Part Number: 900378

Description : Remote Contents Gauge S/S Balance Chamber (0to3m) 900382 c/w bracket 900383

Note : The Gauge must be manually pumped to achieve a reading.

Sub Assemblies: 900382 Remote Contents Gauge S/S Balance Chamber (0to3m)
900383 GRP Bracket
3 no Self Tapping Screws

EG162 Popular
EG162 Unitop

Self-Powered Pneumatic Tank Contents Gauge

- Large easy to read dial
- For storage tanks to 4m high at sg 0.84
- Remote indication up to 50m from tank
- Scale calibrated in litres or as required
- Easy to install
- Low cost

Excellence in Level Measurement

EUROGAUGE
... the level people

Application

EG 162 Popular

For use with tanks which have a height or diameter of up to 4 metres and containing most liquids with a viscosity of up to 200 secs. Redwood No. 1 i.e. light heating oils, water, etc.

Remote indication up to 50 metres from storage tank.

The gauges are always works preset and calibrated to customer's requirements.

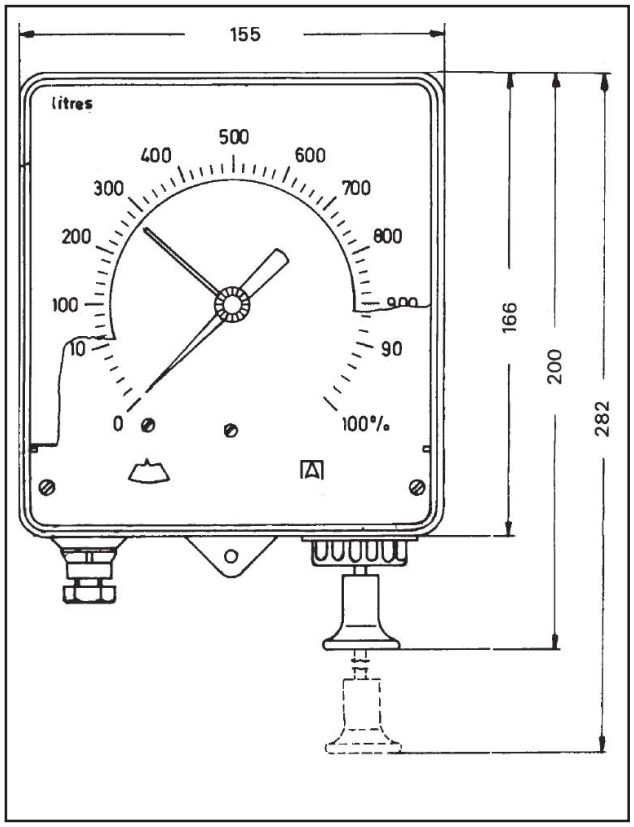
EG 162 Unitop

Universally adjustable version of the EG 162 Popular gauge enabling the user to adjust the gauge on site for tanks with a height from 0.7 - 4.0 metres in 3 ranges, containing liquids with a specific gravity range between 0.70 - 1.00.

When adjustment is carried out on site it is necessary to consult the index table of the Installation and Operating Instructions which relate tank heights to specific gravity.

The gauge is supplied with a basic 0-100% scale but separate slide-in scales calibrated to customers requirement can be supplied and inserted on site by the user at a later date.

In all other respects the gauge is identical to the EG 162 Popular.



General description

The gauge is connected to the tank by capillary tube which enters at the top and extends down to the bottom of the tank.

Incorporated in the gauge is a pneumatic pump which is operated every time a reading is required. This pump balances the static pressure head of the liquid contained in the tank against a membrane, resulting in an indication of the tank contents.

The gauge can be installed either above or below the level of the storage tank.

Specification

Accurate precision instrument fitted with over-pressure device.

Simple zero correction adjustment.

Temperature range: -5ºC to +55ºC.

Scale can be prepared for any unit of depth or quantity according to customer's requirements.

