

ELEMENT

GAS FIRES

4



CONVERSION MANUAL

NATURAL GAS TO LPG



INTRODUCTION

This manual is meant for dealers, installers and other parties that would like to convert their Element4 gas fireplace from one gas type to another.

This manual is an addition to the installation- and user manual that can be found with every fireplace on delivery. If these manuals or any other is lost, they can be found on the website:

www.europeanhome.com

or

www.element4.nl

After reading this manual, should you have any questions regarding the conversion of an Element4 fireplace, do not hesitate to contact us.

HOW TO USE THIS MANUAL

This manual contains images of (parts of) the different burners that Element4 has on the market, both of old and new gas fireplaces.

Each Element4 gasfireplace has three settings that can be tweaked for conversion, respectively;

1. Burner pressures
2. Aeration
3. injector sizes

For each fire a unique combination of these settings ensures optimal flames for the most realistic gas fire in the market.

Before converting a fireplace, be sure of which Element4 fireplace you are dealing with. This information can be found on the metal dataplate that is always chained to the fire.

Check which injectors are currently in the fireplace

- Injectors for natural gas (NG)
- Injectors for liquified petrol gases (LPG)

Determine what gas type you want to convert your fireplace to.

- NG to LPG
- LPG to NG

Make sure you have got the correct set of injectors for conversion. If you are converting the fireplace from NG to LPG, make sure you also have a pilot injector (see the actual instructions for more information).

Each individual burner in the fireplace has an injector. Injector sizes may differ for the different burner, even though the burner is no different from another in the same fireplaces. In these cases the injector per burner is also specified on the dataplate.

LINEBURNER

Several Element4 fires are being sold that feature a polidoro line burner. Although the initial venturi may differ a little bit per fire, the way they work is the same.

Each venturi is located at the head end of the line burner and there can be up to five of these in an Element4 fire.

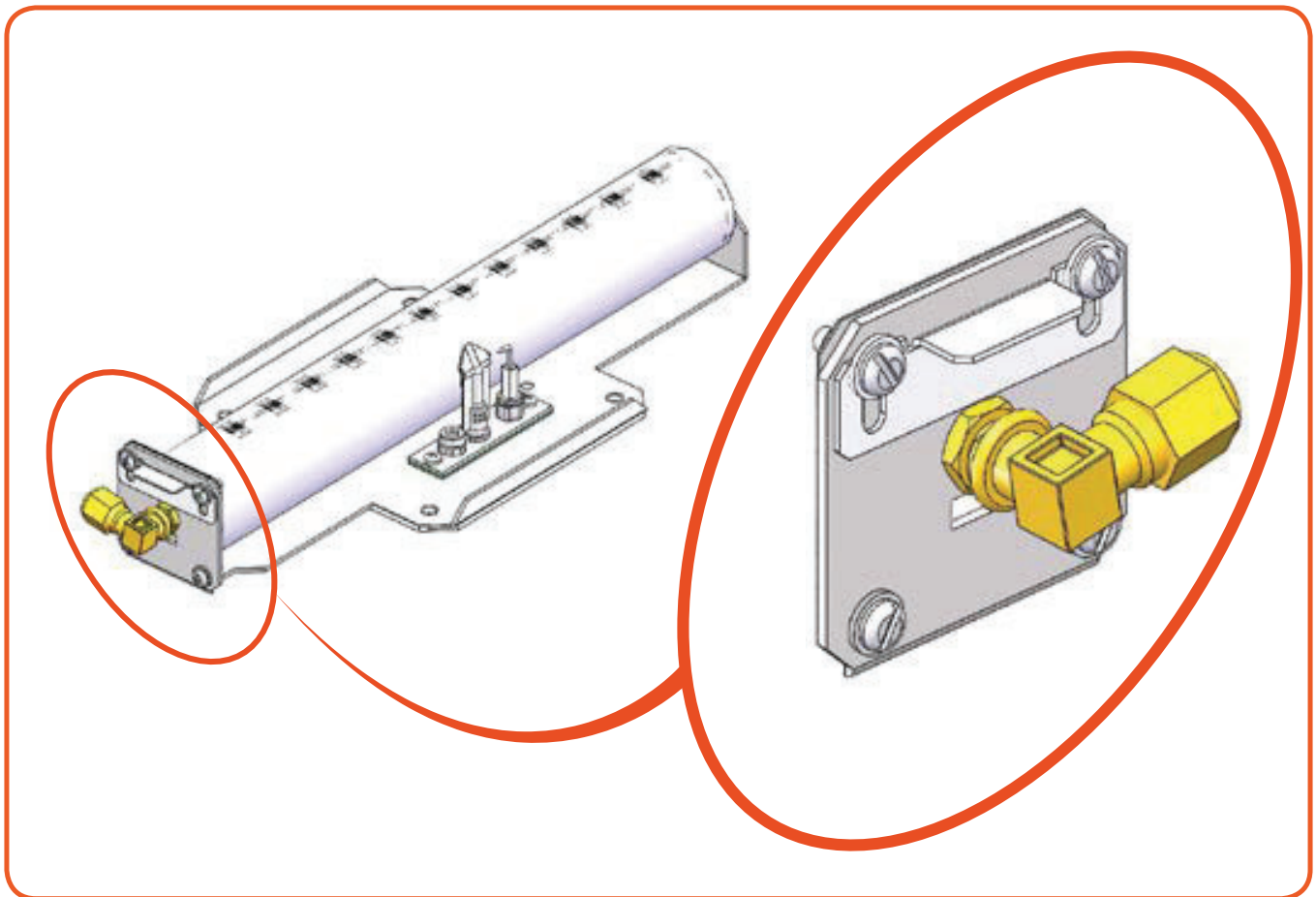
The venturi has two holes that determine the aeration, the fuel to air mixture per the burner. The amount of air that can go in the burner is adjustable via a venturi throttle, in the case of a line burner by means of a small piece of metal that can slide over the hole.

For LPG both holes are completely open, so venturi throttles may be removed. For NG the setting is more precise. Often the throttle has been set to an open position leaving a gap of 1mm.

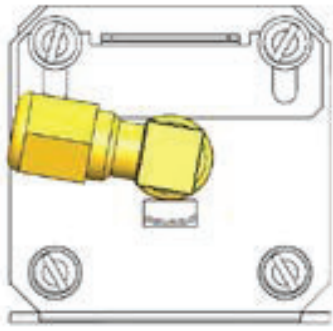
On delivery the aeration settings of your fire have been set correctly. So in normal circumstances one does not have to touch the venturi setting or make changes.

Sometimes however a fire is in need of a little bit more / less air than prescribed. These venturi sliders can be used to open or close the aeration hole a little, giving the user some room to adjust for edge cases. These situations for example are installation with a difficult flue ratio or installation where the weather is often causing trouble.

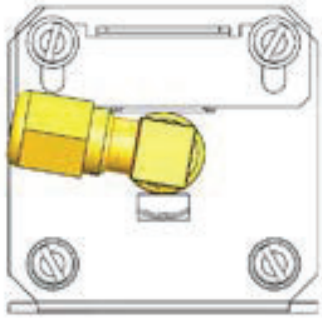
Finally, do not forget to change the injector in the pilot set, see further on in this manual.



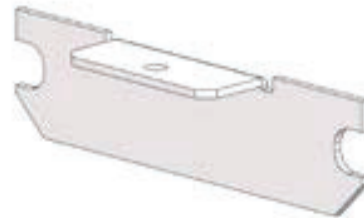
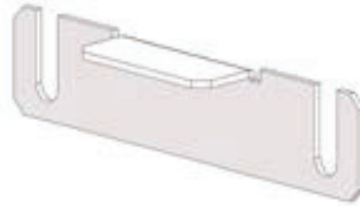
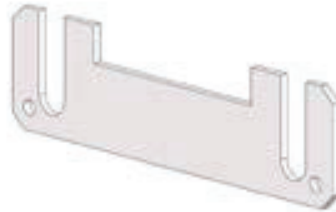
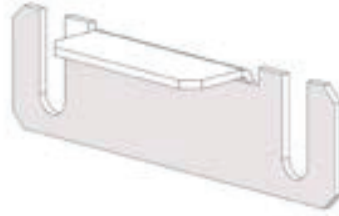
Look of the aeration hole and injector position on the line burner feature in many of Element4 fireplaces.



