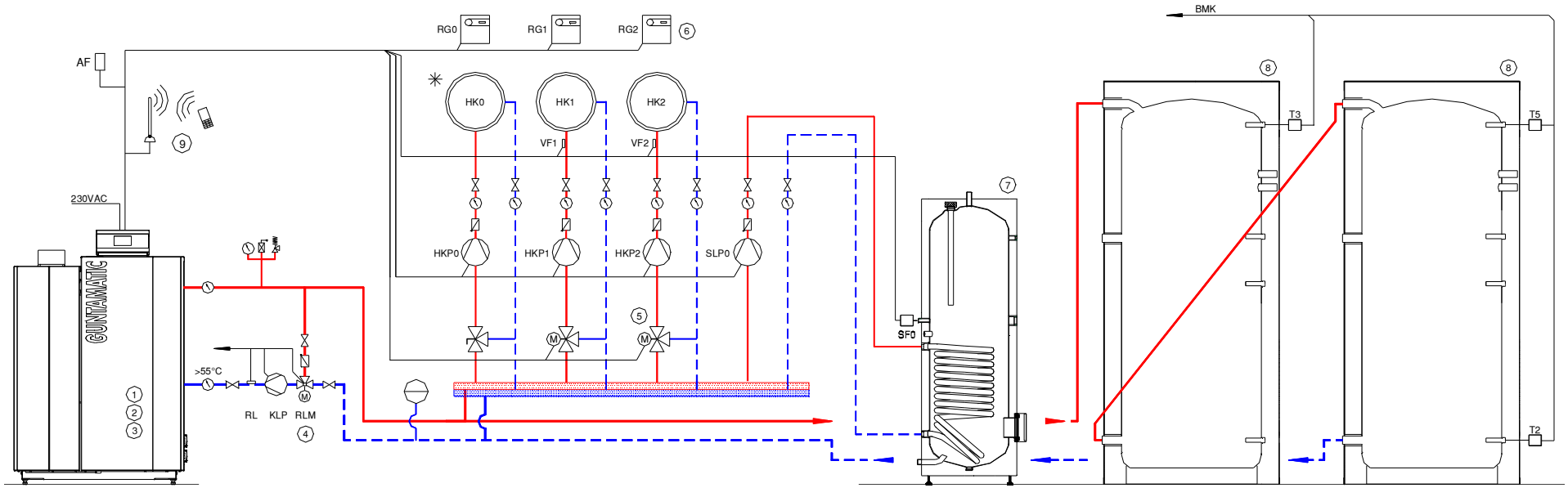

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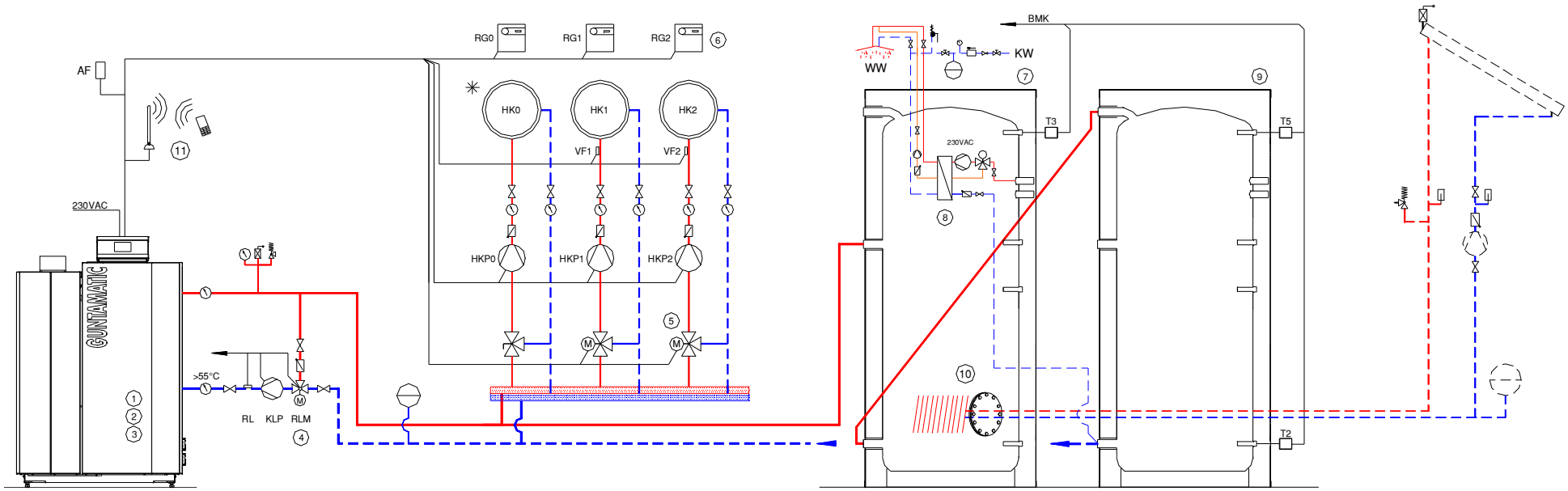
Diagramme No.: BMK-03-14

