Spring probe pin for Low resistance, High current carrying and High voltage

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Introduction

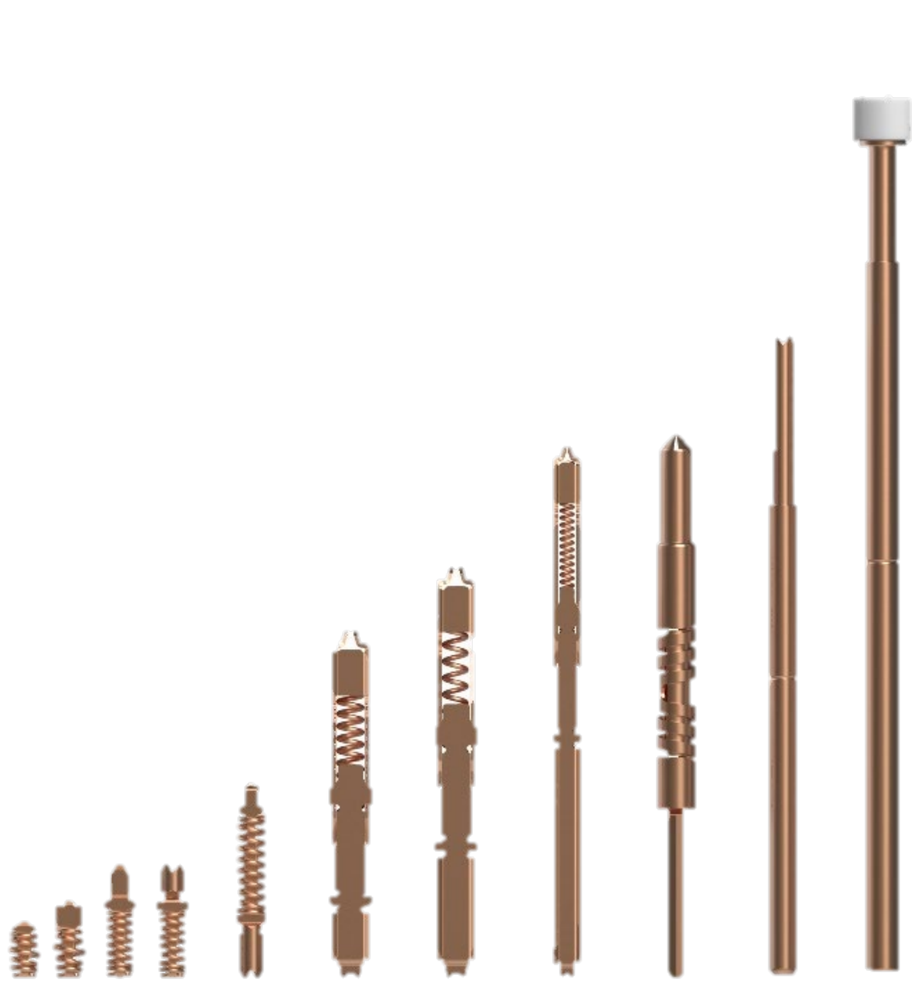
Outstanding technologies for test/connector spring probe pins enabling low resistance, high current carrying and high voltage.

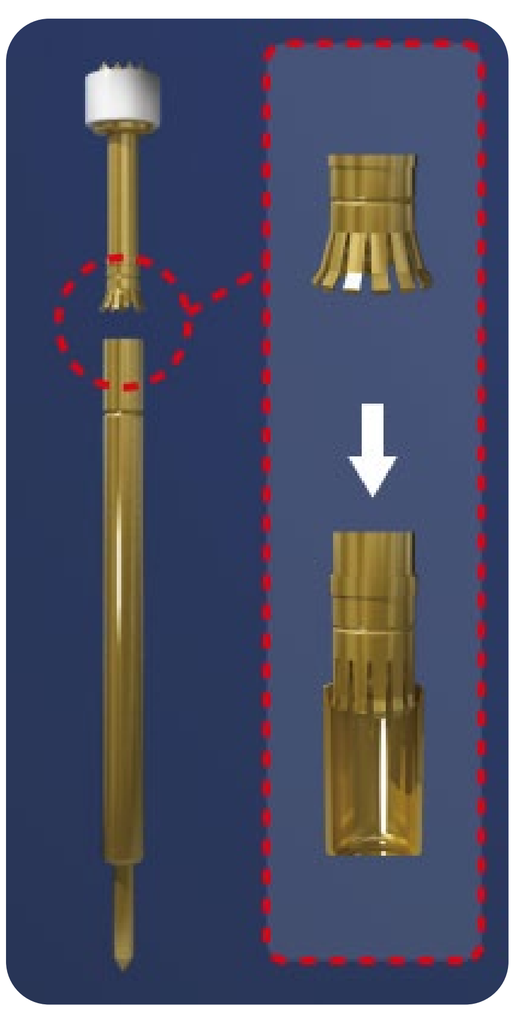
The pin solution demonstrates high performance at the small pitch and space, temperatures 200 ºC and higher, vibration and harsh operating conditions.

