



Fusar Bassini Astorre e C. Snc
 GAS BURNERS AND COMPONENTS FOR COMBUSTION SYSTEMS
Section 1: MAIN GAS BURNERS

* MAIN GAS BURNERS		
* NOZZLE MIX BURNERS		Sheet 2
CAPACITY		
	Kw	Kcal/h
- SOFT FLAME BURNERS G SERIES	from 75 to 1200	from 65000 to 1030000
- FLAT FLAME BURNERS FP SERIES	from 50 to 340	from 43000 to 290000
- CONICAL FLAME BURNERS F SERIES	from 340 to 840	from 290000 to 720000
- LUMINOUS FLAME BURNERS Z SERIES	from 740 to 1670	from 640000 to 1430000
- SHORT FLAME BURNERS TB SERIES	up to 1000	up to 860000
- HIGH VELOCITY BURNERS HV SERIES	from 50 to 670	from 43000 to 580000
- 4 FLAMES BURNERS MF4 SERIES	from 180 to 280	from 150000 to 240000
- MAIN GAS BURNERS PREMIX SERIES	from 23 to 1000	from 20000 to 860000
- ATMOSPHERIC BURNERS (inducted air) AP SERIES	from 23 to 1600	from 20000 to 1370000
- RADIANT TUBE GAS BURNER TYPE TR...	from 50 to 260	from 43000 to 220000



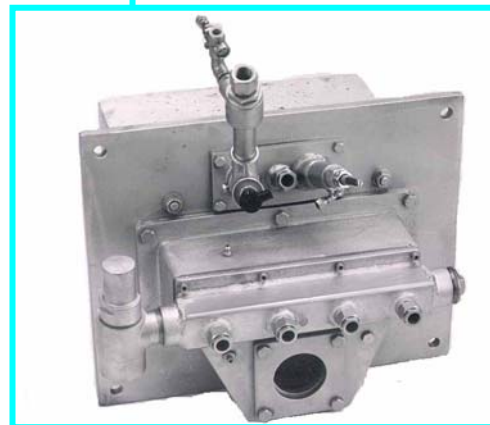
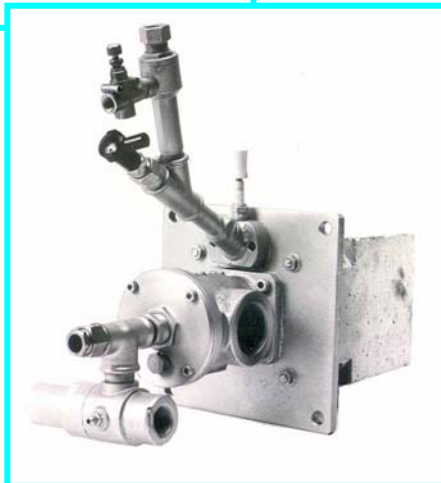
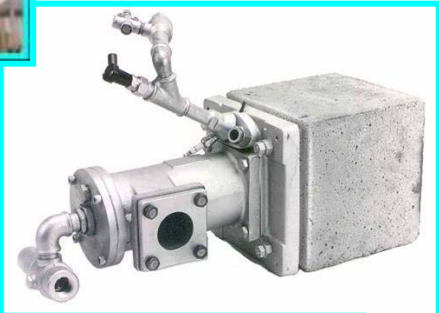


Fusar Bassini Astorre e C. Snc NOZZLE-MIX BURNERS

Air and fuel gas blended to the burner head, adjustable flame: oxidant, reducing, neutral; high ratio choking min-max; excellent flame stability; high temperature resistant refractory block; possibility of providing the refractory block banding a stainless steel container

APPLICATIONS: heating furnaces, heat treatment furnaces, blast furnaces, ovens general industrial

INSTALLATION: flat or wall



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GAS BURNERS AND COMPONENTS FOR COMBUSTION SYSTEMS

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SOFT FLAME BURNERS "G" SERIES

APPLICATIONS

The burner "G" series is suitable for applications to industrial furnaces, for combustion with stoichiometric ratio or with excess of air.



TECHNICAL CHARACTERISTICS

- Intense combustion
- High choking ratio
- Mixing head
- High flame stability
- Automatic lighting by pilot burner
- Micrometric gas metering device

CAPACITY

	BURNER TYPE	CAPACITY KW	CAPACITY Kcal/h
▷	G8	75	65000
▷	G12	110	100000
▷	G20	190	160000
▷	G30	280	240000
▷	G40	380	330000
▷	G60	570	490000
▷	G120	1140	980000

GENERAL

The burner "G" series can burn natural gas or industrial LPG. The comburent air and the combustible gas are mixed in the burner head avoiding in such way the phenomenon "backfire" and allowing a wide ratio of choking with a good flame stability. The refractory tile burner's internal shape made of high temperature refractory assures a clean and complete combustion.

The threaded gas inlet can be easily turned according to one's own requirements. The air inlet fitted with a weld counter-flange can be rotated every 90°.

The burner "G" series lighting always must be carried out in the minimum position by the pilot burner P0717-N.

The burner "G" series is fitted with two housing for pilot burner and UV detector.

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

The burner "G" series can be automatically controlled by regulating and controlling the comburent air and the combustible gas. The required air-gas ratio can be maintained by the Zero-governor in every regulation area. The pre-setting of the required air-gas ratio is much easier if you know the flow rates of the air and of the combustible gas; the flow rate of gas can be measured by the diaphragms set to gas supply; the air flow rate can be measured by the pressure present in the air inlet at the burner or by the diaphragms set to air supply.

TENDING OF THE BURNER

The minimum supply pressure of the combustible gas inside the system can be determined by calculating all the resistance due to the piping and to the accessories.

Before starting the burner, be sure that the safety valves for the gas supply are closed. Set the gas adjuster device to the minimum gas flow rate, start the combustion air fan and upon completion of the washing phase, regulate the control valve for the zone air to the low flame position (opening set to 1/4 or less with respect to the maximum position).

Excite the gas solenoid valve on the pilot burner and light it. The flame must be rigid and blue and can be adjusted by the gas adjuster devices assembled on the pilot burner pre-mixer; be sure that the flame retention on the pilot burner head functions correctly (this is absolutely necessary to ensure the flame stability in the pilot burner). Repeat the pilot burner's lighting more times in order to check the setting in working conditions.

Connect the air zero-governor's reference line to the air pressure intake and discharge the air up to the gas pressure at the zero governor ZG inlet is over 10 mbar than the maximum pressure of the air supply to the burner: so the gas flow rate is always maintained proportional to the comburent air; the regulation of the heat potentiality can be performed by a air control valve. Excite the main solenoid valve for the gas supply and light the main burner at the minimum flow rate. Then gradually open the manual butterfly valve for the combustion air and the manual gas adjuster to the burner up to obtaining the maximum potentiality condition required; the flow rate of combustion air can be known by measuring the air pressure in the burner's inlet; the flow rate of gas can be measured by the diaphragms set to gas supply. After this initial pre-setting the regulation will be automatically maintained.

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.

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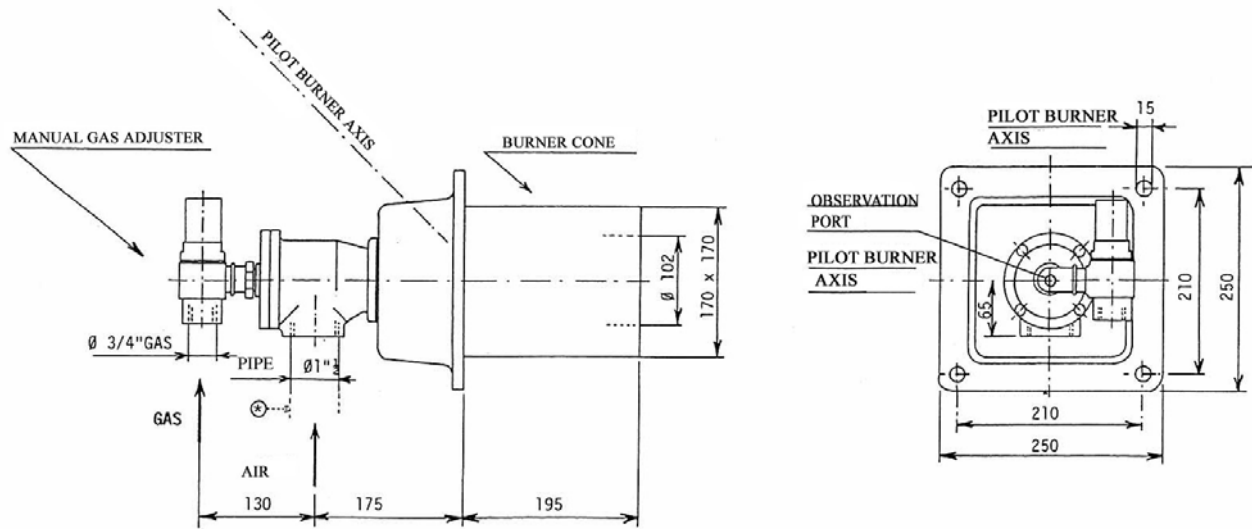
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G-8 BURNER



G-8 BURNER

GASES: * Natural gas
* Liquid gas – LPG

to be specified with order

GAS PRESSURE: 300 – 500 mm H₂O

CAPACITY: The burner capacity depends EXCLUSIVELY by air pressure, gauged upstream of the burner

BURNER CAPACITY Kcal/h WITH AIR PRESSURE IN mm H ₂ O												
AIR PRESSURE	10	25	50	100	150	200	250	300	400	500	600	700
NATURAL GAS	13500	21400	30300	42800	52400	60500	67700	74100	85600	95700	104800	113200
LPG	12500	19800	28000	39700	48600	56100	62700	68700	79300	88700	97200	105000

Weight: Kg. 30

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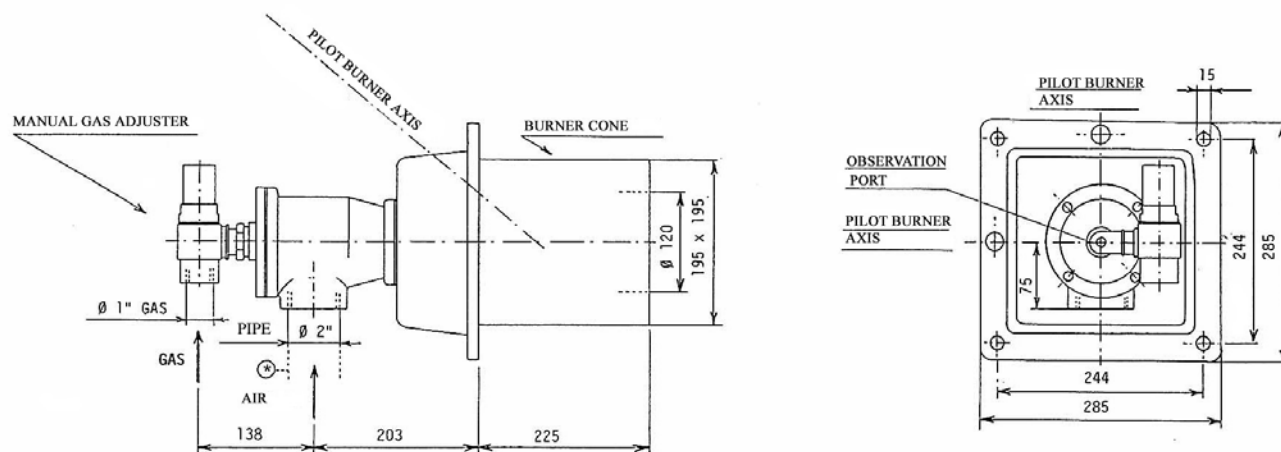
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G-12 BURNER



G-12 BURNER

GASES: * Natural gas to be specified with order
 * Liquid gas – LPG

GAS PRESSURE: 300 – 500 mm H₂O

CAPACITY: The burner capacity depends EXCLUSIVELY by air pressure, gauged upstream of the burner

BURNER CAPACITY Kcal/h WITH AIR PRESSURE IN mm H ₂ O												
AIR PRESSURE	10	25	50	100	150	200	250	300	400	500	600	700
NATURAL GAS	16000	33000	50000	80000	90000	97000	109000	125000	139000	150000	160000	170000
LPG	15000	31000	46000	74000	83000	90000	101000	116000	129000	139000	148000	158000

Weight: Kg. 40

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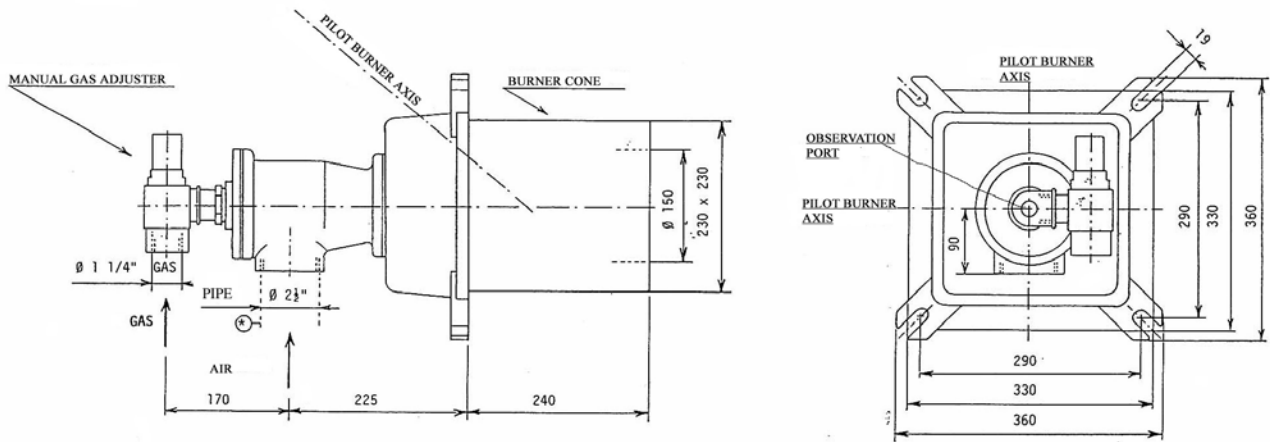
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G-20 BURNER



G-20 BURNER

GASES: * Natural gas to be specified with order
 * Liquid gas – LPG

GAS PRESSURE: 300 – 500 mm H₂O

CAPACITY: The burner capacity depends EXCLUSIVELY by air pressure, gauged upstream of the burner

