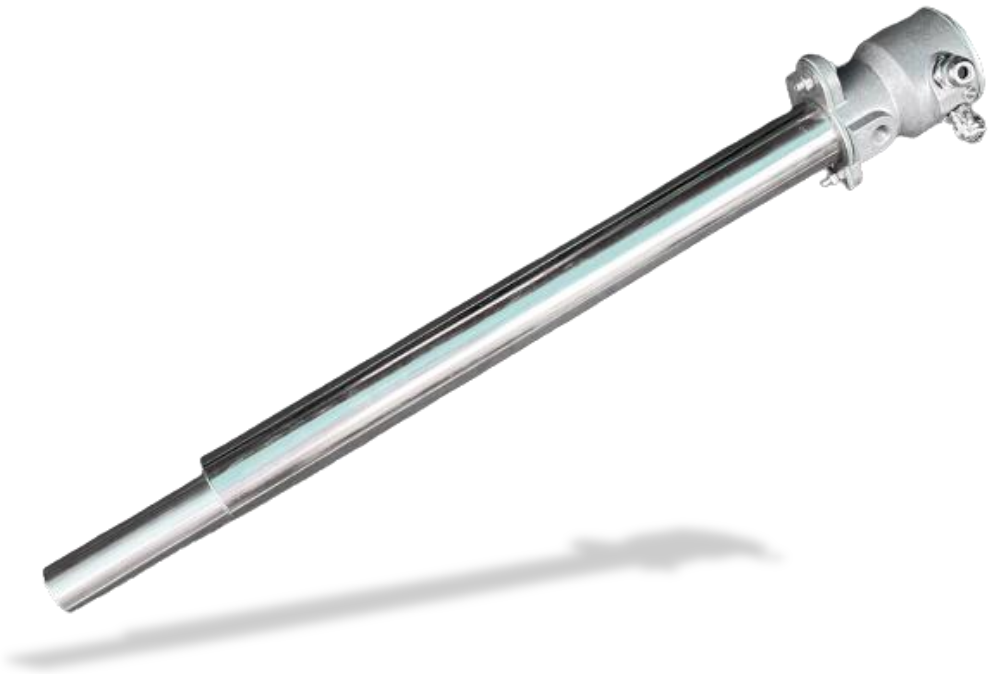
Pilot burner ZKIH

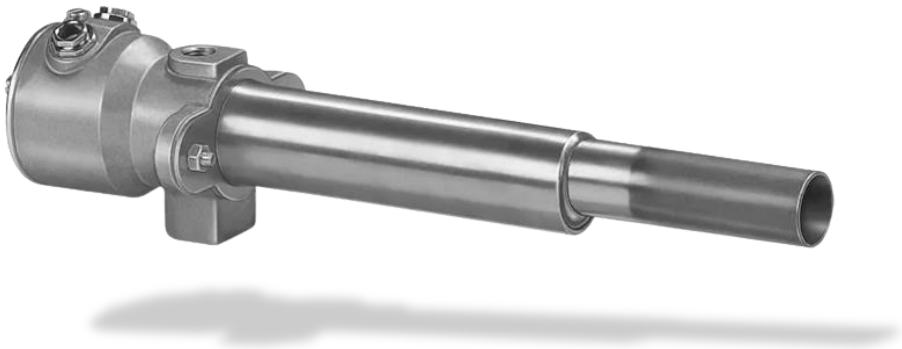
Technical Information · GB



- 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

Contents

1 Application



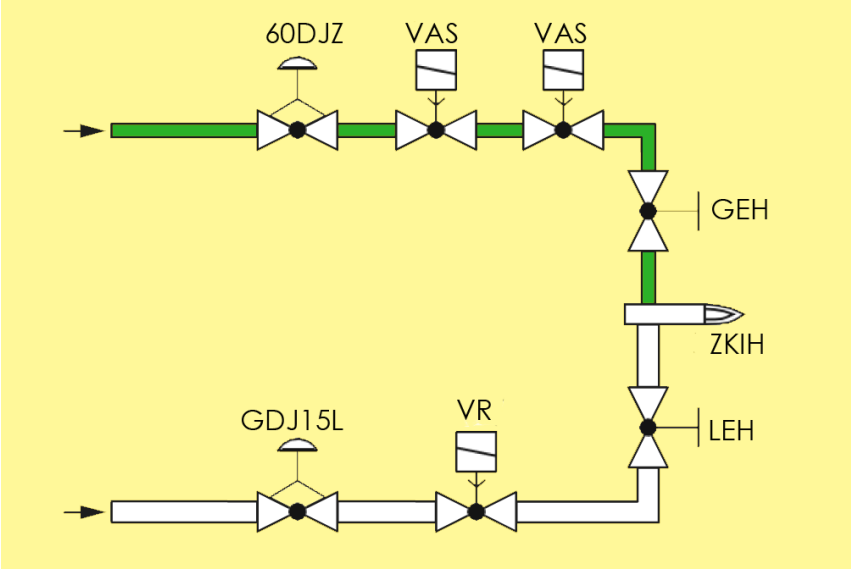
Pilot burner ZKIH with splash-proof connection housing

