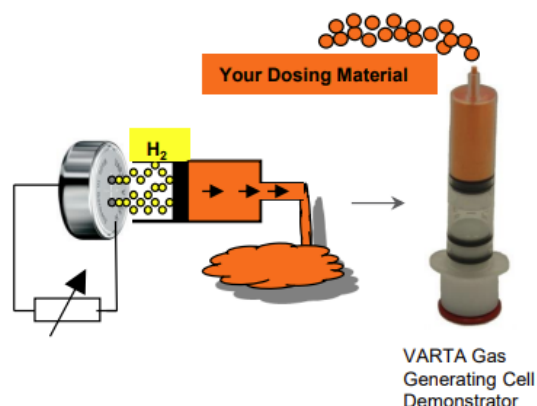


Design Study

Dosing, Packaging, Cosmetics, Air Fresheners Flavour & Fragrances, Scent Dispensers



Technical solution:
Gas Generating Cells



Gas Generating Cells

Dosing, Packaging, Cosmetics, Air Fresheners, Flavour & Fragrances, Scent Dispensers

In many of these application fields a dosing of a liquid or viscous material (gels or creams) over a variable time period is required or can have a benefit. In other cases the dosing application needs continuous dosing (no puffs), e.g. for scent dispensers. For packaging applications VARTA's Gas Generating Cell (GGCell) offers a "power-free" energy reservoir which can be activated at the time of use, can be stopped, can be used intermittently. So a unique customer-binding packaging concept is possible.

Gas generating Cells from VARTA Microbattery

VARTA offers two products which generate typically 150 cc or 300 cc of gas to elevate or dose your liquids or gels.

For more information, please visit our website:
<https://www.varta-ag.com/en/industry/product-solutions/gas-generating-cells>

Characteristics	VARTA GGCell V 150 H2 MF
Hydrogen Gas Output	130 – 150 ml
Dimension / Weight	D=11.60mm, H=5.50mm, W=1.65g
Capacity Retention	>90%, after 12 months storage at 20°C
Operating Temperature Range	0°C up to +50°C (Discharge)
Expandable	300ml or 0.5 litre gas etc. (with 2, 3, ... or more cell assembly)

VARTA Gas Generating Cells – for innovative short-term or long-term dosing / packaging applications

Depending on the resistor the gas output can be controlled. e.g. for short-term use (within minutes) up to long-term use (weeks, months, up to a year). This small, safe and pressure-free gas reservoir, with a volume of only 0.5 ml can provide you with 250 – 300 times higher volume up to 150 ml.

- small, portable, energy independent system
- Continuously dosing (no puffs) or pulse dosing
- Long term dosing (within minutes up to 12 months)
- Safe energy-, gas-, pressure- storage reservoir
- Easy controllable gas delivery
- Since more than 20 years mass production of GGCells
- Customer-binding cartridge design gives guaranteed follow-up business
- Operation over a wide temperature range
- Long shelf life
- Economical & handling advantages
- Made in Germany