



CHAMPS
INSPECTION TECHNOLOGIES

**YOUR
PARTNER
IN QUALITY**

chatech.it



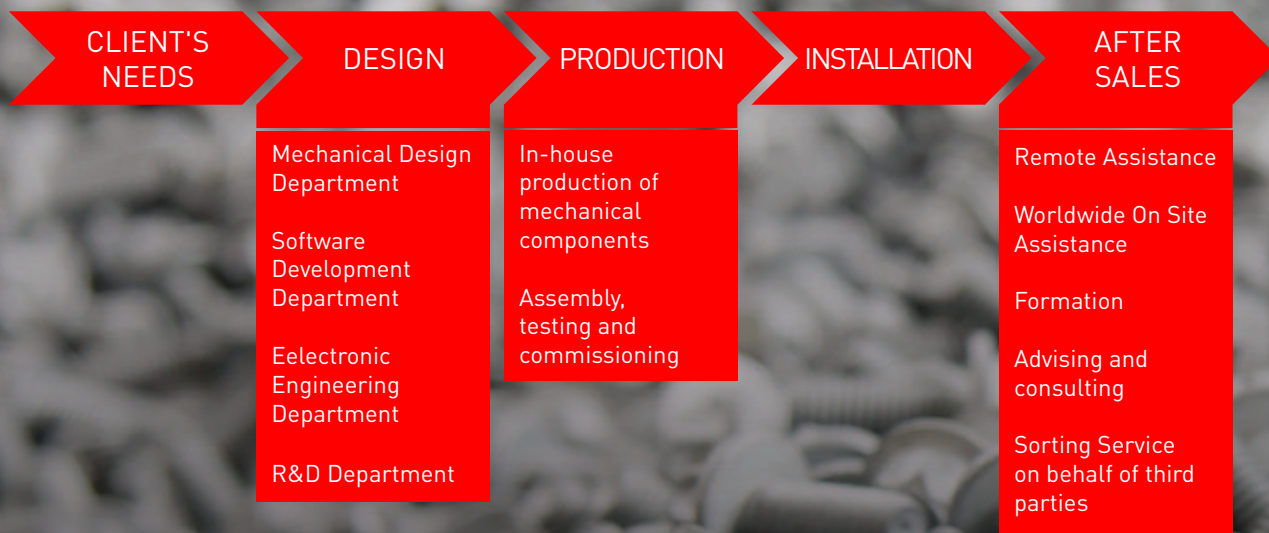
ABOUT US

Champs Inspection Technologies is a leading manufacturer of 100% Inspection and Sorting machines for Fasteners for the Automotive, Aerospace and Civil industries. Our machines help companies worldwide to ensure the highest quality standards for their products.

OUR MISSION

Precision, Reliability, Ease of Use and Innovation are some of the elements that have led Champs to be chosen as a trusted supplier to the world's leading manufacturers of Fasteners for the Automotive and Aerospace sectors.

Customer dedication, decades of experience and a structure that eliminates the distance between design and production represent a guarantee of reliability for all those who choose to contact Champs.



ALWAYS AT YOUR SIDE

For Companies that aim to achieve the ZERO DEFECTS goal, a 100% Inspection and Sorting system represent a necessary and delicate investment.

Knowing this, Champs provides to each customer, along each stage of the process, from advising to commissioning, its sales technicians as 'tutors' to work with from the feasibility study to the delivery of the inspection machine.

ONE**GLASS DISC**

Optical Inspections on flat parts like washers, rings nuts

SQM**SLOTTED INDEXED DISC**

360° controls:
Complete controls on special fasteners

SLZ-350**SLOTTED DISC**

Optical and Eddy Currents
Controls on small screws and rivets

SLZ-560**SLOTTED DISC**

High Performance machine for Inspection on Screws (1000 p/min)

SLZ-450**SPINDLE CAROUSEL**

Optical and Eddy Currents inspection on parts with a central hole

SLZ-750**WALKING BEAM SYSTEM**

360° Inspection on long parts without head, like tie rods, shafts or long screws

SLZ-250**'V' TRACK SLIDE**

Optical inspections on cylindrical parts like pins and inserts

FEEDING & PACKAGING

Custom solution for Loading, Feeding, Packing and Labeling Systems

100% INSPECTION

Champs offers turnkey solutions for 100% Inspections, long-term assistance and advice to achieve the highest quality standards.

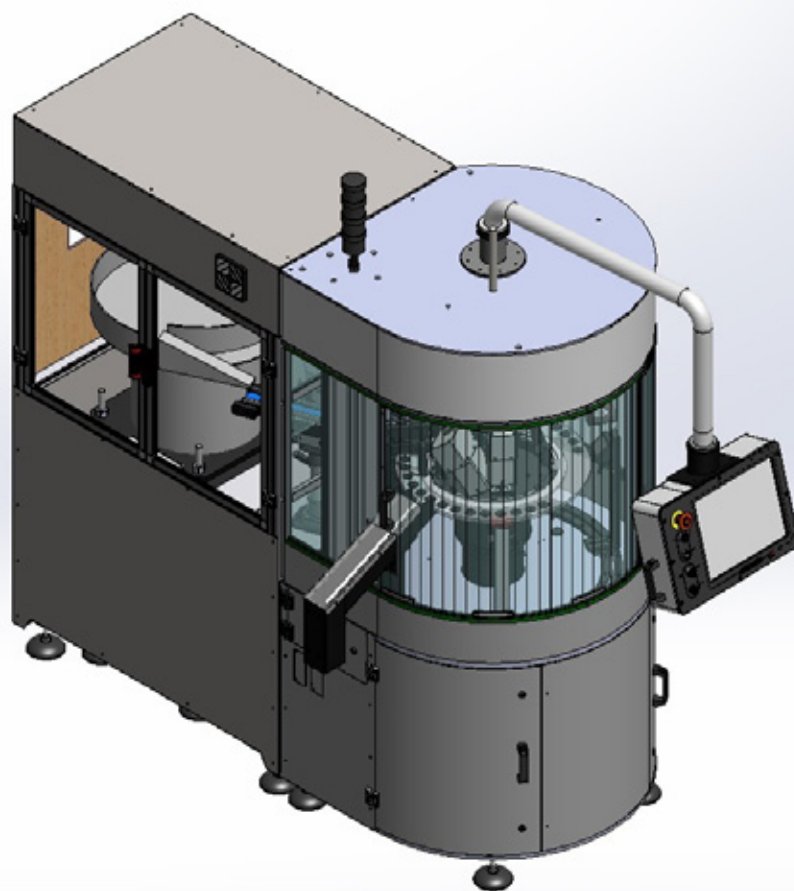
With 7 models of Inspection Machines, the result of 35 years of experience, Champs is able to fully meet the needs of a wide and varied market. Modular plug-in technical solutions make tailor-made solutions possible according on the type of component to be controlled and on the specific inspection needs.

