EMCO WHEATON

TANK TRUCK EQUIPMENT

Catalogue 2024

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With More Than 100 Years' Experience

Emco Wheaton has pedigree and knowledge in the manufacture of world leading equipment. Leaders in the design and manufacture of tank truck equipment, our products are designed to ensure that your product is delivered without spillage or contamination, and at all times protecting the driver and the environment. Emco Wheaton in association with the world's major international oil and chemical companies have invented equipment and systems for distribution of oil products.

Our focus on the provision of systems based solutions to real customer and market-generated issues is based upon a tradition of excellence and innovation in design, manufacture and aftermarket care. A fundamental appreciation of both market and customer needs provides the basis upon which quality products and services are scoped, designed and brought to market, ensuring that quality is in-built. Our equipment complies with international standards and recommended practices. As you would expect from a ISO9000/2000 approved company, our methods and manufacturing procedures are monitored consistently, resulting in quality approved equipment time after time.

We are committed to ensuring that excellence in customer service is integral to our business processes and to the design, manufacture, delivery and installation of all of the products and systems we supply. We recognize that excellent customer care must be an integral ingredient in the delivery of high quality products and services.

With a global network of trained technicians, agents, distributors and representatives, we are committed to continually raising our standards of customer care.

Fuel Systems

The Fuel Systems SBU is the foremost supplier of a comprehensive range of road tanker loading/unloading systems, automatic fuelling systems for transit buses, DRY-BREAK® couplers and adapters and a variety of aviation and industrial nozzles.

In addition to Emco Wheaton, the organization has recently added the TODO® product range to its portfolio. TODO® is the world's leading manufacturer of DRY-BREAK® couplers and has achieved this position through many years of working in close collaboration with its customers, developing products that meet their current and future requirements. Fuel Systems has plants in the UK, Sweden and Canada and sales / distribution facilities in France, USA, UK, Malaysia and Bahrain. The provision of systems based solutions to real customer and market-generated issues is based upon a tradition of excellence and innovation in design, manufacture and aftermarket care.

A fundamental appreciation of both market and customer needs provides the basis upon which quality products and services are scoped, designed and brought to market, ensuring that quality is in-built at the earliest stage of the product development cycle.

Loading Systems

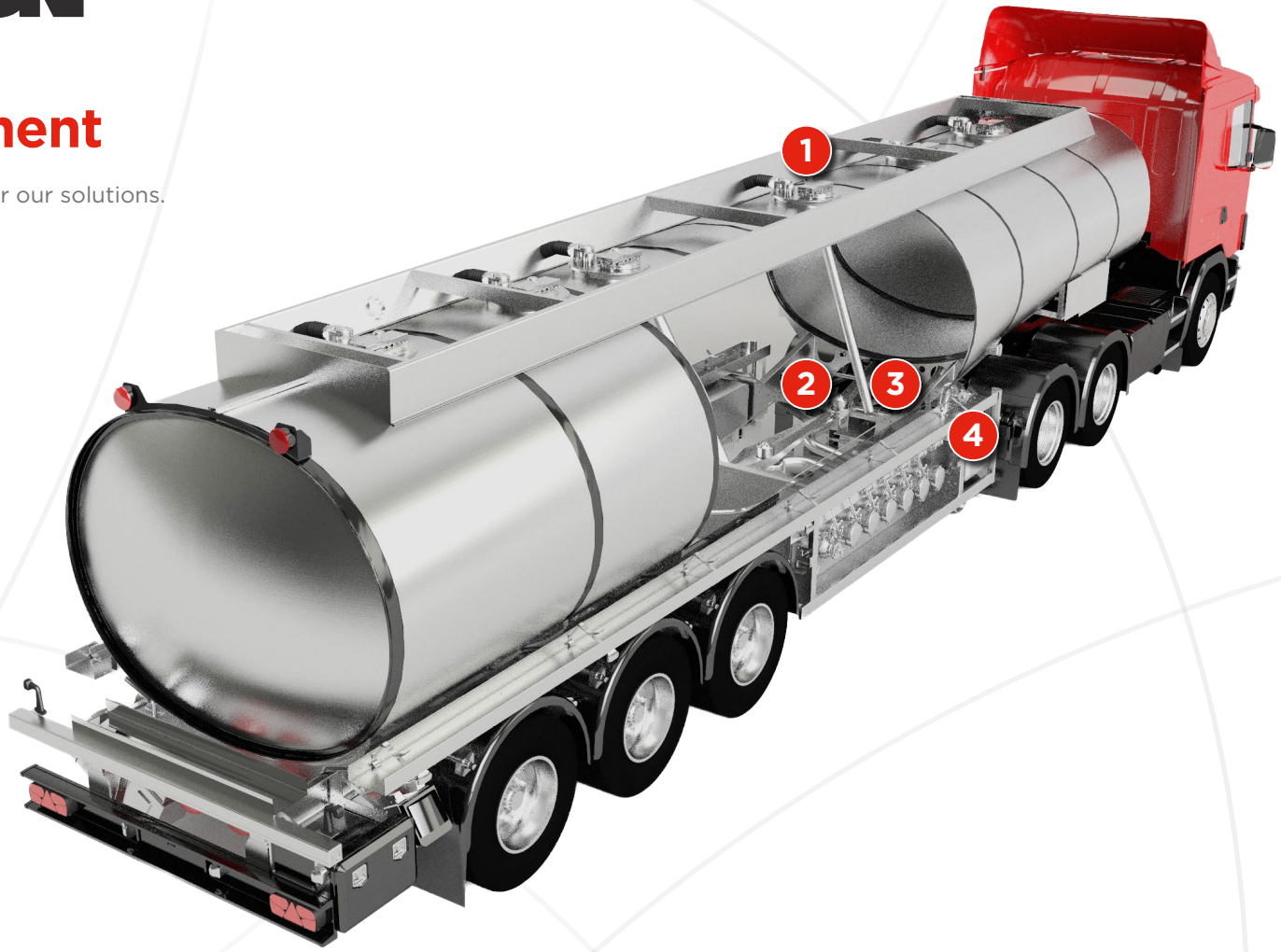
The Loading Systems SBU is the world‘s leader in the design, manufacture, instal- lation and service of well-proven fluid handling equipment for petroleum, che- mical and food applications. In addition to Emco Wheaton, the organization also includes other internationally renowned brands such as Perolo, CE-LSI and AARIG.

The Loading Systems business has manufacturing plants in Houston Texas, USA and Kirchhain Germany providing a complete range of products for liquid handling, including complex marine loa- ding systems, road and rail loading and unloading arms, API couplers, storage tank equipment and a range of safety access solutions.

The organization was founded over fifty years ago, employs more than 250 worldwide and has representation in over 100 countries around the globe. State of the art manufacturing, research and development facilities, certified quality assurance, 24 / 7 on-call service teams and preventative maintenance programs all combine to provide customers with first-class service, when they need it and where they need it

Trailer Equipment

Scroll around the truck to discover our solutions.



API RP1004
Bottom Loading Envelope

Bottom loading and vapor recovery for MC-306 and DOT-406 tank motor vehicles tank vehicles used for bottom loading

Required Features

Location of Adaptors

The bottom loading adapter or adaptors must be insatlled on the curb side of the tank vehicle (see figure 3).

Horizontal Spacing of Adaptors

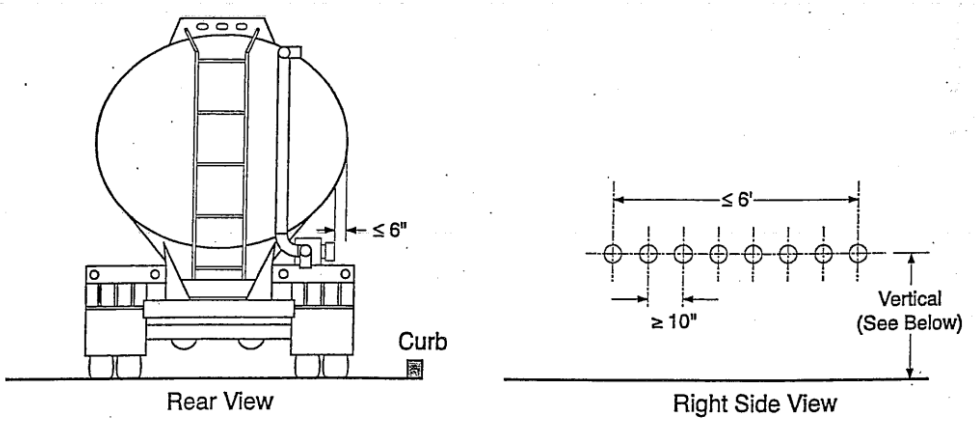
Where more than one tank vehicle adaptor is provided, the vertical centerlines must be at least 10 inch (254 mm) apart.

The face of the adaptor must be in a vertical plane and must be located no more than 6 in. (150 mm) inside the maximum width of the vehicle in the adaptor area. When mulitple adaptor are installed, adaptors must not be horizontally spaced on more than 6 ft (1.83 m) center (see Figure 3).

Vertical Spacing of Adaptors

The tank vehicle adaptors must be installed on centers that are not more than 5.4 ft (1.37 m) above grade when the vehicle tank is empty and not less than 2 ft (0.61 m) above grade when the tank is full. Experience indicates taht for ease of loading, a height of not more than

3.75 ft (1.14 m) and not less than 2.5 ft (0.84 m) is desirable (see Figure 3).



Vertical Dimensions		
≤ 4.5'	When empty (max)	54"
3.75' to 2.75'	Desired Range	45" *39" 33"
≥ 2'	When full (min)	24"

* Midpoint of desirable range

Figure 3—Horizontal and Vertical Spacing of Adapters

Energy Institute
Bottom Loading Envelope

The API male adaptor (liquid adaptor), the cam and groove vapour adaptor (vapour collection adaptor) and the 10-pin connector shall be located in accordance with the following requirements (see Appendix 3):

- ✓ The height of the centre line of the liquid adaptors shall be: maximum 1.4 metres (unladen); minimum 0.5 metres (laden), the preferred height being 0.7 to 1.0 metres;
- ✓ The horizontal spacing of the adaptors shall be not less than 0.25 metres (preferred minimum spacing is 0.3 metres);
- ✓ All liquid adaptors shall be located within an envelope not exceeding 2.5 metres in length;
- ✓ The vapour collection adaptor shall be located to the right of the liquid adaptors and at a height not exceeding 1.5 metres (unladen) and not less than 0.5 metres (laden).

The 10-pin connector shall be located to the right of the liquid and vapour collection adaptors and at a height not exceeding 1.5 metres (unladen) and not less than 0.5 metres (laden).

The above connections shall all be on the same side of the vehicle.

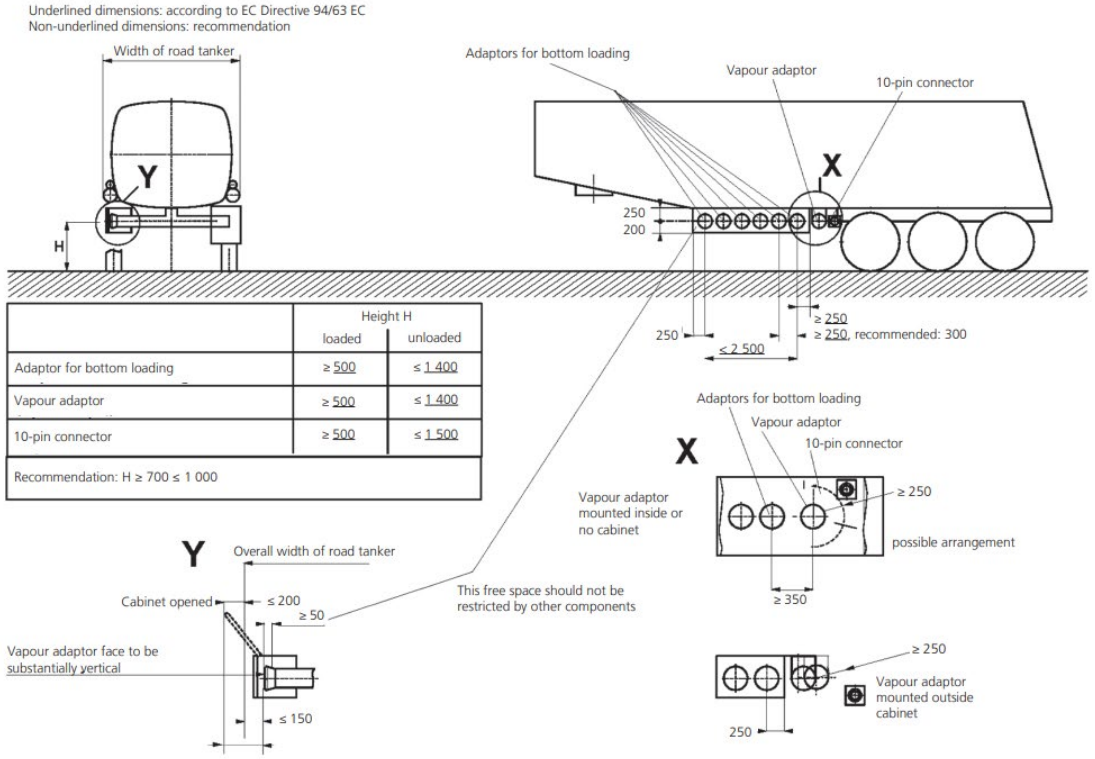


Figure E.1: Installation of bottom loading equipment (dimensions in mm)

01 Manifolds API's & Accessories

F0534
Pneumatic Manifold

Bottom loading in accordance with API RP1004. Gravity Delivery through API adaptors. Any compartment pumped, hose reel metered, or bulk delivery through manifold.

The Emco Wheaton manifold assembly is supplied in fully assembled form for quick and easy installation.

Each assembly comprises, for each compartment; our API Adaptor and Pneumatic Manifold Valve, a lightweight Manifold, fabricated from extruded aluminium, and a Guard Bar that is interlocked to the vehicle brake system.

