



System Overview

LAMTEC Ignition and Pilot Burner GFI

Sensors and systems for combustion engineering



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Approvals for SIL 2 Ionisation Flame Monitoring Device (in preparation).



CE 0063

Gas Appliance Directive 2009/142/EG, CE0063CR1400
EN 298, EN 607030-2-5



SIL 2

SIL 2 Confirmation, EN 13611: 2007, A2: 2011, Annex7



UL 60730
CSA E60730



EN 60079, Ex Device Group II
Category 2G/2D (Zone 1)
Category 3G/3D (Zone 2)

SIL 3 Flame Monitoring Device F130I.



CE 0085

Gas Appliance Directive 2009/142/EC, CE0085



CE 0036

Pressure Equipment Directive 2014/68/EU, CE0036



SIL 3

SIL 3 Confirmation, DIN EN 61508 Parts 1-7

LAMTEC Pilot Burner GFI Series – System of the Latest Generation.

For more than 20 years, LAMTEC has been standing for quality and “Made in Germany” in Combustion Management and Flame Monitoring Systems. At this high level, LAMTEC introduces an ignition/pilot burner system of the latest generation.

Pilot burners are necessary to secure ignition of main burners in the application of industry furnaces and combustion plants. The GFI model series in its standard design will be delivered with an integrated ignition transformer, ionisation electrode and ionisation flame scanner (both SIL 2 certified and EC type approved).

The modular design allows very flexible variation possibilities so that customers’ requirements can be met. Replacement costs would be minimised and reaction time in replacement demands would be reduced. GFI models in their standard version, are approved for intermittent operation.

Due to its maritime climate resistant aluminium housing, a SIL 2 flame scanner and protection class IP 65, this basic version can be applied almost anywhere. The integrated components as well as material selection allow for use as a pilot burner. Through the application of SIL 3 flame monitoring, operator’s requirements with regards to a modern, up to date safety technology can be met.

Advantages:

- Low pressure loss through flow optimisation
- Immediate, repeatable ignition in every firing rate
- Highest flame stability
- Safe flame monitoring
- Modular design
- Available in SIL 2 or SIL 3
- Intermittent or continuous operation
- Maritime climate resistant aluminium housing or stainless steel type
- Protection class up to IP 67
- Thermal power up to 3,000 kW
- Flame length up to 2,500 mm
- Pilot burner length up to 15,000 mm possible
- Fuel: natural gas, LPG (liquid propane gas), coke gas, refinery gas
- Individually customised solutions

Example GFI 48:

