

### FGV-XY DART 2.0 Digital Force Gauges

*Digital Force Gauges with 180° reversible display & dual labeled keypad for both push, pull applications*

The Series FGV-XY DART 2.0 Force Gauges combine a rugged, ergonomic and compact design to provide a complete force testing instrument. These instruments are utilized in a variety of applications such as, incoming quality inspection, finished goods testing, R&D or almost any portable or force stand testing requirement.

Onboard statistical calculations provide fast access to maximum, minimum, average and standard deviation data. Units include the free Toriemon USB software and USB cable allowing further data analysis on a PC. The 1,000 point memory allows for data exporting in real time or after testing is complete. In addition, the RS-232C and analog outputs provide the DART 2.0 with maximum communication flexibility. Models are available from 0.5 lbs to 200 lb ranges providing a large offering for various testing requirements. The 180° reversible display combined with the adjustable force direction and dual labeled keypad enable the FGE-XY to excel in both compression and tension applications in any direction.

Typical applications include wallboard, wire pull, wire crimps, trigger pull, brake pedal, aerospace ceramic, springs, food ripeness, corrugated paper strength, blister pack, medical component, muscle strength, ergonomic testing, adhesives, syringe plunger, needle sharpness and many more.



#### Features

- 1000 Hz Sample Rate provides faster sampling producing better resolution and more accurate results
- Ideal for strict tolerances with its high accuracy  $\pm 0.2\%$  F.S.
- Measure and record compression and tension tests- permits true "push-pull" testing
- 180° Reversible display and dual printed keypad allows usage as a portable gauge or mounted upside down on a test stand
- Maximum data collection flexibility with 3 outputs: USB, RS-232 & Analog Output
- 1 million operation load cell with superior overload protection provides a long-life, damage free product
- Rugged, ergonomic die cast aluminum construction allows usage on production floor
- On board statistics provides immediate results and analysis of test data
- Variable display response rate aids viewing readings
- Expanded memory for reviewing data points and transferring to PC/Laptop
- Built In Hi-Lo Comparator function provides user with easy 'Go-No Go' Testing
- Quick retrieval of peak measurement with a single push button
- Flexible user preference with one button selection of up to 4 engineering units
- Dual power capable with rechargeable battery or AC line voltage
- Field Calibration through keypad eliminates down time
- CE Mark



