



# Microwaves come of age

Some cook a roast and clean themselves, but they don't need gadgets to be Best Buys

The once-humble microwave oven turns 40 this year. But things have changed a lot since the Amana Radarange reached US shops in 1967.

Back then, the Amana could cook a hamburger in 35 seconds. These days a microwave can do everything from heating soup to cooking your Sunday roast (see 'Which type?', opposite). Both solo and combination models come packed with pre-set programs that allow you to cook or defrost automatically at the touch of a button. Combination ovens also take baking, grilling and roasting in their stride. Some models we tested will even help you clean them.

But not all of the programs and features on modern microwaves are worth having. We were not too

impressed with Whirlpool's one-touch 6th-sense cooking program. And using shelves to cook two meals at once isn't all it's cracked up to be – see 'Using your machine', p64.

For this report we've tested 18 solo and combination microwave ovens and have found Best Buys that range in price from £40 to £621.

Our Best Buys heat and reheat food quickly and evenly while being able to defrost thoroughly. Microwaves don't need gadgets, pre-set programs and a bagful of accessories to be Best Buys as the Marks & Spencer's Best Buy 800 Watt solo model (1) proves. This model won't be fully available until December. Check with M&S for where you will be able to buy it. See 'Contacts', p65.

**Microwaves don't need gadgets, pre-set programs and a bagful of accessories to be Best Buys**



## Heating food

To test how well a microwave heats food, we make a substance called TX151. This feels like ready-meal lasagne and reacts in a similar way when heated. We heat an identical sample of TX151 in each model, then use 39 thermocouples (fine thermometers) to measure the temperature at different points.

## Speed

We measure the power of each microwave and, from this, work out how quickly it should be able to heat a 350g sample of TX151 to 70°C – a recommended safe temperature. We set the microwave for this time, leave it to stand for a minute, then see what temperature it has reached in reality.

## What you should look for

### CONTROL PANEL AND DISPLAY

A bright display with large characters, and big controls make life easier if you have dexterity problems or are visually impaired

### SELF CLEANING

Some combination models have self-cleaning catalytic back panels. Chemicals fused into the surface of the panels allow the oven to get rid of food residues during cooking. You'll still need to clean the other panels

### GRILL AND OVEN

Combination ovens use a grill and convection heating along with their microwave function to cook and brown food

### TURNTABLE

Some combination ovens have enamel, porcelain or metal turntables instead of the usual glass



## Which should you choose?



### Best for visual impairment

**LG MS1942ES £40** This solo model from LG (3) has clearly labelled buttons that beep when pressed; it uses separate buttons for different tasks. The display is clear and contrasts well with the background.



### Best for reduced hand strength

**HINARI ELLIPSE EMX1130CEGSS £120** If you have reduced manual dexterity, this Hinari (17) is a good choice. It has a prominent door handle, while the rotary dial and big buttons make it easy to program.



### Best for a busy cook

**NEFF H5972W0GB £621 ONLINE** The Neff (11) is the biggest model on test with a 35.5 cubic litre capacity.



### Best for a compact kitchen

**COOKWORKS 400/6426 £30** The Cookworks (6) is the smallest machine on test, so a good choice if space in your kitchen is tight.



1 SOLO

## 75% Marks & Spencer 800 Watt £59

This outstanding model is great at heating, cooking and defrosting. It cooks quickly and well, won't dry or burn food if you follow cooking instructions, and makes good jacket potatoes in about five minutes 30 seconds. It also consistently cooks meals at even temperatures. It's great at defrosting manually but not so good when relying on the automatic defrost setting, its only pre-set program. It's available at Marks & Spencer only.

**WE LIKE** The control panel is easy to keep clean.

Available Marks & Spencer Internal capacity 14.4 cubic litres Automatic cooking programs None

WHICH?  
BEST BUY

2 SOLO

## 71% Swan SM2050 £48

If you want to cook one ready meal straight after another, the stylish Swan would be a good choice. We test how evenly microwaves cook when the oven is already hot – essential when you're cooking several dishes in succession. The Swan SM2050 is very good at this.

The reflective door means you won't be able to see food while it's cooking and the brushed stainless steel finish could be a challenge to keep clean. The SM2050 is available online.

**WE LIKE** The clock and timer display are clear.

Available Online Internal capacity 16.6 cubic litres Automatic cooking programs 5

WHICH?  
BEST BUY

10 COMBINATION

## 73% Panasonic NN-CT776SBPQ £240

This cooks food well and is great at defrosting. We also like its pre-set automatic cooking programs. It's the best combination oven at heating food evenly. It's good at roasting a chicken and browns the skin nicely. However, when it's used as a standalone grill, it produces too much heat in the centre and not enough at the sides, resulting in unevenly browned food. It's cheapest at John Lewis.

