

Dynajet® high pressure cleaners refurbish historic museum in Switzerland



Verbier lies at a height of 1,500 m above sea-level in the heart of the mighty chain of Alps in the French-speaking part of the Canton of Wallis, in Switzerland. The spa was built on a sunny high plateau facing the south-west with a breath-taking clear view of the Alps. It consists of chateaus and wood-lagged houses. Verbier was thereby able to retain the charm of a large Alpine village.

The Museum of Vergeres les Places is one of the central elements of culture in Verbier. It had been set up in an old farmhouse that had been originally built in the typical Wallis style. Over the course of time, the building had, however, been 'modernised' and the original façade covered by external plaster.

During the course of complete restoration, the original state of the building was to be re-established in March 2003. The job here was to remove the plaster so that the original granite brickwork could be brought to light again. Here it was of course important not to damage the old brickwork and to preserve it as far as possible.

The original idea which was to carry out the work with a pneumatic hammer was quickly dropped. There were a great number of reasons against using this technique. The work with the pneumatic hammer caused great amounts of dust which considerably hindered work. In addition, the strong vibrations endangered the structures of the historical building.



An ideal setting to work in. In the background the Swiss Alps of Wallis. In the foreground the Dynajet® 500th.

And also this pure mechanical way of removing the plaster also damaged the surface of the original masonry. The most decisive criterion, however, against using this technique was the great amount of time that was required.

One also contemplated using a sand blasting system as an alternative. This option was, however, never employed. The great effort required for the disposal of the contaminated sand caused by the blasted-off mortar and the enormous amount of dust caused, were reasons for not using this method.

A third variant was therefore the test removal of the plaster mortar by a water high pressure cleaner.

A Dynajet® high pressure cleaner was used for this test. The Dynajet® 500th is



The historic museum had been plastered over in the course of time. Now one wished to return it to its original state with the natural stone masonry on show

a hot water high pressure cleaner with a water pressure of up to 500 bar and a water capacity of up to 30 l/ min. This model was chosen because the combination of high pressure, water capacity and the water temperature of up to 110° C held out great hopes for high flexibility and optimum results.

A further argument in favour of this high pressure cleaner was the fact that the Dynajet® 500th has a relatively low water consumption at high water pressure. This means that the water supply in the integrated water tank is sufficient for an approximately 30 minute operation of the machine at full power.

In addition, those responsible do not have to worry about damage caused by water during the course of work that would then have to be sorted out.

Different nozzles were used during the first „trial runs“ (rotor and flat jet nozzle) and also different water temperatures. Here it quickly became obvious that the plaster was already removed well with cold water.

The best results and the largest possible surface performance were then attained with a water pressure of 500 bar and the use of a rotor nozzle.



With 500 bar water pressure, the old plaster was easily removed – quickly, cleanly and free of dust.

The most important data at a glance

High pressure cleaner	Dynajet® 500 th
Job	Refurbishing brickwork
Water pressure	500 bar
Water capacity	up to 30 l/ min
Water temperature	Cold water
Accessories	Flat jet nozzles and rotating nozzles

The rotor nozzle had clear advantages over the flat jet variant. Its bundled spot jet easily penetrates the centimetre thick layers of mortar, and forms a cushion of water between the brickwork and the mortar. This then just simply „blasts off“ the plaster. The plaster then fell off in great slabs and the job was carried out in record time.

The fine work was then carried out with a flat jet nozzle. The last pieces of mortar were also removed and all the joints were laid bare. Those carrying out the job were simply amazed by the results: „That looks just like new!“ were the comments.

Compared with the mechanical method, the results with the high pressure cleaner were therefore much more thorough, free of dust and considerably quicker. The original quarry stone brickwork was completely laid bare. The actual time saved here was over 50%.

And so it was possible to completely lay bare the inside walls, the outside façade and the vault cellar of the museum - a total surface of approximately 750 m² .

And neither the stone surface nor the wall joints were damaged. An absolute „clean“ result!



Here you can see a part of the original granite masonry – after the mortar has been 'tackled' by a 500 bar water jet.

For more information, please refer to the Putzmeister Branch responsible for you, or get in touch with us directly.

You will also find out more about us in the Internet, www.dynajet.de

