Compatibility matrix for hydrogen refuelling systems

In order to guarantee a safe refuelling of gaseous hydrogen, the following stanws standards have to be respected:

§ Standard EN 17127 for interoperability requirements and refuelling protocols of hydrogen refuelling points dispensing gaseous hydrogen.
§ Standards EN ISO 17268-1 and EN ISO 17268-2 (currently under development, publication expected 2026) for gaseous hydrogen fuelling connections up to 700bar. In this standard, the compatibility of the different nozzles is defined as follows:

Receptacle

Nozzle	H35 Grade D	H35MF Grade D	H35HF Grade D	H70 Grade D	H70HF Grade D	H35 Grade F	H35MF Grade F	H35HF Grade F	H70 Grade F	H70HF Grade F
H35 Grade D	✓	✓	✗	✓	✗	✓	✓	✗	✓	✗
H35MF Grade D	✗	✓	✗	✗	✗	✗	✓	✗	✗	✗
H35HF Grade D	✗	✗	✓	✗	✗	✗	✗	✓	✗	✗
H70 Grade D	✗	✗	✗	✓	✗	✗	✗	✗	✓	✗
H70HF Grade D	✗	✗	✗	✗	✓	✗	✗	✗	✗	✓
H35 Grade F	✗	✗	✗	✗	✗	✓	✓	✗	✓	✗
H35MF Grade F	✗	✗	✗	✗	✗	✗	✓	✗	✗	✗
H35HF Grade F	✗	✗	✗	✗	✗	✗	✗	✓	✗	✗
H70 Grade F	✗	✗	✗	✗	✗	✗	✗	✗	✓	✗
H70HF Grade F	✗	✗	✗	✗	✗	✗	✗	✗	✗	✓

✓ Can connect ✗ Cannot connect

Grade D: FCEV grade with 99,97% H_2 purity mandated by AFIR for all stations in Europe
Grade F: ICE specific grade with 98% purity and not allowed in Europe in public stations by AFIR

§ Standards SAE J2601, SAE J2601/5, ISO 19885-1 and ISO 19885-3 (currently under development, publication expected 2027) for gaseous hydrogen refuelling protocols.