



System Overview

LAMTEC Ignition and Pilot Burner GFI



Sensors and systems for combustion engineering

www.lamtecamerica.com

Approvals for SIL 2 Ionisation Flame Monitoring Device.



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 60730



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



applied for (expected spring 2017)



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 - most reliable gas pilot on the market!

For more than 20 years LAMTEC has been an innovator in the field of combustion engineering and has been designing and manufacturing leading-edge products for combustion control and measurement. The company is now able to offer a new range of innovative gas igniter/pilot burners.

Pilot burners are required to ensure safe and reliable ignition of the main burner in most combustion applications. The LAMTEC Gas Fired Igniter, in its standard design, will be supplied with an integrated, 100 % duty cycle, high voltage, ignition transformer and ionisation flame scanner (both SIL 2 certified, EC type approved and UL listed).

The modular design allows very flexible design variations, so that even the most demanding customer requirements can be supported. Equipment replacement costs are minimised and the need for excessive spare parts stock reduced.

Due to its maritime climate resistant aluminium housing, a SIL 2 flame scanner and enclosure rating of NEMA 4X, this basic version can be applied almost anywhere. For applications requiring even higher safety integrity, SIL 3 flame monitoring options are available.

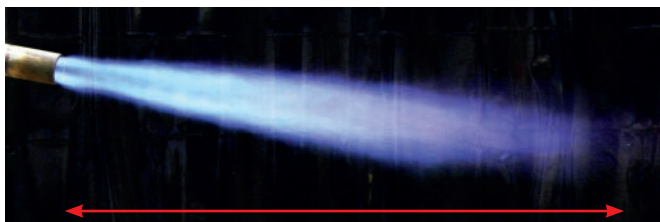
Advantages:

- Improved fuel gas flow due to optimized pilot internals
- Reliable flame ignition thru whole operating range
- Best flame stability under adverse draft conditions
- Modular pilot design
- Flame monitor available in SIL 2 or SIL 3 (external)
- Rated for continues pilot operation
- Sea water resistant aluminum or optional stainless steel housing
- Enclosure rating NEMA 4X
- Max heat release up to 10 mm BTU/h
- Flame length up to 8 feet
- Need for retraction system greatly reduced or eliminated
- Burner tube length up to 50 feet
- LPG = Liquid petroleum gas
- Custom design available upon request

Example GFI 48:



Type	Flame length with LPG
GFI 48	4 feet plus

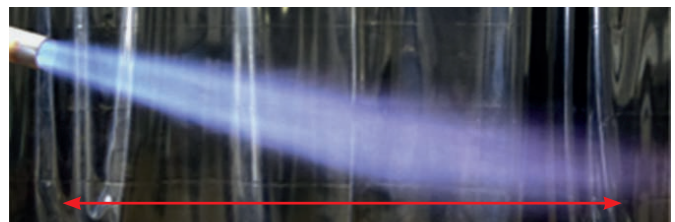


Type	Flame length with natural gas
GFI 48	2.5 feet

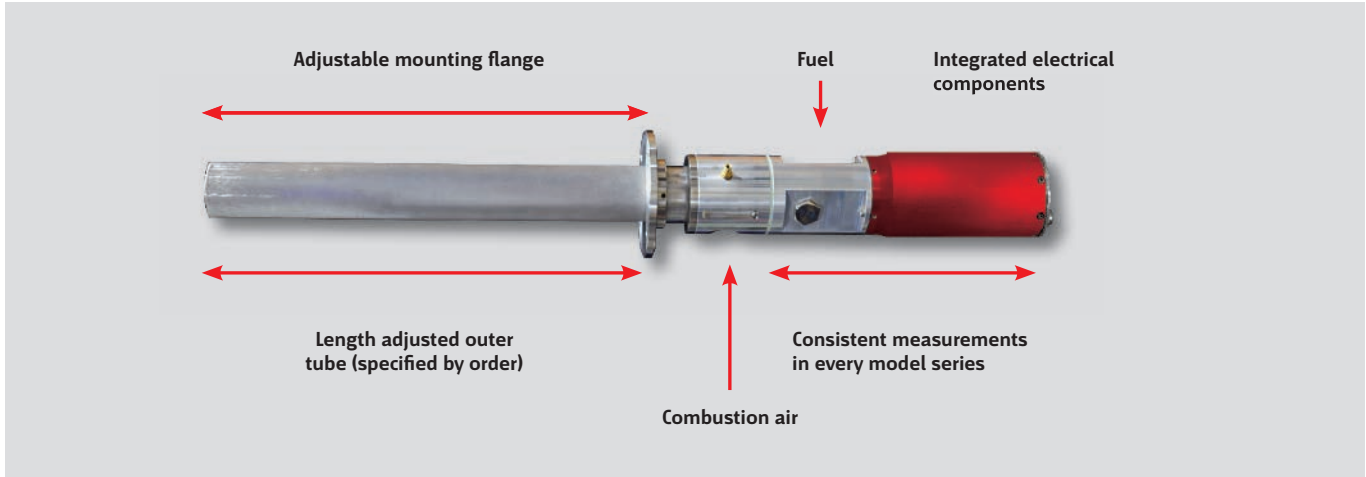
Example GFI 70:



Type	Flame length with propane/butane
GFI 70	6.5 feet plus

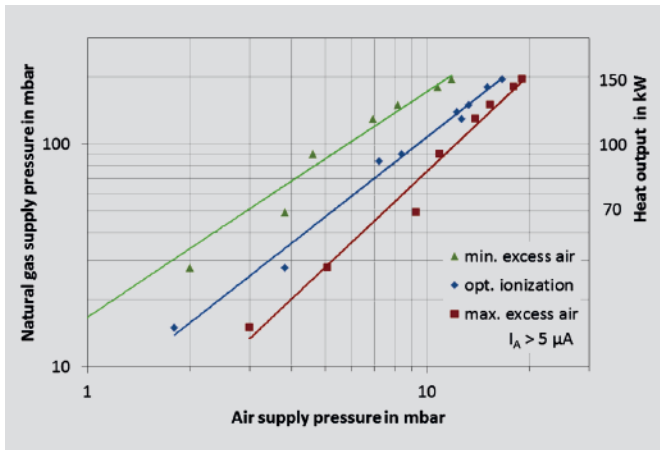


Type	Flame length with natural gas
GFI 70	4 feet

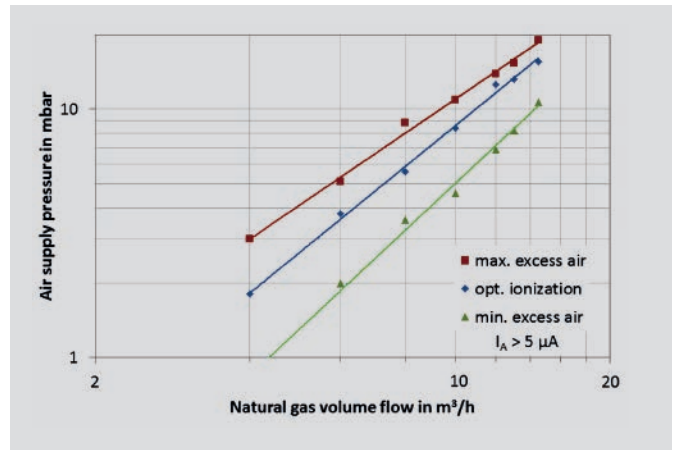


Installation GFI xx.

GFI 48.



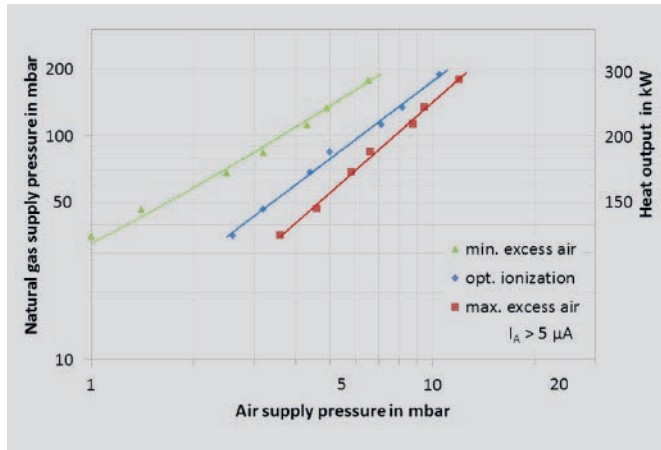
Pressure Adjusted Diagram.



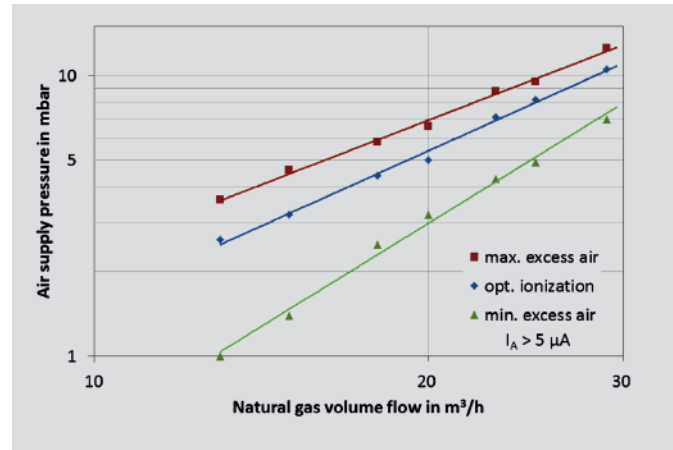
Volume Flow Adjustment Diagram.

	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.



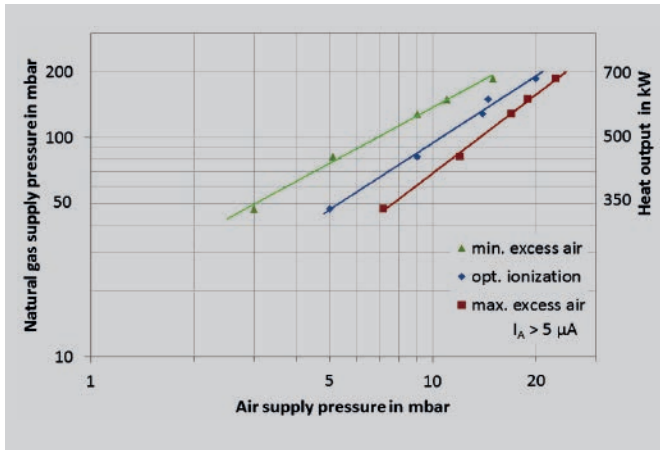
Pressure Adjusted Diagram.



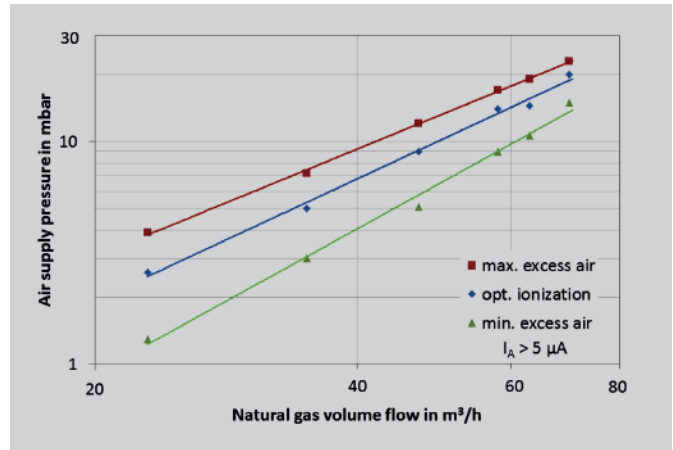
Volume Flow Adjustment Diagram.

	Standard	Options / Variations
Tube diameter	70 mm x 2 mm	70 mm x 2 mm
Mounting flange	Side flange (e.g. DN 65, PN 6)	Flange according to EN or ANSI
Thermal power	150 kW - 300 kW	1,000 kW max.
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 Nm^3/h Natural gas (@ 200 mbar) 11,6 Nm^3/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 Nm^3/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 Nm³/h Natural gas (@ 200 mbar) 30 Nm³/h Propane (@ 200 mbar)	
Air connection	2" BSPP internal thread	2" NPT (internal thread) or according to customer's specifications
Air volume flow	250 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.	

	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)
Flame safety time	3 s	≤ 1 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 °C up to + 60 °C	-30 °C 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	120 - 127 VAC (-15 %/+10 %), 50/60 Hz	220 - 230 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 304 Heat resistant end tube 314	Stainless steel 316 Ti Heat resistant end tube 314
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	



**LAMTEC Meß- und Regeltechnik
für Feuerungen GmbH & Co. KG**

Wiesenstraße 6
D-69190 Walldorf
Telephone: +49 (0) 6227 6052-0
Fax: +49 (0) 6227 6052-57

info@lamtec.de
www.lamtec.de

LAMTEC America, Inc.

1807 Market Blvd, Suite 285
Hastings, MN 55033
United States
Phone: +1 651 318 1011

info@lamtecamerica.com
www.lamtecamerica.com