**WORTH KNOWING** Text prompts on the display help manual programming.

Available Comet, Currys, John Lewis, Tesco Internal capacity 20.1 cubic litres Automatic cooking programs 6

WHICH?  
BEST BUY

11 COMBINATION

## 70% Neff H5972W0GB £621

The Neff has a hefty price tag but is one of the largest combination microwaves available. The big size and pull-down door make it look more like a conventional built-in oven. Its controls are easy to use, and when programmed manually the Neff cooks food quickly and evenly. When the oven and two-setting grill are used to roast a chicken, the grill browns the skin nicely. There is a self-cleaning catalytic back wall. It's available online.

**WE LIKE** It comes with a recipe book.

Available Online Internal capacity 35.5 cubic litres Automatic cooking programs 7

WHICH?  
BEST BUY

3 SOLO

## 70% LG MS1942ES £40

Uniquely among our solo Best Buys, the LG cooks excellent pasta on its special pre-set program. And its automatic defrosting program is slightly better at thawing food than manually programming the machine yourself.

The touch controls are easy to wipe clean, though they could be more clearly labelled.

We also found it hard to remove the turntable when cleaning the machine. It's cheapest at Comet.

**WE LIKE** The LG cooks ready meals very evenly.

Available Comet, Tesco Internal capacity 14.2 cubic litres Automatic cooking programs 5

EXCEPTIONAL  
VALUE which?WHICH?  
BEST BUY

Uniquely among our solo Best Buys, the LG MS1942ES cooks excellent pasta

## Which type?

These are the three main types available

### Solo

Great for heating soup or ready meals, or cooking vegetables and jacket potatoes. Also defrosts.

Grills are a small part of the market and we haven't tested any this time.

### Combination

Combination microwave ovens use convection heating (fanned hot air) as well as a grill, so you can use microwaves, grilling and convection heating to both cook and brown food.

### Grill

Grill models have a heating element along with normal microwave cooking. They have metal racks to bring food closer to the element.

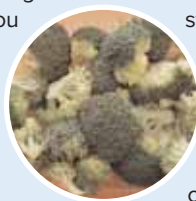
### OUR RESEARCH

When selecting microwaves to test, we consult manufacturers, market intelligence reports and industry experts, then check availability on the high street and online. Tested models include top-sellers from the most popular brands, products with innovative features, models from some lesser-known brands and widely available Best Buys from previous tests.

# Microwave cooking

Cooking in a microwave is quicker and healthier, and can save you money and energy

■ **STEAM** Solo models are excellent at cooking vegetables so you won't need a steamer. They use little water and low temperatures, so the food



retains more vitamin C than with other forms of cooking. Broccoli steamed in a microwave kept 88 per cent compared with 61 per cent of vitamin C when steamed and 45 per cent when boiled.

■ **GRILL** This is a healthy option with a combination oven.

But most models we tested grill well in the middle of the oven but not so well round the edges.

■ **ROAST** You can roast a chicken in 30 minutes – much quicker than in a normal



oven, saving time and energy.

■ **QUICHE/PIZZA** Some models have crisper plates, which give pizzas a crisp base. Use a frozen pizza and pre-heat the oven and plate for about five minutes. Microwaves with grills can brown the top nicely.

## Using your machine

Tips on how to get the most from your model

### ■ AUTO VS MANUAL

Some machines are excellent at defrosting automatically but, when cooking, you'll usually get better results by setting the time manually rather than using one-button programs. Whirlpool's '6th-sense' technology uses sensors to determine how long to heat, grill and steam food, so you can do these at the touch of a button. But vegetables were left both under- and overcooked in places.

### ■ TWO DISHES AT ONCE

If your microwave has shelves, you can cook two meals at once, as long as you double the length of cooking time. Some dishes can still be undercooked, so allow a little extra time.

■ **CLEANING** Boiling water and lemon juice in a microwave will help clean the inside.

■ **ACCESSORIES** Some combination models have racks, baking trays, shelves and food covers. Some solo models have shelves. Use racks or shelves only with the appropriate functions as directed by the instructions.

MODEL	SPECIFICATION							
	PRICE (£)	SIZE (cm) (hxxwxd)	BUILT IN	ENERGY-SAFE MODE	USABLE VOLUME (cubic litres)	MAX PLATE SIZE (cm)	SPEED	QUALITY
SOLO								
1 MARKS & SPENCER 800 Watt	59	30x46x36			14.4	28	★★★★★	★★★★★
2 SWAN SM2050	48	28x47x38			16.6	30	★★★	★★★★
3 LG MS1942ES	40	28x46x33			14.2	30	★★★	★★★
4 PANASONIC NNST446W	90	31x51x39			20.4	35	★★★★★	★★★★★
5 GOODMAN'S ME21S	35	29x46x36			14.2	28	★★★	★★★★
6 COOKWORKS 400/6426	30	26x44x33			11.8	28	★	★★
7 HINARI EMX157EPSL	100	26x46x32			12.2	29	★	★
8 DE LONGHI 400/6079	45	30x49x38			14.7	31	★★★★	★★★★
9 SANYO EMS359TV	76	28x49x35			16.0	32	★★★★	★★★★
COMBINATION								
10 PANASONIC NN-CT776SBPQ	240	31x51x47			20.1	35	★★★★★	★★★★
11 NEFF H5972W0GB	621	46x59x56	✓		35.5	45	★★★★	★★★
12 WHIRLPOOL JT359	249	38x49x52			23.8	39	★★★★★	★★
13 AEG-ELECTROLUX MCC4060EM	550	46x60x54	✓	✓	25.4	37	★★★	★★★★
14 DE LONGHI DMX65	90	31x51x41			14.5	33	★★★	★★★
15 JOHN LEWIS JLBIMW01	499	46x59x54	✓	✓	29.9	37	★★★★	★★★★
16 DAEWOO KOC8H4TSL	98	32x50x46	see <sup>a</sup>		16.6	31	★★★★	★★
17 HINARI Ellipse EMX1130CEGSS	120	31x53x44			20.9	35	★	★
18 SHARP R-879 (SL)	150	31x52x49		✓	16.1	34	★	★

