# KMG ULTRA PURE CHEMICALS

TUAS, SINGAPORE

## INTRODUCTION

KMG's <u>Ultra Pure Chemicals</u> facility in Tuas, Singapore, required upgrading to add air-conditioning and temperature control to the existing chemical storage warehouse and to provide a new clean room for use as a copper-process application lab.

## **PROJECT DETAILS**

Authorized Dealer <u>VACE</u> upgraded the building automation system for Ultra Pure Chemicals with Reliable Controls devices.

The warehouse was divided into six zones, three of which required control at different space-temperature setpoints. VACE achieved this challenge using the flexible, highly customizable programming capabilities of Control-BASIC language along with Reliable Controls controllers.

VACE installed two MACH-ProCom controllers, expanded with MACH-ProPoint Input/Output modules, in the chilled water plant for sequence control, failure monitoring, and alarm messaging. Two airhandling units and a pre-cooled air-handling and recirculation unit in the copper process lab are controlled by the Reliable Controls devices. Additionally, VACE used Modbus to interface power meters with the building automation system.

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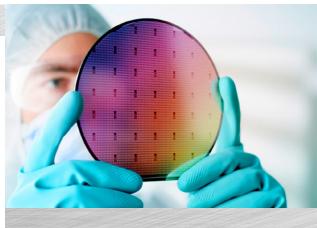
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Market segment Warehouse

PROJECT TYPE Retrofit and new construction

#### INSTALLATION TYPE

Boiler, chiller, CO<sub>2</sub> monitoring, fan coil unit, fume hood, heatpump, HVAC, laboratory, power, variable air volume, water monitoring

INSTALLATION TYPE HVAC

TOTAL AREA 20,000 m<sup>2</sup> (215,278 ft<sup>2</sup>)

PROTOCOL BACnet, Modbus

### INSTALLED EQUIPMENT

6 MACH-Air<sup>™</sup> controllers 2 MACH-ProCom<sup>™</sup> controllers 7 MACH-ProPoint<sup>™</sup> Input/Output expansion modules 1 MACH-ProSys<sup>™</sup> controller

TOTAL SYSTEM OBJECTS 128

**RELIABLE CONTROLS AUTHORIZED DEALER**