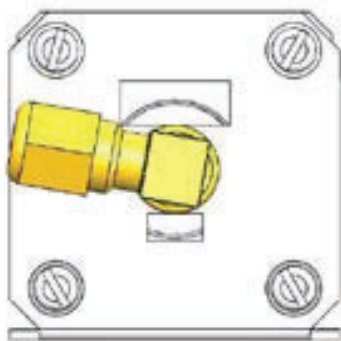
Completely closed venturi throttle for NG on lineburner.



Slightly opened venturi throttle for NG on lineburner



Example of different venturis on the lineburners of Element4



*Venturi position on NG can be read from the ruler.
E.g. When position is 10mm, line up hole with the ruler*

RIBBON BURNER

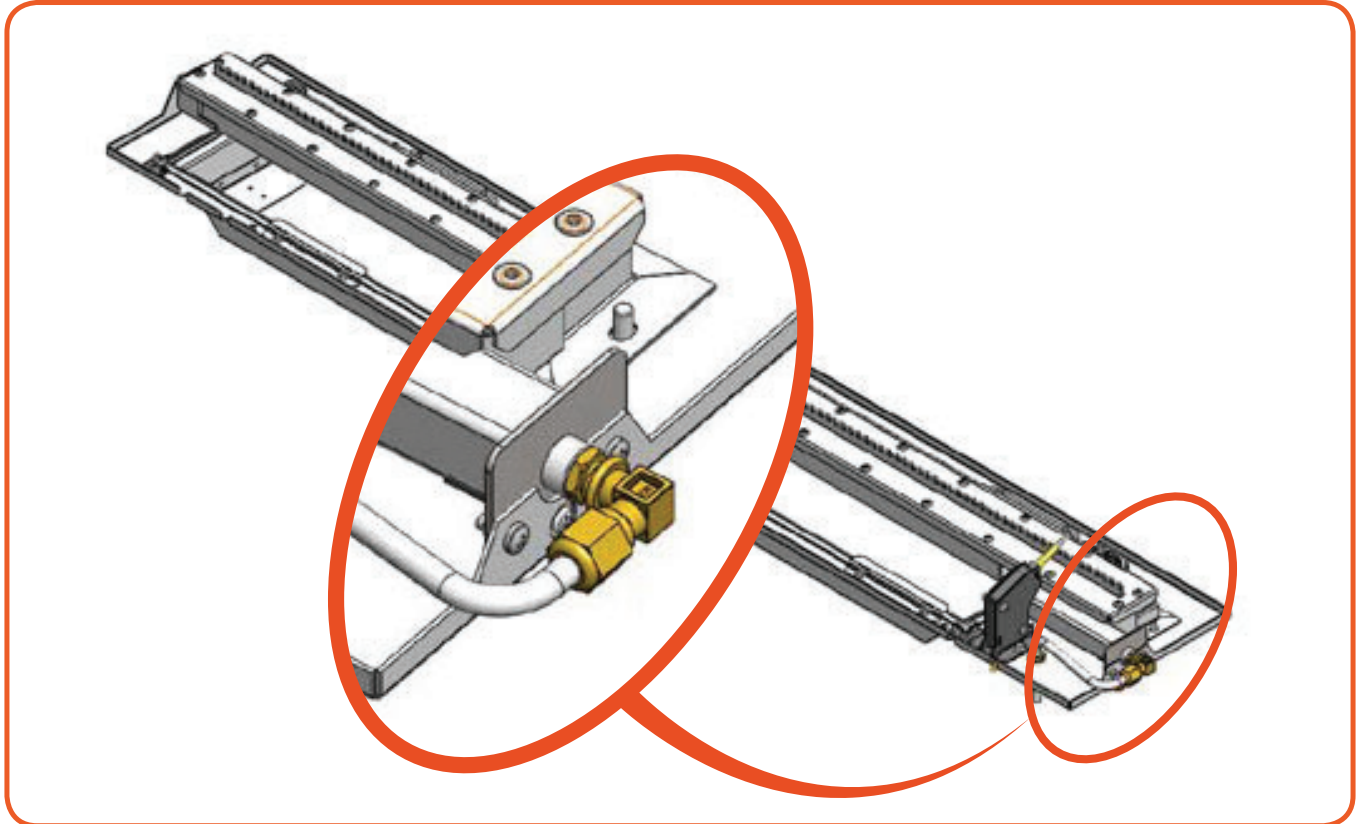
Although the ribbon burner is an imposing burner it actually is quite easy to convert it from NG to LPG.

As with all burner ensure you have the correct injector ready at hand.

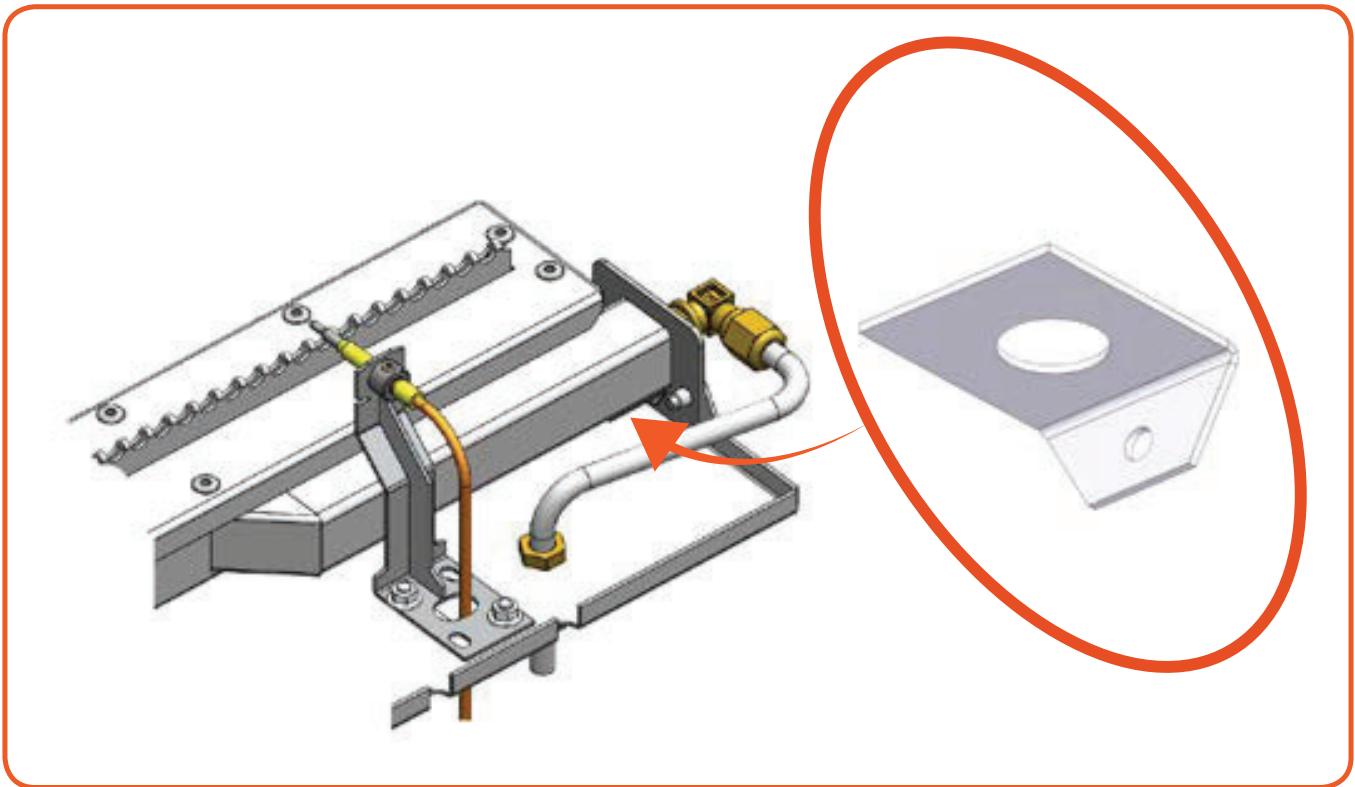
- Remove the NG injector and replace it for the LPG.
- Next remove the throttle plate that is located under the burner.

