

Rs 40

* Ethiopian Airlines Ordered To Pay Rs.1.5L Each To Two Passengers * Coca Cola Found Deficient In Service * Eat Slowly To Lose Weight * Satellites Reveal India's Vanishing Groundwater * HP Laptop Battery Packs Recalled Worldwide For Fire Hazard * Display Of Airfares To Be More Transparent * EC Fines Intel £1b For Abuse Of Position * Sleeping On A Complex Issue May Be A Bad Choice

RNI NO. 54886/81

Vol. 29 No. 5 SEPTEMBER-OCTOBER 2009

INSIGHT®

THE CONSUMER MAGAZINE

26 Food Mixers Tested Many Fail To Impress

**Slow Down
Your Ageing
Laptops**

Find The Right One For You

Shopping Online?

Know Your Rights



CONSUMER EDUCATION AND RESEARCH SOCIETY, AHMEDABAD, INDIA



26 Food Mixers Tested, Many Fail To Impress

Take an informed decision on buying a food mixer, based on its safety, performance, energy cost, and convenience of use.



If the housewives, the cooks and the chefs the world over had their way, maybe, they would have named Herbert Johnson for a Nobel Prize for his invention of the food mixer in 1908! Ever since, this kitchen machine has been adding delight to cooking.

In 1998 we had tested 8 brands of food mixers. But now that the market has many more new brands and models, we decided to test food mixers once again. Though there is no mandatory BIS certification for them, nor are they covered under the Household Electrical Appliances Quality Control Order 2003.

Standards

We tested 26 models of food mixers for safety parameters as per the specifications set by the Bureau of Indian Standards IS 302-(1)-1979 fifth revision, including 8 amendments, and IS 302-2-14-1994. The operational tests were conducted as per IS-4250-1980 first revision with 9 amendments.

How Safe Are They?

We found that 12 models (shown in red in the table) out of the 26 models did not meet one or more safety requirements of Standards. The area of the wire of the supply cord of 10 models of food mixers was less than that specified in the Standard. Wires having an area less than that mentioned in the Standards can't withstand overload currents. This may cause overheating of wires, resulting in fire. The colour of wires inside the supply cord of *Orpat Kitchen Gold*, *Orpat OMG 6017*, and *Maharaja Whiteline Smartchef* did not conform to the Standard.

Brands Tested

We tested 26 models of 13 widely sold brands of food mixers, selected through a market survey and available across the country. They were three models each of *Bajaj*, *Crompton*, *Usha Shriram* and *Orpat*; two each of *Boss*, *Inalsa*, *Kenstar*, *Maharaja Whiteline*, and *Philips*; and one each of *Black & Decker*, *Jaipan*, *Panasonic*, and *Sumeet*.

We purchased all the models from the open market, including authorised dealers and reputed showrooms and stores, as a common consumer. *INSIGHT* does not accept manufacturers' samples for testing.

We thank the National Centre for Human Settlements & Environment (NCHSE), M.P.; The Patiala Consumers and Telephone; Mr. J.E. Gomes, Alto De Provision, Goa; Consumer Protection & Research Society, Delhi; and Virudhnagar District Consumers Council, Tamil Nadu, for helping us in the market survey.

In three models, internal wiring did not follow the colour code specified in the Standards. The conducting wires in green should be connected only to the earthing terminals. Otherwise, this would create confusion during repair or replacement of parts in the mixers, risking a short circuit. In *Boss Excel* and *Sumeet Grinderman* green wires were also used for internal wiring connection of the speed controlling switch, while in *Boss Vega* they were used for the wiring connection of motor winding, too.

How Did They Perform?

Whisking of Egg Whites

We tested 18 models in which whipping/whisking blade was provided, for the ability of preparing omelettes, cakes, etc.

Most of them failed to produce a stiff froth of egg whites. Only 4 models — *Panasonic MX-AC 300*, *Black & Decker FG*, *Kenstar Stallion* and *Sumeet Grinderman* — produced a stiff froth and the whisked material remained in the jar even when the jar was kept in an inverted position for 5 seconds.

Eight models which were not provided with the whisking blade were *Philips* — both *1629* and *1618*, *Kenstar Tufan*, *Orpat* — *OMG 6017*, *Kitchen Gold* and *Kitchen Queen*, *Crompton CG-EX*, and *Maharaja Whiteline Perfectmix*.

How Fast Did They Grate ?

