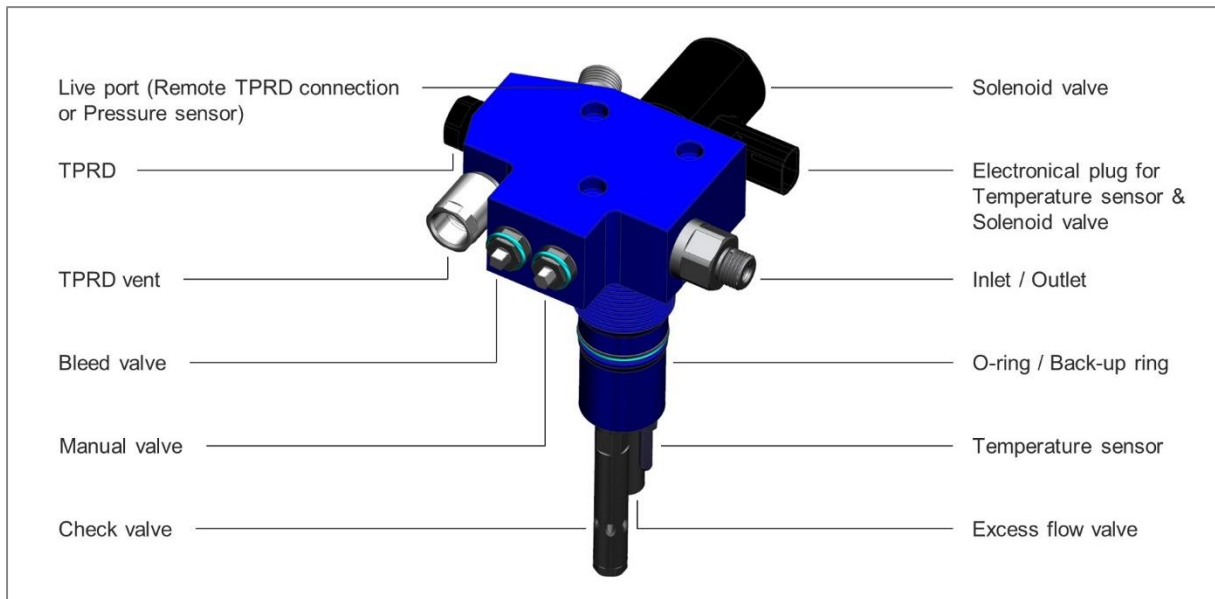# Product data sheet

TOPAQ On Tank Valve (OTV) Assembly 2.0
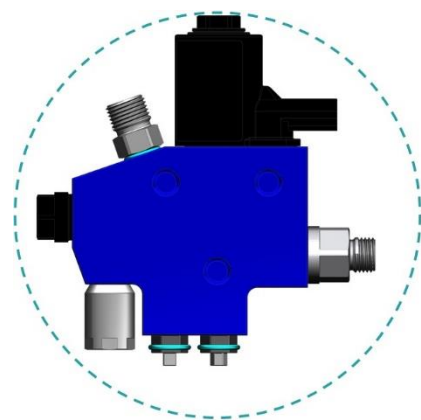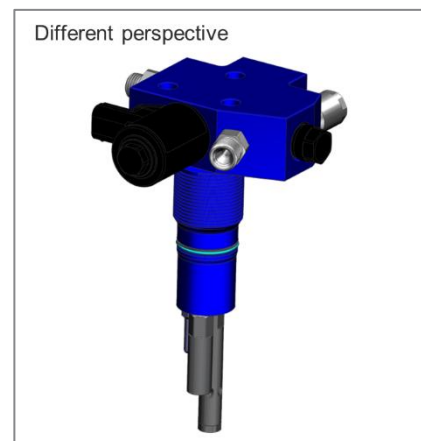
Product specification