Reference pointer to allow checking of liquid consumption.

Housing manufactured from a high impact resistant durable plastic.

Capillary connection for 6mm OD tubing.

Clean attractive design producing maximum legibility.

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website: www.eurogauge.co.uk

User Manual

(TDS Reference Number T70 510)

UNITOP
Pneumatic Tank Contents Gauge

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Principle of Operation

The Unitop Pneumatic Tank Contents Gauge measures the Hydrostatic liquid head pressure at the bottom of the tank which varies depending on the specific gravity of the liquid and the liquid head. Normally. the liquid head measurement starts approximately 20 mm above the bottom of the tank and the liquid head pressure is converted and displayed on the instrument dial in the required units, (e.g. % height, gallons or litre contents).

A pump is incorporated into the gauge and is operated whenever a reading is required. The pump balances the static pressure head of the liquid contained in the tank against a membrane resulting in an indication of the tank contents. The pump must be operated until the reading on the gauge dial ceases to rise.

Instrument Description

Universally adjustable Pneumatic Tank Contents Gauge. The Housing is suitable for wall-mounting and is manufactured from high impact plastic. The unit has a fully adjustable mechanism for heights from 700 to 4000 mm with liquid specific gravity 0.84. Remote indication up to 50 metres.

Where liquids other than light heating oils or water are concerned please consult our Technical Sales Department.

Linear performance membrane. Zero-correction. Accuracy approximately $\pm$ 2% of full scale deflection. Over-pressure device. Semi-permanent indication if capillary connection is made absolutely airtight. Reference pointer fitted for simple consumption control. Universal capillary connection suitable for ¼" PVC or ¼" O.D copper capillary tubing.

Indication on basic scale in % liquid height and independent of tank shape. Slide-in scales calibrated in gallons or litres of tank volume also available.

Other special executions on request.

Application

Standard measuring range for liquid heights from 900 to 3000 mm light fuel oil. Special ranges to 700 and 4000 mm on request. Remote indication up to 50 metres maximum. Gauge suitable for vertical wall mounting. Temperature range: -5ºC to +55ºC.

The gauge must be suitably protected from rain, snow etc.

Installation Instructions

1. **Gauge Mounting** (see Fig.1)

Mark fixing holes using printed fixing template. Use three half round wood screws, 5mm shaft diameter and l0 mm head diameter. Screw in the two upper screws leaving a screw head clearance equal to the thickness of the fixing bracket (9) at the bottom of the gauge between the head of the screws and the wall. Then hang the gauge onto the two screws and pull down slightly and locate gauge firmly with the third screw.

2. **Capillary Installation** (see Figs. 2,3 and 4)

The capillary tubing can be ¼" PVC or ¼% O.D. copper.

Install capillary tubing with fall towards the tank avoiding sharp bends and kinks in the capillary tubing. In the event of the instrument being mounted below the tank top level the installation of a Condensate Trap may be necessary in installations where there is a possibility of condensate forming within the capillary tubing.

When connecting the capillary tubing to the gauge proceed to assemble all connection parts in accordance with the illustration as shown in Fig.3 and tighten properly.

Where PVC tubing is used the ferrule provided should be pushed into the end of the PVC tubing to prevent the end from being closed by the compression fitting. Where PVC tubing is used the Tank Adaptor and the Balance Chamber (weight) are normally readily assembled and the Tank Adaptor needs only to be screwed into the top of the tank with a sufficient length of PVC tubing allowed for the distance between bottom and top inside the tank. The Balance Chamber (weight) will ensure that the PVC tubing is always kept at the bottom of the tank for accurate tank contents measurement.

Where ¼" O.D. copper capillary tubing is used it must be ensured that the capillary tubing is passed through the Tank Adaptor in a straight line to within approximately 10 - 20 mm of the bottom of the tank. In cases where the tank height exceeds 1200 mm (4") it is recommended that a protective pipe is installed around the copper capillary tubing to ensure that the copper tubing always remains within 10 - 20 mm of the tank bottom despite any possible turbulence of the liquid.

