

AIRCRAFT REFUELING

Equipment and Solutions



ELAFLEX – SAFETY IN YOUR HAND

About us

The **Elaflex Hiby Group** (EH) is the globally leading system supplier of safe and innovative refueling equipment. We offer highly developed and functional premium products for the aircraft refueling sector comprising hoses, couplings, overwing nozzles, hose reels and expansion joints, perfectly fitting to refuelers and dispenser vehicles. Together with our **EH group members Aljac and MannTek** we provide quality products for safe fueling on the airfield.

Aljac

is a global specialist supplier of safe and innovative aircraft refueling systems and equipment consisting a wide range of its own premium products and from internationally respected manufacturers. They offer fuel handling and hydrant equipment, underwing nozzles, bulk meters, hoses, filters, additive injectors, sampling systems, earth bonding, deadman and quality control equipment.

MannTek

is a renown manufacturer of 'DDC' Dry Disconnect Couplings for spill-free handling of liquids. For aircraft refueling, they manufacture the 'DAC' Dry Aviation Couplings for tank and logistics refueling and de-icing couplings and sampling units (hydrant valves) for airfields as well as safety breaks for depot applications.

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EXPERIENCE IN YOUR REACH

We stand for values which are typical of a family-owned company: the spirit of innovation, reliability, continuity and flexibility in thought and action. The collaboration with Aljac and MannTek allows us to further expand our aviation product range and global customer service.

Service to us means supplying a major part of our product range ex various stocks around the world with short lead times. We keep several hundred kilometres of hoses and several thousand couplings, nozzles and expansion joints permanently available ex stock.

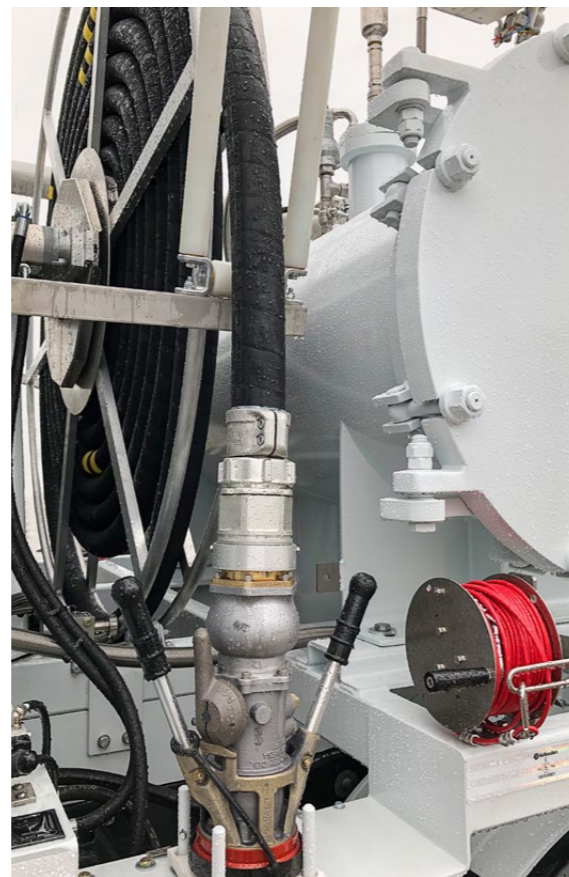
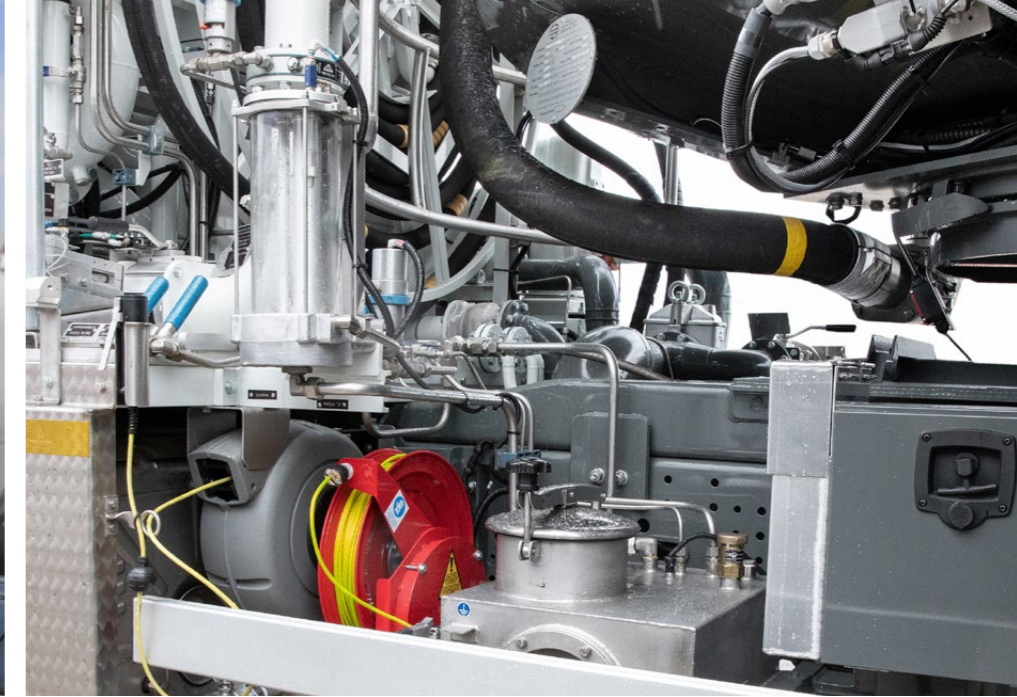
Working closely with operators, major oil companies and standard committees for 70 years, we know what matters for aircraft refueling equipment.

