

GB LPG Kit



CODE	MODEL
20121154	R 280 NA
20205385	R 310 NA
20205384	R 410 - R 510 NA
20204649	R 610 NA



Original instructions

1 General warnings

1.1 Guarantee and responsibility

The rights to the guarantee and the responsibility will no longer be valid in the event of damage to things or injury to people, if such damage/injury was due to any of the following causes:

- intervention of unqualified personnel;
- carrying out of unauthorised modifications on the equipment;
- powering of the burner with unsuitable fuels;
- faults in the fuel supply system;
- repairs and/or overhauls incorrectly carried out;
- use of non-original components, including spare parts, kits, accessories and optional;
- force majeure.

The manufacturer furthermore declines any and every responsibility for the failure to observe the contents of this manual.

- Personnel must always use the personal protective equipment envisaged by legislation and follow the indications given in this manual.
- Personnel must observe all the danger and caution indications shown on the machine.
- Personnel must not carry out, on their own initiative, operations or interventions that are not within their province.
- Personnel must inform their superiors of every problem or dangerous situation that may arise.

1.2 Installation safety notes



It is obligatory to carry out all installation, maintenance and dismantling operations with the electricity supply disconnected.



Isolate the fuel supply.



The installation must be carried out by qualified personnel, as indicated in this manual and in compliance with the standards and legal requisites in force.



After removing all the packaging, check the integrity of the contents. If in doubt, do not use the spare parts kit; contact the supplier.



Wait for the components in contact with heat sources to cool down completely.



After carrying out maintenance, cleaning or checking operations, reassemble the cover and all the safety and protection devices of the burner.

2 Kit for conversion of combustion head

2.1 Kit description

The LPG kit allows the burners fitted for burning natural gas. to operate on LPG. The kit is composed of:

Description	Quantity				
	R 280 NA	R 310 NA	R 410 NA	R 610 NA	R 510 NA
Gas pipes	5	5+3	2	7+3	
Fixing screws for pipes	5	8	2	10	
Gas nozzle	6	6	0	6	
Plug	0	2	0	0	
Instructions	1	1	1	1	



Before starting the kit installation operations, get a suitable lifting system ready.



Be careful as some drops of fuel may leak out during the kit installation phase.

Tab. A

2.2 Technical features

Model		R 280 NA	R 310 NA	R 410 NA	R 510 NA	R 610 NA
Thermal power	[MBtu/hr]	2600 - 10500	3500 - 13600	4000 - 16100	5000 - 19200	8590 - 23310
Fuel		Commercial LPG GCV 26.47 kWh/Nm ³ (C ₃ H ₈ = 93 - 94%) 2.55 MBtu/CU.FT.				

Tab. B

2.3 Conversion



Disconnect the electrical supply from the burner by means of the main system switch.



Close the fuel interception tap.

Proceed as follows:

R 280 NA Model (Fig. 1)

- place the stainless steel cylinder 1) outside the spray nozzle 2);
- replace the following material with the standard equipment supplied:
 - 6 gas nozzles 3);
 - the outer gas tubes 4).

R 280 NA MODEL

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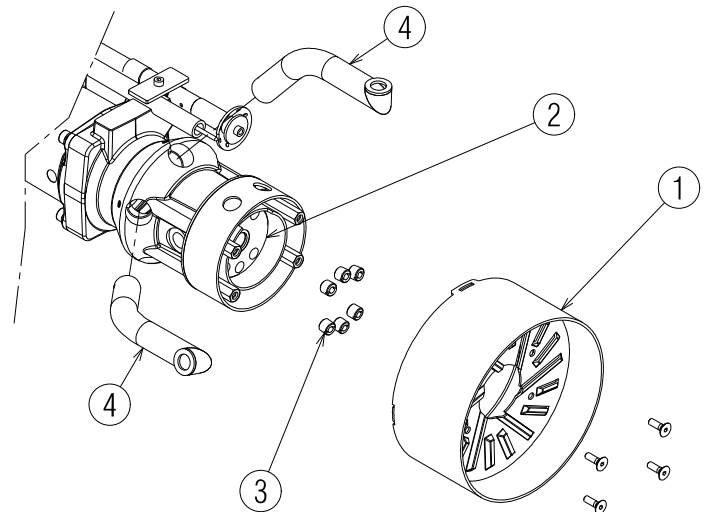


Fig. 1

R 310 NA Model (Fig. 2)

- place the stainless steel cylinder 1) outside the spray nozzle 2);
- replace the following material with the standard equipment supplied:
 - gas nozzles 3);
 - plugs 4);
 - the outer gas tubes 5) (five pieces) and 6) gas tubes (three pieces).

