



Infinite Volume Controller System (GDSIVC)

The GDS Infinite Volume Controller (GDSIVC) is designed to remove constraints of volume capacity such that a test can continuously flow fluid under pressure control or volume control.

When using a single pressure/volume controller, once the volumetric capacity of the barrel has been reached (either 100% full or 100% empty), the user is required to manually fill or empty the controller accordingly. By connecting two GDS pressure/volume controllers in parallel to the GDSIVC system, it automatically switches between each controller when they run out of volume.

Key Features:

Benefits to the User:

Continuous pressure targeting:	Allows a target pressure to effectively run indefinitely with no concerns about ever running out of fluid.
Continuous volume flow:	Allows a target rate of volume to effectively run indefinitely with no concerns about ever running out of fluid.
Cumulative volume change measurement:	As controllers switch and refill, the actual volume change in the experiment is measured therefore no post processing is required as the software always shows the true value of the actual volume change that has occurred.
Compatible with every GDS controller supplied since 1981:	The system can use any combination of GDS controllers including the Enterprise level (ELDPC), Standard (STDDPC), Standard version 2 (STDDPCv2) and Advanced (ADVDPCC) digital pressure controllers, (RS232, USB or IEEE).

How does it work?

A primary controller is used initially as the pressure source. While acting as the pressure source the controller is considered the 'master' controller. At the same time a secondary controller can refill from a reservoir and centre itself ready for when the master controller exceeds its volumetric limit.

When this happens the secondary controller takes over and thus becomes the master. The primary controller can then refill/empty and re-centre itself. When this is complete the primary controller resumes pressure control and becomes the master again and the secondary controller re-centres.

The secondary pressure controller is only used as the master temporarily (to provide pressure or volume change) when the primary controller exceeds its volume capacity

and thus needs to refill/empty and re-centre itself.

Careful switching sequencing in the software ensures that valves are energized for the minimum period necessary, and remain unenergized for most of the test. The configuration also ensures any pressure calibration differences between the primary and the secondary controller are compensated for.

Control Box

The GDSIVC valve panel comes complete with a 4 channel GDSIVC control box which connects the GDSIVC valve panel to the computer via a comm port using the 9 to 25 pin cable provided. The control box connects to the valve panel using DIN plugs from the valves.

Technical Specification:

Overall dimensions of panel:	H = 100mm, L = 440mm, W = 260mm
Overall dimensions of control box:	H = 50mm, L = 440mm, W = 260mm
Pressure rating:	Up to 3MPa or up to 64MPa (High pressure version)
Average time between switchover:	Between 5 and 10 seconds.
Required devices:	2 x GDS DPC's connected to a PC and GDSLAB software.

Why Buy GDS?

GDS have supplied equipment to over 86% of the world's top 50 Universities:

GDS have supplied equipment to over 86% of the world's top 50 Universities who specialise in Civil & Structural Engineering, according to the "QS World University Ranking 2020" report.

GDS also work with many commercial laboratories including BGC Canada, Fugro, GEO, Geolabs, Geoteko, Golder Associates, Inpijn Blokpoel, Klohn Crippen, MEG Consulting, Multiconsult, Statens Vegvesen, NGI, Ramboll, Russell Geotechnical Innovations Ltd, SA Geolabs, SGS, Wiertsema and Partners to name a few.

**TOP
50**

Would you recommend GDS equipment to your colleague, friend or associate?

100% of our customers answered "YES"

Results from our post-delivery survey asked customers for feedback on their delivery, installation (if applicable), supporting documentation, apparatus and overall satisfaction with GDS. The survey ran for two years.



Made in the UK:

All GDS products are designed, manufactured and assembled in the UK at our offices in Hook. All products are quality assured before they are dispatched.

GDS are an ISO9001:2015 accredited company. The scope of this certificate applies to the approved quality administration systems relating to the "Manufacture of Laboratory and Field Testing Equipment".

**40 YEARS OF
BRITISH
INNOVATION** 

Extended Warranties:

All GDS apparatus are covered by a 12 month manufacturers warranty. In addition to the standard warranty, GDS offer comprehensive extended warranties for 12, 24 and 36 months, for peace of mind against any repairs in the future. The extended warranties can be purchased at any time during the first 12 months of ownership.



GDS Training & Installation:

All installations & training are carried out by qualified engineers. A GDS engineer is assigned to each order throughout the sales process. They will quality assure the apparatus prior to shipping, if installation has been purchased, install the apparatus on the customers site & provide the training.



Technical Support:

GDS understand the need for ongoing after sales support, so much so that they have their own dedicated customer support centre. Alongside their support centre GDS use a variety of additional support methods including remote PC support, product helpsheets, video tutorials, email and telephone support.