The **O**n **T**ank **V**alve (OTV) is used to ensure safe fueling and defueling processes and the storage of gas in stationary and mobile deployed H_2 tanks.
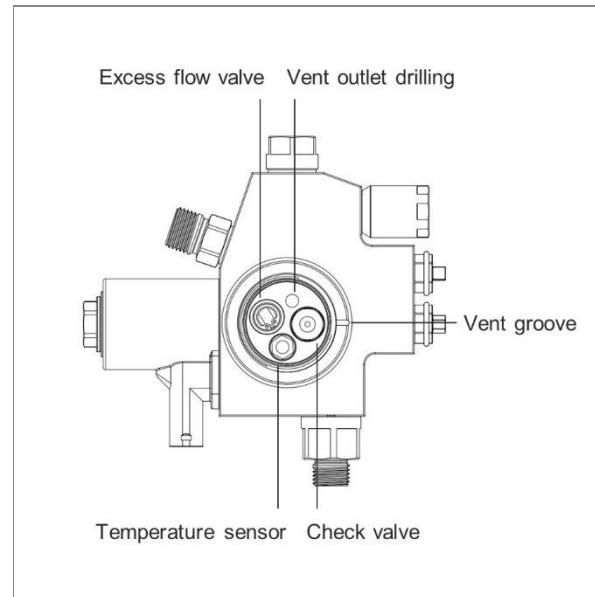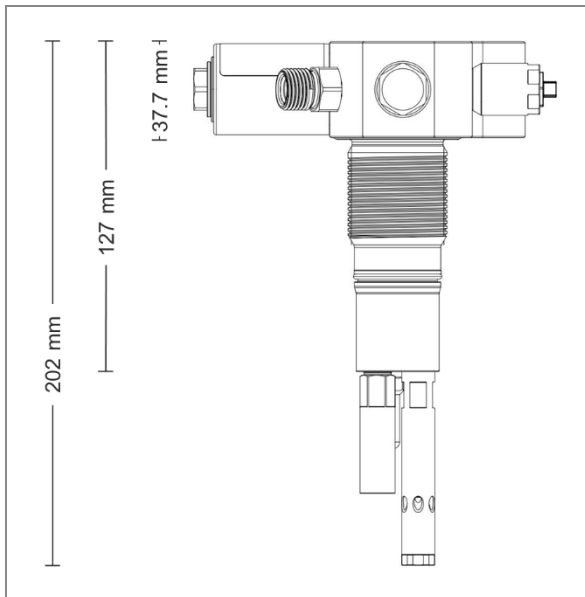
With its optimized modular design, it enables the compliance of individual customer requirements while simultaneously addressing relevant legal standards (UN/ECE R134, HGV 3.1).

For installing the OTV, depending on its configuration an installation space of 160 – 190 mm is required.

