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HERITAGE OF BENGAL IN BUSINESS ACTIVITIES



M/S GIRISH CHANDRA GHOSH & G.G.S.



www.girishcalibration.com



To continue please click on mouse or press spacebar / arrow keys

Girish Chandra Ghosh & G.G.S

Why calibration is essential

To ascertain gain or loss in sales, purchase to provide only reliable means of maintaining adequate control over the storage & distribution & stock keeping in industrial production process control as oil, chemicals and it's allied products are very costly items business and service render from it.

- ❑ Profit and Loss depends on accuracy of storage tank calibration work
- ❑ Settlement of disputes in management, production purchase / sales cycle

Tank calibration services

- Vertical Cylindrical Large diameter storage tanks.
- Horizontal Cylindrical tanks and pressurised bullets.
- Horton spheres and ship tanks.
- All types of process tanks and vat.
- Ultrasonic thickness testing of tanks and pipelines.
- Tank settlement roundness and tilt survey.



About Us

WHO ARE WE?

We are an independent company head quartered in Kolkata, India undertaking tank calibration, inspection, certification ultrasonic testing, tank settlement and tilt survey. Our company is government approved license for calibration of petroleum, chemicals, oil and liquid storage tanks. Our calibration of tanks helped many companies in achieving and maintaining ISO quality certification with the desired accuracy, traceability and measurement standard required by ISO.

OUR EDGE

We are now consortium of efficient. Responsive and experienced engineers with on – field technical expertise combined with computer – aided mathematical volume analysis. We certainly have the edge with constant technological innovation and upgradation - meeting international standard and solving intricate problems like tilted horizontal tanks and volume of uneven floors.

OUR COMMITMENT

The leading company in calibration world. We are committed to meet consumers requirement by offering consistent quality service and at competitive price. Company's profit depends on the accuracy of storage tank calibration chart.

OUR FOCUS

To make the tank owner understand the extreme importance of accurate volumes. Tank calibration and survey helps the owner of the tank to get a through feedback about inventory, product quality and tank health, which if wrongly executed may prove costly and disastrous. A through understanding of any tank characteristic has earned us the reputation of a first hand solution provider in the industry – In India.

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OUR VISION

Our vision is to become the recognized industry leader by our customers in the Storage Tank Calibration businesses in which we compete.

Safety – Safety serves as a barometer of our company's overall success and is a specific measure of our operating excellence

Trust – Trust is the mutual respect for and confidence in people. Trust recognizes the importance of individuals and appreciates their diverse opinions. Trust compels us to share information and encourage new ideas. It requires an open, honest, forthright manner.

Teamwork – Teamwork is personal involvement and collaboration in a team environment. It includes setting a common goal in support of business objectives, making an individual commitment to the team's success and recognizing the success of the team.

Accountability – Being accountable means every employee assumes ownership and responsibility for his or her own work, regardless of the job they perform. Being accountable means making decisions and holding oneself responsible for the consequences of those choices.

Quality – Quality is the primary determinant of customer satisfaction and loyalty, and it requires employees to continuously provide internal and external customers with the right product or service...done right...the first time. In today's increasingly competitive business environment, better quality translates into better value for our customers and, subsequently, better value for their customers-and this is the very essence of competitive differentiation.

OUR MISSION

We are trying to keep our old goodwill and maintain customer satisfaction and to serve our society and social development at large.

In Storage Tank Calibration Work our Mission / Goal for modernization (subject to weights & measure Dept. approval) we will introduce safe laser beam measurement are also used for internal diameter measurement specifically for Horton sphere and underground cylindrical tanks.

A combination of traditional physical calibration to the latest laser distance ranging and optical triangulation technology may be adopted in near future for accuracy. At the same time we will try to acquire all India license for all states in India in our activity.

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In this presentation we will demonstrate how and more importantly why we calibrate large bulk oil cylindrical vertical storage tanks using the latest on-field optical techniques and modern computerized analysis.



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The Problem – Inaccurate Volume

- Large tanks have varying diameters from top shell to bottom shell not perceived by naked eye.
- Many due to tank settling, hydrostatic product head pressure, temperature in daily operation.
- Also due to unavoidable imperfect construction, repairs.
- Tank shells expand / deform gradually in time.
- If not taken into account, leads to accumulated huge product losses or impractical gain.
- It will also strain your credibility with client / vendor and dispute with excise / customs.