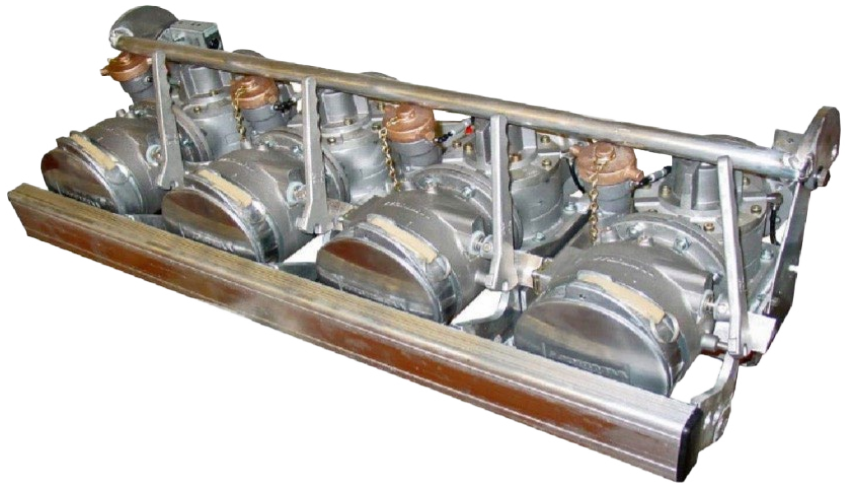
Optional extras that can be included

Product Return Device for safe and clean return of product to an appropriate compartment. This feature is used when a multi-compartment tanker, carrying different products, is changing the type of product being delivered through a hose reel and the hose and manifold need clearing to avoid contamination.

Gas Separator when using the Emco Wheaton Drumflow system for metered deliveries.

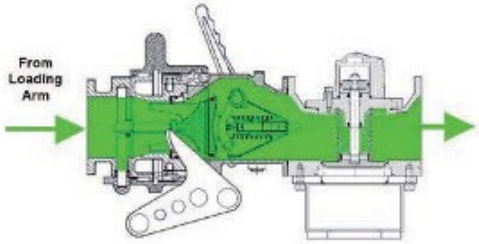
Features

- Conforms to API RP1004 code of practice for bottom loading.
- Lightweight aluminium construction.
- High quality die cast valve bodies.
- Variable centres made to suit your tanker design requirements.
- Interlocked guard bar to brakes to prevent drive off with hose or loading arm connected.
- Interlocked valve opening via pneumatic controls.
- Gas separator – optional.
- Product return – optional.
- Valve spacing to suit requirements.
- Double acting manifold valve – optional.
- Any number of compartments.
- Supplied fully pressure tested.

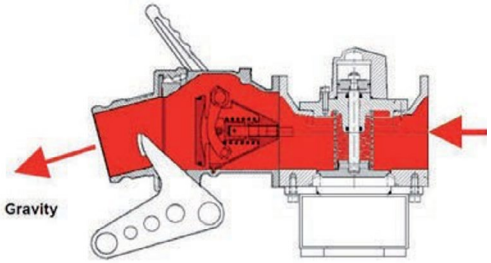


F0534
Pneumatic Manifold

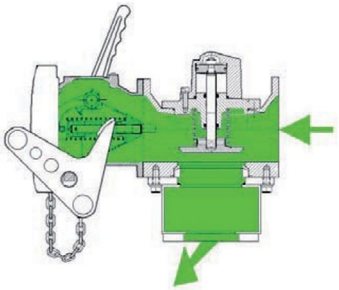
Bottom Loading



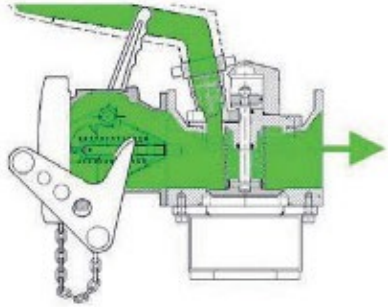
Manifold / Pump Unloading



Gravity Unloading



Product Return



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F0558
Bottom Loading Double Manifold Assembly

The complete manifold assembly offers the tank builder easier and quicker installation. The twin chamber assembly allows the vehicle to pump off multiple products without product contamination. This gives the operator a safe, clean and simple way of loading and unloading the vehicle. The air-operated manifold combined with a sequenced air system ensures no product crossover contamination.

Typical Unit Weights

- 2 Compartments – 24.50 kg
- 3 Compartments – 36.75 kg
- 4 Compartments – 49.00 kg
- 5 Compartments – 61.25 kg

Features

- Lightweight robust extruded double manifold assembly.
- Two to nine compartment variants available.
- Guard bar assembly with guard bar brake interlock ensures safety and security.
- Variable API valve centres giving full flexibility of mounting and optimising use of limited space available. Standard - 14”.
- Safety - Truck will not move with manifold open when combined with our Sequenced Air System.
- Double acting internal air cylinder in manifold valve, combined with poppet spring, ensures positive opening and closing of cylinder.
- Poppet on manifold valve is positively locked with air when the guard bar is open.
- Self-centralizing & cleaning manifold valve poppet for improved sealing and extended life.
- Stainless steel internal components in manifold valve.
- Bottom mounted outlet for full drainage of manifold section.
- Designed to accept our range of API valves.
- Maximum product working pressure 75psi.
- Designed to function at -40°C.

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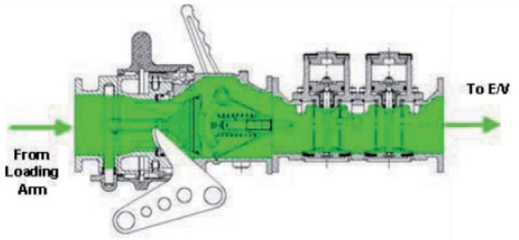
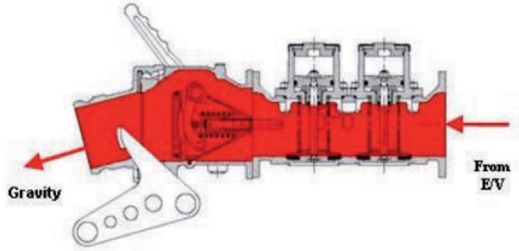
F0558
Bottom Loading Double Manifold Assembly

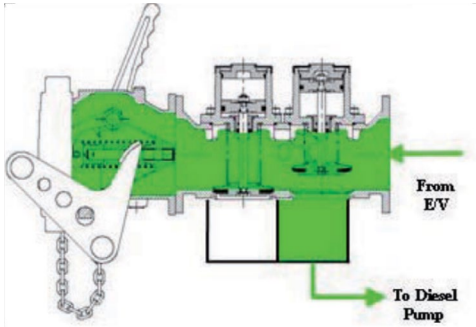
Bottom Loading
When loading the Guard bar is released and lowered, this sequences air to the manifold valves and ensures that they are in the closed position. This design offers maximum flow rates.

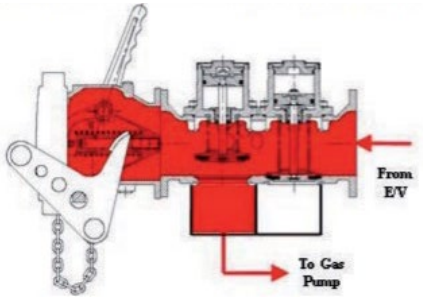


Bulk Unloading
Versatile bulk unloading is made possible by leaving the manifold valves closed and allowing maximum product to flow straight through the manifold valve.



Pump Unloading Through Manifold
Unloading is made possible through either pump system by opening the required manifold valve. This allows product to flow out of the manifold to the pump. Cross contamination is eliminated when using the sequenced air system that ensures only one valve can be opened.
When the guard bar assembly is locked and closed this ensures complete security as no product can flow through the API Adaptor.





API Bottom Loading Adapters
Features & Benefits

API bottom loading Adapters and couplers form the critical connection during bottom loading of the road tanker at the loading rack, and during gravity discharge at the service station.

The Emco Wheaton range of API bottom loading adapters are designed to incorporate maximum safety, whilst ensuring low-pressure drop, and hence high flow, providing easy maintenance and a long service life. Every Adapter in the Emco Wheaton range meets the recognised international standards and industry codes of practice.

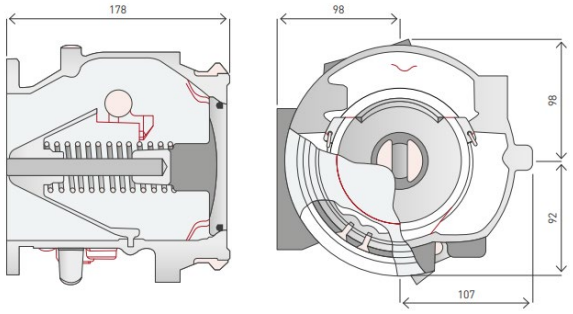
The Emco Wheaton API Adapters have been designed with a flat base to ensure full product drainage when unloading and are the ideal choice for any organisation involved in the transportation of fuels. With their aluminium body, hard anodized indexible nose ring and flat bottom our products set the standard in design and build quality. Each model shares common spare parts minimising maintenance costs and reducing spare parts inventory.

Features

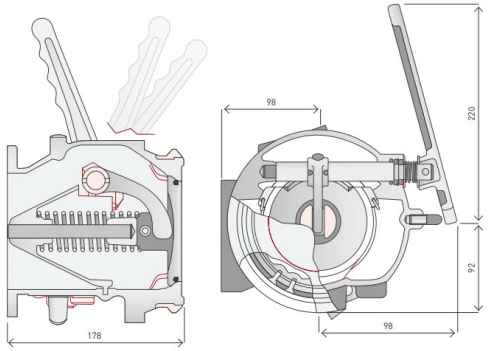
- Hard anodised replaceable nose ring, with 4 position indexing for extended life (where applicable).
- Two stage fixed aluminium handle gives positive indication of valve position (where applicable).
- Flat bottom of valve body ensures complete product drainage.
- Conforms to API RP1004 for total compatibility with API couplers.
- Available with or without sight glass
- Lightweight die cast aluminium construction for increased payloads with strength.
- Viton seals are standard for compatibility with high- octane fuels and additives.
- Hydrodynamic design minimises pressure drop for high flow rates.
- Stainless steel internal components.
- Top mounting for air interlock (F0567).

API Bottom Loading Adapters
Variants & Technical Information

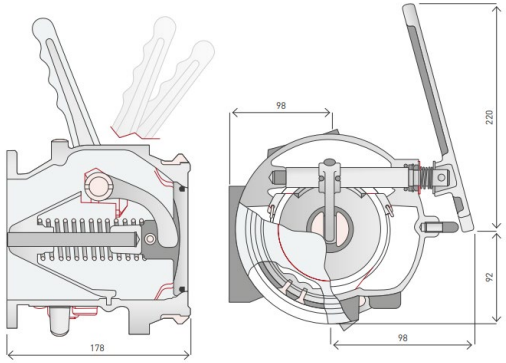
F5000
Non-Openable API Adapter
Weight: 3.53 kg



F5001
Openable API Adapter
Weight: 4.40 kg



F5002
Openable API Adapter with sight glass
Weight: 4.45 kg



Variants	Description
F5000001	API ADAPTOR, LOAD ONLY, VITON
F5000041	API ADAPTOR, LOAD ONLY, SIGHTGLASS, VITON
F5000002	API ADAPTOR, LOAD ONLY, PTFE
F5001001	API ADAPTOR, OPENABLE, VITON
F5001002	API ADAPTOR, OPENABLE, PTFE
F5002001	API ADAPTOR, OPENABLE, SIGHTGLASS, VITON
F5002001S	API ADAPTOR, OPENABLE, ANTI-TAMPER SIGHTGLASS, VITON
F5002101	API ADAPTOR, OPENABLE, SIGHTGLASS, VITON
F5002101A	ANODISED API ADAPTOR, OPENABLE, SIGHTGLASS, VITON
F5002002	API ADAPTOR, OPENABLE, SIGHTGLASS, PTFE

Other variants are available. Please contact Emco Wheaton for further information

When specifying API Adapters for your vehicle the following points should be considered:

- ✓ Use F0567 Air Interlocks when required.
- ✓ How many valves are required per vehicle?
- ✓ Specify the F0499 API Dust Cap to protect your valves.
- ✓ The flange gasket to suit this valve should be ordered separately.
- ✓ Use Emco Wheaton Visual Indicators when possible

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F0499
API Dust Cap

The Emco Wheaton API Dust Caps are made from die cast aluminium and are easy to use. These dust caps are suitable for all API valves manufactured in accordance with API RP1004.

They protect the poppet face of the API Adapter, prolongs its life, and adds an additional safety stop point. In countries following the ADR code of practice it is mandatory to fit a third stop valve; the F0499 dust cap is pressure tested to comply with this code.

Features

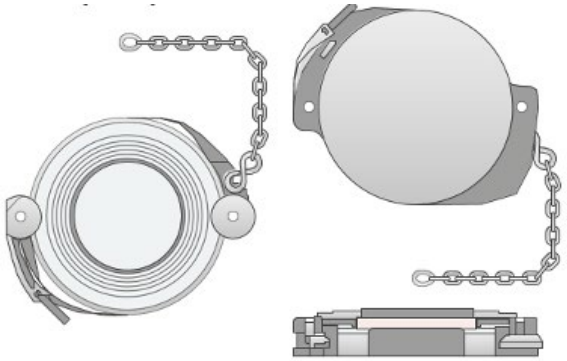
- Suitable for all of the Emco Wheaton series of API Adapters.
- Protects poppet face of API Adapter and prolongs life of seals.
- High quality die cast body and component materials to international standards are used for durability and performance.
- Radial cam and lug design for one-handed operation.
- Compact Glass Filled Nylon cams reduce wear and eliminate corrosion.
- Buna seal fitted as standard.
- Heavy-duty stainless steel chain supplied as standard for attachment to API Adapter.
- Polished or Power Coated options.
- Seal tag hole variant for sealed delivery and security is also available.

