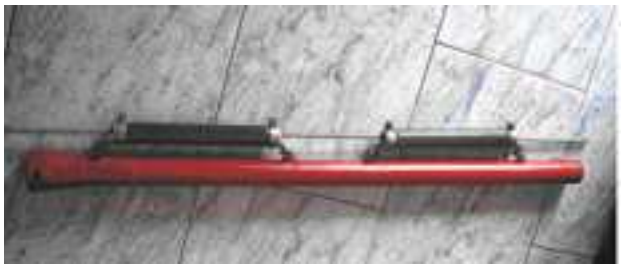
PRODUCT DESCRIPTION

Elyxxon pilot burners have their applications in flare installations, and internal combustion applications. It is used to support the main flame. When the main flame is extinguished the pilot burner must re-ignite it immediately.

Pilot Burner

Main principle of the burner is to create a combustion mixture of air and gas which is ignited by a spark electrode to create naked flame. Through the inlet tube, gas flows to the main gas tube through a nozzle. A small orifice in the nozzle increases the velocity of the gas in tube. Directly after the nozzle a low pressure is created caused by the exit velocity of the gas. Environmental air is aspirated into the ***ignition tube*** and is mixed with the gas.



Ignition Tube

A major part of this mixture homogenizes as it flows along the tube, and attains a stoichiometric level. A spark electrode ignites this part of the mixture. Naked flame emerges at the tip of the tube.

Electronic Ignition module/ unit

For the working principle of the electronic ignition unit, see drawing attached.
The ignition unit has been installed in an explosion proof housing (Eexx de IIB T5), protection grade IP65. The ignition unit is suitable for a supply voltage of 230VAC. The ignition unit will produce sparks when the main power switch is turned to the on position and the burner control switch(es) turned on.
The diagram shows that the AC voltage is supplied to the primary winding of transformers IGCL1, IGCL2, and IGCL3. A secondary voltage of 10000V is delivered to the electrodes. This high voltage is continuously delivered to the spark electrodes by means of a high tension flame resistant cable assembly.

Flame Detection

For this project, flame detection is by means of a heat sensitive thermocouple device, carefully latched on to the ignition tube located inside the process heater combustion

chamber. The thermocouples relate with temperature controllers in the flame proof control panel to signal an operator when flame is present. Please refer to user manual for details.

Temperature controllers

STORAGE AND TRANSPORTATION

Important

Until the day of delivery, Elyxxon Engineering is responsible for the safety of supplied materials. Damages caused after delivery are not covered by the warranty given by Elyxxon Engineering. If haulage is done by the customer, Elyxxon responsibility ends the moment goods are handed over to the customer.

To minimize the chance of damages to the supplied materials, Elyxxon Engineering advises the customer to observe the following points:

Storage:

- If installation is not to be carried out soon, the materials should be left in their cases and package until installation commences.
- Be sure that in the storage environment, the chances for damages are minimized.
- Ensure that the stored materials do not pose any safety hazards or danger to the environment.

Transportation:

- The packaging protects the materials against shocks or others forms of extreme strains. During transportation of the goods and after removing the packaging please ensure that the goods are kept under good shelter until installation.

Protect the goods against shocks or other extreme forms of strains that could damage them.

- Transport the materials by using mechanical means of conveyance that are designed for them. Manual transportation should be avoided. This increases the chances of injuries to the human body.

INSTALLATION INSTRUCTIONS

Important

Before starting, first read the mounting instructions. Not adhering to these instructions could lead to damages to the product. Damages caused by improper operation are not covered by the guarantee given by Elyxxon Engineering.

Please pay attention to the following:

General

- If any obscurity arises please contact the service department of Elyxxon Engineering.
- It is recommended to mount the materials as soon as it is possible. Do not store the products without the packaging for a long times in order to decrease the chances of damages.

Pilot Burner

- Be certain that there is a good support of the burner. Use the mounting flange or suspension brackets.
- During operation, temperature could rise up to 500^0C and above. Rise in temperature makes metallic materials to expand. During mounting, take this to full account. There must be some clear space for the burner head to expand after mounting. Hindering of this free movement could lead to damages or malfunctioning of the pilot burner.
- Do not expose the pilot burner to external load.
- Ensure correct distance of the pilot burner to the main burner. When the pilot burner is mounted too forward, the heat of the main flame may damage it. When it is mounted too low, it may not ignite the main flame.

Ignition Unit

The electronic ignition unit should be mounted in a horizontally with proper size of cable entry glands. When the cover of the unit is closed and locked properly with the nuts, no special measures need to be taken to prevent the ingress of dust or humidity into the box.

Ignition unit

OPERATION INSTRUCTIONS

Preparation

Before starting up consider the following points:
Check if the combustion chamber is free of cluster of any combustible gases and purge according the method specified in the manual of the Line Heater supplier. Alternatively, use industry standard gas purging procedure.

Before starting up the system, it should be ensured that the pilot gas supply lines are free from dirt or rust particles.

Mechanical

- Check if the gas supply connection is mounted correctly.
- Check if the ignition is mounted correctly.
- Check if the burner is mounted correctly.
- Check if the gas pressure is present.
- Check if the gas valves are open (when these aren't opened automatically).

Electrical

- Check if the power is present.
- Check if the ignition cable is mounted correctly.
- Check if the cables aren't damaged.
- Check the earthing of the ignition unit.