

Effective Restaurant HVAC Management

Re-opening restaurants after the shutdown



Restaurants across the country are either re-opening or dealing with increasing occupancy. Trane restaurant specialists have been monitoring industry information and keeping pace with ASHRAE and CDC guidelines, and adapting them to the unique needs of restaurants.

Before operating your system, consider the following checkpoints:

- 1 Set your HVAC system for partial or full occupancy. The following system setpoints are structured around ASHARE and CDC guidelines to optimize temperature and humidity control by adjusting outdoor air intake, ventilation and exhaust. Your Trane services team can help you achieve the optimal settings specific to your building and location.

Open Restaurant HVAC System Operation Recommendations

		QSR			CASUAL DINING				
		Dining	Kitchen	IT Closet Critical Space	Dining	Kitchen	Dish Area Scullery	Trash Room	IT Closet Critical Space
OCCUPIED HOURS	Fan	ON	ON	ON	ON	ON	ON	ON	ON
	Cooling Set Point	73° - 75° F	73° - 75° F	73° - 75° F	73° - 75° F	73° - 75° F	73° - 75° F	73° - 75° F	73° - 75° F
	Heating Set Point	68° - 70° F	68° - 70° F	68° - 70° F	68° - 70° F	68° - 70° F	69° - 70° F	68° - 70° F	68° - 70° F
UNOCCUPIED HOURS	Fan	AUTO	AUTO	ON	AUTO	AUTO	AUTO	AUTO	ON
	Cooling Set Point	78° F	80° F	78° F	78° F	80° F	80° F	76° F	78° F
	Heating Set Point	60° F	60° F	60° F	60° F	60° F	60° F	60° F	60° F
	Relative Humidity Set Point*	50 - 60%	55 - 60%	50 - 60%	50 - 60%	55 - 60%	50 - 60%	50 - 60%	50 - 60%

* Relative Humidity Set Point if HVAC Equipment is equipped with active dehumidification—hot gas reheat.

- Consider reducing the unoccupied space temperature set-point drift or offset range
- ASHRAE recommends a space RH range of between 40 - 60% RH during all hours—occupied & unoccupied
- Consider adjusting the occupied time of day (TOD) schedule to come occupied an hour prior to restaurant occupancy
- Consider disabling kitchen hood demand control ventilation (if equipped) and set hood exhaust, make-up air and dedicated outside air systems to 100%
- Operate all kitchen, dining and restroom exhaust fans during occupied hours at 100%
- Confirm all HVAC system and exhaust fan interlocks for proper operation

- 1B If your site is part of a franchise or restaurant group, consult the corporate restaurant operations department for specific guidance and proper post-shutdown protocols. If a protocol or HVAC operational guide has not yet been developed, consider establishing a protocol by including your operations and facilities team, and experts like Trane.

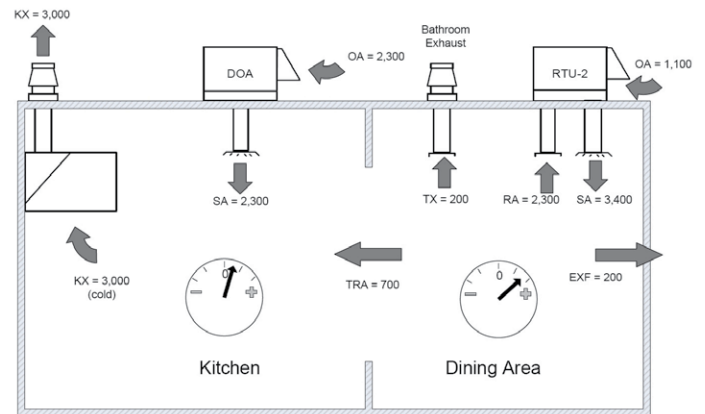
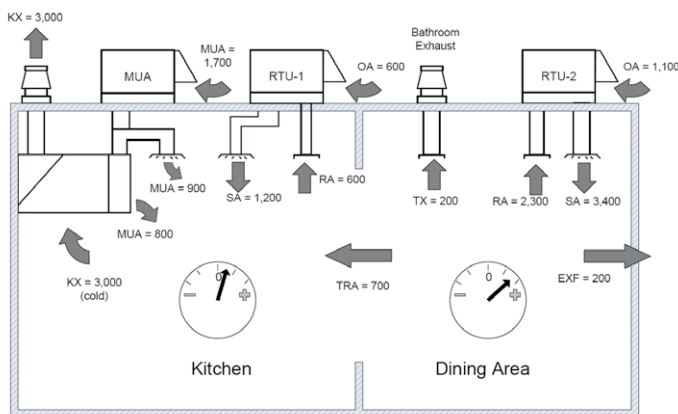
Additional HVAC operational recommendations based on current ASHRAE Epidemic Task Force findings:

2 Determine if other system modifications or upgrades should be considered or implemented in light of the COVID-19 situation:

- Evaluate and Assess (HVAC System Benchmarking)
- Dilute (Outdoor Air – Ventilation)
- Exhaust (Replacement Air and Building Pressurization)
- Contain (Filtration)
- Clean (UVGI, PCO, HEPA-ESP, Ionization, etc.)
- Commission
- Validate Solution and Performance
- Maintain and Monitor

3 System modifications and upgrades may include:

- Upgrading HVAC unit filters to MERV 13 (or better)
- Maintaining space temperatures between 72° – 75° F and relative humidity between 40% – 60% during occupied hours
- Considering shortening unoccupied space temperature set points and maintain between 40% – 60% RH during all hours
- Disabling Demand Control Ventilation (if used)
- Operating exhaust fans at 100% during occupied hours and consider turning on the HVAC an hour or so prior to occupancy
- Increasing outside air to create positive air pressure to the outside. The kitchen should be negative compared to the dining areas. Refer to these diagrams from ASHRAE Standard 154.



4 Monitor IAQ, comfort and operations and make necessary adjustments that suit your HVAC operational needs.

The screenshot shows the Trane Restaurant IAQ Assessment Tool interface. It displays various data points and graphs, including air change rates and IAQ metrics. The interface is organized into sections for different areas of the restaurant, with a central data table and several graphs showing trends over time.

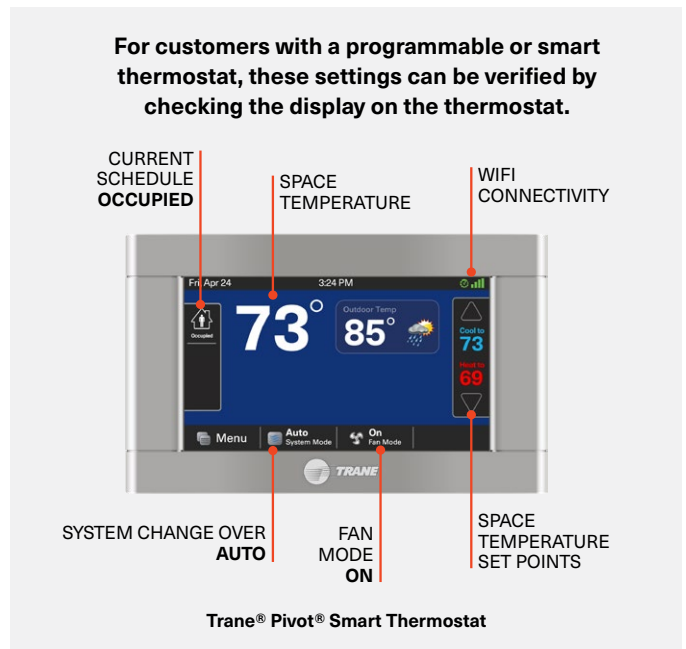
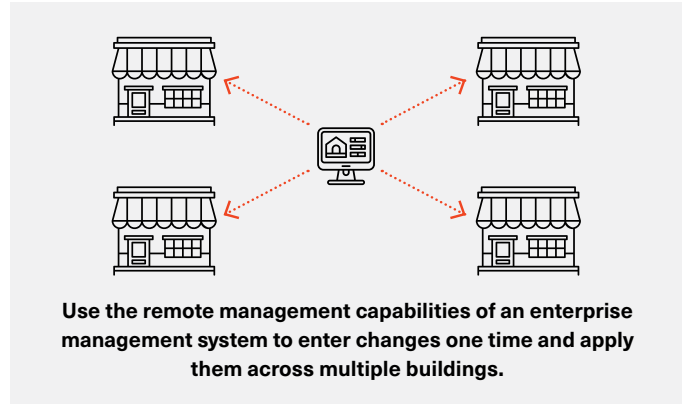
Trane Restaurant IAQ Assessment Tool

Check and confirm fresh air and recirculating air change rates. Fresh air (outdoor air) air change per hour rates above 3 ACH (Fresh Air) or greater are recommended. Contact your Trane® representative for assistance in determining system IAQ benchmarks.

Making system changes can have unintended consequences with comfort, humidity and moisture control. Contact your Trane professional for assistance in balancing concerns.

Considerations for connected controls, enterprise management systems and stand alone buildings with smart controls.

- 5 If your restaurant has a building management system with online or remote capabilities, implement your HVAC operations protocol virtually.
- 5B If equipped with an enterprise management system, change settings remotely to save time and ensure consistent conditions across multiple restaurant sites. Use the system's functionality to implement uniform changes across multiple buildings.
- 5C If the restaurant does not have a building management system, and individual thermostats without remote connectivity control your establishment, perform Steps 1 and 2, providing instructions to local operators (store managers, opening and closing staff, etc.) to adjust and set up the thermostats.
- 6 Communicate your post-shutdown HVAC re-opening operational plan including temperature and humidity set points, as well as operating schedules. Share new protocols with third party management companies and partners. Ensure that all your connected parties are up to speed with your goals, protocol and support to best reinforce your efforts.



Trane restaurant HVAC professionals are ready to assist you with questions and unique operational considerations as you prepare for re-opening. Contact your local office by visiting [Trane.com](https://www.trane.com)

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