

EMPOWERED

Empowering employees to be leaders in Health, Safety & Environmental

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Safety starts with me.

Are you ready to make your mark?

SAFETY

Zero-Gravity Pneumatic Manipulator

John Crane Solaro has found a unique way to address the challenges of moving heavy parts in and out of welding, assembly and hydraulic testing. The goal was to avoid the need for the operator to manually lift or rotate the parts, without slowing down the operation.

The solution

JC Solaro collaborated with the Polytechnic of Milan to evaluate and select the zero-gravity pneumatic manipulator. It is equipped with a custom-designed tool to fit all sizes and movements carried out in the cell.

The manipulator consists of a column fixed to the ground, an articulated system of arms, and a system for balancing, controlling and picking up the load with an indexed selector tool, which guarantees the operator the maximum delicacy and precision of movement.



Operator Francesco Di Maria prepares for a lift with the Zero-Gravity Pneumatic Manipulator



Safety

The manipulator comes equipped with a number of safety devices to reduce the risk of injury, including:

- Piece presence sensor to guarantee the correct grip
- Both hands must be on the control handlebar
- Valves and integrated compressed air tank prevent the load from being released if the air cuts out
- Speed control prevents sudden movements
- Anti-drift brakes ensure that the manipulator remains immobile when no one is at the controls
- Ergonomic duplicate controls work well at all heights

Savings

The zero-gravity manipulator combines the handling, lifting and positioning actions together into one smooth operation, reducing material handling time by 84%!