BURNER CAPACITY Kcal/h WITH AIR PRESSURE IN mm H ₂ O												
AIR PRESSURE	10	25	50	100	150	200	250	300	400	500	600	700
NATURAL GAS	20000	36000	56000	84000	104000	123000	132000	150000	170000	190000	200000	210000
LPG	18500	33000	52000	78000	96000	114000	122000	139000	158000	176000	185000	195000

Weight: Kg. 65

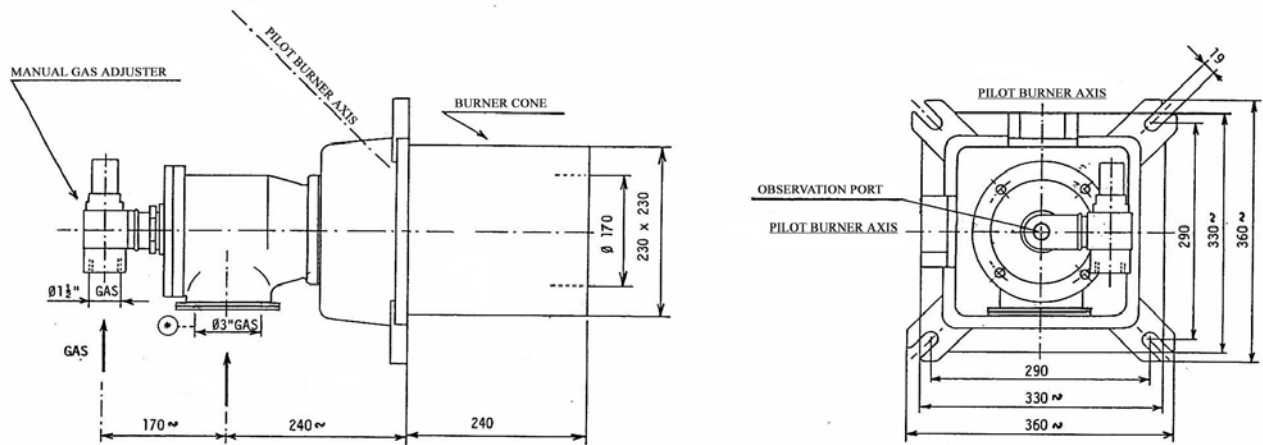
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G-30 BURNER



G-30 BURNER

GASES: * Natural gas
* Liquid gas – LPG

to be specified with order

GAS PRESSURE: 300 – 500 mm H₂O

CAPACITY: The burner capacity depends EXCLUSIVELY by air pressure, gauged upstream of the burner

BURNER CAPACITY Kcal/h WITH AIR PRESSURE IN mm H ₂ O											
AIR PRESSURE	10	25	50	100	150	200	250	300	400	500	600
NATURAL GAS	39000	61000	87000	123000	151000	174000	199000	213000	246000	275000	300000
LPG	36000	57000	81000	114000	140000	162000	185000	198000	228000	255000	279000

Weight: Kg. 65

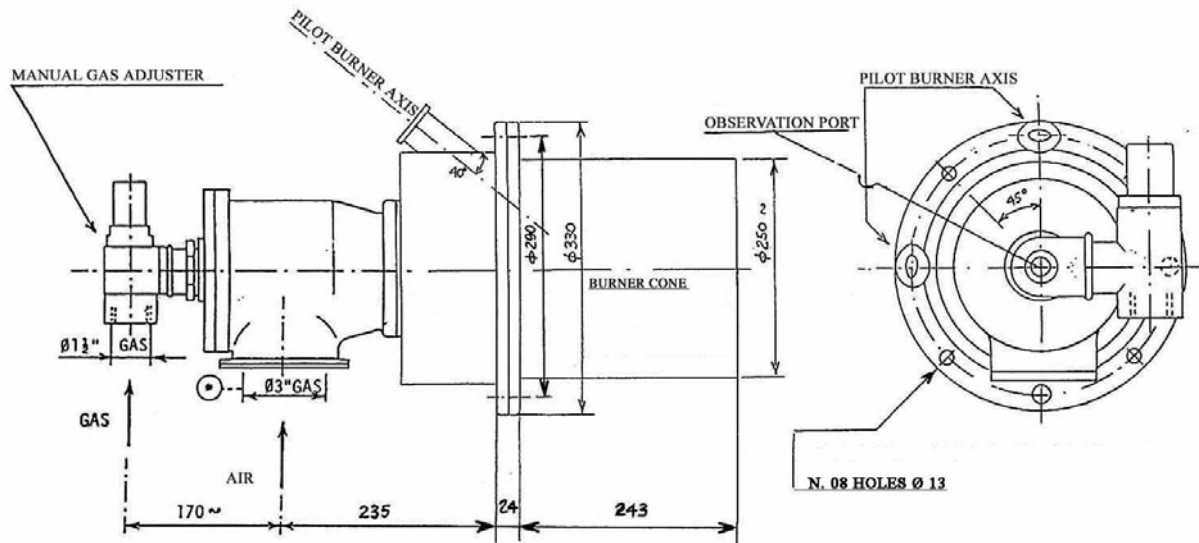
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G-30-R BURNER



G-30-R BURNER

GASES: * Natural gas to be specified with order
 * Liquid gas – LPG

GAS PRESSURE: 300 – 500 mm H₂O

CAPACITY: The burner capacity depends EXCLUSIVELY by air pressure, gauged upstream of the burner

BURNER CAPACITY Kcal/h WITH AIR PRESSURE IN mm H ₂ O											
AIR PRESSURE	10	25	50	100	150	200	250	300	400	500	600
NATURAL GAS	39000	61000	87000	123000	151000	174000	199000	213000	246000	275000	300000
LPG	36000	57000	81000	114000	140000	162000	185000	198000	228000	255000	279000

Weight: Kg. 65

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GAS BURNERS AND COMPONENTS FOR COMBUSTION SYSTEMS

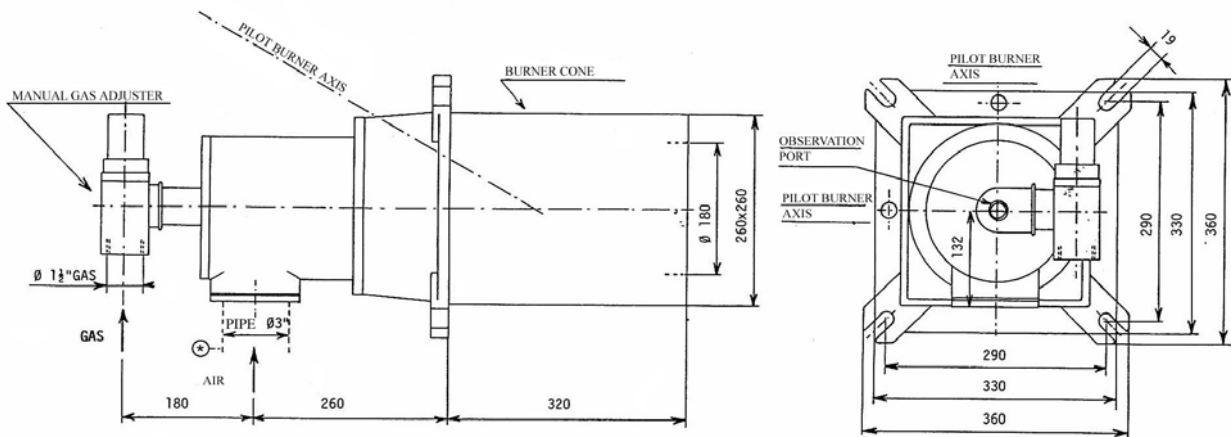
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G-40 BURNER



BURNER G-40

GASES: * Natural gas
* Liquid gas – LPG to be specified with order

GAS PRESSURE: 300 – 500 mm H₂O

CAPACITY: The burner capacity depends EXCLUSIVELY by air pressure, gauged upstream of the burner

BURNER CAPACITY Kcal/h WITH AIR PRESSURE IN mm H ₂ O											
AIR PRESSURE	10	25	50	100	150	200	250	300	400	500	600
NATURAL GAS	56000	96000	140000	196000	236000	268000	300000	328000	372000	392000	400000
LPG	52000	89000	130000	181000	218000	248000	278000	304000	344000	363000	370000

Weight: Kg. 90

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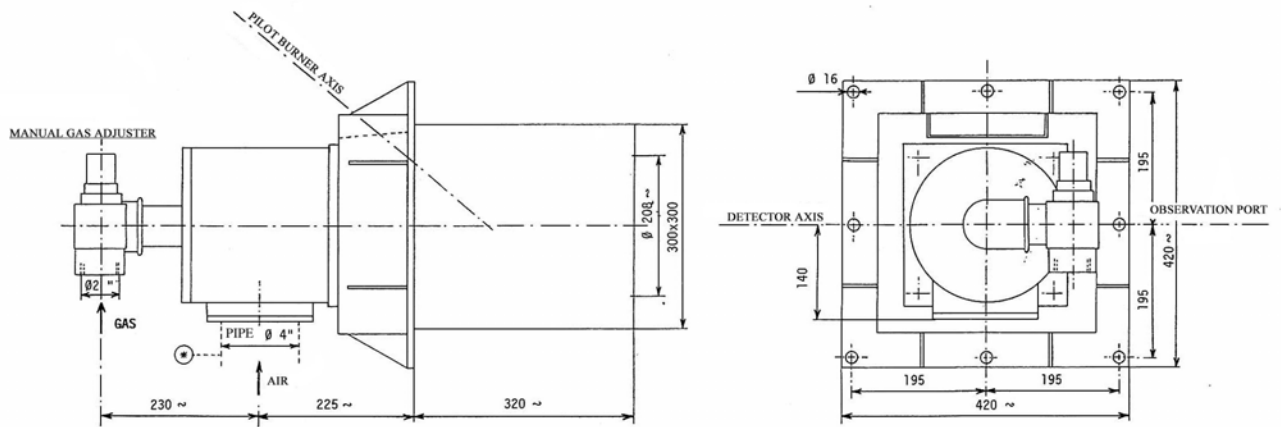
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G-60 BURNER



G-60 BURNER

GASES: * Natural gas to be specified with order
 * Liquid gas – LPG

GAS PRESSURE: 500 – 600 mm H₂O

CAPACITY: The burner capacity depends EXCLUSIVELY by air pressure, gauged upstream of the burner

BURNER CAPACITY Kcal/h WITH AIR PRESSURE IN mm H ₂ O												
AIR PRESSURE	10	25	50	100	150	200	250	300	400	500	600	700
NATURAL GAS	60000	104000	160000	224000	288000	340000	384000	424000	500000	536000	560000	576000
LPG	55600	96000	148000	207000	267000	315000	356000	393000	463000	496000	519000	533000

Weight: Kg. 124

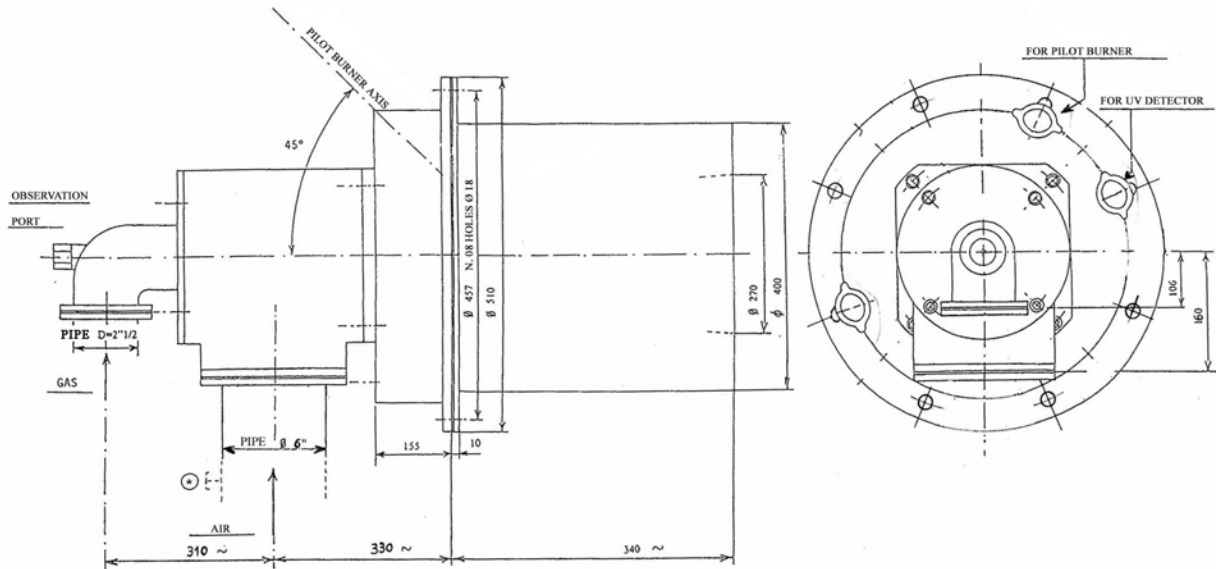
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G-120 BURNER



G-120 BURNER

GASES: * Natural gas to be specified with order
 * Liquid gas – LPG

GAS PRESSURE: 700 – 800 mm H₂O

CAPACITY: The burner capacity depends EXCLUSIVELY by air pressure, gauged upstream of the burner

BURNER CAPACITY Kcal/h WITH AIR PRESSURE IN mm H ₂ O												
AIR PRESSURE	10	25	50	100	150	200	250	300	400	500	600	700
NATURAL GAS	172000	272000	385000	545000	667000	771000	862000	945000	1091000	1219000	1336000	1443000
LPG	159000	252000	356000	505000	618000	714000	806000	875000	1010000	1129000	1237000	1336000