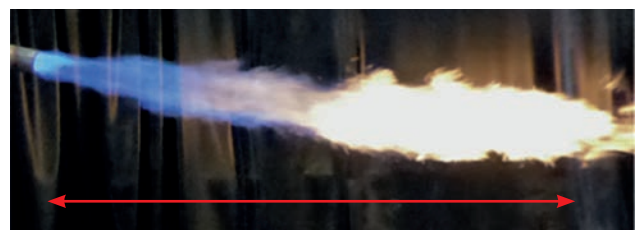


Type	Flame length with LPG
GFI 48	1,330 mm

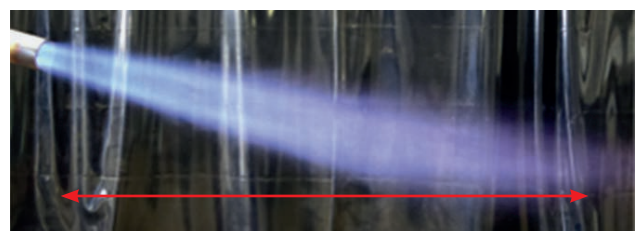


Type	Flame length with natural gas
GFI 48	750 mm

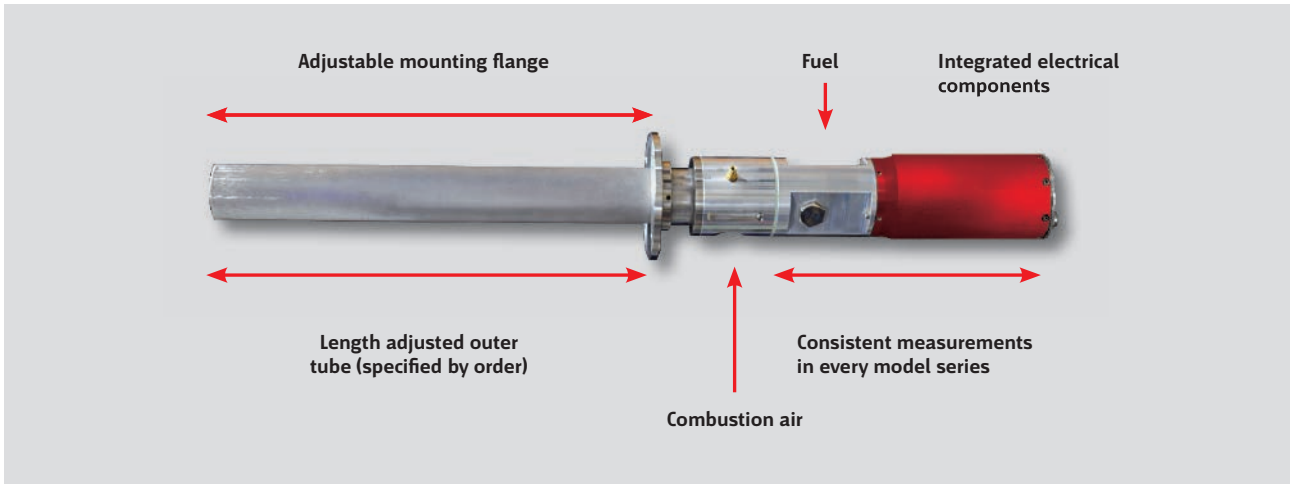
Example GFI 70:



Type	Flame length with propane/butane
GFI 70	2,000 mm

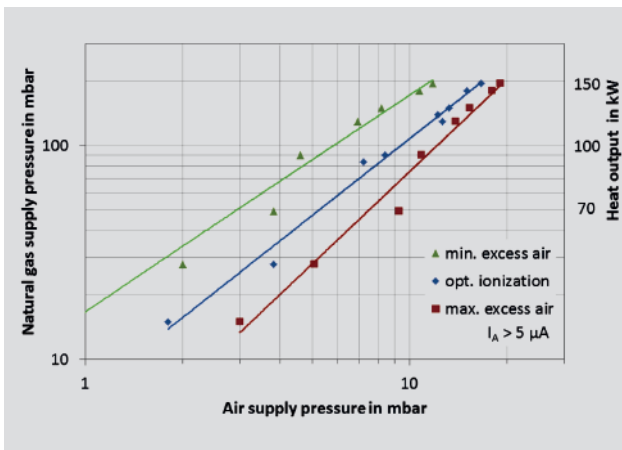


Type	Flame length with natural gas
GFI 70	1,200 mm

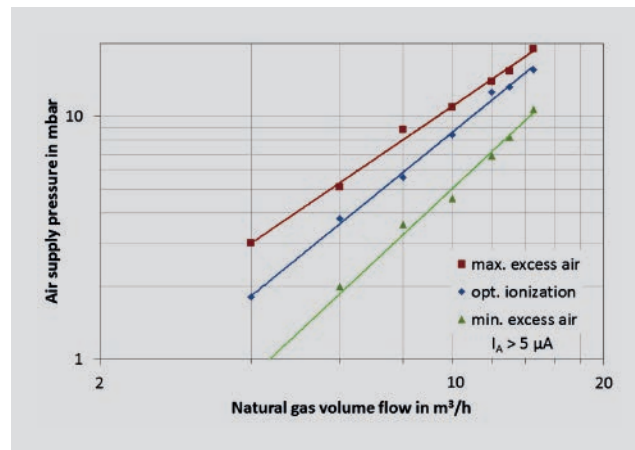


Installation GFI xx.

GFI 48.



