

## Condensation of gases through an increase of pressure and through cooling

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### Principle

Gases are condensing when they are cooled and at high pressure. In this experiment butane is condensed by cooling it to ca.  $-15\text{ }^{\circ}\text{C}$ . In the second part of the experiment butane is condensed by compressing it.

### Benefits

- Compact setup
- Perfect as demonstration and student experiment
- Beautiful illustration of the phase transition from gaseous to liquid

### Tasks

1. Condense butane by cooling it under its boiling point of  $-0.4\text{ }^{\circ}\text{C}$ .
2. Condense butane at high pressure.

### Learning objectives

- Condensation
- Gas laws

## Scope of delivery

Support base DEMO	02007-55	1
Support rod, stainless steel, different lengths	02037-00	2
Right angle boss-head clamp	37697-00	4
Universal clamp	37715-01	4
Lab jack, 150 x 150 mm	02074-02	1
Gas liquefier	08173-00	1

Butane burner, Labogaz 206 type	32178-00	1
Butane cartridge C206, without valve, 190 g	47535-01	1
Gasometer 1000 ml	40461-00	1
Dewar vessel, 500 ml	33006-00	1
Thermometer, -100....+30 C	38151-00	1
Test tube GL25/8, w.hose connec.	MAU-27221000	2
Glass tubes, right-angled	MAU-10030701	1
Glass tube, right-angled w.tip	MAU-10030704	1
Stopcock, 3-way, t-shaped, glass	36731-00	1
Rubber stopper, d = 22/17 mm, 1 hole	39255-01	2
Rubber hose	39282-00	2
Commercial weight, 1000 g	44096-70	1
Pinchcock, width 15 mm	43631-15	1
Glass wool 10 g	31773-03	1
Sodium chloride, 500 g	30155-50	1