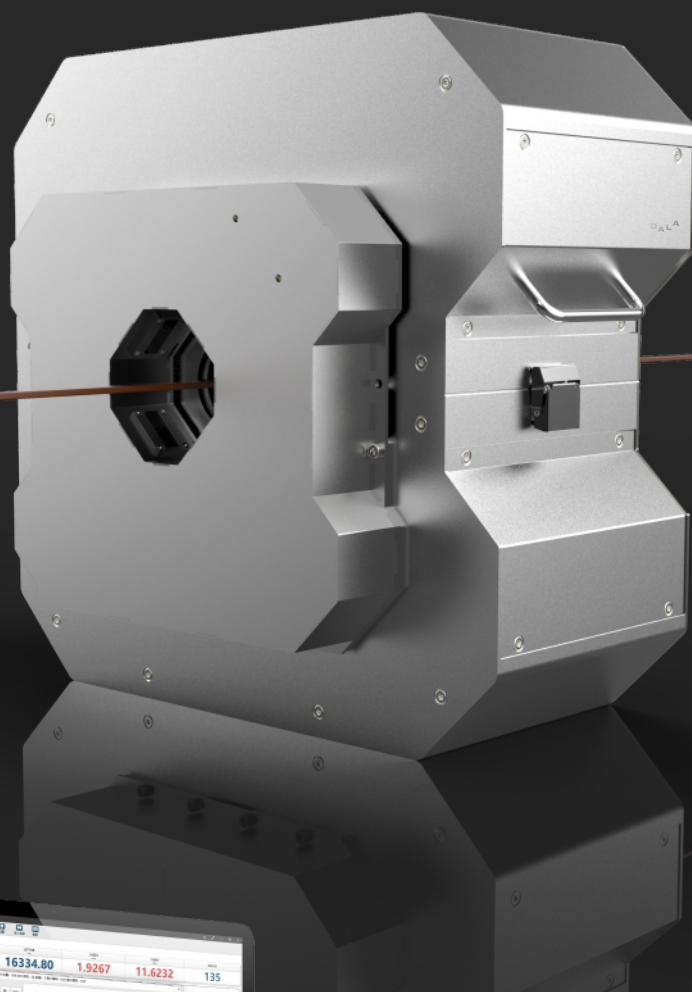


DAL^A

Surface Quality Inspection Systems

CV-2000 Series



One system can achieves

- Precision Cable Measurement
- Defect Detection
- 360° Surface Defect Detection

Product introduction

SCreate DALA's all new CV-2000 series is an ideal system for object size measurement and continuous in-line surface defects inspection, meeting the current market demand for in-line surface quality inspection of extruded products such as wires, hose and cables.

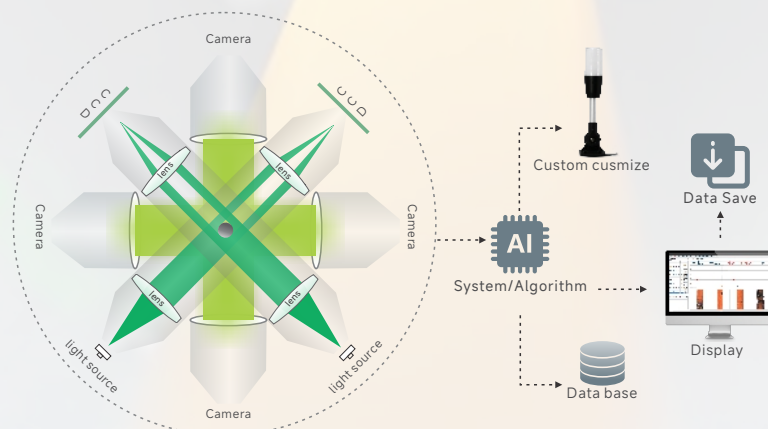
It is particularly suitable for surface quality inspection of enameled copper wires, wires and cables, hose, etc. It can detect defects such as burns, missing coating, scratches, lumps & necks, wrinkles, tears, colour difference, bubbles, cracks, holes, etc.

With CV-3000 series you can be certain your products can meet high quality standards requirements and increase customer satisfaction

Measurement principle

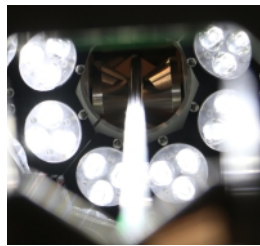
Surface quality inspection systems consist of high-resolution cameras and high brightness illumination light sources, forming a dark field or bright field machine vision to capture the image of high speed movement object.

