

Cyclic burners type GRC used for the production of TOWNGAS in China

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1 – USE

Such PILLARD GRC burners are fitting SIIRTEC NIGI (IT) furnaces (1 per furnace) to produce town gas in China (10 furnaces). They operate in cyclic phases:

- Phase 1 : During 2 minutes, the burner and the combustion flue gas cross a refractory load and heat it up to about 1050°C.
- Phase 2 : During 2 minutes, the burner is stopped. The refractory load is now crossed by a mix of steam and natural gas and naphta. A part of the steam crosses back into the burner.

2 – CHINESE PLANTS / MAIN CHARACTERISTICS

Plant	Nanjing Gas General Co.	Wusong Town Gas Plant	Wusong Town Gas Plant
Year	1998	2000	2003
Number of furnaces/burners	3	2	5
Burner heat release	26 MW	31 MW	31 MW
Fuels	Light Naphta or Natural gas	Natural gas	Light Naphta or Natural gas
Furnace dimensions (D x L)	3 000 x 6 000 mm	2 520 x 6 000 mm	2 520 x 6 000 mm
Comb. Air T°	80°C	80°C	80°C

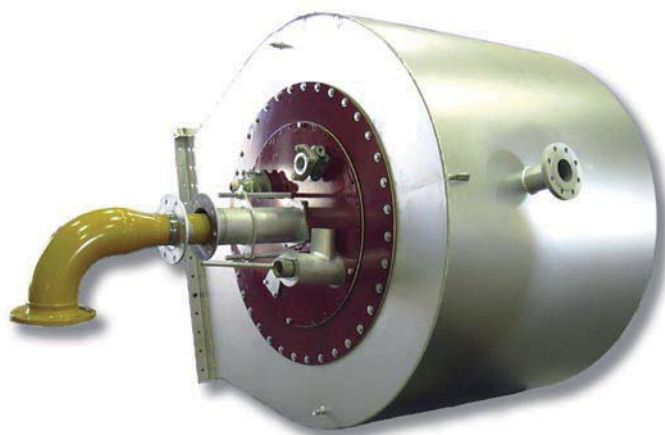


Fig.1 : PILLARD GRC burner with its windbox

3 – APPLIED TECHNIQUES

As the burners operate in cycles of 2 minutes, they are submitted to about 15 light-ups per hour. Such cycles impose severe constraints on the burners :

- Thermal shocks to the combustion head and or throat
- Necessity of a highly reliable lighting up system
- High flame stability.

Such requirements have been resolved thanks to:

- The use of GRC burners made in refractory steel whose flame is unconditionally stable thanks to the proprietary principle of its swirler.

4 - CONCLUSION

After several years of feedback from experience, the GRC burners are confirmed for fully reliable operation.