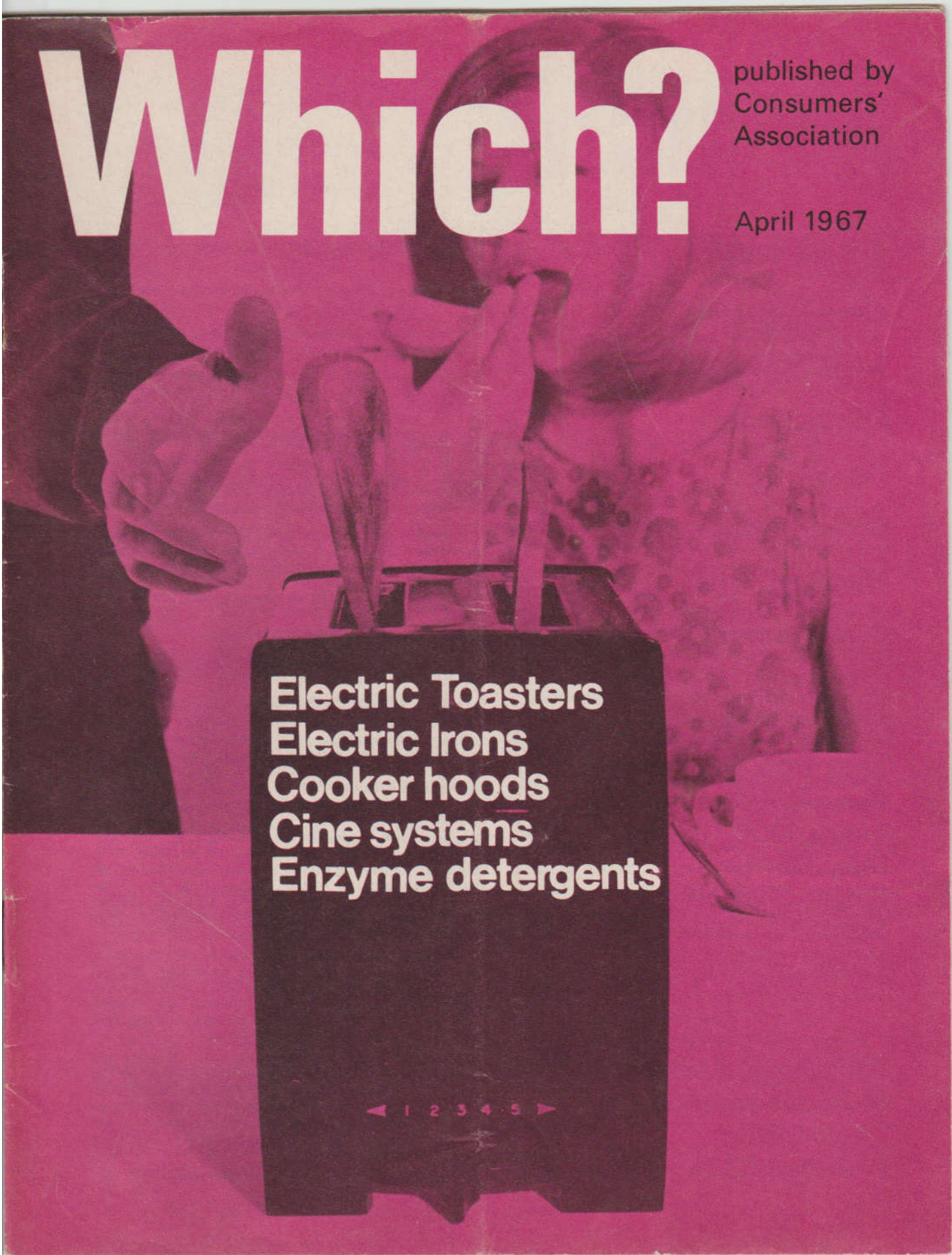


Which?

published by
Consumers'
Association

April 1967



**Electric Toasters
Electric Irons
Cookeer hoods
Cine systems
Enzyme detergents**

◀ 1 2 3 4 5 ▶



'Every kitchen should be provided with some outlet for the hot foul air which rises to the top.'

Mrs Beeton's Household Management

In the majority of houses and flats today the kitchen is one of the rooms people use most. It is often the brightest and warmest room – but how often is it also the steamiest and smelliest?

