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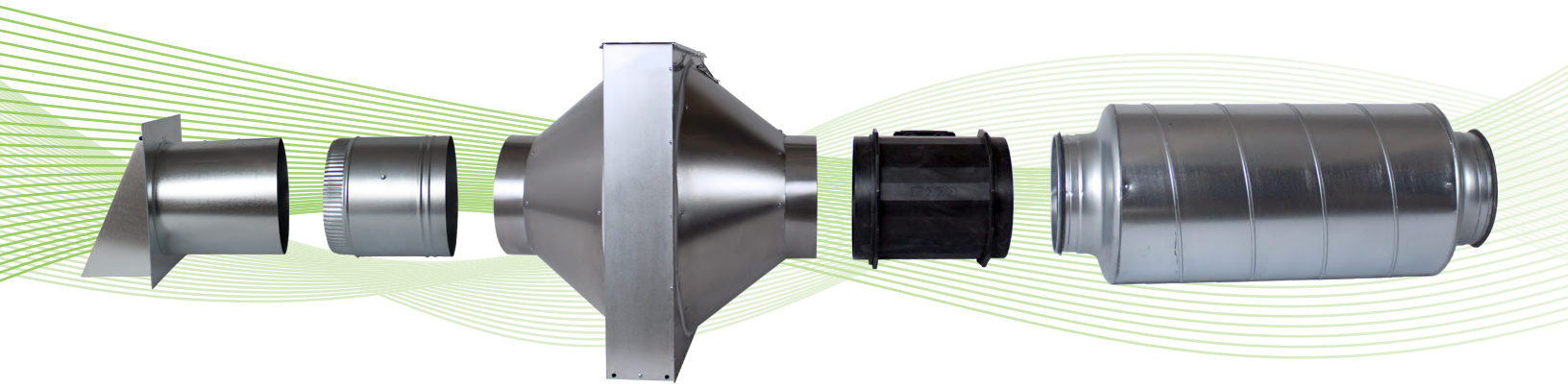
Balanced Make-up Air System

Balanced Make-up Air. The solution to an exhausting problem.

High-BTU cooktops are a real pleasure to cook on but require equally-powerful exhaust to be used safely. In turn, IRC section 1503.4 requires all kitchen exhausts capable of 400 or more cfm be provided with an equivalent amount of make-up air. It's easy to see how the straightforward choice of a range can quickly escalate into a much larger project.

A balanced make-up air system from HVACQuick makes choosing a kitchen ventilation system easier than choosing a cooktop. Once you've chosen a stove, simply specify the required volume of exhaust (which is often in the appliance's specifications), and we'll assemble a package to meet your needs including exhaust and make-up air fans, silencers, wall caps, controls, and damper. Best of all, the entire kit ships directly to your location on a single pallet.

Make-up Air System



Kitchen Exhaust System

Why should I care about make-up air?

