# ALPHA 550
crimp to crimp

**komax**

# ALPHA 550 MAXIMUM PERFORMANCE

Constantly high productivity and flexibility with precision are today's and tomorrow's requirements for fully automated wire assembly. Alpha 550 – the latest fully automatic wire processing machine for double-sided seal insertion – fulfills all requirements with revolutionary technology. Thanks to the best cost-per-unit, the highest flexible production performance and outstanding quality, the Alpha 550 offers decisive competitive advantages. The machine is available with ACD incision monitoring and the Q1250 scalable optical quality monitoring tool.

# TOP PERFORMANCE
## IS OUR CONNECTION TO THE FUTURE.

## Best in class productivity
– High machine speed for the best unit cost performance
– Fastest conversion for maximum production output
– First-time-right: perfectly synchronized machine processes with excellent CpK results

## Powerful and flexible
– Robust and reliable processing of wire cross-sections from 0.13 to 6 mm², and on request up to 10 mm² (AWG 8)
– Produces special and complex applications thanks to flexible machine configuration

## Ready for the future
– Most modern, forward-looking machine technology for highest requirements
– Full range of unique quality options such as ACD, Q1250 scalable, CFA+
– Equipped for future requirements thanks to quality monitoring and gentle wire processing

▶ **Absolutely precise processing with double blade holder and optional automatic conductor detector (ACD).**