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 burner

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

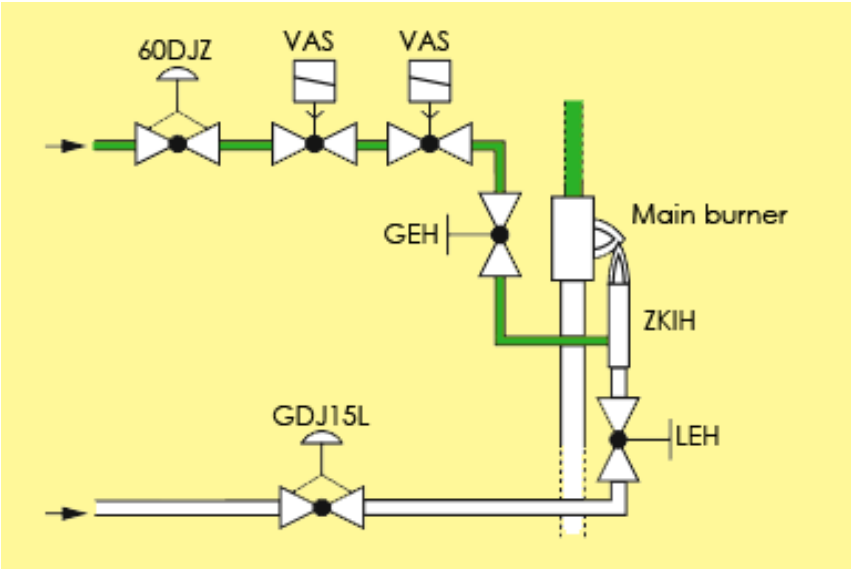
1.1 Examples of application

1.1.1 On/Off control



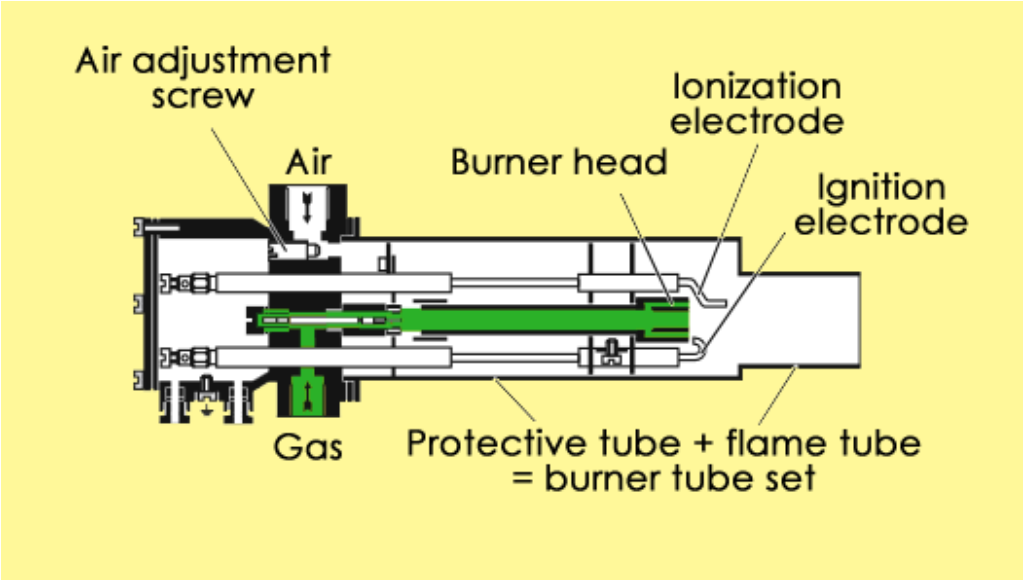
The gas/air mixture is set using the gas adjusting cock GEH and the air adjusting cock LEH. For a constant mixture of gas and air (lambda), one pressure regulator per burner is used in the gas and air circuits.

1.1.2 Igniting a main burner



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

2 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.

