



**REVOLUTIONARY SYSTEM CLEANING  
WITHOUT WATER AND CHEMICALS**



**TORNADO ACS**  
Advanced Cleaning System

# THE SYSTEM IN ACTION WITHOUT WATER AND CHEMICALS

## The patented mobile pressure jet system for fast effective cleaning -without water and chemicals

The Tornado ACS is a mobile negative pressure jet system for environmental friendly cleaning, disposing of lacquer, layer removal and surface derusting.

When using the correct jet grain, the Tornado ACS enables one to work dust-free and quietly. The patented system technology, which was developed in Germany, has been designed especially for removing graffiti and the other contaminations on facades, tiles, natural stone, window and doors.

The TORNADO ACS system works without water chemicals. The astonishingly compact machine is easy to transport and thus can be used flexible; from the cleaning of surfaces to memorials.

The machine consists of the negative pressure unit with two filters, a jet grain container, a flexible suction hose, a jet cap and jet lance.



Different types of granules can be offered, dependent upon the requirement of the surface to be treated.



Asilit



Nutshell



Jet Glass



Jet hood, with vision panels and inside lighting.



Jet hood adapters for internal and external corners.



Transporting box

## And this how it works...

After switching on the negative pressure generator, a negative pressure of approx. 220 mbar is produced in the jet hood. The hood is placed on the working surface, to which it is adhered by the negative pressure.

By inserting the jet lance into the jet cap, the cycle is closed and the working process commences.

The blast medium is sucked in by the lance and accelerated to more than 400 kph. The jet material impacts at this speed on the surface, which depending upon requirement can be purged, roughened- up or cleansed of layers.

The user can control this process visually via the vision panels.



After impact on the working surface the blast medium together with removed particles is sucked off immediately. The dirt particles are then separated from granules by a filter system. Thereafter the granules are returned to the stock container for further processing. This cycle ensures the device has a minimum granule consumption.

The TORNADO ACS works completely dustfree and because of its very low noise level 75 db it is ideal for use indoors.

The use of protective clothing is unnecessary as also are barriers inside and outside buildings.

Thanks to different adapters difficult surfaces such as inside and outside corners and curved ones can be treated.

There are many areas in which the Tornado ACS can be applied although the system is mainly used for the removal of graffiti. Some of the many advantages of the system are that it is environmentally friendly, easy use and very economical



Profiled entrance doors of either plastic or glass can be cleaned easily by the TORNADO ACS

without any extra or follow-up costs. Other areas of possible application area; building cleaning, the painting and varnishing trade automobile maintenance, housing companies, the construction industry for cleaning.



Careful removal of unwanted surface layer: By using nutshell granules graffiti was removed from an old bronze fountain without damaging the typical surface oxidation.



**Background Surfaces, Plaster:**  
Colored plaster, painted facades and especially thermal insulation system can be optically cleansed.

## CLEANING WITHOUT WATER AND CHEMICALS



**Background Surface Brickwork:**  
Bricks and joints can be cleaned easily whether it be for removing graffiti, efflorescence or discoloring.

### Versatile and convincing...



Precise removal on boathulls- Layers of paint on the underside of hulls can be removed by using hard granules. The jet can enables the exact edges of areas to be marked out without the use of masking tape. Optimal for use by smaller shipyards and clubs.



Foil friendly- smooth surfaces absorb the energy of grain blast. By covering lettering on a steel door with foil before blasting the remove layers of lacquer the wording will be undamaged. It is also ideal for removing paste from shop windows.



Wide usage- the negative pressure principle can also be used to remove rust and paint from metal surfaces, polluted tiles and other floor coverings such as parquet or floorboards. Ideal for using indoors without restricting any activity.

Surface layers, lacquer removal, derusting, roughing- up and restoring surfaces. The system is usable on scaffolding and hydraulic platforms without any special preparation and in like manner working indoors is similarly possible with preparation.



