



Make it better.

INSPECTION TECHNOLOGIES

**Better  
quality.**

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# Welcome to ACG.

We know how hard it can be to get better. That's why, for sixty-five years, we've been getting better at helping make people better.

ACG is a privately owned enterprise that takes a long term relationship approach to business. We believe that everything works better when people work better together.



# Everyone on Earth deserves access to better health.

With a presence in 138 countries on six continents, ACG is now the world's largest integrated supplier of components and solutions for enabling the manufacturing of solid dosage forms. We provide hard-shell capsules, barrier packaging materials, manufacturing machinery, and fully integrated traceability solutions.



## Inspection technologies

Our inspection technologies visually examine for product defects and packaging details across varied formats. Together with our product integrity and process control systems, they ensure consistent quality, and reduce the risk of costly downstream interventions.

## Track & trace

By connecting serialisation, aggregation and data management, our traceability systems unlock end-to-end supply chain visibility. Both hardware and software are developed side-by-side to help you comply with all major global regulations. This full-stack capability also unlocks seamless L1 to L5 architecture integration.

## Machinery

ACG provides a full spectrum of oral dosage manufacturing equipment. Our global design team takes a customer-led approach, and we're renowned for exceptional after-sales service.

## Capsules

With 'reliability' at the centre of our Capsules business ethos, ACG offers both hard-shell gelatin and HPMC capsules. Our diverse capsule portfolio caters to your formulation needs, and with factories on three continents, we have the scale and reach to guarantee a secure supply to almost anywhere on the planet.

## Packaging materials

We supply the world's most extensive range of barrier packaging films and foils, with almost everything produced in-house for better market supply and quality control. Our team of experts is available to provide a perfect solution for your needs.

# Everywhere you need us.



- GLOBAL OFFICES
- MANUFACTURING FACILITIES
- ▲ WAREHOUSES
- AGENTS
- NEW / EXPANDING ACG FACILITIES

# Everything capsules. Everything tablets.

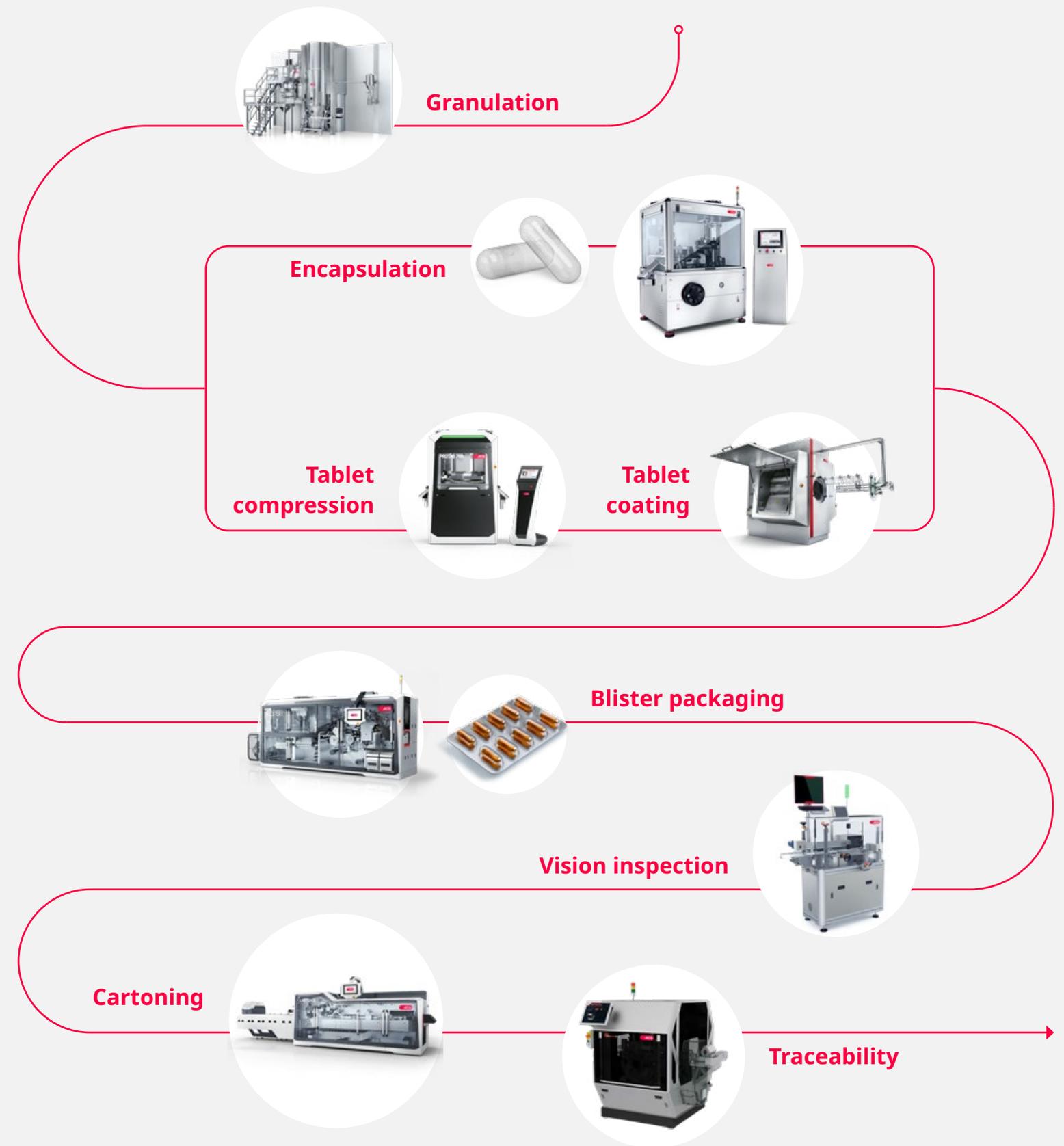
**We don't just provide pharmaceutical machinery, but everything you need to run your production efficiently.**

Since 1961, ACG has been the global specialist in oral solid dosage (OSD) manufacturing.

Aligned to this, we offer an unmatched range of products and services – from empty hard shell capsules, to granulation and capsule-filling machines, to tablet compression and coating equipment, to packaging materials, packaging machinery and inspection and supply chain traceability solutions.

Our holistic approach to working with every element of the OSD manufacturing ecosystem means only ACG has knowledge of how each product and service impacts the other. Therefore, only we can provide properly considered guidance on improving productivity and efficiencies across an OSD production line.

Whether you have a greenfield OSD-manufacturing project, or are simply thinking of expanding, there is no better partner to consult than ACG.



