



**AgieCharmilles**

**US Patents**

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# 1 US Patents

## 1.1 Marking statute

Pursuant to Section 287(a) of title 35 in the United States Code (the "marking statute"), public notice is given that this equipment is protected by one or more of the US patents listed below.

## 1.2 Patent list

The following list contains all active US Patents and Design Patents, individually or collectively held by Agie SA and Charmilles Technologies SA.

By clicking the corresponding patent number you can access the full patent document on a public database. A working internet connection is required hereto. The link leads you to either espacenet, the Patent Database of the European Patent Organisation (EPO), or to the Patent Database of the United States Patent and Trademark Office (USPTO).

<b>US Patent</b>	<b>Title</b>
<a href="#"><u>4,864,091</u></a>	<b>Servocontrol device for an erosion machine</b>
<a href="#"><u>4,900,889</u></a>	<b>Current supply device for movable electrodes of spark erosion machines</b>
<a href="#"><u>4,939,334</u></a>	<b>Method for the controlled withdrawal of a counter-sinking electrode in an electroerosion machine</b>
<a href="#"><u>5,030,819</u></a>	<b>Method and device for numerical control for electroerosion machine</b>
<a href="#"><u>5,045,663</u></a>	<b>System for control of flushing flow in a spark discharge (EDM) machine</b>
<a href="#"><u>5,047,607</u></a>	<b>Wire-cutting electric discharge machine with wire sectioning device for wire disposal</b>
<a href="#"><u>5,070,224</u></a>	<b>Wire erosion machine</b>
<a href="#"><u>5,111,016</u></a>	<b>Machine for spark erosion cutting with a guide-arm crossing the back wall of the working liquid container</b>
<a href="#"><u>5,117,082</u></a>	<b>Device and process for controlling the variation of a parameter in edm machining with an electrode-wire</b>
<a href="#"><u>5,118,914</u></a>	<b>Protective device for machining heads</b>
<a href="#"><u>5,122,630</u></a>	<b>Device and control process for an edm cutting machine preventing wire breakage</b>
<a href="#"><u>5,128,505</u></a>	<b>Injection device and electrode wire electric discharge machine for high-speed precision machining</b>

<a href="#">5,171,957</a>	Generator for electric discharge machining of metallic work pieces by means of an electrode consisting of liquid or solid material
<a href="#">5,196,665</a>	Multi-layer electrode wire and method for producing the same
<a href="#">5,242,555</a>	Method of machining workpieces by wire electro-erosion and securing machined articles
<a href="#">5,280,153</a>	Method of and apparatus for pulse generator for electric discharge machining
<a href="#">5,288,965</a>	Electro-erosion machine with improved circuit for the unwinding of the wire-electrode
<a href="#">5,290,987</a>	Electrical discharge machining apparatus
<a href="#">5,324,909</a>	Apparatus for measuring and/or controlling the tension in a ribbon or wire-type electrode of an electric discharge machine
<a href="#">5,336,864</a>	Pulses generator for electrodischarge machining
<a href="#">5,354,961</a>	Device and process for electrical-discharge machining of a three-dimensional cavity with a thin rotating tool electrode
<a href="#">5,386,093</a>	Method for electroerosive cutting and wire EDM machine
<a href="#">5,396,040</a>	Device, standard blanks and standardized electrodes for electro-discharge milling
<a href="#">5,410,117</a>	Device and control process for EDM machining with an electrode-wire
<a href="#">5,410,118</a>	Method and device for controlling a spark erosion machine
<a href="#">5,410,119</a>	Thermostable wire cutting electro-erosion machine
<a href="#">5,428,200</a>	Apparatus for electro-erosion cutting
<a href="#">5,434,379</a>	Apparatus for and method of electro-discharge cutting
<a href="#">5,438,178</a>	Method of precision electric-discharge machining employing electrodes in the form of wires, and apparatus for carrying out the method
<a href="#">5,444,205</a>	Method of and apparatus for electro-erosive machining
<a href="#">5,455,400</a>	Machining tank with a mobile part giving a free access to the machine area of machine tools
<a href="#">5,475,195</a>	Anti-corrosion device for electrical discharge machining
<a href="#">5,506,382</a>	Apparatus for and method of electro-erosive cutting with flattened and rotatable wire cathode
<a href="#">5,674,170</a>	Magazine with changer for loading a CNC machine tool or machining center
<a href="#">5,756,953</a>	Electroerosion machine for wire cutting a stationary workpiece
<a href="#">5,786,557</a>	Electroerosion machine with a frame with a new structure
<a href="#">5,808,261</a>	Electrical discharge machine

