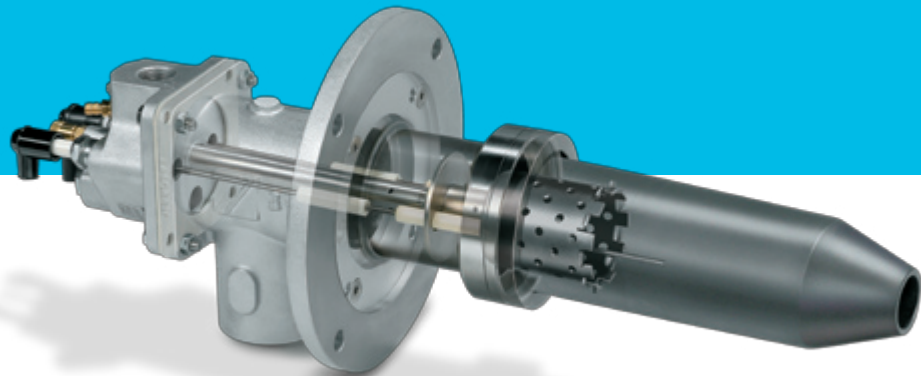


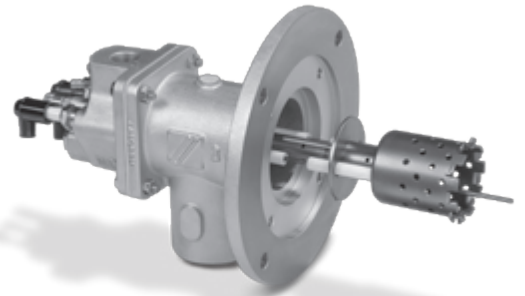
# Excess air burner BIC..L

Product brochure · GB  
7.2.40 Edition 10.08

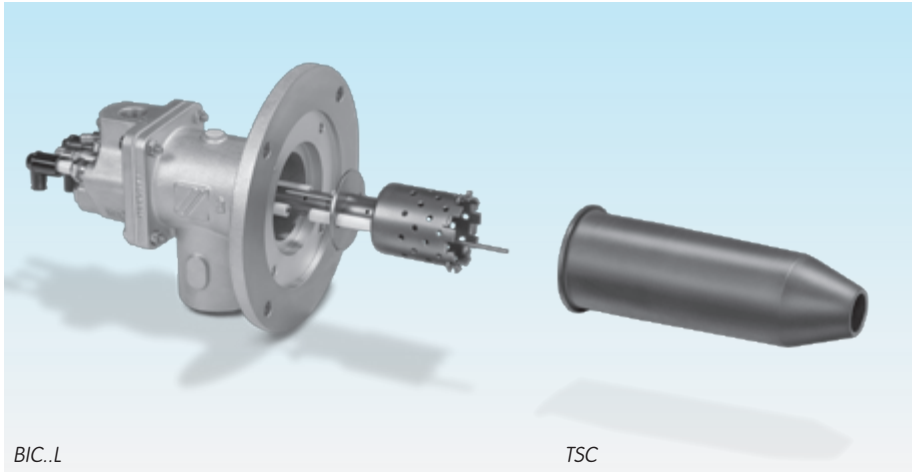


**krom**  
**schroder**

- Reliable ignition of the burner at all output settings
- Large excess air capability of up to approx. 1500 % is possible
- High pulse magnitude even at a low burner rating
- High flame outlet velocity
- Modular design
- Lightweight construction
- Direct ignition and monitoring
- Low cost gas/air control is possible
- Maintenance-friendly design
- Tailor made to suit customers' requirements
- For new systems and for the modernisation of existing systems
- Time-tested SiC combustion tube



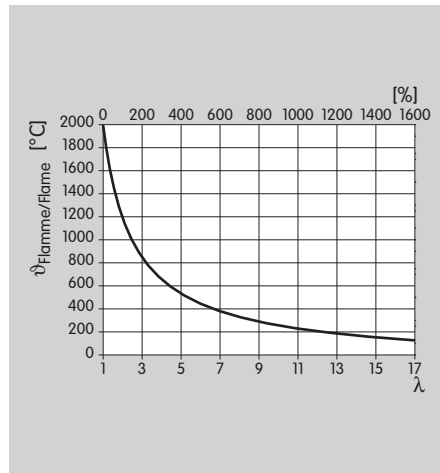
**elster**  
Kromschroder



Modular construction consisting of the burner BIC..L and the ceramic tube TSC.