3 Selection

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

Order example
ZKIH 150/100R

3.1 Type code

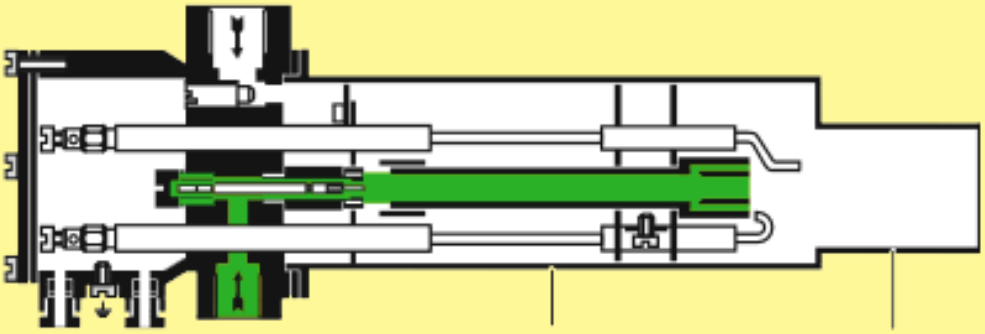
Code	Description
ZKIH	Pilot burner with forced air supply
ZKIHB	For ignition of high-speed burners
	Protective tube length 1) [mm]
150 – 930	150 to 930
	Flame tube length [mm]
/100	100
R	Rp internal thread

1) Longer lengths on request

4 Project planning information

4.1 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.

4.2 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.

5 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

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 <

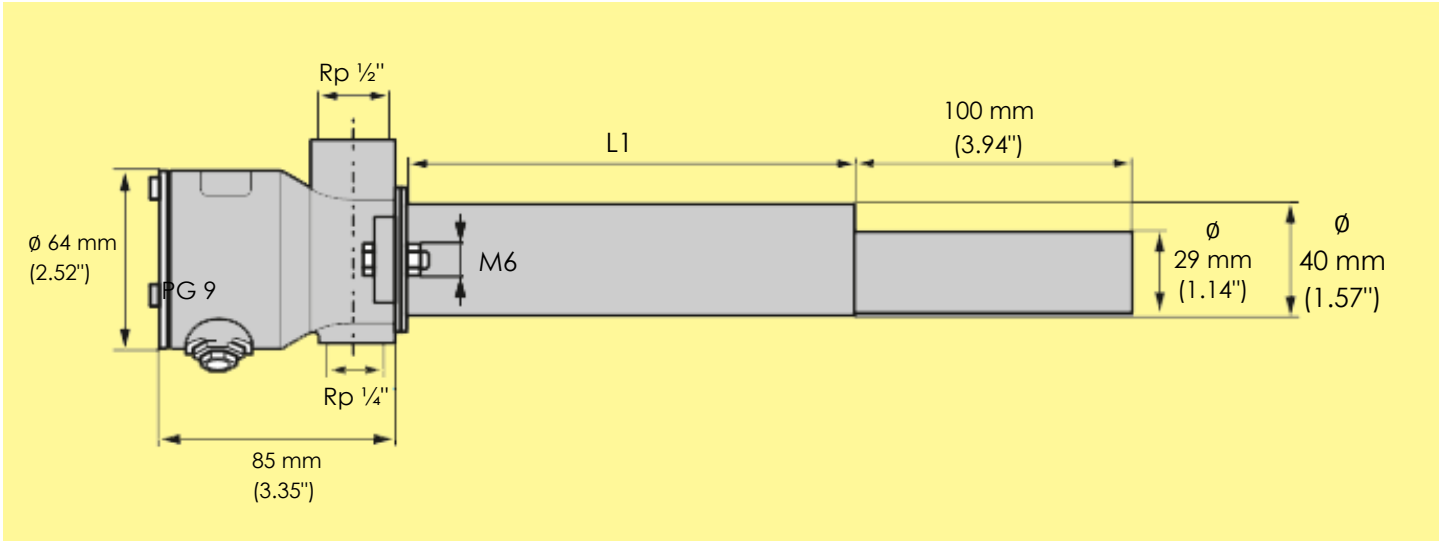
Max. temperature of the protective tube: 500°C (932°F).