In September 1964 we tested extractor fans for windows and found the better fans would reduce condensation and make a noticeable difference to cooking smells. Since then we have had many requests from members to test cooker hoods which are made specifically to remove these cooking smells. Recently there has been an increase in the advertising of these – particularly of the kind which does not need any complicated installation. A Hoover pamphlet, for instance, claims that the Clean Air cooker hood 'not only gets rid of smells in the kitchen, it keeps the whole house free of cooking smells as well.' '. . . whisks away even frying and fish smells.'

We decided to test all types of cooker hood and compare them with our 1964 Best Buy extractor fan, the Vent-Axia 7½ inch.

Types of hood

Most cooker hoods consist of a metal canopy which is placed two to three feet above the burners of the cooker – or higher if you have an

Cooker hoods

eye-level grill. The canopy usually has a built-in electric fan. It is designed to catch the hot air and fumes as they rise from the burners, and, either

- draw them through cleaning filters and then send the air back into the kitchen – *ductless hoods*, or
- force the air through a pipe (duct) to the outside of the building – *ducted hoods*.

The diagram shows how these two basic types of hood work.

Most *ductless* hoods have two filters. The fan draws the fumes from the cooker first through a filter made of aluminium or galvanised steel mesh or plastic foam to catch grease, and then through a second filter containing charcoal which is specially treated so as to absorb smells. The filtered air is then blown back into the room through a grille at the top or front of the hood.

Most *ducted* hoods have one filter only – for removing grease. After passing through this the air is blown along a duct from the back or top of the hood and then through the wall to the outside of the house.

Most of the hoods had a light for illuminating the top of the cooker and some had two speed settings for their fans – see Table.

Installation

The big advantage of the *ductless* hoods is that they are very simple to set up. Most of them you simply attach to the wall behind the cooker with four screws and plug their electric flexible cord into an earthed socket. One, however, comes without a flex or there may be no convenient socket – so you may need an electrician.

The *ducted* hoods will normally have to be installed by a builder because they require a duct, usually about 6 inches square, to be taken through the wall or ceiling to the outside air. You have to buy special ducting and attachments, such as a grille or shutter to protect the outside end of the duct from the wind. Most of them come without a flex so you will probably need an electrician as well. You may not find ducted hoods in ordinary electrical shops. The simplest thing may be for the builder who is going to install the hood to get it for you. Installation costs will vary with the design of your kitchen and whether you have your cooker against an outside or inside wall. They could be very high so make sure you get an estimate before you buy the hood. The extra cost when you are building a new house could be less. Remember

that the longer the duct is, the less well the hood will work.

Extractor fans can be put into a pane of glass in a window (at least $10\frac{1}{8}$ inches wide to take a Vent-Axia $7\frac{1}{2}$ -inch fan). The cost of having this done might be about £1 10s. They can also be obtained for installation in a wall – a much more expensive job. Electrical connections will have to be made to the control box and electrical supply. The fan should be as near the cooker as possible and preferably placed so that the cooker is between the fan and the door to the rest of the house.

If you do not know of a reliable electrician, ask your local Electricity Board for a list of those on the Roll of The National Inspection Council for Electrical Installation Contracting.

Whether or not you can afford the installation costs, if you live in a flat or rented house you may not be allowed to put in a duct. Your choice will be limited to a ductless hood or an extractor fan, or a combination of the two.

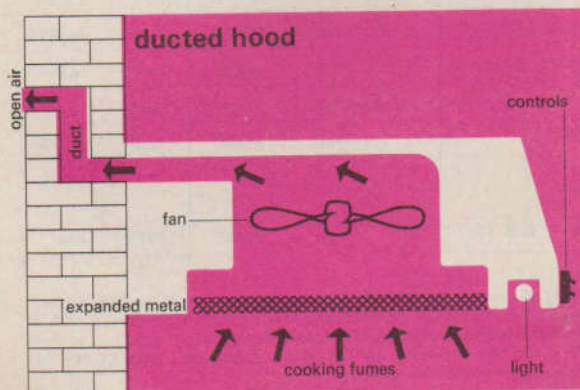
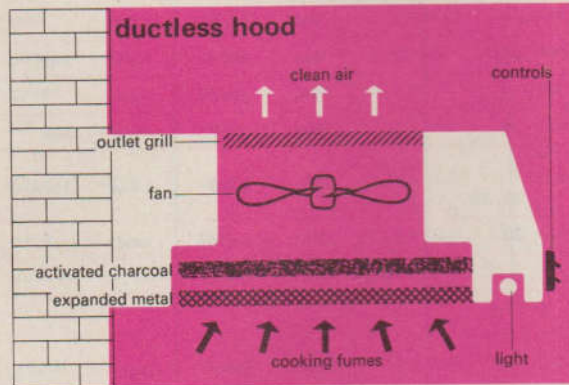
Brands