In order to simplify the obtaining of an accurate distance between the tank bottom and the end of the capillary tubing a stand-pipe end piece SEP can be supplied (see Fig.4).

3. Instrument Adjustment (see Fig.1)

If your instrument has been calibrated in gallons,litres or other specific units to your requirement in our Works Department then it is only necessary for you to check that the pointer is in fact on the zero mark with the capillary tubing disconnected. If this is not the case then the zero correction screw No.7 (see Fig.1) should be turned to bring the pointer to the zero mark. Then the capillary tubing is reconnected airtight and the installation will be ready for operation.

In the event of the basic universal instrument with 0 - 100% scale being supplied then the enclosed Index Table should be consulted. This gives on the left-hand vertical side the tank height in mm and on the top horizontal line the specific gravity of the liquid to be measured. By establishing the tank height in mm and the specific gravity of the liquid an Index Figure can be found on the Index Table (e.g 4' deep tank = 1200 mm, filled with heating oil 35 seconds specific gravity 0.84 = Index figure 1.20).

This index figure which has been obtained should then be set on the Index scale on the instrument (No.6 on Fig.1) by removing the glass of the unit and using the Index Adjustment Screw (No.5 on Fig.1) By turning the zero correction screw (No.7 on Fig.1) the pointer is now brought to the zero mark and the instrument is now fully adjusted for the tank in question.

A slide-in scale calibrated in gallons,litres or other units may now,if required, be placed over the basic 0 - 100% scale and the front glass is then carefully replaced.

Operation

Pull out pump carefully to the stop and release. This action should be repeated until the maximum reading is obtained on the dial, i.e. the instrument will not show a higher reading. It is essential that the pump of this instrument is operated every time before a reading is obtained.

Do not operate the pump during the tank filling process.

Fault Finding

1. Pointer hardly moves off the zero mark when pump is operated or does not maintain the tank contents reading for a sufficiently long period of time = leaking capillary lines, capillar/connections at gauge or condensate trap is leaking - check installation and eliminate leak.
2. Pointer goes beyond the l00% mark on the scale or pump does not return to its stop = blocked capillary line or capillary connections or condensate trap full - eliminate blockage or empty condensate trap.
3. Incorrect tank contents indication = instrument has been wrongly adjusted - check instrument setting against Index Table (tank height/specific gravity of liquid) and also ensure that zero correction is properly carried out.