Multiple cameras achieve 100% surface image acquisition, and then use pre-trained machine to learn and process collected images so as to identify and clarify various defects.



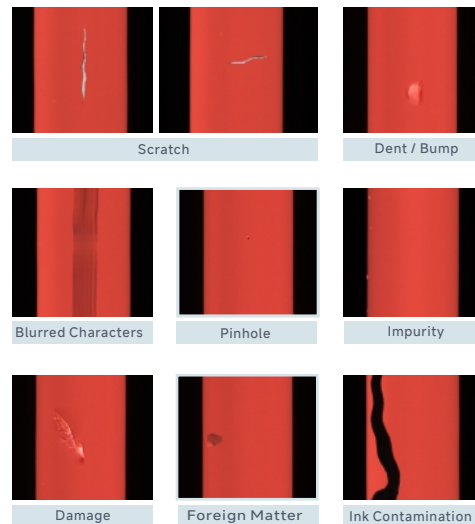
Key characteristics

- * one device enables precise dimensional measurement and 360° surface defect inspection .
- * Integrated solution combining dimensional measurement, lumps /necks detection, and 360° surface defect inspection.
- * Dual-axis 80 kHz high-speed dimensional measurement with lumps /necks detection.
- * 4× 100 kHz color line-scan cameras expand inspection coverage.
- * AI-driven vision algorithms reduce missed and false detections, speeding deployment and lowering costs.
- * Advanced defect classification improves inspection accuracy.
- * Complete data logging (trends, statistics, defects) for analysis and traceability.
- * Customizable alarms based on defect type and size.
- * Industrial-grade design with reliable electrical, imaging, cooling, and software systems for long-term stability.
- * User-friendly design with vertical opening and motorized lift for easier operation and maintenance.



Application field

Enamelled copper wire defects clarification



In-line continuous defects inspection

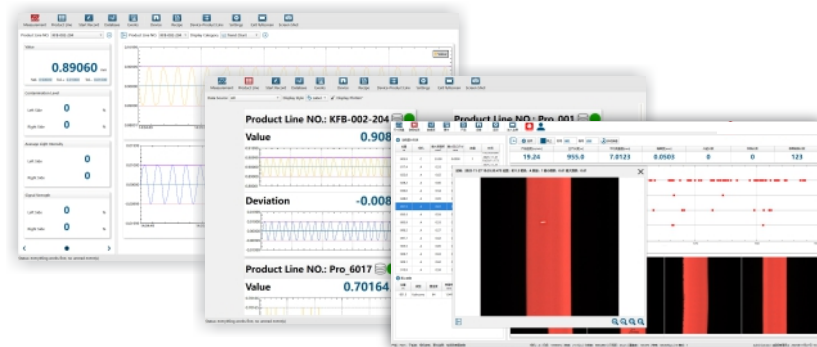
Assist your products free from defects,ensuring high quality.

Defects auto clarification & customize alert

CV-2000 visual surface inspection system provides the operator with comprehensive and continuous real-time digital image feedback of your products on production line. This result allows you to identify and isolate the causes of surface defects and prevents customer complaints and unnecessary loss.

The system support defects inspection clarification.At the meantime,operator can define alert levels based on defects type, defect size etc, assisting the operator to solve the causes of defects in time, so as to reduce scraps and rejects.

Defects details will be saved ,such as defect images, defect locations, defect sizes,defects types for quality traceability.They also can be included in quality reports for internal or external use.



More Comprehensive Quality Assurance System

More dimensional measurements,assisting you to improve product quality

High precision dimensional and defects

CV-2000 series provide both high speed and high accuracy dimensional measurements as well as lumps and necks detection,ensuring the operator to fast find and handle quality problems caused by dimensions.

The real-time feedback of dimensional information and surface defects information is a more comprehensive quality assurance system,assisting the operator to make faster judgmental decisions on production line quality,simplifying QA process.



