

# LAND LOADING SYSTEMS

**EMICO**  
**WHEATON**

EXPERIENCE THE FUTURE OF SAFE & EFFICIENT  
FLUID TRANSFER SOLUTIONS



Turn to the trusted Market Leader!

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**For over 100 years, Emco Wheaton has been combining expertise and knowledge, with an innovative attitude and unmatched skills; to produce world leading fluid transfer equipment.**

Emco Wheaton has been the trusted market-leader in supplying complex fluid transfer systems for over a century. Our loading systems are engineered to safely and efficiently transfer a wide range of liquid and gas products. Using our experience and engineering expertise, we provide our customers with reliable, high-quality, low maintenance solutions that are tailored to solve their unique product transfer challenges.

We manufacture our loading arms at our plants in Houston, TX., USA and Kirchhain, Germany using the highest levels of care and quality standards, allowing us to provide class leading products for our customers.

We take pride in our products, and work tirelessly to ensure that they meet and exceed the growing demands of the oil, gas, transportation and chemical industries we serve. That is why our customers return to us, time and again, safe in the knowledge that they are buying the best products, from one of the world's most recognized, trusted, and well respected brands.

# 02 LAND LOADING ARMS

**Emco Wheaton offers a comprehensive range land loading arms, loading systems, and accessories that are engineered to efficiently load and unload a variety of liquid and gas products, from a range of containers and vessels.**

The safety and integrity of our customers operations are our top priority; and our land loading systems are specifically designed to reflect that by providing the ultimate quality, reliability, and flexibility.

Using our experience and expertise, we deliver loading solutions that provide our customers with real world benefits. From maximizing safety and profitability, to minimizing maintenance and downtime; our range of products are designed to help our customers get the most out of their operations.

We understand that each customer is unique, and that each operation has a specific set of needs and challenges. That is why we partner with our customers, working closely with them to deliver a solution that is tailored to meet of the specific demands; regardless of the industry or application.

# 03 APPLICATIONS

## PETROLEUM LOADING ARMS

Emco Wheaton offers a range of top loading arms, bottom loading arms, and couplers that are tailored to meet the rigorous demands of petroleum loading applications.

Manufactured from the highest quality materials, our petroleum loading arms and accessories are designed to maximize safety, increase efficiency, and eliminate product loss; all while reducing maintenance costs and providing the lowest Total Cost of Ownership possible.

Working together, our products help our customers safely and efficiently load and unload a wide variety of petroleum products, including:

- Petrol / Gasoline
- Diesel
- Aviation Fuel
- Heavy Fuel Oil
- Liquefied Petroleum Gas (LPG)
- Petrochemical Feedstock
- Biofuel

# 03 APPLICATIONS

## CHEMICAL LOADING ARMS

Our special chemical loading arms are capable of handling a range of chemicals and biofuels, from virtually any type of container.

Engineered to ensure zero leakage and minimal product loss, our chemical loading arms deliver real world savings; regardless of the chemical liquid or gas being transferred. Each loading arm is designed to provide maximum safety, durability, and flexibility; allowing our customers to lower their operational costs, without compromising on performance.

Available in a range of materials such as carbon steel, aluminium, and stainless steel, as well as options such as PTFE lining, vapor return lines, and heating systems, our loading arms are ideal for the transfer of:

- Ethanol
- Alcohol
- Sulfuric Acid
- Sodium
- Hydroxide
- Hydrochloric Acid
- Oil
- Butane
- Propane
- Corn Syrup
- Acids
- Base
- Solvents

As well as a range of technical gases such as anhydrous ammonia, fatty acid, resins, styrene, propylene, aqua ammonia, pygas, tall oil, and other chemicals as molten sulfur, asphalt, sodium hydroxide, hydrochloric, nitric, hydrofluoric acid.

# 03 APPLICATIONS

## FOOD LOADING ARMS



Emco Wheaton's range of loading arms and accessories for food, beverage, and pharmaceutical product transfer applications are designed to meet the strictest food safety and quality standards and guidelines.

Manufactured from high-quality, food grade materials; each loading arm is engineered to minimize product loss, maximize safety, and eliminate the risk of contamination; helping our customers to meet both their safety and efficiency goals.

Available in a range of sizes from 2" to 6", at temperatures of up to 300°C, and pressures of up to 40 bar; our range of loading arms are the ideal way to safely and efficiently transfer a range of food, beverage, and pharmaceutical liquid and bulk products, including:

- Flours
- Maple Syrup
- Salt
- Starch
- Sugar
- Lactose
- Cacao
- Chocolate Chips
- Wine
- Spirits / Whisky Loading Arms
- Beer
- Edible oil

# 04 TOP LOADING ARMS

Emco Top Loading Arm systems are especially designed for top loading of road or rail tankers using a manhole or any other type of fixed connection, such as couplers.

Precisely balanced, and equipped with our high quality swivel joints, our loading arms provide simple and convenient handling. Our loading arms can also be configured with a range of accessories that can further maximize equipment life, safety, and reliability, including:

- Multiple balancing systems
- Safety equipment
- Heating systems
- PTFE lined version



# TOP LOADING ARMS

## FIXED REACH LOADING ARM

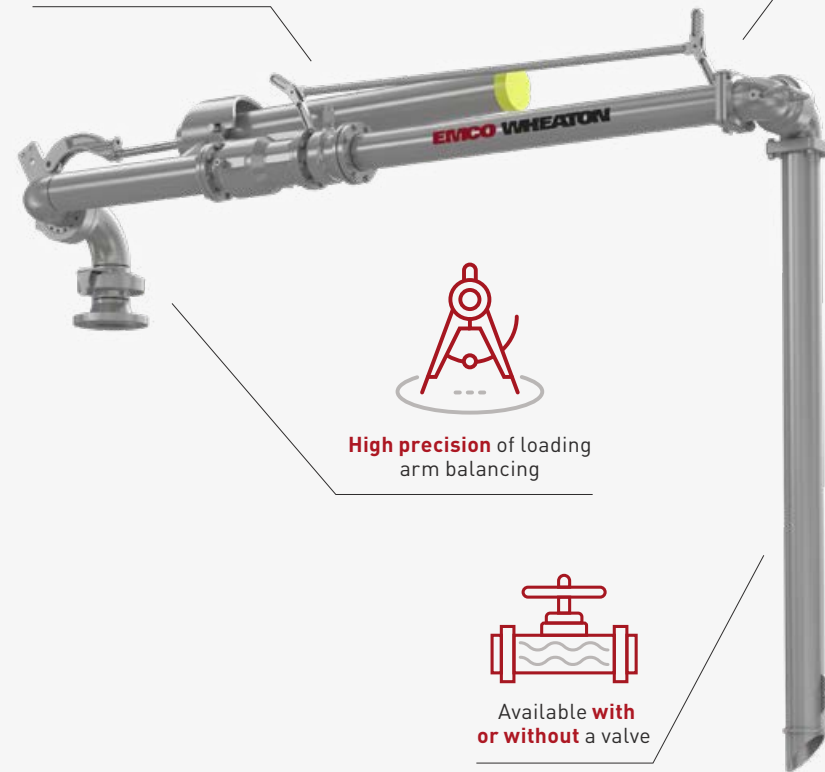
**Fixed reach loading arm** is specifically designed for top loading of single-compartment road or rail tankers where the manhole can be accurately positioned. The arm requires accurate spotting of rail car or tank truck. It is perfect for petroleum and mineral oil Applications.



**Top quality design and materials** allowing effortless operation



D2000 World and Aluminium Series swivel ensure **durability and low maintenance**



**High precision** of loading arm balancing



Available **with or without** a valve

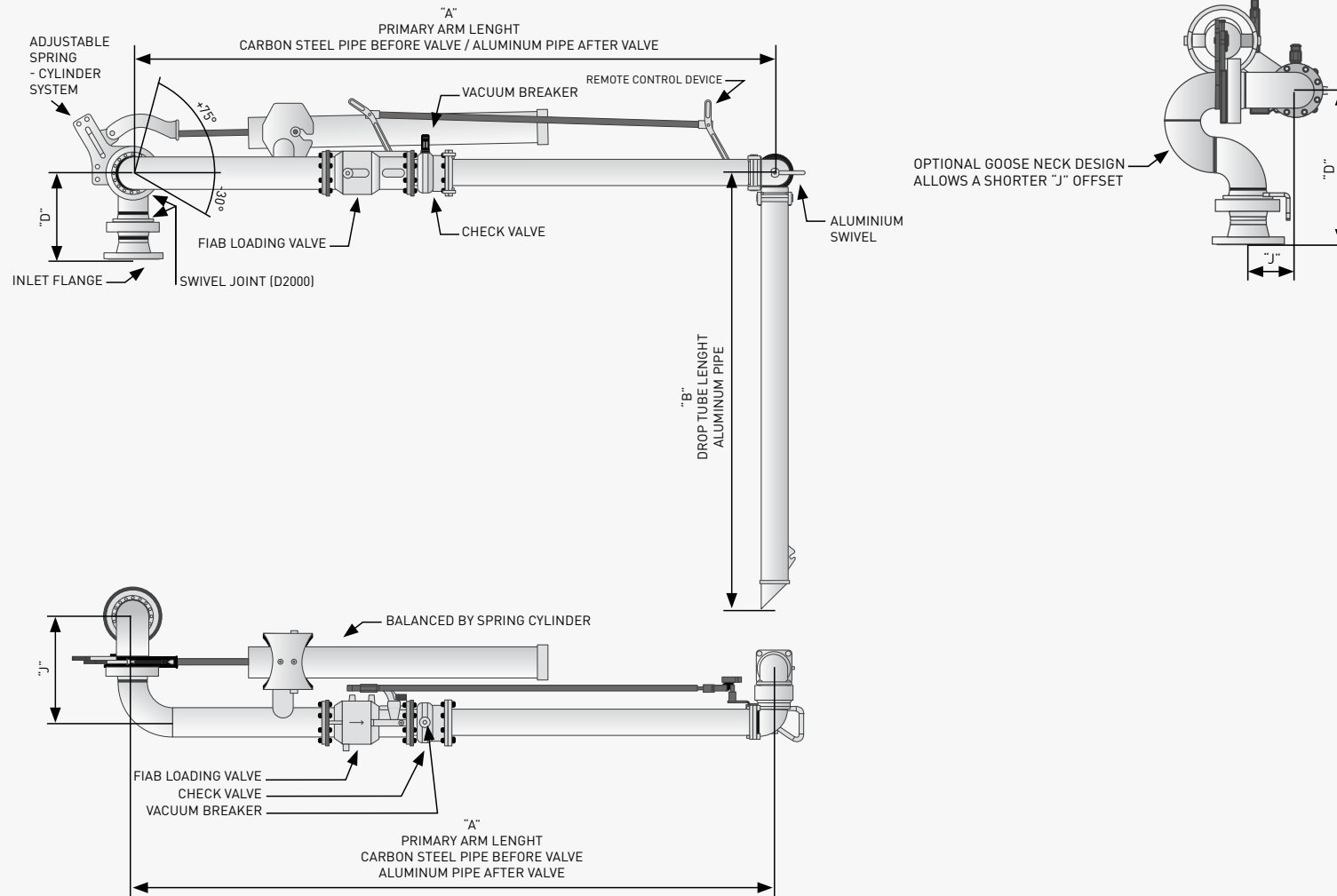


\*applies only to the standard configured pre-Engineered arms

# TOP LOADING ARMS

## FIXED REACH LOADING ARM

### Up Feed Configuration



# TOP LOADING ARMS

## FIXED REACH LOADING ARM

Size	J (mm)	D (mm)	A-length (mm)	B-length (mm)
3"	386 with goose neck assy. 140	273 - 298* with goose neck assy. 390 - 415*	2800 (standard) 2500	2300 (standard) 1700 2000
4"	411 with goose neck assy. 152	323 - 355* with goose neck assy. 480 - 501*	2800 (standard) 2500	2300 (standard) 1700 2000

\*= depends on chosen Inlet flange type  
Other length are available on request.