Our customers appreciate our know-how, quality engineered and durable products. A sound investment both in terms of performance and total lifetime cost benefits.

AVIATION GROUND EQUIPMENT

Refueling equipment must provide a high level of safety, not only on the airfield itself, but across the entire transport chain to the airport. Operators require that the equipment works reliably and will not contaminate the fuel according to EI 1530.

Our modular system, developed over the years, is important both for efficiency and for safe assembling.



Beginning of the Elaflex Aviation Business with the 'Berlin Airlift 1948'

Technical Competence and Customer Service

We aim to provide the most comprehensive range of the highest quality products and services to our clients, and wherever possible deliver equipment ex stock. Our range is one of the widest in the aviation refueling industry.

As a system supplier of aviation components we ensure compatibility and the possibility to combine complex and special customer design requirements, conforming to the latest aviation standards.

According to your own requirements, we supply either complete assembled products or single components for self-assembly by your trained personnel only.

Quality and Safety – You Can Rely on

Elaflex is an ISO 9001 certified supplier, authorised to test according to the European Pressure Equipment Directive and approved to AQAP-2130 for supplies to NATO-forces.

What does that mean to you? Quality and safety are always our top priorities – never the lowest price. This leads to our renown product reliability and durability. Due to local personal advice and close relationship with our customers we are able to understand market issues, and to provide solutions.

This expert knowledge flows into the improvement of our aviation hoses and couplings. 'Yellow Band' hoses are distinguished by their high operational safety requirements, set by standards, and far exceeded these (i.e. with abrasion and kink resistance).

We are participants in international standard bodies, IATA Strategic Partner and stay in close contact with JIG, A4A and operators. This plays a part in contributing to keeping up the official safety requirements for aircraft refueling hoses. Based on that, our philosophy is to be always better than the standard.





Assembling and Testing

Aircraft refueling standards and the JIG Guidelines recommend the purchase of complete hose assemblies. We therefore provide aircraft refueling hoses professionally assembled, and ready for use.

Our hoses are pressure tested twice before delivery, once after production and once after assembly with a test pressure of 40bar.

We check for hose or coupling leaks, bubbles, deformations, twist/torsion, elongation or other abnormalities.

All into-plane hoses (types C and F) have an electrical resistance between 1.000 and 1.000.000 Ohm which is checked after the pressure test.

A material certificate EN 10204 3.1 is issued.

Coding of Tested Hose Assemblies

All our aviation hoses are permanently marked with a batch number. All tested hose assemblies are coded with an additional unique serial number, testing date and test pressure.

The big advantage: Certificates are saved for at least ten years for hose traceability. They can be reissued at any time.

Training with the Market Leader

In the specialised sector of aircraft refueling only authorised staff should make up hose assemblies and test as well as repair and maintain nozzles and couplings.

We offer training sessions for personnel for the assembling and testing of our aviation equipment. A certificate is provided which attests the acquirments.

Our modular assembling system is easy to learn and service friendly for cutting back and reassembling a hose. We provide manuals issued in our catalogue or Elaflex information.

Please contact our sales team to enquire about training sessions, which can take place worldwide – at your premises, or at Elaflex.

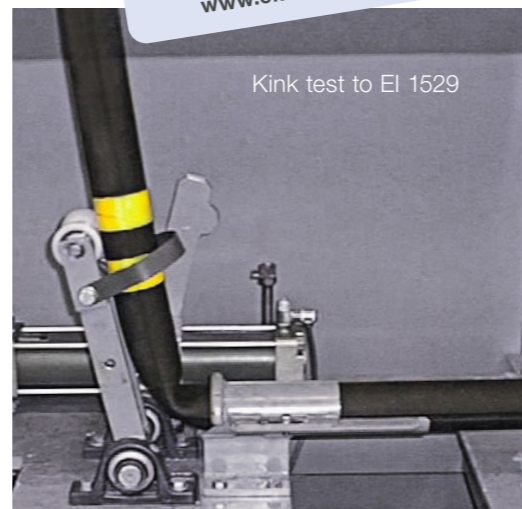
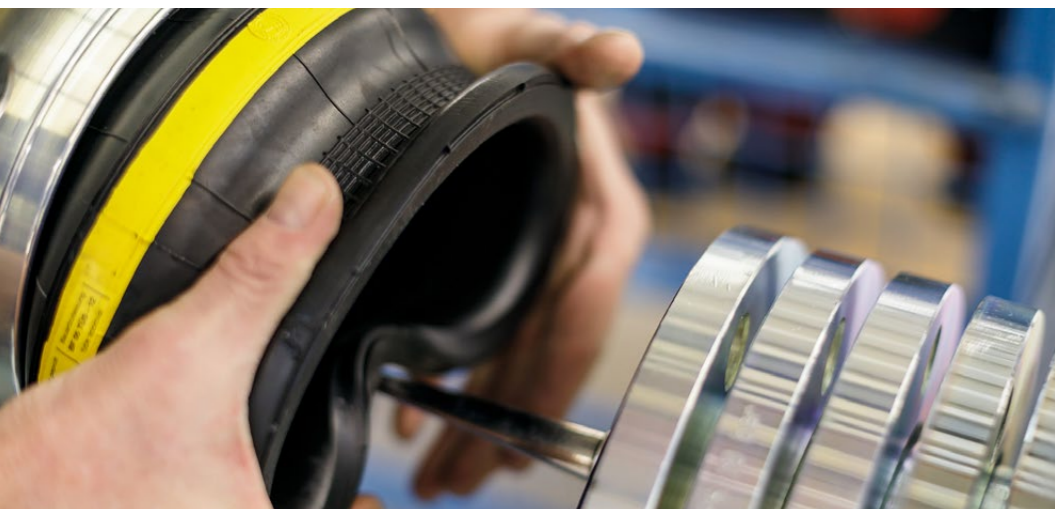
Always Up-To-Date

Within this leaflet, you will find references to detailed product information, manuals and technical data sheets.

