

TP AMC Technology Refresh: Sustainable Manufacturing

Air Management System with max 62% reduction in air consumption



AMS 20A

Calibrating from 6bar to 4bar. The main reason is because, most of the cylinder bore size is small (Dia.20mm and below) and the vacuum application is picking up a very light weight item (roughly 200g).

Implementation Plan



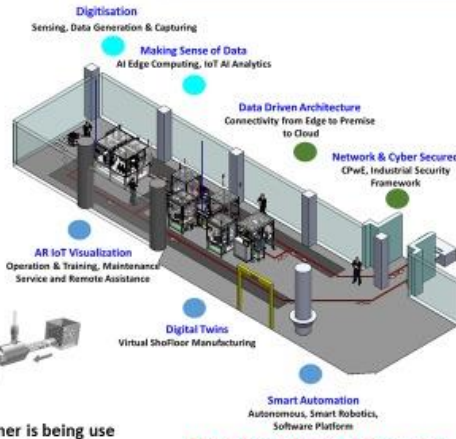
Implementation : Digitalization and Condition Based Monitoring with Air Management – flow, pressure, temperature, and other sensor information to the host system via Industrial Ethernet or the OPC UA on SCADA

** Partnership with SMC on software solutions



ZH40-BD-X185

Replacing the noisy vacuum cleaner is being use for collecting waste chips from drilling process.



TP Cyber Physical Systems



Air Ejector
 Air supply is cut-off when vacuum is reached.
 Energy saving ejector
 Air consumption
93% reduction



The Advanced Manufacturing Center at Temasek Polytechnic is an innovative facility that focuses on highlighting the latest technologies in Industry 5.0, with a particular emphasis on human-centric and sustainable manufacturing practices. This center highlights the application of SMC products and demonstrates its capabilities.

One of the primary areas of focus in this Learning Factory is its collaboration as an Application Center of SMC in the East. It serves as a platform to display and demonstrate SMC's Air Management System (AMS) with digitalization and condition-based monitoring of devices. This integration of advanced technology allows for efficient and intelligent control of air management systems, optimizing their performance and ensuring smooth operation.

In line with its commitment to sustainability, the Advanced Manufacturing Center emphasizes energy efficiency and energy-saving practices. It achieves this by utilizing the latest SMC Ecological Products in real-world applications. These products are designed to minimize energy consumption while maintaining high performance levels, contributing to a greener and more sustainable manufacturing environment.

The concept of the 4-bar Factory differentiates SMC at the forefront of manufacturing innovation, providing it with a competitive advantage. This concept emphasizes the seamless integration of SMC's products and solutions into various manufacturing processes, enabling increased efficiency, productivity, and flexibility.

If you are interested in witnessing first hand's capabilities of SMC and its products, we would like you to take this opportunity to visit Temasek Polytechnic's Advanced Manufacturing Center. There, you will be able to explore the state-of-the-art technology and witness the practical applications of SMC's solutions in a real-world manufacturing environment.