It's the law

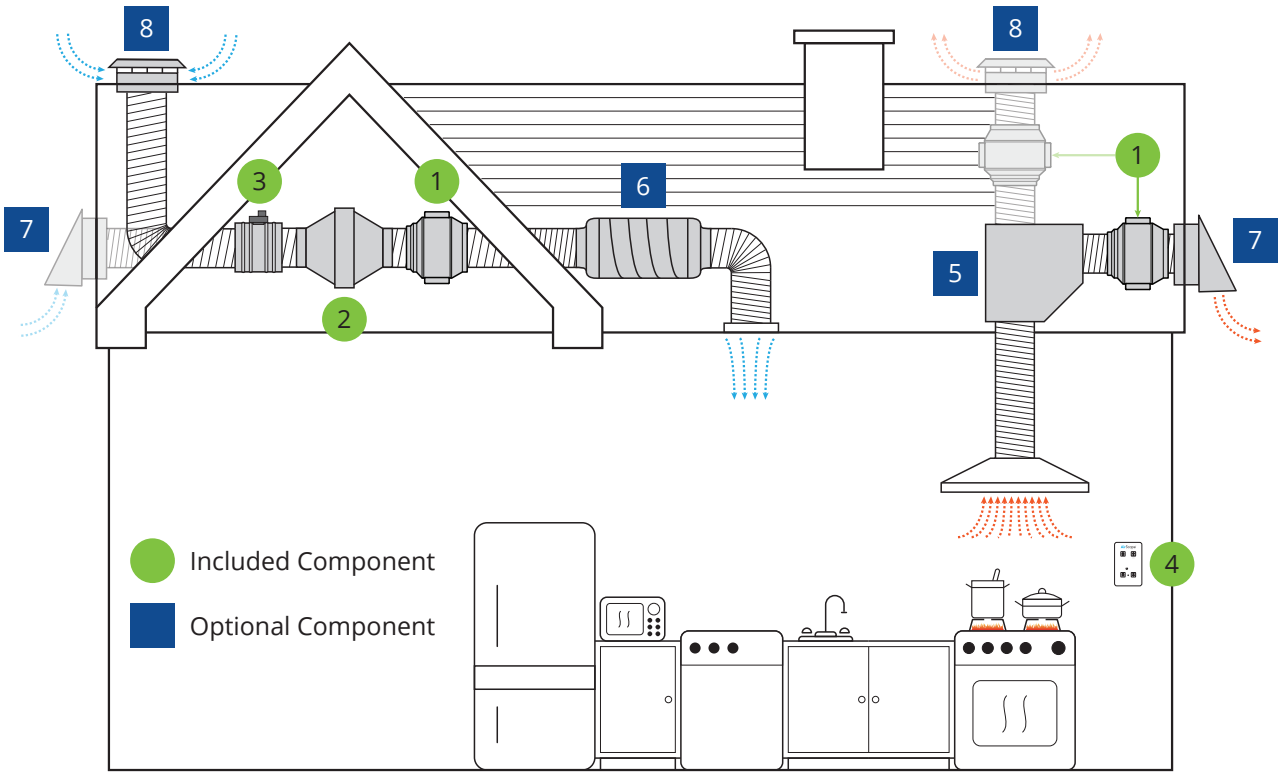
The IRC implemented section M1503.4 make-up air required in response to the often-overlooked make-up air problem. The IRC is in use or adopted by 49 states as well as the District of Columbia and the U.S. Virigin Islands, and is therefore legally enforced by the building official of each state or territory's municipality. This means for new home builds and renovations with a kitchen exhaust in excess of 400 cfm, you are legally required to provide an equal amount of make-up air into the home.

Even a modest kitchen exhaust can backdraft hazardous appliances

While backdrafting of hazardous appliances is faster to onset as exhaust capacity increases, with how tight modern homes haves become, it's surprising to note that even small, modest exhausts can create unsafe depressurization. For a home built to the IRC required air tightness, a 2,500 ft^3 running a 160cfm kitchen exhaust would begin to backdraft fireplaces and wood stoves. The IRC might only require exhausts over 400cfm to have a dedicated source of make-up air, however, even smaller 160 – 250 cfm exhausts can create depressurization to hazardous levels.

You could be wasting energy and money

When your kitchen exhaust runs without a balanced make-up air system, your home begins to depressurize and is forced to pull air through cracks in walls and around windows and doors, creating energy wasting resistance for the fan. Because the kitchen hood must "work" harder to reach exhaustible air, the fan's capacity is reduced. In some cases, a 1,200 cfm rated hood may exhaust only 900 cfm when working against resistance created by a lack of make-up air.



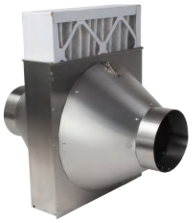
Included Balanced Make-up Air Components

1

Fantech PrioAir EC Fans

Two small, yet powerful EC motors are provided for the kitchen exhaust and make-up air systems. Automatically speed-controlled by the Digital Touch Controller, both prioAir fans produce identical cfm, resulting in “balanced” airflow in and out of the home. Additionally, EC motors provide maximum efficiency at variable speeds, giving the homeowner energy savings when used on lower settings.

