



## **PROPULSION 300 AREA SMALL ALTITUDE SIMULATION SYSTEMS**

### **SUMMARY**

The 300 Area Small Altitude Simulation System (SASS) is designed to provide altitude to the 300 Area test chambers to test rocket engines up to 300 lbf.

### **300 AREA SMALL ALTITUDE SIMULATION SYSTEM**

A single boiler powers a small three-stage ejector set with interstage barometric condensers to provide a vacuum. In combination with multiple diffusers, this allows optimization of the entire altitude system to multi-engine system requirements.

### **ALTITUDE AND THRUST TEST STANDS (TS) CAPABILITY**

- Maintains TS-302 or 303 at greater than 30,500 m (100,000 ft) during rocket engine firing for up to 10 h
- Up to 1500 N (300 lbf)

### **STEAM GENERATION**

- Produces 3.4 kg/s (7.5 lb/s), 1.7 MPa (250 psig), 230 °C (400 °F) steam
- 7.9 MW (800 bhp) fuel-oil fired boiler

### **STEAM EJECTORS**

- Three-stage steam ejector
- Multiple first stages located close to test article at TS-302 and 303
- Second and third stages on barometric condensing tower
- Interstage barometric condensing system
- 1,192 m<sup>3</sup> (320,000 gal) cooling pond with cooling towers

### **MECHANICAL VACUUM PUMPS**

- Maintains TS-302 or 303 at up to 76,200 m (250,000 ft) during test article coast periods
- Can be used “stand alone” for short duration firings
- Oil-sealed rotary mechanical pump fed by Roots<sup>®</sup> blower
- Each set (2) delivers up to 3,300 L<sup>3</sup>/s (7000 scfm)

### **CONTACT**

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