# Welcome to ACG inspection technologies.

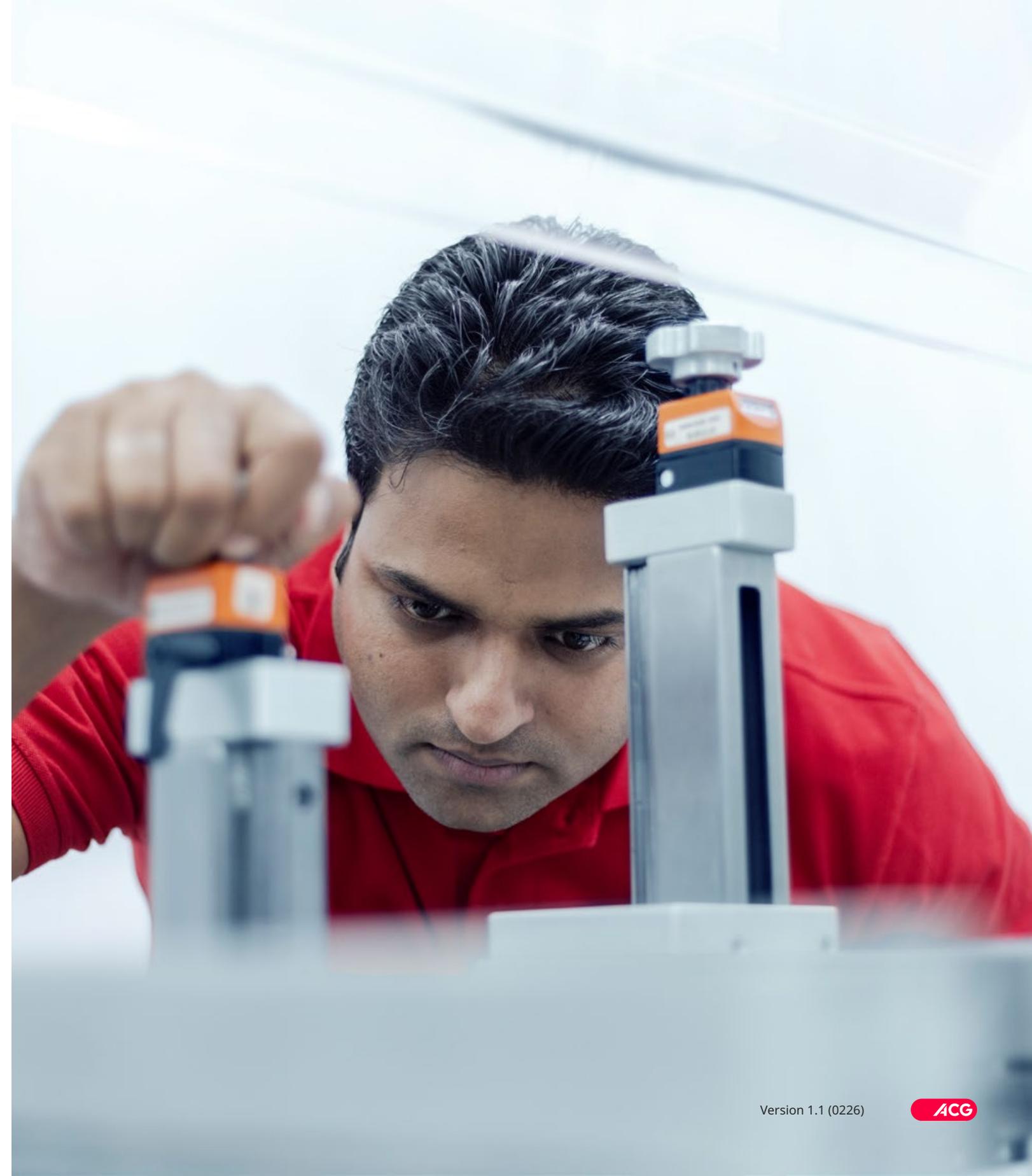
## **Better quality makes it better.**

Every product that passes through your production line carries a responsibility, and our inspection technologies are designed to make that responsibility easier to uphold.

Our vision inspection suites, equipped with advanced cameras, can detect even the slightest defects, ensuring every tablet, capsule, and blister pack is defect-free. Seamlessly integrated with a range of packaging and production equipment, these systems strengthen your control and consistency at every step.

But true assurance goes beyond what meets the eye. That's why our product integrity and process control technologies safeguard what lies within: weighing every capsule, detecting trace metals, sorting with precision, and ensuring that every product is cleaned and perfectly finished.

Together, these technologies create a complete ecosystem of safety that builds confidence across your operations.



# What makes ACG's inspection technologies better?

1

### AI-powered blister inspection

ACG's blister inspection systems incorporate AI technology, providing a quantum leap forward in defect detection accuracy, especially with low contrast product and foil combinations.

Training the system requires almost zero human involvement, and the machine keeps learning new behaviours from itself (deep learning). Existing machines can even be used to train new ones.

2

### Hardware and software engineered together for scalability

From precision inspection systems to advanced serialisation and aggregation, we deliver seamlessly integrated platforms.

This end-to-end full-stack capability ensures higher reliability, easier compliance, and smoother scalability, making us one of the few global providers with complete control across hardware and software.

3

### An integrated approach to packaging

As the world's only integrated oral solid dose solution provider (having Capsules, Engineering, Packaging Materials and Inspection divisions), ACG can offer you a service that nobody else can. Our range of equipment and consumables includes almost everything required to produce and pack solid dosage forms.

ACG offers a comprehensive portfolio of blister packaging materials and equipment. We also provide cartoning machines and track & trace solutions – so your packaging line can be procured almost entirely from a single source.



# An overview of our equipment.



**Vision-based product inspection**  
Vision inspection systems for tablets and capsules.



**Vision-based packaging inspection**  
Vision inspection systems for blister packs, labels and codes.



**Product integrity and process control**  
Capsule check-weighing, sorting, metal detection, de-dusting, polishing machines.

# Introducing ACG vision-based product inspection.

Every tablet or capsule that reaches patients is a promise of better health.

Our vision-based product inspection systems help you deliver on your commitment to quality.

By bringing camera-driven scrutiny to tablets and capsules, they detect defects like cracking, chipping, spotting, crushing and missing cap / body. Designed to work alongside your existing processes, they ensure tighter control, less downtime, and fewer interventions downstream.



# Our product inspection systems at a glance.

Product	Applications
VISITAB MH series	360° vision-based inspection covering top, bottom, lateral and edge areas of tablets, with cylindrical segments and domes of capsules
VISITAB M series	360° vision-based inspection covering top, bottom, lateral and edge areas of tablets
QualiShield® TC series	Vision-based bulk inspection of tablets and capsules



# VISITAB MH series

## VISION-BASED TABLET AND CAPSULE INSPECTION

The VISITAB MH series offers the highest quality tablet and capsule inspection in a single machine. It's a vision-based turnkey system designed in compliance with pharmaceutical industry requirements for quality control of tablets and capsules.