0045592
R=0.50

0045589
R=1.00

X101
S1

0045603 R=0.50

**Q1250 SCALABLE**
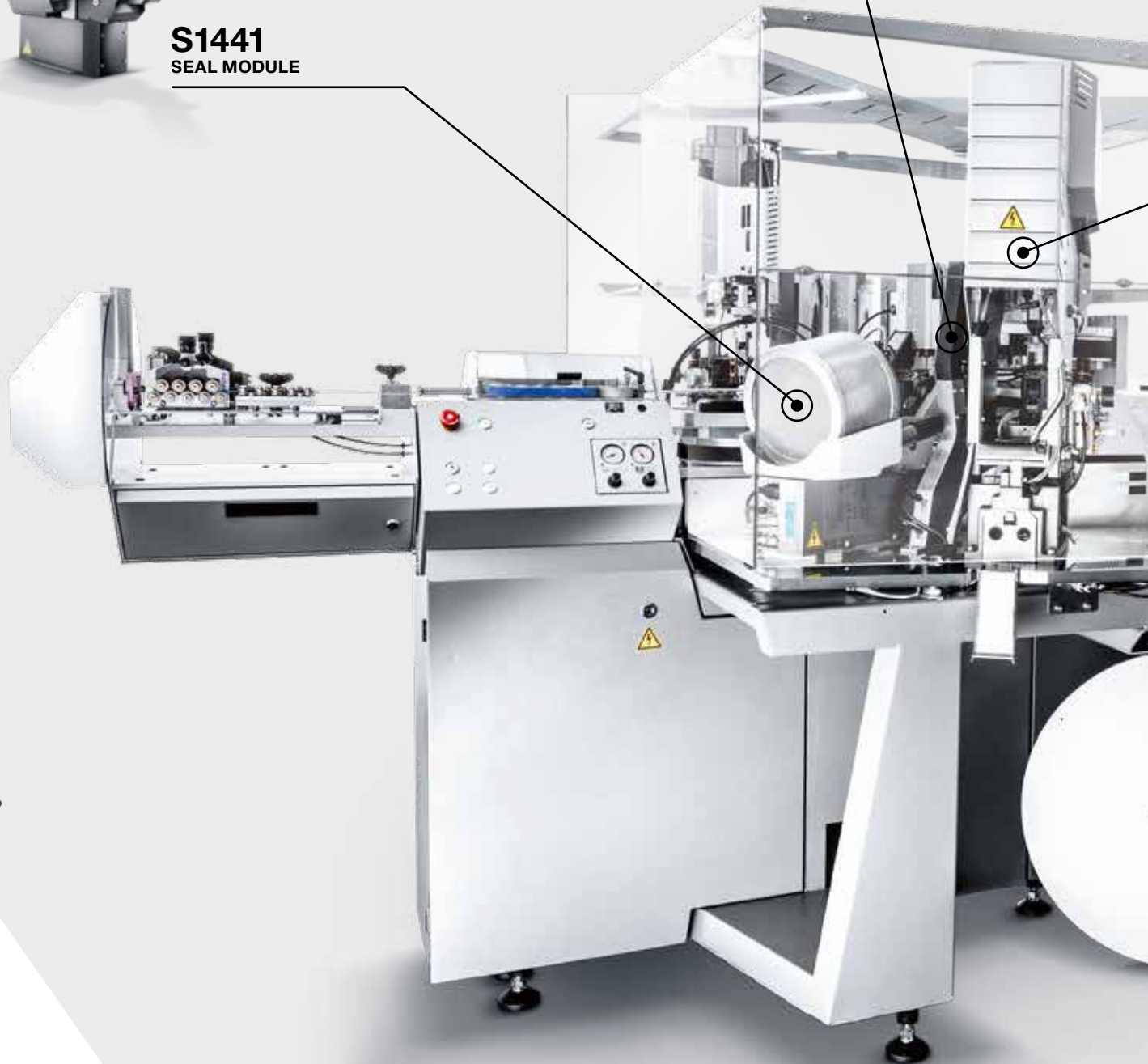OPTICAL QUALITY MONITORING

**S1441**
SEAL MODULE

# THE STRONGEST
## IN ITS CLASS

**C1370 / C1360 / C1340**
CRIMP MODULE

## At high speed for top unit cost performance

With its high processing speed, the Alpha 550 achieves the best unit cost performance in its class. All system components are designed for top performance. The processes are perfectly coordinated. For example is the conveyor belt speed in the new deposit system automatically adjusted to ensure consistent optimum throughput.

## Ultra-fast conversion for maximum productivity

Simple, fast setup and conversion approaches allow short travel paths while accelerating the procedures. With the touch screen, keyboard and mouse, the Alpha 550 can be operated in a time-saving and ergonomic fashion. The intuitive machine software allows the next job to be loaded without halting operations and the material and the tool to be prepared. Indicator lamps and LED-illuminated work zones optimize and expand user guidance.

**MAXIMUM PERFORMANCE**
**HAS NEVER BEEN**
# MORE FLEXIBLE
# AND MORE ROBUST.

**01**
The robust swivel arm with its un-beatable repeat accuracy supports stable wire processing.
**02**
Highly effective option: quick-change wire draw-in.
**03**
Quick and reliable setup directly on the crimp module.

## First-time-right approach for almost no rejects

Perfectly synchronized machine processes and quality assurance and monitoring functions ensure top precision and excellent CpK results. Processes are optimum thanks to the reliable EtherCAT technology.

## Robust system

Powerful servomotors position the swivel arm with unrivaled repeat accuracy. The mechanical and electronic components are well-protected from dirt and ambient influences and also suitable for environments with high temperatures and moisture.

## Short changeover times

Various options, such as the linear wire quick changer and the stationary (STC) system for the quick terminal change of crimp tools, enable a quicker changeover ready for the next job.

## Customer-specific and individualized

The different process modules make it possible to have complex and individualized configurations with up to four stations. Customer-specific processes can be programmed on request.

## The market leader's quality and expertise

Komax assures the maximum performance capability of the system by delivering holistic, comprehensive solutions. It considers all components and rounds out these efforts with local services globally.

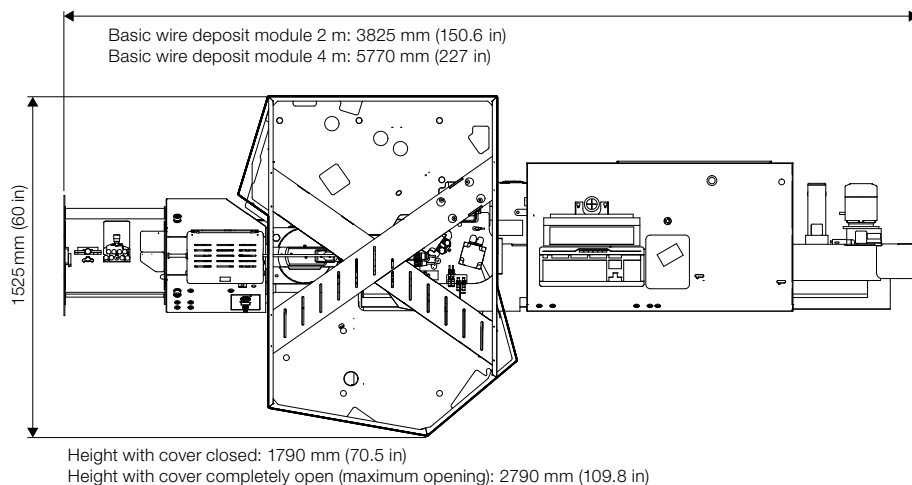## Optical quality monitoring
## Q1250 scalable