ONE-G

100% INSPECTION MACHINE WITH CAMERA UNITS

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ONE is a glass disc Inspection Machine, it performs controls by measure and by attributes with Optical Units. It's designed for controls on components that can lay on a flat surface: nuts, washers, rings, bushings, bearings etc.



CONTROL UNITS SUPPORTED



The Control units supported are : Optical Control Units (Standard and Bi-Telecentric), 360° Optical Control Units (Pericentric), Laser Measurement Units

FASTENERS CONTROLLED



ONE is designed for controls on parts that can lay on a flat surface, like: Nuts, Rings, Washers, Bearings, Bushings, Disc springs, lock plates, Circlips, Growers, Small Gears, O-rings, Screws (if stable when upside down)

ONE - KEY FEATURES

Unprecedented reliability and precision

- Vision Software ALBATROSS 2 compatible with MVtec Halcon libraries (NEW)
- Accuracy of 0.01 mm with HI-Res Cameras
- Speed range up to 500 pz/min
- Up to 7 Camera Units
- Smart cam Scrap Control System

Inspections Made Easy

- Run as a Turn-key system
- Simple Setup and Adjustments
- Short Setup Time for multiple codes
- Intuitive UI
- Automatic operation 24/7

Designed for every Inspection requirement

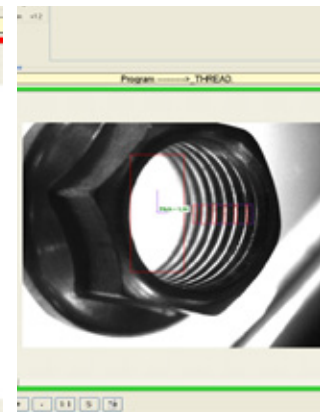
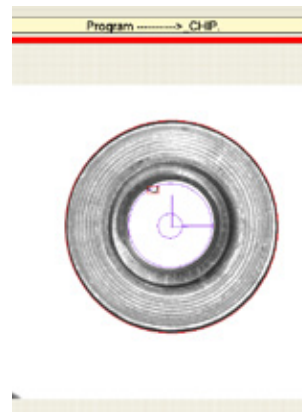
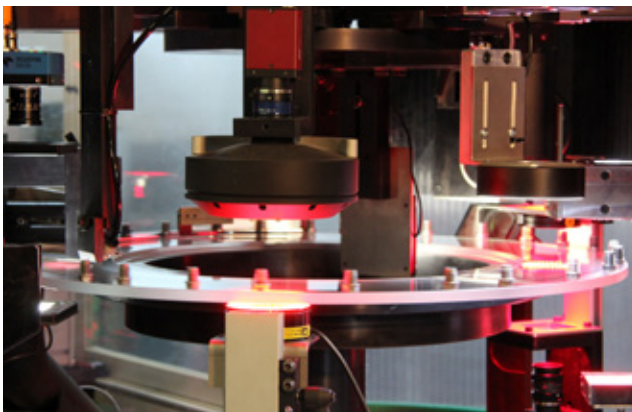
- Optical Control Units (Standard e Telecentric), 360° Optical Control Units (Pericentric, 360° Thread-Stem), Laser Measurement Units
- Modular design to adapt to specific requirement
- Custom Control Units' Layout

'Live' Inspections, Management, Statistics

- Real Time monitoring
- Resident Database SQL
- Remote Control and Setting
- Self Programming Tools
- Vision Software Programmable by Users
- Statistical Reports easily accessible through UI

A complete System

- Custom loading and feeding solutions available upon request
- Custom unloading and packing solutions available upon request
- Custom labeling and tracking solutions available upon request



ONE - glass disc

DATASHEET

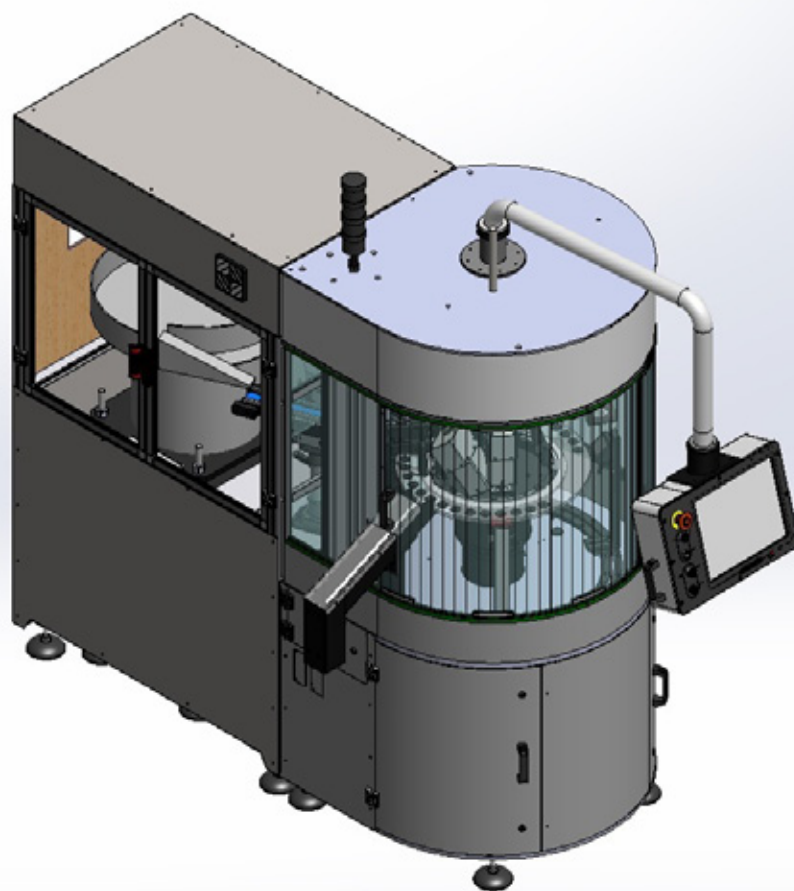
PART'S DIMENSIONAL RANGE	
Diameter min/max	Ø 40 mm
Height max min/max	30 mm
MACHINE'S SPECIFICATIONS	
N. Control Units	3 (Standard layout) - 6 (max)
N. Chutes	1 OK + 1 NOK (standard layout) / 1 OK + 3 NOK (max)
Speed (max)	500 parts/min
Precision	up to ± 0,002 mm (Hi-Res)
Machine's size	1000 x 1500 x h 2000 mm
Weight	1000 kg
Requirements	400 V, 6 bar

ONE-S

100% INSPECTION WITH 360° OPTICAL CONTROLS

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ONE-S is an Inspection Machine with steel rotary table. It performs inspections by measure and by attributes with Optical Units. The modular design, simplicity, robustness and reliability makes it the best option for standard inspection on small screws.



CONTROL UNITS SUPPORTED



The Control units supported are : Optical Control Units (Standard and Bi-Telecentric), 360° Optical Control Units (Pericentric), Crack and Hardness Control Units (Follow Unit), Head's Recess Depth Control Unit (Follow Unit).

