

DNA 2

PROFESSIONAL DIGITAL DYNAMOMETER

FORCE and WEIGHT measures in COMPRESSION and TENSION

Nominal Load from 100 kg to 5 t



The **DNA2** is a digital dynamometer designed to facilitate the measurement and calibration of forces generated by presses, clamps, ropes or chains in industrial environments or directly in the field.

The dynamometer consists of a highly reliable and accurate strain gauge load cell and a latest generation microprocessor indicator.

The indication is provided by a backlit LCD display with 5 digits, 13 mm high, for the display of the measurement and by a bar display indicating the percentage of the measured load with respect to the full scale.

The dynamometer is powered by an internal rechargeable Li-Ion battery with an autonomy of 50 hours in continuous operation without backlighting, to recharge the battery you can use the USB cable with the supplied 5Vdc power supply or connect it directly to the PC.

For continuous operation it is possible to keep the dynamometer powered through the USB port. In the programming menu accessible from the keyboard you can set the units of measurement kg, t, lb, kN, daN, N and customize the behavior of the dynamometer by adjusting various functions such as **DIGITAL FILTER** that allows you to keep the measurement stable even in the presence of unstable weights, resolution, auto power off, etc. ...

Through the keyboard it is possible to set the function of **PICCO** in compression or traction to record the maximum force detected during the test.

MAIN FEATURES:

- HIGH MECHANICAL STRENGTH
- STAINLESS STEEL SENSOR AND ALUMINUM CASE
- 5 DIGIT LCD DISPLAY WITH BACKLIGHT
- CONVERSIONS IN UNITS OF MEASUREMENT
- PROGRAMMABLE RESOLUTION
- PROGRAMMABLE DIGITAL FILTER
- FUNCTIONS OF ZERO
- FUNCTION OF AUTO POWER OFF
- FUNCTIONS OF PEAK MAX. AND MIN.
- SUPPRESSION OF TARA
- ZERO TRACKING
- USB COMMUNICATIONS
- KEY LOCK θ FUNCTION TO PROTECT THE USE PARAMETERS FROM UNAUTHORIZED CHANGES
- **CALIBRATION REPORT IN COMPRESSION**


OPTION:

- INTERNAL DATA LOGGER WITH CLOCK and CALENDAR
- CALIBRATION REPORT IN TENSION
- ACCREDIA ACCREDITATION CERTIFICATE

APPLICATIONS:

- VERIFICATION FALL-RATE LINES
- VERIFICATION OF SAFETY ROPES
- VERIFICATION CHAINS
- EXTRACTION TESTS FOR CONCRETE TUBES
- VERIFICATION THRUST FORCE AND TRAILER TRAILERS
- VERIFICATION FORCE GENERATED BY PRESSES OR FORKS
- VERIFICATION DOOR AND GATE CLOSING FORCE
- VERIFICATION PRESSES AND TEST BENCHES

Technical Data

Accuracy CLASS according ISO 376	1 (from 10% to 100% F.S.)
ACCURACY	$\leq \pm 0,05 \% \text{ F.S. }^{(1)}$
NOMINAL LOAD	100 – 200 - 500 kg 1000 - 2500 – 5000 ⁽²⁾ kg
MEASUREMENT UNITS	Kg – t – lb – kN – daN - N
SERVICE TEMPERATURE	0 ... +50 °C
STORAGE TEMPERATURE	0 ... +60 °C
RELATIVE HUMIDITY	< 90 % not condensed
TEMPERATURE EFFECT (1°C)	
a) on zero	$\leq \pm 0,015\%$
b) on sensitivity	$\leq \pm 0,005\%$
INTERNAL RESOLUTION	16 bit
READING PER SECOND	10 (100ms)
LCD DISPLAY BACKLIGHT	CUSTOM 7 segment
CHARACTER HIGHT	13 mm
RESOLUTION	1, 2, 5, 10
DIGITAL FILTER FUNCTION	from 0 to 5
ZERO FUNCTION	100 % F.S.
PEAK FUNCTION	COMPRESSION / TENSION
MENU LOCK FUNZION (LOC) 	Programming protection
COMUNICATION PORT	USB 2.0
TYPE OF TRANSMISSION	on REQUEST or CONTINUE
TRANSMISSION OF MEASURES	max. 10 data per second
MAXIMUM DISTANCE	5 m
POWER SUPPLY	RECHARGEABLE battery Li-Ion 3.6V 1800mA/h
AUTONOMY	50 hours (continuous operation)
BATTERY RECHARGE	From USB port (5Vdc)



(1) Tests and calibrations performed in **COMPRESSION**.

(2) The dynamometer with a nominal load of **5000 kg** is guaranteed in **TENSION** up to **2500 kg**.

