



AgieCharmilles

US Patents

09.2007

GF AgieCharmilles
AGIE SA, CH-6616 Losone
Telephone +41 / 91 / 806 91 11
Telefax +41 / 91 / 806 9585

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).

US Patent	Title
<u>4,766,281</u>	Pulse generator spark-erosive metal working
<u>4,778,972</u>	Method and apparatus for repeatedly and automatically threading the wire electrode of an EDM apparatus
<u>4,814,574</u>	Device for injection of liquid for machining by electroerosion
<u>4,820,894</u>	Electro-erosion machine for automatic machining according to a closed trajectory
<u>4,822,970</u>	Method and apparatus for purging the eroding zone during electroerosive countersinking
<u>4,825,030</u>	Device and process for preventing the breaking of a metal wire
<u>4,851,633</u>	Process and apparatus for employing electroerosion
<u>4,858,140</u>	Numerical control system for highly dynamic processes
<u>4,864,091</u>	Servocontrol device for an erosion machine
<u>4,883,934</u>	Machine using a wire for use in electroerosion
<u>4,891,485</u>	Device for fastening an EDM tool in plural orientations
<u>4,900,889</u>	Current supply device for movable electrodes of spark erosion machines
<u>4,903,213</u>	Numerical control system for highly dynamic processes

<u>4,918,279</u>	EDM cutting machine including device for preventing transmission of sealing plate movement to guide head arm
<u>4,939,334</u>	Method for the controlled withdrawal of a counter-sinking electrode in an electroerosion machine
<u>4,980,531</u>	Prehesive device for the electrode wire of an EDM cutting machine
<u>5,030,819</u>	Method and device for numerical control for electroerosion machine
<u>5,045,663</u>	System for control of flushing flow in a spark discharge (EDM) machine
<u>5,047,607</u>	Wire-cutting electric discharge machine with wire sectioning device for wire disposal
<u>5,057,662</u>	Electroerosion machine featuring photoelectric sensing means for measuring wire electrode deflection
<u>5,070,224</u>	Wire erosion machine
<u>5,071,567</u>	Installation and process for filtration of a machining liquid in a continuous supply circuit
<u>5,111,016</u>	Machine for spark erosion cutting with a guide-arm crossing the back wall of the working liquid container
<u>5,117,082</u>	Device and process for controlling the variation of a parameter in edm machining with an electrode-wire
<u>5,118,914</u>	Protective device for machining heads
<u>5,122,630</u>	Device and control process for an edm cutting machine preventing wire breakage
<u>5,128,505</u>	Injection device and electrode wire electric discharge machine for high-speed precision machining
<u>5,171,957</u>	Generator for electric discharge machining of metallic work pieces by means of an electrode consisting of liquid or solid material
<u>5,196,665</u>	Multi-layer electrode wire and method for producing the same
<u>5,242,555</u>	Method of machining workpieces by wire electroerosion and securing machined articles
<u>5,280,153</u>	Method of and apparatus for pulse generator for electric discharge machining
<u>5,288,965</u>	Electro-erosion machine with improved circuit for the unwinding of the wire-electrode
<u>5,290,987</u>	Electrical discharge machining apparatus
<u>5,324,909</u>	Apparatus for measuring and/or controlling the tension in a ribbon or wire-type electrode of an electric discharge machine
<u>5,336,864</u>	Pulses generator for electrodischarge machining
<u>5,354,961</u>	Device and process for electrical-discharge machining of a three-dimensional cavity with a thin rotating tool electrode

<u>5,386,093</u>	Method for electroerosive cutting and wire EDM machine
<u>5,396,040</u>	Device, standard blanks and standardized electrodes for electro-discharge milling
<u>5,410,117</u>	Device and control process for EDM machining with an electrode-wire
<u>5,410,118</u>	Method and device for controlling a spark erosion machine
<u>5,410,119</u>	Thermostable wire cutting electro-erosion machine
<u>5,428,200</u>	Apparatus for electro-erosion cutting
<u>5,434,379</u>	Apparatus for and method of electro-discharge cutting
<u>5,438,178</u>	Method of precision electric-discharge machining employing electrodes in the form of wires, and apparatus for carrying out the method
<u>5,444,205</u>	Method of and apparatus for electro-erosive machining
<u>5,455,400</u>	Machining tank with a mobile part giving a free access to the machine area of machine tools
<u>5,475,195</u>	Anti-corrosion device for electrical discharge machining
<u>5,506,382</u>	Apparatus for and method of electro-erosive cutting with flattened and rotatable wire cathode
<u>5,674,170</u>	Magazine with changer for loading a CNC machine tool or machining center
<u>5,756,953</u>	Electroerosion machine for wire cutting a stationary workpiece
<u>5,786,557</u>	Electroerosion machine with a frame with a new structure
<u>5,808,261</u>	Electrical discharge machine
<u>5,808,263</u>	Method and apparatus for electroerosive machining
<u>5,824,985</u>	Apparatus for tiltably guiding electrodes in electro erosion machine
<u>5,824,986</u>	Method and apparatus for wire erosion
<u>5,834,726</u>	Device for electrical discharge machining
<u>5,852,268</u>	Method and apparatus for fine machining with spark erosion using a wire electrode
<u>5,854,459</u>	Method and device for processing workpieces by means of electrical discharge machining
<u>5,858,136</u>	Process for the manufacture of wires with a brass surface, for the purpose of wire electroerosion
<u>5,866,865</u>	Wire direction changer assembly for a wire electrode spark erosion machine
<u>5,874,703</u>	Method and apparatus for impulse generator for electroerosive machining of workpieces

