Quality For Over 70 Years

In 1935, the OILCO Corporation, through one of its divisions, introduced the first completely packaged loading assembly to the petroleum industry. This spirit of innovation, and commitment to quality and leadership which are the hallmarks of our philosophy, keep OILCO brand products at the forefront of the liquid handling industry today.

OILCO Corporation designs, engineers, and manufactures a wide range of standard and specialty equipment. Every component is made of the finest materials and machined to precision tolerances. CNC and advanced milling operations ensure proper dimensional accuracy. Castings are tested three times throughout the manufacturing process to ensure absolute accuracy.

Loading arms and swivel joints are most often associated with the petroleum and petrochemical industries. The fact is, however, that these sturdy and versatile devices are used for liquid handling in a multitude of industries; metal manufacturing, marine loading and unloading, and general contracting. The following is a brief review of the major components of liquid handling systems, and how they have helped industries flourish.

Loading Arms

Pressurized loading arms, articulated by swivel joints, provide a conduit for the transfer of liquids between fixed storage and a range of transport vehicles. Available in a variety of sizes and configurations, loading arms are constructed of carbon steel, stainless steel, aluminum, or any necessary combination of the aforementioned.

- Standard pipe diameters: 2 to 12 inches
- Arm extensions: 6 to 10 feet; top loaders may extend as much as 30 feet along the horizontal length of a truck tank
- Top loading assemblies: Pantagraph and slide tubes dominated the 1950’s, utilizing cast iron counterweights
- Torsion spring counterbalance: Introduced in 1951, has become the industry standard
- Long rang boom type assemblies: Introduced in 1953, expedited the loading of longer tank trucks
- Bottom loading: Surged in popularity in the 60’s and 70’s, largely reducing the risk of fire or contamination, improving flow rates and minimizing leakage and vapor loss

OILCO Corporation will alter design specifications for individual requirements and unique applications. The broad range of manufacturing includes; swivel joints, floating suction, top & bottom loaders, individual components, vent assemblies, vapor recovery, marine loading, etc.

Quality

Every OILCO product must pass a battery of tests to assure you of the highest reliability and performance and to live up to the OILCO name. Castings are tested for operational and surface defects. Machined parts are scrutinized for tightness under pressure. Special manufacturing processes such as flame hardening are used to ensure long term product performance. After every OILCO swivel joint is assembled, it is tested again to ensure that swivels perform under maximum pressure or vacuum.

On the Cover:

Top: 4” Model 756-FA Pantagraph Top Loading Assembly
Bottom: 4” 773-FCW Flexible Hose Bottom Loaders, Van Nuys, California USA
Loading Arm Specifications

- Dry line, top loading, pantagraph style assembly
- Extension ability up to 9’6” for standard arms
- Optional remote control handle
- Carbon steel, stainless steel & aluminum available
- Extended reach is available in the 1156-F series
- Torsion spring balance for closer mounting points
- Threaded or flanged connections throughout available
- Buna-N seals standard, others available
- Offered in both “o” ring and “v” ring swivel series

- Custom dimensions and configurations can be manufactured per project demands

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Loading Arm Specifications

- Popular fixed reach top loading arm
- Optional remote control handle available
- Carbon steel, stainless steel & aluminum construction materials available
- Torsion spring balance for closer mounting points
- Threaded or flanged inner connections available
- Buna-N seals standard, others available
- Offered in both “o” ring and “v” ring swivel series

- Custom dimensions and configurations can be manufactured per project demands

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Model 762-F Supported Boom Specifications

- The Model 762-F Top Loading Boom Assembly is a supported long range loading assembly designed for use in large transport loading where reach is a critical element.
- This top loader configuration is a heavy duty, heavy use, and high flow unit.
- A pillow block and cap assembly ties in the supported boom assembly to a fixed mounting rack point.
- The Model 762-F can be constructed with either 80 Series or 90 Series swivel joints.
- The riser swivel joint is a standard 90 Series, but can be upgraded to either a split flange or Model 857 unit.
- Standard Construction materials are carbon steel and aluminum, but stainless steel T-316 is available.
- All connections are flange and thread, but can be altered according to desired specifications.
- Packing seal material is standard Buna-N with available Viton, Teflon®, Nitrile, Kalrez®, and Chemrez®.
- Custom dimensions and configurations can be manufactured as per project demands.