We bought all the brands of cooker hoods that we found available at the time. There were 7 ductless, five ducted, and one which can be used either way. This was the GEC, which until this month has been marketed under the brand name Xpelair. Prices ranged from just under £5 to over £45 and are shown in the Table. There are cooker hoods available in larger and smaller widths, but these do not vary greatly in price from the models tested because usually the fans and filters are the same for all sizes. The exception is the Gold Star de luxe (ductless) where the 36-inch model has a larger filter and costs £48 5s – an extra £8 8s 6d. You should get the widest model that you have room for as it is likely to trap more of the fumes. With extractor fans the smaller and larger diameter models are very different in price and performance.

Several models had features which varied from the basic designs shown in the diagrams:

The Claire K (ductless) extended only 7 inches from the wall. Instead of a charcoal filter, it contained an ionising device for producing ozone – which may mask smells.

The Utilair Condense Hood (ductless) was simply a metal canopy with no fan or filter. It had a gutter running round the bottom on the inside to catch moisture or grease that condensed on the inside surfaces of the hood. The ducted Utilair



Extract Hood was identical, except that it had a fan and provision for a duct at either side or the back (specify when ordering).

The GEC could be used as a ductless or ducted hood. Ductless it operates as in the diagram. But, if a duct is fitted, a control directs the air flow into the duct, by-passing the charcoal filter. We are told that all models now being produced include a safety device called a 'fire-flap'. If, for instance, your frying pan catches fire, a polythene stud should melt and allow a flap to fall and cover the air entry grille. This should prevent filters (which may be grease-laden) catching fire.

The Futurum (ducted) had no filters but grease was thrown by the fan blades into a plastic tray that can easily be removed for cleaning. (You need a metal tray if you have an eye-level grill. It costs £3 3s extra.) Fumes were drawn in through a slot around the edges of this hood rather than

through a large grille or filter.

We have included with the ducted hoods the Thermor Extractair Canopy Ventilator. This had no filters and was very much smaller than the other brands. It was simply an extractor fan in a case designed to be mounted high above the cooker. We tested it with the extra regulator box which included an on/off switch and variable speed control. Without the regulator it would run at maximum speed only.

We tested the Vent-Axia fan with the extra control box which has a switch and three speeds. Without the control box it would run at medium speed only. A control box with a reverse to blow air into the room costs 10s extra.

Performance

Ideally a cooker hood should get rid of all the contaminants that the process of cooking puts

	made in	price			dimensions width × depth inches	other widths available inches	fan speeds	flex?	light	noise level	
		£	s	d						fast	slow
DUCTLESS											
Claire K [9]	UK	28	0	0	24 × 7	—	1	yes	none	mod	
GEC DA2401 ▲[1]	UK	28	19	0	23½ × 19	27½	2	yes	fair	high	high
Gold Star Popular Mk 6	UK	30	15	6	24 × 18	—	1	yes	good	mod	
Gold Star de luxe Mk 5	UK	39	16	6	24 × 18	36	2	yes	good	mod	low
Hoover Clean Air 4704	UK	29	8	0	24 × 21	—	} 2	yes	good	f low	f low
Rima 161 ▲[2]	UK	27	14	4	24 × 21	30, 36					
Nautilus 4327-006 [3]	USA	24	3	0	24 × 16	30	1	no	v good	mod	
Utilair Condense Hood [4]	UK	4	19	6	30 × 27	—	no fan	—	none	—	
DUCTED											
Bahco Bankett FTC-020-542[8]	Sweden	39	14	11	27½ × 19½	—	1	no	fair	high	
Futurum Kitchenventilator MF 500 B	Sweden	46	7	9	27½ × 17	22, 20	1	no	good	mod	
GEC DA2401 ▲[1]	UK	28	19	0	23½ × 19	22	2	yes	fair	high	high
Rima 501	UK	27	14	4	24 × 21	30, 36	2	no	good	low	low
Thermor Extractair Canopy	France	15	5	7[5]	9½ × 7½	—	variable	no	none	mod	low
Utilair Extract Hood [4]	UK	12	4	0	30 × 27	—	1	no	none	high	
WINDOW FAN											
Vent-Axia 7½" ▲	UK	19	13	3[6]	fan diam 7½"	6, 9, 12	3	no	none	f low	low