Problems on scaffolding

- Scaffolding around tank
- Scaffolding not practical at all locations.
- Lots of manpower required at site, availability and skill is a big problem.
- Vital safety questions on scaffolding.
- Time consuming.
- Strapping tapes require parallel path without sagging around the tank circumference – difficult to maintain on high scaffolding & windy conditions.
- Difficult to maintain even strapping tape tension of 4.5 kgf on high scaffolding may result in inaccurate circumference readout and hence inaccurate volume.
- Analog tape reading dependent on the personnel on scaffolding, in-consistent parallax & human error can occur.
- Tape path around circumference is localized, tilt bulges and expansions are not measured.

Digital optical method solutions

- No scaffolding required.
- No location problem.
- Single or 2 operators required.
- Completely safe – from ground.
- Fast execution.
- Digital total station system is leveled electronically instantly without physical intervention from the ground itself.
- Very accurate, fast and error-free digital reading which is analyzed on computer software to provide accurate volumes at all levels.
- No analog approximation – direct digital readings from station to computer no parallax - viewfinder . reticule aligns directly with tank edge.
- Angular readings are spread out evenly around the circumferential plane which gives us total indication of tank bulges, contractions, tilt and shape.



In combination with circumferential strapping of a reference shell as per API 2550 or ISO 7507 (1), we follow “Optical Triangulation method” for calibration of vertical cylindrical tanks as per ISO 7507 – part 3 International standard. Here we will see how we use a Digital electronic total station combined with computer software to get diameters for all the shells up to the top. This method is better than EODR, which we will explain later.



DRAFT INTERNATIONAL STANDARD ISO/DIS 7507-3

ISO/TC 28/SC 3

Secretariat: BSI

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION · МЕЖДУНАРОДНАЯ ОРГАНИЗАЦИЯ ПО СТАНДАРТИЗАЦИИ · ORGANISATION INTERNATIONALE DE NORMALISATION

Petroleum and liquid petroleum products — Calibration of vertical cylindrical tanks —

**Part 3:
Optical-triangulation method**

Pétrole et produits pétroliers liquides — Jaugeage des réservoirs cylindriques verticaux —

Partie 3: Méthode par triangulation optique

[Revision of first edition (ISO 7507-3: 1993)]

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The station is placed on a tripod on a fixed position and leveled. We need to measure the angular value between points A and B on a particular shell. A and B is a horizontal plane and are end points on the shell which are tangential to our line of sight



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The station telescope is pointed to wards point A



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This is what we see through the viewfinder. The edge of the tank shell is sighted tangentially coincide with the central cross mark of the viewfinder. This point is 'A'. In this case note that at the top of the viewfinder the tank wall starts to deform (expand) a little to the left

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The station is now rotated right to point B horizontally and a similar sighting made. The angular value between point A and B is noted in highest resolution in degrees, minutes and seconds.



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Without moving the equipments positions, similar sighting is made at a higher positioned shell between C and D and it's angular value noted. Likewise angular values are measured for all shells from top to bottom.



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Without moving the equipments positions, similar sighting is made at a higher positioned shell between C and D and it's angular value noted. Likewise angular values are measured for all shells from top to bottom.

