

Advanced Bubbler System

**AIR FORCE
MODEL HS-40
Model HS-40/3100
Model HS-40/3100A**

Special points of interest:

- Innovative, Maintenance Free Gas Purge System for Water Level Measurement
- Inbuilt Air Compressor
- 2 Litre Receiver Tank for Superior Purging Capability
- Maximum water head 30m (100 ft)
- Zinc plated steel enclosure, powder coated grey
- Low Power Consumption
- True bubbler system – can be used with or without a Gas Chamber Orifice
- User adjustable bubble rate
- Inbuilt WL3100 Pressure Transducer
- Maintenance free for up to 5 years

INTRODUCTION

The HS-40 Gas Purge Compressor has been designed to replace conventional nitrogen gas bottle supply to bubbler units/gas purge systems for measuring water level in dams, rivers, canals and tanks with up to 30 mH₂O (100 ft).

The HS-40/3100 & HS-40/3100A, with the inbuilt WL3100 pressure transducer, allows the measurement of water to an accuracy of ±0.02% F.S.



2 litre Receiver Tank with manual purge valve



*Zinc Plated Steel Enclosure
Powder Coated Grey
400x300x180mm*

In-built WL3100/WL3100A for models HS-40/3100 & HS-40/3100A



HS-40DO , Dual Orifice is also available.



**Air Force
Advanced Bubbler System
Model HS-40**

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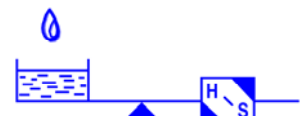
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Specifications

Enclosure: Zinc plated steel enclosure, powder coated grey

Operating Temperature Range: -40°C to +70°C For models HS-40 and HS-40/3100A
 -20°C to +70°C For HS-40/3100

Power:

Operating Voltage: 12V DC Nominal

Compressor Current: 15Amps

Average Current Draw: Approx 24.2mA (26 bubbles/min, site glass equivalent 100 bubbles/min @ 10mH₂O)
 Approx 15.8mA (10 bubbles/min, site glass equivalent 40 bubbles/min @ 10mH₂O))

Battery Size: When the HS40 is used with a WL3100 (avg consumption 3.3mA), a 12V DC Sealed Lead Acid “Yuassa brand, near new condition” battery with no solar will have a life cycle a shown in table below.

	Battery Capacity 12V DC	Bubble rate at orifice (bubbles/min)	Equivalent Site Glass Bubble Rate (bubbles/min)	Battery's Life (Days) @10mH ₂ O	Battery's Life (Days) @30mH ₂ O
<i>Using Standard Orifice</i>	38 Ah	16	60	83	59
	38 Ah	21	80	72	50
	38 Ah	26	100	65	41
	18 Ah	16	60	39	28
	18 Ah	21	80	34	24
	18 Ah	26	100	31	20
<i>Using GCO1-P Orifice</i>	38 Ah	10	40	100	77
	18 Ah	10	40	47	36

Note: In the above table the battery life is calculated with WL3100 included and without any solar charging.

Solar: 5 Watt Solar panel recommended (Enough to run HS-40/3100 continuous)

Low Battery cut-out: 10.0 V DC, (This was 11V in units prior to S/N 10-142).

Battery recharge recovery: 12.0V DC

Operation: Up to 30m (100 ft) of head (water pressure) with 200 metres (600 ft) of river line (orifice) and 300 metres (900 ft) of river line (GCO).

Compressor: When the tank pressure falls to 400kPa, the compressor will turn on and pump the tank back up to 750kPa - this takes approximately 1 minute.
 At 26 bubbles/min at orifice, site glass equivalent 100 bubbles/min (compressor turns on every 18 hrs @ 10mH₂O)
 At 10 bubbles/min at orifice, site glass equivalent 100 bubbles/min (compressor turns on every 46 hrs @ 10mH₂O)

Dryer: Twin mist separator

Orifice: HS40 available in single orifice or dual orifice (to order an HS-40 with a dual orifice just add “DO” at the end of the part No.).

Dimensions : 300mm(W) x 400mm (H) x 180mm(D)