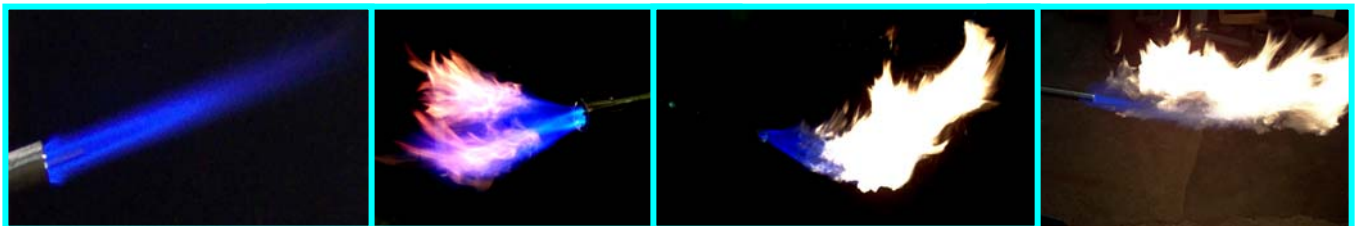




Fusar Bassini Astorre e C. Snc
 GAS BURNERS AND COMPONENTS FOR COMBUSTION SYSTEMS
Section 2: GAS PILOT BURNERS

* <u>GAS PILOT BURNERS</u> <u>Sheet 2</u>			
	<u>CAPACITY</u>		
	<u>Kw</u>	<u>Kcal/h</u>	
* <u>GAS PILOT BURNER BLAST TYPE</u>			
- <u>PILOT BURNER P211</u>	<u>5</u>	<u>4300</u>	<u>Sheet 3</u>
- <u>PILOT BURNER P270</u>	<u>10</u>	<u>8600</u>	<u>Sheet 5</u>
- <u>PILOT BURNER P21-S</u>	<u>28</u>	<u>24000</u>	<u>Sheet 6</u>
- <u>PILOT BURNER P21-S ATEX</u>	<u>28</u>	<u>24000</u>	<u>Sheet 7</u>
- <u>PILOT BURNER YP22-S/175</u>	<u>28</u>	<u>24000</u>	<u>Sheet 8</u>
- <u>BURNER P41-S</u>	<u>46</u>	<u>40000</u>	<u>Sheet 9</u>
- <u>BURNER P41-S ATEX</u>	<u>46</u>	<u>40000</u>	<u>Sheet 10</u>
- <u>PILOT BURNER P81-S</u>	<u>100</u>	<u>86000</u>	<u>Sheet 11</u>
- <u>PILOT BURNER P0717-A</u>	<u>10</u>	<u>8600</u>	<u>Sheet 12</u>
- <u>PILOT BURNER P0717-N</u>	<u>10</u>	<u>8600</u>	<u>Sheet 13</u>
- <u>PILOT BURNER P612-N</u>	<u>5</u>	<u>4300</u>	<u>Sheet 14</u>
- <u>PILOT BURNER P612-FP</u>	<u>5</u>	<u>4300</u>	<u>Sheet 15</u>
* <u>GAS PILOT BURNER WITH INDUCED AIR</u>			
- <u>PILOT BURNER P21-N</u>	<u>14</u>	<u>12000</u>	<u>Sheet 16</u>
- <u>PILOT BURNER P41-N</u>	<u>28</u>	<u>24000</u>	<u>Sheet 17</u>
- <u>PILOT BURNER P81-N</u>	<u>56</u>	<u>48000</u>	<u>Sheet 18</u>
* <u>DOUBLE GAS SUPPLY SYSTEM PILOT BURNERS</u> <u>Sheet 19</u>			
- <u>PILOT BURNER P25-S</u>	<u>240</u>	<u>206000</u>	<u>Sheet 20</u>
- <u>PILOT BURNER P29-S</u>	<u>270</u>	<u>232000</u>	<u>Sheet 21</u>
- <u>TORCH IGNITER TAP 21</u>	<u>200</u>	<u>170000</u>	<u>Sheet 22</u>
- <u>PILOT BURNER FBU31-R</u>	<u>280</u>	<u>240000</u>	<u>Sheet 25</u>
- <u>PILOT BURNER C7010</u>	<u>280</u>	<u>240000</u>	<u>Sheet 28</u>



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





Fusar Bassini Astorre e C. Snc GAS PILOT BURNER

Applications: industrial furnaces, on multi-combustible burners

Functioning with iducted and blast air,
also with a double gas supply system pilot burners

Electric ignition 8000 V

Flame detection:

- With electrode/single electrode
- Uv detection

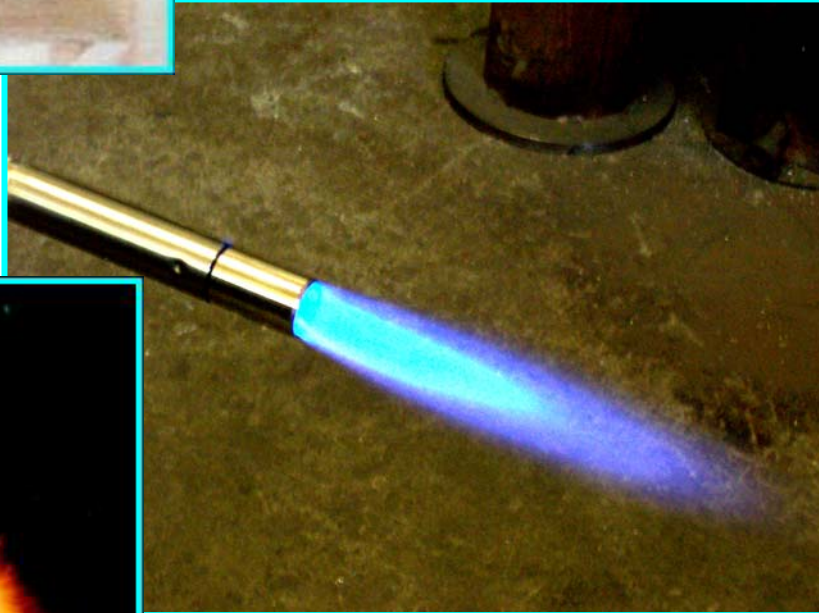
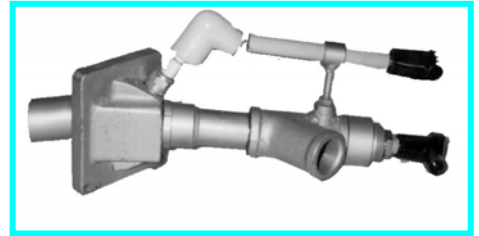
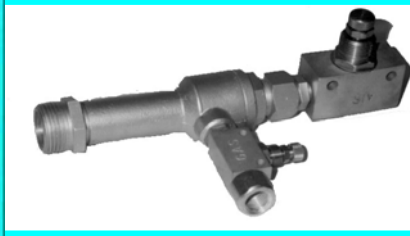
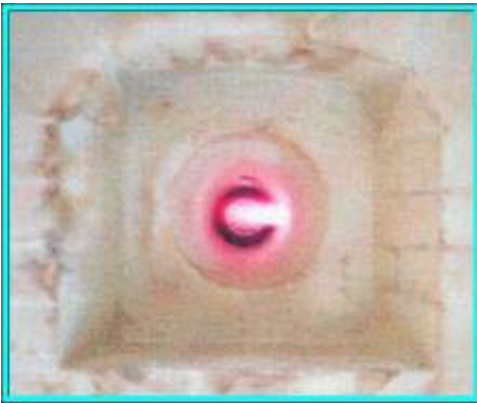
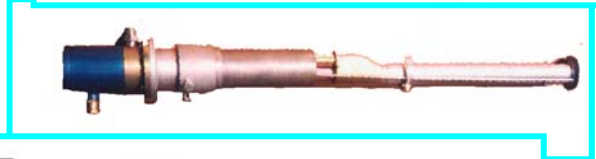
Predisposition: with mounting for industrial furnaces

Capacity: from 7 KW to 1300 KW

(from 6000 Kcal/h to 1120000 Kcal/h)

Length of the head: up to 5000 mm

Diameter of the head: from 22 mm to 90 mm



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





Fusar Bassini Astorre e C. Snc

PILOT BURNER P211-S

APPLICATION

Gas pilot burner with blast air supply and with single electrode fully incorporated, complete with pre-mixer air/gas unit, with sensitive flow gas adjuster to the pilot burner.

Specially fit for burning chambers in pressure.

TECHNICAL DATA

GASES: Natural gas, liquid gas

COMBUSTION AIR PRESSURE: 600 mm H₂O

GAS PRESSURE: 600 mm H₂O

HIGH VOLTAGE ELECTRIC SWITCH: V.8000

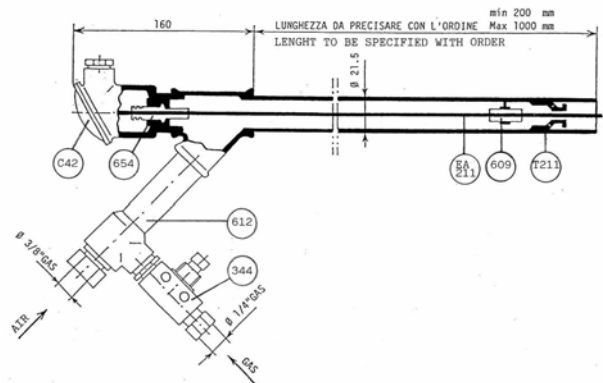
PILOT LENGHT: Between 200 and 1000 mm

EFFICIENCY

The maximum efficiency of the pilot depends on the effective pressure of the combustion air feed, measured immediately before the pre-mixer of the pilot burner and the back pressure in the combustion chamber.

AIR PRESSURE:	MAXIMUM POWER:
300 mm H ₂ O	Q = 4.000 Cal/hour
400 mm H ₂ O	Q = 4.800 Cal/hour
from 500 to 600 mm H ₂ O	Q = 5.700 Cal/hour

N.B. – The maximum power in Nmc/h of the gas can be found by dividing the maximum power, throught the calorific value, of the gas burning in the pilot.



N.	DESCRIPTION OF PARTS
344	Gas adjuster
612	Air – Gas premixer
C-42	Protection aluminium housing
EA-211	Ignition electrode (pilot lenght to be specified)
T-211	Flame retention nozzle
609	Insulator
654	Insulator

CAUTION

Pilot burner, main burner and the automatic burner control unit must be designed, installed and setted meeting the law regulations in force.

Before every lighting of the pilot burner carry out the cycle of the pre-purge with air like 5 times of the quantity to the combustion chamber.

