

Pulse burner SFID



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CHARACTERISTICS

- Gas burner SFID is a sub-high flame velocity pulse burner. 6 specifications are available within the capacity range of 90~630 kW. The SFID burner which capacity is below 320 kW could be ignited directly at maximum capacity.
- The SFSV adopts a delayed mixing structure to delay the mixing process of air and gas in combustion chamber and reduce flame temperature in combustion chamber, which effectively reduces the generation of NOx.
- The SFID commonly works at maximum capacity. Excess air coefficient: 1.05 ~ 2.
- Fuel: LPG, COG, natural gas and other fuel gas.

APPLICATIONS

The SFID is applicable for heat treatment furnace or heating furnace with chamber temperature below 1300 °C and air preheating temperature below 450 °C. The burner is commonly used in bell-type furnace, step hardening furnace, tempering furnace, roller hearth low temperature tempering furnace, etc.

CONFIGURATION

- The burner is composed of a burner insert, an air housing, an air pipe and a SiC ceramic combustion chamber.
- The burner adopts electrode ignition/detection, which is installed on the burner insert, and a double-flange orifice plate shall be installed in the gas pipelines for the 450 kW/ 630 kW burner.
- A double-flange orifice plate measurement has been installed on the air inlet by default.



SPECIFICATION

Parameters

NOx parameters

The NOx in flue gas is less than 150 mg/m³ (ref. 8% O₂) while chamber temperature is 900 °C and air preheating temperature is below 300 °C.

Flame parameters

Type	Flame outlet diameter(mm)	Flame length (mm)	Flame velocity (m/s)
90	040	500	110
150	065	600	95
230	075	800	90
320	085	800	95
450	140	1500	67
630	156	1600	68

The visible flame length is related to ambient brightness; the flame velocity is measured without air preheated, for reference only.

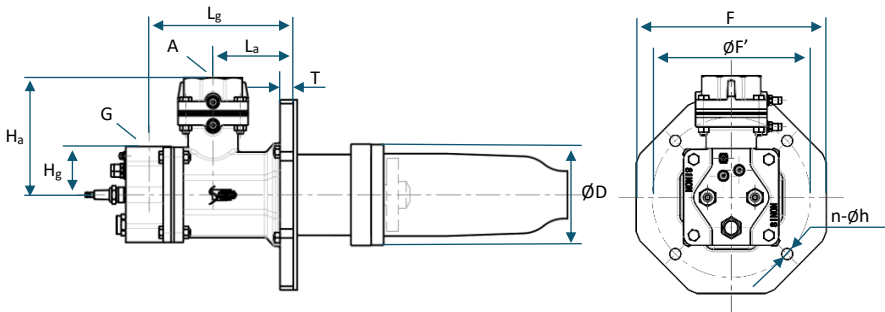
Type table

Type	SFID						320	N	-200	C
Rated capacity	90	150	230	320	450	630				
Fuel	N: natural gas		P: LPG		T: COG					
Air pipe length	0	50	100	50n						
Burner tube	M: metal		C: ceramic		No: burner block					

Using SiC ceramic tube as a combustion chamber by default, contact us for the types with metal or burner block chamber.