2



Conical Filter Box

The conical filter box included with our system includes a MERV-13 filter, among the highest arrestances for residential applications without the pressure drop of a HEPA.

3

Motorized Damper

Maintains an airtight closure to the outside whenever the system is not in use; opens automatically whenever it is. Easily wired using 16-gauge “speaker” wire.

4

Digital Touch Control Wall Switch

Controls both exhaust and make-up air fans, as well as the actuated backdraft damper simultaneously with 10 speed settings and a 1-hour timer. The touch-activated modern design allows LEDs to illuminate below the face plates surface showing the current speed and time remaining. Remote available.

Optional Balanced Make-up Air Components

5

CLS Duct Silencer

Minimizes noise for either the exhaust fan or make-up air fan. 90 elbow provides more sound attenuation than straight design and is the most efficient way to add a turn to the duct run. Can be substituted for the LD silencer when desired. Only available for 8" duct.

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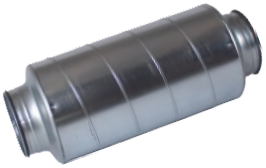

Fantech LD Silencer

Ideal for applications requiring inline exhaust or make-up air, the LD silencer dramatically reduces the sound traveling into the living space. Can be substituted for CLS Duct Silencer.

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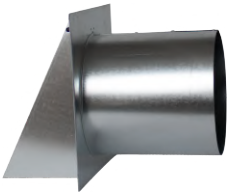

Wall Hood

Galvanized steel wall hood is designed with a long starting collar for easy installation and attaches directly to round duct. Each hood comes with a bug screen and can be used for either exhaust (includes backdraft damper) or make-up air (without backdraft damper).

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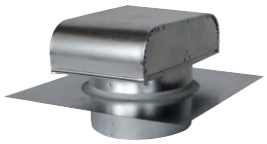


Roof Cap

Constructed from galvanized steel, each roof cap comes with its own flashing, which allows for easy installation on shingled roofs. The insect screen ensures that small bugs and creatures remain outside. Can be used for either exhaust or make-up air.

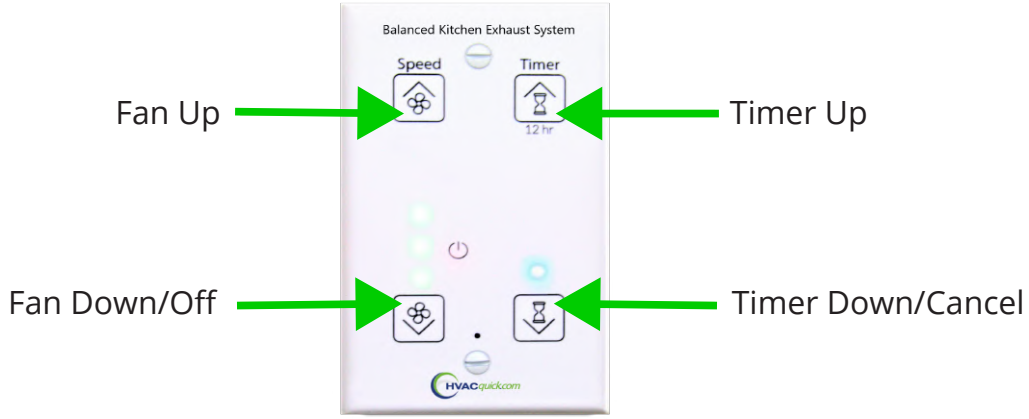
Value Add Features and Benefits

- Meet the IRC make-up air requirements at the most affordable price
- Both exhaust and make-up air fans in single easy to install package
- Quieter than comparable range hoods with optional silencer
- Use with custom cabinetry
- Digital Touch Controller includes 10 speeds and 1-hour timer in 5-minute increments
- MERV-13 filter removes on average 98% of airborne particulates
- Electronically commutated motors increase efficiencies at variable speeds

Digital Touch Control Wall Switch

The Digital Touch Controller (DTC) is a wall mounted switch which operates the entire balanced make-up air system. Designed with ten speed settings that incrementally adjust the kitchen exhaust and make-up air variable speed fans, the DTC gives you the control to pick the perfect “balanced” exchange of air into your home. Also equipped with an incremental one-hour timer, you can confidently leave your kitchen, while lingering odors automatically exhaust through the range hood.

