world of water jetting

falch is a German manufacturer of professional water jetting machinery, accessories and robotic solutions with more than 50.000 customers worldwide and more than 100 rental and service locations globally. falch is a well-known and established partner for all maintenance and contracting companies.

Our team of engineers, located in our very own 5.000 m² innovation and research centre, are developing professional water jetting solutions which includes, machinery from 100 bar up to 500 kW with 3000 bar and the matching accessories as well as semi and full automated robots. All components and pumps are manufactured in our factories with 32,000 m² in Germany. There are more than 500 new and second hand units, countless accessories, robotics and spare parts on stock and ready for delivery.

Due to economic and environmental reasons, the way of work in shipyards and of contractors has changed step by step. These changes mean that traditional working procedures like grit blasting have been replaced by highly innovative, cost effective, environmentally friendly and safe water jetting solutions. Replacing grit blasting for surface preparation will be one of the major goals to achieve in near future. Not only because of its big negative environmental impact, grit blasting is no longer state of the art in the industry. Also because of health and safety reasons, companies are making that important decision to move away from it.

All our new solutions have to be from a commercial point of view, interesting as well. This is why falch have developed throughout the years, a complete package of efficient and flexible solutions made to fulfil tight time schedules, which provide the perfect surface condition, the highest safety requirements and the maximum level of environmental protection. In general terms, falch solutions are designed for companies which are facing a lot of different challenging projects, and are forced to be flexible. falch will be in all respect, a perfect partner who is reliable from the first step. This will start with setting up an individual falch shipyard package, and providing calculations on relevant parameters like investment, running costs, volume and price per square meter.

With the best know-how in the market. extensive experience from several projects during previous years, and our customer-driven way of thinking and approach, falch will fulfil its philosophy of "all for customers" and provide a high level of confidence.

The different surface preparation methods have varying environmental impact. Compared to uhp water blasting the grit blasting has several drawbacks, not only the usage of raw material like grid (mainly shipped to Europe out of India or china) and the challenge of waste management afterwards. In addition the energy consumption is higher especially compared to uhp robotic solutions.

surface preparation on vessels

	grit blasting	falch uhp handlance	falch uhp robotics
grit kg/sqm	50	1.00	-
water l/sqm	10 (washing dust)	130	60 - 95
power consumption kW/sqm	18	20	4 - 7
diesel I/sqm	2,7	2,8	0,9 - 1,4
CO ₂ kg/sqm*	7,2	7,4	2,5 - 3,7
manpower min/sqm	18	18	2 - 3
performance sqm/h	5	5	40 - 60
(average numbers from real projects)			

Further, the falch uhp solutions offers the possibility to reduce the CO2 footprint even more because all machinery can be driven 100% electrical and therefore with no use of any fossil fuels.

While operating high efficient water jetting machinery with limited fresh water demand, operators can take care of the wastewater by using the falch base filt 50. The tool can separate the water from the waste directly on site. Therefore, instead of having dozen of tons of contaminated water that has to be disposed, the amount of waste is limited to very few big bags that are full of removed coatings particles.



Moreover, not only the positive impact on the environment is important. Health and safety is for all a relevant and critical topic. By reducing the physical impact on the operator up to an absolute minimum because of semi and full robotic solutions, the operations does not only become less exhausting for the employees but also more safe and less prone to accidents.

The automation of the working process offers besides safety and sustainability also an excellent result and higher efficiency. For instance, the falch lift worker, lift worker beam and the multi worker are such semi-automatic solutions where the operator can work without any recoil force. With these tools, it is possible to increase the performance of an ultra-high pressure pump with a factor of five.

Especially full-automated tools like the

surface rob for the bottom of the vessels is a real game changer. This very challenging to access area was often causing major worries to the project managers. With the solution of falch, these surfaces can be blasted with a speed up to 50 m² per hour or even more and with no hard physical effort of the operator.

With the falch tools, all areas on a vessel

can be accessed and water jetted within

shortest period. Different areas hide dif-

ferent challenges and therefore requires

matching blasting tools. With the individual

compiled falch shipyard package it's possi-

ble to achieve the highest performances in

each project.

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efficiently.

step by step shipyards and co are implementing innovative solutions for all different vessel areas. The intention is always to reduce the operation costs, to ensure a very high quality of surface preparation, to reduce the environmental impact and to focus a lot on the health and safety of the operators.







Comparing performances of uhp equipment to the manual grit blasting, there is a big difference, because with grit blasting you can do approximately only up to 3 - 7 m² per hour.