NB: For NG the hole in this throttle is already set to the correct opening size.

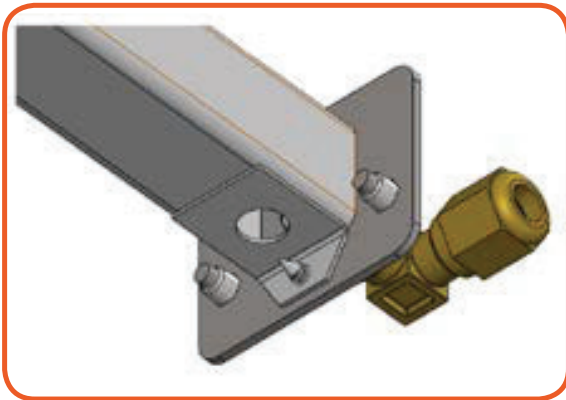
Do not forget to change the injector in the pilot set, see further on in this manual.



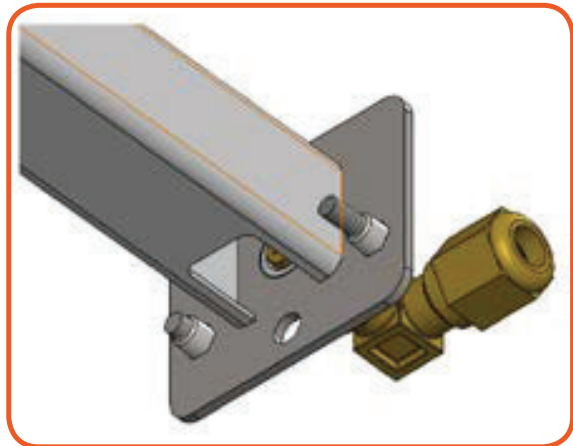
Position of the injector in the Element4 Ribbonburner.



Position of the venturi throttle in the Element4 ribbon burner



For NG the size hole in the venturi throttle is predetermined for the type of gas.



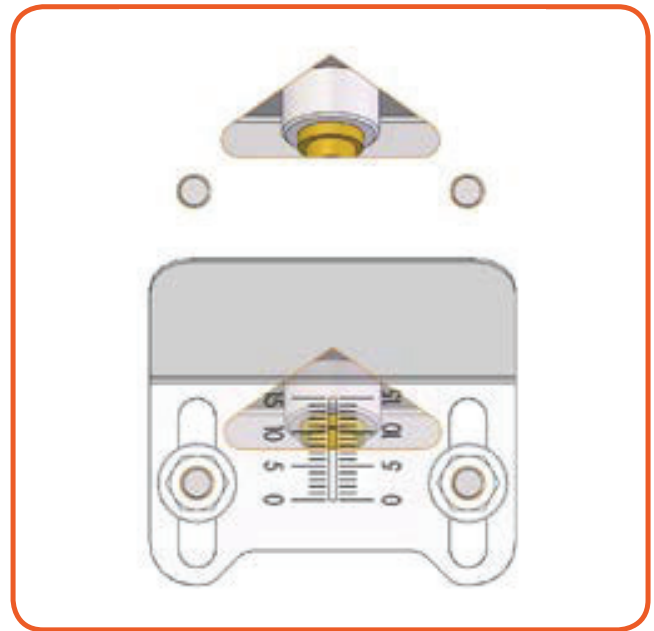
Open the entire hole by removing the venturi throttle completely for LPG.

FLATBURNER VENTURI THROTTLE.

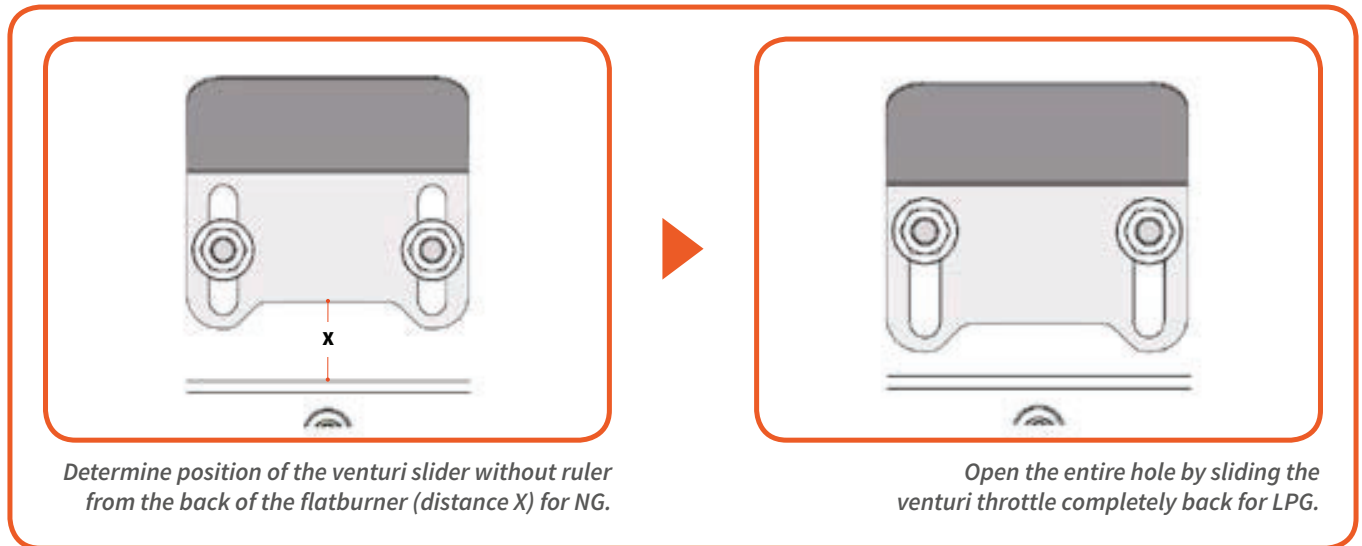
Each Element4 fire with logburners has a main flat burner of which the aeration / primary air inlet is done by moving the venturi slider back and forth.

The venturi slider covers a triangular hole and depending on the type of sliders the settings can be arranged as indicated on the page below.

The flatburner venturi throttle is available in two types, respectively with or without a ruler. The position of the throttle is determined differently.