Verify eletrrical links and air-gas plant are executed correctly.

Check tightness outside of the joint pipe to the gas cock of the pilot burner.

The efficiency of the pilot burner must be between 2% and 5% of the efficiency of the main burner.

The assembling and the regulation of the pilot burner will be easier by using flexible pipes for the air and gas supply.

It is recommended to provide clean air and gas free from dust.

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





Fusar Bassini Astorre e C. Snc PILOT BURNER P211-S

REGULATION OF THE PILOT BURNER FLAME

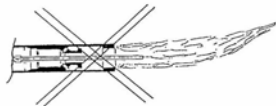
For a correct functioning of the pilot burner it is recommended to set the settingshall of the pilot burner; in a specials cases can be useful to examine the flame visually, the settingshall be carried out removing the pilot burner from its housing, **verifying stick in one's earth connection of the pilot extract.**

- Fully close the gas adjuster device pin on the pilot burner.
- Fully open the gas cock and the air cock on the pilot burner.
- Check the air and gas supply to the in the pilot pre-mixer.

CAUTION: before trying to light the pilot burner you must close the gas interception cock on the corresponding main burner

- Connect the electronic control and regulation equipment of the pilot burner following the instructions given by the supplier of the equipment of electrical control.
- Simultaneously with the excitation of the electric arc gradually open the adjuster pin on the gas adjuster device until the flame of the pilot burner is light
- If the flame of the pilot burner is yellowish and luminous, it means that there is an excess of gas (or lack of air) therefore the flame regulator will stop after the ignition time has elapsed.
- If so reduce the gas flow rate by the gas adjuster pin until obtaining a stronger, extremely rigid and pale blue flame. **The flame shall start to form inside the ends of the flame-thrower.**

NO



Incorrect regulation: absence of flame retention; flame with excess of gas (or air failure)

If so, reduce the gas flow rate by the gas adjuster pin until obtaining a stronger, extremely rigid and pale blue flame. The flame shall start to form inside the ends of the flame-thrower.

YES



Correct regulation of the flame with flame retention ignited inside the point of the pilot burner head.



Correct regulation of the flame with flame retention ignited inside the point of the pilot burner head.

Try a few more times the flame ignition and detection of the pilot burner in the open air, then fit the pilot burner extinguished into its housing.

CAUTION: be sure that the pilot burner is rightly fit into its housing in the main burner head.

Now check whether the functioning of the pilot burner is affected by the pressure in the combustion chamber and whether an additional regulation is needed. It can be useful to use a d.c. micro-amperometer applied to the terminal board of the automatic burner control unit following the instructions given by the supplier of the apparatus. By the microamperometer measure the "flame current" (ionisation) depending on the air-gas ratio of the mixture in the pilot burner: the flame current represents the maximum value for the stoichiometric mixture that is the best air-gas mixture. The current strength decreases very rapidly in the mixtures rich of gas (or with lack of air) whereas it decreases more slowly in the mixtures rich of air (or with lack of gas). The value of the flame current expressed in micro amperes is shown in the instructions given by the supplier of the automatic burner control unit.

Under this condition, the automatic burner control unit, after the lighting time,through the flame rod of the pilot burner detects the flame and continues the control cycle.

MAINTENANCE

It is recomended a regular functional test taking into consideration the working cicle to be carried out.

CAUTION: The combustion system must be designed and installed meeting the law regulations in force. If the installation, the use and the maintenance are not carried out correctly, severe damages to things or persons might occur.

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





Fusar Bassini Astorre e C. Snc

P270-S/...

Gas pilot burner with blast air supply and with electrode fully incorporated, complete with pre-mixer air/gas unit, with sensitive flow gas adjuster to the pilot burner. Specially fit for burning chambers in pressure.

GASES: Natural gas, liquid gas

COMBUSTION AIR PRESSURE:

From 200 to 600 mm H₂O

GAS PRESSURE: from 300 to 600 mm H₂O

HIGH VOLTAGE ELECTRIC SWITCH: V.8000

PILOT LENGHT: Between 200 and 1850 mm

EFFICIENCY

The maximum efficiency of the pilot depends on the effective pressure of the combustion air feed, measured immediately before the pre-mixer of the pilot burner.

AIR PRESSURE:	MAXIMUM POWER:
300 mm H ₂ O	Q = 7.000 Cal/hour
400 mm H ₂ O	Q = 8.400 Cal/hour
from 500 to 600 mm H ₂ O	Q = 10.000 Cal/hour

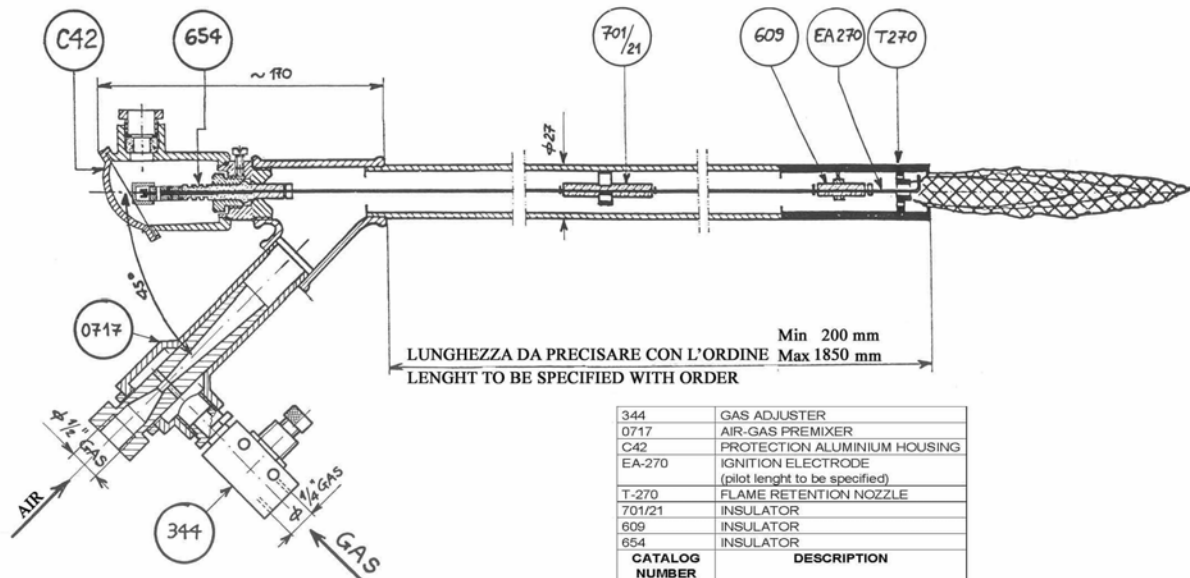
ATTENTION – The maximum power in Nmc/h of the gas can be found by dividing the maximum power, through the calorific value, of the gas burning in the pilot.

REGULATION OF THE FLAME

To obtain a stable flame and good ignition of the pilot burner don't exceed the maximum range of the gas to the pilot burner; if so, reduce the gas flow rate by the gas adjuster up to obtaining a stronger, extremely rigid and blue flame. The flame shall start to form inside the ends of the flame thrower.

WITH EXCESS OF GAS OR LOWER AIR PRESSURE, THE FLAME RETENTION SYSTEM IS NOT EFFICIENT AND THE IGNITION OF THE PILOT MAY BE UNCERTAINTY!!!

PILOT BURNER, MAIN BURNER AND THE AUTOMATIC BURNER CONTROL UNIT MUST BE DESIGNED, INSTALLED AND SETTED MEETING THE LAW REGULATIONS IN FORCE.



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





Fusar Bassini Astorre e C. Snc

P21-S/ ...

Gas pilot burner with blast air supply and with electrode fully incorporated, complete with pre-mixer air/gas unit, with sensitive flow gas adjuster to the pilot burner.

Specially fit for burning chambers in pressure.

GASES: Natural gas, liquid gas, town gas

COMBUSTION AIR PRESSURE:

From 300 to 2.000 mm H₂O

GAS PRESSURE:

From 200 to 15.000 mm H₂O

HIGH VOLTAGE ELECTRIC SWITCH:

V.8000

PILOT LENGHT: Between 180 and 3300 mm

EFFICIENCY

The maximum efficiency of the pilot depends on the effective pressure of the combustion air feed, measured immediately before the pre-mixer of the pilot burner.

AIR PRESSURE:	MAXIMUM POWER:
200 mm H ₂ O	Q = 18.000 Cal/hour
300 mm H ₂ O	Q = 24.000 Cal/hour
from 400 to 2000 mm H ₂ O	Q = 30.000 Cal/hour

N.B. – The maximum power in Nmc/h of the gas can be found by dividing the maximum power, through the calorific value, of the gas burning in the pilot.

REGULATION OF THE FLAME

To obtain a stable flame and good ignition of the pilot burner don't exceed the maximum range of the gas to the pilot burner; if so, reduce the gas flow rate by the air and gas adjuster up to obtaining a stronger, extremely rigid and blue flame. The flame shall start to form inside the ends of the flame thrower.

WITH EXCESS OF GAS OR LOWER AIR PRESSURE, THE FLAME RETENTION SYSTEM IS NOT EFFICIENT AND THE IGNITION OF THE PILOT MAY BE UNCERTAINTY!!!

PILOT BURNER, MAIN BURNER AND THE AUTOMATIC BURNER CONTROL UNIT MUST BE DESIGNED, INSTALLED AND SETTED MEETING THE LAW REGULATIONS IN FORCE.



