Low calorific value gas burner SCLC

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CHARACTERISTICS

- SCLC series burners are forced air supply burner which are used for low calorific value gas.
- Capacity range: 100～1000 kW, optional.
- Non-premixing burner, air and gas are supplied separately. No flareback.
- Used with burner block. The Max. outlet velocity is 150 m/s. Turndown ratio: 1:10.
- Fuel: low calorific value gas such as producer gas and mixed gas.

APPLICATIONS

Low calorific value gas burner SCLC is suitable for directly heated heat treatment furnace or heating furnace with a maximum furnace temperature of 1350 °C and a maximum air preheating temperature of 450 °C. It is widely used in a variety of industrial furnaces such as trolley furnace, chamber furnace, step furnace, pusher furnace and roller hearth furnace.

CONFIGURATION

- The SCLC is composed of gas system, air housing and air guide tube.
- Electrode flame detection is available for the burner SCLC whose rated capacity is in the range of 100~200kW, and the rest specifications can only use UV senor for flame detection.
- The orifice plate has been installed on SCLC 100～200 by default, while needs to be ordered and installed separately on the rest specifications.

SPECIFICATION

Flame parameters

Capacity/kW	Flame length/mm	Flame diameter/mm	Flame velocity/ $m \cdot s^{-1}$
100	600~800	60~110	66~85
200	800~1400	75~150	60~90
400	900~1600	130~200	70~110
600	1200~1800	150~240	60~100
800	1500~2000	180~270	75~110
1000	1600~2200	188~300	75~110

The combustion air is not preheated, and the visible flame length and diameter are related to ambient brightness. The date above is only for reference.

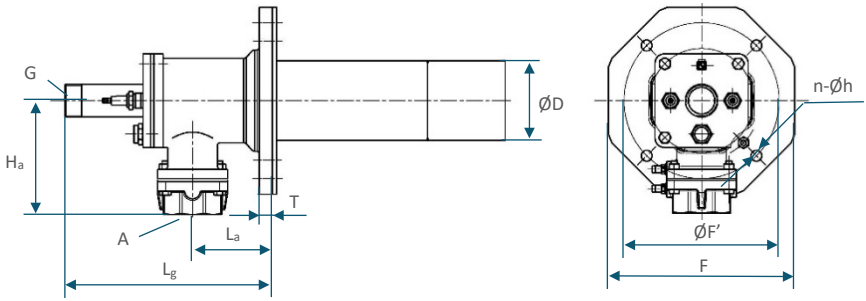
Type table

Type						SCLC	600	M	-200	/135
Capacity/kW	100	200	400	600	800	1000				
Fuel*	M: Mixed gas			ZE: Producer gas						
Burner tube length/mm	100	150	200	100+50n						
Burner core length/mm	35	85	135	35+50n						

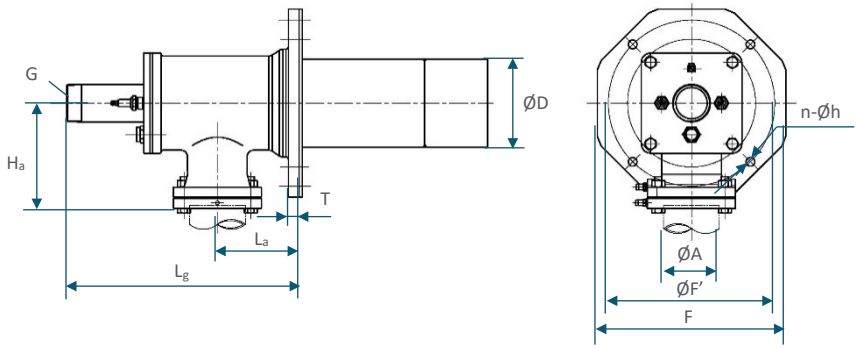
**Mixed gas: 1600~2400kcal\m³; producer gas: 1200~1500kcal\m³.*

