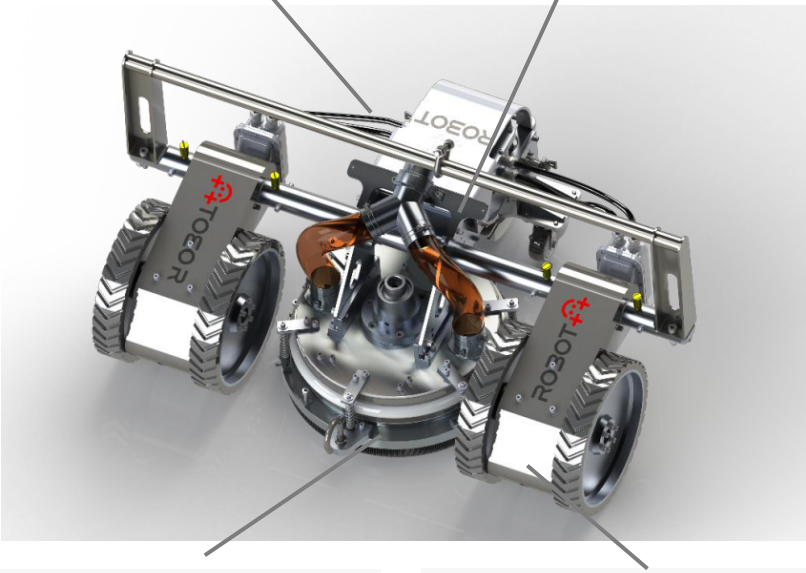
Surface Preparation Robots HighMate v3

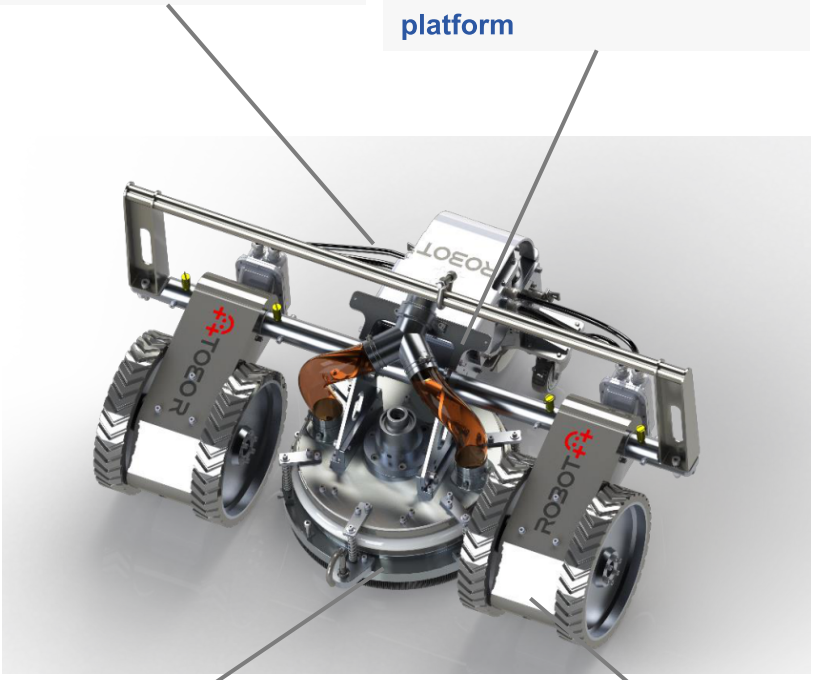


Description

The permanent magnet wall-climbing robot developed by ROBOT++ for the shipbuilding industry can clean, strip paint and derust the exterior and interior of the ship and tanks using hydro blasting technique. Both spot and continuous blasting are available with the same robot.

