



Gas Burner

**Ionisation monitored,
Max. Heat Release 15 kW (51,200 BTU)
Compact design with ignition transformer and flame monitor,**

Type BAKP ...
for intermittent operation

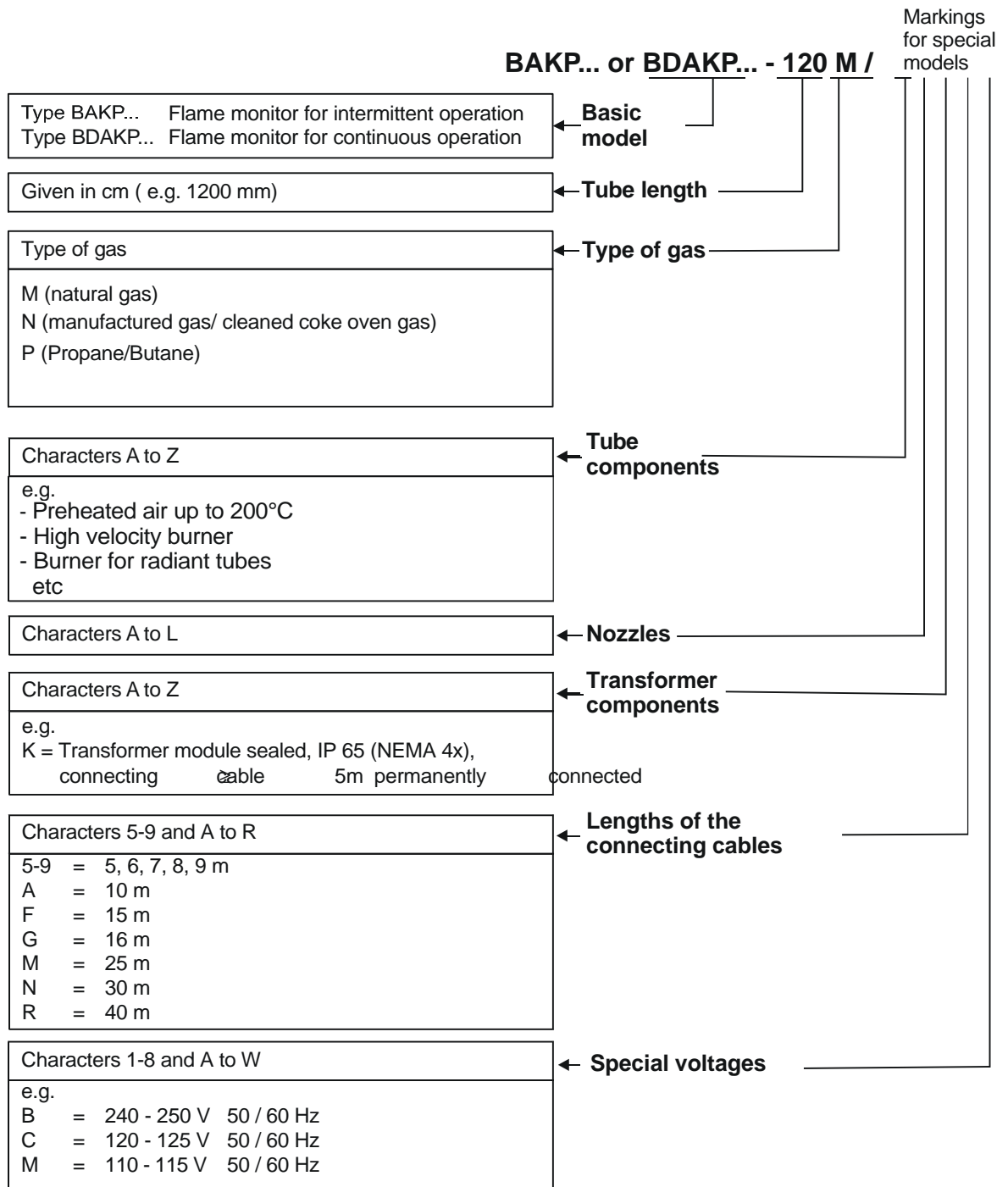
Type BDAKP ...
for continuous operation

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1. Part Numbering System

The example below shows how the most important burner information is incorporated into the part number:



2. Technical Data

Burner Portion

Fuel	Gases according to DVGW spec. sheet G 260
Heat release	max. 15 kW (50,000 BTU)
Flame length.....	max. 200 mm (approx. 12")
Operating mode	1-, 2-stage or modulated
Turn-down ratio	5 : 1 (required supply pressures \geq 50 mbarg)
Burner tube	\varnothing 35 mm, length see page 5
Gas connection	1/2", variable
Air connection.....	1" from top, may be rotated in increments of 90°
Combustion air	max. 80 °C
Cooling air	If furnace temperatures exceed 500 °C and the burner is shut down, 10 - 15 % of the combustion air supply should be left on as a source of cooling air
Maximum back pressure	200 mbarg inside the burner housing