F0499
Technical Information

F0499

API Dust Cap

Weight = 1.1 kg



Ordering information

Variants	Description
F0499121	API Dust Cap, polished, Buna seal, 340mm chain
F0499140	API Dust Cap, powder coated, Viton seal, 340mm chain
F0499128	API Dust Cap, polished, Viton seal, 340mm chain
F0499132	API Dust Cap, polished, Buna seal, 480mm (19") chain
F0499121B	API Dust Cap, polished, Buna seal, 340mm chain, brass cams

When specifying API Dust Cap's for your vehicle the following points should be considered:

✓ Number of compartments per vehicle?

✓ Is a polished or painted finish preferred?

F0459
API Gravity Drop Adaptor

The Emco Wheaton F0459 range of API Gravity Drop Adapters has been specifically designed for use with API adapters when discharging product and will couple to any adapter made in accordance with API RP1004.

Approvals

✓ Conforms to API RP1004
✓ EmcoWheatonSurelok™ conforming to MIL-C-27487 specification

Features

- High quality lightweight die cast body.
- Internal shoulder to grip adapter nose and support weight of product hose
- Stainless Steel chain supplied as standard for attachment to API Adapter.
- 2½", 3" and 4" Surelok™ outlet variants available.
- 3" and 4" Threaded outlet variants available.
- Suitable for all API Adapters which conform to RP1004.

Request a Quote

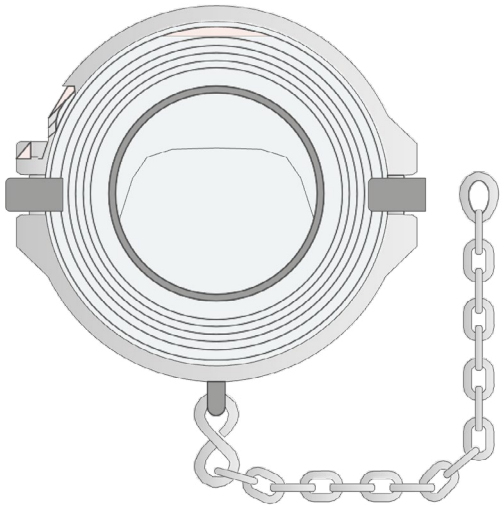
F0459
Technical Information

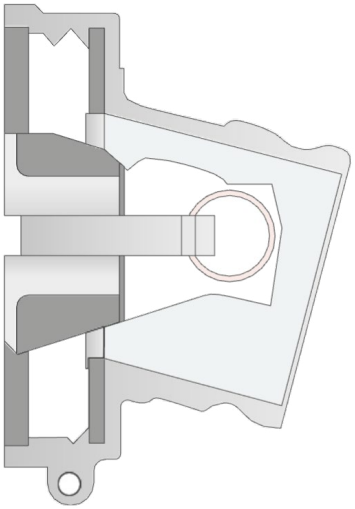
F0459

API Gravity Drop Adapter

Weight:

- 2½“= 1.40 kg
- 3“= 1.81 kg
- 4“= 2.27 kg





Ordering information

Variants	Description
F0459-015	2.5” Drop Adapter to API, Cam & Groove, Outlet Buna Seal
F0459-006	3” Drop Adapter to API, Cam & Groove, Outlet Buna Seal
F0459-007	4” Drop Adapter to API, Cam & Groove, Outlet Buna Seal
F0459-030	3” Drop Adapter to API, BSPP, Outlet Buna Seal
F0459-020	4” Drop Adapter to API, BSPP, Outlet Buna Seal

When specifying API Gravity Drop Adapters for your vehicle the following points should be considered:

✓ Outlet Connection size required.

✓ Threaded or Surelok™ connection.

✓ Quantity required per vehicle.

F0091- 00564151
4” TTMA Sight Glass

Emco Wheaton can supply and easy to fit sight glass, which is simply positioned between the tank pipe flange and the API Adapter or Faucet Valve.

The Sight Glass provides a clear view of product presence, flow and product type (by colour identification)

Features

- Transparent and thick section for clear view of product in pipe.
- Compatible with petroleum products.
- Tough and durable made from clear cast annealed Acrylic.
- 4” TTMA flange available for compatibility.

Ordering information

Variants	Description
ZS1115557	Sight glass, 4" TTMA x 35mm, for use with Ethanol
F0091006	Sight glass , 4” TTMA x 1.5”, for use with Ethanol

When specifying 4” TTMA Sight Glasses for your vehicle the following points should be considered:

✓ Number per vehicle?

✓ Gaskets to support fitting of the sightglass.

02 Emergency Valves & Accessories – Mechanical & Pneumatic

F70 Series
Emergency Valves / Foot Valves

The range of Emergency Valves offered by Emco Wheaton have been designed to ensure high flow and durability, whilst being easy to maintain. These reliable flow efficient internal valves are offered with mechanical or pneumatic control, and normal, intermediate, or low profile design to meet the fitment needs of all truck builders the world over. Sequenced operation was introduced into the emergency valves by Emco Wheaton and is now a standard feature of all our pneumatic emergency valves. A robust design and stringent quality control ensures a long and trouble free operational life.

Emco Wheaton provide sequenced pneumatic emergency valves. This means that the vapour vent must actually be open before the emergency valve can be opened. Some companies send air to the vent and the emergency valve at the same time, so if the emergency valve opens but the vent does not, the tanker compartments could be dangerously overpressurized. This could result in baffles being reversed or even a rupture.

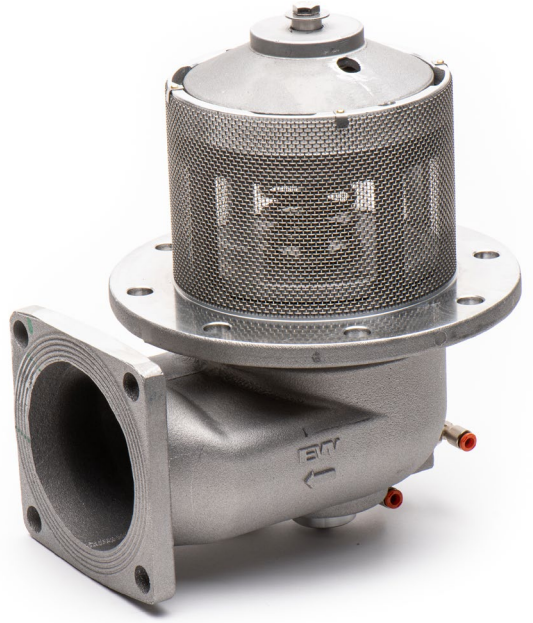
Virtually all manufacturers of tank truck equipment world-wide provide emergency valves which conform to one of these internationally recognised standards. Emco Wheaton actually supplies emergency valves with flanges to suit both of these accepted standards. This ensures that replacement valves are always easily available and that there is the facility to change valves between different tankers, when required.

- **TTMA -** this recommended practice was developed in the USA and is now widely used and recognised in many parts of the world. This recommended practice covers round sump flanges and round outlet flanges.

- **TW (Tank Wagen) –** this standard was developed in Germany and is used widely in Europe as well as other parts of the world. The TW sump flange will be adopted as standard by the new CEN European norm, which is currently being prepared. This draft standard covers round sump flanges, round outlet flanges and square outlet flanges.

F70 Series
Emergency Valves / Foot Valves

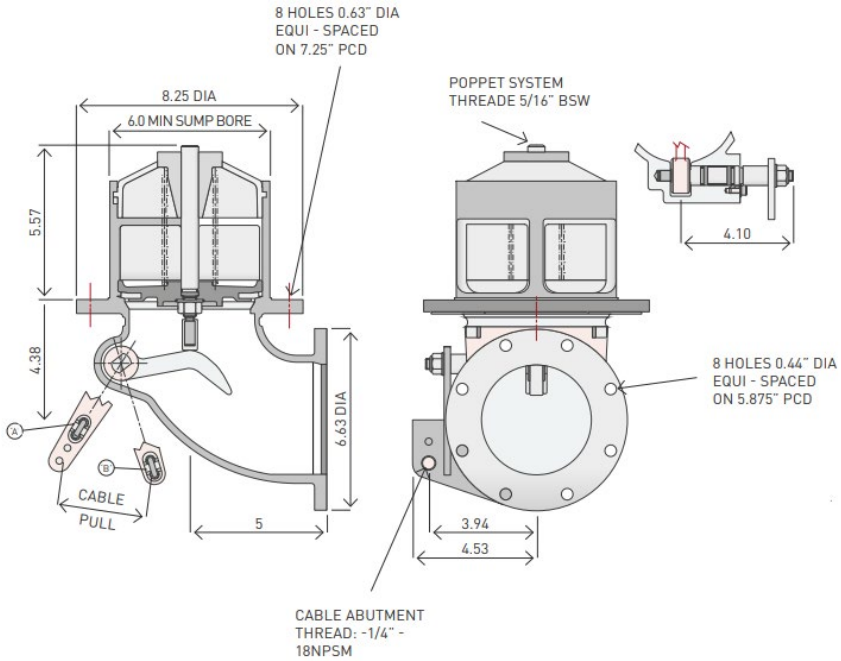
- ✓ High quality die cast body and component materials to international standards are used for durability and performance.
- ✓ Lightweight aluminium construction for **increased payloads**. (see variant for details)
- ✓ High lift poppet for **maximum flow**.
- ✓ Hydrodynamic body designs minimises pressure drop to give **high flow rate**.
- ✓ Shear groove meets TTMA and NTTC DOT 406 to limit product spillage in the event of an accident.
- ✓ Closure by **self-centring plunger** and durable compression spring.
- ✓ **Easy seal changes,** without the need to remove valve from the tank, due to removable bonnet assembly.
- ✓ Stainless steel cam with bearing boot on plunger stem for **smooth operation and extended life**.
- ✓ **Solvent compatible seal variants** available with Stainless Steel trim.
- ✓ Victaulic, **TW** and **TTMA** flanged variants available.
- ✓ Double O-Ring Seals on cam shaft for **improved sealing and ease of maintenance**.
- ✓ Nylon Bearing supports camshaft for **extended life**.
- ✓ Push Rod Adapter or Eye Bolt available for mechanical vent or top operation.
- ✓ Cable guide cast in outlet flange (where applicable).
- ✓ Screen **filter fitted as standard** to prevent seal damage
- ✓ Removable bonnet assembly enables seal change without removing valve from the tank truck.
- ✓ Air cylinder piston assembly designed to be replaced without removing valve from tank pipework (where applicable).
- ✓ **Positive open/closed indication** provided by sequenced air cylinders.
- ✓ Viton seals are standard for compatibility with high-octane fuels and additives
- ✓ Multiple seal variants available, including solvent compatible.
- ✓ Component parts common to other valves in our range to **minimise spares inventory**.
- ✓ Manual opening device for emergency discharge of cargo.
- ✓ Standard sized 6mm air connections.



F70 Series
Technical Information

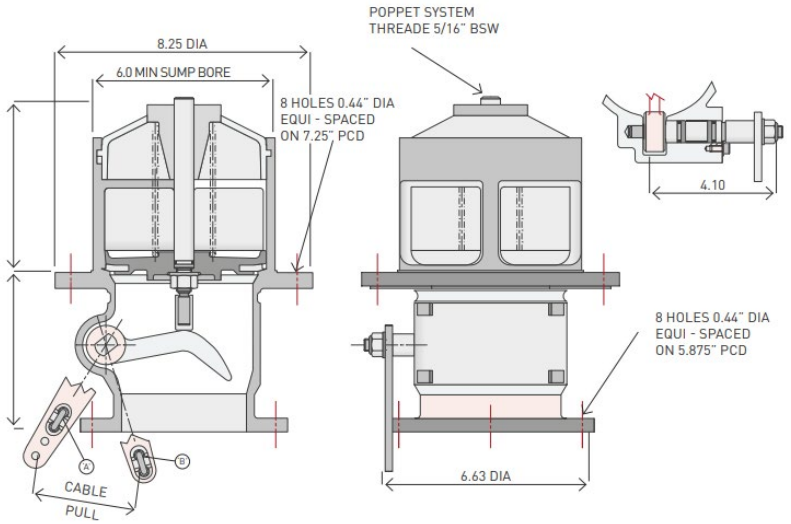
F7000 - 4”

High Flow Emergency
Mechanical Valve
Weight = 4.7 kg



F7010 - 4”

High Flow Straight Emergency
Mechanical Valve
Weight = 4.24 kg



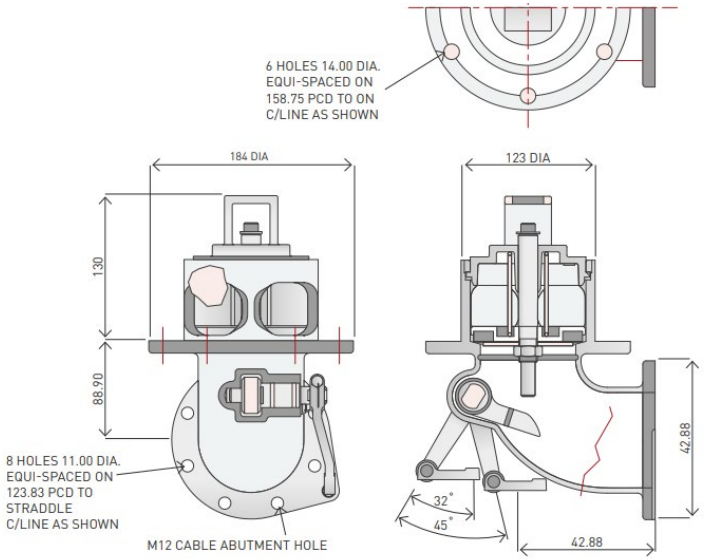
F70 Series
Technical Information

F0335 – 3”

Mechanical Emergency Valve

Weight = 3.40 kg

- ✓ Manual operation is achieved by using the Emco Wheaton F0019 Bottom Operator Assembly and the F0028 Cable Assembly.
- ✓ Eyebolt included for top operation used in conjunction with the Emco Wheaton F0319 Top Operator Assembly and the F0285 Cable Kit for top operation.
- ✓ 2½” and 3” sized variants are available



