LEES Corporation

ELAFLEX

Product Catalogue

Fluid Transfer Solutions (Fuel · Chemical · Gas) Product Catalogue

Standards: EN 12115 · EN 14420 · EN 1092-1 · EN ISO 1825 · ATEX · PED 2014/68/EU

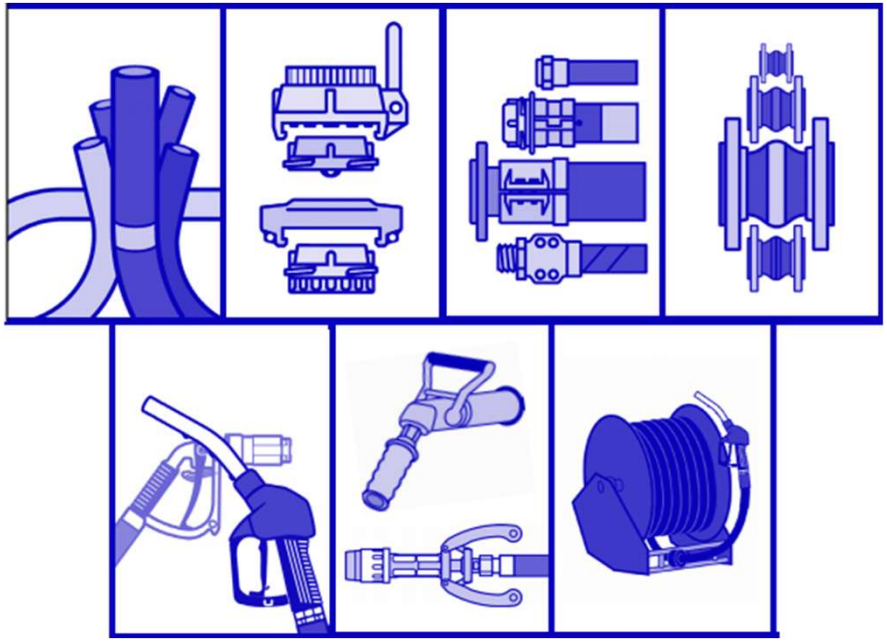
Lees Corporation is the official ELAFLEX Group distributor in Korea.

Lees Corporation

Since 1987 | Gimpo, Korea

28 Yongdu-ro, Daegot-myeon, Gimpo, Gyeonggi-do

lees@leescor.com | 02-2643-4515



ELAFLEX Group · Fluid Transfer Product Line

Contents

01 Lees Corporation × ELAFLEX

02 Why ELAFLEX

03 Hose Construction Quality

04 Target Industries

05 Product Range Overview

06 Alternative Fuel Equipment

07 Cryogenic & Special Gas

08 Chemical & Pharma Hoses

09 Safety Couplings & Expansion Joints

10 DualSafe & Leak Prevention

11 Petrol Station Technology

12 Hose Specifications

13 Hose & Tank Couplings

14 Hose Reels

15 Package Solutions

16 Contact & Inquiry

Lees Corporation × ELAFLEX

An official partnership for the Korean fluid transfer market

Lees Corporation

Since its founding in 1987, Lees Corporation has built fluid transfer engineering capability across pressure vessels, industrial filters and aviation refueling systems.

Our manufacturing and quality system is based on ASME U-Stamp and National Board certification, backed by a customer network across Korean refining, petrochemical, power and terminal sites.

ELAFLEX Group

Founded in Hamburg, Germany in 1923, ELAFLEX Group has over 100 years of expertise in fluid transfer hardware.

Through its six group companies — ELAFLEX HIBY · Dantec · MannTek · SGB · ditec · Oasis — it supplies hoses, couplings, nozzles, expansion joints, hose reels and leakage detection as a single product ecosystem covering the entire fuel, chemical and gas transfer chain.

Why ELAFLEX

Not single parts, but a verified safe transfer system

Supplied as a system

Hose · coupling · nozzle · Dry Disconnect / Breakaway · Expansion Joint · hose reel · leakage detection are supplied as one assembled system. Interface compatibility between components is secured from the design stage.

Not price, but total cost

Considering not just the component price but technical support, product reliability, service life and performance, ELAFLEX is the most reasonable choice.