Clean and simple, the modern white design allows for seamless integration into any kitchen.



The subtle LED lights illuminate underneath the faceplate to clearly communicate the speed and time remaining of the fans.

Conditioning Make-up Air for Cold Climates

Because our balanced make-up air system introduces unconditioned outside air into the home, it is often recommended that you review your climate and seasonal temperatures, to decide if you want heated make-up air. Put simply, if you wouldn’t open a window because the air is too cold, or because it would make the temperature in your home uncomfortable, you will likely want to heat the make-up air before it enters the living space. If you foresee yourself in this situation, please call us and we will gladly help you pick a makeup air heating solution for your project.

What cfm Should My Range Hood Exhaust?

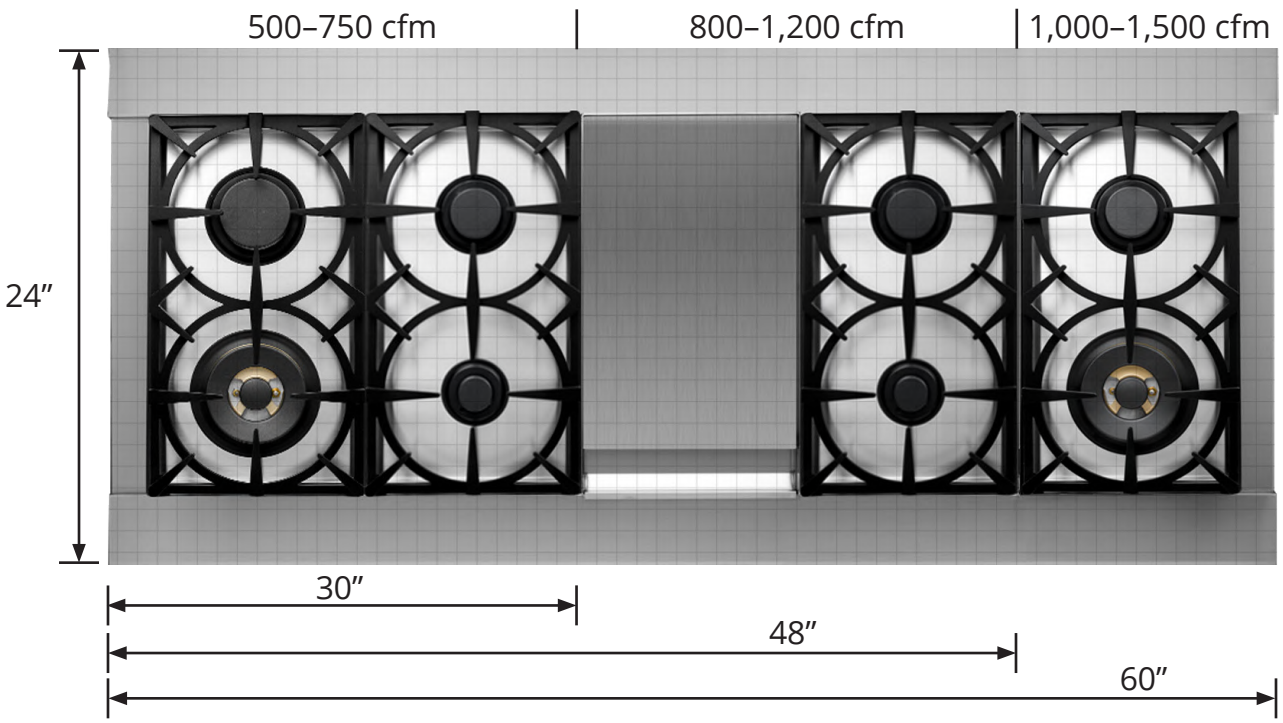
We get this question a lot. First, we always recommend our customers review the range manufacturers required ventilation instructions in the products installation manual, so that the most accurate hood capacity can be selected for the application. Sometimes, the manual isn't that specific, and in that case, there are a few different ways to estimate the proper size and therefore quantity of air to be safely exhausted. Over the past decade, we have answered this question hundreds of times and found the best way to approximate hood capacity, is to use your ranges cooking surface area as a reference. Essentially, the larger the cooking area (i.e. burners, griddles etc.) the larger the volume of air which must be exhausted.