Dimensions

SCLC 100 M/ZE



SCLC 200 M/ZE

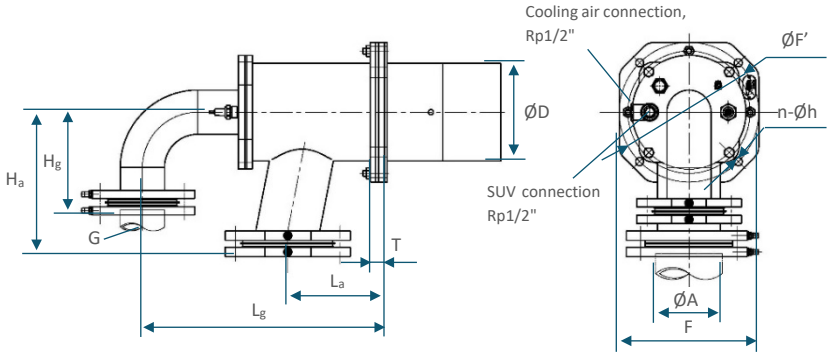


Type	Capacity/kW	A/mm	G	D*/mm	H_a/mm	L_a/mm
100M	100	Rp2"	R1 1/4"	102	144	103
100ZE	100	Rp2"	R1 1/4"	102	144	103
200M	200	89	R1 1/2"	140	168	130
200ZE	200	89	R2"	140	168	130

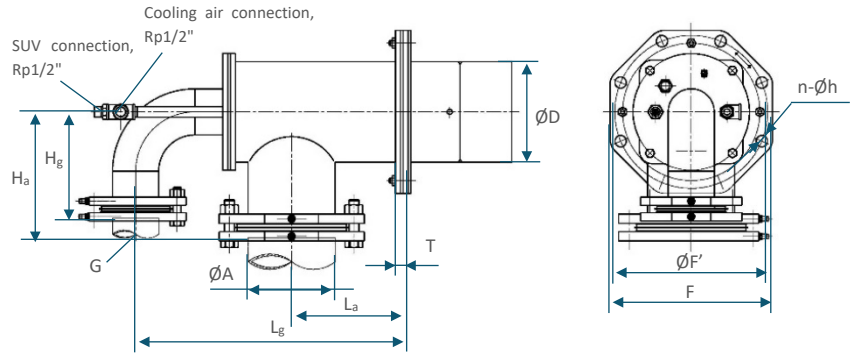
Type	L_g/mm	F/mm	F'/mm	T/mm	h/mm	n
100M	268	240	200	17	14	4
100ZE	268	240	200	17	14	4
200M	370	300	265	17	14	4
200ZE	370	300	265	17	14	4

** The outer diameter of the burner tube including welding seam thickness is D+5 mm.*

SCLC 400 M/ZE



SCLC 600M and SCLC 800M

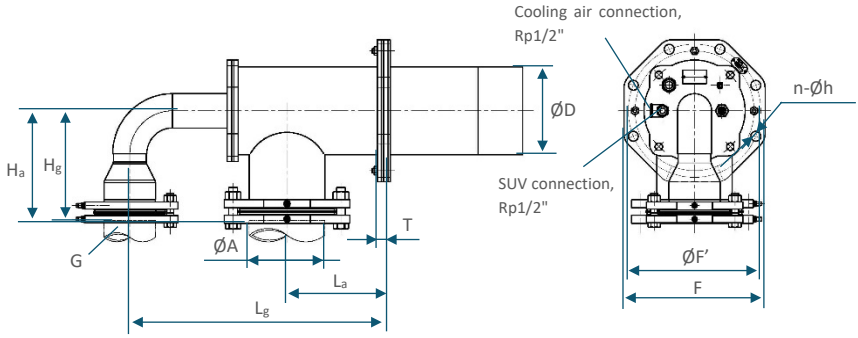


Type	Capacity/kW	A/mm	G/mm	D*/mm	H_a/mm	H_g/mm	L_a/mm
400M	400	114	76	168	248	210	166
400ZE	400	114	89	168	248	210	166
600M	600	168	89	194	249	210	225
800M	800	168	89	194	249	210	225