Proven safety design

Safety functions are built into the product structure: leak-free disconnection with Dry Disconnect, automatic shut-off with Safety Breakaway and continuous leak monitoring with DualSafe. The hose itself is built with a seamless inner layer and cross-braided reinforcement (see p.5).

International standards & new industries

Meets EN 12115 · EN 14420 · EN ISO 1825 · ATEX · PED and FDA/USP hygienic grades, with hydrogen, LNG, CO_2 and ammonia transfer products already in the commercial line-up.

Total cost = *purchase price + replacement cost + leakage & disposal + downtime loss + accident risk*

Quality proven by hose construction

Inner layer and pressure carrier design of ELAFLEX hoses

Inner Layer



Inner layer with a seam (example)



ELAFLEX: seamless extruded inner layer

ELAFLEX advantage

Extruded without a seam, reducing stress concentration points and overlaps · uniform wall thickness and a smooth bore designed to lower pressure loss

Pressure Carrier



Spiral-wound construction (example)



ELAFLEX: two-ply cross-braided

ELAFLEX advantage

Robust construction with excellent flexibility · minimal expansion and torsion under pressure · strong bonding between rubber layers

Standard-compliant quality *— laser thickness measurement · permanent marking (batch number · colour code · production date) · strict fitting quality control.* ***"Made in Germany"***

Target Industries

Applied across fluid transfer sites where safety is critical

Refining & Petrochemical

Refining & Petrochemical

Road-tanker loading and unloading, plant piping, maintenance and replacement (MRO). Centred on the Ulsan, Yeosu and Daesan industrial complexes.

Key products: Chemical hoses · DDC / SBC · ERV

Power & Energy

Power & Energy

Fuel, oil and cooling-water transfer, plant maintenance, co-firing with new fuels (ammonia · hydrogen).

Key products: Industrial hoses · couplings · expansion joints

Terminal & Marine

Terminal & Marine

Tank-terminal handling, ship bunkering, ship-to-ship transfer. Compliance with environmental and dangerous-goods regulations.

Key products: DualSafe · composite hoses · PERC

Special Gas & Hydrogen

Special Gas & Hydrogen

Industrial gas filling and transfer, hydrogen refuelling infrastructure, CO_2 capture (CCUS). A growth field.

Key products: Cryogenic couplings · high-pressure nozzles & valves

※ *The industry categories and application examples above are general reference information; actual suitability depends on the medium and conditions and should be confirmed with Lees Corporation.*

Product Range Overview

Product areas covered in this catalogue (numbers = contents sections)

06

Alternative Fuel Equipment

H_2 · CNG · LNG · LPG

07

Cryogenic & Special Gas

CO_2 CCUS · Ammonia

08

Chemical & Pharma Hoses

Chemical & Pharma

09

Safety Couplings & Expansion Joints

DDC · SBC · PERC · ERV

10

DualSafe & Leak Prevention

DualSafe · SGB

11

Petrol Station Technology

Petrol Station

12

Hose Specifications

Hose Specifications

13

Hose & Tank Couplings

Couplings

14

Hose Reels

Hose Reels

Alternative Fuel Equipment

Hydrogen (H_2) · CNG · LNG · LPG dispensing & transfer hardware

H_2

Hydrogen

Gaseous 350/700 bar nozzles (N-H35, N-H70) · liquid LH_2 cryogenic couplings (-253 °C)

CNG

Compressed Natural Gas

N-CNG nozzle (NGV1), Ultra Fast Fill system, trailer breakaway

LNG

Liquefied Natural Gas

N-LNG / FC-LNG nozzles, -196 °C cryogenic couplings, PERC emergency release

LPG

Liquefied Petroleum Gas

ZVG 2 nozzle (ACME / DISH / K / EURO), ARK 19 safety break



Hydrogen hose (H2 D/S)



LPG hose (LPG / LPGS, Orange Band)

Cryogenic & Special Gas Transfer

CO_2 CCUS · ammonia handling · carbon-neutral new industries

CO_2 (CCUS)

Transfer solutions across the whole carbon capture, utilisation and storage chain. Preventing dry ice (solidification) under low temperature and pressure is the key challenge.

