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Product Introduction

Small Factories Industrial Burners

- Oil burners Semi-industrial series
- Available for Semi-industrial uses hot water or hot steam and hot air temperature and average volume - such as devices for air heating dryers, heating greenhouses and growing plants and industrial sites
- High Efficiency
- Heat Supply: 450,000 –2,450,000 KCal/h
- manufactured of high quality parts
- Easy installation and commissioning
- High safety by providing advanced control system
- Low noise
- Wide range of accessories
- Minimum weight and dimensions
- Fully tested after manufacturing

Model	Capacity
GND 318-1950 CS	450,000 – 1,950,000 KCal/h
GND 320-2200 CS	450,000 – 2,200,000 KCal/h
GND 320-2450 CS	450,000 – 2,450,000 KCal/h

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Installation, Maintenance and Troubleshooting

Please Note to the following steps in the product setup

1-Initially complete the fuel circuit by installing the gas oil filter on the inlet side of the fuel pump, and notice that the fuel return is connected to the inlet side of the filter. It is obvious that all parts of the fuel circuit have to be made up of good quality materials and without any leakage.

2-Connect the electrical input to the thermostat and then to the input of the relay.

3-In order to air evacuation of the fuel circuit and pump, open the screw marked by a P letter, then turn on the burner which will start the fuel flow in the circuit and the air is evacuated in the pump housing.

4-In the command circuit, check the wire of ignition transformer relay. Check the ignition correct performance and check the wires from ignition transformer to the electrodes. It is also required to check the position of electrodes and the spacing (about 4 mm) between the electrodes head.

5-Check the electrical valve. Make sure that the relay is sending signal to the valve. In the case of sending a correct signal to the valve while it is still off, the problem is due to the electrical valve fault and it is required to be replaced.

6-Make sure that the fuel nozzle is not blocked, if so the burner does not start and the relay sends the reset command. It is so important that the fuel nozzle size to be compatible with the burner's thermal capacity, the boiler's combustion chamber volume and also the fuel spray angle.

7-Make sure of the correct performance of the fuel pump and its coupling. Clockwise turning of the pressure tuning screw of the pump, increases the pump pressure and counter clockwise turning of the pressure tuning screw of the pump,

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decreases the pump pressure. If the pump does not supply the required pressure, the burner performance will be inefficient or it will not start.

8-Check the photocell sensor of the burner. In the case of turning off the receiver glass from the flame or if there is any dust on its glass, put it right in its correct orientation, faced with the flame and clean it. Notice that emission of harsh natural or artificial light through the sight glass disturbs the photocell function.

9-In the case of contaminants in the fuel line reach to the valve, they prevent it from its correct performance and it does not get closed completely. If so, since fuel leaks to the nozzle, when the burner tends to start, the relay turns off the ignition earlier than the required time for the combustion outset or after the combustion termination some fuel is still being sprayed in the combustion chamber. This is required to be carefully checked in the test and in the case of occurrence it is necessary to put it right or replace the electrical valve.

10-In the case the relay resets after the combustion outset and before sending any signal for opening the fuel line from the relay to the valve, check the photocell sensor and its circuit and make sure about their correct function.

11-The combustion air supply is required to be carefully tuned considering the burner's nominal capacity, the combustion chamber volume and the fuel nozzle size installed on the burner. The supply air for combustion should be set on its required amount. More supply air reduces the burner efficiency, produces blue-colored flue in combination with unhealthy gases, black colored flue and carbon particles in outlet combustion products. The ideal flame and the perfect combustion are required not to be with flue, incomplete combustion and back drafting. The distal end of the flame is needed not to have any contact with the combustion chamber body. The fuel spray angle differs for various types of nozzles and is selected according to the volume of the boiler's combustion chamber and the burner's specific application.

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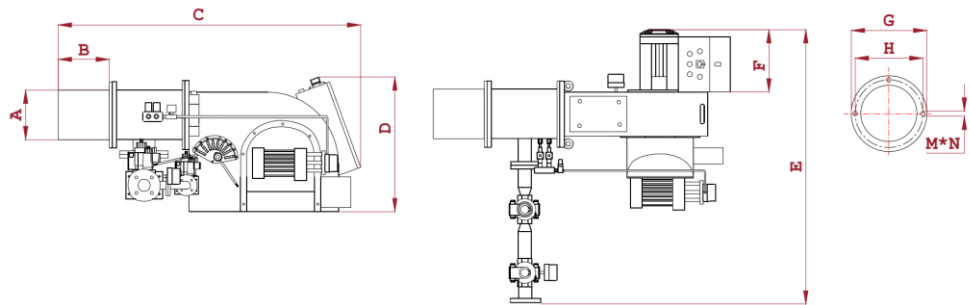
12-In dual nozzle burners which include two fuel electrical valves, since the combustion is a multi-stage process, the initial air supply rate required, for initial combustion (valve 1) is tuned through turning the screw under the air damper joint and the air supply rate required for stable combustion (valve 2) is tuned through turning the screw at distal end of the damper actuator in which its opening turning results in an increase in the stable air supply rate while its closing turning results in a decrease in the stable air supply.