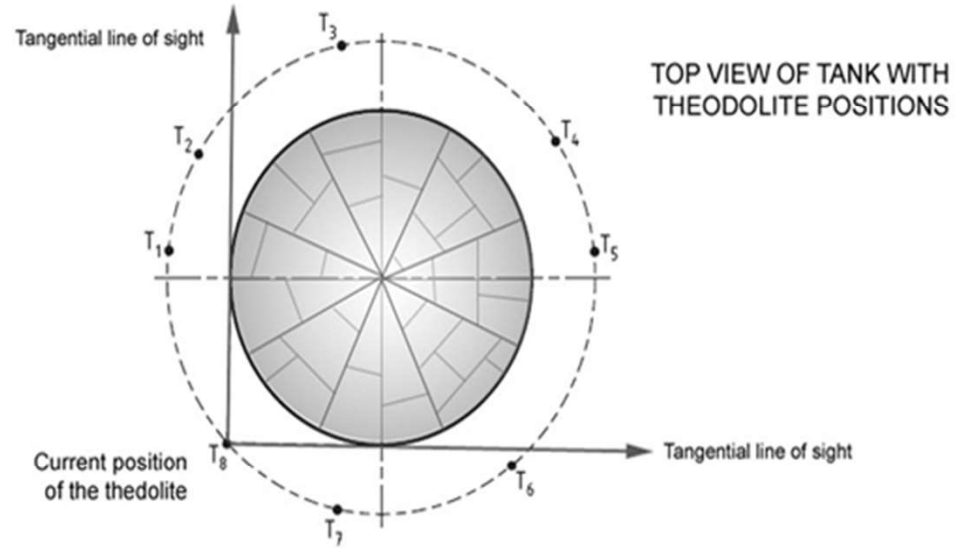


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All the above steps are repeated for at least 5 to 12 positions all round the tank circumference depending on the size of circumference.



The minimum number of stations (T1, T2, etc.) per circumference shall be as given in Table 2.



Key

T1 T8 Theodolite stations

Example of theodolite station locations for external procedure based on a reference circumference

Table 2 — Minimum number of theodolite stations for external procedures

Tank circumference (m)	Minimum number of stations
up to 50	5
above 50, up to 100	6
above 100, up to 150	8

We now need to measure only one reference external circumference (Preferably on 1st or 2nd shell) accurately 3 times at an accessible height by strapping steel tape.



Other important measurements which are carried out as per rule

- Datum level determination
- Dip points and hatch height
- Dip reference height
- Deadwood determination
- Bottom dead stock volume
- Floating roof weight
- Shell thickness and strake height
- Measurement temperature

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This is an example showing i.d and lit/cm variations when calibration is done on a large 60000 KL tank. You can see that strapping of shells on scaffolding on upper course has caused large variations leading to a volume loss of the tank owner of approx. 40 KL. The blue line on the graph is data obtained by us by the methods we have demonstrated.

Tank No. - HT 07 (60000 KL F.R. Tank)

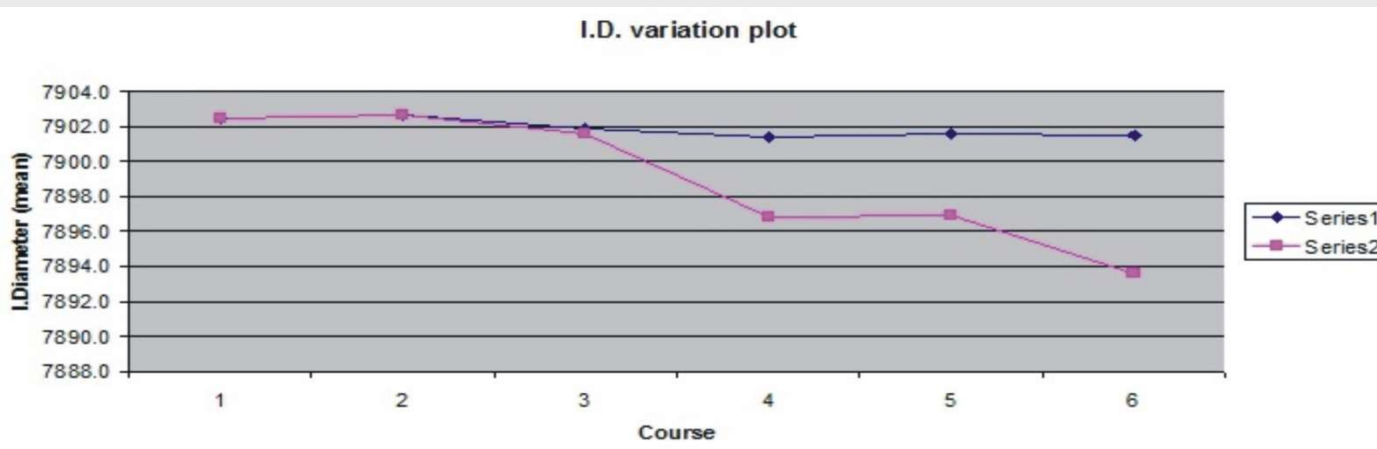
Lit/cm comparison

Course no.	Course height	Open capacity in our chart lit/cm	Open capacity in our chart lit/cm	Difference lit/cm	Net volume difference
1	235.9	49047.85612	49048	-0.1	-34
2	250.0	49049.78299	49050	-0.2	-54
3	250.0	49040.38767	49036	4.4	1097
4	250.0	49034.67863	48977	57.7	14420
5	200.0	49036.27913	48978	58.3	11656
6	138.5	49034.81402	48937	97.8	13547
					40632

i.d. comparison

Course no.	i.D as per new calibration cm	i.D as per old calibration cm	i.D diff cm
1	7902.5	7902.5	0.0
2	7902.7	7902.7	0.0
3	7901.9	7901.6	0.3
4	7901.4	7896.8	4.6
5	7901.6	7896.9	4.7
6	7901.5	7893.6	7.9

