

# **ROMER**

The Exclusive Portable Measuring Arm  
For a Precise and Simple Measurement



- Infinite rotation
- Wireless battery pack with WIFI communication
- Mounting adaptor compatible with mobile or magnetic stand
- Very-high-resolution encoders
- New design for optimum rigidity
- Carbon fibre thermally stable
- Light and ergonomic wrist
- 3D Laser Scanning probe compatible
- Touch trigger, contact or non-contact (infrared) probes (quick change and automatic detection)



## *sigma* $\Sigma$

Its ergonomics, robustness and infinite rotation make it the ideal metrology tool in the fields of Automotive, Aeronautics, Foundry, Plastics and your future application...

## The New Standard in Articulated Arms

The SIGMA Arm completely matches all your metrology needs thanks to exclusive concept "MODULARM": 10 lengths of arms available for measurement without limit.

With the longest arm length available on the market, the SIGMA series exceeds the capabilities of other measurement equipment. The SIGMA Arm offers total flexibility because of the wireless communication and is one of the lightest arms in its class. The SIGMA series provides total compatibility with all ROMER accessories and equipment (sensors with and without contact, laser digitalization sensors, numerical rails, VPS...).

**Choose ROMER, the creator of the 3D portable measuring arms, and profit from a fast, intuitive measurement without constraints.**



## Specifications

Operating temperature range  
+10°C to +40°C

Humidity  
5% to 90% non-condensing

Power supply  
100 to 240V c.a. ( $\pm 10\%$ )  
50/60Hz ( $\pm 3\text{Hz}$ )

Extra calibration on plant

Permanent 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)  
/A2(98), / A14(00), EN61000-  
3-3(95), 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)



## The Exclusive Portable Measurement Arm For simple, precise measurements

### Accuracy Specifications

Models	Measuring Range (Spherical diameter) mm	Repeatability Sphere Test a) mm	Repeatability Cone Test b) mm	Length Accuracy Test c) mm	Weight kg
2018	1800	$\pm 0.010$	$\pm 0.018$	$\pm 0.025$	4,6
2022	2200	$\pm 0.014$	$\pm 0.020$	$\pm 0.025$	4,8
2025	2500	$\pm 0.017$	$\pm 0.024$	$\pm 0.034$	5.0
2028	2800	$\pm 0.025$	$\pm 0.032$	$\pm 0.044$	5.2
2030	3000	$\pm 0.035$	$\pm 0.038$	$\pm 0.054$	5.2
2032	3200	$\pm 0.040$	$\pm 0.043$	$\pm 0.061$	5.3
2036	3600	$\pm 0.049$	$\pm 0.054$	$\pm 0.074$	5.3
2040	4000	$\pm 0.060$	$\pm 0.080$	$\pm 0.082$	5.4
2046	4600	$\pm 0.070$	$\pm 0.100$	$\pm 0.090$	5.5
2052	5200	$\pm 0.085$	$\pm 0.140$	$\pm 0.100$	6,0

### Test methods

- a) **Measuring Sphere Test**  
With the ball probe, points around a calibrated sphere are measured by the user. Data is 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.

### Equipment delivered with SIGMA Arm

- SIGMA Arm
- Romosoft including GDS (interface software)
- Set of 3 contact probes (point, 6 and 15mm ball  $\phi$ )
- Fixing kit: a repeatable mounting puck, a fixing plate and c-clamps
- Counterbalance
- Verification bar
- Transport case
- 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)
- Hub box (power supply) CE

### Software and hardware complementary equipments

- PC-DMIS, G-Pad, G-Surf, G-Tube software for geometric, surface and tube entities measurement
- G-Scan RX2, the complete scanning solution for inspection and reverse engineering
- Digital Rails from 800 to 3500mm
- VPS: Virtual Plate 4000 x 6000mm
- Non-contact probe for tube measuring

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

**France:** Bron (Lyon): Tel. 04 72 37 90 60, Fax 04 72 37 90 61 - Courtaboeuf: Tel. 01 69 29 12 00, Fax 01 69 29 00 32 - Toulouse: Tel. 05 34 51 70 95, Fax 05 34 51 79 44. **Germany:** Munich: Tel. 089 149810-0, Fax 089 149810-59 - Wetzlar: Tel. 064 412 07 0, Fax 06441 207 122. **Italy:** Calderara di Reno (BO): Tel. 051 725254, Fax 051 725288 - Cormano (MI): Tel. 02 615411 1, Fax 02 6150473 - Grugliasco (TO): Tel. 011 4025111, Fax 011 7803254 - Verona: Tel. 045 80 70 174, Fax 045 80 70 295. **Poland:** Warsaw: Tel. 022 338 15 00, Fax 022 338 15 22 - Cracow: Tel./Fax 012 647 08 27. **Spain:** Cerdanyola del Vallès (Barcelona): Tel. 93 594 69 20, Fax 93 594 69 21. **Sweden:** Eskilstuna: Tel. 016 16 08 00, Fax 016 16 08 90 - Göteborg: Tel. 031 51 470 10, Fax 016 16 08 90 - Spånga: Tel. 016 16 08 80, Fax 016 16 08 90 - Trollhättan: Tel. 052 01 51 61, Fax 016 17 06 39. **Switzerland:** Crissier: Tel. 021 633 50 33, Fax 021 633 50 34 - Aarau-West: Tel. 062 737 67 37, Fax 062 0737 67 38. **Turkey:** Ankara: Tel. 0312 417 14 14, Fax 0312 425 58 38. **United Kingdom:** Telford: Tel. 0870 446 2667, Fax 0870 446 2668. [www.hexagonmetrology.com](http://www.hexagonmetrology.com)

ISO 9001 Certified

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