13-In the case the burner turns off prior to the stable combustion (valve 2 function), photocell and nozzle2 are required to be checked. In the case of any blockage occurrence in fuel nozzles, the relay sends the reset command.

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OVERALL DIMENSIONS

GND 318-1950CS, 320-2200CS, 320-2450CS:



Model	A	B	C	D	E	F	G	H	M	N
GND 318-1950 CS	255	250	1430	650	1945	410	360	305	13.5	8
GND 320-2200 CS	255	250	1430	650	1945	410	360	305	13.5	8
GND 320-2450 CS	255	250	1430	650	1945	410	360	305	13.5	8

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TECHNICAL INFORMATION

Model	OPERATION	FUEL TYPE	GAS CONSUMPTION	OIL CONSUMPTION
GND 318-1950 CS	2STAGE	GAS / OIL	51.5-223.1 m ³ /h	43.1-210.5 kg/h
GND 320-2200 CS	2STAGE	GAS / OIL	51.5-251.7 m ³ /h	43.1-210.5 kg/h
GND 320-2450 CS	2STAGE	GAS / OIL	51.5-280.3 m ³ /h	43.1-210.5 kg/h

Model	GND 318-1950 CS	GND 320-2200 CS	GND 320-2450 CS
CONTROL BOX	TMG740 or RMG88.62	TMG740 or RMG88.62	TMG740 or RMG88.62
ELECTROMOTOR	5.5KW-3PH-3000rpm	5.5KW-3PH-3000rpm	5.5KW-3PH-3000rpm
FUEL PUMP	AJ6 or E61001 or RSA 125	AJ6 or E61001 or E71001 or RSA 125	AJ6 or E61001 or E71001 or RSA 125
OIL SOLENOID VALVE 1	¼ "	¼ "	¼ "
OIL SOLENOID VALVE 2	¼ "	¼ "	¼ "
GAS SOLENOID VALVE	2 " – Slow Opening	2 " – Slow Opening	2 " – Slow Opening
GAS SAFETY VALVE	2 " – Fast Opening	2 " – Fast Opening	2 " – Fast Opening
BUTTERFLY VALVE	2"	2"	2"
GAS PRESSURE CONTROL 1	2.5 – 50 mbar	2.5 – 50 mbar	2.5 – 50 mbar
GAS PRESSURE CONTROL 2	30 – 150 mbar	30 – 150 mbar	30 – 150 mbar
AIR PRESSURE CONTROL	0.4 – 3 mbar	0.4 – 3 mbar	0.4 – 3 mbar
FLAME DETECTOR	QRA2 or UVZ 780	QRA2 or UVZ 780	QRA2 or UVZ 780
IGNITION DEVICE	15KV	15KV	15KV
AIR DAMPER ACTUATOR	SQN1055-80/LKS210	SQN1055-80/LKS210	SQN1055-80/LKS210
BLOWER	315*100*38 mm	315*100*38 mm	380*100*42 mm
GAS FILTER*	2 "	2 "	2 "
PILOT	½ " – Fast Opening	½ " – Fast Opening	½ " – Fast Opening
VENT VALVE	Optional	Optional	Optional
OIL MANOMETER	0-40 bar	0-40 bar	0-40 bar
GAS MANOMETER	0-250 mbar	0-250 mbar	0-250 mbar
LEAKAGE DETECTOR	Optional	Optional	Optional
PUSH BUTTON VALVE	½ "	½ "	½ "
FUEL PUMP ELECTROMOTOR	0.55KW-1PH/3PH-2700rpm	0.55KW-1PH/3PH-2700rpm	0.55KW-1PH/3PH-2700rpm