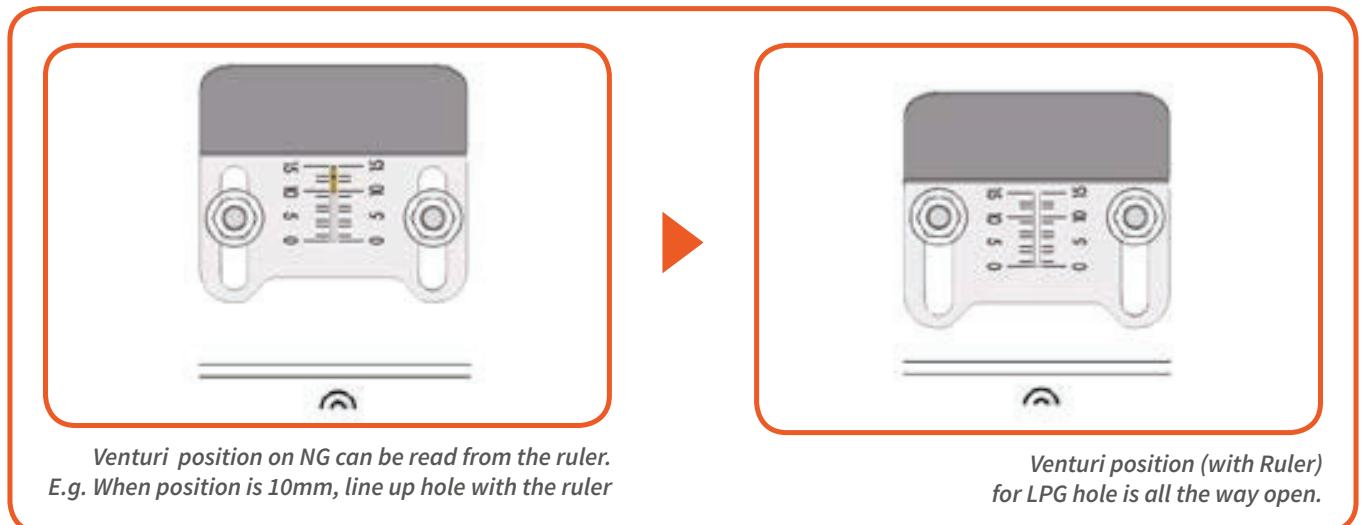


Air hole and semi transparent view of the venturi slider. Depending on the presence of a ruler one can view the hole



Determine position of the venturi slider without ruler from the back of the flatburner (distance X) for NG.

Open the entire hole by sliding the venturi throttle completely back for LPG.



Venturi position on NG can be read from the ruler. E.g. When position is 10mm, line up hole with the ruler

Venturi position (with Ruler) for LPG hole is all the way open.

LOGBURNER VENTURI THROTTLE.

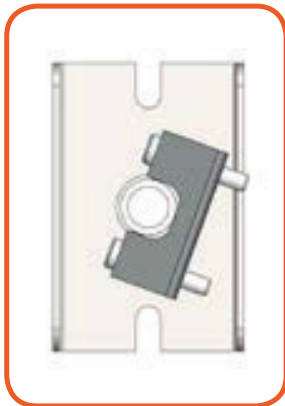
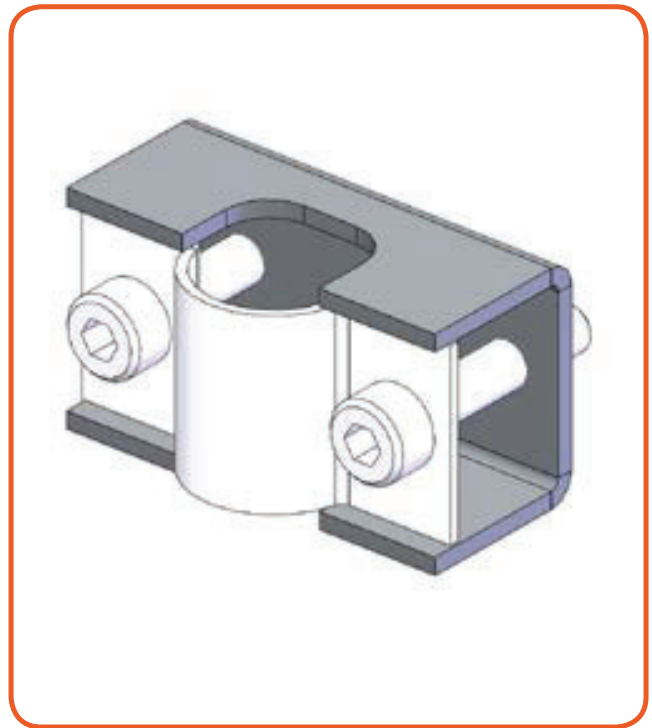
There are several venturi throttle possibilities for the LogBurners, depending on when the fire was made and the model of the fire.

This page and the next couple of pages show the different versions.

Venturi Throttle (2017)

The first venturi throttle is made out of two shell part, both are secured with two (torx) screws and is changed from NG to LPG by untightening the screws and changing the position of the throttle such that the large air slot at the back of the venturi tube is opened.

The different views for this type of throttle can be seen below.



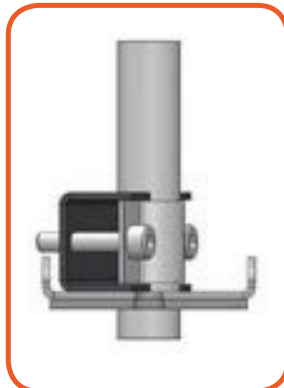
*Air inlet of Venturi
in NG position - Topview*



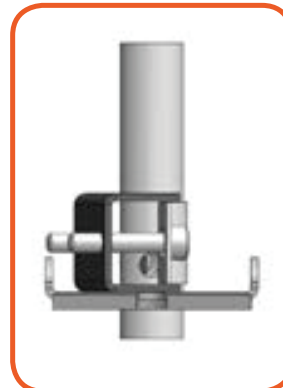
*Air inlet of Venturi
in LPG position - Topview*



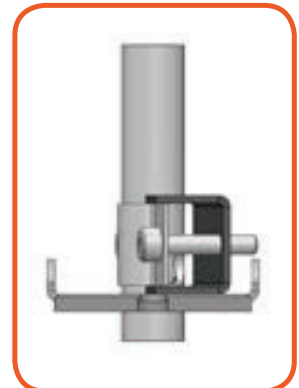
*Air inlet hole - Front
in NG position*



*Air hole blocked - Back
in NG position*



*Air inlet hole - Front
in LPG position*



*Air inlet hole - Back
in LPG position*

LogBurner Venturi throttle (2019 - TYPE I)

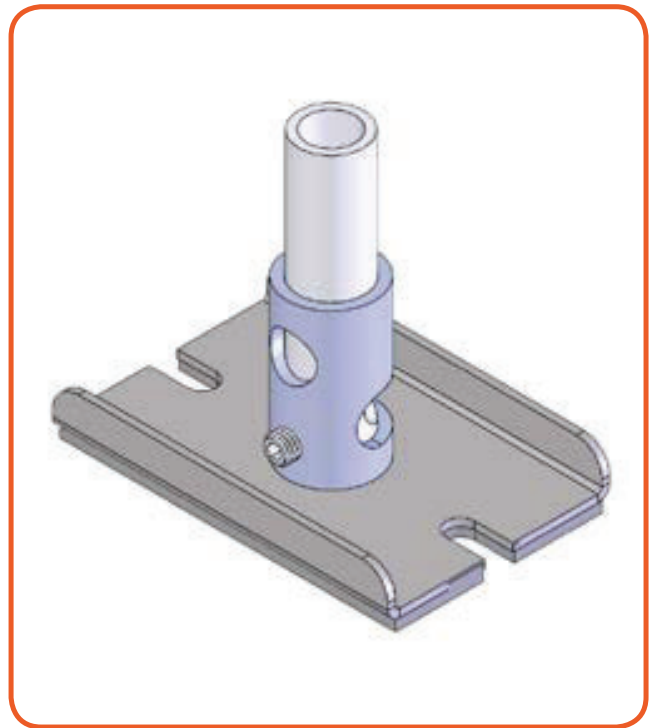
The second venturi throttle for the logburner was introduced in 2019 as a more convenient way to adjust the aeration.

This throttle is a tube that is put over the venturi tube. The throttle contains a hole and a slot and offers more freedom to adjust the position of these holes such that the fire can be given more or less air should that be necessary.

The throttle can be tightened and loosened with the small allen nut.

- For NG the tube should be positioned with its hole over the hole in the venturi tube.
- For LPG the throttle is flipped upside down, so the slot is over both the small hole and the large slot.

The different views for this type of throttle can be seen below.