I.D. variation plot



Previous data

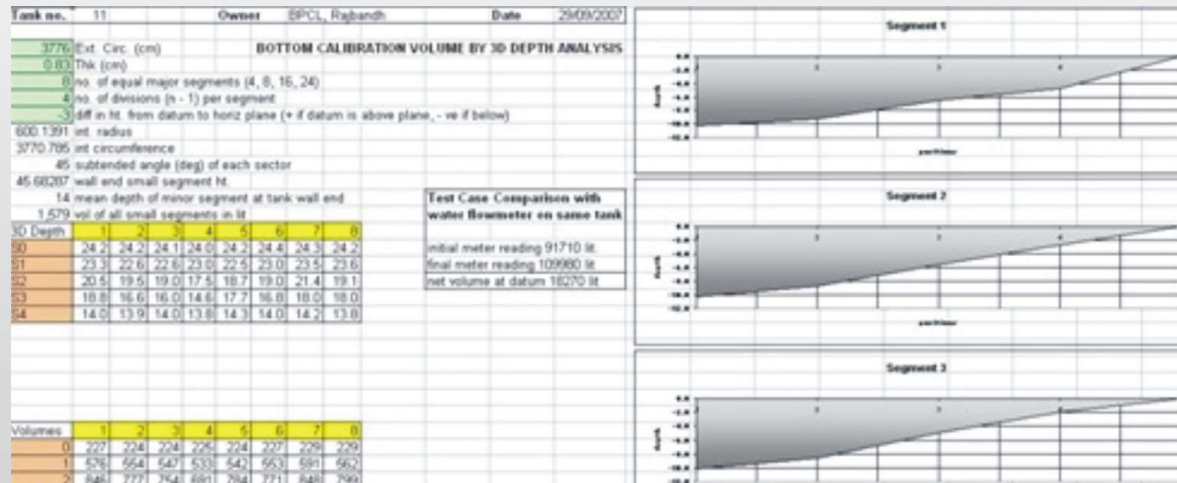


Current data

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Tank Bottom Calibration

- ❑ Large tanks have floors that are uneven and may be of cone up or down shape. If you are empty, dead stock volume may be needed to be determined upto datum level.
- ❑ Apart from the traditional bottom calibration with water and flowmeter / prover, we undertake 3D dry survey of tank bottom with advanced laser leveling and depth measurements.
- ❑ When the floor data is analyzed on our customized softwares, we get a 3D contour from where we can accurately determine tank bottom volume upto datum plate and beyond to flush level.
- ❑ Its fact, accurate and does not require water or proving liquid.



Computerized processing of field data

All field data are logged on our computers. First, application of temperature, thickness & step-over corrections on this reference circumference is made to get an accurate “reference internal radius” at this level of the tank shell.



Tank No. :- Bake Oven De Dusting 2				
Course	1st	2nd	3rd	4th
Height of the Course (cm)	125.00000	125.00000	125.00000	31.00000
Measured External Circumference (m)	12.61100	12.61050	12.60000	12.59500
Correction for Calibration Temp. of the Tape (m)	0.00113	0.00113	0.00113	0.00113
Step Over Correction (m)	0.00500	0.00550	0.00500	0.00450
Correction for Plate Thickness (m)	0.07540	0.06280	0.06280	0.05030
Corrected Internal Circumference (m)	12.52947	12.54104	12.53104	12.53910
Capacity of the Course in L/cm.	124.92321	125.15403	124.95452	125.11531

Tank No. :- Bake Oven De Dusting 2

UNITS

Course (Ring) No.	Respective Height of the Course in cm.						Capacity of the Course in L/cm.	Effect of the deadwood in L/cm.	Corrected capacity of the course in L/cm.
1st	From	0.00	cm.	To	125.00	cm.	124.92321	(+) 0.0000	124.92321
2nd	From	125.00	cm.	To	250.00	cm.	125.15403	(+) 0.0000	125.15403
3rd	From	250.00	cm.	To	375.00	cm.	124.95452	(+) 0.0000	124.95452
4th	From	375.00	cm.	To	406.00	cm.	125.11531	(+) 0.0000	125.11531

Computerized processing of field data

This reference radius in combination with the total station readings is used to compute radius / diameter at all levels from top to bottom of the tank by complex triangulation and calculation on our advanced customized software.