Dimensions

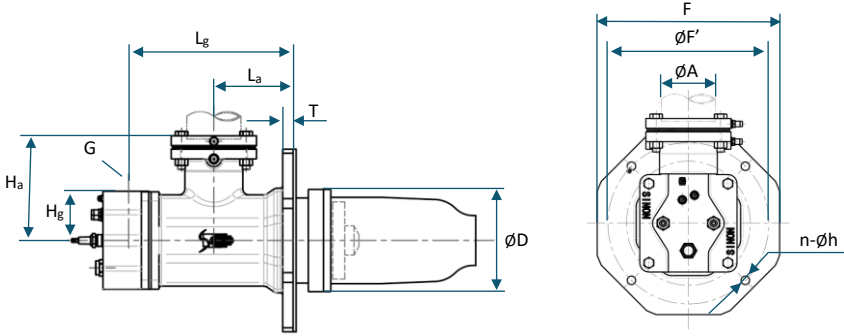
SFID 90N~230N



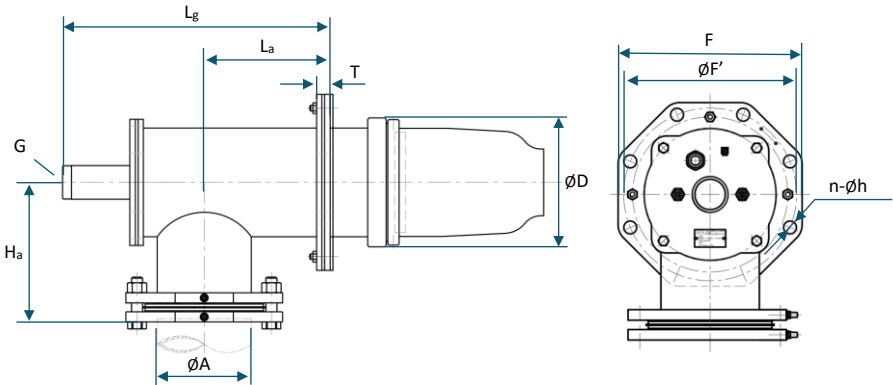
Type	Capacity/kW	A	G	D/mm	Ha/mm	Hg/mm	La/mm
90	90	Rp2"	Rp 3/4"	114	148	61	90
150	150	Rp2"	Rp1"	128	152	61	103
230	230	Rp2 1/2"	Rp1 1/2"	158	191	73	119

Type	Lg/mm	F/mm	F'/mm	T/mm	h/mm	n
90	177	240	210	14	14	4
150	185	240	200	17	14	4
230	254	270	240	17	14	4

SFID 320N



SFID 450N~630N

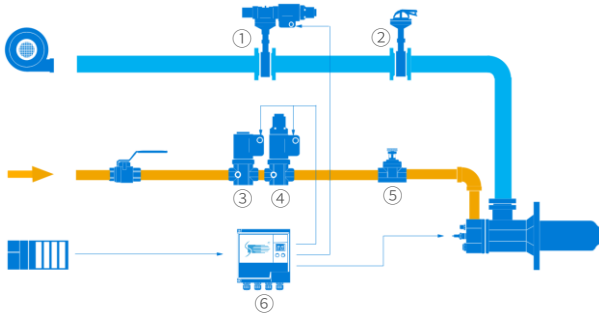


Type	Capacity/kW	A/mm	G	D/mm	H_a /mm	H_g /mm	L_a /mm
320	320	89	Rp1 1/2"	168	172	81	130
450	450	114	R1 1/2"	200	248	N/A	166
630	630	168	R2"	230	249	N/A	225

Type	L_g /mm	F/mm	F' /mm	T/mm	h/mm	n
320	270	300	265	17	14	4
450	369	240	240	24	14	4
630	478	314	295	24	22	8

SOLUTIONS

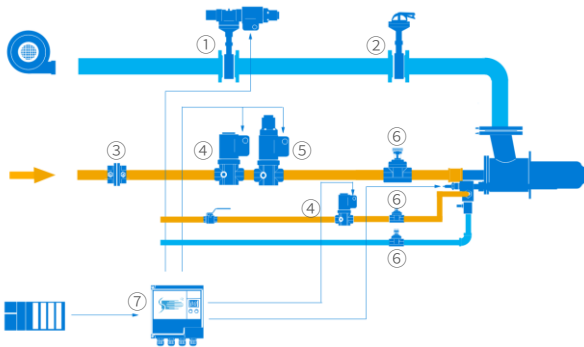
SFID 90N~320N



- ① Air slow opening solenoid butterfly valve MC+HTB
- ② Air manual valve HK
- ③ Gas quick opening solenoid valve SG..Q
- ④ Gas slow opening solenoid valve SG..S
- ⑤ Manual linear flow control KV
- ⑥ Burner controller SCU 4.1

- SFID 90N~320N can be ignited directly at maximum capacity, the burner is controlled by on/off pulse mode.

SFID 450N~630N



- ① Air slow opening solenoid butterfly valve MC+HTB
- ② Air manual valve HK
- ③ Double-flange orifice plate
- ④ Gas quick opening solenoid valve SG..Q
- ⑤ Gas slow opening solenoid valve SG..S
- ⑥ Manual linear flow control KV
- ⑦ Burner controller SCU 4.2

- Recommend to ignite SFID 450N~630N by a pilot burner, and use pilot burner for ignition/detection and control the main burner directly by on/off pulse mode.

INSTALLATION

- To ensure the accuracy of orifice plate measurement, the pipe connected to the air inlet on burner shall be straight in the length of 5*DN without any other resistance elements. And the pipe shall also be straight in the length of 5*DN in front of and behind the gas orifice plate.
- The pipeline must be purged before being connected to the burner to prevent any welding slag or other foreign matters from entering the burner. If a pipe welding is required after the connection, ensure that there is no welding slag or molten substance falling into the pipe or burner.

OPERATION

Attention

- If the burner is pulse controlled or need to be shut off during operation, ensure that there is more than 5% of air enters the burner to maintain a positive pressure to prevent the burner from being damaged by furnace chamber hot gas backflow.
- Regularly maintain the burner according to the actual situation, check and clean the burner and electrode, and check the combustion state of the burner.
- The capacity of burner would reduce when the air preheating temperature is increased.

Maintenance

- At least once every six months. Increase the times of maintenance, as appropriate.
- Maintenance: SIC ceramic tubes, spark insert, flame state and others.