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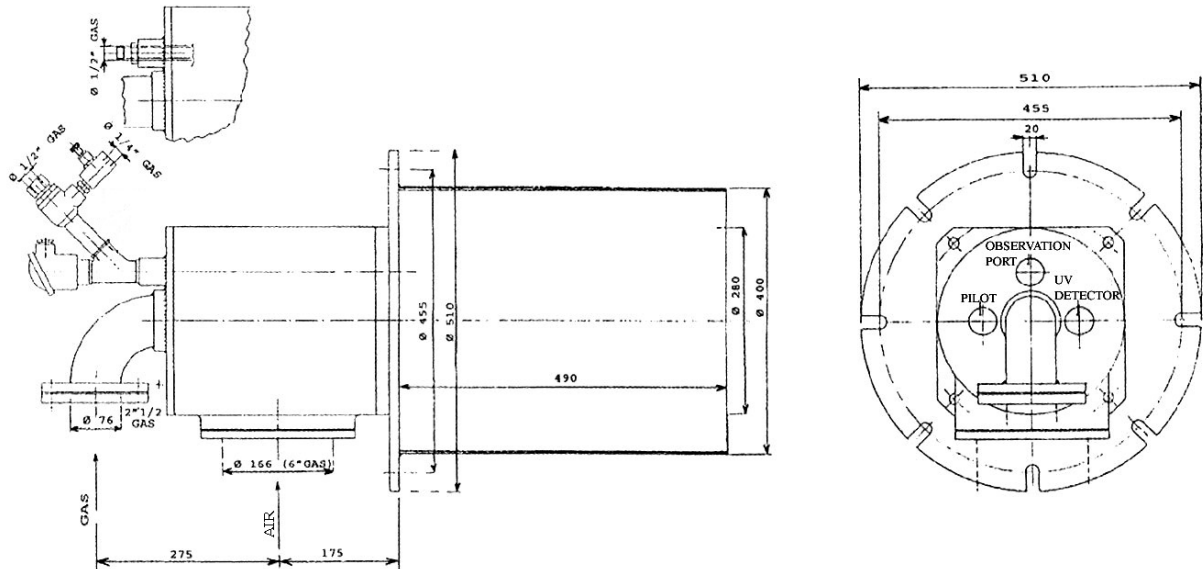
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G-120 A BURNER



G-120 A BURNER

GASES: * Natural gas
* Liquid gas – LPG

to be specified with order

GAS PRESSURE: 700 – 800 mm H₂O

CAPACITY: The burner capacity depends EXCLUSIVELY by air pressure, gauged upstream of the burner

BURNER CAPACITY Kcal/h WITH AIR PRESSURE IN mm H ₂ O												
AIR PRESSURE	10	25	50	100	150	200	250	300	400	500	600	700
NATURAL GAS	172000	272000	385000	545000	667000	771000	862000	945000	1091000	1219000	1336000	1443000
LPG	159000	252000	356000	505000	618000	714000	806000	875000	1010000	1129000	1237000	1336000

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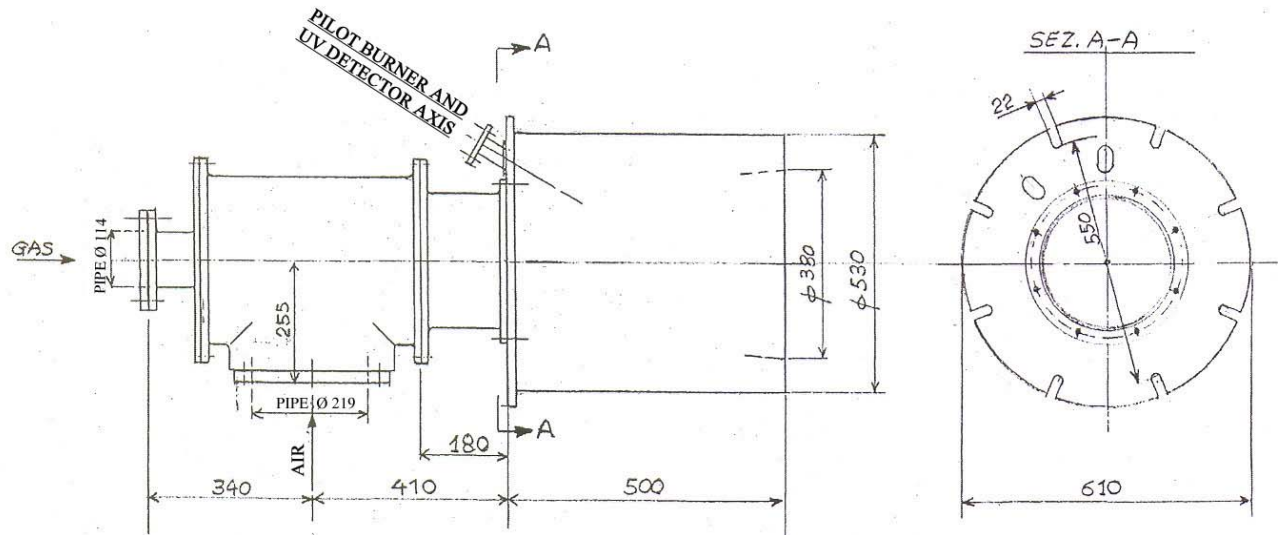
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Fusar Bassini Astorre e C. Snc G-230 BURNER



G-230 BURNER

GASES: Natural gas, LPG

GAS PRESSURE: 700 mm H₂O

COMBUSTION AIR PRESSURE: 700 mm H₂O

MAXIMUM POWER GAS: Natural gas 230 Nm³/h
LPG 92 Nm³/h

MAXIMUM POWER COMBUSTION AIR PRESSURE: 2500 Nm³/h

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Fusar Bassini Astorre e C. Snc Y-G-40 BURNER

APPLICATIONS

The burner Y-G-40 is suitable for applications to industrial furnaces, for combustion with stoichiometric ratio or with excess of air.

GENERAL

The burner Y-G-40 can burn natural gas or industrial LPG. The comburent air and the combustible gas are mixed in the burner head avoiding in such way the phenomenon "backfire" and allowing a wide ratio of the choking with a good flame stability. The refractory tile burner's internal shape made of high temperature refractory assures a clean and complete combustion.

The threaded gas inlet can be easily turned according to one's own requirements. The air inlet fitted with a weld counter-flange can be rotated every 90°.

The burner Y-G-40 lighting always must be carried out in the minimum position by the pilot burner P-270-S. The burner Y-G-40 is fitted with two housing for pilot burner and UV detector.

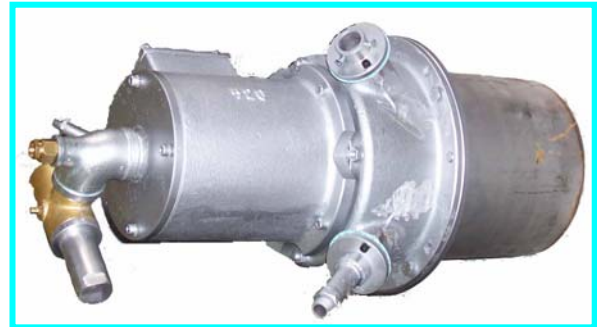
Pilot burner, main burner and the automatic burner control unit must be designed, installed and setted meeting the law regulations in force.

The burner Y-G-40 can be automatically controlled by regulating and controlling the comburent air and the combustible gas. The required air-gas ratio can be maintained by the zero governor in every regulation area. The pre-setting of the required air-gas ratio is much easier if you know the flow rates of the air and of the combustible gas; the flow rate of gas can be measured by the diaphragms set to gas supply; the air flow rate can be measured by the pressure present in the air inlet at the burner or by the diaphragms set to air supply.

TECHNICAL CHARACTERISTICS

- Intense combustion
- High choking ratio
- Mixing head
- High flame stability
- Automatic lighting by pilot burner
- Micrometric gas metering device

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.



TENDING OF THE BURNER

The minimum supply pressure of the combustible gas inside the system can be determined by calculating all the resistance due to the piping and to the accessories.

Before starting the burner, be sure that the safety valves for the gas supply are closed. Set the gas adjuster device to the minimum gas flow rate, start the combustion air fan and upon completion of the washing phase, regulate the control valve for the zone air to the low flame position (opening set to 1/4 or less with respect to the maximum position).

Excite the gas solenoid valve on the pilot burner and light it. The flame must be rigid and blue and can be adjusted by the gas adjuster devices assembled on the pilot burner pre-mixer; be sure that the flame retention on the pilot burner head functions correctly (this is absolutely necessary to ensure the flame stability in the pilot burner). Repeat the pilot burner's lighting more times in order to check the setting in working conditions. Connect the air zero governor's reference line to the air pressure intake and discharge the air up to the gas pressure at the zero governor ZG inlet is over 10 mbar than the maximum pressure of the air supply to the burner: so the gas flow rate is always maintained proportional to the comburent air; the regulation of the heat potentiality can be performed by a air control valve. Excite the main solenoid valve for the gas supply and light the main burner at the minimum flow rate. Then gradually open the manual butterfly valve for the combustion air and the manual gas adjuster device to the burner up to obtaining the maximum potentiality condition required; the flow rate of combustion air can be known by measuring the air pressure in the burner's inlet; the flow rate of gas can be metered by the pressure drops across the gas orifice. After this initial pre-setting the regulation will be automatically maintained.

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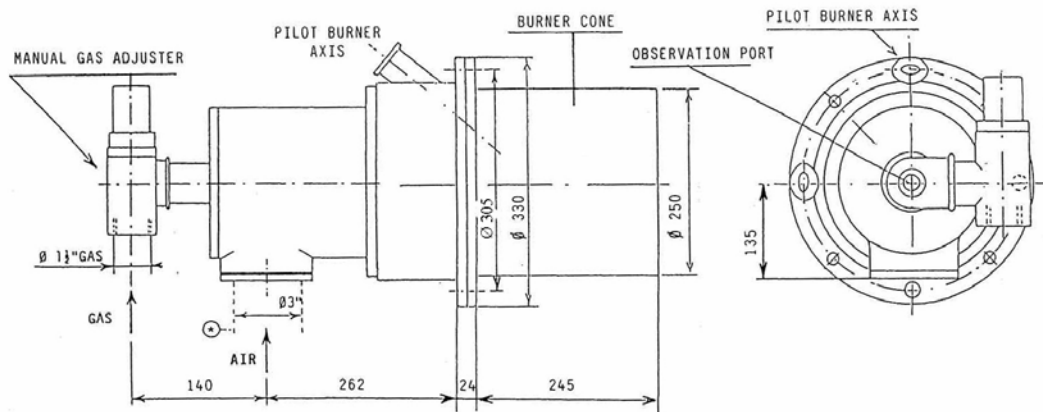
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Y-G-40 BURNER



Y-G-40 BURNER

GASES: * Natural gas to be specified with order
 * Liquid gas – LPG

GAS PRESSURE: 300 – 500 mm H₂O

CAPACITY: The burner capacity depends EXCLUSIVELY by air pressure, gauged upstream of the burner

BURNER CAPACITY Kcal/h WITH AIR PRESSURE IN mm H ₂ O												
AIR PRESSURE	10	25	50	100	150	200	250	300	400	500	600	700
NATURAL GAS	56000	96000	140000	196000	236000	268000	300000	328000	372000	392000	400000	418000
LPG	51000	88000	129000	181000	218000	248000	277000	303000	344000	362000	370000	387000

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FLAT FLAME BURNERS "FP" SERIES

APPLICATIONS

The burner "FP" series are suitable for applications to industrial furnaces, for combustion with stoichiometric ratio or with excess of air; particularly indicated for applications on the aluminum melting furnaces, with assembly in flat and on furnaces for the ferrous alloy heat treatment. Burner FP is indicated for the application on furnaces with walls strongly radiation and considerably homogenous temperature, without the impact of the flame on the products to deal.



TECHNICAL CHARACTERISTICS

- Intense combustion
- High choking ratio
- Mixing head
- High flame stability
- Automatic lighting by pilot burner
- Micrometric gas metering device

CAPACITY

	BURNER TYPE	CAPACITY KW	CAPACITY Kcal/h
▷	FP5	50	43000
▷	FP10	100	86000
▷	FP22	200	172000
▷	FP30	290	250000
▷	FP37	350	300000

GENERAL

The burner "FP" series can burn natural gas or industrial LPG to the gaseous state. The comburent air and the combustible gas are mixed in the burner head avoiding in such way the phenomenon "backfire" and allowing a wide ratio of choking with a good flame stability. The refractory tile burner's internal shape made of high temperature refractory and the remarkable helicoidal movement of the combustion air flame of flat shape, generates in the walls of the furnace, assures a clean and complete combustion.

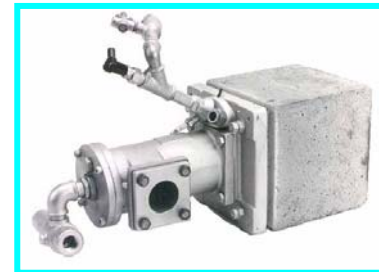
The threaded gas inlet can be easily turned according to one's own requirements. The air inlet fitted with a weld counter-flange can be rotated every 90°.

The burner "FP" series lighting always must be carried out in the minimum position by P0717 or P612 pilot which has ignition candle and electrode of detection. The burner "FP" series is fitted with three housing for observation port, pilot burner and UV detector.

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

The burner "FP" series can be automatically controlled by regulating and controlling the comburent air and the combustible gas.

The required air-gas ratio can be maintained by the air zero governor in every regulation area. The pre-setting of the required air-gas ratio is much easier if you know the flow rates of the air and of the combustible gas; the flow rate of gas can be measured by the diaphragms set to gas supply; the air flow rate can be measured by the pressure present in the air inlet at the burner or by the diaphragms set to air supply.



TENDING OF THE BURNER

The minimum supply pressure of the combustible gas inside the system can be determined by calculating all the resistance due to the piping and to the accessories.

Before starting the burner, be sure that the safety valves for the gas supply are closed. Set the gas adjuster device to the minimum gas flow rate, start the combustion air fan and upon completion of the washing phase, regulate the control valve for the zone air to the low flame position (opening set to 1/4 or less with respect to the maximum position).

Excite the gas solenoid valve on the pilot burner and light it. The flame must be rigid and blue and can be adjusted by the gas adjuster devices assembled on the pilot burner pre-mixer; ensure that the flame retention on the pilot burner head functions correctly (this is absolutely necessary to be sure the flame stability in the pilot burner). Repeat the pilot burner's lighting more times in order to check the setting in working conditions.

Connect the air zero governor's reference line to the air pressure intake and discharge the air up to the gas pressure at the zero governor ZG inlet is over 10 mbar than the maximum pressure of the air supply to the burner: so the gas flow rate is always maintained proportional to the comburent air; the regulation of the heat potentiality can be performed by a air control valve. Excite the main solenoid valve for the gas supply and light the main burner at the minimum flow rate. Then gradually open the manual butterfly valve for the combustion air and the manual gas adjuster device to the burner up to obtaining the maximum potentiality condition required; after this initial pre-setting the regulation will be automatically maintained.

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.

