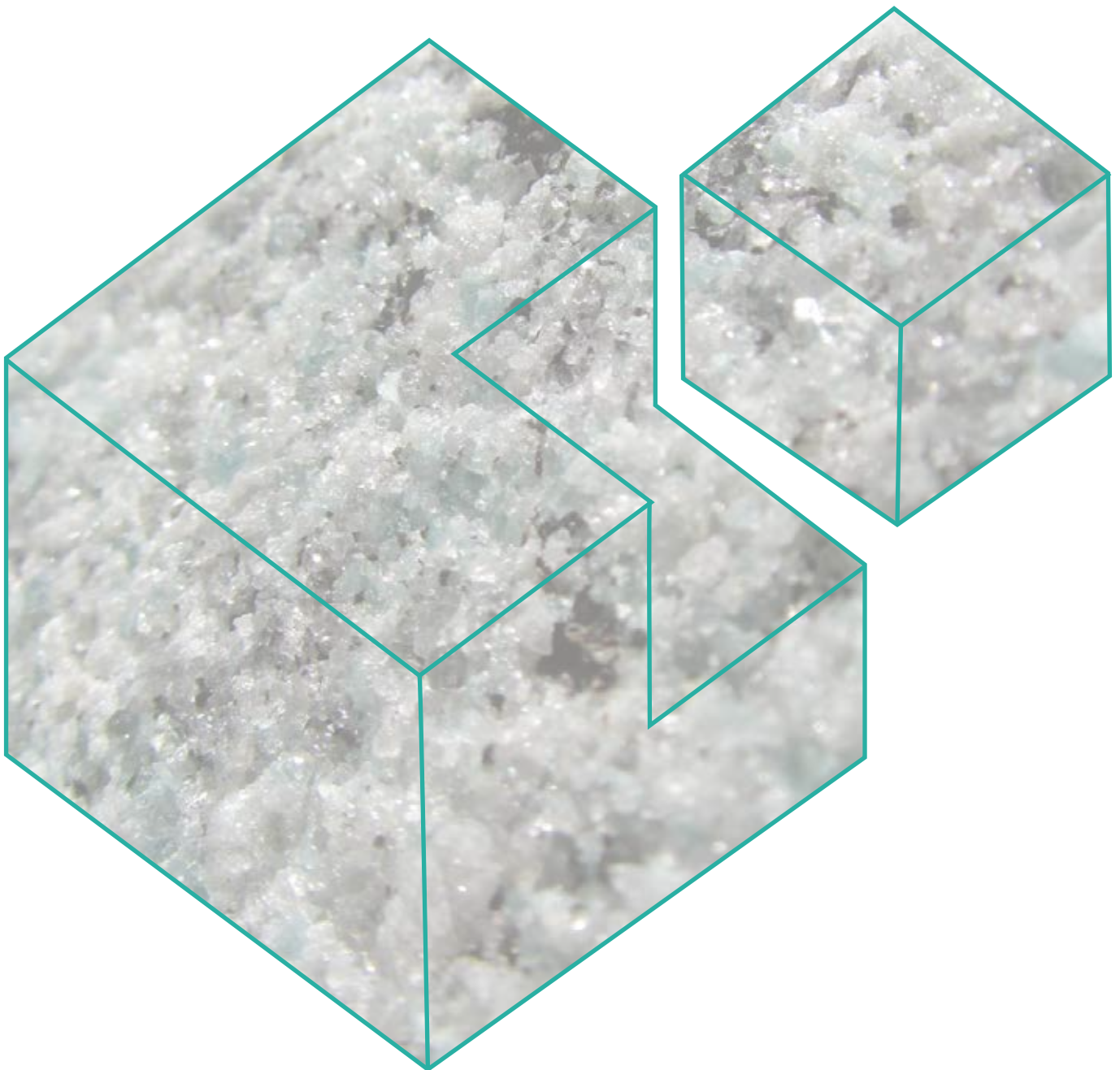


ULTRA CLEAN SYSTEM

**Water-jet flame-texturing equipment
and systems for the surface finishing
of natural stone and aggregate materials**



Water blasting is a type of surface treatment that uses only high-pressure water (from 800 bar to 2,500 bar) without abrasives on natural stone and aggregate materials in general.

The high-pressure water jet directed against the surface creates cavities of varying depths, primarily breaking down the less resistant particles or crystals at their points of contact, thereby enhancing the material's natural color intensity and grain structure. The degree of roughness that can be achieved depends largely on the structure and composition of the material itself, as well as on the pressure, rotational speed, number of nozzles, their angle of incidence, and distance from the surface.

Different surface finishes can therefore be obtained by adjusting the system's parameters.

