

Complete solution for your pressure vessels needs



UNICORN PRESSURE VESSELS PVT. LTD.

RECOGNITION FROM PESO GOVT. OF INDIA FORMERLY DEPT. OF EXPLOSIVE, NAGPUR

SERVICE WE OFFERED:

ALL KIND OF PRESSURE VESSELS(LPG, PROPANE, BUTANE, AMMONIA,& CO₂) INDUSTRIAL BLENDER, AIR RECEIVER, WATER TANKER, H.P HEATER, HEAT EXCHANGER ALL KIND OF FLY ASH & CEMENT BULKER, FIXED CHASSIS & TRAILER FIXED CHASSIS: 30,35,42,46,52 TRAILER:40,46,52,66 ALL KIND OF PETROLEUM TANK(12KL, 19KL & 24 KL) OTHER FABRICATION ITEM ON TURN KEY BASIS CONTACT.



upvessels@gmail.com
unicornpressurevassels@gmail.com

-: About us:-

We are **Petroleum and Explosives Safety Organization (PESO) govt. of India** approved manufactures of tanks and vessels required for storage and transportation of various liquids and gases like LPG, Propane, Propylene, ammonia, liquid carbon dioxide and other gases in a wide range of various capacities for use in domestic , industrial and transportation sectors. The manufacturing of these tanks requires special expertise, technology and strict quality control measures. These tanks are manufactured confirming to various design standards like ASME sec viii div. I & II, PD-5500, IS-2825 and under the stage wise inspection of various third party inspection agencies like DNV, TUV, Lloyds, PDIL, ISRO & others.

WE also manufacture a wide range of process plant equipments such as coded pressure vessels, distillation columns, towers, reactors and heat exchangers. Also we undertake turnkey projects to construct fixed & floating roof tanks, mounded storage tanks and plant piping. We have the special arrangement of firefighting system construction and commissioning.

We are specialized in:-

Non cryogenic vessel

Industrial blenders (Helical & ribbon)

Heat Exchanger & H.P Heater Manufacturer

Industrial structural work

Pipeline fabrication work for industries

L.P.G Bottling plants on Turnkey basis

MS water tanks

SS tanks & Vessels

Air Receiver

Fly Ash Bulker

Diesel/petrol Road Tanker & Bouser

-: SAFETY STATEMENT:-

Unicorn pressure vessels Pvt. Ltd. Our occupational health and safety policy is based on the belief that the well-being of our people at work, or people affected by our work , is the highest priority and must be considered during all work performed.

Our staff are our most important asset and their health and safety is our greatest responsibility.

The management of unicorn pressure vessels Pvt. Ltd. Is totally committed to providing and maintaining a safe and healthy working environment.

Through our established safety committees and representative we consult with our employees about health and safety. Our health and safety policies are the documented principles, objectives, obligations, and commitments that guide our decision making with our business.



Different Type Of Pressure Vessels

-:Unicorn Pressure Vessels Pvt. Ltd. Clients are:-

- ❖ Esser oil & Gas Exploration and production ltd.
- ❖ Indian oil Petronas Pvt. Ltd.,
- ❖ IOCL Bottling plant Durgapur
- ❖ HPCL Bottling plant paharpur
- ❖ IOCL Bottling Plant Budge Budge
- ❖ Sona Biscuits Ltd.
- ❖ Marcus Oil & Chemicals Pvt. Ltd.
- ❖ Symphony Gas Pvt. Ltd.
- ❖ Aditya Udyog
- ❖ Hyundai Dymos



Our Overseas Clients are:

- ❖ Clayton Energy Ltd.(Bangladesh)
- ❖ Prathoma International (Bangladesh)
- ❖ Dada Engineering & Fabricators. (Bangladesh)
- ❖ Quality Energy Ltd.(Bangladesh)
- ❖ Super Gas Ltd. (Bangladesh)
- ❖ Green Fuel Technologies Ltd.(Bangladesh)
- ❖ Nurnabilation. (Bangladesh)
- ❖ Universal Gas & Gas cylinder Ltd. (Bangladesh)
- ❖ As Enterprise(Bangladesh)