MECHANICAL LIMIT VALUES:	
a) service load	100% F.S.
b) max permissible load	150% F.S.
c) breaking load	>300% F.S.
d) max permissible dynamic load	75% F.S.
PROTECTION CLASS (EN 60529)	IP40
CASE	ALUMINUM
SENSOR	STAINLESS STEEL
WEIGHT	~ 1.5 kg

OPTIONS: (to be purchased separately)

INTERNAL DATA LOGGER	
Clock and internal calendar	YES
Max recordable measurements	130.000
Recording frequency	programmable (Max 1 second)
Max duration Data Logger (3)	10000 hours
CALIBRATION REPORT	in TENSION
ACCREDIA CERTIFICATE	COMPRESSION and TENSION



(3) If the Data Logger is to be kept active for long times, it may be necessary to externally power the instrument or recharge it periodically.



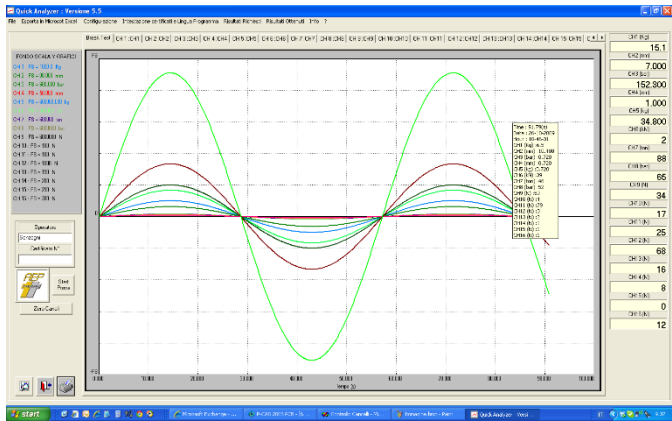
STANDARD indications

Full Scale	Display	Res.	Display	Res.	Display	Res.	Display	Res.	Display	Res.	Display	Res.
Kg	kg	kg	t	t	lb	lb	kN	kN	daN	daN	N	N
100	100.00	0.01	0.1000	0.0001	220.00	0.01	1.0000	0.0001	100.00	0.01	1000.0	0.1
200	200.00	0.01	0.2000	0.0001	440.00	0.01	2.0000	0.0001	200.00	0.01	2000.0	0.1
500	500.00	0.05	0.5000	0.005	999.95 1100.0	0.05 0.5	5.0000	0.0005	500.00	0.05	5000.0	0.5
1000	1000.0	0.1	1.0000	0.0001	2200.0	0.1	10.000	0.001	1000.0	0.1	10000	1
2500	2500.0	0.2	2.5000	0.0002	5500.0	0.2	25.000	0.002	2500.0	0.2	25000	2
5000	5000.0	0.5	5.0000	0.0005	9999.5 1100	0.5 1	50.000	0.005	5000.0	0.5	50000	5

Accessories supplied:

USB power supply (5VDC @700mA)	
USB cable	
CD containing MANUAL (IT / ENG) and USB DRIVER.	

Accessories: (to be purchased separately)

<p>CASE for transport</p>	
<p>Loading head Spherical loading head Knuckle joints</p>	
<p>Quick Analyzer Quick Analyzer Light Professional software that interfaces directly to DNA2 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 ...</p>	

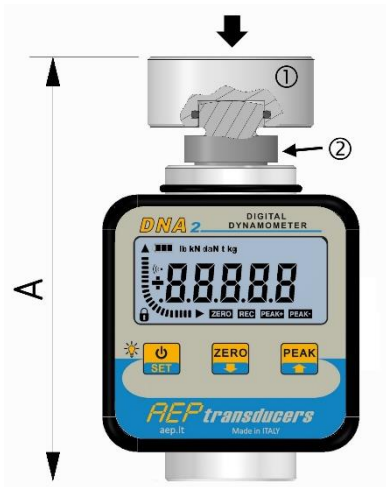
Dimensions (mm)



NOMINAL LOAD	M
100kg – 200kg - 500 kg	M12
1000 kg 2500kg - 5000kg	M20x1.5

COMPRESSION Applications

TENSION Applications



100, 200 e 500kg A = ~126mm
 1t, 2.5t e 5t A = ~145mm



100, 200 e 500kg B = ~176mm
 1t, 2.5t e 5t B = ~224mm

LOAD	CODE		ACCESSORIES
100 kg 200 kg 500 kg	CTIC13	①	Loading head
	CTS18M12	②	Spherical loading head
	CACCEM12	③	Knuckle joints
1000 kg 2500 kg 5000 kg	CTIC22	①	Loading head
	CTS25M20	②	Spherical loading head
	CACCEM20	③	Knuckle joints Max. static load 2500 kg

Purchase code:

EDNA2-	Full scale	OPTION
100K	1T	D = data logger
200K	2T5	
500K	5T	

Example: **E DNA2-200K D**

FCALTAEP Calibration Report in TENSION



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In order to improve the technical performances of the product, the company reserves the right to make any change without notice.