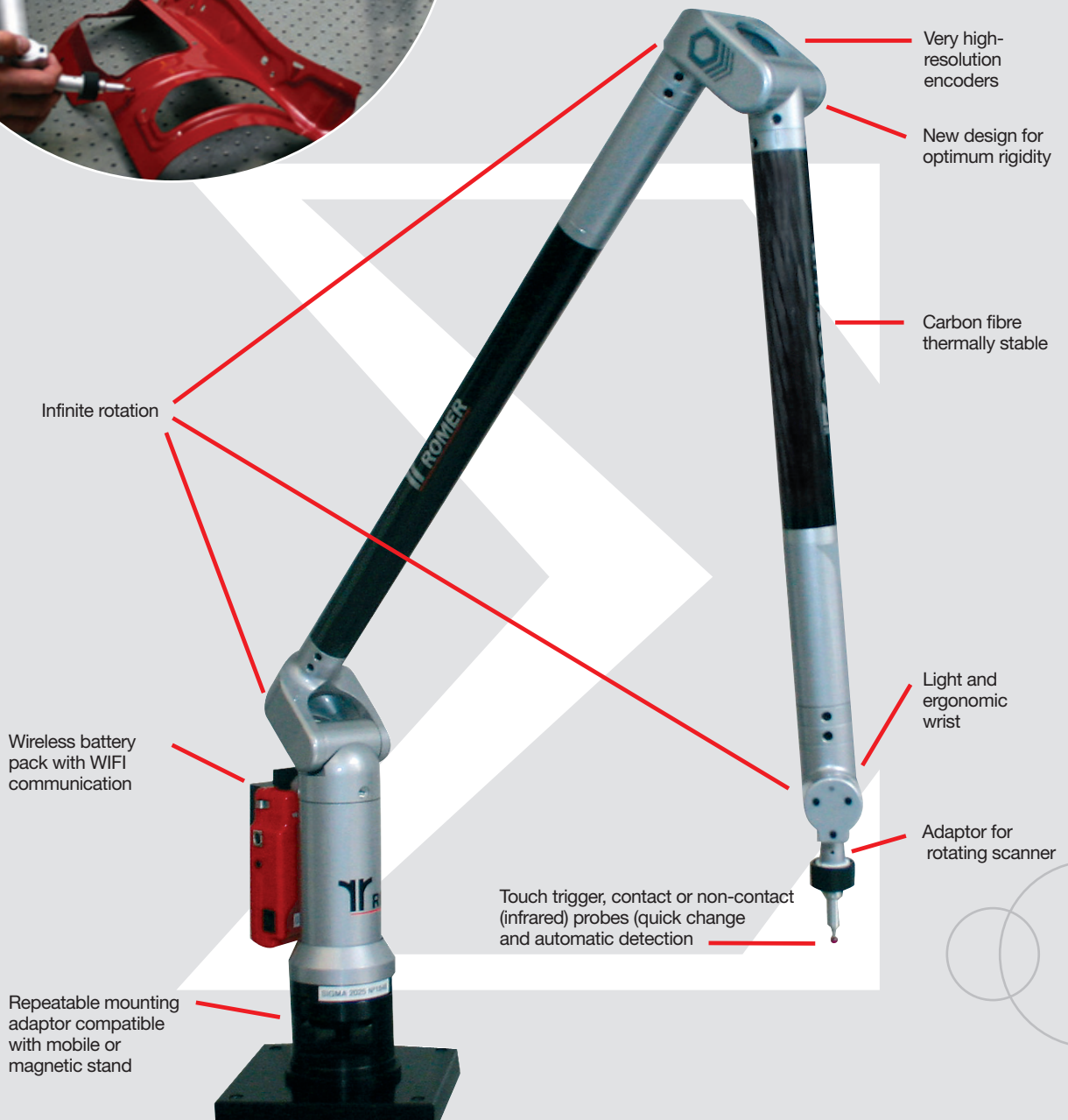


# Arm2000 SIGMA Series $\Sigma$ SIGMA

THE NEW 3D PORTABLE MEASURING ARM REFERENCE



Arm 2000 SIGMA Series is the latest evolution to generate an universal metrology tool. The ergonomic, light-weight, high strength design incorporating high accuracy make the Arm the ideal measuring solution for Automotive, Aerospace, Foundry and the plastics industry...