a Can be built into kitchen units with a trim kit (not included)

### USING THE TABLE

The more stars the better.

### Specification

**Price** For Best Buys we give the cheapest widely available high-street price as we went to press. Prices for other models are a guide to what you can expect to pay. If a model is available only online, the

price is in *italics*. **Energy-safe mode** Some large microwaves draw a significant amount of energy when not in use. Models with an energy-safe mode use less power when switched on (but not cooking) than other models. Panasonic's NNST446W (4), for example, draws three times as much power (more than three

watts), as the John Lewis JLBIMW01 (15) which uses less than one watt in energy-safe mode. **Max plate size** The largest diameter plate that fits the microwave's door without tilting.

### Test performance

**Speed** How long it takes a microwave to heat a ready meal to

## Contacts

**AEG-Electrolux**  
0870 592 9929  
www.aeg-electrolux.co.uk

**Cookworks**  
0870 600 3030  
www.argos.co.uk

**Daewoo**  
0870 100 2525  
www.daewoo-electronics.co.uk

**De Longhi**  
0845 600 6845

www.delonghi.co.uk

**Goodmans**  
0871 230 1777  
www.goodmans.co.uk

**Hinari**  
0161 652 1211  
www.albaplc.com

**John Lewis**  
0845 604 9049  
www.johnlewis.com

**LG** 0870 873 5454  
www.lge.com

**Marks & Spencer**  
0845 603 1603  
www.marksand-spencer.com

**Neff**  
0870 241 3383  
www.neff.co.uk

**Panasonic**  
0844 844 3852  
www.panasonic.co.uk

**Sanyo**  
01923 246363

www.sanyo.co.uk

**Sharp**  
0870 527 4277  
www.sharp.co.uk

**Swan**  
0845 707 8810  
www.littlewoods.com

**Whirlpool**  
0870 600 8989  
www.whirlpool.co.uk

## WHICH? ONLINE

Go online at [www.which.co.uk/microwaves](http://www.which.co.uk/microwaves) for reviews of 38 top-selling machines including previously tested models. We regularly update our report with new models, availability and prices. See [www.which.co.uk/loginhelp](http://www.which.co.uk/loginhelp) for help logging in.



WHICH? TEST PERFORMANCE												SCORE %
EVENNESS	CONTINUOUS USE	DEFROST (MANUAL)	CHICKEN	GRILL	JACKET POTATO (MANUAL)	EASE OF USE	AUTO BUTTONS					
							JACKET POTATO	DEFROST	PASTA	CURRY		
★★★★★	★★★★★	★★★★★★	n/a	n/a	★★★★★	★★★★	n/a	★★	n/a	n/a	75	
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★★★★	★★★★★	★★	★★★★★	★★★★	★★★★★	★★★★★	n/a	n/a	n/a	n/a	46	

a minimum safe temperature of 70°C. **Quality** The more the food shrinks during heating, the fewer stars. **Evenness** Whether a ready meal is left with hot or cold spots when it's been heated.

**Continuous use** How well a ready meal cooks in an oven that has been used for 15 minutes.

**Defrost (manual)** How well the

microwave defrosts when programmed manually. **Chicken** How well the oven roasts a whole chicken. ★★★★★ means the meat is well cooked, with brown crispy skin. **Grill** How evenly the grill toasts white bread. **Jacket potato (manual)** How well the oven cooks a jacket potato when manually programmed. ★★★★★

means the potato is well cooked. **Auto buttons** How well auto buttons, where present, cook jacket potatoes, pasta and curry, and as well as defrost food.

### Score

Ignores price and is based on:

### Solo

Reheat in cold oven **44%**

Ease of use	<b>28%</b>
Defrost	<b>22%</b>
Reheat in hot oven	<b>6%</b>
<b>Combination</b>	
Reheat in cold oven	<b>40%</b>
Ease of use	<b>25%</b>
Defrost	<b>20%</b>
Reheat in hot oven	<b>5%</b>
Grill	<b>5%</b>
Oven	<b>5%</b>