FASTENERS CONTROLLED



ONE-S is designed for controls by measure and by attributes on parts that can be hung by their head like: Small Screws, Rivets, Nails etc.

ONE - KEY FEATURES

Unprecedented reliability and precision

- Vision Software ALBATROSS 2 compatible with MVtec Halcon libraries (NEW)
- up to $\pm 0,002$ mm (Hi-Res) with HI-Res Cameras
- Speed range up to 600 pz/min
- Up to 7 Camera Units
- Smart cam Scrap Control System

Inspections Made Easy

- Run as a Turn-key system
- Simple Setup and Adjustments
- Short Setup Time for multiple codes
- Intuitive UI
- Automatic operation 24/7

Designed for every Inspection requirement

- Designed for faster NDT inspections: Optical Control Units (Standard and Telecentric), 360° Optical Control Units (360 Pericentric, 360 Thread Stem), Follow Crack Control Units (CCU-S, CC-UH), Follow Hardness Control Unit (CH-HRC), Follow Head Recess Depth

Control Unit (CU-HRD-S), Laser measurement Unit

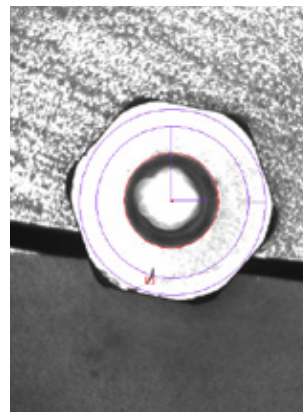
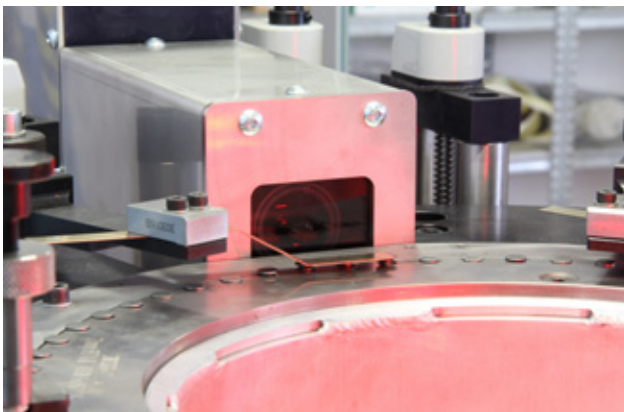
- Modular design to adapt to specific requirement
- Custom Control Units' Layout

'Live' Inspections, Management, Statistics

- Real Time monitoring
- Resident Database SQL
- Remote Control and Setting
- Self Programming Tools
- Vision Software Programmable by Users
- Statistical Reports easily accessible through UI

A complete System

- Custom loading and feeding solutions available upon request
- Custom unloading and packing solutions available upon request
- Custom labeling and tracking solutions available upon request



ONE - slotted steel disc

DATASHEET

PART'S DIMENSIONAL RANGE	
Stem dimensions min/max	Ø M3 to M12 / length up to 100 mm
Head dimensions min/max	Ø 30 mm / height 30 mm
MACHINE'S SPECIFICATIONS	
N. Control Units	3 (Standard layout) - 6 (max.)
N. Chutes	1 OK + 1 NOK (standard layout) / 1 OK + 3 NOK (max)
Speed (max)	600 parts/min
Precision	up to $\pm 0,002$ mm (Hi-Res)
Machine's size	1000 x 1500 x h 2000 mm
Weight	1000 kg
Requirements	400 V, 6 bar

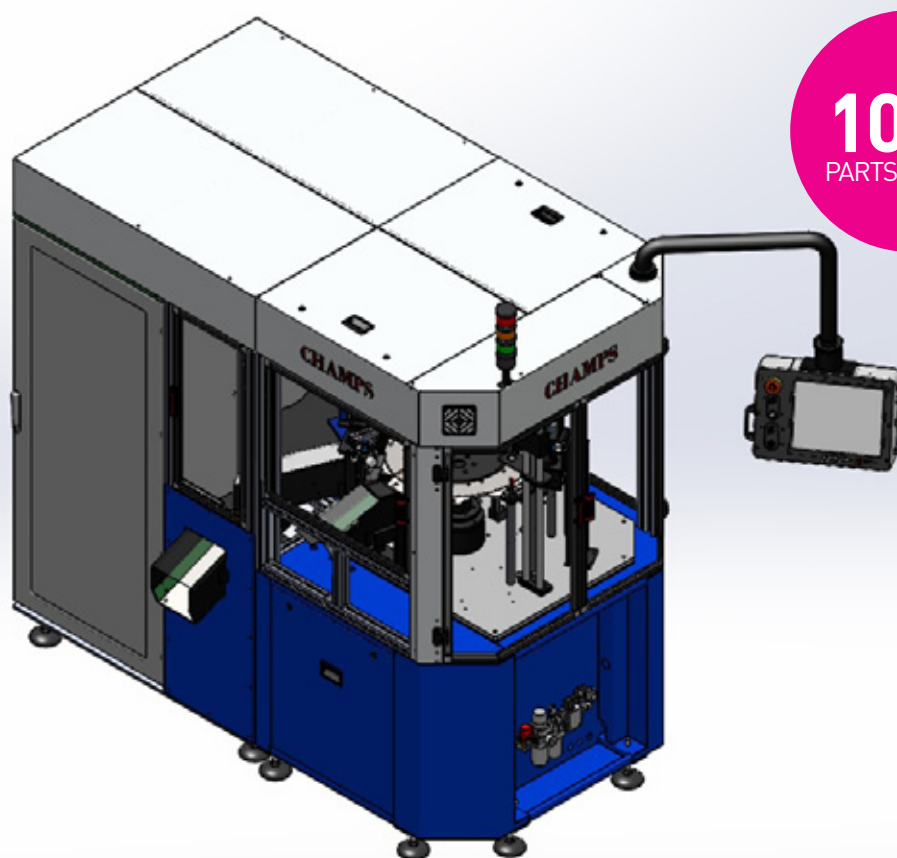
SLZ 560-S

100% INSPECTIONS AT UNPRECEDENTED SPEED

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SLZ 560 is an Inspection Machine for screws designed to combine extraordinary work performances with the highest accuracy.

Designed for Inspections on Screws, it performs optical controls on multiple parameters reaching a work speed of 1000 parts per minute*



CONTROL UNITS SUPPORTED



The Inspection Units Supported are: Optical Control Units (Standard e Tc), 360° Pc Optical Control Units (Pericentric), 360° Th-St Optical Control Unit (360° Thread-Stem), Laser Measurement Units

FASTENERS CONTROLLED



SLZ560 is designed for controls on: Screws, Ri-vets, etc. *(1000 pz/min < M8)

SLZ 560 - KEY FEATURES

Inspections at 1000 parts per minute

Designed for Inspections on Screws, it performs optical controls on multiple parameters reaching a work speed of 1000 parts per minute*. Fast acquisition Hi-Res Cameras and an upgraded MV Software, Albatross 2 allow Image Analysis in 2 to 20 milliseconds thus enabling unprecedented sorting speed.