On our website, information details, as well as our product configurators, are constantly updated.

The required information is just a few clicks away.

Technical and further information on www.elaflexus.com



WHY ELAFLEX SHOULD BE YOUR PARTNER

Elaflex aircraft refueling equipment are premium products. Our equipment has become the internationally recognised benchmark. Supplied from one source, companies and operators can avoid mixing up components with metric and imperial size definitions.

Experience and Know-How

- Applications in the aviation sector for over 70 years
- Reliable and renown system supplier with a technical service: professional advice, documentation, testing certification (audited to European Pressure Equipment Directive)
- Development and production to ensure a constant high quality and safety (know-how regarding hoses, couplings, flanges, nozzles or accessories, assembling, certification, testing and distribution)
- Elaflex quality philosophy

Superior Life Time

- Hoses and expansion joints made of high quality seamless chloroprene (CR) rubber cover compound
- A proven hose design with braided reinforcements, light weight and user-friendly hoses with burst characteristics that regularly exceed 100 bar
- Nozzles and couplings designed and produced in-house with continuous quality control
- Best Total Cost of Ownership and lower Carbon Footprint, exceeding average service life of nozzles, hoses and couplings
- Permanent testing of raw material properties – before and during production

Comprehensive Product Range and Wide Availability

- Large warehouse of hoses, couplings, flanges, nozzles and accessories, in required 'non-ferrous' materials
- Short lead times for standard types or special local requirements
- Global support by Elaflex subsidiaries and local distribution partners

Bodies and Committees

- IATA Strategic Partner
- Close cooperation with operators, major oil companies and international standard committees and organisations such as A4A and 'Joint Inspection Group' (JIG)

Easy Installation and Storage

- Self-assembling and repair of hoses, couplings and nozzles, with standard tools
- Modular system – perfect match of hose dimensions (EN ISO 1825) and couplings (EN 14420) with reusable safety clamps or nozzles
- Clear marking for traceability, Data Matrix Code (DMC)
- Hose ends must be capped when not in use to maintain their outstanding characteristics for years

Approved and Certified

- Elaflex aircraft hoses are certified by DNV GL confirming the requirements of EN ISO 1825/EI 1529 (7th edition) and AS 2683:2000
- ATEX approved nozzles

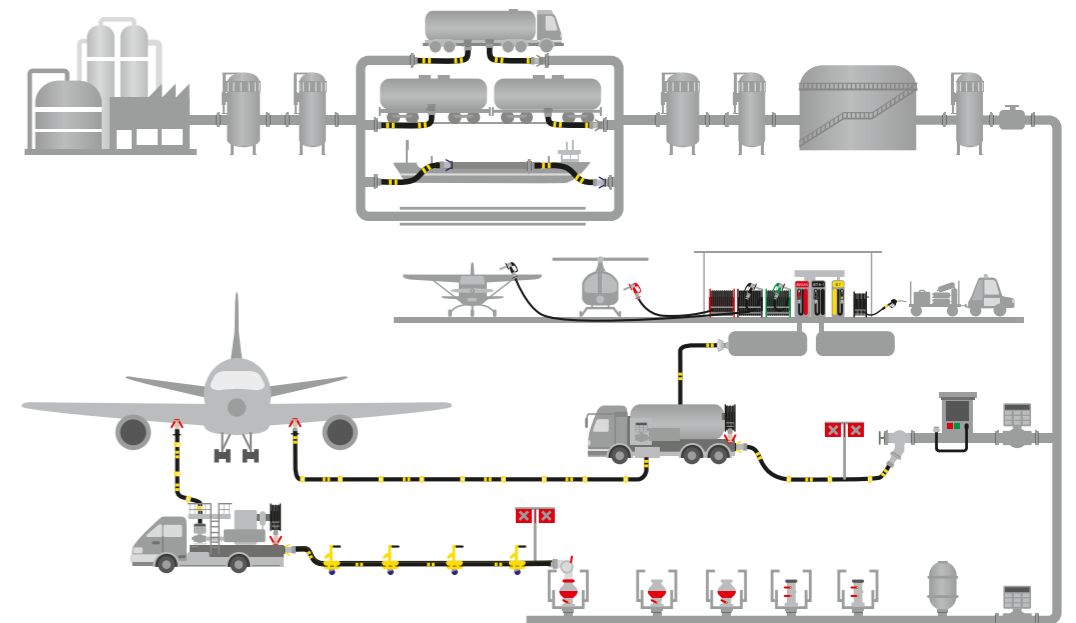


Nozzles

- Low pressure-drop, flow rates < 400 l/min.
- Repairable
- Colour coding to avoid misfueling
- Modular designed with sight glass for proper inspections

Durable Marking of Hoses and Couplings

- 'Yellow' or 'Neon' bands every 4 m
- Continuously, embossed marking showing standards, pressure rate, electrical conductivity, manufacturer, batch number and production date. Certificates as per EN 10204 3.1.





