A bit of background...
As noted in a presentation to the scientific community by the VSTDT, “[The] key to enabling a Venus Flagship mission is the ability to conduct investigations and tests in Venus simulation chambers.” (LPSC 40). It was noted that “pressure and temperature mitigation technologies, whether high temperature electronics or efficient cooling mechanisms, must also be developed to a high level of readiness. Sensors and transducers that operate for long periods under ambient Venus conditions will also be required.”

The Essentials:
— Stainless Steel 316 Pressure Vessel
  ◦ Operates at max 95.6 bar (1,387 psi)
— Cylindrical Volume: Internal Dimensions (w/thermocouple well)
  ◦ Diameter: 12.7 cm (5 inches)
  ◦ Depth: 30.5 cm (12 inches)
— Computer monitored using NI LabView 2009, automated data logging

Operational Conditions:
— Pressure range (bars): 1 – 95.6
— Temperature range (K): 298 – 740
— Gases: pure CO₂ or N₂, or mixture (can include SO₂ at ppm levels)
  — Maintains high P/T for a minimum of 48 hrs

Options:
— Feedthroughs for data/power/RF
  — Configure as desired
— Sapphire viewports

Adjoining figures clockwise from top left:
Top of chamber – note optional inlets
Data throughput with 8 SS316 leads
Electrical side of chamber
Mechanical side of chamber

Questions, comments, availability?
Email: Natasha.M.Johnson@nasa.gov
Phone: 301-286-3919

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