-:Our LPG Road Tankers Details:-

OUR DESIGN CODE

All our products are strictly manufactured in accordance with major international codes like ASME section VIII Div(I), ASME section VIII Div (II), PD 5500, IS 2825 & SMPV(U) RULES, 2016

7.5 MT LPG MOBILE TANK	Fixed cabin chassis
10 MT LPG BOB TANK	FIXED CABIN CHASIS
12 MT LPG MOBILE TANK	FIXED CABIN CHASSIS
18 MT LPG MOBILE TANK	TRAILER & CHASSIS
21 MT LPG MOBILE TANK	TRAILER & CHASSIS
30 MT LPG STATIC BULLETS	ABOVEGROUND, UNDERGROUND & MOUNDED

ROAD TANK SPECIFICATION

TANK CAPACITY	<u>7.5 MT</u>	<u>12 MT</u>	<u>18 MT</u>	<u>21 MT</u>
WATERCAP.(LITERS.)	16100	25530	38,300	44,700
INSIDE DIAMETER(MM)	1950	2320	2320	2350
OVERALL LENGTH(MM)	5754	6832	9849	11106
SHELL THICKNESS(MM)	10	12	12	12
DISHED END THKNSS.	10	10	10	10

<u>TRAILER SPEC.</u>	<u>18 MT</u>	<u>21 MT</u>
<u>SUSPENSION</u>	UNDER MOUNT TANDEM AXLE MECHANICAL SUSPENSION AS PER EQUALIZER	UNDER MOUNT TANDEM-AXLE MECH. SUSPENSION ASPER EQUALIZER.
AXLE	DOUBLE AXLE, TATA/FUWA	TRIPLE AXLE / FUWA
BRAKE	DUAL LINE PNEUMATIC BRAKE SYSTEM	DUAL LINE PNEUMAIC BRAKE SYSTEM
TYRE	10R20 STEEL RADIUS(8)	10R20 STEEL RADIUS (12) SPHERE



Petrol & Diesel Tanker

-: SERVICE DEPARTMENTS:-

Workshop service:-

Unicorn pressure vessels Pvt. Ltd. Offers in house sheet metal, welding, fabrication, machining and painting facilities and workshop that produce custom designed products and services, including

- light and heavy fabrication
- general engineering and machining
- all class of welding, including aluminum and stainless steel
- sheet metal work
- sand blasting and protective coatings , industrial tilling and we arresting

We provide an end to end production facility with direct access to stock , parts and equipment for the job at hand. In our work shop we complete job so fall size and complexity. Our clients' needs are meticulously designed, drafted and specifications detailed. These are provided direct to our service manager who is instrumental in facilitating these drawings and specifications from material requisition to production and subsequently through to site installation and quality testing.

Our highly skilled and trained trades people and supervisors offer our clients a one stop shop ensuring the most cost effective outcome for the client and the company.

-: Our Experienced team:-

Fitter and turner:- our fitters are fully qualified and are experienced with all equipment associated with mechanical engineering.

Our machine shop is fully equipped and serviced by our highly skilled team of machinists. In addition, our machinists are competent in supporting the repair and manufacturer process of any of our projects.

Heat Exchanger makers:- our heat exchanger makers are fully qualified and experienced with the interpretation of drawings, and the repairs and maintenance of mining and crushing equipments and structural steel fabrication. They are competent in the use of all equipment necessary for both workshop and on site works including the use of aluminum, stainless steel d carbon steel . Our workshop and site machinery includes all the latest and up to ate ment necessary to perform the tasks.



Heat Exchanger During Fabrication



INDUSTRIAL SAFETY RESEARCH ORGANISATION

Regd Office Address: 2, N.C DUTTA SARANI, SAGAR ESTATE BUILDING, 7TH Floor Room No 704, Kolkata 700001

Phone No : 9748344775 / 8910993143 / 7003647487 , **Email :** isrosmpv@gmail.com

An Organisation Recognized by PESO (Petroleum & Explosive Safety Organisation), Govt. Of India, as "Inspector" & "Competent Person" Under SMPV Rule 2016.