F7050

3” (DN80) Pneumatic Emergency Valve

Weight = 4.00 kg

Request a Quote

Ingersoll Rand Transport Solutions

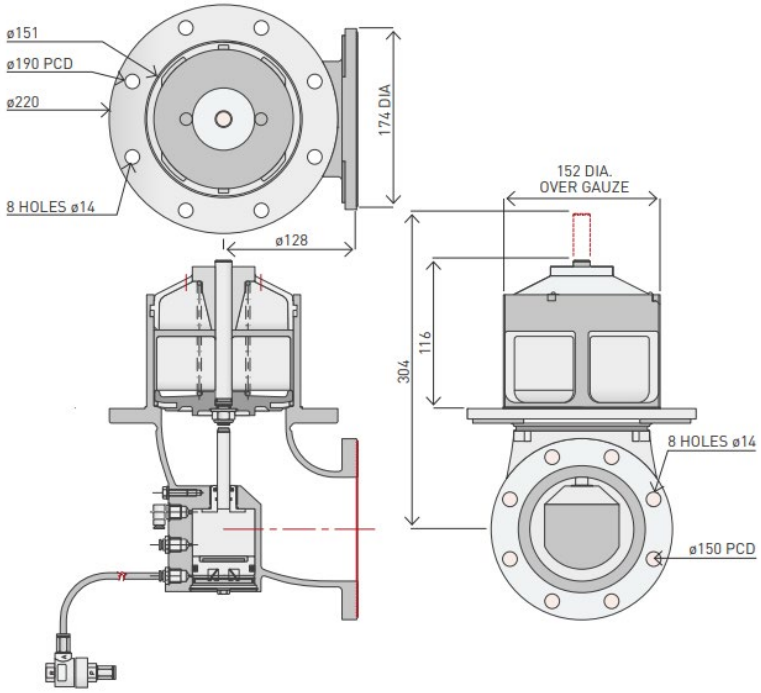
F70 Series
Technical Information

F7023/F7024 - 4”

(DN100) Pneumatic Emergency Valve

Weight = 7.85 kg

✓ Available as pressure balanced

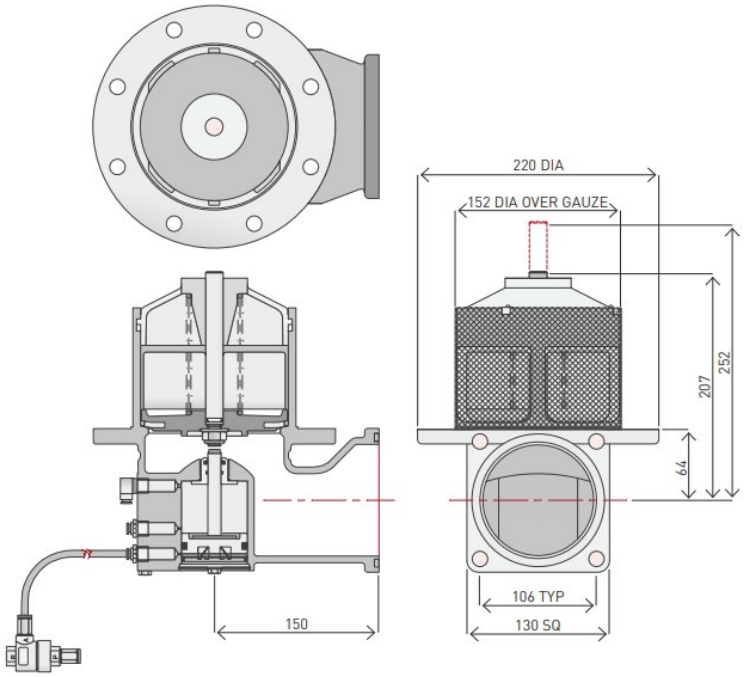


F7033/F7034 - 4”

(DN100) Intermediate Pneumatic Emergency Valve

Weight = 4.69 kg

✓ Available as pressure balanced



Request a Quote

F70 Series
Technical Information

F7043 - 4”

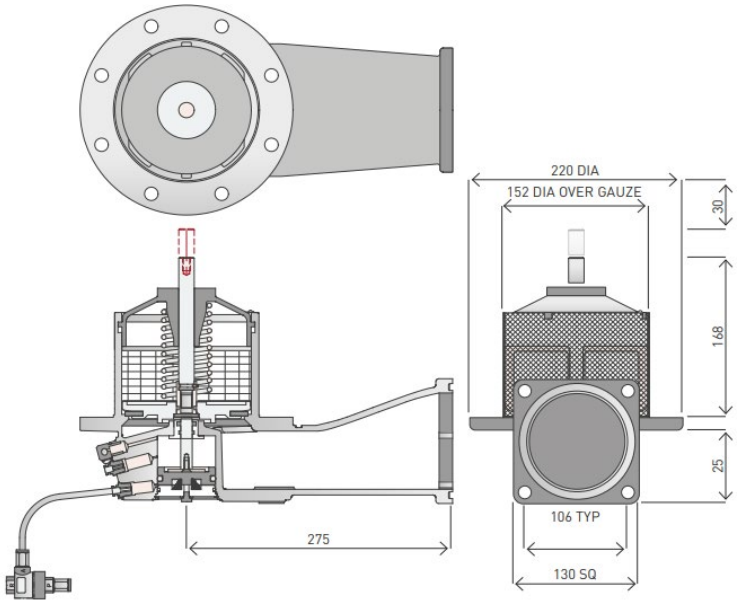
(DN100) Low Profile Pneumatic Emergency Valve

Weight = 5.38 kg

✓ Low profile body minimises required fitting space

✓ Include a square outlet and flanges to TW standard

✓ Available as pressure balanced

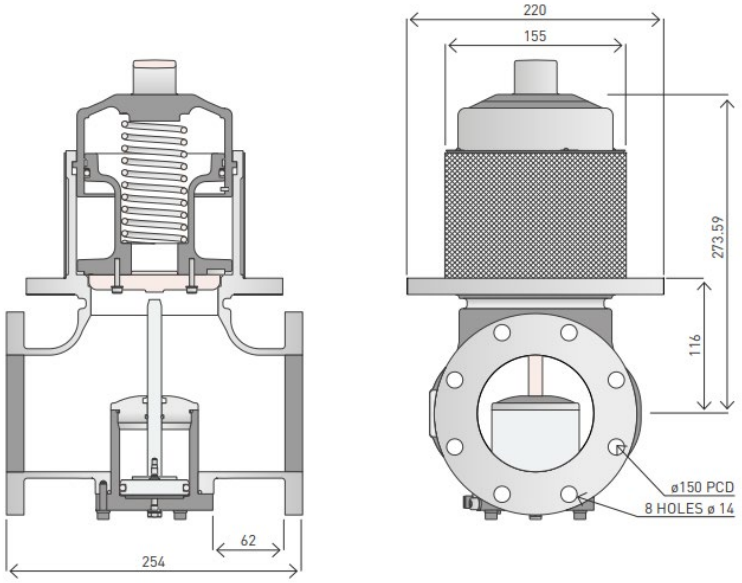


F7063 - 4”

(DN100) Pneumatic Tee Emergency Valve

Weight = 8.0 kg

✓ Tee Body for two side run off pipes



Request a Quote

Pressure Balanced

The pressure balanced emergency valve, also called a foot valve or internal security valve, is an internal closing stop valve ensuring the primary containment to confine the transported dangerous substance (fuel/gasoline)within the tank when closed.

It allows the transfer of the tanker's cargo between a tank compartment and its run-off pipe when externally actuated. It does not allow flow of product in either the loading or unloading direction when not externally actuated, and stops flow if the external actuation is interrupted or disengaged.

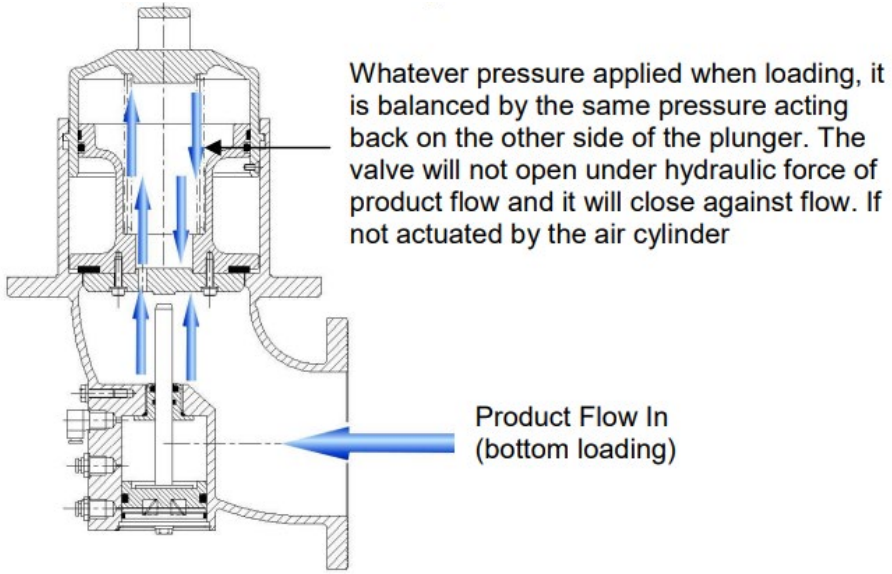
Emco Wheaton pressure-balanced emergency valves are opened by a pneumatic cylinder, which pushes the poppet open against the force of a spring that is compressed as the valve opens. When loading has finished, the air is exhausted from the pneumatic cylinder and the valve closes under the force of the spring.

What is pressure balancing?

The valve plunger is designed so that if the run-off pipe (wet leg) is hydraulically pressurised (bottom loading), without the valve being opened pneumatically, product will pass through a hole in the seal plate into a chamber in the bonnet equalising (balancing) the pressure on both sides of the seal plate and this, combined with the force of the spring acting down, ensures that the valve remains closed. In this way, whatever hydraulic pressure is applied, it will be balanced and the valve will remain closed until it is opened by the air actuator.

Consideration in the design is necessary with regard to the closing speed to reduce unavoidable line shock that is created by surge when the valve closes against full bottom loading flow.

Emco Wheaton pressure balanced emergency valves are designed, type tested (witnessed and certified by Lloyds) and manufactured in accordance with British and European standard, BS EN13316:2002 and ADR requirements.



Pressure Balanced
Technical Information

Ordering information

Variants	Description
F7000011	Emergency Valve, 4” Mechanical, 90° Elbow, TTMA Flange, viton, w/o screen
F7000031	Emergency Valve, 4” Mechanical, 90° Elbow, TTMA Flange, Viton, with screen
F7001041	Emergency Valve, 4” Mechanical, 90° Elbow, Victaulic, Viton, w/o screen
F7020221	Emergency Valve, 4” Pneumatic, 90° Elbow, TTMA Flange, with screen
F7023221	Emergency Valve, 4” Pneumatic, 90° Standard Elbow, TW Flange, with screen
F7033221	Emergency Valve, 4” Pneumatic, 90° Intermediate Elbow, TW Flange, with screen
F7043221	Emergency Valve, 4” Pneumatic, 90° Low Profile Elbow, TW Flange, with screen
F7063221	Emergency Valve, 4” Pneumatic, TW Flange, with screen
F7063621	Emergency Valve, 4” Pneumatic, pressure balanced, TW Flange, with screen
F7051204	Emergency Valve, 3” Pneumatic, 90° Elbow, Victaulic, Viton
F0335004	Emergency Valve, 3” Mechanical, 90° Elbow, TTMA Flange, Viton, with screen

Other variants are available. Please contact Emco Wheaton for further information

When specifying Emergency Valves for your vehicle the following points should be considered:

- ✓ Pneumatic equipment to operate the emergency valve.
- ✓ Inlet and outlet flange gaskets to suit the chosen valve.
- ✓ Quantity required per vehicle.
- ✓ Remember to specify the F0019 Bottom Operator and the F0028 Cable
- ✓ Assemblies to suit if selecting a Mechanical Valve.
- ✓ Consider how many compartments are being catered for, and which sealing material is required?

F0026
Emergency Valve Sump

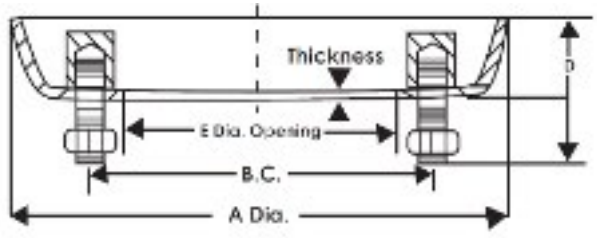
The Emco Wheaton range of Emergency Valve Sumps are designed for easy welding to steel tank shells. These sumps ensure maximum drainage of the tank compartment and full flow through the emergency valves.

Features

- Supplied complete with welded & Removable studs to ensure good fixing of emergency valve.
- Stainless steel nylon locking nuts and washers for corrosion resistance.
- Suitable for Emco Wheaton emergency valves with 3“ and 4“ inlet flanges.
- TTMA and TW (CEN) options available.
- Sump Material is mild steel for easy fabrication to tank shell.

Ordering information

Variants	Description
F0026005	3" - Aluminum - Drain Pocket - Removable Studs TTMA
F0026006	4" - Aluminum - Drain Pocket - Removable Studs TTMA
F0026004	4" - Steel - Drain Pocket - Welded Studs TW
671295	4" – Aluminum – Sump Flange – No Studs TW



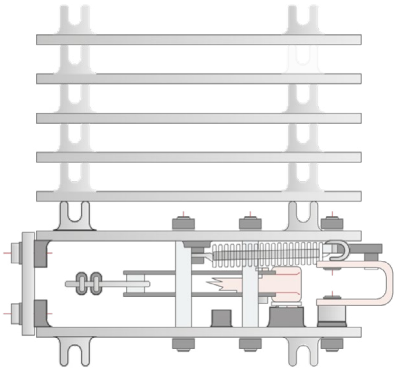
When specifying Emergency Valve Sumps for your vehicle the following points should be considered:

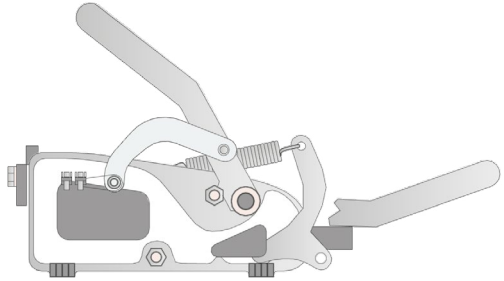
✓ Emergency valve inlet flange size - 3“ TTMA, 4“ TTMA or 4“ TW (CEN). This will determine the size of sump you require.

