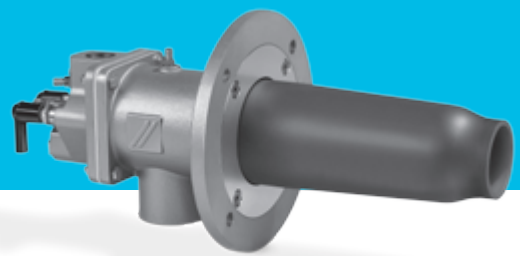
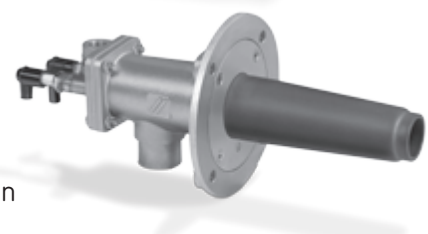
Burners for gas BIC, BICA, ZIC

Technical Information · GB
7.2.2.2 Edition 03.11

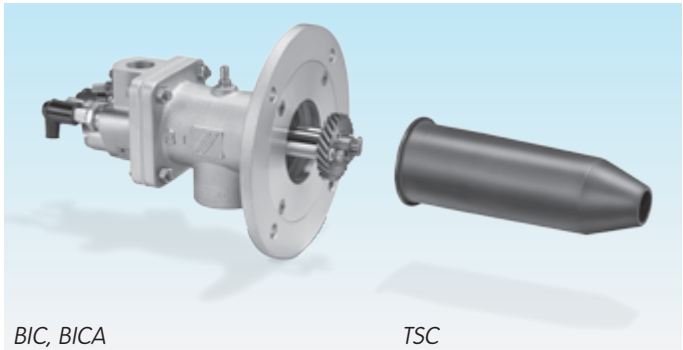


- Can be combined with different ceramic combustion chamber shapes
- Ensures high temperature uniformity in the furnace thanks to high pulse frequency
- Large capacity range up to 1000 kW
- Safe flame control thanks to ionization electrode and reliable electrical ignition
- For installation as ceiling or side-wall burner
- Air preheating to 450°C available as an option
- Length increments enable individual adjustment either to new systems or when modernizing existing systems
- Maintenance-friendly thanks to modular design
- Low polluting level thanks to optimized combustion

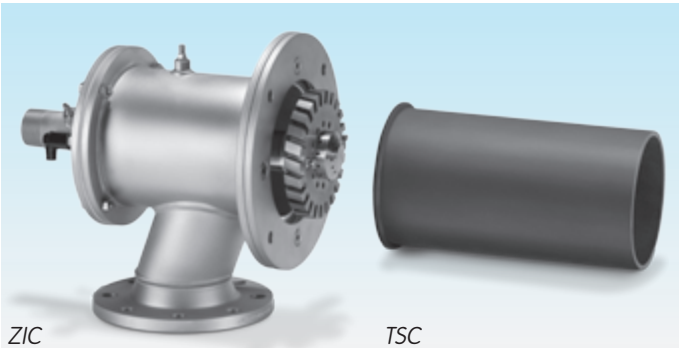


Contents

= To be continued



Modular construction consisting of the burner BIC or BICA and the ceramic tube TSC



Burner ZIC and ceramic tube TSC

1 Application

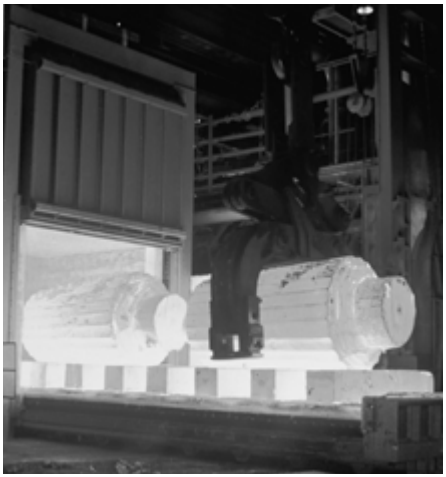
For industrial furnaces and firing systems in the iron and steel industries, in the precious, non-ferrous and light metal sector, as well as in the plastics, fibre and paper industries. Burners BIC, BICA or ZIC can also be used in thermal incineration installations, as well as in driers and hot-air generators.

The burner can be used in conjunction with the ceramic tube set TSC in brick-lined or fibre-lined furnaces. No burner quarl is necessary.

Thanks to their medium to high outlet velocity (80 to 150 m/s), burners BIC, BICA are ideal for industrial furnaces whose temperature is controlled by an impulse system.

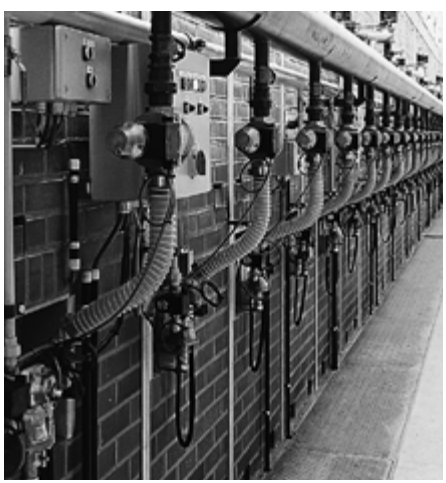
Ceramics kiln with temperature control via impulse system