R 310 NA MODEL

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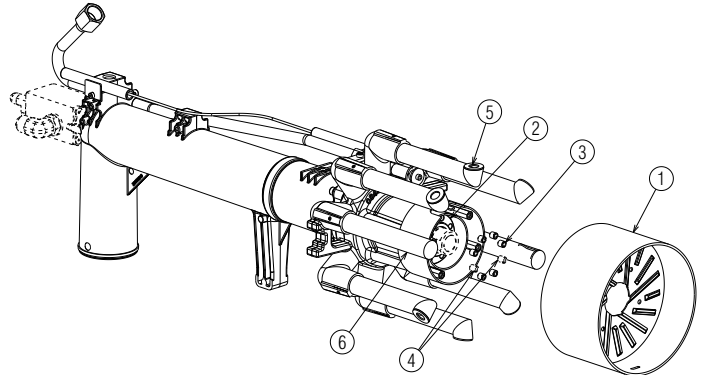


Fig. 2

R 410 - R 510 NA Models (Fig. 3)

- replace the following material with the standard equipment supplied:
 - the outer gas tubes 1) (two pieces).

R 410 - R 510 NA MODELS

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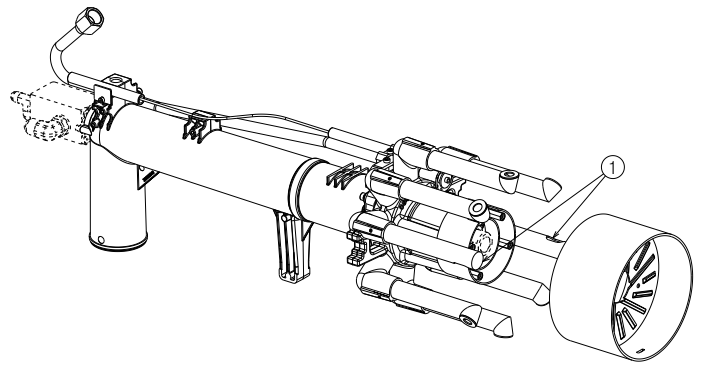


Fig. 3

R 610 NA Model (Fig. 4)

- place the stainless steel cylinder 1) outside the spray nozzle 2);
- replace the following material with the standard equipment supplied:
 - gas nozzles 3) (two holes remain free);
 - the outer gas tubes 4) (seven pieces) and 5) gas tubes (three pieces).

R 610 NA MODEL

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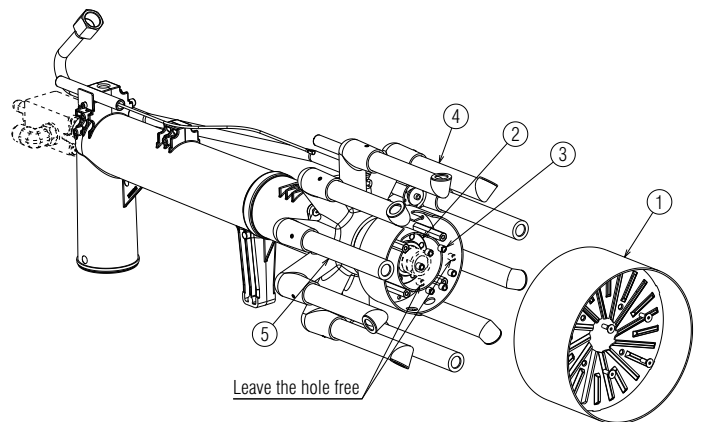


Fig. 4

2.4 Combustion head setting

The same for both LPG and natural gas. Please, refer to the burner instruction manual for the combustion head adjustment.