Transformer and Flame Monitor

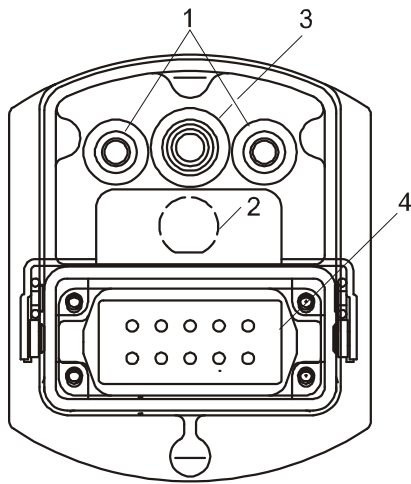
Operating voltage (Flame monitor)	220/ 230 V 50/ 60 Hz (standard), or as specified in the part number
Ignition transformer	(primary) 220/ 230 V 50/ 60 Hz (standard), or as specified in the part number (secondary) 5 kV to ground
Enclosure rating	IP 54 (NEMA 4) (standard) or IP 65 (NEMA 4x) (special)
Connection type	plug connection (IP 54 version), permanently sealed in control cable (IP 65 version)
Power consumption.....	ignition transformer: 100 VA flame monitor: 10 VA
Duty cycle	ignition transformer: usually limited to 2 – 3 s by the burner control 15% duty cycle (cycle time 3 min. = 100 %) primary thermal winding protection Flame monitor: 100 %
Ambient temperature.....	0°C to +60°C (+32°F to +140°F), where EC approval is required, otherwise, -20°C to +60°C (-4°F to +140°F)

May be connected to controllers on page 8.

3. Construction: see sectional drawing (page 6)

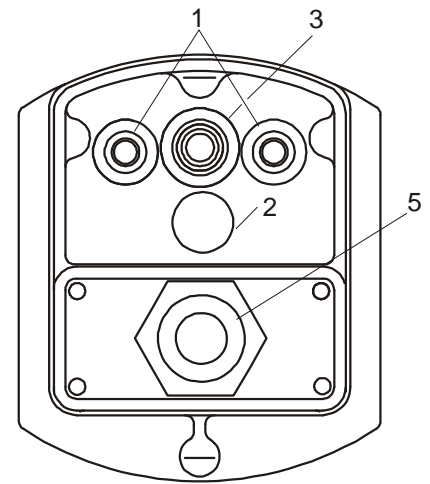
The main parts of the burners are the transformer part (item 1), which houses the ignition transformer and the flame monitor, the burner tube with air and mounting flange (item 6), the gas tube (item 9) with the slotted disk (item 11) and the final electrodes support ring (item 10). The burner tube with its air inlet is screwed to the transformer part and can be either be dismantled or rotated in steps of 90° - if this should become necessary because of the air pipework entry - by removing 4 screws (item4). Make sure that the inner support rings and connecting rods are not twisted while turning the tube since this would cause failures.

The final electrodes support ring (item 10) is mounted onto the end of the gas tube. Its ionisation electrode and its ignition electrode are extended by connecting rods (item 8). These rods pass through the end of the trans-former housing with two ceramic insulators. The connecting rods are held by intermediate support rings (item 7) distanced 300 mm from each other.



IP54 version

1. Jacks (flame signal 0-50 μ A)
Caution:
-Use this only for short-term measurement at site!
-Do not use the μ A-exit for a remote display or any monitor for continuous display!
-Under no circumstances bridge the test jacks!
2. Fuse holder (only BDA... Type)
3. Lamp (flame signal)
4. 10-pole plug and socket connection
5. Cable gland



IP65 version

4. Flame Monitoring

The flame is monitored using an ionisation electrode. The direct current serves as the flame signal. This direct current flows via the flame from the ignitor tube ground to the ionisation electrode, and to the flame monitor via the connecting rod. The burning of the ignitor flame is indicated by the yellow LED below the plug connection on the transformer and flame monitor module (this does not apply, however, to special models with an IP65 enclosure rating).

The internal resistance of the ionisation path is several M Ω . This high resistance requires good insulation for the electrodes and the connecting rods. Therefore, it is important to clean the insulators more often if the combustion air contains dust; avoid moisture.

The ceramic insulator for the ionisation electrode may not be heated to temperatures exceeding 500°C (932°F), since this may cause the ignitor to fault. It is therefore necessary to allow at least a minimum quantity of air (10-20% of full load) to flow if, with the ignitor flame shut off, this temperature could still be reached in a hot combustion chamber through either radiation or convection.

Caution: Do not leave the ignition voltage on during any of the safety time. An ignition-free period of approx. 0.5 seconds must be guaranteed, since the high voltage can suppress the ionisation signal.

5. Storage and Installation Instructions and Lifetime

Burners are to be stored in a dry and dust-free place. Ambient temperature during storage shall be 0 – 60°C. No operation and storage below dew point. Moisture must not exceed 60%. Burners shall be protected from mechanical damages.

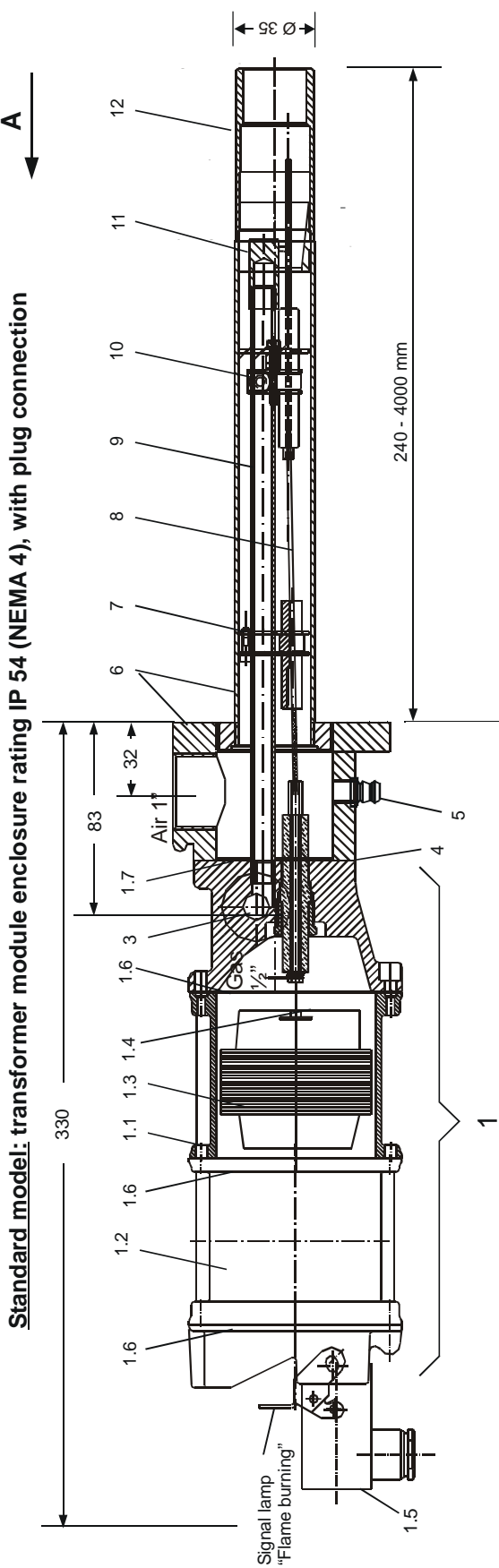
If the tube is longer than 3 m (approx. 118"), the burner must be provided with a guide tube. This prevents the tube from bending too much. The end of the burner tube should protrude at least 150 mm (approx. 6") from the end of the guide tube, if the ambient heat does not require otherwise.