Overhead firing with burner BIC



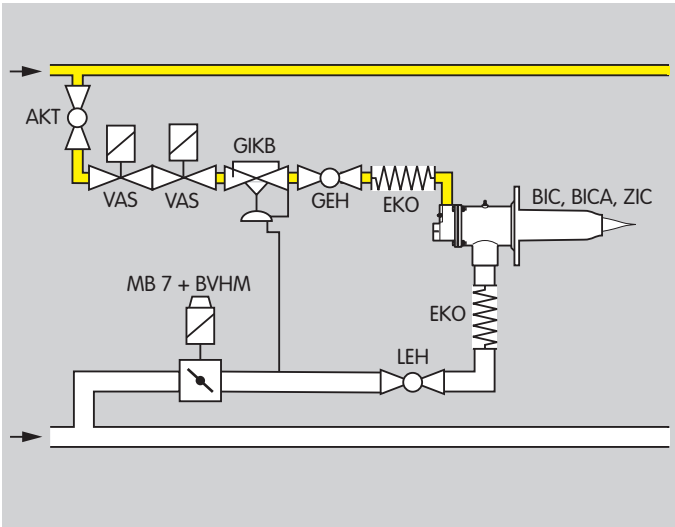
Steel forging furnace

Chamber kiln



Tunnel kiln

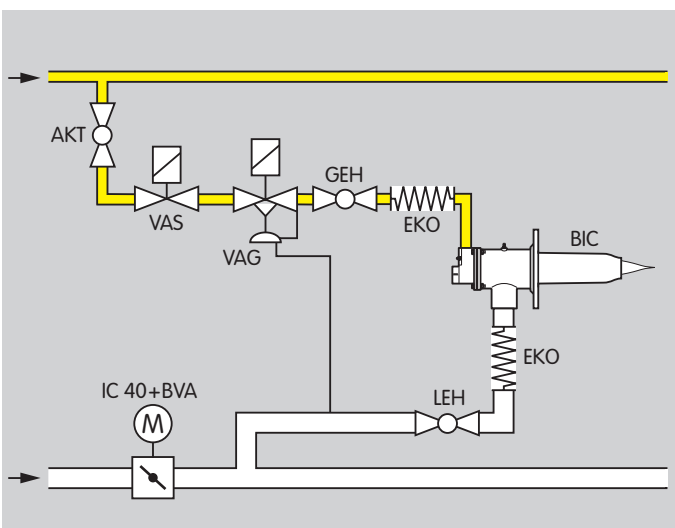
Roller hearth kiln



1.1 Examples of application

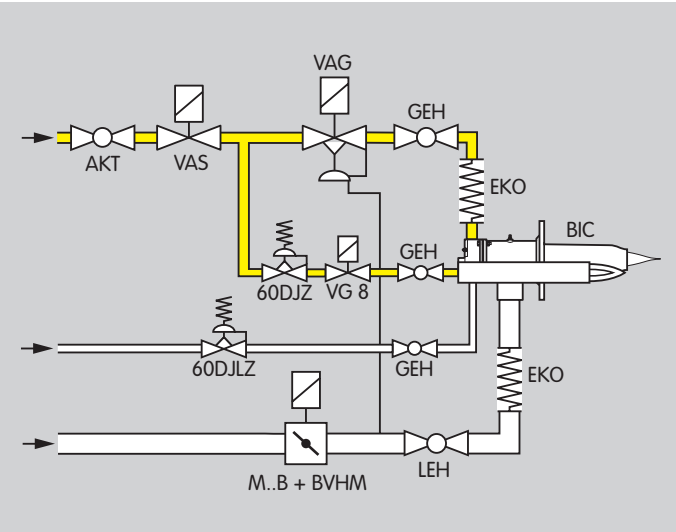
1.1.1 Staged control with pneumatic ratio control system

The burner capacity is switched cyclically between high fire and low fire by opening and closing the solenoid-operated air butterfly valve. The impulse line on the air/gas ratio control VAG ensures constant air and gas pressures. The ratio of the gas volume is kept constant. The low-fire rate is guaranteed by the bypass nozzle in the GIKB. 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.



1.1.2 Continuous control with zoned air control

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.



1.1.3 Stage-controlled heating system with lance

The main burner is controlled in stages by opening and closing the butterfly valve BVHM. The impulse line on the air/gas ratio control VAG ensures constant air and gas pressures. The ratio of the gas volume to the air volume is kept constant. The burner's flexibility is increased thanks to an ignition lance, e.g. in heat treatment furnaces in the iron and non-ferrous metal industries and in heating furnaces in the steel industry.

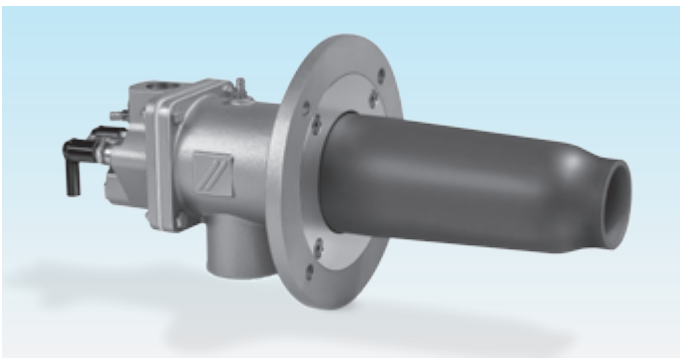
2 Certification

2.1 Approval for Russia

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

3 Mechanical construction

The burner is composed of the following modules: burner housing, burner insert and ceramic tube. This structure enables easy adjustment to suit the respective process or integration into existing systems. Maintenance and repair times are reduced, and existing furnace installations can easily be converted.

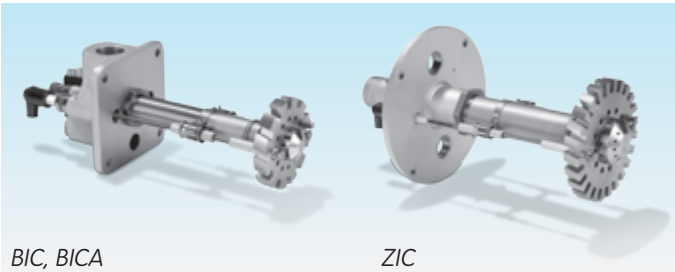


3.1 Burner housing (furnace flange)

BIC *BICA* *ZIC*

The burner is secured to the furnace by the burner housing. The burner housing accommodates the burner insert and the ceramic tube, and routes the combustion air. The combustion air pressure can be measured using an air pressure test nipple.