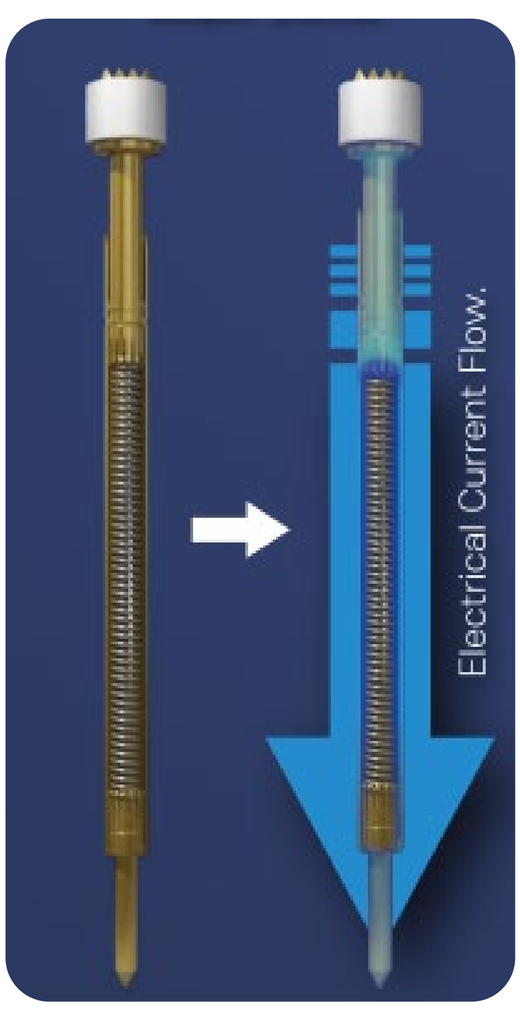
Specification

- High current carrying 33 Amps at 1.36 mm diameter. Could be higher current at bigger diameter.
- Low Resistance under 10 mΩ.
- Contact shape for high voltage and preventing spark.
- Temperature higher than 200 ºC, vibration and harsh working condition.

