## *Manual tank-valve*

# ***BETA NEW***

## *for CNG automotive use*


**OMB SALERI SpA** CNG & LPG VALVES AND SAFETY COMPONENTS
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## MAIN FEATURES

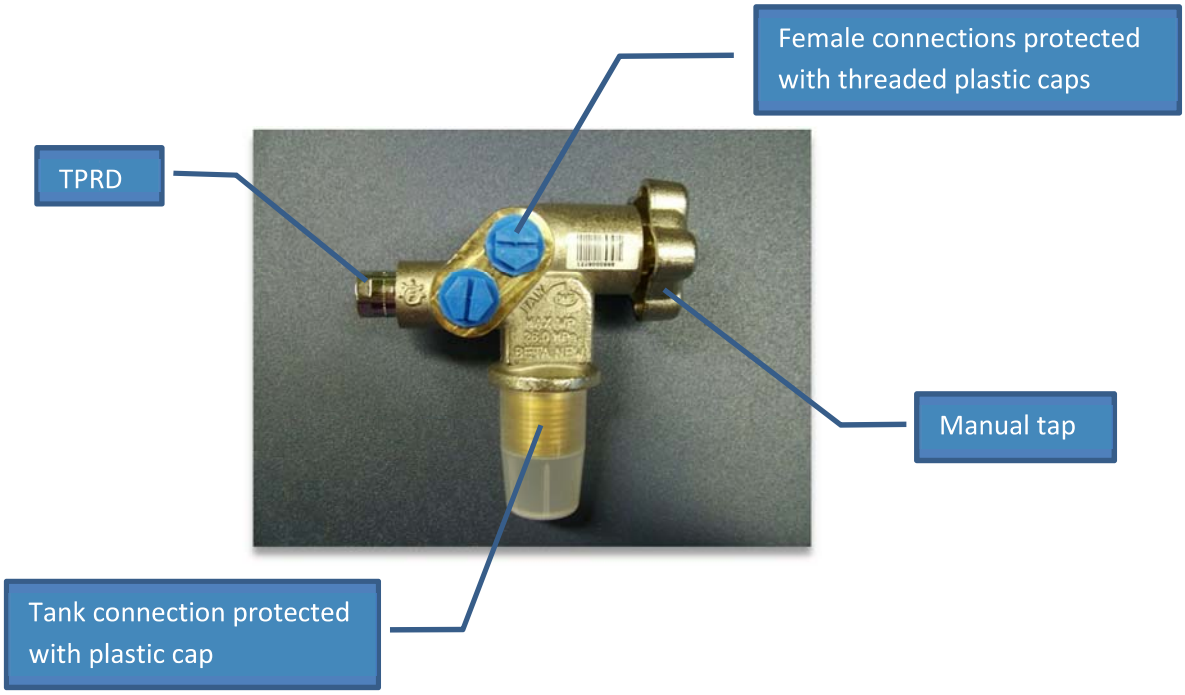
*Manual valve for CNG tanks, equipped with thermal pressure relief device (TPRD), double threaded connections for the high-pressure pipeline, double threaded connections for venting the tank in case of activation of the TPRD. Optionally available with threaded live-port (port for connecting remote PRDs) instead of the TPRD.*