AIRCRAFT REFUELING HOSES

Our **'YELLOW BAND'** hoses comply with all relevant standards such as the latest EN ISO 1825/EI 1529. Suitable for all JET and AVGAS fuels. Working pressure 20 bar, burst pressure >80 bar. Their construction ensure safe operation and a superior lifetime. They are lightweight and highly flexible (also at low temperatures).

Our comprehensive aircraft refueling hose range is type approved by DNVGL acc. to EN ISO 1825:2011/EI 1529:2014 (7th edition) and AS 2683:2000.

HD-C

Catalogue page 107



Standard type for into-plane (reel and deck hose) and hydrant intake fuelling.

Type 'HD-C' with two textile braids. Lightweight and flexible, for pressure service. Without Helix.

Marking: 2 yellow bands every 4 m and continuous embossing.

VHD-C

Catalogue page 107



VHD WearAdvice®

Stronger type with three textile braids. More stability against kinking and flattening in non-pressure situations.

Type 'VHD-C' for lower bending radii and moderate suction rates. Without Helix.

Type 'VHD WearAdvice®', the first hose with coloured wear indicator as recommended by EI 1529.

Marking: 2 yellow bands every 4 m and continuous embossing.

PHD-F

Catalogue page 107



Special type for into-plane fuelling. Kink resistant due to non metallic plastic helix for both fuelling and defuelling operations. Low bending radii.

Type 'PHD-F' for defuelling.

Marking: 3 yellow bands every 4 m and continuous embossing.

TW-E

Catalogue page 107



Suction-/discharge hard wall hose with galvanised Steel helix. Suitable as bridger hose between truck and trailer. Best solution for riser systems and also for depot applications.

Type 'TW-E' for high suction and lowest bending radius. Not approved for into-plane and hydrant intake fuelling.

Marking: 1 yellow band every 4 m and continuous embossing.

Sensing Hoses



Type 'HD 10 C' suitable as sensing hose (air or fuel) for aircraft dispensers, supplied in differing coil lengths.

Marking with longitudinal yellow stripe.

Size DN 10

Depot Application

Composite hoses, catalogue pages 181 a-d



Quality from our daughter company Dantec (UK)

Additionally available:

Composite hose types 'FWS' (multi-layer thermoplastic hoses with internal and external helix) for loading and unloading of road tankers and storage tanks at depots.

Delivered as complete and tested hose assembly, suitable for aviation fuel.

i 'NEON' Reflecting Hose Marking

for highest safety requirements on the airfield

Most of our hoses are provided with a special 'NEON' reflex marking to increase safety on the airfield, especially in low light situations or even with trolleys mounted. They help to prevent accidents, injuries and damage caused by service vehicles.

'NEON' type with reflecting bands ≤ DN 75 (3").

Optional: Hydrant intake hoses in DN 100 (4") with 'NEON' marking in spiral form.



Special Type

All our aviation hoses are also available as **'LT' Types** (Low Temperature). Unrivalled flexible performance in extremely cold regions such as Scandinavia, Russia or Arctic regions.

Produced as a special soft and cold flexible version without cracking at temperatures down to -50°C (-58°F).



THREADED AND FLANGED HOSE COUPLINGS

Safeguarding media purity, Elaflex hose couplings with BSP or NPT threads are available in Stainless Steel or tin-plated Brass ('Sn') as recommended by JIG guidelines. They prevent contact of aviation fuel with non-ferrous metals. Assembled with SPANNLOC/SPANNFIX clamps or crimping ferrules. Most types are available ex stock.



SPANNFIX 'NR' Safety Clamps

non-reattachable type
guaranteed fit · approved
Catalogue pages 297 a - d

Elaflex hose connectors are engineered in-house and designed to perfectly fit with hose dimensions, enabling safe and correct assembling of the hose tails. Tightness under pressure and pull off values are the same for all Elaflex connector types.

SPANNFIX NR: 'SX...NR' pinned safety clamps to EN 14420-3 of hot stamped Aluminium, locking pin of Stainless Steel.



SX ... NR AI

Advantages:

self-assembly, non-reattachable, non adjustable, tamper-proof.

i Also available: Reusable pinned safety clamp type 'SX'

Recommended alternatively instead of crimped couplings.

Crimping Ferrules

Catalogue page 297 a

The safety crimping ferrule 'SH' of Stainless Steel 1.4301. Non-reusable, non adjustable. For assembling, crimping machine, crimping parameters and special workshop tools required.



SH ... SS

SPANNLOC Safety Clamps

i guaranteed fit · easy assembling
reusable system · approved
Catalogue pages 297 a - d



SC ... AI
(Standard)



SC ... SS

Widely used for aircraft hose assemblies.

SPANNLOC: 'SC' bolted safety clamps to EN 14420-3 and VG 85328 of hot stamped Aluminium or Stainless Steel, bolts and nuts of Steel ZnCr or Stainless Steel.

Advantages:

- Self-assembly and repair in the field
- Reusable
- Adjustable
- No special tools needed for assembling
- Compliant with standards, from our own production

Flanged Hose Couplings

EN 14420-4/DIN 28460
with SPANNFIX/SPANNLOC/Ferrules
Catalogue pages 271-285



SF ... SS



FF ... SS

Swivelled ('SF') or fixed ('FF') hose flanges to DIN/ASA/TW (AI), usually made of Stainless Steel (if in contact with aviation fuel). Suitable for all safety clamps or ferrules.

Commonly used as connection for riser systems (platforms), deck or hydrant intake hoses.

Working pressure: 20 bar.

Standards: EN 14420-4; flanges to EN 1092-1 or ASA (ANSI B 16.5), DIN 28460 (TW)

Threaded Hose Couplings

EN 14420-5, with SPANNFIX/SPANNLOC/Ferrules
Catalogue pages 221-229



M ... SS/AI



V ... SS/AI

Female ('M') and male ('V') hose couplings (BSP or NPT thread) with integrated hose tail.