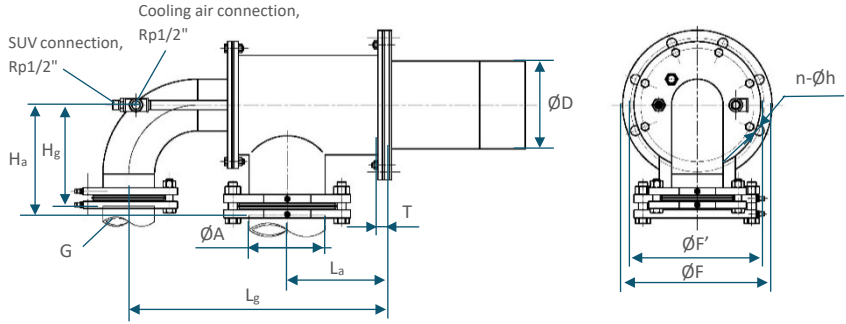
Type	L_g/mm	F/mm	F'/mm	T/mm	h/mm	n
400M	416	240	240	24	14	4
400ZE	416	240	240	24	14	4
600M	526	314	295	24	22	8
800M	526	314	295	24	22	8

** The outer diameter of the burner tube including welding seam thickness is D+5 mm.*

SCLC 600ZE



SCLC 800ZE and SCLC 1000M/ZE



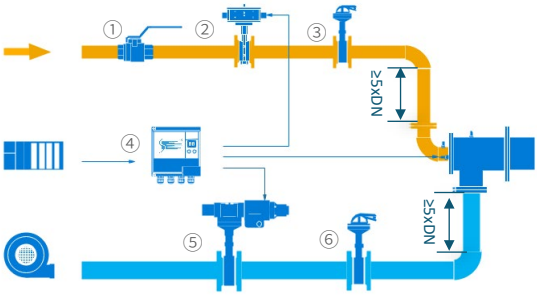
Type	Capac-ity/kW	A/mm	G/mm	D*/mm	H_a/mm	H_g/mm	L_a/mm
600ZE	600	168	114	194	249	248	225
800ZE	800	168	114	194	249	228	225
1000M	1000	168	114	194	249	228	225
1000ZE	1000	219	140	238	304	272	285

Type	L_g/mm	F/mm	F'/mm	T/mm	h/mm	n
600ZE	575	314	295	24	22	8
800ZE	575	330	295	25	22	8
1000M	575	330	295	25	22	8
1000ZE	735	395	350	25	23	8

** The outer diameter of the burner tube including welding seam thickness is D+5 mm.*

SOLUTIONS

Continuous control



① Gas manual shut-off valve

② Gas pneumatic butterfly valve

③ Gas butterfly valve SKGH

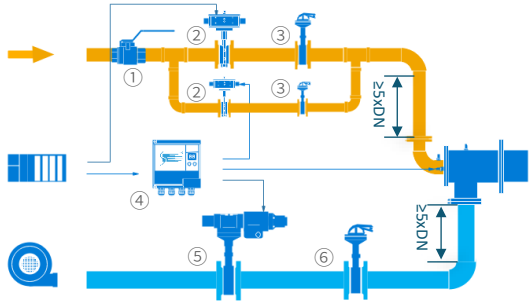
④ Burner control unit SCU 3.1

⑤ Air pulse butterfly valve MC+HTB

⑥ Air butterfly valve SKAH

- Double-cross limit flow control, the gas and air flow can be adjusted by the flow control valves on the regional gas and air main pipeline.
- If the on/off control of the air branch line can be realized by the shut-off valve on the regional air main pipeline, the air pulse butterfly valve MC+HTB is not necessary.

Pulse control



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⑤ Air pulse butterfly valve MC+HTB

⑥ Air butterfly valve SKAH

- High/low pulse control. Two gas branch line: open one gas pneumatic valve for low capacity, two for high capacity.

INSTALLATION

- To ensure the measuring accuracy, the length of straight pipe section in front of the air inlet and the gas inlet should be longer than 5*DN without other resistance elements.
- Before the pipe is connected to the burner, it must be purged to prevent welding slag or other debris from entering the burner and affecting the normal operation of the burner.
- If a pipe welding is required after the connection between burner and pipeline, ensure that there is no welding slag or molten substance falls into the pipe or the burner.

OPERATION

Attention

- If the burner needs to be shut off during operation, keep the air blower operating to ensure that there is more than 5% of air enters the furnace to prevent the damage caused by furnace chamber hot gas backflow.
- The burner capacity will decrease with the increase of air preheating temperature.

Maintenance

- Checking and cleaning the burner and electrode regularly, at least once every six months.
- Increase the times of maintenance, as appropriate.