**Ideal for city cleaning:**  
**Effective using in small areas.**



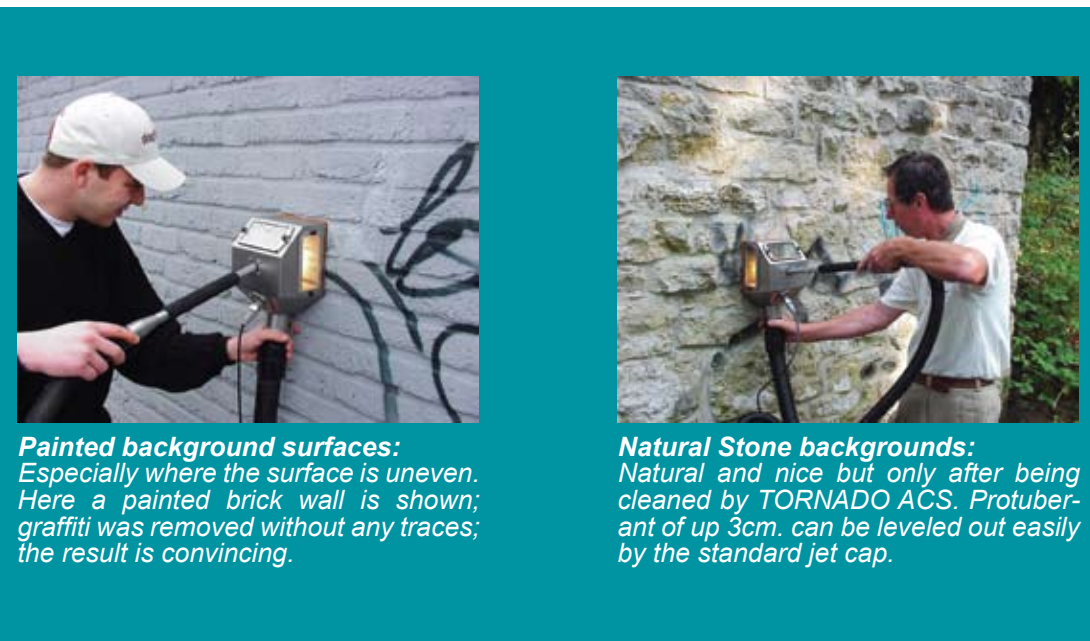
**Derusting of metal items:**  
**Derusting of wrought – iron fences**  
**without unnecessary dismantling.**



**Brickwork**

**Concrete**

**Concrete**



**Natural Stone**

**Tiles**

**Wood**

**Plastic**

**Metal**

**Painted background surfaces:**  
*Especially where the surface is uneven. Here a painted brick wall is shown; graffiti was removed without any traces; the result is convincing.*

**Natural Stone backgrounds:**  
*Natural and nice but only after being cleaned by TORNADO ACS. Protuberant of up 3cm. can be leveled out easily by the standard jet cap.*

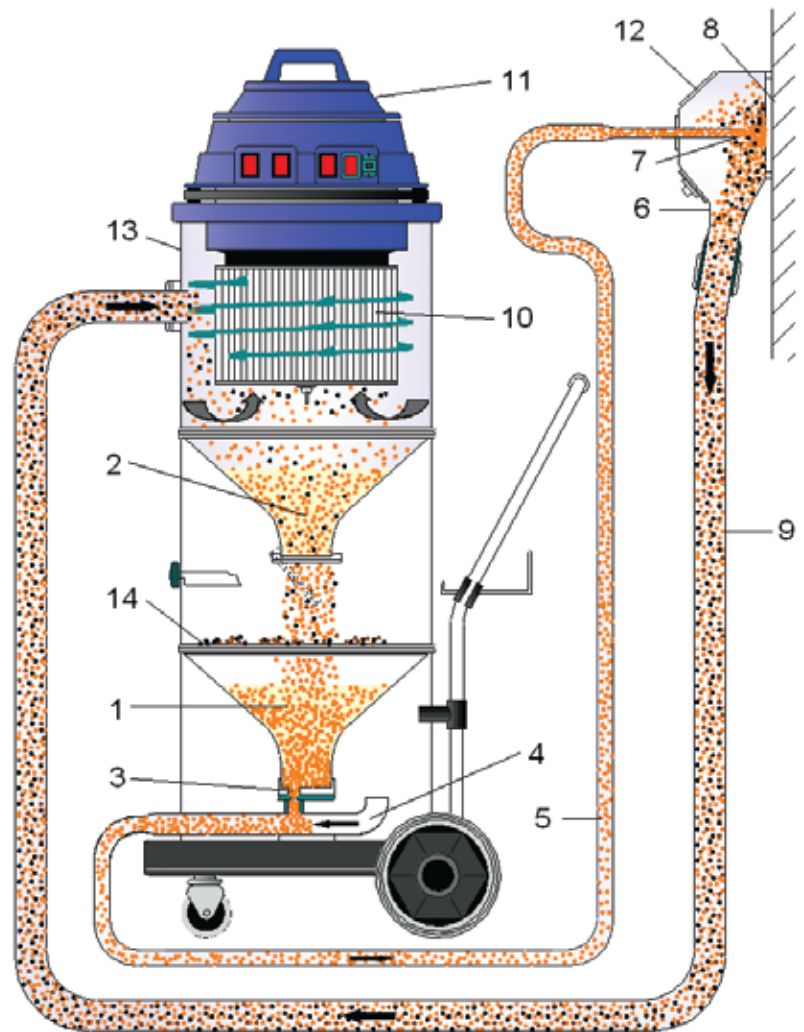


Special applications- even gravestones, staircases, tiles, polished granite slabs and many other types of surface can be cleaned quickly, thoroughly and reliably by the TORNADO ACS.

# FUNCTION

## The TORNADO ACS function is used on closed cycle:

From a funnel (1) the jet material (2) is fed into the airflow (4) through the dosing device (3). The blast grain is transported via the flexible suction hose (5) to the cap (6), with its high velocity generating a forceful jet energy at the exit of the jet lance (7). The blast grain under the projection of the cap impinges forcibly on the polluted surface (8) and removes the dirt, rust, paint or other contaminant. Every detail of this jet process can be observed and controlled via the vision panels (12). Subsequently the jet material together with the contaminant is sucked off by the hose (9) and fed to the top of blast grain container. The reusable blast grain is separated and fed back again into the circuit. The fine dust particles are sucked into the fine dust filter (10) by a suction device (11) whereas the coarse dust particles fall into the coarse dust filter (14). Both dust filters can be cleaned easily at the cessation of work.