The complete, turnkey system includes everything necessary for fully automated processing (high-pressure HPE unit, filtration and pre-filtration systems, high-pressure flexible hoses, special fittings, roller conveyors, rotating tools, and a sound-absorbing enclosure).

A dedicated PC-PLC controls the entire system: all functions are constantly monitored with display and diagnostic capabilities.

The PC can also be used to store the optimal operating parameters based on the type of material being treated.

If needed, a scheduled periodic maintenance service (SAIT MPR) with inspection is also available.

Advantages over other types of surface finishes.

- This process can also be applied to very thin materials (5–10 mm, depending on the material's density), since the structure of the treated material is not subjected to mechanical or thermal stress.
- The color is not altered, unlike in traditional flame-texturing, which causes yellowing.
- The rough texture is very natural, uniform, and adjustable.
- No pollutants are released.
- The absence of abrasives and fillers in the water ensures maximum efficiency and reduced wear on the system.
- In addition to granites and silicates in general, the system works exceptionally well—when properly configured—on: agglomerates, sedimentary rocks, and crystalline marbles, where it exposes the flat faces of the calcite crystals, creating a unique play of reflections.

On left: Examples of water-flame finishing on Rosa Baveno, Verde Alpi, and Veselye granite, as well as Sardinian Rosa granite.





↑ HPE High-Pressure Multi-Pressure Unit



↑ **BA2750-Sx-L**
Special extended version
(simplified maintenance and easy access inside the machine)



↑ **FA2750-Sx**

↓ FineJets multi-orbit rotating heads for varied surface finishes.
Rotation is powered by an integrated high-torque pneumatic motor (with infinitely variable speed control).



HB-600ML-3x

Full-portal water-flame module complete with a fully stainless steel feed roller conveyor.x

The module enables in-line flame treatment. It is designed for direct connection to Airmation ultra-high-pressure units and is engineered for two positioning and operating modes:

- in-line positioning following a traditional flame-hardening machine,
- positioning for autonomous flame-hardening treatment.

Includes a complete Extra Heavy Duty configuration featuring:

- motorized, ultra-rotating, multi-orbit pneumatic spray gun (with interchangeable 2-, 3-, 4-, 5-, and 6-jet heads) for varied finishes
- fully protected linear guide
- motorized feed module and an in-line stainless steel treatment system
- electrical control panel with a PLC and dedicated program selection software



Essential technical section

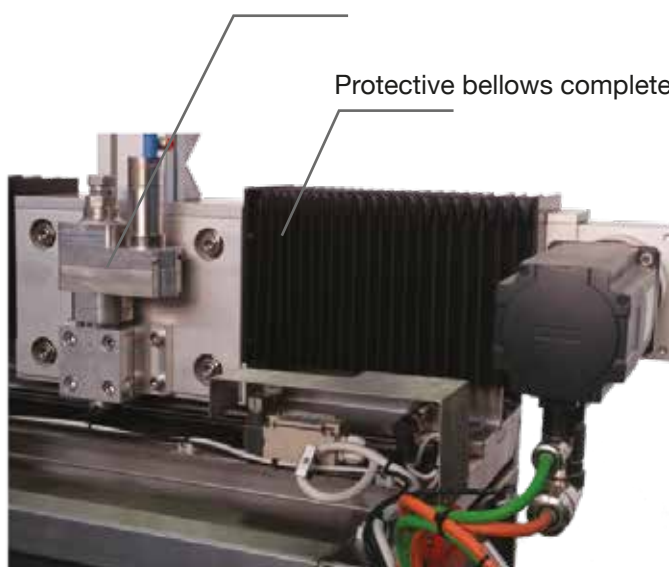
Workpieces to be processed:	la 600-800 mm
Process pressure:	1.120 - 2.550 bar (=17700 - 37000 Psi)
Ultra-rotating gun head speed:	400 - 4800 rom
Treatment Room:	all inox
Rollers and Motorization:	all inox
Workpiece Feed:	→ a synchronous step in a traditional flame-cutting machine → continuous, independent operation with inverter control
Linear drive speed:	adjustable - brushless motor

↓ Positioning of the in-line treatment module



Gun drive system (motor and mechanical parts) accessible and located outside the treatment chamber

Protective bellows complete with linear guide





↑ Ultra-high-pressure unit with direct connection to a water-flame module (45 kW). Units available in capacities ranging from 37 to 90 kW.