Outline and Dimensions

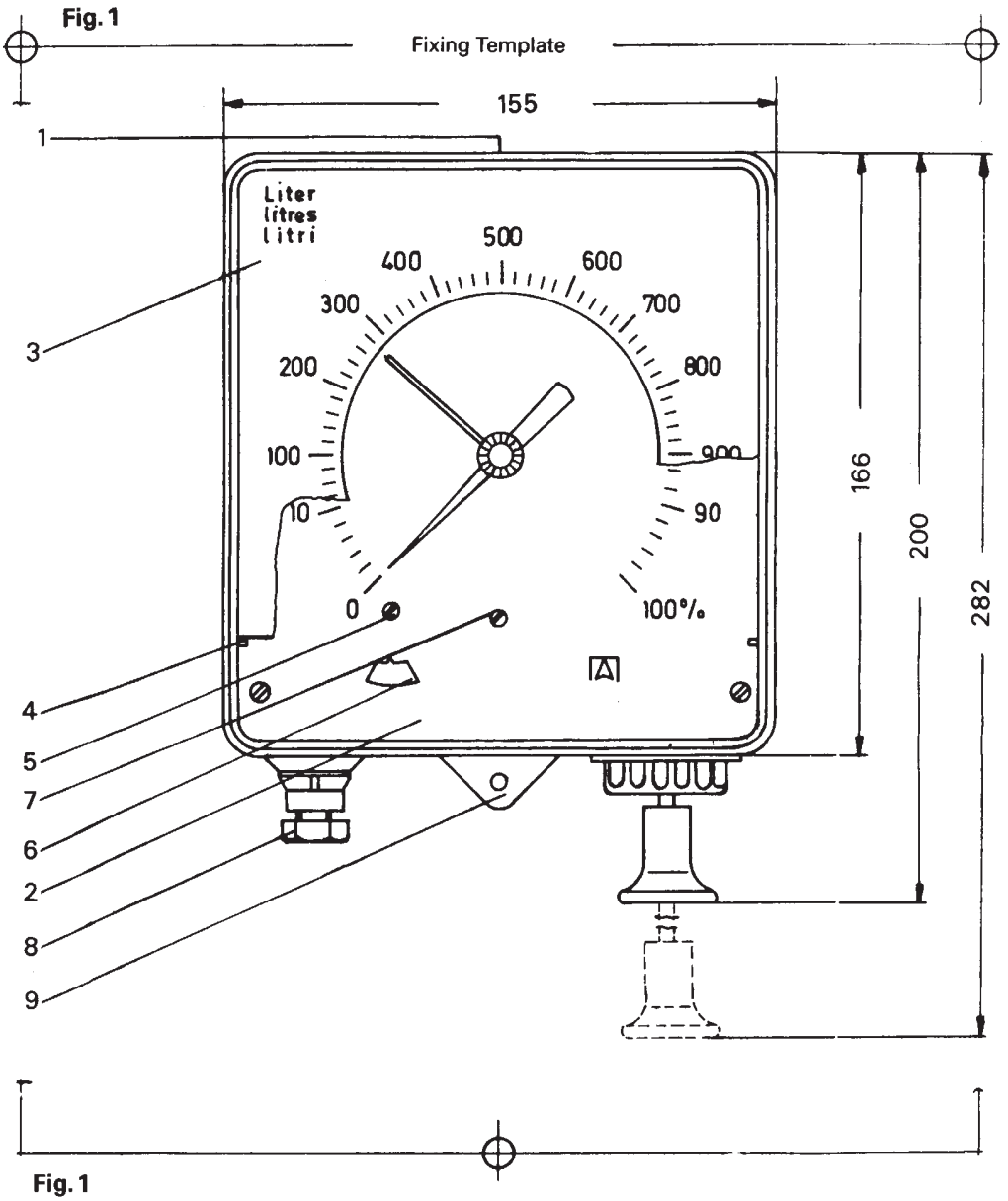


Fig. 1

1 Slot for removal of front glass
2 Basic dial
3 Slide-in scale
4 Location lug
5 Index adjustment screw
6 Index scale
7 Zero correction
8 Capillary connection union
9 Fixing lug

