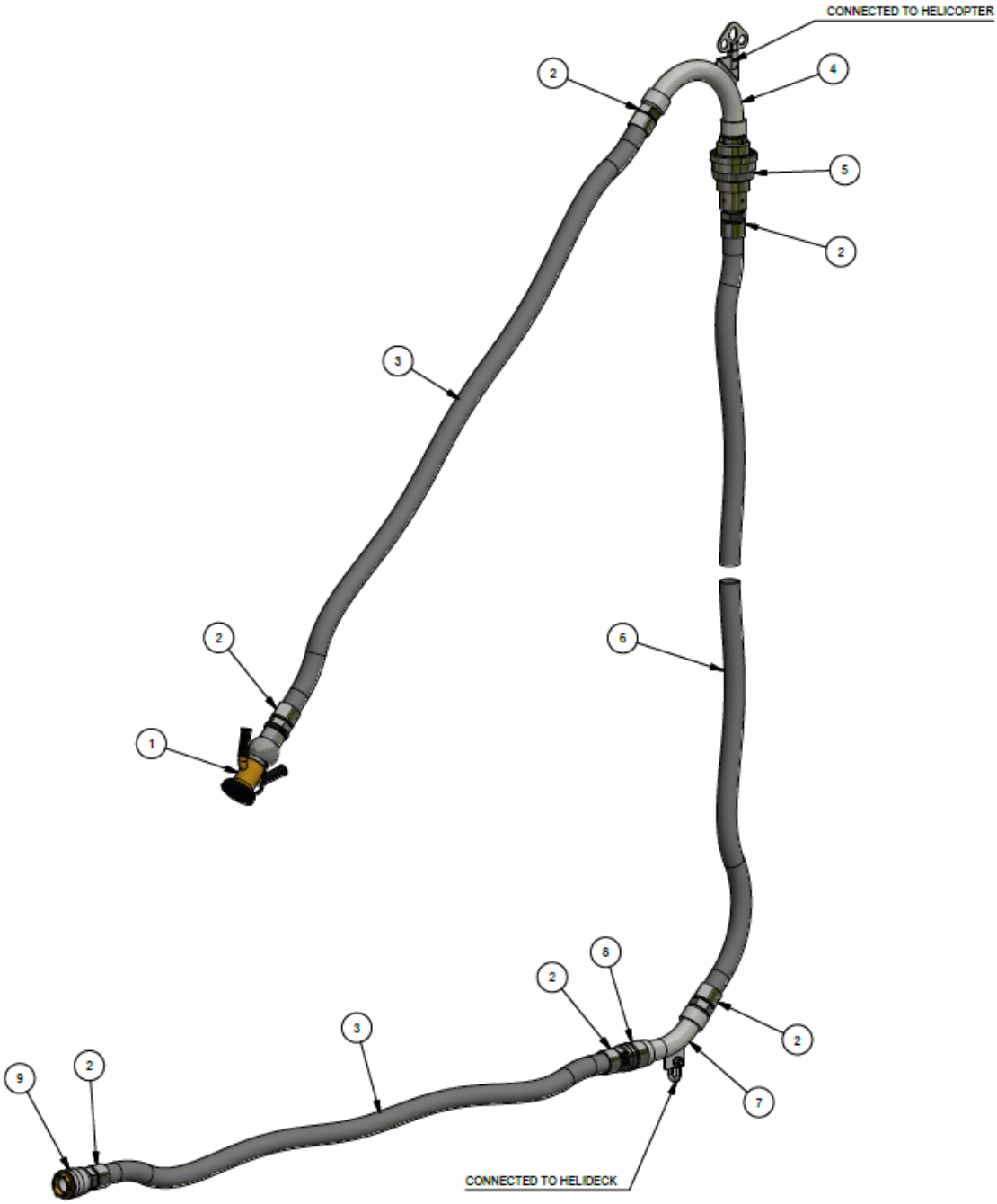
imenco
SMART SOLUTIONS

Helicopter In Flight Refuelling

AFLP-3847 Compliant,
as mandated by STANAG 3847



Itm	Qty	Description	Material
1	1	Pressure refuelling nozzle, Carter or CLA-VAL	Aluminum
2	6	Male BSP hose fitting	SS316L
3	1	2'' x 3 meter Type E refuelling hose	NBR
4	1	Hosting elbow incl. shackle, wire and carabiner	SS316L
5	1	Imenco break-away coupling	SS316L
6	1	2'' x 30 meter Type E refuelling hose	NBR
7	1	Deck elbow with shackle	SS316L
8	1	2'' x 5 meter Type E refuelling hose	NBR
9	1	Dry disconnect	SS316L

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Introduction

The Underwing **Pressure Refuelling Nozzle** is a high-performance fueling interface designed in accordance with **ISO 45** for aircraft pressure refuelling operations. Engineered for reliability, efficiency, and safety, the nozzle provides a secure connection between the ground refuelling system and the aircraft's underwing fueling adapter.

Built to meet all dimensional and operational requirements of ISO 45, ensuring full compatibility with standard underwing aircraft refuelling adapters used across commercial, military, and rotary-wing platforms. Manufactured from high-strength materials to withstand demanding aviation environments, including frequent coupling cycles, high flow rates, and exposure to aviation fuels such as Jet A-1 and JP-8.

Designed for ease of handling with balanced weight distribution, easy-grip actuation handles, and smooth mechanical operation for ground crew working in all weather conditions.