The gap between carrier tube and burner tube ought to be 5 mm (app. 0,2") or more.

In case of higher furnace temperatures additional cooling air may be supplied into the gap through a separate port.

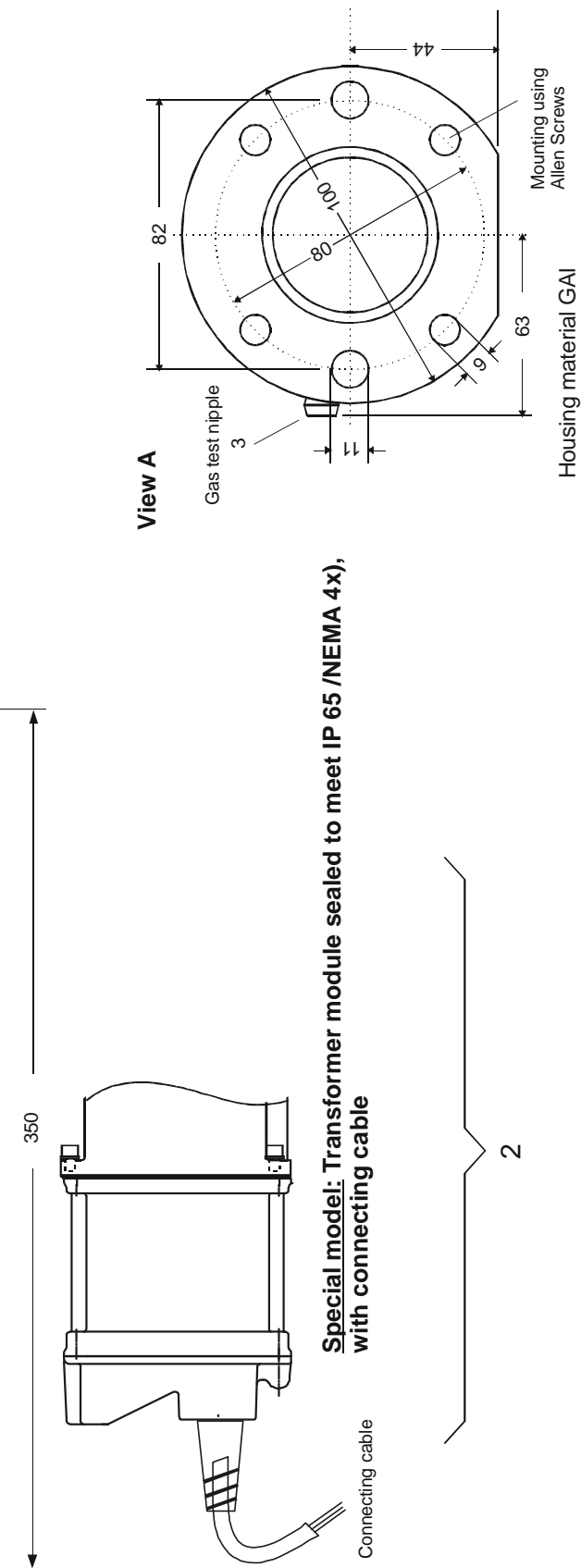
The device has a limited service life. It is designed for appr. 250,000 start ups. For 50 start ups per day its lifetime would be about 10 years. This time decreases under bad conditions e.g. dust, high or low temperature, moisture, aggressive gases. The end user shall therefore take care that regular safety related maintenance checks are carried out at site.

When the appliance has reached the end of its lifetime it must be disposed of according to local regulations.



