ALPHA 550

crimp to crimp

komax

EN

TOP PERFORMANCE

IS OUR CONNECTION TO THE FUTURE.

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.

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

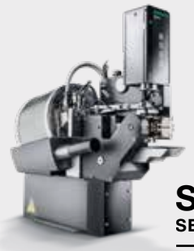
– Robust and reliable processing of wire cross-sections from 0.13 to 6 mm², and on request up to 10 mm² (AWG 8)
– Produces special and complex applications thanks to flexible machine configuration

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).

THE STRONGEST
IN ITS CLASS



Q1250 SCALABLE
OPTICAL QUALITY MONITORING

S1441
SEAL MODULE

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

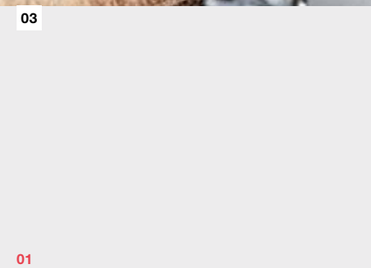
Simple, fast setup and conversion approaches allow short travel paths while accelerating the procedures. With the touch screen, keyboard and mouse, the Alpha 550 can be operated in a time-saving and ergonomic fashion. The intuitive machine software allows the next job to be loaded without halting operations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

01

MAXIMUM PERFORMANCE HAS NEVER BEEN

MORE FLEXIBLE AND MORE ROBUST.

02



03

01
The robust swivel arm with its unbeatable 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

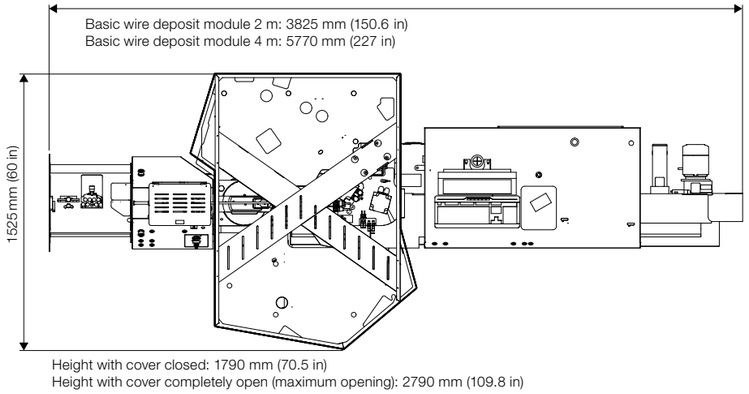
The quality tool visually checks the stripping quality and automatically rejects faulty products. A seal monitoring function is also available that monitors the seal position and orientation. Thanks to the high-performance color camera, any crimp defects such as crimped-on strands or insulation in the 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.



Technical data

Wire cross sections	0.13 – 6 mm² (AWG 26 – 10)* 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.)** optional 30 – 60 mm (1.18 – 2.36 in.)
Full stripping	0.1 – 29.5 mm (0.004 – 1,16 in.) 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) < 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])

03

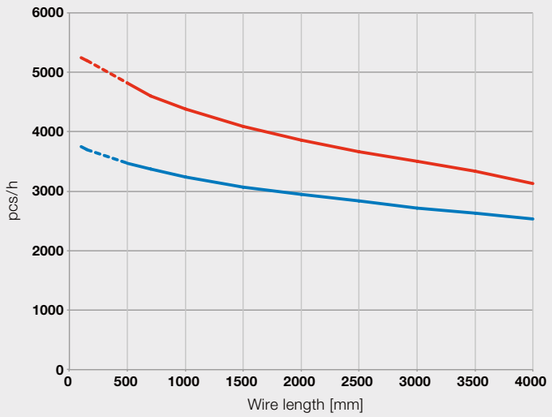
01

02

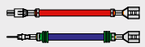
01
Uniform guide tubes support optimized cable handling for the thinnest cables from 0.13 mm² to 6 mm².
02
The tools are within reach at any time in the practical, lockable drawer situated directly under wire draw-in.
03
The efficient belt drive reliably draws in the cable at a speed of up to 12 m/s. 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



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 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) 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	
Cutting pulled strands	
Full stripping	
Half stripping	
Core Processing*	
Double casing, coaxial and triaxial cables*	
Intermediate stripping	
Crimping	
Double crimping	

Split cycle for closed terminals	
Seal insertion	
Twisting / tinning*	
Sleeve insertion*	
Ferrule crimping*	
MIL crimping*	
Wire-end compaction, splicing, welding*	
Hot-stamp marking	
Inkjet marking	

* Available on request

Komax – leading the field now and in the future

As a pioneer and market leader in automated wire processing, Komax provides its customers with innovative solutions. Komax manufactures series and customer-specific machinery, catering to every degree of automation and customization. Its range of quality tools, test systems, and intelligent software and networking solutions complete the portfolio, and ensure safe, flexible, and efficient production.
Komax is a globally active Swiss company with highly qualified employees and development and production facilities on several continents. It provides local support to customers worldwide through its unique sales and service network and offers services that help them get the most out of their investments.

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Subject to change