Pilot burner ZKIH

- Diverse possible applications thanks to splash-proof connection housing
- Pilot burner with forced air supply
- Simple conversion of gas types from natural gas to LPG or town gas
- Reliable electrical ignition thanks to ignition electrode
- Safe flame control thanks to ionization electrode
- Different lengths make it suitable for many installation situations
1 Application

Pilot burner ZKIH with splash-proof connection housing
For use as a pilot burner for safe ignition of main burners in industrial furnaces and firing systems in the iron and steel industries in the precious, non-ferrous and light metal sector, as well as in the plastics, fibre and paper industries. Can also be used as an independently operated burner for applications requiring a burner capacity of 2 to 7 kW (for natural gas max. 5 kW).

The pilot burner is available in different lengths. It has a splash-proof housing. On delivery, the burner is equipped for operation with natural gas. It can easily be converted for operation with LPG or town gas.

Burner ZKIHB is used for the ignition of high-speed burners.

Flame of the ZKIH during natural gas operation in the open air
1.1 Examples of application

1.1.1 On/Off control

The gas/air mixture is set using the gas adjusting cock GEH and the air adjusting cock LEH. For a constant mixture of gas and air (lambda), one pressure regulator per burner is used in the gas and air circuits.

1.1.2 Igniting a main burner

Install the pilot burner so that reliable ignition of the main burner is guaranteed.
2 Certification

Certificates – see Docuthek.

Eurasian Customs Union

The product ZKIH meets the technical specifications of the Eurasian Customs Union.

Declaration of Incorporation pursuant to the Machinery Directive

The ZKIH complies with the requirements of EN 746-2 and the Machinery Directive 2006/42/EC. This is confirmed by the manufacturer’s Declaration of Incorporation.
The burner control unit opens the gas and air control valves. Gas flows through the gas connection and air flows through the air connection in the burner housing as far as the burner head.

The combustible gas/air mixture is produced downstream of the burner head. The gas/air mixture is electrically ignited directly by an ignition electrode. A flame forms which is monitored using an ionization electrode.
4 Selection

<table>
<thead>
<tr>
<th>Code</th>
<th>Protective tube length (1) [mm]</th>
<th>Flame tube length [mm]</th>
<th>Rp internal thread</th>
</tr>
</thead>
<tbody>
<tr>
<td>ZKIH</td>
<td>150 to 930</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td>ZKIHB</td>
<td>150 to 930</td>
<td>100</td>
<td></td>
</tr>
</tbody>
</table>

Order example
ZKIHB 180/100R

4.1 Type code

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ZKIH</td>
<td>Pilot burner with forced air supply</td>
</tr>
<tr>
<td>ZKIHB</td>
<td>For ignition of high-speed burners</td>
</tr>
</tbody>
</table>

1\) Longer lengths on request.
5 Project planning information

5.1 Installation
Install and insulate the pilot burner in order to avoid any overheating of the components during operation. Where applicable, purging air must be used to prevent ingress of aggressive gases and thermal overload of components.

When a pilot burner is installed in a burner quarl, the burner tube set can be subjected to very high thermal stress. A means of cooling the pilot burner must always be provided. Air must constantly be passed through a 3 mm gap on the outside of the protective tube. As a result of this measure, the service life of the pilot burner can be significantly increased.

5.2 Gas/air line connection
A gas test point and an air test point must be provided by the customer upstream of the ZKIH to measure the gas and air pressure respectively.

![Diagram showing protective tube and flame tube temperatures]

Protective tube temp. < 500°C (932°F)  Flame tube temp. ≤ 1000°C (1832°F)

The tip of the pilot burner flame tube must not come into contact with the main burner flame. Safe ignition of the main burner must be ensured.

When the pilot burner is switched off, the pilot burner air should continue to flow to ensure that the pilot burner is cooled.
6 Accessories

6.1 Ignition transformer
To ensure safe ignition, we recommend using ignition transformer TGI 5-15/100W or TZI 5-15/100W.