A Software Engine MVTech Halcon

- Vision Software ALBATROSS 2 compatible with MVtec Halcon libraries (NEW)
- Accuracy of ± 0.002 mm with HI-Res Cameras
- Speed range up to 1000 parts/min (for screws <M8)
- Up to 8 Control Units
- Backlights and Ringlights for high speed acquisition Cameras
- Multiparameter 360° Inspection
- Image processing speed from 2 to 20 milliseconds
- Gig-E Data Transfer Protocols

Designed for fast 360° Inspections on Screws

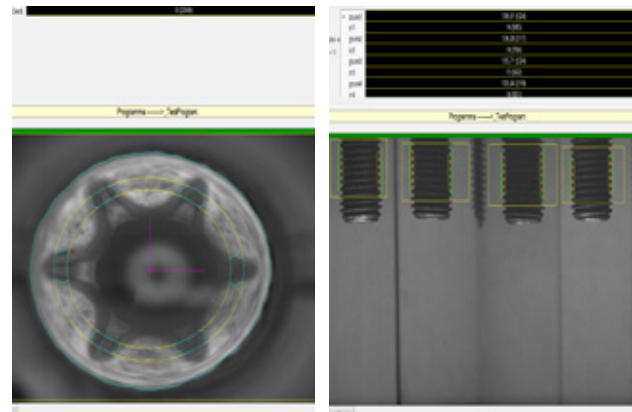
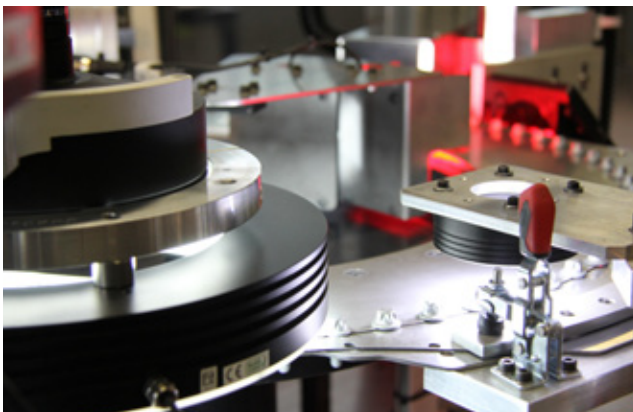
- Fast optical Controls: Optical Control Units (Standard e Tc), 360° Optical Control Units (360° Pericentric), 360° Optical Control Unit (360° Thread-Stem), Laser Measurement Units
- Modular design to adapt to specific requirement
- Custom Control Units' Layout

'Live' Inspections, Management, Statistics

- Real Time monitoring
- Resident Database SQL
- Remote Control and Setting
- Self Programming Tools
- Vision Software Programmable by Users
- Statistical Reports easily accessible through UI

A complete System

- Custom loading and feeding solutions available
- Custom unloading and packing solutions available
- Custom labeling and tracking solutions available



SLZ 560 S

DATASHEET

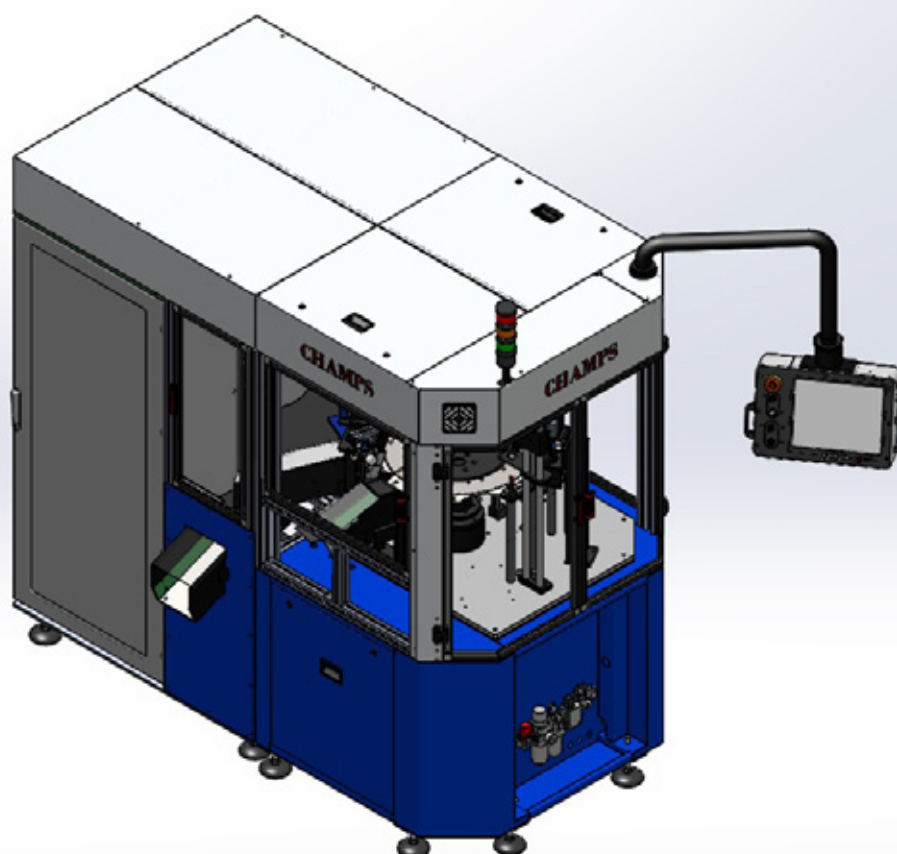
PART'S DIMENSIONAL RANGE	
stem's dimensions min/max	from M5 to M20 / length max. 200 mm
head's dimensions min/max	Ø max 50 mm / h max. 40 mm
MACHINE'S SPECIFICATIONS	
Inspection Units	8 Inspection Units
Speed (max)	1000 pezzi/min (viti M3 - M7)
Precision	up to ± 0.002 mm (Hi-Res)
Machine's size	1000 x 2200 x h 2000 mm
Weight	1800 kg
Requirements	400 V, 6 bar

SLZ 560-G

100% INSPECTIONS WITH CAMERA UNITS

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SLZ 560 is a glass disc Inspection Machine, it performs controls by measure and by attributes with Optical Units. It's designed for controls on big components that can lay on a flat surface: nuts, washers, rings, bushings, bearings etc.



CONTROL UNITS SUPPORTED



The Inspection Units Supported are: Optical Control Units (Standard e Tc), 360° Pc Optical Control Units (Pericentric), Laser Measurement Units

FASTENERS CONTROLLED



SLZ 560-G performs optical controls on large parts (up to Ø 50 mm) that can lay on a flat surface, like: Nuts, Rings, Washers, Bearings, Bushings, Disc springs, lock plates, Circlips, Growers, Small Gears, O-rings

SLZ 560 - KEY FEATURES

Inspections at 1000 parts per minute

SLZ 560-G performs optical controls on large parts (up to Ø 50 mm). Fast acquisition Hi-Res Cameras and an upgraded MV Software, Albatross 2, allow Image Analysis in 2 to 20 milliseconds thus enabling fast sorting speed and unprecedented accuracy.