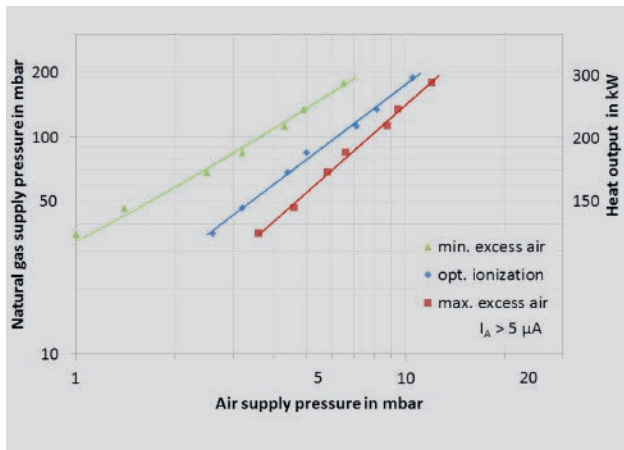
Pressure Adjusted Diagram.



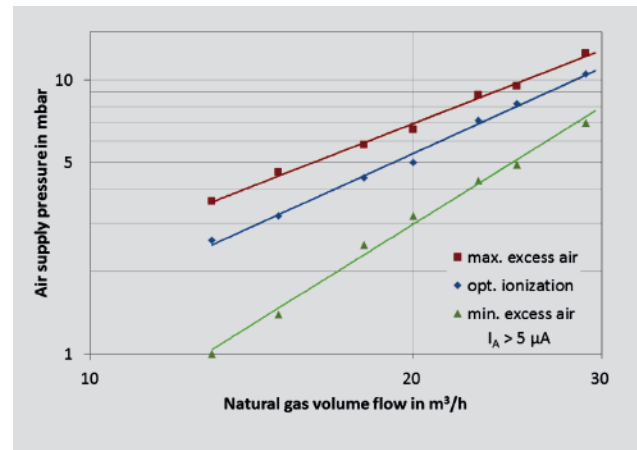
Volume Flow Adjustment Diagram.

	Standard	Options / Variations
Tube diameter	48,3 mm x 2 mm	48,3 mm x 2 mm
Mounting flange	Side flange (e.g. DN 50, PN 6)	Flange according to EN or ANSI
Thermal power	70 kW - 150 kW	400 kW max.
Flame length	Up to 800 mm	Up to 2,000 mm
Gas connection	1/2" BSPP internal thread	1/2" NPT (internal thread) or according to customer's specifications
Fuel gas volume flow	15 Nm³/h Natural gas (@ 200 mbar) 5,8 Nm³/h Propane (@ 200 mbar)	
Air connection	1" BSPP internal thread	1" NPT (internal thread) or according to customer's specifications
Air volume flow	60 Nm³/h (@ 15 mbar) for max. heat release. Lower air flow required if lower gas flow is used. Additional air for stoichiometric combustion has to be available from the combustion chamber.	

GFI 70.



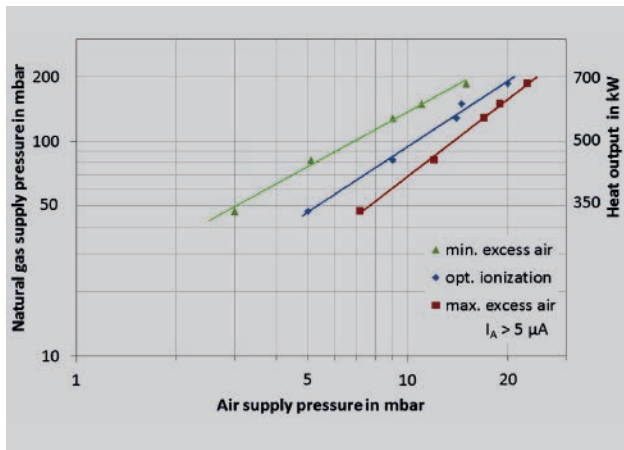
Pressure Adjusted Diagram.



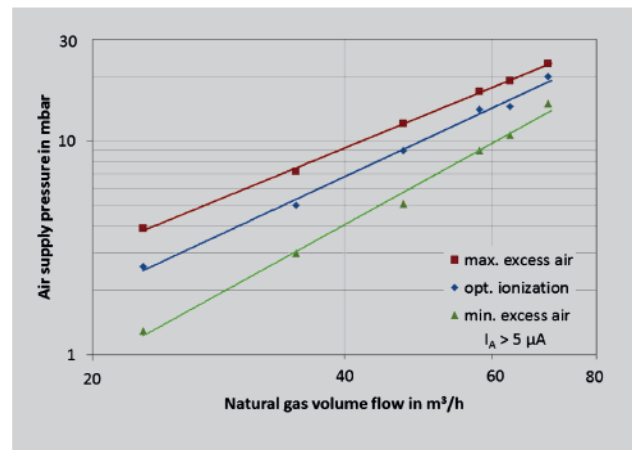
Volume Flow Adjustment Diagram.