### Applications

360° vision-based inspection covering top, bottom, lateral and edge areas of tablets, with cylindrical segments and domes of capsules



Features	Benefits
10 new-generation colour cameras with diffuse lighting and inspection angles specially optimised for tablets	A multi-view system covering top, bottom, lateral and edge areas of tablets, guaranteeing 360° inspection of all cosmetic defects
Two 3D laser sensors for improved laser vision	Accurate tablet surface analysis, covering cracks, embossment, thickness defects, coating, and engraving integrity
10 new-generation colour cameras with reflection-free lighting and optimised inspection angles for capsules	A multi-view system covering the cylindrical parts and the domes of capsules  Reflection-free lighting ensures the perfect environment for defect analysis
A dedicated conveyor system for tablets with an anti-jamming feeding system	Capable of inspecting a wide range of tablet shapes
A dedicated conveyor system for capsules with static-free tooling and a grooved conveyor belt	Inspects capsules ranging from size 00 to 5
All format parts included for tablet feeding	Plug-and-play tooling with minimal storage requirements
Intuitive configuration with template-based set-up and automatic learning system	Easy to use and can be set-up in 30 minutes
Compliant with 21 CFR Part 11	Regulatory-compliant and audit-friendly

### Technical specifications

	VISITAB 1-MH	VISITAB 2-MH	VISITAB 3-MH
<b>Tracks</b>	1 track	1 track with vacuum	2 tracks with vacuum
<b>Configuration</b>	20 cameras + 2 lasers	20 cameras + 2 lasers	40 cameras + 4 lasers
<b>Maximum speed</b>	150,000 tablets / hr	300,000 tablets / hr	600,000 tablets / hr
	65,000 capsules / hr	130,000 capsules / hr	260,000 capsules / hr
<b>Tablet shapes</b>	All shapes	Flat and slightly convex	Flat and slightly convex
<b>Tablet defects detected</b>	Cracks, chips, spots, breaking, surface defects, printing, thickness, engraving		
<b>Capsule sizes</b>	00 – 5	00 – 5	00 – 5
<b>Capsule defects detected</b>	Open capsules, dents, crushing, telescoping, spots, printing, length		
<b>Regulatory compliance</b>	Compliant with 21 CFR Part 11		

# VISITAB M series

## VISION-BASED TABLET INSPECTION

The VISITAB M series offers the highest-quality tablet inspection, with new-generation colour camera and Blu-ray laser technology. It's a vision-based turnkey system designed in compliance with pharmaceutical industry requirements for quality control of tablets.

**Applications**  
360° vision-based inspection covering top, bottom, lateral and edge areas of tablets



Features	Benefits
10 new-generation colour cameras with diffuse lighting and inspection angles specially optimised for tablets	A multi-view system covering top, bottom, lateral, and edge areas of tablets, guaranteeing 360° inspection of all cosmetic defects
Two 3D high-resolution laser sensors per track for improved laser vision	Accurate tablet surface analysis covering cracks, embossment, thickness defects, coating, and engraving integrity
High-speed inspection	Sorts up to 600,000 tablets per hour
All format parts included for tablet feeding	Plug-and-play tooling with minimal storage requirements
Two high-speed vacuum tracks with anti-jamming feeding mechanism	Feeds complex-shaped tablets, including flat and semi-convex tablets ranging from 5 mm to 13 mm width / diameter
Intuitive configuration with template-based set-up and automatic learning system	Easy to use, and can be set-up in only 30 minutes
Compliant with 21 CFR Part 11	Regulatory-compliant and audit-friendly

### Technical specifications

	VISITAB 1-M	VISITAB 2-M	VISITAB 3-M
<b>Tracks</b>	1 track	2 tracks	2 tracks with vacuum
<b>Configuration</b>	10 cameras + 2 lasers	20 cameras + 4 lasers	20 cameras + 4 lasers
<b>Maximum speed</b>	150,000 tablets / hr	300,000 tablets / hr	600,000 tablets / hr
<b>Tablet shapes</b>	All shapes	All shapes	Flat and slightly convex
<b>Tablet defects detected</b>	Cracks, chips, spots, breaking, surface defects, printing, thickness, engraving		
<b>Regulatory compliance</b>	Compliant with 21 CFR Part 11		

# QualiShield® TC series

## VISION-BASED TABLET AND CAPSULE INSPECTION

A high-resolution colour camera-based bulk inspection system for tablets and capsules, powered by advanced rejection verification technology. Compact, easy to install, and designed to seamlessly integrate or retrofit with any standard bottle counting / filling line, the QualiShield® TC series brings uncompromising accuracy and reliability to your production floor.

**Applications**  
Vision-based bulk inspection of tablets and capsules



Features	Benefits
Auto-teach time of less than 5 minutes for first-time learning	Reduces training needs and saves valuable operator time
Individual track-suction rejection mechanism for multiple tracks	Guarantees inspection of every single tablet and capsule, ensuring no compromise on product quality or patient safety
Multiple rejection mechanisms as per requirement (online suction-based individual track-wise, bottle rejection and machine stop)	Provides flexibility to choose the rejection method that best fits your production setup, reducing downtime and ensuring smooth operations
Software-based rejection verification with an interlock mechanism	Two levels of verification that ensure complete accuracy in rejection, safeguarding against defective products slipping through and giving you total confidence
Built-in powder suction feature	Ensures accurate inspection of uncoated tablets
HEPA filter-based air suction unit with collection bin	Safe rejection handling Defective tablets / capsules are securely collected without contamination risks
Compliant with 21 CFR Part 11 and EudraLex Volume 4: Annex 11	Regulatory-compliant and audit-friendly

### Technical specifications

	TC10	TC20
<b>Channel configuration</b>	1 × 12 track	1 × 16 track
<b>Eject system</b>	12 pipe	16 pipe
<b>Product types inspected</b>	Single coloured tablets, bilayered tablets, printed capsules, soft and hard capsules	
<b>Defects detected</b>	Different tablets or capsules, breaks, cracks, wrong size, shape, or colour, damaged coating, foreign objects, black spots, missing capsule cap or body	
<b>Reporting</b>	Batch summaries, defect classification, image-based defect logs	
<b>Safety and interlocks</b>	Safety guarding, emergency stop switches, access-door interlocks, real-time fault monitoring	
<b>Regulatory compliance</b>	Compliant with 21 CFR Part 11 and EudraLex Volume 4: Annex 11	

# Introducing ACG vision-based packaging inspection.

**Packaging doesn't just  
protect products.**

It also protects trust.

To detect packaging inconsistencies and defects earlier, our vision-based inspection systems apply camera-driven scrutiny across blister packs, foils, and printed carton data. That way, you can reduce the risk of compliance gaps and recalls downstream, while upholding patient trust.



# Our packaging inspection systems at a glance.

Product	Applications
QualiShield® BS series	Vision-based inspection of tablets, hard capsules and soft gel capsules in blister packs
QualiShield® BS-AI series	Inspection of blister-packed tablets, hard, soft, and printed capsules, especially in low-contrast and complex product-foil combinations
QualiShield® PH series	Detection of pinholes, micro-leaks, and integrity failures in forming and lidding foils without damaging the material
QualiShield® CV series	Printing and inspection of codes / labels on formed and unformed cartons
QualiShield® CL series	Inspection of fill level and cap closure integrity for vials and bottles



# QualiShield® BS series

## VISION-BASED BLISTER INSPECTION

The QualiShield® BS series includes our high-tech blister inspection systems, which integrate seamlessly with various blister-packaging machines. It's designed to detect the full range of potential product defects in blister packs to ensure you meet stringent quality standards.

