

## Enamel Testing Apparatus

for determination of resistance to chemical corrosion by boiling acids, boiling neutral liquids, alkaline liquids and/or their vapours of corrosion protected flat surfaces (enameled, glazed, powder-coated) in accordance with ISO 28706-2 and ISO 2733.

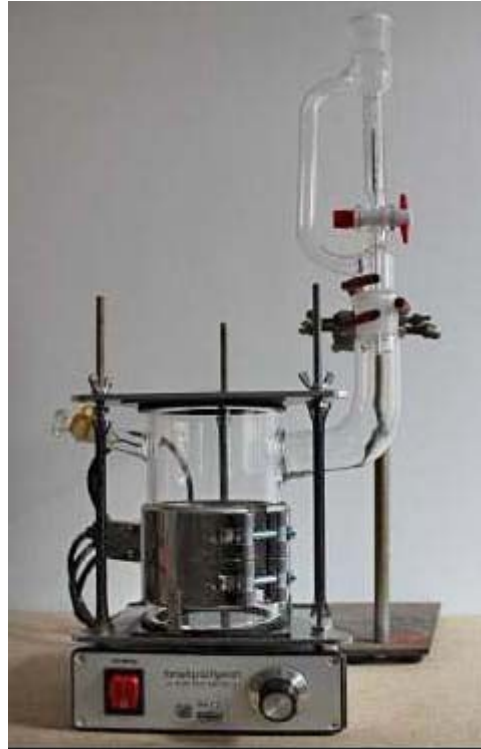
### Consisting of:

Test cylinder  
Liebig-West reflux condenser  
Graduated collector  
Heater  
Heat-controlling device  
Glass plate of borosilicate glass  
Chuckling rack  
(Metallic support structure)  
Set of gaskets  
(for several testing agents)

### Applicability of testing apparatus

This Enamel testing apparatus allows to determine the influence of cold and hot corrosive liquids and their vapours to metallic, silicatic and other surfaces, for instance

- loss in mass
- loss in gloss
- changing the stucture of surface



### Principle of test:

A set of similarly enamelled test specimens in dimension 105 mm x 105 mm or 105 mm diameter is to place by means suitable gaskets in the liquid and/or in the vapour zone of the test apparatus and exposed to attack by testing media under specified conditions. The same design of test apparatus and the same test principle is employed for different liquids. The loss in mass or other parameters are determined and used to calculate the rate of loss in mass or other parameters are determined and used to calculate the rate of loss in mass per unit area or loss of gloss and if necessary, the corrosion rate. For further details of the test see ISO 287906-2 and ISO 2733.

### General description:

The test apparatus consists of a cylinder, having a standard socket for holding a reflux condenser with a graduated collector on one side. The cylinder is heated externally by a heater placed round the lower half of the cylinder. The electrical heater is controlled by an electronic controller.

For processing an electrical connection (220 V AC), connection and plughole for water is necessary.

By using mineralic acids as test medium the apparatus is to place in a laboratory fume hood.

Testing apparatus can be completed with stand material for fixing the glass components and other accessories (see page 2).

## **Available as option:**

### **2.1 Insulating sleeve for heater**

- Reduced power consumption
- Increasing working security by reduction of surface-temperature
- Alleviation of heat up time
- Long durability
- Fast assembly and disassembly

### **2.2 Stand material (for fixing the glass components):**

Tripod, Stand rot, Stand clamp, Double socket, Clipox ground clamp

### **2.3 Control unit for cooling water:**

- Testing for example the resistance against the attack of hot water and vapour testing several weeks, a breakdown of cooling water for the condenser can nullify the whole test, that's why a control unit is useful. This unit achieves
  - heating is switched off
  - alarm is sent to local network, computer or mobile phone
  - internal timer starts, to record the time without heating

### **2.4 Tester of tightness:**

- Auxiliary for checking the tightness of assembling before filling up test-medium

### **Testing apparatus is usable for following test methods and standards:**

DEZ-MB 7.3.2 enamel resistance against boiling water by long-term exposure

DEZ-MB 7.3.3 enamel resistance against drinking water

DEZ-MB 7.4.2 enamel resistance against hot soda solution

DEZ-MB 7.4.4 enamel resistance against boiling sodium-pyrophosphate solution

DIN/ISO 2742 enamel resistance to boiling citric acid

DIN/ISO 2743 enamel resistance to condensing hydrochloric acid vapour

DIN/ISO 2744 enamel resistance to boiling water and water vapour

DIN/ISO 2745 enamel resistance to hot sodium hydroxide

DIN/ISO 28706-2 enamel resistance to boiling acids, boiling neutral liquids and/or their vapours

EN 14483-2 enamel resistance to chemical corrosion

ISO 3972 part 2 sec 1 enamel resistance to citric acid