

Pilot burner ZKIH

Technical Information · GB

7 Edition 09.12



- Robust design for a long service life
- 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
- Saves space due to compact design
- Different lengths make it suitable for many installation situations

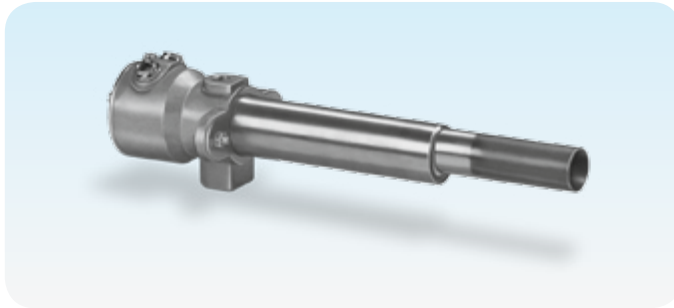


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1 Application



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.

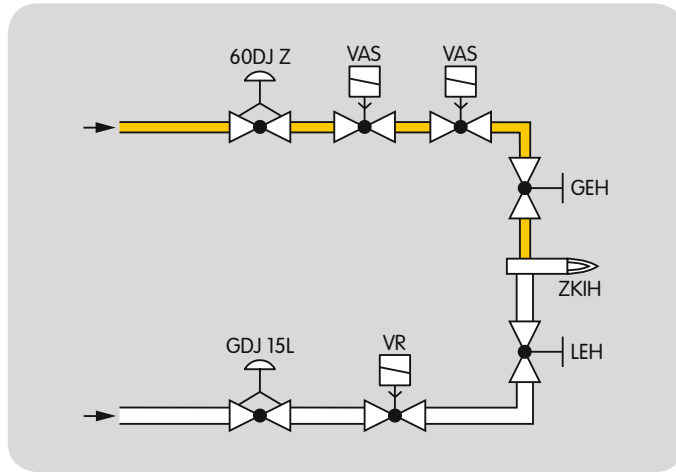
Burner ZKIHB is used for the ignition of high-speed burners.



Flame of the ZKIH during natural gas operation in the open air

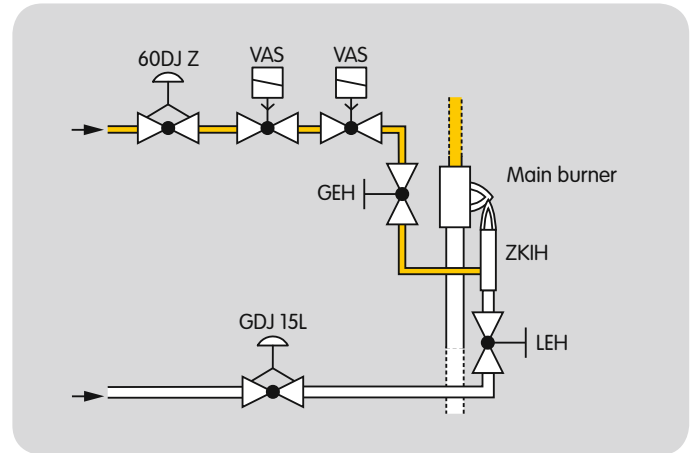
1.1 Examples of application

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 (λ), 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

2.1 Approval for Russia



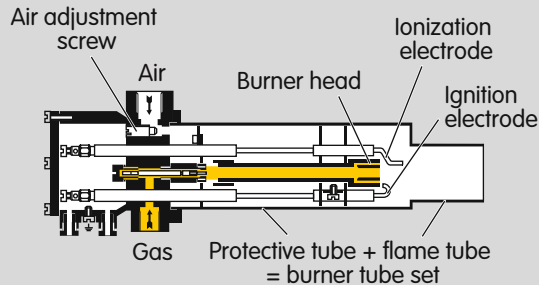
Certified by Gosstandart pursuant to GOST-TR.
Approved by Rostekhnadzor (RTN).

Scan of the approval for Russia (RUS) – see www.docuthek.com → Elster Kromschroder → Kromschroder, LBE → Products → 07 Pilot burners and burners → Pilot burner ZKIH → Kind of document: Certificate → ZKIH B00050 (nationales Zertifikat Russland) (RUS)

2.2 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.

