ALPHA 560

crimp to crimp

komax

EN

ALPHA 560

The Alpha 560 is a powerful, fully automatic wire processing machine for one- or two-sided loading with large terminals and seals. Two stations each process conductor cross sections of up to 16 mm² (AWG 6). The Alpha 560 is extremely easy to operate and provides reliable, robust production. Operation via the touchscreen requires just a short training course and is supported by the intuitive Green Button user guidance system. This and the innovative HMI controller ensure great flexibility and short changeover times. Another outstanding feature is the fully integrated end-to-end quality monitoring from the stripping process to the finished crimp.

Wide processing spectrum:

– Reliable processing of conductor cross sections of 2.5 to 16 mm² (AWG 14 – 6) with crimp terminals up to 55 mm (2.16 in.) in length
– A variety of processing possibilities at four or more stations (on request)
– For large seals with max. length 21 mm (0.83 in.) and max. Ø 18 mm (0.71 in.)
- Processing of wires up to 8 m in length (12 m on request)
- Suitable for large terminal reels up to Ø 800 mm (31.5 in.)

High efficiency and productivity

– Optimized work processes thanks to innovative process module setup
– Minimal training required thanks to the clearly structured user interface Komax HMI
– Minimal downtime due to setup directly on the module

Robustness and durability

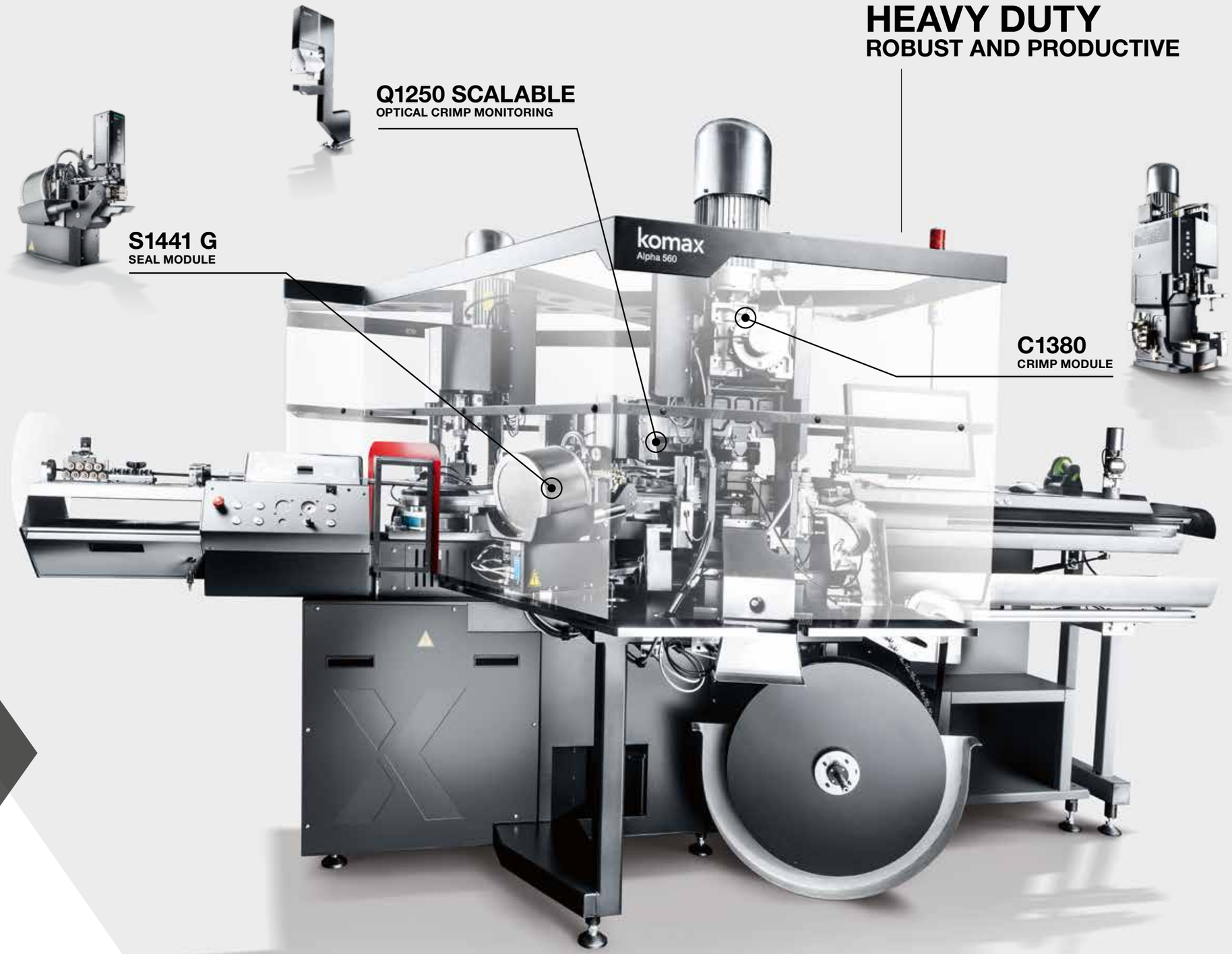
– Consistently high performance even in rough environments
– Quality components from the proven Alpha 5xx platform
– Inexpensive handling of replacement and wear parts thanks to the common parts concept