Specifications				
Size	786 ×1154 × 550 mm			
Weight	90 kg	SWL	130 kg	
Cleaning width	300 mm	Obstacle crossing	< 15 mm	
Min curvature radius	<10 m	Max speed	8 m/min	
Derust efficiency	20 - 50 m²/h (Efficiency varies with parameters such as operators 'proficiency, coating type, and water pressure)			
Control mode	Remote control – Autonomous on development			
Derust quality	WJ1/2	Vacuum Pump Spec	0.46 Bar	
Pump requirement	Pressure	2,250 - 2,800 Bars	Flow	30 - 45 l/min

Surface Preparation Robots HighMate Ex v1



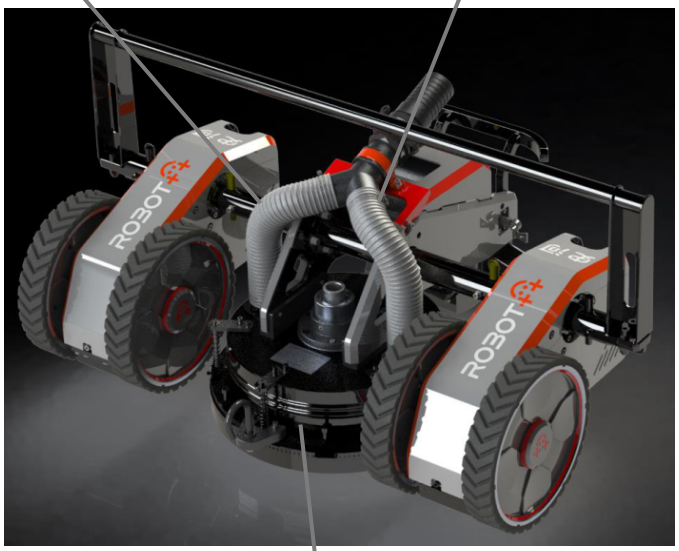
Description

The permanent magnet wall-climbing robot developed by ROBOT++ for the work in explosive area (zone 1 equivalent) ry can clean, strip paint and derust the exterior and interior of the ship and tanks using hydro blasting technique. Both spot and continuous blasting are available with the same robot.

Specifications				
Size	740 ×1018 × 510 mm			
Weight	100 kg	SWL	120 kg	
Cleaning width	300 mm	Obstacle crossing	< 15 mm	
Min curvature radius	<10 m	Rating	Ex d ib IIB T4 Gb	
Derust efficiency	20 - 50 m²/h (Efficiency varies with parameters such as operator's proficiency, coating type, and water pressure)			
Control mode	Remote control – Autonomous on development			
Derust quality	WJ1/2	Vacuum Pump Spec	0.46 Bar	
Pump requirement	Pressure	2,250 - 2,800 Bars	Flow	30 - 45 l/min

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Marcus Aurelius 18 str., Constanța 900744, ROMANIA | Tel: +40 730 665 410 | E-mail: office@tsm-synergy.com | www.tsm-synergy.com

