WATERJET
5 AXIS
4000 X 2000

FARNESE

The WATERJET is the most versatile cutting machine that money can buy. It enables the cutting of stone and other types of materials, allowing you to expand your business into other markets. The WATERJET empowers you to cut glass, plastics and many other materials with no setup or tool changing required.

Founded in 2000 by the Farnese family, **Farnese Australia** are designers and manufacturers of stone cutting and polishing machinery in Australia. With an international reputation and decades of combined professional experience, and expertise, in both the stone industry and the local stone machinery manufacturing industry, Farnese are the first choice for stone fabricators. They continue to dominate this field in Australia and overseas with precision and innovation.

The team at **Farnese Australia** have the experience it takes to design, install and maintain the equipment needed in your industry.

The waterjet machine can be supplied in two configurations: 3 or 5 interpolated axis according to your application, where the 3 axis setup allows you to do precise cuts providing excellent finish quality traveling the cutting head in X and Y directions on the whole cutting area, plus the Z axis that will be able to calibrate the highest cutting edge and will travel above the material slab.

The 5 axis cutting head can provide cutting in different angles from 90 to 20 degrees (depending of the material and setup applied), these 3 or 5 axis cuttings can be executed due a complex interpolation provided by a high-end Swedish software included with the equipment, empowering you to run with full power.

The standard table size area for the waterjet machine is: 4020x2050mm, the cutting tank volume is 3100 litres and the cutting volume is 4000x2000x230mm. All the movements are provided by Yaskawa drives and servo motors (Japan) and all the linear rails and linear bearings feature German Technology, providing 20m/min max travels for XY, 2.5m/min max travel Z axis and 180º/sec for ABC axis.

The machine comes with stainless steel covers and auto lubricating pump. The machine's cutting tank is not attached to the frame, so the resonance and thermal expansion from the tank doesn't affect the gantry frame.

The general tolerance provided by the motors is +/- 0.05mm for X and Y axis per 300mm, and for the A, B and C axis it is +/-10arc/sec. The machine can be calibrated within the software interface to provide, on the initial first setup, exactly the dimension required for one main material and after that the cutting precision can change according to the parameters related above. The general cutting precision with all the variables runs about +/-0.5mm.

The quality of your water supply directly affects the wear life of all key components in your waterjet system including the waterjet pump and cutting head. The inlet water treatment unit contemplates 3 filters (5.0um; 1.0um; 0.05um), plus a resin softener and an extra 1.0um filter, after that the water goes to the water high pressure pump. The filters can be replaced easily, Farnese providing the special wrenches to remove the filters.

The resin softener unit includes an electronic device that promotes an ion-exchange, reducing the hardness and removing the calcium and magnesium from mains water. Calcium and magnesium salts cause water hardness and non-carbonate hardness is normally due to the presence of sulphates and chlorides. The presence of these minerals results in decreased high pressure seal, check valve and orifice life.

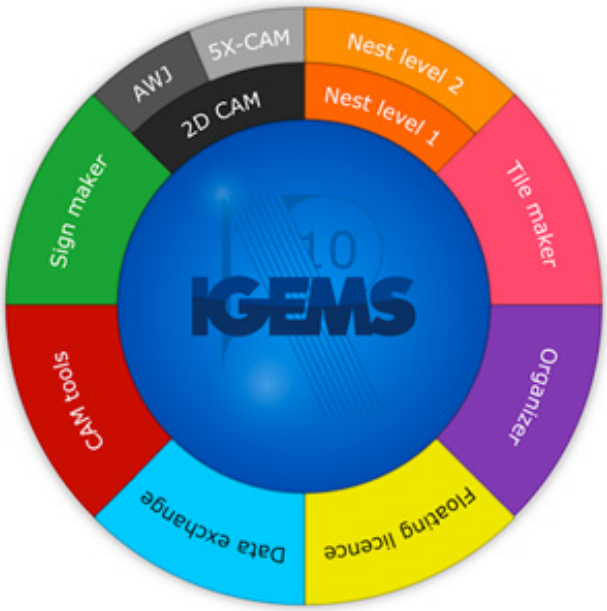
The machine includes an abrasive bucket for the abrasive inlet, with automatic feed and mixing disk, where the total volume is 100 litres. After the abrasive is mixed in the mixing chamber, the segments of the cuttings and the abrasive form a mud on the bottom of the cutting tank. This mud can be sucked out by a pneumatic diaphragm pump and the water can be reused to maintain the water level.

One of the most important parts of a waterjet machine is the pump. This waterjet uses a H2O high-pressure pump system containing a big 37kW(50hp) Siemens motor, Bosch Rexroth variable oil pump and an American KMT-H2O intensifier.

This setup generates 60,000psi (415Mpa) and during the cutting process 50,000psi (360MPa) pressure, the oil tank capacity is 91 litres – large tank capacity is an essential feature and permits the air-oil cooling system to become more efficient, especially during the summertime or on warm days. The high and low pressure setup for piercing and cutting can be preset by the software interface, the outlet flow is 3.6 litres per minute using a 0,33mm orifice and the power consumption 28kW.