The QualiShield® BS series also supports the integration of multiple cameras in a single controller, plus an additional camera for barcode, pharmacode or batch-detail inspection.

**Applications**  
Vision-based inspection of tablets, hard capsules and soft gel capsules in blister packs



Features	Benefits
Advanced capabilities that support pocket detection within the field of view (FOV) and threshold range detection	Significantly lower 'teaching' time
User-friendly GUI with multiple language support	Easy to access and user-friendly
Categorised representation of rejection quantities	Summarises large datasets in accessible visual formats
Configurable user rights and compliant with 21 CFR Part 11	Regulatory-compliant and audit-friendly
Plug-and-play installation	Quick and error-free installation

### Technical specifications

	BS11	BS12	BS13	BS14	BS15	BS20	BS30	BS40	BS50
<b>Inspection area (FOV)</b>	240 mm × 150 mm (top access)	240 mm × 150 mm (front access)	280 mm × 170 mm (front access)	240 mm × 150 mm (front access)	300 mm × 195 mm (top access)	260 mm × 200 mm (front access)	320 mm × 300 mm (front access)	260 mm × 80 mm	260 mm × 150 mm
<b>Maximum speed</b>	200 inspections / min								
<b>Product types inspected</b>	Single and multi-coloured tablets, single and multi-coloured capsules, multi-products, printed capsules, printed tablets, soft gelatine capsules								
<b>Base foil types inspected</b>	Clear PVC, opaque PVC, coloured PVC, aluminium foils								
<b>Defects detected</b>	Crushed product, cracked product, orientation, 'only cap', 'only body' Powdered product, visible product shade variations Deviation of size, form or shape								
<b>Regulatory compliance</b>	Compliant with 21 CFR Part 11								

# QualiShield® BS-AI series

## VISION-BASED BLISTER INSPECTION

Unlike conventional systems that rely on threshold-based image processing with high dependency on product-foil contrast, the QualiShield® BS-AI series works on sophisticated anomaly detection algorithms that eliminate this limitation.

By removing the dependency on product-foil contrast, this AI-powered series delivers superior inspection reliability across diverse packaging materials and product types, ensuring consistent quality control. By automating inspections, and learning from production data, it maximises efficiency, minimises product defects, and reduces the risk of costly recalls.

**Applications**  
Inspection of blister-packed tablets, hard, soft, and printed capsules, especially in low-contrast and complex product-foil combinations



Features	Benefits
Advanced AI/ML capabilities that support automatic pocket detection within the field of view (FOV) and threshold range detection	Significantly lower 'teaching' time, reducing the need for trained operators
High-speed inspection capabilities with an impressive teach time of just 2-3 minutes for any product-foil combination	Translates to high OEE
Optimised for the inspection of challenging surfaces (like white-on-white and grey-on-grey products) where standard systems often fall short	Ensures consistent quality control for complex products, reducing the risk of overlooked defects
Auto-teach and auto-adjust functions accommodate variations (such as foil shades)	Simplifies the inspection process, enabling quick setup and creation of models
Creates heatmaps that clearly indicate defect-prone areas	Provides insight into recurring trends
Integrated LDAP for centralised user access control	Facilitates a secure, streamlined approach to user management, enhancing system security and making it easier to control access
Compliant with 21 CFR Part 11 and EudraLex Volume 4: Annex 11	Regulatory-compliant and audit-friendly

### Technical specifications

<b>Model</b>	BS12-AI
<b>Inspection area (FOV)</b>	240 mm × 150 mm
<b>Maximum speed</b>	200 inspections / min
<b>Product types inspected</b>	Single and multi-coloured tablets, single and multi-coloured capsules, multi-products, printed capsules (single and multi-colour), printed tablets, soft gelatin capsules
<b>Base foil types inspected</b>	Clear PVC, opaque PVC, coloured PVC, aluminium foils
<b>Defects detected</b>	Missing products, spot on products, broken tablets Different colour products, different products, different shape, different shade Double product, powder with tablets, foreign particle with product Crack in tablets, chip in tablets, double capping in capsule, powder in cavity
<b>Reporting</b>	Batch and defect reports with image capture, defect categorisation, and trend analysis
<b>Safety and interlocks</b>	Integrated safety enclosures, emergency stop switches, and access-door interlocks
<b>Regulatory compliance</b>	Compliant with 21 CFR Part 11 and EudraLex Volume 4: Annex 11

# QualiShield® PH series

## VISION-BASED PINHOLE DETECTION

Our state-of-the-art scanning system is a non-destructive pinhole detection solution designed specifically to detect surface imperfections on aluminium foils. It detects pinholes, micro-leaks or pores anywhere in the inspection window, inspects base aluminium foils after forming, and checks lidding foils before sealing. And you can tailor it to the full range of format sizes available on blister-packaging machines.

### Applications

Detection of pinholes, micro-leaks, and integrity failures in forming and lidding foils without damaging the material



Features	Benefits
<ul style="list-style-type: none"> <li>Detects pinholes with diameters as small as 25 µm</li> <li>Detection sensitivity is adjustable to user requirements</li> </ul>	100% real-time inspection of pores, fissures and pinholes on lidding and base foils
<ul style="list-style-type: none"> <li>Compatible with aluminium foils of different widths and lengths</li> </ul>	Assured performance, irrespective of aluminium foil types and sizes
<ul style="list-style-type: none"> <li>Supports EudraLex Volume 4: Annex 11 compliance</li> </ul>	Regulatory-compliant and audit-friendly
<ul style="list-style-type: none"> <li>Can be set up for production and perform validation at the click of a button</li> </ul>	User-friendly and compatible with a wide range of blister-packaging machines

### Technical specifications

		PH10	PH20	PH21	PH30	PH31	PH40	PH41
<b>Machine dimensions (with standard mounting)</b>	<b>Length</b>	321 mm	366 mm	370 mm	366 mm	366 mm	460 mm	490 mm
	<b>Width</b>	63 mm	63 mm	63 mm	63 mm	63 mm	63 mm	63 mm
	<b>Height</b>	323 mm	323 mm	323 mm	323 mm	323 mm	323 mm	323 mm
<b>Inspection area (FOV)</b>		200 mm	240 mm	260 mm	300 mm	290 mm	320 mm	380 mm
<b>Type of packaging material inspected</b>		Aluminium foil (non-transparent)						
<b>Reporting</b>		Leak detection results, batch summaries and quality trends						
<b>Safety and interlocks</b>		Safety guards, emergency stop switches and controlled access points						
<b>Regulatory compliance</b>		Compliant with EudraLex Volume 4: Annex 11						

# QualiShield® CV series

## VISION-BASED CODE AND LABEL INSPECTION

The QualiShield® CV series is a high-speed, high-resolution, multi-colour, camera-based solution for inspection of a variety of data, including barcodes, pharmacodes, 2D codes, batch details, and much more – on inspection media such as cartons, labels, leaflets, foils, tubes, and many others.