Electrical connections as per operating and installation instructions

1.	Firing BMK	as pricelist
2.	Flue draught regulator mit Ex-Klappe RE20	H38-160
3.	Rule Set-MKR	S30-031
4.	Return boost group RA50 A	H39-021
5.	Mixer servemotor	S50-501
6.	Roomconstruction / Roomstation	as pricelist
7.	buffermemory PSF inkl. FWS	as pricelist
8.	**Option** Cirkulationsunit	045-250
9.	buffermemory PS	as pricelist
10.	**Option** Flange and warmheatexchanger	as pricelist
11.	GSM-Module	S15-002

* The heating circulation could be operated roomtemperature controlled..



Combination with existing oil/ gas boiler - controlled by atmospheric conditions heatingcirculationrule in the existing boiler

ATTENTION: non qualified for gas thermics!

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Scheme No.: BMK-05-15

Electrical connections as per operating and installation instructions

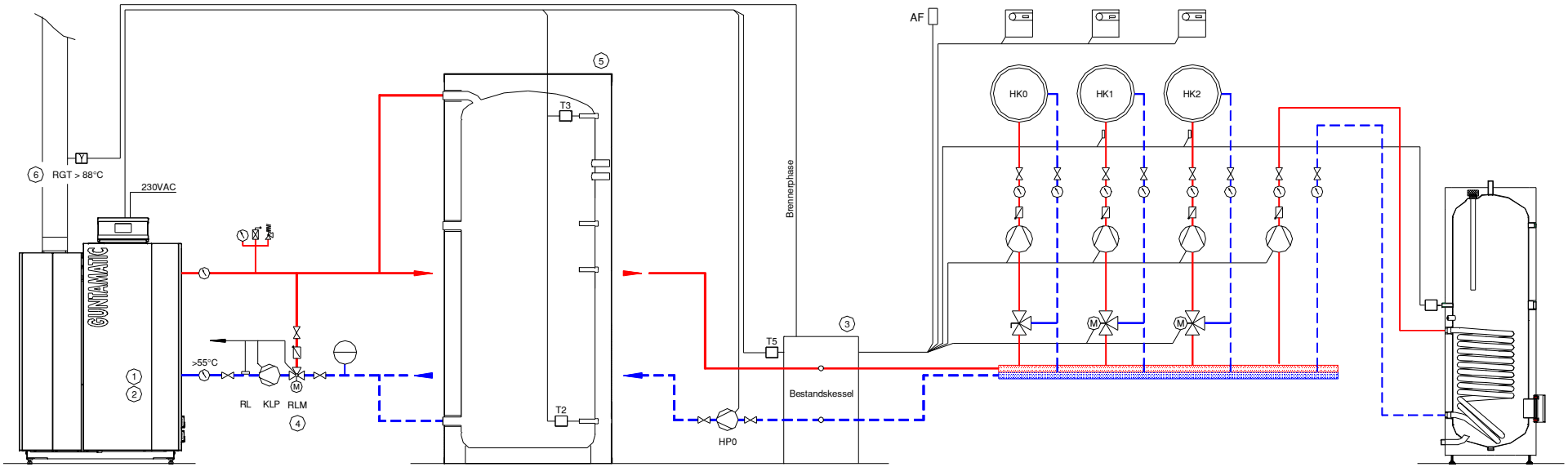
INFO: 1) The oil and gas boiler will be through the function ZP always kept on temperature – please attend on good isolation of the boiler.

2) The radiation loose on the oil/ gas boiler has to be respected.

3) A smokegasthermostat in the flue is just necaserry, when both boiler are conducted in the same flue.

