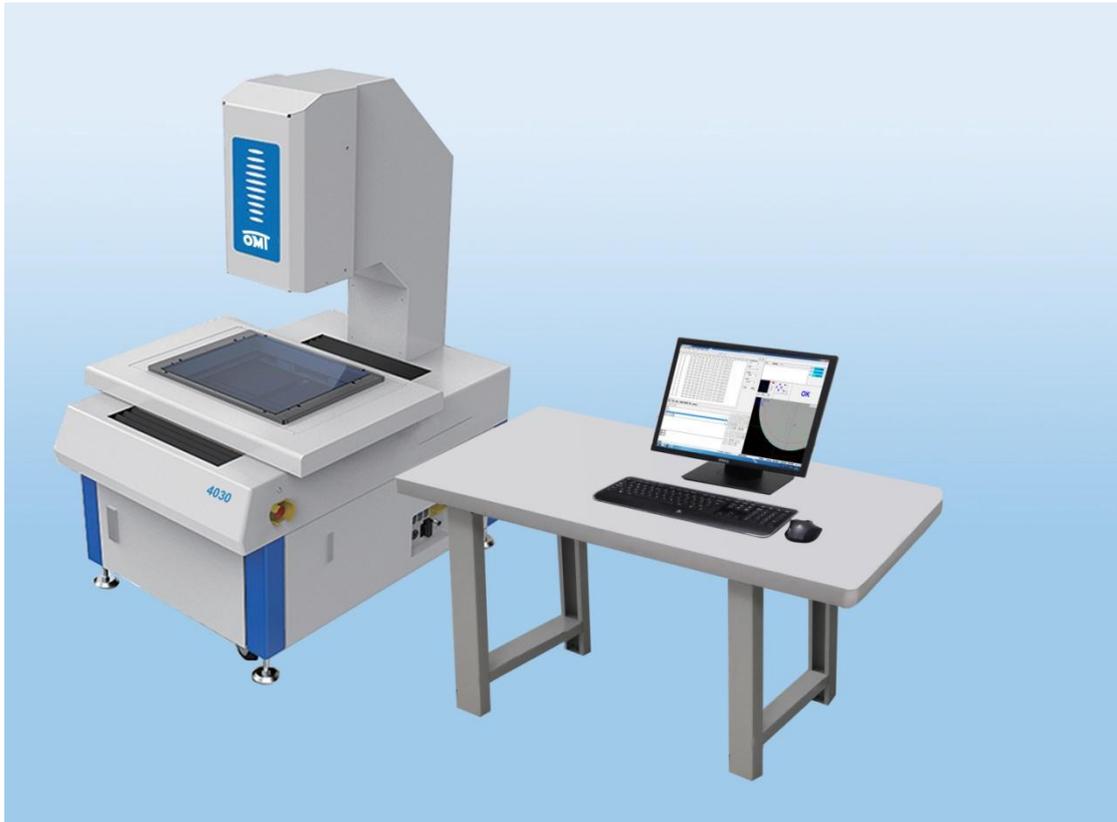


High Precision Optical Measuring System

Engineered in Germany



Company profile :

Measurement accuracy comes from top-level technology.

DT Intelligent Measurement Technology, a division of D-TEQ, headquartered in Eggenstein, Germany, is an engineering and research and development company specializing in precision measurement technology.

An organization committed to high-end product development in the field of precision geometry measurement.

DT has a series of high-precision optical measuring machines and three-dimensional co-ordinate testing equipment, designed to provide customers with bespoke measurement and testing solutions, enabling precision manufacturing enterprises to improve their product quality.

DT is committed to improving the quality of precision engineering in Germany. Through excellent technological innovation, comprehensive technological functionality and strict quality management, they have won unanimous praise from users in various engineering disciplines. By applying extremely high professional standards they have ensured that end-users achieve greater efficiency from excellent measurement solutions.

DT's product range can measure line-width, radius, R-angle, hole-spacing, flatness, position, concentricity and other line tolerance dimensions, resulting in the fast, efficient and accurate measurement of complex workpieces. Their technology is widely used in various industries and applications (e.g. automobile, medical, precision-moulding, 3C, electronics, battery and scientific research institutes).