A Software Engine MVTech Halcon

- Vision Software ALBATROSS 2 compatible with MVtec Halcon libraries (NEW)
- Accuracy of ± 0.002 mm with Hi-Res Cameras
- Speed range up to 500 parts/min (for screws <M8)
- Up to 8 Control Units
- Backlights and Ringlights for high speed acquisition Cameras
- Multiparameter 360° Inspection
- Image processing speed from 2 to 20 milliseconds
- Gig-E Data Transfer Protocols

Measurement Units

- Modular design to adapt to specific requirement
- Custom Control Units' Layout

'Live' Inspections, Management, Statistics

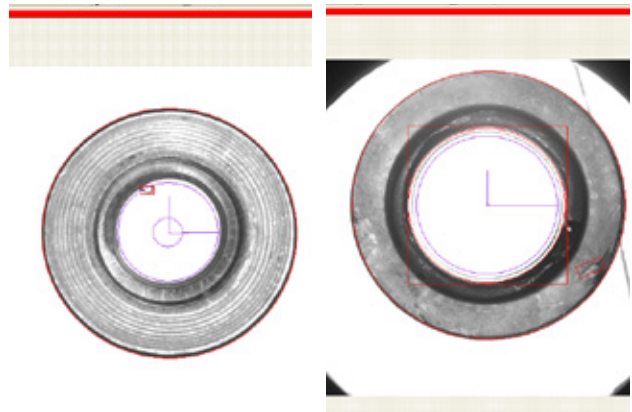
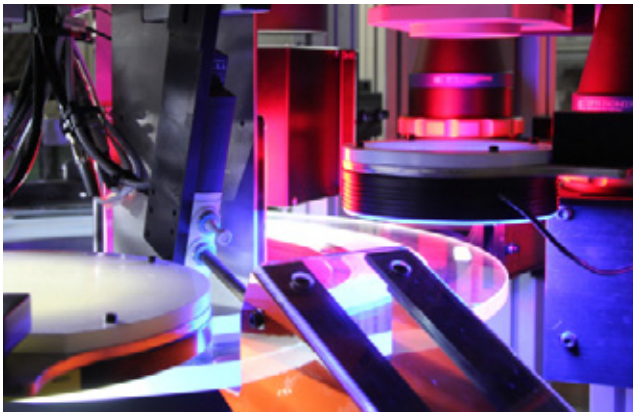
- Real Time monitoring
- Resident Database SQL
- Remote Control and Setting
- Self Programming Tools
- Vision Software Programmable by Users
- Statistical Reports easily accessible through UI

A complete System

- Custom loading and feeding solutions available
- Custom unloading and packing solutions available
- Custom labeling and tracking solutions available

Designed for fast 360° Inspections on Screws

- Fast optical Controls: Optical Control Units (Standard e Tc), 360° Optical Control Units (360° Pericentric), 360° Optical Control Unit (360° Thread-Stem), Laser



SLZ 560 -G

DATASHEET

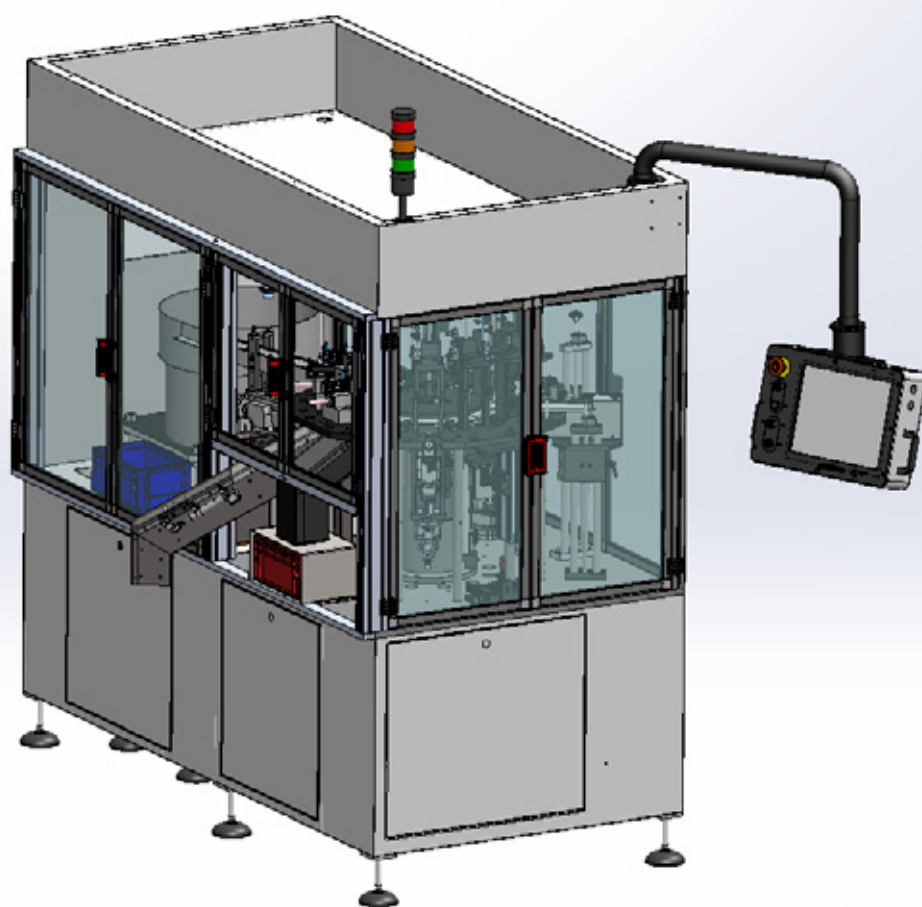
PART'S DIMENSIONAL RANGE	
stem's dimensions min/max	from M5 to M20 / length max. 200 mm
head's dimensions min/max	Ø max 50 mm / h max. 40 mm
MACHINE'S SPECIFICATIONS	
Inspection Units	8 Inspection Units
Speed (max)	400 pezzi/min (viti M3 - M7)
Precision	up to ± 0.002 mm (Hi-Res)
Machine's size	1000 x 2200 x h 2000 mm
Weight	1800 kg
Requirements	400 V, 6 bar

SQM

360° INSPECTIONS FOR SPECIAL APPLICATIONS

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SQM is an Inspection Machine with slotted disc and indexed motion for special applications like: special screws, screws, caliper pins, torsion bars for seatbelts, etc.



CONTROL UNITS SUPPORTED



The machine hosts a complete range of Inspections Units: **Optical inspection Units**, **360° Optical Inspection Units**, **Crack and Hardness Control with Eddy Currents**, **Head Recess Depth Control**, **Straightness Control** and **Assembly Units**.