Following the highest safety requirements of the aviation sector, couplings available in Stainless Steel, tin-plated Brass ('Sn' version) – no fuel contamination.

HIFLO AVIATION NOZZLES

Our aviation fueling nozzles for overwing and helicopter services exceed expectations with superior handling. Elaflex is best known for its extensive nozzle range, designed to suit a wide array of fueling/defueling applications. Available in several types and sizes, our nozzles are manufactured according to current standards or aviation guidelines. Suitable for various fuel qualities as JET A-1, AVGAS and unleaded (UL 91) fuels.



Patented -
EP 2574597
and US 9051164.

ZVF 50

Catalogue pages 541 a-d; Information 5.13 E



Most advanced HiFlo aviation nozzle for overwing and helicopter refueling, made of non-ferrous metals. Ergonomically designed with excellent features:

- Low weight & light lever action incl. LeverAssist®
- Flow rate up to 400 l/min. and sensitive flow control, minimised pressure shock
- Integrated bumpers with clear colour coding to avoid misfuelling: black = JET/red = AVGAS/green = UL
- Improved spout change system with threaded (SIC) or timesaving Push-Twist-Lock (PTL) connection
- Integrated easy rotating swivel
- Optional integrated Sight Glass

Nozzle Boot 'NB-ZVF 50':

For easy installation of ZVF 50 nozzles on board of refuellers and dispensers. Available with different types of sensors for interlock systems. With or without spout retainer for quick spout change.



ZVF 25

Catalogue page 537

HiFlo nozzle, manually operated, made of non-ferrous metals. Size DN 25 (1"). For AVGAS and JET fuels, gasoline, diesel, fuel oil, petroleum & motor oils. Fuel up to 140 l/min. Working pressure up to 3,5 bar (50 psi), with stronger spring EF 362.6 up to 5 bar.



ZVA 25 AF

Catalogue page 525

HiFlo automatic nozzle DN 25 (1"), made of non-ferrous metals, flow rate up to 140 l/min. Working pressure 0,5 - 3,5 bar. Special type up to 5 bar.

For AVGAS and JET A-1, gasoline, diesel, fuel oil and petroleum.



ZVA 32

Catalogue page 529



HiFlo automatic nozzle DN 32 (1¼"), flow rate up to 200 l/min. Working pressure 1,5 to 6 bar.

For AVGAS and JET A-1 as well as diesel, light fuel oil, and petroleum.

ACCESSORIES AND SPARE PARTS – AVAILABLE EX STOCK

GKG, EKG & ER



All aviation fuelling nozzles available with/without ground cable assemblies (EKG) and dust caps (GKG).

Easy maintenance with spare parts such as spouts (ER) and strainers.

Defuelling rubber spout (SRG 32)

i Swivels & Sight Glasses

Catalogue pages 363 + 531



Easy rotating hose swivels available in different materials, sizes, with BSP or NPT threads to ensure easy handling.

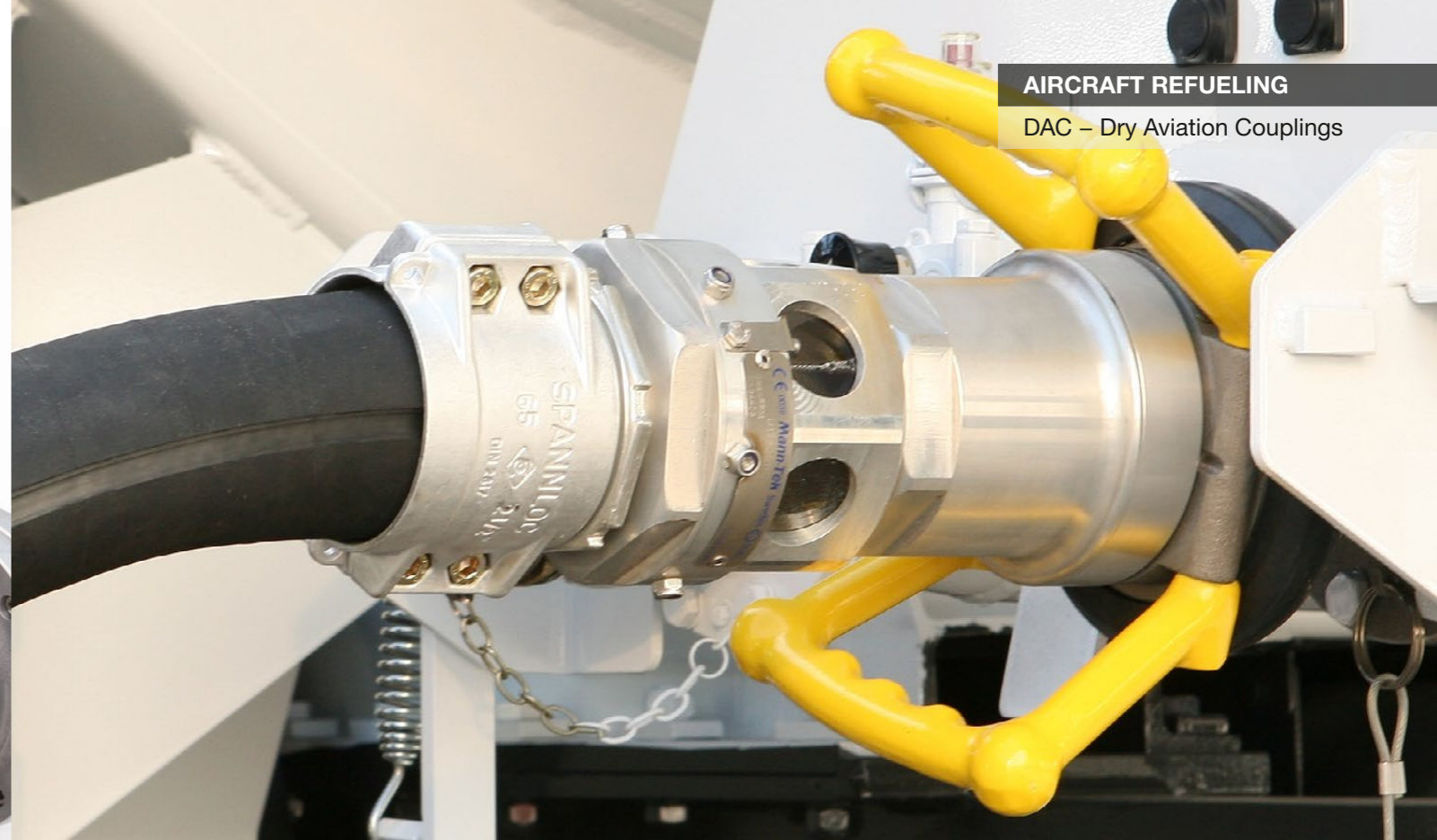
Sight glasses to simplify inspection and cleaning. Available for all nozzle types.