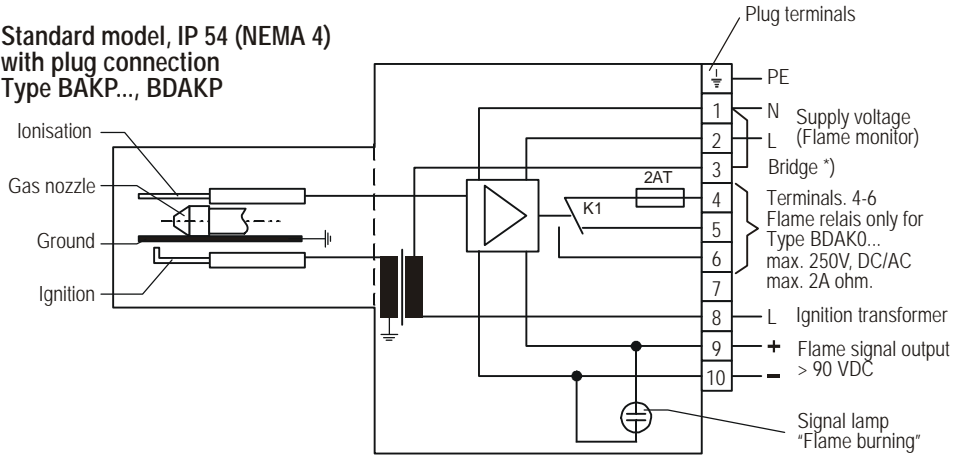
Burner Sectional Drawing

All dimensions in mm

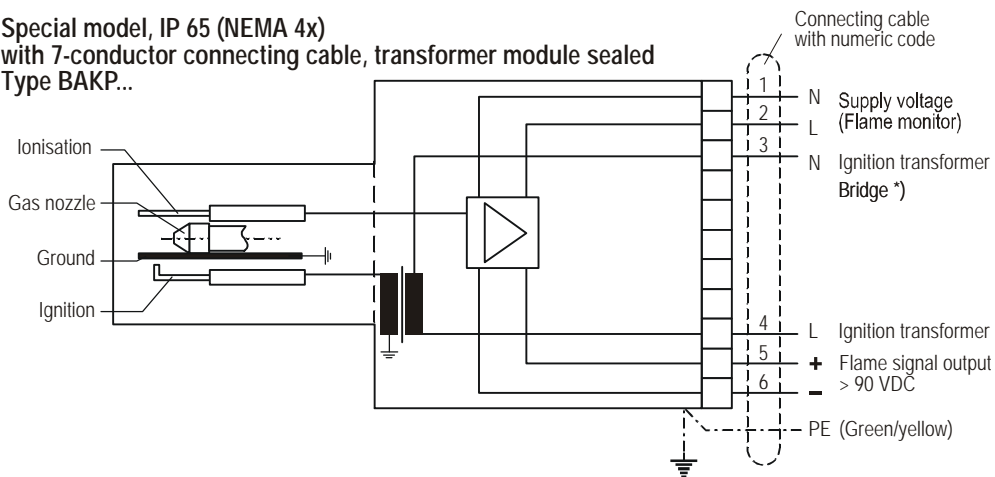


6. Electrical Connection

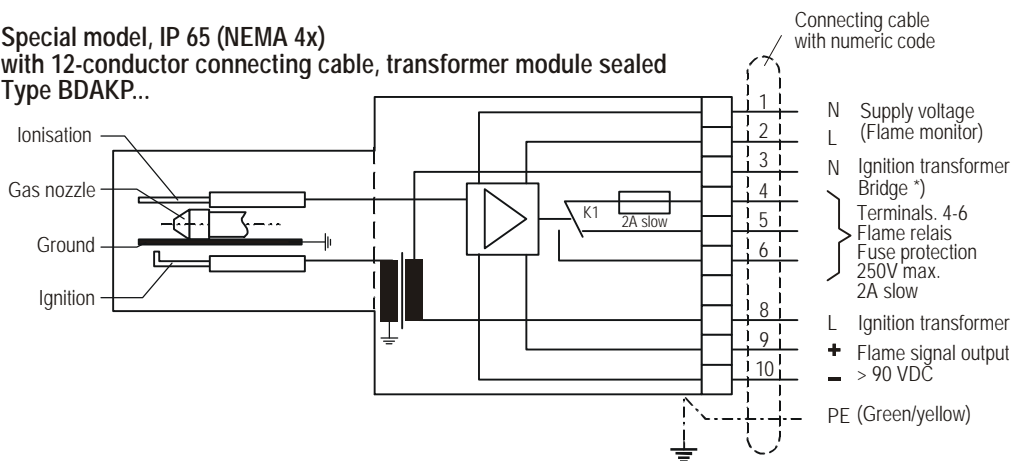
**Standard model, IP 54 (NEMA 4)
with plug connection
Type BAKP..., BDAKP**



**Special model, IP 65 (NEMA 4x)
with 7-conductor connecting cable, transformer module sealed
Type BAKP...**



**Special model, IP 65 (NEMA 4x)
with 12-conductor connecting cable, transformer module sealed
Type BDAKP...**



Power supply according to the name plate on the burner

*) Bridge 1-3 if the transformer and flame monitor voltages have the same phases

7. Accessories

The ignitors can be connected to the following devices:

- AAUS 620 L20 Controller
for intermittent operation,
modular unit
230V 50/60 Hz IP 40
please also refer to the separate description 1.86Se of this product
- AASD 820 L20 Controller
for continuous operation,
modular unit
230V 50/60 Hz IP 40
please also refer to the separate description 1.86De of this product
- A240 K3/306 Controllers safety time 3 seconds
(5 or 8 seconds also available)
for intermittent or continuous operation,
European standard size PC board, 19" rack module
24V DC
please also refer to the separate description 1.93e of this product
- A285 K2.2 Flame Relay
with 2 volt-free relay contacts,
35 mm top hat mounting rail according to EN50022
For burner management systems that meet the applicable standards and requirements for safety-related integration of the ignitor.

It must be ensured the ignition voltage (terminal 8 on the ignitor) is shut off before the end of the ignition safety time, so that there is a brief segment of time without ignition. The high-voltage spark gap can suppress the ionisation signal to such an extent that the flame relay cannot close.

Please also refer to the separate description 1.76e of this product.