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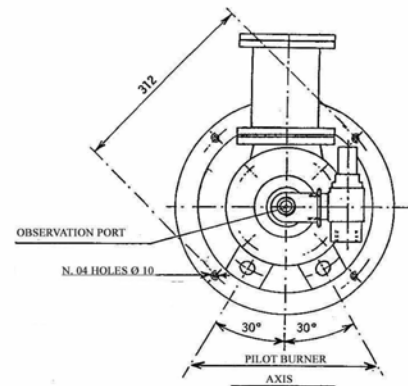
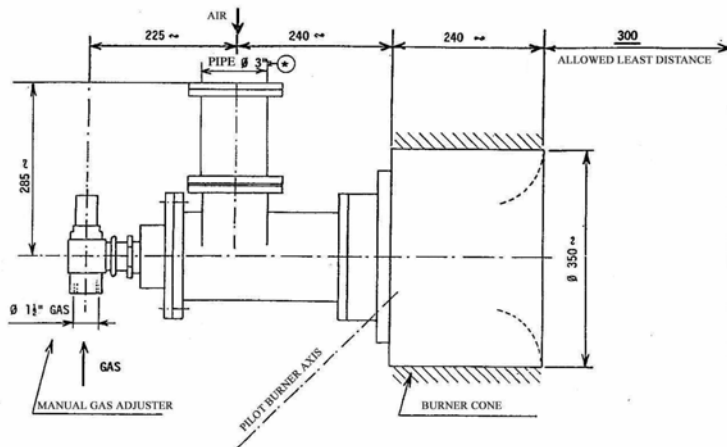
GAS BURNERS AND COMPONENTS FOR COMBUSTION SYSTEMS

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Fusar Bassini Astorre e C. Snc FP-22 AND FP-30 BURNER



FLAT FLAME BURNER FP-22 and FP-30

GASES: * Natural gas to be specified with order
* Liquid gas – LPG

GAS PRESSURE: 300 – 500 mm H₂O

CAPACITY: The burner capacity depends EXCLUSIVELY by air pressure, gauged upstream of the burner

FP-22 BURNER BURNER CAPACITY Kcal/h WITH AIR PRESSURE IN mm H ₂ O												
AIR PRESSURE	10	25	50	100	150	200	250	300	400	500	600	700
NATURAL GAS	25600	40800	57600	81600	100000	116000	129600	141600	163200	183200	200000	216000
LPG	23700	37800	53300	75600	92600	107400	120000	131000	151000	169600	185200	200000

FP-30 BURNER BURNER CAPACITY Kcal/h WITH AIR PRESSURE IN mm H ₂ O												
AIR PRESSURE	10	25	50	100	150	200	250	300	400	500	600	700
NATURAL GAS	34400	54400	76800	108800	133600	153600	172000	188000	217600	243200	266400	288000
LPG	31800	50400	71100	100700	123700	142200	159300	174100	201500	225200	246700	266700

Weight: Kg. 82

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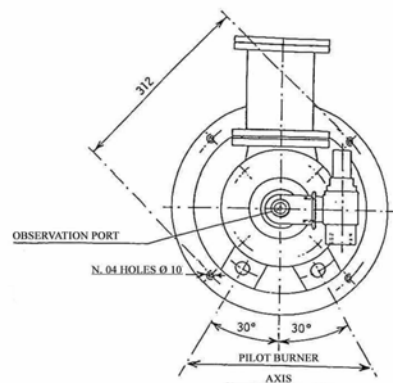
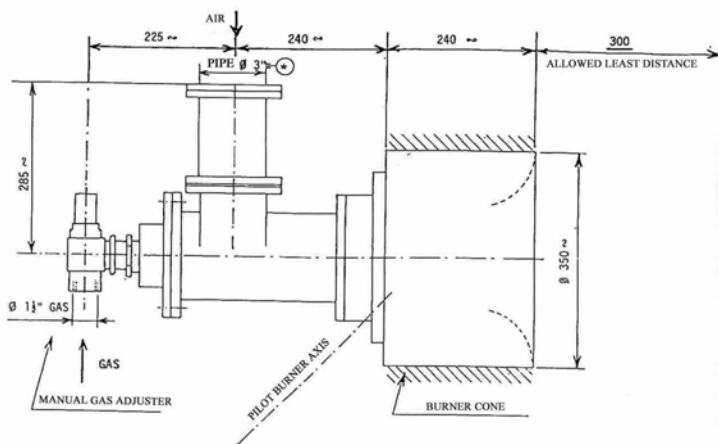
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Fusar Bassini Astorre e C. Snc FP-37 BURNER



FLAT FLAME BURNER FP-37

GASES: * Natural gas to be specified with order
* Liquid gas – LPG

GAS PRESSURE: 300 – 500 mm H₂O

CAPACITY: The burner capacity depends EXCLUSIVELY by air pressure, gauged upstream of the burner

FP-37 BURNER BURNER CAPACITY Kcal/h WITH AIR PRESSURE IN mm H ₂ O												
AIR PRESSURE	10	25	50	100	150	200	250	300	400	500	600	700
NATURAL GAS	46600	71000	100000	141000	173000	199000	223000	244000	282000	315000	345000	373000
LPG	41200	65000	92000	130000	160000	184000	206000	226000	261000	292000	270000	345000

Weight: Kg. 82

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Fusar Bassini Astorre e C. Snc

CONICAL FLAME BURNERS "F" SERIES

APPLICATIONS

The burner "F" series is suitable for applications to industrial furnaces, for combustion with stoichiometric ratio or with excess of air; particularly indicated for applications on the aluminum melting furnaces, with assembly in flat and on furnaces for the ferrous alloy heat treatment.



TECHNICAL CHARACTERISTICS

- Intense combustion
- High choking ratio
- Mixing head
- High flame stability
- Automatic lighting by pilot burner
- Micrometric gas metering device

CAPACITY

	BURNER TYPE	CAPACITY KW	CAPACITY Kcal/h
▷	F40	380	320000
▷	F60	570	490000
▷	F90	860	740000

GENERAL

The burner "F" series can burn natural gas or industrial LPG. The comburent air and the combustible gas are mixed in the burner head avoiding in such way the phenomenon "backfire" and allowing a wide ratio of choking with a good flame stability. The refractory tile burner's internal shape made of high temperature refractory flame of conical shape, generates in the walls of the furnace, assures a clean and complete combustion.

The threaded gas inlet can be easily turned according to one's own requirements. The air inlet fitted with a weld counter-flange can be rotated every 90°.

The burner "F" series lighting always must be carried out in the minimum position by the pilot burner YP22-S.

The burner "F" series is fitted with three housing for observation port, pilot burner and UV detector.

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

The burner "F" series can be automatically controlled by regulating and controlling the comburent air and the combustible gas. The required air-gas ratio can be maintained by the air zero governor in every regulation area. The pre-setting of the required air-gas ratio is much easier if you know the flow rates of the air and of the combustible gas; the flow rate of gas can be measured by the diaphragms set to gas supply; the air flow rate can be measured by the pressure present in the air inlet at the burner or by the diaphragms set to air supply.

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.

TENDING OF THE BURNER

The minimum supply pressure of the combustible gas inside the system can be determined by calculating all the resistance due to the piping and to the accessories.

Before starting the burner, be sure that the safety valves for the gas supply are closed. Set the gas adjuster device to the minimum gas flow rate, start the combustion air fan and upon completion of the washing phase, regulate the control valve for the zone air to the low flame position (opening set to 1/4 or less with respect to the maximum position).

Excite the gas solenoid valve on the pilot burner and light it. The flame must be rigid and blue and can be adjusted by the gas adjuster devices assembled on the pilot burner pre-mixer; be sure that the flame retention on the pilot burner head functions correctly (this is absolutely necessary to ensure the flame stability in the pilot burner). Repeat the pilot burner's lighting more times in order to check the setting in working conditions.

Connect the air zero governor's reference line to the air pressure intake and discharge the air up to the gas pressure at the zero governor ZG inlet is over 10 mbar than the maximum pressure of the air supply to the burner: so the gas flow rate is always maintained proportional to the comburent air; the regulation of the heat potentiality can be performed by a air control valve. Excite the main solenoid valve for the gas supply and light the main burner at the minimum flow rate. Then gradually open the manual butterfly valve for the combustion air and the manual gas adjuster device to the burner up to obtaining the maximum potentiality condition required; after this initial pre-setting the regulation will be automatically maintained.

Fusar Bassini Astorre e C. Snc

GAS BURNERS AND COMPONENTS FOR COMBUSTION SYSTEMS

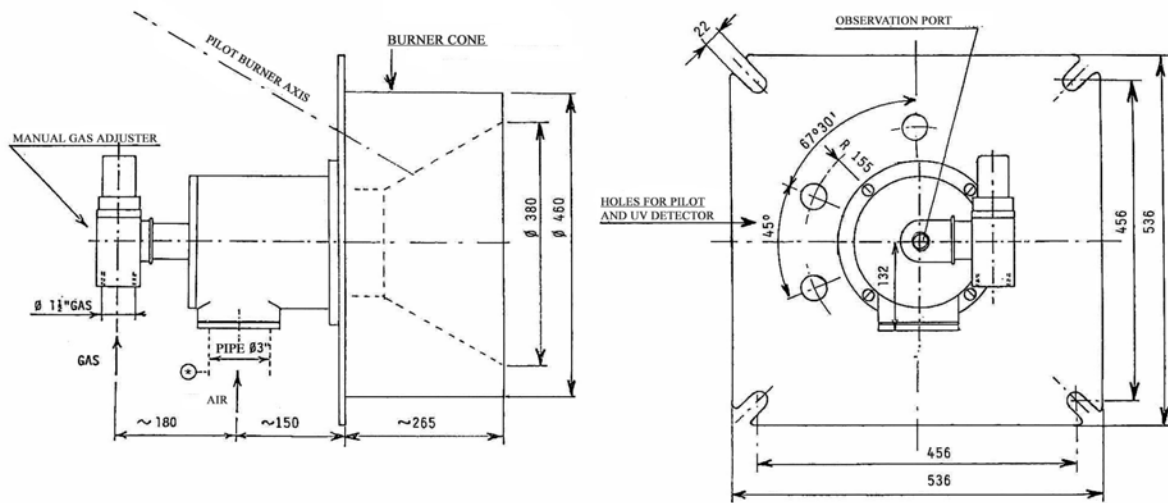
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Fusar Bassini Astorre e C. Snc

F-40 BURNER



CONICAL FLAME BURNER F-40

GASES: * Natural gas to be specified with order
 * Liquid gas – LPG

GAS PRESSURE: 300 – 500 mm H₂O

CAPACITY: The burner capacity depends EXCLUSIVELY by air pressure, gauged upstream of the burner

BURNER CAPACITY Kcal/h WITH AIR PRESSURE IN mm H ₂ O											
AIR PRESSURE	10	25	50	100	150	200	250	300	400	500	600
NATURAL GAS	56000	96000	140000	196000	236000	268000	300000	328000	372000	392000	400000
LPG	52000	89000	130000	181000	218000	248000	278000	304000	344000	363000	370000

Fusar Bassini Astorre e C. Snc

GAS BURNERS AND COMPONENTS FOR COMBUSTION SYSTEMS

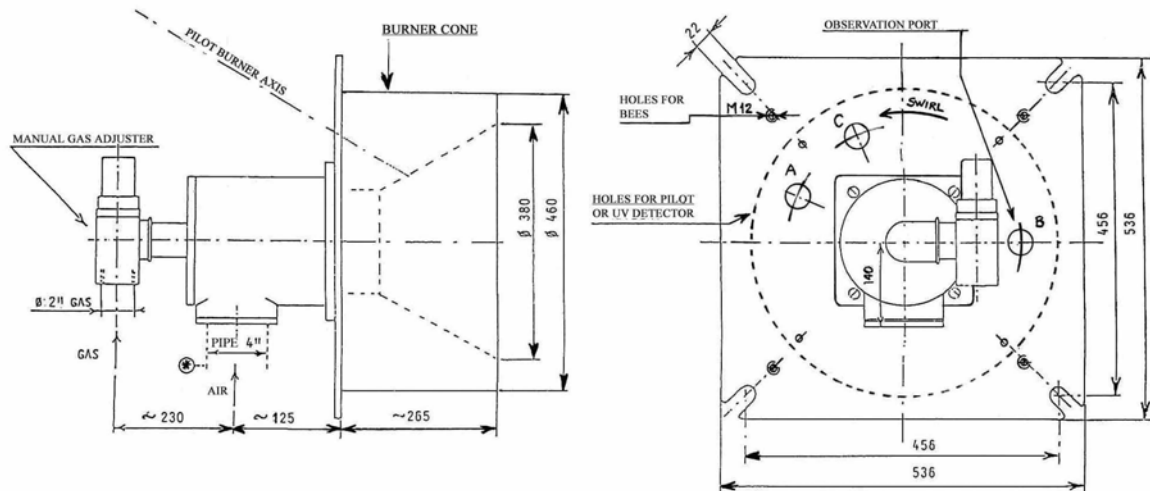
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F-60 BURNER



CONICAL FLAME BURNER F-60

GASES: * Natural gas to be specified with order
 * Liquid gas – LPG

GAS PRESSURE: 500 – 600 mm H₂O

CAPACITY: The burner capacity depends EXCLUSIVELY by air pressure, gauged upstream of the burner

BURNER CAPACITY Kcal/h WITH AIR PRESSURE IN mm H ₂ O												
AIR PRESSURE	10	25	50	100	150	200	250	300	400	500	600	700
NATURAL GAS	101000	160000	226000	320000	391000	452000	505000	554000	640000	715000	783000	846000
LPG	93000	148000	209000	296000	362000	418000	467000	512000	592000	662000	725000	783000

CAUTION: with the pilot burner in position C, if detector UV comes disposed in the position A, reveals both the flame of the pilot burner and the flame of the main burner, while if it comes disposed in the B position reveals only the flame of the main burner and not that one of the pilot.