Danchem PA SS

Cryogenic composite hose, DN 25–250, -104 to -80 °C

CBC

Cryogenic breakaway coupling, up to 8", -196 °C

DCC

Dry Cryogenic Coupling, ISO 21593/18683



Cryogenic & special gas composite hose

Ammonia (NH_3)

A next-generation hydrogen carrier and fertiliser feedstock. Ships carry it at -33 °C, while rail and road transport uses ambient temperature at 8 bar.

AMX rubber hose

DN 13–50, for road / rail tankers

DGC / SBC (MannTek)

Dry Gas Coupling, Safety Breakaway

PERC

Powered emergency release for ship-to-ship transfer



Ammonia hose (AMX, Green Band)

Chemical & Pharma Hoses

Chemical-resistant rubber / composite hoses and hygienic-grade piping solutions

Chemical

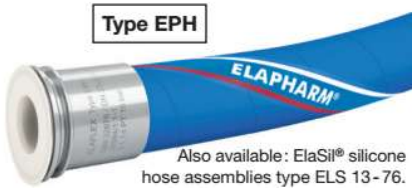
- ELAFLON PTFE/FEP · UTD/UTS/UTL : general chemical-resistant hoses (EN 12115)
- PAL series : traditional chemical hoses by application
- Dry Disconnect · Safety Breakaway couplings (STANAG 3756)
- ERV expansion joints, hygienic / standard nozzles



ELAFLON / UTS · UTD · UTL chemical hoses

Pharma & Bio

- ELAPHARM® : PTFE lining, hygienic crimping with no dead space
- ElaSil® silicone hose : FDA/USP Class VI, autoclavable
- Hygienic couplings : Tri-Clamp (DIN 32676), Aseptic (DIN 11864)
- All products with FDA/USP-compliant lining, tested before delivery



ELAPHARM® hygienic hose for pharmaceutical use

Safety Couplings & Expansion Joints

Dry Disconnect / Safety Breakaway couplings · ERV expansion joints

DDC

Dry Disconnect Coupling

Connect and disconnect under pressure with minimal leakage. STANAG 3756.

SBC

Safety Breakaway Coupling

Automatic release at a set force with both valves closing

PER C

Powered Emergency Release

Powered emergency release for ship-to-ship (STS) transfer, SIL-2 class

ERV

Rubber Expansion Joint

Reduces piping vibration and noise, 13 types by medium



MannTek DDC / DGC / DAC



ERV Expansion Joint (Red Band)

Type	Size (DN)	Max. working pressure
Dry Disconnect (DDC)	DN 25 – 200	25 bar
Safety Breakaway (SBC)	1″ – 12″	25 bar (by size & material)
ERV (Expansion Joint)	DN 25 – 1000	6 – 25 bar

DualSafe & Leak Prevention

ELAFLEX's newly developed double-wall hose + SGB leak detection

DualSafe double-wall hose

Construction: inner hose + outer hose + monitoring space + leakage detection unit
Application: ship bunkering, liquid transfer in environmentally sensitive areas (DN 15–80)
Compliance: meets environmental and dangerous-goods transport regulations (e.g. German GGVSEB)

SGB leak monitoring

Scope: 100% continuous monitoring of the inner and outer walls of double-wall tanks and piping
Principle: vacuum (negative) or positive pressure based, meets EN 13160 Class I
Products: VLXE series (including explosion-proof types, ATEX Zone 1/2)
Track record: several hundred thousand units installed and operating since 1962



DualSafe double-wall hose assembly + SGB leak monitoring unit

Petrol Station Technology

ZVA nozzles · Slimline hoses · safety break couplings

Dispensing (customer side)

ZVA Slimline 2 / ZVA 25 / ZVA 32 automatic nozzles, vapour recovery (VR) ready

AdBlue® dispensing

ELAFIX 40 magnetic adapter for misfuelling prevention + ZVA HV/LV nozzles

Road tanker transfer

TW couplings (EN 14420-6), Dry Disconnect couplings, Yellow Band hoses

Protection & safety devices

SSB safety break coupling (drive-off protection), sight glasses



ZVA Slimline 2 automatic nozzle

Nozzle type	Flow rate	Pressure
ZVA Slimline2/25/32	80–200 L/min	0.5–6 bar
Bulk delivery (ZV400/500)	250–650 L/min	≤10 bar
LPG (ZVG 2)	≤50 L/min	25 bar
AdBlue® (ZVA HV/LV)	10–40 L/min	0.5–3.5 bar