Gas pressure

The 2.4.1 shows minimum pressure losses along the gas supply line depending on the maximum burner output operation.

Column 1

Pressure loss at combustion head.

Gas pressure measured at the test point 1)(Fig. 5), with:

- combustion chamber at 0 "WC;
- burner working at maximum output;
- combustion head adjusted as in the burner instruction manual.

Column 2

Pressure loss at gas butterfly valve 2)(Fig. 5) with maximum opening: 90°.

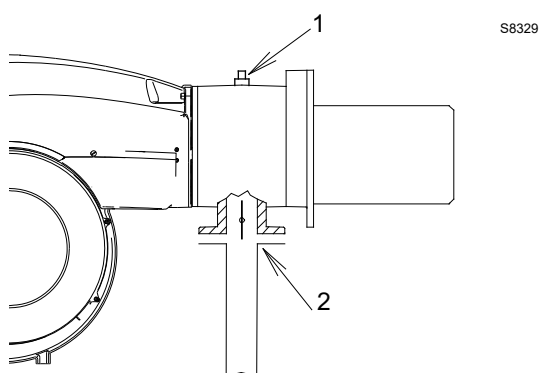


Fig. 5

Note

See the accompanying instructions for the adjustment of the gas train.

MODEL	Mbtu/hr (GCV)	1Δp ("WC)	2Δp ("WC)
R 280 NA	2600	2	0,01
	3500	3,7	0,02
	4500	6,1	0,03
	5500	9,1	0,08
	6500	12,8	0,17
	7500	14,3	0,23
	8500	18,6	0,46
	9.500	23,0	0,57
	10.500	28,2	0,70
R S310 NA	3.500	0,8	0,02
	4.500	1,3	0,02
	5.500	2	0,05
	6.500	2,6	0,12
	7.500	3,7	0,17
	8.500	4,8	0,34
	9.500	5,9	0,42
	10.500	7,3	0,51
	11.500	8,9	0,68
	12.500	10,5	0,85
	13.600	12,2	1,00

MODEL	Mbtu/hr (GCV)	1Δp ("WC)	2Δp ("WC)
R 410 NA	4.000	0,8	0,00
	5.500	1,5	0,00
	6.500	2,1	0,05
	7.500	3,1	0,14
	8.500	3,9	0,18
	9.500	4,9	0,29
	10.500	6,0	0,42
	11.500	7,2	0,51
	12.500	8,5	0,76
	13.500	9,9	0,94
	14.500	11,4	1,10
	15.500	13,1	1,47
R 510 NA	16.100	16,8	1,70
	5.000	1,2	0,00
	6.500	2,1	0,05
	7.500	2,9	0,14
	8.500	3,7	0,18
	9.500	4,6	0,29
	10.500	5,6	0,42
	11.500	6,8	0,51
	12.500	8,0	0,76
	13.500	9,4	0,94
	14.500	10,8	1,19
	15.500	12,4	1,47
	16.500	14,6	2,03
	17.500	16,8	2,22
	18.500	19,0	2,56
R 610 NA	19.200	20,5	2,99
	8.590	3,4	0,20
	9.500	4,1	0,33
	10.500	4,8	0,46
	11.500	5,6	0,59
	12.500	6,5	0,72
	13.500	7,4	0,85
	14.500	8,5	0,98
	15.500	9,8	1,11
	16.500	11,0	1,24
	17.500	12,3	1,37
	18.500	13,5	1,50
	19.500	14,8	1,63
	20.500	16,1	1,76
	21.500	17,4	1,89
	22.500	18,7	2,02
	23.308	19,7	2,20

Tab. C

2.4.1 Ignition pilot burner

For proper operation, adjust gas pressure (measured at pressure test point 1)(Fig. 5) as follows:

Model	Gas	“WC	SCFH
RLAS 280/EV	LPG	6 - 8	210 - 250
RLAS 310/EV	LPG	6 - 8	210 - 250
RLAS 410/EV	LPG	6 - 8	210 - 250
RLAS 510/EV	LPG	6 - 8	210 - 250
RLAS 610/EV	LPG	6 - 8	210 - 250

Tab. D



WARNING

Check pilot flame stability before starting up the main burner.