FASTENERS CONTROLLED



SQM is designed for inspection on: **Special Screws**, **Caliper Slide Pins**, **Torsion Bars**, **Non-standard controls on Screw** (cracks underneath head, cracks on chamfer, etc.)

SQM - KEY FEATURES

Unprecedented reliability and precision

- Vision Software ALBATROSS 2 compatible with MVtec Halcon libraries (NEW)
- Accuracy of 0.01 mm with HI-Res Cameras
- Accuracy of 0.005 with Mechanical Calipers and Gauges
- Speed range up to 500 pz/min
- Up to 7 Camera Units
- Smart cam Scrap Control System

- Real Time monitoring
- Resident Database SQL
- Remote Control and Setting
- Self Programming Tools
- Vision Software Programmable by Users
- Statistical Reports easily accessible through UI

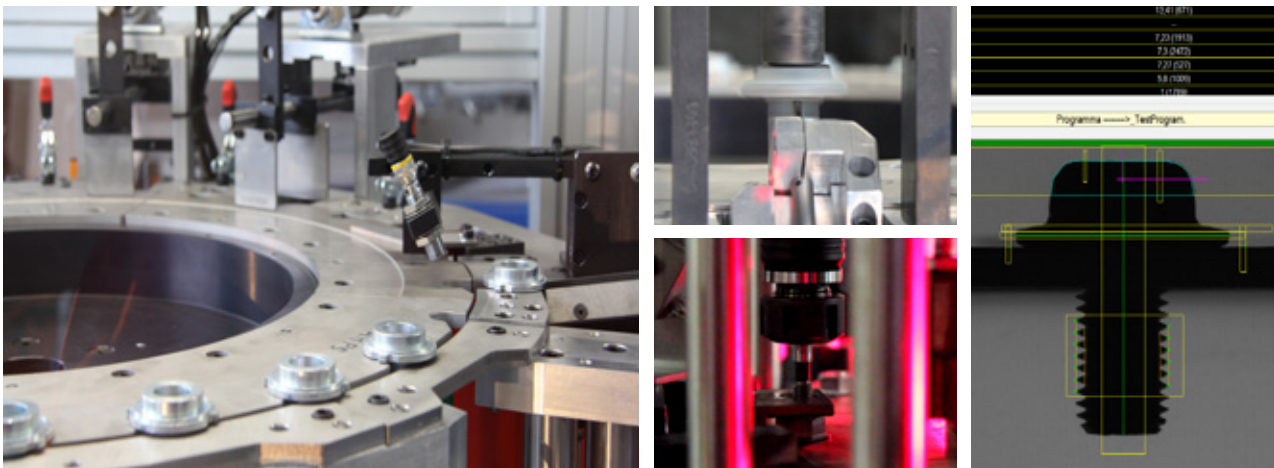
Designed for 360° Controls on Special Applications

- Designed to perform the widest Range of automated NDT inspections: Optical Control Units (Standard and TC), 360° Optical Control Units (360 Pc, 360 Th-St), Static Crack Control Units (CCU-S, CC-UH), Hardness Control Unit (CH-HRC), Head Recess Depth Control Unit (CU-HRD-S), Concentricity and Straightness Control Unit (CU-CS), Laser measurement Unit (LASER), Assembly Unit
- Modular design to adapt to specific requirement
- Custom Control Units' Layout

A complete System

- Custom loading and feeding solutions available upon request
- Custom unloading and packing solutions available upon request
- Custom labeling and tracking solutions available upon request

'Live' Inspections, Management, Statistics



SQM

DATASHEET

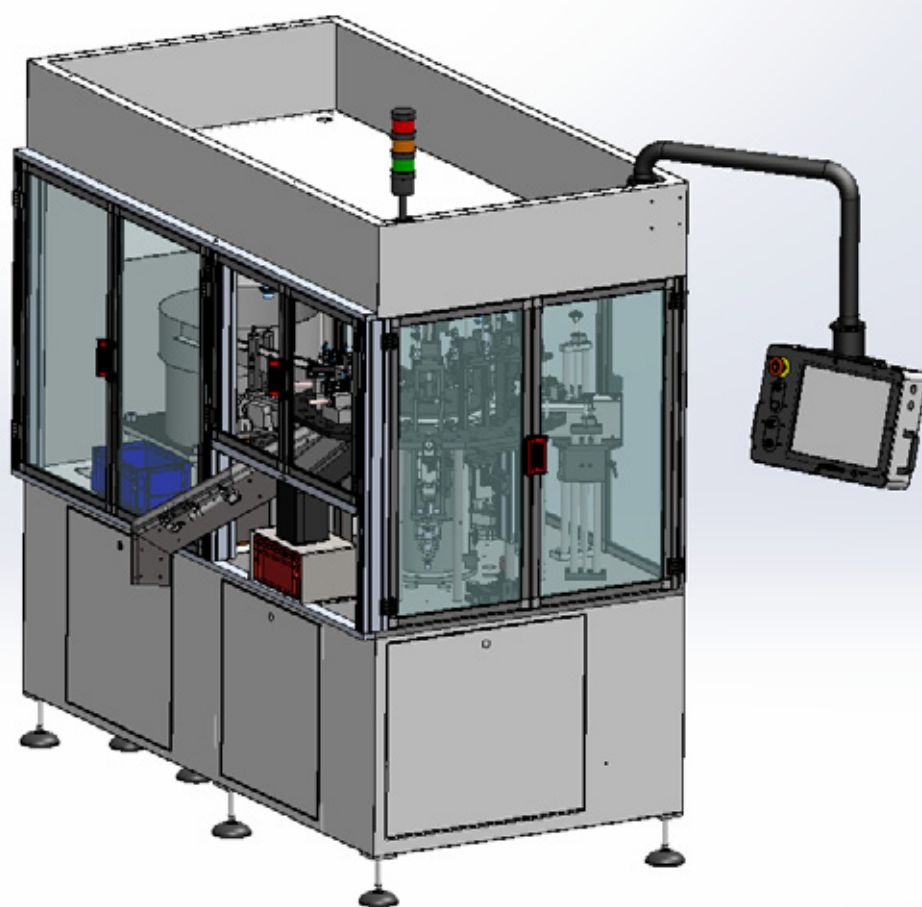
PART'S DIMENSIONAL RANGE	
stem's dimensions min/max	Ø 5 to Ø 20 - M5 to M20 / max length 200 mm
head's dimensions min/max	15 to 150 mm
MACHINE'S SPECIFICATIONS	
Inspection Units	(max.) 12 Inspection Units
Speed (max)	max 60 pezzi/min
Precision	up to ± 0,002 mm (Hi-Res)
Machine's size	1000 x 1500 x h 2000 mm
Weight	1000 kg
Requirements	400 V, 6 bar

SLZ 450

360° INSPECTIONS ON PARTS WITH A CENTRAL HOLE

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SLZ 450 is an Inspection machine with 16 rotating spindles designed for 360° controls with Eddy Currents and Optical Units on parts with a central hole (like Nuts, Rings, Spring Valve Retainers).