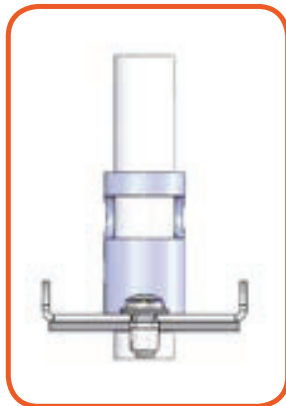
*Air inlet of Venturi
in NG position*



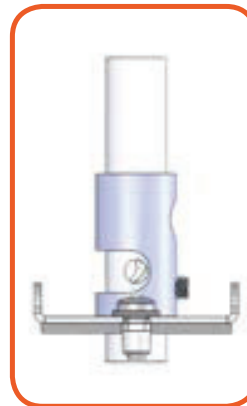
*Air inlet of Venturi
in LPG position*



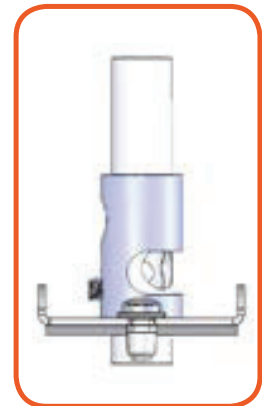
*Air inlet hole - Front
in NG position*



*Air hole blocked- Back
in NG position*



*Air inlet hole - Front
in NG position*



*Air inlet hole - Back
in NG position*

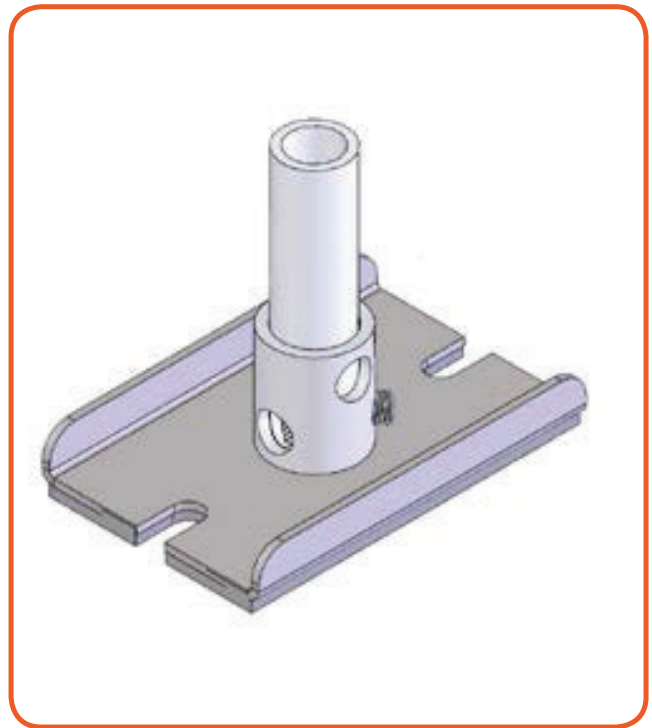
LOGBURNER VENTURI THROTTLE (2019 - TYPE II)

The second version of the venturi throttle that was also introduced in 2019 is smaller version of the first type.

This tube can be used both way around and only needs to be turned 90 degrees instead of taken of a flipped around.

Below you can again, see the position the throttle must be in for both NG and LPG.

NB: These tubes also give a possibility to add more air or take away some of the air, as with the lineburner. Thus, in edge cases one can tweak the settings slightly, more easily.



Air inlet of Venturi in NG position



Air inlet of Venturi in LPG position



Air inlet hole - Front in NG position



Air hole blocked - Back in NG position



Air inlet hole - Front in LPG position



Air inlet hole - Back in LPG position

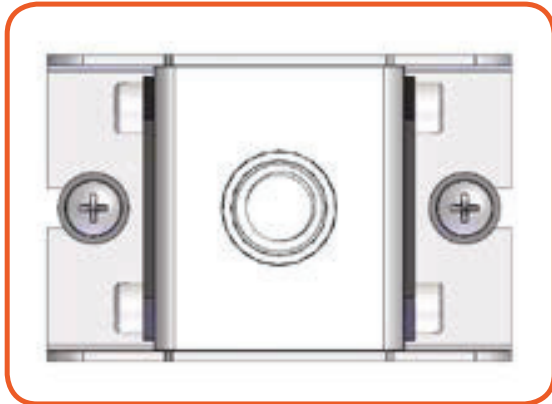
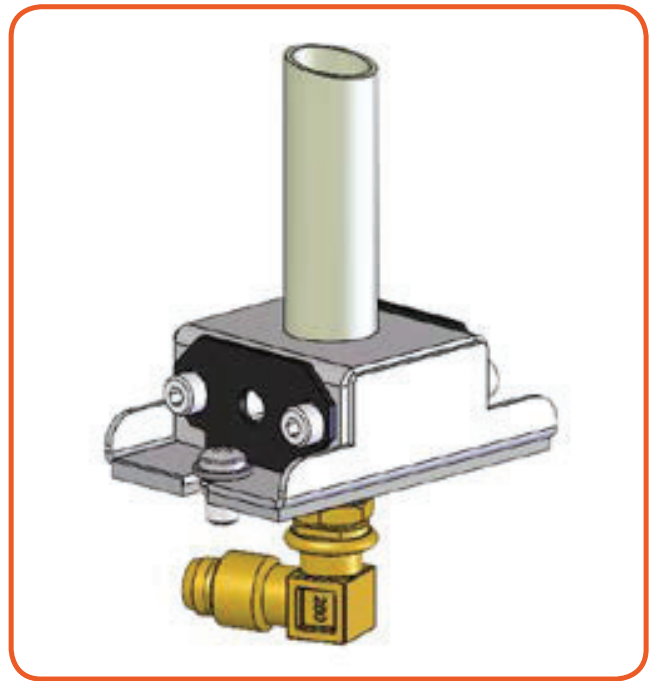
LogBurner Venturi throttle (2020)

In 2020 the next generation of LogBurner venturi throttle was introduced. Due to bigger logburners, featuring more logburners and more input, this venturi throttle is able to give more air to the burners, which helps prevent sooting and other problems that might impact your flames.

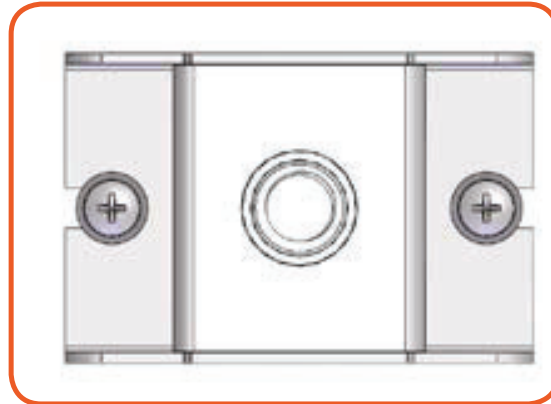
This logburner, similar to the lineburner had a venutri throttle that is able to slide a little bit up and down.

For the NG throttle there is a hole in the throttle that should give your fire the necessary fuel to air mixture. If that is not the case one can slide the throttle up a little up to 2 mm for some extra air.

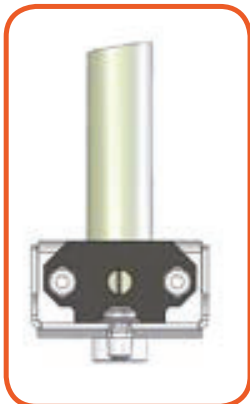
Two small allen nuts must be removed to take of the venturi's completely for the LPG setting.