Hose Specifications

Typical sizes (DN) and maximum working pressure (bar) by application



General-purpose tank hose (Blue-White-Blue, UTS)



ELAFLON / chemical hoses

Application	Typical size (DN)	Max. working pressure
Road & rail tanker (HD/TW/STW)	DN 10 – 200	15 – 25 bar
General chemical & petroleum (UTS/CHS/PTFE etc.)	DN 13 – 150	16 bar
LPG · ammonia · hydrogen hoses	DN 13 – 200	25 – 60 bar
Bunkering & composite hoses (FHD/FWS)	DN 75 – 300	14 – 15 bar
Steam hose (SD)	DN 13 – 50	18 – 25 bar
Aircraft refuelling (HD-C/VHD/TW-E)	various standard sizes	up to 20 bar

Common standards: EN 12115 (chemical) · EN 1761 (road tanker) · EN 1762 (LPG) · EN ISO 1825 (aircraft) and other European standards.
Whether a hose suits both suction and delivery depends on the presence of a helix.

※For exact DN, pressure and temperature by model, please contact Lees Corporation.

Hose & Tank Coupling Specifications

Typical sizes (DN) and maximum working pressure (bar) by connection type



Flange & clamp couplings



Flange couplings (SFX / SFC)

Connection type	Size (DN)	Max. working pressure
Clamp type (Spannfix / Spannloc)	DN 13 – 100	25 bar
TW road tanker coupling	2″ – 4″ (DN50–100)	16 bar
Camlock	DN 13 – 100	16 bar (DN100: 10 bar)
Flange (EN 1092-1 etc.)	DN 13 – 200+	by PN rating
Hygienic Tri-Clamp	DN 13 – 100	10 / 16 / 25 bar
Dry Disconnect (MannTek DDC)	DN 25 – 200	25 bar (≤7 bar when connecting / disconnecting)

Clamp, camlock and flange types follow the EN 14420 series; hygienic types follow DIN 32676 (Tri-Clamp), DIN 11851 and similar.
Materials are selected from brass, stainless steel and aluminium to suit the medium.

※For exact sizes and pressures by model, please contact Lees Corporation.

Hose Reels

A modular hose reel line-up available as custom builds

Manual	Spring	Electric	Hydraulic / Pneumatic
Hand-crank operation (incl. compact rope gear)	Automatic spring rewind, up to DN50 × 25 m	AC 230/400 V · DC 12/24 V, ATEX option	For high-capacity and heavy-duty lines

Media

Petrol · diesel · jet fuel · AdBlue® · solvents · disinfectants · oil · water · gases and more

Specification range

Working pressure 1–350 bar · hose size DN 13–200 · carbon steel / aluminium / stainless steel frame

Three selection steps: ① hose & coupling → ② nozzle → ③ hose reel



HR Compact Line — spring rewind with integrated nozzle

Package Solutions

Supplied as verified complete systems, not as individual parts

Chemical Road Tanker

Chemical Road Tanker

Example: chemical hose + Spannfix / Spannloc + Dry Disconnect + Safety Breakaway + ERV

Fuel Dispensing

Fuel Dispensing

Example: Slimline hose + ZVA nozzle + SSB safety break + hose reel

Marine & Bunkering

Marine & Bunkering

Example: composite / DualSafe hose + Dry Disconnect / DCC + Safety Breakaway / PERC

H_2 & Special Gas

H_2 & Special Gas

Example: dedicated nozzles + high-pressure valves & manifolds + cryogenic / high-pressure couplings + hoses

The configurations above are representative examples. The actual package is configured freely to suit the medium, pressure, temperature and site conditions, and we propose the optimal combination for your requirements.

Contact & Inquiry

- Product selection for your medium, pressure and temperature
- Chemical compatibility review
- Project / EPC specification support and technical documentation
- Package system proposals and quotations
- After-sales service

LEES Corporation

Lees Corporation

ELAFLEX Official Partner in Korea

Address 28 Yongdu-ro, Daegot-myeon, Gimpo, Gyeonggi-do, Korea

Tel 02-2643-4515

Email lees@leescor.com

Web www.leescor.com