↑ Interior of the box with rotating head terminal



↑ FA2750-S1-L
Powered spray gun with ultra-rotating nozzle (4 jets), including mounting bracket kit

↓ Examples of water-flaming finishes compared to the base material

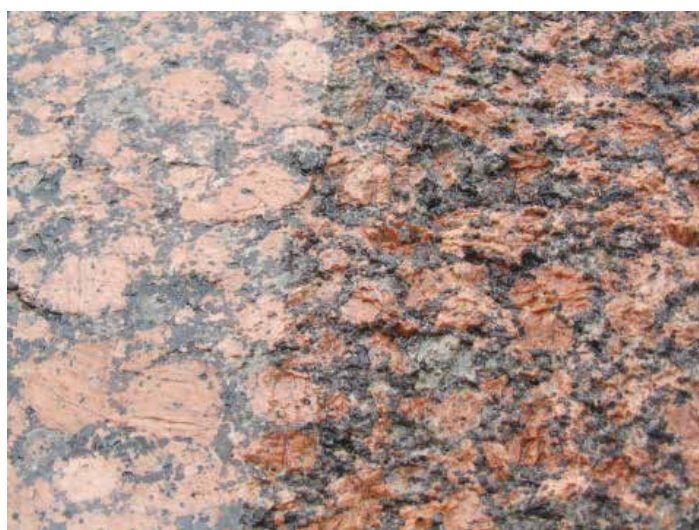




On-site treatment solutions using high-pressure manual application.



← Varied finishes for blocks or slabs with a natural, split-face effect.



↑ Color highlight detail



↑ Fully autonomous high-pressure unit powered by a diesel engine.

Basic power supply equipment section



↑ Electric-powered equipment
(power range: 37–90 kW)



↑ Equipment with a transportable cart

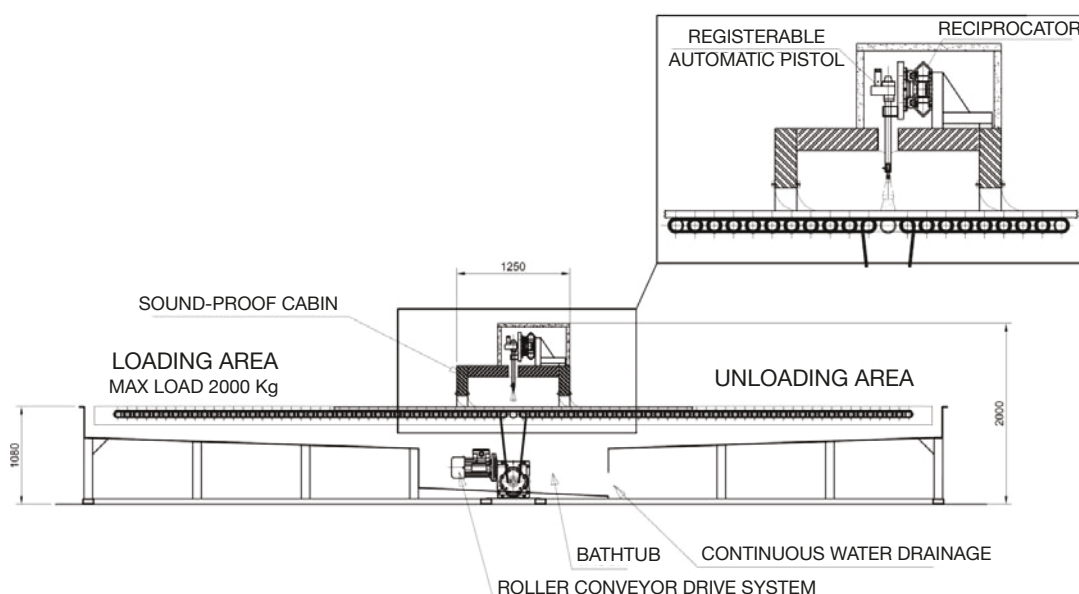


↑ Diesel-powered vehicles



↑ Equipment equipped with protective casings

Water-Blasting System HPE-ST-250-V2x Series



Airmation water-jet blasting system for the surface treatment of natural stone and aggregate materials in general, standard series HPE-ST-250-V2-xx.

Extra Heavy-Duty version with 24-hour continuous operation.

- | | |
|--------------------------|-------------------------------------|
| → Sheets to be processed | → dim. 3300 x 2200 x h. 35 mm (std) |
| → Installed Capacity | → 45 / 90 kW |
| → Max pressure | → 2500 bar |
| → Water Consumption | → 10 / 20 lt/min |
| → Pre-filtration unit | → AISI 316 high efficiency |
| → Ultra-Rotating Gun | → 200 - 3800 rpm |
| → Rotating head | → 2, 3, 4, 5, 6 jet |
| → Air consumption | → 900 NI/min |
| → Reciprocator | → fully protected |
| → Optional | → to define |

NOTE:

The spray gun used is equipped with an independent pneumatic motor and allows you to adjust the speed (200–3,800 rpm) depending on the desired aesthetic effect, rather than simply based on the rotation caused by the water.

**Make
equipment
grow**