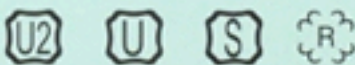


ISGEC Ton Containers



Safety through Design. Safety through Quality.



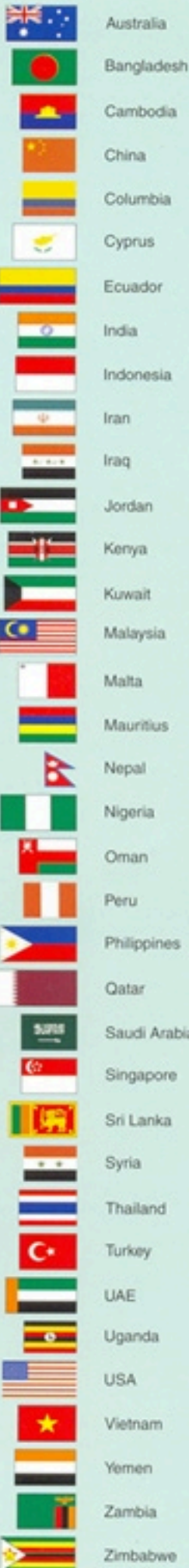
Code Stamping For Specialized Equipment Only



An ISO 9001:2000 Company

ISGEC Ton Containers

Safety through Design. Safety through Quality.



ISGEC is an ISO 9001:2000 approved company having ASME 'U2', 'U' & 'S' certifications as well as the National Board of USA 'R' & 'NB' certifications. We have been manufacturing & supplying Ton Containers for Chlorine & other liquefiable gases and Pressure Vessels for **over 40 years**.

ISGEC has supplied around **70,000 Containers and 3000 Pressure Vessels to 36 countries**.

Proof of our performance internationally is the **repeat orders** we have received from the USA, China, Japan, Malaysia, Philippines, Oman, Qatar, Saudi Arabia, Kuwait and Thailand.

ISGEC offers alternate models of Containers to suit the requirement of different customers. However, one thing that is common to each model is our uncompromising focus on Safety.



Mercury Adsorber Vessel, 157 mm thick, weighing 130 MT and ASME 'U2' Stamped, supplied to Petroleum Development, Oman.

• Safety through Stress Analysis:

The ISGEC Model-A Container has been designed so as to provide **immediate safety** through reversal of the heads in case of over-pressurization. To establish this, we have used the Finite Element method to do extensive Stress Analysis of the Container, using **computer simulated Models**.

• Safety through Prototype Testing:



No leakage during prototype testing of ISGEC Container dropped on 2 Iron rails from a height of 20 feet.

The **design** of ISGEC Containers has been approved by **Lloyd's Register**. The design has been further verified by **prototype testing**, during which, the Container was over pressurised to a pressure of 88 Kg/cm², at which the heads reversed. The Container was then **dropped on 2 iron rails from a height of 20 feet**, on the weld joint. As a result of the drop, sudden and excessive pressure came to be applied on limited areas of the Container, thereby putting these areas under tremendous stress, but there was **no leakage**.

• Safety through 100% X-Ray:

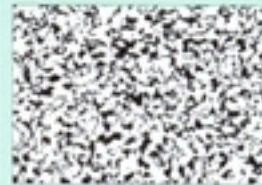
At ISGEC, we use the Fusion Welding process for all joints. This method enables us to establish the quality of the welded joints by **100% X-Ray** of all main joints, including the **Head to Shell joint**.



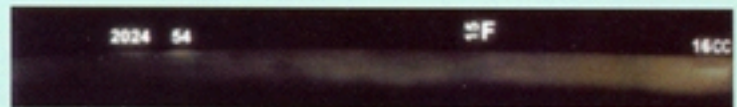
• Safety through Quality Material:

ISGEC Containers are made from **Boiler Quality Steel Plates** having the following material properties:

Ultimate Tensile Strength: 415-550 MPa
Yield Strength : 220 MPa



Microstructure



Such X-Rays further prove that all welds are sound

• Safety through Approval & Inspection:

The design of ISGEC Containers has been approved by **Lloyd's Register**.

ISGEC Containers are **inspected** at 15 stages of manufacture by **Lloyd's Register**.

Each ISGEC Container comes with a **Lloyd's Test Certificate** which is provided to the customer without any extra cost. Certification by other inspection agencies can also be provided.

Serial Number	Description & Size	Quantity	Inspected on	Inspected by
CLC 170/01	Transport container for Chlorine 50 litres (Net Weight) 5,000 litres (Gross)	1000	12/08/2004	12/08/2004

• Options:

ISGEC manufactures Containers that are tailor-made to Customer's requirements so as to make them compatible with existing filling and emptying stations, lifting arrangements and safety kits.

