

Auto Verification Unit

Introduction

All PULSI 200LR and Pulsi 500LR systems have a Auto Verification Unit (AVU) fitted adjacent to the Analyser.

The AVU has three main functions. Firstly, it provides totally automatic zeroing of the system. Secondly, it acts as a purging system to prevent condensation forming in the sample cell of the Analyser under unusual operating conditions. The third function is the provision of verification facilities.

During installation of the Auto Verification Unit, you may need to refer to the relevant installation drawing in the *Order-specific information* section of the analyser manual, particularly if you will be making up your own interconnecting cables.

Fitting the Auto Verification Unit

The AVU must be firmly secured to a suitable vertical surface as close as possible to the Analyser and with the following services:

- Clean dry instrument air at pressure of 1 barG above the process gas pressure, up to a maximum 6.8 barG. The flow-rate should be between 0.5 l/min (constant) and up to 10 l/min (intermittent during auto-zero/auto-purge)
- Pressurised gas cylinders (Up to two) containing a known mixture of the gases under analysis.

Figure 1 gives mounting details for the AVU.

Note that the AVU should be mounted vertically such that all glands are on the underside of the Unit.

Note the air supply should have an isolation valve within 1 metre of the AVU.

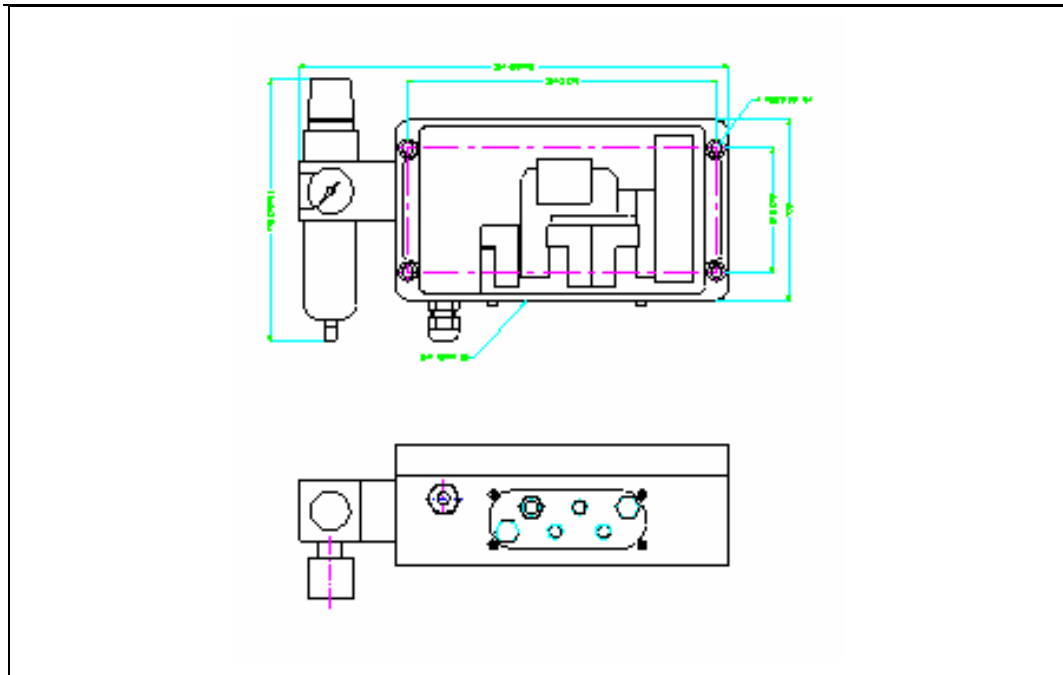


Figure -1 Mounting details for the Auto Verification Unit

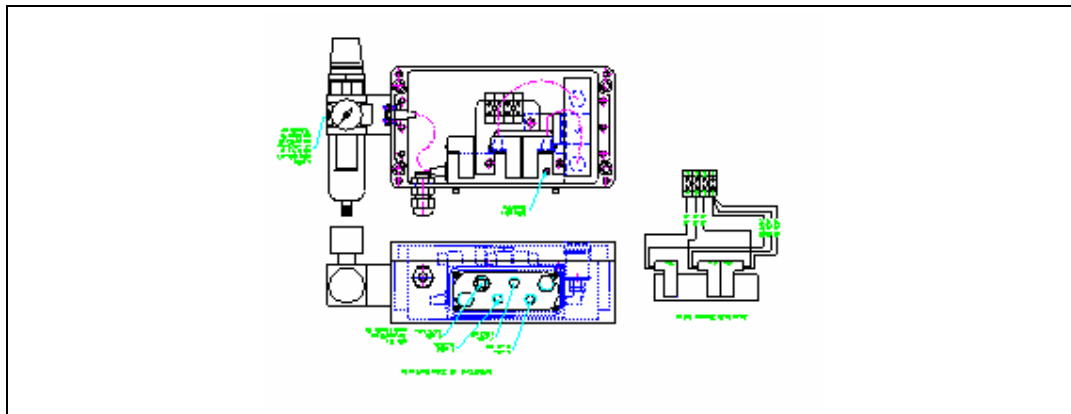


Figure C-2 Auto Verification Unit connection points

Connecting the Auto Verification Unit to the ACU

Interconnection details between the AVU and the Analyser (Pulsi 200LR & Pulsi 500LR) are shown in Figure C-3.