'DAC' DRY AVIATION COUPLINGS

MannTek Dry Disconnect Couplings are suitable for wet hose systems under pressure – quickly, safely and without product loss. 'DAC' couplings to ISO 45/STANAG 3105 are specially designed for handling aviation fuel and are used at any point aviation fuel transport. They are available with threaded and flanged connections, for both hose unit and tank unit. Not approved for underwing refueling.



For more information please see our brochure 'MannTek – DAC Dry Aviation Couplings'



AIRCRAFT REFUELING
DAC – Dry Aviation Couplings

i DAC

Self-locking quick connect/disconnect coupling for aviation fuel to ISO 45 and STANAG 3105 with DN 65 (2½") connection. Max. working pressure 10 bar.

Weight optimised. Weather-resistant and electrically non-conductive robust rubber protection ring. Inner cam curve protected from external impact. Non-ferrous metal parts in contact with the media.

Supplied with Elaflex aviation hose assemblies for aviation fuel logistic applications such as loading and unloading of road tankers or loading arms to mobile and stationary tanks.

DAC-M 65 AL

Catalogue page 345

Female coupler (hose unit) to ISO 45/STANAG 3105 with integrated swivel. Male and female threads with BSP, NPT or flanged connection.

Optional with threaded sight glass for easy strainer inspection.



FFBV Full Flow Ball Valves



Ball valves for road tankers and aviation refuelers/dispensers. Suitable for mineral oil products.



DAC-V 65 AL

Catalogue page 347

Male coupler (tank unit) to ISO 45/STANAG 3105 with different flanged connection. Also available with threads.

i Special Equipment



De-icing vehicles equipped with 2" and 2½" 'DDC' Dry Disconnect Couplings and e.g. 'CHS' hose.



Airport hydrant system using **hydrant valves** (draining) at low and high points.

'SBC' **Safety Breakaway Couplings** from 1" - 12" with integrated shut-off valves to protect hose assemblies and depot loading arms against excessive loads and product spill caused by drive-away incidents. Available with female or male thread (EN ISO 228 or NPT) or flanged (DIN, ASA).

Available Release Systems:

'SBC' Breaking Pin release by lateral force.

'SBC-C' Release by Cable, independent from hose line pressure and lateral force.



RUBBER EXPANSION JOINTS

'ERV' Rubber Expansion Joints are components for the installation into pipe systems of i.e. road tankers and depots. They are used to reduce vibration and noise, for the compensation of movements and assembly inaccuracies, as well as pipe insert pieces to facilitate inspections.

Our 'ERV' expansion joints are distinguished by a large axial, lateral and angular range of allowable movements, low reaction forces and low inherent resistance. They are perfect noise dampers and ideally qualified to reduce vibrations – the major part of the piping's structure-borne noise and the low-frequency noise generated by fluids is eliminated. Due to swivelling flanges and smooth bolt holes assembling is easy. A high burst pressure, integrated sealing surfaces with a wire core and a premium quality production are advantages which ensure a long service life.

Special Type 'ERV-G AF' is the first expansion joint that has a lining in compliance with the limit values for fuel-soluble matter, fuel contamination and fuel discoloration according to EN ISO 1825/EI 1529.



ERV-G AF



Special type 'ERV-G AF' is suitable for piping systems of aviation refueling or dispensing vehicles in accordance to EN ISO 1825/EI 1529. Suitable for all aviation fuels.

Liner: NBR (nitrile), seamless, abrasion resistant

Reinforcement: PA textile cord

Cover: Chloroprene CR, ozone resistant

Electrically conductive.

Temperature range (depending on medium) -40°C up to +65°C.