SERVICES WE OFFERED

Safety, Inspection, Testing, Maintenance, Operation & Project

LPG/ Propane Bulk Storage Installation & Bottling Plant's Cryogenic Industry, Refinery, Petrochemicals, Chemical Plants, Steel Plants, Industrial Gases Plants, Thermal Power Plants & Other Industries.

ABOUT US

We have been driven to be the preferred partner for our clients to meet their engineering inspection, testing and safety certification needs. Our commitment to safety, quality and reliability is recognized by our customers and helped us diversify to provide them other value added industrial services.

*It is our pleasure to mention that our company is recognized by **Petroleum and Explosives Safety Organisation (PESO)**, Govt. of India (formerly Department of Explosives) as "Inspector" and Competent Person.*

Our Team is an association of highly qualified and experienced Engineers and technocrats to serve our numerous clients across India. We are capable in offering expertise services to LPG bottling plants, Refineries, Petrochemical plants, industrial Gases plants, Cryogenic industries, Thermal power plants, LPG bulk storage facilities and Fertilizer industries. The primary objective of the Company is to provide the best quality Inspection and technical Services to the industries and to achieve maximum customer satisfaction in the fields mentioned below.

- ❖ *SMPV (U) Rules, 2016*
- ❖ *Third Party Inspection*
- ❖ *Gas Tanker Test Station*
- ❖ *Pressure Vessel Inspection*
- ❖ *Safety Relief Valve Testing*
- ❖ *N.D.T Services*
- ❖ *Operation and Maintenance of Gas plant*
- ❖ *Technical Consultancy services*
- ❖ *Project Management and Execution*
- ❖ *Safety Management Services*



Image During NDT Inspection

Services We Offer

Design Verification, Certification of Calculations and Fabrication Drawings for Pressure Vessels and Safety Fittings.

Stage-wise Inspection and Certification of Vessels under Fabrication for Mounded, Underground, Underground Auto LPG vessels, and Aboveground Pressure Vessels, Periodic Inspection and Certification of Pressure Vessels, and Pipelines through NDT techniques, and Pressure Testing.

Periodic Inspection and Certification of Safety Fittings like Pressure Relief Valves (Safety Valves), Thermal Relief Valves, Excess Flow Check Valves, Pressure Reducing Valves, Isolation Valves and their Overhauling, Repairs, and Calibration.

Inspection and Certification of Cryogenic Vessels for Inner Vessel, Vacuum insulated jackets.

Technical assistance for obtaining the layout approvals and licenses for pressure vessel installations under SMPV (U) Rules.

Consultancy services for site selection, layout drawings, Piping & Instrumentation Diagrams, Hazard & Operability Studies, Consequence Modelling, On-site Emergency Plan as per regulations for Pressure Vessels covered under SMPV (U) Rules.

Final Safety Certification for installations under SMPV (U) Rules.

Certification issued under:

ISRO have been authorized as "Competent Person" under the following Rules of SMPV (U) Rules, 2016

Rule 18: Testing and Certification of Safety Relief Valves & Excess Flow Valves

Rule 19: Pressure Testing of Pressure Vessels (other than Horton Spheres, Mounded and Underground Vessels)

Rule 33: Issuance of Certificate of Safety for Storage of Compressed Gas (other than Mounded, Underground Vessels and Horton Spheres)

Rule 43: Issuance of Certificate of Safety for Vehicles Transporting Compressed



Third Party Inspection:

Our Engineers and Inspectors provide Third Party Inspection Services for Vessels under fabrication. Typical work process flow for such a services involve

Design verification, certification of calculations & fabrication drawings for Pressure Vessels and Safety Fittings.

Material identification and stamping.

Assist in developing and verifying of Welding Procedure Specification (WPS), Welder Performance Qualification (WPQ) and Procedure Qualification Records (PQR).

Stage-wise inspection during fabrication as per codes.

Certification of vessels before dispatch.

Stage inspection during installation of vessels at site including civil construction.