Tank No.	<input type="text" value="15"/>	Owner's Name	<input type="text"/>	<input type="button" value="Deadwoods"/>	
Roof Type	<input type="text" value="Fixed"/>	No. of Courses	<input type="text" value="10"/>	Above Datum	<input type="text" value="9.3"/>
Roof Weight	<input type="text" value="0"/>	Datum Point Height	<input type="text" value="23.0000"/>	Datum/Bottom Flush	<input type="text" value="16609"/>
Hor. Off (cm)	<input type="text" value="0.0000"/>	Horz. Height (cm)	<input type="text" value="0.0000"/>	DIP Ref Height	<input type="text" value="0.00"/>
<input type="button" value="Calculate"/>					

Course	EC (m) Top	EC (m) Bottom	MEC (m)	PT (m)	No. of Joints	SOC (m)	RHT (cm) Individual	RHT (cm) Cumula
1	81.7400	81.7480	81.7440	0.0160	13.0000	0.0065	150.0000	127.00
2	81.7730	81.7380	81.7555	0.0140	13.0000	0.0065	150.0000	277.00
3	81.7680	81.7640	81.7660	0.0120	13.0000	0.0065	150.0000	427.00
4	81.7340	81.7680	81.7510	0.0120	13.0000	0.0065	150.0000	577.00
5	81.6900	81.7100	81.7000	0.0100	13.0000	0.0065	150.0000	727.00
6	81.7400	81.7380	81.7380	0.0080	13.0000	0.0065	150.3000	877.30
7	81.7900	81.7790	81.7845	0.0080	13.0000	0.0065	150.3000	1027.60
8	81.7550	81.7670	81.7610	0.0060	13.0000	0.0065	149.4000	1177.00
9	81.7360	81.7290	81.7325	0.0060	13.0000	0.0065	149.4000	1326.40
10	81.7120	81.7670	81.7395	0.0060	13.0000	0.0065	99.5000	1425.90

Data Entry Sheet (Optical triangulation method)															
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
	Day	Min	Sec	Day	Min	Sec	Day	Min	Sec	Day	Min	Sec	Day	Min	Sec
1 top	18	17	14	19	36	25	16	12	39	16	18	09	11	33	03
1 bottom	18	17	50	19	36	37	16	11	16	16	12	05	11	33	08
2 top	19	07	18	19	30	12	16	11	18	16	10	11	33	18	00
2 bottom	18	18	25	19	30	14	16	11	18	16	06	11	33	18	00
3 top	19	31	30	19	31	30	16	10	32	16	11	14	11	33	11
3 bottom	19	31	13	19	31	13	16	10	32	16	11	14	11	33	11
4 top	19	08	16	19	07	12	16	10	39	16	11	14	11	33	11
4 bottom	19	08	01	19	07	18	16	10	39	16	11	14	11	33	11
5 top	19	08	03	19	13	38	16	11	39	16	11	14	11	33	11
5 bottom	19	08	13	19	13	38	16	11	39	16	11	14	11	33	11
6 top	19	08	13	19	13	38	16	11	39	16	11	14	11	33	11
6 bottom	19	08	13	19	13	38	16	11	39	16	11	14	11	33	11
7 top	19	08	13	19	13	38	16	11	39	16	11	14	11	33	11
7 bottom	19	08	13	19	13	38	16	11	39	16	11	14	11	33	11
8 top	19	08	13	19	13	38	16	11	39	16	11	14	11	33	11
8 bottom	19	08	13	19	13	38	16	11	39	16	11	14	11	33	11
9 top	19	08	13	19	13	38	16	11	39	16	11	14	11	33	11
9 bottom	19	08	13	19	13	38	16	11	39	16	11	14	11	33	11
10 top	19	08	13	19	13	38	16	11	39	16	11	14	11	33	11
10 bottom	19	08	13	19	13	38	16	11	39	16	11	14	11	33	11
11 top															
11 bottom															
12 top															
12 bottom															
13 top															
13 bottom															