✓ Tank shell material should be mild steel to ensure a good root penetration/fusion when fabricating.

F0019 & F0028
Bottom Operator & Cable Assembly

Internationally regarded as the industry standard, the Emco Wheaton range of F0019 Bottom Operators provide selective remote control of one to six emergency valves, to ensure positive control during liquid discharge.





Features

- Fusible link will operate at 120° in the event of a fire.
- Front End Release (FER) may be supplied, fitted with Bowden cable and handle, to provide a means of tripping all of the valves closed from the front or the rear of the vehicle in the event of an emergency.
- Spring-loaded over centre cam design holds the levers in the fully open position and enables one-touch closure in the event of an emergency.
- Lightweight aluminium construction.
- Available for operation of from one to six emergency valves.
- Emergency Valve Bottom Operators should be used in conjunction with the F0028 Cable Assembly, which connects the operator handle to the relevant compartment's emergency valve.

F0019

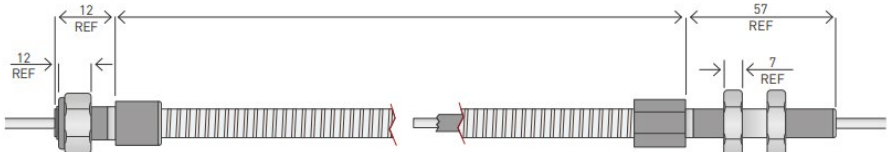
Type / Weight:
Emergency Valve Bottom Operator
1 Compartment - 2.7 kg
2 Compartments - 3.2 kg
3 Compartments - 3.7 kg
4 Compartments - 4.2 kg
5 Compartments - 4.7 kg
6 Compartments - 5.2 kg

F0019 & F0028
Bottom Operator & Cable Assembly

The Emco Wheaton F0028 Cable Assembly is a heavy-duty cable suitable for operating the full range of Emco Wheaton emergency valves in conjunction with the F0019 Bottom Operator.

F0028
Cable Assembly

Features
- Heavy-duty stainless steel inner operating cable
- Greased Nylon liner for cable to run smoothly within
- Plastic Coated and steel armoured outer flexible conduit
- Custom lengths of up to 9 metres cut installation time
- Threaded conduit Adapters to enable easy connection to Emergency Valve body and Bottom Operator assembly
- Strong stainless steel cable ends to ensure good strong connections to both the Emergency Valve and the Bottom Operator assembly
- Adjustable stainless steel cable end to deal with cable stretch



Accessories	Description
SFV1-KIT	Gasket Sequenced Emergency Valve Standard (Gasket sump pad 220 X 160; Gasket TW3-100 I/D Nebar PR; Polythenem Bag 10”x15”)
SFV1-KIT	Gaskets Kit for Emergency Valves L.P. & INTER’T (Gasket Sump Pad 220 X 160; O’Ring Viton - LP & INT F/VALVE OUTLET)
F0019001	Emergency Valve Mechanical Operator, 1 compartment
F0019003	Emergency Valve Mechanical Operator, 2 compartment
F0019005	Emergency Valve Mechanical Operator, 3 compartment
F0019007	Emergency Valve Mechanical Operator, 4 compartment
F0019009	Emergency Valve Mechanical Operator, 5 compartment
F00190011	Emergency Valve Mechanical Operator, 6 compartment
F0028001	Flexible Cable Assembly, complete (contact for details)

When specifying emergency valve bottom operators for your vehicle, the following points should be considered:

✓ Number of compartments to be controlled via a Bottom Operator.

✓ Is Front End Release (FER) preferred or required?

✓ Remember to specify the F0028 operating cable to go with your F0019 Bottom Operator. These can be made to your custom lengths.

03 Vapour Adapters, Vent Valves & Accessories

Vapour Recovery Adaptor

Bottom loading of petrol tankers was first widely introduced into North America as a more environmentally friendly, safer, faster, cleaner and ultimately more economic method of loading road tankers compared to top loading. Bottom loading of tankers was introduced to Europe in the mid 1980's and is now the main method used for loading petrol (gasoline). The spread of bottom loading has continued and now includes countries in South America, Europe, the Middle East, Asia, the Far East, Africa and Australia.

With the introduction of bottom loading came vapour recovery, in fact, vapour recovery can be looked upon as one of the main factors driving the change to bottom loading from top loading. This is because one of the main benefits of bottom loading is that it makes vapour recovery a far simpler and more effective process to achieve than with top loading.

Why is Vapour Recovery Necessary?

The hydrocarbon vapours given off by petroleum products, particularly petrol (gasoline), are also known as VOC's (volatile organic compounds), and are considered to be pollutants having the following damaging effects;

- As local atmospheric pollutants contributing towards smog and haze that occur over large cities.
- As "greenhouse gases" contributing towards global warming.
- As toxic and carcinogenic substances, causing human health problems.
- One of the main driving forces behind the adoption of bottom loading and vapour recovery has been the introduction of environmental legislation in many countries limiting the amount of pollutants such as VOC emissions that may be expelled into the atmosphere.
- The European Community (EC) in 1996 introduced its own legislation to limit VOC emissions during the storage, loading, transportation and unloading of fuels, etc. This legislation required the phasing in of vapour recovery systems to reduce vapour emissions over a 9-year period.
- The introduction of the VOC legislation in the European community was based upon the following estimates of the amount of pollution occurring within member states.
- A total of 10 million tons per year of VOC emissions from petrol and solvents.
- 500,000 tons per year of VOC emissions, 5% of total, occur during storage and distribution of petroleum spirit, the majority in urban areas.
- 200,000 tons per year of VOC emissions, 2% of total, occur during refuelling of vehicles, the majority in urban areas.
- The target reductions in emissions set by the legislation in Europe were:
- To reduce total pollution emissions by 80% to 90% over 10 to 15 years.
- To reduce emissions occurring during loading and storage at terminals to 0.01% w/w (weight by weight) of total throughput.

Vapour Recovery Adaptor

- To reduce emissions during loading and storage tanks at service stations to 0.01% w/w of total throughput.
- Install bottom-loading arms with vapour recovery systems at all of the distribution terminals.
- Install vapour recovery units or alternative systems to process recovered vapours at the terminals.
- Modify road tankers and rail tankers to be suitable for bottom loading with vapour recovery at the terminal and off loading with vapour recovery at the service stations.

Modern Bottom Loading systems incorporate vapour recovery systems that control and collect vapours displaced form an empty compartment as it is filled and prevent them from escaping into the atmosphere and causing ozone damage.

This is achieved by having a separate vapour recovery arm or hose adjacent to the loading rack which has a vapour coupler that is connected to the vapour adaptor on the tanker before loading starts.

The compartment vapour vents on the tanker are connected to a manifold pipe and as the compartment is filled, the displaced vapour is directed down through the tanker vapour pipe and into the rack vapour arm. The vapours are then piped away for processing.

The collected vapours can be flared off or processed with a Vapour Recovery Unit (VRU) and returned as liquid product back into the stock tanks. This puts valuable product back into the Oil Company's inventory that would otherwise have been lost to the atmosphere. The recovered product is used to pay back the capital expenditure. Payback time is dependent on the turnover of the terminal.

In many countries the gasoline vapour has already been taxed and has a high monetary value which means that payback time on an investment in bottom loading / unloading with vapour recovery is very low. For a medium sized loading terminal this could be as little as one year, since 1m gasoline vapour typically contains 1.5 litres of recoverable gasoline.

A Typical Carbon Adsorption/Absorption VRU showing two Carbon Beds on the right, a vacuum pump in the centre and a combined separator and absorber tower at the left.

In addition to the direct savings from loading operations at the terminal, vapour return at the service station whilst the tanker is delivering and vapour balancing in cone roof storage tanks results in a substantial increase in the vapour recovery payback. Additionally it eliminates secondary vapour losses from these sources. It is worth noting that the road tanker requires no further modification to recover vapours whilst delivering at the service station.

Bottom Loading with Vapour Recovery can therefore be seen as a unique investment as it contributes directly to improving the environment, health and safety and it is commercially very attractive due to its short payback period and subsequent increase in revenue.

F0530
Vapour Recovery Adaptor

Internationally regarded as the benchmark for quality our range of vapour Adapters and vent valves are designed to minimize pressure drop and maximize the efficiency of the recovery of petroleum vapours during tanker loading and unloading. Our Vapour Recovery Adapters are constructed using lightweight aluminium for increased payload and reduced maintenance and allow for multi-compartment loading at high flow rates. A key component in the vapour recovery system, the vapour transfer vent (VTV), fitted to the Manhole Cover, provides the means to transfer displaced vapours to and from the tanker. Supplied air operated and sequenced with the emergency valve, our Vapour Transfer Vents ensure vapours are transferred safely during the loading and unloading process.

Features

F0530 - Vapour Recovery Adapter

- High flow capacity and low pressure drop
- Multi-compartment loading at high flow rates with vapour return is possible without exceeding PV vent pressure ratings.
- Sight glass visually alerts personnel of liquid contamination
- Reduced risk of vapour loss
- Viton seals fitted as standard
- Lightweight aluminium construction for increased payloads
- 2.91 kg
- Screw plug fitted to drain liquid from Adapter

Vapour Recovery Adapter Dust Cap

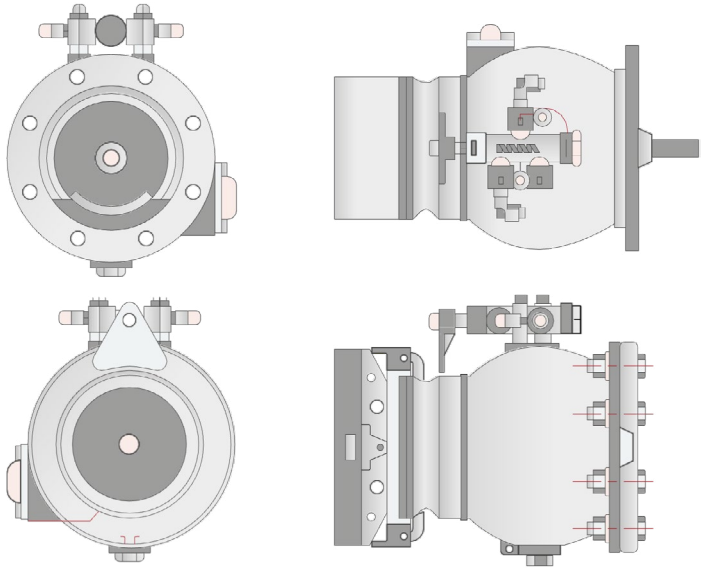
- Quick release design for single-handed opening
- Heavy-duty chain supplied as standard for attachment to AdapterProtects poppet face of Adapter and prolongs life of seal
- Suitable for any 4” Surelok™ Adapters manufactured to Mil-C-27487
- Colour coded orange
- Lockable with padlock or seal. Weight: 0.53 kg

F0530
Vapour Recovery Adaptor

Features

F0567 - Air Interlock Valve

- Strong composite body
- Electrically continuous
- Stainless steel operating shaft
- Reversible mounting for different height requirements
- Adjustable button
- Different end buttons are available to suit the application
- Viton or buna seals
- Brass thread inserts for air fittings installation



Flow performance - It is **IMPORTANT** that the vapour adaptor has a low-pressure drop to ensure efficient vapour recovery during loading. This is particularly important for multi-compartment tankers when more than 1 compartment is loaded simultaneously, as an adaptor with a high-pressure drop may lead to over pressurisation of the tank during loading or venting to atmosphere of vapours during unloading.

Ordering information

Variant	Description
F0529001	4” Vapour Adapter Valve
F0529031	3” BSPP Vapour Adapter, viton
F0530010	4” Vapour Adapter, TTMA flange, gasket
F0530014	4” Vapour Adapter, TTMA flange
F0530020	4” Vapour Adapter, TTMA flange, dust cap, air interlock
F0536001	Dust cap with Chain, for all 4” adapters

When specifying vapour recovery valves for your vehicle, the following points should be considered:

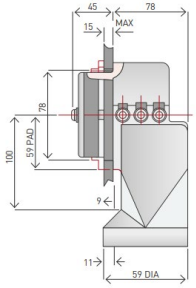
✓ Where is the valve to be mounted on the vehicle?
✓ Do you require the Hose Interlock (F0903) and a Vapour Recovery Dustcap (F0536)?
✓ Keep pressure drop in the vapour pipe that connects to this valve to a minimum.

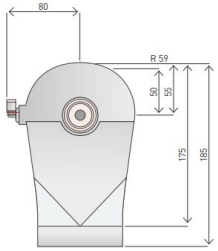
F0592 Series
High Flow Vapour Vents

A compact, low profile and lightweight body with exceptionally high flow characteristics, makes this valve the ideal choice for either sequenced or non-sequenced compartment vent requirements.