Different perspective

Installation space
Ø 160 – 190 mm

Technical features

Excess flow valve   Vent outlet drilling

Vent groove

Temperature sensor   Check valve

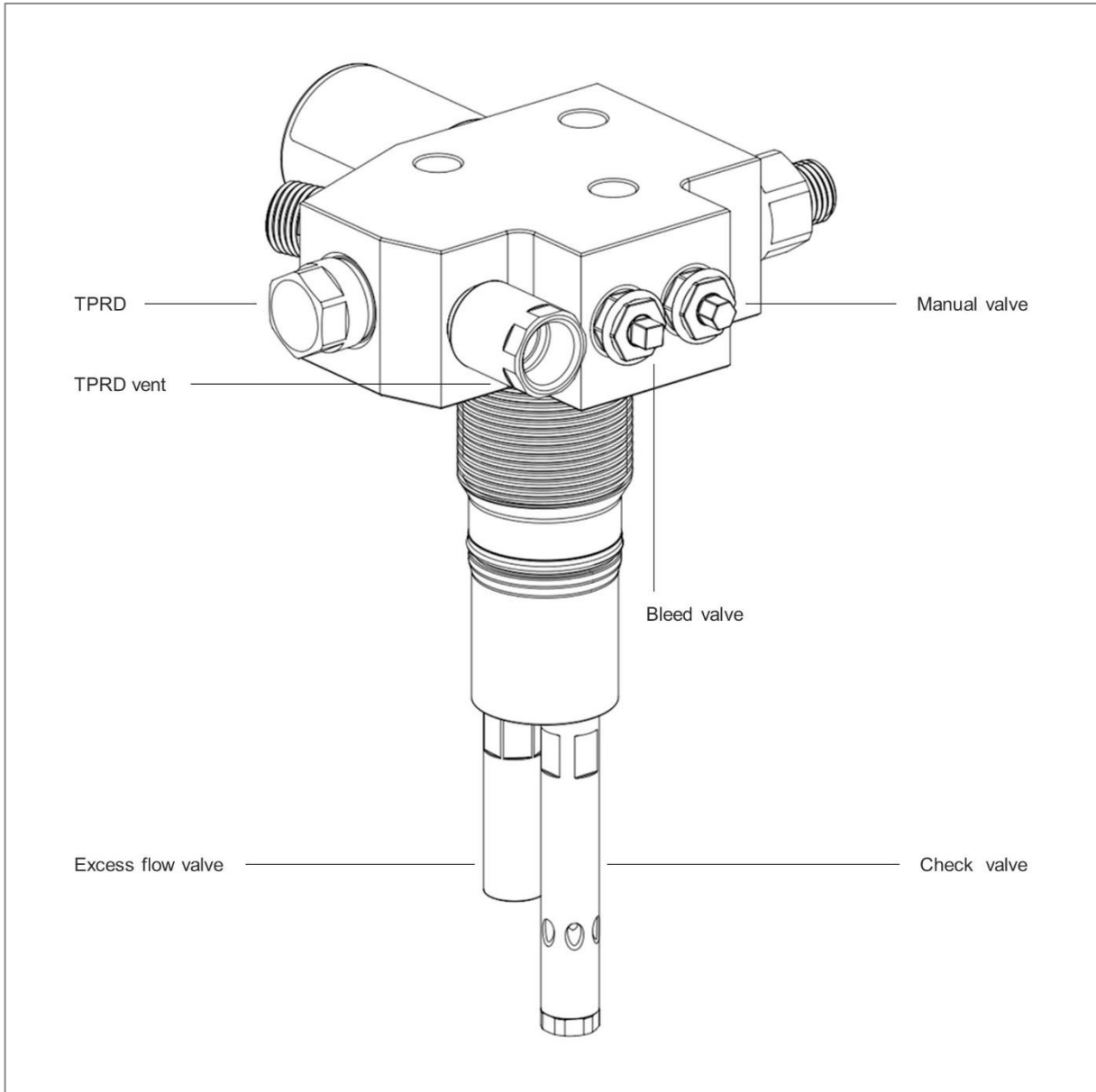| OTV	
Technical data | Operating conditions	
Installation space (depends on config.)	Ø 160 – 190 mm
Height OTV (screwed in)	37.7 mm
Height OTV	202 mm
Height OTV Body	127 mm
Weight OTV	approx. 1400 g
Weight OTV Body	approx. 685 g
Tank interface	1½″-12 UNF
Material OTV Body	Aluminum, anodized
Sealing types	Metal-to-metal, O-Ring, PEEK
Operating temperature	−40 to +85 °C
Nominal working pressure	700 bar
Maximum allowed working pressure	875 bar
Proof pressure	1050 bar
Kv value (Refueling | Defueling)[1]	0.28 | 0.15
Cv value (Refueling | Defueling)[1]	0.32 | 0.18
Medium	Hydrogen (CGH2)
Leak rate (acc. UN/ECE R134)	< 10 Ncm³/h

