

## 【100 kWth 氣態燃料燃燒爐】

100 kWth 氣態燃料燃燒爐系統，屬第一期能源國家型計畫所建置之系統，可進行氣態燃料之空氣、純/富氧燃燒節能減排效益試驗。配置 42 個可彈性運用之觀測孔，爐底配有冷卻水套模擬加熱爐環境，出口設有水/氣冷熱交換器進行反應氣體預熱，可用於進行燃燒器之火焰測定、加熱特性分析及氣體排放量測。研究過程也開發出一套閉迴路爐內攝影與非侵入式光譜量測系統，可在不影響爐內燃燒之情況下獲得爐內火焰影像與溫度。該系統具有相當成熟的經驗及技術，可提供研究單位/產業界技術交流與委託檢測之服務。

## 【10 kWth Dual Fluidized Bed Gasifier】

The 100 kWth gaseous furnace was built in the National Energy Program-Phase I and it can conduct combustion experiments under air, oxy-fuel/oxygen-enriched conditions. It is equipped with 42 observation windows and the bottom of the furnace has a cooling water jacket to simulate the environment of traditional heating furnace. The outlet is equipped with a water/air-cooled heat exchanger and it can be used for flame measurement, analysis of heating characteristics and gas measurement of burners. We also developed a closed-loop furnace photography and non-invasive spectral measurement system, which can obtain the flame image and temperature in the furnace without affecting the combustion inside the furnace. The facility has quite mature performance and technology, and can accept commissioned tests from industries.



100 kWth 氣態燃料燃燒爐 (100 kWth Gaseous Furnace)