

Tabletop robot UR3 can be worker's thirdhand helper

March 18 2015, by Nancy Owano



Collaborative robot company Universal Robots has a new addition to the family. The birth announcement on Tuesday said that a lightweight 6-axis tabletop robot has emerged to work with humans as third-hand



helper. UR3 is its name. Esben Oestergaard, co-founder of the company and CTO, said, "a single worker can accomplish what traditionally would be a two-person task by having the UR3 robot as a third-hand helper." This is a small robot for light assembly work, in small-format precision tasks—in gluing applications, UR3 doses the same amount of glue with constant and steady pressure along a narrowly defined path; tightens screws with correct torque—generally, assists in assembly, polish, glue, and screw applications requiring uniform product quality.

Its UR5 and UR10 robots have been in use by industries; they work next to people with no safety guarding, said the <u>company</u>. The company is bringing the same idea to the table, so to speak, with UR3. It weighs 24.3 lbs, but has a payload of 6.6 lbs.

Wrist joints have 360-degree rotation, with infinite rotation on end joint. The UR3, said the company, can ensure consistent quality with "perfect" and steady pressure. The company is also highlighting the advantage of easy programming. Switching between tasks to meet agile manufacturing needs is easy, making total cost of ownership low and payback period fast, the company said.

Another UR3 advantage promoted is size. Confined environments would be up against the problem of large safety enclosures. "With the UR3, we can now fit a 6-axis robot into more assembly and manufacturing lines where erecting large safety enclosures would not be feasible. The UR3 is ideal for relieving employees from working in environments with toxic or hazardous materials, said Oestergaard.

Adjustable safety settings total 15. The specs read, "Force limit: Default 150 N, can be adjusted down to 50 N." UR3 limits forces at contact if the robot collides with an employee. The robot can be set to stop if it encounters a force as low as 50 Newton in its rout; there is a default force sensing of 150 Newton.



Oestergaard told *IEEE Spectrum* that it took three years to develop the UR3. A key technical challenge was miniaturizing their technology, already highly compact and <u>integrated</u>, he said.

UR3 applications span manufacturing industries from medical devices to circuit boards and electronic components, according to the team. "I'm sure we will be equally surprised to witness the adaptation of the UR3 into new scenarios where robots haven't ventured before," said Oestergaard.

They will show UR3 at Automate 2015 in Chicago, March 23.

The roots of the company go back to 2003. The company's three founders, Esben Oestergaard, Kasper Støy and Kristian Kassow, met at the University of Southern Denmark in Odense. They came up with the idea of creating a light <u>robot</u>; they could see that heavy, expensive and unwieldy robots dominated robotics and that there was a market for a more user-friendly option.

More information: <u>www.businesswire.com/news/home ... -Robots-</u> <u>Launches-UR3</u>%E2%80%93The-World%E2%80%99s-Flexible-Light-Weight#.VQmXAVXF_GM

www.universal-robots.com/en/products/ur3-robot/

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