***Weight = approx 2.0 lbs (0.9 Kgs)***

***Raw material of valve body and handwheel = brass CW617N***

***Raw material of other components = brass CW614N, plastics, rubbers (according to OMB specs.), steel***

***Body coating = Nickel plating***




## AVAILABLE CERTIFICATIONS

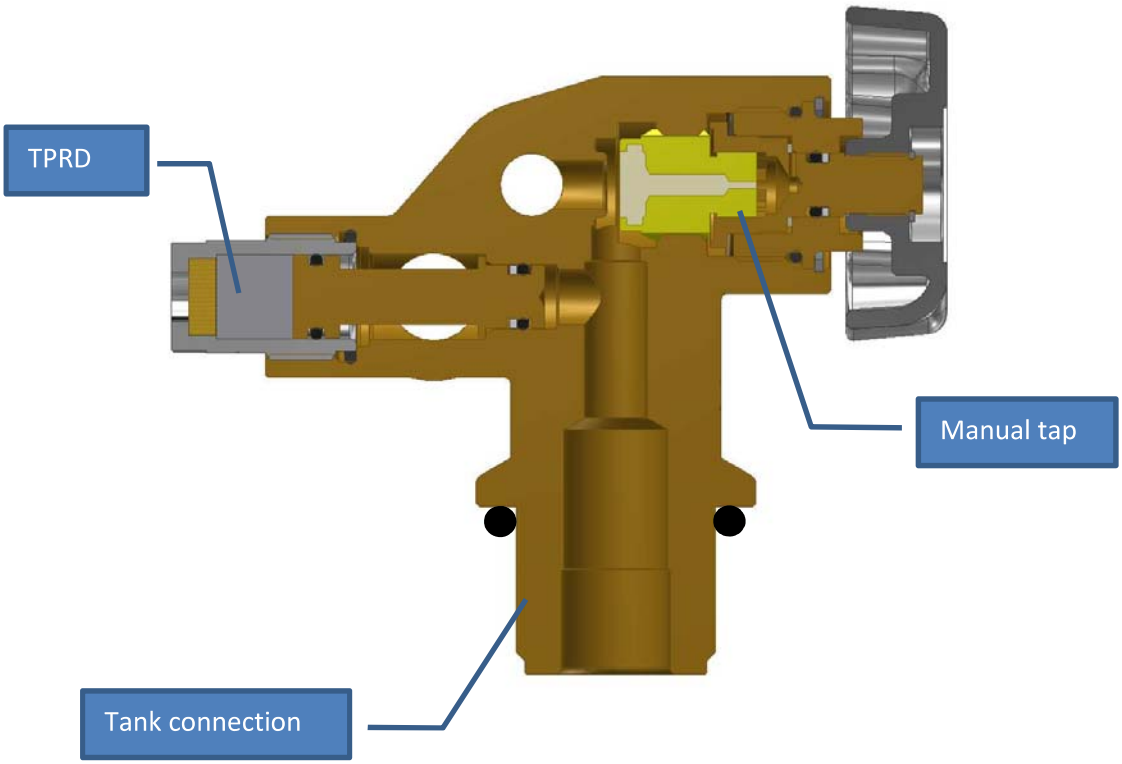
- *ANSI/AGA NGV 3.1 -1995 CGA 12.3-M95 (reaffirmed 2007)*
- *ANSI/IAS PRD1-1998, ANSI/IAS PRD1a-1999, ANSI/CSA PRD1b-2007*
- *ECE-R110*
- *ISO 15500*

# ***DATA SHEET***

| | |
|---|---|
| *Service pressure according to NGV3.1* | **3600 psi** (24.8 MPa) |
| *Max Working pressure according to NGV3.1* | **4500 psi @ +180°F** (31.0 MPa @ +82°C) |
| *Max Working pressure according to R110 / ISO 15500* | **3770 psi** (26.0 MPa) |
| *Working temperature NGV3.1* | **-40°F / +180°F** (-40°C / +82°C) |
| *Working temperature R110 / ISO 15500* | **-40°F / +185°F** (-40°C / +85°C) |
| *Tank connection* | **1"1/8 – 12 UNF – 2A** with O-Ring |
| *Piping connections* | **9/16 – 18 UNF – 2B** according to **SAE/J1926** |
| *PRD activation temperature* | **226.4°F ± 10.8°F** (108°C ± 6°C) |
| *Excess flow limiter* | Available upon request |
| *Minimum internal orifice for filling and delivery to engine** | **Ø0.276"** (Ø7mm) |
| *Minimum internal orifice for PRD venting* | **Ø0.315"** (Ø8mm) |
| *Theoretical CV rate* (filling and delivery to engine)* | **1.0 USGallons/min/psi** |
| *Theoretical CV rate (PRD venting)* | **1.3 USGallons/min/psi** |
| *Expected flow rate of CNG @ 20 bar during filling and delivery to engine** | **223.5 kgs/hour** (183 scf/min) |
| *Expected flow rate of CNG @ 20 bar during PRD venting* | **292.5 kgs/hour** (240 scf/min) |

* *Without excess flow limiter*

# ***CROSS SECTION***



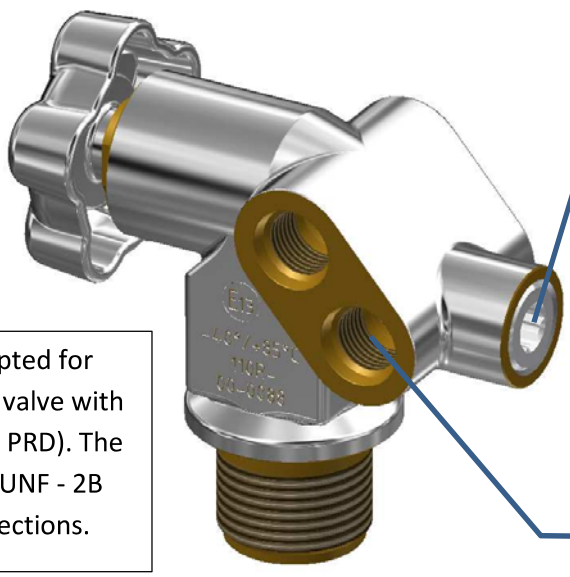

The Pressure-Relief-Device, thermally activated, is based on a fusible plug made from an eutectic alloy (Indium-Bismuth alloy, lead-free).

