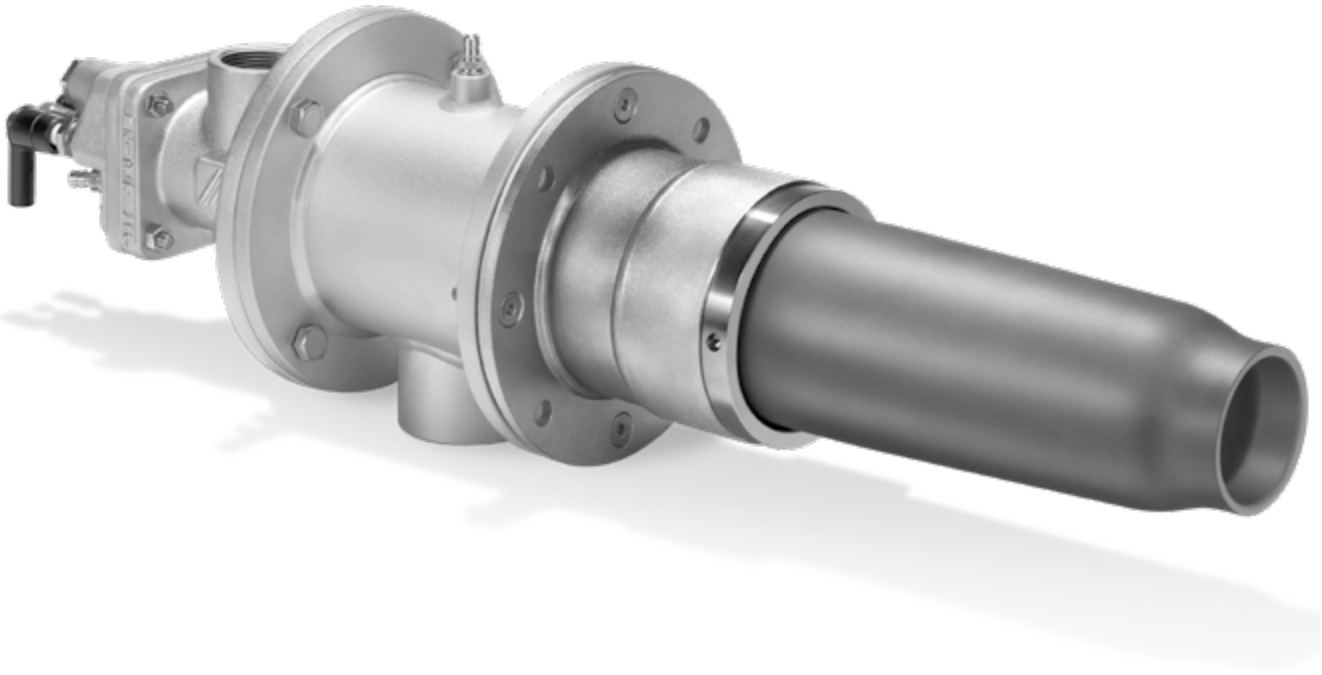
Honeywell
krom schroder

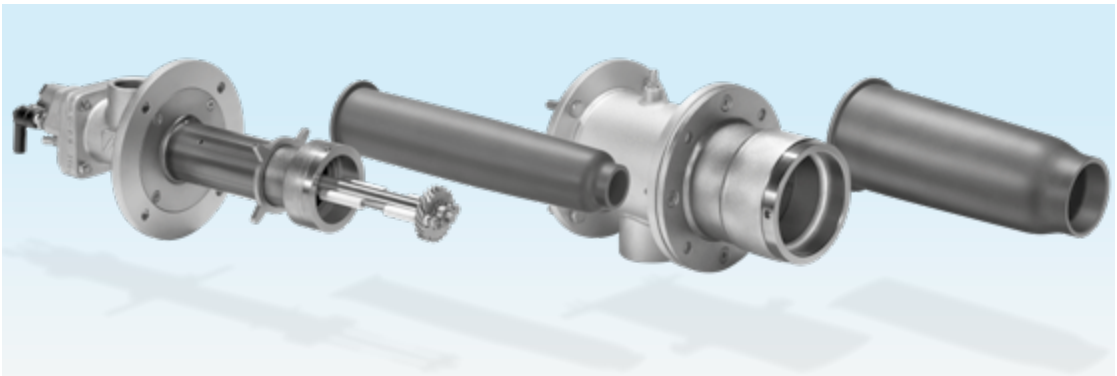


BIC..R, RSG

Annular excess air burner for gas BIC..R with annular excess air burner housing RSG

- Separate connections for primary and secondary air
- Low pollutant emissions even with high excess air
- Adjustment of the flame outlet temperature to the required furnace temperature; flame temperature: 50 – 1500°C
- High outlet velocity possible even with low energy supply and furnace temperature

Application



BIC..R with a steel extension TSC for BIC RSG with a steel extension TSC for RSG

Thanks to the annular excess air burner BIC..R's modular design, the components can be selected in accordance with the required gas type and burner output.