The quality tool visually checks the stripping quality and automatically rejects faulty products. A seal monitoring function is also available that monitors the seal position and orientation. Thanks to the high-performance color camera, any crimp defects such as crimped-on strands or insulation in the crimp can be monitored. Easy to integrate into the production process. Product quality can be seamlessly tracked using statistics, image saving and network feedback.

## C1370 / C1360 / C1340 crimp module
## for maximum productivity

Shortest setup and conversion times are achieved thanks to efficient user guidance with cable positioning directly on the module. CFA+ assures the highest level of quality and the lowest possible rate of rejects. The robust crimp module design delivers extraordinary repeat accuracy. Function such as stroke and split cycle are easily programmed. The C1360 and C1370 automatically adjusts the crimp height during the teaching procedure.

## S1441 seal module
## for maximum flexibility

The module automatically fits wires with common seals and mini-seals. The precision mechanics combined with the seal monitoring function of the Q1250 scalable guarantee high process reliability and maximum productivity. The module can be simply and quickly switched from one seal variety to another.

Basic wire deposit module 2 m: 3825 mm (150.6 in)
Basic wire deposit module 4 m: 5770 mm (227 in)

1525 mm (60 in)

Height with cover closed: 1790 mm (70.5 in)
Height with cover completely open (maximum opening): 2790 mm (109.8 in)

## Technical data

| | |
|---|---|
| Wire cross sections | 0.13 – 6 mm² (AWG 26 – 10)*<br>Up to 10 mm² (AWG 8) on request as application |
| Wire draw-in speed | max. 12 m/s (39 ft/s) |
| Outside diameter of conductor | max. 5.1 mm (0.20 in.) |
| Length range | 60 – 65'000 mm (2.35 in. – 213 ft.)**<br>optional 30 – 60 mm (1.18 – 2.36 in.) |
| Full stripping | 0.1 – 29.5 mm (0.004 – 1,16 in.)<br>Optional up to 18 mm (0.71 in) |
| Half stripping | max. 35.5 mm (1.4 in.) |
| Crimp force | max. 22 kN (max. 4 946 lbf.) |
| Process modules side 1 / 2 | 2 / 2 |
| Noise level | < 80 dB (without crimp tool) |
| Electrical connection | 3 × 208 – 480 V / 50 – 60 Hz / 5.6 kVA |
| Compressed air connection | 5 – 8 bar (73 – 116 psi.) |
| Air consumption Crimp / Crimp Crimp-Seal / Crimp-Seal | < 7 m³/h (247 ft³/h)<br>< 11 m³/h (388.5 ft³/h) |
| Weight (incl. 2 crimp modules) | 1.3 t (2866 lbs.) |

\* Very hard or tough wires may not be able to be processed under certain circumstances although they are within the specification. Komax offers feasibility tests for testing the wires in advance. The processing of larger wire cross sections is possible on request.
\*\* Repeat accuracy ± (0.2 % + 1 mm [0.04 in])