1 Formerly 'Xpelair 601'. This model can be used with or without a duct.

2 Appears to be identical to Hoover.

3 Also available by direct mail from: Robert Church and Son, Westgate, Chichester, Sussex.

4 Direct mail only from: Utilair Ltd, Morden Road, Mitcham, Surrey.

Cost of delivery outside London area approximately 7s 6d for Condense Hood, 10s for Extract Hood.

5 Speed regulator and switch £3 10s 0d extra.

6 In black and including £3 15s 0d for control box. Ivory £1 10s 1d extra, various shutters extra.

▲ Included in the Council of Industrial Design's Index.

into the air. The main ones are moisture, grease, smoke and smells. So we had to find out how well each of the hoods removed these four things.

We set up a test room of 1,500 cu ft – equivalent to a medium-large kitchen. Each hood was mounted, one at a time, above a cooker at the height recommended in the instructions, if any, or slightly lower if this was found to give better results and not to endanger the head of the cook. The Vent-Axia was set up in a wall 12 ft away from the cooker, because you may not be able to have your cooker underneath a window fan.

Steam

To produce steam we boiled water at a controlled rate under each hood and observed how well each trapped the steam at each of its speed settings. Results are shown in the Table. The two Utilair models were particularly good – they covered the

largest area – and the Bahco also gathered all the steam. Most of the steam rose past the almost vertical inlet grille of the Claire K and the Thermor drew only a small amount of steam into its fan. Our extractor fan, installed away from the cooker, could not be expected to remove steam as it was produced. But, by constantly changing the air in the kitchen, it would keep the humidity down and reduce the likelihood of water condensing on the walls and windows.

Grease

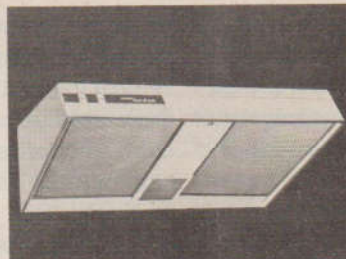
Much of the greasy dirt you get near a cooker comes from spitting from pans and of course a cooker hood won't stop this. But some grease does go upwards and, if this gets past a cooker hood, it will be deposited on your walls and ceiling. We collected and measured the fat which got past each cooker hood.

efficiency for removing					airflow		cost of charcoal filter refill		
steam		grease	smoke	smells	fast	slow	£	s d	
fast	slow								
poor		poor	poor	v poor	low		—		DUCTLESS
									Claire K
good	good	good	fair	poor	mod	mod	1	17 6[7]	GEC DA2401
good		fair	fair	poor	low		1	0 0	Gold Star Popular Mk 6
fair	fair	poor	fair	v poor	mod	low	1	10 0	Gold Star de luxe Mk 5
							14	0	Hoover Clean Air 4704
good	fair	good	fair	v poor	mod	low	1	2 6	Rima 161
good		fair	fair	v poor	mod		5	0[7]	Nautilus 4327-006
v good		good	—	—	—	—	—		Utilair Condense Hood
									DUCTED
v good		good	good	f good	high		—		Bahco Bankett FTC-020-542
good		good	poor/fair	f good	high		—		Futurum Kitchenventilator MF 500 B
good	good	good	good	rather poor	mod	mod	1	17 6[7]	GEC DA2401
good	good	good	poor	v poor	mod	low	—		Rima 501
poor	poor	—	poor	v poor	low	low	—		Thermor Extractair Canopy
v good		good	poor/fair	v poor	mod		—		Utilair Extract Hood
									WINDOW FAN
—	—	—	good	v good	v high	high	—		Vent-Axia 7½"

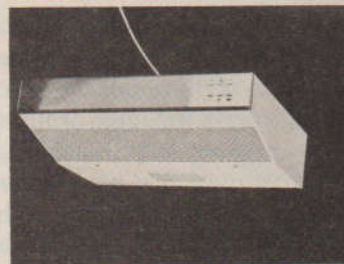
7 Replacement filter.