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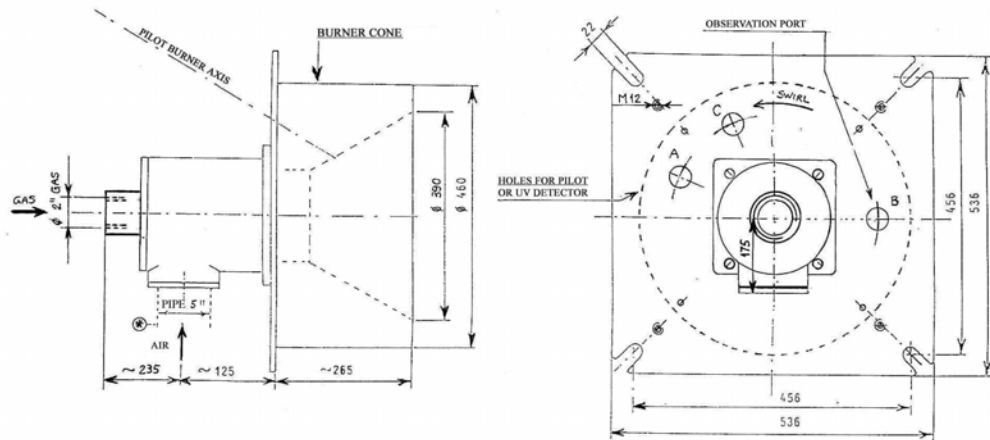
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Fusar Bassini Astorre e C. Snc F-90 BURNER



CONICAL FLAME BURNER F-90

GASES: * Natural gas to be specified with order
* Liquid gas – LPG

GAS PRESSURE: 500 – 600 mm H₂O

CAPACITY: The burner capacity depends EXCLUSIVELY by air pressure, gauged upstream of the burner

BURNER CAPACITY Kcal/h WITH AIR PRESSURE IN mm H ₂ O												
AIR PRESSURE	10	25	50	100	150	200	250	300	400	500	600	700
NATURAL GAS	181000	287000	405000	574000	703000	811000	907000	994000	1148000	1283000	1406000	1518000
LPG	167000	265000	375000	531000	650000	750000	839000	920000	1062000	1187000	1301000	1405000

CAUTION: with the pilot burner in position C, if detector UV comes disposed in the position A, reveals both the flame of the pilot burner and the flame of the main burner, while if it comes disposed in the B position reveals only the flame of the main burner and not that one of the pilot.

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GAS BURNERS AND COMPONENTS FOR COMBUSTION SYSTEMS

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Fusar Bassini Astorre e C. Snc

LUMINOUS FLAME BURNERS "Z" SERIES

APPLICATIONS

The burner "Z" series is suitable for applications to industrial furnaces, for combustion with stoichiometric ratio or with excess of air; are plans in order to obtain luminous flames to high wavelength, for the fast transmission of the heat furnaces and/or attended of the aluminum, with assembly in wall.

GENERAL

The burner "Z" series can burn natural gas or industrial LPG. The comburent air and the combustible gas are mixed in the burner head avoiding in such way the phenomenon "backfire" and allowing a wide ratio of choking with a good flame stability. The refractory tile burner's internal shape made of high temperature refractory assures a clean and complete combustion.

The threaded gas inlet can be easily turned according to one's own requirements. The air inlet fitted with a weld counter-flange can be rotated every 90°.

The burner "Z" series lighting always must be carried out in the minimum position by the pilot burner YP22-S.

The burner "Z" series is fitted with three housing one center for the pilot burner, one center for UV detector in order to reveal the flame pilot, one center for UV detector in order to reveal the main burner's flame.

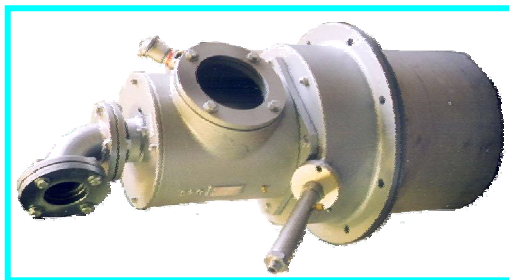
Pilot burner, main burner and the automatic burner control unit must be designed, installed and setted meeting the law regulations in force.

The burner "Z" series can be automatically controlled by regulating and controlling the comburent air and the combustible gas. The required air-gas ratio can be maintained by the air zero governor in every regulation area. The pre-setting of the required air-gas ratio is much easier if you know the flow rates of the air and of the combustible gas; the flow rate of gas can be measured by the diaphragms set to gas supply; the air flow rate can be measured by the pressure present in the air inlet at the burner or by the diaphragms set to air supply.

TECHNICAL CHARACTERISTICS

- Intense combustion
- High choking ratio
- Mixing head
- High flame stability
- Automatic lighting by pilot burner
- Micrometric gas metering device

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.



TENDING OF THE BURNER

The minimum supply pressure of the combustible gas inside the system can be determined by calculating all the resistance due to the piping and to the accessories.

Before starting the burner, be sure that the safety valves for the gas supply are closed. Set the gas adjuster device to the minimum gas flow rate, start the combustion air fan and upon completion of the washing phase, regulate the control valve for the zone air to the low flame position (opening set to 1/4 or less with respect to the maximum position).

Excite the gas solenoid valve on the pilot burner and light it. The flame must be rigid and blue and can be adjusted by the gas adjuster devices assembled on the pilot burner pre-mixer; be sure that the flame retention on the pilot burner head functions correctly (this is absolutely necessary to ensure the flame stability in the pilot burner). Repeat the pilot burner's lighting more times in order to check the setting in working conditions.

Connect the air zero governor's reference line to the air pressure intake and discharge the air up to the gas pressure at the zero governor ZG inlet is over 10 mbar than the maximum pressure of the air supply to the burner: so the gas flow rate is always maintained proportional to the comburent air; the regulation of the heat potentiality can be performed by a air control valve. Excite the main solenoid valve for the gas supply and light the main burner at the minimum flow rate. Then gradually open the manual butterfly valve for the combustion air and the manual gas adjuster device to the burner up to obtaining the maximum potentiality condition required; the flow rate of combustion air can be known by measuring the air pressure in the burner's inlet; the flow rate of gas can be metered by the pressure drops across the gas orifice. After this initial pre-setting the regulation will be automatically maintained.

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GAS BURNERS AND COMPONENTS FOR COMBUSTION SYSTEMS

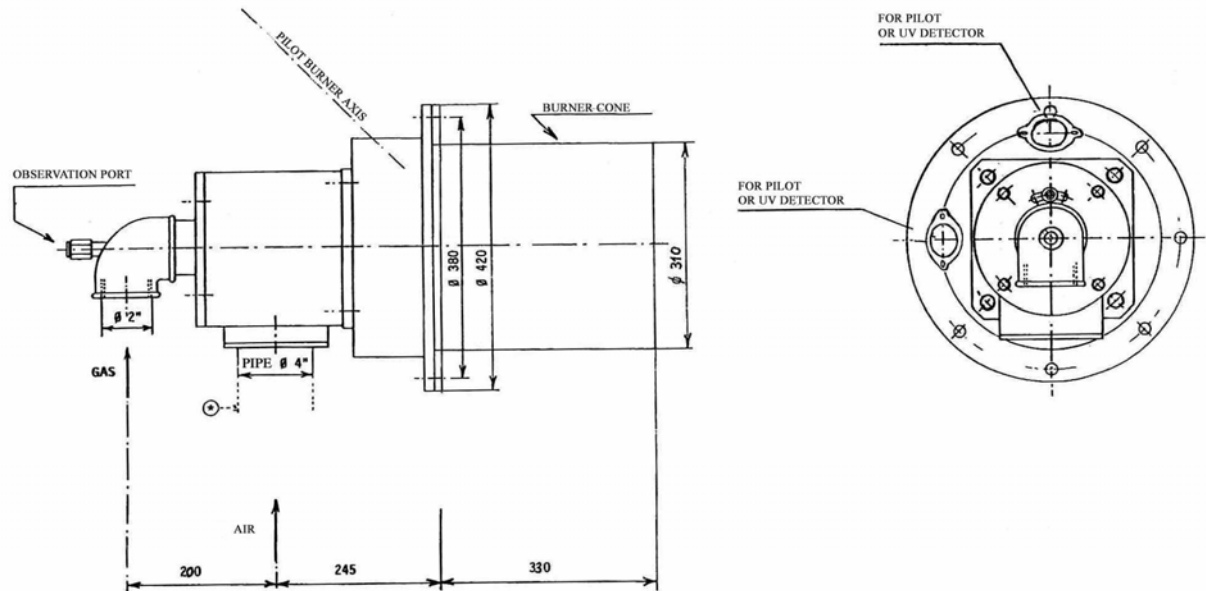
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Fusar Bassini Astorre e C. Snc

Z-80 BURNER



Z-80 BURNER

GASES: * Natural gas to be specified with order
 * Liquid gas – LPG

PRESSURE: 700 – 800 mm H₂O

CAPACITY: The burner capacity depends EXCLUSIVELY by air pressure, gauged upstream of the burner

BURNER CAPACITY Kcal/h WITH AIR PRESSURE IN mm H ₂ O												
AIR PRESSURE	10	25	50	100	150	200	250	300	400	500	600	700
NATURAL GAS	97000	154000	218000	308000	378000	436000	487000	534000	617000	689000	755000	816000
LPG	91000	143000	202000	286000	351000	405000	453000	496000	573000	640000	701000	757000

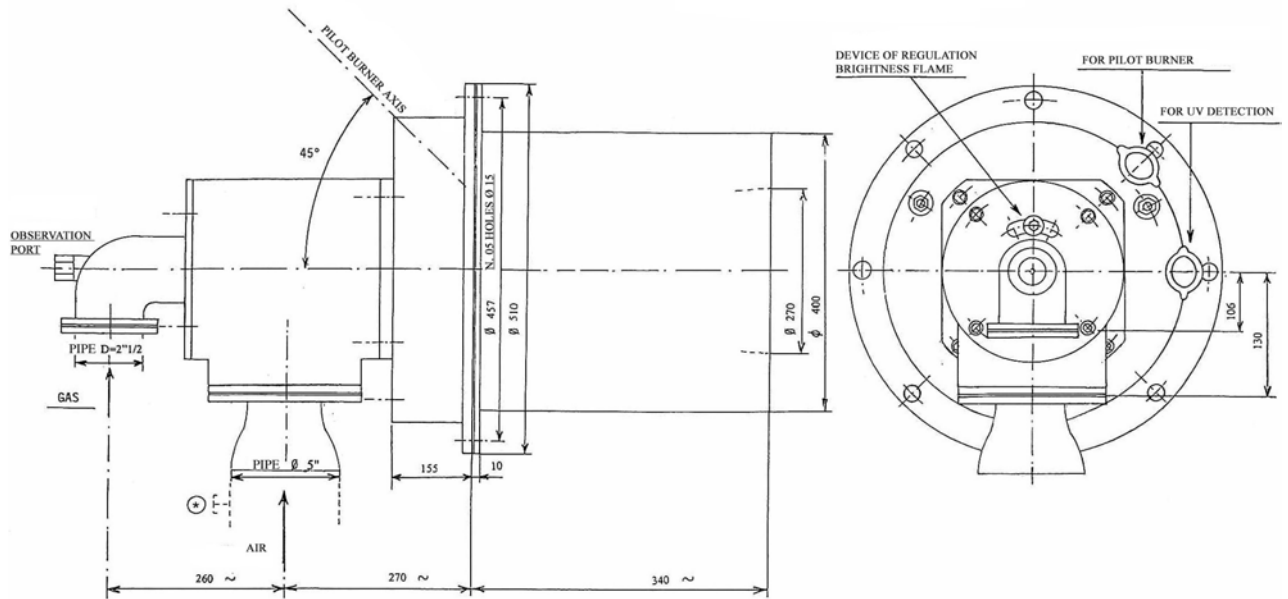
Weight: Kg. 92

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Fusar Bassini Astorre e C. Snc Z-120 BURNER



Z-120 BURNER

GASES: * Natural gas to be specified with order
* Liquid gas – LPG

GAS PRESSURE: 700 – 800 mm H₂O

CAPACITY: The burner capacity depends EXCLUSIVELY by air pressure, gauged upstream of the burner

BURNER CAPACITY Kcal/h WITH AIR PRESSURE IN mm H ₂ O												
AIR PRESSURE	10	25	50	100	150	200	250	300	400	500	600	700
NATURAL GAS	112000	200000	280000	408000	504000	576000	656000	704000	800000	848000	964000	880000
LPG	104000	185000	259000	378000	467000	533000	607000	652000	741000	785000	800000	815000

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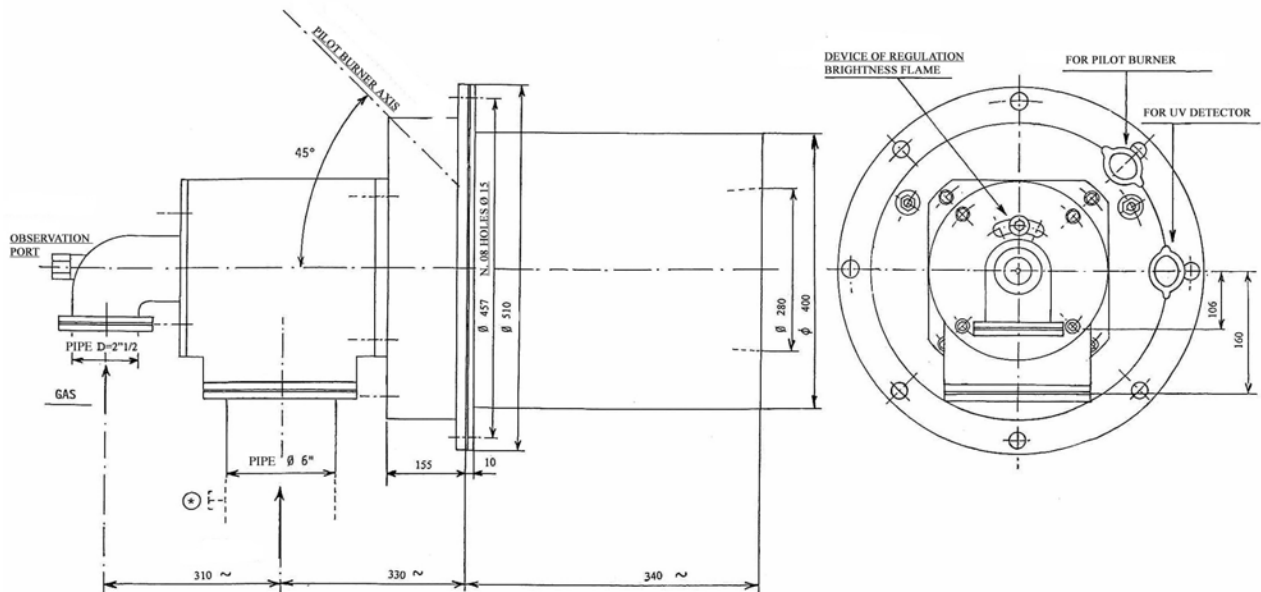
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Fusar Bassini Astorre e C. Snc Z-180 BURNER