You can install it on any carton- or blister-packing machine, and it's retrofittable to a wide range of bottling, cartoning and manual packaging lines. The CV series can be integrated with various types of cameras, based on different needs.



Product	Applications
QualiShield® CV10	Printing and inspection of formed cartons with online rejection
QualiShield® CV20	Printing and inspection of formed cartons with online rejection in compact setups
QualiShield® CV30	Printing and inspection of unfolded cartons with online rejection
QualiShield® CV40	Pharma code inspection and rejection of leaflets and booklets
QualiShield® CV50-AI	Inspection and verification of printed text and codes on pharmaceutical packaging
QualiShield® CV50 (1 camera)	Inspection of pharma codes, barcodes and OCR / OCV on cartons, leaflets, and booklets
QualiShield® CV51 (2 cameras)	
QualiShield® CV52 (3 cameras)	
QualiShield® CV53 (4 cameras)	
QualiShield® CV60	Offline inspection of pharma codes, barcodes, and OCV on flat cartons, leaflets, and pouches

# QualiShield® CV10

## VISION-BASED CODE AND LABEL INSPECTION

QualiShield® CV10 is an online carton-conveying system with an integrated printer and camera system. It's an ideal solution for printing and inspection of barcodes and pharma codes online, with optical character verification (OCV). You can integrate it seamlessly with any cartoning machine, or use it for manual carton feeding.

### Applications

Printing and inspection of formed cartons with online rejection



Features	Benefits
Speed of up to 300 cartons / min	Compatible with all cartoning machines
Encoder-based rejection system with lock-and-key rejection bin	Reduces the need to change speeds manually, as parameters are adjusted automatically to speed variations
Variable speed control	Set conveyor speeds manually according to output requirements
Compliant with 21 CFR Part 11	Regulatory-compliant and audit-friendly

### Technical specifications

<b>Machine dimensions</b>	<b>Length</b>	1210 mm	
	<b>Width</b>	1000 mm	
	<b>Height</b>	1672 ± 65 mm	
<b>Maximum speed</b>		300 cartons / min	
<b>Number of cameras</b>		1	
<b>Supported carton sizes</b>	<b>Minimum</b>	<b>Length</b>	65 mm
		<b>Width</b>	30 mm
		<b>Height</b>	15 mm
	<b>Maximum</b>	<b>Length</b>	200 mm
		<b>Width</b>	200 mm
		<b>Height</b>	150 mm
<b>Regulatory compliance</b>		Compliant with 21 CFR Part 11	

# QualiShield® CV20

## VISION-BASED CODE AND LABEL INSPECTION

QualiShield® CV20 is an online carton-conveying system with an integrated printer and camera system. It's an ideal solution for printing and inspection of barcodes and pharma codes online, with optical character verification (OCV). You can integrate it seamlessly with any cartoning machine, or use it for manual carton feeding.

### Applications

Printing and inspection of formed cartons with online rejection



Features	Benefits
Speed of up to 300 cartons / min	Compatible with all cartoning machines
Encoder-based rejection system with lock-and-key rejection bin	Reduces the need to change speeds manually, as parameters are adjusted automatically to speed variations
Variable speed control	Set conveyor speeds manually according to output requirements
Compliant with 21 CFR Part 11	Regulatory-compliant and audit-friendly

### Technical specifications

<b>Machine dimensions</b>	<b>Length</b>	600 mm	
	<b>Width</b>	750 mm	
	<b>Height</b>	1668 ± 65 mm	
<b>Maximum speed</b>		300 cartons / min	
<b>Number of cameras</b>		1	
<b>Supported carton sizes</b>	<b>Minimum</b>	<b>Length</b>	65 mm
		<b>Width</b>	30 mm
		<b>Height</b>	15 mm
	<b>Maximum</b>	<b>Length</b>	180 mm
		<b>Width</b>	90 mm
		<b>Height</b>	90 mm
<b>Regulatory compliance</b>		Compliant with 21 CFR Part 11	

# QualiShield® CV30

## VISION-BASED CODE AND LABEL INSPECTION

QualiShield® CV30 is an offline carton-conveying system, featuring an integrated printer and a camera system with optical character verification (OCV) capabilities. It is an ideal solution for printing and inspection of barcodes and pharma codes, where products are stacked in a feeder mechanism and passed one-by-one via conveyor belt for further printing and inspection.

### Applications

Printing and inspection of unfolded cartons with online rejection



Features	Benefits
Speed of up to 200 cartons / min	Compatible with all cartoning machines
Encoder-based rejection system with lock-and-key rejection bin	Reduces the need to change speeds manually, as parameters are adjusted automatically to speed variations
Variable speed control	Set conveyor speeds manually according to output requirements
Compliant with 21 CFR Part 11	Regulatory-compliant and audit-friendly

### Technical specifications

<b>Machine dimensions</b>	<b>Length</b>	1568 mm	
	<b>Width</b>	936 mm	
	<b>Height</b>	1828 ± 65 mm	
<b>Maximum speed</b>	200 cartons / min		
<b>Number of cameras</b>	1		
<b>Supported carton sizes</b>	<b>Minimum</b>	<b>Length</b>	60 mm
		<b>Width</b>	60 mm
	<b>Maximum</b>	<b>Length</b>	300 mm
		<b>Width</b>	200 mm
<b>Regulatory compliance</b>	Compliant with 21 CFR Part 11		

# QualiShield® CV40

## VISION-BASED CODE AND LABEL INSPECTION

QualiShield® CV40 is an offline leaflet and booklet conveying system with an integrated camera system. It's ideal for pharma code inspection where products are stacked in a feeder mechanism and passed one-by-one via conveyor belt for further inspection. CV40 also has separate bins for accepted and rejected products.

### Applications

Pharma code inspection and rejection of leaflets and booklets



Features	Benefits
Speed of up to 120 products / min	Compatible with all cartoning machines
Encoder-based rejection system with lock-and-key rejection bin	Reduces the need to change speeds manually, as parameters are adjusted automatically to speed variations
A sensor for stacking leaflets and booklets	Notifies the operator when leaflet feed is low, meaning fewer and shorter process interruptions
Compliant with 21 CFR Part 11	Regulatory-compliant and audit-friendly

### Technical specifications

<b>Machine dimensions</b>	<b>Length</b>	870 mm	
	<b>Width</b>	755 mm	
	<b>Height</b>	1922 ± 65 mm	
<b>Maximum speed</b>		120 products / min	
<b>Number of cameras</b>		1	
<b>Supported booklet size</b>	<b>Minimum</b>	<b>Length</b>	40 mm
		<b>Width</b>	25 mm
		<b>Height</b>	1.5 mm
	<b>Maximum</b>	<b>Length</b>	60 mm
		<b>Width</b>	60 mm
		<b>Height</b>	8 mm
<b>Supported leaflet sizes</b>	<b>Minimum</b>	<b>Length</b>	80 mm
		<b>Width</b>	25 mm
	<b>Maximum</b>	<b>Length</b>	180 mm
		<b>Width</b>	40 mm
<b>Regulatory compliance</b>		Compliant with 21 CFR Part 11	

# The QualiShield® CV50-AI

## VISION-BASED CODE AND LABEL INSPECTION

The QualiShield® CV50-AI is an intelligent, vision-based inspection system for verifying printed codes and text on labels, ensuring the accuracy, correctness, and readability of printed information on pharmaceutical packaging components.