Available in DN 80 – 150 mm

i Flanges

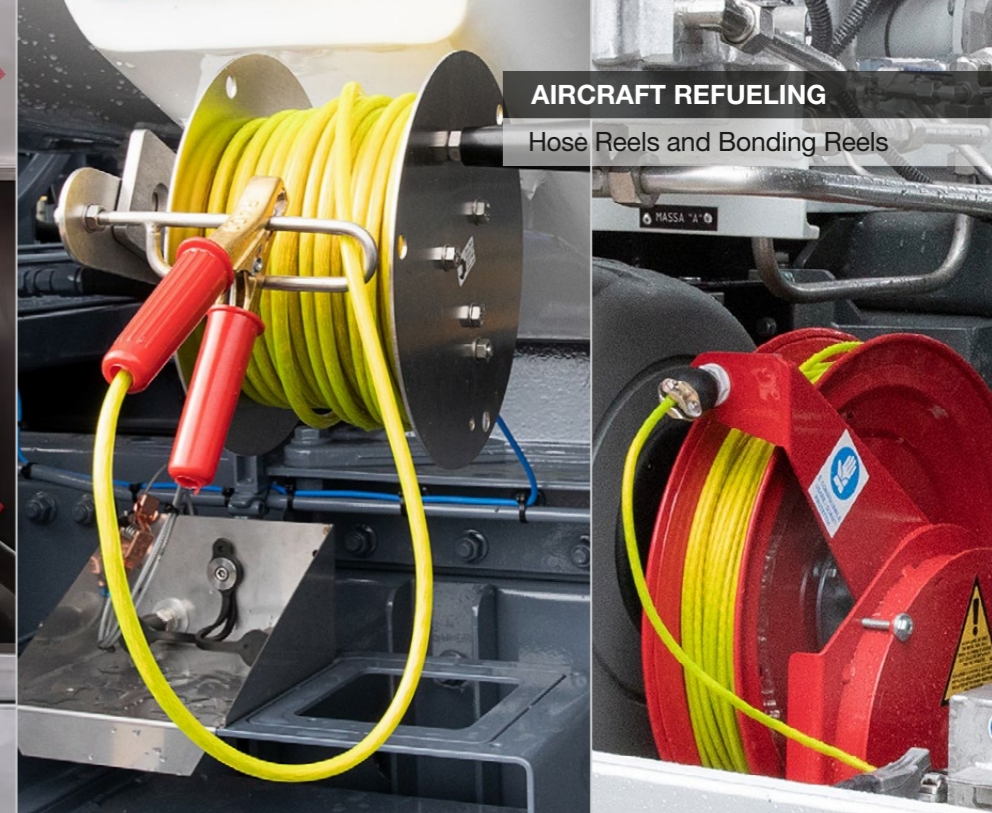


For the choice of flanges a great variety of combinations concerning connection dimensions, materials and coatings is available.

Flanges: To **DIN 28460 'TW'**, **ANSI B 16.5 150/300**, DIN PN 6/10/16/25, BS 10 table D/E/F, VG 95959, JIS 5K/10K/16K, SAE J518c, AS 2129

Flange materials: Zinc plated Steel, hot galvanized Steel, Stainless Steel, Bronze, Aluminium.

Coatings with Rilsan® and PUR painting possible.



HOSE REELS FOR AVIATION

We supply our Hose Reels (HR) as a complete customised package for refuelers, dispensers or stationary refueling units at airports. All components are manufactured by Elaflex, assembled, tested and certified.

They are modular designed to your space requirements and produced to the renown high Elaflex quality standard, compliant with CE regulations and meets with European health, safety and environmental standards.

Equipped with our bespoke hoses, couplings or overwing nozzles. Available in different configurations with e. g. manual rewind, spring rewind or electrical rewind system.



Standard Reels or Custom-Made

HR Information 01-06

Materials used in the HR construction are carefully chosen for each application, with options in Polyester Powder Coated Carbon Steel to any colour, Aluminium or Stainless Steel 304 and 316 L in any colour for more demanding conditions.



Bonding Reels

Aijac Information DSS0210-14

Manually operated Bonding Reels are utilised as earthing and bonding between refueler or dispenser and aircraft. High visibility bonding cable, up to 15 m or 40 m and different types of clamps.

Stainless steel is used for all other major components.



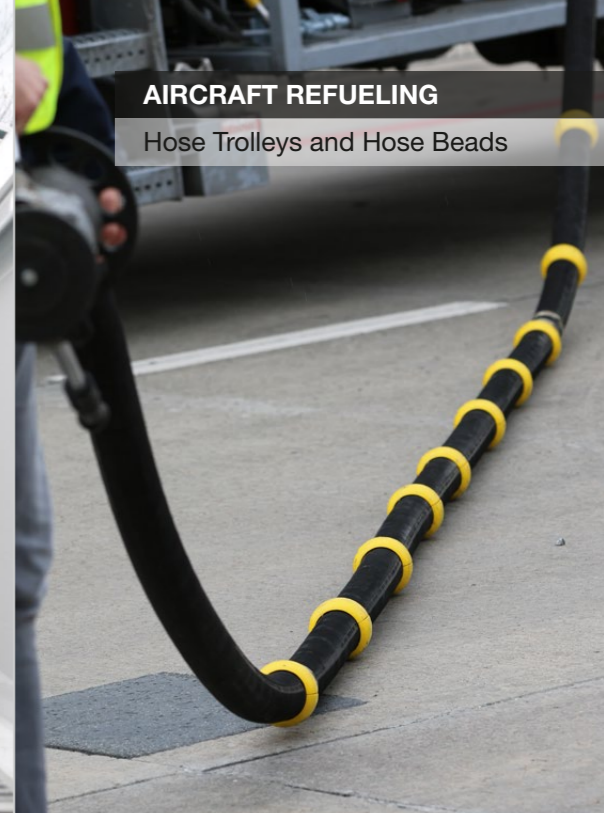
Elaflex Bonding Reels are utilised as earthing and bonding between refueler or dispenser and aircraft, operated with spring rewind mechanism.



i Advantages of our Hose Reel Package

- Four components – one supplier, one system, one liability, one certificate, one price
- High quality standard, longevity
- Many options, modular designed to suit your space, media and requirements
- Delivery as complete tested system including hoses, couplings and nozzles





HOSE TROLLEYS AND HOSE BEADS

Hose Trolleys and Hose Beads are intended to assist in gliding or easy moving hoses over the airport apron, preventing excess abrasion of the hose cover, and to enhance visibility of the hose during operation.