### DESIGN

- Material: Carbon Steel / Aluminum
- Size: 3" & 4"
- Inlet flange: ANSI 150 & 300 lbs / EN PN16 & 40
- Balancing Method: Spring cylinder
- Design Pressure: 10 bar
- Design Temperature: max. -20°C / +110°C

(Based on seals and accessories / Broader temperature ranges are available on request)

### ACCESSORIES

- FIAB loading valve hold open or stay open (up to 180 cSt / optional up to 380 cSt)
- O / C Switch for FIAB Loading valve
- Remote control for FIAB Loading valve
- Check Valve / vacuum breaker
- Stop Device
- Drip bucket
- Up / Down Switch
- Orientation Switch
- Locking device (Parking position)
- Junction Box
- Goose neck Inlet swivel joint design
- Drop pipe outlet - 45°
- Deflector
- SECURIM (with bottom contact switch)

Key configuration: PRODUCT KEY		
POS.	CODE	DECLARATION
1	D	D= TYPE ASTM / EN MATERIAL
2	4	4= DIAMETER 4"/DN100
3	A	A= ANSI 150 lbs B= ANSI 300 lbs C= EN PN16 D= EN PN40
4	F	A= FIAB VALVE C= WITHOUT VALVE F= FIAB VALVE + EMCO CHECK VALVE G= FIAB VALVE HEAVY FUEL OIL + EMCO CHECK VALVE H= FIAB VALVE HEAVY FUEL OIL
5	S	C= SECURIM DROP PIPE S= 45° OUTLET Y= TL DEFLECTOR WITH HOOK
6	D	D= RIGHT HAND DESIGN G= LEFT HAND DESIGN
7 / 8	28	A-DIM (2800)
9 / 10	06	C-DIM (600)
11 / 12	23	B-DIM (2300)
13	L	L= BY EMCO STAND. COLOUR SYSTEM P= BY EMCO STAND. COLOUR SYSTEM Q= BY EMCO STAND. COLOUR SYSTEM
14	E	E= MIX / VITON F= MIX / PTFE
15	S	S= GOOSE NECK H= PRODUCT FROM ABOVE D= PRODUCT FROM BELOW
16	G	E= EUROPE + ATEX G= GLOBAL F= PEROLO R= EAC

# TOP LOADING ARMS

## VARIABLE REACH LOADING ARM

Also known as a Scissor arm, this **Variable Reach Top Loader** is dedicated for petroleum and mineral oil Applications.

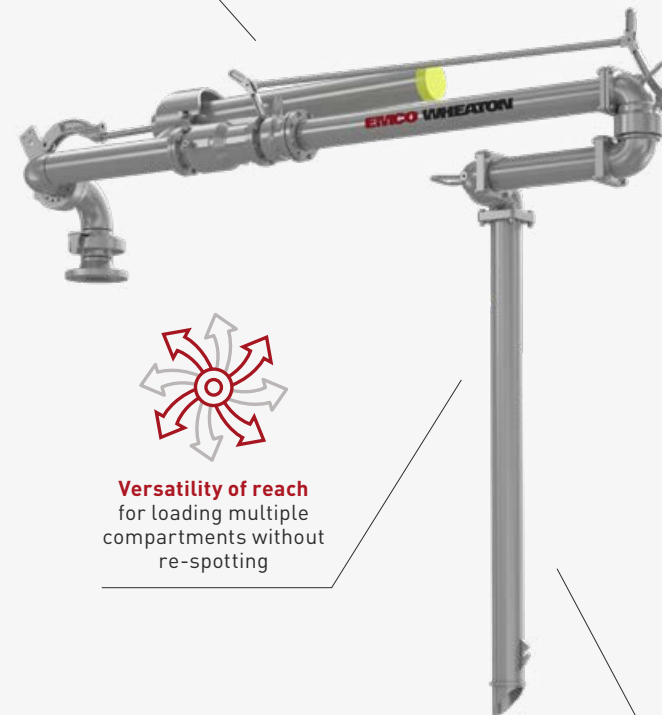
It is a specialized solution for top loading of road or rail tankers where the manhole cannot be accurately positioned.



**High precision** of loading arm balancing



**Top quality design and materials** allowing effortless operation



**Versatility of reach** for loading multiple compartments without re-spotting



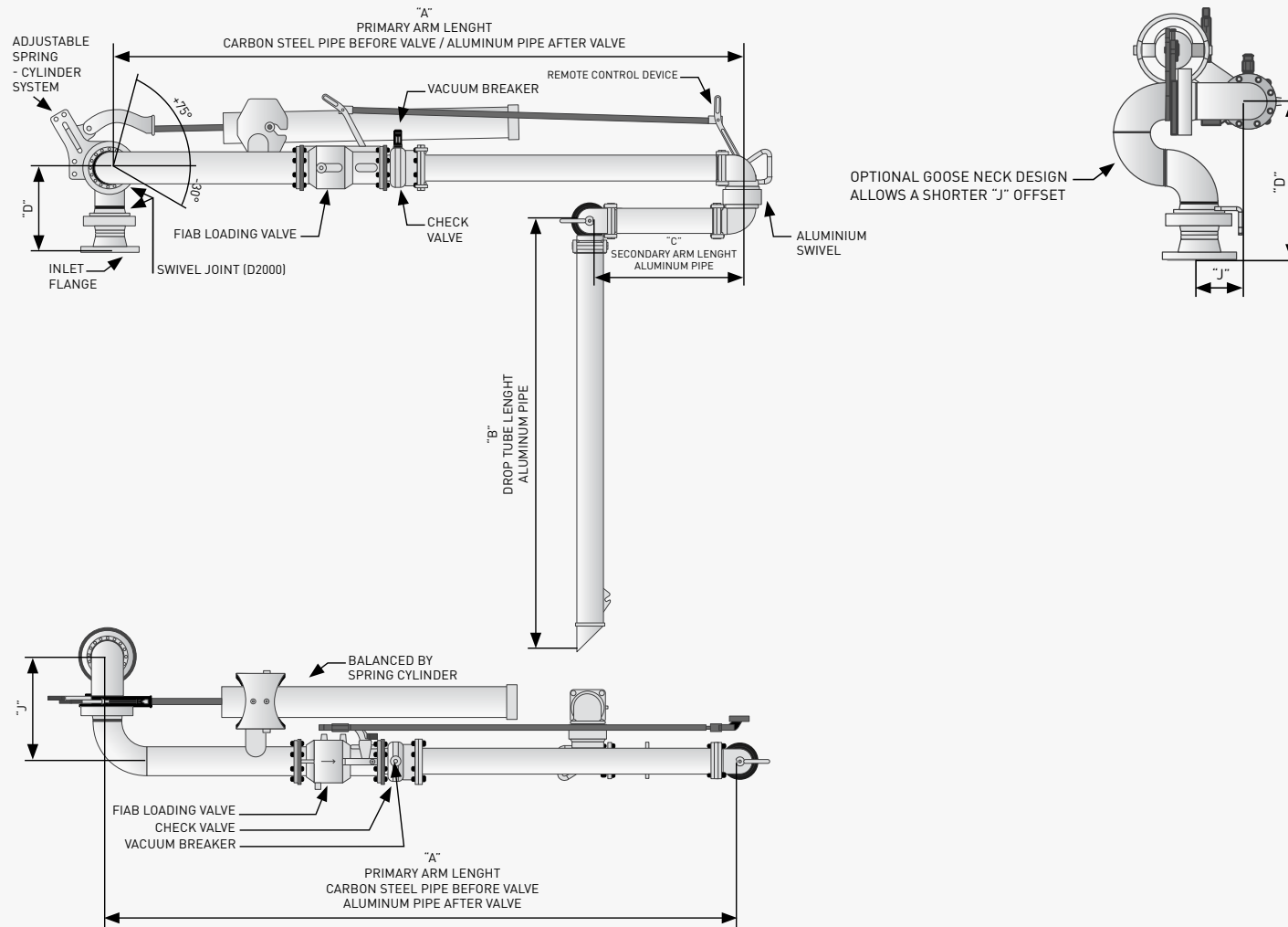
Available **with or without** a valve



\*applies only to the standard configured pre-Engineered arms

# TOP LOADING ARMS

## VARIABLE REACH LOADING ARM



# TOP LOADING ARMS

## VARIABLE REACH LOADING ARM

Size	J (mm)	D (mm)	A-length (mm)	C-Length (mm)	B-length (mm)
3"	386 with goose neck assy. 140	273 - 298* with goose neck assy. 390 - 415*	2800 (standard) 2500	600 (standard)	2300 (standard) 1700 2000
4"	411 with goose neck assy. 152	323 - 355* with goose neck assy. 480 - 501*	2800 (standard) 2500	600 (standard)	2300 (standard) 1700 2000

\*= depends on chosen Inlet flange type. Other length are available on request.

