# DFW2

# Digital Dynamometer

COMPRESSIONE / COMPRESSION

FORCE GAUGE — AUTO POWER OFF — KN — 10.00 — ZERO — SET — ZERO — PEAK — AEPtransducers DFW2 — Made in ITALY

easy APPLICATIONS

RECHARGEABLE Battery

Stabilità a lungo termine / Long term high stability

Alta Affidabilità / High Reliability

SOLLECITAZIONI DINAMICHE / DYNAMIC STRESSES

FACILE APPLICAZIONE / EASY APPLICATION

CE RoHS

Linearità - Isteresi $\leq \pm 0.50\%$ Linearity - Hysteresis

USB 2.0

ACCREDIA L'ENTE ITALIANO DI ACCREDITAMENTO — LAT N° 093 **Calibration Centre** The products are NOT covered by accreditation — **COMPLETO DI** Certificato di Taratura ACCREDIA — *COMPLETE WHIT* *ACCREDIA Calibration Certificate*

DFW2 is a digital dynamometer with internal rechargeable battery and 0.50% accuracy, realized for controlling and testing hydraulic and electrodes welders, pneumatic presses, test benches, torqueing vices etc…

The indicator consists of a microprocessor, of a long-term particularly stable analog section and of a 16-bit A/D converter which guarantees 65.000 internal divisions.

Further then displaying the measurement, other programmable functions are available such as digital filter, zero, peak, change of programmable engineering measurement units (kg, t, N, daN, kN, lb) which enable the operator to suit the dynamometer at best to different applications.

On the display, there is an analog bar indication of the force always active, as well as inside the programming menu.

To increase the practicality and make the instrument completely autonomous, DFW2 is power supplied by an internal Li-Ion rechargeable battery.

Furthermore, the duration of the battery can be longer using the function of AUTO POWER OFF which begins working when no measurement change is detected in a programmable interval from 1 to 30 minutes. Low-profile strain gauge sensor (18mm) entirely executed in stainless steel, is suitable for high-precision measurements in compression and guarantees a long term stability even in presence of dynamic applications.

Communication via the USB port and the functionality of Data Logger makes it particularly suitable for applications where it is necessary to elaborate on the PC the acquired measurements.

In the sensor support surface, an insulating area has been introduced in order to make the check of hydraulic welders easier.

## MAIN FEATURES

- ISOLATED LOW-PROFILE SENSOR (18MM)
- BATTERY RECHARGEABLE USING USB PORT
- DISPLAY LCD WITH BACKLIGTH
- CONVERSION IN 6 MEASUREMENT UNIT
- PROGRAMMABLE RESOLUTION
- PROGRAMMABLE DGITAL FILTER
- ZERO FUNCTION

- PEAK FUNCTION
- AUTO POWER OFF FUNCTION
- USB COMMUNICATION PORT
- KEY BLOCK FUNCTION 🔒
- DATALOGGER FUNCTION (option)

**ACCESSORIES:** To complete the system the software WinTEST or Quick Analyzer are available that display real-time curves generated by the system, record, print, and export to Excel.

## *TECHNICAL DATA*

| | |
|---|---|
| **PRECISION CLASS** | $\leq \pm 0.50\ \%$ |
| **NOMINAL LOAD** | 10 – 20 – 30 – 40 kN |
| LINEARITY<br>HYSTERESIS<br>RIPETIBILITY | $\leq \pm 0.20\ \%$<br>$\leq \pm 0.20\ \%$<br>$\leq \pm 0.05\ \%$ |
| CONVERSION PER SECOND | 10 Hz |
| REFERENCE TEMPERATURE<br>WORKING TEMPERATURE<br>STORAGE TEMPERATURE | +23 °C<br>0 / +50 °C<br>-10 / +60 °C |
| TEMPERATURE EFFECT 10 °C:<br>a) on zero<br>b) on sensitivity | <br>$\leq \pm 0.010\ \%$<br>$\leq \pm 0.025\ \%$ |
| CUSTOM LCD DISPLAY<br>CHARACTER HEIGHT 16 mm<br>PROGRAMMABLE BACKLIGHT from 1 to 60 seconds<br>BACKLIGHT: LED BLU<br>BAR GRAPH ANALOG INDICATION |  |
| PROGRAMMABLE **RESOLUTION**<br>PROGRAMMABLE **DIGITAL FILTER**<br>**ZERO** FUNCTION<br>**PEAK** FUNCTION<br>**AUTO POWER OFF** FUNCTION<br>**KEY BLOCK** FUNCTION (LOCK) 🔒 | 1, 2, 5, 10<br>from 0 to 10<br>100 % F.S.<br>POSITIVE/NEGATIVE<br>From 1 to 30 minutes (no load changes)<br>To protect parameters from changes |
| MEASUREMENT UNIT | kN - daN - N - t - kg - lb |
| COMMUNICATION PORT<br>MAX DISTANCE | USB 2.0<br>5m |
| POWER SUPPLY BY INTERNAL BATTERY<br>BATTERY RECHARGE<br>AUTONOMY<br>TIME TO RECHARGE | Li-Ion 1100mA/h 3.6V RECHARGEABLE<br>Through USB<br>1 month (Backlight disabled)<br>~ 8 hrs |
| MECHANICAL LIMIT VALUES:<br>a) service load<br>b) max permissible load<br>c) breaking load<br>d) maximum transverse load<br>e) max dynamic load<br>DISPLACEMENT AT NOMINAL LOAD | <br>120 %<br>150 %<br>>300 %<br>50 %<br>50 %<br>~ 0.2 mm |
| PROTECTION CLASS (EN 60529)<br>SENSOR MATERIAL<br>ENCLOSURE | IP40<br>17-4 PH STAINLESS STEEL<br>ALUMINUM and STEEL |