Z-180 BURNER

GASES: * Natural gas to be specified with order
* Liquid gas – LPG

GAS PRESSURE: 700 – 800 mm H₂O

CAPACITY: The burner capacity depends EXCLUSIVELY by air pressure, gauged upstream of the burner

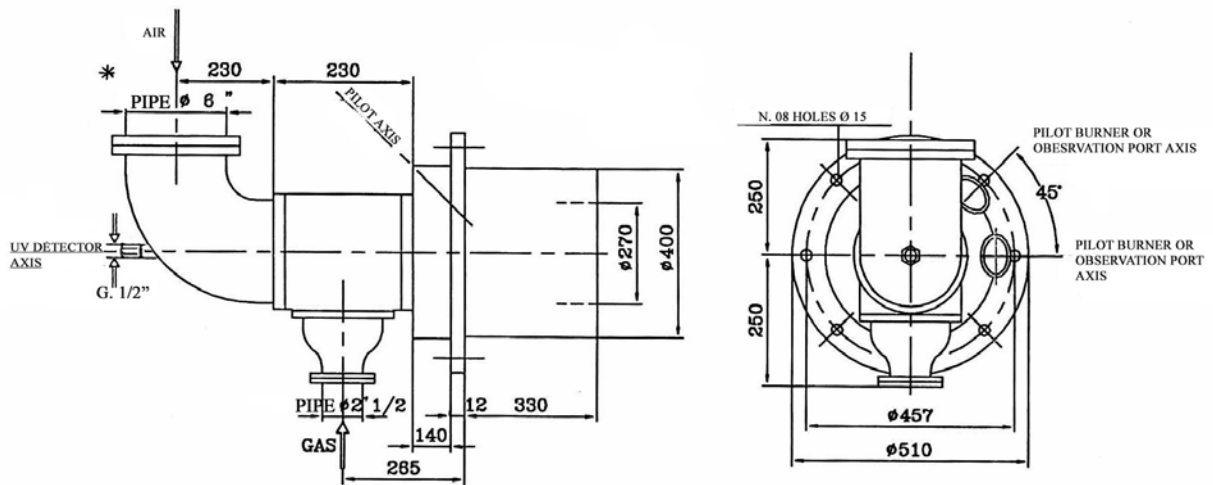
BURNER CAPACITY Kcal/h WITH AIR PRESSURE IN mm H ₂ O											
AIR PRESSURE	10	25	50	100	150	200	250	300	400	500	600
NATURAL GAS	176000	288000	416000	584000	712000	816000	896000	968000	1088000	1160000	1200000
LPG	163000	267000	385000	541000	659000	756000	830000	896000	1007000	1074000	1111000

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Fusar Bassini Astorre e C. Snc TB-120 BURNER



TB-120 BURNER

GASES: * Natural gas to be specified with order
* Liquid gas – LPG

GAS PRESSURE: 300 – 500 mm H₂O

CAPACITY: The burner capacity depends EXCLUSIVELY by air pressure, gauged upstream of the burner

BURNER CAPACITY Kcal/h WITH AIR PRESSURE IN mm H ₂ O												
AIR PRESSURE	10	25	50	100	150	200	250	300	400	500	600	700
NATURAL GAS	162000	257000	363000	513000	629000	726000	812000	889000	1027000	1148000	1258000	1358000

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GAS BURNERS AND COMPONENTS FOR COMBUSTION SYSTEMS

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Fusar Bassini Astorre e C. Snc HIGH VELOCITY BURNERS "HV" SERIES



APPLICATIONS

The burner "HV" series is suitable for applications to industrial furnaces, for combustion with stoichiometric ratio or with excess of air; particularly indicates for applications on furnaces for the heat treatment of the metals, with directed heat.

CAPACITY

	BURNER TYPE	CAPACITY KW	CAPACITY Kcal/h
▷	HV-5	50	43000
▷	HV-12	120	100000
▷	HV-35	350	300000
▷	HV-72	720	620000

TECHNIQUE OF IMPULSES COMBUSTION

The impulses combustion produces flames with high atmosphere circulation in the furnace, such to optimize the distribution of the heat, the evenness of temperature and the rendering; the adoption of combustion groups using the technique pressure combined average velocity represents the best solution for the furnace for heat treatment with directed heat: the impulses allows short interference duration in single zone of the furnace increasing the precision of the thermal contribution's regulation, while the mid velocity optimizes the re-mixing of the atmosphere in the furnace for means of the elevated possessed kinetic energy, concurring the evenness of temperature also with not homogenous charges of materials or having complicated shapes.

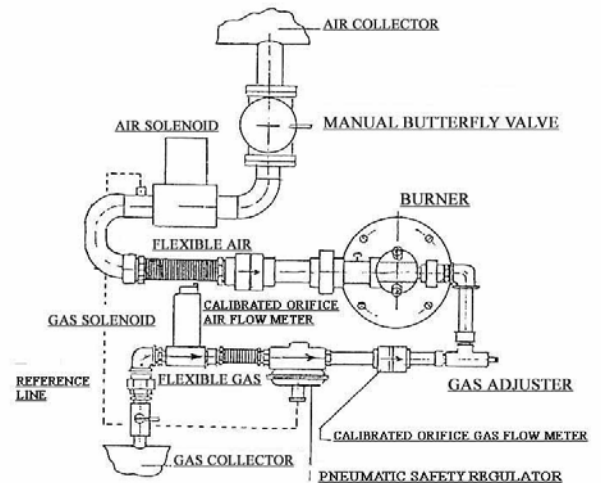
GENERAL

The burner "HV" series can burn natural gas or industrial LPG. The comburent air and the combustible gas are mixed in the burner head avoiding in such way the phenomenon "backfire" and allowing a wide ratio of choking with a good flame stability. The refractory tile burner's internal shape made of high temperature refractory stiff flame generates one, with elevated kinetic energy. The combustion are clean and complete. The ignition HV burners must always be completed in the minimum position, through the built-in electrode of ignition. The flame detection can be carried out with electrode detection probe or detector UV; **The burner and the automatic burner control unit must be designed, installed and setted meeting the law regulations in force.**

The burner "HV" series can be automatically controlled by regulating and controlling the comburent air and the combustible gas. The required air-gas ratio can be maintained by use a pneumatic safety regulator. The predisposition of the wished ratio air-gas to the burner comes easier if the capacities of air and combustible gas are known, that can be measured through the diaphragms calibrates positioned respective on the feedings of air and gas.

TECHNICAL CHARACTERISTICS

- Intense combustion
- Elevated kinetic flame energy
- Mixing head
- High flame stability
- Automatic ignition with ignition electrode
- Micrometric gas metering device



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.

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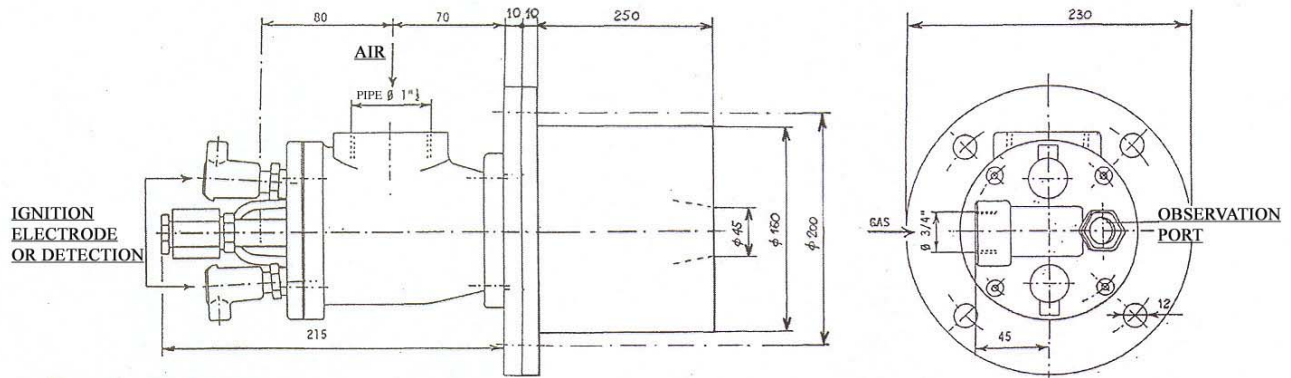
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Fusar Bassini Astorre e C. Snc HV-5 BURNER



HV-5 BURNER

GASES: * Natural gas to be specified with order
 * Liquid gas – LPG

GAS PRESSURE: 500 mm H₂O

CAPACITY: The burner capacity depends **EXCLUSIVELY** by air pressure, gauged upstream of the burner

BURNER CAPACITY Kcal/h WITH AIR PRESSURE IN mm H ₂ O												
AIR PRESSURE	10	25	50	100	150	200	250	300	400	500	600	700
NATURAL GAS	12500	20500	28500	41000	50000	58000	65000	71000	82000	92000	100000	108000
LPG	11500	18500	26000	38000	46000	53000	60000	65000	75000	85000	92000	100000

Fusar Bassini Astorre e C. Snc

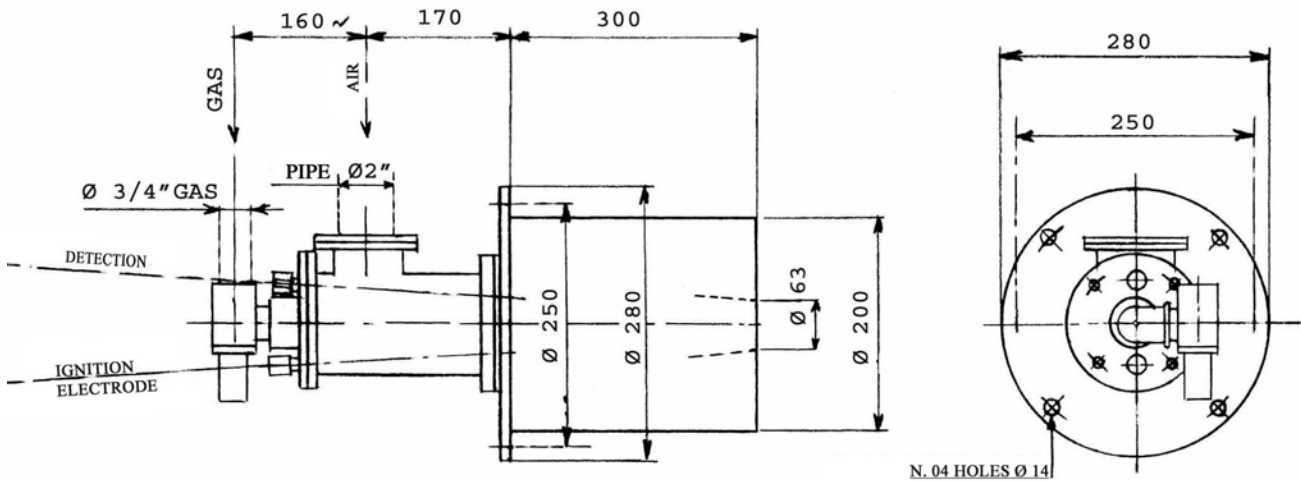
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Fusar Bassini Astorre e C. Snc HV-12 BURNER



HV-12 BURNER

GASES: * Natural gas to be specified with order
* Lliquid gas – LPG

GAS PRESSURE: 500 - 600 mm H₂O

CAPACITY: The burner capacity depends EXCLUSIVELY by air pressure, gauged upstream of the burner

BURNER CAPACITY Kcal/h WITH AIR PRESSURE IN mm H ₂ O												
AIR PRESSURE	10	25	50	100	150	200	250	300	400	500	600	700
NATURAL GAS	25000	41000	57000	82000	100000	115000	129000	142000	164000	183000	200000	216000
LPG	23000	37000	52000	75000	92000	106000	119000	131000	151000	169000	185000	200000

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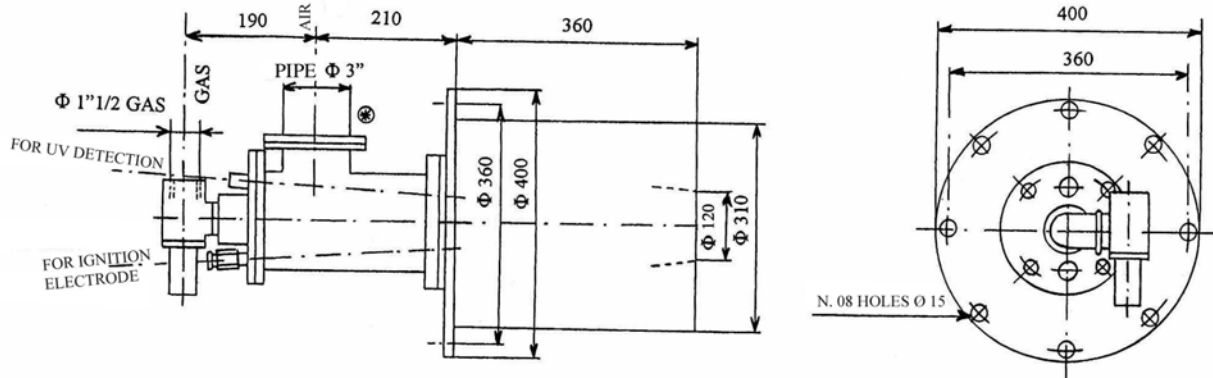
GAS BURNERS AND COMPONENTS FOR COMBUSTION SYSTEMS

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Fusar Bassini Astorre e C. Snc HV-35 BURNER



HV-35 BURNER

GASES: * Natural gas to be specified with order
* Liquid gas – LPG

GAS PRESSURE: 500 - 600 mm H₂O

CAPACITY: The burner capacity depends EXCLUSIVELY by air pressure, gauged upstream of the burner

BURNER CAPACITY Kcal/h WITH AIR PRESSURE IN mm H ₂ O												
AIR PRESSURE	10	25	50	100	150	200	250	300	400	500	600	700
NATURAL GAS	51000	81000	114000	162000	198000	229000	256000	281000	324000	363000	397000	429000
LPG	47000	75000	105000	150000	183000	212000	237000	260000	300000	336000	367000	397000