The general rule of thumb is 100 to 150 cfm for every square foot of cooking area.

Estimated Hood Capacity = ((Range Width * Range Length)/144) * (100 to 150 cfm)

Range Width and Range Length in inches

Recommended cfm Based on Range Surface Area



A 30″ by 24″ range should be accompanied by an hood with an equivalent capacity ranging from 500–750 cfm. The *BMUAS 8* would perfectly fit a range of this size, as it can exhaust 745 cfm.

A 48″ by 24″ range similarly should be accompanied by a hood capable of exhausting 800–1,200 cfm. The *BMUAS 10* should be installed in relation to a range of this size, as it has a capacity of 1156 cfm.

Finally, a 60″ by 24″ range would need a 1,000–1,500 cfm exhaust. While the *BMUAS 10* is capable of exhausting 1156 cfm under optimal conditions, it is recommended that a hoods capacity be in the upper limit of the estimated range, to ensure adequate ventilation.

Customize your Balanced Make-up Air System

We don't force you to buy costly components you may not need. Our base system includes the mandatory components to meet the IRC make-up air requirement, but with a few easy clicks can be upgraded for the demand of any project. You can count on us for expert advice, so please call us with any questions.

Choose your cfm

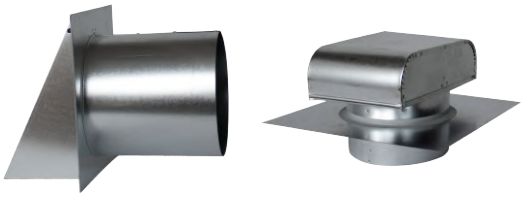
745 — **Duct Diameter** 8″

1156 — **Duct Diameter** 10″

Base System Includes

Choose a Exhaust & Supply Silencer

Choose a Exhaust & Supply Cap



Product Specifications

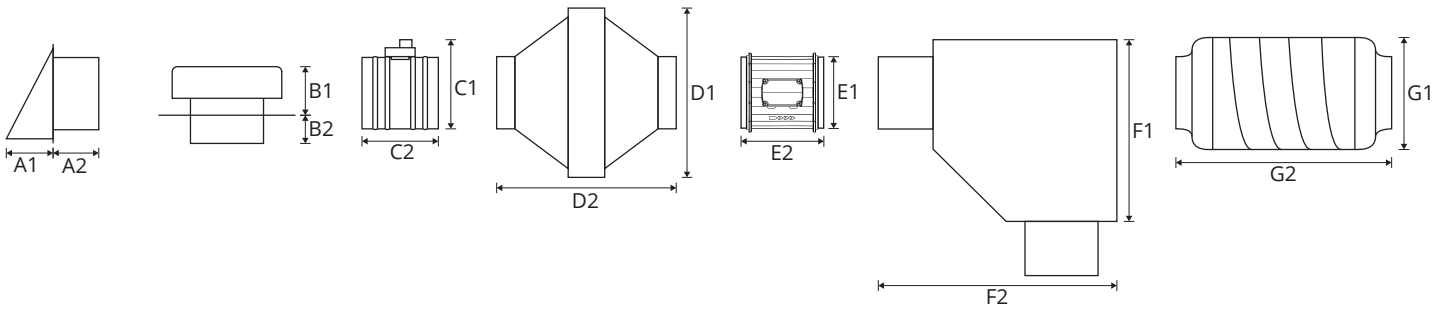
Model		Balanced MUAS 8	Balanced MUAS 10
	Maximum Airflow Rate (cfm)	745*	1156*
	Duct Diameter (Inches)	8”	10”
Included Components	Fantech priorAir EC Fan	(2x) priorAir 8 EC	(2x) priorAir 10 EC
	MERV-13 Conical Filter Box	CFB 8	CFB 10
	Motorized Zone Damper	8" Motorized Damper	10" Motorized Damper
	Digital Touch Controller	DTC	DTC
Optional Components	CLS Duct Silencer	CSL-90-8	N.A.
	Fantech LD Silencer	LD 8	LD 10
	Exhaust Wall Hood	SDWVG8	SDWVG10
	Supply Wall Hood	SDWVG8-Special	SDWVG10-Special
	Exhaust/Supply Roof Caps	JV826HC	JV1026HC

