# Separate hydrogen and deuterium

## Concentration and separation of hydrogen isotope gases by electrochemical methods

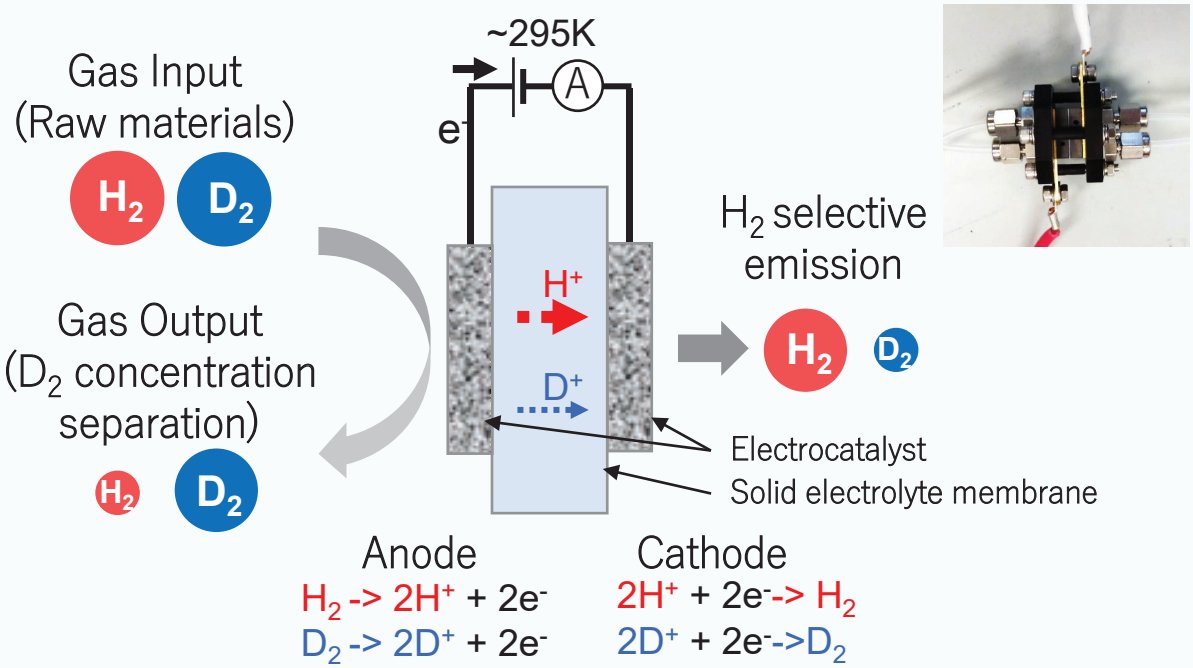
- Easy handling due to a usage of solid electrolyte membrane
- Efficient separation of hydrogen ($H_2$) and deuterium ($D_2$) at room temperature
- Energy-saving separation

Keywords： Hydrogen isotopes, Enrichment separation, Solid electrolyte membranes, Electrochemistry

## Enrichment and separation of $D_2$ at low cost

**Conventional technology :**
**Cryogenic distillation method**
- Operates around -250° C
- Complicated system
- Low separation ability (H/D ～2)

**Developed Technology :**
**Electrochemical Separation Method**
- Operates at room temperature
- Simple system
- High separation ability (H/D 2～30)






**Stage of Technology**
- Basic research
- Applied research
- Practical development
- Production
- Commercialization

**Fields of use**
- Industrial gases (semiconductors, etc.)
- Pharmaceutical development

**Information of intellectual property**

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Technical details

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