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

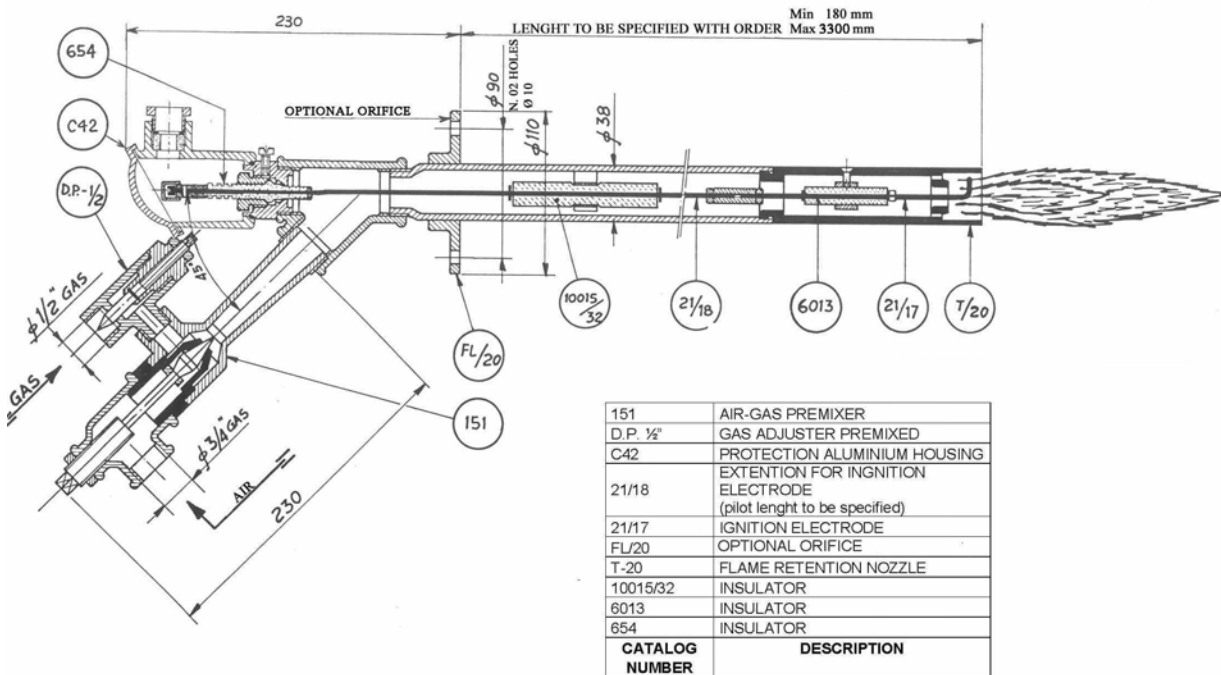




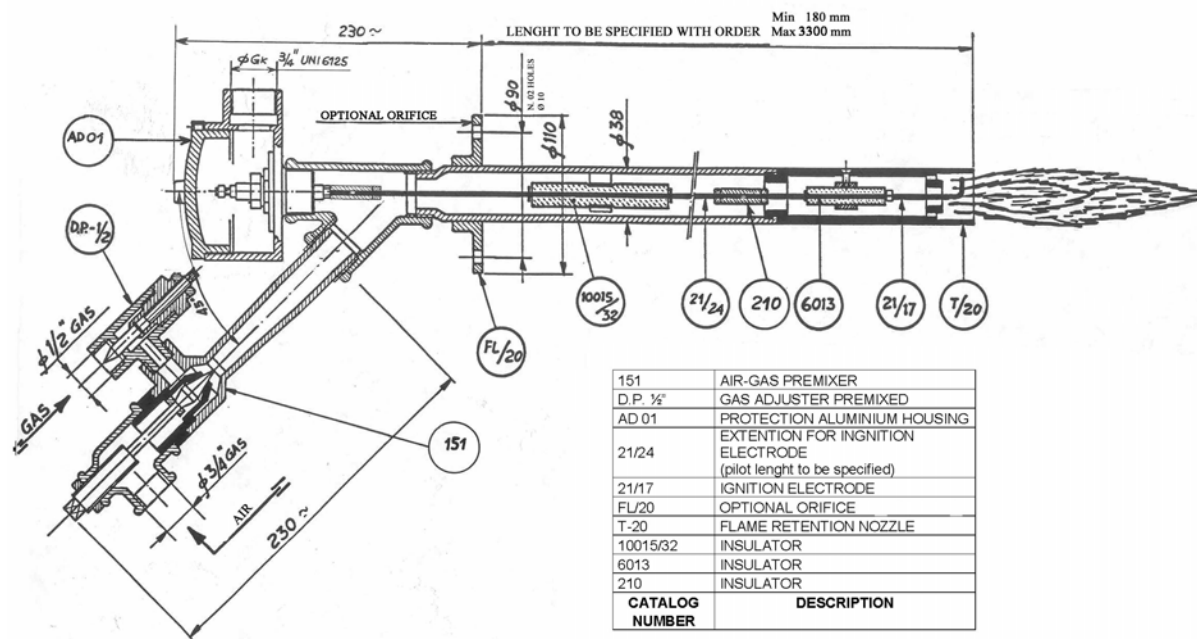
Fusar Bassini Astorre e C. Snc

P21-S/... ATEX

P21-S/...



P21-S/... ATEX



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





Fusar Bassini Astorre e C. Snc

Y-P22-S/175

**GAS PILOT BURNER WITH BLAST AIR
AND SINGLE ELECTRODE IGNITION**



Gas pilot burner with blast air supply and single electrode fully incorporated, complete with pre-mixer air/gas unit, with sensitive flow gas adjuster.

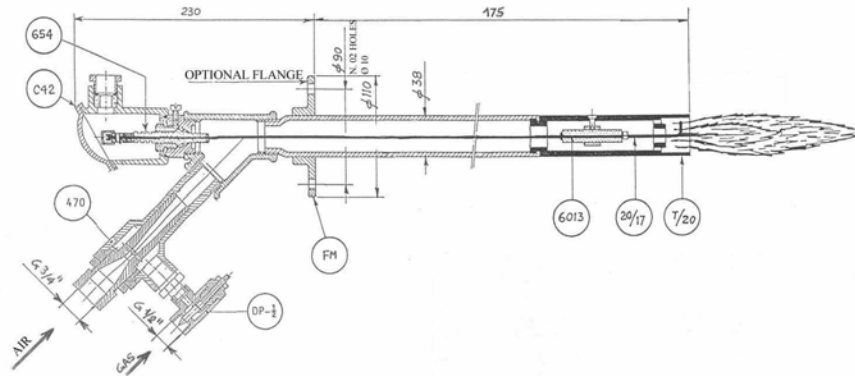
GASES: Natural gas, liquid gas

HIGH VOLTAGE ELECTRIC SWITCH 8000 V.

AIR PRESSURE: from 200 to 500 mm H₂O

POWER: 20.000 Kcal/h

GAS PRESSURE: from 200 to 500 mm H₂O



SPARE PARTS

N.	DENOMINAZIONE
DP 1/2"	Gas adjuster
470	Air – Gas premixer
C-42	Protection aluminium housing
20/17	Ignition electrode (pilot lenght to be specified)
T/20	Flame retention nozzle
FM	Optional orifice
6013	Insulator
654	Insulator

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





Fusar Bassini Astorre e C. Snc

P41-S/...

Gas pilot burner with blast air supply and electrode fully incorporated, complete with pre-mixer air/gas unit, with sensitive flow gas adjuster to the pilot burner.
Specially fit for burning chambers in pressure.

GASES: Natural gas, liquid gas, town gas

COMBUSTION AIR PRESSURE:

From 200 to 2.000 mm H₂O

GAS PRESSURE:

From 300 to 15.000 mm H₂O

HIGH VOLTAGE ELECTRIC SWITCH:

V.8000

PILOT LENGHT: Between 180 and 3300 mm

EFFICIENCY

The maximum efficiency of the pilot depends on the effective pressure of the combustion air feed, measured immediately before the pre-mixer of the pilot burner.

AIR PRESSURE:	MAXIMUM POWER:
200 mm H ₂ O	Q = 18.000 Cal/hour
300 mm H ₂ O	Q = 24.000 Cal/hour
from 400 to 2000 mm H ₂ O	Q = 30.000 Cal/hour

ATTENTION – The maximum power in Nmc/h of the gas can be found by dividing the maximum power, through the calorific value, of the gas burning in the pilot.

REGULATION OF THE FLAME

To obtain a stable flame and good ignition of the pilot burner don't exceed the maximum range of the gas to the pilot burner; if so, reduce the gas flow rate by the air and gas adjuster up to obtaining a stronger, extremely rigid and blue flame. The flame shall start to form inside the ends of the flame thrower.

WITH EXCESS OF GAS OR LOWER AIR PRESSURE, THE FLAME RETENTION SYSTEM IS NOT EFFICIENT AND THE IGNITION OF THE PILOT MAY BE UNCERTAINTY!!!

PILOT BURNER, MAIN BURNER AND THE AUTOMATIC BURNER CONTROL UNIT MUST BE DESIGNED, INSTALLED AND SETTED MEETING THE LAW REGULATIONS IN FORCE.