### ACCESSORIES

- FIAB loading valve hold open or stay open (up to 180 cSt / optional up to 380 cSt)
- O / C Switch for FIAB Loading valve
- Remote control for FIAB Loading valve
- Check Valve / vacuum breaker
- Stop Device
- Drip bucket
- Up /Down Switch
- Orientation Switch
- Locking device (Parking position)
- Junction Box
- Goose neck Inlet swivel joint design
- Sliding datum bracket with overfill device
- Drop pipe outlet - 45°
- Deflector
- SECURIM (with bottom contact switch)

### DESIGN

- Material: Carbon Steel / Aluminum
  - Size: 3" & 4"
  - Inlet flange: ANSI 150 & 300 lbs / EN PN16 & 40
  - Balancing Method: Spring cylinder
  - Design Pressure: 10 bar
  - Design Temperature: max. -20°C / +110°C
- (Based on seals and accessories / Broader temperature ranges are available on request)

### Key configuration: PRODUCT KEY

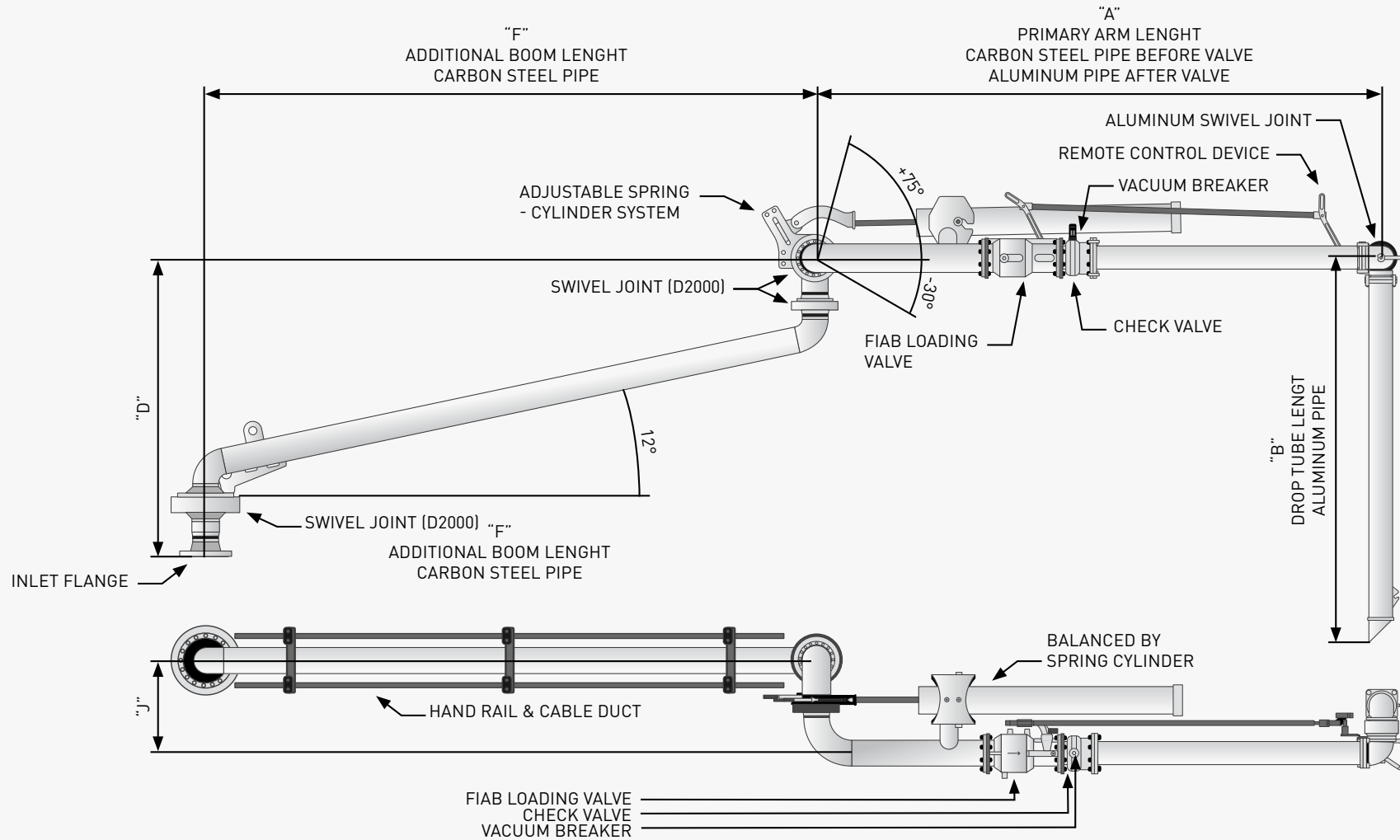
POS.	CODE	DECLARATION
1	D	D= TYPE ASTM/EN MATERIAL
2	4	4= DIAMETER 4" /DN100
3	A	A= ANSI 150 lbs B= ANSI 300 lbs C= EN PN16 D= EN PN40
4	F	A= FIAB VALVE C= WITHOUT VALVE F= FIAB VALVE + EMCO CHECK VALVE G= FIAB VALVE HEAVY FUEL OIL + EMCO CHECK VALVE H= FIAB VALVE HEAVY FUEL OIL
5	S	C= SECURIM DROP PIPE S= 45° OUTLET Y= TL DEFLECTOR WITH HOOK
6	D	D= RIGHT HAND DESIGN G= LEFT HAND DESIGN
7 / 8	28	A-DIM (2800)
9 / 10	06	C-DIM (600)
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13	L	L= BY EMCO STAND. COLOUR SYSTEM P= BY EMCO STAND. COLOUR SYSTEM Q= BY EMCO STAND. COLOUR SYSTEM
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## LONG REACH LOADING ARM WITH UNSUPPORTED BOOM

The **Long Reach Loader** is specifically designed for top loading of multiple-compartment road or rail tankers. The loading arm has a long reach and is suitable for applications where the manhole cannot be accurately positioned. It is perfect for petroleum and mineral oil Applications.



## LONG REACH LOADING ARM WITH UNSUPPORTED BOOM





## LONG REACH LOADING ARM WITH UNSUPPORTED BOOM

Size	J (mm)	D (mm)	F-length (mm)	A-length (mm)	B-length (mm)
3"	386	273 - 298*	2700 (standard)	2800 (standard) 2500	2300 (standard) 1700 2000
4"	411	323 - 355*	2700 (standard)	2800 (standard) 2500	2300 (standard) 1700 2000

\*= depends on chosen Inlet flange type  
Other length are available on request.

### DESIGN

- Material: Carbon Steel / Aluminum
- Size: 3" & 4"
- Inlet flange: ANSI 150 & 300 lbs / EN PN16 & 40
- Balancing Method: Spring cylinder
- Design Pressure: 10 bar
- Design Temperature: max. -20°C / +110°C

(Based on seals and accessories / Broader temperature ranges are available on request)

### ACCESSORIES

- FIAB loading valve hold open or stay open (up to 180 cSt / optional up to 380 cSt)
- O/C Switch for FIAB Loading valve
- Remote control for FIAB Loading valve
- Check Valve / vacuum breaker
- Stop Device
- Drip bucket
- Up / Down Switch
- Orientation Switch
- Locking device (Parking position)
- Junction Box
- Goose neck Inlet swivel joint design
- Sliding datum bracket with overflow device
- Drop pipe outlet - 45°
- Deflector
- SECURIM (with bottom contact switch)

### Key configuration: PRODUCT KEY

POS.	CODE	DECLARATION
1	D	D= TYPE ASTM / EN MATERIAL
2	4	4= DIAMETER 4" / DN100
3	A	A= ANSI 150 lbs B= ANSI 300 lbs C= EN PN16 D= EN PN40
4	F	A= FIAB VALVE C= WITHOUT VALVE F= FIAB VALVE + EMCO CHECK VALVE G= FIAB VALVE HEAVY FUEL OIL + EMCO CHECK VALVE H= FIAB VALVE HEAVY FUEL OIL
5	S	C= SECURIM DROP PIPE S= 45° OUTLET Y= TL DEFLECTOR WITH HOOK
6	D	D= RIGHT HAND DESIGN G= LEFT HAND DESIGN
7 / 8	28	A-DIM (2800)
9 / 10	06	C-DIM (600)
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## LONG REACH LOADING ARM WITH SUPPORTED BOOM

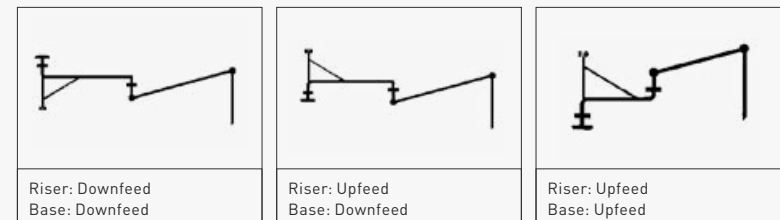
**Supported boom loaders are the most versatile of all top loading arms.** They provide the greatest mis-spot capability and allow for the greatest reach.

Easy to adjust, super smooth spring loaded cylinder balanced, heavy duty swivel joints and a custom boom support enable these arms to reach even further than our unsupported boom loader.

