Special Burners
AIR HEATERS, INCINERATORS, KILN BURNERS

B.C.E. “KS” type burners are generally used in processes where are not required particular performance like restricted emission levels or high thermal power demand. Such processes could be air or gas heaters, incinerator or biomass boiler where they are used for start-up and heat-up of generator.

These burners are not provide with air wind box; combustion air comes from a distributor duct which is flanged directly to burner. There isn’t an air register but only a diffuser for air distribution.

B.C.E. can also supply burners for “KILN” processes: these burners have similar design to “KS” burners but they can be adapted to KILN furnaces conditions. According to the system in object, KILN burners could have one, two or three combustion air distributor suitable for fresh or pre-heated combustion air. They are usually supplied complete with refractory throat and, if required, with isolated wind box.

KS and KILN burners can operate either with gas or fuel oil/diesel oil.

BLAST FURNACES BURNERS

These kind of burners are suitable to operate in metallurgical processes where the operating temperatures are very high. In fact, our blast furnace burners are usually made from Inconel/Hastelloy, materials suitable to resist to severe working conditions.

These burners are usually equipped with a central pilot igniter operating with natural gas or rich gas, which ensures a correct combustion of the gaseous stream fired by burner. Burners are fed by a low LHV gas coming from process (Coke Oven Gas or similar) and, when not in operation, they are cooled by a nitrogen stream.

No air register is installed in such burners; the burner is provided complete with a central swirler to guarantee a minimum combustion air vorticity.

We could also provide the supply of complete fuel gas skids and control system.
OFF GAS & LOW LHV BURNERS

Some industrial processes produce synthesis and recovery gaseous streams which have, as main characteristics, high temperatures, low pressures and, most important, very low calorific values.

B.C.E. can design and supply burners suitable to burn such gaseous streams, to recover the energy that otherwise would be lost. These burners are supplied with external gas scroll, through which the gaseous stream is injected inside combustion chamber. Each burner is also supplied complete with gas lances and central gas gun, which are necessary to heat up the system before syngas injection.

Sometimes, when the calorific value is very low, the central gas gun or a continuous pilot is kept operational.

If there is the presence of two syngas streams which have very different characteristics in terms of volume and operating conditions, we could provide burners with double external gas scroll.

SULPHUR BURNERS

Sulphur is one of raw materials used in sulphuric acid production plant or in plant where sulphur is necessary to generate other chemical products (for example aluminium fluoride). In these processes, the sulphur is burned inside a refractory furnace to produce its derivates.

B.C.E. can supply this kind of burner complete with tip and plug for mechanical atomization of sulphur. For this reason it is important that sulphur reaches the burner at high temperature and pressure and at liquid state. To guarantee the correct combustion conditions, the burner is traced by steam to maintain the temperature and avoid solidification.

Normally we supply also a natural gas/oil burner, which is necessary to heat-up the furnace and reach the correct operating conditions. Once reached the conditions, the burner’s central body is replaced by sulphur burner to initialize the process.
SOME REFERENCE

NEOTERM - ARKEMA (Porto Marghera, Italy) 1 steam boiler, 2 burners with off gas external scroll
PAUL WURTH - Bhilai (India) 1 Blast Furnace, Hot Stoves and Top Ignitor Pilot Burner
PAUL WURTH - Bhushan (India) 1 Blast Furnace, Hot Stoves and Top Ignitor Pilot Burner
ECOSESTO - Sesto San Giovanni (Italy) 1 biomass incinerator, 2 start-up burners
FORTUM ENG. - CUTRO POWER PLANT (Italy) 1 FB Biofuel boiler for incinerator, 2 start-up burners
NEOTERM - DEGUSSA A.G. MAINZ MONBACK (Germany) 1 steam boiler, 2 burners with off gas external scroll
FLUORSID - Assemini (Italy) 1 Sulphur Furnace, 2 sulphur burners
SIRY CHAMON - SOLMINE (Scarlino, Italy) 1 Sulphur Furnace, 2 sulphur burners

For any further information please contact:
BCE S.r.l.
Via S. Margherita, 450
21042 - Caronno Pertusella (VA) - Italy
Phone: +39 02 9657788
Fax: +39 02 9657303
E-mail: info@bceitalia.com
Web site: www.bceitalia.com