Model 763-F Unsupported Boom Specifications

- In conditions that do not permit a fully supported boom structure, the Model 763-F Unsupported Top Loading Assembly can replace the 762-F, allowing for similar boom coverage.
- The Model 762-F can be constructed with either 80 Series or 90 Series swivel joints.
- The riser swivel should be a heavy duty unit capable of carrying increased loads due to the absence of a support boom structure (e.g. – OILCO split flange and Model 857 units).
- Standard Construction materials are carbon steel and aluminum, but stainless steel T-316 is available.
- All connections are flange and thread, but can be altered according to desired specifications.
- Packing seal material is standard Buna-N with available Viton, Teflon®, Nitrile, Kalrez®, and Chemrez®.
- Custom dimensions and configurations can be manufactured as per project demands.
Loading Arm Specifications

- Flexible hose bottom loading assembly
- Conforms to the requirements of the API envelope
- Stores in a limited space, out-of-service position
- Multiple units can be used in a cross-over condition
- Outlet swivel, spacer spool, and API coupler are additional optional equipment
- Standard optional outlet swivel is a Style 30, but can be upgraded to the Style 50 (both with handle)
- Carbon steel, stainless steel & aluminum available
- Torsion spring balance for closer mounting points
- Buna-N seals standard, others available
- Offered in both “o” ring and “v” ring swivel series
- Stainless Steel braided hose standard, but various composite material available by request
- The 2” loader is standard with threaded connections beyond the riser swivel joint

Custom dimensions and configurations can be manufactured per project demands

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Loading Arm Specifications

- Rigid type bottom loading assembly
- Conforms to the requirements of the API envelope
- Stores in a limited space, out-of-service position
- Multiple units can be used in a cross-over condition
- Outboard swivel joint is a style 50 with handle
- Spacer spool and API coupler are optional equipment
- A maximum vertical angle of 85° is recommended for ease of operations and service
- Both 754 units are available as a vapor arm
- Carbon steel, stainless steel & aluminum available
- Torsion spring balance for closer mounting points
- Buna-N seals standard, others available
- Offered in both “o” ring and “v” ring swivel series
- The 2” loader is standard with threaded connections beyond the riser swivel joint

Custom dimensions and configurations can be manufactured per project demands

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**Model 752-F**

**Bottom Transfer**

**Loading Arm Specifications**
- Fueling transfer loading assembly
- Five planes of rotation for complete coverage
- Loader adjusts for varying elevations and degrees
- Standard connection mount is ground level
- Carbon steel, stainless steel & aluminum available
- Torsion spring balance for closer mounting points
- Buna-N seals standard, others are available
- Offered in both “o” ring and “v” ring swivel series
- The secondary arm can be mounted in an upfeed or downfeed position as required by customer
- Multiple assemblies at varying heights can be used to maximize crossover conditions
- Ideal for use in rail car, tank truck, and aviation servicing and refueling centers

- Custom dimensions and configurations can be manufactured per project demands

**Standard Dimensions**

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**Model 704-F**

**Bottom Hose Loader**

**Loading Arm Specifications**
- Flexible hose bottom loader design
- Engineered for short range, cramped space use
- Outlet swivel, spacer spool, and API coupler are additional optional equipment
- Standard optional outlet swivel is a Style 30, but can be upgraded to the Style 50 (both with handle)
- Carbon steel, stainless steel & aluminum available
- Buna-N seals standard, others available
- Offered in both “o” ring and “v” ring swivel series
- Stainless Steel braided hose standard, but various composite material available by request

- Custom dimensions and configurations can be manufactured per project demands

**Standard Dimensions**

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The Model 773-FCW Flexible Hose Bottom Loader is a ballast-type counterweighted arm designed for ease of handling.

The hollow shell design of the counterweight utilizes lead shot and a sliding lock to place the weights in a forward position or as far back as necessary to insure greater coupling ability and operation.

