

# APPLICATION

CUTTING EDGE HYDRODEMOLITION



## ASSIGNMENT:

Renovation of 140m<sup>2</sup>  
concrete floor in a garage

**AQUAJET**



## Scarifying & surface preparation

HYDRODEMOLITION APPLICATION

# Renovation of garage floor

Aquajet products are best known for large jobs, but they can be used for smaller jobs, too. A contractor, for example, used the Ergo System for a garage floor renovation at a villa. The concrete floor had heavy damages and needed to be re-casted with new concrete. The floor was diamond grinded and therefore not good for bonding a new layer of concrete.

A 2,5x2,5m frame was assembled with standard scaffolding tubes. Then the Ergo climbers were mounted, as well as the roller beam and Power Head. The hydraulic hoses were connected to the Ergo Controller with a quick connector. System ready! The job was done in squares, and the frame was re-positioned after each square was finished.

The big benefit of the Ergo system is that it's small and lightweight and can be transported in the back of a small van. It's also fast and easy to set up.

For this job, the contractor used the small Power Pack 270, which has water pressures up to 2800 bar and a flow rate of 40l/min. The small amount of water was a huge advantage since the work was done inside a building.

The contractor also used the Ergo Rotolance 130S for its precise, automated movements and a water jet capacity as high as 45m<sup>2</sup>/h. The job was finished in just 3 high-pressure hours.

The Hydrodemolition method is perfect for these kinds of jobs because it is selective. If a mechanical mill, which is not selective, had been used, both the sound and the damaged concrete would have been removed.

The treated surface was perfect for bonding the new concrete layer, and the final result was a single, solid concrete plate ready to be diamond grinded and polished to perfection.

### SCARIFYING AND SURFACE PREPARATION

The Rotolance is an ideal tool for surface preparation, quickly and precisely removing a shallow layer of concrete. In addition to only removing the damaged concrete, it also roughens the area, leaving a surface in prime condition for bonding new material. For a smooth concrete surface, the Rotolance is the best and most efficient way to roughen it and to ultimately get a good result.

#### Robotic process:

1000 – 3000 bar / 14 500-43 500 psi  
38 – 264 liters / 10-70 gal of water

#### Recommendation:

Ergo go / Ergo Rotolance / Power Pack 270  
Aqua Cutter 410 / Rotolance 2500 / Power Pack 270  
Aqua Cutter 710 / Rotolance 1000 / Power Pack 700  
Aqua Cutter 710 / Rotolance 2500 / Power Pack 700







## Ergo go / Ergo rotolance 130S / Power Pack 270

### EQUIPMENT USED

#### The Ergo go

Ergo Go is a starter kit of awesomeness and basically everything you need to get the show on the road, except for a high-pressure pump. Ergo Go is your loyal wingmate and your very own problem solver. The heart of the starter kit consists of an advanced control unit, the Ergo Controller, two spring loaded high friction rollers called Ergo Climber, and the Ergo Power Head with a 45 degree lance angle and adjustable oscillation.

All system components come in two handy and portable boxes. The boxes are stackable and designed to fit side by side on standard pallet. You can stow the complete system into a van for transporting between sites. Every system component is lightweight, which enables the operator to handle, transport and assemble the system all by himself or herself. All components are easy to connect with AquaJet's unique one-size, single-bolt solution. One tool is all you need.

#### The Ergo Rotolance 130S

The Ergo Rotolance is the perfect complement to the Ergo system. It will cover a lot of areas beyond the standard Ergo Power Head. Basically everything that is surface related, for example Industrial cleaning, surface preparation, concrete scarification and paint removal. The Ergo Rotolance comes in three versions. All versions can be equipped with vacuum connection for removing water and debris.

Ergo Rotolance 130S, has a hydraulically driven swivel with up to 8 nozzles and a spray pattern of  $\varnothing$ 130 mm. Thanks to the hydraulic drive the rotation speed is controlled in a very precise way and will perform even results all the time. It is also equipped with suspension to be able to follow an uneven or curved surface, for example a ship hull.

#### The Power Pack 270

Our Power Pack is a high-pressure unit, specially designed for all types of Hydrodemolition applications. On the outside it may look like a basic metal container, but on the inside it's a completely different thing. AquaJet's Aqua Power Pack 270 have a powerful diesel engine, high-pressure pump and built-in diesel tank assembled in a 10 ft container. To operate the Power pack you only need fuel and water supply. No external electric supply is required.



### (Specifications)

#### Ergo go

Working width:	0,25-2,0m
Max length between supports:	2,0m
Min clearance height:	320-500mm (depending on bracket type)
Roller beam lengths:	0,25 / 0,5m / 1,0m
Lance angle:	$\pm$ 45°
Oscillation steps:	8° / 22mm and 14° / 42mm
Transport boxes:	1100x355x400 mm
Controller	530x620x1110 mm
Climber weight:	22kg
Power Head weight:	21kg
Roller beam weight:	9,5kg/m
Total weight:	Approx. 85 kg (compl. 1x1m frame)
Controller weight:	98 kg dry, 124 kg with oil
Max reaction force:	1000N
Parallel drive:	$\pm$ 2%

#### Ergo Rotolance 130S

Working diameter	130 mm (5,1")
Water pressure	100-3000 bar (1450-43500 psi)
Water flow	0-38 l/min (0-10,0 gpm)
HP hose connections	9/16 HP
Max n:o of nozzles	8
Vacuum connections	2" BSP / 2" camlock
Weight	26 kg (54 lb)
Rotation speed	0-1100 rpm (hydraulic)
Min water press. when rotating	100 bar (1450 psi)
Pressure drop @ 19 l/min	19 bar (276 psi)
Pressure drop @ 28 l/min	42 bar (609 psi)
Pressure drop @ 38 l/min	77 bar (1117 psi)
Nozzle type	102XXX
Suspension stroke	55mm (2,2")
Tilt sideways	$\pm$ 6°
Tilt back/forward	$\pm$ 3°
Max hydraulic Pressure	160 bar (2320 psi)
Max hydraulic Flow	7,2 l/min (1,90 gpm)

#### Aqua Power Pack 270 (10 ft)

Pressure* (UHP**)	2800 bar (40610 psi)
Flow* (UHP**)	40 l/min (10,6 US Gal/min)
Pressure* (option)	1200 bar (17404 psi)
Flow* (option)	87 l/min (23,0 US Gal/min)
Tank volume	520 l (137 US Gal)
Approx. weight	3650 kg (8046 lb)
Length (L1)	2,991 m (ISO 10')
Width (W1)	2,438 m (ISO 8')
Inner width (W2)	2,336 m (7,8')
Height (H1)	2,591 m (ISO 8,5')
Inner height (H2)	2,275 m (7,5')

\*Other pressures and flows are available upon request.  
\*\* Ultra High Pressure.

AQS-ON90