



## Heavy-Duty 70 MPa

Internal Solenoid Tank Valve

### **H-TV-70 Series**



Designed for 70 MPa hydrogen applications, GFI's internal tank solenoid technology enhances durability and reliability by mounting the solenoid inside the tank. This design protects it from external impacts, environmental exposure, and corrosion while also resolving structural challenges by placing it within the pressurized space. A temperature sensor is integrated within the tank to provide fuel dispenser feedback and improve fuel gauge accuracy.

#### **DESIGN**

- Low-profile design to maximize tank package length
- In-tank solenoid for improved crashworthiness and environmental protection
- 12 V and 24 V solenoid options
- Nominal working pressure of 70 MPa
- Working temperature range: -40 °C to +85 °C
- 1-1/2-12 and M45x2 tank neck geometry compatibility
- Lightweight aluminum design

#### **PERFORMANCE & OPTIONS**

- Protects solenoid from external impacts and corrosion
- Enhances structural integrity by placing components within the pressurized space
- Provides accurate fuel level monitoring through integrated temperature sensor



# SPECIFICATIONS

## GENERAL INFORMATION

|               |                                      |
|---------------|--------------------------------------|
| APPLICATION   | Hydrogen Tank Valve                  |
| DESIGN        | Automatic valve, internal solenoid   |
| BODY MATERIAL | Aluminum, anodized                   |
| FUEL TYPE     | Hydrogen per SAE J2719 and ISO 14687 |

## PERFORMANCE

|                                  |                                                 |
|----------------------------------|-------------------------------------------------|
| NOMINAL WORKING PRESSURE         | 70 MPaG                                         |
| MAX WORKING PRESSURE             | 87.5 MPaG                                       |
| WORKING TEMPERATURE              | -40 °C to +85 °C                                |
| FLOW COEFFICIENT (Cv)            | Fueling and defueling: > 0.18                   |
| T-PRD OPERATION                  | 110 ±/- 5°C                                     |
| T-PRD ORIFICE                    | Up to 4 mm equivalent diameter                  |
| CHECK VALVE FUNCTION (FILL PATH) | Opening Pressure < 0.3 MPa                      |
| EXCESS FLOW VALVE                | Integrated; activation point customer specified |
| FILTER                           | Integrated; 40 micron or 10 micron              |

## ELECTRICAL

|                                 |                           |        |
|---------------------------------|---------------------------|--------|
| COIL NOMINAL VOLTAGE            | 12 V                      | 24 V   |
| NOMINAL COIL RESISTANCE AT 20°C | 3.5 Ω                     | 13.2 Ω |
| CONTROL                         | Peak & Hold               |        |
| THERMISTOR R25C                 | 2.7 k or 10 k ohms +/- 2% |        |
| THERMISTOR TYPE                 | NTC                       |        |

## CONNECTIONS / OPTIONS / CERTIFICATIONS

|                                 |                                                         |
|---------------------------------|---------------------------------------------------------|
| SOLENOID                        | Mating connector: AMP Superseal 1.5, 2 pin; 282080-1    |
| TEMPERATURE SENSOR              | Mating connector: Delphi Metripack 140, 2 pos; 12052644 |
| CYLINDER CONNECTION             | 1 1/2-12 UNF or M45x2                                   |
| INLET / OUTLET PORT TYPE        | Customer defined                                        |
| PRV VENT THREAD TYPE            | 7/16-20 UNF (others possible)                           |
| PRESSURE SENSOR PORT (OPTIONAL) | Customer defined                                        |
| LIVE PORT (OPTIONAL)            | Customer defined                                        |
| CERTIFICATIONS                  | EC79, ECE R134 & HGV3.1 Pending                         |