Specific Gravities for	
Alcohol (Commercial) = 0.833	Fuel Oil = 0.960
Asphaltum = 1.300	Gasoline = 0.710 - 0.82
Butane = 0.880	Gas Oil = 0.843
Creosote = 1.100	Kerosene = 0.810
Crude Oil = 0.820 - 0.970	Liquid Ammonia (100%)
Diesel Oil = 0.900	Lubricating Oil (Light)
Ethene = 0.446	Lubricating Oil (Heavy)

Reference course no.	Reference Circumference	50.295 (270)
Reference Ext. Circum (mm)	by	
No. Vertical points in course	by	
Supportive value per joint (mm)	Shrapping	
Plate thickness of ref. circum (mm)	Method	

Tank no.	15
Company Name	M.R.P.
Location	

Finally the Calibration Chart



Rounding the decimals to the nearest litre
CALIBRATION CHART
 Capacity in Litre / cm.

Bharat Aluminium Company Ltd. - Korba

Tank No. :- Bake Oven De Dusting 2

Dip in Cm.	0	1	2	3	4	5	6	7	8	9
0	9875	10000	10125	10250	10375	10500	10625	10749	10874	10999
10	11124	11249	11374	11499	11624	11749	11874	11999	12124	12249
20	12373	12498	12623	12748	12873	12998	13123			
30	13623	13748	13873	13997	14122	14247	14372			
40	14872	14997	15122	15247	15372	15497	15621			
50	16121	16246	16371	16496	16621	16746	16871			
60	17370	17495	17620	17745	17870	17995	18120			
70	18620	18745	18869	18994	19119	19244	19369			
80	19869	19994	20119	20244	20369	20493	20618			
90	21118	21243	21368	21493	21618	21743	21868			
100	22367	22492	22617	22742	22867	22992	23117			
110	23617	23742	23866	23991	24116	24241	24366			
120	24866	24991	25116	25241	25365	25490	25615			
130	26116	26241	26366	26491	26617	26742	26867			
140	27367	27493	27618	27743	27868	27993	28118			
150	28619	28744	28869	28994	29120	29245	29370			
160	29871	29996	30121	30246	30371	30496	30621			
170	31122	31247	31372	31498	31623	31748	31873			
180	32374	32499	32624	32749	32874	32999	33125			

Govt. of Chhattisgarh
 Office of the Assistant Controller of Legal Metrology
 Korba Zone
CALIBRATION CHART

Tank No. : Bake Oven De Dusting 2
 Owner's Name : M/s. Bharat Aluminium Company Ltd.
 Location : Bake Oven De Dusting Area, P.O. - Balco Nagar, Korba, Chhattisgarh - 495684
 Location of Tank : -do-
 Rule : The Legal Metrology (General) Rule 2011 Ninth Schedule - Part II & III
 Description of Tank : Vertical Butt-welded Storage Tank.
 Description of Roof : Fixed Roof
 Height of Tank : 406 cm.
 Height of Datum Point : Nil
 Method of Calibration : Strapping
 Capacity of Tank : 49,881 l (upto safe filling height 320 cm.)
 Tank contents : Coke Dust
 Date of Calibration :
 Due Date of Calibration :

Tank volume at all heights are calculated accurately and error-free with calibration charts made as per client specifications and standard metrology rules. Data is also given on CD/email.

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Advantage of Optical Triangulation over EODR

- ❑ Electro optical distance ranging (EODR) process involves not one but numerous total stations the circumference where distance measured between them and the tank shell tend to be inconsistent more due to the fact the laser distance meters on the total stations have an inaccuracy range of +ve, -ve 3 to 5 mm, which is not acceptable at such a close distance to the tank when used for calculations. It has more disadvantages than advantages as a simple position error around tanks. Also in EODR we have to depend solely on the total station equipments, as there is no reference tank strapping method around the circumference to setup a basis for further measurements. We had tested out this method earlier and have found that optical triangulation is more accurate and flexible. Optical triangulation is done with very high resolution of accuracy +ve , -ve 1 second. $1 \text{ second} = 1/3600 \text{ degree}$. It can be placed anywhere around the circumference, even on an adjacent building and does not require any distance readings. Numerous tangential angular reading around the circumference gives very accurate tank radius based on a reference radius measured by strapping.

