



# TOYOTA TSUSHO CANADA OFFICE WOODSTOCK, ONTARIO

## PROJECT OVERVIEW

The Toyota Tsusho Canada, Inc. Woodstock office features a main office with seven smaller sized rooms and a warehouse. YANMAR America installed a 16 RT, 2-pipe unit outside the building accompanied by 14 indoor units, including 4-way cassettes, wall mounted, ceiling mounted and others. By using a variety of indoor units, the office serves as a good demonstration of how YANMAR's VRF natural gas heat pump system can be configured.



## REASON FOR CHOOSING YANMAR

Toyota Tsusho Canada, Inc. (TTCI) is a multi-business enterprise of the Toyota Tsusho group companies, and an exclusive distributor of YANMAR VRF and Combined Heat and Power (CHP) units in the Eastern Canada market.

Due to the fact that the YANMAR VRF systems provide efficient, cost effective heating and cooling solutions for the building using natural gas, TTCI decided to install a demonstration unit at its own office.

This particular unit is a cold-area model from Japan, which means the building is able to benefit from efficient heating or cooling across its 14 zones even during low outside temperatures.

TTCI believes that YANMAR's gas heating and cooling system offers many benefits, including low operating costs, reduced CO2 emissions and quiet operation. The technology also matches with the company's philosophy to strive for continuous improvement.

## ABOUT YANMAR VRF

The YANMAR Variable Refrigerant Flow (VRF) natural gas heat pump system provides a flexible way to efficiently heat and cool many different types of buildings, as well as reduce operating costs and emission levels.

## QUICK FACTS

**Application:** Office Building

**Location:** Woodstock, Ontario

**Commissioning Date:** February 2015

**Product Installed:** YNCP560J-NB  
(16 ton, 2-pipe)

### Results:

- Reduced electrical consumption
- Improved indoor climate control
- Lowered emission levels



# TOYOTA TSUSHO CANADA OFFICE 16 TON VRF

**“We are very proud to be the first YANMAR VRF installation at an office building in Canada. YANMAR’s and the contractors’ processes worked well during the installation, even during the severe winter weather. When the VRF first put out its first warm air, it was an exciting moment.” - Grant Town, General Manager, Toyota Tsusho Canada, Inc.**



### RESULTS

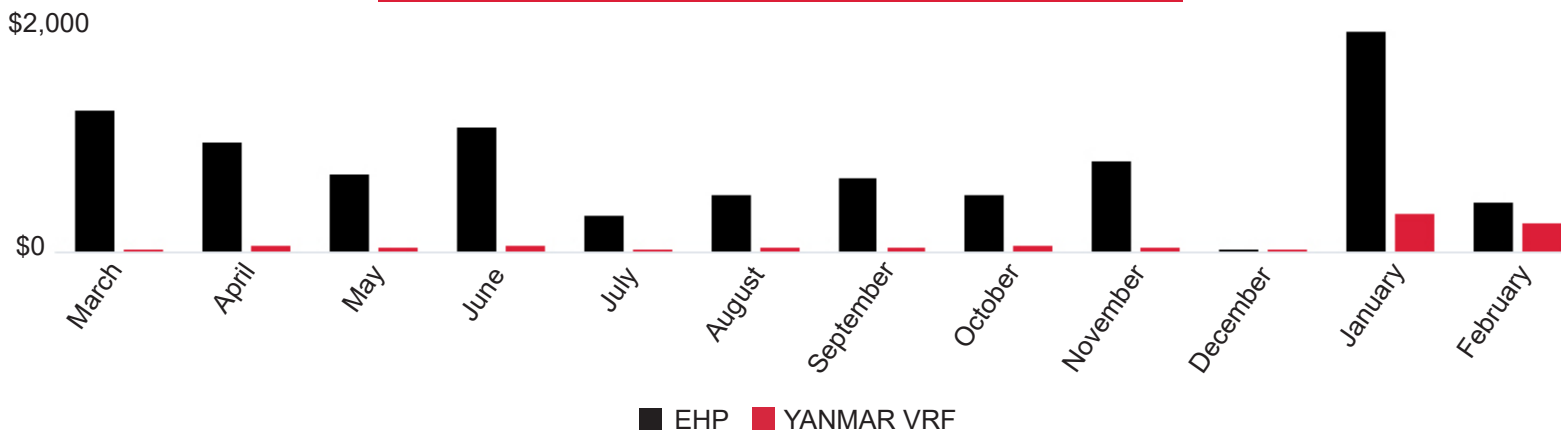
- Reduced electrical consumption for heating and cooling the building by switching to a natural-gas driven YANMAR engine.
- Individual thermostat control for each room of the building allows occupants to choose their own temperature levels. This also makes it possible to change or turn off conditioned air in unoccupied areas of the building, further reducing operating costs.
- By using natural gas as an energy source, the building produces lower amounts of harmful emissions than traditional heating and cooling equipment.

### CONCLUSION

- In one year of operation, the YANMAR 16-ton VRF unit provided operating costs savings of \$7,515.48 (89%). Toyota Tsusho’s office building made the switch from electrically-driven to natural gas-driven cooling and heating, and has been enjoying the unit’s cooling and heating capability while residents of Ontario experience 80°F high ambient outside air temperatures and -4°F low ambient outside air temperatures.

### YANMAR VRF Operating Costs - March 2015 through February 2016

**Projected 10 Year Operating Costs Savings: \$75,000**



System not utilized in December 2015. Operating costs data is a calculated based on Remote Monitoring data and local utility costs.