Rule 13(2): Issuance of Certificate of Control for Vessels under fabrication (including Mounded and Underground Vessels).

Pressure Vessel Inspection:

ISRO carries out inspection of various pressure plants covered under the Factories Act like Pressure Vessels, Piping, Heat Exchangers, Reactors, Distillation Columns, etc. Our activities comprise of:

- *External Examination*
- *Internal Examination*
- *Non-Destructive Testing*
- *Magnetic Particle Inspection*
- *Ultrasonic Flaw detection*
- *Dye Penetrant Testing*
- *Radiographic Testing (Interpretation)*
- *Pressure Testing*
- *Pneumatic - Usually carried out only when process does not permit hydro test.*
- *Safety Audit*
- *Safety Training (for different level of employees)*
- *Hazard and Operability Study (HAZOP)*
- *Risk Assessment / QRA*
- *Emergency Planning (on-site & off-site)*
- *Environmental and Risk Management Services are carried out as per the guidelines mentioned below:*
- *'A guide to Manufacture, Storage and Import of Hazardous Chemicals (MSIHC) Rules, 1989' by Ministry of Environment and Forest.*
- *'Manual on Risk Assessment and Risk Analysis for Storage and Transport for Hazardous Chemicals' by Govt. of India.*
- *OISD Standard. / OSHA Standard.*
- *IS: 14489 of 1998 and Factory Act.*

N.D.T Services:

ISRO provides qualified Inspectors and Technicians for NDT inspections during plant shutdowns. We have several technicians qualified to ASNT Level II for the following methods:

- Ultrasonic Thickness Measurement (flameproof equipment with Thru-coat technology)
- Magnetic Particle Inspection
- Ultrasonic Flaw detection
- Dye Penetrant Testing
- Radiographic Testing (Interpretation)
- Digital Hardness Test.
- In-situ Metallography.
- Inspection, testing of pipelines as well as chemical cleaning / other process equipment's



Ultrasonic Thickness Machine

Operation and Maintenance of Gas Plants:

We provide following services for operation and maintenance of Gas plants:

- Operation and Maintenance of bulk LPG / Propane storage installations & LPG bottling plants.
- Operation and Maintenance of ASU, Cryogenic Liquid O₂ / N₂ / Argon / CO₂ and storage installations, etc. & cylinder filling stations
- Pre-commissioning & commissioning of all type of Chemical Process Plant and Refined Primary, Secondary process plant operation.
- Dye Maintenance, Overhauling and Servicing of process equipment's/Heat Exchangers / pressure vessel / safety fitting / pump / pipeline.

Safety Management Services:

We also provide following safety Management services for various categories of industries and process plants:

Project Engineering:

Our Project engineering services includes following:

- Execution of Projects related to LPG storage / Bottling plants / Degassing Station.
- Projects related to MGPS (Medical Oxygen, air, vacuum, etc.), Industrial gases, Cryogenic storage installation - consultancy. Installation, testing commission.

Technical Consultancy services:

Our Technical Consultancy services includes following:

- Site plan, Layout plan preparation, Design, Drawing, Assistance in Approval / Licensing.
- Pressure Vessel Design.
- Total Project Consultancy related to gas / liquid storage installation.
- Metallurgical Health Condition Assessment, Reusability study, R.L.A. (Residual Life Analysis) of equipment's and plants.
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Our Technical Team

Technical advisor:

Mr. Jahar saha:

Mr. Jahar Saha is having more than 44 years of experience in NDT/third Party Inspection Activities, He is B.Sc. ASNT Level-II (LPT, MPT, RT & UT), Radio graphical Safety Officer. (BARC, AERB-Mumbai) and Completed 4 Years Eng. Apprentice (Mechanical & Electrical)

Competent Person:

Mr. Mohd. Ashraf Ahmad (B. Tech Chemical Engineering)

Mr. Mohd. Ashraf Ahmad is B. Tech in Chemical Engineering with more than 17 years of work experience as process design engineer. He is also Certified ASNT Level-II (RT, UT, PT, MPT) inspector and **Competent person under SMPV(U), Rules 2016 (Rules, 18, 19, 33 & 43).**