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

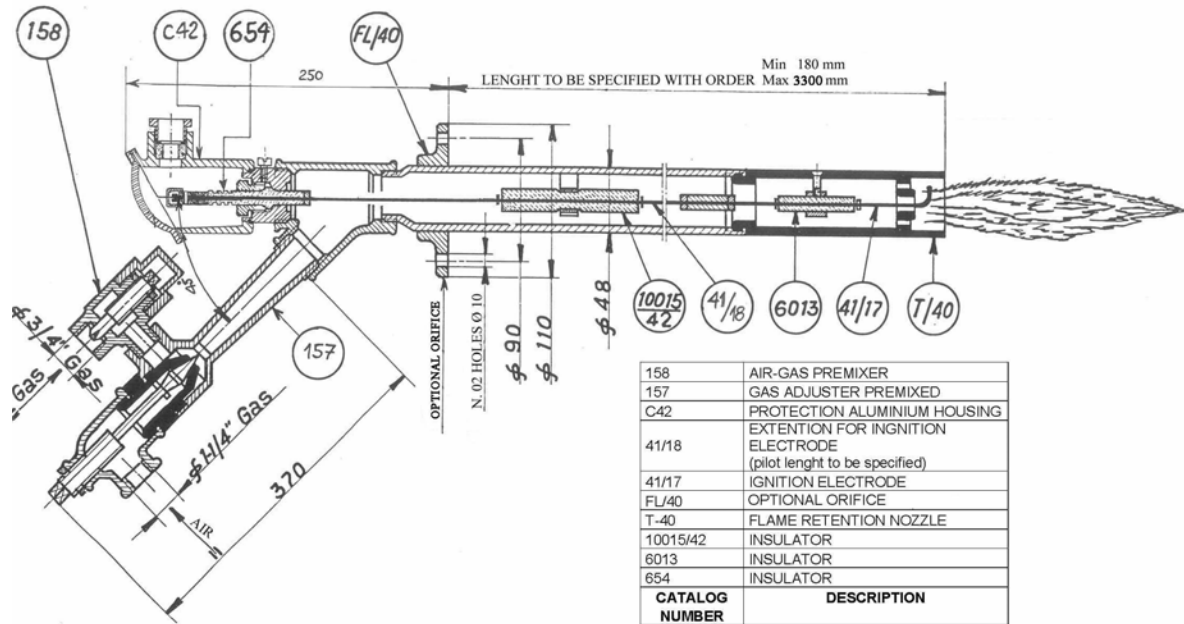




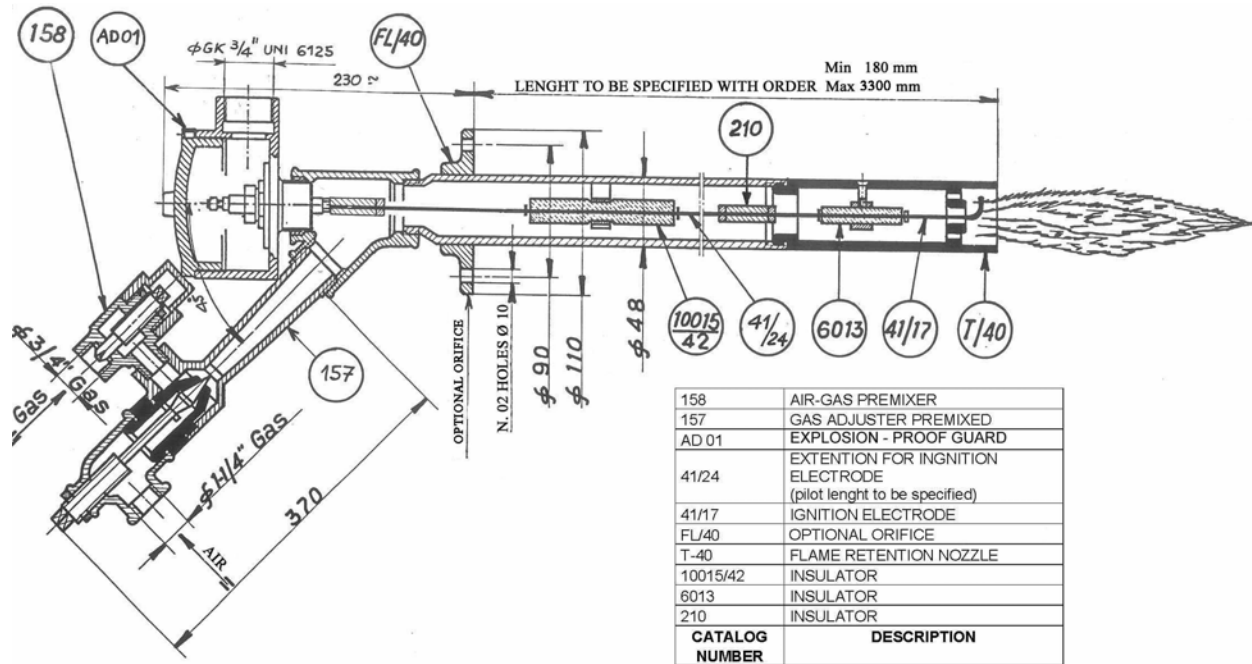
Fusar Bassini Astorre e C. Snc

P41-S/... ATEX

P41-S/...



P41-S/... ATEX



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





Fusar Bassini Astorre e C. Snc

P81-S/...

Gas pilot burner with blast air supply and electrode fully incorporated, complete with pre-mixer air/gas unit, with sensitive flow gas adjuster to the pilot burner. Specially fit for burning chambers in pressure.

GASES: Natural gas, liquid gas, town gas

COMBUSTION AIR PRESSURE:

From 200 to 2.000 mm H₂O

GAS PRESSURE: From 300 to 15.000 mm H₂O

HIGH VOLTAGE ELECTRIC SWITCH:

V.8000

PILOT LENGHT: Between 180 and 3300 mm

EFFICIENCY

The maximum efficiency of the pilot depends on the effective pressure of the combustion air feed, measured immediately before the pre-mixer of the pilot burner.

ATTENTION – The maximum power in Nmc/h of the gas can be found by dividing the maximum power, throught the calorific value, of the gas burning in the pilot.

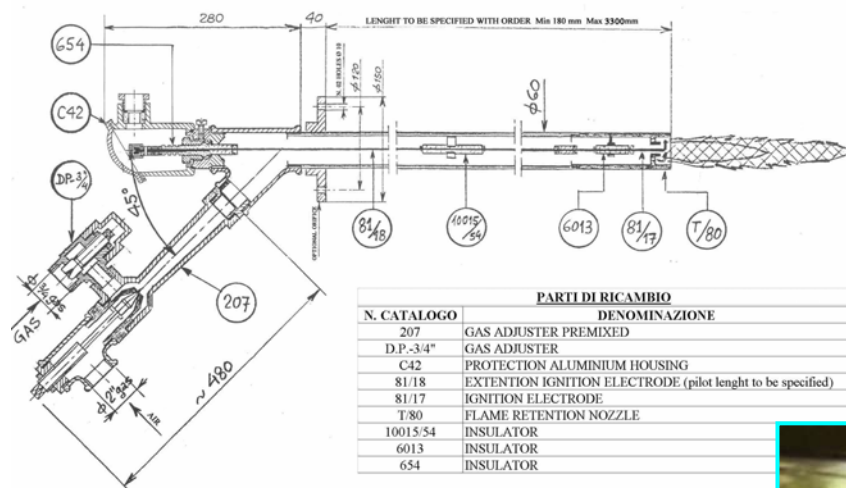
AIR PRESSURE:	MAXIMUM POWER:
200 mm H ₂ O	Q = 18.000 Cal/hour
300 mm H ₂ O	Q = 24.000 Cal/hour
from 400 to 2000 mm H ₂ O	Q = 30.000 Cal/hour

REGULATION OF THE FLAME

To obtain a stable flame and good ignition of the pilot burner don't exceed the maximum range of the gas to the pilot burner; if so, reduce the gas flow rate by the air and gas adjuster up to obtaining a stronger, extremely rigid and blue flame. The flame shall start to form inside the ends of the flame thrower.

WITH EXCESS OF GAS OR LOWER AIR PRESSURE, THE FLAME RETENTION SYSTEM IS NOT EFFICIENT AND THE IGNITION OF THE PILOT MAY BE UNCERTAINTY!!!

PILOT BURNER, MAIN BURNER AND THE AUTOMATIC BURNER CONTROL UNIT MUST BE DESIGNED, INSTALLED AND SETTED MEETING THE LAW REGULATIONS IN FORCE.



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



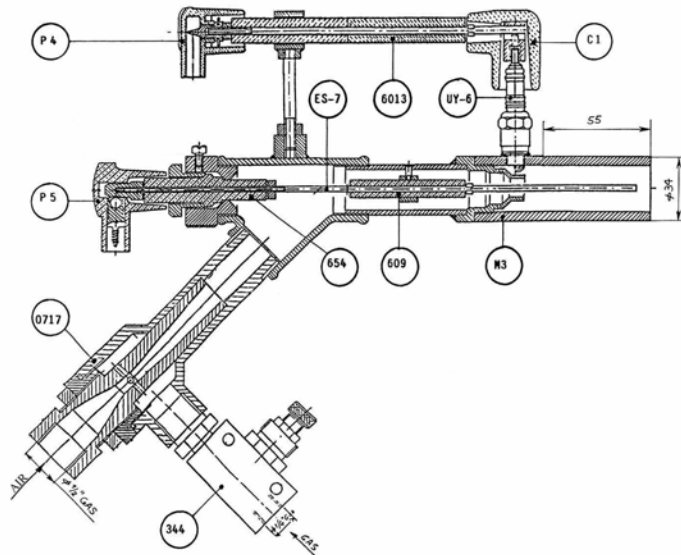
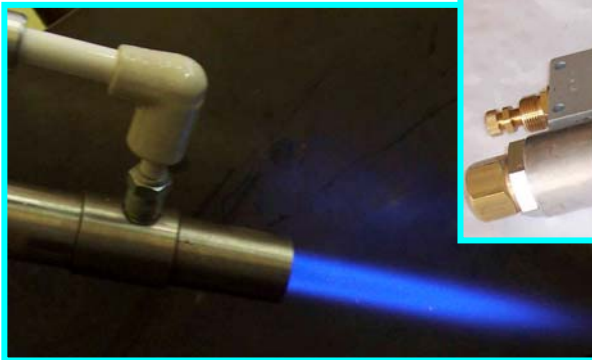


Fusar Bassini Astorre e C. Snc

PILOT BURNER 0717-A

With electrode probe fully incorporated and plug

- **MAXIMUM POWER EFFICIENCY:** 8000 Cal/ora
- **COMBUSTION AIR PRESSURE:** 300 ÷ 500 mm H₂O
- **GAS PRESSURE:** 300 ÷ 600 H₂O
- **HIGH VOLTAGE ELECTRIC SWITCH:** V. 8000
- **SETTING:** executed regulating the gas adjuster to the premixer as to obtain a rigid and blue flame and controlling that it marks them of the flame current is stable and of sufficient strenght



SPARE PARTS

N.	DESCRIPTION
C1	Ceramics cap
0717	Air-gas premixer
344	Gas adjuster
M3	Pipe flame retention nozzle
ES-7	Electrod probe
UY-6	Plug
6013	Insulator
609	Insulator
654	Insulator
P4	Cap for cable A.T.
P5	Cap for cable probe

PILOT BURNER, MAIN BURNER AND THE AUTOMATIC BURNER CONTROL UNIT MUST BE DESIGNED, INSTALLED AND SETTED MEETING THE LAW REGULATIONS IN FORCE.

