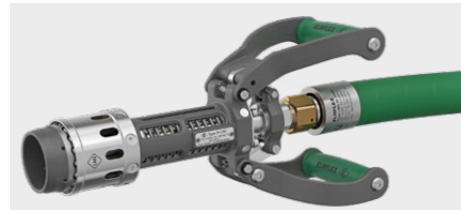




**NEWS
Update
2024**

LNG (Update N-LNG, FC-LNG)



N-LNG nozzle, LNG hose assembly



VC-LNG vent coupling, SB-LNG safety breaks



FC-LNG nozzle

CNG Hanging Hardware Set (N-CNG, SB-CNG, Twin-Hoses)



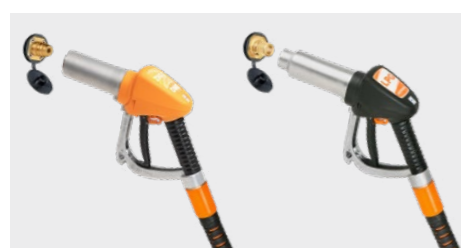
SB-CNG safety breaks, hose assemblies CNG

AdBlue® Harnstoff · Urea Solution



ZVA AdBlue LV and ZVA AdBlue HV nozzles

LPG · Liquefied · Petroleum Gas



ZVG 2 DME and ZVG 2 K nozzles

As a leading specialist for refuelling technology, ELAFLEX fully exploited its well-known competencies: consistent orientation of function and design towards the end user, uncompromising manufacturing and material quality, while ensuring fast and direct availability. The Elaflex **LNG Refuelling System** was developed explicitly for the **LNG truck refuelling** environment – its design details are validated in the tough everyday refuelling station environment.

The system consists of the **N-LNG Nozzle**, compatible **LNG 25 Fill Line** and **LNG 13 Vent Line** as well as accessories to protect the refuelling system against outer influences. The **SB-LNG Safety Break** protects the vehicle and LNG dispenser from drive-away incidents by separating and isolating the dispenser from fill or vent line. The **VC-LNG** vent coupling is used for the venting of LNG fuel tanks.

As an alternative to the N-LNG for high frequency refuelling operations we work on a **push-turn-style truck refuelling nozzle (FC-LNG)**. The function is similar to a **Dry Disconnect Coupling** – another field we are experts in.

ELAFLEX now offers a **complete hanging hardware set** for every **CNG refuelling** situation – **Nozzle, hose assemblies and Safety Break**. All from one hand.

The **N-CNG Nozzles** offers a **single-hand lever operation** and a **double axis swivel** for a most convenient user experience. Together with the newly available **CNG twin hoses** the solution combines high flow properties, effortless handling and a modern look. The **light-weight design** with **soft bump stop** of the **SB-CNG** protects the dispenser panels during operation and separation in case of a drive-away incident. It is easily re-connectable after a breakaway event. Different lengths options for the Safety Break allow a retrofit in existing installations.

The nozzle body of the ZVA AdBlue LV and ZVA AdBlue HV will be changed to a **'Composite Body'**. This will permanently optimise our nozzles in reliability and handling. The material changes from coated aluminium to composite. A new valve seat design will also be introduced.

DME is being discussed in the **LPG industry** as an alternative fuel to improve the ecological balance of LPG. It can be used as an admixture to LPG or as pure DME (100%). The challenge: DME is considered aggressive against elastomers i.e. seals or rubber hoses. The usual LPG equipment therefore is not suitable for use with LPG/DME blends and 100% DME.

Consequently, ELAFLEX offers adapted handling and **refuelling solutions for LPG/DME blends as well as 100% DME**, along its well-known established LPG equipment.

For 100% DME the ZVG 2 DME nozzle can be used, suitable for the corresponding receptacle geometry to ISO 21058. For LPG / DME blends we can offer the ZVG 2 ACME, DISH or EURO range with a matched sealing technology. Both fluids can be handled with our well-known EFL 16 hose assembly on the dispenser.

For dispensing of windscreen washer fluid from a dispenser, ELAFLEX has developed the non-automatic closing **ZV SW nozzle** which is especially suitable. It combines long service life with a high-quality look and easy handling comparable to conventional vehicle refuelling, even in cold ambient temperatures.

For refuelling trucks with Liquefied Hydrogen (**LH2**) or subcooled Liquefied Hydrogen (**sLH2**), ELAFLEX and MannTek have developed a **nozzle and receptacle**, based on the principles of a **Dry Disconnect Coupling**. The available system is completed by a hose assembly with a connection to the dispensing unit.

The system ensures an easy and safe refuelling operation without any residual gas release volume of hydrogen. The design of the nozzle and receptacle interface also offers a thermal insulation to minimise heat transfer into the refuelling system, keeping the outside warm to avoid surface condensation.