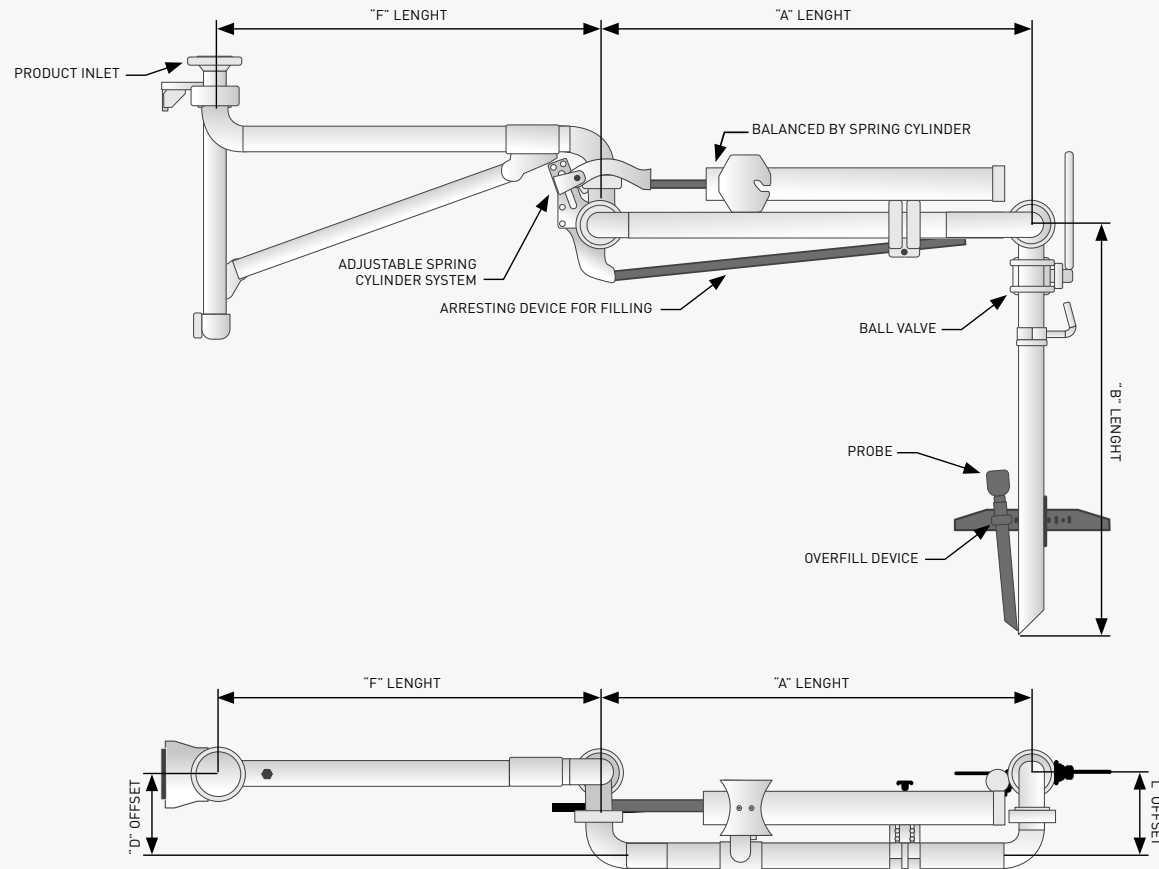
Standard arms feature the D2000 World Series swivel joint.  
**A heavy duty, low profile joint with a 5 year limited maintenance.**  
A variety of seal configurations and elastomers ensure long life performance for each specific application.



Riser connection options.



## LONG REACH LOADING ARM WITH SUPPORTED BOOM



### ACCESSORIES

- Ball valve
- Arresting device for Filling
- Drip bucket
- Up/Down Switch
- Orientation Switch
- Stand Post / Wall plate
- Locking device (Parking position)
- Junction Box
- Sliding datum bracket with overfill device
- Heating Systems

(Other accessories available on request)

### DESIGN

- Material: Carbon Steel / Aluminum - Carbon Steel - Stainless Steel
- Size: 3" & 4". Other sizes are available on request.
- Inlet flange: ANSI 150 & 300 lbs / EN PN16 & 40
- Balancing Method: Spring cylinder
- Design Pressure: 16 bar to 40 bar
- Design Temperature: max. -50°C / +250°C

(Exact Temperature ranges dependent on material and Product application)

## E2630 TOP LOADING ARM WITH VAPOR RECOVERY

Loading arms with vapor return lines are **ideal for use with hydrocarbons** (e.g. soline), toxic and aggressive media.

The E2630 consists of our reliable long reach loading arm combined with a hose for vapor return. By loading with a vapor return hose, the product vapor will be recovered through the loading arm, improving terminal profitability and minimizes environmental impact. By loading via a sealed manhole, a high level of protection is achieved for both the operator and the environment.

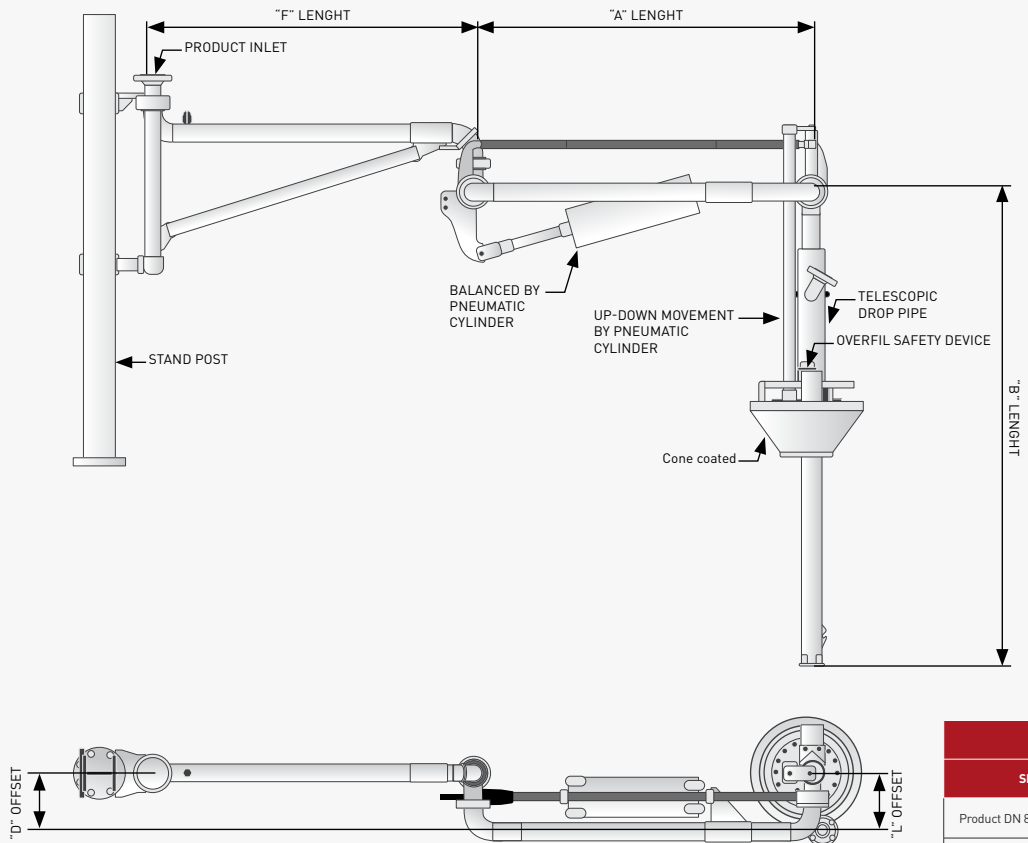
Our top loading arms also meet all relevant Legal requirements and regulations (e.g. EU Norm, German TA-Luft).

The E2630 is the most economical solution for loading with a vapor return.

Reliable and easy handling is achieved due to the arm's low weight and minimal offset. The E2630 may also be used where available space is limited, e. g. existing loading stations with low roof heights.



## E2630 TOP LOADING ARM WITH VAPOR RECOVERY



### FEATURES & BENEFITS

- Ideal for chemical applications and products that required heating systems
- Long life
- Low maintenance
- Easy handling
- Material: carbon steel / Ali, low temperature steel, stainless steel, PTFE-lined
- Temperature range from -50 °C to +250 °C (-58 °F to +482°F)
- Comprehensive range of safety accessories
- Equipped with EMCO-high performance swivel joints

MATERIALS AND TECHNICAL DATA					
SIZES	MATERIALS	SEALS	TEMPERATURE RANGE	BALANCING / MANEUVERING	ACCESSORIES
Product DN 80- Vapor DN 50	Carbon steel / aluminum Low temperature steel Stainless steel PTFE- lined	NBR EPDM PTFE Special Materials	-50° C to +250° C (-58° F to +482° F)	Pneumatic Balancing system 3D hydraulic maneuvering system	Cone Telescopic drop pipe Overfill device Heating system Various signal possibility for process control
Product DN 100- Vapor DN 50 or 80					
Product DN 150- Vapor DN 50 to 100					

Various dimensions, materials, temperature ranges and accessories on request.

## E2632 PARALLEL LOADING ARM WITH VAPOR RECOVERY

**Emco Wheaton's E2632** connects two boom loaders that work together in parallel to form a new loader type: the parallel arm. Operating as a single arm, the parallel arm provides high maneuverability, and is equipped with both product and vapor recovery lines that are free of pockets.

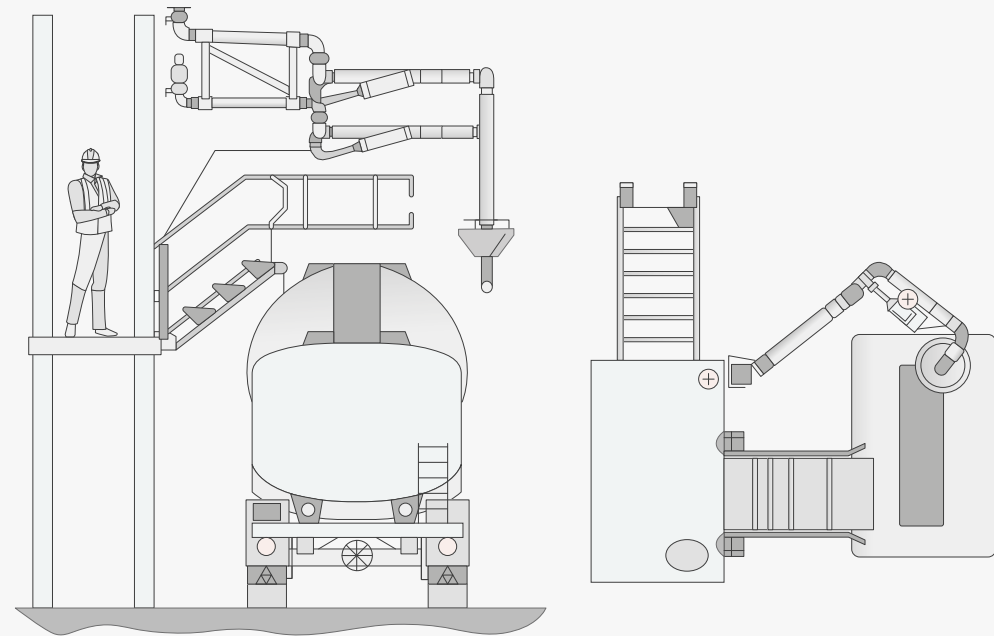
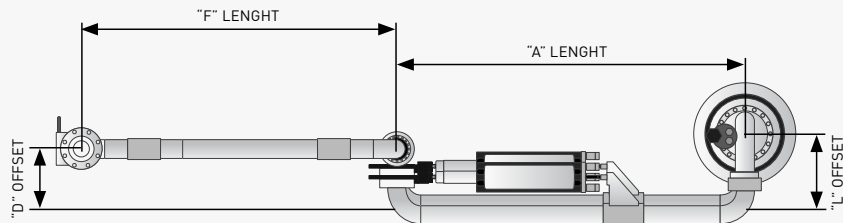
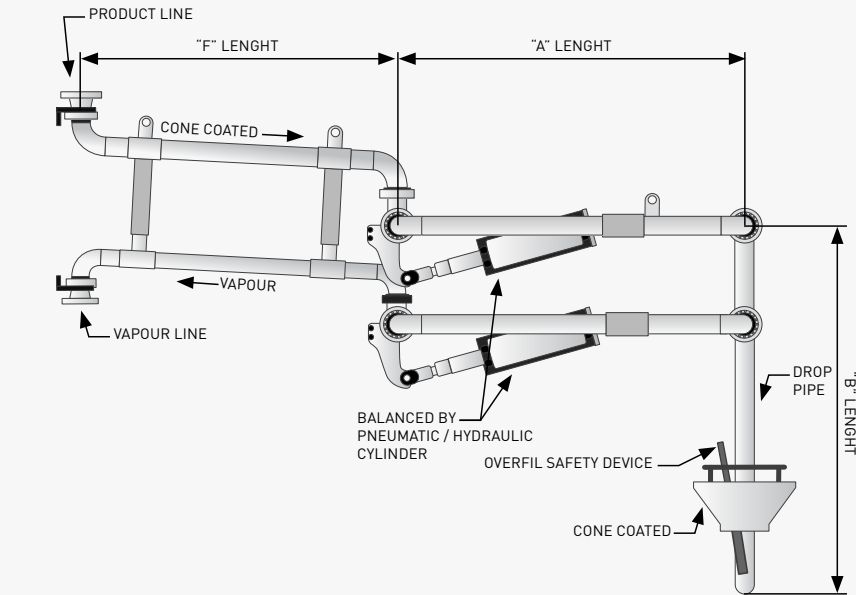
The E2632 is ideal for loading liquid Sulphur, Bitumen as well as other toxic and / or aggressive media. By loading with a vapor return line, operators are able to improve terminal profitability and minimize environmental impact, recovering vaporized product directly through the loading arm. Loading with a sealed manhole, operators can further maximize the level of protection offered to both operators and the environment, while also meeting legal requirements and regulations (e.g. EU Norm, German TA-Luft).



