

Pulse burner SFID



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CHARACTERISTICS

- Gas burner SFID is sub-high flame velocity pulse burner. 6 specifications are available within the capacity range of 90~630 kW. The SFID burner whose 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.
- 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 burner insert, air housing, air pipe and SiC ceramic burner tube.
- The electrodes installed on the burner insert are used for ignition and flame detection, and the gas double-flange orifice plate for the 450kW/630kW burners shall be ordered separately.
- 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, and the flame velocity is measured without air preheated, for reference only.

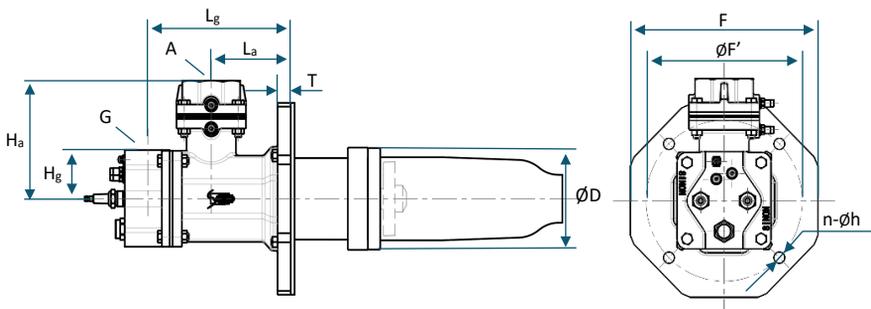
Type table

Type	SFID	320	N	-200	C	
Capacity/kW	90	150	230	320	450	630
Fuel	N: Natural gas		P: LPG		T: COG	
Burner tube length/mm	0	50	100	50n		
Material of 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 tube or burner block.

Dimensions

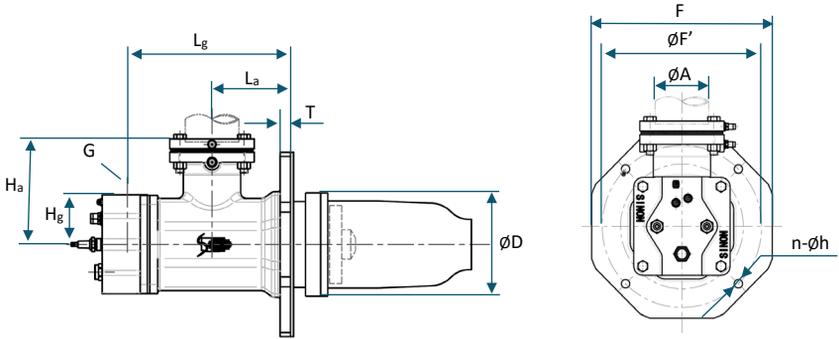
SFID 90N~230N



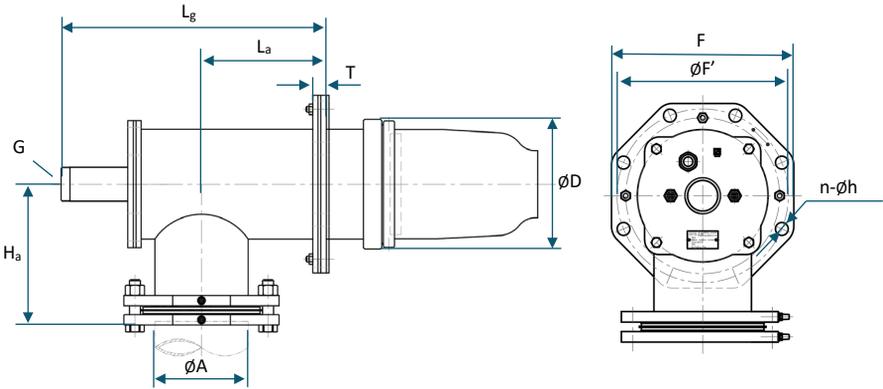
Type	A	G	D/mm	H_a /mm	H_g /mm	L_a /mm
90	Rp2"	Rp $3/4$ "	114	148	61	90
150	Rp2"	Rp1"	128	152	61	103
230	Rp2 $1/2$ "	Rp1 $1/2$ "	158	191	73	119

Type	L_g /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

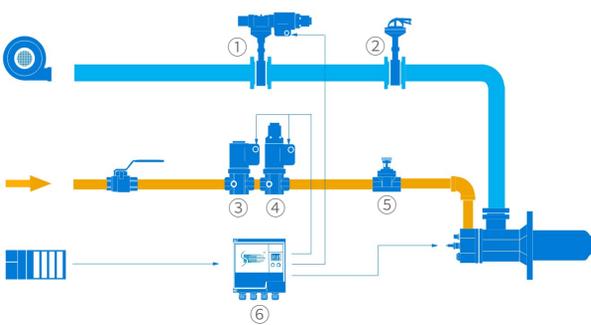


Type	A/mm	G	D/mm	H _a /mm	H _g /mm	L _a /mm
320	89	Rp1 1/2"	168	172	81	130
450	114	R1 1/2"	200	248	N/A	166
630	168	R2"	230	249	N/A	225

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

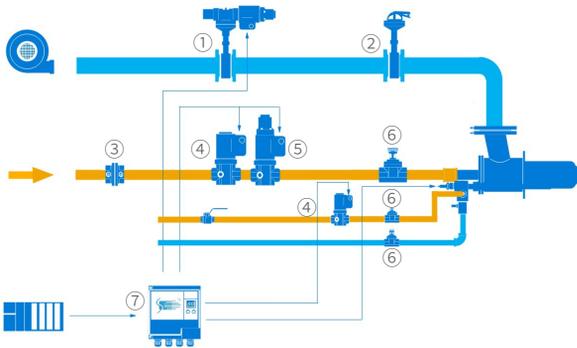
SFID 90N~320N



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

- In on/off pulse control mode, SFID 90N~320N can be ignited directly at maximum capacity.

SFID 450N~630N



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

- In on/off pulse control mode, a pilot burner is recommended for SFID 450N~630N, which is used for ignition and flame detection.

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 $5 \times DN$ without any other resistance elements. And the pipe shall also be straight in the length of $5 \times DN$ 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 matter from entering the burner. If a pipe welding is required after the connection, ensure that there is no welding slag or molten substance falls 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..
- The capacity of burner would reduce when the air preheating temperature is increased.

Maintenance

- Regularly maintain the burner according to the actual situation, check and clean the burner and electrode, and check the combustion state of the burner.
- At least once every six months. Increase the times of maintenance, as appropriate.