Surface Quality Inspection Systems

Technical specifications

Model		CV-2025Q	CV-2040Q
Measurement Range	Visual	0.2~25mm	0.5~40mm
	Size	0.2~25mm	0.5~65mm
Size Measurement	Axis and frequency	2-Axis,80KHz/Axis	2-Axis,46KHz/Axis
	Repeatability	$\pm 0.1\mu\text{m}^{(1)}$	$\pm 0.25\mu\text{m}^{(1)}$
	Accuracy	$\pm 2\mu\text{m}^{(2)}$	$\pm 4\mu\text{m}^{(3)}$
Surface defects Measurement	Surface Inspection	4-channel 100 kHz color line-scan cameras with 360° surface coverage	
	Miss Rate / False Detection Rate	<1% ⁽⁴⁾	
	Minimum defect size	Related to cameras, optical lens and production line speed , minimum to size of 0.05mm can be achieved ⁽⁵⁾	
Lump & Neck Measurement	Min defect height	0.02mm	0.04mm
	Min defect length	0.05mm@240m/min; 0.2mm@960m/min	0.1mm@280m/min; 0.2mm@560m/min; 0.5mm@1400m/min
	Output Data	Defect Type, Size, Length, Position	
Maximum Line Speed Supported		Depends on camera and lens configuration as well as minimum defect size; can be adapted for scenarios with line speeds below 200 m/min	
Electrical interface		Digital output (relay),digital input	
Communication interface		RS485(MODBUS RTU)、TCP/IP、USB	
Power supply		100 - 240VAC, 50/60Hz, Max.1000W	
Working temperature		5~45°C	
Weight		About 20kg(measuring head); About 60kg(all)	About 32kg(measuring head); About 72kg(all)
IP grade		IP52	

Note: (1)Set average time to 0.1s and measure the $\pm 2\sigma$ value of the $\phi 1\text{mm}$ round rod at the measurement area center;

(2)Move $\phi 10\text{mm}$ round rod in the measurement area of $8*8\text{mm}$ and conduct measurement error;

(3)Move $\phi 20\text{mm}$ round rod in the measurement area of $20*20\text{mm}$ and conduct measurement error;

(4)related to measurement requirements , need on site adjustment.

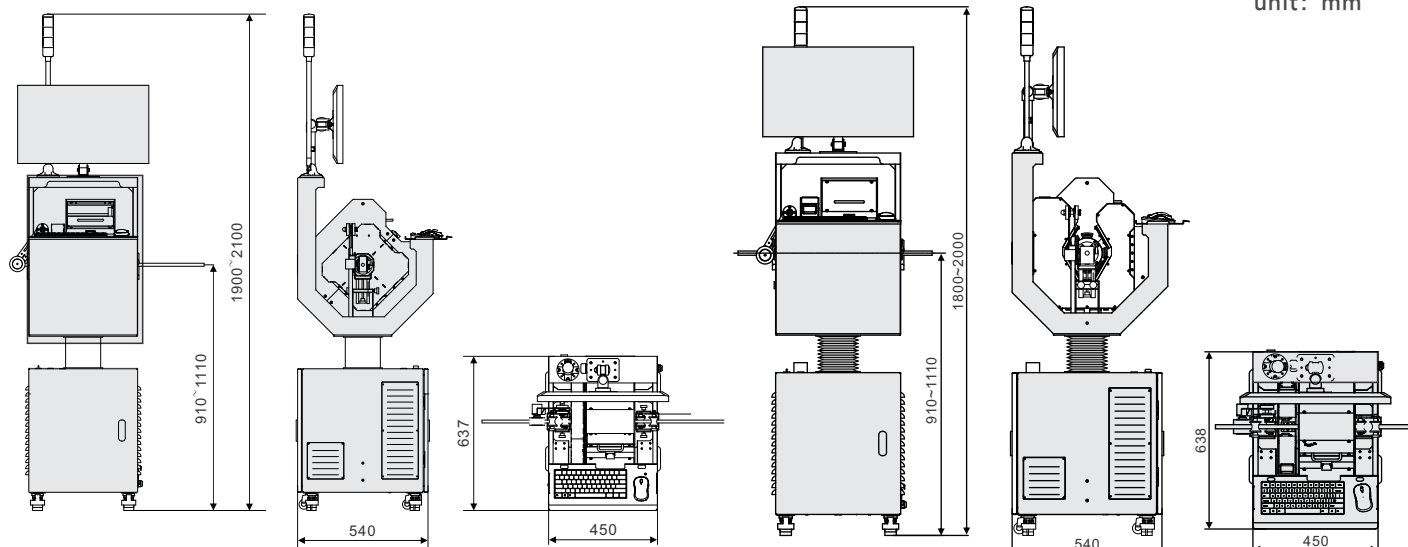
(5)At 1× magnification, defects as small as 0.05 mm can be detected, with reduced maximum line speed and measurement range depending on the camera, lens, and line setup.

Size

CV-2025Q

CV-2040Q

unit: mm





www.dalamet.com

Web.: www.dalamet.com

Tel.: +86 28 85838313

E-mail: Ellen@screate-tech.cn

Address: B2-2, No.8 of Electronic Science Park, Wulian
1st Road, Shuangliu District, Chengdu, 610225 China

©2026 DALA Metrology