The Hose Trolley 'HTR-AF' comes with robust free moving wheels to handle heavy duty hydrant intake hoses.

Our 'BD' Hose Beads fulfil all EI 1522 requirements and are made as a two piece click together assembly without any additional components.

Hose Trolleys 'HTR-AF'

For a safe and easy guidance of refueling hoses on airfields, our Hose Trolley 'HTR-AF' is made by Elaflex and suitable for every vehicle. It is brightly coloured to increase visibility on the ground. The height and shape of the hook can be modified according to customer request, available with fixed or swivelled handle for easy hose movement.

Different materials available such as Polyester Powder Carbon Steel, Stainless Steel or Aluminium.



'BD' Hose Beads

We have developed 'BD' Hose Beads for aircraft refueling hoses and the specific use on airfields. They fulfil all requirements of the EI 1522 standard. These include flame resistance, impact damage tests (100 drop cycles of a filled hose assembly from 2m height), not using small fastening components (i.e. screws, bolts, cable-ties), manufacturer's certificate confirming no generation of incendive discharges (based on IEC 60079-32-2). In addition, a daily visual test of the hose is required by JIG and other guidelines. Spiral wraps often cover a large part of the hose, preventing early recognition of hose weaknesses or damage.

Our 'BD' Hose Beads meet all requirements of the EI 1522 standard and are easy to assemble:

- Available in DN 38, 50 and 63
- Notably improved hose handling due to reduced friction
- Protection against hose abrasion
- Highly break resistant
- 'Click-Fix-Design' that does not contain bolts or nuts
- Can be easily assembled and disassembled with ELAFLEX tool EW 39 and standard water pump pliers (required by JIG for the 6-month inspections)



Elaflex tool EW 39
for easy disassembling





MEMBER OF THE
ELAFLEX GROUP

ALJAC EQUIPMENT

We aim to provide the most comprehensive range of the highest quality products and services to our clients at competitive prices, and wherever possible deliver equipment ex stock. Our range is one of the widest in the aviation refueling industry and is underpinned by premium quality branded products from internationally respected manufacturers.



CLOSED CIRCUIT SAMPLERS



The accepted method of checking aviation fuel cleanliness is the 'clear and bright' test, often done using a bucket or glass jar. This method risks sample contamination and operator exposure to fuel. The Aljac Closed Circuit Sampler (CCS) has been developed to overcome these problems and actually improves sampling procedures, and as a result it is now an industry standard.

The CCS is available with BSPP or NPT threads and has options for Water Detection and temperature and density checks.

LARGE SAMPLING SYSTEMS



Aljac manufactures a range of large sampling systems designed for applications where large volume samples are required or where the sampling station is some distance from the sample point.

The 80/160 litre range is often mounted adjacent to large bulk storage tanks where large sump volumes require regular sampling.

Bespoke systems incorporating a flush tank and sampler are available for remote installations, these meet the requirements of JIG 2, Appendix 10.

BONDING REELS



When transferring flammable liquids or powders at high flow rates it is essential that adjacent system components are electrically connected, or bonded, in order to reduce the risk from potentially explosive static electrical discharges. Traditionally this connection has been achieved using a bonding clip and cable stowed on an electrically conductive reel.

Aljac Bonding Reels are manufactured from Stainless Steel and available in 15m and 40m sizes. Bonding cable and a variety of bonding clips are also available.

DEADMAN EQUIPMENT



The Aljac Deadman Handswitch and accessories provide intrinsically safe electric control, usually connected to a pneumatically operated valve. This is now the most widely used method of controlling aircraft refueling from either bowsers, hydrant dispensers, or fixed systems and tanker loading and offloading operations.

Holding the handswitch begins operation while releasing the handswitch invokes the 'deadman' principle and will close down the operation, terminating flow.

LANYARD CABLE REELS



Used for closing Hydrant pit valves remotely in an emergency, independent from the deadman system.

HYDRANT PIT BOX



Aljac has developed a Hydrant Pit Box to complement their range of equipment for installation on Airport Fuel Hydrants. The Hydrant Pit Box has been designed for easy installation by contractors and operation for fueling operators.

It has incorporated options (i.e. lift out lid or fully layflat hinged design) to ensure its re-configuration in situ after installation in order to accommodate changing requirements.

The two piece environmental design ensures that the integrity of the fuel hydrant system is maintained in the event of ground shift or settlement post construction.

UNDER HYDRANT BALL VALVE



The Aljac Under Hydrant Ball Valve is used as a shut-off valve between the fuel hydrant pipework and the Hydrant Pit Valve. It enables operators to isolate the Hydrant Pit Valve from the fuel hydrant pressure. This occurs in cases of major maintenance or in the event of 'internal to atmospheric leakage' of the Hydrant Pit Valve.

As it was common practice in the past to directly connect the Hydrant Pit Valve to the fuel hydrant pipework, the Aljac Under Hydrant Ball Valve can be installed in conjunction with the current, shorter design of Hydrant Pit Valves (such as Eaton's Carter® model 60554).

OUR ELAFLEX US PRESENCE FOR YOU

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Our Global Presence For You

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