FUNCTION: About the difference control T3 - T5 of BMK system pump is driven (ZP), thus supplying the oil / gas boiler with heat. The oil / gas boiler starts only when enough energy from the buffer memory in the oil / gas boiler is supplied.

1.	Firing BMK	as pricelist
2.	Flue draft regulator with Ex-Clap RE20	H38-160
3.	Oil / Gasboiler	by client
4.	Return boost group RA50 A	H39-021
5.	buffermemory PS	as pricelist
6.	smokegasthermostat	H00-801



Combination with blocking of an Oil/ Gasconstruction by armospheric conditions heatingcirculation with BMK

ATTENTION 1) qualificated for oil or gasboiler and gas thermics

2) for gasthermics there is an hydraulic seperation advicable

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Diagramme No.: BMK-16-8-14

Electrical connections as per operating and installation instructions

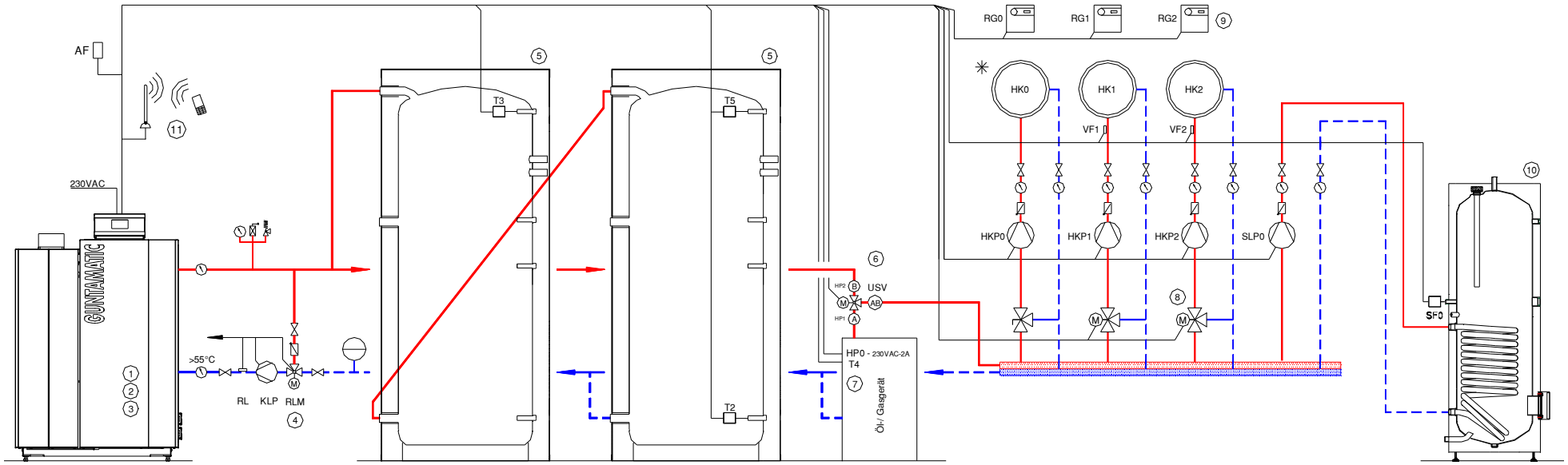
INFO:
1) By gasthermic in the Parameter „HP0“ the parameter has to be attituded to „burn cont.“ to 2- 3 minutes.
2) all securityconstructions on the oil/ gasconstruction have to run correctly.
3) Switch USV to oil/ gasconstruction= Exit „HP1“= Order „OFF“

FUNCTION: The oil / gas appliance is required by the "lockup" of BMK, if the temperature at the "Buffer sensor UP" (T3) is less than the highest required target temperature of a heating or hot water circuit.

Following conditions must be leaded out::

