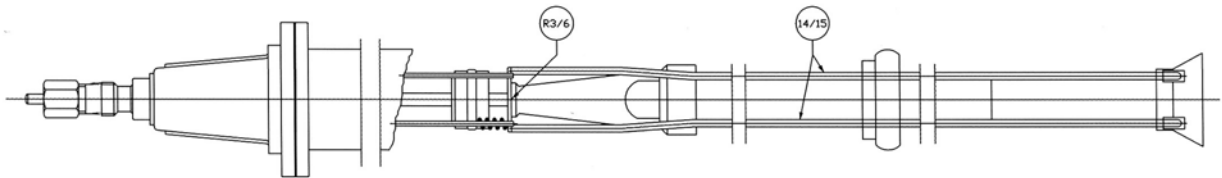
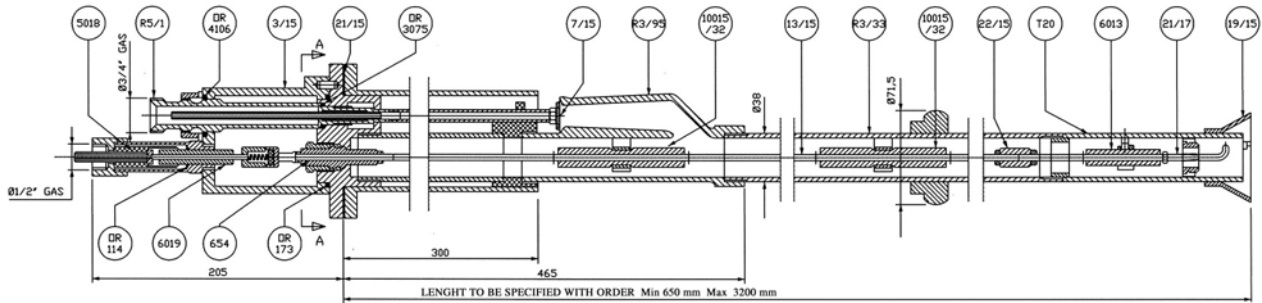




Fusar Bassini Astorre e C. Snc

GAS PILOT BURNER

FBU-31-R3/ ... e FBU-31-R5/ ...



Fusar Bassini Astorre e C. Snc

GAS BURNERS AND COMPONENTS FOR COMBUSTION SYSTEMS

Via P.M. Ferrè, 14 -26013 CREMA (CR) Tel/Fax 0373-257594 web: www.fusarbassini.it e-mail: info@fusarbassini.it





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GAS PILOT BURNER

FBU-31-R3/ ... e FBU-31-R5/ ...

GASES: Natural gas – liquid gas

GAS PRESSURE: from 0.1 to 2 Ate

AIR PRESSURE TO THE MAIN BURNER BOX: 150 – 60 mm H₂O

HIGH VOLTAGE ELECTRIC SWITCH: 8000 V

AVAILABLE LENGHT: to be specified with order

For FBU-31-R3 from 650 mm to 3200 mm

For FBU-31-R5 from 850 mm to 3200 mm

REFERENCE TABLE OF THE TOTAL MAXIMUM FLOW RATE NATURAL GAS										
	FLOW RATES IN Nm ³ /HOUR OF LIQUID GAS FED AT THE PRESSURE IN ATE OF:									
	0,1	0,2	0,35	0,5	0,7	1	1,25	1,5	1,75	2
PREMIXED GAS INJECTOR 1 mm	0,42	0,62	0,8	0,95	1,1	1,3	1,5	1,7	1,9	2,1
MAX AUXILIARY FLOW RATE OF THE TWO JETS OF PURE GAS/NR.2 PASSAGES Ø 3	6	9,5	12	14	16	19	21	23	25	27
MAX FLOW RATE PREMIXED GAS COMPRESSION AND MAX AUXILIARY FLOW RATE OF PURE GAS	6,42	10,12	12,8	14,95	17,1	20,3	22,5	24,7	26,9	29,1
REFERENCE TABLE OF THE TOTAL MAXIMUM FLOW RATE LIQUID GASES - LPG										
	FLOW RATES IN Nm ³ /HOUR OF LIQUID GAS FED AT THE PRESSURE IN ATE OF:									
	0,1	0,2	0,35	0,5	0,7	1	1,25	1,5	1,75	2
PREMIXED GAS INJECTOR 1 mm	0,22	0,32	0,42	0,5	0,5	0,73	0,81	0,9	0,95	1
MAX AUXILIARY FLOW RATE OF THE TWO JETS OF PURE GAS/NR.2 PASSAGES Ø 3	4	5	6	7	8	9	10	11	12	13
MAX FLOW RATE PREMIXED GAS COMPRESSION AND MAX AUXILIARY FLOW RATE OF PURE GAS	4,22	5,32	6,42	7,5	8,6	9,73	10,81	11,9	12,95	14