CONTROL UNITS SUPPORTED



The Inspection Units available on the machine are: Optical Inspection Units, Crack and Hardness Control with Eddy Currents.

FASTENERS CONTROLLED



SLZ 450 is designed for controls on: Valves, Bushings, Spring valve retainers, Nuts, Socket pipes, washers etc.

SLZ 450 - KEY FEATURES

Unprecedented reliability and precision

- Vision Software ALBATROSS 2 compatible with MVtec Halcon libraries (NEW)
- Accuracy of 0.01 mm with HI-Res Cameras
- Speed range up to 250 pz/min
- Up to 6 Control Units
- Smart cam Scrap Control System

Inspections Made Easy

- Run as a Turn-key system
- Simple Setup and Adjustments
- Intuitive UI
- Automatic operation 24/7

Crack control on washers-like parts

- SLZ 450 holds: Optical Control Units (Standard e Telecentric), Static Crack Control Unit (CCU-S) Hardness Control Units (CU-HRC)
- Modular design to adapt to specific requirement
- Custom Control Units' Layout

'Live' Inspections, Management, Statistics

- Real Time monitoring
- Resident Database SQL
- Remote Control and Setting
- Self Programming Tools
- Vision Software Programmable by Users
- Statistical Reports easily accessible through UI

A complete System

- Custom loading and feeding solutions available upon request
- Custom unloading and packing solutions available upon request
- Custom labeling and tracking solutions available upon request

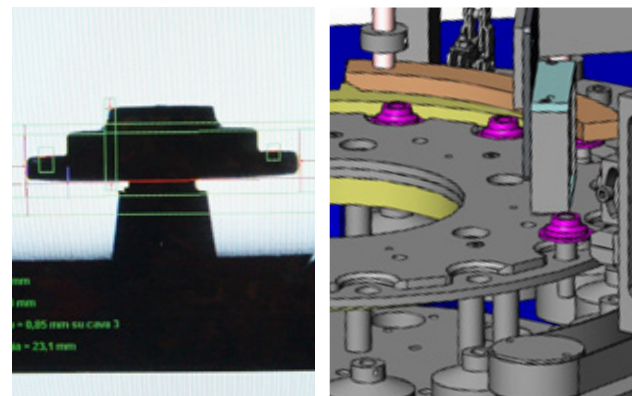
CONTROLS

Controls by Measure

Diameters, Heights, Planarity etc

Controls by Attributes

Ovality, Planarity, Scratches, Dents, Cracks, Hardness, Thread, Assembly ecc.



SLZ 450

DATASHEET

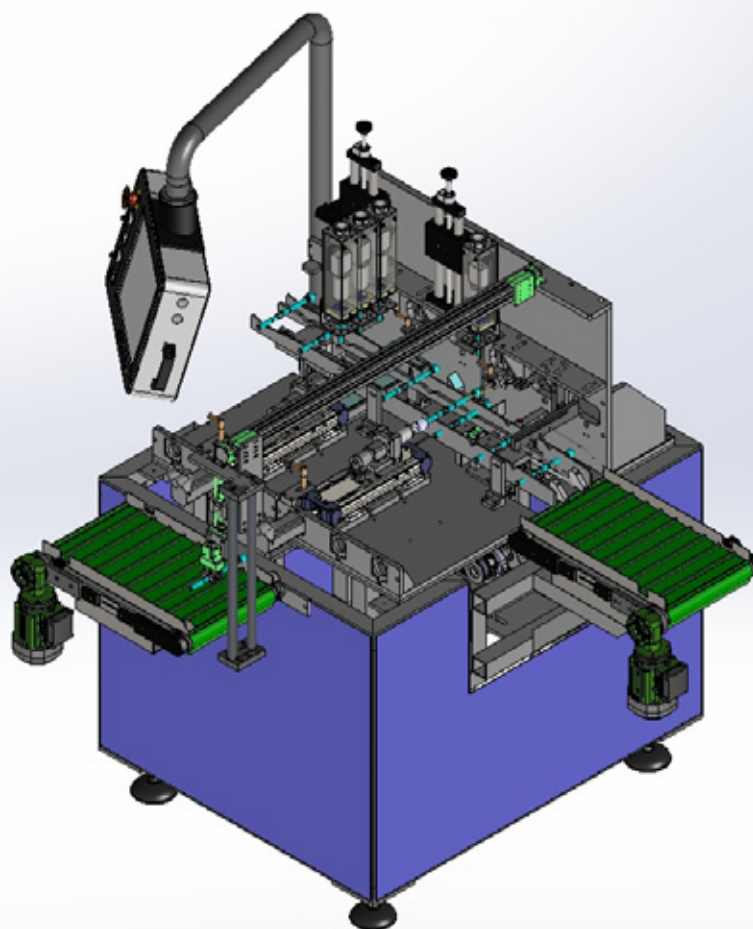
PART'S DIMENSIONAL RANGE		
Diameter min/max		10 - 45 mm
length min/max		1 - 45 mm
MACHINE'S SPECIFICATIONS		
Speed (max)		250 parts/min
Precision		0,01 mm (Hi-Res) - 0,04 mm (Standard)
Machine's size		1000 x 2200 x h 2000 mm
Weight		1800 kg
Requirements		400 V, 6 bar

SLZ 750

360° INSPECTIONS ON LONG PARTS WITHOUT HEAD

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SLZ 750 is an Inspection Machine with Walking Beam System designed for controls on rods and bars. The machine performs 360° Optical Inspections and Crack and Hardness Control Units with Eddy currents.



CONTROL UNITS SUPPORTED



The Inspection Units available on the machine are: Optical Inspection Units, Crack and Hardness Control with Eddy Currents.

FASTENERS CONTROLLED



SLZ 450 is designed for controls on: Inner Tie Rods, Bars, Threaded Bars, Shafts, Long Screws.