Next to the manual version, ELAFLEX offers a semi-automatic version (**N-LH2-P**): after the Push-Turn-connection the next steps – purging and refuelling, and subsequently closing and purging at the end of the process, are done automatically.

For loading and unloading of trailers with **compressed H2 hydrogen**, ELAFLEX has expanded its product range to include **cylinder valves** (½"), **trailer manifolds** (1"), **ball valves** up to DN 25 (1") and **quick couplings** (½") for the high-pressure range. This equipment allows much higher flow rates than conventional H2 refuelling components. Ball valve derivatives suitable for a cylinder settlement pressure of 380 bar (38.0 MPa). Quick couplings suitable for max. working pressure of 450 bar (45.0 MPa).

ELAFLEX also develops **quick couplings for higher storage pressures up to 700 bar (70.0 MPa)**. They will be suitable for the efficient loading and unloading of trailers.

For the **refuelling of vehicles with 350 bar hydrogen** ELAFLEX will offer a range of nozzles focusing on the **heavy duty application**. The range of nozzles are set to combine a robust and reliable user experience with high flow valving technology as well as a modern design. With or without integrated venting and communication hardware optionally available.

ELAFLEX, together with the industry, is pushing the limits of **compressed hydrogen refuelling for heavy duty vehicles**. The goal is to achieve refuelling stop times and fuel ranges for fuel cell trucks that are comparable to those of diesel trucks. To achieve this, both optimised hardware and refuelling protocols had to be developed.

Available for tests and demonstration projects: For peak mass flow rates of 300g hydrogen per second for 700 bar heavy duty vehicles ELAFLEX developed a nozzle as well as a receptacle. With this interface it is possible to **refuel 100 kg hydrogen** with a 700 bar tank pressure **in less than 10 minutes**.

Screen water



ZV SW nozzle

LH2 · Liquefied Hydrogen



N-LH2-P Pneumatic truck nozzle with hose assembly

TPED Trailer Equipment · H2



Ball Valves and Quick Couplers

H35 Truck Refuelling Nozzle



N-H2-H35 Hydrogen Nozzle with CH-H2 38 Cover Hose

H70 UHF Truck Refuelling Nozzle



N-H2-H70UHF Hydrogen Nozzle

ZVA 32 AF (non-ferrous metals)



ZVA 32 AF, EKG, GKG

The **ZVA 32 AF** is an automatic aviation nozzle capable of providing 200 l/min fuel. The nozzle is usable for civil and military fuelling application such as JET-A1 and AVGAS. All parts that are in contact with fuel are free of **non-ferrous metals**. The overall design complies to the requirements of **JIG and ATA Spec**.



new ELAFLEX DualSafe

ELAFLEX DualSafe double-walled hose and leak detection solution sets new standards for the handling of sensitive media and sustainably optimises value chains while meeting strictest safety requirements.

To fulfil the regulations for protection of drinking water at random places, the new **ELAFLEX DualSafe** in combination with our tightness monitoring system helps reduce effort and cost. It is suitable for a broad spectrum of applications such as ship bunkering or liquid logistics in sensitive environment without specific preparation. In combination with the ELAFLEX products dry disconnect and breakaway couplings a safe transfer system will be formed.

Available for ELAFLEX Yellow Band hoses like HD, TW or LTW and all chemical hoses acc. to **EN 12115** in sizes from DN 15 to DN 80. Thanks to the proven **leak detection system** from ELAFLEX Group's industry expert **SGB**, DualSafe can be used anywhere and significantly simplifies resource-planning processes.



H2 Hydrogen Hoses for Low Pressure

With the **H2 hydrogen hoses for the low-pressure range**, ELAFLEX supplies Ω/T connection hoses for the transfer up to 100% hydrogen. The continuous smooth inner lining enables a processing of hydrogen e.g. the chemical or steel industry. The robust hose construction with 60 bar (6 MPa) operating pressure has a very low permeation of $< 0.36 \text{ Ncm}^3/\text{h}$. The H2 hoses DN 13-50 are available with crimping ferrules, SPANNLOC or SPANNFIX clamps.



Rubber Expansion Joints ERV-H2+

The **ERV-H2+ rubber expansion joints** are suitable for the transfer up to 100% hydrogen as well as for 100% methane or other mixtures, so-called 'Hythane'. Due to their low permeation, they can be used for any kind of piping systems in the industrial sector and for ships. The operating pressure is 25 bar (2,5 MPa).



Customised Hose Reel and VR Hose Reel

As a leading **system supplier of customised Hose Reels** equipped with hose and coupling / nozzle for different media and application, we are the only company who also provide Hose Reels with and without vapour recovery system. The VR Hose Reel has an automatic spring-loaded rewind system and is suitable for COAX dispensing hose assemblies up to 20 m long. Furthermore we offer Hose Reels with bigger hose sizes from DN 50 (2") to 200 (8") and in many length. These versions are fully customisable and available with different rewind systems: manual, spring, motorised (electric, hydraulic or pneumatic).



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