

AirVantage Case Study: Tom Douglas Via 6 Complex



Tom Douglas' Via 6 Complex is a mixed-use space at the base of the new Via6 Apartments in downtown Seattle, WA. Tanaka San, an Asian American fusion restaurant, will serve as the cornerstone of 10,000 square foot Assembly Hall. The menu features soulful, slurpy bowls of ramen, as well as savory meat, fish and veggie robata skewers hot off the charbroiler. The restaurant will seat about 80 indoors and another 60 outdoors under heat lamps. Assembly Hall is long and narrow with a street-level open floor plan running parallel to Sixth Avenue. The urban marketplace features Home Remedy, a 2,000-square-foot deli and convenience store on the north end. Assembly Hall Juice & Coffee creates freshly juiced fruits and vegetables or blended to order smoothies and includes a breakfast bar called the Kitchen Counter. A small gallery and gift shop, Zinnia Garden Bench, and a packaging room with food from Douglas's other restaurants are also onsite.



ASSEMBLY HALL – SEATTLE, WA PROJECT



TYPE OF KITCHEN EQUIPMENT

Restaurant

- 10,000 square foot mixed use space
- Seats 80 Interior and 60 Exterior
- 6am – 12m daily operation
- Fan operates 24 hours a day (overnight prep cooking)

Gaylord's Project Scope

- Installed AirVantage DCV ventilation controls to monitor and adjust up to 50% turndown on a multi-hood single fan operation with pollution control and diverse cooking application
- Reduce overall energy costs
- Save HVAC and fan operational costs
- Optimize HVAC and fan efficiency
- Improve kitchen comfort and reduce noise levels

Exhaust Hoods (5)

- 11ft ELXC, 20ft ELXC w/UVi, 8.5ft ELX, 4ft ELXC -UVi and 4ft Woodstone.

Grease Filters

- XGS Extractors

Supply and Exhaust System (9680 cfm)

- Pollution Control Unit w/ ESP and Odor Control utilizing 30HP fan through acoustically designed ductwork
- Supply/Dedicated Makeup Air utilizing electric duct heating and a 7.5HP motor

Type of Cooking

- Mixed medium to heavy duty with charbroiler, smokers, griddles, fryers, ranges, combi-ovens, convection ovens, braising and baking operations.
- Over 5,000 square foot cooking area

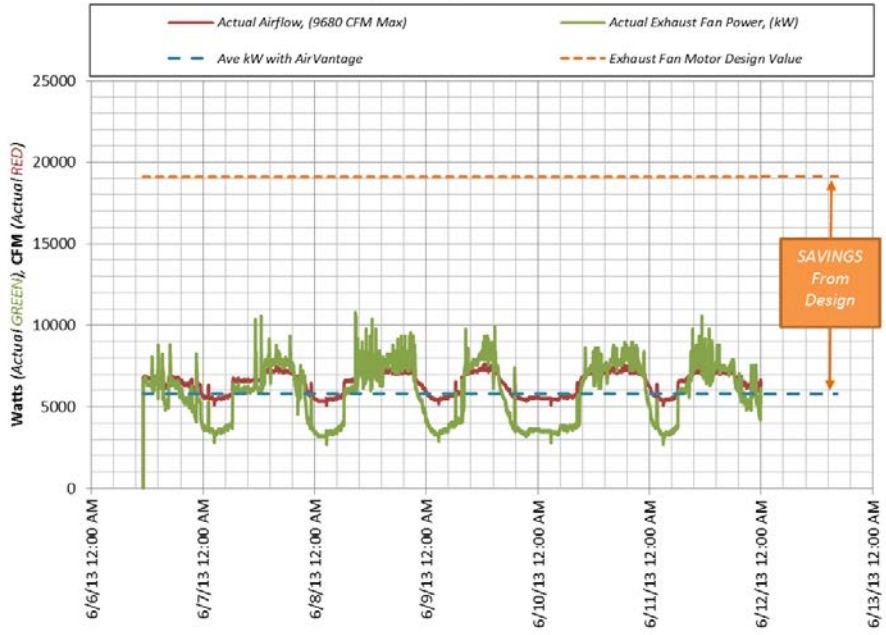


AirVantage Case Study: Tom Douglas Via 6

Study Result Information Data

AirVantage Exhaust Fan ONLY

Air & Energy Savings, (CFM, Watts)



Source: Tanaka San Restaurant, Seattle WA. Testing period was from 6/6 to 6/13. Electrical load savings based on a 339 kWh/day reduction in load at \$0.07/kWh per Seattle City Lights 2013 data. Heating load savings based on 222,000 kBTU/yr reduction realized on duct mounted electric heating systems, costs at \$0.07/kWh. Incentives based on \$0.27/kWh capped at 70% of system cost. Data was collected By Gaylord Industries monitoring drive outputs and sub-metering. Savings based on 24/7 ventilation operation due to nighttime preparatory cooking operations.

Without Gaylord AirVantage Control Installed

Design Exhaust Ventilation Rate	9,680	CFM
Exhaust & Makeup Fan Power	20.3	kW
Exhaust & Makeup Fan Energy (kWh/day)	488	kWh/day

With Gaylord AirVantage (DCV-AV) Control Installed

Average Exhaust Rate Reduction, (%)	33.2	(%)
Average Fan Energy Consumption Reduction, (%)	69.6	(%)
Average Supply and Exhaust Fan Load Reduction	14.13	kW
Average Supply and Exhaust Fan Energy Reduction, (kWh/day)	339	kWh/day
Average Estimated Yearly Heating Reduction, (kBTU)	380,662	kBTU/yr
Average Estimated Yearly Cooling Reduction, (kBTU)	3,652	kBTU/yr

Operational Energy Savings

Average Estimated Yearly Fan Energy Savings, (\$)	\$8,145	(\$)
Average Yearly Electrical Heating Cost Reduction, (\$/yr)	\$8,292	(\$/yr)
Average Yearly Cooling Cost Reduction, (\$/yr)	\$27	(\$/yr)
Average Total Yearly Savings*	\$16,464	(\$/yr)
Estimated Cost after Energy Rebate and Tax Incentives (\$41,050 total cost - \$21,180 rebates)	\$19,870	net
Years Payback with AirVantage System (\$18,223 cost / \$16,464 savings)	1.2	Years