Although this test is not specified in the Standards, we tested all the models to assess their ability and the time taken for grating wet coconut pieces. Out of 20 models, which were either provided with grating/mincing blade or their instruction manual mentioned grating, **Sumeet Grinderman** was the fastest. It took less than 20 seconds. **Jaipan Hero**, **Crompton CG-DX**, **Boss Excel**, **Bajaj Twister** and **Bajaj GX- 11** took more than 2 minutes. Other 14 models accomplished the task in the time ranging between 20 seconds and 2 minutes.

Neither providing grating blades nor mentioning this function in the manuals of **Kenstar Tufan**, **Maharaja Whiteline Perfectmix**, **Usha Shriram MG 2053E**, and **Orpat — Kitchen Gold, Kitchen Queen and OMG 6017**, implies that these models may not be used for grating. Hence, their grating performances could not be compared with the other 20 models. Results for these 6 models were not similar to those for the 20 models; however, they could grate coconut pieces within 2 minutes.

Can They Grind Sugar ?

We tested the 26 models to check their ability of sugar grinding. However, the instruction manuals for 5 models — **Usha Shriram — MG 2053E, MG 2553, and MG 2573**, and **Inalsa — Companion and Victor** — clearly warned against the grinding of sugar. Sugar crystals could blunt the blades. Because of heat formation during grinding, sugar particles may also stick to the blades. If not cleaned properly, the blades may get jammed, damaging the motor.

All 26 models, including these five, were found capable of sugar grinding. **Sumeet Grinderman** was the fastest in sugar grinding. It ground 200 gm of sugar within 30 seconds. For equal quantities of sugar, the grinding time taken by other models varied between 30 seconds and 1 minute 30 seconds.

Are They Convenient to Use ?

A simple feature in your machine can make it more user friendly and safe.

Key Findings

We tested, as per the Standards, 26 models of food mixers for safety, performance and operations. We tested them also for grating, sugar grinding, convenience, and energy consumption, which are not provided for in the Standards. Only 3 models — **Inalsa Companion**, **Jaipan Hero** and **Sumeet Grinderman** — carried the ISI mark, though not mandatory.

Safety

- * As many as 12 models did not conform to one or more safety requirements.
- * 10 models provided less area of conductors (wires) of the supply cord than the Standard. This could cause overheating of wires resulting in fire.
- * The cord anchorage of 5 models — **Usha Shriram MG 2573**, **Crompton CG-EX**, **Orpat OMG 6017**, **Maharaja Whiteline Perfectmix** and **Jaipan Hero** — did not meet the requirements of the Standards.
- * Only **Panasonic MX-AC 300** had an interlocking system for jar fixing and safety lid locking system.
- * 15 models had neither the power indicator nor the overload indicator.

Performance

- * Out of the 18 models, only **Panasonic MX-AC 300**, **Black & Decker FG**, **Kenstar Stallion**, and **Sumeet Grinderman** passed the operational test for whisking egg whites.
- * **Sumeet Grinderman** was the fastest in grating coconut pieces evenly. **Kenstar Tufan**, **Maharaja Whiteline Perfectmix**, **Usha Shriram MG 2053E**, and three models of **Orpat (Kitchen Gold, Kitchen Queen and OMG 6017)** did not grate coconut pieces evenly.

Energy Cost

- * Though the price and rated wattage of **Orpat OMG 6017** was lower than many other models, its energy cost was the highest (Rs. 67). The energy cost of **Bajaj GX-11** was the lowest (Rs. 14), followed by **Philips 1629** (Rs. 15).

Convenience of Use

- * **Maharaja Whiteline Perfectmix** had no provision for draining

spilt liquid which collects in the area where the jar fixed into the mixer. The accumulated liquid could enter the inner machine parts and damage the mixer.

- * The operating switch in 21 models were unidirectional. These models could be switched off after reducing the speed stepwise. **Philips 1629**, **Orpat OMG 6017**, **Panasonic MX-AC 300**, **Usha Shriram MG 2553**, and **Inalsa Victor** could be switched off directly from top speed.
- * In **Sumeet Grinderman** and **Crompton CG-EX**, there was no marking to correlate it with the speed of the mixer.
- * **Usha Shriram MG 2053 E** and **Usha Shriram MG 2553** provided the overload protection switch at the edge of the body and hence were easily accessible. In all other models, the switch was provided at the bottom.
- * For the convenience of fitting the jars on the mixer body, **Philips 1629**, **Black & Decker FG** and **Panasonic MX-AC 300** had an arrow mark/symbol on their body.
- * The instruction manual for **Usha Shriram — MG 2553, MG 2573 and MG 2053 E**, **Inalsa — Companion** and **Victor** warned against grinding sugar in these mixers.
- * **Black & Decker FG** was the most convenient to clean. Besides removable blades, no screw or rivet was visible on the internal surface of jars.
- * All the three models of **Orpat** were difficult to clean. Blades in their jars were fixed and could not be removed easily.