Air inlet of Venturi in NG position



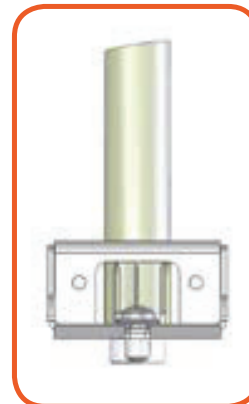
Air inlet of Venturi in LPG position



Air inlet hole - Front in NG position



Air hole blocked- Back in NG position

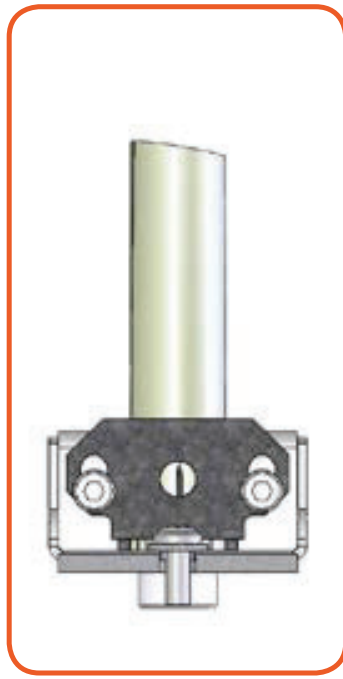
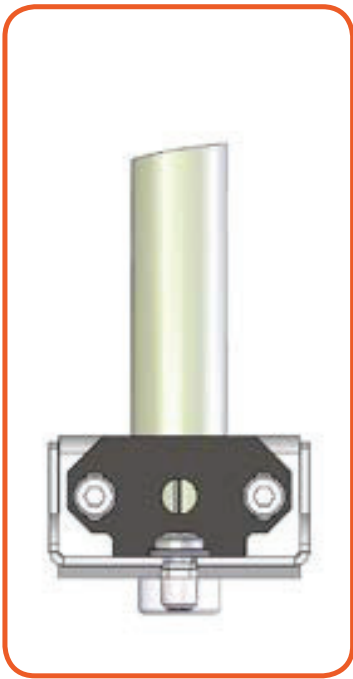


Air inlet hole - Front in NG position

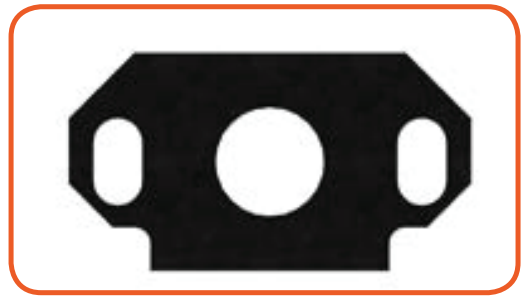


Air inlet hole - Back in NG position

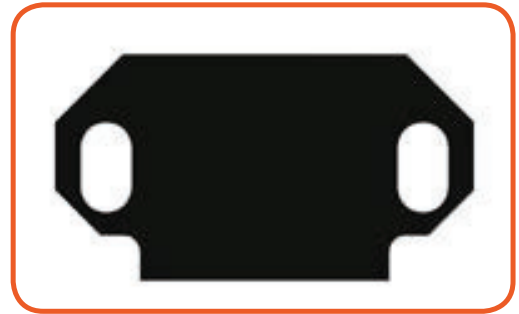
INSTALLATION MANUAL



NG Venturi Throttle settings front 0 and 2mm.



NG Venturi Throttle Ø10mm



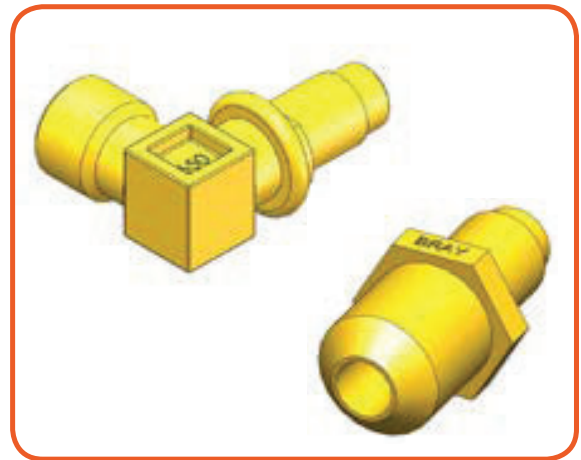
NG Venturi Throttle Back

CHANGING THE INJECTORS

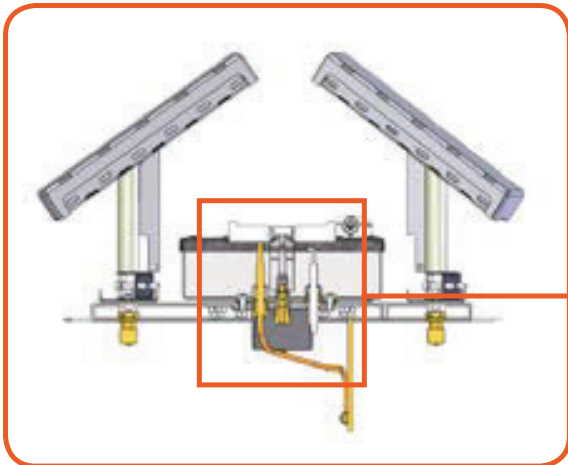
In the manual for each Element4 fire the injectors used for NG and LPG are indicated in Appendix G.

In the images below the different injectors can be seen. Each burner has its own injector and to switch from NG to LPG or vice versa the injectors need to be swapped.

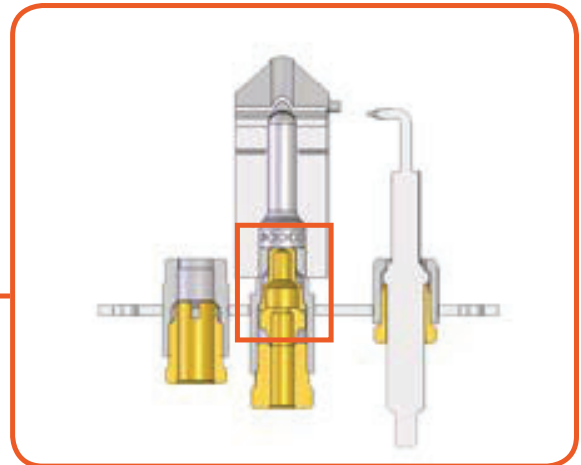
In some cases the used injectors are straight, instead of in a 90 degree angle. Please check that the correct type of injector is used and is available in the conversion kit.



Example of a angle and straight injector found in Element4 fireplaces



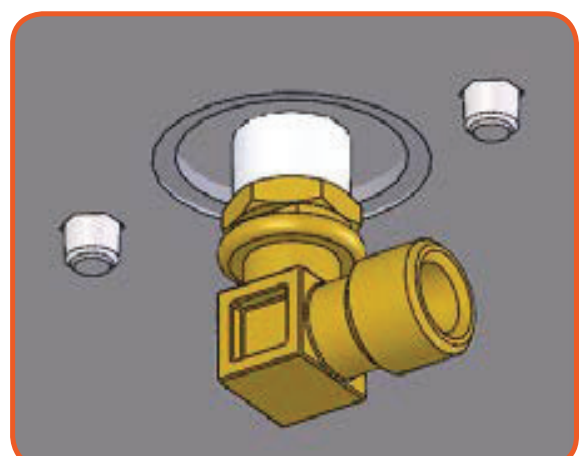
The pilot injector can be found in the pilot set and can be switched by unscrewing the bottom bolt



In this section view of the pilot you can see the injector in the orange section.



Close up of the tiny injector in the pilot set which needs to be switched from an NG to LPG size.



The injectors are positioned under the burner grate and can be loosened and switched out from NG to LPG.