*Optional

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FUEL LINE

GND 318-1950CS, 320-2200CS, 320-2450:CS

A

B

Gas Fuel Line Instruments					
	Row	Part Name	GND 320-1950CS	GND 320-2200CS	GND 320-2450CS
Customer Responsibility	1	Gas Inlet	2 "	2 "	2 "
	2	Manual Valve	2 "	2 "	2 "
	3	Gas Filter	2 "	2 "	2 "
	4	Manometer & Push Button Valve	0-250 mbar	0-250 mbar	0-250 mbar
	5	Balancer	2 "	2 "	2 "
Manufacture Responsibility	6	Manometer & Push Button Valve	0-250 mbar	0-250 mbar	0-250 mbar
	7	Gas Pressure Control1	2.5-50 mbar	2.5-50 mbar	2.5-50 mbar
	8	Gas Safety Valve	2 "	2 "	2 "
	9	Vent Valve	Optional	Optional	Optional
	10	Leakage Detector	Optional	Optional	Optional
	11	Gas Solenoid Valve	1 ½ "	1 ½ "	1 ½ "
	12	Gas Pressure Control 2	30-150 mbar	30-150 mbar	30-150 mbar
	13	Butterfly Valve	2 "	2 "	2 "
	14	CAM System	YES	YES	YES
	15	Burner	Yes	Yes	Yes

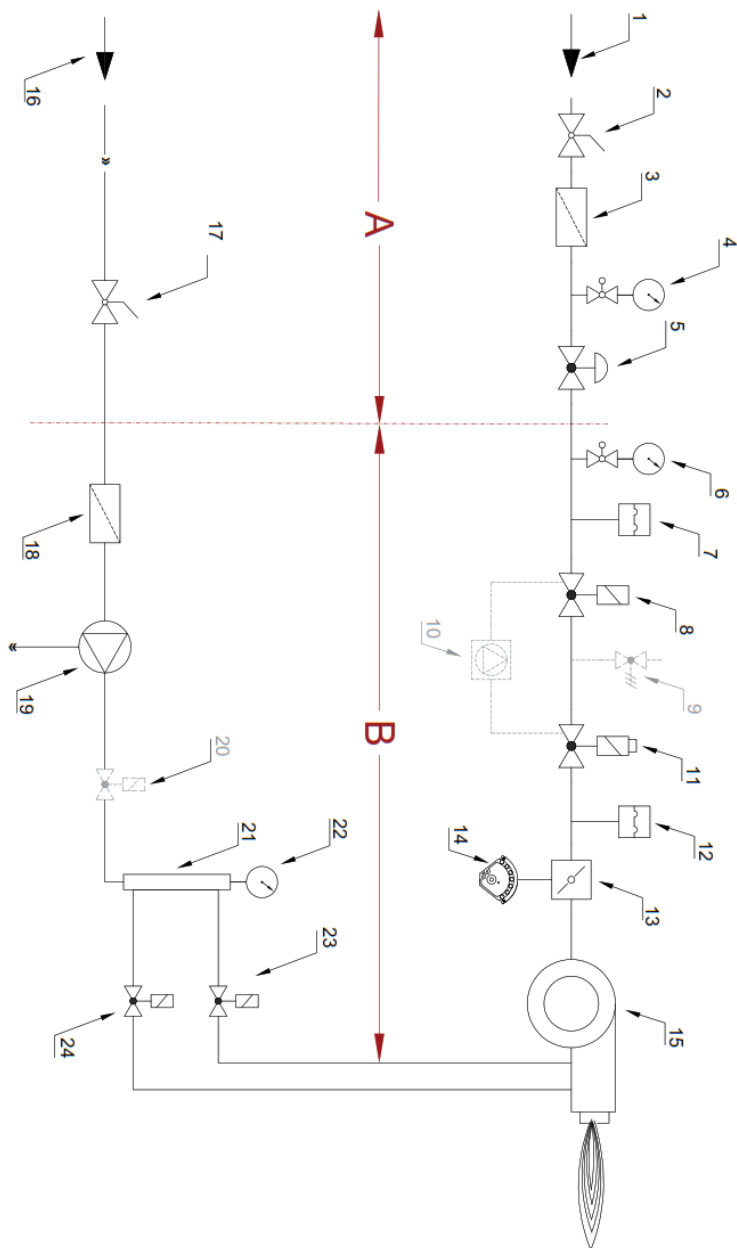
A

B

Oil Fuel Line Instruments					
	Row	Part Name	GND 320-1950CS	GND 320-2200CS	GND 320-2450CS
Customer Responsibility	16	Oil Inlet	¼ "	¼ "	¼ "
	17	Manual Valve	¼ "	¼ "	¼ "
	20	Return Oil Solenoid Valve	¼ "	¼ "	¼ "
Manufacture Responsibility	18	Oil Filter	¼ "	¼ "	¼ "
	19	Fuel Pump	Yes	Yes	Yes
	21	Collector	Yes	Yes	Yes
	22	Manometer	0-40 bar	0-40 bar	0-40 bar
	23	Oil Solenoid Valve 1	¼ "	¼ "	¼ "
	24	Oil Solenoid Valve 2	¼ "	¼ "	¼ "

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