

Automation

Automation Tooling Systems

AWS-747 Needle Winding Machine



**For automatic winding and terminating
of coils for brushless motor stators**



Automation
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Systems

Description

Available in either a single - or three-nozzle configuration, the AWS 747 needle winder provides fully automated winding, indexing, layering and terminating for stators of EC motors. Quick changeover on the AWS 747 allows for winding both inside-out and outside-in stators. Terminating operations can be fully automated. Stators can be manually or automatically loaded into the needle winder from pallets, and unloaded onto pallets in the same way.

Specifications

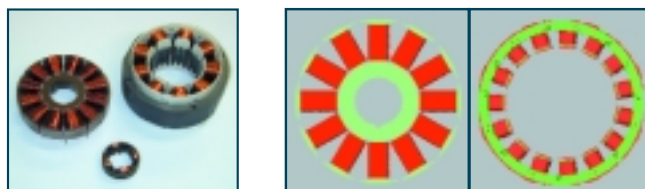
Stack diameter (inside):	20 – 100 mm
Stack diameter (outside):	30 – 150 mm
Stack height:	10 – 100 mm
Range of wire diameter:	0.1 – 1.5 mm
Number of wires:	max. 6
Termination of wire:	on-assist hooks, insulation with hooks, terminal pockets or pins
Machine control:	ATS MACS™
Power supply:	460/480 V, 60 Hz
Fusing:	3 x 20 A
Pneumatic:	Festo
Operating air pressure:	80 psi

Dimensions/Weight

Width:	1000 mm
Depth:	1200 mm
Height:	2500 mm
Weight:	2000 lbs

Options

- Electronic wire dereelers
- Control of machine settings
- Control of wire diameter
- Control of wire tension during winding
- Linear 3-needle winding configuration



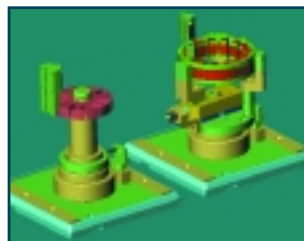
Stators, wound inside and outside

Inside-out stator

Outside-in stator

Features & Benefits

- Fully automatic winding, indexing, layering and terminating stator wires for EC-motors
- Wind from both inside and outside, switch within minutes simply by changing tooling
- 3-phase winding using up to three needles at one time arranged in a circle
- Adjustable angle between needles
- Bifilar winding
- Winding stroke by spindle or crankshaft for high flexibility
- Layer-by-layer winding by synchronized servo-axes for optimum fill factor
- Touch-screen display for winding program input, failure diagnostics and production statistics
- Winder-specific wire dereelers
- Wire-cut or wire-tear system
- Active wire-scrap removal
- Intermediate wire terminations possible at most positions on stator
- Manual or automatic load/unload
- Load/unload directly from pallet transport system, patented indexing of stator directly on pallet, no additional handling operations necessary
- Global sales and service network



Winding inside and outside, part indexed on the pallet



Three winding needles, arranged at 120° in a circle

Contact ATS directly for custom or product-specific applications beyond the scope of this document.



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