

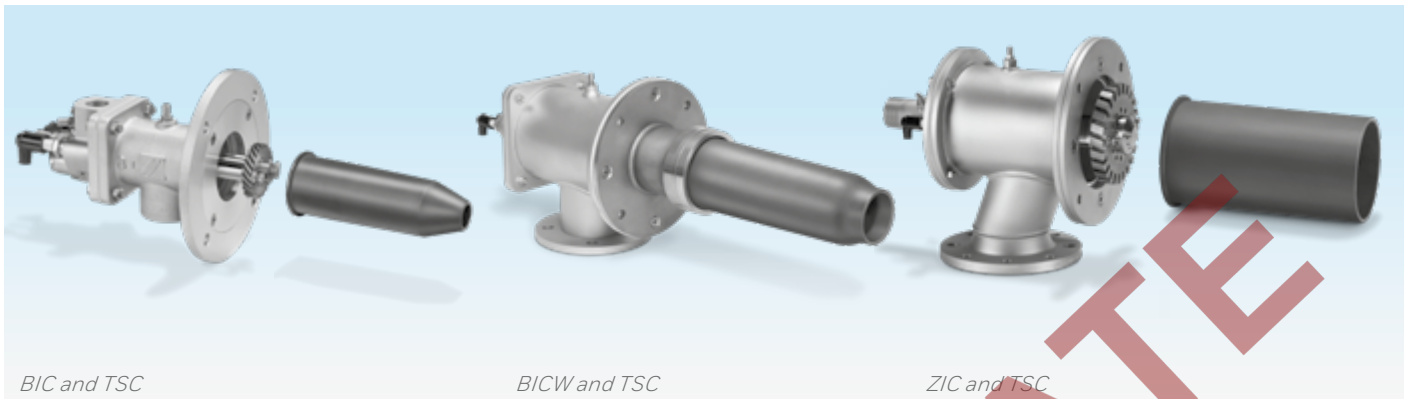


BIC,BICA,BICW,ZIC,ZICW

ERC Burners with ceramic tube

- Ideal for fibre-lined furnaces with a ceramic burner tube made of SiSiC, no burner block required
- Suitable for ON/OFF intermittent operation
- Reliable electrical ignition and safe flame control using a flame rod
- Large capacity range up to 1000 kW (3782 x 10³ BTU/h (natural gas H factor))
- Air preheating to 600°C (1112°F)
- Length increments enable individual adjustment to the wall thickness of the system

Application



Suitable for use in industrial furnaces and firing systems, e.g. in the iron and steel industries, in the heavy clay and fine ceramics industries and in the precious, non-ferrous and light metal sector. Burners BIC, BICA or ZIC can also be used in thermal incineration installations, as well as in dryers and hot air generators.

The burners can be used with the ceramic tube set TSC in fibre-lined furnaces (also in furnaces with a brick lining) as an overhead or side heating system. No burner block is necessary.

The stainless steel extension allows for individual length adjustment to the most diverse furnace wall thicknesses.

Thanks to their medium to high outlet velocity (65 to 155 m/s), burners BIC, BICA are ideal for industrial furnaces whose temperature is controlled by an impulse system.



Ceramics kiln with temperature control via impulse system



Overhead heating with burner BIC



Tunnel kiln



Steel forging furnace



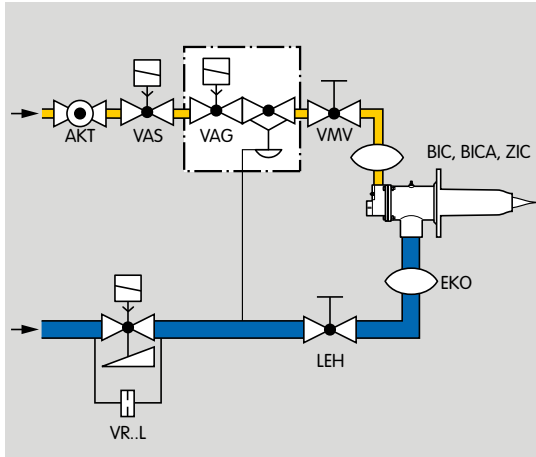
Batch furnace



Tunnel kiln overhead heating

Application examples

ON/OFF cyclic control



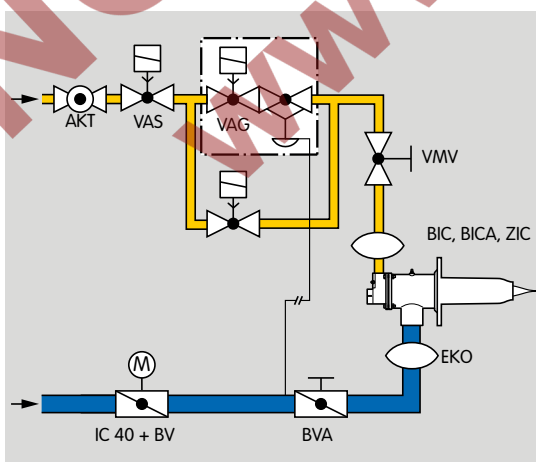
With ON/OFF cyclic control, the capacity supplied to the process is controlled by means of a variable ratio of the operating time to the pause time.

The burner is ignited while the air valve is opening slowly. The pneumatic ratio control system controls the gas volume and ensures a constant mixture of gas and air in the burner. In accordance with EN 746-2, this type of control can only be used for ignition with burner capacities of up to 360 kW (1229×10^3 BTU/h).