This design permits closer riser spacing when required, and the vertical heights can be reduced as meter and riser configuration need not allow for any bucket travel.

The maximum reach of 114" conforms to the API RP-1004 Envelope when the tank truck is parked within 12" of the drop hose. When four loading assemblies are placed on 18" centers, the crossover characteristics will allow for complete coverage of the entire API Envelope.

Standard drop hoses are made from flexible braided stainless steel material, but composite hoses are available (which will meet current U.S. Coast Guard regulations.

Support using a pillow block and cap arrangement will help avoid long term pipe sag and wear on the riser over time.

The Model 857-F Riser Swivel Joint incorporates a dual set of tapered Timken® Roller Bearings affording friction free movement and assures permanent alignment and predictable performance under heavy loads. With the removable seal design, the packing material can be changed in the field without disconnection from the loading assembly in 15 minutes. The riser swivel joint component is a variable which can be altered by the customer for other OILCO swivels, depending on the project requirements and overall loading arm dimensions.

Packing seal material is standard Buna-N with available Viton, Teflon®, Nitrile, Kalrez®, and Chemrez®.

Custom dimensions and configurations can be manufactured per project demands.
**Model 774-FSJ**

**Steam Jacket**

- **Steam Chamber Pressure Rating**: 150 psi
- **Packing Seal Pressure Rating**: 500 psi
- **Packing Seal Temperature Rating**: 600°F max.

**Loading Arm Specifications**

- The only 100% fully jacketed loading assembly available to the industry.
- It utilizes long radius internal elbows, making the entire assembly piggable for maintenance.
- The Model 774-FSJ can be constructed as both a supported and unsupported unit, defined by load and dimensional characteristics.
- Stainless steel braided jumper hoses insure that steam circulation is progressive throughout the assembly, while a combination of rigid and flexible return lines provide passable movement of the steam charge.
- Available in either carbon steel or stainless steel material. Per customer requirements and budget restrictions, the material of construction can vary, provided connection points remain compatible.
- Packing seal material is standard Buna-N with available Viton, Teflon®, Nitrile, Kalrez®, and Chemrez®.

- Custom dimensions and configurations can be manufactured per project demands.

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**Model 786-LPG**

**LPG - High Pressure**

- All welded construction with full penetration welds.
- 300# raised face, weld neck, inlet flange connection.
- Schedule 40 seamless pipe with 3000# outlet coupling.
- There is no loading valve in the standard design.
- Buna-N seals standard, others available.
- 90 Series "V" ring swivel joints provide maximum seal surface contact and service life.
- Torsion spring counterbalance for ease of movement.
- Construction material can be either carbon steel or stainless steel, T-316.
- Standard reach is approximately 90 inches center to center, but dimensions can be altered to suit specific truck hook up positions.

- Custom dimensions and configurations can be manufactured per project demands.

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### Standard Dimensions

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OILCO Liquid Handling Systems has the ability to manufacture customized applications to suit even the most complicated engineering requirements and specifications. Departing from the traditional standards and creating various specialty equipment allows OILCO to accommodate the whole of heavy industry.

3” x 4” Model 1779-FSJ-T Loading Arm Specifications

- The Model 1779-FSJ-T is a completely customized, dual configuration, top loading assembly.
- Due to the extreme dimension and weight characteristics, a pneumatic cylinder was affixed to the dual arms.
- OILCO split flange design base swivel were incorporated to handle the tremendous moment load of the arm.
- The system is air actuated and manually positioned for the most simple loading operations.
- With the forward mounting arrangement of the air lift cylinder, there is a full 60° of vertical motion.
- Designed to be a complete steam jacket and vapor recovery system.
- The dual flow passages on the intermediate assembly allows for close spacing of product and return piping.
- ¾” flexible stainless steel braided jumper hoses uniformly connect the steam jacketing.
- Packing seal material is standard Buna-N with available Viton, Teflon®, Nitrile, Kalrez®, and Chemrez®.