F0592-300 Series

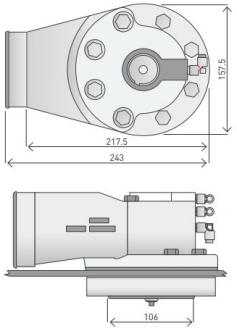
Threaded Vapour Vent





F0592-100 Series

Flanged high Flow Vapour Vent



Ordering information

Variant	Description
F0592101	Vapour Vent, Viton, TTMA stud flange, non-sequenced, w/o flame arrester gauze, ¼" NPT fittings
F0592108	Vapour Vent, Viton, TTMA stud flange, sequenced, flame arrester gauze, 6mm fittings
F0592123	Vapour Vent, Viton, TTMA flange, sequenced, flame arrester gauze, 6mm fittings
F0592127	Vapour Vent, Viton, TTMA flange, sequenced, flame arrester gauze, 6mm fittings, with outlet elbow. Vapour Dump Vent
F0592133	Vapour Vent, Viton, TTMA flange, sequenced, flame arrester gauze, 6mm fittings
F0592301	Vapour Vent, Viton, threaded fitting, non-sequenced, w/o flame arrester gauze, 6mm fittings
F0592311	Vapour Vent, Viton, threaded fitting, sequenced, flame arrester gauze, 6mm fittings
F0592351	Vapour Vent, Viton, threaded fitting, sequenced, flame arrester gauze, 1/8" BSP fittings

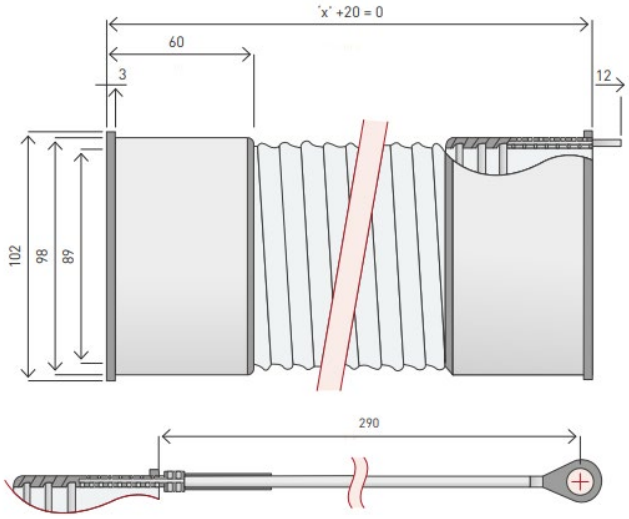
When specifying vapour vents consider:

✓ What size of air connections are required 4mm, 6mm pif (push in fitting) or ¼" NPT?

✓ Vapour Hose should be ordered separately.

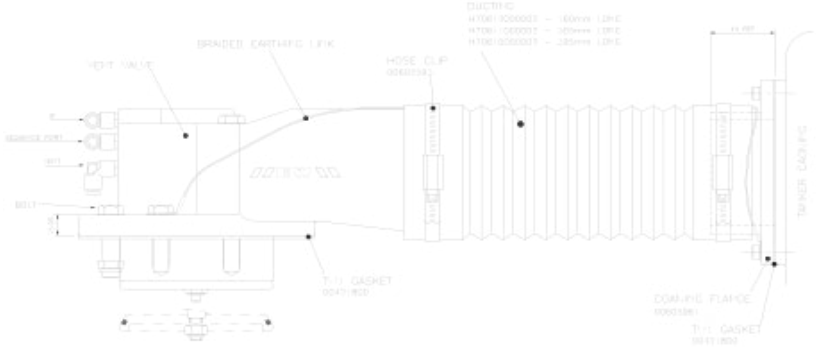
H7061 Series
Vapour Transfer Vent Ducting

Durable moulded ducting hose for fitting to Emco Wheaton vapour transfer vent valves. Connects compartment vapour vent valves to vapour return spigot/manifold/coaming. Includes earth bonding wires for controlling static electricity. Available in 3 lengths.



Ordering information

Variant	Description
H7061000002	Ducting 89mm Internal Diameter x 395mm Long, with earth leads
H70611000002	Ducting 89mm Internal Diameter x 305mm Long, with earth leads
H70612000002	Ducting 89mm Internal Diameter x 180mm Long, with earth leads



Request a Quote

F0567
Vapour Adaptor Air Interlock Valve

The F0567 Air Interlock is designed for installation on API adaptors, vapour adaptors or on its own when it is used for interlocking vehicle brakes or other pneumatic components with a guard bar or door actuation.

Composite material is utilised for the body providing strength and durability. The composition includes a stainless steel lattice to ensure electrical continuity for the normal safety precautions against static electricity.

Features

- Strong composite body
- Electrically continuous
- Stainless steel operating shaft
- Reversible mounting for different height requirements
- Adjustable button
- Different end buttons are available to suit the application
- Viton or buna seals
- Brass thread inserts for air fittings installation

Variants	Description
F0567501	Air Interlock Valve - 1" Button
F0567521	Air Interlock Valve, Butterfly Button
F0567221	Interlock Vtn 2x6mmPIF B'fly
F0567421	Interlock Vtn 3x6mmPIF B'fly
F0567201	Interlock Vtn 2x6mmPIF 1" Btn
F0567121	Interlock Vtn 2x4mmPIF B'fly
F0567601	3/2 Interlock Valve P/L

J0550
Vapour Coupler

The J0550Self-Sealing Vapour Coupler has been designed for use on the vapour return arm/hose at the loading rack. Coupling to the tank truck's vapour adaptor will open both the coupler and adaptor valves allowing vapour flow.

The high flow characteristics inherent in this coupling's design are essential for efficient vapour return where multi-compartment bottom loading is taking place.

Features

- Self sealing valve.
- Low pressure drop – high flow.
- Flanged outlet – 4" TTMA standard.
- Inlet is Surelok™ 4" female standard to Mil-C-27487 specification cam and groove connection.
- Mates to all available vapour adaptors made in accordance with the API RP1004.
- Lightweight aluminium construction for increased payloads.
- Viton seals.
- Brass cams.
- Drain plug fitted.
- Weight: 3.60 kg.

Ordering information

Variant	Description
J0550001	4" Vapour Coupler, Viton, TTMA flange
J0550003	4" Vapour Coupler, FVMQ, TTMA flange
J0550901	4" Vapour Coupler, Viton, TTMA flange, Bracket
J0550902	4" Vapour Coupler, Viton, TTMA flange, Sensor
1428450000	4" Recovap Coupler, Viton, TTMA flange, Sensor

F0800
Vapour Hose Coupler Vapour Return Hose (Unloading)

The F0800 hose couplings are for use in Stage 1B vapour return i.e. for return of vapours to the tank truck whilst unloading/delivering to service stations with a vapour return pipe. They are designed for fitting to each end of a vapour hose and are designed to mate with any male cam lock adaptor that is made in accordance with MIL specification 27487 C. A central peg pushes open the connecting valves poppet to open it as the coupling connection is made.

Features

- Lightweight aluminium body.
- Brass cams.
- Meets Mil C 27487.
- Cam and groove coupling.
- Hose shank for attachment to hose.
- Central peg opens vapour adaptor on tank truck and service station.
- 3 sizes / variants available

F0800-001 **4” with 4” hose shank**
F0800-002 **4” with 3” hose shank**
F0800-003 **3” with 3” hose shank**

Ordering information

Variant	Description
F0800001	4” with 4” hose shank
F0800002	4” with 3” hose shank
F0800003	3” with 3” hose shank

04 Manhole Covers & Accessories

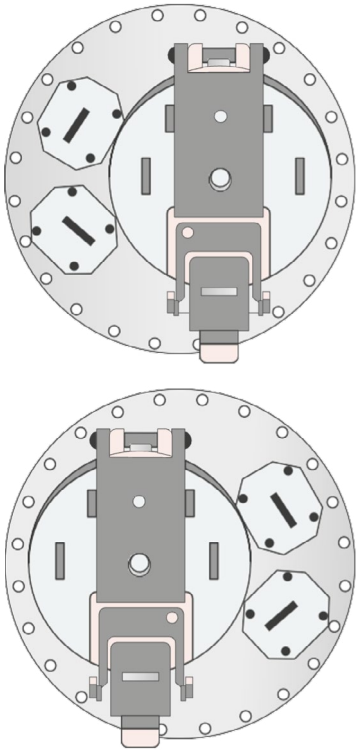
Manhole Covers

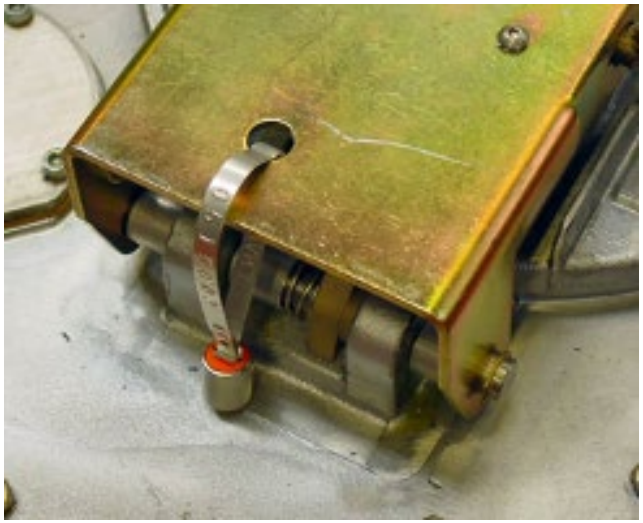
Our technology sets the standards for safety and efficiency with all covers feature secure and stable spring-loaded fill caps which provides fire engulfment venting in the event of the tank being exposed to a fire, and our steel cover arms exceed the Australian DROP test standard. Internationally accepted, and specified, by oil companies around the world to assist with the safe conveyance of petroleum-based products, the Emco Wheaton range of manhole covers offers unrivalled safety features and operational benefits.

Orientation of Manhole Covers

All Emco Wheaton manhole covers, except the F0339 oval manhole cover, can be supplied as left-hand or right-hand configuration. This enables ancillary items, such as HLCO, dip tube or mechanical top operator, to be positioned on the tanker centre line. If the ancillary ports are to the left of the fill cap, the manhole cover is designated as left-hand. If the ancillary ports are to the right of the fill cap, the manhole cover is designated as righthand.

The hinge pin should always face the front of the tanker to ensure that the manhole cover falls shut in the event of a tanker driving away with the manlid open. This will ensure that the manhole cover will close to the first latch position.





Benefits

All Emco Wheaton manhole covers have the following features:

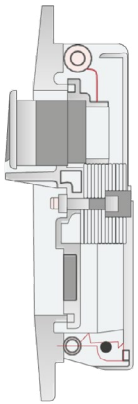
- Two-stage opening allows safe release of residual compartment pressure before fully opening the fill cap.
- Pressure and vacuum vent fitted as standard for tank breathing. Various ratings are available to suit operational requirements.
- Automatic sealing in roll over situation prevents leakage.

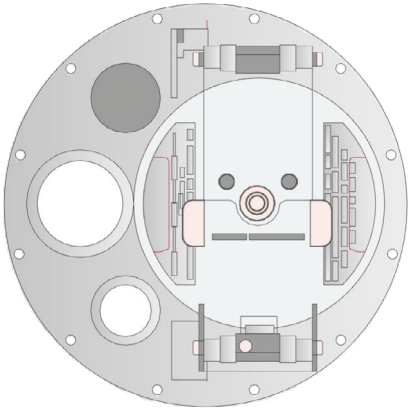
Manhole Covers

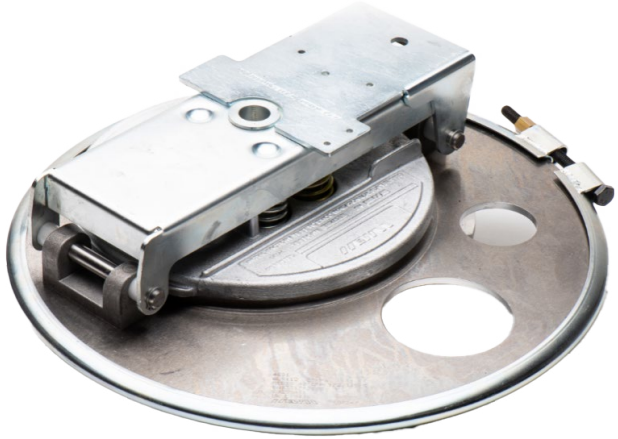
F0355 – 16”

Manhole Cover

- ✓ To suit 405mm manhole neckring
- ✓ Baseplate Diameter 455mm
- ✓ Baseplate Bolt Centre Diameter 432mm
- ✓ 12 and 24 bolt holes, M8
- ✓ Clamp Band Style







Benefits

- Includes accessory ports; TW flange for the vapour transfer vent; hole flanges for an additional P/V vent; dip tube; emergency unload Adapter or electronic HL sensor.
- Lightweight, aluminium baseplate helps to increase payloads.
- Spring-loaded cap provides emergency fire engulfment venting to NTTC DOT 406
- Steel cover arm exceeds Australian DROP tests (AS 2809-2-1990)
- Secure 12 and 24 bolt fixing variants

When specifying F0339 manhole covers for your vehicle, the following points should be considered:

- ✓ Ensure 440 mm x 384 mm (16“ x 14“) manhole covers are suitable for the orifice in the tank top.
- ✓ Which type of locking is required; removable key or fixed key?
- ✓ Which P/V vent rating and arrangement is required?
- ✓ Which material of cover arm is required: plated steel or cast aluminium?
- ✓ Remember to specify the F0053 Manhole Cover Key if you have specified a lockable variant.