8. p, V – Gas/Air Diagrams

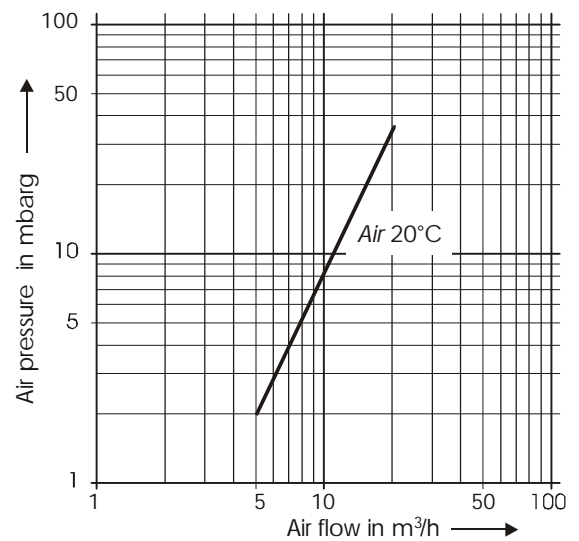
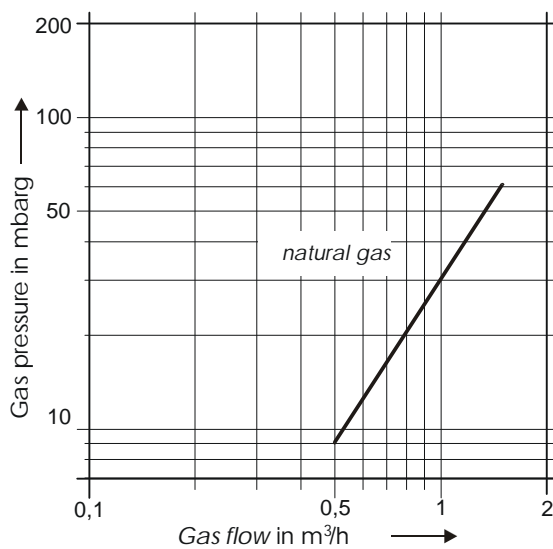
The approximate pressure and air values supplied below do not account for furnace pressure or hindered flame. The flow pressures are to be measured at each test nipple. The air pressure test nipple (item 5) is located across from the air inlet and the gas test nipple (item 3) is across from the gas inlet. To check the pressure, loosen the setscrews 1-2 turns. After measuring the pressure, be certain to tighten the setscrew again.

Heat release

town gas	ca.	5 kWh/ m ³
natural gas	ca.	10 kWh/ m ³
propane	ca.	26 kWh/ m ³
propane/ butane	ca.	30 kWh/ m ³

Required quantity of air in m³/h per m³/h Gas for air factor n=1,1

Factor for	town gas	5	m ³ /h
	natural gas	10	m ³ /h
	propane	26	m ³ /h
	propane/ butane	30	m ³ /h



The exact setting for the burner should be determined via flue gas measurements, with a residual oxygen content of 3 - 5 % and CO value near zero.

9. Parts List

Item.	Qty	Description	Part Number	Voltages	Material	Remarks
1	1	Complete transformer and flame monitor module for BAKP...	Z860K2 Z860K2/00M Z860K2/00C Z860K2/00B	220/230 V 110/115 V 120/125 V 240/250 V	with housing, plug connection and gas flange	Standard model Special model Special model Special model
	1	for BDAKP...	Z860K3 Z860K3/00M Z860K3/00C Z860K3/00B	220/230 V 110/115 V 120/125 V 240/250 V		Standard model Special model Special model Special model
1.1	2	Mounting screws			M 4	Allen screws
1.2	1	Single flame monitor for BAKP...	Z341K2 Z341K2/00M Z341K2/00C Z341K2/00B	220/230 V 110/115 V 120/125 V 240/250 V	with front plate and plug connection	Standard model Special model Special model Special model
	1	for BDAKP...	Z341K3 Z341K3/00M Z341K3/00C Z341K3/00B	220/230 V 110/115 V 120/125 V 240/250 V		Standard model Special model Special model Special model
1.3	1	Single ignition transformer	Z550K230 Z550K00F Z550K00B	220/230V 110-125V 240/250V	without housing	Standard model Special model Special model
1.4	1	Contact spring	W509F1			
1.5	1	90°plug with 2 M20x1.5 cable glands	A5Z1			10-pole, max. 2.5mm ² (AWG 14)
1.6	2	Gasket	Z460F1		Rubber (buna N)	
1.7	1	Gasket	Z863F1		Frenzelite similar	or Asbestos-free
2	1	Complete transformer and flame monitor module/ IP65 (NEMA 4X) for BAKP...	Z860K7_ _ _	<u>Special model</u> instead of Item 1: With supplementary information indicating cable length and voltage requirements (see <i>Part Numbering System</i> , p.3)		
	1	for BDAKP...	Z860K8_ _ _			
2.1	1	Single flame monitor IP65 with cable for ZA...	Z341K7_ _ _	<u>Special model</u> instead of Item 1.2: With supplementary information indicating cable length and voltage requirements (see <i>Part Numbering System</i> , p.3)		
	1	Single flame monitor IP65 with cable for ZDA...	Z341K8_ _ _			
3	1	Gas pressure test nipple	Z138Z2 or Z138Z102		Brass Ms58 Stainless steel	Standard Special model
4	4	Allen screw	W826F108		Stainless steel	
5	1	Air pressure test nipple	Z138Z1 or Z138Z101		Brass Ms58 Stainless steel	Standard Special model