	Standard	Options / Variations
Tube diameter	70 mm x 2 mm	70 mm x 2 mm
Mountingflange	Side flange (e.g. DN 65, PN 6)	Flange according to EN or ANSI
Thermal power	150 kW - 300 kW	1.000 kW
Flame length	Up to 1,200 mm	Up to 2,500 mm
Gas connection	3/4" BSPP internal thread	3/4" NPT (internal thread) or according to customer's specifications
Fuel gas volume flow	30 Nm³/h Natural gas (@ 200 mbar) 11,6 Nm³/h Propane (@ 200 mbar)	
Air connection	1 1/2" BSPP internal thread	1 1/2" NPT (internal thread) or according to customer's specifications
Air volume flow	125 Nm³/h (@ 12 mbar) for max. heat release. Lower air flow required if lower gas flow is used. Additional air for stoichiometric combustion has to be available from the combustion chamber.	

GFI 89.



Pressure Adjusted Diagram.



Volume Flow Adjustment Diagram.

	Standard	Options / Variations
Tube diameter	89 mm x 2 mm	89 mm x 2 mm
Mounting flange	Side flange (e.g. DN 80, PN 6)	Flange according to EN or ANSI
Thermal power	400 kW - 700 kW	300 kW - 3.000 kW
Flame length	Up to 1,800 mm	Up to 2,500 mm
Gas connection	1" BSPP internal thread	1" NPT (internal thread) or according to customer's specifications
Fuel gas volume flow	75 Nm ³ /h Natural gas (@ 200 mbar) 30 Nm ³ /h Propane (@ 200 mbar)	
Air connection	2" BSPP internal thread	2" NPT (internal thread) or according to customer's specifications
Air volume flow	250 Nm ³ /h (@ 15 mbar) for max. heat release. Lower air flow required if lower gas flow is used. Additional air for stoichiometric combustion has to be available from the combustion chamber.	

	Standard	Options / Variations
	Gas fired ignitor/pilot with integrated high tension transformer, ionisation rod, SIL 2 certified, EN approved, ionisation flame monitor (IFM)	<ul style="list-style-type: none"> ◦ Without electrical components ◦ With integrated high tension transformer (without IFM)
IFM approved for	Intermittent operation	Continuous operation
Flame response time	≤ 1 s	≤ 3 s, ≤ 5 s
SIL classification	SIL 2	SIL 3, flame monitor F130I
Flame signal	NO contact	Additional 0-10 V or 4-20 mA
Ambient temperature	0 up to + 60 °C	-30 up to +80 °C
Flame relay	1 potential free NO contact, 240 VAC, 0.5 A (res.)	Additional 1 potential free SPDT contact, 240 VAC, 0.5 A (res.)
Supply voltage	220 - 230 VAC (-15 % / +10 %), 50/60 Hz	120 - 127 VAC (-15 %/+10 %), 50/60 Hz
Ignition transformer	5 kV	10 kV (external)
Power input	100 VA high tension transformer ≤ 5 VA ionisation flame monitor	100 VA high tension transformer ≤ 5 VA ionisation flame monitor
Electrical connection	Cable, pre-wired	Plug and socket connector
Cable length	5 m	2 m up to 100 m
IP protection	IP 65	IP 67
Enclosure material	Seawater-resistant aluminium	Stainless steel (1.4301 / 1.4404)
Surface protection	none	C2 painting (DIN EN ISO 12944) C4 painting (DIN EN ISO 12944)
Tube length	1,200 mm	240 up to 15,000 mm
Tube material	Stainless steel 1.4301 Heat resistant end tube 1.4841	Stainless steel 1.4571 Heat resistant end tube 1.4841
Fuel gas	Natural gas, butane/propane	Coke oven gas, refinery gas
Fuel gas supply pressure	50 - 200 mbar (above combustion pressure)	Orifice for higher pressures
Air supply pressure	Depending on the size	Orifice for higher pressures
Cooling air flow	Depending on the size, at least 50 % combustion air flow	



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