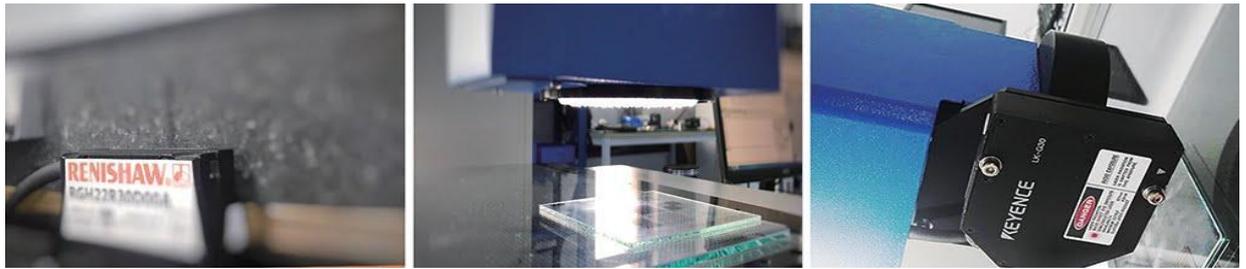
OMT-S Series Automatic Optical Measuring Machine :

This equipment offers a non-contact numerical control measurement vision system capable of detecting anomalies in stamping parts, injection parts, injection moulds, electronic parts and aspects commonly associated with screen printing.



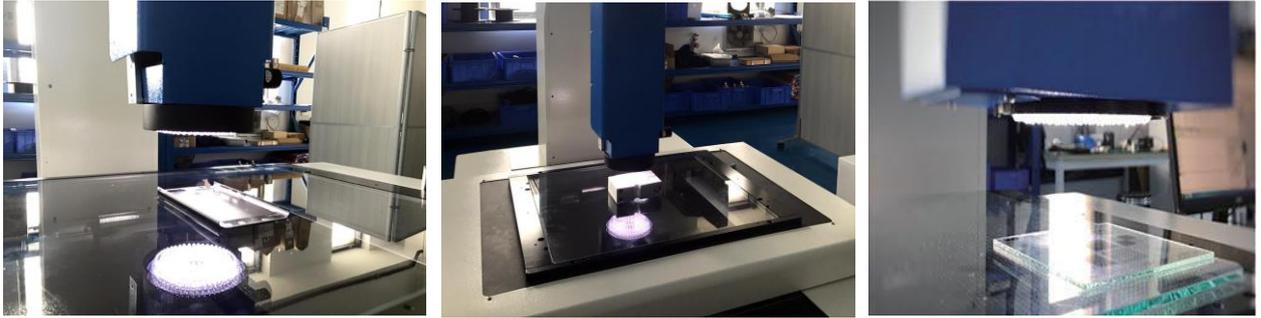
Technical features:

- Co-ordinate machine with compact ergonomic design, granite base and column
- Coaxial Photoelectric Zoom Using CCD Camera
- Adjustable light intensity
- Capable of storing multiple degrees of light intensity and amplification.
- Save and execute parts program in DCC mode
- Locating Laser Points in Measured Areas
- Measuring table is equipped with a photo-electric system, based upon an incremental scale, resolution ratio is 0.2um
- Calibration in fine-tuning mode and adjusting the magnification is via a control box button.



Technical specification:

| Model | | OMT-3020 | OMT-4030 | OMT-7060 |
|---|---|-------------------|--------------------|-------------|
| Maximum allowable error (µm) | Ex, y((L =mm)) | 2.0+L/200 | 2.0+L/200 | 2.5+4L/1000 |
| | Ez(L =mm) | 3.5+L/100 | 3.5+L/100 | 3.9+5L/1000 |
| Repetitiveness X/Y(2S) | ≤1 | | | |
| surface source | Eight area white LED | | | |
| on-axis light | White | | | |
| Bottom light source | White LED | | | |
| CCD | Colour CCD Camera, High Resolution Industrial Grade | | | |
| Load-bearing (Kg) | 20 | 20 | 30 | |
| Measuring range (mm) | 300 x 200 x 200 | 400 x 300 x 200 | 700 x 600 x 200 | |
| Overall dimension (mm) | 900 x 1010 x 1720 | 900 x 1210 x 1720 | 1510 x 1210 x 1420 | |
| Instrument weight (Kg) | 320 | 420 | 700 | |
| Ambient temperature conditions | | | | |
| Temperature | 18 ~ 22°C | | | |
| Temperature gradient | 1°C /h | | | |
| Temperature gradient | 2°C /24h | | | |
| Temperature gradient | 1°C /m | | | |
| Environmental Humidity Conditions | | | | |
| Humidity | 25-75 % | | | |
| Electrical requirements | | | | |
| Voltage | 115-230 V ± 10% | | | |
| frequency | 50/60 Hz | | | |
| Power dissipation | 600VA | | | |
| Reliable operation of electrical control devices requires good grounding (< 4Ω) | | | | |



Optical system :

DT provides three light sources for the systems: contour light, surface light and coaxial light. The light-source is flexible and adaptable and can therefore be tailored to different types of workpiece, to achieve high clarity and high measurement accuracy.