- Custom dimensions and configurations are manufactured per project demands for this or similar assemblies.
**Type “A” Floating Suction**

- Ensures clean product delivery by drawing from near the surface of the tank
- For buried or above ground tanks
- Permanently sealed dual raceway swivel joints
- Available in aluminum, carbon steel and stainless steel construction materials
- Packing seal material is standard Buna-N with available Viton, Teflon®, Nitrile, Kalrez®, and Chemrez®.
- All connections are flanged and/or threaded, per customer specifications
- Primary arm is 69" long for a standard 10’ 6” diameter tank configuration. Straight outlet and vertical pipe. Single Float Design.

**Type “B” Floating Suction**

- Ensures clean product delivery by drawing from near the surface of the tank
- For buried or above ground tanks
- Permanently sealed dual raceway swivel joints
- Available in aluminum, carbon steel and stainless steel construction materials
- Packing seal material is standard Buna-N with available Viton, Teflon®, Nitrile, Kalrez®, and Chemrez®.
- All connections are flanged and/or threaded, per customer specifications
- Primary arm is 69" long for a standard 10’ 6” diameter tank configuration
- Primary arm is 69” long for a standard 10’ 6” diameter tank configuration. Elbow outlet and vertical pipe. Single Float Design.

**Type “C” Floating Suction**

- Ensures clean product delivery by drawing from near the surface of the tank
- For buried or above ground tanks
- Permanently sealed dual raceway swivel joints
- Available in aluminum, carbon steel and stainless steel construction materials
- Packing seal material is standard Buna-N with available Viton, Teflon®, Nitrile, Kalrez®, and Chemrez®.
- All connections are flanged and/or threaded, per customer specifications
- Primary arm is 69” long for a standard 10’ 6” diameter tank configuration
- Primary arm is 69” long for a standard 10’ 6” diameter tank configuration. No vertical pipe. Single Float Design.
**TYPE “D” FLOATING SUCTION**

- Ensures clean product delivery by drawing from near the surface of the tank
- For buried or above ground tanks
- Permanently sealed dual raceway swivel joints
- Available in aluminum, carbon steel and stainless steel construction materials
- Packing seal material is standard Buna-N with available Viton, Teflon®, Nitrile, Kalrez®, and Chemrez®.
- All connections are flanged and/or threaded, per customer specifications

- Primary arm is 120” long for a standard 10’ 6” diameter tank configuration. Straight outlet and vertical pipe. Single Float Design.

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**TYPE “E” FLOATING SUCTION**

- Ensures clean product delivery by drawing from near the surface of the tank
- For buried or above ground tanks
- Permanently sealed dual raceway swivel joints
- Available in aluminum, carbon steel and stainless steel construction materials
- Packing seal material is standard Buna-N with available Viton, Teflon®, Nitrile, Kalrez®, and Chemrez®.
- All connections are flanged and/or threaded, per customer specifications

- Primary arm is 120” long for a standard 10’ 6” diameter tank configuration. Elbow outlet and vertical pipe. Single Float Design.

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**TYPE “F” FLOATING SUCTION**

- Ensures clean product delivery by drawing from near the surface of the tank
- For buried or above ground tanks
- Permanently sealed dual raceway swivel joints
- Available in aluminum, carbon steel and stainless steel construction materials
- Packing seal material is standard Buna-N with available Viton, Teflon®, Nitrile, Kalrez®, and Chemrez®.
- All connections are flanged and/or threaded, per customer specifications

- Primary arm is 120” long for a standard 10’ 6” diameter tank configuration. No vertical pipe. Single Float Design.
The Model 1920-F is an efficient, easy-handling design, which meets the needs and safety considerations of the marine product transfer community, as well as standardized operational requirements.

The 1920-F conforms fully to the Coast Guard, ANSI B31.3 and OCIMF regulations and codes.

The long historical long term durability of the 1920-F far exceeds that of any similar hose-type design, and performs at a more consistent level while structurally remaining more sound and durable over the course.

Custom dimensions and configurations are manufactured per project demands for this or similar assembly designs.

Slides weights are adjustable, lead filled cases, allowing for even the most critical assembly balance, and calculated for optimal operational use.