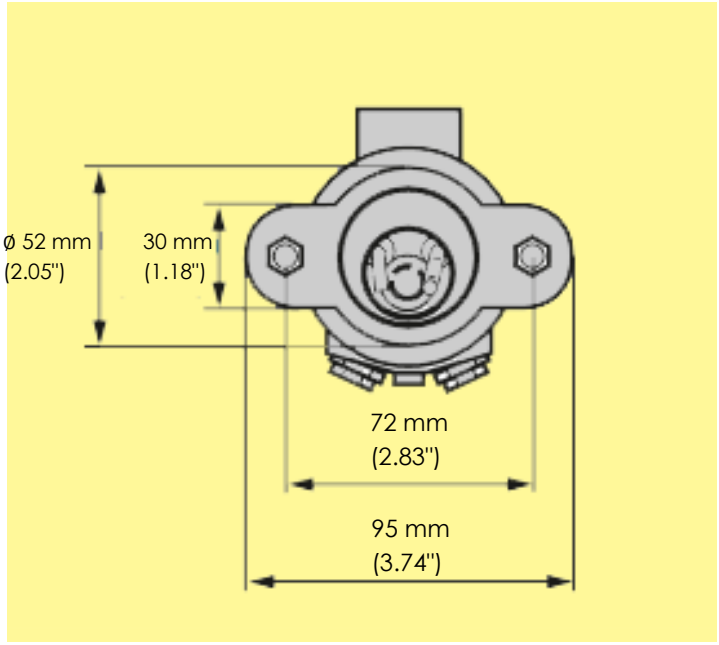
Flame length at rated capacity: approx. 25 cm (9.8")

Control: On/Off

5.1 Dimensions

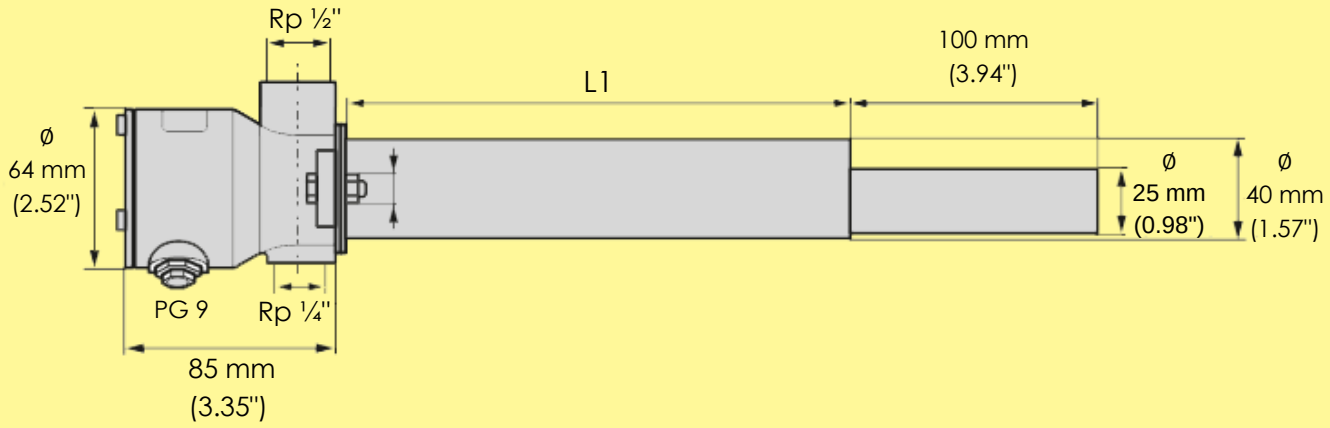
5.1.1 ZKIH



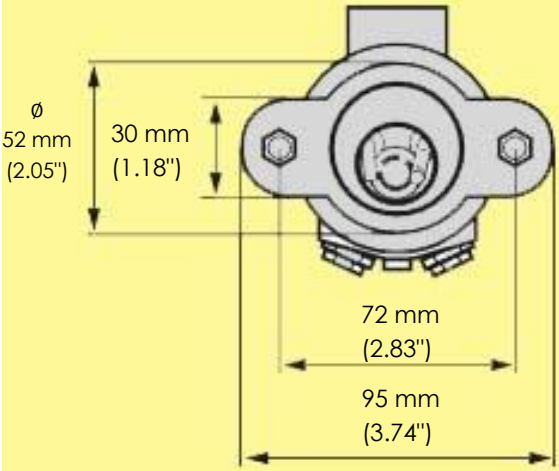


Type	Dimensions L1	
	[mm]	[inch]
ZKIH 150/100R	150	5.91
ZKIH 200/100R	200	7.87
ZKIH 300/100R	300	11.8
ZKIH 400/100R	400	15.7
ZKIH 500/100R	500	19.7
ZKIH 600/100R	600	23.6
ZKIH 700/100R	700	27.6
ZKIH 800/100R	800	31.5
ZKIH 900/100R	900	35.4

5.1.2 ZKIHB



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



5.2 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

°C = (°F - 32) × 5 / 9
°F = (°C × 9 / 5) + 32

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

6 Maintenance cycles

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