Connections

Fig. 2

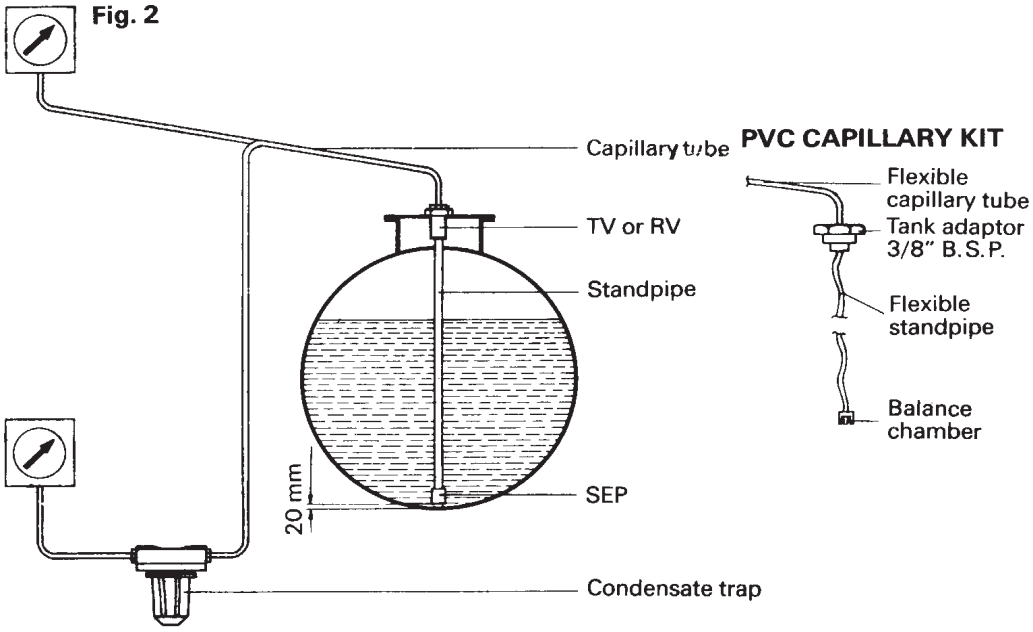


Fig. 3

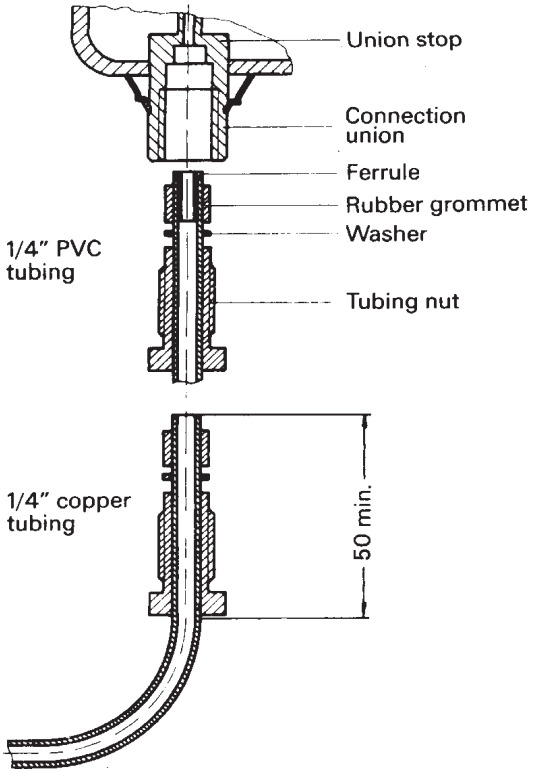
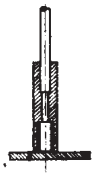