Low Resistance / High Current Carrying Spring Probe

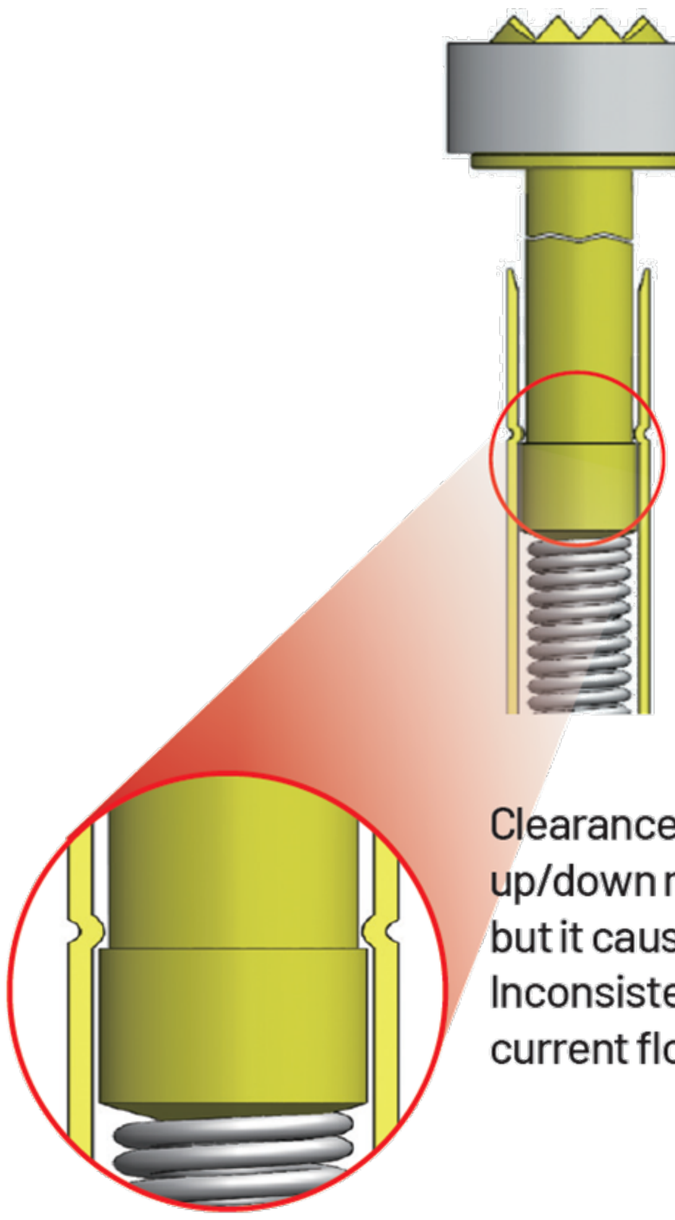






One example among optional solutions

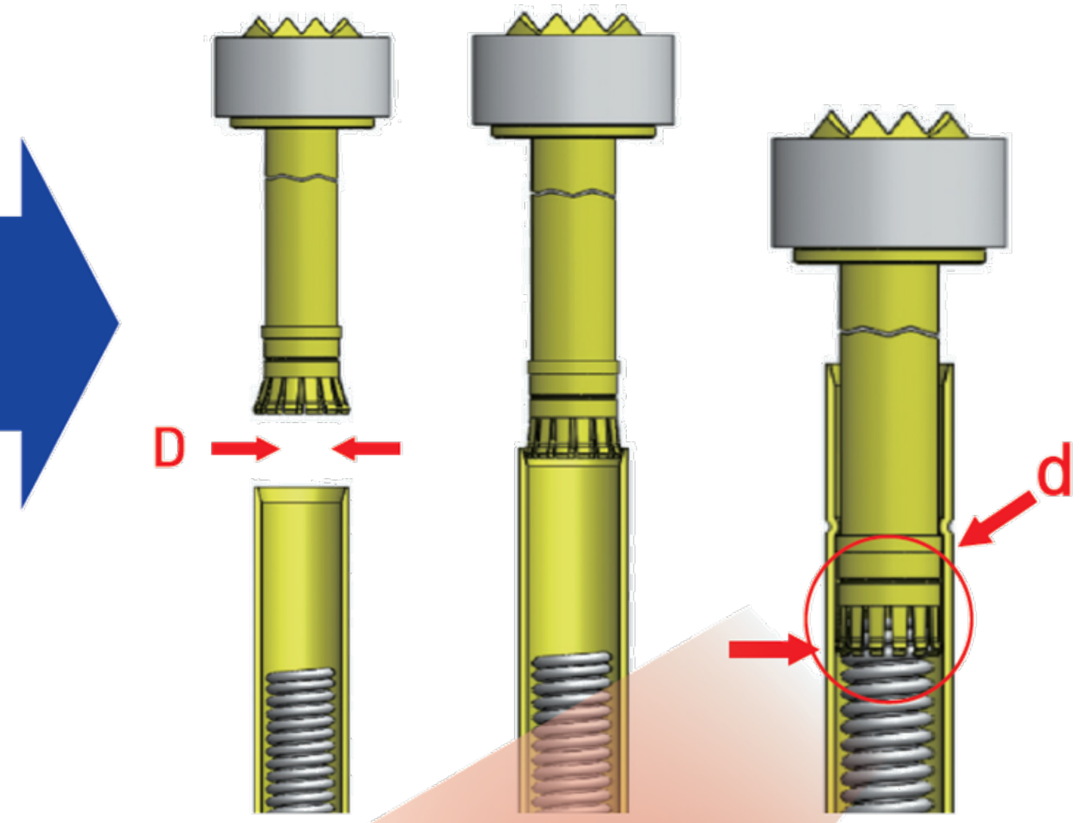
Before

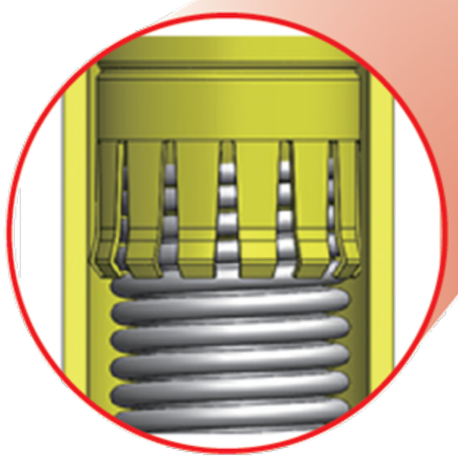


