

Autoclave Rotating Cylinder Electrode

PMAC Systems apparatus for Autoclave corrosion monitoring and control is the Rotation Corrosion Electrode (RCE):

Overview

Fluid flowing past a corroding surface often affects the way in which a metal corrodes in an environment. PMAC systems' Autoclave RCE apparatus is designed to measure the corrosion rate under a variety of shear, pressure, and temperature conditions with the ability of utilising a variety of standard rotating electrodes.

The Autoclave range comes in a range of volumes from 500cc to 10Lts all

- Quality Assured to BS EN ISO 9001:2000
- Designed in accordance with ASME VIII. Div 1 (NCS) and or PD5500 2000

Manufactured in solid 316/316L stainless steel vessel assembly with options for Hastelloy lined stainless steel vessel and or if budget allows for a solid Hastelloy option.

Mounting style: Fixed vessel – removable cover (or to suit).

Heater: Drop-away heater. Insulated, clamp on, ceramic band heater fitted with stainless steel cladding. (Without outer cladding when used in conjunction with heating mantel)

The autoclave standard fittings:

Internal:

Ø¼" Thermowell - Located close to the vessel wall, fitted with 1mm diameter type K thermocouple.

Ø¼" Sampling dip tube /
Rotating cylinder electrode



External:

Fitted with various Ports for:

- Central tapping for connection to RCE electrode system
- Gas inlet / outlet, sampling dip tube with isolation valve, thermowell connector,
- Ø ¼" NPT Manifold fitted with: - Safety, pressure relief valve (PED compliant) to 50barg,
- Ø ¼" tapings for future cooling coil
- 1 x spare port (or to clients specification)
- Dual Scale Pressure Gauge with 63mm clock face Range and primary scale to 80barg (or to suit). Supplied complete with individual calibration certificate to BS1780:1985.
- Connection for Pressure transducer



Safety feature:

Burst disc discharge hose, especially made high pressure burst disc hose complete with armour braided stainless sheathing, supplied 3m in length (longer available).

Mounting Frame work.

The vessel and associated equipment is floor mountable to a static or mobile purpose built, light gauge frame constructed in Stainless steel. The frame with integral top plate accommodates fixed vessel body with lift-away cover complete with secondary manifold plate (located above vessel cover) for burst disc body and other pressure related equipment. The frame also fitted with base plate to support possible vessel jack and guided lifting equipment for heating manifold.

Counterbalanced Davit arm

If manual handling of the cover is not suitable for this arrangement then we propose to use a tailor-made counterbalanced davit arm. This arm appropriately mounted onto the framework's tabletop will rotate accordingly to and from an appropriately positioned cover parking bay. This so called parking bay is essentially a hole within the tabletop which allows the various internals to hang underneath the table top.

Heating mantel

Via the lifting lowering jack, this allows easy and immediate connection / disconnection of the heating equipment with the autoclave. The mantel is essentially a band heater clamped with internal tie bars to the outside diameter of a very thin walled inner tube which is further encased with a *kwool* insulated protective outer tube accommodating top and bottom flanges. The inner tubes' inside diameter is a snug fit and slides onto the vessels outside diameter. The inner tube being of low thermal mass quickly transfers the heat to the vessel. As discussed the heating equipment can be instantaneously removed from the autoclave to assist in the cooling operation. Parts and labour for heating mantel and fittings as described

Lifting / lowering jack

Manufactured in accordance to BS5323 supplied complete with certification, this lightweight and robust manually operated (hydraulic); scissors type platform is suitable for these types of applications. The platform itself will be modified to accommodate guide bars to ensure the vessel body accurately locates with the vessel cover. The unit is to be fitted to the above framework.



For further information please contact us: sales@pmacsystems.com