

VISTA[®]

STORAGE TANK SOLUTIONS

INTRODUCTION BROCHURE

WWW.VISTATANK.COM



VISTA
TANK

ABOUT

VISTA® was founded to offer remarkable solutions in designing, manufacturing and supplying equipment related to storage tanks for oil and chemical materials. After 20 years of successful and significant experiences in oil, gas and petrochemical industries, Tanootas Taban E.&C. Co. decided to establish VISTA to operate as an offshoot to manufacture equipment for storage tanks. This was aimed at expanding the portfolio of our products through more extensive research and development and making VISTA a specialized company for equipment of storage tanks.

In VISTA, we will strive to manufacture high quality, world-class products by means of innovative solutions which go in line with the state-of-the-art technology in the industry so that the equipment of storage tanks are become economical, efficient, and more importantly safer.

VISTA possesses a very well equipped workshop in which various tank accessories such as those below are manufactured in accordance to highest international norms and standards :

- 1 Mechanical sealing systems of floating roofs
- 2 Aluminum made Internal Floating roofs
- 3 Storage tank drainage systems

VISION

To become a leader, in its global sense, in all aspects of our industry by offering safe & practical technical solutions through most economically viable proposals. Hence, proving ourselves as the best partner in any such projects.

MISSION

To sustainably provide high quality, innovative and profitable solutions to our clients / partners through in depth and effective communication and making use of our engineering team's ample experiences and craftsmanship in design and development of storage tank equipment & accessories.

VALUES

- 1 Social Responsibility
- 2 Authenticity of Engineering Approach
- 3 Innovation
- 4 Integrity

SEAL TYPES

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A floating roof tank is a storage tank commonly used to store large quantities of petroleum products such as crude oil or condensate. It consists of a vertical cylindrical shell, equipped with a roof that floats on the surface of stored liquid, rises and falls with the liquid level in the tank.

There is a gap between the floating roof rim and cylindrical shell. Which should be equipped with a sealing system, also called rim seal system, to reduce or nearly eliminates evaporative loss of the stored liquid.

The seals are designed in compliance with the relevant international standards such as API 650 & NFPA 780. Obviously, customer's request to comply with API RP 545 & API 2003 can easily be fulfilled.

VISTA as a leading seal manufacturer in the Middle East, produces various types of seals as listed below :

- 1 Scissor Type Shoe Plate Seal
- 2 Pantograph Type Shoe Plate Seal
- 3 Liquid Filled Tube Seal
- 4 Foam Filled Seal
- 5 Liquid mounted Compression Plate Primary Seal
- 6 Compression Plate Type Double Seal
- 7 Compression Plate Type Secondary Seal
- 8 Low Profile Type Secondary Seal
- 9 Weather Shield



VST-11 (Scissor Type Shoe Plate Seal) is a kind of primary liquid mounted seals which utilizes a light-gauge metallic band as the sliding contact with the shell and a flexible polymeric vapor barrier to close the annular space between the metallic band and the rim of the floating roof deck. The band is typically formed as a series of sheets (shoes) that are connected to the roof via a scissor-shape mechanism and held against the shell by employing leaf springs. This new design is rapidly replacing older types of mechanical shoe seals due to its innovations.



VST-12
PANTOGRAPH SEAL
Section view

VST-12 (Pantograph Type Shoe Plate Seal) is one the most typical types of primary seals which is composed of a metallic band as the sliding contact with the shell and a flexible polymeric vapor barrier to close the annular space between the metallic band and the rim of the floating roof deck. The band is typically formed as a series of sheets(shoes) that are connected to the roof via a pantograph hanger assembly and held against the shell by employing hanger weights in order to maintain complete and uniform touch with the tank shell.

VST-13 (Liquid Filled Tube Seal) is a liquid mounted type primary seal and has been used widely on floating roof tanks storing crude oil and products. It consists of two main parts, a scuff band and a tube with the circular section made of flexible polymer, inserted in the rim gap around the roof and filled with either kerosene or water or water / glycol mixture. The scuff band is made of nylon fabric, covering the tube and protecting it against the abrasion damages of the tube when moving up and down on the tank wall.



VST-13
LIQUID FILLED TUBE SEAL
Section view

VST-14 (Foam Filled Seal) is one of the liquid mounted type primary seals and has been used on floating roof tanks storing none waxy crude oil and products. It consists of a highly abrasion resistance envelope, polymer coated nylon fabric, embracing a resilient foam block. The foam is bonded to a metal hold down plate which is bolted to the floating roof rim. The Foam exerts a mild positive pressure on the tank wall creating a seal. VISTA's Foam seals are tailor made, designed and constructed according to customers' requirements.