## *Options*

 The DATALOGGER function allows to store in the internal memory of the instrument measurements taken at programmable intervals.

| Programmable Acquisition Interval | from 1 second to 10 hours |
|---|---|
| Max. number acquisition point | 60.000 points |

The stored measurements can then be displayed on the display or downloaded directly to a PC via the Quick Analyzer software that allows you to have a graphical representation and export data into Excel for a customized analysis.



OPTION
For special applications, you can have the DFW2 sensor and the indicator separated and connected via cable.

## *Accessories Supplied*

USB Power Supply (5VDC @700mA)

USB Cable



Carrying case

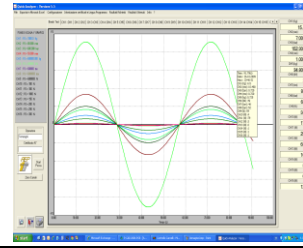CD with MANUAL and USB DRIVER



## *Accessories* (to be purchased separately)

**WinTEST:** Application software that allows you to directly connect the instrument to your PC, record real-time measurements on graph and all the features available.
Ability to save the test and export them to Microsoft Excel for custom analysis.          **LOW COST**
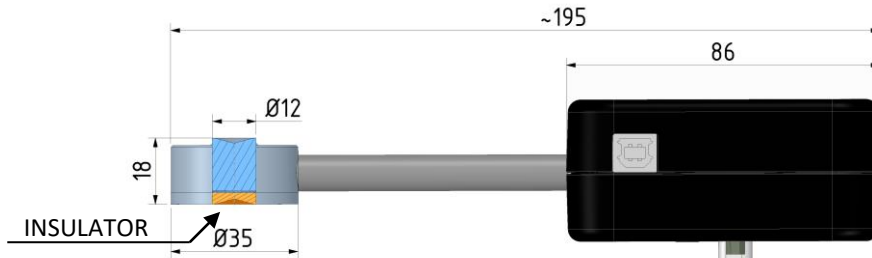
**Quick Analyzer:** Professional software that interfaces directly to DFW2 and supports the operator in the various test functions, analysis, monitoring over time, data storage, data logger management, transfer of measures on Microsoft Excel etc. Moreover, it allows to download datalogger cycles

ACCREDIA CALIBRATION CERTIFICATE
Calibration Report (as an alternative to the ACCREDIA Certificate)

## Dimensions (mm):



## Application



## STANDARD INDICATION

| Load | Display | Resol. | Display | Resol. | Display | Resol. | Display | Resol. | Display | Resol. | Display | Resol. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| kN | kN | kN | daN | daN | N | N | t | t | kg | kg | lb | lb |
| 10 | 10,00 | 0,01 | 1000 | 1 | 10000 | 10 | 1,000 | 0,001 | 1000 | 1 | 2248 | 1 |
| 20 | 20,00 | 0,01 | 2000 | 1 | 20000 | 10 | 2,000 | 0,001 | 2000 | 1 | 4496 | 1 |
| 30 | 30,00 | 0,01 | 3000 | 1 | 30000 | 10 | 3,000 | 0,001 | 3000 | 1 | 6744 | 1 |
| 40 | 40,00 | 0,01 | 4000 | 1 | 40000 | 10 | 4,000 | 0,001 | 4000 | 1 | 8992 | 1 |

## PURCHASE CODES

| EDFW2 | FULL SCALE | Option |
|---|---|---|
| | 1 = 10 kN | D = Data logger |
| | 2 = 20 kN | |
| | 3 = 30 kN | |
| | 4 = 40 kN | |

Example: **EDFW2 3 D**

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