### Applications

Inspection and verification of printed text and codes on pharmaceutical packaging



Features	Benefits
AI-enabled single-step auto-teach for OCV using a single ROI, compatible with all font types	One hardware and software solution for multiple uses, in a single setup
Multilingual OCV supporting English, Russian, Kazakh, Kyrgyz, Ukrainian and Chinese character sets	Compatibility with a wide range of industrial printers
Advanced OCV decoding for verification of tilted, distorted, and dot-matrix printed characters	Accurately and reliably captures details on labels such as batch and expiry, 1D barcodes, 2D Data Matrix codes, and pharma codes
Lens-integrated compact colour cameras with software-controlled focus	Can be integrated with continuous or intermittent machines
Configurable image library with storage capacity for up to 500 reference images	Enables rapid SKU changeovers and supports multi-product, multi-format production lines with minimal downtime
Intuitive graphical user interface (GUI) with multilingual support	Simplifies system operation across geographies, reduces operator training requirements, and minimises operational errors
21 CFR Part 11-compliant software architecture with secure user access control and electronic audit trails	Ensures regulatory compliance and simplifies batch review, traceability, and inspection documentation

### Technical specifications

<b>Maximum speed</b>	300 products / min
<b>Verification scope</b>	OCV Dot code verification 1D and 2D barcode verification Graphics and label inspection Presence, correctness, and orientation checks Print quality assessment
<b>Safety and interlocks</b>	Integrated safety enclosures, emergency stop switches, and access-door interlocks
<b>Reporting</b>	Batch-wise pass/fail reports, image-based inspection records, defect classification, and audit-ready documentation
<b>Regulatory compliance</b>	Compliant with 21 CFR Part 11

# QualiShield® CV50

## VISION-BASED CODE AND LABEL INSPECTION

QualiShield® CV50 is an online camera-based inspection system you can mount on any labelling, cartoning or blister-packaging machine. It accurately and reliably captures details such as batch and expiry, 1D barcodes, 2D Data Matrix codes, pharma codes – on inspection media including cartons, labels, foils, leaflets, tubes, and many others.

### Applications

Inspection of pharma codes, barcodes and OCR / OCV on cartons, leaflets, and booklets



Features	Benefits
Inspects contents of cartons, labels, foils, leaflets and tubes using a modular software architecture	One hardware and software solution for multiple uses, in a single setup
Supports printing in continuous inkjet, thermal inkjet, hot-stamping and thermal transfer overprinters (TTOs)	Compatibility with a wide range of industrial printers
A plug-and-play installation that supports all types of PLC rejection mechanism protocols	Accurately and reliably captures details on labels such as batch and expiry, 1D barcodes, 2D Data Matrix codes, and pharma codes
Fast and easy plug-and-play installation	Can be integrated with continuous or intermittent machines

### Technical specifications

<b>Inspection area (FOV)</b>	60 mm × 40 mm
<b>Number of cameras</b>	1
<b>Products that can be inspected</b>	Cartons, leaflets, labels, vials
<b>Maximum speed<sup>1</sup></b>	400 products / min

<sup>1</sup> Speed can vary according to the number of camera configurations, image saves, camera configurations (one or more), and product size.

# QualiShield® CV51

## VISION-BASED CODE AND LABEL INSPECTION

QualiShield® CV51 is an online camera-based inspection system you can mount on any labelling, cartoning or blister-packaging machine. It accurately and reliably captures details such as batch and expiry, 1D barcodes, 2D Data Matrix codes, pharma codes – on inspection media including cartons, labels, foils, leaflets, tubes, and many others.

### Applications

Inspection of pharma codes, barcodes and OCR / OCV on cartons, leaflets, and booklets



Features	Benefits
Inspects contents of cartons, labels, foils, leaflets and tubes using a modular software architecture	One hardware and software solution for multiple uses, in a single setup
Supports printing in continuous inkjet, thermal inkjet, hot-stamping and thermal transfer overprinters (TTOs)	Compatibility with a wide range of industrial printers
A plug-and-play installation that supports all types of PLC rejection mechanism protocols	Accurately and reliably captures details on labels such as batch and expiry, 1D barcodes, 2D Data Matrix codes, and pharma codes
Fast and easy plug-and-play installation	Can be integrated with continuous or intermittent machines

### Technical specifications

<b>Inspection area (FOV)</b>	60 mm × 40 mm
<b>Number of cameras</b>	2
<b>Products that can be inspected</b>	Cartons, leaflets, labels, vials
<b>Maximum speed<sup>1</sup></b>	300 products / min

<sup>1</sup> Speed can vary according to the number of camera configurations, image saves, camera configurations (one or more), and product size.

# QualiShield® CV52

## VISION-BASED CODE AND LABEL INSPECTION

QualiShield® CV52 is an online camera-based inspection system you can mount on any labelling, cartoning or blister-packaging machine. It accurately and reliably captures details such as batch and expiry, 1D barcodes, 2D Data Matrix codes, pharma codes – on inspection media including cartons, labels, foils, leaflets, tubes, and many others.

### Applications

Inspection of pharma codes, barcodes and OCR / OCV on cartons, leaflets, and booklets



Features	Benefits
Inspects contents of cartons, labels, foils, leaflets and tubes using a modular software architecture	One hardware and software solution for multiple uses, in a single setup
Supports printing in continuous inkjet, thermal inkjet, hot-stamping and thermal transfer overprinters (TTOs)	Compatibility with a wide range of industrial printers
A plug-and-play installation that supports all types of PLC rejection mechanism protocols	Accurately and reliably captures details on labels such as batch and expiry, 1D barcodes, 2D Data Matrix codes, and pharma codes
Fast and easy plug-and-play installation	Can be integrated with continuous or intermittent machines

### Technical specifications

<b>Inspection area (FOV)</b>	60 mm × 40 mm
<b>Number of cameras</b>	3
<b>Products that can be inspected</b>	Cartons, leaflets, labels, vials
<b>Maximum speed<sup>1</sup></b>	300 products / min

<sup>1</sup> Speed can vary according to the number of camera configurations, image saves, camera configurations (one or more), and product size.

# QualiShield® CV53

## VISION-BASED CODE AND LABEL INSPECTION

QualiShield® CV53 is an online camera-based inspection system you can mount on any labelling, cartoning or blister-packaging machine. It accurately and reliably captures details such as batch and expiry, 1D barcodes, 2D Data Matrix codes, pharma codes – on inspection media including cartons, labels, foils, leaflets, tubes, and many others.

