

Hydrogen Combustion



Kiwa Technology has developed a 'boil-off management system' for the BMW Hydrogen 7. The 'boil-off management system' is a safety device for limiting the pressure in a car's hydrogen fuel tank.

For everyone engaged in alternative fuels in the automotive industry or interested in hydrogen combustion. Especially for car manufacturers and automotive industry suppliers.

The Hydrogen 7 car has an extremely well-insulated tank with which hydrogen can be stored at a constant temperature of approximately -250°C . Any increase in temperature is likely lead to the evaporation of the hydrogen and the build-up of pressure in the tank. If the car has not been used for some time, the pressure in the tank can still build up even after a minimal temperature increase. In this case, the pressure in the tank has to be controlled and evaporated hydrogen must be removed safely.

The 'boil-off management system' limits the hydrogen pressure in the tank and controls the removal of evaporated hydrogen. The pressure is monitored via a pressure relief valve. The released, gaseous hydrogen is diluted in a Venturi tube and oxidised to water vapour in a catalytic burner.

We usually use the following step-by-step plan for supporting technology development:

- Analysis phase
- Development of concepts/scenarios
- Prototype design
- Prototype construction
- Prototype testing
- Prototype optimisation

If required, small series can be produced.

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