5,874,821	Method and apparatus for controlling a brushless electro motor by determining the absolute phase position of the rotor relative to the stator
5,911,888	Structure for EDM machine
5,914,883	Method for controlling a machine tool, in particular an EDM machine
5,922,187	Method for controlling an electroerosion machine
5,922,220	Method and apparatus for electroerosive cutting
5,940,301	Process and device for controlling a machine tool in particular, and EDM machine
5,959,865	Method and apparatus for controlling an electro-erosive machine
5,973,288	Method and apparatus for controlling spark erosion process
5,984,506	Method and device for controlling a machine tool, in particular, an electrical discharge machine
6,011,230	Apparatus for holding an electrode for electrical erosion machines
6,064,920	Electroerosion apparatus drive control system employing fuzzy logic
6,072,143	Measuring device and method for determining the length of an electrode
6,078,019	Wire transport system for an electrical discharge machining apparatus
6,121,568	Electrical discharge machine with at least one wire electrode and method of machining a workpiece in such a machine
6,159,543	Processes for manufacturing wires with a brass surface
6,184,486	Rotative tool-electrodes of simple shapes for 3D electroerosive machining
6,252,191	Method and apparatus for electrical discharge machining with intermittent electrical measuring
6,320,151	Method for electric discharge machining of a workpiece and corresponding apparatus
6,392,183	Process and device for machining by electroerosion
6,453,566	Movement transmission unit and movement transmission apparatus employing the same
6,454,930	Procedure and device for the three-dimensional processing of a work piece by means of electroerosive or electrochemical machining
6,465,754	Process and device for machining by electroerosion
6,486,429	Electric discharge machine and module set for assembly of machine tools
6,495,788	Electrode for machining a piece by electro-erosion and its process for production

<u>6,495,789</u>	Device and method for introducing a machining electrode into a EDM machine
<u>6,521,856</u>	Method and device for controlling a die-sink erosion machine
<u>6,538,226</u>	Load of particles for machining liquids for electro-erosion machines, its process of production, its use and machining liquid containing such a load
<u>6,541,728</u>	Method and apparatus for tensioning a wire electrode in a spark-erosion machine
<u>6,556,886</u>	Method and device for controlling a machine tool, in particular, a die-sink erosion machine
<u>6,600,125</u>	Process parameter optimization in electrical discharge machining
<u>6,627,836</u>	Electrical discharge process and a device for multiple wire processing
<u>6,642,470</u>	Process and device for machining a three-dimensional piece by electroerosive milling
<u>6,646,220</u>	Device and method of guiding a processing electrode in a machine tool
<u>6,674,040</u>	Cutting erosion machine tool
<u>6,707,304</u>	Devices and methods for detecting a processing electrode of a machine tool
<u>6,759,620</u>	Method and device for controlling a die-sink erosion machine
<u>6,920,370</u>	Method and device for disturbance sensing, especially collision sensing, in the drive system of a numerically controlled machine tool
<u>6,933,457</u>	Method and apparatus for electrical discharge machining of a workpiece
<u>6,958,460</u>	Device for machining by electroerosion
<u>7,230,200</u>	Wire cutting device, wire transport system, and method for severing of a wire electrode in an EDM machine
<u>D388,055</u>	Control console for man-operated machine having tiltable display
<u>D387,783</u>	Remote control for machine tool
<u>D401,598</u>	Wire electroerosion machine
<u>D405,809</u>	Electro-erosive wire cutting machine
<u>D406,155</u>	Electro-erosion die-sinking machine
<u>D422,289</u>	Machine tool
<u>D472,250</u>	Machine tool

Patents Pending. The design of certain equipment is registered.

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