8 Also available by direct mail from Bahco Ltd, 23 Goswell Road, London EC1.

9 Also available by direct mail from Bush Nelson Ltd, Bush House, Yattendon Road, Horley, Surrey.



Bahco Bankett FTC-020-542



GEC DA2401

We give relative ratings in the Table. Fan speed was found to make little difference so only one rating is given for each model. The two Utilair hoods were again among the better performers. The Thermor and Vent-Axia were not tested for grease removal.

Smoke

We produced smoke by heating bread crumbs at a controlled rate. Some smoke went around the hoods, and the filters in the ductless hoods did not absorb all the smoke that went into them. The ratings in the Table are based on a subjective assessment of the amount of smoke left in the room. Speed settings again had little effect so only one rating is shown. The Vent-Axia, Bahco and the ducted GEC were the best. The Utilair Condense Hood, without a fan, could not be expected to remove smoke – so we did not test it for this.

Smell

To test for smells, onions were fried for 15 minutes under each hood with its fan at maximum speed setting. After the pan was removed the hoods were left on and at intervals of 10, 20, 30 and 40 minutes a panel of six people entered the room and judged if there was a strong smell, slight smell or no smell. The Utilair Condense Hood was not intended to remove smells and was not tested. Results for the others are shown in the Table. None of the ductless hoods was really effective against smells. The Gold Star Popular and GEC ductless were the best of this type but even with these at least half the panel reported a strong smell 30 minutes after the frying had finished.

The Rima, Thermor and Utilair ducted models had little effect on smells. The GEC, used with a duct, was rather better. But by far the best of the

cooker hoods at removing smells were the two Swedish brands, the Bahco and the Futurum – 10 minutes after the frying had stopped most of the panel judged the smell was only slight and after 40 minutes there was no smell.

The Vent-Axia fan, however, was much better than these. When it was running at its maximum speed, the panel could detect no smell in their first test (10 minutes). Even at medium speed all the smell was gone in 20 minutes.

Air flow

As a further check on the performance of the hoods, we measured the rate of air flow through them. We give comparative ratings in the Table. At its high speed the Vent-Axia fan was moving much more air than the best cooker hood.

Noise

The hoods rated high in the Table produced enough noise to be irritating if, for instance, you were trying to listen to the radio. Hoods rated moderate would be less worrying, but you would notice when you switched them off.

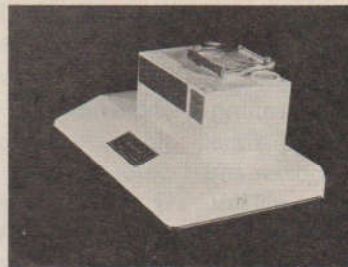
The only reason for ever using a hood at slow speed is to reduce noise, but we found that the GEC was noisy even at its slower settings. However, the Gold Star de luxe and the Rima ducted were quiet at slow speed, as were the Thermor and the Vent-Axia fan. Most of the noise in the hoods was due to air rushing, but in the Utilair Extract Hood the vibration of the large metal surface created a drumming noise.

Lighting

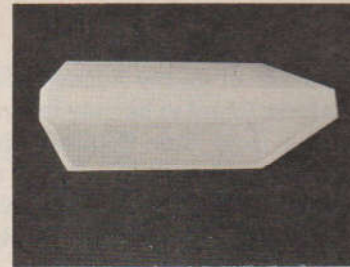
A possible advantage of the cooker hoods is that many had a light to illuminate the top of your cooker. There was considerable variation in how



Gold Star Popular



Futurum Kitchenventilator
MF 500 B



Utilair Condense Hood

much light they gave, but all were adequate to see the contents of a saucepan on the hob. The Hoover, Rima and Gold Star hoods had 60-watt strip lights, but none was of the fluorescent type which would have given more light for the same wattage and should need replacing much less often.

Electrical safety

All the fan motors were of the induction type which cannot cause sparks, so there is no danger of their igniting gas fumes. Neither do they cause radio or TV interference.

We found the hoods to be electrically safe in other respects except for the following:

In the Claire K, when the filter drawer was pulled out (without tools) for cleaning: (a) terminals were exposed which could easily be touched and which would be live if you forgot to unplug at the mains, and (b) the ionising device was exposed and the test finger could touch parts which, if the hood were switched on, would be live with a lethal 1,250 volts. In one sample, although an earth wire was provided, the metal casing of the hood was not earthed. The Claire K was potentially dangerous in the form we tested and we could not recommend it. The manufacturer has told us that he is now fitting a cover behind the filter so that live parts are no longer accessible when the filter is removed.