Competent Person:

Mr. Palash Dutta (B.E Mechanical Engineering)

Mr. Palash Dutta is B.E Mechanical engineer with more than 20 years of experience in the field of radiographic welding and Certified ASNT Level-II (RT, UT, PT, MPT) inspector and **Competent person under SMPV(U), Rules 2016 (Rules, 18 & 19).**

Competent Person:

Mr. Prosanta Banerjee (M.E Mechanical Engineering)

Mr. Prosanta Banerjee is M.E Mechanical engineer with more than 25 years of work experience in the field of radiographic welding. He is highly experienced in installation, commissioning and maintenance of LPG Degassing and LPG Bottling Plants and **Competent person under SMPV(U), Rules 2016 (Rules, 18).**

Competent Person:

Mr. Tanmoy Ganguly (B.E Mechanical Engineering)

Mr. Tanmoy Ganguly is B.E in Mechanical Engineering and ASNT Level-II (RT, UT, PT, and MPT) with more than 25 years of work experience in the field of radiographic welding and statutory inspections and **Competent person under SMPV(U), Rules 2016 (Rules, 18).**

N.D.T:

Miss. Papia Saha (Quality Control & Quality Assurance Manager)

Miss. Papia Saha is Diploma in Mechanical Engineering and ASNT Level-II (RT, UT, PT, and MPT) with more than 5 years of work experience in the field of radiographic welding, statutory inspections testing of pressure vessels under SMPV (U) rules 2016

Design & Drawing :

Mr. Amit Mondal (P.G Diploma in Fire & safety)

Mr. Amit Mondal is Diploma in Fire & Safety with more than 17 years of proven work experience in the field of machine drawing and pressure vessel drawing by Auto CAD. He is also proficient in IS2825 and ASME Section VIII Division I Code.

Office Staff:

Mr. Pintu Das (Office Manager)

Mr. Pintu Das is having more than 18 years of work experience in the field of managing the overall functioning and maintaining record of all activities related to our organisation.

Experience and Credentials

*Since its Inception in year 2017, **Industrial Safety Research Organisation** has worked meticulously with many organizations. Within this short period of time ISRO has striven to be the preferred partner for its clients to meet their engineering inspection, testing and safety certification needs. Our commitment to safety, quality and reliability is recognized by our customers have helped us diversify to provide other value added industrial services.*

Key Strength of Industrial safety research organization is our team of well qualified and experienced Engineers/Technocrats. The team of Engineers comes from various disciplines of Engineering with very wide and diversified experiences from Refinery, petrochemical, Oil and Gas and power plants. Experiences in particular include designing, operations, maintenance and N.D.T Services.

Availability of various NDT/Inspection/Testing Equipment and facility, Library of Books/Standards/Guidelines, AutoCAD software/ HAZOP study software add feather on our Cap.

Why ISRO

One window solution for Static & Mobile Pressure Vessels users. Services are offered from initial site visit to design to drawing to liaison to manufacturing to installation inspection to testing to certification to commissioning to plant operation to equipment maintenance until running the plant. Team of dedicated Young & Experienced Engineers. Specially trained personnel in LPG / Propane / Cryogenic Operation and Maintenance service. Research Work for development of Safety.



Ultrasonic Flaw Detection Image

WE ARE AUTHORIZED BY:



ISO CERTIFICATION



ISO CERTIFICATION



UDYAM ADHAR



UDYAM ADHAR



PESO LICENSE



PESO LICENSE



FSSAI LICENSE



UDYAM ADHAR

OUR GROUP OF COMPANIES:

- ❖ TIRUPATI BALAJI INDUSTRIES
- ❖ BAHA DEGASSING & PURGING SERVICES PVT. LTD.
- ❖ UNICORN PRESSURE VESSELS PVT. LTD.
- ❖ INDUSTRIAL SAFETY RESEARCH ORGANIZATION
- ❖ BENGAL POLUTION CENTER
- ❖ S SQUARE ENTERPRISES

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