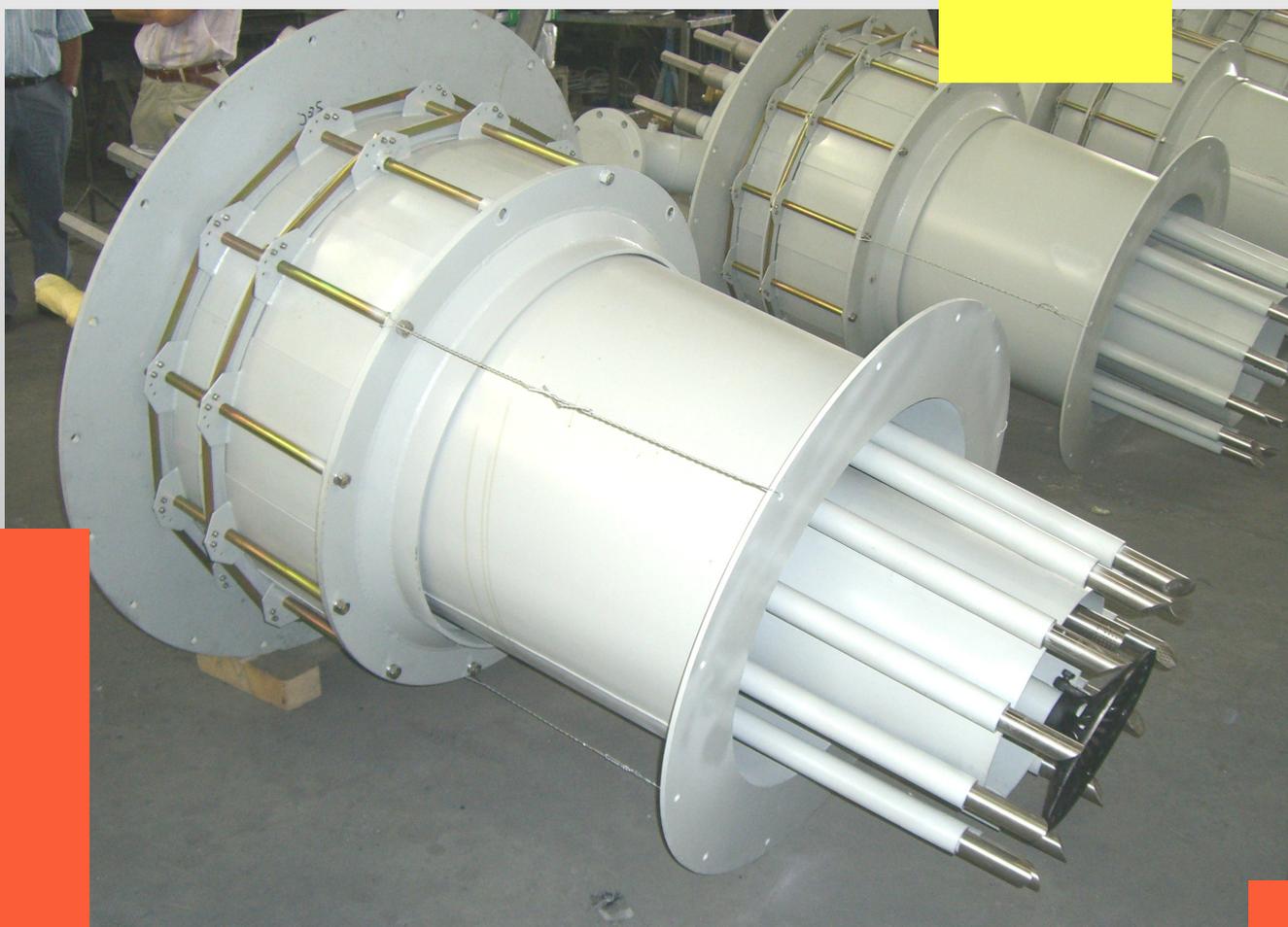


Low NO_x type burners DMPJE



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B.C.E. "DMPJE" type burners are equipped with two air registers suitable for any kind of liquid and/or gaseous fuel with the possibility to fire one or more fuels at the same time. Combustion air is divided into "primary" and "secondary" flows resulting in stratified combustion. This solution allows a general reduction of combustion temperature and therefore lowers thermal NO_x generation.