### Application

Excess air burner BIC..L for all applications requiring precise temperature control and consistent product quality. The BIC..L burner is perfectly designed for use in the tunnel kilns and intermittent systems as used in the ceramics industry. A single burner type enables you to follow all the temperature profile requirements of the kiln. Thanks to the high excess air capability of up to approx. 1500%, variable flue gas temperatures of up to approx. 100°C ( $\lambda = 16$ ) can be reached. With reliable ignition over the entire burner output range this accommodates the furnace operator's wish for a simple structured gas/air control.



The burner BIC..L covers a wide range of flue gas temperatures.

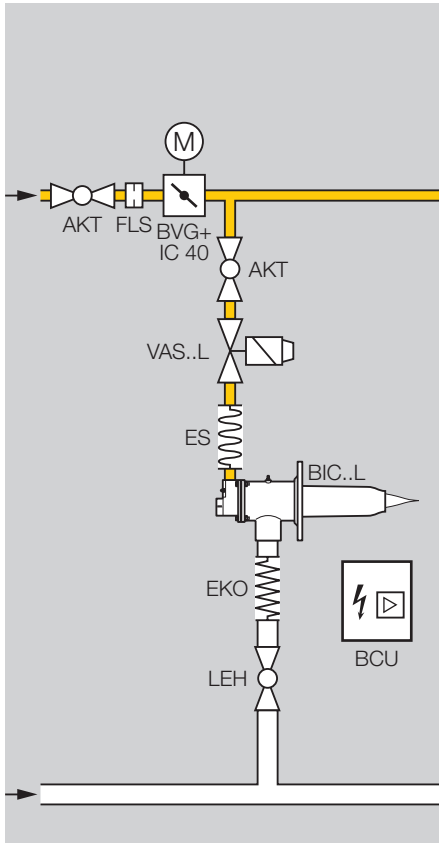


Chamber furnace in the refractory industry heated with excess air burners BIC 140LB.



Burner head BIC..L.

Application examples



Continuous control with constant air flow rate

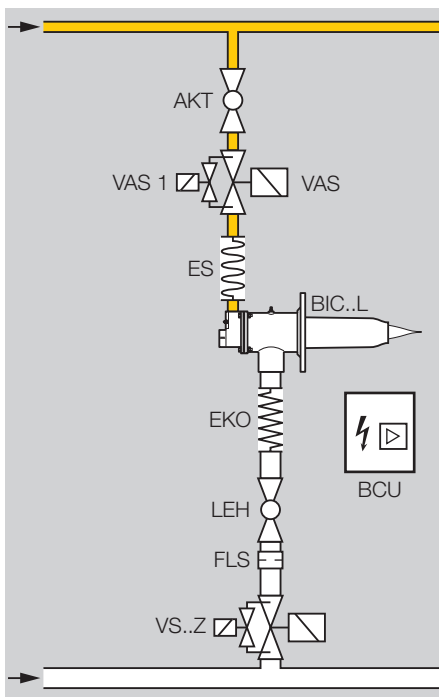
The continuous control of the gas flow rate with a constant air flow rate allows the capacity to be adjusted while maintaining an almost constant outlet velocity at the burner.

Function

Zone control

After initiating the burner control unit BCU, the gas solenoid valves VAS and BVG (IC 40) open. At the same time the ignition transformer in the burner control unit BCU is supplied with voltage so that an ignition spark is generated at the burner head in the BIC..L. The gas flow rate can be adjusted continuously using the butterfly valve BVG with actuator IC 40. The air flow rate is constant.

The maximum quantities of air and gas are limited by the air adjusting cock LEH and the gas restrictor integrated in the burner. The gas and air flow rates can be measured by the measuring orifice integrated in the burner.