Packing seal material is standard Buna-N with available Viton, Teflon®, Nitrile, Kalrez®, and Chemrez®.

The loading arm is designed in 4", 6" and 8" sizes.

Swivel joints can be O-ring, V-ring, split flange, or Timken® roller bearing design, depending on load and customer requirements.

Available materials of construction are carbon steel or stainless steel T-316.
Model 1853-M
Spring-matic Counterbalance Assembly

- An alternative to the standard OILCO Spring Balance
- The 1853-M is a cylinder type design with the bulk of the unit placed in front or the riser and parallel to the arm
- Complete adjustment of the arm can be made by increasing/decreasing tension on the draw buckle, the snubber adjuster nut, or the main spring adjustment bar
- Built for confined space operation, there is very little rear projection from the riser swivel joint
- Consult factory for configuration and design information

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Model 278-CS-4 Locking Assembly

- The Model 278-CS-4 Locking Assembly is a fixed position unit that is bolted to the riser swivel joint flange (or welded to an intermediate point), and locks the unit into a specific storage/filling position, as required by the customer
- Used primarily to avoid uncommanded movement of the loading assembly
- Constructed of carbon steel, the unit is a heavy duty, manual lock, designed for simple operation

Model VR-15 Vapor Cone

- The VR-15 Vapor Cone as a tapered hatch plug is constructed in dimensions necessary to seal various hatch openings
- The hollow cone piece can be manufactured using steel, stainless steel, or aluminum
- The exterior can be outfitted with an elastomer agent of Buna-N, Viton, EPDM, or a more rigid Teflon® coating

Model 258-GS
Outboard Horizontal Leveling Assembly

- The 258-GS is an optional outboard leveling assembly designed to make bottom loading an easy and simple operation
- In the rest position, the 258-GS keeps the coupler in a horizontal position, preventing any portion of the loading assembly to contact the service island

OILCO offers various options and accessories. Contact the factory for further product information.
**Design Data**

**Tank Truck Top Loading Arm**

A. Rack platform height from grade _______________
B. Overhead clearance, platform to canopy or the canopy supports _______________
C. Distance, centerline of riser to safety rail ____________
D. Platform width, centerline of riser to the loading side edge _______________
E. Riser connection height from platform (supply from below) _______________
F. Riser connection height from platform (supply from above) _______________
G. Riser connection height (to centerline) from platform (horizontal supply) _______________
H. Platform clearance, face of horizontal supply to centerline of tank truck, max ____________ min ____________
K. Distance, centerline of riser to centerline of tank truck, max ____________ min ____________
L. Safety rail height above grade _______________
M. Platform width _______________
N. Platform length _______________
P. (1) Riser spacing on centers _______________
   (2) Number of risers _______________
   (3) Number of arms with same product _______________
R. Overall range of hatch opening _______________

**Note:** Indicate location of any possible obstruction on platform, such as roof supports, equipment between risers, safety equipment, etc.
**Tank Truck Bottom Loading Arm**

A. Overhead clearance, grade to canopy or canopy supports _______________

B. Island height _______________

C. Riser connection height from island ______________

D. Reach, centerline of riser to face of coupler adapter _______________

E. Tank overhang, beyond face of coupler adapter _______________

F. Coupler adapter height, centerline of coupler to grade _______________

M. Island width _______________

H. Island length _______________

P. (1) Riser spacing on centers _______________

(2) Number of risers _______________

(3) Number of arms with same product ___________

R. (1) Coupler spacing on centers _______________

(2) Number of coupler adapters on tank truck _______________

(3) Make/ Model of coupler ___________

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**Tank Car Loading and Unloading Arm**

A. Riser connection height above rail (supply from above) _______________

B. Riser connection height above rail (supply from below) _______________

C. Reach, centerline of riser to centerline of tank car _______________

D. Dome opening or connection height above rail _______________

Note: (1) Indicate connection points, top □, front □, rear □, right side □, left side □

Note: (2) Type of connection _______________

E. Bottom connection height _______________

(1) Type of connection _______________

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*Note*: (1) Indicate connection points, top □, front □, rear □, right side □, left side □.