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

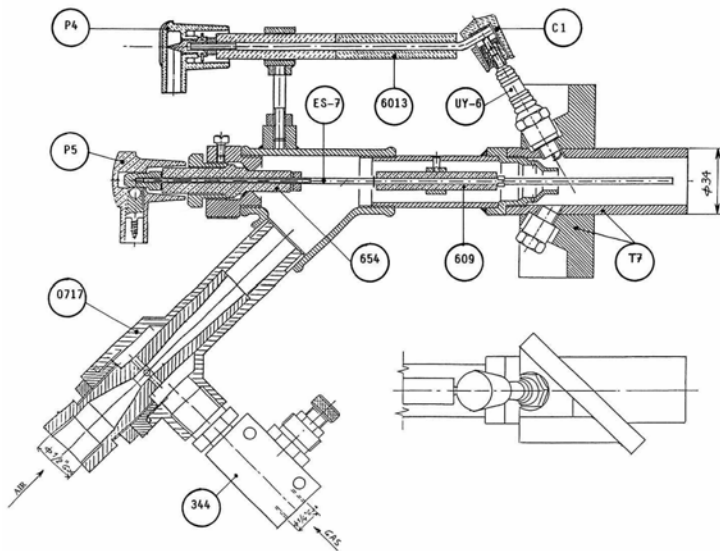
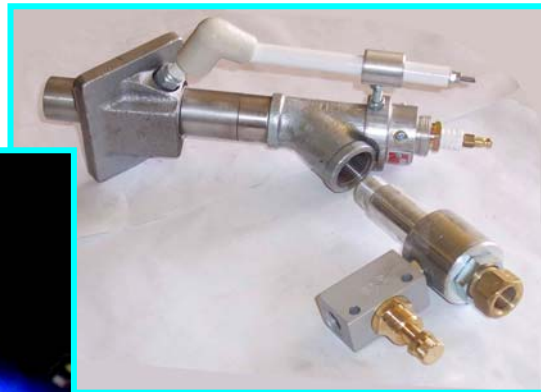
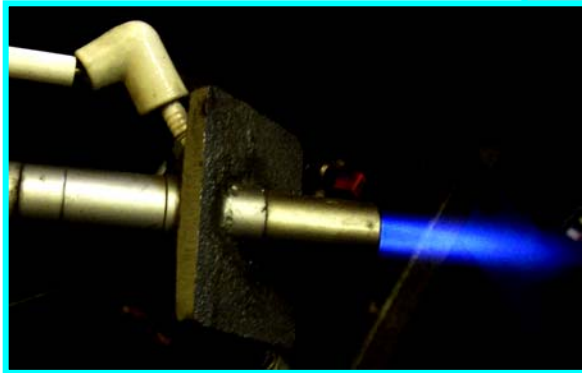




Fusar Bassini Astorre e C. Snc PILOT BURNER 0717-N

With electrode probe fully incorporated and plug

- **MAXIMUM POWER EFFICIENCY:** 8000 Cal/ora
- **COMBUSTION AIR PRESSURE:** 300 ÷ 500 mm H₂O
- **GAS PRESSURE:** 300 ÷ 600 H₂O
- **HIGH VOLTAGE ELECTRIC SWITCH:** V. 8000
- **SETTING:** executed regulating the gas adjuster to the premixer as to obtain a rigid and blue flame and controlling that it marks them of the flame current is stable and of sufficient strenght.



C1	Ceramics cap
0717	Air-gas premixer
344	Gas adjuster
T7	Block flame retention nozzle
ES-7	Electrod probe
UY-6	Plug
6013	Insulator
609	Insulator
654	Insulator
P4	Cap for cable A.T.
P5	Cap for cable probe
N°	DESCRIPTION
SPARE PARTS	

PILOT BURNER, MAIN BURNER AND THE AUTOMATIC BURNER CONTROL UNIT MUST BE DESIGNED, INSTALLED AND SETTED MEETING THE LAW REGULATIONS IN FORCE.

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



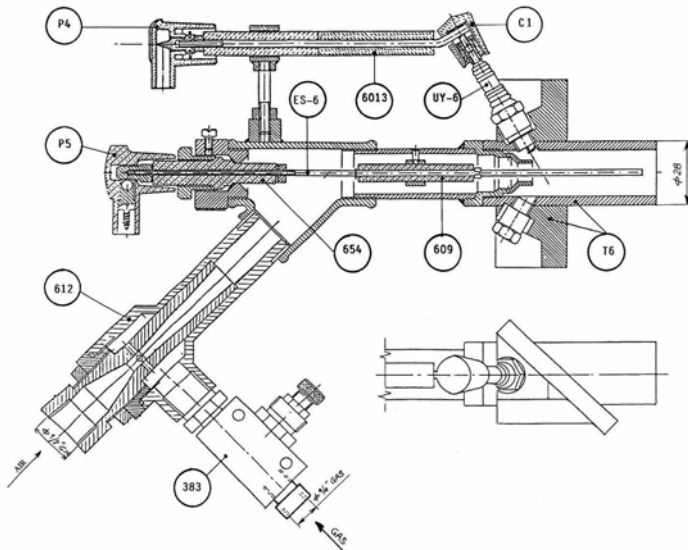
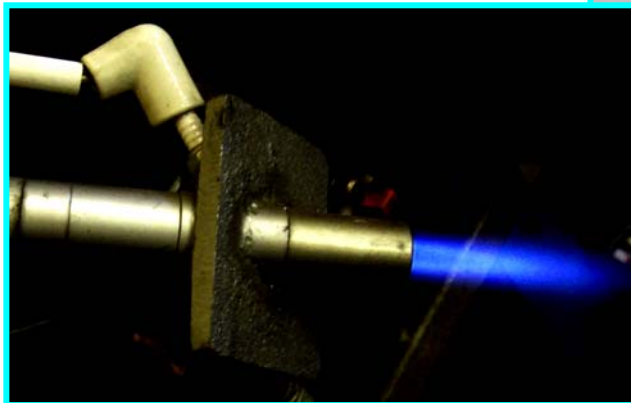
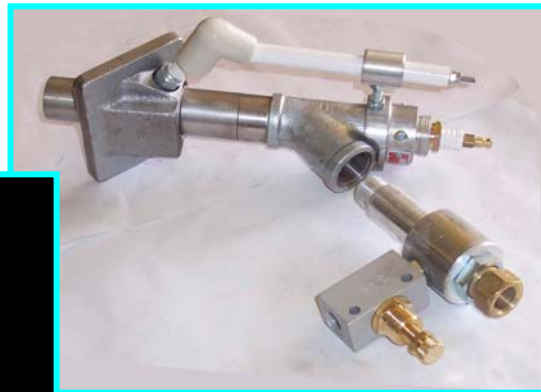


Fusar Bassini Astorre e C. Snc

PILOT BURNER 612-N

With electrode probe fully incorporated and plug

- **MAXIMUM POWER EFFICIENCY:** 5000 Cal/ora
- **COMBUSTION AIR PRESSURE:** 300 ÷ 500 mm H₂O
- **GAS PRESSURE:** 300 ÷ 600 H₂O
- **HIGH VOLTAGE ELECTRIC SWITCH:** V. 8000
- **SETTING:** executed regulating the gas adjuster to the premixer as to obtain a rigid and blue flame and controlling that it marks them of the flame current is stable and of sufficient strenght.



C1	Ceramics cap
612	Air-gas premixer
383	Gas adjuster
T6	Block flame retention nozzle
ES-6	Electrod probe
UY-6	Plug
6013	Insulator
609	Insulator
654	Insulator
P4	Cap for cable A.T.
P5	Cap for cable probe
N°	DESCRIPTION
SPARE PARTS	

PILOT BURNER, MAIN BURNER AND THE AUTOMATIC BURNER CONTROL UNIT MUST BE DESIGNED, INSTALLED AND SETTED MEETING THE LAW REGULATIONS IN FORCE.

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





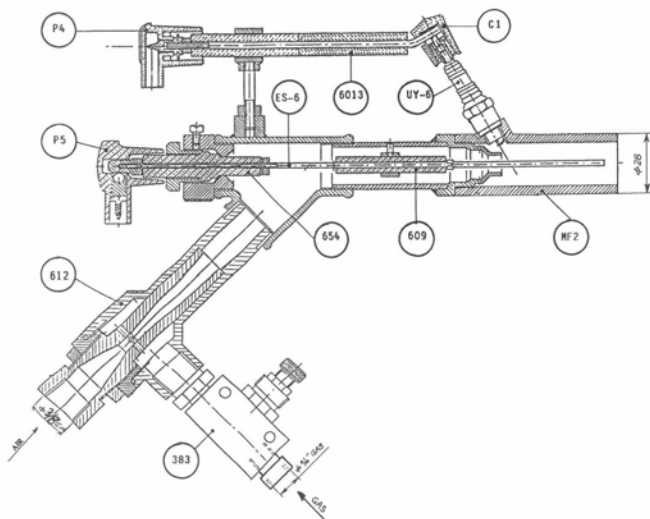
Fusar Bassini Astorre e C. Snc

PILOT BURNER 612 FP

(For flat flame burners)

With electrode probe fully incorporated and plug

- **MAXIMUM POWER EFFICIENCY:** 5000 Cal/ora
- **COMBUSTION AIR PRESSURE:** 300 ÷ 500 mm H₂O
- **GAS PRESSURE:** 300 ÷ 600 H₂O
- **HIGH VOLTAGE ELECTRIC SWITCH:** V. 8000
- **SETTING:** executed regulating the gas adjuster to the premixer as to obtain a rigid and blue flame and controlling that it marks them of the flame current is stable and of sufficient strenght.



C1	Ceramics cap
612	Air-gas premixer
383	Gas adjuster
Mf2	Pipe flame retention nozzle
ES-6	Electrod probe
UY-6	Plug
6013	Insulator
609	Insulator
654	Insulator
P4	Cap for cable A.T.
P5	Cap for cable probe
N°	DESCRIPTION
SPARE PARTS	

PILOT BURNER, MAIN BURNER AND THE AUTOMATIC BURNER CONTROL UNIT MUST BE DESIGNED, INSTALLED AND SETTED MEETING THE LAW REGULATIONS IN FORCE.

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





Fusar Bassini Astorre e C. Snc

P21-N/...

Gas pilot burner with inducted air supply and electrode fully incorporated, with Venturi mixer.

GASES: Natural gas, liquid gas

GAS PRESSURE:

Natural gas: from 0,2 Ate to 2 Ate

liquid gas: from 1,5 Ate to 2 Ate

HIGH VOLTAGE ELECTRIC SWITCH: V.8000

PILOT LENGHT: Between 180 and 3300 mm

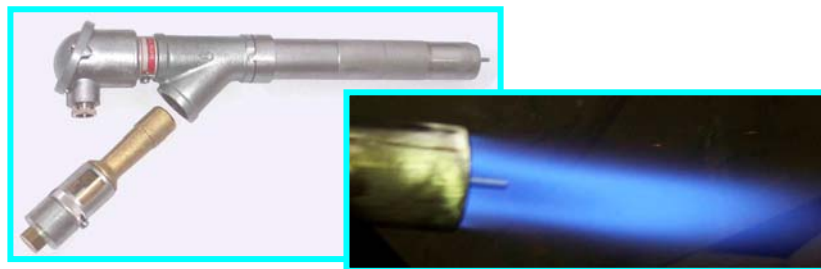


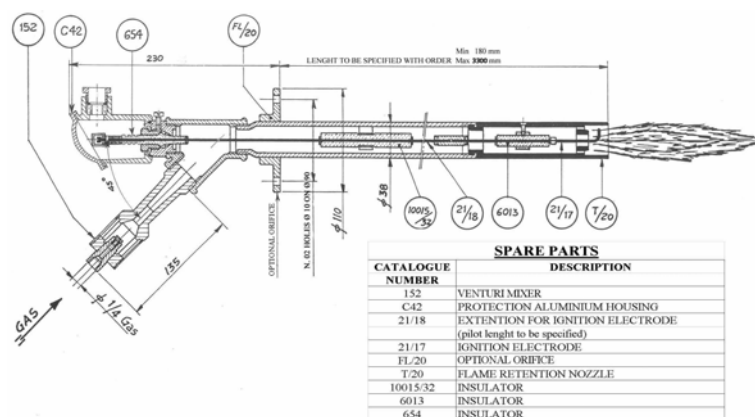
CHART A

GASES	INJECTOR		EFFICIENCY Nmc/ora	GAS PRESSURE
	N.	HOLE mm		
NATURAL GAS	1	1,2	0,90 ÷ 1,4	From 0,2 Ate to 0,5 Ate
	2	1,1	1,2 ÷ 1,7	From 0,6 Ate to 1 Ate
	3	1,0	1,4 ÷ 2,0	From 1,1 Ate to 2 Ate
LIQUID GAS	4	0,7	0,50	From 1,5 Ate to 2 Ate

N.B. – The holes of the injectors mm H₂O indicates on chart is valid for combustion chambers in depression of 0,25. For greater depressions the holes of the injectors can be increase of little.

