

Bottom Loading Arms

General description
Bulletin 1/2

Introduction:

Bottom loading arms are used both for open loop and closed loop fluid transfer. Standard bottom arms are provided with five swivel joints and a multi-spring balance cylinder. A second balancing system can be applied to keep the connecting pipe in a straight horizontal direction, in case the connecting pipe is equipped with heavy items such as ball valves, breakaway couplers or dry-break couplers. Bottom loading arms are mounted to a self-supporting column with locking facilities.

Two different systems for bottom loading can be distinguished:

Open loop transfer

When *open loop* transfer is allowed, only one single loading arm may be used. However, the tank system should be protected against vacuum or overpressure by means of tanker pressure relief, vacuum break valve or other means.

Closed loop transfer

In case of *closed loop* transfer, double loading arms are usually used, called Bottom Loading Stations. One loading arm is then used for liquid transfer, a second arm takes care of vapour/gas balancing between the tank/storage systems.

Basic characteristics:

- Diameter : 1" (DN25), 2" (DN50), 3" (DN80), 4" (DN100) and 6" (DN150)
- Materials (piping) : carbon steel, stainless steel, low temperature steel, PTFE-lined steel, other materials on request.
- Seal faces : Stainless steel, duplex, Hastelloy, or application specific
- Seals : PTFE-C, PTFE-virgin, FPM, NBR, UHMW-PE, or others on request
- Balancing : Spring cylinder
- Temperature range: -200°C up to +300°C
- Pressure range : maximum 120 bar

Bottom Loading Arms

General
description
Bulletin 2/2

Accessories:

- Safety Break Valve in connecting arm.
- Dry break coupler at the end of connecting arm.
- Complete safety system, consisting of a grounding system, special locking system and flange connection control.
- Custom build, to suit gravity unloading.
- An extra swivel joint in case of a truck with side and rear connections.
- Heating systems (electric, or steam/hot oil), with or without insulation.
- Valve in connecting arm, manually or pneumatically operated.
- Valved drain and purge connection.

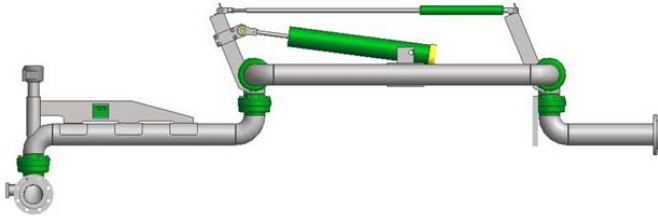
Design data may include:

- Type of fluid, viscosity, temperature and pressure
- Capacity in cubic meters per hour (m³) or tonnes per hour
- Multi-product loading
- Number of different fluids at one loading station
- Number of loading arms filling simultaneously at one tanker
- PED 97/23/EC classification
- Required level of operators safety / area classification
- Environmental requirements
- Pigging requirements
- Integration with metering or weighbridge facilities, control and/or shutt-off valves
- Dimensional information of (existing) loading station and tankers

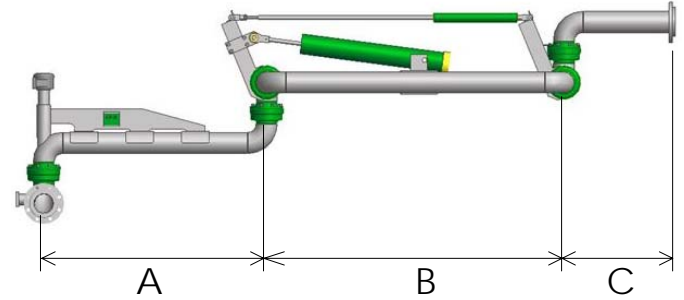
Bottom Loading Arms

For horizontal tanker connection
Bulletin BLA Models

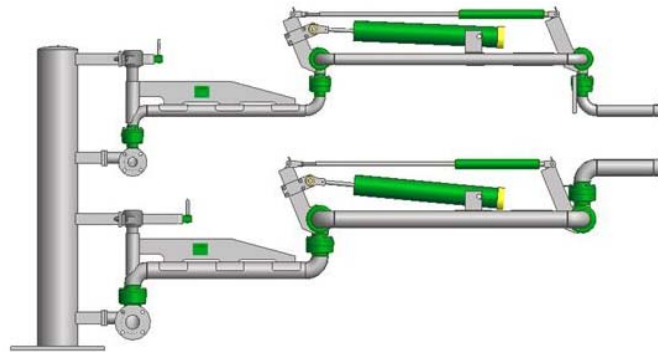
BLA 144



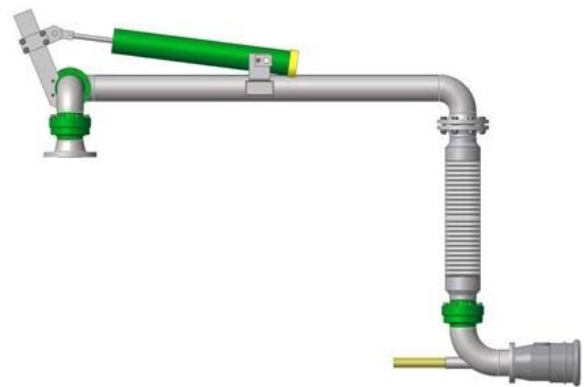
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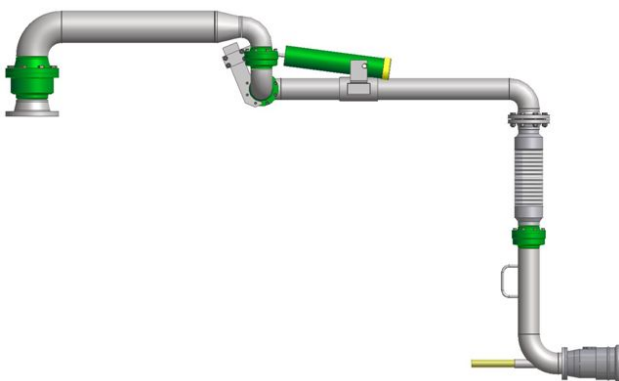
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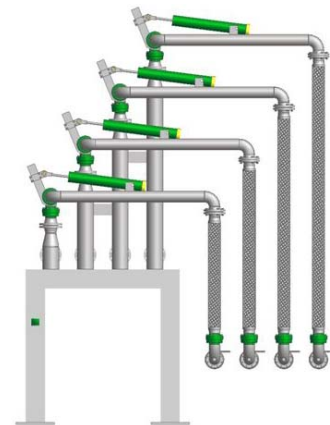
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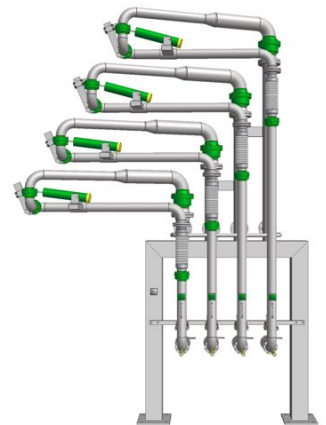
BLA 152



BOTTOM HOSE LOADER



CROSS OVER BOTTOM



STANDARD DIMENSIONS: Are for A=1000 B=1400 C=600, but can be changed to suit to customers requirements

STANDARD MATERIALS: Carbon steel; Stainless steel 304, 316; PTFE lining is also possible

STANDARD SEALS: PTFE-C; Viton (FPM); BUNA (NBR); UHMW PE