Specifications

Materials

- Coupling housing Aluminum
- Gaskets Viton & PTFE
- Coupling internals Aluminum

Technical

- Standard Size 2,5''
- Pressure 15 bar
- Flowrate 610 L/min
- Weight 7,2 kg
- Connection female BSP

Advantages

- Swivel function
- Set screw for inlet & outlet hose couplings for unintended disconnection
- Easy manual disconnect

Options

- Different handles
- Swivel elbow
- Sight glass (ask for quote)

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Introduction

The **Imenco Break-Away Coupling** is a safety-critical component designed for helicopter refuelling operations, including HIFR applications. The coupling is engineered to provide automatic separation under excessive tensile load, ensuring immediate shut-off on both sides to minimize fuel spill and protect personnel, aircraft, and equipment.

Manufactured by Imenco in Norway, the coupling is precision-machined from corrosion-resistant stainless steel, providing high mechanical strength, durability, and excellent resistance to harsh marine and offshore environments. The robust design ensures reliable performance under demanding operational conditions and repeated use.

The break-away coupling is designed in accordance with applicable NATO HIFR requirements (AFLP-3847), as mandated by STANAG 3847, and is intended as a passive safety component within helicopter refuelling systems. Acceptance is subject to OEM and operator approval.

Specifications

Materials

- Coupling housing SS316L
- Gaskets Viton & PTFE
- Coupling internals SS316L

Technical

- Standard Size 2,5’’
- Pressure 15 bar
- Flowrate 610 L/min
- Weight 7,4 kg
- Connection female BSP

Advantages

- Swivel function
- Set screw for inlet & outlet hose couplings for unintended disconnection
- Easy manual disconnect
- Other coupling sizes can be offered

Options

- Handle for carrying the coupling (HIFR)

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Introduction

Imenco HIFR elbows are precision-machined and expertly welded components manufactured in full compliance with approved welding procedures. Produced from high-grade 316L stainless steel, these elbows deliver exceptional corrosion resistance, mechanical strength, and long-term durability in demanding marine and aviation fuel environments.

Designed specifically for helicopter refuelling operations, including Helicopter In-Flight Refuelling (HIFR) applications, the elbows ensure reliable performance where safety, integrity, and continuity of fuel flow are critical. Each elbow is engineered to maintain optimal internal flow characteristics while withstanding operational stresses, vibration, and exposure to aviation fuels.

With robust construction, controlled tolerances, and weld integrity verified according to certified procedures, Imenco's HIFR elbows provide a dependable solution for both new installations and upgrades of helicopter refuelling systems.

Specifications

Materials

- Body SS316L
- Gaskets Viton & PTFE

Technical

- Standard Size 2''
- Pressure 25 bar
- Flowrate 610 L/min
- Weight 4,4 kg each
- Connection female BSP

Advantages

- Set screw for inlet & outlet hose couplings for unintended disconnection
- Other coupling sizes can be offered

Options

- Shackle, wire and carabiner in SS316L

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Introduction

High-performance flexible hose designed for aircraft refuelling and discharge operations. Engineered for safe and efficient transfer of petroleum-based product**s**, including aviation fuel with an aromatic content of up t**o** 50%**.** The hose construction ensures optimal performance in both suction and discharge applications.

This hose meets the following international aviation fuel-handling standards:

- **API 1529:2005**
- **AS 2683**
- **ISO 1825**
- **NFPA 407**
- **VG 95955**

And are specially designed for heavy-duty applications, including Helicopter In-Flight Refuelling (HIFR) in accordance with applicable NATO requirements (AFLP 3847), as mandated by STANAG 3847. Acceptance is subject to OEM and operator approval.

Specifications

Materials

- Black NBR rubber
- Steel helix (not in touch with fuel)
- Copper wires (not in touch with fuel)

Technical

- Standard Size 2’’
- Pressure 20 bar
- Flowrate 610 L/min
- Weight 1 kg per meter
- Connection female/male BSP
- Temperature -25°C to + 70°C

Advantages

- High strength synthetic cord
- Embedded steel wire
- Electrically conductive

Options

- Collapsable hose can be offered instead of non-collapsable
- Other sizes can be offered

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Introduction

Dry-Disconnect coupling, to STANAG 3756, for liquid media. Hose unit with swivel, typically mounted on hose assemblies and loading arms for temporary connection to storage tanks and mobile transport units, for loading and unloading. Quick and safe connection of hose assemblies and loading arms to mobile and stationary tanks, under pressure and with minimized liquid loss. The standardized interface to STANAG 3756 with its bayonet coupling principle has been widely accepted in the industry. Both coupling parts are equipped with a flat poppet valve. For the connection, the hose unit is pushed onto the tank unit and coupled / sealed by turning the coupler clockwise by 15 degrees. When the unit is turned by 100 degrees, the valves move into the tank unit so that the medium can flow. When a similar turn is made counterclockwise, the flow is stopped and the coupler can be pulled off.

Specifications

Materials

- Coupling housing SS316L
- Gaskets Viton & PTFE
- Coupling internals SS316L

Technical

- Standard Size 2,5’’
- Pressure 25 bar
- Flowrate 610 L/min
- Weight 6,8 kg
- Connection female BSP

Advantages

- Swivel function
- Set screw for inlet & outlet hose couplings for unintended disconnection
- Easy manual disconnect
- Other coupling sizes can be offered

Options

- Other dry-disconnect couplings can be offered, for example unisex coupling.

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