Fig. 4

TV – tank adaptor

RV – tube connector

SEP – standpipe endpiece



Index-Table

Tank height in mm	Specific Gravity															
	0,70	**0,72**	**0,74**	**0,76**	**0,78**	**0,80**	**0,82**	**0,84**	**0,86**	**0,88**	**0,90**	**0,92**	**0,94**	**0,96**	**0,98**	**1,00**
600	0,50	0,51	0,53	0,54	0,56	0,57	0.59	0,60	0,61	0,63	0,64	0,66	0,67	0,69	0,70	0,71
650	0,54	0,56	0,57	0,59	0,60	0,62	0,63	0,65	0,67	0,68	0,70	0,71	0,73	0,74	0,76	0,77
700	0,58	0,60	0,62	0,63	0,65	0,66	0,68	0,70	0,72	0,73	0,75	0,77	0,78	0,80	0,82	0,83
750	0,63	0,64	0,66	0,68	0,70	0,71	0,73	0,75	0,77	0,79	0,80	0,82	0,84	0,86	0,88	0,89
800	0,67	0,59	0,71	0,72	0,74	0,76	0,78	0,80	0,82	0,84	0,86	0,88	0,90	0,91	0,93	0,95
850	0,71	0,73	0,75	0,77	0,79	0,81	0,83	0,85	0,87	0,89	0,91	0,93	0,95	0,97	0,99	1,01
900	0,75	0,77	0,79	0,81	0,84	0,86	0,88	0,90	0,92	0,94	0,96	0,99	1,01	1,03	1,05	1,07
950	0,79	0,81	0,84	0,86	0,88	0,91	0,93	0,95	0,97	1,00	1,02	1,04	1,06	1,08	1,11	1,13
1000	0,83	0,86	0,88	0,90	0,93	0,95	0,98	1,00	1,02	1,05	1,07	1,10	1,12	1,14	1,17	1,19
1100	0,92	0,94	0,97	1,00	1,02	1,05	1,07	1,10	1,13	1,15	1,18	1,20	1,23	1,26	1,28	1,31
1200	1,00	1,03	1,06	1,08	1,11	1,14	1,17	1,20	1,23	1,26	1,29	1,31	1,34	1,37	1,40	1,43
1250	1,04	1,07	1,10	1,13	1,16	1,19	1,22	1,25	1,28	1,31	1,34	1,37	1,40	1,43	1,46	1,50
1300	1,08	1,11	1,14	1,18	1,21	1,24	1,27	1,30	1,33	1,36	1,39	1,42	1,45	1,48	1,52	1,55
1400	1,17	1,20	1,23	1,27	1,30	1,33	1,37	1,40	1,43	1,47	1,50	1,53	1,57	1,60	1,63	1,65
1500	1,25	1,28	1,32	1,36	1,39	1,43	1,46	1,50	1,54	1,57	1,60	1,64	1,68	1,71	1,75	1,79
1600	1,33	1,37	1,41	1,45	1,48	1,52	1,56	1,60	1,64	1,67	1,70	1,75	1,80	1,83	1,85	1,90
1700	1,42	1,46	1,50	1,54	1,58	1,62	1,65	1,70	1,75	1,78	1,82	1,85	1,90	1,95	1,98	2,00
1800	1,50	1,54	1,59	1,63	1,67	1,70	1,75	1,80	1,85	1,89	1,93	1,95	2,00	2,05	2,10	2,15
1900	1,58	1,63	1,67	1,72	1,75	1,80	1,85	1,90	1,95	2,00	2,08	2,12	2,10	2,15	2,20	2,25
2000	1,67	1,70	1,75	1,80	1,85	1,90	1,95	2,00	2,05	2,10	2,15	2,20	2,25	2,30	2,35	2,40
2100	1,75	1,80	1,85	1,90	1,95	2,00	2,05	2,10	2,15	2,20	2,25	2,30	2,35	2,40	2,45	2,50
2200	1,85	1,90	1,95	2,00	2,05	2,10	2,15	2,20	2,25	2,30	2,35	2,40	2,45	2,50	2,55	2,60
2300	1,95	2,00	2,05	2,10	2,15	2,20	2,25	2,30	2,35	2,40	2,45	2,50	2,55	2,60	2,65	2,70
2400	2,00	2,05	2,10	2,15	2,20	2,30	2,35	2,40	2,45	2,50	2,55	2,60	2,70	2,75	2,80	2,85
2500	2,10	2,15	2,20	2,25	2,30	2,40	2,45	2,50	2,55	2,60	2,70	2,75	2,80	2,85	2,90	3,00
2600	2,20	2,25	2,30	2,35	2,40	2,50	2,55	2,60	2,65	2,70	2,80	2,85	2,90	2,95	3,00	3,10
2700	2,25	2,30	2,40	2,45	2,50	2,55	2,65	2,70	2,75	2,85	2,90	2,95	3,00	3,10	3,15	3,20
2800	2,35	2,40	2,45	2,55	2,60	2,65	2,75	2,80	2,85	2,95	3,00	3,10	3,15	3,20	3,25	3,35
2900	2,45	2,50	2,55	2,60	2,70	2,75	2,85	2,90	2,95	3,05	3,10	3,20	3,25	3,30	3,40	3,45
3000	2,50	2,55	2,65	2,70	2,80	2,85	2,95	3,00	3,05	3,15	3,20	3,30	3,35	3,45	3,50	3,55
3100	2,60	2,65	2,75	2,80	2,90	2,95	3,05	3,10	3,20	3,25	3,30	3,40	3,50	3,55	3,60	3,70
3200	2,65	2,75	2,80	2,90	2,95	3,05	3,15	3,20	3,30	3,35	3,45	3,50	3,60	3,65	3,75	3,80
3300	2,75	2,85	2,90	3,00	3,05	3,15	3,20	3,30	3,40	3,45	3,55	3,60	3,70	3,80	3,85	3,95
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3500	2,90	3,00	3,10	3,20	3,25	3,30	3,40	3,50	3,60	3,65	3,75	3,85	3,90	4,00		
3600	3,00	3,10	3,15	3,25	3,35	3,45	3,50	3,60	3,70	3,75	3,85	3,95				
3700	3,10	3,20	3,25	3,35	3,45	3,50	3,60	3,70	3,80	3,90	4,00					
3800	3,20	3,30	3,35	3,45	3,55	3,60	3,70	3,80	3,90	4,00						
3900	3.25	3,35	3,45	3,55	3,60	3,70	3,80	3,90	4,00							
4000	3,35	3,45	3,50	3,60	3,70	3,80	3,90	4,00								