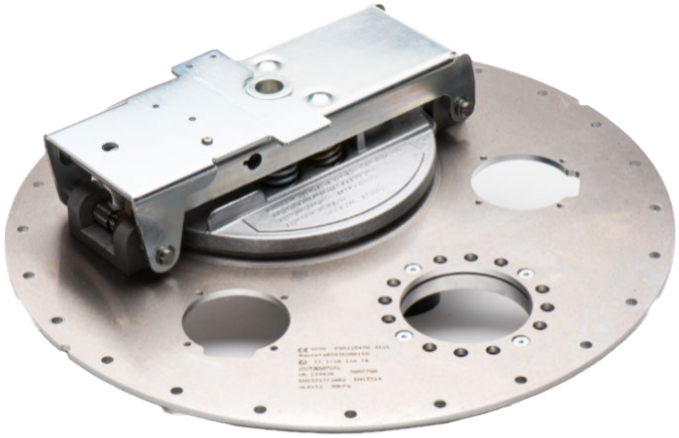
Manhole Covers

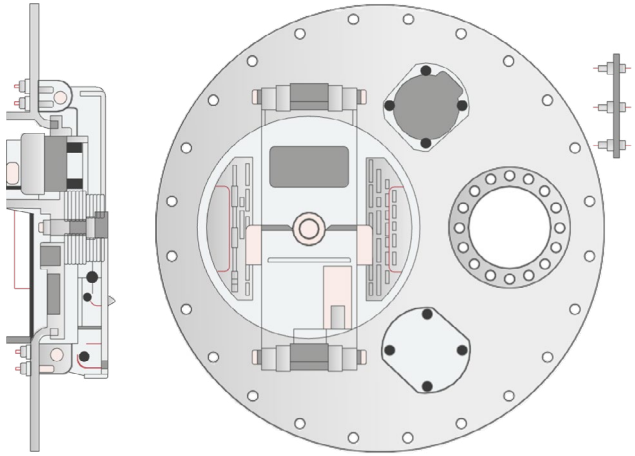
F0512-500 Series – 20”

Manhole Cover – Pressed Aluminium

Benefits

- Includes accessory ports; TW flange for the vapour transfer vent; hole flanges for an additional P/V vent; dip tube; emergency unload Adapter or electronic HL sensor.
- Lightweight, aluminium pressed baseplate.
- Safety features include a spring-loaded fill cap that provides emergency fire engulfment venting to NTTC DOT 406
- Spring-loaded cap provides emergency fire engulfment venting to NTTC DOT 406
- 250mm (10”) for easy drop pipe insertion when top loading
- Available with key lock
- Left-hand and right-hand variants available





When specifying F0512 manhole covers for your vehicle, the following points should be considered:

✓ Specify the F0053 Key for lockable variant F0512. It is supplied separately.

✓ The Emco Wheaton F0592 high flow flanged vapour transfer vent valve fits to this Manhole Cover.

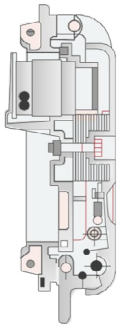
Manhole Covers

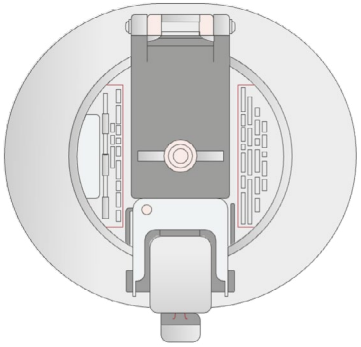
F0339 – 16” x 14”

Oval Manhole Cover

Benefits

- Specifically designed for tankers in which there is limited space available
- This includes a self-aligning seal, pressure and vacuum vent fitted as standard, emergency venting capacity of 7000 m^3/h of air at 350 mb.
- Spring-loaded cap provides emergency fire engulfment venting to NTTC DOT 406 standard
- Steel cover arm exceeds Australian DROP tests (AS 2809-2-1990).
- Lightweight aluminium baseplate for increased payloads
- Secure tamperproof internal eyebolt and lug fixing.





Ordering information

Variant	Description
F0339054	Manlid, Oval 440 x 384 (16” x 14”), 210mb, flame arrest PV vent
F0355003	Manlid, 16” LH assy, 210mb, 70/20 PV vent
F0355331	Manlid ,16" LH assy, 701/20 PV vent
F0355904	Manlid, 16” RH assy, 210mb 70/20 PV vent, 130deg opening
F0512535	Manlid, 20” LH assy, 250mb ALI PV 100/20 PV vent
F0512536	Manlid, 20” RH assy, 250mb ALI PV 100/20 PV vent
F0512549	Manlid, 20” RH, 250mb
F0512549L	Manlid, 20” LH assy, 250mb with LOCK
F0512596	Manlid, 20” RH assy, 300mbar, 70/20 PV vent

When specifying F0339 manhole covers for your vehicle, the following points should be considered:

✓ Ensure 440 mm x 384 mm (16“ x 14“) manhole covers are suitable for the orifice in the tank top.
✓ Which type of locking is required; removable key or fixed key?
✓ Which P/V vent rating and arrangement is required?
✓ Which material of cover arm is required: plated steel or cast aluminium?
✓ Remember to specify the F0053 Manhole Cover Key if you have specified a lockable variant.

F0053
Manhole Cover Key

The Emco Wheaton F0053 Manhole Cover Key is used in conjunction with all Emco Wheaton lockable, removable key, manhole covers. This removable key is designed to ensure security of the manhole covers on the tank to make certain that pilferage of the product is not possible.

Benefits

- Hot brass forging gives good quality finish along with good durability.
- Hole for securing key to manhole cover by chain if required.
- Removable key can be locked inside tool cabinet or vehicle to ensure security of manhole covers.
- One key fits all of the Emco Wheaton lockable manhole covers.
- Key should be ordered separately from manhole cover, as they are not supplied automatically.
- Weight: 0.055 kg

When specifying the manhole cover key for your vehicle, the following points should be considered:

✓ Do you have the Emco Wheaton lockable, removable key type Manhole Covers suitable for this key?

✓ How many keys do you require per vehicle?

Pressure & Vacuum Vent Valves

Incorporated in all standard Emco Wheaton manhole covers, and available separately with rain cap, the 2" High Flow Pressure and Vacuum Vent Valve provides breathing for petroleum product tankers.

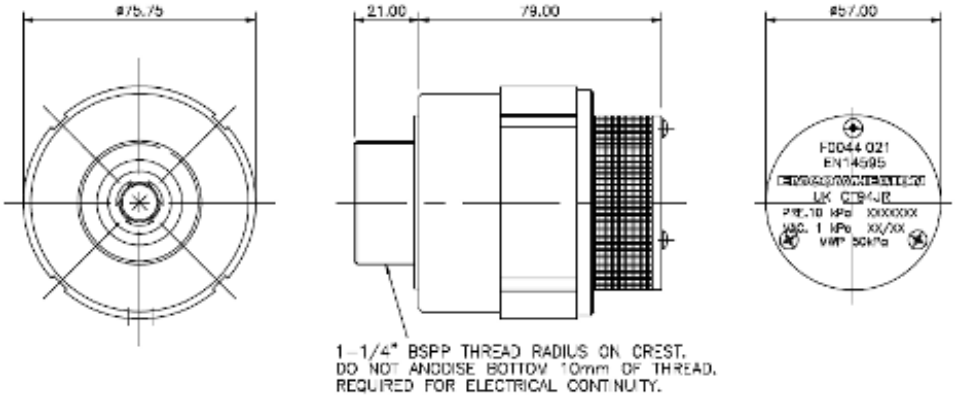
Aerodynamic porting facilitates extremely high throughout.

- **Pressure:** Air flow at 21 kPa = 198200 l/h (7000 cubic feet per hour).
- **Vacuum:** Air flow at 7 kPa = 99100 l/h (3500 cubic feet per hour).

Mandatory roll over seal off, as required by the U.K. Health and Safety Executive, is included. This feature has proven its effectiveness many times in tanker rollover accidents where it has protected lives, prevented dangerous and costly spillage and prevented pollution.

Benefits

- High flow through wind tunnel tested aerodynamic porting.
- Seal off device prevents product spillage in tanker rollover accidents.
- Exceeds the requirement of petroleum spirit conveyance by road regulations.
- Viton seals are standard for compatibility with high-octane fuels.
- Tough acetal polymer or Aluminum construction for durability.
- Flame retardant stainless steel gauze covers the inlet/outlet ports.
- Weight 0.49 kg.



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Ingersoll Rand Transport Solutions

Pressure & Vacuum Vent Valves

Ordering information

Metal Body 2” - Available with Various Pressure & Vacuum Settings

Part No.	Pressure	Vacuum
F0044033K	100 mbs (10 kPa)	20 mbs (2 kPa)
F0044135K	120 mbs (12 kPa)	20 mbs (2 kPa)

Metal Body 1.25” - Available with Various Pressure & Vacuum Settings

Part No.	Pressure	Vacuum
F0044022	100 mbs (10 kPa)	20 mbs (2 kPa)

Plastic Body 2” - Available with Various Pressure & Vacuum Settings

Part No.	Pressure	Vacuum
609097	20 mbs (2 kPa)	4.5 mbs (0.45 kPa)
607271	70 mbs (7 kPa)	4.5 mbs (0.45 kPa)
612337	70 mbs (7 kPa)	20 mbs (2 kPa)
619233	100 mbs (10 kPa)	20 mbs (2 kPa)
609187	120 mbs (12 kPa)	4.5 mbs (0.45 kPa)
616274	120 mbs (12 kPa)	20 mbs (2 kPa)

Available with Rain Cap (Viton Seal Version Listed)

Part No.	Pressure	Vacuum
615879	20 mbs (2 kPa)	4.5 mbs (0.45 kPa)
615767	70 mbs (7 kPa)	4.5 mbs (0.45 kPa)
619439	70 mbs (7 kPa)	20 mbs (2 kPa)
616244	120 mbs (12 kPa)	20 mbs (2 kPa)

Available with Solvent Compatible Seals

Part No.	Pressure	Vacuum
618451	20 mbs (2 kPa)	4.5 mbs (0.45 kPa)
618452	70 mbs (7 kPa)	4.5 mbs (0.45 kPa)
618453	70 mbs (7 kPa)	20 mbs (2 kPa)
618454	120 mbs (12 kPa)	4.5 mbs (0.45 kPa)

F00940
16” Bolted Manhole Cover Neck Ring

Specifically designed for the Emco Wheaton range of 16“ & 20” Manhole Covers, for easy fabrication onto the tank shell.

The Emco Wheaton welded neckrings meets the demands of ADR EN13094:2008 and EN13317:2001.

Benefits

- High quality steel or aluminium fabrication, to international standards, used for durability and performance.
- 12 or 24 bolt fixing.
- 4 mm wall thickness - steel.
- 6 mm wall thickness – aluminium.
- Welding gas holes included in design.

Ordering information

Type No.	Size	Material	Thickness	Holes	Weight
F0094001	16	Steel	4 mm	24	3.97
F0094002	16	Aluminium	6 mm	24	2.04
F0094011	16	Steel	4 mm	12	3.97
F0094012	16	Aluminium	6 mm	12	2.04
F0094101	20	Steel	4	24	4.90
F0094102	20	Aluminium	6	24	2.52

When specifying the 20” Manhole Cover neck ring for your vehicle, the following points should be considered:

✓ Check that the neck ring material suits the tank material.

F0272 F0288 F0292 F0293
Dip Guide Tubes & Dip Mandrels

The physical method of dipping/measuring a tank compartment's contents by inserting a stick is facilitated by use of these well - established products. A mandrel with vented quick release cap is used for quick access. A full length, gauzed aluminium, extruded tube is included with F0293 dip tube assemblies, assisting accurate measuring of product.

Benefits

- Lightweight aluminium construction.
- Durability is provided by the use of 2.25 mm gauge tube to British Standard 1474 HE9M.
- Safety provision includes a vented cap to reduce any trapped pressure and prevent liquid spray.
- Conductive gaskets are supplied with F0292 and F0293 for controlling static electricity.
- Facility for datum stamping is provided.
- Complies with Trading Standards Authorities requirements.
- Limited damage replacement costs with two piece F0292 and F0293 - top (datum) mandrel is separated.
- Facility for extruded tee section sticks.
- Minimal inventory required due to standard length of tube assembly that is cut to suit when fitting (other lengths are available).
- Easy installation - fits into standard Emco Wheaton manhole cover accessory ports.
- Security interlock facility on F0292 and F0293.

Ordering information

Part No.	Weight
F0272001	4.90 kg
F0288002	1.00 kg
F0292003	1.13 kg
F0293001	5.73 kg

When specifying Dip Guide Tubes and Dip Mandrels for your vehicle, the following points should be considered:

- ✓ Number of compartments to be fitted with Dip Guide Tubes and Dip Mandrels.
- ✓ Which type of Dip Guide Tubes and Dip Mandrel are required?
- ✓ Is there sufficient space on your Emco Wheaton Manhole cover to mount the Dip Guide Tubes and Dip Mandrels?
- ✓ Length of tube required when specifying the F0293 Dip Tube assembly.

F0903
Dip Interlock Assembly

Where added security is required, or where local regulations stipulate that a dip reading cannot be taken until the compartment emergency valve is open, this valve locks the dip aperture until a sequenced air signal is received from the emergency valve.

Benefits

- Simple installation - fits between flanges of F0292 and F0293 Dip Tube Mandrels.
- Pneumatic operation.
- Simple single acting design.
- Lightweight aluminium construction.
- Viton seals fitted as standard for compatibility with high-octane fuels and additives.
- Robust design incorporating heavy- duty stainless steel pin.
- Easy to maintain.
- Weight: 0.73 kg.

When specifying Dip Interlock Assemblies for your vehicle, the following points should be considered:

✓ Is a sequenced air signal available from the Emergency Valve?
✓ How many Dip Interlocks are required for your vehicle?
✓ Conductive gaskets (00611759) must be used when fitting.

05 Pneumatic Controls & Other Products

M502 & M504
Pneumatic Control Box

This solid-state pneumatic control system has a proven track record for reliability in demanding tank truck and trailer usage conditions. Modular solid-state control valves and logic eradicate spaghetti-like tube mess. The lockable stainless steel cabinet protects the controls and gives added security. Numbered push in tube fittings (pif) at the back of the box allows easy circuit plumbing.

Benefits

- Compact design for flexibility of fitting and weight reduction for increased payloads.
- High Quality control valves have been designed specifically for the physical and environmental conditions associated with road transport.
- Durability is inherent to the stainless steel, powder coated box housing and motor industry weather proof door seal.
- Simple and easy to understand controls with positive feel and action.
- Solid-state modular control valves minimise tube and simplify and circuitry for easy fitting and fault finding.
- M502 series are supplied in a slim line stainless steel box housing.
- M504 series are supplied with the stainless steel box housing.
- Valve status visual indicators can be incorporated if required. However, the standard is without to allow for remote fitting adjacent to API valves.
- Lockable for security
- Push In Fittings – 6 mm.

