

Gay-Lussac's law of volumes

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Principle

Gay-Lussac's law of volumes states that gases always react with one another in certain fixed ratios of their volume. This experiment mixes hydrogen and oxygen in the plunger eudiometer in different ratios where the mixtures react explosively. All of these gas mixtures can be ignited within a very short period of time, demonstrating that hydrogen and oxygen always react with one another in a volumetric ratio of 2 to 1.

Benefits

- Simple, transparent experimental setup
- Practical gas bar for storing the gases

Tasks

Examine the volume relationship in the hydrogen/oxygen reaction using a plunger eudiometer.

Learning objectives

- Gay-Lussac's law of gaseous combustion
- Hydrogen/oxygen reaction

Scope of delivery

Plunger eudiometer	02611-00	1
Ignition spark generator	11155-00	1
Connecting cord, 30 kV, 1000 mm	07367-00	2
Gas bar	40466-00	1
Syringe 20ml, Luer, 100 pcs	02591-10	1
Cannula 0,45x13 mm, Luer, 20 pcs	02598-10	1
Nozzle for glass screwthread	43903-01	1
Steel cylinder oxygen, 2 l, filled	41778-00	1
Steel cylinder hydrogen, 2 l, full	41775-00	1
Reducing valve f.oxygen	33482-00	1
Reducing valve for hydrogen	33484-00	1
Table stand for 2 l steel cylinders	41774-00	2
Wrench for steel cylinders	40322-00	1
Silicone tubing, inner diameter 3 mm	39296-00	2
Hose clip, diam. 8-16 mm, 1 pc.	40996-02	2
Lab protecting glasses with UV filter	39315-00	1