On the Nautilus, the earth terminal was extremely difficult to connect up and the other terminals awkward. If one of the two screw-type bulbs failed (and a replacement may not be easy to buy), you might be tempted to clean the hood with the other bulb alight and could get a shock from touching the empty lamp-holder, which had no cover. We are told that future instructions will warn against this – but instructions get lost. This hood was electrically unsatisfactory.

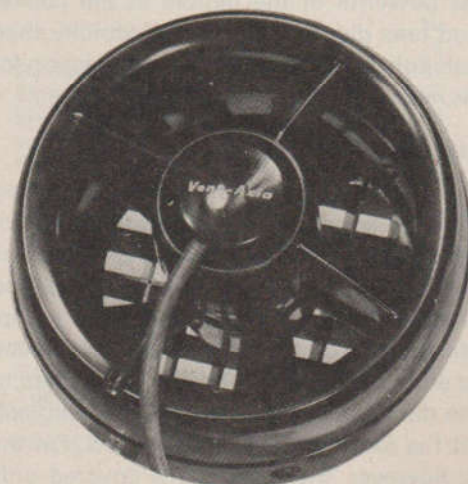
Cooker hoods April 1967

Other safety factors

The latest GEC model is the only hood having a device to control a fire.

If you do have a fat fire, first turn off the cooker and the fan in the hood, if you can. And then remember the advice we gave in our report last month on fire extinguishers – smother the flames with a pan lid or wet cloth.

If you install an extractor fan such as the Vent-Axia or the ones contained in the ducted hoods, remember that you must allow adequate air to come into the kitchen to replace the air you are sucking out. If you have an open fire or any other flued boiler or heater in the house, you should make sure there is adequate ventilation. If all the windows are closed and you have stopped up cracks around them and the doors, a powerful fan might possibly draw air down the flue, stopping the boiler or heater working properly and perhaps drawing dangerous gases into the rooms.



Cleaning and maintenance

The filters of all the hoods except the two Gold Star were found to be easy to remove for cleaning. On the Gold Star Popular model the charcoal filter was awkward to take out and put back and on the de luxe model it was awkward to get out. All the grease filters, both metal and plastic, were easily cleaned in detergent and water. This should be done every few weeks depending on how much you use the hood. Charcoal filters should last from 6 months to 18 months, again depending on their use, before they lose any effectiveness that they may have. You can give them some extra life by baking them in a hot oven, but this is a smelly business and it is better to replace them or refill them with fresh activated charcoal. The cost of refills or replacements is shown in the Table.

You will have to clean the hoods themselves regularly as they tend to get coated with grease. The Hoover and Rima took a little longer than the others as they had more corners for the grease to get into. The Claire K, both Gold Star, GEC and Bahco were particularly easy to clean as their grease filters or grilles were flush with the casing.

All the grease collected by the Utilair Condense Hood was deposited on its inside surfaces and in the gutter at its bottom edge and could be wiped off easily. The Thermor and Vent-Axia fan could be dismantled easily for periodic cleaning.

None of the cooker hoods were coated with vitreous enamel, so their colours may change with age.

Running costs

The most powerful of the motors in the cooker hoods and fans did not use more electricity than a 100-watt light bulb. So you can keep them on for as long as necessary at very small cost.

Instructions and guarantees

Except for the Claire K, Utilair and Rima ducted models, all the hoods came with instructions for mounting, operating and changing the filters. The lack of instructions for the Utilair Condense Hood did not matter as there was nothing to do except screw it to the wall. On the Utilair Extract Hood you would in any case need a builder or handyman to fix up the duct and he would not find it difficult to mount the fan and have it connected. On the Claire K, however, the instructions covered only

the washing of the plastic grease filter. Even after asking the manufacturer, we were unable to obtain any more comprehensive instructions. All Rima hoods at the moment come with the instructions for the *ductless* models, but this is being corrected.

All the hoods and the Vent-Axia were guaranteed by their makers or distributors for one year. However, cooker hoods are not easily carried around, so, before buying one, ask your dealer what arrangements he has for servicing the hood at your home, if necessary.

Value for money Which type—ductless, ducted or window fan?

