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ISO 9001

# spirax/sarco

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AB Issue 3

## WG2 Water Level Gauge

- Simple gauge glass for low pressure duties
- Recommended for boiler feedtank applications
- Available in lengths up to 2 200 mm
- Supplied in modular form for maximum versatility

### Description

The Spirax Sarco WG2 level gauge enables an instant visual check to be made of liquid level in tanks and process vessels.

It consists of a glass tube (plastic also available) mounted in top and bottom support arms, with packing seals and washers to prevent leakage and accommodate expansion. The bottom arm incorporates a three port plug cock to allow isolation and checking of gauge operation.

An intermediate arm provides additional support and sealing for gauges with centres longer than 1100 mm, and enables two unequal length tubes to be used together to give a wide choice of overall lengths.

Two protector rods mounted either side of the tube reduce the risk of accidental damage. For greater protection 'C' section protectors are also available (used with rods).

### Limiting conditions

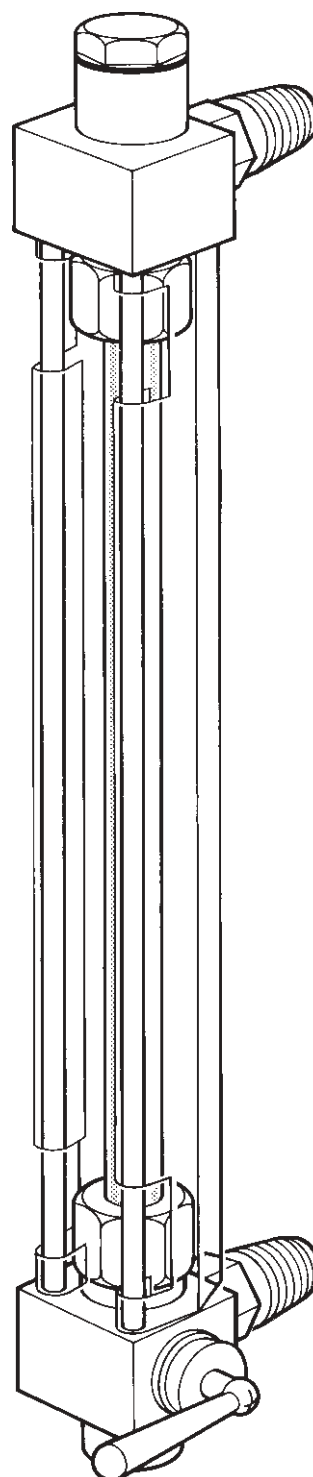
	Glass	Plastic tube
Maximum working pressure (Pmax)	6.9 bar g	2.0 bar g
Maximum working temperature (Tmax)	152°C	134°C
Maximum saturated steam conditions	4.1 bar g	2.0 bar g
Cold hydraulic test pressure	13.8 bar g	3.0 bar g

### Available lengths (approximate) in millimetres

WG 2 level gauge glasses are designated WG2 followed by / (centres dimension). Protector rods (in sets of two) and 'C' section protectors are available in 700, 800, 1000 and 1100 mm lengths. Two sets are required for gauges with intermediate arms. The glasses themselves are available in four lengths which may be paired in the following combinations to give the gauge centre dimensions below:-

Glass 1 length	Glass 2 length	Intermediate arm	Gauge centres	Designation
686	-	No	700	WG2/700
786	-	No	800	WG2/800
986	-	No	1000	WG2/1000
1086	-	No	1100	WG2/1100
686	686	Yes	1400	WG2/1400
686	786	Yes	1500	WG2/1500
786	786	Yes	1600	WG2/1600
686	986	Yes	1700	WG2/1700
786	986	Yes	1800	WG2/1800
786	1086	Yes	1900	WG2/1900
986	986	Yes	2000	WG2/2000
986	1086	Yes	2100	WG2/2100
1086	1086	Yes	2200	WG2/2200

Plastic tubes (complete with 2 off tube supports) are supplied in 1100 mm nominal lengths which can be cut to length with a knife.



## Materials

No.	Description	Material	
1	Arm body	Gunmetal	BS 1400 LG2
2	Protector rods	Brass	BS 2874 CZ121
3	Glass tube	Glass	Borosilicate
4	Gland nut	Brass	BS 2874 CZ121
5	Top plug	Brass	BS 2874 CZ121
6	Plug cock	Gunmetal	BS 1400 LG 2
7	Packing sleeve	Rubber	Nitrile
8	Packing washer	Permanite	AF 2000
9	Top plug gasket	Red fibre	BS 216 Grade B
10	'C' section protector	Stainless steel	Type 304/304L
11	Plastic tube	FEP	
12	Tube supports (used with item 11)	Brass (Dezincification resistant)	BS 2874 CZ132

## Installation

### WARNING

Your attention is drawn to Safety information leaflet IM-GCM-10. Tanks or vessels must be drained, vented to atmosphere, and inlets isolated before work is commenced. In particular, make sure that any connections which could carry hot fluids, for example condensate return or flash steam from blowdown, are isolated.

Top, intermediate, and bottom arms have a ½" BSP taper male thread (R½) for connection to the tank.

- The tank should have ½" BSP PI (Rp ½) screwed sockets to take the top and bottom arms, and intermediate arm if fitted.

Notes:- For certain lengths, the intermediate arm is not equidistant between the top and bottom arms. The socket for the intermediate arm does not need to pierce the tank.