Surface Preparation Robots – HighMate v4

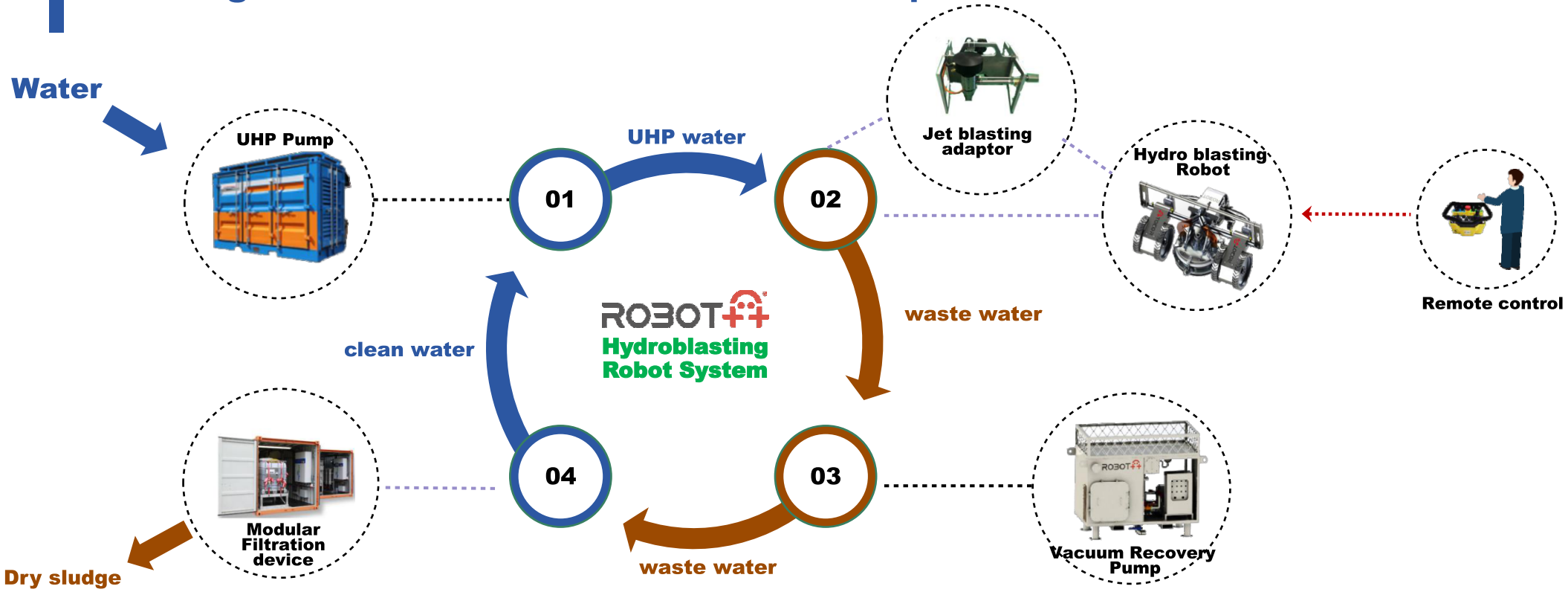


Description

HighMate V40 is improved on the basis of HighMate V30. It is more advanced, not only showed by its 20% higher efficiency, but also because of the autonomous navigation system which enables an unmanned operation. On the other hand, the upgraded modular design and less consumables make it easier for maintenance as well.

Specifications				
Size	810 ×1154 × 552 mm			
Weight	91 kg	SWL	150 kg	
Cleaning width	300 mm	Obstacle crossing	≤ 18 mm	
Min curvature radius	<8 m	Max speed	8 m/min	
Derust efficiency	30 - 55 m²/h (Efficiency varies with parameters such as operator's proficiency, coating type, and water pressure)			
Control mode	Remote control – Manual / Semi-autonomous / Autonomous			
Derust quality	WJ 1/2	Vacuum Pump Spec	0.46 Bar	
Pump requirement	Pressure	2,250 - 3,000 Bars	Flow	18 - 52 l/min

An integrated solution for reduced waste operation



1. One operator to control one robot using a remote-control system.
2. Clean fresh water is supplied by an industrial water pipe or storage tank.
3. The robot is supplied with UHP water, recovered at 99%with the waste by the vacuum pump.
4. Wastewater is processed in the filtration unit and can be reused by the UHP.

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Our Robot Team

Cleaning Robots

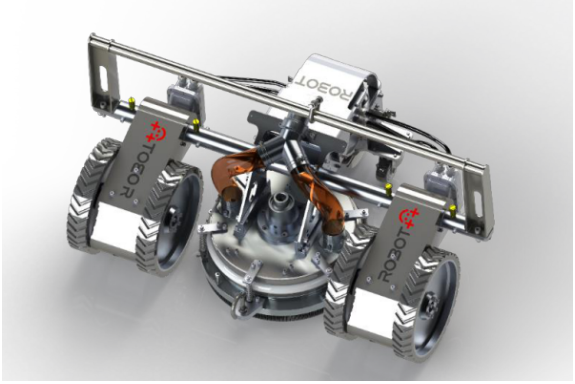
- Hydroblasting with recovery
- Hydroblasting with recovery- Exproof
- Grinding