01


02


03

**01**
Uniform guide tubes support optimized cable handling for the thinnest cables from 0.13 mm² to 6 mm².
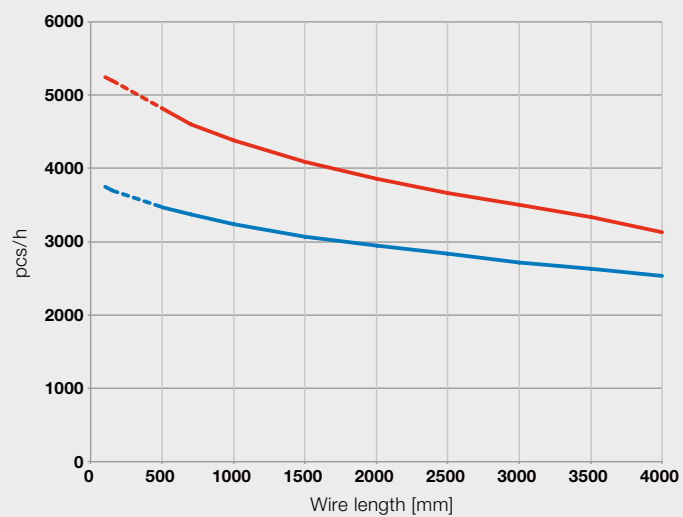**02**
The tools are within reach at any time in the practical, lockable drawer situated directly under wire draw-in.
**03**
The efficient belt drive reliably draws in the cable at a speed of up to 12 m/s. A pneumatic or mechanical setup module is optionally available.
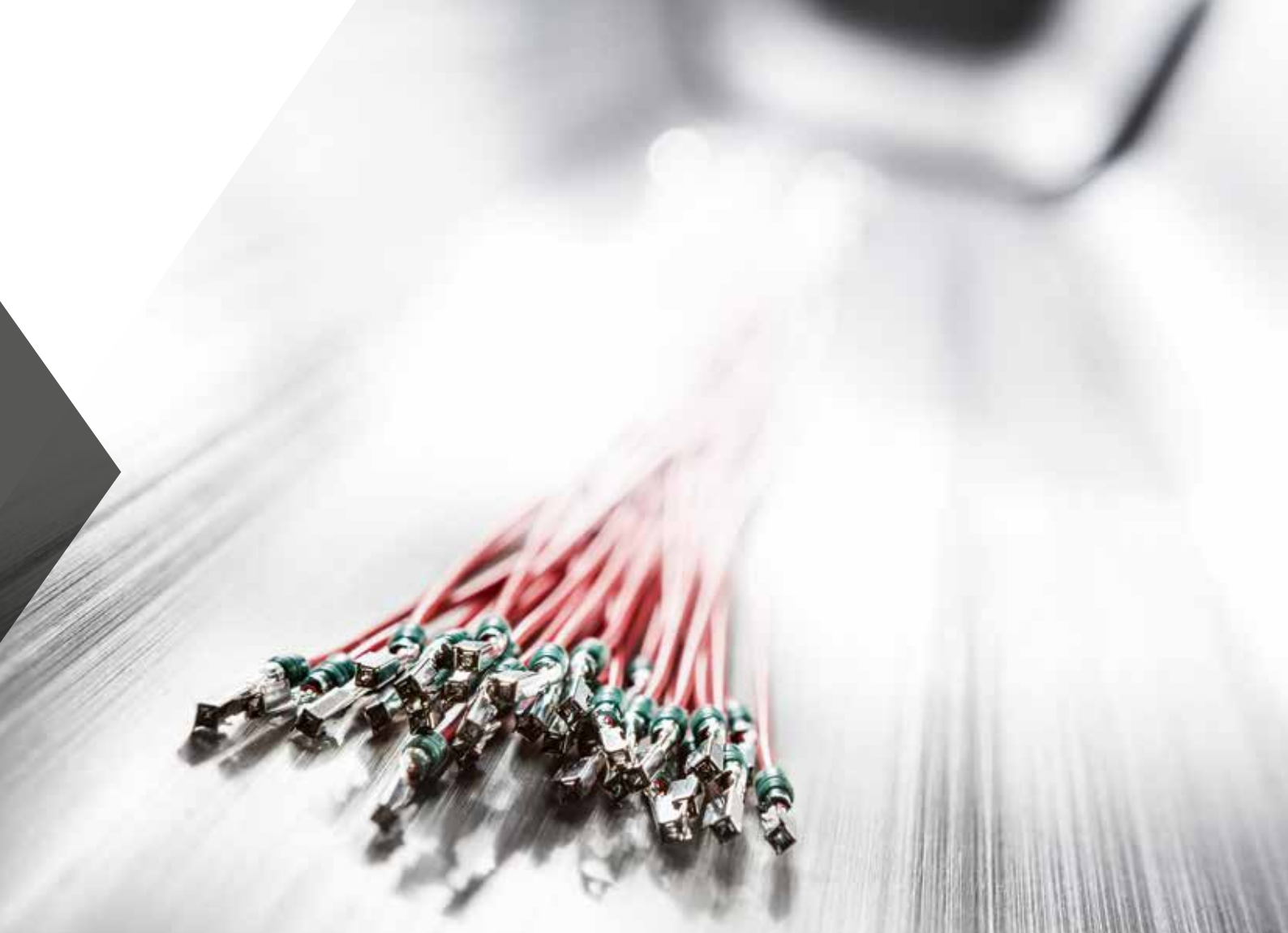
**The finished cables are placed gently in the smooth deposit unit made of stainless steel.**