### Applications

Inspection of pharma codes, barcodes and OCR / OCV on cartons, leaflets, and booklets



Features	Benefits
Inspects contents of cartons, labels, foils, leaflets and tubes using a modular software architecture	One hardware and software solution for multiple uses, in a single setup
Supports printing in continuous inkjet, thermal inkjet, hot-stamping and thermal transfer overprinters (TTOs)	Compatibility with a wide range of industrial printers
A plug-and-play installation that supports all types of PLC rejection mechanism protocols	Accurately and reliably captures details on labels such as batch and expiry, 1D barcodes, 2D Data Matrix codes, and pharma codes
Fast and easy plug-and-play installation	Can be integrated with continuous or intermittent machines

### Technical specifications

<b>Inspection area (FOV)</b>	60 mm × 40 mm
<b>Number of cameras</b>	4
<b>Products that can be inspected</b>	Cartons, leaflets, labels, vials
<b>Maximum speed<sup>1</sup></b>	200 products / min

<sup>1</sup> Speed can vary according to the number of camera configurations, image saves, camera configurations (one or more), and product size.

# QualiShield® CV60

## VISION-BASED CODE AND LABEL INSPECTION

The QualiShield® CV60 consolidates carton, leaflet, booklet, and pouch verification into a single platform to deliver precise secondary packaging control and support regulatory compliance. Built for flexible offline operations, it helps you minimise labelling errors while maintaining confidence across SKUs.

### Applications

Offline inspection of pharma codes, barcodes, and OCV on flat cartons, leaflets, and pouches



Features	Benefits
Inspects leaflets, cartons, and pouches of varying sizes	Meets diverse packaging requirements
Speed of up to 200 products / min	High throughput for greater operational efficiency
Features multiple rejection mechanisms	Adapts to accommodate a wide range of SKUs
Simple, intuitive GUI with optimised user experience and multilingual support	Ensures operators across geographies can use the system with ease, reducing training time and minimising errors
Compliant with 21 CFR Part 11	Regulatory-compliant and audit-friendly

### Technical specifications

<b>Machine dimensions</b>	<b>Length</b>	1850 mm
	<b>Width</b>	960 mm
	<b>Height</b>	1840 ± 50 mm
<b>Maximum speed</b>		200 products / min
<b>Number of cameras</b>		1
<b>Inspection area (FOV)</b>		60 mm × 40 mm
<b>Rejection system</b>		Encoder-based rejection system with lock and rejection bin
<b>Reporting</b>		Batch-wise production reports and audit trail reports
<b>Safety and interlocks</b>		Air pressure alarm, rejection verification, emergency stop switches, and access-door interlocks
<b>Regulatory compliance</b>		Compliant with 21 CFR Part 11

# QualiShield® CL series

## VISION-BASED CAP AND FILL-LEVEL INSPECTION

The QualiShield® CL series helps you meet the precision that liquid filling demands. It's designed to verify fill levels and closure integrity across bottles and vials, detecting inconsistencies before they move downstream.

With camera-based inspection and advanced imaging software, the QualiShield® CL series supports packaging accuracy, protects brand trust, and reduces the risk of compliance and recall exposure on high-volume lines.



Product	Applications
QualiShield® CL10	Inspection of liquid-filled bottles for accurate fill-level verification and cap closure integrity
QualiShield® CL40	Inspection of liquid-filled vials for accurate fill-level verification and cap closure integrity

# QualiShield® CL10

## VISION-BASED CAP AND FILL-LEVEL INSPECTION

The QualiShield® CL10 is a high-speed, high-resolution colour camera-based system designed for inspecting liquid levels and cap closures in bottles. Built with advanced embedded machine vision, precision optics, high-intensity LED lighting, and innovative solid-state electronics, it delivers reliable, accurate, and fast detection. With its intuitive interface and robust design, the QualiShield® CL series is perfect for ensuring packaging accuracy and integrity on high-volume lines.

### Applications

Inspection of liquid-filled bottles for accurate fill-level verification and cap closure integrity



Features	Benefits
Single camera operating at up to 800 products / min	Handles even the fastest production speeds with ease, ensuring consistent quality checks without slowing down throughput
Detection of overfill, underfill and improper cap closure	Prevents defective bottles from reaching the market, safeguarding brand reputation, reducing costly recalls, and ensuring patient safety
Configurable image library (up to 500 images)	Provides flexibility to store and switch between multiple product SKUs and formats quickly, minimising downtime and improving operational efficiency
Easily retrofitted on a wide range of bottle lines and manual packaging lines	Adapts seamlessly to existing infrastructure, avoiding costly modifications or new machinery
Simple, intuitive GUI with optimised user experience and multilingual support	Ensures operators across geographies can use the system with ease, reducing training time and minimising errors
Compliant with 21 CFR Part 11	Regulatory-compliant and audit-friendly

### Technical specifications

<b>Maximum speed</b>	Up to 800 products / min
<b>Cap inspection</b>	Cap presence, cap orientation, cap integrity, missing caps, tilted caps
<b>Fill inspection</b>	Fill level accuracy, overfill / underfill
<b>Safety and interlocks</b>	Protective guarding, emergency stop switches, and access-door interlocks
<b>Reporting</b>	Batch-wise inspection records with image-based evidence, fill-level trend analysis, defect classification, and summary reports
<b>Regulatory compliance</b>	Compliant with 21 CFR Part 11

# QualiShield® CL40

## VISION-BASED CAP AND FILL-LEVEL INSPECTION

The QualiShield® CL40 is a high-speed, high-resolution colour camera-based system designed for inspecting liquid levels and cap closures in vials. Built with advanced embedded machine vision, precision optics, high-intensity LED lighting, and innovative solid-state electronics, it delivers reliable, accurate, and fast detection. With its intuitive interface and robust design, the QualiShield® CL series is perfect for ensuring packaging accuracy and integrity on high-volume lines.

### Applications

Inspection of liquid-filled vials for accurate fill-level verification and cap closure integrity



Features	Benefits
One step auto teach process	Enables a system to automatically learn inspection parameters, eliminating skilled operator dependency
Inspection of vial integrity, fill level, cap closure integrity and visual detection of liquid contamination	Prevents defective vials from reaching the market, safeguarding brand reputation, reducing costly recalls, and ensuring patient safety
Versatile and can be easily retrofitted on a wide range of vial sealing machines	Adapts seamlessly to existing infrastructure, avoiding costly modifications or new machinery
Configurable image library (up to 500 images)	Provides flexibility to store and switch between multiple product SKUs and formats quickly, minimising downtime and improving operational efficiency
Simple, intuitive GUI with optimised user experience and multilingual support	Ensures operators across geographies can use the system with ease, reducing training time and minimising errors
Compliant with 21 CFR Part 11	Regulatory-compliant and audit-friendly

### Technical specifications

<b>Maximum speed</b>	300 products / min
<b>Cap inspection</b>	Cap presence, cap orientation, cap integrity, missing caps, tilted caps
<b>Fill inspection</b>	Fill level accuracy, overfill / underfill, visual detection of liquid contamination
<b>Safety and interlocks</b>	Protective guarding, emergency stop switches, and access-door interlocks
<b>Reporting</b>	Batch-wise inspection records with image-based evidence, fill-level trend analysis, defect classification, and summary reports
<b>Regulatory compliance</b>	Compliant with 21 CFR Part 11

# Introducing ACG product integrity and process control.

Quality goes beyond what  
meets the eye.