3.2 Burner insert



BIC, BICA *ZIC*

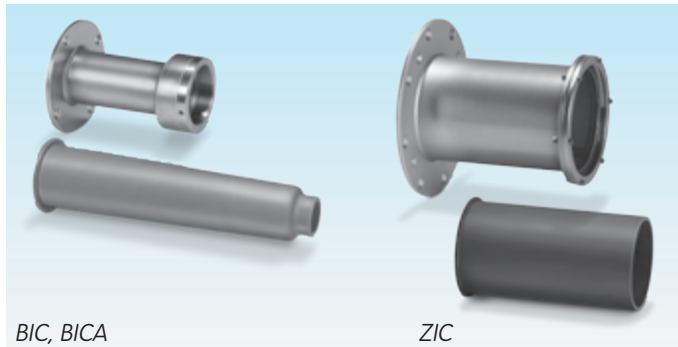
The combustion gas is supplied to the burner head via the gas connection and the gas pipe. The gas connection flange comprises the sight glass, ground screw and electrode plugs with plug caps.

For burner sizes 65 to 140, the connection flange is equipped with an integrated measuring orifice for easy measuring and flow adjustment for exact adjusting of the gas flow rate.

The ignition and ionization electrodes are screwed into the connection flange and can be replaced without removing the burner insert as of burner size 65.

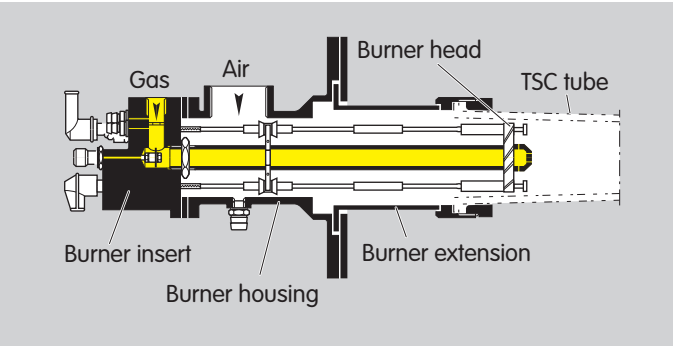
Burners BIC, BICA and ZIC are nozzle-mixing burners. Gas and air are mixed only once they are in the burner head. This prevents explosive gases from being generated in the pipelines. There are various burner head versions for different flame shapes and gas types.

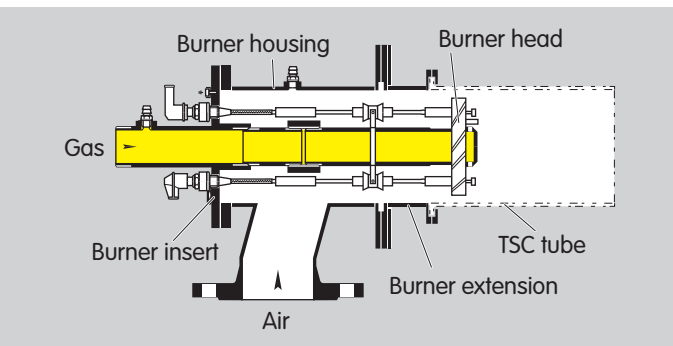
3.3 Ceramic tube set TSC and extension set

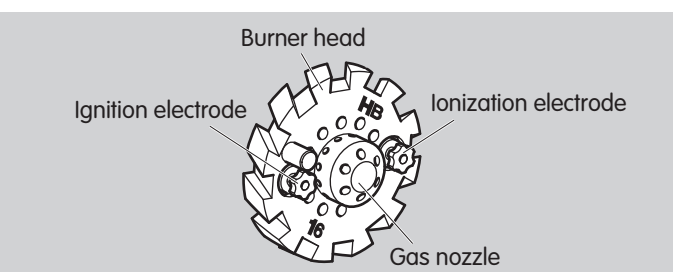


BIC, BICA *ZIC*

A SiC ceramic tube, lightweight in design, serves as combustion chamber. The ceramic tube ensures complete combustion so that no burner quarl is required. The burner length can be adjusted perfectly to the furnace wall thickness using the burner extension.







4 Function

The burner control unit opens the gas and air control valves. Gas flows through the gas connection flange and air flows through the burner housing as far as the nozzle-mixing burner head.

The combustible gas/air mixture is produced downstream of the burner head. Slots and holes in the air disc vary the angel of twist of the combustion air and determine the flame shape. Depending on the gas type, the geometry of the gas nozzle varies.

The gas/air mixture is electrically ignited directly by an ignition electrode or an ignition lance. A flame forms which is monitored using an ionization electrode or optionally using a UV sensor.

The required flame velocity and burner capacity are achieved from the burner being combined with an appropriately shaped ceramic tube.

5 Selection

5.1 Burner type

Type	Housing	Air temperature [°C]	Furnace temperature [°C]
BIC	Cast steel	20 – 450	50 – 1450*
BICA	AlSi	20 – 200	50 – 1450
ZIC	St	20 – 450	50 – 1450*

** For higher temperatures, special burner and TSC versions are available on request.*

5.2 Burner size

Burner size	Available with capacity [kW]
BIC 50	15, 30, 35
BIC, BICA 65	10, 25, 50, 60, 70
BIC 80	90, 105, 120
BIC 100	160, 180
BIC 125	200, 230, 260
BIC 140	270, 320, 360
ZIC 165	630
ZIC 200	1000

5.3 Burner head

The choice of burner head depends on the **flame shape**, **gas type** and **variant**.

Flame shape	Code letter	Flame temperature[1] [°C]	Control range	Low fire λ	λ[2]	Furnace temperature [°C]	Air temperature[3] [°C]
Short	R	1600	1:10	> 1.05	0.8 – 1.3	50 – 1350	20 – 150[4]
Long	H	1500	1:10	> 1.3	0.8 – 1.5	500 – 1600[5]	20 – 450

1) Mean temperature for natural gas, λ = 1.05.
2) For exact values for the respective burner version see burner diagrams at www.docuthek.com, Kind of document: Operating characteristic diagram.
3) The gas flow rate should be reduced in accordance with the enthalpy gain of the preheated combustion air.
4) Higher temperatures available on request.
5) For temperatures > 1450°C the control range is restricted and a special TSC material is required.

Gas type	Code letter	Calorific value range [kWh/m³(n)]	Density ρ [kg/m³]
Natural gas L and H quality	B	8–12	0.7–0.9
Propane, propane/butane, butane	M	25–35	2.0–2.7
Propane, propane/butane, butane	G[1]	25–35	2.0–2.7
Town gas, coke oven gas	D	4–5	0.4–0.6
Low calorific value gas	L[2]	1.7[3]–3	0.9–1.15

1) λ < 0.9 or for BIC 50.
2) Available as from burner size 65. Burner capacity is limited to 50% of the rated capacity.
3) Calorific value range < 1.7 on request.

Variant	Code letter	Capacity [kW]
Ignition lance	L	approx. 1.5
Reduced max. connection rating	R	–

5.4 Ceramic tube set TSC made of SiC

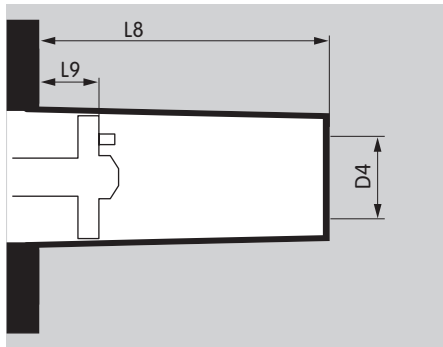
Burner size	Burner capacity [kW]	Shape	Outlet dia. D4** [mm]	Length L8** [mm]			Position of burner head L9** [mm]	
				200	250	300	35	135
50*	15	B	20	–	–	●	–	○
50	30	B	28	–	–	●	●	–
50	35	A	35	–	–	●	●	–
65/50*	10	B	20	●	–	–	●	–
65/50*	25	B	25	●	–	–	●	–
65	50	B	33	●	–	●	●	–
65	50	B	33	–	–	○	–	○
65	60	B	40	●	–	●	●	–
65	60	B	40	–	–	○	–	○
65	70	A	48	●	–	●	●	–
65	70	A	48	–	–	○	–	○
80	90	B	40	–	●	–	●	–
80	105	B	50	–	●	–	●	–
80	120	A	64	–	●	–	●	–
100	160	B	65	–	○	–	●	–
100	160	B	65	–	–	●	●	–
100	180	A	82	–	○	●	●	–
125	200	B	66	–	–	●	●	–
125	230	B	75	–	–	●	●	–
125	260	A	100	–	–	●	●	–
140	270	B	70	–	–	●	●	–
140	320	B	85	–	–	●	●	–
140	360	A	120	–	–	●	●	–
165	630	A	154	–	–	●	●	–
200	1000	A	180	–	–	●	●	–

● = standard, ○ = available

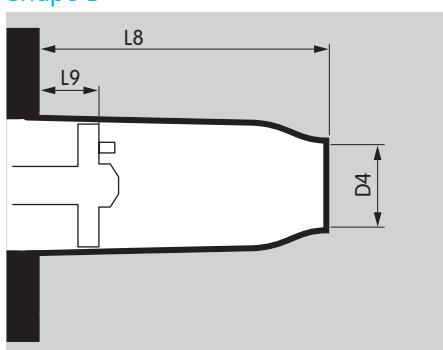
* *Burner with reduced capacity.*

** *Required length – see page 15 (Burner length).*

Shape A



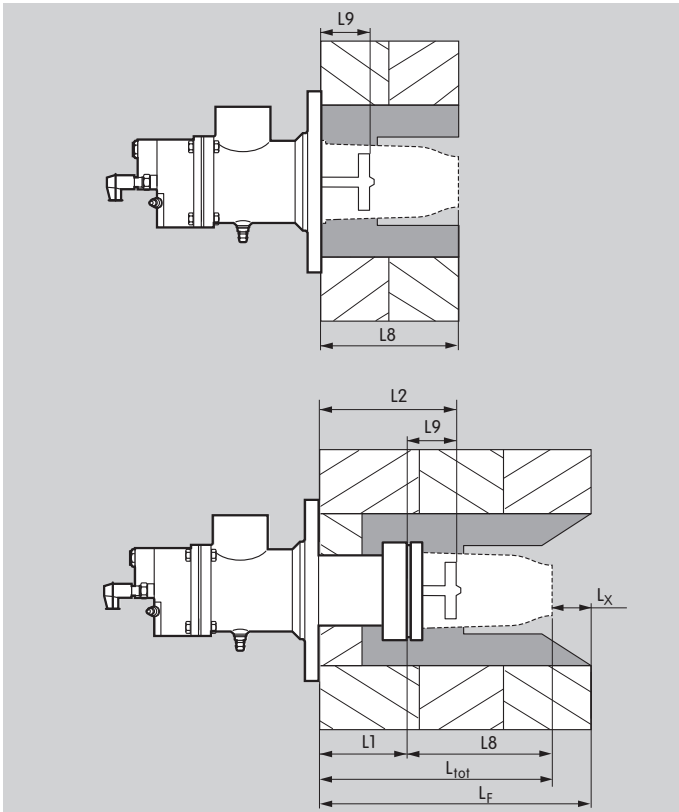
Shape B



5.4.1 SiC material

Material	Air temperature [°C]	Burner head code letter	Furnace temperature [°C]	Max. material temp. [°C]
Si-1500	< 150	R	< 1450*	1500
	≤ 450	H	< 1450*	1500

** Furnace temperatures up to 1600°C available on request.*



Legend

L1 = Length of steel extension
L2 = Position of burner head
L8 = Length of TSC tube
L9 = Position of burner head in TSC tube
L_F = Furnace wall thickness
L_X ≤ 50 mm
L_{tot} = Total length (L_F - L_X)

5.5 Burner length

The burner length is to be selected so as to ensure that the opening of the TSC tube is flush with the interior furnace wall (L_X = 0). The opening may not retreat more than 50 mm from the surface of the interior furnace wall (L_X ≤ 50 mm). Provided that mechanical damage to the TSC tube can be excluded (due to moving parts in the furnace, for example), the TSC tube may also protrude into the furnace chamber. The burner head should always be surrounded by the furnace insulation. The shortest burner installation length is equal to the length of the ceramic tube. It can be extended with steel extensions in increments of 100 mm.

Calculating the steel extension

Length of TSC tube (L8):
L8 = 200, 250, 300 mm
(see page 13 (Ceramic tube set TSC made of SiC))

Length of steel extension [mm]:
(available in lengths: 100, 200, 300, 400 mm, longer versions on request)
$L1 = L_F - (L8 + L_X)$.

Example:
L_F = 420 mm,
L8 = 300 mm.
Required burner extension:
$L1 = 420\ mm - (300\ mm + L_X)$,
$L1 = 120\ mm - L_X$.
Selected length of steel extension:
L1 = 100 mm.
L_X = 20 mm.
Position of burner head:
L2 = L1 + L9 (standard: L9 = 35 mm)

5.6 Burner selection table

	50	65	80	100	125	140	165	200	R	H	B	G*	M	L	D	L	R	-0 ...	/35-...	(1)-(99)	A-F
BIC	●	●	●	●	●	●	●	●	●	●	●	○	●	○	●	○	○	●	●	●	●
BICA	–	●	–	–	–	–	–	–	●	●	●	○	●	○	●	○	○	●	●	●	●
ZIC	–	–	–	–	–	–	●	●	●	●	●	–	●	○	●	–	–	●	●	●	●

● = *standard*, ○ = *available*

** Available for BIC 50.*

Order example

BIC 80HB-0/35-(16)F

5.6.1 Burner type code

Code	Description
BIC BICA ZIC	Burner for gas Burner for gas with aluminium housing Burner for gas
50 – 200	Burner size
R H	Flame shape: short long
B G M L D	Gas type: natural gas butane, propane, propane/butane butane, propane, propane/butane low calorific value gas town gas, coke oven gas
L R	Ignition lance Reduced max. connection rating
-0 -100 -200 …	Length of burner extension (L1) [mm]
/35- /135- /235- …	Position of burner head (L2) [mm]
(1) – (99)	Burner head identifier
A – F	Construction stage

5.7 Ceramic tube set TSC selection table

	50	65	80	100	125	140	165	200	A	B	020…	–200	–250	–300	/35–	/135–	Si-1500
TSC	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	○	●

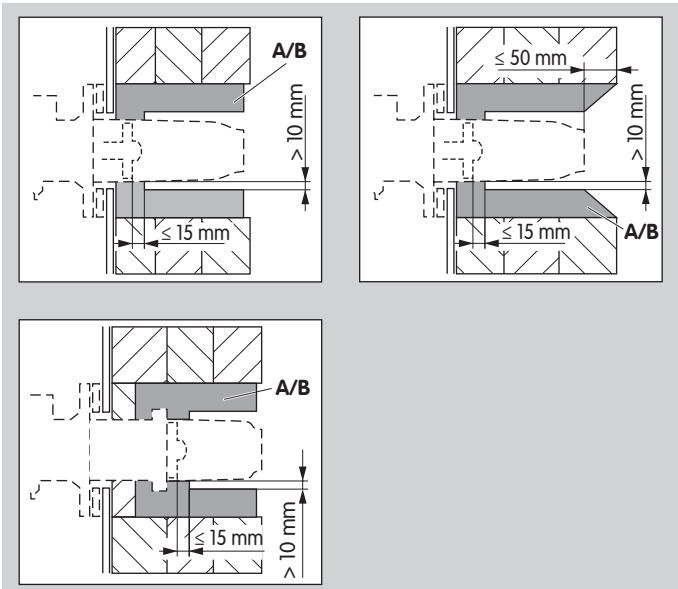
● = *standard*, ○ = *available*

Order example

TSC 80B040–250/35–Si-1500

5.7.1 Ceramic tube set TSC type code

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



6 Project planning information

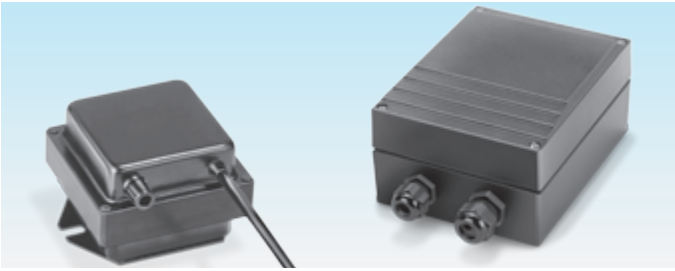
6.1 Installation

Installation position: any.

Gas and air connection: can be rotated in 90° steps. Install flexible tubes or bellows units to prevent mechanical stress or vibrations.

Insulate the TSC tube and the burner extension. Use solid shaped parts **A** or high temperature resistant ceramic fibrous material **B** for insulation. The TSC tube may be insulated to max. 15 mm downstream of the burner head – beyond this point, the insulating material must not come into contact with the TSC tube in the flame formation area. Allow an annular gap of at least 10 mm around the TSC tube.

6.2 Recommended ignition transformer



≥ 7.5 kV, ≥ 12 mA, e.g. TZI 7,5-12/100 or TGI 7,5-12/100.

We recommend an ignition voltage of 5 kV for the ignition lance.

6.3 Non-return gas valve

Non-return gas valves are not required, since the burners are of the nozzle-mixing type.

6.4 Flame control

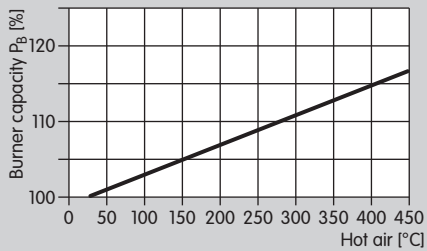
Flame control is performed using an ionization electrode or optionally using a UV sensor, see page 30 (UV sensor).

6.4.1 Burners with ignition lance

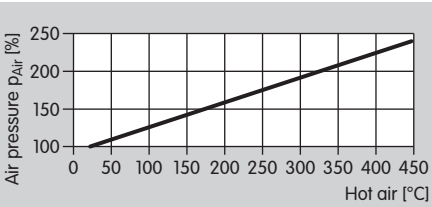
Burners with an integrated ignition lance have two electrodes. One of them is used to ignite and monitor the pilot flame. The other electrode is designed for monitoring the main flame.

6.5 Hot air compensation

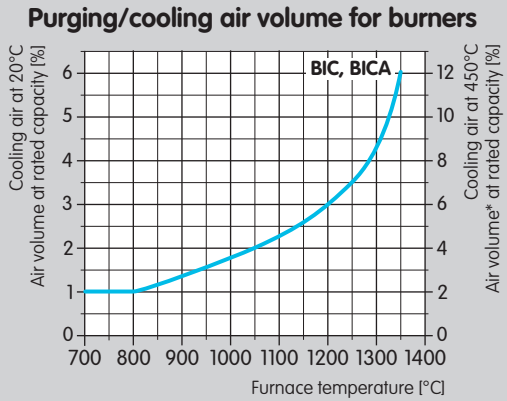
In order to maintain the λ constant in hot-air operating mode, the combustion air pressure is increased. During hot-air operating mode (450°C), the gas pressure is increased by approx. 10 mbar. The total capacity (gas capacity + hot air capacity) should not exceed the maximum possible burner capacity (see also burner operating characteristic diagrams at www.docuthek.com):



The air pressure is increased for a constant λ.



6.6 Purging air/cooling air



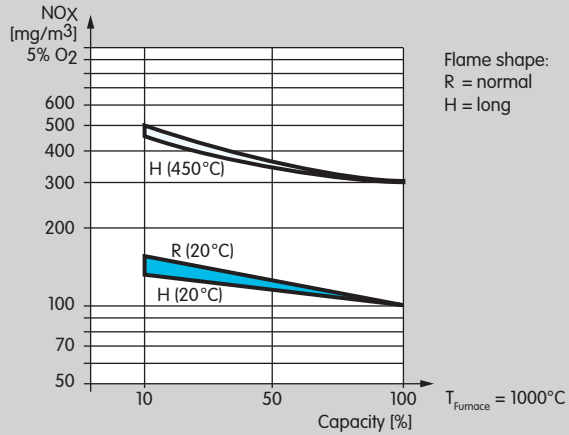
* The cooling air volumes measured in standard cubic metres are converted into percentage values.

While the burner is switched off and depending on the furnace temperature, there must be a certain air flow in order to ensure safe ignition and monitoring of the burners, and for cooling the burner components.

The relative air volume in percentage values, based on the air volume for the rated capacity of the relevant size, is given in the „Purging/cooling air volume for burners" diagram. For hot air, the values on the right-hand axis are based on the standard air volume for the relevant rated capacity.

The air fan must remain switched on until the furnace has cooled down completely.

6.7 Emissions



Emissions for cold-air operating mode do not exceed the limits stipulated by the German Clean Air Directive.

NO_x values depend on the temperature, burner head, combustion chamber, furnace chamber, λ value and capacity (NO_x values on request).

If operated with LPG, NO_x values are approx. 25% higher.

6.8 Gas line connection

To ensure accurate measurements of the pressure differential on the integrated gas measuring orifice for burners BIC/BICA as from construction stage E, the following applies for the design of the gas connection:

– Ensure undisturbed flow to the gas connection on the burner inlet for a distance of ≥ 5 × DN.
– Use a bellows unit with the same nominal dimensions as the gas connection on the burner.
– Use a pipe bend up to an angle of 90° with the same nominal dimensions as the gas connection on the burner.
– Only use reducing nipples with an external thread at both ends in order to reduce the nominal diameter on the burner (e.g. from 1" to ¾").

To ensure optimum flow and to avoid incorrect measurements and burner operation with excess gas, we recommend the following:

– Do not screw the manual valve directly into the burner.

6.9 Air line connection

Ensure there is a bellows unit and an air adjusting cock upstream of the burner. It is recommended to install a measuring orifice FLS to determine the air flow rate.

6.10 Condition on delivery

Gas and air connections are fitted opposite one another at the factory.

6.11 Intermittent operation

Note the opening and closing times of the control elements when determining the cycle times. Unnecessarily high numbers of operating cycles should be avoided.

6.12 Build up of noise

The volume of a burner in the open air is approx. 95 dBA at a distance of 1 m from the burner tube end (measured at an angle of < 45° to the flame).

If the burner is inserted into a furnace, the volume is greatly reduced by the furnace insulation (in the case of a 300 mm fibre lining, the volume is approx. 75 dBA).

7 Technical data

Burner	Ceramic tube	Rated capacity [kW]	Code letter/ flame shape	Visible flame length[1] [cm]	Flame velocity[2] [m/s]
BIC 50	B020	15	H..R[3]	15	100
BIC 50	B028	30	R	16	110
BIC 50	B028	30	H	20	100
BIC 50	A035	35	R	20	80
BIC 50	A035	35	H	24	75
BIC(A) 65	B020	10	H..R[3]	22	65
BIC(A) 65	B025	25	H..R[3]	22	95
BIC(A) 65	B033	50	R	22	130
BIC(A) 65	B033	50	H	27	120
BIC(A) 65	B040	60	R	25	105
BIC(A) 65	B040	60	H	33	100
BIC(A) 65	A048	70	R	30	85
BIC(A) 65	A048	70	H	40	80
BIC 80	B040	90	R	35	155
BIC 80	B040	90	H	45	150
BIC 80	B050	105	R	40	120
BIC 80	B050	105	H	50	110
BIC 80	A064	120	R	45	80
BIC 80	A064	120	H	60	70
BIC 100	B065	160	R	45	105
BIC 100	B065	160	H	60	100

Burner	Ceramic tube	Rated capacity [kW]	Code letter/ flame shape	Visible flame length[1] [cm]	Flame velocity[2] [m/s]
BIC 100	A082	180	R	50	75
BIC 100	A082	180	H	65	70
BIC 125	B066	200	R	50	130
BIC 125	B066	200	H	70	120
BIC 125	B075	230	R	60	115
BIC 125	B075	230	H	80	110
BIC 125	A100	260	R	70	75
BIC 125	A100	260	H	100	70
BIC 140	B070	270	R	40	155
BIC 140	B070	270	H	60	145
BIC 140	B085	320	R	60	125
BIC 140	B085	320	H	80	120
BIC 140	A120	360	R	80	70
BIC 140	A120	360	H	90	65
ZIC 165	A154	630	R	100	70
ZIC 165	A154	630	H	160	65
ZIC 200	A180	1000	R	130	85
ZIC 200	A180	1000	H	200	80

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.
3) Burner with reduced capacity.

Gas supply pressure: approx. 20 to 50 mbar,
air supply pressure: approx 25 to 40 mbar,
each depending on flame shape and gas type
(gas and air pressures – see burner diagrams at
www.docuthek.com, Kind of document: Flow rate curve).

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

Gas types: natural gas, LPG (gaseous) and coke oven gas;
other gases on request.

Control type:
staged: On/Off, High/Low/Off,
continuous: constant λ value.

Flame control: with ionization electrode (UV control as an
option).

Ignition: direct, electrical; lance as an option.

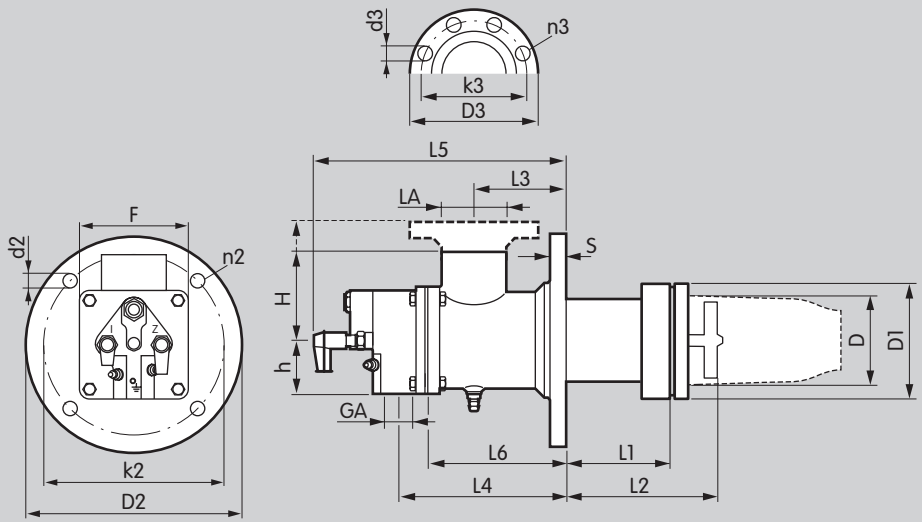
Burner housing:
BIC: cast steel,
BICA: AlSi,
ZIC: St.
Most of the burner components are made of corrosion-
resistant stainless steel.

Max. furnace temperature: 1450°C (higher temperatures on
request).

Hot air:
BIC and ZIC up to 450°C,
BICA up to 200°C.

Flame outlet velocity:
medium to high.

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



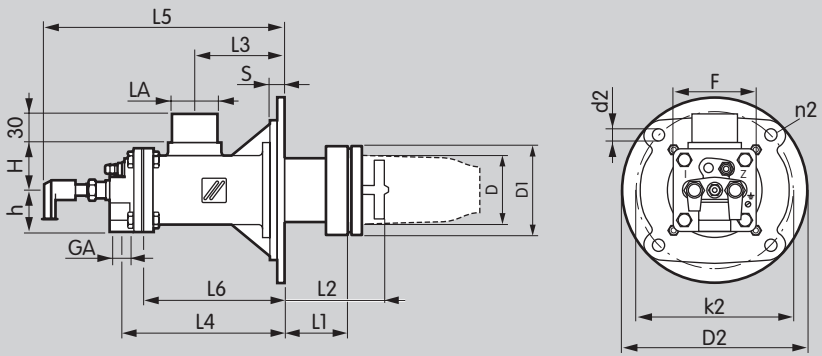
BIC

Standard: L1 = 100, 200, 300, 400 mm and L2 = L1 + 35 mm, see page 15 (Burner length)

7.1 Dimensions

7.1.1 BIC

Type	Connections		Dimensions [mm]																No. of drillings		Weight
	Gas	Air																			
	GA	LA	D	D1	H	h	S	L3	L4	L5	L6	D2	k2	d2	F	D3	k3	d3	n2	n3	[kg]
BIC 50	Rp ½	Rp 1½	55	75	50	38	12	73	149	240	127	181	151	12	75	–	–	–	4	–	5
BIC 65	Rp ¾	Rp 1½	69	90	62	48	12	73	156	246	127	195	165	12	95	–	–	–	4	–	6.6
BIC 80	Rp ¾	Rp 2	86	114	112	55	14	90	172	272	140	240	210	14	110	–	–	–	4	–	10.7
BIC 100	Rp 1	Rp 2	104	125	100	60	16	103	185	285	153	240	200	14	120	–	–	–	4	–	11.7
BIC 125	Rp 1½	DN 65	127	155	135	73	16	120	251	350	212	270	240	14	145	185	145	18	4	4	19.7
BIC 140	Rp 1½	DN 80	142	168	150	80	18	130	271	381	232	300	265	14	160	200	160	18	4	8	26.7