6	1	Burner tube with welded in mixing chamber with mounting flange and air inlet	Z1041Z _ _ _ _	Tube length given should be the same as that in the part number for the burner	Stainless steel	Standard Can be rotated in increments of 90°	
7	*	Intermediate support ring with 2 ceramic insulators (Z545F11)	Z837K2		Stainless steel	*Qty. required depends on tube length: 3 rings per meter	
8	2	Connecting rods	Z101F...		Stainless steel	Ø 3.0 mm Please state type of ignitor in your order	
9	1	Gas tube	Z833F...E	Ø10 x 1,5	St 35,galvanized or stainless steel	Standard Special model Please state type of ignitor in your order	
10	1	Electrode support ring with 2 ceramic insulators and 2 electrodes	Z837K5		Stainless steel	Standard Subject to wear and tear	
11	1	Gas nozzle	Natural gas	Z834F0009		Stainless steel	Standard
			Propane	Z834F...		Stainless steel	Standard
			Coke oven gas	Z0834F24-8x09		Stainless steel	Standard
12	-	Mixing chamber with mixing ring	Component part of item 6	Ø 48 mm 100 mm long	Stainless steel, heat-resistant, Mat.1.4841	Ignition proof to 1180°C (2156°F)	

10. Electrical Function Test (without Flame)

This test diode is employed to perform a purely electrical function test.

Caution: The gas valve must first be closed!

Ignition

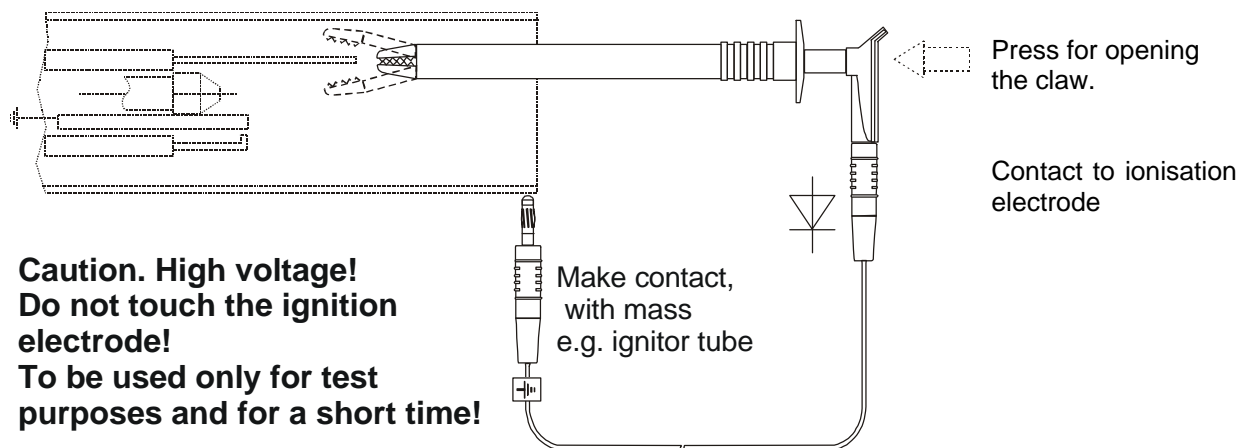
Create an electrical connection to the separate burner control and apply power. The spark gap between the ignition electrode and bolt must be visible.

If a spark cannot be seen, or if the device is arcing poorly, the following may be responsible:

- Internal burner components are damp or dirty: loss of high voltage occurs via the ceramic insulators to ground.
- One or several of the ceramic insulators are broken. Spark discharge also is occurring to ground: remove the burner tube (see above), check the insulators and replace if necessary.
- If there is no spark what ever, check the wiring to the high voltage plug. If the wiring is in order, it may be necessary to replace the transformer module or simply the individual transformer.

Ionisation

With the aid of the test diode A10Z2 (rectifier built in to a cable), may be simulated a flame signal to the flame monitor, once power is applied. The diode must be clamped to the ionisation electrode, the other end of the cable should make contact with burner mass (note the polarity!)



Once contact is made with the test diode at terminal 9 - 10 (or wire 5-6) a voltage of 90 V d.c. has to be reported. The burner control should go into operation.

If there is no flame signal, the following should be checked:

- Is the supply voltage present on terminals 1-2?
- Is the polarity of the test diode correct?
- Are the ceramic insulators damp, dirty or broken?
Remedy: If so, clean or replace. If necessary replace the flame monitor module (item 1.2).

11. Maintenance and Alignment

These ignitors do not require any special maintenance. They should, however, be checked periodically (e.g., every 3 months) for proper operation.

If the ignitors are operated using air that contains dust, this check should be performed at shorter intervals, since electrically conductive dirt deposits or moisture on the ceramic insulators can lead to a fault in the ignitor.

The intrinsic impedance of the ionisation path amounts to several M Ω . Such high resistance requires that the ceramic insulators be in perfect condition.

Performing Maintenance and Replacing Worn Parts

(please compare to the sectional drawing)

Burner Tube (may be rotated in 90° increments)

After loosening the four screws (item 4), the tube may be removed. Depending on the position of the air connection, the tube may be turned and tightened.

Transformer Part

The transformer module with the ionisation flame monitor is completely interchangeable. To do so, the outer tube must be detached, and the electrode support ring (item 10) and the two 3 mm rods (item 8) must be removed. The gas tube must then be unscrewed.

- If only the ionisation flame monitor item 1.2 is to be replaced, loosen the 2 screws (item 1.1), carefully remove the flame monitor with the housing and disconnect the four-pole plug connection.
- The ignition transformer may likewise be replaced individually. After removing the flame monitor as described above, the mounting screws of the ignition transformer are accessible. Loosen 4 screws and remove the housing.

Caution: When reassembling the burner, be certain that the contact spring (item 1.4) is again in its correct position.