They are provided with a series of gas lances made from stainless steel which can be adjusted during the operation. These lances inject the larger part of fuel gas; a small quantity is injected through a central gas gun to ensure the flame stability.

When requested for mixed gas/oil applications, a liquid atomizer replaces the central gas gun.



Air vorticity is generated and guaranteed by the vanes which formed each air register. The position of such vanes is set during the start-up phases and is important to control the flame intensity and shape which are different from one combustion chamber to another or from one fuel to another.

Fuel gas is distributed through an external plenum and a series of gas lances each of which is provided with a skew-faced "multi jets" nozzle which can be adjusted and rotated to optimize gas distribution without halting burner operation.

"DMPJE" type burners are designed to meet low NO_x requirements while providing high combustion efficiency and extreme versatility.

Typical applications of these type burners include forced or balance draft boilers as well as any kind of refinery or industrial furnace, thermal oxidizers and process heaters.



MAIN CHARACTERISTICS

- Highly customisable: each burner is designed to meet Client's specific requirements
- Reliable and efficient as demonstrated by a large number of installations worldwide
- Double air registers to control the vorticity and distribution of combustion air inside the burner (manual or automatic)
- Fuel gas distributed through a plenum with adjustable nozzles and a central gas lance or liquid fuel atomizer
- Capable of burning one or more fuels (gaseous or liquid) at the same time
- Can be operated either with ambient temperature or pre – heated combustion air
- Can be operated with flue gas recirculation for emissions reduction
- High flame stability over a wide turndown range

BURNER DATA

- | | |
|-----------------------------------|-----------------|
| • Firing rate | up to 60 MW |
| • Flame dimensions ^(*) | adjustable |
| • Materials | carbon steel |
| | stainless steel |
| • Combustion air | up to 550 °C |
| • Turndown | 6:1 |
| • Pressure drop | 150 - 200 mm wg |

() Flame dimensions vary with firing rate*

TYPICAL GUARANTEED EMISSIONS^(*)

Natural gas firing

- | | |
|-------------------|------------------------------|
| • NO _x | 140 - 150 mg/Nm ³ |
| • CO | 30 mg/Nm ³ |

Heavy fuel oil firing (N content 0,2 % by weight)

- | | |
|-------------------|------------------------|
| • NO _x | 400 mg/Nm ³ |
| • CO | 100 mg/Nm ³ |
| • Particulate | 50 mg/Nm ³ |

() ref. to 3% O₂ dry flues, combustion air @ ambient temperature without FGR; the emissions could be different depending of application and must be evaluate Job by Job*

TYPICAL BCE SUPPLY

- Burner complete with double air registers and fuel equipment (central gas lance / liquid fuel atomizer, fuel gas distributor and stainless steel nozzles)
- Refractory throat (set of preformed refractory bricks made from 42 - 44% Al₂O₃)
- Air wind box (alternatively we can provide the lay - out drawings for manufacturing by Client)
- Combustion air isolating and balancing dampers (multi - burners application)
- Pilot igniter (High energy, high tension, premixed or non-premixed type with ionization rod)
- Flame detection system
- Burner management system (BMS)
- Piping and instrumentations trains



SOME REFERENCE

RAFFINERIA DI MILAZZO - Milazzo (Italy)	1 post combustion revamping , 3 burners 19,7 MW each
BONO ENERGIA - PETROFAC (Iraq)	2 steam boilers, 1 burner each boiler, 34 MW each burner
PENSOTTI FCL - SUPERMETANOL C.A. (Venezuela)	1 steam boiler, 4 burners 31,3 MW each
FENICE - IVECO - Suzzara (Italy)	1 steam boiler, 2 burners 18,3 MW each
PENSOTTI FCL - TOBOLSK POLIMER LLC (Russia)	4 steam boilers, 3 burners each boiler, 33 MW each burner
STF - Power and desalination station - Jebel Ali (U.A.E.)	2 steam boiler, 8 burners 38 MW each



For any further information please contact:

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