Our Clients believe in us

- Indian Oil Corp. Ltd.
- Hindustan Petroleum
- Bharat Petroleum Corp. Ltd.
- I.B.P.Co. Ltd.
- Castrol India Ltd.
- Tata Iron & Steel Co. Ltd.
- Hindustan Unilever Ltd.
- Damodar Valley Corp.
- Shalimar Chemical work Ltd.
- Reliance Engg. Associates Pvt. Ltd.
- United Brewireis Ltd.
- CESC Ltd
- Dabur India ltd.
- Tata Power Co. Ltd.
- Britannia Industries Ltd.
- Haldia Petrochemicals Ltd.
- IFB Agro industries
- Orissa Sponge Iron Ltd.
- PNP Eng. Works Pvt. Ltd.
- Exide industries
- Dhara Vegetable Oil Food
- Haldia dock Complex
- I.M.C Ltd.
- Punj Lloyd Ltd.
- Reliance Industries Ltd.
- Nicco cop. Ltd.

Follow next slide ...

Our Clients believe in us

- Mother Dairy (Calcutta) Dankuni
- Khaitan (India) Ltd. Nadia
- M.P.Giychem IndustriesLtd.(RANCHI)
- Essar Oil Ltd.
- United Storage & Tank Terminal Ltd.
- Dhara Vegetable Oil Food Co. Ltd.
- Ajanta Bottles & Blenders Pvt. Ltd.
- Tata Chemicals Co. Ltd.
- Vedant Aluminum Ltd.
- Emmai Limited.
- Mistubishi Co. Ltd.
- Balmer Lawaries & Co. Ltd.
- Vijay Tank & Vessels Ltd. Gujrat
- IFB Agro industries
- Indus Project Ltd. Haldia
- Radiant Manufacturers Pvt. Ltd.
- Hi-Tech Carbon. Haldia
- S.K. Oil & Co. Ltd.
- Cheviot CO. Ltd. Budge Budge
- Indian Oil Corp Ltd. N.J.P
- Bokaro Steel Plant Steel City. Jharkhand
- Jindal Steel & Power Ltd. Chattishgarh
- M. K. Roy & Bros. Project Ltd.

And many others...

***See our website for more client list Girish Chandra Ghosh & G.G.S**

M/S GIRISH CHANDRA GHOSH & G.G.S.

Excellence you look for...

M/s. GIRISH CHANDRA GHOSH & G.G.S.
 Govt. Licensed Calibrator of liquid storage tank in West Bengal, Jharkhand, Sikkim, Chhattisgarh, Odisha & works under Legal Metrology (Weights & Measure) of other states in India
 (An ISO 9001:2008 certified SSI Registered unit)

THE EXCELLENCE YOU LOOK FOR

OUR SPECIALITY

- Customer Satisfaction
- Low Cost Efficiency & Quality
- Saving Foreign Money by introducing World Standard in India with imported machinery
- Utilizing Modern as well as Economic Technology
- Development of People & Technology
- A team of highly skilled & experienced personnel

Winner of FOSMI Award Of Excellence in Service Sector from Mr. Somnath Chatterjee, Ex - Lok Sabha Speaker & Mr. Manab Mukherjee, MPM Minister in 2010

Receiving Certificate Award of Excellence in Service Sector from Dr. Manas Bhanja, (Minister, Small Scale Industry)

Received Certificate & Memento of Appreciation in the Seminar on Calibration of Storage Tanks from Legal Metrology Dept, Govt. of Odisha

Winner of Silver Medal for Metro Scale maker in Indian National Congress Industrial Exhibition Kolkata, West Bengal in 1964

Winner of International Achievers Award for Business Excellence from IAC at Thailand, Bangkok in 2011

Received Memento from IOC, Haldia Refinery, as enlisted vendor in 2008

Winner of Bharat Gaurav Award from Association For Economic Growth & Social Development in Delhi, 2012

Winner of Indian Leadership Award for Industrial Development from All India Achievers Foundation at New Delhi in 2011