Markings

- * Only **Orpat — Kitchen Gold, Kitchen Queen and OMG 6017**, and **Maharaja Whiteline — Perfectmix and Smartchef** had legible and durable markings.
- * Rated operating time and/or rated resting time (in hours) were not marked on **Philips** (both models), **Black & Decker FG**, **Orpat Kitchen Queen and Kitchen Gold**, **Kenstar Tufan**, **Inalsa Victor**, **Usha Shriram MG 2553**, **Maharaja Whiteline Perfectmix** and **Sumeet Grinderman**, though it was mentioned in their instruction manual.



Food Mixers : Results

Models	Rank	Overall Score %	Price (Rs.)	Overall Quality	Coconut Grating Performance	Sugar Grinding Performance	Features	Ease of Use
Panasonic MX-AC 300 <small>BEST BUY</small>	1	95	3700	*****	*****	*****	***	*****
Sumeet Grinderman	2	93	3150	*****	*****	*****	***	**
Philips 1629	3	92	3000	*****	*****	*****	*****	*****
Black & Decker FG	3	92	3200	*****	*****	***	***	*****
Bajaj GX-10	4	90	2810	*****	***	*****	*****	***
Kenstar Stallion	4	90	2825	*****	***	*****	*****	***
Inalsa Companion	5	88	2700	*****	***	*****	***	***
Philips 1618	6	87	2750	*****	***	*****	*****	***
Usha Shriram MG 2553	6	87	2964	*****	***	*****	*****	***
Usha Shriram MG 2053E	7	85	2426	*****	*	*****	*****	***
Inalsa Victor	7	85	2800	*****	***	*****	***	***
Bajaj GX-11	7	85	3250	*****	**	*****	*****	***
Crompton CG-DX	8	84	2428	*****	**	*****	*****	***
Kenstar Tufan	9	80	1607	*****	*	*****	***	***
Boss Vega (MG 200) #		89	1600	***	*****	*****	***	***
Crompton CG-EX		88	1680	****	*****	****	***	**
Crompton CG-DX Turbo #		87	2757	****	***	*****	*****	***
Maharaja Smartchef #		84	2950	***	*****	*****	*****	***
Boss Excel (MG 100) #		84	2100	***	**	*****	*****	***
Usha Shriram MG 2573 #		83	3324	***	***	*****	*****	***
Bajaj Twister #		83	3340	****	**	*****	***	***
Jaipan Hero #		83	2000	***	**	*****	*****	***
Maharaja Perfectmix		79	2100	****	*	*****	***	***
Orpat Kitchen Queen #		75	1475	****	*	***	***	***
Orpat Kitchen Gold #		74	2650	***	*	***	***	***
Orpat OMG 6017 #		74	1760	***	*	****	***	***
Weightages				60%	15%	15%	10%	

Note :

Models shown in red did not comply with the requirements of supply connections and external flexible cords, and hence, were not ranked.

Indicates the model in which the area of the wire of the supply cord was less than that specified in the Standard.



Using The Table

Star Rating: More stars the better. \$ means no star.

Score This is independent of price and is based on:

Overall quality (60 %): indicates compliance of models with different safety, performance and operational tests, vis a vis the Standards. The operational tests include dry and wet grinding, and whisking egg whites. Performance tests include 'temperature withstand test for jars' and 'test for controlling switches'.

Coconut grating (15%): indicates how fast are the models in evenly grating coconut pieces.

Sugar grinding (15%): indicates the ability and speed of grinding dry sugar crystals.

Ease of use, Ease of cleaning, and Other features (10%):

Ease of use: indicates ease in fixing the jars and operating the switches.

Ease of cleaning: indicates features like 'availability of removable type blades' and 'non-visibility of screws or rivets inside the jars'.

Other features: indicates features which make the mixers user friendly. They are number of jars and blades provided, availability of indicating lamps, cord storage facility, location of overload protection switch, and instruction languages.

