

- SCOPE: An introduction to Gauge Repeatability & Reproducibility (GR&R) testing on the Dage 4000 Plus / Optima platform.

- GRR Testing uses a calibrated weight to perform several lifts using selected load cells. Multiple tests using the same weight verify load cell accuracy and repeatability. If drift / variation are quite large with respect to the selected weight; calibration is recommended.
- The weight is dependant on load cell range. For example, WP100 cartridge set to 50g range requires a 50g weight.

Running GR&R Tests

- Data for GR&R on the Plus can be generated from the “Start” – “New Sample” drop down menu or the “New Sample” button on the top bar. **(NB: Engineering Access level is needed to perform GRR Testing!)**

- 1) Select the test group and start “New Sample” from the drop down or top bar button.
- 2) Select the (NEW) GR&R tab.
- 3) Select the G, R and R test and fill out the jig reference box (if using a shear cartridge).
- 4) Set the number of tests required.
- 5) Pressing the “Start” button the tests will perform the required number of tests.
- 6) Save the Sample.



This screenshot shows the GRR Testing Options within “New Sample”.

Sample	Result	Maximum Force	Result Type
2	1	499.25 g	Bond Broken
2	2	496.05 g	Bond Broken
2	3	496.65 g	Bond Broken

This screenshot shows the final 3 results once testing for GRR is completed.

For further information on Nordson Dage equipment:

<https://www.inseto.co.uk/microelectronic-equipment-dage-bond-testers.php>