3 Function



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. The air volume required can be adjusted using the air adjustment screw.

4 Selection

	150	180	200	230	300	330	400	430	500	530	600	630	700	730	800	830	900	930	/100	R
ZKIH	●	–	●	–	●	–	●	–	●	–	●	–	●	–	●	–	●	–	●	●
ZKIHB	–	●	–	●	–	●	–	●	–	●	–	●	–	●	–	●	–	●	●	●

Order example

ZKIHB 180/100R

4.1 Type code

Code	Description
ZKIH	Pilot burner with forced air supply
ZKIHB	For ignition of high-speed burners
150 – 930	Protective tube length ¹⁾ [mm] 150 to 930
/100	Flame tube length [mm] 100
R	Rp internal thread

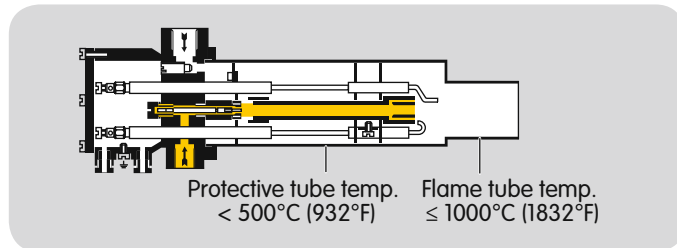
¹⁾ Longer lengths on request.

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.



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.

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.

6 Technical data

Burner	Capacity	
	kW	1000 BTU/h
ZKIH	2 – 7	7.6 – 26
with natural gas	max. 5	max. 17

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. 30 mbar (2 to approx.

12 "WC),

each depending on the gas type

(burner pressures – see www.docuthek.com,

Kind of document: Operating characteristic diagram).

On delivery: natural gas setting (gas and air pressures:

20 mbar (8 "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).

Gas and air pressures:

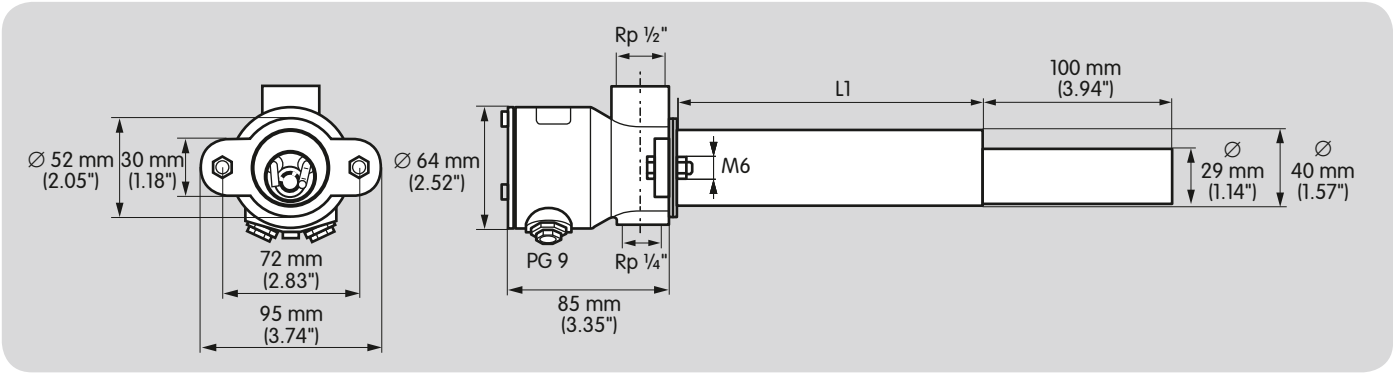
see burner diagram at www.docuthek.com,

Kind of document: Operating characteristic diagram.

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

Control: On/Off.