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GAS PILOT BURNER

FBU-31-R3/ ... e FBU-31-R5/ ...

GENERAL DESCRIPTION

The FBU-31-R... pilot burner provides automatic ignition for gas, oil or mixed (gas-oil) main burners of industrial steam generators. The new design provides a double simultaneous gas supply to the pilot to obtain a large, steady flame.

The primary low flow gas supply and air are stoichiometrically premixed inside the premixing chamber. The air/gas mixture comes to the pilot burner flame retention head and is ignited by means of an electrical spark. The flame is exceptionally stable under normal air turbulence, but its volume is too small to obtain a reliable flame detection and positive ignition of the main burner. To overcome this drawback, another raw gas supply is provided through two inlets at the base of the flame. The raw gas ignites and magnifies the pilot flame. Thus, the flame is reliable proven and the main burner positively ignited. The flame pattern and size can be varied by adjusting the raw gas inlets.

Installation of FBU-31 is very easy because for operation it is necessary only to connect the gas supply; air is supplied from the main burner air box.

ADJUSTMENT OF PREMIXING AIR

Take off the protection shroud placed at the basis of the starting torch, by with drawing the fastening nut. On the center line of the starting torch body there are two screw plugs diametrically opposed and above them there are a rod and the air adjusting screw. With the air outlet completely shut down, the adjusting rod is close to the casting, but by increasing the opening of the air outlet by means of the adjusting screw, the rod shifts outside, thus reaching the maximum projection and contemporaneously the maximum opening of the air outlet.

ADJUSTMENT OF AUXILIARY GAS

By removing the two screw plugs, free access is allowed to the two screws which are for adjusting the flow rate of the raw gas to the two auxiliary burners.

STARTING TORCH SETTING UP

The following procedure is recommended:

- 1) With the starting torch installed, but switched off, withdraw the fastening nut
- 2) Remove the two plugs which cover the screws and turn clockwise the two screws which adjust the

flow rate of the auxiliary gas in such a way as to completely intercept the gas at the two auxiliary burners.

- 3) Turn anticlockwise the air adjusting screw until the adjusting rod comes close to the casting (air outlet to the premixing device in a shut down state).
- 4) Prearrange all the various parts so that the main burner, the combustion chamber, etc... are in the normal condition of ignition.
- 5) Ignite the starting torch. Keep in mind that the flame, at this point, consists of the only premixed flame, because the two auxiliary jets are cut out. Therefore the flame volume is equal to only (about) a fifteenth part of the volume which could be obtained with the auxiliary burners open.
- 6) Raise the premixing rating by means of the air adjusting screw until a good combustion is achieved. A premixing rating is recommended such as to obtain a flame beam sufficiently tight and bluish; not excessively premixed so as to produce a Bunsen burner-type flame (short and stiff beam), unless remarkable problems of turbulence exist.
- 7) After a combustion deemed to be satisfactory has been achieved, repeat several times the ignition tests, lightly modifying the premixing rating until a premixing suitable to an easy ignition with good flame characteristics is found.
- 8) With the premixed flame ignited, open gradually both the adjusting screws of the auxiliary gas until reaching the desired flame volume.
- 9) Blow out the starting torch and repeat several times the ignition leaving, of course, the flow of raw gas to the burners at the value established during operation 8. Both the premixed flame and the two auxiliary jets should ignite instantaneously and without any difficulty.
- 10) Test the flame stability by varying the position of the air locks (registers and draught locks); in case of necessity lightly change the adjustment of the premixing device by means of the special adjusting screw in order to obtain a flame which is satisfactory in all the draught and turbulence conditions normally occurring during the ignition phase.
Put again the plugs covering the screws on the latter ones ...

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