Electrode Support Ring (subject to wear and tear, exempted from manufacturer's warranty)

Remove the ignitor tube, nozzle and electrode support ring. Loosen the locking screw of each support ring and remove them from the tube. Slide on the new intermediate support rings and insert the connecting rods. The intermediate support rings should be spaced at intervals of 250 mm from one another. Finally, the electrode support ring is slid onto the gas tube then the nozzle (its off-set front bore must be positioned on the centre axis of the ignitor tube) and then the connecting rods are inserted into the sockets on the ring. Tighten all locking screws on the support rings, while observing that the rods do not become twisted.

Intermediate Support Ring (for tube lengths greater than 400 mm)

Remove the ignitor tube, nozzle and electrode support ring. Loosen the locking screw of each support ring and remove them from the tube. Slide on the new intermediate support rings and insert the connecting rods. The intermediate support rings should be spaced at intervals of 250 mm from one another. Finally, the electrode support ring is slid onto the gas tube then the nozzle (its off-set front bore must be positioned on the centre axis of the ignitor tube; see page 9) and then the connecting rods are inserted into the sockets on the ring. Tighten all locking screws on the support rings, while observing that the rods do not become twisted.

Note

- ***Installation and maintenance procedures may only be carried out by authorized personnel***
- ***All local regulations must be observed during installation.***
- ***Improper installation, alignment and maintenance, as well as modifications by the customer, can all lead to personal injury or property damage, as well as loss of warranty!***

12. Troubleshooting

The following items have to be carried out step by step

12.1 Spark cannot be seen

Possible Causes:

- .1 Ignitor has not been energized
- .2 Spark suppresses the ionisation signal.
(Visual check in dark surrounding with **fuel valves closed**.)



Caution: do not touch high voltage electrode.)

Possible Reasons/ Remedy

- .1.1 Remedy: Check wiring.
Check BMS.
- .2.1 Ignition electrode internals has been burnt away
Remedy: replace electrode, clean ignitor / burner internals and verify the correct spark gap.
- .2.2 Electrode distance to large or has a short circuit
Remedy: clean ignitor / burner internals, replace worn parts and verify the correct spark gap of 2-3 mm.
- .2.3 Spark transformer faulty
Remedy: Replace spark transformer.
- .2.4 Tinder on the ignition electrode or ground rod / bolt.
Remedy: clean ignitor / burner internals, and remove layer with emery cloth.
- .2.5 Ceramic insulator is broken
(De-energize the ignitor/ burner.
Remove outer tube.)
Remedy: Replace ceramic insulator.

12.2 Flame cannot be seen

Possible Causes:

- .1 No combustion air.
(Check pressure at test nipple).
- .2 No fuel
(Check pressure at test nipple).
- .3 Air/Fuel ratio not correct.
(Check fuel and air pressure at test nipple)

Possible Reasons / Remedy

- .1.1 Sleeves or valves are completely closed.
Flap or valve does not work.
- .1.2 Pipe is clogged.
- .2.1 Fuel pipe too long.
Remedy: Install valve close to Burner/ Ignitor.
- .2.2 Fuel pipe inert with nitrogen.
Remedy: Start the ignitor/ burner several times to get the inert gas removed and replaced by fuel.
- .2.3 Shut off valve is out of order.
Remedy: Replace fuel valve.
- .3.1 Check correct fuel and air pressure adjustment.
Use diagram values given in ignitor/ burner manual.
- .3.2 Correct fuel type?
- .3.3 Clean combustion air?

12.3 Flame can be seen but no flame signal present after safety ignition time has elapsed

Possible Causes:

- .1 No ionisation signal.
(Visual check with **fuel valves closed** and de-energized ignitor/ burner.)
- .2 Ignitor/ burner is wired to a Hegwein burner control:
Supply voltage is released simultaneously with operation voltage.
- .3 Ignitor/ burner is wired to burner control of another make:
Ignition spark suppress the ionisation signal.
- .4 Burner/Ignitor has been exposed to excessive temperature from combustion chamber during Burner/Ignitor stand still. Ceramics are too hot, the insulation resistance has dropped to a value that is too low.
- .5 The setting of the fuel and air pressures at the burner/ignitor are not correct. Flame root is not in the area of the Ionisation electrode.
- .6 After failure correction of item1- 5 a flame signal is still not available.
If flame signal is still not reported though step 1 to 5 have been verified.

Possible Reasons / Remedy

- .1.1 Ionisation electrode has been burnt away.
Remedy: Replace electrode and verify the correct spark gap.
- .1.2 Ceramic insulator is broken.
Remedy: Replace insulator.
- .2.1 Operation voltage must lag supply voltage at least by 0.5 seconds.
- .3.1 Ignition voltage must be shut off 0.5 seconds before ignition safety time has elapsed.
- .4.1 Leave blower air fully on or in cooling stage while the burner/ignitor is switched off.
- .5.1 Adjustment and correction of the corresponding devices.
Use diagram values as given in the available manual.
- .5.2 Flame is pushed out of the ignitor/ burner mouth : Fuel or/ and air flow insufficient.
- .6.1 Remedy: Check complete wiring with test diode A10Z2.
See manual.

12.4 Shut off during operation

Possible Causes:

- .1 Varying back pressures or supply pressures cause the flame to trip.



Possible Reasons / remedy

- .1.1 Check pressure at the test nipples. Fluctuations require a differential pressure regulator on the air and fuel supply side.
- .1.2 Burner or ignitor test should be carried out outside combustion chamber.
Local safety regulations must be observed.
- .2 Pilot flame is strongly influenced or when suffocated by the main flame.
 - .2.1 Remedy: Change position
 - .2.2 Remedy: A more powerful burner/ ignitor may be requested.

12.5 Automatic shut-down at start-up when a flame is reported before the ignition fuel valve have been opened

Possible Causes:

- .1 Flame has not extinguished after the previous shut-down due to a leaking valve and is still present when system is restarted.

