

## Application**brief**

**Eclipse Product:** ThermJet Liquid (TJL)

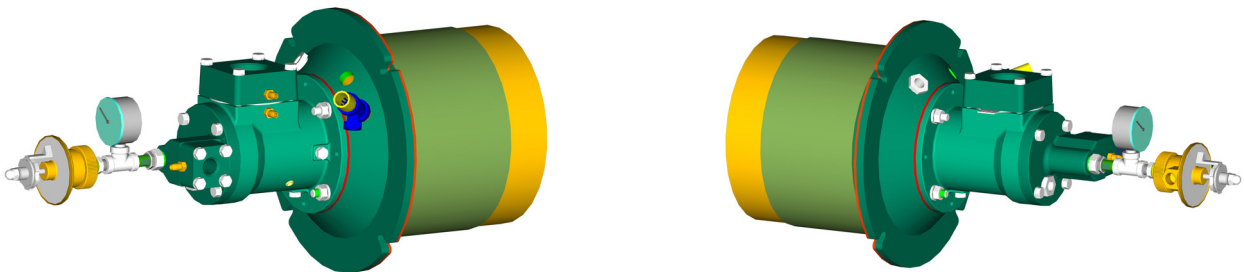
**Submitted by:** Eclipse Combustion Pvt. Ltd. India

**Application:** Gas Carburizing

**Fuel:** Diesel

**Description:** This application resulted from an inquiry received from M/s. Sai Deepa Drill Pvt. Ltd through M/s. Dolphin Thermal Engineers, one of our OEM's. As part of their operation, they gas carburize their drill bits, rimmers and steel cylinders. They use a batch type carburizing furnace operating with 10% excess air. The cylindrical furnace is 1750 mm (69") in diameter and 1450 mm (57") in height. The graphite crucible measures 1300 mm (51") in diameter and 1400 mm (55") in height. Each batch weighs 450kg (992 lbs.) and must be heated to 920°C (1688°F) with a temperature uniformity of  $\pm 5^{\circ}\text{C}$  (40°F).

Based on heat load calculations, a ThermJet Liquid burner (model TJL0030) was selected. The burner control system is designed for on/off firing. Initial burner start-up went well using the pressure and flow information provided in the Eclipse product literature. The burner is firing with a fuel consumption rate of 6.5 liters/hr (1.7 gph) successfully proving the fuel efficiency of the TJL burner. Both the customer and the OEM are satisfied and we have subsequently received an additional order calling for two more TJL burners from the same OEM.



*Eclipse ThermJet Liquid (TJL) Burner*



---

**Eclipse Combustion**  
[www.eclipsenet.com](http://www.eclipsenet.com)