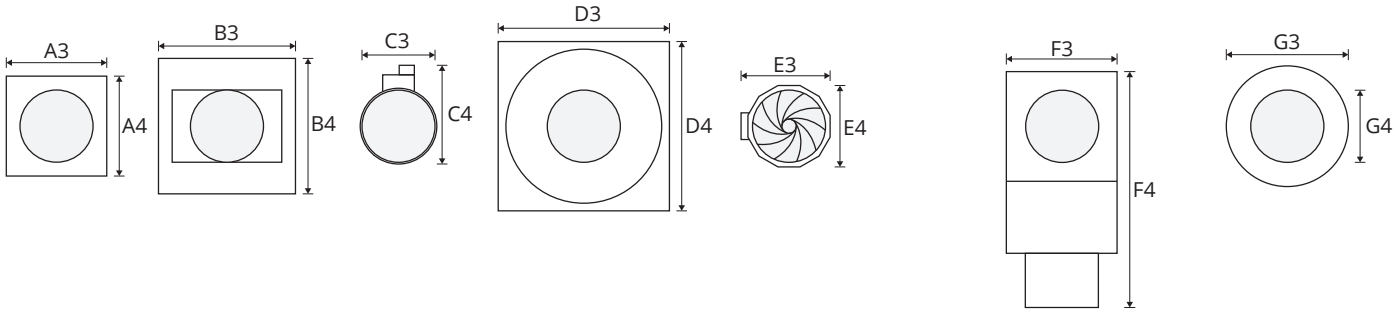
*Airflow rate for fan operating at full speed against 0.2” w.g. static pressure

Component Dimensions

	Wall Hood		Roof Cap		Motorized Zone Damper		CFB		priorAir EC Fan		CLS Duct Silencer		LD Silencer	
Model	A1	A2	B1	B2	C1	C2	D1	D2	E1	E2	F1	F2	G1	G2
Balanced MUAS 8	5.125	5	5.5	3.125	10.75	8	18.75	19.75	7.875	9.688	20.125	26.125	12.5	23.625
Balanced MUAS 10	6.75	5	6.5	3.125	12.75	10	25	23.75	9.875	11.688	N/A	N/A	14	35.5

All dimensions are in inches





	Wall Hood		Roof Cap		Motorized Zone Damper		CFB		priorAir EC Fan		CLS Duct Silencer		LD Silenc-er	
Model	A3	A4	B3	B4	C3	C4	D3	D4	E3	E4	F3	F4	G3	G4
Balanced MUAS 8	11	11.063	15	15	8	10.75	18.75	18.75	9.75	9	12.125	26.125	12.5	8
Balanced MUAS 10	13	13.5	20	15	10	12.75	25	25	11.938	11.063	N/A	N/A	14	10

All dimensions are in inches