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## THE NEW 3D PORTABLE MEASURING ARM REFERENCE

Models	ACCURACY SPECIFICATIONS				
	Measuring Range (Spherical diameter) mm	Repeatability Sphere Test (a) mm	Repeatability Cone Test (b) mm	Length Accuracy Test (c) mm	Weight kg
2018	1800	± 0,010	± 0,018	± 0,025	4,6
2022	2200	± 0,014	± 0,020	± 0,025	4,8
2025	2500	± 0,017	± 0,024	± 0,034	5,0
2028	2800	± 0,025	± 0,032	± 0,044	5,2
2030	3000	± 0,035	± 0,038	± 0,054	5,2
2032	3200	± 0,040	± 0,043	± 0,061	5,3
2036	3600	± 0,049	± 0,054	± 0,074	5,3
2046	4600	± 0,070	± 0,100	± 0,090	5,5
2052	5200	± 0,085	± 0,140	± 0,100	6,0

### EQUIPMENT DELIVERED WITH ARM 2000 SIGMA:

- An Arm2000 SIGMA
- Romosoft including GDS (interface software)
- A set of 3 contact probes (point, 6 and 15mm ball  $\emptyset$ )
- A fixing kit: a repeatable mounting puck, a fixing plate and c-clamps
- A counterbalance
- A verification bar
- A transport case
- A Wireless battery pack with WIFI communication (autonomy: 5 hours, Max theoretical range 50m (inside) and 200m (outside), Li-Ion battery – removable, sound jack and integrated speaker.

### SPECIFICATIONS

- Operating temperature range : +10°C to +40°C
  - Humidity : 5 % to 90 % non condensing
  - Power supply : 100 to 240 V c.a.(+/- 10 %), 50/60 Hz (+/- 3 Hz)
  - Extra calibration on plant
  - Indexed probe
  - Electromagnetic compatibility : Compliant with CEM directives 89/336/EEC, 92/31/EEC, 93/68/EEC
- Applicable norms : EN61326(98), EN55022(94) / A1(95), EN61000-3-2(95) / A1(98) / A2(98) / A14(00), EN61000-3-3(95), EN61000-4-2(95) / A1(98), EN61000-4-3(96), EN61000-4-4(95), EN61000-4-5(95), EN61000-4-6(96), EN61000-4-11(94)
- Low voltage : Compliant with low voltage directive 73/23/EEC, 93/68/EEC
- Applicable norm: EN61010-1 (2001)

### SOFTWARE AND HARDWARE COMPLEMENTARY EQUIPMENTS:

- PC-Dmis, G-Pad, G-Surf, G-tube software for geometric, surface and tube entities measurement.
- Digital Rails from 800 to 4000 mm
- VPS: Virtual Plate 4000 \* 6000 mm
- Non-contact probe for tube measuring
- G-Scan RX 2 to scan complex shapes

#### Tests Methods

##### (a) Measuring Sphere Test

With the ball probe, points around a calibrated sphere are measured by the user. Data are used to calculate the center of the sphere with the best fit of the measured points. Then, the software determines the distance between each point and the sphere center minus the theoretical radius. The result gives an idea of the repeatability but generally, it is not used like a reference value to qualify accuracy of measuring machine.

##### (b) Measuring Cone Test

That is the reference test to determine measurement arm repeatability with ball probe. The cone is in front of the machine. Points are measured from multiple approach directions. The average point and the deviation of each point to the average center are calculated. The result is the standard deviation.

##### (c) Volume Accuracy Test

That is the most representative test for volume measurement accuracy. A gage block with a known and certified length is measured several times throughout the working volume. This gage block is installed in different positions and measured depending on multiple approach directions. The result is the standard deviation of the measuring distance less the theoretical length.

ROMER products are available at the following Hexagon Metrology precision centres:



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2 rue François Arago  
41800 MONTOIRE - FRANCE  
Tel. : 33 2 54 86 40 40  
Fax : 33 2 54 86 40 59  
[www.romer.fr](http://www.romer.fr)  
[www.arm2000.com](http://www.arm2000.com)  
e-mail : [info@romer.fr](mailto:info@romer.fr)

#### France

Lyon  
Tel.: 04 72 37 90 60  
Fax: 04 72 37 90 61

#### Paris

Tel.: 01 69 29 12 00  
Fax: 01 69 29 00 32

#### Germany

Lahnau  
Tel.: 06441 20999-22  
Fax: 06441 20999-99

#### Italy

Milan  
Tel.: 02 6154111  
Fax: 02 6150473

#### Turin

Tel.: 011 4025111  
Fax: 011 7803254

#### Lithuania

Vilnius  
Tel.: 052 771848  
Fax: 052 775963

#### Spain

Barcelona  
Tel.: 93 5946920  
Fax: 93 5946921

#### Sweden

Eskilstuna  
Tel.: 16 160800  
Fax: 16 160890

#### Spånga

Tel.: 08 56475573  
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#### Trollhättan

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Fax: 016 170639

#### United Kingdom

Telford - Swindon - Huntingdon  
Tel.: 0870 446 2667  
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