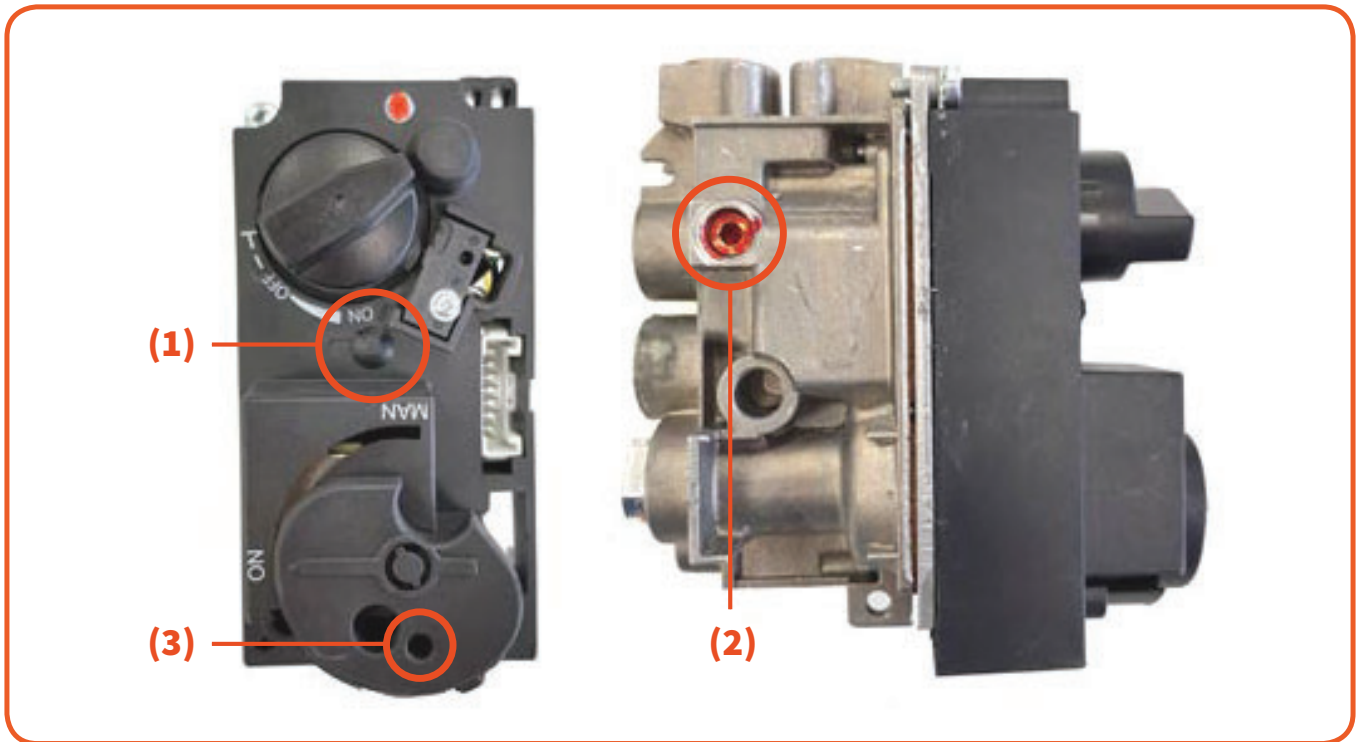
CHANGING THE PRESSURE

Because the type of gas is changed this also means the burner pressure needs to be adjusted. This can be done on the gas block at the indicated places.

The little screw that is used to change the burner pressure is covered by a small black cap, which can easily be removed.

For LPG the rule of thumb is that the burner pressure is roughly 11,25 inch of W.C. or 28 mBar, but the exact value can differ and is as well found in **APPENDIX G** of the installation manual of your fire.

If necessary, the pilot flame can be adjusted as well by tightening or loosening the bolt indicated by the red paint as seen on the right in the image below.



1) Manifold Pressure

High Setting
adjustment screw
Remove black cap to adjust

2) Burner Pressure

Low setting
Burner pressure adjustment spot

On LPG Low setting = 1/3 High setting
or flames of 3 to 4cm / 1,5 inches

3) Burner Pressure

Determine height of the pilot flame

NB: Only touch the pilot burner pressure when gas inlet pressure is measured and according standards!

INSTALLATION MANUAL

MANIFOLD PRESSURE ("WC) / PRESSION D'ADMISSION (PO WC)

CHASSIS	NAME	NG / GN		LPG	
		HIGH	LOW	HIGH	LOW
E4-1 MkIII	Cupido 50	3,8	1,3	10,6	3,7
E4-4	(Bi)Optica	2,0	0,7	10,6	3,7
E4-5	Mod-, Bid- & Trisore 100	3,2	1,1	10,8	3,8
E4-7 MkIII	Cupido 70	4,8	1,7	10,6	3,7
E4-9 MkIII	Summum 70	6,2	2,2	10,6	3,7
E4-10 DB	Mod-, Bid- & Trisore 140	4,0	1,4	10,8	3,8
E4-10 QB	Mod-, Bid- & Trisore 140	6,0	2,1	10,5	3,7
E4-10 RB	Club 140 (F,C,3S)	6,0	2,1	10,5	3,7
E4-10 RF	Summum 140 (RD, T)	4,0	1,4	10,6	3,7
E4-11 DB	Lucius - & Tenore 140	4,0	1,4	10,8	3,8
E4-11 QB	Lucius - & Tenore 140	6,0	2,1	10,5	3,7
E4-11 RB	Club 140 (RD,T)	6,0	2,1	10,5	3,7
E4-11 RFB	Summum 140 (RD, T)	4,0	1,4	10,6	3,7
E4-14	Mod- & Tenore 240	3,4	1,2	10,6	3,7
E4-16	Sky (-T)	3,6	1,3	10,6	3,7
E4-18	Lucius - & Tenore 100	4,9	1,7	10,5	3,7
E4-19	Modore 75H	4,4	1,5	10,8	3,8
E4-20	Modore 185	4,3	1,5	10,6	3,7
E4-21	Summum 100	5,5	1,9	10,5	3,7
E4-23 MB	Mod-, Bid-, Tenore & Lucius 240H	3,4	1,2	10,6	3,7
E4-23 RB	Club 240	5,0	1,8	10,5	3,7
E4-24	Sky (T) M/ Sky M	6	2,10	10,5	3,7
E4-25	Summum 140 4/S	4,0	1,4	10,5	3,7

INSTALLATION MANUAL

MANIFOLD PRESSURE (mBar) / PRESSION D'ADMISSION (mBar)

CHASSIS	NAME	NG / GN		LPG	
		HIGH	LOW	HIGH	LOW
E4-1 MkIII	Cupido 50	15,5	5,4	28,6	10,0
E4-4	(Bi)Optica	19,8	6,9	28,8	10,1
E4-5	Mod-, Bid- & Trisore 100	15,2	5,3	28,5	10,0
E4-7 MkIII	Cupido 70	15,0	5,3	28,0	9,8
E4-9 MkIII	Summum 70	14,0	4,9	27,5	9,6
E4-10 DB	Mod-, Bid- & Trisore 140	11,0	3,9	28,4	9,9
E4-10 QB	Mod-, Bid- & Trisore 140	19,8	6,9	28,8	10,1
E4-10 RB	Club 140 (F,C,3S)	20,0	7,0	22,5	7,9
E4-10 RF	Summum 140 (RD, T)	11,0	3,9	28,0	9,8
E4-11 DB	Lucius - & Tenore 140	11,0	3,9	28,4	9,9
E4-11 QB	Lucius - & Tenore 140	19,8	6,9	28,8	10,1
E4-11 RB	Club 140 (RD,T)	20,0	7,0	22,5	7,9
E4-11 RFB	Summum 140 (RD, T)	11,0	3,9	28,0	9,8
E4-14	Mod- & Tenore 240	9,3	3,3	27,6	9,7
E4-16	Sky (-T)	8,5	3,0	28,7	10,0
E4-18	Lucius - & Tenore 100	18,8	6,6	28,1	9,8
E4-19	Modore 75H	15,8	5,5	28,1	9,8
E4-20	Modore 185	15,2	5,3	28,2	9,9
E4-21	Summum 100	22,0	7,7	27,7	9,7
E4-23 MB	Mod-, Bid-, Tenore & Lucius 240H	9,3	3,3	27,6	9,7
E4-23 RB	Club 240	15,0	5,3	28,1	9,8
E4-24	Sky (T) M/ Sky M	19,5	6,83	28,0	9,8
E4-25	Summum 140 4/S	11,0	3,9	28,0	9,8