The annular excess air burner is suitable for use in industrial kilns in the ceramics, pottery and enamel industries. Its mechanical construction means that it is particularly suitable for use on high-speed kilns.

Two air connections allow a very high lambda value of up to $\lambda = 50$ to be reached. The flame outlet temperature can be adjusted directly to the kiln temperature/time profile in intermittent systems with minimum energy supply while also supplying a high flame outlet velocity and therefore high convective heat transfer.

Separate secondary air ensures CO-optimised combustion with high excess air.

The large air cross-sections enable large volumes of air to be introduced during the system's cooling phase, which leads to a reduction in the cooling time and therefore to an increase in the system's availability.

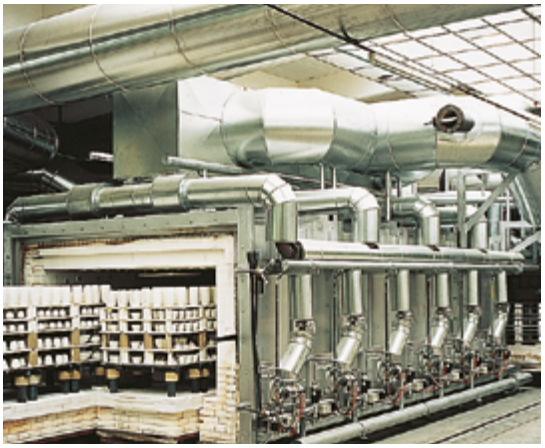
Reducing and oxidising combustion are possible.

Ceramics kiln with temperature control via impulse system

High-speed combustion in the fine ceramics industry

Chamber kiln for intermittent operation

Intermittent shuttle kiln in the fine ceramics industry



Intermittent shuttle kiln

Intermittent shuttle kiln

Examples of application

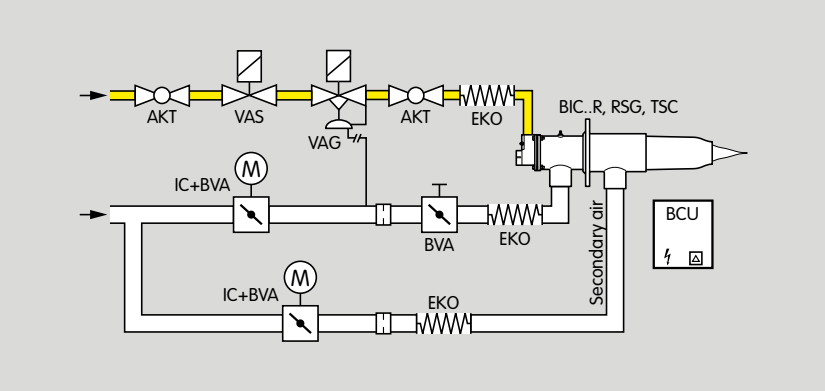
Modulating or stage-controlled burner system for high-speed kilns

The burner output is modulated or stage-controlled by adjusting the butterfly valve BVA. The air/gas ratio control VAG ensures a constant gas/air flow ratio via the impulse line.

The secondary air flow is varied by adjusting the second butterfly valve, independent of the burner output. This means that the flame temperature can be matched to the kiln temperature while maintaining a high flame outlet velocity.

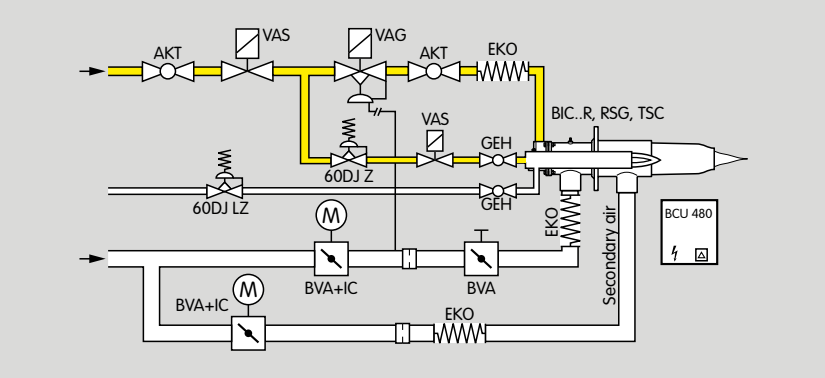
Short cooling times are achieved by feeding the maximum cooling air volume when the burner is switched off and the butterfly valves are fully open.