Possible Reasons / remedy

- .1.1 Remedy : Replace valve.

12.6 Electrical Malfunction

- .1 Burner control does not start

- .1.1 Remedy: Devices of a different make can cause trouble. See chapter.

- .2 BDA.. only : Burner/ Ignitor and burner control are in operation but the volt free contact does not work.

- .2.1 Check built in fuse (2AT).

In case of questions please give us the exact type designation as given on the nameplate.

13. Approvals

CE 0085

EG-Baumusterprüfbescheinigung

gemäß der EG-Gasgeräte richtlinie (90/396/EWG)

EC type-examination certificate

according to the EC Gas Appliances Directive (90/396/EEC)


Produkt-ID-Nummer
 Product-ID-Number

CE-0085AU0233

 Produkt-Identnummer
 product identification number

Zertifikatinhaber
 owner of certificate

 Hegwein GmbH & Co. KG
 Am Boschwerk 7, D-70469 Stuttgart

Vertreiber
 distributor

 Hegwein GmbH & Co. KG
 Am Boschwerk 7, D-70469 Stuttgart

Produktart
 product category

Ausrüstungsteile für Gasgeräte: Flammenwächter

Produktbezeichnung
 product description

Flammenüberwachungseinrichtung nach dem Ionisationsprinzip mit gemeinsamer oder getrennter Zünd- und Fühlerelektrode

Modell / Typ
 model

Z 341 K ...

Prüfgrundlagen
 basis of type examination

DIN EN 298 (02.1994)

Geräte-kategorien
Versorgungsdrücke
Bestimmungsländer
 appliance categories
 supply pressures
 countries of destination

AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IS, IT, LU, NL, NO, PT, SE

Prüfbericht
 test report

GA 12/99 u. GA 13/99 vom 28.04.1999 (TÜV Rheinland, Köln)

Aktenzeichen
 file number

99-0359-GEE

21.07.1999 Rte-Fk

 Datum, Bearbeiter, Leiter der Zertifizierungsstelle
 date, issued by, head of certification body

DVGW-Zertifizierungsstelle - von der Deutschen Bundesregierung benannte und von der Europäischen Kommission offiziell registrierte Stelle für die Konformitätsbewertung von Gasgeräten

DVGW Certification Body - notified by the government of the Federal Republic of Germany and officially registered by the European Commission for conformity assessment of gas appliances


 DVGW Deutscher Verein des
 Gas- und Wasserfaches e.V.
 Technisch-wissenschaftliche
 Vereinigung

Zertifizierungsstelle

 Josef-Wirmer-Straße 1-3
 D-53123 Bonn

 Telefon +49 (228) 91 88 807
 Telefax +49 (228) 91 88 993

Produkt-ID-Nummer : CE-0085AU0233*Product-ID-Number***Elektrische Daten :** 230 V AC; 50 - 60 Hz; 8,5 W; Schutzart: IP 00*electrical data*

Typ <i>type</i>	Technische Daten <i>technical data</i>	Bemerkungen <i>remarks</i>
Z 341 K...	eingestellte Sicherheitszeit : < 1 s	

Ausführungsvariante <i>type variation</i>	Erläuterung <i>explanation</i>
...2	zugelassen für: intermittierenden Betrieb; geeignet für: Zündbrenner Typen ZA... sowie Brenner Typen BA... der Fa. Hegwein
...3	zugelassen für: Dauerbetrieb; geeignet für: Zündbrenner Typen ZDA... sowie Brenner Typen BDA... der Fa. Hegwein

Bemerkungen*remarks*

Zul. Umgebungstemperaturbereich: 0 °C bis +60 °C

Die EG-Konformitätserklärung für das Bestimmungsland Schweiz darf erst dann ausgestellt werden, wenn die Schweiz die EG-Gasgeräte Richtlinie (90/396/EWG) in nationales Recht umgesetzt hat.



EG-Konformitätserklärung / **EC Declaration of Conformity**

Hersteller/ *Manufacturer* Georg Hegwein GmbH & Co. KG
 Anschrift/ *Address* Am Boschwerk 7, D-70469 Stuttgart
 Produktbezeichnung/ *Product description* Gaszündbrenner Baureihe BA..., BDA..., ZAVEX/B...
Gas fired ignitors BA..., BDA..., ZAVEX/B...

Das bezeichnete Produkt stimmt mit den Vorschriften folgender europäischer Richtlinien überein, vorausgesetzt, dass es installiert, gewartet und entsprechend seiner Bestimmung eingesetzt wird. Die einschlägigen Vorschriften und Hinweise aus der Bedienungsanleitung sind zu beachten.

The described product complies with the following provisions of Council Directive, provided that it is installed, maintained and used in applications for which it was made, in accordance with relevant installation standards and manufacturer's instructions.

Richtlinie des Rates 90/396/EWG (Gasgeräte-Richtlinie)
Council Directive 90/396/EEC (Gas appliance directive)

Richtlinie des Rates 89/336/EWG (EMV-Richtlinie)
Council Directive 89/336/EEC (EMC Directive)

Richtlinie des Rates 73/23/EWG (Niederspannungsrichtlinie)
Council Directive 73/23/EEC (Low Voltage Directive)

Wir bestätigen die Konformität des oben bezeichneten Produkts mit folgenden Normen:

We confirm the conformity of the above mentioned product with the following standards:

EN 298
 EN 50081-1
 EN 50082-2
 EN 55011
 EN 60730-1

Aussteller/ *Issuer* Georg Hegwein GmbH & Co. KG

Ort, Datum/ *Place, date* Stuttgart, 20.09.2003

Rechtsverbindliche Unterschrift/ *Legally binding signature*


 Dr. Ing. U. Greul

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