High-precision crimping process for large conductor cross sections.

POWERFUL SOLUTION

FOR CROSS SECTIONS UP TO 16 mm² (AWG 6)

HEAVY DUTY
ROBUST AND PRODUCTIVE



C1380 crimp module for maximum productivity

With a crimp force of 50 kN, even demanding terminals can be processed with ease. Higher crimp forces are available upon request. Wire positioning directly on the module reduces the time required for setup, changeover and sampling. In the current process, the fully integrated CFA+ and CFA crimp force monitoring guarantees the highest quality with minimal rejects. A powerful cutting mechanism cuts terminal strips up to 1.2 mm (0.05 in.) thickness.

S1441 G seal module for high flexibility

The module reliably processes up to 380 different seal variants. Thanks to the automatic, intelligent seal detection function and the stored SST (Smart Seal Track) parameters, set-up time can be reduced to a minimum.

Optical crimp monitoring Q1250 scalable for traceable high-quality results.

The wear-free, optical quality monitoring function is fully integrated in the Alpha 560. The Q1250 scalable quality tool monitors strip quality and seal insertion and automatically rejects defective products. Product quality can be traced end-to-end via statistics, image capture and the network. At 6 – 16 mm² and depending on the application, the functionality is limited to basic functions.

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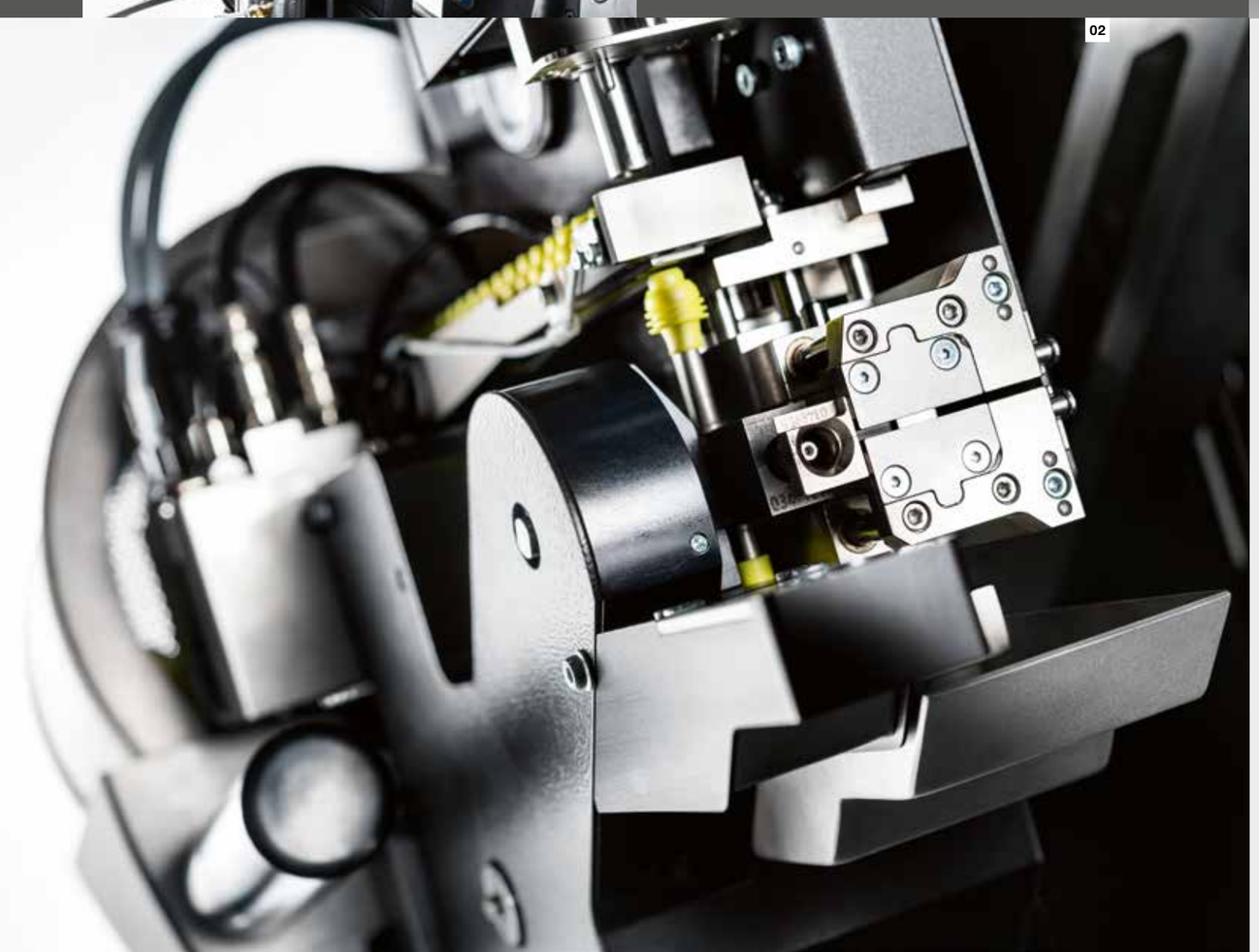
MINIMAL CHANGEOVER TIMES

FOR HIGH PRODUCTIVITY

03



02

01
Quick and reliable setup directly on the crimp module.
02
Can easily process large seals up to Ø18 × 21 mm (Ø 0.7 × 0.83 in.).
03
Minimal training required thanks to the clearly structured user guidance in the Komax HMI

Optimal setup and operation

The innovative machine and process module setup greatly simplifies work processes. Set-up processes are automated and require only minimal training. Efficient setup directly on the module yields significant time savings. Additional operating functions at the cable-feed and on the modules simplify processes further. In just a few steps, a new wire can be requested, precisely positioned and prepared. The production process can be adjusted and optimized during operation.

Future-oriented quality concept

Fully integrated quality tools monitor the entire manufacturing process through to the finished product. The monitoring functions for the crimping process (CFA+/CFA) as well as the seal position and the strip quality (Q1250 scalable) ensure maximum quality with minimal rejects. The measurement data for the produced articles is stored locally and can be traced via a network. The optional verification and documentation of the implemented specifications ensure demonstrable quality according to industrial standards.

Simple and flawless operation with Komax HMI

Assisted by the intuitive user guidance system of the HMI operating software, the Alpha 560 can be set up in just a few steps and operated by any staff member. The open HMI interface enables complete transparency concerning the production process at all times. It enables the integration of external control tasks and applications.

Robust, reliable design

This solid system ensures consistent reproducibility of the products in the required quality. 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.