1) For flow-optimized refueling and defueling, the manual valve must be completely open.
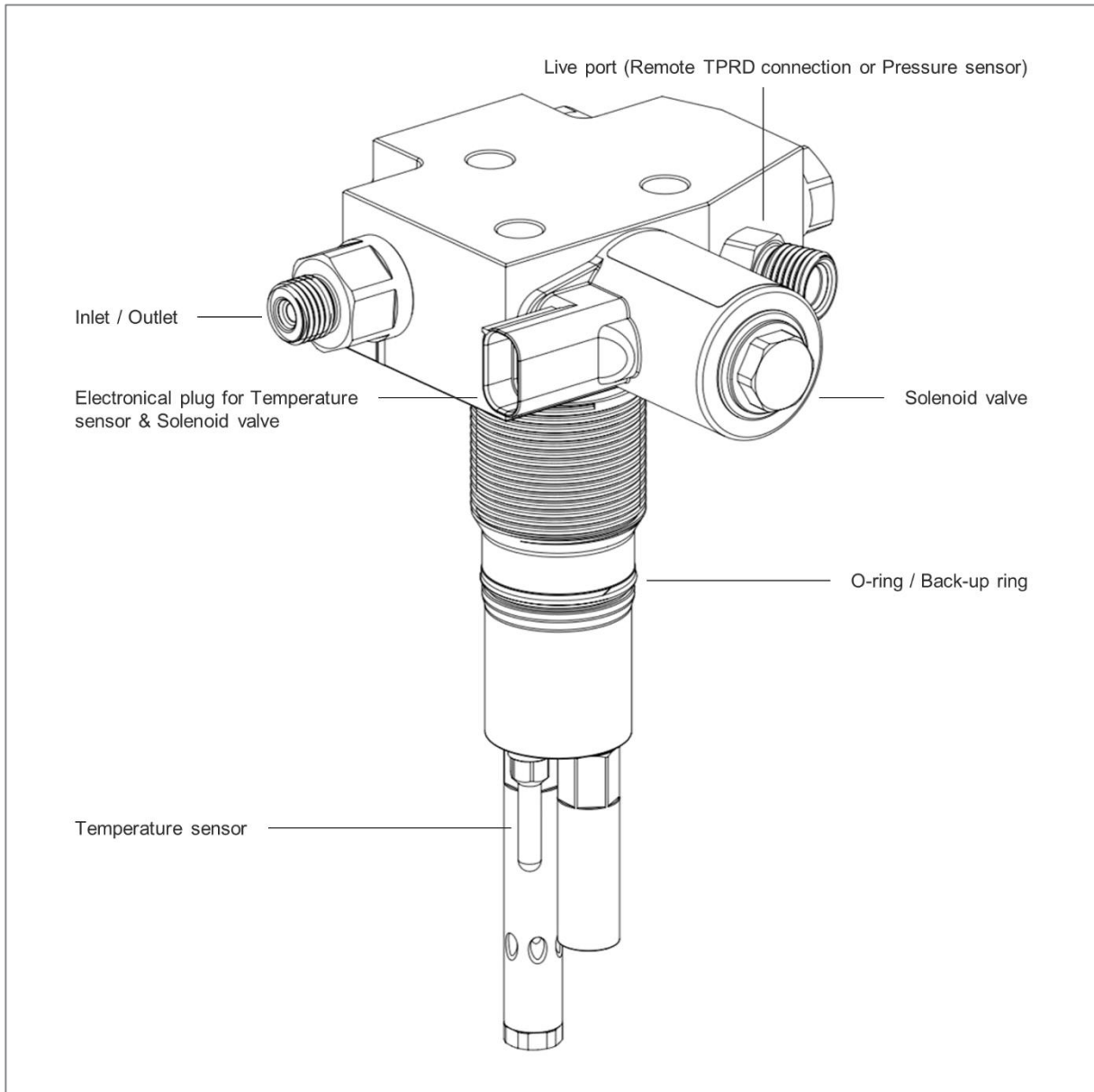
Attachment parts	
Technical data | Operating conditions	
Solenoid valve	
Operating voltage	12 V or 24 V DC (PWM Signal)
Temperature sensor	
Temperature element	Discrete NTC Thermistor
Operating temperature	−60 to +150 °C
Thermal Pressure Relief Device (TPRD)	
Trigger temperature	110±5 °C
Min. Flow diameter	4.4 mm
Excess Flow Valve (EFV)	
Activation flow rate (@ 20 bar / RT)	2.1 – 3.4 g/s
Filter pore size (Inlet | Outlet)	10 µm
Check valve	
Cracking pressure	< 3 bar
Sealing pressure	≥ 2 bar
Manual valve | Bleed valve	activated by hexagon | square
Interfaces | Thread definitions | Ports	
Live port: Remote TPRD connection (optional Pressure sensor)	M16×1.5
Pipe connection (Inlet | Outlet)	M14×1.5
Pipe connection (TPRD vent)	M16×1.5

Technical features

TPRD

TPRD vent

Manual valve

Bleed valve

Excess flow valve

Check valve

Technical features

Live port (Remote TPRD connection or Pressure sensor)