Clearance for up/down movement, but it causes Inconsistent/low current flow.

New Technology

At free, brush with bigger diameter





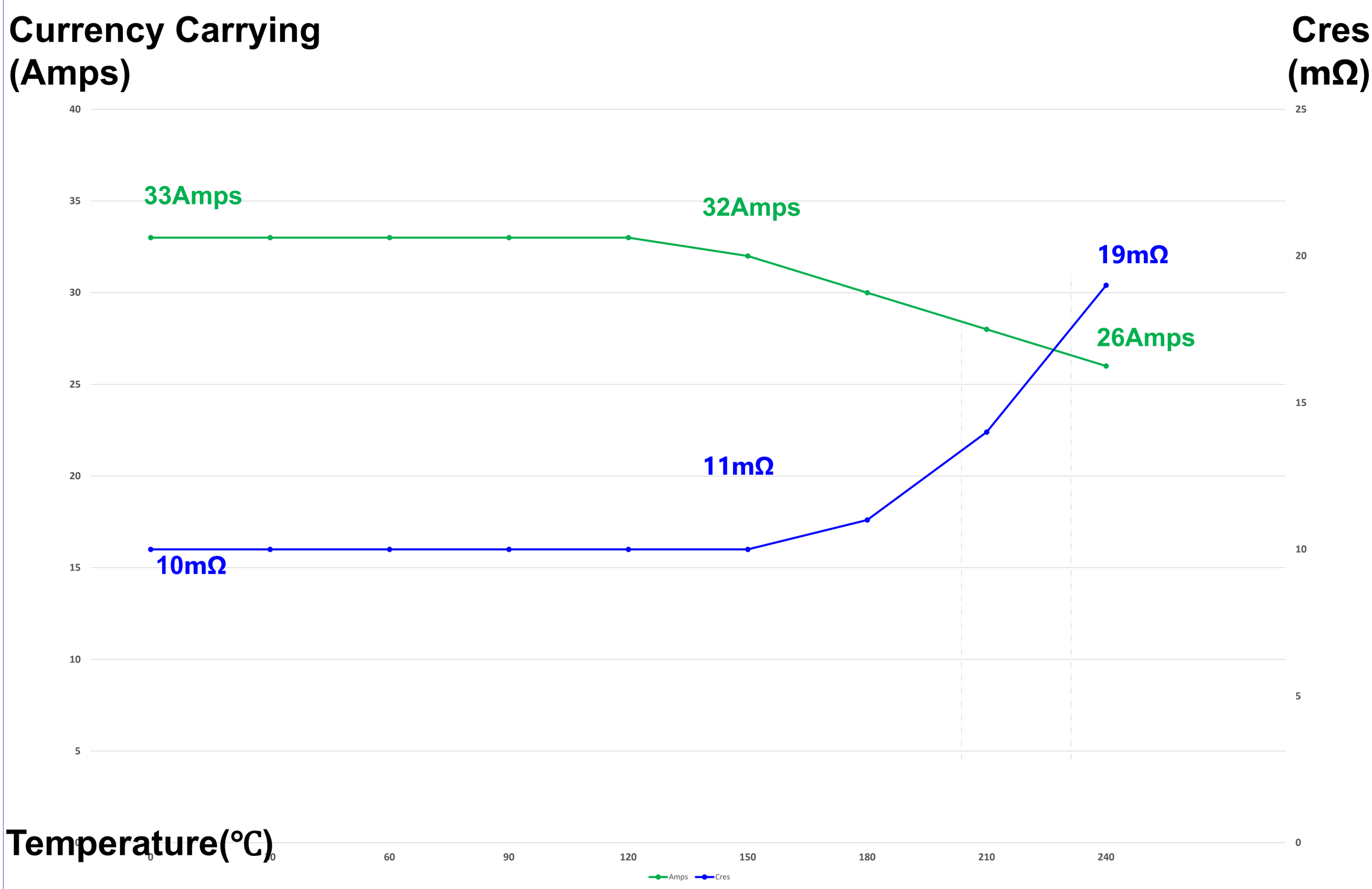
Assembled condition, brush compressed, diameter smaller with elasticity force.