<a href="#"><u>5,808,263</u></a>	Method and apparatus for electroerosive machining
<a href="#"><u>5,824,985</u></a>	Apparatus for tiltably guiding electrodes in electro erosion machine
<a href="#"><u>5,824,986</u></a>	Method and apparatus for wire erosion
<a href="#"><u>5,834,726</u></a>	Device for electrical discharge machining
<a href="#"><u>5,852,268</u></a>	Method and apparatus for fine machining with spark erosion using a wire electrode
<a href="#"><u>5,854,459</u></a>	Method and device for processing workpieces by means of electrical discharge machining
<a href="#"><u>5,858,136</u></a>	Process for the manufacture of wires with a brass surface, for the purpose of wire electroerosion
<a href="#"><u>5,866,865</u></a>	Wire direction changer assembly for a wire electrode spark erosion machine
<a href="#"><u>5,874,703</u></a>	Method and apparatus for impulse generator for electroerosive machining of workpieces
<a href="#"><u>5,874,821</u></a>	Method and apparatus for controlling a brushless electro motor by determining the absolute phase position of the rotor relative to the stator
<a href="#"><u>5,911,888</u></a>	Structure for EDM machine
<a href="#"><u>5,914,883</u></a>	Method for controlling a machine tool, in particular an EDM machine
<a href="#"><u>5,922,187</u></a>	Method for controlling an electroerosion machine
<a href="#"><u>5,922,220</u></a>	Method and apparatus for electroerosive cutting
<a href="#"><u>5,940,301</u></a>	Process and device for controlling a machine tool in particular, and EDM machine
<a href="#"><u>5,959,865</u></a>	Method and apparatus for controlling an electro-erosive machine
<a href="#"><u>5,973,288</u></a>	Method and apparatus for controlling spark erosion process
<a href="#"><u>5,984,506</u></a>	Method and device for controlling a machine tool, in particular, an electrical discharge machine
<a href="#"><u>6,011,230</u></a>	Apparatus for holding an electrode for electrical erosion machines
<a href="#"><u>6,064,920</u></a>	Electroerosion apparatus drive control system employing fuzzy logic
<a href="#"><u>6,072,143</u></a>	Measuring device and method for determining the length of an electrode
<a href="#"><u>6,078,019</u></a>	Wire transport system for an electrical discharge machining apparatus
<a href="#"><u>6,121,568</u></a>	Electrical discharge machine with at least one wire electrode and method of machining a workpiece in such a machine
<a href="#"><u>6,159,543</u></a>	Processes for manufacturing wires with a brass surface
<a href="#"><u>6,184,486</u></a>	Rotative tool-electrodes of simple shapes for 3D electroerosive machining

<a href="#"><u>6,252,191</u></a>	Method and apparatus for electrical discharge machining with intermittent electrical measuring
<a href="#"><u>6,320,151</u></a>	Method for electric discharge machining of a workpiece and corresponding apparatus
<a href="#"><u>6,392,183</u></a>	Process and device for machining by electroerosion
<a href="#"><u>6,453,566</u></a>	Movement transmission unit and movement transmission apparatus employing the same
<a href="#"><u>6,454,930</u></a>	Procedure and device for the three-dimensional processing of a work piece by means of electroerosive or electrochemical machining
<a href="#"><u>6,465,754</u></a>	Process and device for machining by electroerosion
<a href="#"><u>6,486,429</u></a>	Electric discharge machine and module set for assembly of machine tools
<a href="#"><u>6,495,788</u></a>	Electrode for machining a piece by electro-erosion and its process for production
<a href="#"><u>6,495,789</u></a>	Device and method for introducing a machining electrode into a EDM machine
<a href="#"><u>6,521,856</u></a>	Method and device for controlling a die-sink erosion machine
<a href="#"><u>6,538,226</u></a>	Load of particles for machining liquids for electroerosion machines, its process of production, its use and machining liquid containing such a load
<a href="#"><u>6,541,728</u></a>	Method and apparatus for tensioning a wire electrode in a spark-erosion machine
<a href="#"><u>6,556,886</u></a>	Method and device for controlling a machine tool, in particular, a die-sink erosion machine
<a href="#"><u>6,600,125</u></a>	Process parameter optimization in electrical discharge machining
<a href="#"><u>6,627,836</u></a>	Electrical discharge process and a device for multiple wire processing
<a href="#"><u>6,642,470</u></a>	Process and device for machining a three-dimensional piece by electroerosive milling
<a href="#"><u>6,646,220</u></a>	Device and method of guiding a processing electrode in a machine tool
<a href="#"><u>6,674,040</u></a>	Cutting erosion machine tool
<a href="#"><u>6,707,304</u></a>	Devices and methods for detecting a processing electrode of a machine tool
<a href="#"><u>6,759,620</u></a>	Method and device for controlling a die-sink erosion machine
<a href="#"><u>6,920,370</u></a>	Method and device for disturbance sensing, especially collision sensing, in the drive system of a numerically controlled machine tool
<a href="#"><u>6,933,457</u></a>	Method and apparatus for electrical discharge machining of a workpiece
<a href="#"><u>6,958,460</u></a>	Device for machining by electroerosion

<a href="#"><u>7,230,200</u></a>	<b>Wire cutting device, wire transport system, and method for severing of a wire electrode in an EDM machine</b>
<a href="#"><u>7,294,806</u></a>	<b>Method and device for measuring and adjusting the electrode for taper machining on an electrical discharge machine</b>
<a href="#"><u>7,310,560</u></a>	<b>Numerically controlled drive device with device for detecting operating anomalies intended for detecting accidental collisions and method of detecting operating anomalies for this device</b>
<a href="#"><u>D388,055</u></a>	<b>Control console for man-operated machine having tiltable display</b>
<a href="#"><u>D387,783</u></a>	<b>Remote control for machine tool</b>
<a href="#"><u>D401,598</u></a>	<b>Wire electroerosion machine</b>
<a href="#"><u>D405,809</u></a>	<b>Electro-erosive wire cutting machine</b>
<a href="#"><u>D406,155</u></a>	<b>Electro-erosion die-sinking machine</b>
<a href="#"><u>D422,289</u></a>	<b>Machine tool</b>
<a href="#"><u>D472,250</u></a>	<b>Machine tool</b>

Patents Pending. The design of certain equipment is registered.

Patents, Design Patents, and Registered Trademarks do exist in numerous countries, besides the United States.