

..... >Robot for assembling water heaters

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News Release Robot for assembling water heaters from APEX Automation and Robotics

APEX

Automation & Robotics has just completed the installation and commissioning of a robotic system for one of the leading manufacturer of water heaters. The system automatically separates and assembles the flue and the water heater cylinder. The flue sub-assemblies and cylinders are transferred into the robotic cell on two powered roller conveyors. On one side of the cell, each flue is separated and loaded into the jiggling module in the assembly station. On the other side, at the end of the cylinder accumulation conveyor, each cylinder is separated and presented to the robot for assembly.

The robot has a custom-built gripper that can handle the whole range of cylinders, weighing up to 100kg and measuring up to 585mm in diameter. It also contains a compliance device with sensors confirming the gripping, loading and unloading of the product.

The system doesn't need any mechanical adjustment when changing product. The robot moves to pre-programmed pick and place positions depending on the selected product. It picks up the cylinder and assembles it to the flue, then the assembly is transferred to the welding station on a chain conveyor.

The robotic cell is guarded with perimeter fencing, interlocked safety doors and light curtains. Also a collision detection software was implemented in the robot program to prevent mechanical damages should any malfunction occurs.

A user-friendly coloured Touch Screen allows the operator to change the setup, run and troubleshoot the system.

In the metal manufacturing industry, handling heavy parts is labour intensive and can lead to serious injuries. This robotic system is another automation solution supplied by Apex Automation and Robotics to this industry to reduce production cost and improve OH & S.