## TECHNIQUE

### Technical data- TORNADO ACS

AC	230v/ 50 Hz
Input	maximum 3.500 W
Air output	3x 60 l/sec
Cable length	7m
Tare weight	approx. 4 kg
Height incl. mobile car	1.350 mm
Length overall	750 mm
Width overall	560 mm
Length of suction hose	4.0 m
Length of jet tube	4.5 m
Filling quantity	approx. 10 l. max
Granule through- put	20-80 l per hour
Granules consumption	approx. dependent upon jet means 0.4 to 1 l per hour
Assembly time	3 min approx.
Disassembly time	5 min approx. incl. cleaning

Feature	Advantage	Use
<p><b>No water</b></p> <p><b>No chemicals</b></p> <p><b>Dust free</b></p>	<ul style="list-style-type: none"> <li>• Dry work no soaking of masonry</li> <li>• No expensive wastewater disposal</li> <li>• Can be used under frost condition</li> <li>• Free of acids, caustic, solvent</li> <li>• Jet medium and removed waste material are 100% sucked up, filtered and separated in the unit</li> </ul>	<ul style="list-style-type: none"> <li>• Precise work, not friendly to environment</li> <li>• No expensive wastewater disposal</li> <li>• No subject to environmental protection</li> <li>• No official registration or authorization necessary</li> <li>• People and environment are protected</li> <li>• No annoyance or restriction of business activity or attention to costumers during cleaning operations</li> <li>• Ideal for indoor usage</li> </ul>
<p><b>The only machine for problems free indoor usage</b></p>	<ul style="list-style-type: none"> <li>• Simply connect to common power supply</li> </ul>	<ul style="list-style-type: none"> <li>• No offensive smell or noise, no regulations or restrictions</li> <li>• Ideal for use in housing or sanitary areas</li> </ul>
<p><b>Reusable jet medium</b></p>	<ul style="list-style-type: none"> <li>• Economical usage of blast medium</li> <li>• Usable approx. 100 times in a closed cycle</li> </ul>	<ul style="list-style-type: none"> <li>• Cost and time saving by re- usage of the blast medium</li> <li>• Less repeat orders required</li> </ul>
<p><b>No louder than vacuum cleaners</b></p>	<ul style="list-style-type: none"> <li>• Noise level only 75 dB, equivalent to vacuum cleaner</li> </ul>	<ul style="list-style-type: none"> <li>• No annoyance or restriction of business activity or attention to customers during cleaning operations</li> </ul>
<p><b>Quick set up</b></p>	<ul style="list-style-type: none"> <li>• Assembly and disassembly in under 10 minutes</li> <li>• Immediately available for use, preparations unnecessary</li> </ul>	<ul style="list-style-type: none"> <li>• Fast efficient cleaning, therefore time saving</li> </ul>
<p><b>The device is rustproof</b></p>	<ul style="list-style-type: none"> <li>• Constructed of high-grade steel and plastic</li> </ul>	<ul style="list-style-type: none"> <li>• Durable and almost maintenance free, thus economical to use</li> </ul>
<p><b>Light and compact</b></p>	<ul style="list-style-type: none"> <li>• Total weight is 40 kg an thus be carried by a single person</li> <li>• Movable on wheels, easy to use on hydraulic platforms, scaffolding, elevators and façade cars</li> </ul>	<ul style="list-style-type: none"> <li>• Low personnel costs, being easy to transport and to change location; is usable in difficult heights</li> <li>• Set- up is possible without official sanction or road blocks</li> </ul>
<p><b>Simple operation</b></p>	<ul style="list-style-type: none"> <li>• Only 10 minutes training required to learn how to operate the unit</li> </ul>	<ul style="list-style-type: none"> <li>• No specialist is required to operate, leading to low personnel costs</li> </ul>
<p><b>Application is gentle</b></p>	<ul style="list-style-type: none"> <li>• The correct granulate is available for each type of surface</li> </ul>	<ul style="list-style-type: none"> <li>• Especially suitable and usable on sensitive and valuable surfaces</li> <li>• Easy to handle due to distinguishing granule features</li> </ul>
<p><b>Friendly to Environment</b></p>	<ul style="list-style-type: none"> <li>• The system and materials used are environmentally friendly</li> </ul>	<ul style="list-style-type: none"> <li>• No protection is necessary as there is no negative impact on the environment</li> </ul>
<p><b>Highest form of accident protection</b></p>	<ul style="list-style-type: none"> <li>• Operation is only possible when the jet cap is fitted tightly against the surface and cycle is closed</li> </ul>	<ul style="list-style-type: none"> <li>• No protective clothing is required, there can be no unintentional or accidental jet escape or malfunction</li> </ul>