Inlet / Outlet

Electronical plug for Temperature
sensor & Solenoid valve

Solenoid valve

O-ring / Back-up ring

Temperature sensor

Circuit diagram
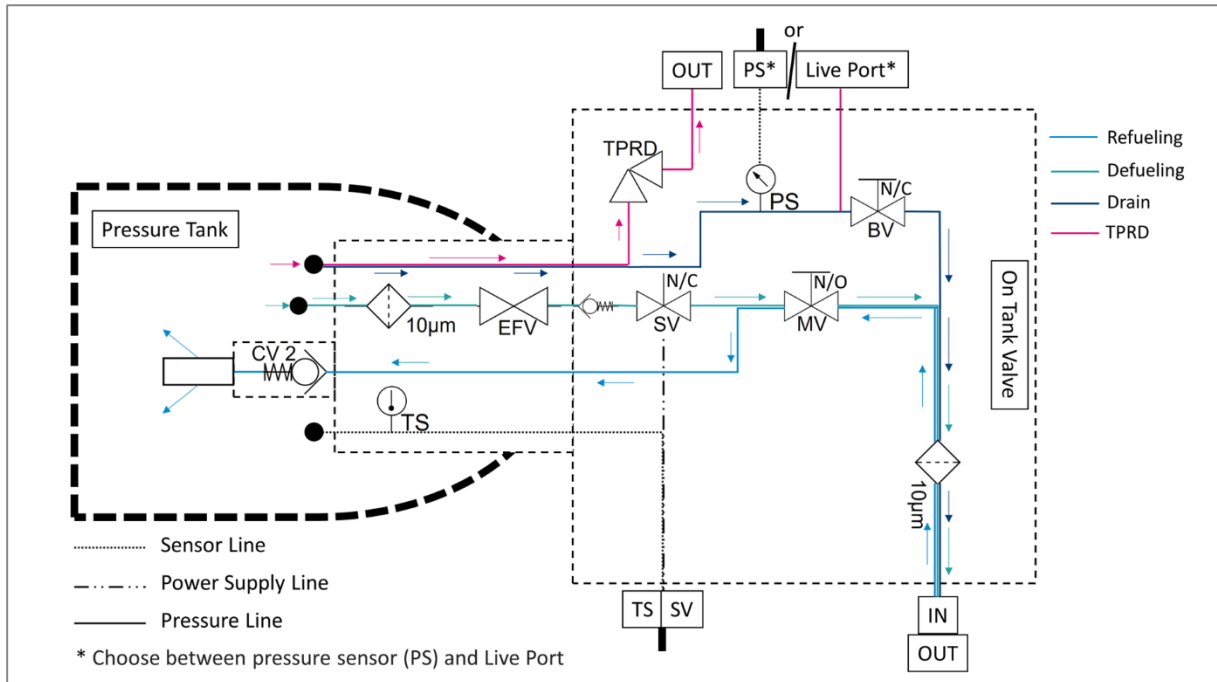
Available configurations

| Item No | Solenoid Valve | Inlet / Outlet | | TPRD Vent port | | Live port | | |
		Pipe adapter material	Pipe OD[2] [mm]	Pipe adapter material	Pipe OD [mm]	Variant	Pipe adapter material	Pipe OD [mm]
031781-A[3]	12 V	PPH2[4]	6.35 (1/4″)	PPH2	10	Remote TPRD connector	PPH2	10
031783-A[3]	24 V	PPH2	6.35 (1/4″)	PPH2	10	Remote TPRD connector	PPH2	10
031776-A[3]	12 V	PPH2	10	PPH2	10	Remote TPRD connector	PPH2	10
031758-A[3]	24 V	PPH2	10	PPH2	10	Remote TPRD connector	PPH2	10
032901-A	12 V	Stainless steel	6.35 (1/4″)	Stainless steel	10	Remote TPRD connector	Stainless steel	10
033579-A	24 V	Stainless steel	6.35 (1/4″)	Stainless steel	10	Remote TPRD connector	Stainless steel	10
031467-A	12 V	Stainless steel	6.35 (1/4″)	Stainless steel	10	Plug	Stainless steel	-
031785-A[3]	12 V	PPH2	6.35 (1/4″)	PPH2	10	Plug	Stainless steel	-
031789-A[3]	12 V	PPH2	10	PPH2	10	Plug	Stainless steel	-
031410-A	24 V	Stainless steel	6.35 (1/4″)	Stainless steel	10	Plug	Stainless steel	-
031795-A[3]	24 V	PPH2	6.35 (1/4″)	PPH2	10	Plug	Stainless steel	-
031805-A[3]	24 V	PPH2	10	PPH2	10	Plug	Stainless steel	-
031815-A[3]	12 V	Stainless steel	6.35 (1/4″)	PPH2	10	Pressure sensor	-	-
031807-A[3]	12 V	PPH2	6.35 (1/4″)	PPH2	10	Pressure sensor	-	-
031820-A[3]	24 V	Stainless steel	6.35 (1/4″)	PPH2	10	Pressure sensor	-	-
031806-A[3]	24 V	PPH2	6.35 (1/4″)	PPH2	10	Pressure sensor	-	-
031765-A[3]	24 V	PPH2	10	PPH2	10	Pressure sensor	-	-

2) OD = Outer diameter.
3) UN/ECE R134.01 in progress.
4) PPH2 is a protected designation of the Poppe + Potthoff Präzisionsstahlrohre GmbH.

Certification & safety information

The product may only be used after installation by qualified personnel according to the corresponding installation guide. Usage for production of commercial goods is only permitted in certified countries. Otherwise, the product may only be used for testing purposes.

Certificates	
Europe	
UN/ECE R134.01	Tests passed
UN/ECE R134.02	Certification pending
Greater China (China, Taiwan, Hong Kong, Macau)	
GB/T 42536-2023	Certification pending
North America (USA, Canada)	
HGV 3.1-2022	Certification pending

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