### FEATURES & BENEFITS

- Ideal for products that require proper heating systems (e.g. Liquid Sulphur, Bitumen)
- Chemical applications
- Long life
- Low maintenance
- Easy handling
- Material: carbon steel / Ali, low temperature steel, stainless steel, PTFE-lined
- Temperature range from -50°C to +250°C (-58°F to +482°F)
- Comprehensive range of safety accessories
- EMCO-high performance swivel joints

## E2632 PARALLEL LOADING ARM WITH VAPOR RECOVERY



MATERIALS AND TECHNICAL DATA					
SIZES	MATERIALS	SEALS	TEMPERATURE RANGE	BALANCING / MANEUVERING	ACCESSORIES
Product DN 80- Vapor DN 50	Carbon steel / aluminum Low temperature steel Stainless steel PTFE- lined	NBR EPDM PTFE Special Materials	50° C to +250° C (-58° F to +482° F)	Pneumatic Balancing system 3D hydraulic maneuvering system	Cone Telescopic drop pipe Overfill device Heating system Various signal possibility for process control
Product DN 100- Vapor DN 80					
Product DN 150- Vapor DN 100					

Various dimensions, materials, temperature ranges and accessories on request.

# 05 BOTTOM LOADING ARMS

**Bottom loading offers benefits which cannot be achieved with top loading designs. As it takes place on the ground, it is inherently safer for the operator.**

It also allows for simultaneous loading of several tank compartments, increasing speed and efficiency of loading. Bottom loading is easily adaptable to vapor recovery systems.

Emco Wheaton's selection of bottom loading arms conforms to the API RP1004 standard. Each arm is designed for safe and reliable loading of tank trucks, rail cars, or any other vessel with sealed connections.

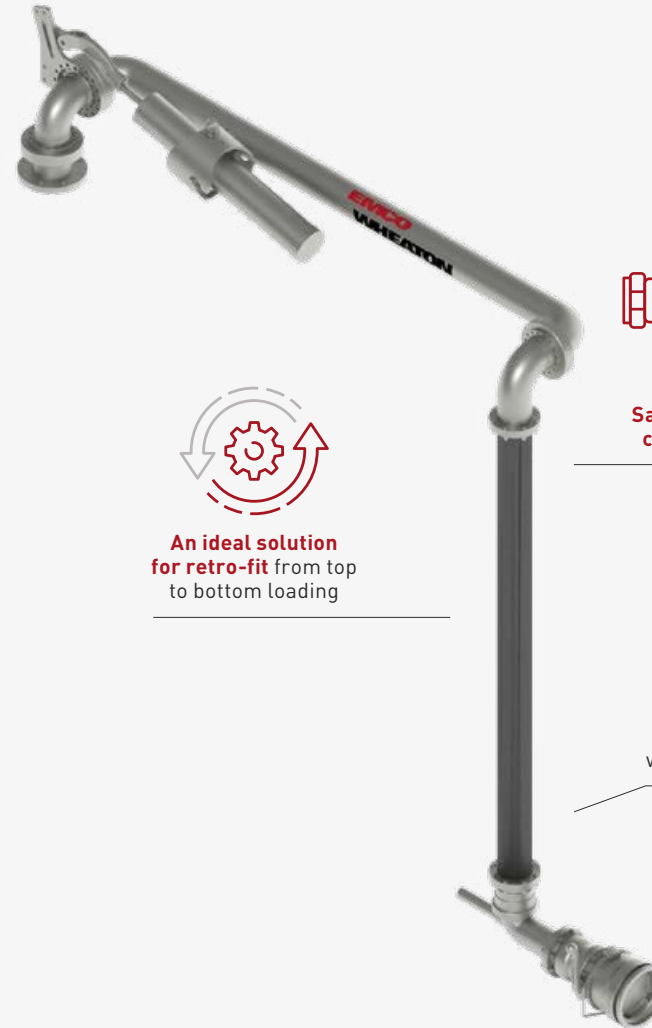


# BOTTOM LOADING ARMS

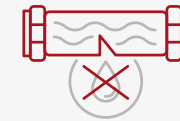
## BOTTOM HOSE LOADERS

The **Bottom Hose Loading Arm** is designed specifically to use multiple arms together as a Bottom Hose Loading Station for bottom filling of multiple compartment tank trucks.

Bottom hose loading stations provide unrestricted cross-over and an extended working envelope.



An ideal solution for retro-fit from top to bottom loading



Safe, drip-free construction

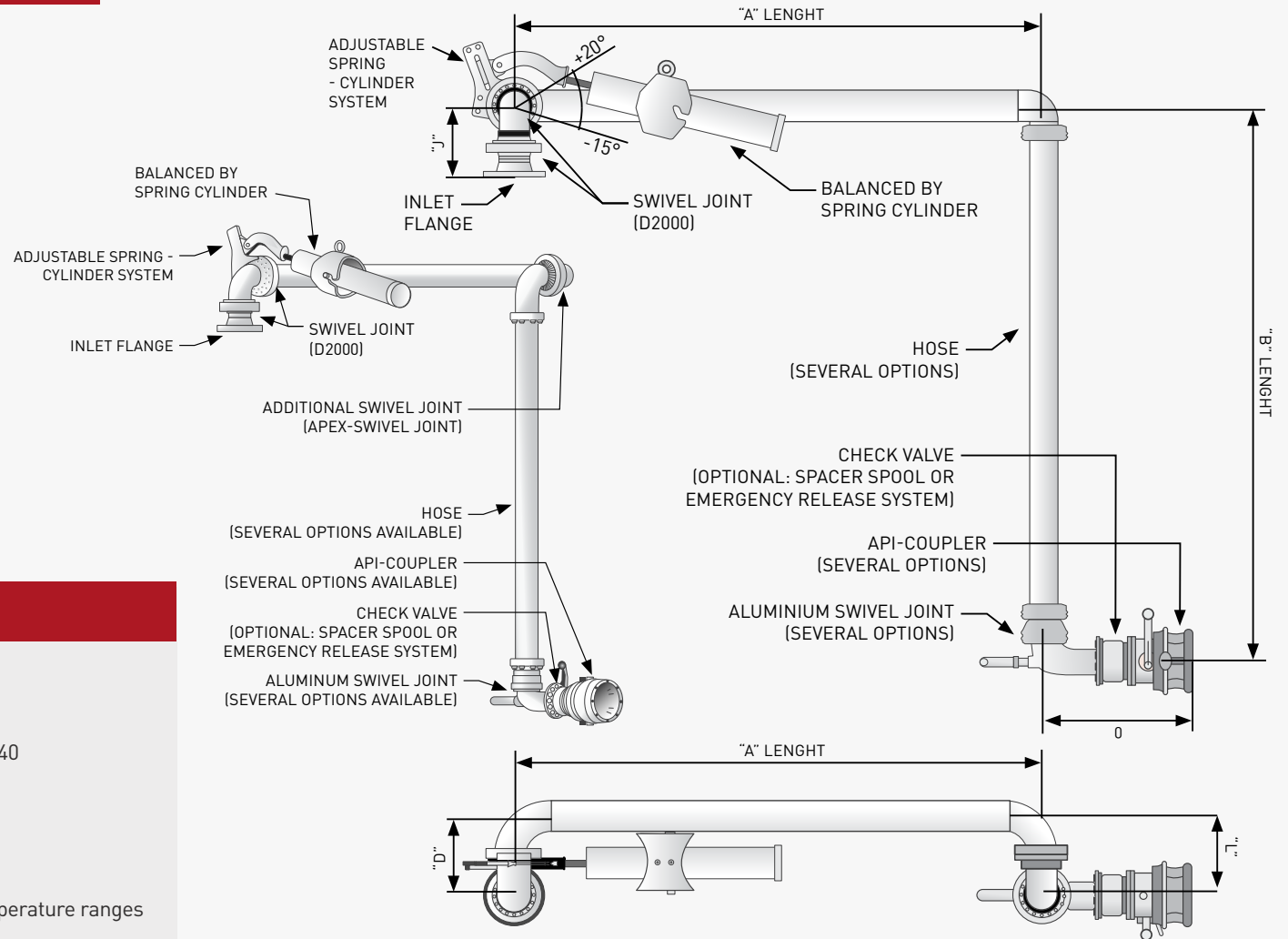


Simultaneous loading of up to 5 compartments with unrestricted cross-over



\*applies only to the standard configured pre-Engineered arms

## BOTTOM HOSE LOADERS



### DESIGN

- Material: Carbon Steel / Aluminum
- Size: 4"
- Inlet flange: ANSI 150 & 300 lbs / EN PN16 & 40
- Balancing Method: Spring cylinder
- Design Pressure: 10 bar / 16 bar
- Design Temperature: max. -20°C / +110°C

