

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 Σ

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)



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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	± 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
2040	4000	± 0.060	± 0.080	± 0.082	5.4
2046	4600	± 0.070	± 0.100	± 0.090	5.5
2052	5200	± 0.085	± 0.140	± 0.100	6,0

Equipment delivered with SIGMA Arm

- SIGMA Arm
- Romosoft including GDS (interface software)
- Set of 3 contact probes (point, 6 and 15mm ball ϕ)
- 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

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.

ISO 9001 Certified

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