Kitchen canopy selection

When choosing a canopy, the first question is whether grease or steam is to be extracted.

For air volume (supply/exhaust) calculations, the heat, steam and other impurity loads caused by cooking equipment should be taken into account.

Extraction air capacities are determined according to the table below, where air volume depends on cooking equipment extraction coefficient K_e [l/(s*kW)], electrical power P [kW] and coincidence factor K_s.

	Extraction coefficient K_e	Total power P/kW	Coincidence factor K_s(0,5-1,0) l/(s*kW)	Exhaust air volume $M_p=K_e*P*K_S$ M_p/(l/s)
Bain marie	35			
Baking cabinet	27			
Baking oven	33			
Boiling pan	10			
Ceramic stove	25			
Charcoal grill	60			
Coffeemaker	5			
Combination oven	10			
Convection oven	10			
Dishwasher	20			
Dishwasher (heat recovery)	10			
Dishwasher (tunnel)	20			
Food mixer	10			
Fryer	25			
Frying pan	32			
Griddle plate	35			
Grill drawers	30			
Halogen stove	20			
Induction stove	20			
Induction wok	40			
Kebab grill	33			
Lava stone grill	35			
Microwave oven	5			
Multi-cooker	30			
Oven	20			
Pasta maker	10			
Pizza oven	15			
Pressure cooking cabinet	12			
Salamander	35			
Smoke oven	12			
Steam cooker	15			
Stove	35			
Tandoor oven	35			
Toaster oven	33			
Vario cooking center	25			
Warming plate	28			
Wok	60			

K_s values:

- restaurant kitchens K_s= 0,8…1,0 l/(s*kW)
- canteens K_s= 0,5…0,8 l/(s*kW)

Total volume of kitchen exhaust air is calculated by multiplying the total product of cooking equipment extraction coefficient and electrical load coefficient with cooking equipment coincident coefficient:

Example: $\sum M_p = \sum(K_e * P) * K_s$, l/s

	P	K_e	K_s	
Stove	8 kW	35	0,8	M_p=8 * 35 * 0,8=224
Stem cooker	12 kW	15	0,8	M_p=12 * 15 * 0,8=144
Combination oven	40 kW	10	0,8	M_p= 40 * 10 * 0,8=320
			Total exhaust volume	$\sum M_p$=688 l/s

Supply air volume is 90% of exhaust air volume	= 0,9 * 688 = 619 l/s
or 100% with integrated ozone cleaning system	=688 l/s

Installation position

The canopy is positioned over the cooking equipment, with an overhang distance of 300-400 mm vertically between the edges of appliances. Canopies installed over ovens should be deeper than the oven by at least 600 mm, to ensure elimination of the entire steam volume from the air released when the oven door is opened. The recommended height of canopies from the floor is 2000 mm (2000-2500 mm).