Function	AVU customer connection
Auxiliary input common -ve	14
Auxiliary input 1 +	15
Auxiliary input 2 +	16
Auxiliary input 3 +	17

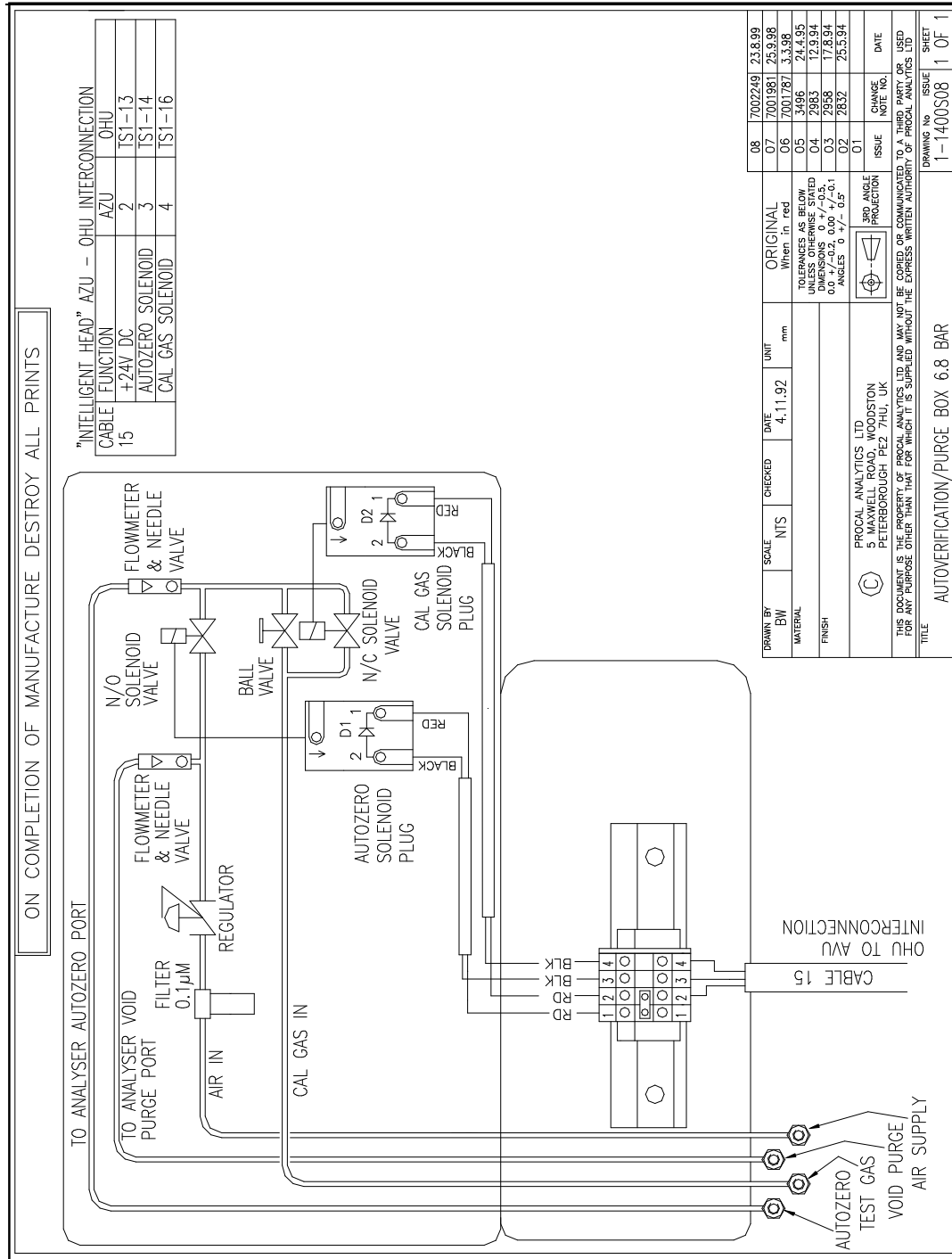


Figure C-3 Auto Verification Unit connection points

Since the number of wires required to connect the AVU to the OHU depends on the functions used within the specific analyser system, the actual connection details may vary. The minimum requirement is four wires, to control the two gas solenoids only.

Function	AVU terminal	OHU connection
Autozero solenoid	1	TS1-14
Cal Gas 1 solenoid	2	TS1-16
Cal Gas 2 solenoid	3	TS1-16
+24 V dc	4	TS1-13

Note that TS1 and TS2 are screw terminal boards in the Analyser (Pulsi200LR or Pulsi 500LR)

Gas port connections to the OHU

Four gas ports are available on the underside of the AVU. Two are connected to external supplies, and the remaining two are connected to ports on the Optical Head Unit. All ports have 1/4" BSP threads, and the connections to the Optical Head Unit are stainless steel compression fittings. Push-on connectors must *not* be used.

Connections are as follows:

Port 1	Optional Analyser Purge (Used on Pulsi 500LR)	
Port 2	Void purge	To port P on Optical Head Unit flange
Port 3	Auto-zero	To port A on Optical Head Unit flange
Port 4	Cal Gas Cylinder 1	
Port 5	Cal Gas Cylinder 2	
Port 7	Instrument Air Supply	

Ports on the analyser are shown in Figure C-2.

The flow rate out of Port 3 should be 300 l/hour (5 l/min) as indicated on the flow meter and adjusted by "adjustable flow valve" as shown in Figure 2 Auto Verification Unit connection points.

The flow rate out of Port 3 should be 30 l/hour (0.5 l/min) this is factory set, there is no adjustment

Using the AVU

The AVU operates under the control of the ACU. For more information refer to the *Analyser Control Unit Operating Manual*.