Staged control without pneumatic group

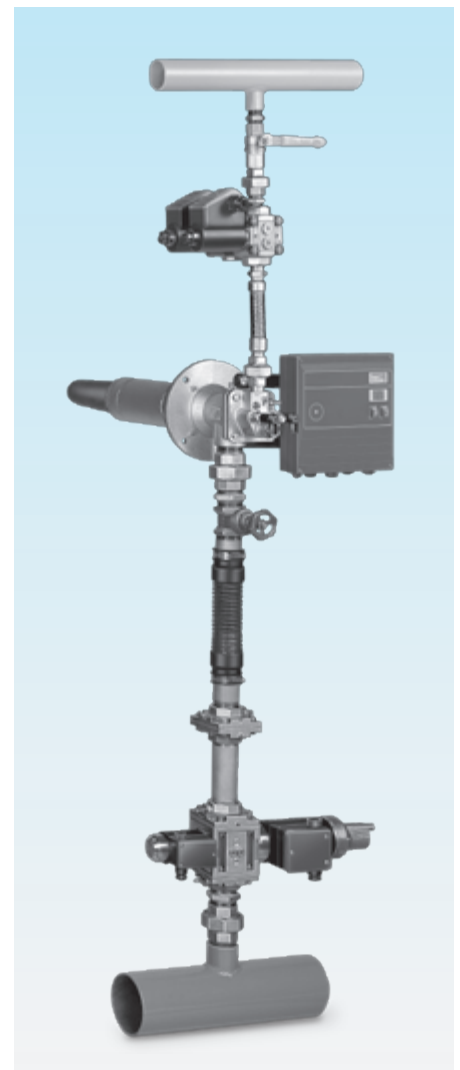
A staged control without a pneumatic group offers the option of central lambda adjustment.

Function

After initiating the burner control unit BCU, the bypass valves open on the gas and air side. At the same time the ignition transformer in the burner control unit BCU is supplied with voltage so that an ignition spark is generated at the burner head in the BIC..L. After identifying the flame signal, gas valve VAS and air valve VS..Z open.

The maximum quantities of air and gas are limited by the air adjusting cock LEH and the gas restrictor integrated in the burner.

The measuring orifice FLS is designed to record the air flow rate.



Legend

- AKT = Manual valve
- BCU = Burner control unit
- BIC..L = Excess air burner
- BVG = Butterfly valve
- EKO = Stainless steel bellows unit
- ES = Stainless steel flexible tube
- FLS = Measuring orifice
- IC 40 = Actuator
- LEH = Flow adjusting cock for air
- VAS = Solenoid valve for gas
- VS..Z = 2-step solenoid valve for gas

## Selection

### Selection table BIC..L

	L	B	-0 ...	/35-...	/105-...	(1)-(99)	A-Z
BIC 80	●	●	●	●		●	●
BIC 100	●	●	●		●	●	●
BIC 140	●	●	●	●		●	●

● = standard, ○ = available

### Order example

BIC 80LB-0/35-(4)E

### Type code BIC..L

Code	Description
BIC	Excess air burner
80, 100, 140	burner size
L	Air excess
B	gas type: natural gas
-0, -100, -200, ...	Length of burner extension [mm]
	Position of burner head [mm]
/35-, /135-, /235-, ...	BIC 80, BIC 140
/105, /205, /305, ...	BIC 100
(1), (2), (3), (4), (5), ...	Burner head identifier
A, B, C, D, E, F, G, ...	Construction stage

### Selection table TSC

	B	033	040	055	070	-250	-300	/35-...	/105-...	Si-1500
TSC 80	●	●				●	●	●		●
TSC 100	●		●			●	●		●	●
TSC 140	●			●	●	●	●	●		●

● = standard, ○ = available

### Order example

TSC 80B033-250/35-Si-1500

### Type code TSC

Code	Description
TSC	Ceramic tube set
80, 100, 140	Designed for burner size
B	Tapered shape
033, 040, 055, 070	Outlet diameter [mm]
-250, -300	Tube length [mm]
	Position of burner head [mm]
/35-, /135-, /235-, ...	BIC 80, BIC 140
/105, /205, /305, ...	BIC 100
Si-1500	Ceramic tube material

## Technical data

Types of gas: natural gas, LPG (gaseous); other types of gas on request.

Control ranges: ~1:15 with constant air flow rate,  
~1:5 with constant lambda value.

Flame velocity: high.

Most of the burner components are made of corrosion-resistant stainless steel.

Integrated flow measuring orifice on the gas and air side.

Flame control: direct ionisation control (UV control as an option).

Ignition: direct, electrical.

Ignition range: entire capacity range.

Maximum furnace temperature: approx. 1450°C.

Burner length increments: 100 mm.

### Burner capacities and connection pressure (natural gas version)

Burner	Capacity [kW]	Gas supply pressure [mbar]	Air supply pressure [mbar]
BIC 80L	75	40	45
BIC 100L	150	40	48
BIC 140L*	300	40	48
BICL 140L**	440	35	51

\* With TSC 140B055

\*\* With TSC 140B070

## Maintenance cycles

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

## Detailed information on this product

[www.docuthek.com](http://www.docuthek.com)

## Contact

[www.kromschroeder.com](http://www.kromschroeder.com) → Sales

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