THE PERFECT PROCESS MODULE SETUP

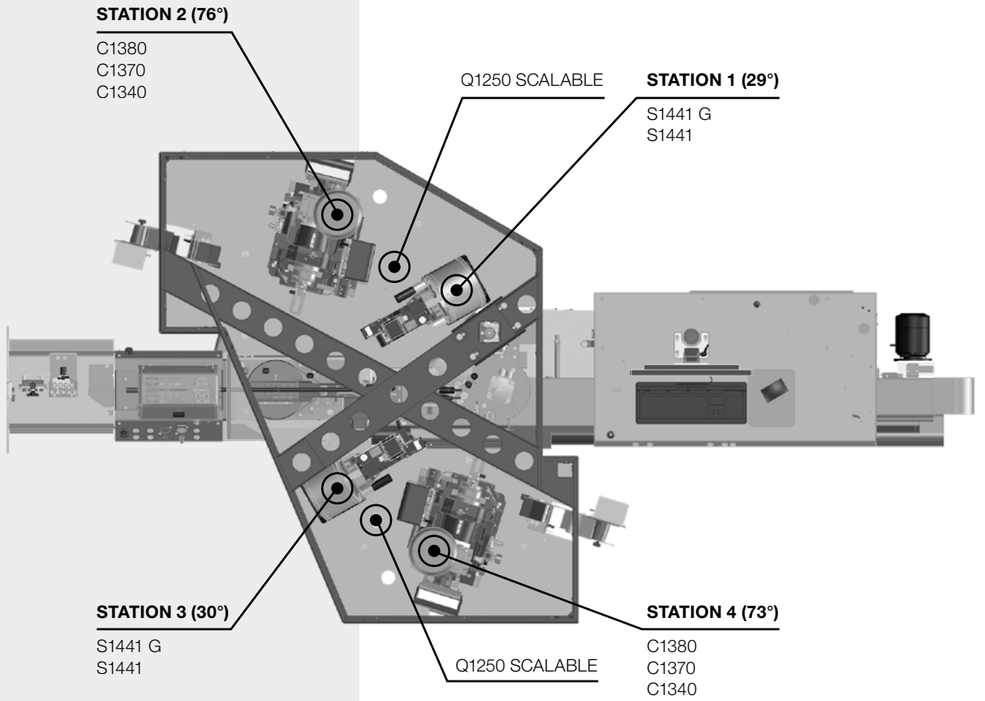
FOR OPTIMAL FLEXIBILITY

Customer-specific configuration (on request)

The Alpha 560 is specially designed for large conductor cross sections. A wide variety of process variants are possible at four or more stations (optional). Heavy-duty modules, for example, can be replaced by ones with a lower maximum crimp force (C1340/C1370) or smaller seal sizes (S1441), if desired by the customer.

Optimized processes – simple handling – increased efficiency

The modular structure simplifies procedures and ensures very short start-up and reset times. The operator console with a large 22” touchscreen, keyboard and mouse are part of the standard equipment. Additional operating functions at the wire draw-in further simplify work processes and increase efficiency. LED-illuminated work zones provide user guidance and orientation. Large storage spaces for tools ease operation while top-opening safety covers provide optimal access to the modules.



Technical data for the crimp modules

Crimp module	**C1380**	C1370	C1340
Max. crimp force	**50 kN 11240 lbf.**	22 kN 4946 lbf.	22 kN 4946 lbf.
Conductor cross section	**2.5 – 16 mm² AWG 14 – 6**	0.125 – 6 mm² AWG 26 – 10	0.125 – 6 mm² AWG 26 – 10
Crimp height adjustment	**Manual**	Automatic	Manual
Stroke	**30 – 40 mm**	10 – 40 mm	10 – 40 mm


03


04


01


02

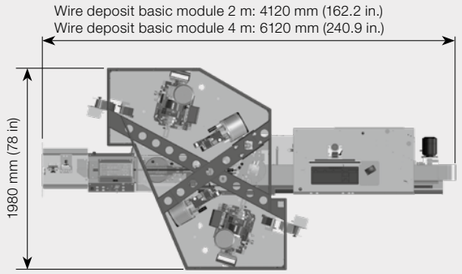
01
With a crimp force of 50 kN, demanding crimp terminals of up to 55 mm in length can be processed with ease.
02
The efficient belt drive reliably draws in the cable at a speed of up to 12 m/s. Optional straighteners adapted to the application are available.
03
With the double-blade holder, two different blade edge radii or special blades can be selected at the press of a button.
04
The tools are within reach at any time in the practical, lockable drawer situated directly under the wire draw-in.

