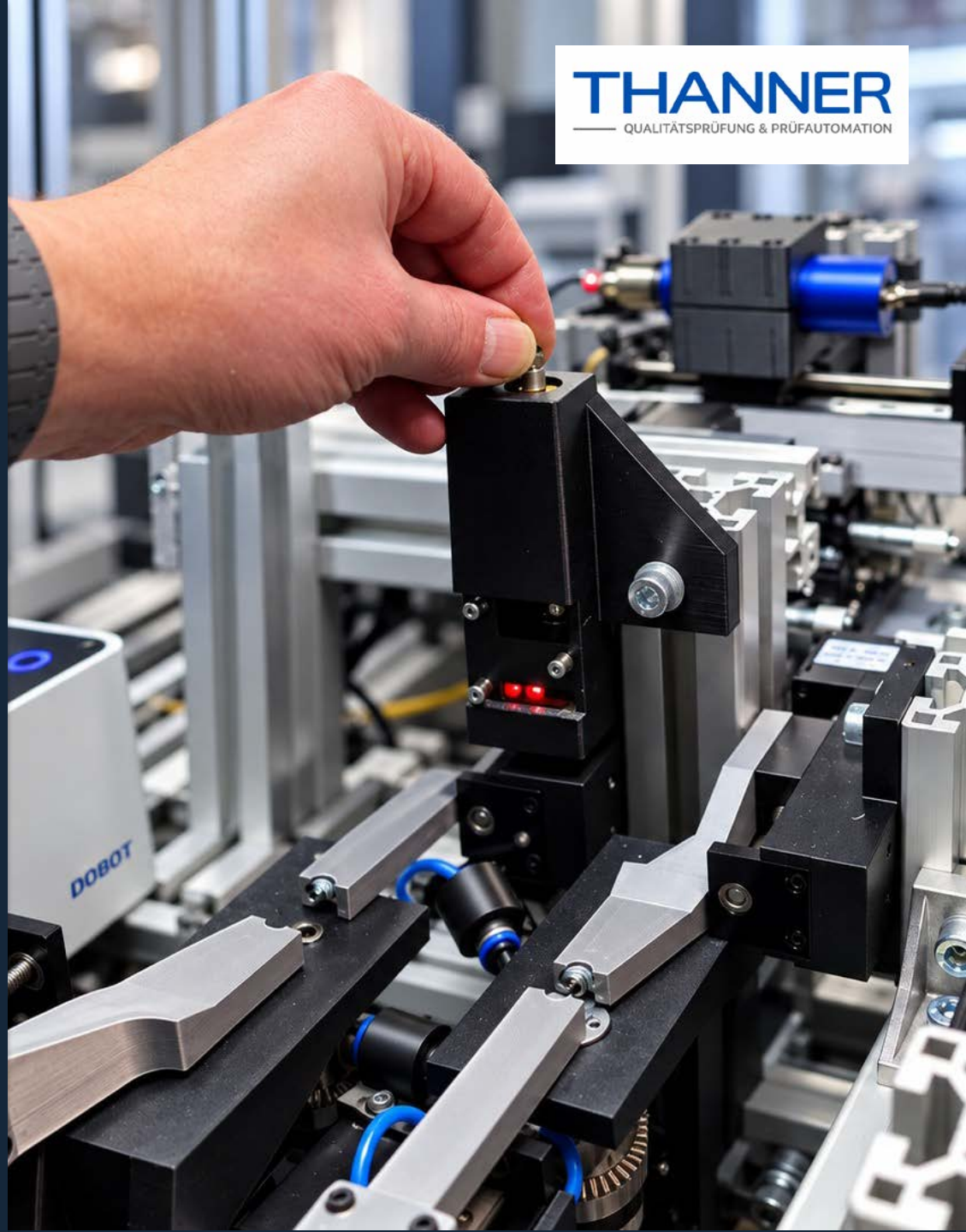
Quality inspection as a service

You supply the components.
We carry out the inspection.

Visual inspection · Tactile measurement
2D/3D profile measurement · Documentation

Flexible inspection capacity without investing in your own equipment



What we do for you

Quality inspection outsourced to our premises

Inspect components

Individual parts, samples and production series
Sampling or 100% inspection
Pass/fail sorting
Inspection against agreed characteristics

Provide measurement methods

Visual inspection
Tactile measurement methods
Non-contact profile inspection
Combination of several methods

Provide results

Pass / fail
Measured values as agreed
Defect types and quantities
Traceable documentation

When external inspection capacity helps

Use additional inspection capacity exactly when you need it

Capacity bottlenecks

Your own staff or inspection stations are fully occupied.