[Based on seals and accessories / Broader temperature ranges are available on request]

# BOTTOM LOADING ARMS

## BOTTOM HOSE LOADERS

Key configuration: PRODUCT KEY	
TYPE	BH
diameter 4=4	4
material / seal material A= Steel / Viton B= Steel (LT) / Viton (LT) S= Stainless Steel / Viton	A
inlet flange orientation / type 1= below / 4" 150 lbs. WN RF 2= below / DN100 PN16 11 B1 3= above / 4" 150 lbs. WN RF 4= above / DN100 PN16 11 B1	1
arm orientation L= left hand design R= right hand design	L
A-length (mm)	1000
apex swivel joint N= without apex swivel X= D2000 fixed hose Y= D2000 standard hose	N
B-length (mm)	1300
hose type C= composite hose E= rubber hose Elaflex (LT) N= provided by customer S= stainless steel hose T= composite hose Trelleborg	C

Key configuration: PRODUCT KEY	
TYPE	BH
Hose length (mm)	1000
Outboard swivel joint A= ali cast swivel B= D2000 ali C= provided by customer D= D2000 ali (LT)	A
ERS emergency release coupler A= with TBA40 B= with TBA40 (LT) C= with NGX4 D= with NGX4 (LT) N= without ERS	N
special equipment C= E0656 check valve N= without S= E0262 spacer spool	N
API Coupler A= J0451-051 B= J0452-051 C= J0550-001 D= J0452-053 (LT) N= provided by customer	A

# BOTTOM LOADING ARMS

## BOTTOM TRANSFER LOADING ARMS

**Bottom transfer loaders provide extended reach that makes them ideal for applications where a vehicle cannot be accurately spotted.**

Easy to adjust, super smooth spring loaded cylinder balance, and heavy duty capacity swivel joints enable these arms to reach further without the need for additional support. All standard loading arms feature Emco Wheaton's D2000 World Series swivel joint. A heavy duty, low profile joint with 5-year limited maintenance.

A variety of seal configurations and elastomers ensure long life performance for each specific application. Spring loaded cylinder balance has up to 50 deg of vertical movement for easy handling and alignment, as well as out of the way parking.

Not recommended for multiple arm crossover.  
See Bottom hose Loading arm.



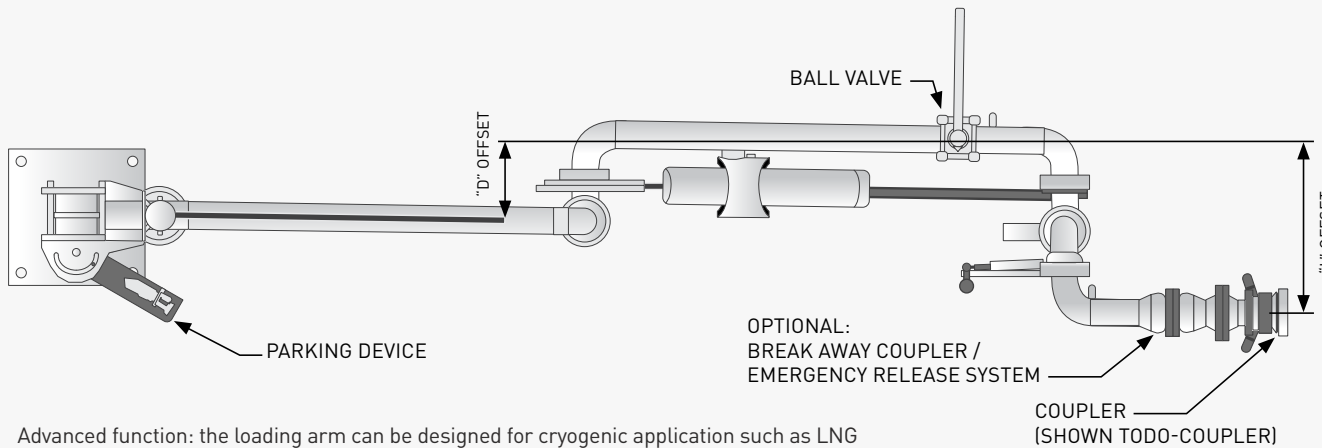
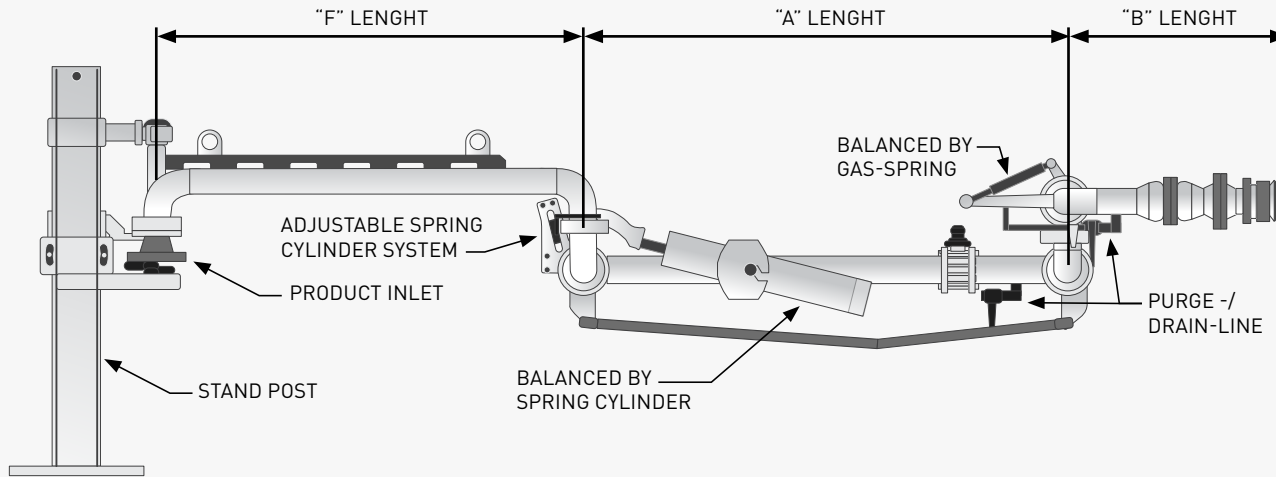
Shown design with emergency release system

**Riser connection options.** Loading arms shown in the park position.

Riser: Upfeed Base: Upfeed Outboard arm: Upfeed	Riser: Upfeed Base: Upfeed Outboard arm: Downfeed	Riser: Upfeed Base: Downfeed Outboard arm: Upfeed	Riser: Upfeed Base: Downfeed Outboard arm: Downfeed
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# BOTTOM LOADING ARMS

## BOTTOM TRANSFER LOADING ARMS



Advanced function: the loading arm can be designed for cryogenic application such as LNG

### ACCESSORIES

- Ball valve
  - Parallel bar
  - Gas spring device
  - Emergency Release System (Collar release or break stud type)
  - Orientation Switch
  - Stand Post
  - Locking device (Parking position)
  - Junction Box
  - Relief line and / or purge line
  - Heating Systems
- (Other accessories available on request)

### DESIGN

- Material: Carbon Steel / Low Temp. Carbon Steel / Stainless Steel
  - Size: 2" / 3" / 4"
  - Inlet flange: ANSI 150 & 300 lbs / EN PN16 & 40
  - Balancing Method: Spring cylinder
  - Design Pressure: 16 bar to 40 bar
  - Design Temperature: max. -50°C / +250°C
- (Exact Temperature ranges can varied in regards to material and Product application)