▲ **A wide range of process options for a large selection of terminals.**

Technical data

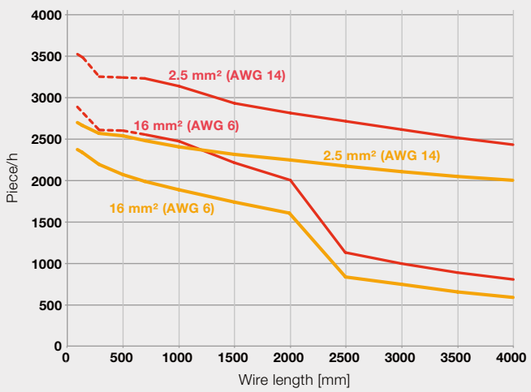
Wire cross-sections	2.5 – 16 mm² (AWG 14 – 6)*
Wire outer diameter	3 – 8.5 mm (0.20 in.)
Length range**	60 - 8'000 mm (2.35 in. - 26 ft.) 12 m (39 ft.) upon request
Full strip	max. 29.5 mm (max. 1.16 in.)
Partial strip	max. 35 mm (1.38 in.)
Crimp force*	1 – 50 kN (224 – 11'240 lbf.)
Process module side 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 ft.³/h) < 11 m³/h (388.5 ft.³/h)
Weight (incl. 2 crimp modules)	1.40 t (3087 lbs.)

* Very hard or tough cables may not be processable although within specification. Komax offers feasibility tests for prior testing. Processing of larger conductor cross-sections possible on request.
** Repeating accuracy ± (0.2% + 1 mm [0.04in.])



Height with cover closed: 2100 mm (82.7 in.)
Height with cover completely open (maximum opening): 2775 mm (109.3 in.)

Production output



Wire	FLY-B, 16 mm² (AWG 6) FLRY-A, 2.5 mm² (AWG 14)
Belt drive pressure	4 bar (58 psi)
Wire speed	3 m/s for 16 mm² 10 m/s for 2.5 mm²
Crimp module	C1380
Seal module	S1441 G
Crimp force monitoring CFA+	active
Q1250 scalable	inactive
Deposit gripper	active

Crimp / Crimp
Crimp / Crimp-Seal

The actual piece output may vary depending on the application and machine configuration.

Options and accessories

Prefeeders	ads 119 • ads 123 • F1150
Wire drive	Belt drive
Marking systems	Komax 26 hot-stamp marker • Komax inkjet marking systems • Laser marking (on request)
Blade holders	Double-blade line for V-blades • Double-blade line for special blades
Process modules	Crimp module C1380/C1370/C1340 • Seal module S1441 G / S1441 • Ultrasonic compaction (on request)
Quality assurance	Integrated crimp height measurement Komax 341 • Integrated pull-out force measurement Q1210 • Optical crimp monitoring Q1250 scalable • Material change detection • Material verification • Splice detection • Spark tester Q1140 • Terminal end detection • Digital microscope
Filing systems	Base module 2 m (78.7 in.) or 4 m (157.5 in.) • Extension module 2 m (78.7 in.) • Deposit gripper
Accessories	Bar code scanner • Work magnifying glass • Tower light LED 4- or 5-color • USV • MX5050 center strip (on request)
Software	Komax HMI • MIKO networking interface • WPCS/MIKO converter

Processing examples

Cutting to length		Split cycle for closed barrels	
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*		Solidifying, splicing and welding wire ends*	
Crimping		Hot-stamp marking	
Double crimping*		Inkjet printing	

* 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