Example of order: to order n.1 pilot burner P21-N with lenght L = 1050 is sufficient to order:

N. 1 P21-N/1050 – pilot burner with suction air.



PILOT BURNER, MAIN BURNER AND THE AUTOMATIC BURNER CONTROL UNIT MUST BE DESIGNED, INSTALLED AND SETTED MEETING THE LAW REGULATIONS IN FORCE.

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





Fusar Bassini Astorre e C. Snc

P41-N/...

Gas pilot burner with inducted air supply and electrode fully incorporated, with Venturi mixer

GASES: Natural gas, liquid gas

GAS PRESSURE:

Natural gas: from 0,2 Ate to 2 Ate

liquid gas: from 1,5 Ate to 2 Ate

HIGH VOLTAGE ELECTRIC SWITCH: V.8000

PILOT LENGHT: Between 180 and 3300 mm



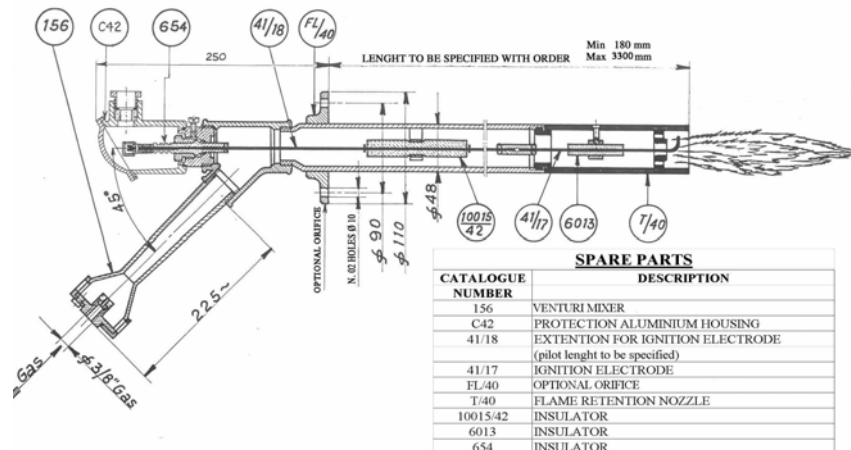
CHART D

GASES	INJECTOR		EFFICIENCY	GAS PRESSURE
	N.	HOLE mm		
NATURAL GAS	1	1,7	1,8 ÷ 2,5	From 0,2 Ate to 0,4 Ate
	2	1,6	2,5 ÷ 3,8	From 0,5 Ate to 1,2 Ate
	3	1,5	3,4 ÷ 4,7	From 1,3 Ate to 2 Ate
LIQUID GAS	4	1,2	1,1 ÷ 1,3	From 1,5 Ate to 2 Ate

N.B. - The holes of the injectors mm H₂O indicates on chart is valid for combustion chambers in depression of 0,25. For greater depressions the holes of the injectors can be increase of little.

Example of order: to order n.1 pilot burner P41-N with lenght L = 1050 is sufficient to order:

N. 1 P41-N/1050 – pilot burner with suction air.



PILOT BURNER, MAIN BURNER AND THE AUTOMATIC BURNER CONTROL UNIT MUST BE DESIGNED, INSTALLED AND SETTED MEETING THE LAW REGULATIONS IN FORCE.

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





Fusar Bassini Astorre e C. Snc

P81-N/...

Gas pilot burner with inducted air supply and electrode fully incorporated, with Venturi mixer

FIELD OF APPLICATION

GASES: Natural gas, liquid gas

GAS PRESSURE:

Natural gas: from 0,2 Ate to 2 Ate

liquid gas: from 1,5 Ate to 2 Ate

HIGH VOLTAGE ELECTRIC SWITCH: V.8000

PILOT LENGHT: Between 180 and 3300 mm



CHART G

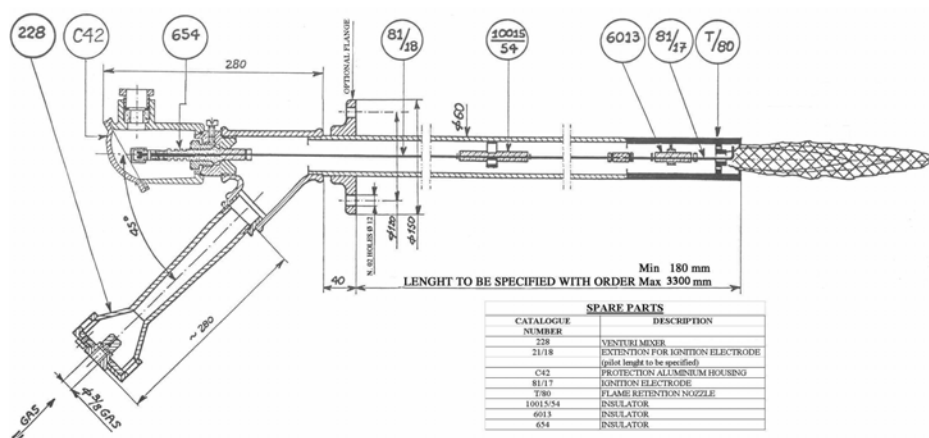
GASES	INJECTOR		EFFICIENCY	GAS PRESSURE
	N.	HOLE mm		
NATURAL GAS	1	2,1	2,7 ÷ 4,3	From 0,2 Ate to 0,5 Ate
	2	2	4 ÷ 5	From 0,6 Ate to 0,9 Ate
	3	1,9	5 ÷ 7,5	From 1 Ate to 2 Ate
LIQUID GAS	4	1,5	2 ÷ 2,5	From 1,5 Ate to 2 Ate

N.B. – The holes of the injectors mm H₂O indicates on chart is valid for combustion chambers in depression of 0,25. For greater depressions the holes of the injectors can be increase of little.

Example of order: to order n.1 pilot burner P81-N with length L = 1050 is sufficient to order:

N. 1 P81-N/1050 – pilot burner with suction air, with electrode fully incorporated, with Venturi mixer

PILOT BURNER, MAIN BURNER AND THE AUTOMATIC BURNER CONTROL UNIT MUST BE DESIGNED, INSTALLED AND SETTED MEETING THE LAW REGULATIONS IN FORCE.



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





Fusar Bassini Astorre e C. Snc DOUBLE GAS SUPPLY SYSTEM PILOT BURNERS

	CAPACITY	
	Kw	Kcal/h
- PILOT BURNER P25-S	240	206000
- PILOT BURNER P29-S	270	232000
- TORCH IGNITER TAP 21	200	170000
- PILOT BURNER FBU31-R	280	240000
- PILOT BURNER C7010	280	240000

PILOT BURNERS WITH BLAST AIR with electrode fully incorporated, complete with pre-mixer air/gas unit, with sensitive flow air combustion and premixed gas adjuster. With independent regulation of the pure gas capacity that feeds the pilot burner.

SPECIALLY FIT FOR BURNING CHAMBERS IN PRESSURE.

GASES: Natural gas, liquid gas

COMBUSTION AIR PRESSURE:

From 500 to 2.000 mm H₂O (for the appropriate pressure value refer to the description 1° STAGE)

GAS PRESSURE: from 0.1 Ate to 2 Ate

HIGH VOLTAGE ELECTRIC SWITCH: V.8000

PILOT LENGHT: Between 350 and 3000 mm

DESCRIPTION

The double gas supply system pilot burner guarantees a particularly stable and sufficiently voluminous flame that assures also an easy lighting of the main burner under conditions of great turbulence in the lighting zone.

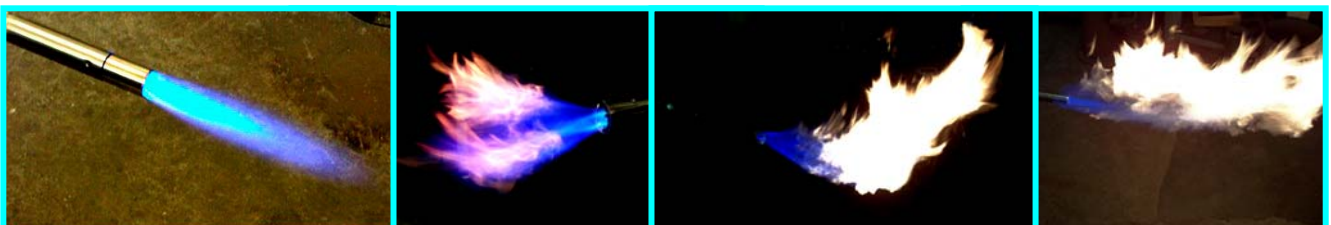
The pilot burner construction incorporates the gas feeding distributed in two stadiums that it allows the independent regulations of the premixed gas and of the pure gas to the pilot.

The first stadium uses a small gas course that opportunely comes premixed to stochiometric ratio with the combustion air fed by fan Booster or from a line of compressed air around 1000 ÷ 2000 mm H₂O (pilot burner P25, P29, TAP21) or still automatic feed directly from the principal burner's box (pilot burner FBU31 C7010).

The mixture air-gas fed by the premixed in the central reed is turned on through the electric arc in the heading retention nozzle's room of lighting. The flame that is gotten is of a stability and exceptional rigidity, but results of small too volume and difficulty are met for being able to reveal the mean flame of the UV detector. So the function of this flame is to turn on and to hold turned on the second stadium that it feeds a notable pure gas course on the flame premixed.