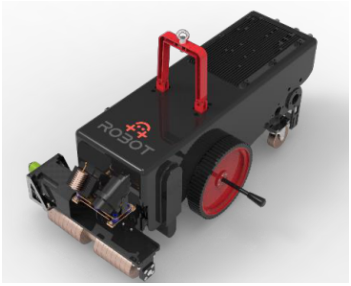
Robots in pre-commercialization

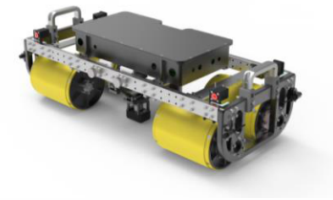
- NDT Inspection
- Cleaning
- Façade Cleaning

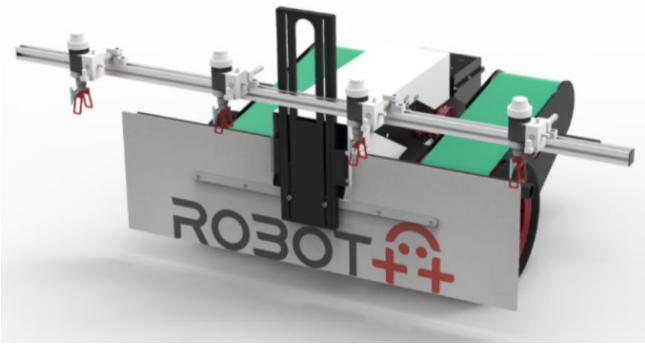
Robots in development

- Spraying of Chemical and Paint
- Underwater fouling removal





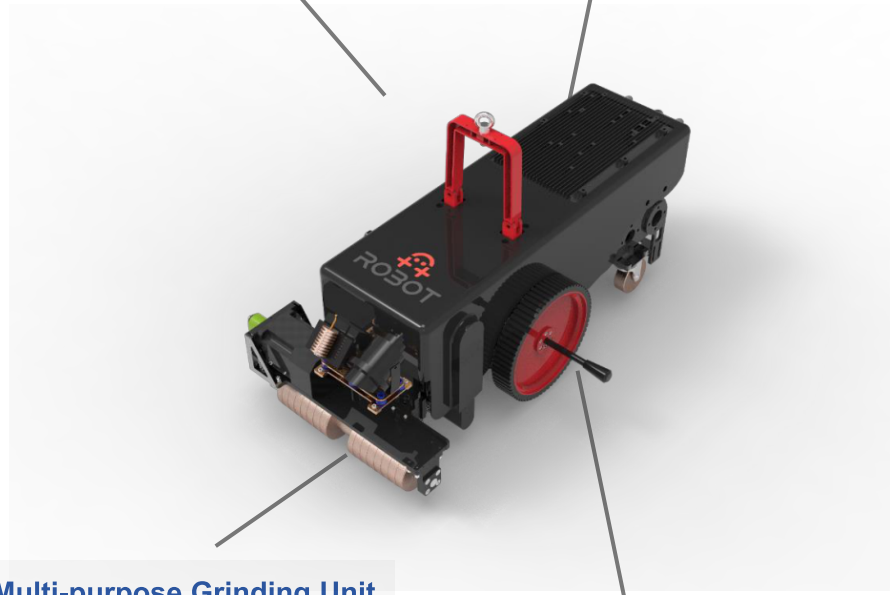




Grinding and Deburring Robot

Intelligent control system

Flexible climbing mobile platform



Multi-purpose Grinding Unit

- Powerful roll grinder
- Curvature adaptability

Easy lifting

Description

Equipped with a multi-functional grinding unit, it is capable of grinding welded seams, deburring. It is applicable to grinding the exterior and interior surfaces. The robot is used to prepare the surface for the inspection of welded seams.

Specifications			
Size	330 x 370 x 720 mm		
Weight	39 kg	Obstacle crossing	< 5 mm
Cleaning width	220 mm	Max speed	4 m/min
Min curvature radius	6 m		
Grinding efficiency	0.5 m /min		
Derust quality	SA 3		
Control mode	Remote control – Autonomous on development		
Features	• Video camera to assess the work • Laser guide		

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