FGV-XY 2.0 Kit with  
Standard Accessories

## FGV-XY Specifications

| FGV-XY Model         | FGV-0.5XY                                                                                                                                                                                                                                                                                                     | FGV-1XY                                 | FGV-2XY                              | FGV-5XY                        | FGV-10XY                      | FGV-20XY                     | FGV-50XY                     | FGV-100XY                     | FGV-200XY                 |
|----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------|--------------------------------------|--------------------------------|-------------------------------|------------------------------|------------------------------|-------------------------------|---------------------------|
| Capacity             | 8 oz<br>0.5 lb<br>200.0 g<br>2.000 N                                                                                                                                                                                                                                                                          | 16 oz<br>1 lb<br>500.0 g<br>5.000 N     | 32 oz<br>2 lb<br>1,000 g<br>10.00 N  | 5 lb<br>2.000 Kg<br>20.00 N    | 10 lb<br>5.000 Kg<br>50.00 N  | 20 lb<br>10.00 Kg<br>100.0 N | 50 lb<br>20.00 Kg<br>200.0 N | 100 lb<br>50.00 Kg<br>500.0 N | 200 lb<br>100 Kg<br>1000N |
| Resolution           | 0.01 oz<br>0.001 lb<br>0.1 g<br>0.001 N                                                                                                                                                                                                                                                                       | 0.01 oz<br>0.001 lb<br>0.1 g<br>0.001 N | 0.01 oz<br>0.001 lb<br>1 g<br>0.01 N | 0.001 lb<br>0.001 Kg<br>0.01 N | 0.01 lb<br>0.001 Kg<br>0.01 N | 0.01 lb<br>0.01 Kg<br>0.1 N  | 0.01 lb<br>0.01 Kg<br>0.1 N  | 0.1 lb<br>0.01 Kg<br>0.1 N    | 0.1 lb<br>0.1 Kg<br>1N    |
| Accuracy             | ±0.2% F.S.                                                                                                                                                                                                                                                                                                    |                                         |                                      |                                |                               |                              |                              |                               |                           |
| Display              | 4-Digit LCD, 0.5" (12 mm) high, Units 0.29" (7 mm). Reversible by the push of a button. Minus sign for tension                                                                                                                                                                                                |                                         |                                      |                                |                               |                              |                              |                               |                           |
| Display Update       | 0.05, 0.1, 0.2, 0.3, 0.5, 1 sec                                                                                                                                                                                                                                                                               |                                         |                                      |                                |                               |                              |                              |                               |                           |
| Sampling Rate        | 1000 Hz                                                                                                                                                                                                                                                                                                       |                                         |                                      |                                |                               |                              |                              |                               |                           |
| Overload             | 200% of F.S. (200 lb.: 150% F.S.)                                                                                                                                                                                                                                                                             |                                         |                                      |                                |                               |                              |                              |                               |                           |
| Power                | Rechargeable Ni-Cad battery or AC adapter/charger                                                                                                                                                                                                                                                             |                                         |                                      |                                |                               |                              |                              |                               |                           |
| Output               | Analog: ±1 VDC (through a 12 bit D/A converter)<br>RS232C: Baud rate (19200, 9600, 4800, 2400 bps selectable), commands control<br>USB: Allows communication between FGV-XY and Windows® PC Software with Toriemon USB via USB cable (included)<br>Overload Comparator: Open-collector output (Max DC30V/5mA) |                                         |                                      |                                |                               |                              |                              |                               |                           |
| Auto Power Shut-Off  | Yes (not active if adapter/charge is in use)                                                                                                                                                                                                                                                                  |                                         |                                      |                                |                               |                              |                              |                               |                           |
| Battery Charge       | 12 hours (when fully charged)                                                                                                                                                                                                                                                                                 |                                         |                                      |                                |                               |                              |                              |                               |                           |
| Recharge Time        | Approximately 18 hours when fully discharged                                                                                                                                                                                                                                                                  |                                         |                                      |                                |                               |                              |                              |                               |                           |
| Temperature Range    | 32 - 104°F (0 - 40°C)                                                                                                                                                                                                                                                                                         |                                         |                                      |                                |                               |                              |                              |                               |                           |
| Dimensions           | 5.8 x 3 x 1.5" (147 x 75 x 38 mm)                                                                                                                                                                                                                                                                             |                                         |                                      |                                |                               |                              |                              |                               |                           |
| Product Weight       | Approx. 1 lb (450 g); FGV-200XY Approx. 1.1 lb (500 g)                                                                                                                                                                                                                                                        |                                         |                                      |                                |                               |                              |                              |                               |                           |
| Package Weight       | Approx. 2.4 lb (1.09 kg) for 0.5 lb and 1 lb ranges; 2.6 lb (1.12 kg) for 2 to 100 lb ranges; 2.75 lb (1.25 kg) for 200 lb range.                                                                                                                                                                             |                                         |                                      |                                |                               |                              |                              |                               |                           |
| Certification        | CE                                                                                                                                                                                                                                                                                                            |                                         |                                      |                                |                               |                              |                              |                               |                           |
| Warranty             | 1 year                                                                                                                                                                                                                                                                                                        |                                         |                                      |                                |                               |                              |                              |                               |                           |
| Included Accessories | AC adapter/charger, carrying case, hook, chisel, flat head, notched head, hanger, cone head, thread Adapter, extension rod, USB cable. (Note: software available at <a href="http://www.shimpoist.com">www.shimpoist.com</a> for free download)                                                               |                                         |                                      |                                |                               |                              |                              |                               |                           |

