

INSTRUCTION MANUAL
GCO1P/SS
GAS CHAMBER ORIFICE



QUALITY SYSTEM

ISO: 9001

CERTIFIED

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1. INTRODUCTION

The HyQuest Solutions Gas Chamber Orifice (GCO1P) is designed to replace the standard orifice in a gas purge water level measurement system.

The GCO1P permits the use of extremely low bubble rates with increased sensitivity and near total reduction of lag between actual level rise and orifice pressure. It can also operate satisfactorily when buried under up to 1m of silt.

Bubble rates as low as 10 bubbles per minute can be used, thereby reducing gas consumption and prolonging the life of the gas bottle, or reducing the duty cycle operation of the compressor pump on our HS-55/45/40/30 bubbler water level measurement systems.

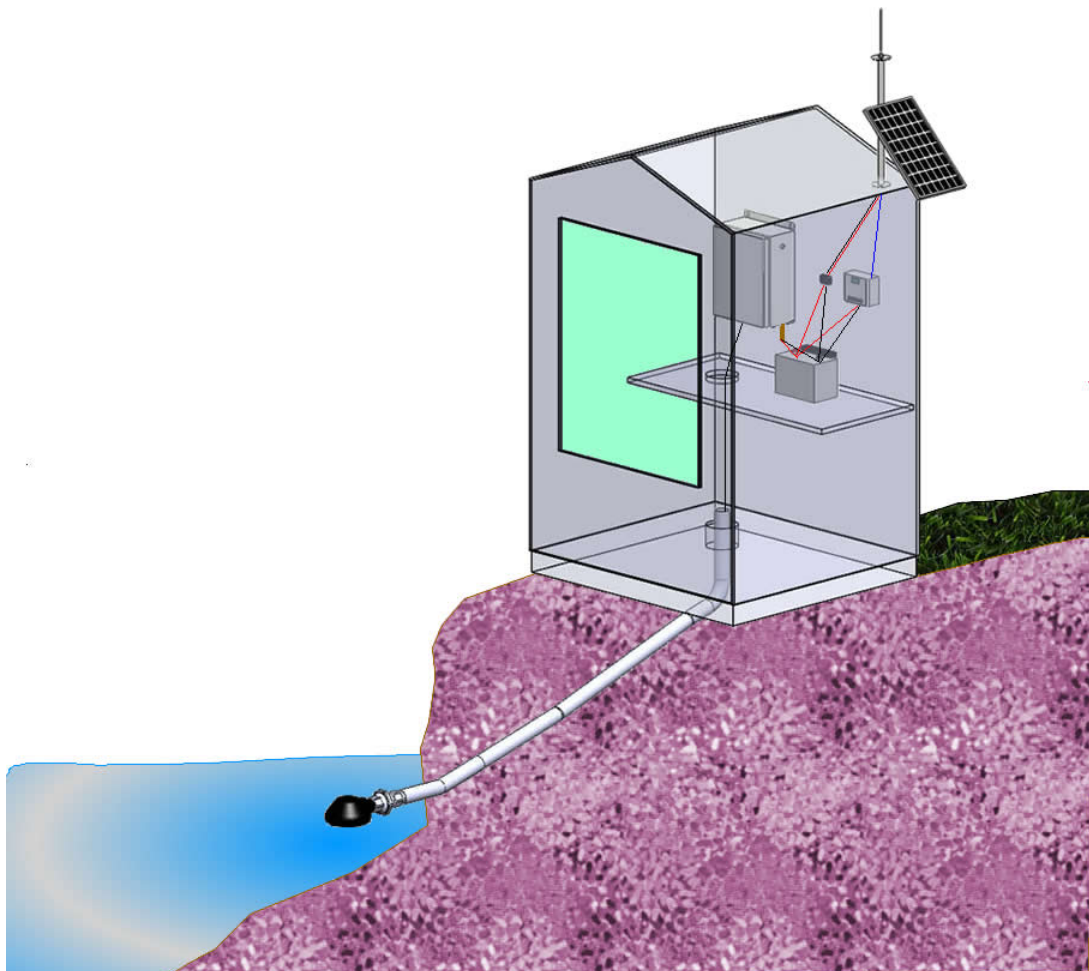
The main GCO1P chamber is constructed entirely of polyethylene with a copper coated brass screen to deter aquatic growth, and is supplied fitted with a 2" flexible coupling to suit a standard 2" threaded pipe and to allow easy installation as the coupling allows up to 30 degrees of adjustment from horizontal. The GCO1P has an in-built 1/4" inch NPT hex brass coupling and is supplied with 1/4" inch NPT male to 3/8". The bottom of the chamber includes a revolving copper coated brass screen for cleaning purposes. The unit is designed to be fitted to existing installations preferably during low water condition.