Production launch

Additional assurance during a critical launch phase.

Complaints

Inspect, sort and document components at short notice.

Sorting campaigns

Assess stock or batches against defined criteria.

Special inspections

A measurement task requires technology unavailable in-house.

Peak demand

Cover temporarily high volumes without a permanent investment.

Visual inspection

Assess visible quality deviations against defined criteria

Inspect for scratches, cracks, burrs, contamination, discolouration and damage.

Completeness, assembly condition and visible positional deviations can also be assessed.

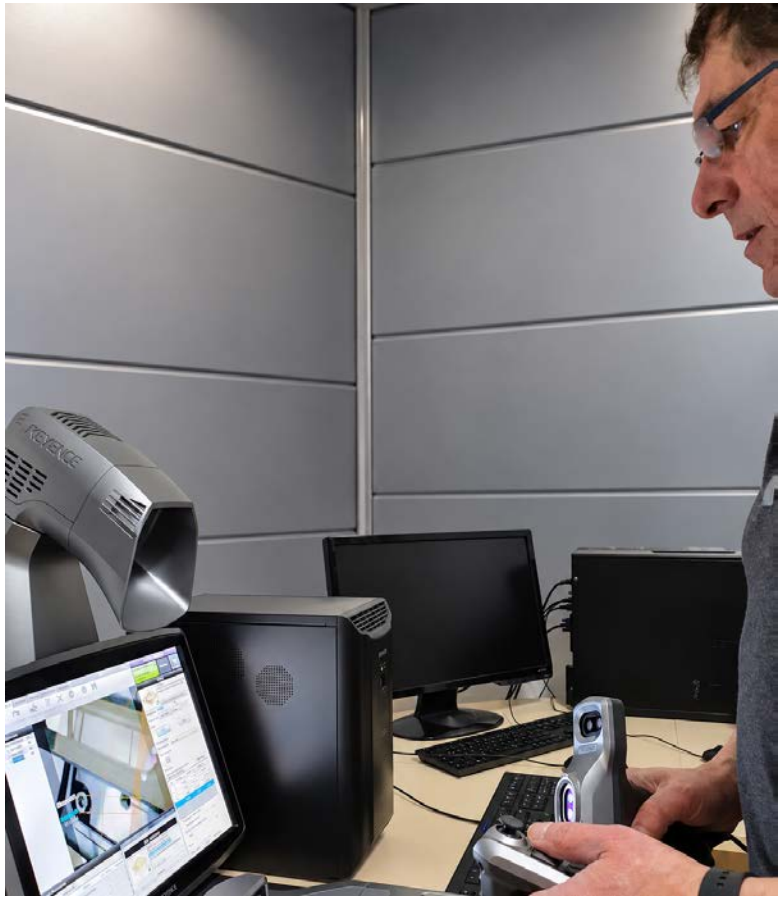
Limit samples, reference images and customer specifications form part of the inspection process.

Depending on the task, assessment is manual or supported by machine vision.



Tactile measurements

Dimensional inspection of different components and materials



Typical characteristics

Height and thickness
Distances and positions
Diameters
Runout / flatness
Differential measurements

Consider the material

Metal: dimensionally stable
Plastic: consider measuring force
Soft materials: defined conditions
Define support and referencing

2D/3D profile measurement

Non-contact inspection of complex geometries

Suitable for contours, steps, gaps, flushness, angles and profile shapes.

Non-contact measurement reduces the influence of measuring force.

Several geometric characteristics can be evaluated from one profile.

Useful for characteristics that cannot be described adequately by individual tactile measuring points.



Combined inspection orders

Several characteristics of a component in one coordinated inspection process

1. Visual inspection

Visible defects
Completeness
Surface condition

2. Dimensional inspection

Individual tactile dimensions
Heights / thicknesses
Positions

3. Profile inspection

Contours
Gaps / steps
Complex geometry

One order, a coordinated inspection process and consolidated results.