INSTALLATION MANUAL

CHASSIS	NAME	THROTTLE	VENTURI SETTINGS	
			NG	LPG
E4-1 MkIII	Cupido 50	Flat Burner Throttle	5 mm Open	No Throttles
		Log Burners Throttle	Ø 5mm	No Throttles
E4-4	(Bi)Optica	Upper Throttle	Fully Closed	No Throttles
		Lower Throttle	No Throttles	No Throttles
E4-5	Mod-, Bid- & Trisore 100	Upper Throttle	1mm Open	No Throttles
		Lower Throttle	No Throttles	No Throttles
E4-7 MkIII	Cupido 70	Flat Burner Throttle	5 mm Open	No Throttles
		Log Burners Throttle	Ø 5mm	No Throttles
E4-9	Summum 70	Flat Burner Throttle	5 mm Open	No Throttles
		Log Burners Throttle	Ø 5mm	No Throttles
E4-10 DB	Mod-, Bid- & Trisore 140	Upper Throttle	Fully Closed	No Throttles
		Lower Throttle	No Throttles	No Throttles
E4-10 QB	Mod-, Bid- & Trisore 140	Upper Throttle	Fully Closed	4,2 mm open
		Lower Throttle	1 mm open	Side Burners - Fully Closed Center Burner - 1,8mm open
E4-10 RB	Club 140 (F,C,3S)	Ribbon Burner Throttle	Ø 6 mm hole (Fixed)	No Throttles (Remove Throttle)
E4-10 RFB	Summum 140 (RD, T)	Flat Burner Throttle	5 mm Open	No Throttles
		Log Burners Throttle	Ø 5mm	No Throttles
E4-11 DB	Lucius - & Tenore 140	Upper Throttle	Fully Closed	No Throttles
		Lower Throttle	No Throttles	No Throttles
E4-11 QB	Lucius - & Tenore 140	Upper Throttle	Fully Closed	4,2 mm open
		Lower Throttle	1 mm open	Side Burners - Fully Closed Center Burner - 1,8mm open
E4-11 RB	Club 140 (RD,T)	Ribbon Burner Throttle	Ø 6 mm hole (Fixed)	No Throttles
E4-11 RFB	Summum 140 (RD, T)	Flat Burner Throttle	5 mm Open	No Throttles
		Log Burners Throttle	Ø 5mm	No Throttles
E4-14	Mod- & Tenore 240	Upper Throttle	Fully Closed	No Throttles
		Lower Throttle	No Throttles	No Throttles
E4-16	Sky (-T)	Upper Throttle	1 mm Open	No Throttles
		Lower Throttle	No Throttles	No Throttles
E4-18	Lucius - & Tenore 100	Upper Throttle	Fully Closed	No Throttles
		Lower Throttle	No Throttles	No Throttles
E4-19	Modore 75H	Upper Throttle	Fully Closed	No Throttles
		Lower Throttle	No Throttles	No Throttles
E4-20	Modore 185	Upper Throttle	Fully Closed	No Throttles
		Lower Throttle	No Throttles	No Throttles
E4-21	Summum 100	Flat Burner Throttle	5 mm Open	No Throttles
		Log Burners Throttle	Ø 5mm	No Throttles
E4-23 MB	Mod-, Bid-, Tenore & Lucius 240H	Upper Throttle	Fully Closed	No Throttles
		Lower Throttle	No Throttles	No Throttles
E4-23 RB	Club 240	Ribbon Burner Throttle	Ø 10mm Hole (Fixed)	No Throttles (Remove Throttle)
E4-24	Sky (T) M/ Sky M	Flat Burner Throttle	5 mm Open	No Throttles
		Log Burners Throttle	Ø 5mm	No Throttles
E4-25	Summum 140 4/S	Flat Burner Throttle	5 mm Open	No Throttles
		Log Burners Throttle	Ø 5mm	No Throttles

INSTALLATION MANUAL

CHASSIS	NAME	ORIFICE SIZE	
		NG	LPG
E4-1 MkIII	Cupido 50	Flat Burner: 1x- 140 (Elbow) Log Burner: 2x - 280 (Elbow)	Flat Burner: 1x- 80 (Elbow) Log Burner: 2x - 120 (Elbow)
E4-4	(Bi)Optica	1x - 1200 (Elbow)	1x - 280 (Elbow)
E4-5	Mod-, Bid- & Trisore 100	1x - 1200 (Elbow)	1x - 240 (Elbow)
E4-7 MkIII	Cupido 70	Flat Burner: 1x- 140 (Elbow) Log Burner: 2x - 280 (Elbow)	Flat Burner: 1x - 80 (Elbow) Log Burner: 2x - 120 (Elbow)
E4-9 MkIII	Summum 70	Flat Burner: 1x- 140 (Elbow) Log Burner: 2x - 280 (Elbow)	Flat Burner: 1x - 80 (Elbow) Log Burner: 2x - 120 (Elbow)
E4-10 DB	Mod-, Bid- & Trisore 140	2x - 650 (Elbow)	2x - 240 (Elbow)
E4-10 QB	Mod-, Bid- & Trisore 140	Center Burner: 1x - 480 (Straight) Side Burners: 4x - 220 (Straight)	Center Burner: 1x - 180 (Straight) Side Burners: 4x - 120 (Straight)
E4-10 RB	Club 140 (F,C,3S)	1x - 1400 (Elbow)	1x - 560 (Elbow)
E4-10 RF	Summum 140 (RD, T)	LogBurner (Big) :2x 360 (Elbow), LogBurner (Small) : 2x 280 (Elbow) FlatBurner: 1x 360 (Elbow)	LogBurner: 4x 160 (Elbow) FlatBurner: 1x 120 (Elbow)
E4-11 DB	Lucius - & Tenore 140	2x - 650 (Elbow)	2x - 240 (Elbow)
E4-11 QB	Lucius - & Tenore 140	Center Burner: 1x - 480 (Straight) Side Burners: 4x - 220 (Straight)	Center Burner: 1x - 180 (Straight) Side Burners: 4x - 120 (Straight)
E4-11 RB	Club 140 (RD,T)	1x - 1400 (Elbow)	1x - 560 (Elbow)
E4-11 RFB	Summum 140 (RD, T)	LogBurner (Big) :2x 360 (Elbow), LogBurner (Small) : 2x 280 (Elbow) FlatBurner: 1x 360 (Elbow)	LogBurner: 4x 160 (Elbow) FlatBurner: 1x 120 (Elbow)
E4-14	Mod- & Tenore 240	3x -1200 (Elbow)	3x - 240 (Elbow)
E4-16	Sky (-T)	2x - 1200 (Elbow)	2x - 220 (Elbow)
E4-18	Lucius - & Tenore 100	2x - 650 (Elbow)	2x - 260 (Elbow)
E4-19	Modore 75H	Front Burner: 1x - 650 (Elbow) Back Burner: 1x - 560 (Elbow)	2x - 220 (Elbow)
E4-20	Modore 185	Center Burner: 1x - 650 (Elbow) Side Burners: 2x - 560 (Elbow)	Center Burner: 1x - 220 (Elbow) Side Burners: 2x - 180 (Elbow)
E4-21	Summum 100	Flat Burner: 1x- 280 (Elbow) Log Burner: 2x - 320 (Elbow)	Flat Burner: 1x- 120 (Elbow) Log Burner: 2x - 140 (Elbow)
E4-23 MB	Mod-, Bid-, Tenore & Lucius 240H	3x - 1200 (Straight)	3x - 220 (Straight)
E4-23 RB	Club 240	1x -1400 (Elbow)	1x - 560 (Elbow)
E4-24	Sky (T) M/ Sky M	Flat Burner: 1x- 280 (Elbow) Log Burner: 2x - 360 (Elbow)	Flat Burner: 1x- 120 (Elbow) Log Burner: 2x - 140 (Elbow)
E4-25	Summum 140 4/S	LogBurner (Big) :2x 360 (Elbow), LogBurner (Small) : 2x 280 (Elbow) FlatBurner: 1x 360 (Elbow)	LogBurner: 4x 160 (Elbow) FlatBurner: 1x 120 (Elbow)



ELEMENT 4 B.V.

Paxtonstraat 23
8013 RP Zwolle
The Netherlands
Info@element4.nl
www.element4fires.com

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