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GAS BURNERS AND COMPONENTS FOR COMBUSTION SYSTEMS

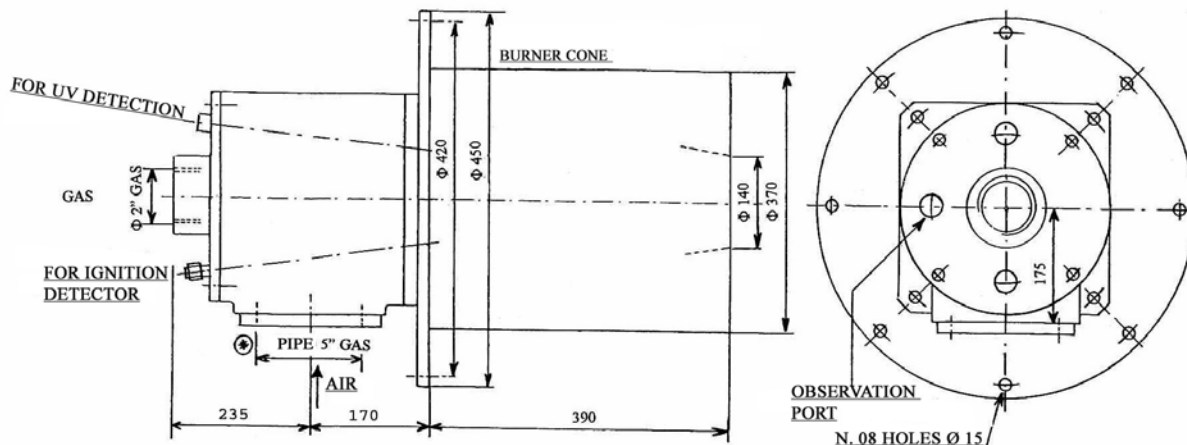
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HV-72 BURNER



HV-72 BURNER

GASES: * Natural gas to be specified with order
 * Liquid gas – LPG

GAS PRESSURE: 500 - 600 mm H₂O

CAPACITY: The burner capacity depends EXCLUSIVELY by air pressure, gauged upstream of the burner

BURNER CAPACITY Kcal/h WITH AIR PRESSURE IN mm H ₂ O												
AIR PRESSURE	10	25	50	100	150	200	250	300	400	500	600	700
NATURAL GAS	136000	215000	30500	431000	528000	610000	682000	747000	863000	965000	1057000	1142000
LPG	125000	199000	282000	399000	488000	564000	631000	691000	799000	893000	978000	1057000

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GAS BURNERS AND COMPONENTS FOR COMBUSTION SYSTEMS

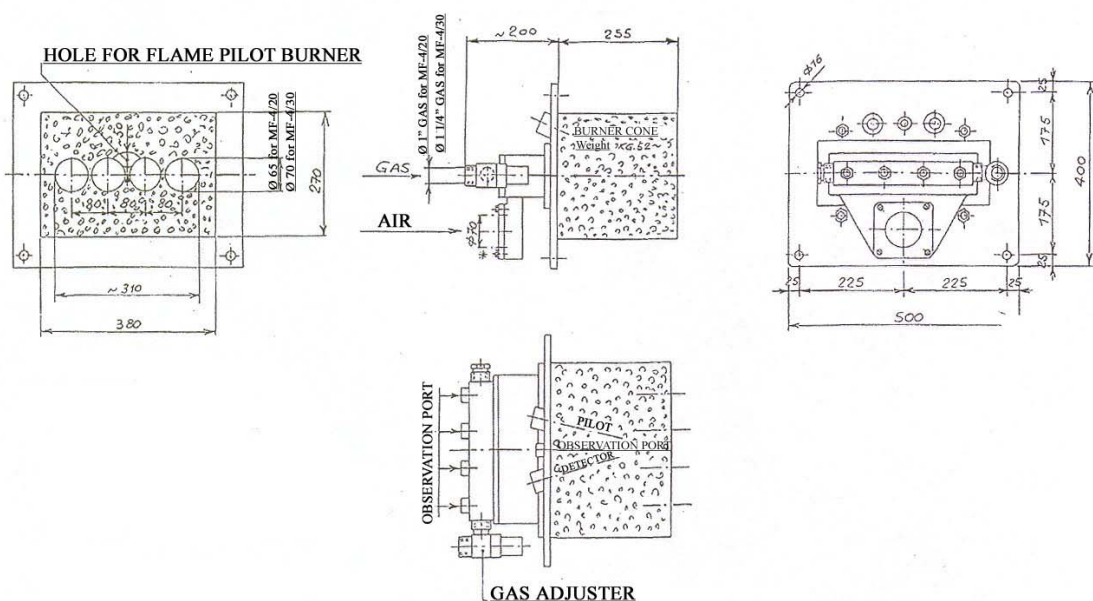
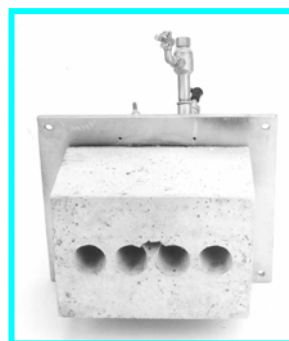
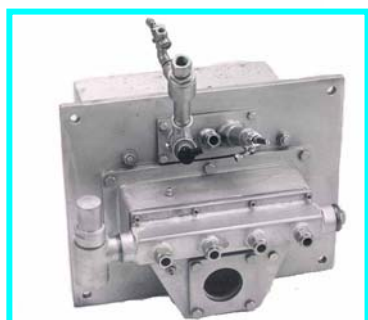
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4 FLAMES BURNERS MF4 SERIES



4 FLAMES BURNERS MF4 SERIES

GASES: * Natural gas
* Liquid gas – LPG
to be specified with order

GAS PRESSURE: 500 - 600 mm H₂O

CAPACITY: The maximum capacity from 120000 to 240000 Kcal/h. The burner capacity depends EXCLUSIVELY by air pressure, gauged upstream of the burner

BURNER CAPACITY Kcal/h WITH AIR PRESSURE IN mm H ₂ O												
AIR PRESSURE	10	25	50	100	150	200	250	300	400	500	600	700
MF-4/20	21800	34600	49000	69500	85000	98000	110000	120000	138000	155000	170000	184000
MF-4/30	32000	51000	72000	102000	125000	144000	162000	176000	203000	228000	250000	270000
MF-4/40	54000	85000	120000	170000	208000	240000	269000	294000	340000	380000	416000	450000

N.B. For LPG (liquid gas) the Kcal/h power must be reduced of the 9%

Weight: Kg. 80

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Fusar Bassini Astorre e C. Snc MAIN GAS BURNERS PREMIX SERIES

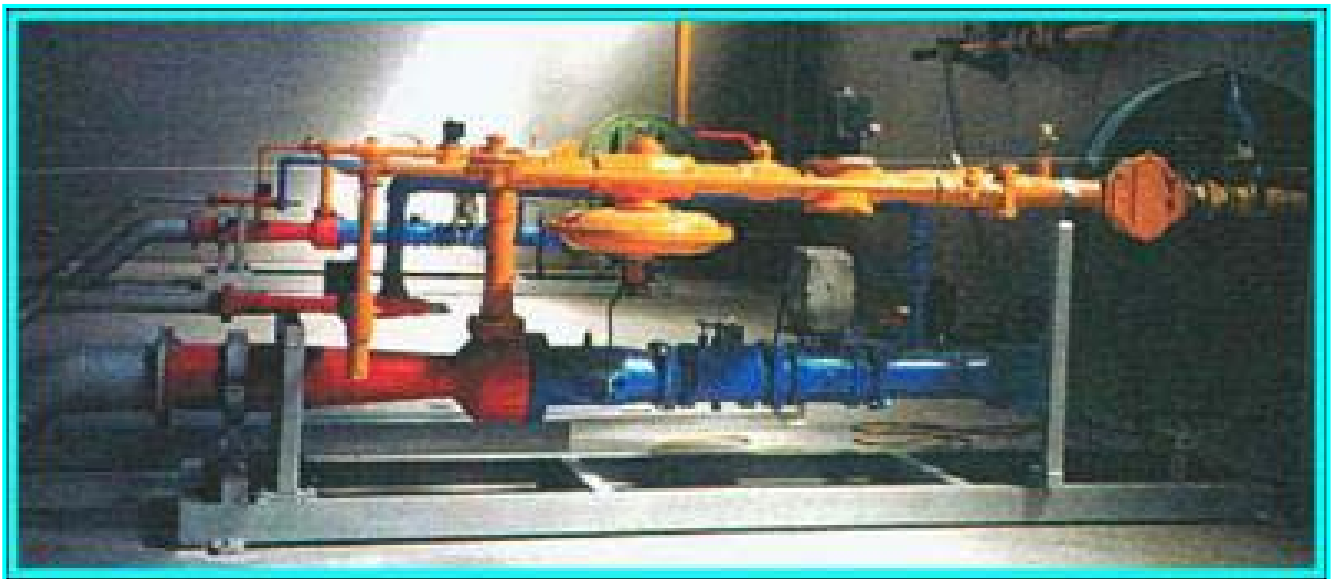
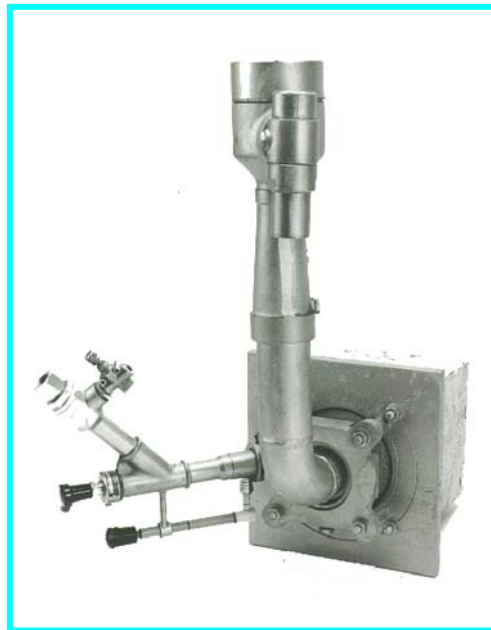
APPLICATIONS: industrial furnaces

Air and fuel gas pre-mixed

Intensive flame of high temperature

Suitable for combustion chamber with limited volume

CAPACITY: up to 1860 KW (1600000 Kcal/h)



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GAS BURNERS AND COMPONENTS FOR COMBUSTION SYSTEMS

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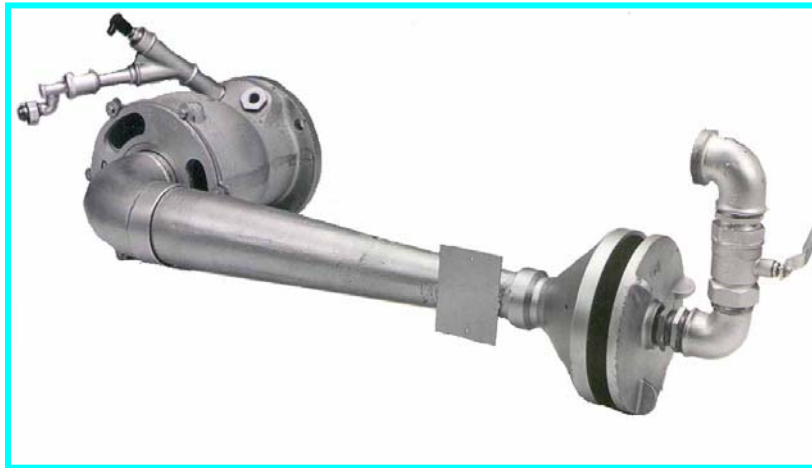
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ATMOSPHERIC BURNERS (inducted air)

CAPACITY: up to 1500 KW (1290000 Kcal/h)

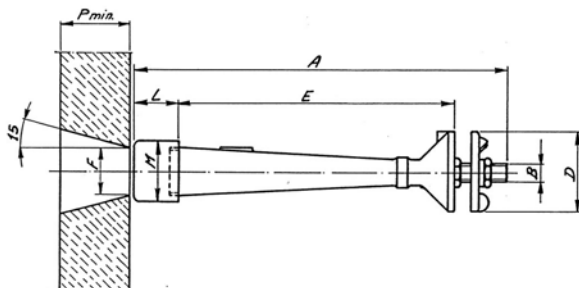
FEEDINGS GAS: mid, high pressure

APPLICATIONS: low temperature industrial furnaces,, driers



BURNER TYPE:	A	φ B	φ D	E	F	L	φ M	P	Burner capacity Kcal/h with suction to the 100% of primary air and with combustion chamber on depression of the 2mm H ₂ O. With feedings gas to the pression in ATE:							
									2 Ate	1,75 Ate	1,5 Ate	1,25 Ate	1 Ate	0,7 Ate	0,35 Ate	0,15 Ate
									AP - 1½" - A	415	¾" GAS	88	296	50	70	60
AP - 2" - A	540	½" GAS	115	400	65	63	73	80	150'000	138'000	128'000	117'000	105'000	85'000	60'000	38'500
AP - 2½" - A	710	½" GAS	135	545	76	85	88	110	240'000	224'000	205'000	190'000	170'000	140'000	100'000	65'000
AP - 3" - A	830	¾" GAS	154	640	95	95	104	110	350'000	330'000	305'000	280'000	250'000	200'000	140'000	90'000
AP - 4" - A	990	1" GAS	215	765	120	125	134	160	590'000	550'000	510'000	470'000	420'000	340'000	240'000	150'000
AP - 6" - A	1200	1¼" GAS	215	900	160	190	190	200	1'370'000	1'300'000	1'200'000	1'080'000	960'000	770'000	540'000	340'000

OVERALL DIMENSIONS CAN BE MODIFIED WITHOUT NOTICE



ASSEMBLING "A"

Natural gas, liquid gas

N.B. specified with order the type of gas to burn.

With high depression it possible to increase the power in the table.

With low depression the power in the table must be reduced

The maximum power in Nmc/h of the gas to burn can be found by dividing the Kcal/h, indicated in the table, through the calorific value of the gas to burn.

OVERALL DIMENSIONS OF THE GAS BURNER TO THE

SUNCTION AIR FEEDINGS TO THE HIGH PRESSURE.

TYPE AP-A

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GAS BURNERS AND COMPONENTS FOR COMBUSTION SYSTEMS

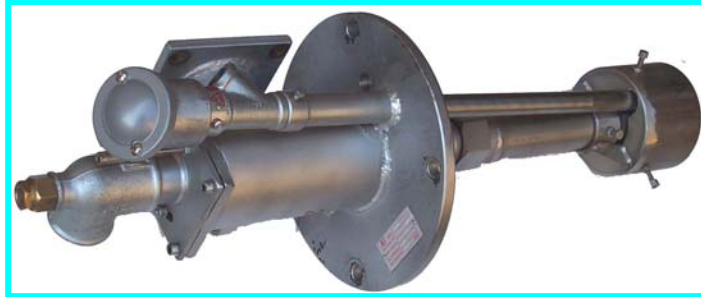
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RADIANT TUBE GAS BURNER TR... SERIES



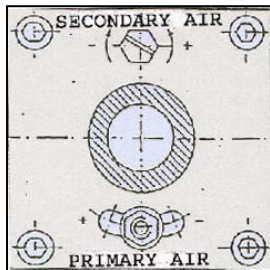
TR... burners are designed for firing into a tube which contains the flame end products of combustion, with high combustion efficiency, high tube temperature uniformity and long life of radiant tube.