How an inspection order works

Clear agreement before starting reduces queries and delays

1

Enquiry

Drawing, samples, quantity, deadline

2

Agreement

Characteristics, limits, documentation

3

Delivery

Components delivered to our premises

4

Inspection

Defined inspection process

5

Feedback

Results and inspected components

We agree inspection criteria and limit values with you before starting. This keeps the assessment clear and traceable.

Your benefits

Use inspection services without permanently building up your own resources

No investment

No need to buy additional measuring equipment or a special inspection system.

Flexible capacity

Order inspection volumes according to current demand.

Reduced staff workload

Your staff remain available for production and core tasks.

Technology available

Use different inspection methods without maintaining every system yourself.

Predictable service

We agree the scope, deadline and documentation in advance.

Scalable

From sample parts and sampling to 100% inspection.

Economic comparison

In-house capacity and outsourced inspection meet different needs

Topic	In-house inspection capacity	Inspection as a service
Investment	Equipment, fixtures, floor space	An order tailored to demand
Staff	Plan and train internally	No additional internal inspection shift
Utilisation	Fixed costs even with low use	Costs arise when there is actual demand
Specialist technology	Purchase yourself	Available according to the inspection task
Peak demand	Capacity is limited	Additional external capacity is possible

The suitable option depends on inspection volume, frequency, available technology and internal capacity.

Documentation

Provide inspection results to the agreed requirements

Inspection result

Pass / fail
Measured values
Defect types
Quantities / rejects

Identification

Batch / lot
Component variant
Inspection date
Agreed identification

Documentation scope

Inspection report
List of measured values
Defect overview
Individually agreed scope

What we need to start inspection

The clearer the specifications, the sooner inspection can begin

Component information

Drawing / specification
Material / variant
Sample parts
Pass/fail samples, if available

Inspection specifications

Inspection characteristics
Tolerances / limits
Inspection scope
Special assessment criteria

Order details

Quantity
Required deadline
Marking / sorting
Required documentation

Automation matched to the inspection task

Not every inspection needs the same technical effort

Manual inspection

Small or changing quantities
A wide range of variants
Flexible visual checks and individual measurements
Low setup effort

Semi-automated inspection

Component loaded manually
Measurement sequence starts automatically
Sensors capture defined characteristics
Automatic pass/fail assessment is possible

Fully automated inspection

High or recurring quantities
Automatic feeding and positioning
Several characteristics in one cycle
Automatic sorting / data capture is possible

The automation level is selected according to quantity, cycle time, variants, inspection characteristics and economic benefit.

Flexible inspection stations for your components

Automation at our premises can be adapted to recurring customer orders

Modular fixtures

Component holding matched to the product
Interchangeable parts for variants
Defined referencing

Combine sensors

Camera / machine vision
Tactile sensors
Laser and profile sensors

Add handling

Manual loading
Pneumatic clamping
Axes / rotary table / robot as required

Automate evaluation

Start measurement automatically
Check limits
Store results
Support pass/fail sorting

The aim is as much automation as necessary and as much flexibility as possible.

Which automation level fits?

An example decision based on order requirements

Requirement	Mostly manual	Mostly semi-automated	Mostly fully automated
Quantity	Small / irregular	Medium / recurring	High / ongoing
Variants	Very many	Several	Few / stable
Cycle time	Less critical	Defined	Short / high throughput
Characteristics	Changing	Recurring	Standardised
Documentation	Simple	Automation possible	Fully integrated
Investment effort	Low	Medium	Higher; worthwhile at volume

This is not a rigid classification. We assess the inspection task and economics separately for each order.

Customer benefits of suitable automation

Recurring outsourced inspection orders can also be scaled efficiently

Lower inspection costs

Automate recurring handling tasks
Reduce inspection time per component

Reproducibility

Defined processes
Less operator influence

Higher capacity

Handle larger batches
Manage short peaks more effectively

Flexible expansion

Add further characteristics
Adapt to variants and follow-up orders

Documentation

Capture measurement data automatically
Assign batches and results

No system of your own

Automation stays at our premises
No additional production space required by the customer

Outsource quality inspection flexibly

You focus on your production.
We carry out the agreed inspection of your components.

No investment of your own

Use inspection technology as needed

Flexible capacity

From samples to production series

Several inspection methods

Visual, tactile, profile

Documented results

To the agreed scope

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