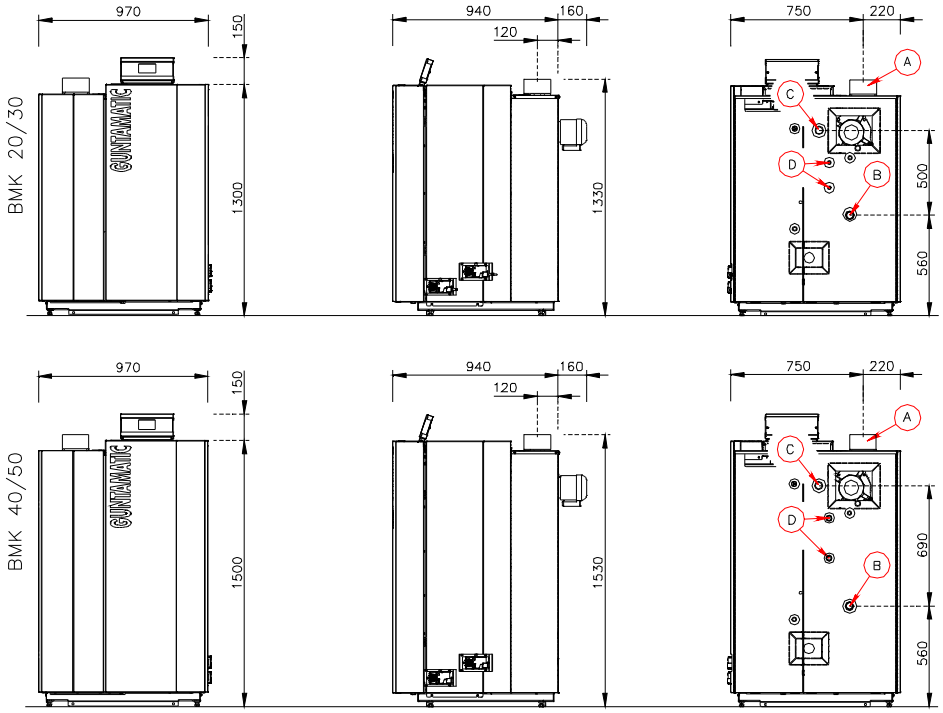
1) The parameter „HP0“ in the costumer menu is attituded to „AUTO“ or „DURATION“.
2) The temperature on „buffer sensor ABOVE“ (T3) is smaller then the highes wanted target temperature.
3) The temperature on the „buffersensor BELOW“ (T3) iss maller then the in the parameter „TP0 blocked temperature“.
4) The exhaust gas temperature of BMK is smaller, then the in the parameter „RGT Burner“ attituded temperature.
5) For boiler with automatically „Ignitionblocking“ the Ignition has to be runned over.

1.	Firing BMK	as Pricelist
2.	Flue draft regulator with Ex-Clap RE20	H38-160
3.	Rule Set-MKR	S30-031
4.	return boost grouo RA50 A	H39-021
5.	buffermemory PS	as Pricelist
6.	USV 5/4“ use just zone valves with off turned and tight closed mixer	by client
7.	aditional boiler sensor for Oil-/ Gasconstr.	S70-004
8.	Mixer Servermotor	S50-501
9.	Roomconstruction / Roomstation	as Pricelist
10.	Warmwatermemory ECO	as Pricelist
11.	GSM-Module	S15-002



Sketch:

8 TECHNICHAL DATA



Type	BMK 20	BMK 30	BMK 40	BMK 50	Unity
Fuel	Split log natural finish	Split log natural finish	Split log natural finish	Split log natural finish	-
rating	20	30	40,3 (39,4*)	50 (42,5*)	kW
boiler temperature Return boost temperaturer	65 – 85 > 55	65 – 85 > 55	65 – 85 > 55	65 – 85 > 55	℃ ℃
Flue draft	2 - 20	2 - 20	2 - 20	2 - 20	Pascal
Water content Opration pressure	125 max. 3	125 max. 3	175 max. 3	175 max. 3	Litre bar
A – Smoke pipe (Diameter) B - Backrun C – Vorlauf D – Securitywarmexchanger	150 5/4 5/4 3/4	150 5/4 5/4 3/4	150 5/4 5/4 3/4	150 5/4 5/4 3/4	mm Zoll Zoll Zoll
Waterside resistance 10K	1710 l/h 3,8	2570 l/h 8,1	3430 l/h 15,4	4290 l/h 24,1	l/h - kg/h mbar
Wasserseitiger Widerstand 20K	860 l/h 1,1	1290 l/h 2,5	1710 l/h 3,9	2140 l/h 6,0	kg/h mbar
Volume filling roo0m	166	166	215	215	Liter
boiler´s weigh ca. weight warmexchanger weight lower part	630 240 350	630 240 350	730 320 350	730 320 35	kg kg kg
Power supply	230VAC / 13A	230VAC / 13A	230VAC / 13A	230VAC / 13A	

* Powerrating for Germany

GUNTAMATIC

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