As we have said, the advantage of *ductless* hoods is that they are easy to install, but if you do more than a small amount of cooking, a *ductless* hood is not going to solve the problem of smells, although it may help to catch steam and grease.

To get better results, and if you own your house or it is allowed by your landlord, you can go to the expense of having a *ducted* hood installed.

Alternatively, you can prevent condensation and remove cooking smells very effectively with a good *extractor fan* in a window. But it will not stop grease particles from dirtying your kitchen walls and ceiling. However, you can use one in combination with a *ductless* hood which catches the grease and steam.

You can't effectively get rid of smoke and steam without removing quite a lot of air from your kitchen. In the summer, of course, it may be an advantage to have a very well ventilated kitchen. But in the winter this may put up your heating bills — for example, on a cold day, it might cost you a few pence an hour to heat the air coming into the house to replace what an extractor fan draws out. But this is the price you have to pay for being well ventilated.

Value for money —Which brand?

Ductless hoods

If you are not able to install a duct and have a kitchen without a suitable window, the best value among the ductless hoods were the GEC DA 2401 at £28 19s and Gold Star Popular at £30 15s 6d. They were the only ductless hoods to have any noticeable effect on smells in our tests.

Ducted hoods

Of the ducted hoods the two Swedish models and the GEC gave the best results. We think that it is important that a ducted hood should remove smells well — the Futurum and Bahco were better at this. The Bahco was much better for smoke and slightly better for steam removal, but the Futurum was quieter and had a better light. The Bahco was over £6 cheaper. So the best value for money among the ducted hoods would be:

Bahco Bankett £39 14s 11d (ducting and installation extra)

Extractor fans

We tested window fans in 1964 and found that the Vent-Axia 7½ inch was the Best Buy. Our present tests have shown that this fan was better than any of the cooker hoods for removing kitchen smells and at least as good for clearing smoke, even though our fan was smaller than the recommended size for a kitchen as large as our test room. It was also cheaper than most cooker hoods. For grease and steam the Utilair Condense Hood was just as efficient and far cheaper than any of the other cooker hoods. So, despite the fact that you will get no built-in light, we choose as **Best Buy**:

- **Vent-Axia 7½ inch Fan** £19 13s 3d
(in black, including control unit; fixing extra)
in combination with:
- **Utilair Condense Hood** £4 19s 6d*

Remember that we could not test all the extractor fans that have come on to the market or been modified since our September 1964 report, so there may well be other fans to consider as well as the Vent-Axia.

* Available by direct mail only from: Utilair Ltd, Morden Road, Mitcham, Surrey. Delivery about 7s 6d extra outside London area.

Sewing machines

When we reported on straight stitch and zig-zag sewing machines in October last year, we said that the prices of some machines were due to go down on December 1 when the import surcharge of 10 per cent was removed. And that it might well be worth while waiting to see what happened to prices. In addition to the removal of the import surcharge, the final surcharge of 3 per cent on goods imported from EFTA countries was abolished on December 31. So you might expect price reductions of up to 13 per cent.

Of the *straight stitch* machines tested, seven prices have changed (2 up, 5 down), the changes are:

	from			to		
	£	s	d	£	s	d
Brother 1360	27	6	0	28	17	6
Frister & Rossman BS	34	13	0	30	19	6
Jones D66 de luxe	26	12	4	25	17	6
Novum Mark III	34	14	0	35	14	0
Seamstress S2	30	9	0	29	8	0
Singer 315	40	19	0	36	15	0
Viking Class 8	62	7	0	56	0	0

Value for money is unchanged and the Pfaff 80 (£49 10s) remains the Best Buy.

There were more price reductions among the *zig-zag* machines. The models we tested that changed their prices are:

	from			to		
	£	s	d	£	s	d
Bernina 700	74	10	3	69	6	0
Elna Zig-Zag	73	8	10	69	6	0
Frister & Rossman PZ	50	8	0	46	4	0
Jones 568	46	16	11	45	7	6
Necchi Lycia 522	72	9	0	69	6	0

The price reductions are again not large enough to affect Value for Money, and the Joint Best Buys remain:

Bernina 700 (Switzerland) £69 6s
Elna Zig-Zag (Switzerland) £69 6s
Necchi Lycia 522 (Italy) £69 6s
Pfaff 91 (West Germany) £67
Viking 19 (Sweden) £75 11s