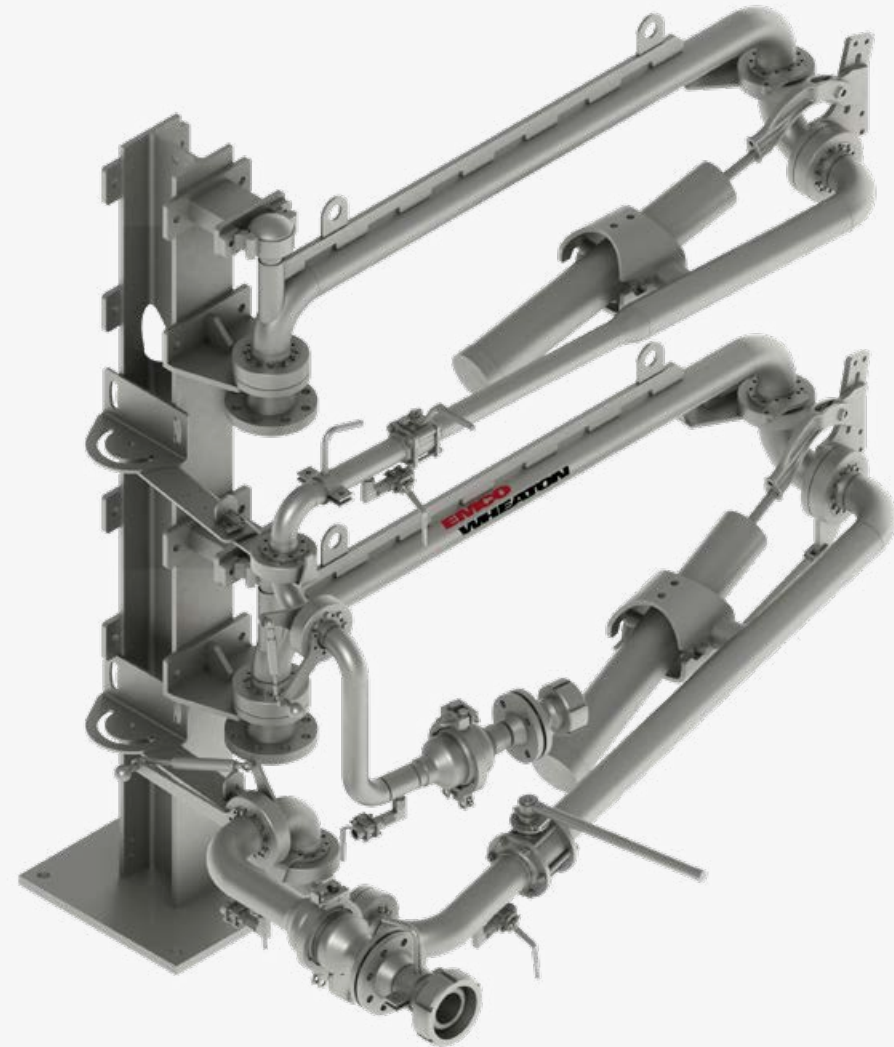
# BOTTOM LOADING ARMS

## BOTTOM LOADING STATION

**This type of loading arm is specially designed to load products where vapour return is necessary.**

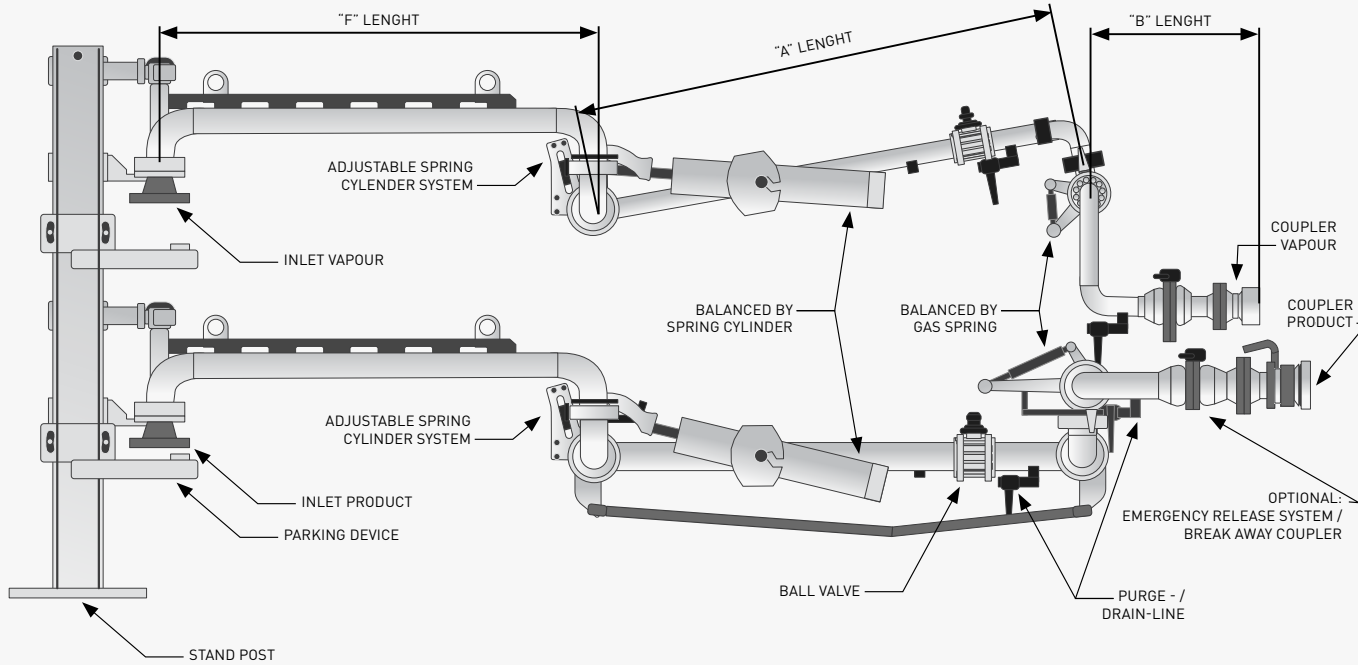
It is suitable for bottom loading / unloading of road or rail tankers with flange connections or couplings.

The loading arm has a long reach and is suitable for applications where tanker connection flange cannot be accurately positioned. Due to the robust and high quality design of the swivel joints and the precise loading arm balancing, handling of the arm is accurate and effortless.



# BOTTOM LOADING ARMS

## BOTTOM LOADING STATION



Advanced function: the loading arm can be designed for cryogenic application such as LNG

### ACCESSORIES

- Ball valve
  - Parallel bar
  - Gas spring device
  - Emergency Release System (Collar release or break stud type)
  - Orientation Switch
  - Stand Post
  - Locking device (Parking position)
  - Junction Box
  - Relief line and/or purge line
  - Heating Systems
- (Other accessories available on request)

### DESIGN

- Material: Carbon Steel / Low Temp. Carbon Steel / Stainless Steel
  - Size: 2" / 3" / 4"
  - Inlet flange: ANSI 150 & 300 lbs / EN PN16 & 40
  - Balancing Method: Spring cylinder
  - Design Pressure: 16 bar to 40 bar
  - Design Temperature: max. -50°C / +250°C
- (Exact Temperature ranges can varied in regards to material and Product application)

# 06 SPECIALITY LOADING ARMS

For specialty applications, such as the loading and unloading of toxic chemicals or dangerous product. This includes loading product that requires heating or insulation.

Specialty loading arms can be fitted with insulation or manufactured with application-specific materials. These specialty loading arms can also be powered for easy and accurate movement.

Our engineers have developed a number of loading arms for specialized service applications. If your application does not quite fit with any of the models listed please contact us.



# SPECIALITY LOADING ARMS

## DRUM FILLING LOADING ARM

This **Drum Filling Loading Arm** is specially designed to load or unload small compartments like drums or IBC containers. The loading arm has a long reach and is suitable for applications where the manhole or the connection flange cannot be positioned accurately.

The loading arm can be stopped in the working position preventing the disadvantages of a traditional hose filling system, e. g. the loading arm cannot slip off the manhole. Furthermore, the robust design and high quality of the swivel joints provides ease of operation of the loading arm.



### DESIGN

- Easy handling
- Low maintenance
- Long life
- Environmentally friendly
- EMCO-high performance swivel joints

### MATERIALS AND TECHNICAL DATA

SIZES	MATERIALS	SEALS	TEMPERATURE RANGE
Loading Arm: DN 50	Carbon steel Stainless steel	NBR PTFE Viton EPDM FEP	-15°C to +50°C
Drop Pipe: DN 40, 25			

Various dimensions, materials, temperature ranges and accessories on request.

## E2612 TOP LOADING ARM

The **E2612 Top Loading Arms** are especially designed for loading and unloading of liquefied gases. The arm is connected to the vessel using specialty couplers, providing a fast, safe, and secure connection to the valves of the vessel.

For enclosed loading applications the E2612 loading arm is combined with a second recommended Loading arm to transfer vapor.

- The Product Loading arm is designed with two end pipes for unloading (bull horn design).
- Vapour return arm with one end pipe allows another use of unloading the vessel under pressure.



### DESIGN

- For liquid gas
- For loading and unloading of Railcars
- Easy handling
- Low maintenance
- Long life
- Environmentally friendly
- EMCO-high performance swivel joints
- The temperature ranges can be varied, depending on the material and product application

### MATERIALS AND TECHNICAL DATA

SIZES	MATERIALS	SEALS	TEMPERATURE RANGE
Loading Arm: DN 100, 80	Low temp. carbon steel Carbon steel Stainless steel	PTFE FVMQ	-54°C to +100°C
Drop Tube: DN 50, 40			

Alternative dimensions and materials on request.

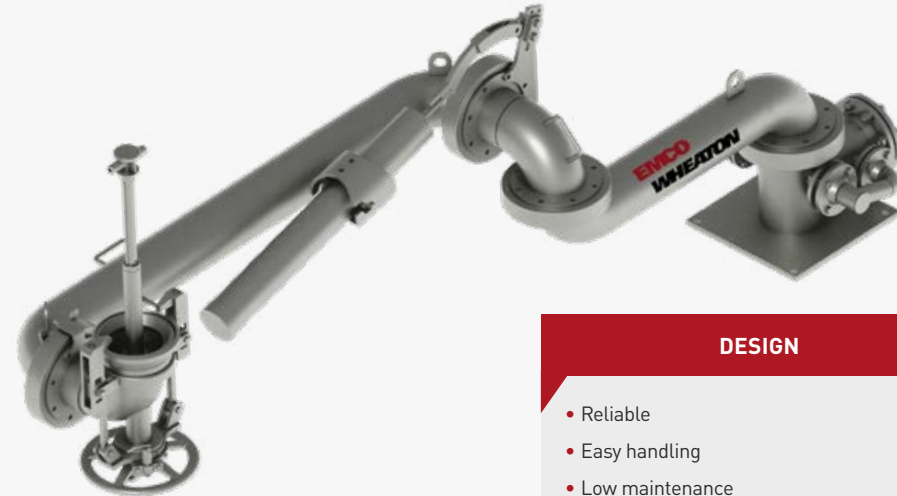
# SPECIALITY LOADING ARMS

## E2704 BOTTOM LOADING ARM

The **E2704 Loading Arm** is designed for applications to handle products with a high density. The loading arm is equipped with a special coupler for unloading Russian railcars from below. The coupler enables a **safe and quick connection**, regardless of the orientation of the adapter lid.

The long reach of the loading arm also enables connection to rail cars when the adapter is not positioned exactly. Due to the low offset of the swivel joints a minimum vertical height is guaranteed. The robust and high quality design of the swivel joints combined with the spring cylinder balancing gives **comfortable and smooth handling of the arm**.

High temperature product is pumped through the internal heating line. Due to the inner pressure the telescope heating lance moves up, and the high temperature product will be sprayed through the spray head of the lance into the railcar. The high temperature product heats up the frozen (solidified) product, which then flows through product line of the loading arm.



**DESIGN**

- Reliable
- Easy handling
- Low maintenance
- Long life
- Environmentally friendly
- Safe
- The temperature ranges can be varied, depending on the material and product application

MATERIALS AND TECHNICAL DATA			
SIZES	MATERIALS	SEALS	TEMPERATURE RANGE
Loading Arm: DN 200, 175	Low temp. carbon steel Carbon steel	NBR PTFE FVMQ	-54°C to +100°C
Drop Pipe: DN 50, 40			

Various dimensions, materials, temperature ranges and accessories on request.

## JACKET HEATED DROP TUBE

The **Jacket Heated Drop Tube** is designed for on spot top loading applications of highly viscous product, especially wax. With a pneumatic control system the drop tube is vertically moved to reach the manhole of the vehicle.

The vertical movement is realized by using a steam jacket heated telescope.



### DESIGN

- Customer specific design
- Completely jacket heated
- Pneumatically control system for ease and safe operation
- The temperature ranges can be varied, depending on the material and product application

### MATERIALS AND TECHNICAL DATA

SIZES	MATERIALS	TEMPERATURE RANGE
DN 80	Stainless steel	-15°C to +200°C

## PIGGABLE LOADING ARM

EMCO Wheaton's **Piggable Loading Arms** are used for applications where pigging the loading arm is required after the loading process. The weld seams of the loading arm are specially prepared and special elbows are be used.