Our product integrity and process control technologies help you safeguard what lies beneath the surface – from weight variation and metal detection to capsule sorting and finishing. By embedding continuous verification and precise control into your production line, these systems strengthen in-process assurance and minimise deviations before they escalate.



# Our product integrity and process control systems at a glance.

Product	Applications
<b>ACCURA series</b>	Continuous checkweighing of every empty, partially filled or filled capsule at production scale
<b>Sample checkweigher (CW 10)</b>	Automatic online sample check weighing for statistical capsule weight control at lab scale
<b>Metal detector (MD)</b>	Detection of minute metal particles in tablets and filled capsules
<b>Empty capsule sorter (ECS)</b>	Automatic sorting of empty capsules, loose caps and loose bodies from filled capsules
<b>Mini capsule sorter (MCS)</b>	Automatic removal of diametrically distorted capsules, loose caps, and excess powder
<b>De-dusting and polishing machine (DP)</b>	De-dusting and polishing of capsule shell surfaces



# ACCURA series

## CAPSULE CHECK-WEIGHING

The ACCURA series of automatic 100% capsule checkweighers is designed specifically for precise automatic and continuous weighing of every hard capsule – whether empty, filled or partially filled, with anything from powder to pellets. It uses the latest digital technology to check the weight of the filled content of capsules.

ACG's precision capsule checkweigher is best suited for medium to large production batches with a capacity of up to 200,000 capsules per hour.

### Applications

Continuous checkweighing of every empty, partially filled or filled capsule at production scale



Features	Benefits
A format-free mechanism capable of handling capsules of sizes 00 to 5	No need for additional investment, and minimal changeover time
Achieves a weighing accuracy of $\pm 2$ mg, with a precision of $\pm 0.2$ mg	Ensures high-quality, accurately weighed capsules
Uses an Electro-Magnetic Force Restoration (EMFR) weigh cell from Wipotec, Germany	Ensures repeatable performance over extended periods
A user-friendly, interactive IPC that's fully compliant with 21 CFR Part 11	Detailed statistical analysis of weighed and rejected capsules for audit requirements
Can be integrated with capsule-filling machines	Seamless integration
Rejection acknowledgement system	Ensures rejected capsules are separated

### Technical specifications

Model	Output (capsules / hr)	Capsule size	Weighing range (mg)
ACCURA 100 FF	100,000 capsules / hr	00 – 5	20 to 2,000 mg
ACCURA 200 FF	200,000 capsules / hr	00 – 4	20 to 2,000 mg

# Sample checkweigher (CW 10)

## CAPSULE CHECK-WEIGHING

CW 10 is a fully automatic online sample checkweigher designed for statistical weight control of filled capsules. CW 10 provides you with timely reports on weight variation within the batch.

### Applications

Automatic online sample check weighing for statistical capsule weight control at lab scale



### Features

Fully automatic operation for sample collection, weighing and reporting

Format-free design

Weighing with an accuracy of  $\pm 1$  mg

Sampling can be done on a 'time-interval' basis or 'number of strokes / interval' basis

### Benefits

No manual intervention required

Online sample checkweighing of capsules of any formulation and dose

Reliable results

Flexibility in sampling

### Technical specifications

Output

Up to 10 capsules / min

# Metal detector (MD)

## METAL DETECTION

MD detects minute particles of metal – ferrous, non-ferrous, and stainless steel – in tablets and filled capsules. The equipment is interfaced with the encapsulation and tablet compression machine, and separates tablets and capsules containing metal traces.

### Applications

Detection of minute metal particles in tablets and filled capsules



Features	Benefits
100% online detection	Ensures the highest quality levels by rejecting tablets and capsules containing metal traces
High sensitivity to all metals, including non-magnetic stainless steel	Guarantees against any kind of metallic contamination
All contact parts are manufactured with SS316 or FDA-certified food-grade material	Ensures no metal residues are introduced into the capsules from the detector itself, so it's easy to validate the system

### Technical specifications

<b>Output</b>	270,000 capsules / hr	
<b>Detectable particle diameters</b>	Ferrous	0.15 mm
	Non-ferrous	0.2 mm
	Stainless steel	0.3 mm

# Empty capsule sorter (ECS)

## CAPSULE SORTING

ECS 100 is designed for the automatic sorting of empty capsules, loose caps and loose bodies from filled capsules produced in the automatic encapsulation machine.

### Applications

Automatic sorting of empty capsules, loose caps and loose bodies from filled capsules



### Features

Removes all empty capsules and checks for loose caps or loose bodies

Compact dimensions

Simple sorting mechanism

### Benefits

Ensures only filled capsules proceed

Can easily be accommodated in the capsule-filling line

Easy operation and maintenance

### Technical specifications

#### Output

Up to 200,000 capsules / hr

# Mini capsule sorter (MCS)

## CAPSULE SORTING

Sorting capsules manually can be slow, tiring, and inconsistent. The mini capsule sorter automates the process, ensuring only perfectly shaped capsules make it into the batch. It efficiently removes diametrically distorted capsules, loose caps, and excess powder – saving time while improving product quality.

### Applications

Automatic removal of diametrically distorted capsules, loose caps, and excess powder



Features	Benefits
Small footprint occupying minimum space	Can be easily integrated with an automatic capsule-filling machine
Consumes low power	Cost-effective
Sorts capsules of sizes 000 to 5	Eliminates diametrically defective filled capsules regardless of their sizes, ensuring no lost time in changeovers

### Technical specifications

	MCS 100	MCS 200+
<b>Output</b>	Up to 110,000 capsules / hr	Up to 200,000 capsules / hr

# De-dusting and polishing machine

## DE-DUSTING AND POLISHING

DP is a horizontal de-dusting and polishing system that uses the rotating brush concept to continuously remove excessive powder from the surface of capsule shells. It can be integrated with encapsulation machines.

### Applications

De-dusting and polishing of capsule shell surfaces



Features	Benefits
A polishing chamber with a spiral brush	Ensures effective dedusting of capsules
Provided with an air displacement unit	Ensures complete removal of dust from the capsule shell surface and prevents it from settling back
All product contact parts are food-grade-certified	Ensures safe handling of the product during operation

### Technical specifications

	DP 100	DP 200
<b>Output</b>	Up to 100,000 capsules / hr	Up to 200,000 capsules / hr

# Aftermarket, not afterthought.

At ACG, we understand that when you get a new platform, you're buying far more than the technology; you're also investing in a relationship that will last its lifetime.

That's why we take our aftermarket service so seriously.

Whether you need advice or training, are preparing to make your factories 'smarter', or simply need quick troubleshooting, know that ACG will always go above and beyond to offer excellent service and value. As far as we're concerned, we're in this together – for life.



# Let's talk.

Get in touch to find out more about our range of products and services. If you have specific equipment needs, we can even collaborate on delivering a purpose-made solution. We look forward to chatting.

## Email us

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