Reprint

Coaxial Cable Stripping Machines

A Buyer's Guide

As featured in the
July/August 2003 issue

Serving the Electric Wire and Cable Processor
WIRING HARNESS NEWS
Voice of the industry
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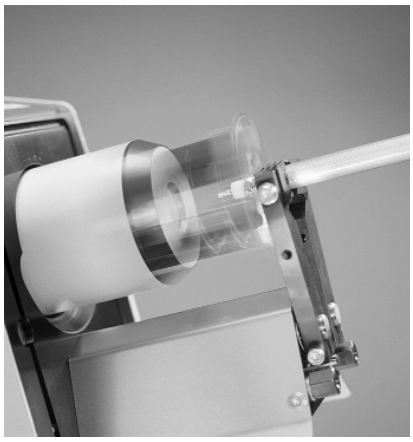
Introduction

If you're in the market for a programmable coaxial cable stripper, there are some important points to consider before making a purchasing decision. This article is meant to be used as a "buyer's guide" to refer to when evaluating different machines. Although there are fully automatic machines available on the market, this article only focuses on the semi-automatic benchtop type of programmable coaxial cable stripper.

History of the Programmable Coaxial Cable Stripper

Prior to Schleuniger's introduction of the first programmable coaxial cable stripper, all coaxial cable was stripped on machines or tools which had mechanical adjustments for strip lengths or diameters and guide bushings of various sizes to accommodate different cable diameters. When Schleuniger introduced the model "207" in 1985, it revolutionized the way the world stripped coaxial cables. The model 207 made it possible to program and store all of the cable specific parameters in machine memory and recall them when necessary. No mechanical adjustments or changeovers were necessary when going from one cable type to another. Since that time, Schleuniger has introduced other models with additional features and improvements over the original model 207.



Critical Components of any Coaxial Cable Stripper Design

The are many factors to consider when evaluating programmable coaxial cable strippers. Below is a list of each machine component or function and what important points to look for in a prospective machine.

Strip Quality: Cable samples and specs should be submitted to the machine manufacturer and returned to you with a report. Alternatively, you can request to have a demonstration of the machine processing your cables at your facility. In any case, it's important to ensure that the strip quality will meet your expectations for all of your intended applications. Check both the accuracy and the repeatability of the results.

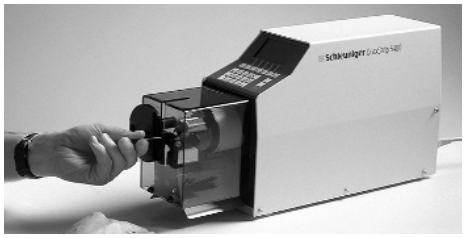
Production Rate: Assuming the strip quality meets your specifications, the next most important factor in a cost justification is the production rate. Since time equals money, the fastest machine will pay for itself quicker. Use a stopwatch to check the production rate for each cable you plan to produce. Make sure to record the total time for a batch of at least 10 samples, so as to include the handling time. Divide the results to determine how many seconds it takes to produce one cable, including handling time.

Changeover Time: Once all of your applications are programmed into the machine, measure the time it takes to

change from one application to another. Are all parameters programmable or are some mechanical adjustments or changeovers required. When running low quantity, high mix jobs, the changeover time can be as important as the production rate.

Blade System: The blades make a radial incision down to the desired layer or depth. The blades then hold the insulation and move it axially, stripping the cable. A two blade system is the minimum required for a balanced cut and for stripping the jacket from the cable. For very difficult to strip insulations, a three or four blade design may be required. Some machines use a single blade edge to make the radial incision. This does not work well on small cable. For average size cables, the blade life should be at least 50,000 cables and up to 100,000 cables. Optimum blade life depends on proper programming and a good centering system. Blades should be made out of carbide and may even be coated with Titanium Nitride or other wear coatings. Check how easy it is to replace the blades. You shouldn't have to recalibrate the entire machine when changing blades.

Centering System: The centering system should be universal so nothing needs to be changed when processing cables of different diameters. Some inferior machines require the operator to manually change guide bushings for each different cable diameter to be processed.

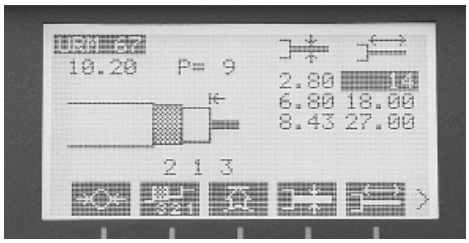


Sensor Activated Start Cycle: Some machines require a button or a footpedal to be depressed to activate the machine cycle. Others use a sensor that detects the cable end to begin the machine cycle. The "sensor type" is preferred by most operators because it requires one less operation compared to pressing a button or a footpedal. If it is a sensor type, verify that even your smallest cable can trigger it without the cable buckling.

Gripper System: The grippers must be strong enough to hold the large, difficult to strip cables, yet gentle enough to hold the small, delicate cables without damaging them. The gripper force should be programmable for each cable program so the value can be stored with the cable program.

Free Cable Length: Some customers use their coaxial cable strippers to strip inner conductors of multi-conductor cables. Many times, the breakout length is only an inch or so. It's important to determine what the minimum free cable length is when evaluating different coaxial cable strippers. To do so, program the machine for a strip length of zero inches. Insert the cable until it just touches the sensor or mechanical stop. Mark the cable at the point where it exits the machine, usually at the safety shield. Remove the cable from the machine and measure the length from the cable end to the mark. This distance is the "free cable length". This free cable length must be added to the strip length to determine the overall breakout length. Make sure that the machine you select will process most or all of your applications.

Motion Control System: Does the machine have a closed loop feedback system for the length and diameter axes? If the machine uses stepper motors, chances are that they do not have position feedback. The stepper motor may lose steps (and position) and the controller will not sense there is a problem. The machine may produce cables that are out of tolerance. A good motion control system will have rotary or linear encoders and will monitor the position of a given axis at all times. If the axis does not index to the desired position within the required time, the controller will be able to display an error



User Interface: How easy is it to program a new cable? How many programs can be stored in memory? How intuitive is the programming? Is the layout logical and is it easy to navigate between the different programming screens?

Modular Construction: Is the machine designed with a modular construction to enable simple serviceability (e.g. blade changes and calibration)? Some inferior machines require dismantling of the entire frame to get to the basic machine components.

Ergonomics and Safety: Is the machine safe and easy to use? Is it CE Compliant? Is the display easy to read in different lighting conditions? Can the operator insert the cable

and withdraw the cable easily? Is the machine noisy or does it vibrate a lot during operation? Is the machine lightweight and portable so it can be easily moved from one workstation to another?

Experience and Support: Does the machine manufacturer have a large installed base? Ask for a list of references you can call. Do they have a toll free technical support hotline?

Warranty and Service: What exactly is covered under the warranty and what is the duration of the standard warranty. Is it possible to get an extended warranty for a longer period? Do they offer field service? What is the average service turnaround time if you return your machine to the factory for repair? How many locations do they have? Is there one near you?

Conclusion

When shopping for a new programmable coaxial cable stripper, make sure to look at all aspects of a machine before making a purchasing decision. Unfortunately, many purchasing decisions are based on initial machine price alone. An informed consumer will look at the total cost of ownership before purchasing a production machine. Taking all things into consideration, the ultimate decision should come down to purchasing the machine that has the lowest cost per strip.

Need more information? E-mail Us! sales@schleuniger.com or visit us at www.schleuniger-na.com.