6.2 Adapter set
For connecting the pilot burner ZKIH to pilot gas and air lines. Comprising one adapter with 1/4-18 NPT internal thread and one adapter with 1/2-14 NPT internal thread.
Order No. 74923430

6.3 Pressure regulators
For a constant mixture of gas and air (lambda), we recommend using one pressure regulator 60DJ Z in the gas circuit and one pressure regulator GDJ 15L in the air circuit per burner.

Order No. 74923430
### 7 Technical data

<table>
<thead>
<tr>
<th>Burner</th>
<th>Capacity</th>
<th>1000 BTU/h</th>
</tr>
</thead>
<tbody>
<tr>
<td>ZKIH</td>
<td>2 – 7</td>
<td>7.6 – 26</td>
</tr>
<tr>
<td>with natural gas</td>
<td>max. 5</td>
<td>max. 17</td>
</tr>
</tbody>
</table>

Gas and air pressures:
- see burner diagram at [www.docuthek.com](http://www.docuthek.com).
- Kind of document: Operating characteristic diagram.

Flame length at rated capacity: approx. 25 cm (9.8”).

Control: On/Off.

Gas types:
natural gas, LPG (gaseous) and coke oven gas.

Gas inlet pressure: 5 to approx. 50 mbar
(2 to approx. 20 °WC),
air inlet pressure: 5 to approx. 40 mbar (2 to approx. 16 °WC),
each depending on the gas type
(burner pressures – see [www.docuthek.com](http://www.docuthek.com).
Kind of document: Operating characteristic diagram).

On delivery: natural gas setting (gas and air pressures:
15 mbar (6 °WC)).

For cold air only.

Flame control: with ionization electrode.

Ignition: direct spark ignition (5 kV ignition transformer).

Housing: aluminium.

Protective tube: stainless steel.

Flame tube: heat-resistant steel.

Max. temperature at the tip of the flame tube:
- < 1000°C (< 1832°F),
- < 900°C (< 1652°F) for lambda < 1.

Max. temperature of the protective tube: 500°C (932°F).
**Technical data**

### 7.1 Dimensions

#### 7.1.1 ZKIH

<table>
<thead>
<tr>
<th>Type</th>
<th>Dimensions L1</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>[mm]</td>
</tr>
<tr>
<td>ZKIH 150/100R</td>
<td>150</td>
</tr>
<tr>
<td>ZKIH 200/100R</td>
<td>200</td>
</tr>
<tr>
<td>ZKIH 300/100R</td>
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<td>800</td>
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<tr>
<td>ZKIH 900/100R</td>
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</tbody>
</table>
**Technical data**

### 7.1.2 ZKIHB

![Diagram of ZKIHB components](image)

<table>
<thead>
<tr>
<th>Type</th>
<th>Dimensions L1</th>
</tr>
</thead>
<tbody>
<tr>
<td>ZKIHB 180/100R</td>
<td>180 mm (7.09 inch)</td>
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<tr>
<td>ZKIHB 230/100R</td>
<td>230 mm (9.06 inch)</td>
</tr>
<tr>
<td>ZKIHB 330/100R</td>
<td>330 mm (13.0 inch)</td>
</tr>
<tr>
<td>ZKIHB 430/100R</td>
<td>430 mm (16.9 inch)</td>
</tr>
<tr>
<td>ZKIHB 530/100R</td>
<td>530 mm (20.9 inch)</td>
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<tr>
<td>ZKIHB 630/100R</td>
<td>630 mm (24.8 inch)</td>
</tr>
<tr>
<td>ZKIHB 730/100R</td>
<td>730 mm (28.7 inch)</td>
</tr>
<tr>
<td>ZKIHB 830/100R</td>
<td>830 mm (32.7 inch)</td>
</tr>
<tr>
<td>ZKIHB 930/100R</td>
<td>930 mm (36.6 inch)</td>
</tr>
</tbody>
</table>
7.2 Converting units
see www.adlatus.org/?sprache=1

8 Maintenance cycles
Twice per year, but if the media are highly contaminated, this interval should be reduced.

Ordering Information: Part No. KR34612