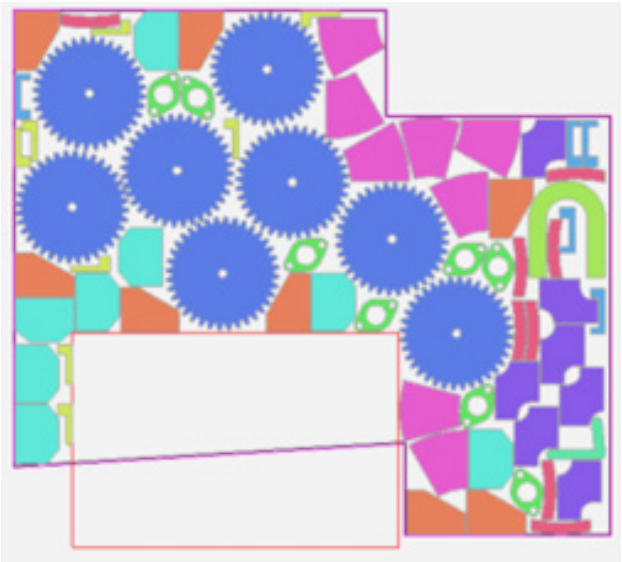
On the pump unit you will be able to get feedback from gauges such as: Oil pressure, Temperature, Inlet water pressure, high pressure, and the air inlet pressure is provided by a gauge next to the front pendant. The cutting head is Dia-line; the head body and a laser indicator allow the operator to visualise the cutting edge and calibrate the slab on the table before cutting. The cutting head components consist of mixing chamber, nozzle and jewel can be replaced in case of a crash or natural wear/ tear these components can be purchased from local suppliers and the setup can be explained for a worker/ operator during the installation process.

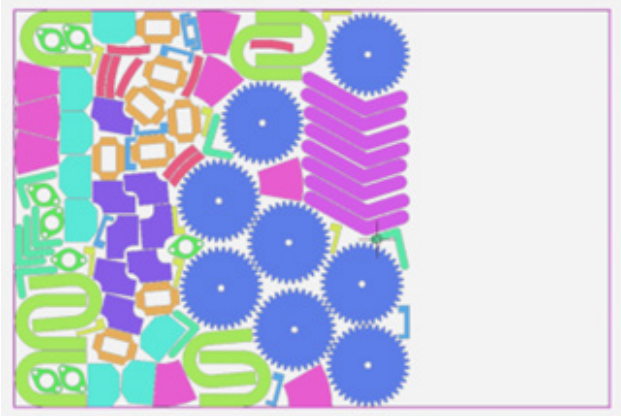
The machine's interface includes touchscreen 19 inches monitor, wireless keyboard and mouse.



Our waterjet machines are powered by IGEMS, a Swedish CAD/CAM Software for waterjet cutting machines with thousands of users, from small job shops to big manufacturing plants. IGEMS provides a full 3D interface for the users, being able to do the computer simulations and allowing you to include external components as jigs and different cutting heights in the same cutting area, avoiding tooling crash and providing cutting reports that can be attached to your process sheet and/or can be used to make precise quotes for your customers.

Some extra features as: Auto Nest; Data Exchange, Sign Maker, Tile Maker, Camera Interface, Organizer and floating license can be added depending of your application. IGEMS reads and simulates most part of the available file types for CAM as: *.acd; *.dig; *.gen; *.dxf; *.dwg; *.isf; *.ncp; *.skym; *.ps; *.eps; *.geo; *.trg; *.hpg; *.plt; *.igs; *.mec; *.ord; *.tag; *.wmf and the standard G-Code.





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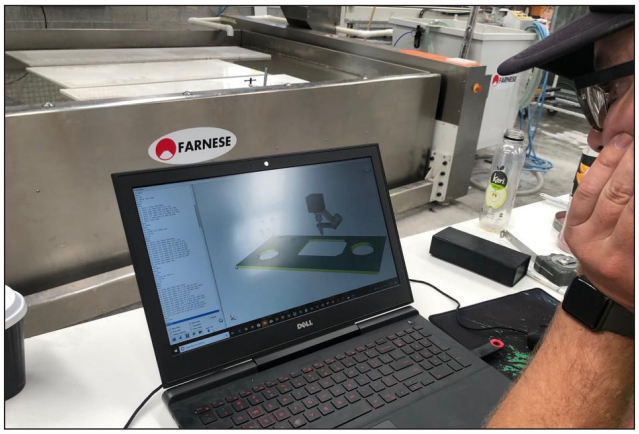

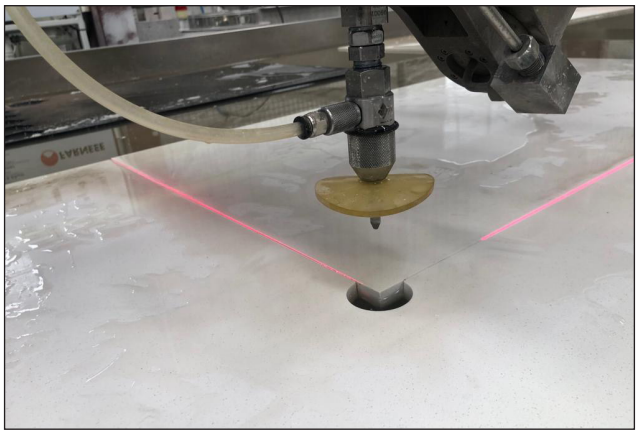

We Know That Support Is Important To You

Buying a new machine is a big commitment for anyone, and continued support throughout the life of that machine is vital.

Being an Australian and New Zealand company, we carry a vast array of parts here in New Zealand to ensure that your machine always has the spares it needs. Enjoy peace of mind knowing that you'll be fully supported by Farnese and we'll always have you covered.

Farnese customers don't need to experience unnecessary machinery downtime waiting for remote assistance from other countries, as all the support and remote assistance is provided locally in New Zealand from our own qualified Technicians in New Zealand time.

Our mission here at Farnese is to give you the best support. As we grow, we continue to recruit more and more qualified technicians, to further strengthen our position in the industry.

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