At the End of the drop tube a loading lance is mounted, allowing pigging of the pipeline through the complete loading arm.



**DESIGN**

- Customer specific design
- Safe and reliable design
- Environmentally friendly
- EMCO-high performance swivel joints
- The temperature ranges can be varied, depending on the material and product application

MATERIALS AND TECHNICAL DATA			
SIZES	MATERIALS	SEALS	TEMPERATURE RANGE
DN 100, 80	Carbon steel Stainless steel	PTFE EPDM Viton FEP	-15°C to +50°C

Various dimensions, materials, temperature ranges and accessories on request.

## PTFE LINED LOADING ARM

The **PTFE Lined Loading Arms** are specially designed for loading / unloading of acids and caustics (e.g. 33 % hydrochloric acid, 30 % sulphuric acid etc.).

It is suitable for closed and open top loading /unloading of road and rail tankers with flange connection or cones. The closed system **prevents the escape of poisonous and aggressive vapor**. The loading arm has a long reach and is suitable for applications where the tanker connection flange cannot be accurately positioned.

Because of the robust and high quality design of the swivel joints and precise balancing, handling of the loading arm is very convenient.



### DESIGN

- Easy handling
- Low maintenance
- Long life
- Environmentally friendly
- EMCO-high performance swivel joints
- The temperature ranges can be varied, depending on the material and product application

MATERIALS AND TECHNICAL DATA			
SIZES	MATERIALS	SEALS	TEMPERATURE RANGE
DN 100, 80	Carbon steel Stainless steel	PTFE EPDM Viton FEP	-15°C to +50°C

Various dimensions, materials, temperature ranges and accessories on request.

## SPOT LOADING ARM

EMCO Wheaton's **Spot Loading Arms** are designed to be integrated in a full or semi-automatic workable spot loading station.

Our spot Loading Arms can be electrically or hydraulically operated.

With a fastening system for different types of sensor applications the spot Loading Arms can be easily integrated into the Spot Loading Control System.



**DESIGN**

- Customer specific design
- Meets highest hygienic and safety requirements
- Low cost operation due to automation
- Environmentally friendly
- EMCO-high performance swivel joints

MATERIALS AND TECHNICAL DATA			
SIZES	MATERIALS	SEALS	TEMPERATURE RANGE
DN 100, 80, 50	Carbon steel Stainless steel Aluminum	NBR PTFE EPDM Viton FEP	-15°C to +50°C

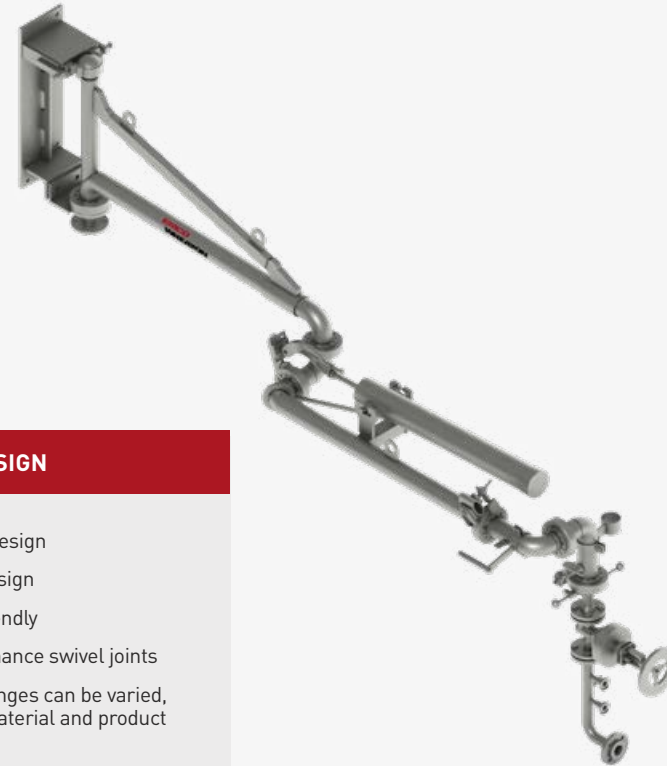
Various dimensions, materials, temperature ranges and accessories on request.

## TOXIC LOADING ARM

EMCO Wheaton's **Toxic Loading Arms** are designed for the **safe and reliable handling** of highly aggressive and dangerous product where a superior level of safety is required.

The special D2000 toxic swivel joints are equipped with a primary and secondary sealing system, which allow a purge or pressure support of the primary seal. Each swivel joint of the loading arm can be integrated to the central purge or pressure system which will allow leakage monitoring of the entire Loading arm.

Furthermore the loading arms can be equipped with special product valves to further maximize safety.



**DESIGN**

- Customer specific design
- Safe and reliable design
- Environmentally friendly
- EMCO-high performance swivel joints
- The temperature ranges can be varied, depending on the material and product application

MATERIALS AND TECHNICAL DATA			
SIZES	MATERIALS	SEALS	TEMPERATURE RANGE
DN 80, 50	Stainless steel	PTFE	-15°C to +50°C

Various dimensions, materials, temperature ranges and accessories on request.



# 07 LLS ACCESSORIES

## SWIVEL JOINTS



Emco Wheaton's range of swivel joints provide easy handling and maximize operational safety. Our offer is designed for a range of medium, heavy, and specialist applications. They are capable of handling a variety of gasses, fluids, and food products.

Each swivel joint is engineered to provide the mobility and adaptability of a hose reel, without compromising reliability. Precision hardened and ground ball tracks are integrated into each swivel joint, allowing for full mobility and reach. Multiple swivel joints can also be combined to provide a full 360° rotation across all planes.

Our swivel joints are available in a range of high quality materials, including carbon steel, stainless steel, aluminium, and other exotic materials. Product specific seals are fitted to each joint, ensuring maximum safety, durability and corrosion resistant. See our catalog to see the available options.

## SWIVEL JOINTS



**The use of our multifunctional swivel joint D2000 optimizes nearly all liquid transports.**

### **The D2000 can be used universally**

Whether in the mineral oil, food or chemical industry, the D2000 meets the highest standards. Due to the sandwich design, the bearing module is separated from the product carrying components. Therefore it can be used as a standard swivel joint for nearly all media with temperatures ranging from -60°C to +250 °C.

- **Complies with TA Luft (German regulation for environmental protection)**
- **Split flanged design**
- **OCIMF 4th Edition 2019**

### **The D2000 has a compact design**

The compact dimensions of the D2000 allows it to be used in "low profile" applications.

### **The D2000 high load capacity & integrity**

Due to the separation of product carrying parts, the material of the bearing module is produced for high load bearing capacity with the ball races being hardened.

### **The D2000 has many variants**

The D2000 can be used to fulfil customers own specific requirements. The material of the product carrying parts can have many variants and will depend on the media being handled.

### **The D2000 complies with relevant regulations**

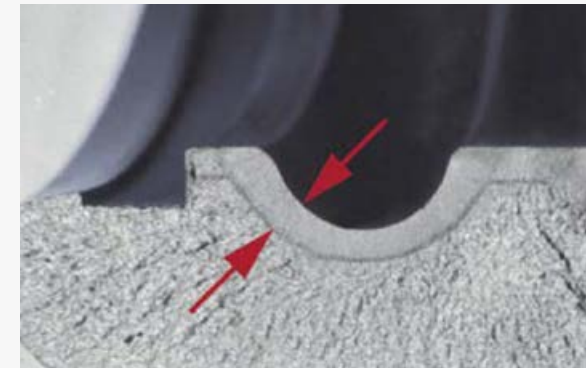
The swivel joint is produced according to the requisite regulations for articulated pipework. It can also be adapted to comply with other specific regulations.

### **The D2000 has a high leak-proof capacity**

The D2000 achieves its sealing characteristics due to its smooth rotation and high bending moment characteristics. It fulfills all requirements of the "TA-Luft" (German regulation for environmental protection).

### **The D2000 is long-lasting**

The hardened ball races guarantee a long working life and low wear characteristics.



### **The D2000 is maintenance friendly**

The bearing module and seals can be easily replaced: remove flange, change seal, replace flange - ready for use.

All this without having to disassemble the whole loading arm! This is practical, saving time and substantially reducing life costs.

# 08 SERVICE

**From basic services to total care packages, Emco Wheaton provides a range of service and support products that are designed to proactively help our customers increase their return on investment in terms of longevity, safety, and performance.**

Using a comprehensive global network of manufacturing facilities, sales offices, and trading partners, we are able to think globally and act locally; providing our customers with the service and support they need, whenever and wherever they need it.

Our team of factory trained technicians aim to provide our customers with superior service, ensuring successful installation and long-term operation of the systems and products supplied. Most importantly, we partner with our customers to make sure that they not only receive world class products and expert service, but also complete peace of mind.

# 09 DEDICATED TO QUALITY

**The safety and integrity of our customers operations are our top priority; that is why our range of products are engineered to meet and exceed the highest levels of quality possible.**

Designed to provide our customers with complete peace of mind, our portfolio of loading arms, systems, couplers, and accessories are designed to comply with a range of international standards, including:

#### **Emco Wheaton GmbH, Germany**

- ISO 9001-2015
- Pressure Equipment Directive 2014/68/EU - Modul A2
- Water Resources Law (Wasserhaushaltsgesetz - WHG)
- SCCP Certified
- Russian TR CU 010 Certificate for LLS
- Russian TR CU 010 Certificate for MLS
- Certification acc. EN 13480 / AD 200 HP0 / HP 100 R / ISO 3834

#### **Emco Wheaton USA, Inc.**

- TSSA Certification
- CSA B51-14



# 10 COMMITTED TO THE ENVIRONMENT

**At Emco Wheaton, we consider effective environmental management to be an integral part of our business.**

As an organization, we ensure that all of our activities are carried out in conformance with relevant environmental legislation and other requirements, as well as our comprehensive environmental management system.

Designed to satisfy the requirements of BS EN ISO 14001, Emco Wheaton's environmental management system guides the way we operate; helping us to focus, and continually improve, on our environmental performance.

All of our employees, as well as individuals working on behalf of the organization, are committed to helping us meet our goals of minimizing waste, promoting recycling, reducing energy consumption, reducing harmful emissions and, where possible, working with both our suppliers and customers on practical environmental programmes.

**For more information on Emco Wheaton's environmental policy, please visit our website.**

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