2. ADVANTAGES OF THE GCO1P

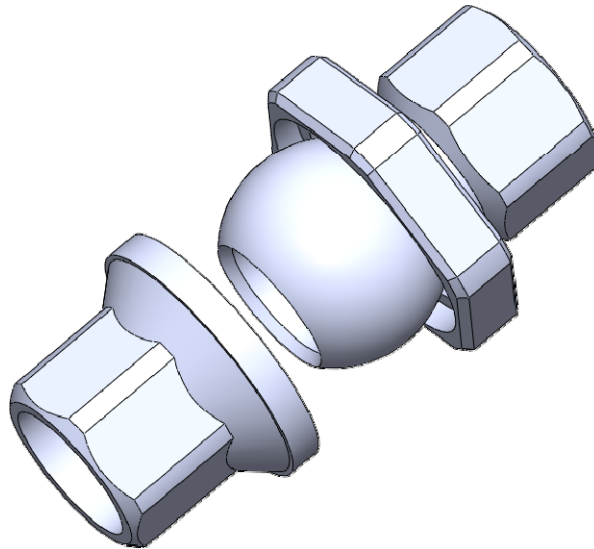
- High impact resistant; durable Polyethylene
- Revolving screen
- Non-corrosive
- Cost effective
- Flexible Coupling
- Low bubble rate consumption
- Prolongs the life of the gas bottle
- Longer battery life by reducing the duty cycle operation of a gas purge compressor

2. OPERATION COMPARISONS TO A STANDARD ORIFICE

Float Operated Encoder (Level in mm) Based on 9 metres/hr rate of rise	HS-23 Dry Bubble Unit With Standard Orifice 27 Bubbles/Min		HS-23 Dry Bubble Unit With Gas Chamber Orifice 10 Bubbles/Min	
	Reading	Lag	Reading	Lag
0	0	—	0	—
810	578	232	810	0
1700	1200	500	1700	0
2400	1540	860	2398	2
3600	2294	1306	3588	12

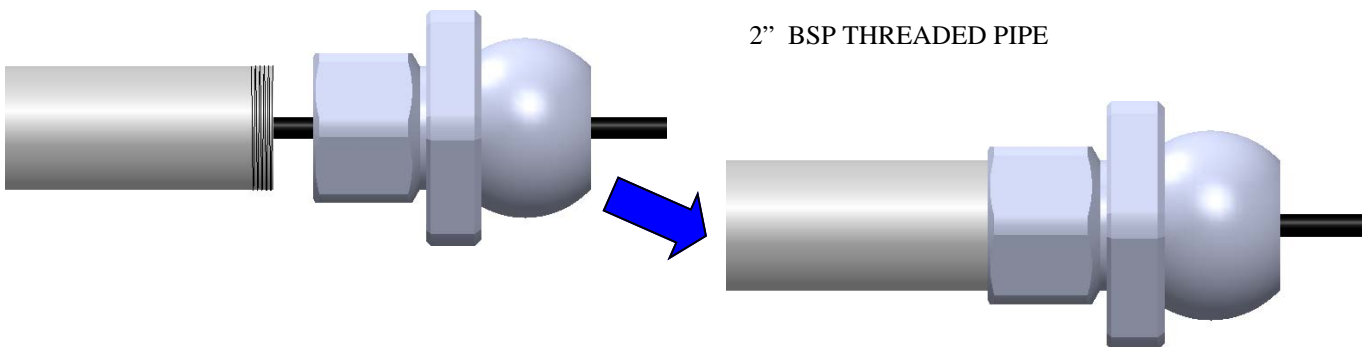


3. INSTALLATION



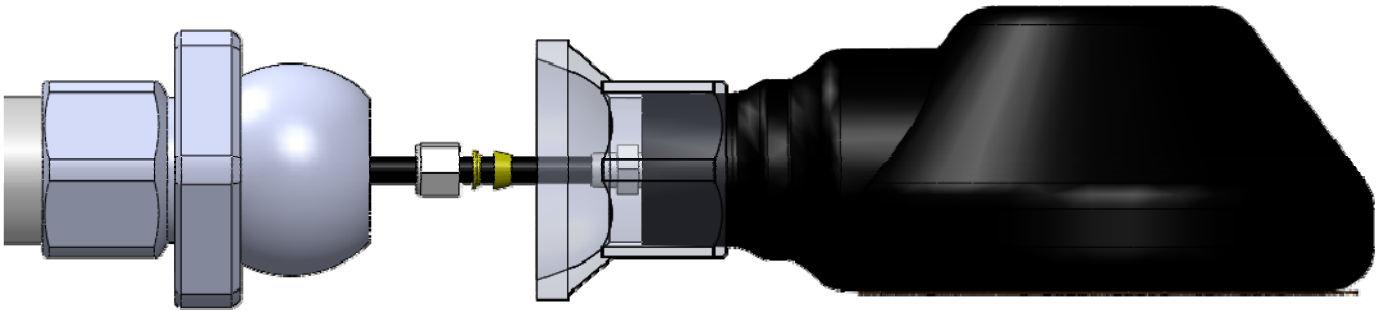
Step 1:

Secure Socket/Locknut to the 2" BSP pipe



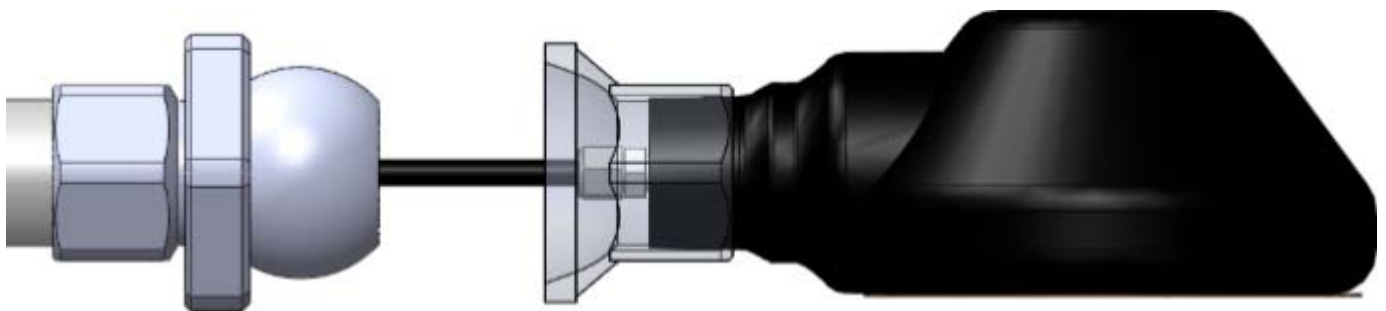
Step 2:

Undo the nut and ferrules, feed the tube nut and the two ferrules onto the river line as shown in figure below



Step 3:

Tighten the tube nut to the GCO1P fitting as shown in figure below

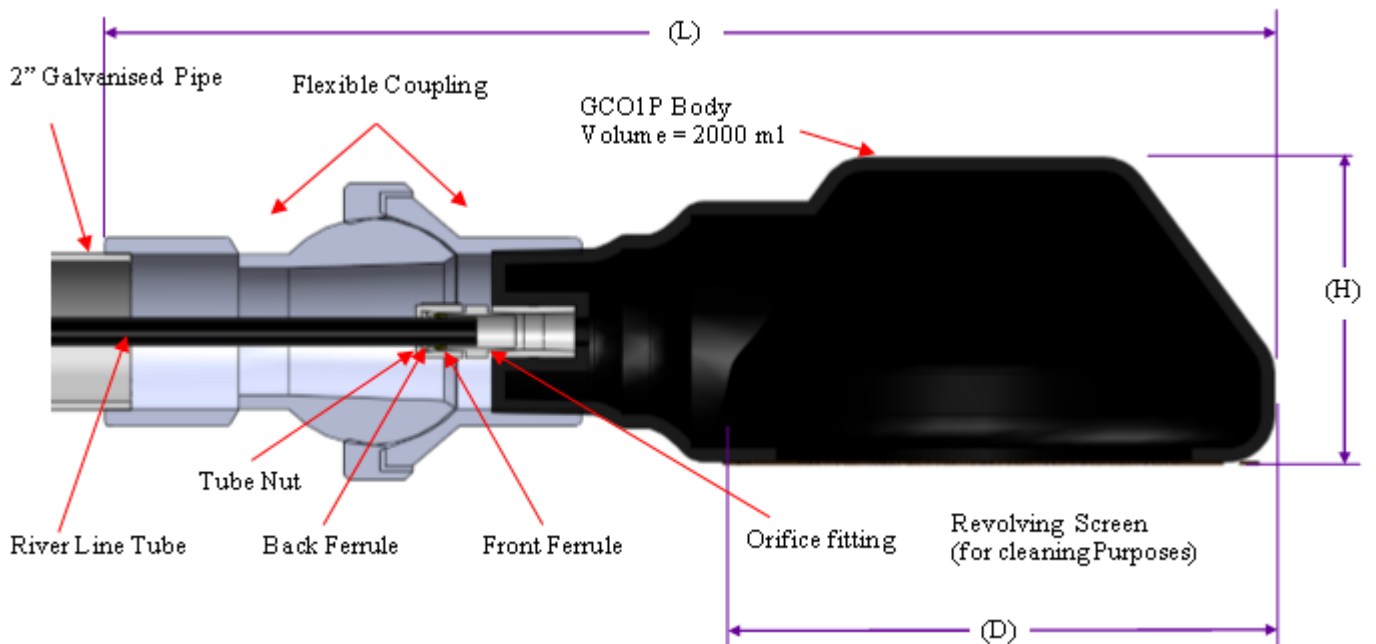


Step 4:

Place the GCO1P assembly onto the mounting pipe, adjust coupling so the GCO1P is horizontal to the water, and tighten the flexible coupling with GCO1P in position



Note:
Ensure that the GCO1P is horizontally level as shown. Flexible coupling allows adjustment up to 30 degrees.



GCO1P DIMENSIONS		
Dimension	Metric (mm)	Imperial (inch)
L	410	16.2
D	210	8.3
H	110	4.3