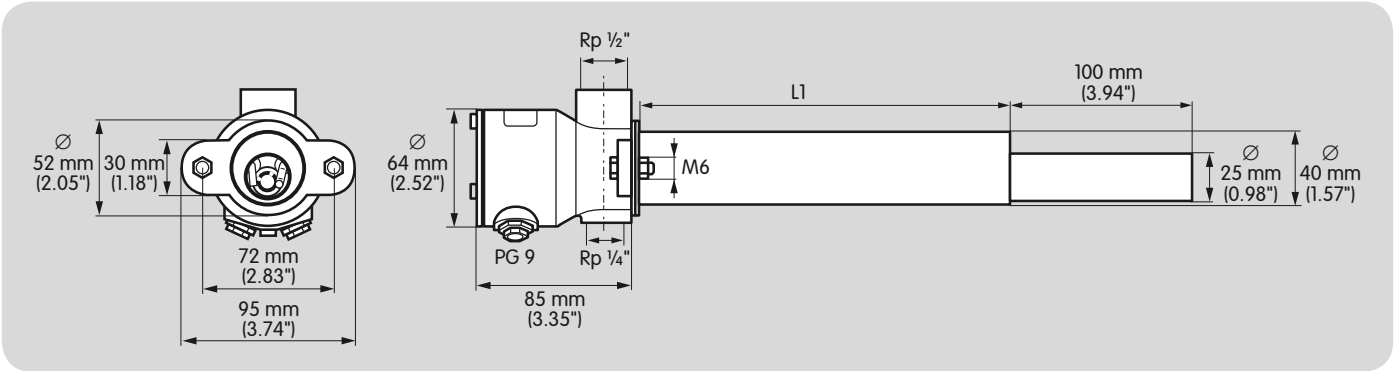
6.1 Dimensions



6.1.1 ZKIH

Type	Dimensions L1	
	[mm]	[inch]
ZKIH 150/100R	150	5.91
ZKIH 200/100R	200	7.87
ZKIH 300/100R	300	11.8
ZKIH 400/100R	400	15.7
ZKIH 500/100R	500	19.7
ZKIH 600/100R	600	23.6
ZKIH 700/100R	700	27.6
ZKIH 800/100R	800	31.5
ZKIH 900/100R	900	35.4

6.1.2 ZKIH B



Type	Dimensions L1	
	[mm]	[inch]
ZKIH B 180/100R	180	7.09
ZKIH B 230/100R	230	9.06
ZKIH B 330/100R	330	13.0
ZKIH B 430/100R	430	16.9
ZKIH B 530/100R	530	20.9
ZKIH B 630/100R	630	24.8
ZKIH B 730/100R	730	28.7
ZKIH B 830/100R	830	32.7
ZKIH B 930/100R	930	36.6

6.2 Converting units

SI unit ×	multiplier =	US unit
m ³ /h	35.31	CFH
mbar	0.0145	psi
mbar	0.39	"WC
mm	0.039	inch
kg	2.2	lbs
litres	0.26	gal
m/s	3.28	ft/s

US unit ×	multiplier =	SI unit
CFH	0.0283	m ³ /h
psi	68.89	mbar
"WC	2.54	mbar
inch	25.4	mm
lbs	0.45	kg
gal	3.79	litres
ft/s	0.3048	m/s

$$^{\circ}\text{C} = (^{\circ}\text{F} - 32) \times \frac{5}{9}$$

$$^{\circ}\text{F} = (^{\circ}\text{C} \times \frac{9}{5}) + 32$$

7 Maintenance cycles

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

8 Accessories

8.1 Ignition transformer

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



TGI 5-15/100W



TZI 5-15/100W

8.2 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.

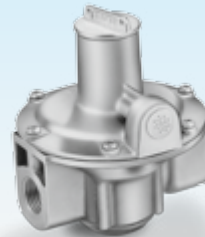
Order No. 74923430

8.3 Pressure regulators

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



60DJ Z, DN 8



GDJ 15L, DN 15

Feedback

Finally, we are offering you the opportunity to assess this "Technical Information (TI)" and to give us your opinion, so that we can improve our documents further and suit them to your needs.

Clarity

Found information quickly
Searched for a long time
Didn't find information
What is missing?
No answer

Comprehension

Coherent
Too complicated
No answer

Scope

Too little
Sufficient
Too wide
No answer



Use

To get to know the product
To choose a product
Planning
To look for information

Navigation

I can find my way around
I got "lost"
No answer

My scope of functions

Technical department
Sales
No answer

Remarks

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