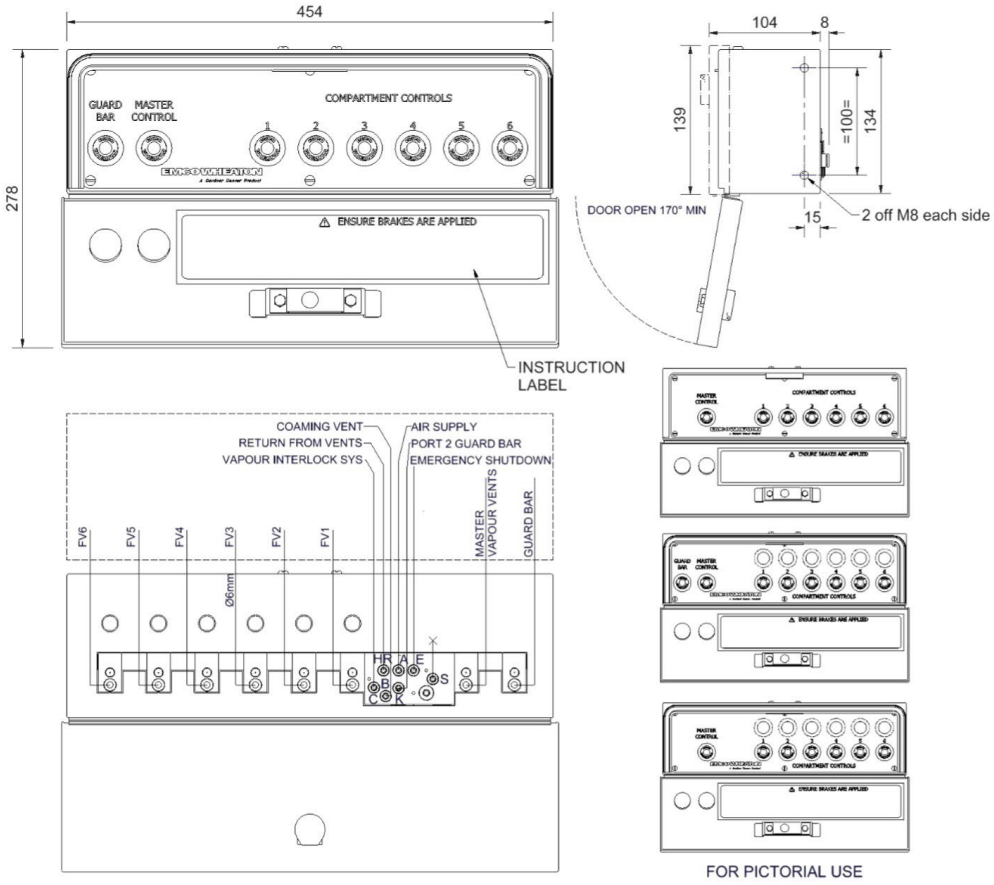
M502 & M504
Pneumatic Control Box

Ordering information

Part No.	Compartment
M504-*	2 – 8 Compartment
M504-*V	2 – 8 Compartment With Visual Indicator
M504GP	2 – 8 Compartment
M504GP-V	2 – 8 Compartment With Visual Indicator
M502-*V	Slim Line 2 – 8 Compartment With Visual Indicator

Connection List	
A	Air Supply
B	Coaming Vents
C	Vapour Interlock Sys
E	Emergency Shutdown
HR	Return From Vents
K	Port 2 Guard Bar
S	Air Out When Closed

Weight	5.2kg
Operating Pressure:	
Min working pressure	4 bar
Max working pressure	8 bar



F0905
Air Control Valve

Lightweight and compact Air System Control Valves, designed for panel mounting. Normal applications are as control devices for actuating pneumatic valves, road tanker bottom loading and vapour return systems.

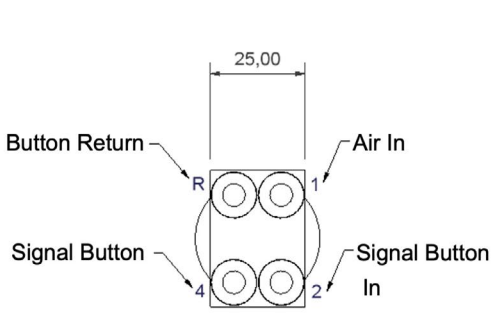
These valves offer versatility, which may be further enhanced in circuits that include standard air control logic.

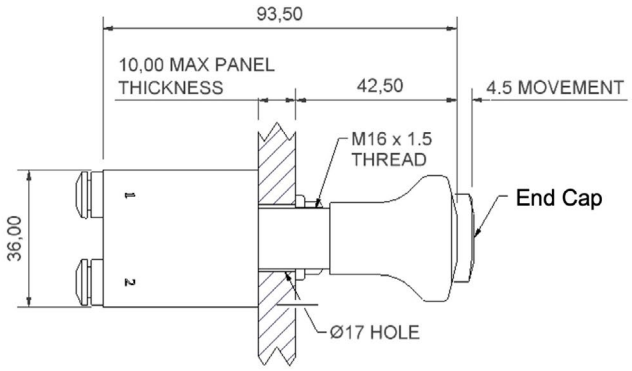
Our international experience with fuel transportation, loading and delivery practices, allows us to recommend and offer safe and reliable pneumatic operating systems with varying degrees of safety and security interlocking.

Benefits

- Simple and positive control - pull for ON and push for OFF.
- Remote emergency shut off via integral air port.
- Visual indication of valve open/close status.
- Modular installation caters for individual compartment valve control on multi-compartment tankers.
- Panel mounting for neat and compact installation.
- 4mm & 6mm push-in fittings are integral and are at the rear of the F0905 allowing quick fit/removal and a clear operating area.
- Durable acetal polymer or Aluminum construction.
- Weight: 0.13 kg.

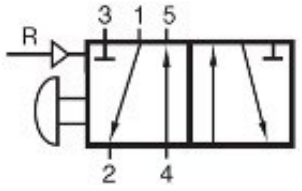
Function	F0905161 Ports	F0905021 Ports
Air In	**1**	1
Signal - Button In	**4**	2
Signal - Button Out	**2**	4
Button Return	**R**	R





Porting Diagram

Valve “In”
(White Indicator Band not Visible)



Valve “Out” (White Indicator Band Visible)

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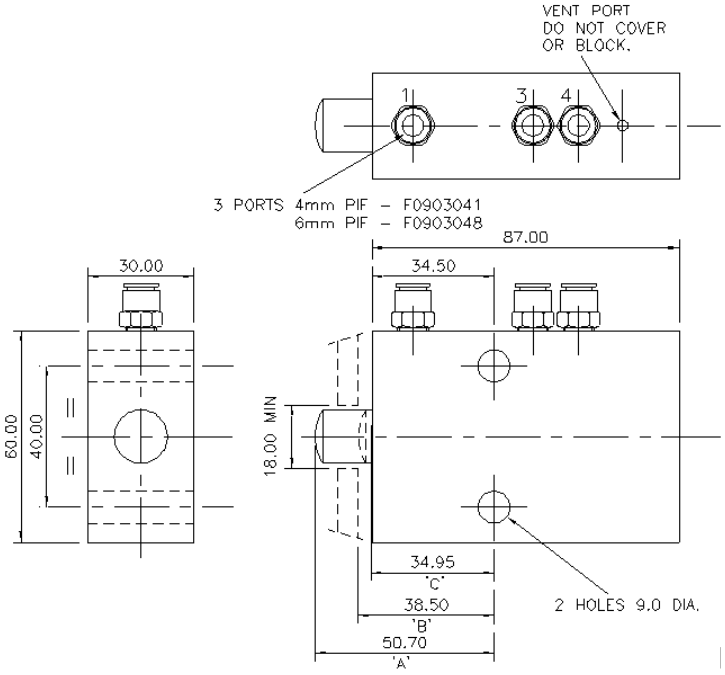
Ingersoll Rand Transport Solutions

F0903
Guard Bar Interlock

The F0903 Guard Bar Interlocks are designed to pneumatically lock the guard bar, which prevents access to the system's discharge valves, except when loading or unloading. They can also prevent movement of the vehicle by interlocking to the brakes during loading and discharge.

Benefits

- Robust design.
- Anodised aluminium body.
- Viton seals throughout with low friction treatment on bearing surfaces.
- Stainless steel locking pin.
- Vehicle's brakes automatically applied when loading and discharging.
- Access prevented to all discharge valves.
- Bolt holes for fitting.
- Weight: 1.00 kg.



Ordering information

Part No.	Compartment
F0903048	Pneumatic Guard Bar Interlock 6mm PIF
F0903041	Pneumatic Guard Bar Interlock 4mm PIF
F0903047	Guardbar Interlock 1/8" NPT - Gray

When specifying Dip interlock Assemblies for your vehicle, the following points should be considered:

✓ One unit is required per Guard Bar.

✓ The Guard Bar should not rest on the interlock. Separate provision should be made for this – refer to the installation sheet for details.

F0904
Emergency Shut Down Air Valve

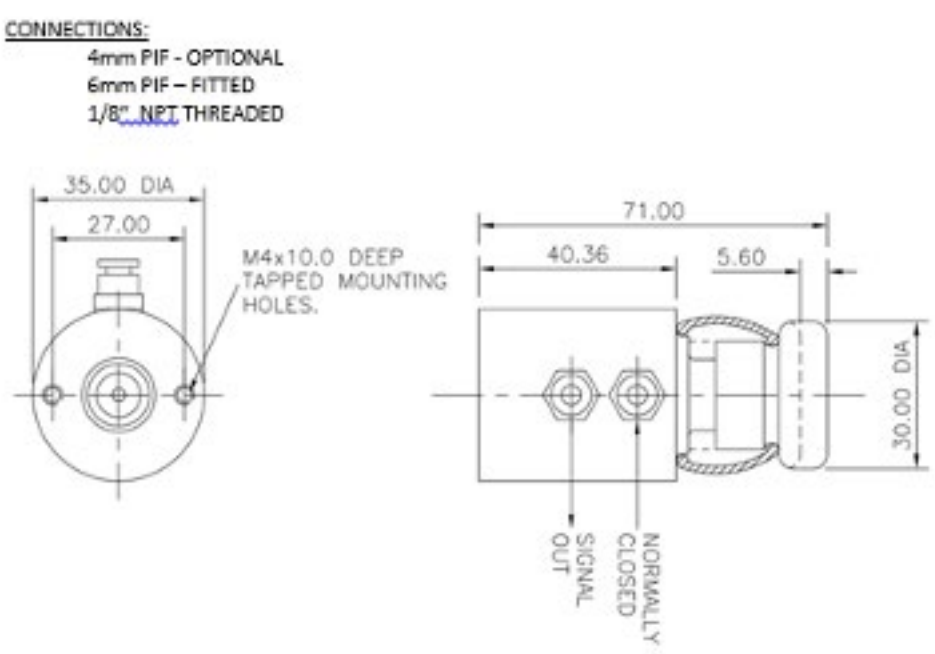
Lightweight, compact and clearly visible air system Emergency Shut Down (ESD) valves, designed for mounting at any desired position on the tank truck. A remote control device for quickly closing pneumatic valves, road tanker bottom loading and vapour return systems in an emergency situation.

These valves offer the operator a rapid means of emergency closure, remote from the main air system control valves. They require no resetting after use.

Our international experience with fuel transportation, loading and delivery practices, allows us to recommend and offer safe and reliable pneumatic operating systems with varying degrees of security interlocking.

Benefits

- Push and leave, simple and positive control.
- Remote emergency shut off.
- Red button – clear indication as emergency device.
- Supplied with mounting bracket – holes match Emco Wheaton 24 hole F337, F338 , F355 and F512 manhole cover bolt spacing.
- Connects in series – one or more can be fitted in desired positions e.g. tanker top, off side and rear.
- 1/8” NPT thread version & 4mm or 6mm push-in fittings are integral allowing quick fit /removal.
- Durable, weather proof, delrin construction.
- Weight: 0.12 kg.



Ordering information

F0904001	4 mm Push in Fittings
F0904002	6 mm Push in Fittings

VI SERIES
Visual Status Indicator

The Visual Indicator is used when a clear indication of a valve's status (open or closed) is required.

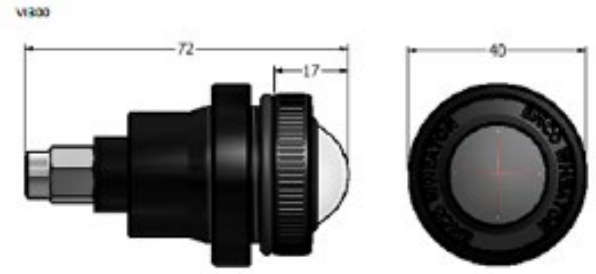
When it receives an air signal, the indicator will change from red to green.

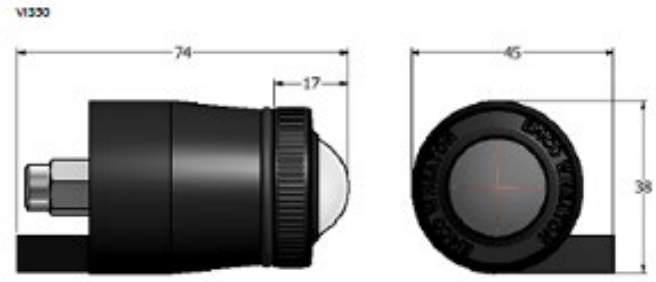
It is designed for panel or faucet plate mounting and has a 4 mm push-in fitting for the nylon air tube located at its rear.

The indicator is normally used to signal the emergency valve's status, by receiving the air signal from the emergency valve's sequenced air cylinder once the valve has opened.

Benefits

- Materials: Stainless Steel / Delrin
- Seals: Viton
- Working Temperature: -20°C +70°C
- Weight: 0.05 – 0.1 KG
- Fittings: Push In Fittings (4mm, 6mm or NPT threaded)
- Maximum Air Pressure: 10 bar
- System Pressure: 4 – 7 bar





Ordering information

VI300	**Black Red**	Visual Indicator – Panel Mount
VI350	**Black Red**	Visual Indicator – API Mount
VI300GR	**Green Red**	Visual Indicator – Panel Mount
VI350GR	**Green Red**	Visual Indicator – API Mount

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