The manual tap is based on a piston-system (it is not a ball valve):

- number of turns = 1 turn and ¼
- maximum handwheel torque = 5 Nm in the totally-closed position (44 lbf x in)

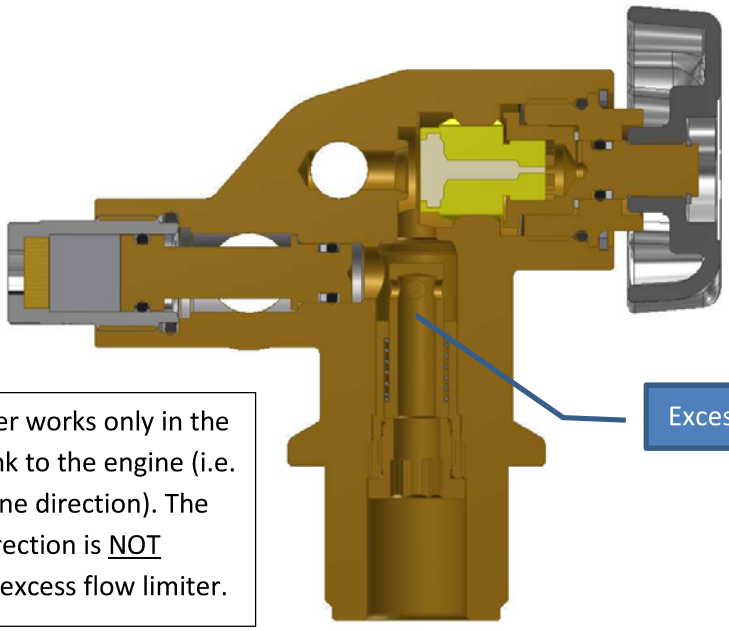
  = 2Nm along the stroke (17.7 lbf x in)

***Special version with live-port connection:***



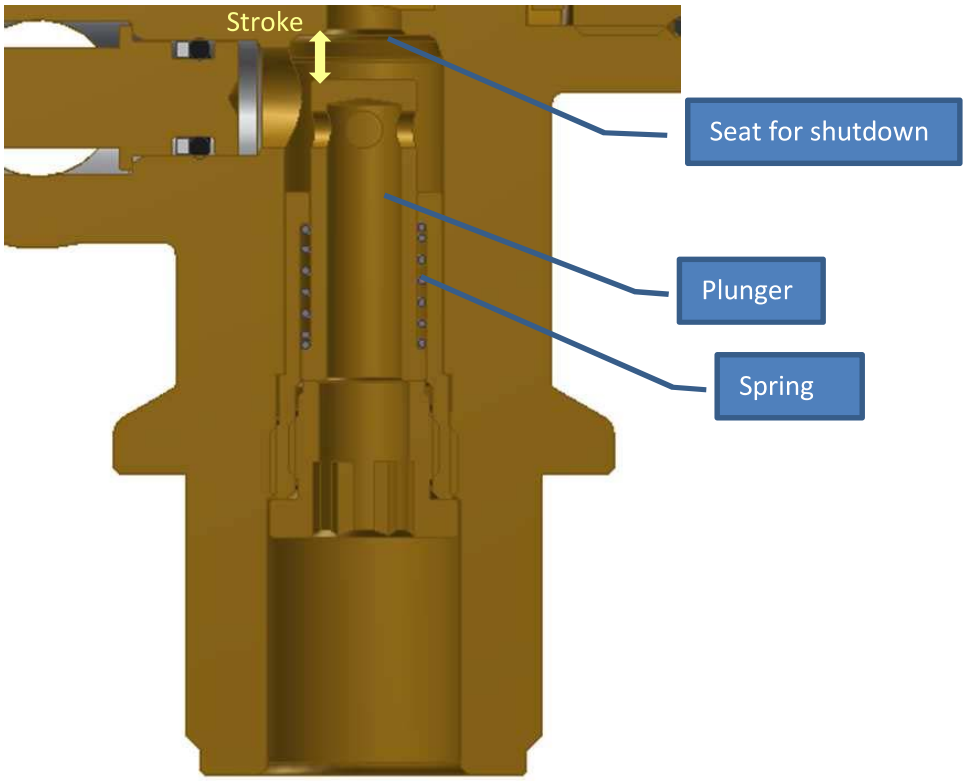

The live-port is usually adopted for connecting remote PRDs (the valve with live-port is not equipped with PRD). The live-port is usually 9/16 - 18UNF - 2B exactly like the other connections.

***Special version with excess flow limiter (i.e. device for shutting the flow off in case of a breakage of a pipe in the high-pressure-pipeline)***




The excess flow limiter works only in the direction from the tank to the engine (i.e. delivery to the engine direction). The PRD-venting direction is NOT INTERCEPTED by the excess flow limiter.

Detail of the excess flow limiter:




## ***MASS PRODUCTION FEATURES***

- Leakage test (max 15 Ncc/hour) with helium test-bench → 100% of production
- Serial number for traceability purposes → 100% of production (laser marking + barcode on adhesive label)
- One-piece-flow method → 100% of production (lean production)
- Cpk control→ O-Ring grooves (valve-body and components), piping connections, tank connection
- Packaging → single box (one valve each box), O-Ring for tank connection in single bag, protective caps on all the connections for preventing dust matters.