

PRESSURE IMPULSE TEST FACILITY

Framatome BHR has a hydraulic pressure impulse test facility suitable for testing hydraulic components, containers and assemblies in order to determine their resistance to fatigue failure. The pressure waveform is controlled by a servo valve with feedback control loop, enabling any industry standard waveform to be achieved, e.g. trapezoidal, impulse pressure overshoot etc.

Testing can be conducted at elevated environmental temperatures. The facility is instrumented to enable high speed measurement of pressures and temperatures using a DAQ system running NI LabVIEW software. The DAQ monitors each parameter and controls the pressure waveform profile, enabling continuous unmanned operation of the facility.

The facility can be used for testing with a wide range of test fluids, liquids and gases and can be adapted to suit bespoke requirements.

APPLICATIONS

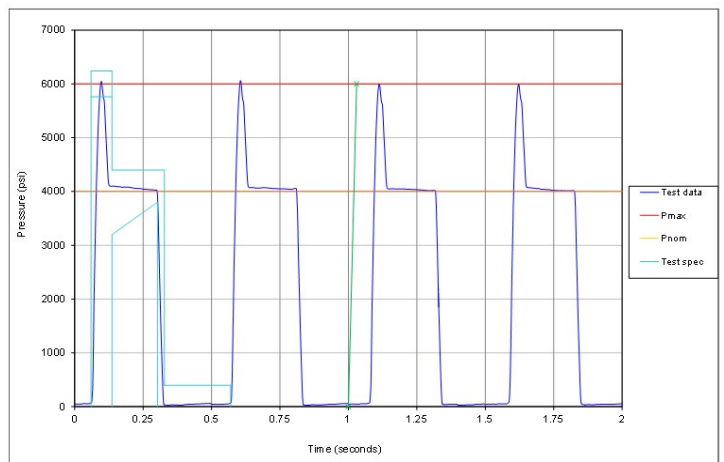
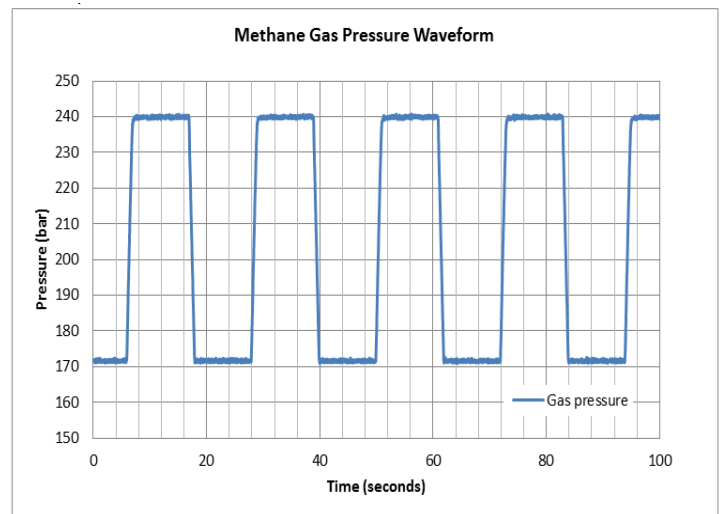
The facility can be used for product development, testing and qualification / type approval and Factor Acceptance Testing (FAT). It is used for pressure cycle testing a wide variety of pressure containing components, containers and assemblies, including aerospace components.

Typical tests include:

- Impulse testing fluid system components to standards, e.g. SAE ARP 1383, ISO 10771-1
- High and low cycle fatigue tests
- Mean cycles to failure
- Investigations of failure modes
- Pressure hold leak testing

Typical test components include:

- Filter bodies
- Valves & actuators
- Instrumentation & pressure sensors
- Seals and gaskets
- Hose, tube & ducts



TECHNICAL SPECIFICATION

Maximum pressure	Up to 1135 bar (16,500 psi)
Cycle frequency	Up to >10 Hz
Test fluids	Wide range of liquids and gases
Temperature range	Ambient to + 200°C
Pressure rise rate	Up to 140k Bar/second (2M psi/s)
Environmental chamber size	0.8m x 0.8m x 0.8m. Larger sizes can be used.