## Ordering Details

|                        |                                                                                                                                                                                                                                |
|------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| FGV-0.5XY              | 0.5 lb capacity digital force gauge                                                                                                                                                                                            |
| FGV-1XY                | 1 lb capacity digital force gauge                                                                                                                                                                                              |
| FGV-2XY                | 2 lb capacity digital force gauge                                                                                                                                                                                              |
| FGV-5XY                | 5 lb capacity digital force gauge                                                                                                                                                                                              |
| FGV-10XY               | 10 lb capacity digital force gauge                                                                                                                                                                                             |
| FGV-20XY               | 20 lb capacity digital force gauge                                                                                                                                                                                             |
| FGV-50XY               | 50 lb capacity digital force gauge                                                                                                                                                                                             |
| FGV-100XY              | 100 lb capacity digital force gauge                                                                                                                                                                                            |
| FGV-200XY              | 200 lb capacity digital force gauge                                                                                                                                                                                            |
| NIST-FG                | NIST traceable certificate of calibration for ranges from 0.5 to 100 lbs                                                                                                                                                       |
| NIST-FG-HC             | NIST traceable certificate of calibration for ranges 200 lbs to 1000 lbs                                                                                                                                                       |
| FGV-PT100 or FGV-PT200 | 100 lb or 200 lb capacity FGV-XY in ergonomic testing kit. Kit includes all of the standard FGV-XY accessories but comes with larger, heavy duty case and adds padded ERGO accessories, handle, and NIST traceable certificate |

DISTRIBUTED BY:

## Accessories

|             |                                                                                                                                       |
|-------------|---------------------------------------------------------------------------------------------------------------------------------------|
| FG-M4ADP    | Standard adapter set with M4 threads for ranges 0.5 lb and 1 lb. Includes: chisel, cone, flat head, notched head, hook, extension rod |
| FG-M4CL     | Chisel adapter with M4 thread for ranges 0.5 lb and 1 lb.                                                                             |
| FG-M4CN     | Cone head adapter with M4 thread for ranges 0.5 lb and 1 lb.                                                                          |
| FG-M4FL     | Flat head adapter with M4 thread for ranges 0.5 lb and 1 lb.                                                                          |
| FG-M4GV     | Notched head adapter with M4 thread for ranges 0.5 lb and 1 lb.                                                                       |
| FG-M4HK     | Hook adapter with M4 thread for ranges 0.5 lb and 1 lb.                                                                               |
| FG-M4RD     | Extension rod adapter with M4 thread for ranges 0.5 lb and 1 lb.                                                                      |
| FG-M6ADP    | Standard adapter set with M6 threads for ranges 2 lb to 200 lb. Includes: chisel, cone, flat head, notched head, hook, extension rod  |
| FG-M6CL     | Chisel adapter with M6 thread for ranges 2 lb to 200 lb.                                                                              |
| FG-M6CN     | Cone head adapter with M6 thread for ranges 2 lb to 200 lb.                                                                           |
| FG-M6FL     | Flat head adapter with M6 thread for ranges 2 lb to 200 lb.                                                                           |
| FG-M6GV     | Notched head adapter with M6 thread for ranges 2 lb to 200 lb.                                                                        |
| FG-M6HK     | Hook adapter with M6 thread for ranges 2 lb to 200 lb.                                                                                |
| FG-M6RD     | Extension rod adapter with M6 thread for ranges 2 lb to 200 lb.                                                                       |
| FG-09V120UC | Universal charger adapter for 120/240V AC                                                                                             |
| ERGO-KIT    | Padded accessory kit for ergonomic testing                                                                                            |
| FG-HANDLE   | Handle adapter for larger loads                                                                                                       |
| FGV-ANALOG  | Connection cable for FGV's +/-1 VDC analog output                                                                                     |