

The newest innovation in cleaning and deburring is not only friendlier on the environment, it saves costs as well.

Clean and green wash

> For as long as manufacturers have been drilling and grinding metal, they have faced the problem of burrs, grit and cutting oil left behind after the machining operation. This unwanted material has to be removed, and industry has always gritted its teeth in frustration at the cost, time and mess associated with part cleaning.

Assuring this washing/deburring operation is done well has become ever more critical, especially with high-precision cylinder blocks and other engine components of modern automobiles. Just one small burr could damage the engine right after assembly, requiring a rework of the part and jeopardizing the long term durability of the engine.

In the late 1990s ABB examined the large, inefficient washers then being used and committed engineering resources to finding a better way. Existing washers were inline single-path chemical systems that were large, energy gulping, unreliable and wasteful. The result of ABB research was a brand new generation of robotic flex washers that have revolutionized high pressure water deburring.

Jan Nielsson, ABB's FlexWasher Global Product Manager, ticks off an impressive list of benefits and improvements for the FlexWasher: decreased exhaust emissions, low and best-in-its-class noise level and cleaning capability, unequaled reliability with robust, low-maintenance components, and a simple setup that allows for quick reprogramming.

Says Nielsson: "What's unique about our systems is that we're using pure water. With your dishwasher at home you heat your water and add detergent to achieve a good cleaning. With our equipment, we have taken out the detergent and heat while achieving better cleaning than our competitors."

That superior cleaning without chemicals is achieved by combining an exact path velocity and precise water-jet attack angle to

the surface of the part, made possible using a robot-held nozzle moved around the part or a robot-held part moved around a stationary nozzle.

Even while the FlexWasher design allows for processing of formerly unreachable areas of complex parts, the entire operation provides great benefits for both the environment and the manufacturer's pocketbook.

There's no energy outlay to heat the water, which is filtered and reused in the closed loop system. An efficient design means less power consumption, and there are decreased exhaust emissions since water vapor is the only byproduct.

Jan Nielsson points to stunning statistics on the operational cost of ABB's FlexWasher versus ultrasonic, injection-flood and fixed-nozzle washers.

With significant savings in power draw, fresh water usage, waste processing and zero chemistry outlay, the FlexWasher's annual operating cost is an amazing 87 - 93 percent less than these other systems.

ABB continues to supply auto manufacturers with custom-built FlexWasher systems while expanding its reach into the aviation industry and other production processes. ☉



ABB programmer Sam Smith testing the new FlexWasher cell before it goes to a customer.