This example system can be used in the manufacture of heavy clay and fine ceramics, porcelain, technical ceramics and ceramic refractory products.



Burner system with lance

The burner may also optionally be ignited by an integrated ignition lance.



Type code

Annular excess air burner BIC..R

Code	Description
BIC BICA	Burner for gas Burner for gas with aluminium housing
65 – 140	Burner size
R H	Flame shape: short long
B G M	Gas type: natural gas propane, propane/butane, butane butane, propane, propane/butane
L R	Versions: separate low-fire gas and air rate supply reduced max. connection rating
-100 -150 -200 -250 ...	Length of burner extension
/185- /235- /285- /335- ...	Position of burner head
(1 – 99)	Burner head identifier
A–Z	Construction stage
R	Annular excess air burner

Ceramic tube set TSC

Code	Description
TSC	Ceramic tube set
50 – 200	Designed for burner size
A B	Shape: cylindrical tapered
020, 033, 040, 050, 065, 070, 082, 085, 107, 120	Outlet dia. [mm]
–250, –300	Tube length [mm]
/35– /135–*	Position of burner head
Si-1500	Ceramic tube material

** Only for BIC 65, BICA 65*

Annular excess air burner housing RSG

Code	Description
RSG 100 RSG 140 RSG 200	Annular excess air burner housing size
/65 /100 /140	Designed for burner size: BIC 65, BICA 65 BIC 100 BIC 140
-0 -50 -100 -150	Annular excess air burner housing extension

Technical data

Output [kW]	Burner	Outlet dia. TSC for BIC..R	Flame shape/ code letter	Construction stage	Visible flame length[1)]	Flame outlet velocity [m/s][2)]
15	BIC(A) 65	20	H...R	E (D)	15	100
50	BIC(A) 65	33	H	E (D)	27	120
60	BIC(A) 65	40	H	E (D)	33	100
130	BIC 100	50	R	F	40	145
200	BIC 100	65	R	F	45	130
230	BIC 100	82	R	F	50	100
320	BIC 140	85	R	E	60	125
360	BIC 140	120	R	E	80	70

1) Measured from ceramic tube opening at rated capacity in the open air, λ = 1.05.
2) Referred to rated capacity, calculated using the flame temperature: 1600°C = type "R" flame shape, 1500°C = type "H" flame shape, λ = 1.05.

Gas supply pressure: approx. 10 to 40 mbar, air supply pressure: approx. 10 to 30 mbar, secondary air pressure: 25 to 70 mbar, each depending on flame shape and gas type (gas and air pressures and secondary air – see Operating characteristic diagram (D, GB) and Flow rate curve (D, GB) – www.docuthek.com ➔ Elster Kromschröder ➔ Products ➔ 07 Burners and pilot burners ➔ Annular excess air burners ➔ Kind of document: Operating characteristic diagram/Flow rate curve.

Annular excess air burner housing RSG length: 0 to 150 mm (other lengths available on request).

Types of gas: natural gas, LPG (gaseous).

Control ranges:
approx. 1:10 for modulating or stage control.

Excess air up to λ = 50 is possible, depending on the burner size and ceramic tube combination.

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

Ignition: direct, electrical, lance as an option.

Ignition capacity ≤ 40% of max. burner capacity. For higher ignition capacity – see Operating characteristic diagram (D, GB) – www.docuthek.com ➔ Elster Kromschröder ➔ Products ➔ 07 Burners and pilot burners ➔ Annular excess air burners ➔ Kind of document: Operating characteristic diagram.

Max. kiln temperature:
1450°C with TSC tube SI-1500.

Burner housing:
BIC: GG25,
BICA: AlSi.
Hot air:
BIC up to 450°C,
BICA up to 250°C.

Flame outlet velocity: medium to high.

Flame shape: normal, long.

The flame diameter is one to two times that of the burner tube outlet.

Integrated measuring orifice and adjuster for the gas flow rate in the gas connection flange (only BIC).

Maintenance cycles

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

Technical Information bulletin for this product
www.docuthek.com
Search term:
BIC..R, RSG

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