The modification includes:

- Chlorine capacity of 1000 Kg
- Rolling Hoops
- Additional Inspection Plugs or Fusible Plugs
- Zinc Coating on External Surface
- Removable Dip Pipes
- Variety of Paints
- Compatibility with Emergency Kit B of Chlorine Institute, USA

• Other ISGEC Container Models:



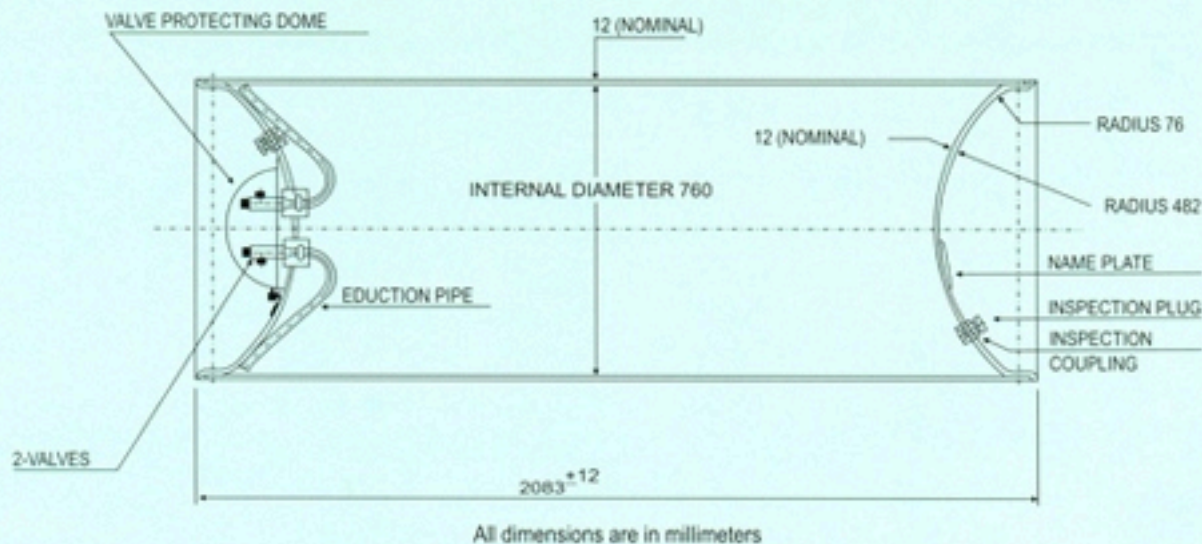
MODEL - B



MODEL - D



MODEL - E



Sketch of a 930 Kg capacity Model 'A' ISGEC Chlorine Container

Specifications

Design Code	: BS -1500 Part 1
Design Pressure	: 19.9 Kgf/cm ² (g) (283 PSIG)
Design Temperature	: 65 deg. C (149 deg. F)
Material of Construction for Heads & Shells	: SA 516 Grade 60 or SA 285 Grade C or equivalent
Corrosion Allowance	: 1.5 mm (minimum)
Longitudinal Shell Joint & Head to Shell Joint	: Fusion Welded
Radiography	: 100% of all Butt Welded Joints
Post Weld Heat Treatment	: Yes
Hydraulic Test Pressure	: 35.7 Kgf/cm ² (g) for SA 516 Grade 60
Cleaning	: By Grit Blasting
Painting	: Golden Yellow
Design Approval	: (a) Lloyd's Register (b) Chief Controller of Explosives (India)
Inspection	: Lloyd's Register
Tare Weight	: 600 Kgs (Approx.) (1322 lbs)
Water Capacity	: 780 Kgs (Approx.) (1719 lbs)
Chlorine Capacity	: 930 Kgs (Approx.) (2049 lbs)

Standard Accessories

- Two Valves, 25.4 mm (one inch) conforming to BS 341 or IS-3224 Part 1 made from Brass or Aluminium Silicon Bronze, with Spindle of Stainless Steel or Monel
- Two Valve Outlet Cap Nuts of Brass
- Two Brass Plugs of 25.4 mm (one inch) conforming to BS 341 or IS - 3224 Part 1
- One Mild Steel Valve Protecting Dome

Optional Accessories

- Valves, Couplings and Fusible Plugs conforming to 3/4" NGT CL 1 of ANSI B-57.1 or JIS 8246

Containers for Liquefiable Gases

ISGEC manufactures Containers for the transportation and storage of the following liquefiable gases:

- Ammonia
- Chlorine
- Dimethylamine
- Ethyl Chloride
- Ethylene Oxide
- Freon
- Hydrogen Fluoride
- Methyl Bromide
- Methyl Chloride
- Monomethylamine
- Sulphur Dioxide
- Trimethylamine
- Vinyl Chloride



An ISO 9001:2000 Company

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Specifications given in this brochure are subject to change, without any prior notice

PVD/CC/A/0105/01/TP