

# Advancing powder compaction analysis with the Gamlen D series instrument

Submitted by: Gamlen Tableting

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Designed for advanced tableting research, Gamlen Tableting's (<http://www.gamlentableting.com>) new flagship D series dynamic powder compaction analyzers (<http://www.gamlentableting.com/gamlen-d-series/>) feature dwell time control from 90 milliseconds to 60 seconds. D series analyzers (<http://www.gamlentableting.com/gamlen-d-series/>) are supplied with new "in-die" and "out-of-die" compaction analysis software that generates tablet detachment and ejection data with full profiles including strain data, Heckel and Kawakita plots. An optional add-on, the Tablet Tensile Analyzer (TTA), (<http://www.gamlentableting.com/gamlen-tablet-tensile-analyzer/>) automatically calculates tablet density and solid fraction, and tablet tensile fracture stress.

Michael Gamlen, Managing Director, commented "The D-series will change the way scientists characterize materials. The key element of the D series is our unique dynamic compaction analysis software which allows researchers to characterize the elasticity and plasticity of materials at each compaction event, as well as their lubricity and punch detachment behaviour. This is in addition to recording, in real-time, compaction and ejection profiles of an API, excipient, or drug formulation. Researchers will now be able to create a database of material-specific data to support a wide variety of investigations, such as screening for compatible excipients, and enabling accelerated formulation and process development and scale-up to manufacturing."

Tablet tensile strength can be measured on a D-series instrument via an included high-sensitivity load cell, or alternatively by using the Gamlen Tablet Tensile Analyzer. The Gamlen Tablet Tensile Analyzer is a complementary stand-alone system which measures tablet fracture stress properties in addition to out-of-die weight and thickness of a tablet produced on a D-series instrument. The included TTA software package automatically captures all of these parameters and produces Compaction Triangle plots of compaction, compressibility, and tabletability.

With a rapidly expanding product range, Gamlen Tableting has transformed the entire Gamlen product line to include the Gamlen M series, for small-scale manufacture of tablets under tightly controlled conditions, and the R series (formerly known as the GTP-1) to support fundamental tableting research and development in a university or company environment.

For further information about the Gamlen Tableting range of powder compaction analyzers and tablet presses visit: [www.gamlentableting.com](http://www.gamlentableting.com) or telephone Gamlen Tableting Limited on: +44 (0)115 912 4271 to arrange a demonstration.

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Additional information

- Gamlen Tableting [www.gamlentableting.com](http://www.gamlentableting.com) was established in 2011 by Dr Michael Gamlen who has over 40 years' experience in tablet development. Michael was Head of Tablet Development at The Wellcome Foundation for 15 years. He specialises in managing product development, formulation, and tablet and process development studies.
- Gamlen instruments are used by pharmaceutical companies and prominent university teaching and research programs worldwide.
- The Gamlen M series is a new line of benchtop tablet presses designed for GMP-compliant custom small-scale tablet manufacturing and quality control both in the lab and in the clinic. The Gamlen M-series feature easy-to-use push-button front-panel operation with an operational speed range of 1 to 4 mm/s capable of manufacturing up to 180 tablets an hour. M-series models can be supplied with or without dwell time control to simulate the production environment.
- The R-series are Gamlen's entry-level powder compaction analyzers ideal for university teaching and research programs, and can also be used to support fundamental tableting R&D in an industrial environment. R-series instruments offer a speed range of 1 to 3 mm/s and are computer interfaced to facilitate maximum control of compaction properties including programming of pre-compression, sequential multiple compressions, and multi-layer tableting operations. Real-time data captured via the R-Series are provided in an Excel spreadsheet format for easy, customized analysis and plotting. An R series instrument can be fully upgraded to the D series in steps to suit a user's budget.

For corporate and sales enquiries or to request a demonstration, please contact:

Dr Michael Gamlen  
Managing Director  
Gamlen Tableting Limited

Registered office:  
Biocity Nottingham  
Pennyfoot Street  
Nottingham  
NG1 1GF  
United Kingdom

London office and demonstration laboratory:  
Yeoman House  
63 Croydon Road  
London  
SE20 7TS  
United Kingdom

Tel: +44 115 912 4271  
Email: [michael.gamlen@gamlentableting.com](mailto:michael.gamlen@gamlentableting.com)

Web: [www.gamlentableting.com](http://www.gamlentableting.com)

For press enquiries, please contact:

Philippa Bevan

Gamlen Tableting

Tel: +44 1785 747 102 (direct)

Email: [philippa.bevan@gamlentableting.com](mailto:philippa.bevan@gamlentableting.com)