Receiving FOSMI Award of Excellence for Outstanding Achievement in the Service Sector (1st Prize) from Mr. Saugata Roy, Minister of State Urban Development in 2012

Receiving Bengal Chamber Award for Excellence in Manufacturing Practices of MSMEs (3rd Prize) from Industry Minister Mr. Partha Chatterjee in 2011

and many other Certificates for appreciation received

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 Tel: 033-2558-9099 TeleFax: 033-2558-9089
 E-mail: gcg_ggs@rediffmail.com
 Please visit our Website WWW.GIRISHCALIBRATION.COM

Dear Customer,

We take pleasure to introduce ourselves to you as a leading calibration of Liquid Storage Tanks etc. We undertake execution work of calibration / Re-calibration Liquid Storage Tanks according to relevant Indian Standard Specification & preparing the computerized calibration chart to meet statutory obligation of Legal Metrology Dept. of State Govt. & to ascertain gain or losses in sale/purchase to provide only to reliable means of maintaining adequate control over the storage & distribution losses. The said calibration charts will be duly checked & certified by Dept. of Legal Metrology / C.P.W.D. (Govt. of India) / M.M.D. (Govt. of India) & will also help to meet the requirement of Central Excise, Custom & State Excise etc.

We are already working under Legal Metrology Dept./C.P.W.D. in the state of West Bengal, Odisha, Jharkhand, Chhattisgarh, Sikkim, U.P., Bihar, A.P. Haryana, Assam, Gujarat M.P. & other states in India.

We hope you will give us a scope to engage our technical expertise in your valued job. Customer Satisfaction is our motto, we assure prompt & efficient service at all time.

Thanking you,
 Yours faithfully,

CEO & Managing Partner,
M/s. Girish Chandra Ghosh & G.G.S.



**VERTICAL STORAGE TANK
 STATUTORY OBLIGATION FOR CALIBRATION**

As per the provision of section 27 of the standard weights & measures (General) rules 2011 no weights & measure shall be sold or offered processed for sale use or kept for use in any transaction or protection unless it has been verified & stamp & as provided in State Enforcement Rule 2011 framed under the Legal Metrology Act 2009.

The Storage tank including vats used or intended to be used in any Transaction or protection must be re-verified or recalibrated & stamp at least once in 5 years the definition of the word the Transaction defined in 2 (U) of the Standard Legal Metrology Act 2009 under which the said Act has been enacted which runs as follows.

- Any contract for Sale, Purchase, Exchange or any other purpose.
- Any assessment or Royalty, Toll or other duties.
- Any assessment of work done, wages dues or service rendered, their Storage tank can't be excluded from the preview of the above said Act & Rules.

For ISO quality certification of Calibration of Storage Tank is essential accurately required by ISO official.

- To meet Central Excise / State Excise & Custom Duty obligation in view of the aforesaid it is essential to get storage tank calibrated by owners and to get rid if any legal action as provided in the said Act.
- Fines & seizures for non compliance.





- > Damodar Valley Corporation
- > McDowell & Co.
- > Mitsubishi Co. Ltd.
- > O.E.S.O. Limited
- > Shalimar Chemicals Work Ltd.
- > Ferro Alloy Co. Ltd. (TIROO)
- > Karnak Distilleries Pvt. Ltd.
- > Balmer Lawarias & Co. Ltd.
- > Blue Star Ltd.
- > Spencer distilleries & Beverages
- > M/S. Taj Bengal, Kolkata
- > Hi Tech Bottling Pvt. Ltd. Odisha
- > Hula Corp. Ltd.
- > K.S. Ool. Haldia

AND MANY OTHERS

Girish Chandra Ghosh & G.G.S

12th FOSMI Awards for Excellence Programme and Seminar on Technology & Innovation: The Future for MSMEs.

20th August, 2013. ITC Sonar, Kolkata

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Customer satisfaction is our first motto....

Call us today



**M/S GIRISH CHANDRA GHOSH &
G.G.S.**

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Website – www.girishcalibration.com

**We are successfully spread
in manufacturing & service
sectors.**

Girish Chandra Ghosh & G.G.S

**We all need you for Leadership, Style Delegating,
supporting, Coaching & Directing.**

Thank You

Our company presents the best traditions of classical business in the sphere of high technologies. We know how to appropriate our clients and improve our services.

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Kol – 2, WB.

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