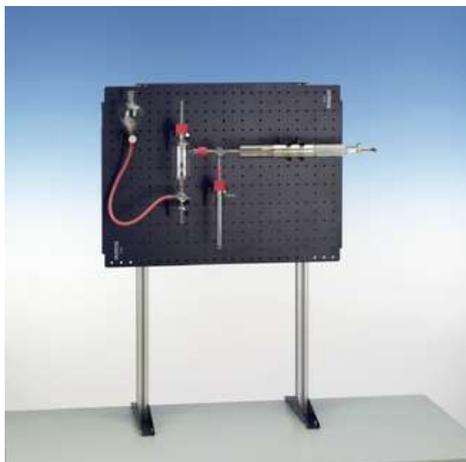


## Determination of the molar masses of metals

Article no: P1309462



### Principle

A piece of metal is weighed and placed in the insert of the reaction cylinder, whereafter an acid is added to the cylinder through the three-way valve until it is about half full. The metal is made to react with the acid by lowering the insert. The gas syringe connected to the reaction cylinder is used to collect the hydrogen which is generated. The mass of the metal and the volume of the hydrogen generated are used to calculate the desired molar mass. The reaction can also be used to determine the valency of the metal.

### Benefits

- Accurate determination of molar mass by application of the ideal gas law
- Simple implementation and fast measurement results

### Tasks

Determine the molar mass of zinc.

### Learning objectives

- Molar mass
- Molar volume
- Ideal gas laws
- Valency of metals

## Scope of delivery

Frame for complete experiments	45500-00	1
Rear-cover for compl.-exp. panel	45501-00	1
Panel for complete experimental setups	45510-00	1
Clamping holder, 0-13 mm, fixing magnet	02151-07	1
Clamping holder,18-25mm	45520-00	2
Clamping holder,turnable,8-10mm	45522-00	1
Holder for syringes	45523-00	1
Spring plugs, 50 off	45530-00	1
Lab thermometer,w.stem,+15..+40C	38057-00	1
Gas syringe, 100 ml, with 3-way cock	02617-00	1
Levelling bulb,glass	36515-00	1
Test tube GL25/8, w.hose connec.	MAU-27221000	1
Glass tubes,straight, 150 mm, 10	MAU-16074542	1
Laboratory pen, waterproof, black	38711-00	1
Rubber hose	39282-00	1
Beaker, Boro, high-form	46027-00	1
Funnel, glass, top dia. 50 mm	34459-00	1
Hydrochloric acid 37 %, 1000 ml	30214-70	1
Zinc, granul., 99.5%, 500 g	31998-50	1
Water, distilled 5 l	31246-81	1
Precision barometer, d=100mm	87998-00	1