LED cold light source :

Minimal heat is generated by the LED cold light source, even after prolonged continuous operation (in excess of 1000 hours). This ensures that heat will not be transferred to the workpiece being measured, thereby mitigating any adverse effects on the item and ensuring absolute measurement accuracy.

Autofocus :

The system has excellent image formation capabilities as it collects multiple pictures when moving along the Z-axis. The captured images are then accessed by an algorithm designed to identify the clearest photos. The software has an auxiliary lighting function to ensure the optimum illumination.

Kinetic/motion control system :

The Motion control system is divided into a manual control system and a non-contact ('NC') automatic control system. This has strong anti-electromagnetic interference characteristics with excellent shielding for fast, accurate and stable positioning performance, capable of achieving positioning accuracy to within 2 mm.

Precision hardware :

In the field of industrial manufacturing processes, precision hardware (typified by supporting products, semi-finished products and tooling) is experiencing exponential demand. Ongoing product innovation and intense market competition, means that hardware manufacturers are required to provide large-scale automated production of ever more complex products.



DT advanced measurement and software technology, is a stable path to continual refinement, automation and high-speed manufacturing



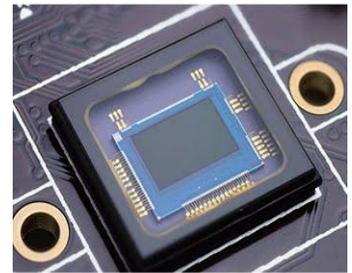
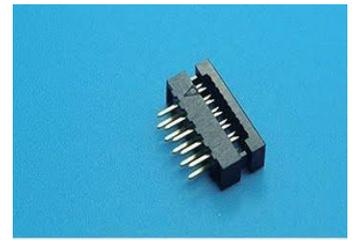
Researching and Development Team



Production and Assembly Workshop

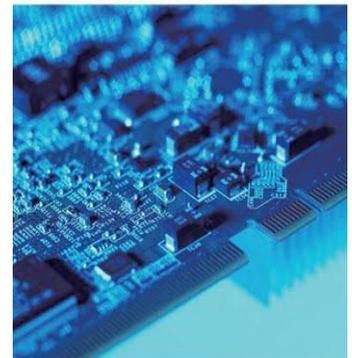
Magnetic material industry :

Historically, because of their very nature, it has been difficult to obtain accurate measurements from large volumes and small volumes of magnetic materials. How to achieve; fast, on-line and full inspection of such magnetic material during the production process is fraught with problems. DT has resolved this issue by developing an innovative measuring instrument to meet the needs of customers. A simple "push button" solution to measure multiple workpieces simultaneously and which outputs the data to a nominated table.



Mould manufacture industry :

The process of machining parts is prone to defects such as missing edges, incorrect angles, etc. We have therefore generated our independent development function algorithm for "R angle measurement" with boundary extraction functions, such as deburring and automatic edge grabbing.



When using a light source with parallel backlight, there is no associated shadow meaning that the contours are clearly visible. With AR, the contour extraction of cylindrical products is no longer a problem, making the measurement more accurate.



Precision Processing Industry :

Advancements in the electronic manufacturing industry mean that technological standards for electronic products are constantly rising. In order to survive in this fiercely competitive market, enterprises must strive to improve product quality so as to retain, or attain a competitive advantage. Quality has become the most effective weapon to ensure market pre-eminence and is a powerful motivating force for social development. We can implement measurement solutions in the electronic industry which can effectively improve their manufacturing processes whilst significantly reducing the underlying investment in testing and manufacturing overheads.

Mobile Electronics Industry :

In the 21st century, mobile phone users are upgrading their phone models much more frequently. Improvements in electronic manufacturing standards have resulted in improvements in the quality of mobile phones.

This is evident in the fact that many mobile phones are now comparatively water-proof, a criteria which has become increasingly sought after by customers. The accuracy of the mobile phone shell is the product of many mobile phone shell processors.

This is only possible through a great deal of measurement work which has been undertaken to ensure, and manage, the accuracy of mobile phone shell manufacture.