The pure gas of the second stadium finding the temperature, the presence of air enough and the protection of the deflector on the heading of the pilot, its auto-ignition increasing notably the volume flame of the burner pilots. The flame produced guarantees the possibility of joining to the principal burner.

PILOT BURNER, MAIN BURNER AND THE AUTOMATIC BURNER CONTROL UNIT MUST BE DESIGNED, INSTALLED AND SETTED MEETING THE LAW REGULATION IN FORCE.



Fusar Bassini Astorre e C. Snc

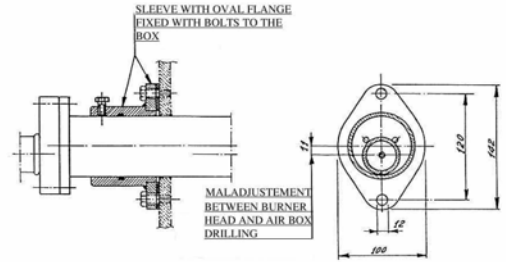
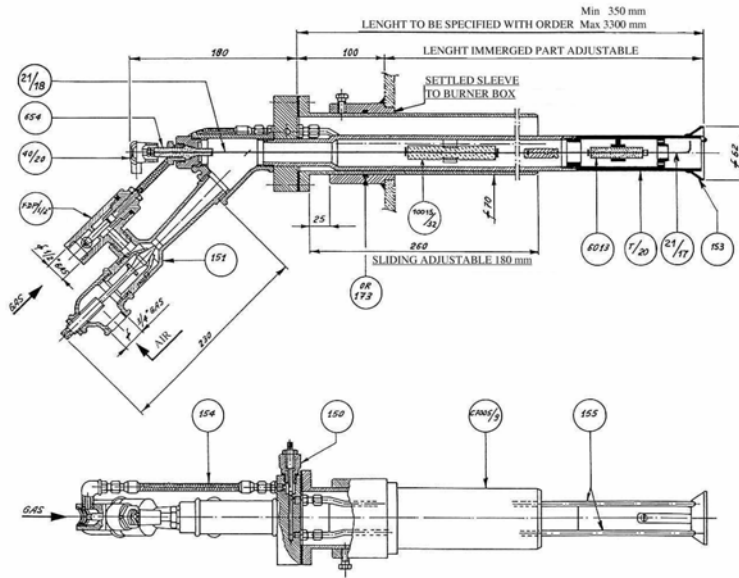
GAS BURNERS AND COMPONENTS FOR COMBUSTION SYSTEMS

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





Fusar Bassini Astorre e C. Snc
P29-S/ ...
PILOT BURNER WITH BLAST AIR



153	DEFLECTOR
21/17	IGNITION ELECTRODE
10015/32	INSULATOR
150	PIN OF REGULATION OF THE PURE GAS
151	AIR-GAS PREMIXER
Y-10P12"	SENSITIVE FLOW GAS ADJUSTER PREMIXED
OR173	RING OF ESTATE
154	FLEXIBLE PIPE
155	PIPE FEEDING GAS (pilot length to be specified)
T20	FLAME RETENTION NOZZLE
21/18	EXTENSION FOR IGNITION ELECTRODE (Pilot length to be specified)
C7005X/9	PIPE OF SLIDE
40/20	BAKELITE CAP FOR CABLE AT
6013	INSULATOR
654	INSULATOR
SPARE PARTS	
CATALOGUE NUMBER	DESCRIPTION



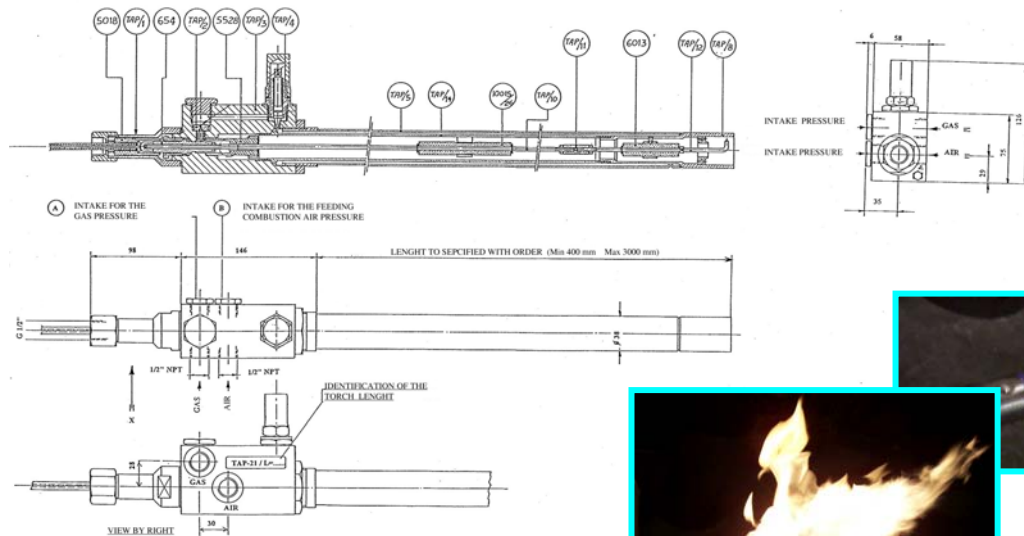
Fusar Bassini Astorre e C. Snc
GAS BURNERS AND COMPONENTS FOR COMBUSTION SYSTEMS
 Via P.M. Ferrè, 14 -26013 CREMA (CR) Tel/Fax 0373-257594 web: www.fusarbassini.it e-mail: info@fusarbassini.it





Fusar Bassini Astorre e C. Snc

TORCH IGNITER TAP 21



TYPE:
LENGHT:

T A P - 21/ L=
MIN 400 mm - MAX 3000 mm
(lenght to be specified with order)

DIAMETER:

38 mm

GASES:

NATURAL GAS, LIQUID GAS (LPG)

IGNITION:

HIGH VOLTAGE (8000 V.)

CONSUMPTION NATURAL GAS:

Total (MAX) (adjustable) :

22,6 Nm³/h

PREMIXED-GAS:

2 ÷ 2,6 Nm³/h

PURE GAS (adjustable):

2 ÷ 20 Nm³/h

CONSUMPTION LIQUID GAS (LPG)

Total (MAX) (adjustable) :

18 KG/h - 9 Nm³/h

PREMIXED GAS:

2 KG/h - 1 Nm³/h

PURE GAS (adjustable):

16 KG/h - 8 Nm³/h

CONSUMPTION AIR

25 ÷ 30 Nm³/h

GAS PRESSURE

0,5 ÷ 2 KG/cm²

Each torch is supplied complete with 3 fuel injector in order to adapt the torch for the services at any one of the gas pressure ranger listed below

* injector Ø 1,1 mm

1.3 KG/cm² ÷ 2,0 KG/cm²

* injector Ø 1,3 mm

0,8 KG/cm² ÷ 1,2 KG/cm²

* injector Ø 1,5 mm

0,5 KG/cm² ÷ 0,7 KG/cm²

TORCH PRESSURE AIR

800 ÷ 1500 mm H₂O

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





Fusar Bassini Astorre e C. Snc

TORCH IGNITER TAP 21

GENERAL DESCRIPTION

a) **The premixer-separator group** where the incoming raw gas destined for the pilot head is separated from the gas to be premixed, and where the premixing of the later is accomplished. The group features two $\frac{1}{2}$ " NTP tappings. The rear tapping is utilized for the gas supply, whilst the front tapping is intended for the primary air-supply. Note—"Rear" is employed to denote the points nearest to the HT cable connection, and "front" the points nearest the pilot-head. Two similar tappings are provided on the apposite face of the premixer-separator group. These additional tappings are sealed by hexagonal-headed plugs, and are destined for the employment of suitable pressure-gauges during calibration of air and gas pressures.

Approximately 10% of the gas piped-in at the rear attachment passes through a calibrated jet to the mixing chamber.

The primary air is also piped to this chamber, where premixing is effected. The air/gas mixture is thence passed to the premixed gas tube (to be described later). The remaining 90% of the raw gas passes through a needle valve (which we assume is fully open) to the raw-gas tube, which will be described later.

b) **The premixed gas tube and pilot head**

The premixed gas tube is the innermost of two concentric tubes, and is screw-threaded to the premixer group. The premixer gas from the premixing chamber is piped by this tube to the pilot head in which is incorporated the special flame retention ring. This ring features series of holes and slots which hold the premixed flame to the pilot head. The pilot head terminates down-stream of this ring, thus forming the ignition chamber.

The HT spark ignites the air/gas mixture in this chamber, at a predetermined point where gas stream characteristics favour instantaneous light-off. Reliable ignition is dependant on the form of this chamber and on the exact point where the spark is discharged, and the actual chamber-form and spark-electrode length are the fruit of careful study and prolonged trials.

c) **The raw gas, or outer tube**

This tube surrounds the inner or premixed gas tube, and is threaded to the premixer/separator group. The

tube is utilized to pipe the raw gas to a point slightly behind the pilot-head. The outer tube does not actually touch the pilot head, so that the raw gas is free to issue from the annular slot between raw gas tube and rear of pilot head. Since the inner or rear part of the pilot head is bevelled, the raw gas, which impinges on the bevelled portion of the head tends to fan-out through the slot. The raw gas is ignited by the premixed gas flame, which, thanks to its extreme stability, keeps the raw gas flame "on".

INSTALLATION

Due to the ever increasing number of types and makes of burners available, and to the variations in wind-box, furnace and draught conditions encountered, it is impossible to lay-down hard and fast rules valid for every type of application, and the burner or boiler or furnace manufacturer should be consulted where possible. The following suggestions, however, will prove helpful.

- 1) Where possible, the torch-igniter should be installed inside the burner register.
- 2) In the case of burners having a central oil gun or gas-spud, the pilot should be installed close-in to the gun or spud, and the axis of the torch should converge slightly with the axis of the burner.
- 3) Large gas ring-burners or multi-spud burners may call for application in a peripheral position in which case care should be taken to ensure that the igniter body does not interfere with air-register movement.
- 4) The pilot head should be slightly behind the main burner gun, spud or ring, but torch igniter flame during all light-off conditions must extend well into the fuel "rose" or envelope. In order to meet these requirements the pilot head will normally be from 1 to 6 inches behind the gun or spud, depending on the size and type of burner, the wind-box pressure, the draught and turbulence. It is sound practice, (if in doubt as to degree of immersion) to order the pilot slightly longer than deemed necessary, since it is usually possible to retract the pilot, if, in practice, this is found to be desirable, whilst on the other hand, there is no remedy if the pilot should prove too short.