## Output rate



| FLRY conductors | 0.5 mm² (AWG 20) |
|---|---|
| Wire draw-in speed | 12 m/s |
| Crimp module | C1370 |
| Seal module | S1441 |
| Crimp force analysis | Active |
| ACD, Q1250 scalable | Inactive |
| Deposit gripper | Active |

Crimp / Crimp
Crimp-Seal / Crimp-Seal

The actual output rate can vary with application and machine configuration.

## Options and accessories

| | |
|---|---|
| Automatic delivery systems | F1110 • F1150 • Komax 106 • ads 119 • ads 123 |
| Marking systems | Komax 26 hot-stamp marker • Komax inkjet marking systems • Laser marking on request |
| Blade holders | Double-blade line for V-blades and special blades • Single-blade line for V-blades |
| Process modules | C1370/C1360/C1340 crimp module • S1441 seal module • Double gripper module<br><br>Possible on request: X1582 twisting module • X1585 tinning module • Sleeve module • AEH ferrule module • MIL crimp module • Welding module • Ultrasonic compaction |
| Quality control | Integrated crimp height measurement • Integrated pull-out force measurement • Q1250 scalable optical stripping-, seal- and crimp monitoring • ACD automatic conductor detection • Material change detection • Material verification • Splice detection • Q1140 spark tester • Terminal end detection |
| Deposit systems | Basic module 2 m (78.7 in) or 4 m (157.5 in)<br>Extension module 2 m (78.7 in) or 4 m (157.5 in) |
| Accessories | STC crimp tool quick-change system • Quick-change wire draw-in • Bar code scanner • Intermediate stripping |
| Software | Komax HMI • Komax MES • MIKO networking interface • WPCS/MIKO Converter |

## Processing examples

| | | | |
|---|---|---|---|
| Cutting to length | | Split cycle for closed terminals | |
| Cutting pulled strands | | Seal insertion | |
| Full stripping | | Twisting / tinning* | |
| Half stripping | | Sleeve insertion* | |
| Core Processing* | | Ferrule crimping* | |
| Double casing, coaxial and triaxial cables* | | MIL crimping* | |
| Intermediate stripping | | Wire-end compaction, splicing, welding* | |
| Crimping | | Hot-stamp marking | |
| Double crimping | | Inkjet marking | |

* Available on request

## Komax – leading the field now and in the future

As a pioneer and market leader in the field of automated wire processing, Komax provides its customers with innovative and sustainable solutions for any situation that calls for precise contact connections. Komax manufactures series and customer-specific machinery for various industries, catering to every degree of automation and customization. Its range of quality tools, test systems, and intelligent networking solutions complete the portfolio, and ensure safe and efficient production.
Komax is a globally active Swiss company with development and production facilities on several continents. Komax uses its extensive distribution and service network, which includes local companies and their employees, to support customers across the world on site, thus ensuring the availability and value of their investments after equipment commissioning through standardized service processes.

### Market segments

**Komax offers outstanding competence and solutions for various areas of application and draws on them to generate the desired value-added for the entire process and optimize economic efficiency in line with customer requirements. The main markets of Komax are as follows: automotive, aerospace, industrial and telecom & datacom. With this breadth of experience, customers obtain expert knowledge for process optimization and access to the latest technologies.**

**KOMAX NEWS PORTAL**
Explore now
**newsportal.komaxgroup.com/en**

Komax AG
Industriestrasse 6
6036 Dierikon, Switzerland
Phone +41 41 455 04 55
sales.din@komaxgroup.com

**komax**
**komaxgroup.com**