- Fit arms to tank using PTFE tape or a suitable jointing compound.
- Align arms vertically.
- Slacken all gland nuts and remove the ¾" BSP top arm plug and gasket.
- Trim plastic tube to the required length (686, 786, 986, or 1086 mm). Each end of the tube requires an internal brass support, (supplied with the tube).
- Slightly flatten the ends of the tube with thumb and forefinger before fitting the supports, to stop them moving during positioning.
- Pass glass/plastic tube through ¾" BSP thread in top arm and lower into position.

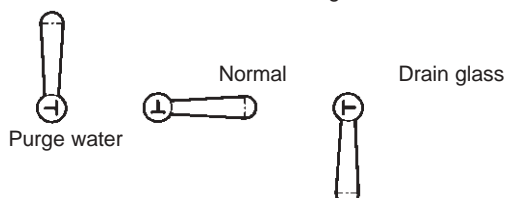
When an intermediate arm is fitted, the ends of the two glasses/tubes should touch and the joint should sit between the intermediate arm glands.

- Gently tighten gland nuts and refit top arm plug and gasket.
- Fit the 'C' section protector (if used) to the front of the unit, then rotate it so that its hooked edges line up with the protection rod drillings.
- Fit the protector rod(s) through the drillings in the top and intermediate arms and locate in the blind drillings in the bottom arm.
- Use the cutouts in the side of the protector to ensure the rods are correctly positioned.
- The drain connection must not be plugged. It can either be left open to a tundish, or may be piped to drain.

## Operation

The plug cock has three positions:-

- Up Purge water connection.
- Horizontal Normal operation.
- Down Drain glass. This position also isolates the water connection in case of a broken glass.



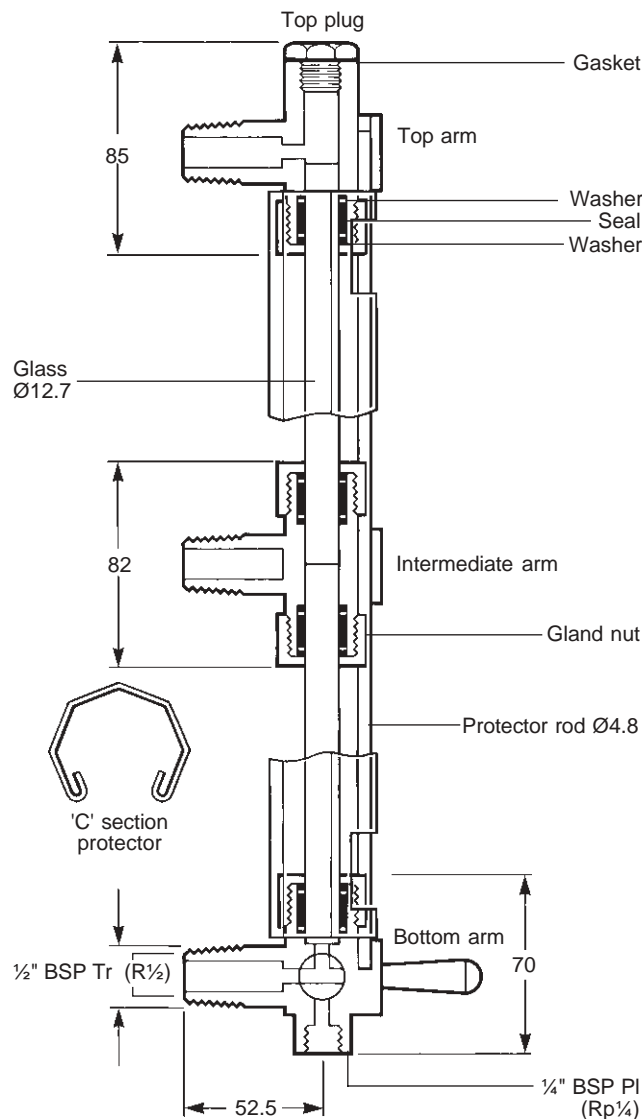
An indication of the plug position is marked on the lever. We recommend that the water connection is purged and the glass drained periodically. It is important to check that water flows to drain and that the level is rapidly re-established in the glass. A slowly rising level could indicate a partial blockage.

## Maintenance

No specific maintenance is required. We recommend that the arms are checked for leakage periodically and the packing sleeves and washers renewed if necessary. Always fit new packing sleeves and washers if the tube has to be replaced.

## Dimensions (approximate) in millimetres

Weights	
Top arm	0.65 kg
Intermediate arm	0.62 kg
Bottom arm	0.69 kg
Glass	0.145 kg / 100 mm length
Protector rod	0.015 kg / 100 mm length
'C' section protector	0.12 kg / 100 mm length
Plastic tube (1100 mm)	0.4 kg



## Available spares

Glass 686 mm  
Glass 786 mm  
Glass 986 mm  
Glass 1086 mm  
Plastic tube (1100 mm) with 2 internal supports  
Spare packing seal set consisting of:-  
4 off Packing sleeves  
8 off Washers (1 fitted each side of the sleeve)  
2 off Top plug gaskets  
The set is suitable for two re-packings of a gauge with no intermediate arm or one re-packing of a gauge with an intermediate arm.  
Order:- 1 spares pack for Water Level Gauge WG 2.

## How to specify

Non-ferrous water level gauge with 3 port plug cock and protector rods (and 'C' section protector), glass tubes/plastic tubes.

## How to order

**Example:** 1 off Spirax Sarco WG 2/1000 water level gauge with 'C' section protector and rods.

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