

Segmented flame tube SICAFLEX®

Technical Information · GB

7 Edition 11.15

- Simple installation, even in existing radiant tube systems
- Flame tubes can be made to any length by combining individual flame tube segments
- Patented flame tube segment design allows flame tube to be bent
- Reduced strain on radiant tubes due to light-weight design
- Long service life due to ceramic material SiSiC which is resistant to high temperatures



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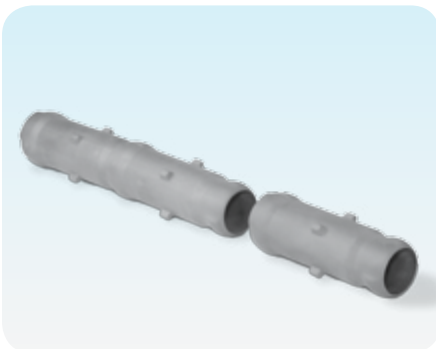
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1 Application

SICAFLEX® segmented flame tubes are used to guide hot flue gases in single-ended radiant tubes in conjunction with a self recuperative burner. The SICAFLEX® segmented flame tubes are interconnected using a bayonet joint. This connection allows for adjustment to flexures in metal radiant tubes, and slits in the flame tube from the dislocation of flame tube parts are avoided. The low weight of the SICAFLEX® segmented flame tubes places very little strain on the radiant tube.

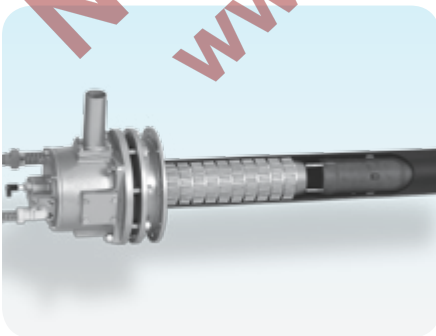
The segments can be interconnected to make a flame tube of any length.



The bayonet joint of the individual segments allows adjustment to bent radiant tubes.

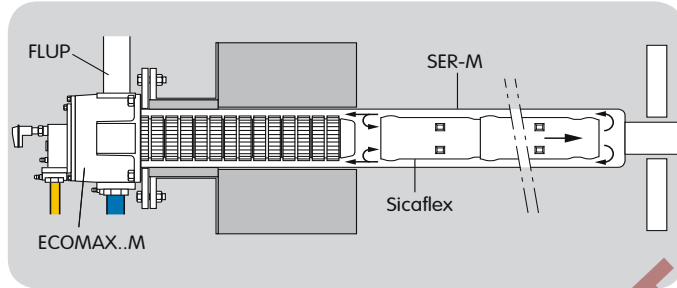


SICAFLEX® in radiant tube on self recuperative burner ECOMAX



1.1 Examples of application

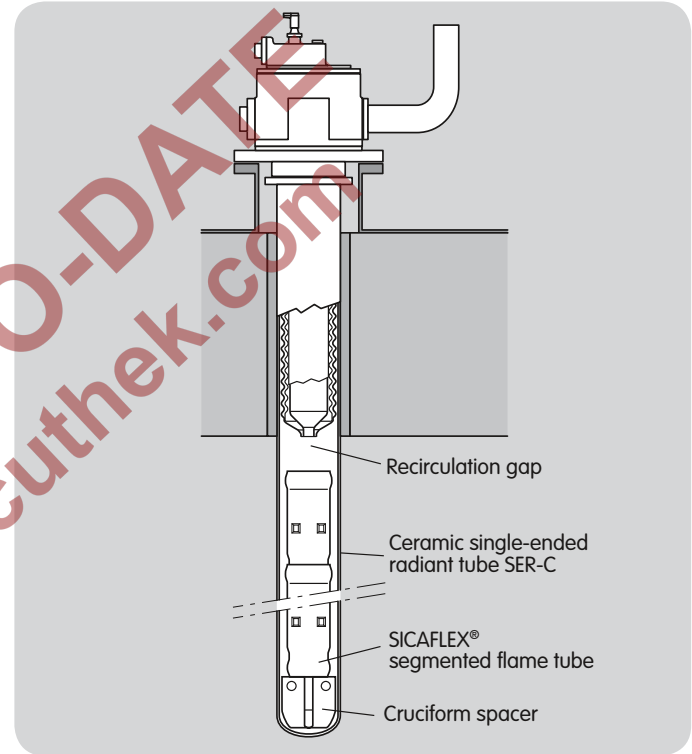
1.1.1 SICAFLEX® in horizontally fitted single-ended radiant tubes



The SICAFLEX® segmented flame tube is fitted inside the single-ended radiant tube to guide the hot flue gases.

The hot flue gases from the burner are routed through the internal SICAFLEX® segmented flame tube. The high outlet velocity of the combustion gases generates a pressure at the outlet of the ceramic burner tube, resulting in the recirculation of the flue gases between the segmented flame tube and the radiant tube. This results in a uniform radiant tube temperature and reduces the formation of NO_x in the flame.

1.1.2 SICAFLEX® in vertically fitted single-ended radiant tubes



In vertically fitted single-ended radiant tubes, a cruciform spacer ensures optimum sizing of the recirculation gap between the segmented flame tube and the burner, see page 8 (Cruciform spacer).

2 Selection

The dimensions of the SICAFLEX® segmented flame tube are adapted to the dimensions of the ceramic radiant tube SER-C as well as standard metallic radiant tubes.

Standard combinations

Radiant tube	Segmented flame tube	Burner
SER-C 100/088	SICAFLEX 100/088/084	ECOMAX 0C
SER-C 142/128	SICAFLEX 142/127/123	ECOMAX 1C
SER-C 162/148	SICAFLEX 162/147/143	ECOMAX 2C
SER-C 202/188	SICAFLEX 202/186/182	ECOMAX 3C

2.1 Selection table

	-300	-250	-200	-150	F	M	D	Z
SICAFLEX 100/088/084	●	○	○		○	○	○	○
SICAFLEX 142/127/123	●	○	○	○	○	○	○	○
SICAFLEX 152/133/129	●	○	○		○	○	○	○
SICAFLEX 162/147/143	●	○	○	○	○	○	○	○
SICAFLEX 175/157/153	●	○	○		○	○	○	○
SICAFLEX 202/186/182	●	○	○	○	○	○	○	○
SICAFLEX 300/280/275	●	○	○		○	○	○	○

● = standard, ○ = available; other combinations on request

Order example

SICAFLEX 142/127/123-250M

SICAFLEX...-300



SICAFLEX...-250F



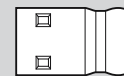
SICAFLEX...-250M



SICAFLEX...-200F



SICAFLEX...-200M



SICAFLEX...-150F



SICAFLEX...-150M

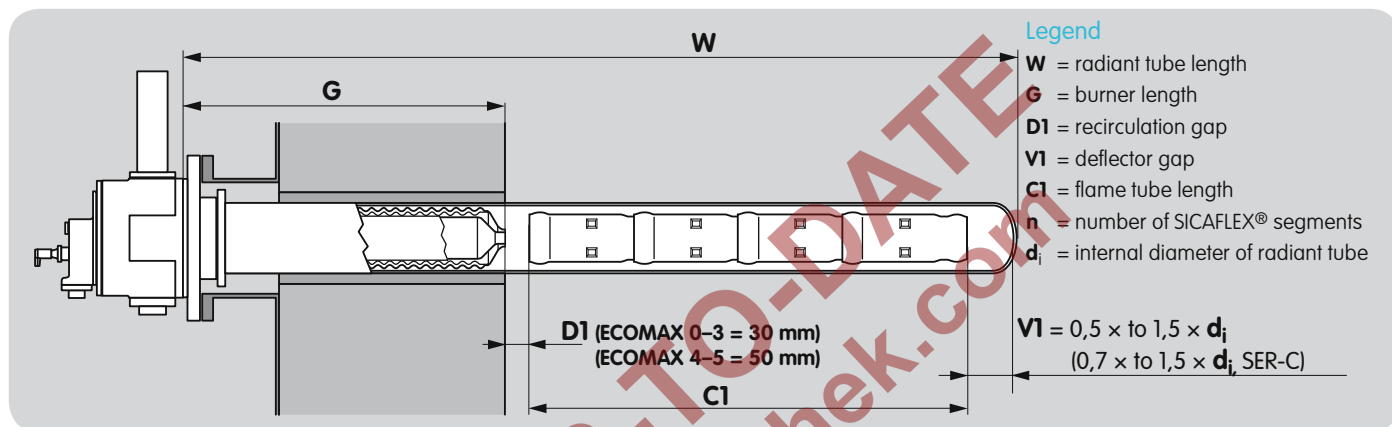


2.2 Type code

Code	Description
SICAFLEX	Segmented flame tube
	Size [mm]
100	100
142	142
152	152
162	162
175	175
202	202
300	300
	Min. internal radiant tube dia. [mm]]
/088	88
/127	127
/133	133
/147	147
/157	157
/186	186
/280	280
	External SICAFLEX® dia. [mm]
/084	84 (± 1)
/123	123 (± 1)
/129	129 (± 1)
/143	143 (± 1)
/153	153 (± 1)
/182	182 (± 1)
/275	275 (+1/-3.5)
	Length [mm]
-300	300
-250	250
-250	200
-150	150
F	Narrow end cut off
M	Wide end cut off
-	
D	SICAFLEX® external diameter different from standard
Z	Special version*

* Further information on request.

4 Project planning information



4.1 Flame tube length

The individual SICAFLUX® segments are interconnected using bayonet joints. To avoid short-circuiting, the wide ends of the segments must be facing the burner.

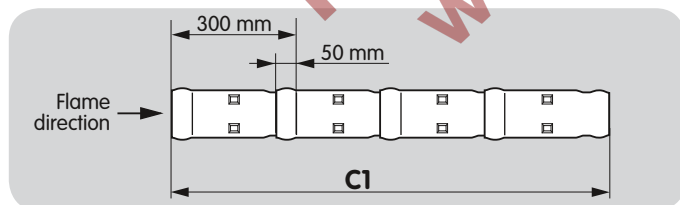
Flame tube length **C1** is the result of radiant tube length **W** minus burner length **G**, recirculation gap **D1** and deflector gap **V1**.

Calculation

$$C1 = W - G - D1 - V1$$

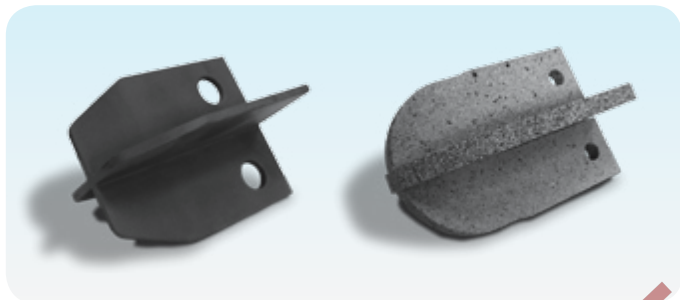
When using standard elements (300 mm), a flame tube length **C1** of $n \times 250 \text{ mm} + 50 \text{ mm}$ is possible. Other lengths are possible in 50 mm increments using shortened segments, see page 9 (Dimensions).

The deflector gap **V1** should equal 0.5 to 1.5 times the internal diameter d_i of the radiant tube. When using radiant tube SER-C, the size of the deflector gap **V1** should equal 0.7 to 1.5 times the internal diameter d_i of the radiant tube.



5 Accessories

5.1 Cruciform spacer



For installation of the SICAFLEX® segmented flame tube in vertical radiant tubes, see page 4 (SICAFLEX® in vertically fitted single-ended radiant tubes).

Material: refractory clay.

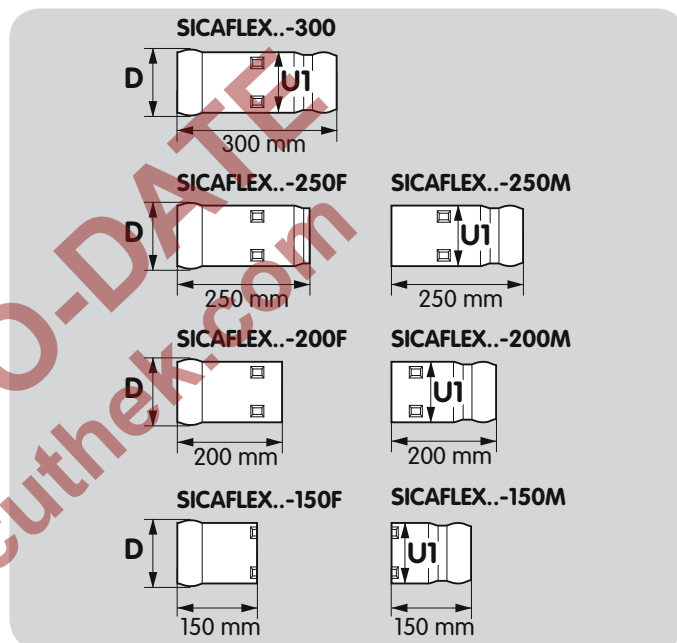
Available on request in different sizes depending on the SICAFLEX® sizes and different heights.

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6 Technical data

Material: SiSiC, max. application temperature: 1350°C.

Dimensions



	Ø D [mm]	Ø U1 [mm]	Weight* [kg]
SICAFLEX 100/88/84	84 (± 1)	67	0.7
SICAFLEX 142/127/123	123 (± 1)	98	1.1
SICAFLEX 152/133/129	129 (± 1)	108	1.2
SICAFLEX 162/147/143	143 (± 1)	114	1.3
SICAFLEX 175/157/153	153 (± 1)	121	1.5
SICAFLEX 202/186/182	182 (± 1)	143	1.8
SICAFLEX 300/280/275	275 (-1/+3.5)	208	3.0

* SICAFLEX...-300

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.

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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

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