SLZ 750 - KEY FEATURES

Unprecedented reliability and precision

- Vision Software ALBATROSS 2 compatible with MVtec Halcon libraries (NEW)
- Accuracy of 0.01 mm with HI-Res Cameras
- Speed range up to 60 pz/min
- Up to 6 Control Units

Inspections Made Easy

- Run as a Turn-key system
- Simple Setup and Adjustments
- Intuitive UI
- Automatic operation 24/7

Optical and Crack Controls on tie rods and shafts

- the SLZ 750 supports: Optical Control Units (Standard and Telecentric), Crack Control Unit (CCU-S), Hardness Control Unit (CU-HRC)
- Modular design to adapt to specific requirement
- Custom Control Units' Layout

'Live' Inspections, Management, Statistics

- Real Time monitoring
- Resident Database SQL
- Remote Control and Setting
- Self Programming Tools
- Vision Software Programmable by Users
- Statistical Reports easily accessible through UI

A complete System

- Custom loading and feeding solutions available upon request
- Custom unloading and packing solutions available upon request
- Custom labeling and tracking solutions available upon request

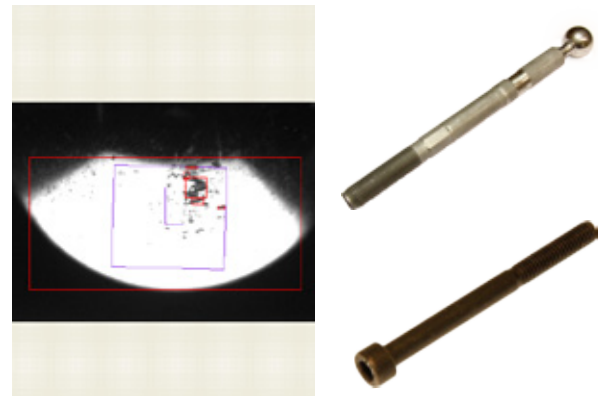
CONTROLS

Controls by Measure

Diameters, Length, Shape, Thread, straightness

Controls by Attributes

Bending, Scratches, Dents, Cracks, Hardness, Head depth Recess, Thread, Coating ecc.



SLZ 750

DATASHEET

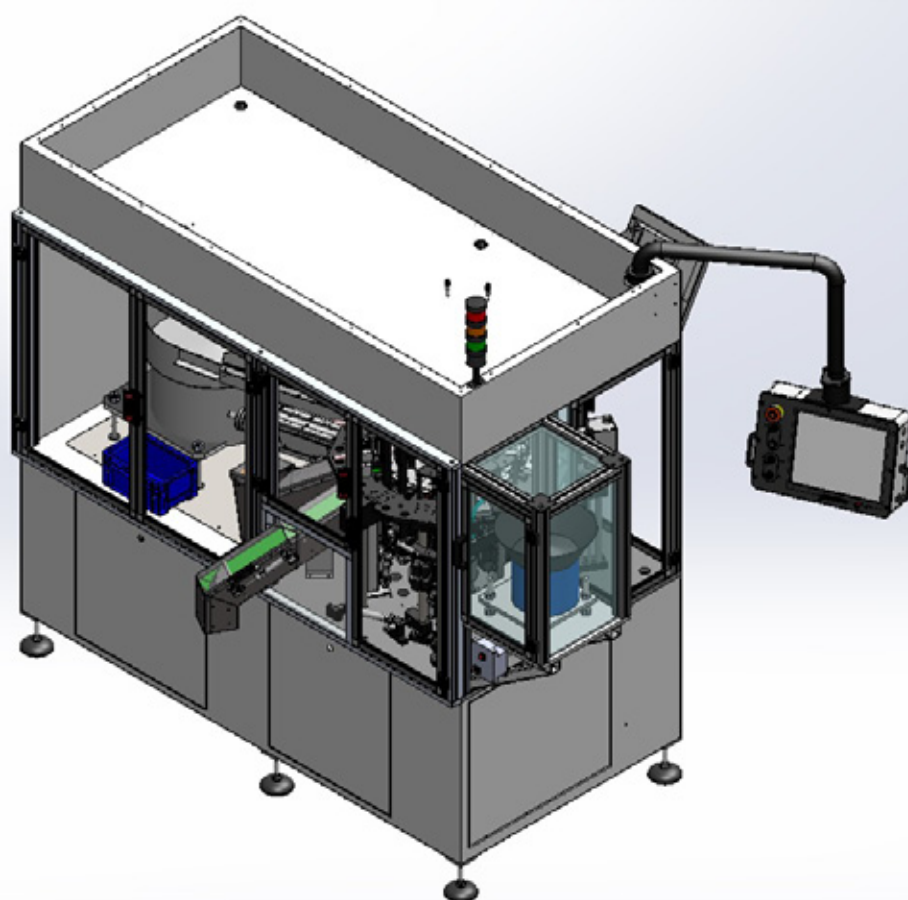
PART'S DIMENSIONAL RANGE		
Diameter min/max	M3 - M22 mm	
length min/max	150 - 280 mm	
MACHINE'S SPECIFICATIONS		
Speed (max)	60 pezzi/min (viti < M8)	
Precision	0,01 mm (Hi-Res) - 0,04 mm (Standard) - 0,001 (Calibri Meccanici)	
Machine's size	1000 x 1200 x h 2000 mm	
Weight	1600 kg	
Requirements	400 V, 6 bar	

SLZ 250

100% OPTICAL INSPECTIONS ON PINS AND INSERTS

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Inspection Machine with 'V' track glass slide. The SLZ 250 is designed for dimensional controls with Optical Inspection Units on cylindrical parts like: small Pins, small Bars, Shafts, Inserts, etc



CONTROL UNITS SUPPORTED



The Inspection Units available on the machine are: Optical Inspection Units (Standard and Bi-Telecentric)

FASTENERS CONTROLLED



SLZ 250 is designed for controls on: small Pins, Inserts, Cylindrical Components

SLZ 250 - KEY FEATURES

Unprecedented reliability and precision

- Vision Software ALBATROSS 2 compatible with MVtec Halcon libraries (NEW)
- Accuracy of 0.01 mm with HI-Res Cameras
- Speed range up to 500 pz/min
- Up to 3 Camera Units
- Smart cam Scrap Control System

Inspections Made Easy

- Run as a Turn-key system
- Simple Setup and Adjustments
- Intuitive UI
- Automatic operation 24/7

Simple, Fast and Precise

- SLZ 250 supports: Optical Control Units (Standard and Telecentric)
- V track slide system for reliable controls on diameters and lengths of small parts without head like pins inserts etc

'Live' Inspections, Management, Statistics

- Real Time monitoring
- Resident Database SQL
- Remote Control and Setting
- Self Programming Tools
- Vision Software Programmable by Users
- Statistical Reports easily accessible through UI

A complete System

- Custom loading and feeding solutions available upon request
- Custom unloading and packing solutions available upon request
- Custom labeling and tracking solutions available upon request

CONTROLS

Controls by Measure

Diameters, Length, Shape, Thread ecc

Controls by Attributes

Dents, Thread, Coating, external bodies ecc.



SLZ 250

DATASHEET

PART'S DIMENSIONAL RANGE	
Diameter min/max	2 - 6 mm
length min/max	5 - 40 mm
MACHINE'S SPECIFICATIONS	
Speed (max)	500 pezzi/min
Precision	0,01 mm (Hi-Res) - 0,04 mm (Standard)
Machine's size	1000 x 1500 x h 2000 mm
Weight	1500 kg
Requirements	400 V, 6 bar

**YOUR
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THE COMPANY

Champs Inspection Technologies is a leading manufacturer of 100% Inspection and sorting machines for fasteners in the Automotive, Aerospace and Civil industries. Our machines help companies worldwide to ensure the highest quality standards for their products.

Champs Inspection Technologies

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