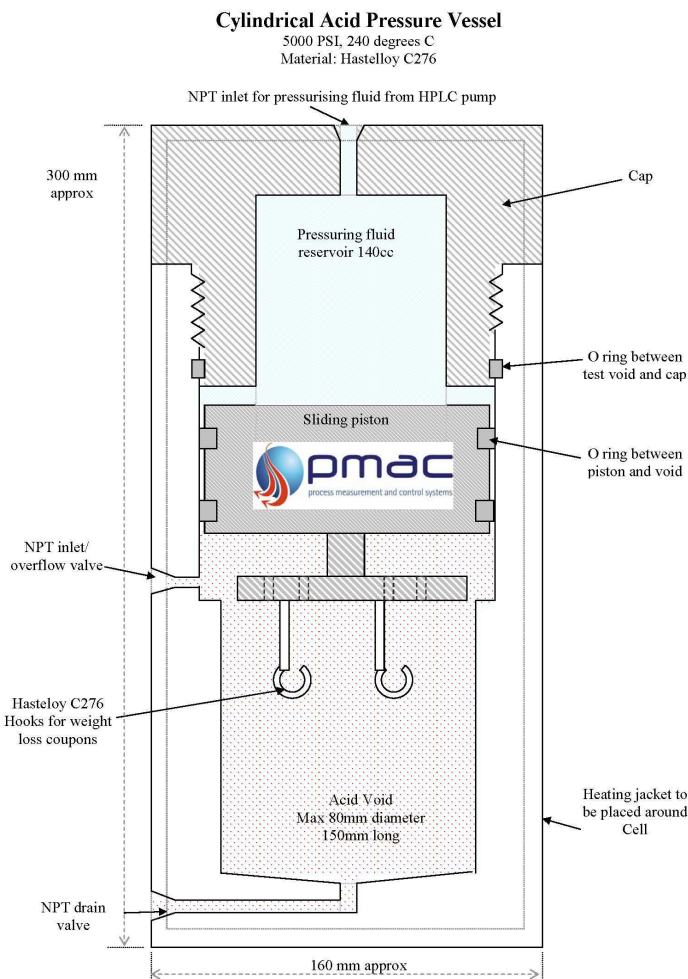


PMAC Acid Corrosion Test Cells

PMAC Reactor Cells are precision manufactured with complete PED certification of compliance on design and material specification for the specific client application. This work is fully independently carried out. Our unique “Floating Piston” design allows easy control of reactor vessel pressure either from a hand pump or using a standard HPLC pump. In either case, by slowly increasing the backpressure onto the piston, the test fluid is directly pressurised. This is a PMAC safety feature, which removes the requirement of increasing the test sample by pumping inert gas into the reactor chamber. The PMAC Reactor Cell allows for safe depressurisation of the fluid by venting the inert fluid, while

still containing any hazardous test fluids within the test cell - a feature that enhances operator safety.

The “Floating Piston” assembly is designed to allow easy removal of the complete “piston” assembly, giving full access for charging, product recovery and cleaning of the entire test cell. The external heating jacket is spring clip mounted, easily removed and detached from the test cell. Internal stirring can be facilitated using an external magnetic stirrer, thus avoiding the additional risks of further intrusive ports.



Acid Corrocean Application

The PMAC Reactor Cell is ideally designed for safe operation with hazardous fluids such as used in acid stimulation, manufactured in Hasteloy C276 to U.K. standard PED requirements assures operators of the Cell integrity.

The PMAC “Floating Piston” design increases the test fluid pressure by reducing the sample volume; this has safety implications that:

1. Avoids the need to pressurise the fluid directly by pumping inert gas into the test cell.
2. Minimises external intrusions into the hazardous fluid
3. Allows for safe depressurisation leaving the hazardous fluid in the test cell, avoiding the risks of handling HP / HT hazardous fluids.
4. Removes the necessity internal intrusive coils for rapid fluid cooling. If required, given the Cell pressure can be dropped to atmospheric levels very quickly, external cooling will be sufficient.
5. In an emergency, rapid depressurisation still avoids the venting of hazardous fluid; the backpressure vent leaves the sample integrity intact.

External Control Mechanisms

PMAC’s in-house design capability, allows for multiple client options, tailored to meet client requirements and budgets. The PMAC Reactor Cell can be supplied with or without controls, giving the client the facility to build to their own specific needs. Alternatively PMAC can provide a remote control system, using a application specific computer programme to operate the pressure systems (using a HPLC pump), the pressure relief valve, Cell temperature and stirring apparatus.