

Applicationbrief

Eclipse Product: FlueFire Burners
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Application Supplementary Firing
Site Location: Vriezo-Oosterbierum Netherlands

System Description

The burner supplies heat to both the exhaust gas flow of a gas turbine and a fresh air flow when the turbine is out of operation. The duct, with integrated burner, includes a fresh air distributor around the TEG inlet. The burner consists of in total 5 burner rows with flame propagation modules and is divided in two stages. In order to obtain a 10 : 1 turn-down, only 3 rows are in operation during GT mode. The burner management system provides an automatic change over between the GT and FA mode and reverse. During the change over time the pilot burners are re-ignited. To keep the flame in FA mode within the available combustion chamber length, a pneumatically operated damper is located above the burner to increase the air velocity over the burner.

Technical Data

- **Turbine**

Make	Allison
Type	501 – KB7

- **Turbine exhaust gas**

Mass flow	44 lb/s
Oxygen level	14.5 vol%
Temperature in	980 °F
Temperature out	1550 °F

- **Fresh air**

Mass flow	33 lb/s
Temperature in	60 °F
Temperature out	2100 °F

- **Burner**

Duty	27.0 MMBtu/hr in Turbine operation mode 63.5 MMBtu/hr in Fresh air operation mode
Fuel	Natural gas