The released energy is transferred from the surface of the tube in the furnace mainly by radiation; gas heated radiant tube are used extensively in thermal process plant, as an alternative to electric heating, where it is essential that the products of the combustion do not contaminate the furnace atmosphere; this is a requirement in many metallurgical heat treatment furnaces which use reactive and neutral atmospheres.

CAPACITY

	BURNER TYPE	CAPACITY KW	CAPACITY Kcal/h
▽	TR6	60	50000
▽	TR12	120	100000
▽	TR24	240	200000

BURNER CALIBRATION



The combustion air is divided into two streams : primary and secondary air. TR burners combine premix and nozzle – mix approaches to produce a highly luminous flame of optimum lengths. This design introduces some primary air to the gas supply prior to combustion. By adjusting the amount introduced, flame length can be adjusted to produce extremely favorable temperature uniformity throughout effective surface area of the radiant tube.

The independent regulation of primary air from secondary air creates high diffusion flame and variable flame length to obtain higher temperature uniformity through the radiant tube surface.

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.

BURNER THERMOREGULATION

TR burners may be fired in three modes:

- Fuel – air ratio control mode;
- High – low mode ;
- On – off mode.

TR burner operates consistently over a wide range of firing rates, providing a turn – down ratio of 10 to 1.

COMPONENTS

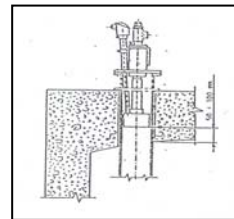
TR radiant tube burners include:

- housing for gas and air entry and distribution;
- primary air and secondary air adjusting devices for easy regulation;
- flame inspection port for UV detector;
- burner cup designed for optimum nozzle mixing and flame retention.

Each TR burners is also equipped with:

- Gas pilot burner with forced air supply and with one electrode for ignition and flame control, for quick ignition of main burner
- Gas adjuster to assure the desired fuel – air ratio to burner;
- Air orifice flow meter: for air flow measure to burner;
Gas orifice flow meter: for gas flow measure to burner

INSTALLATION



TR burners is flanged for easy mounting on radiant tube: see enclosed table for dimensions.

In general the distance between burner cup and furnace arc is included in 50 – 100 mm: this avoids overheating of radiant tube; **Pilot burner, main burner and the automatic**

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

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GAS BURNERS AND COMPONENTS FOR COMBUSTION SYSTEMS

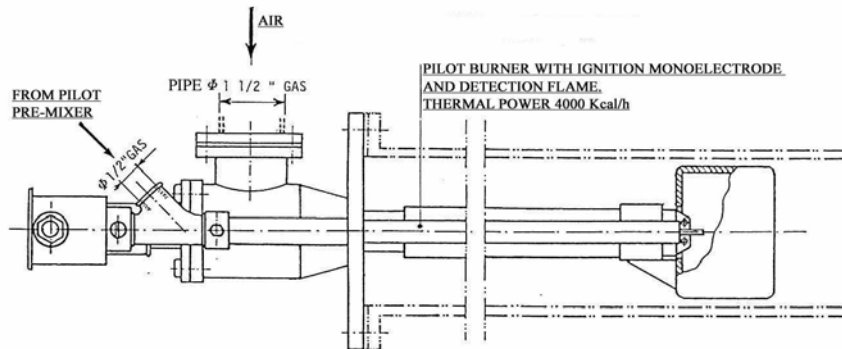
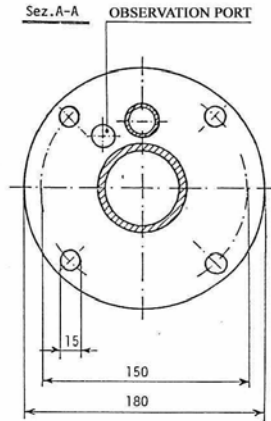
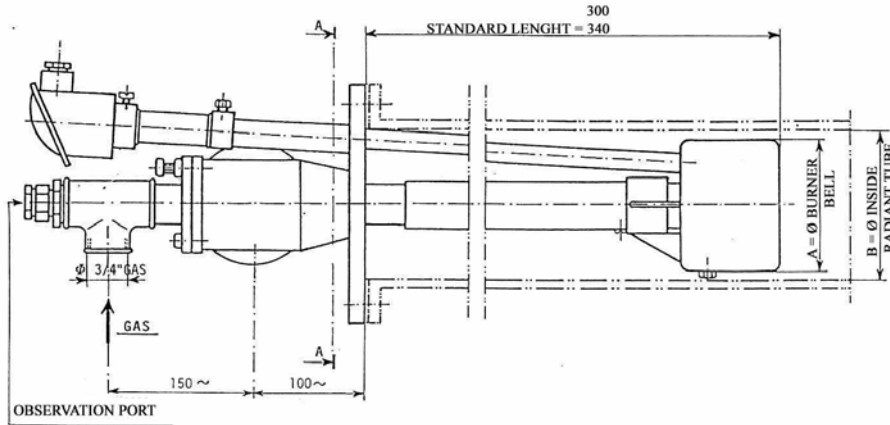
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TR-6 BURNER



A = Ø BURNER BELL	B = Ø INSIDE RADIANT TUBE
83	103-113
90	110-120
102	122-132
114	134-140

TR-6 BURNER	
THERMAL POWER MAX	50000 Kcal/h
COMBUSTION AIR PRESSURE	500 mm H ₂ O
GAS PRESSURE	500 mm H ₂ O
COMBUSTION GAS	Natural gas , LPG

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GAS BURNERS AND COMPONENTS FOR COMBUSTION SYSTEMS

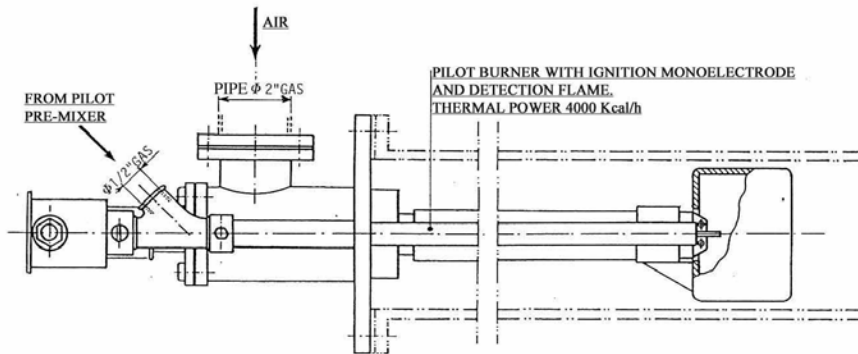
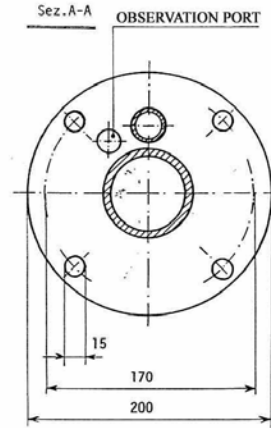
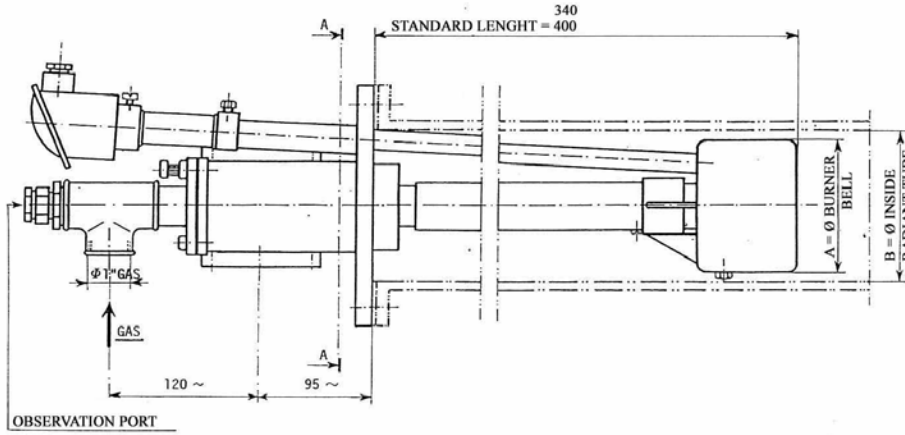
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TR-12 BURNER



A = Ø BURNER BELL	B = Ø INSIDE RADIANT TUBE
114	132-145
133	150-160

TR-12 BURNER	
THERMAL POWER MAX	100000 Kcal/h
COMBUSTION AIR PRESSURE	500 mm H ₂ O
GAS PRESSURE	500 mm H ₂ O
COMBUSTION GAS	Natural gas, LPG

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GAS BURNERS AND COMPONENTS FOR COMBUSTION SYSTEMS

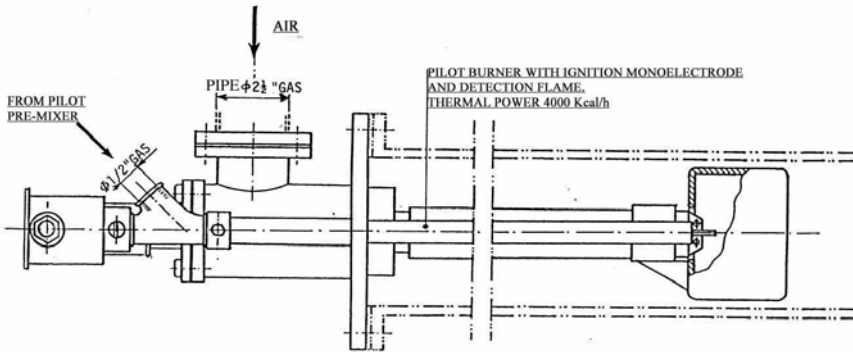
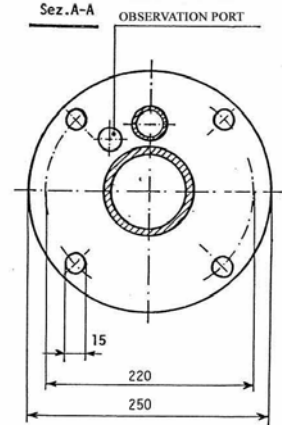
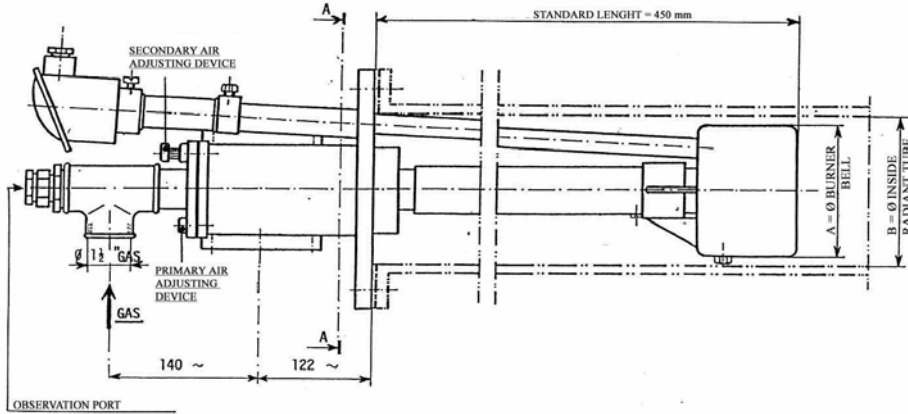
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TR-24 BURNER



A = Ø BURNER BELL	B = Ø INSIDE RADIANT TUBE
120	160 - 190
133	190 - 220
166	230 - 300

TR-24 BURNER	
THERMAL POWER MAX	200000 Kcal/h
COMBUSTION AIR PRESSURE	500 mm H ₂ O
GAS PRESSURE	500 mm H ₂ O
COMBUSTION GAS	Natural gas, LPG

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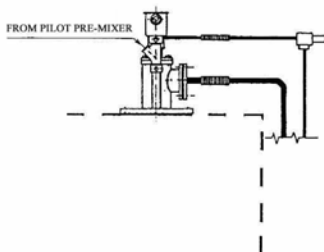
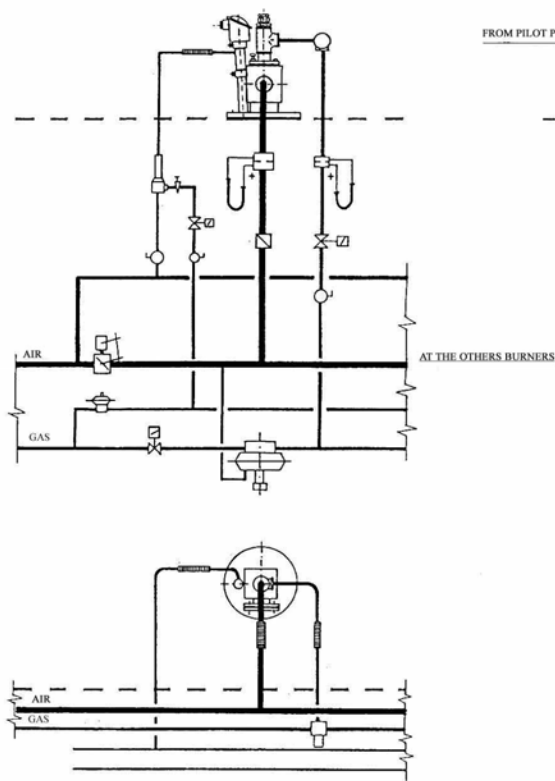
















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PIPING FOR RADIANT TUBE BURNER

TYPICAL PIPING FOR RADIANT TUBE BURNER



-  FLEXIBLE CONNECTOR
-  MAIN BURNER GAS ADJUSTER
-  AIR-GAS PILOT PRE-MIXER
-  PILOT PRE-MIXER GAS ADJUSTER
-  SAFETY GAS SOLENOID VALVE
-  COCK
-  ORIFICE FLOW METER
-  U-TYPE MANOMETER
-  MANUAL BUTTERFLY VALVE
-  MOTORIZED BUTTERFLY VALVE
-  PILOT MANIFOLD GAS GOVERNOR
-  BALANCED ZERO REGULATOR

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