Multi brushes stable/ smooth contact to barrel body. Enabling reliable/ high current carrying capacity.

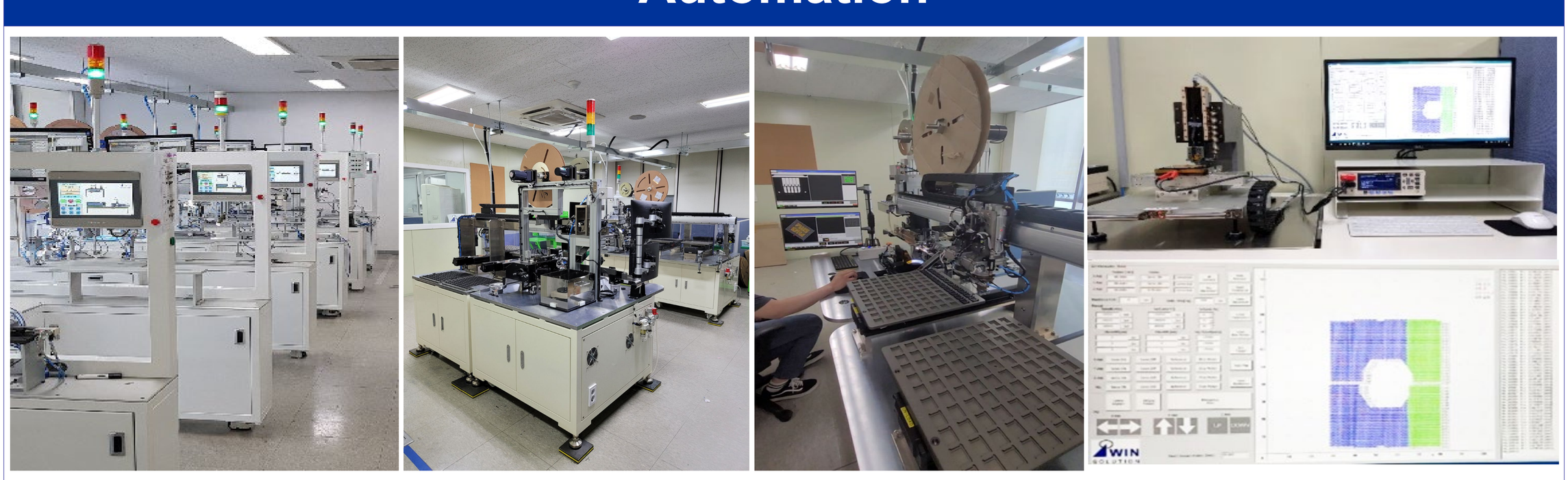
Patented :
Korea, USA, Japan, China, and PCT international

Parameter	Before	New Technology
Current Carrying Capacity	15 Amps	Over 33 Amps
Life (Mechanical)	50,000	Above 1,000K
Resistance	Under 30 mΩ	Under 10 mΩ
Temp. Stability	- 40 ~ 120 ℃	Stable performance at - 40 ~ 200 ℃
Mass Production	Semi-automated	Progressive Stamping Technology
Quality Control	Semi-automated	Automation by exclusive equipment

Current carrying/Resistance vs Temperature



Automation



Summaries

- Various spring probe solution for high current carrying capacity and low resistance at the required pitches.
- Reasonable manufacturing cost by stamping process
- Short cycle time with automated assembly process, and automated inspection system.
- Easier quality management once stamping tool is qualified
- Combination of stamped parts and machined parts possible