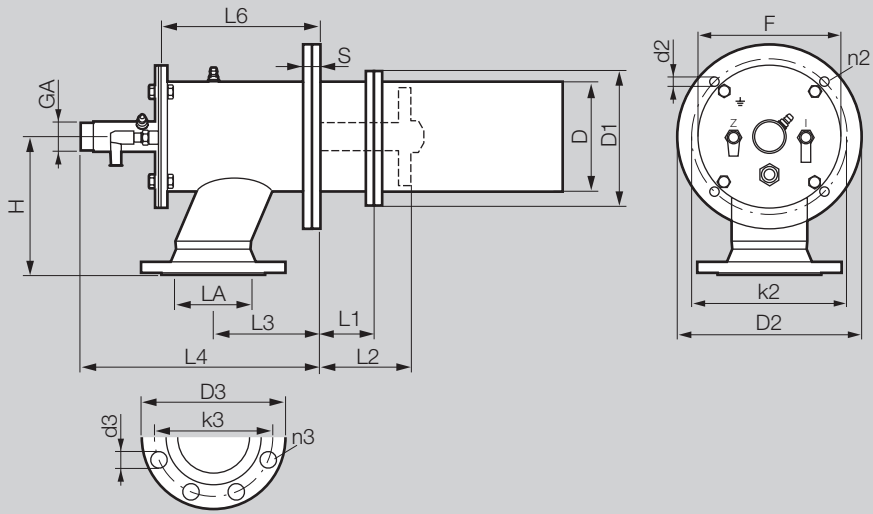


BICA

Standard: L1 = 100, 200, 300, 400 mm and L2 = L1 + 35 mm, see page 15 (Burner length)

7.1.2 BICA

Type	Connections		Dimensions [mm]																No. of drillings		Weight
	Gas	Air																			
	GA	LA	D	D1	H	h	S	L3	L4	L5	L6	D2	k2	d2	F	D3	k3	d3	n2	n3	[kg]
BICA 65	Rp ½	∅ 48	69	90	80	44	16	95	170	261	149	195	165	13	88	–	–	–	4	–	2.7



ZIC

Standard: L1 = 100, 200, 300, 400 mm and L2 = L1 + 35 mm, see page 15 (Burner length)

7.1.3 ZIC

Type	Connections		Dimensions [mm]														No. of drillings		Weight
	Gas	Air																	
	GA	LA	D	D1	H	S	L3	L4	L6	D2	k2	d2	F	D3	k3	d3	n2	n3	[kg]
ZIC 165	R 1½	DN 100	171	202	213	20	150	359	230	285	240	14	∅ 220	220	180	18	4	8	23
ZIC 200	R 2	DN 150	197	237	220	20	220	469	340	330	295	22	∅ 255	285	240	22	8	8	34.6

7.2 Ignition lance

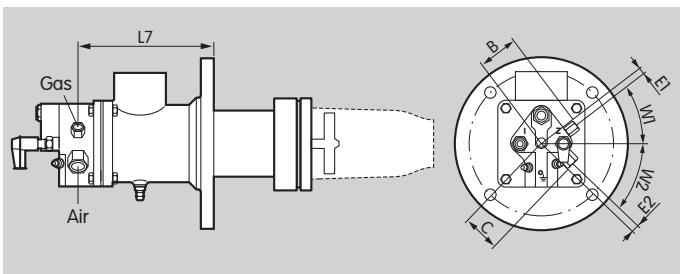
BIC

Gas connection: Rp 1/4.

Air connection: Rp 3/8

Gas pressure: 30 – 50 mbar.

Air pressure: 30 – 50 mbar.



Burner	Gas connection	Air connection	Dimensions				
	B	C	E1	E2	L7	W1	W2
	mm	mm	mm	mm	mm	∠ °	∠ °
BIC 80..L	57	54	7	10	177	36	45
BIC 100..L	57	54	7	10	190	36	45
BIC 125..L	69	65	8	8	261	30	30
BIC 140..L	63	62	16	18	276	42	45

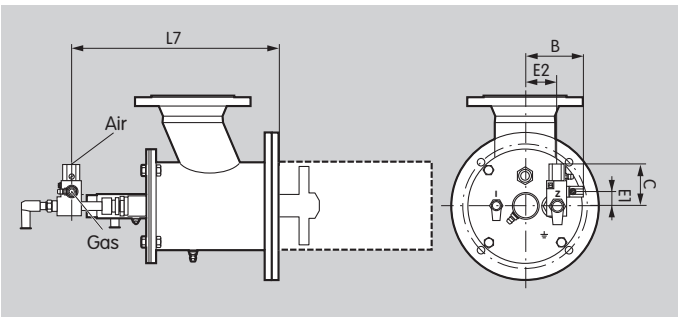
ZIC

Gas connection: Rp 1/4.

Air connection: Rp 1/2.

Gas pressure: 30 – 50 mbar.

Air pressure: 30 – 50 mbar.



Burner	Gas connection	Air connection	Dimensions		
	B	C	E1	E2	L7
	mm	mm	mm	mm	mm
ZIC 165..L	118	77	27	71	382
ZIC 200..L	137	77	27	89	482

8 Maintenance cycles

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

9 Accessories

9.1 Adapter set

For connecting BIC and BICA burners to NPT/ANSI connections.

Burner	Adapter set	Gas connection	Air connection	Order No.
BIC 50	BR 50 NPT	½ – 14 NPT	1½ – 11.5 NPT	74922630
BIC 65	BR 65 NPT	¾ – 14 NPT	1½ – 11.5 NPT	74922631
BICA 65*	–	½ – 14 NPT	∅ 1.89"	75456281
BIC 80	BR 80 NPT	¾ – 14 NPT	2 – 11.5 NPT	74922632
BIC 100	BR 100 NPT	1 – 11.5 NPT	2 – 11.5 NPT	74922633
BIC 125	BR 125 NPT	1½ – 11.5 NPT	∅ 2.94"	74922634
BIC 140	BR 140 NPT	1½ – 11.5 NPT	∅ 3.57"	74922635

** An NPT thread adapter is required for connection to the gas circuit only.*

9.1.1 Nozzle set BR 65-140

The nozzle set with NPT thread is required for integrated ignition lances.

Gas type	Order No.
Natural gas	74922638
LPG	74922639

9.2 Ceramic paste

For avoiding cold-setting on screw connections after replacing burner components.

Order number: 050120009.

9.3 UV sensor

UVS 10 *UVD*

For monitoring gas burners in conjunction with flame detectors or automatic burner control units.

An installation set is required for installation on a burner BIC, BICA or ZIC.

UVS 10: with quartz glass heat guard,
UVD: for continuous operation, in aluminium housing with socket, 24 V supply voltage.

UV sensor and installation set supplied on request.

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

(Adobe Reader 7 or higher required)

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