Depending on the furnace temperature, there must be a certain air flow when the burner is switched off.

The high output pulse frequency at the burner produces a uniform temperature distribution and good circulation of the furnace or kiln atmosphere, e.g. in heat treatment furnaces in the iron and non-ferrous metal industries or kilns for heavy clay and fine ceramics.

ON/OFF cyclic control with a defined pilot rate

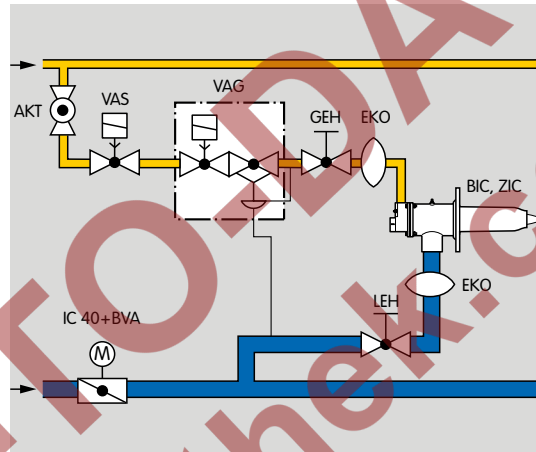


With this kind of cyclic control, the capacity supplied to the process is controlled by means of a variable ratio of the operating time to the pause time (ON/OFF).

Here, the burner is ignited at a defined pilot rate via a bypass valve (PILOT RATE/HIGH/OFF burner control). This burner system can thus be used regardless of the burner capacity.

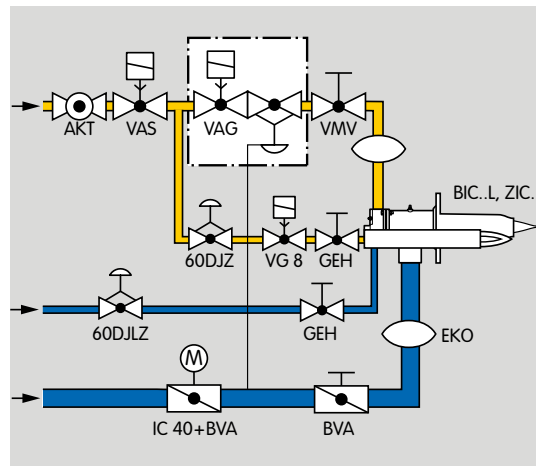
A 2-stage air control valve allows the volume of air infiltrating when the burners are switched off to be minimized. Alternatively, a single-stage air control valve with bypass for the pilot rate can be used if the volume of air infiltrating into the process is non-critical.

Modulating control with pneumatic ratio control system



This type of control produces high temperature accuracy where there is low circulation e.g. in roller hearth kilns in the heavy-clay ceramics industry. The capacity of the burners of a zone/group is adjusted using a central air control element.

Modulating control with pneumatic ratio control system and torch



The burner's flexibility is increased thanks to a torch. This type of control is used in heat treatment furnaces in the iron and non-ferrous metal industries and in heating furnaces in the steel industry, for example.

Technical data

Gas supply pressure and air supply pressure each depend on the use and gas type (gas and air pressures: see burner diagrams at www.docuthek.com, Type of document: Flow rate curve).

Special gaskets are available on request for connection pressures of > 100 mbar (39.4 "WC) (e.g. reverse flow pressure in the furnace).

Gas types: natural gas, LPG (gaseous), coke oven gas, town gas, low calorific value gas and biogas; other types of gas on request.

Combustion air: the air must be dry and clean in all temperature conditions and must not contain condensate.

Overall lengths:
0 to 400 mm (0 to 15.7"),
100 mm (3.94") length increments
(other lengths available on request).

Control type:
staged: On/Off,
modulating: constant λ value.

Control: with flame rod, UV control as an option.

Ignition: direct spark ignition; torch as an option

Burner type code

Code	Description
BIC	Burner for gas
BICA	Burner for gas with aluminium housing
BICW	Burner for gas with internal insulation
ZIC	Burner for gas
ZICW	Burner for gas with internal insulation
50 – 200	Burner size
R	Use: Cold air
H	Hot air/high furnace temperature
B	Gas type: Natural gas
G	Propane, propane/butane, butane
M	Propane, propane/butane, butane (with mixer)
D	Coke oven gas, town gas
L	Low calorific value gas
F	Biogas
L	Versions: With torch
R	With reduced maximum capacity (for gas types L and F only)
-0	Length of burner extension (L1) [mm]
-100	
-200 ...	
/35-	Position of burner head (L2) [mm]
/135-	
/235- ...	
-(1) – (199)	Burner head identifier
-(1E) – (199E)	Heat-resistant design
D – Z	Construction stage
H	High temperature version

Ceramic tube set TSC type code

Code	Description
TSC	Ceramic tube set
50 – 200	Designed for burner size
A	Shape: cylindrical
B	closed cone
L	curved
020, 025, 028, 033, 035, 040, 048, 050, 064, 065, 066, 070, 075, 085, 100, 120, 154, 180	Outlet dia. [μ m]
-200, -250, -300, -350	Tube length (L8) [mm]
/35- /135-	Position of burner head (L9) [mm]
Si-1500	Ceramic tube material

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,BICA,BICW,ZIC,ZICW

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