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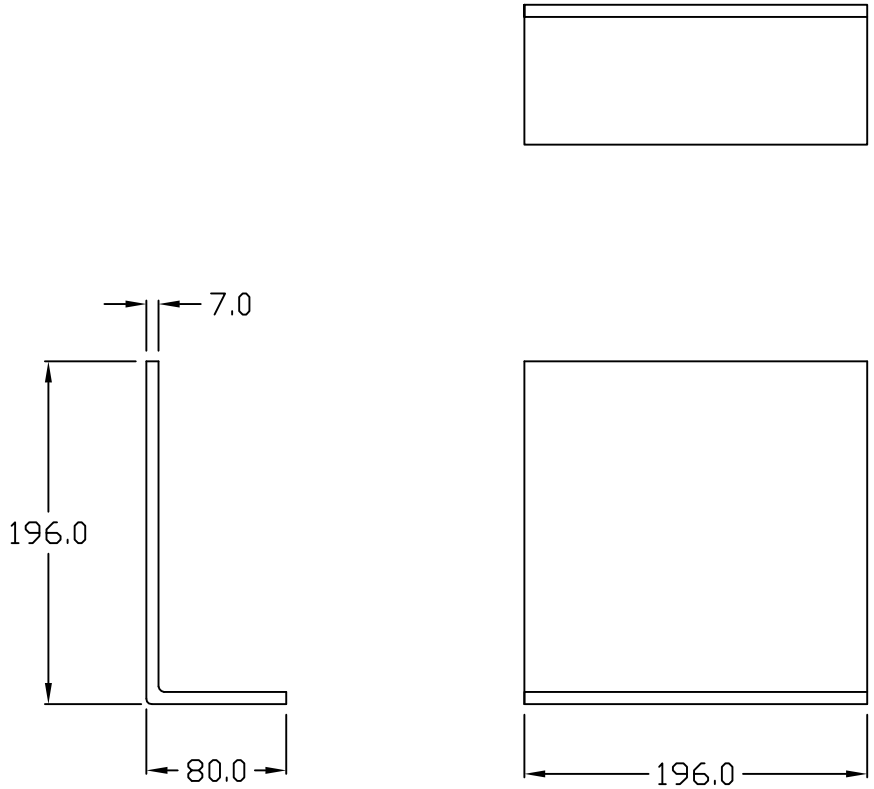
PRODUCT SPECIFICATION



Part Number: 900383		KMG		Title: Contents Gauge Bracket	
				Drawn: Sean O'Sullivan	App'd: Richard Stack
Scale: N/A	Material: HAND LAYED GRP	Rev: 000	Tol: +/- 1mm	Date: 20-10-08	Dwg. Number: