

Outdoor dining is one of the great pleasures of living in California. Blurring the boundaries between the interior and exterior of a restaurant opens up the space and coincidentally is a great way for the restaurant to add revenue-generating tables without adding on to the building. In cities all across California, the patio has become the second dining room but outdoor dining is not totally a free ride. Mother Nature will not be fooled so easily! Crisp mornings, chilly evenings, sea breezes and spring days can all challenge the comfort of the patio patron. The solution, of course, is to even the score with a few patio heaters.

HOW IT WORKS

There are three ways to deliver heat. When you blow-dry your hair you experience convection and when you pick up a hot coffee cup, conduction warms your hand but when you sit under a patio heater you feel radiant heat - a very pleasant experience if you are chilly. A patio heater does not heat the air in a space, like the forced-air heater inside your restaurant, but instead radiates heat that is absorbed by objects and people near the heater. The closer the object the more heat it can absorb and the warmer it gets. This leads to two important design/operations considerations: mounting height and "On" time.

HOW LOW CAN YOU GO

Researchers at PG&E's Food Service Technology Center tested several patio heaters and determined that a typical 40 – 50,000 Btu/h heater mounted at 8 feet would effectively heat a circular area of about 90 to 100 square feet. Translated, this means that anyone sitting within 5 to 6 feet from the center of the heater will feel at least three degrees warmer than the person without a heater. Move closer to the center and that temperature rise goes up to anywhere from 7 to 10 degrees. The message: distance matters. If you mount your heaters too high up or move your tables too far away, then your diners will not be comfortable and you will be wasting money. Obviously, mounting height doesn't apply to mushroom style heaters but you do need to take care with heaters that you hang from poles, walls and rafters. If you are thinking of hanging the heaters 12 feet up and at an angle, then you are probably not going to get much bang for the buck. Also remember this, wind is Mother Nature's ace in the hole. If there is a breeze on your patio, no reasonable amount of heaters will keep you warm. The chilling effect of wind on skin is greater than the warming effect of the radiant heat. If you have a breezy patio, you will need to create a windbreak of some kind.

USE IT OR LOSE IT

Let's revisit your dining room heating for a moment. Inside the building, you are heating and recirculating air so you have to get a head start if you want the dining room to be warm before the first customer comes. You can heat that space up and store some of the heat in the space. The patio is a different beast. Patio heaters are a use-it-or-lose-it technology because you cannot effectively store the radiant heat. If you are running a patio heater over an empty table, then you are wasting your money. At today's natural gas price of about \$1.20 a therm, a typical gas patio heater costs you about 50 cents an hour to operate. This may not seem like much but, like all energy costs, little amounts can add up to big dollars. If you have four heaters on the patio you are now talking \$2.00 an hour. If you can trim one hour off the daily operation of those four heaters you will pocket an extra \$700 at the end of the year. Obviously you don't want to waste all your time running around turning heaters on and off but you do have a lot of flexibility because a patio heater starts to deliver heat almost immediately after it is turned on. Are remember, you can't store the heat, so you don't gain anything by heating an empty space. Put heaters on individual switches so you can get better control or zone them together on one switch. Use a time clock to turn heaters on and off if that is practical. Some heater manufacturers are now offering radiant temperature sensors and even occupancy sensors that work with their heaters. Basically you want to schedule your heaters in the same way you schedule your wait staff – don't waste resources on empty tables. You'll save money and you'll save energy and that makes Mother Nature happy.

FLASH: GET PAID TO SAVE

One final note: there are new food service equipment rebates offered by California's investor owned utilities: PG&E, SDG&E, SCE, and SoCal Gas. These utilities will pay you to buy energy efficient appliances – that's a win-win for you. The same rebates are offered by each utility, they are easy to apply for and very generous. If you are thinking of buying any new appliances (cooking, holding, or refrigeration) please don't hesitate to check the list of eligible appliances at www.fishnick.com/rebates and see if you can get paid to save!

These energy saving tips are offered by the Food Service Technology Center (FSTC), an unbiased food service resource center located in San Ramon, CA and funded by California utility ratepayers under the auspices of the California Public Utilities Commission. For more information on the FSTC and for our schedule of free energy efficiency seminars, please visit our website at www.Fishnick.com.