



## **INDUSTRIAL MEASUREMENT SOLUTIONS PTY LTD**

# Romer Arm

The Romer arm is a portable CMM used for 3D measurements. Romer are the inventors of the Measurement arm. They have more experience than any other manufacturer of measuring arms. The Romer Arm is used in a large variety of applications from coordinate measurements through to advanced laser scanning. There are three main series of Romer arms; the most economical is the Omega series, the most adaptable is the Flex series and the most accurate is the Sigma series. Industrial Measurement Solutions supply, service and support all three series of Romer arm to the Australasian market.



### **Why Romer**

Romer are the pioneers of measurement arms. Since their first arm in 1986 they have skilfully refined the arms design into the brilliant device they sell today. There are several features of the Romer Arms that differentiates it from its competitors.

Firstly they have 9 sizes of connections which provide them with the longest measuring range of 1800mm-5200mm. This also provides them with the largest measuring volume. Romer arms are also the lightest in weight making them the most portable in its class. The Romer Arm's portability is further emphasised with its WBP (Wireless Battery Pack), which enables it with the option to be taken into the workplace and used on several projects within the workplace. Additionally the full range of Romer Arms are made of carbon fibre. This allows it to be used under variable temperature conditions hence eliminating errors which could otherwise be caused from the expansion and contraction of metals.

### **Infinite Rotation**

Another key feature of the Romer Arm is its infinite rotation. This means that all of the joints of the Romer Arm have unrestricted rotation. The advantage of this free movement, apart from increased user comfort, is that it enables the arm to reach difficult points for measurement. This in turn increases measuring speed and efficiency as the entire unit does not need to be relocated several times.

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## Applications

### Tube inspections

Tube inspection can effortlessly be performed with Romer's non contact probes.



The probe is simply placed on either side of the tube and with its laser and carbon graphite technology along with the use of the appropriate

software, the tubes dimensions can be determined. The laser plane displays on the tube to see precisely where the measurement will be taken. The probe can measure minute wires to 6in tubes.



### Reverse engineering/ Inspection

The Romer arm can also be used for reverse engineering or part inspection with the aid of the G-SCAN. The G-scan is a non contact 3D scanning probe that generates a point cloud which can be further analysed by CAD software. This generated image can be compared to the designed CAD file to check for discrepancies or it can be used to make improvement on an existing model.



### Geometric Application

The main application of the Romer Arm and essentially what they were first built for is geometrical inspections of jigs, tools, vehicle frames etc. For this type of work Romer are undoubtedly the world leaders due to their versatile models and extremely high accuracy.



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## Models

### Omega

The Omega range is the most economical of the Romer Arms. It's measuring range and consequently its accuracy varies throughout the 5 Omega models. The smallest and lightest of the Omega range, the Omega-2018, offers a length accuracy of  $\pm 50\mu$  and has a measuring range of 1.8m. Whereas the Omega 2052 offers the highest measuring range of 5.2m and has a length accuracy of  $200\mu$ . The Omega range is compatible with all of the Romer accessories.



### Flex

The Flex range has all the features of the Omega Arms with the additional benefit of higher accuracy and the option of selecting 2 out of a possible 10 configurations. The choice of selecting 2 arms of different lengths enables the user to decide between volume and accuracy for the span of parts to be measured. What makes the Flex even more versatile is that the arm lengths can be interchanged in less than 2 minutes. The Flex is ideal for with those with a varied volume and size range of products.

### Sigma

The sigma is the most accurate of all of the Romer Arms. With its very high resolution encoders, light weight carbon fibre body, and magnetic or mobile stand options, the Sigma is the ideal articulated arm for those who require high precision measurements. The Sigma range comes in a choice of 10 different sizes each with its own volume and accuracy specifications.



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