VST-14
FOAM FILLED SEAL
Section view



VST-15
LIQUID MOUNTED
COMPRESSION PLATE SEAL
Section view

VST-15 (Liquid mounted Compression Plate Type Primary Seal) utilizes a band of compression plates pushing against the tank wall. Behind of each compression plate one or more leaf spring is used to spring back the compression plates. The plates may be mounted on horizontal or vertical roof rims and made to accept specific bolt pitching. Adjacent compression plates are overlapped and the installation of a flexible vapor barrier which is fitted in between leaf springs and compression plates ensures the vapor tightness of the seal.

VST-22 (Low Profile Type Secondary Seals) utilizes a row of support flat bars separated from each other pushing a rubber tip against the tank wall. The flat bars may be mounted on horizontal or vertical roof rims and made to accept specific bolt pitching. VST – 22 is composed of support-straps that turn the vapor barrier into a convex structure, ensuring the water-shedding nature of the seal. This seal is designed in a way so that the owners could make the most the capacity of the tanks.



VST-21D (Compression Plate Type Double Seals) utilizes a ring of compression plates pushing a rubber tip against the tank wall on each primary and secondary seal. The plates of both seals may be mounted on horizontal or vertical roof rims and made to accept specific bolt pitching. Adjacent compression plates are overlapped where a flexible vapor barrier is fitted behind the compression plates of each seal ensuring the vapor tightness of the seal. The rubber tip is made of NBR material ensuring durability and longevity of the sealing system.



VST-21 (Compression Plate Type Secondary Seals) is composed of a ring of compression plates pushing a rubber tip against the tank wall. The plates may be mounted on horizontal or vertical roof rims and made to accept specific bolt pitching. Adjacent compression plates are overlapped where a flexible vapor barrier is fitted behind the compression plates ensuring the vapor tightness of the seal. Even well designed and properly maintained primary seals, permit significant vapor losses from storage tanks thus an independent secondary seal can considerably improve the sealing performance.



VST-23 (Weather Shield) is composed of a series of light gauge plates to close the annular space between the shell and rim of the floating roof, to protect the primary seal from UV radiation, rain, snow, dust and other contaminations, as its main function. Adjacent plates are overlapped at their sides and connected to the floating roof via a pivoted mechanism. Weather shield was widely used formerly, but nowadays secondary seals have replaced them, because of their ability of sealing property besides of all the properties of the weather shields.

INTERNAL FLOATING ROOF

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Internal floating roof tank is a kind of environmental protection and economical storage tanks, which has both a permanent fixed roof and a floating roof inside. The floating roof rises and falls along with the liquid level within the tank achieving a no vapor zone. One of the objectives of the internal floating roof is to have minimal, or eliminate completely, the potential gaseous zone above the stored liquid. This is a safety feature required by many industrial storage tank systems.

Internal floating roof tank can effectively prevent the stored oil from being polluted by wind, sand, rain, snow, or dust, guarantees the stored liquid's quality under various weather conditions, is renowned as the "all-weather storage tank", Also there is no rain and snow deposited on the inner roof of such storage tanks; hence, avoiding the unwanted weight that in some cases can lead to sinking of the floating roof. Rest assured, in VISTA each and every floating roof is designed and manufactured based on the client's requirements, in full compliance with the related international standards, in a tailor made manner.



VST-1 may be combined with different kind of effective seal to ensure the reduction of emissions. Some of the main IFR's seal types are :

- 1 Single & Double wipers (VST-1001 and VST-1001D)
- 2 Primary liquid mounted shoe plate seal (VST-1002)
- 3 Primary liquid mounted foam seal (VST-1003)



VST-1 (pontoon type internal floating roof) is composed of a metallic roof, in which the skin deck is supported by closed pontoon compartments for buoyancy and are typically constructed of aluminum alloys or stainless steel. Internal floating roofs are usually used to reduce the volatilization of the stored liquid, environmental protection or saving the stored products from contamination.

VISTA floating roofs are contracted as ad hoc (tailor-made) projects and completely designed and manufactured for each individual application, resulting in high quality product and efficient installation. Storage tanks with Internal floating roof can be used to store gasoline, jet fuel and other volatile oil products, and also liquid chemicals like aldehydes, alcohols (methanol, ethanol), ketones (acetone), benzene (benzene, toluene, xylene, styrene) and etc. The IFR is designed, fabricated, and installed in compliance with the requirements of API Standard 650 "Welded Steel Tanks for Oil Storage," Appendix H "Internal Floating Roofs". The design of the IFR shall also meet the requirements of NFPA 11 and 30.

We believe everybody is responsible for making the world a better place, and we, in VISTA®, strive to play our part for creating a more beautiful world and a brighter future for the generation to come.

VISTA's PROMISE

VISTA®
STORAGE TANK SOLUTIONS



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