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





Fusar Bassini Astorre e C. Snc

TORCH IGNITER TAP 21

5) If flame detectors are employed, the influence of draught through the burner register and/or through the impeller or swirler must be taken into account in choosing the position for the torch and photocell. The photocell must be positioned in such a way that the eventual torch flame deviation is in the direction of the photocell.

GAS SUPPLY

- 1) In the case of multi burner applications a common gas header should be provided for the torch igniters.
- 2) If gas to the torch header is not at the prescribed pressure, a suitable pressure reducer must be installed.
- 3) Header diameter should be based on fuel consumption of the number of torches employed simultaneously for light-up (usually one only) and not on the total consumption of all torches.
- 4) The branch-line for each single torch should include a suitable manual fuel shut-off valve, mounted up-stream of the solenoid shut-off valve.
- 5) The connection between the pilot valve and torch-ignitor should be effected by means of an approved-type of flexible hose. The length of the hose should be sufficient to permit a reasonable amount of movement of the torch (from the fully advanced to the normally retracted position).

COMBUSTION AIR SUPPLY

- 1) Header should normally be dimensioned so as to supply sufficient air for all torches since continuous air flow to all pilots at all times is advisable in order to continuously purge and cool the torches.
- 2) Dry, clean, compressed air is acceptable if pressure is suitably reduced but a suitable fan will usually prove more economical as regards running costs.
- 3) Air pressure should be from 30.0 inches to 60.0 inches water column. It is possible to specify a hard and fast pressure value since pilot-head may be influenced in some cases, by back-pressure on the one hand, or strong dynamic pressure on the other, which in the first case will substantially reduce torch combustion air flow, and in the later case, substantially increase it. In either of these two cases, torch combustion air pressure must be suitably adjusted to

ensure correct air flow. Some means of regulating air pressure over the specified range should thus be provided.

- 4) As in the case of the gas line, flexible hose should be employed for the final connection to the torch ignitor.

PURGE AND COOLING AIR

In some cases, purge and cooling air to the torches may be desirable in order to reduce maintenance.

In such cases, the air header must be dimensioned so as to supply 30 Nm³/h of combustion air for torch employed on a given light-up cycle, plus cooling air for the remaining torches.

If, for example, the system comprises six torches, but only one torch is employed at a time, header must supply 30 Nm³/h (1,060 cu ft/h) for combustion purposes plus cooling air for 5 torches.

Cooling and purge air consumption as low as 50 cu.ft/h per torch will prove sufficient in many cases. If cooling and purge air is required, a normally closed solenoid shut-off valve with an orificed by-pass, as illustrated in Fig.1, provides automatic change-over from combustion to cooling air. In this case, the solenoid air-valve is wired-up in parallel to the solenoid pilot gas valve.

HT SPARK IGNITER CIRCUIT

- 1) The spark-igniter system requires a HT spark, supplied by an ignition transformer having a secondary outlet of at least 8000 Volts.
- 2) The ignition transformer should be mounted as close to the torch as possible in order to avoid excessively long HT leads.
- 3) A relatively cool spot must be chosen, and remote mounting on a base plate supported by 4 distance pieces in order to provide an air flow under and around the transformer may be advisable.
- 4) A ½" NTP attachment at the pilot base is provided to enable the use of suitably insulated, outer, flexible hose, as a protection for the HT cable.
- 5) HT hose and lead must be heat-resistant.
- 6) For instructions regarding the connection of the HT lead see SECTION 5).

Fusar Bassini Astorre e C. Snc

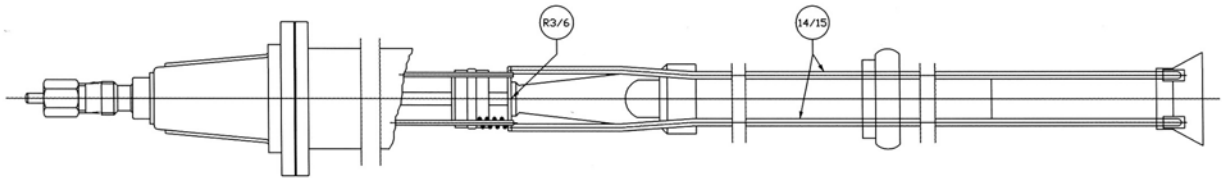
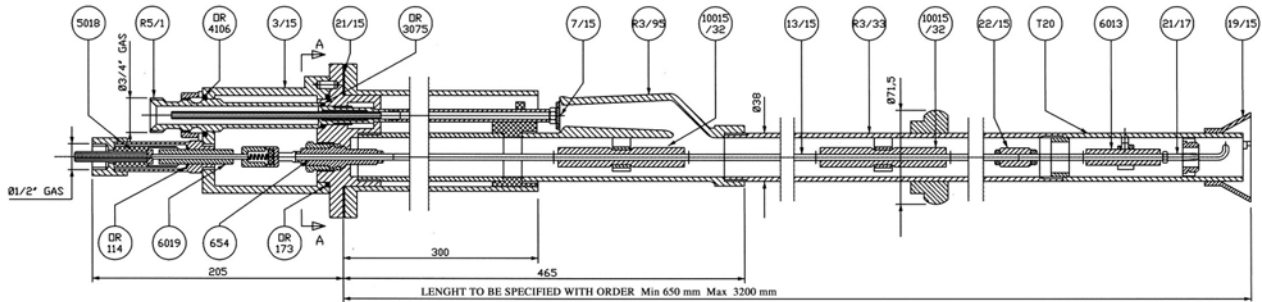
GAS BURNERS AND COMPONENTS FOR COMBUSTION SYSTEMS

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





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





Fusar Bassini Astorre e C. Snc
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 Nm³/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 Nm³/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

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





Fusar Bassini Astorre e C. Snc

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 draw-back, 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 reliably 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 spacial adjusting screw in order to obtain a flame which is satisfactory in all the draught and turbulence conditions normally occurring during the ignition phase.
- 11) Put again the plugs covering the screws on the latter ones ...

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

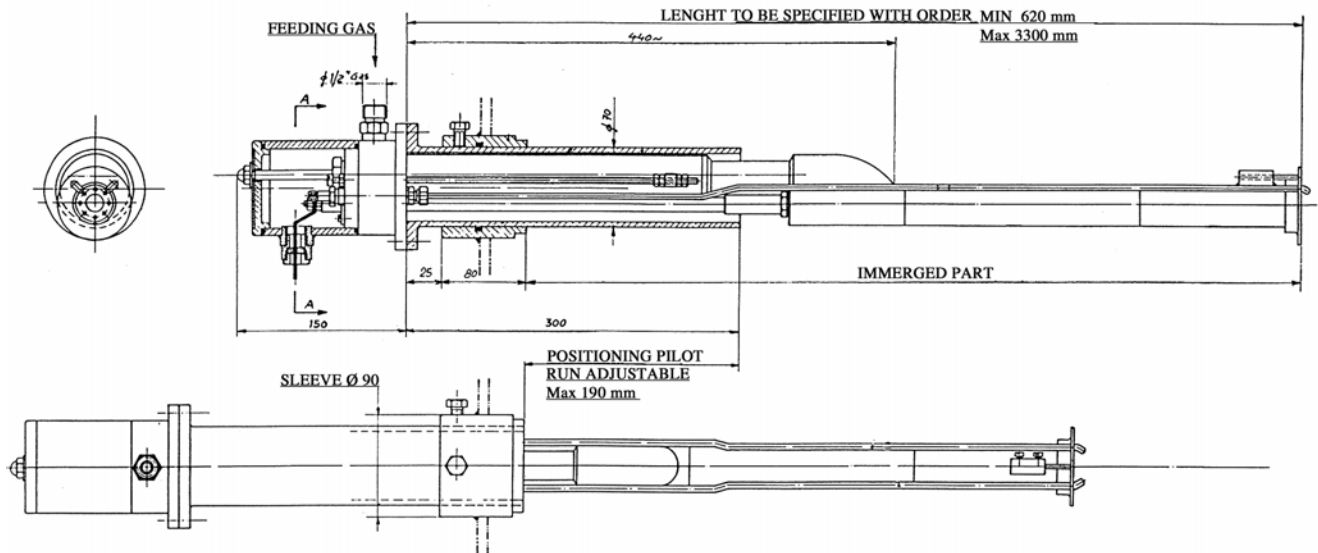




Fusar Bassini Astorre e C. Snc

C7010/...

GAS PILOT BURNER



GASES Natural gas – liquid gas

GAS PRESSURE TO THE PILOT From 0,1 to 2 Ate

AIR PRESSURE TO THE MAIN BURNER BOX From 150 – 600 mm H₂O

HIGH VOLTAGE ELECTRIC SWITCH: V. 6000

AVAILABLE LENGHT: Between Min 620 mm Max 3300 mm

GAS FLOW TO PILOT Min 2 Mc/ora Max 30 Mc/ora

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





Fusar Bassini Astorre e C. Snc

C7010/...

GAS PILOT BURNER

GENERAL DESCRIPTION

The C7010 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 draw-back, 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 C7010 is very easy because for operation it is necessary only to connect the gas supply; air is supplied from the main burner air box (see enclosed drawing).

PILOT BURNER ADJUSTMENT AND CHECK OUT

To check pilot operation remove cover and temporarily connect the high voltage ignition transformer wire.

- Premixed pilot flame adjustment is the most important operation; should be performed with the primary (low flow) gas supply only.

Fully tighten the two raw gas adjustment

screws (see drawing), to prevent raw gas flow through the two pipes.

- Adjust premixer air control screw until clearance is about 2 mm (i.e. primary air control near to close)
- Shut fuel supply to main burner by means of manual cocks and set air supply adjustment until main burner, fire box etc... are under normal starting conditions.
- Light pilot burner. Flame should be steady and blue; be sure that inside the target the retention system is properly operating (this is a very important condition). In order to do that adjust premixed air control. Flame pattern control is achieved by operating air adjusting screw of the premixer; screw position is determined by clearance. Repeat pilot ignition several times under these operating conditions to check adjustments.
- When flame is proven, adjust screw of raw gas until desired flame pattern is obtained.
- Repeat pilot ignition tests under these operating conditions changing air damper position, draft etc... If necessary recheck adjustment.

WHEN ORDERING SPECIFY

Model number and desired pilot length.

Available pilot lengths are between 620 and 3300 mm.

Add the desired pilot length in mm to model number C7010/...

(example: C7010/1250 is a pilot 1250 mm long)

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