Price: This is bill price during March- August 2008 (at Ahmedabad)

Rated wattage: Wattage rating marked on food mixer.

Energy consumed: energy consumed in watt-hour (Wh) for grinding 100 gram of dry turmeric pieces into fine powder.

Energy cost : calculated cost of electricity for one year, by considering daily use for grinding 100 gm of turmeric pieces into fine powder, and a tariff of Rs. 4 per unit of electricity; the lower, the better.

No. of blades:

Total number of blades supplied with each food mixer

Ease of Cleaning	Energy Consumption			No. of Blades	Blade Functions
	Rated Wattage (W)	Energy Consumed (WH)	Energy Cost/ year (Rs.) App.		
***	550	14.173	21	4	Gdw, B, C, W
***	550	11.736	17	5	Gd, Gw, Gr, C, W
****	600	10.352	15	4	Gd, Gw, Gr, C
*****	550	21.762	32	4	Gd, Gw, B, W
****	550	15.156	22	6	Gd, Gw, Gr, W, B, C
***	600	30.497	44	6	Gr, Gdw, W, B, C(2)
*****	550	13.942	20	5	Gdw, Gr, W, B, C
*****	500	17.738	26	3	Gd, Gw, C
***	550	12.311	18	5	Gr, Gd, Gw, W, C
***	500	11.273	16	4	Gd, Gw, W, C
***	600	13.030	19	5	Gdw, Gr, W, B, C
***	600	9.638	14	6	Gd, Gw, Gr, W, B, C
***	550	14.124	21	6	Gd, Gw, Gr, W, M, C
***	500	29.491	43	3	Gdw, B, C
***	550	15.106	22	5	Gw, Gd, Gr, C, W
***	500	13.799	20	3	Gdw, B, C
***	750	12.183	18	7	Gdw, Gr, B(2), M, W, C
***	750	11.865	17	5	Gdw, Gr, B, W, C
***	600	14.653	21	6	Gw, Gd, Gr, W, C(2)
***	750	14.200	21	5	M, W, B, C, Gr
***	750	11.386	17	7	Gd, Gw, Gr, M, W, C, B
*****	550	15.676	23	5	Gr, Gdw, B, C, W
*****	500	16.261	24	3	Gdw, B, C
*	500	26.564	39	3	Gd, Gw, B
\$	750	18.278	27	3	Gd, Gw, B
**	550	45.684	67	3	Gd, Gw, B

Functions of blades supplied:

Gd = dry grinding,

Gw = wet grinding,

Gdw = dry/wet grinding,

B = blending/liquidising,

W = whipping/whisking

Gr = grating/mincing,

M = multipurpose/universal,

C = chutney making

C(2) = Two fixed type blades provided with chutneyjar

B(2) = Two blending/ liquidising removable type blades provided with separate jars.

PANASONIC MX - AC 300



If you are ready to pick up the best model, regardless of the price, this is your Best Buy.



For Rating and Ranking the brands we assigned the following weightages - 60 per cent to overall quality, 15 per cent each to coconut grating and sugar grinding performances, and 10 per cent to availability of features including ease of use and ease of cleaning.

How We Tested

Performance Tests

We tested all 26 models for mixing and grinding (dry and wet, both), coconut grating, and sugar grinding. 18 of them were tested also for whisking/whipping as they were provided with whisking/whipping blades. All the models conformed to the Standard for grinding.

Dry Grinding

Using grinding jar and dry grinding blade, we ground roasted coffee seeds to obtain a fine powder, as per Standard, and compared the results with the Standards.

Wet grinding

Parboiled rice and *urad dal* soaked in water were ground separately, using the wet grinding blade. The smoothness and frothiness of the mixtures were assessed and compared with the Standards.

Whisking and Whipping

The egg whites were whisked in the liquidiser jar using the whipping/whisking blade to prepare a stiff froth. The jars were detached from the mixer and inverted for 5 seconds to assess the consistency and thickness of the whisked material. According to the Standard, the whisking should produce a stiff froth within 5 minutes, with an actual operational time not exceeding 3 minutes. The whisked material should remain in the jar even if the jar is kept inverted for 5 seconds.

Grating

Wet coconut pieces (150 gm) of 1-2 inch size were grated using jars and blades as per instruction in the manuals. For the mixers in which neither the grating/mincing blade was provided nor their respective manuals specified grating, we used the best suitable jar and blade (usually, dry grinding/*chutney* jar with its blade). Keeping the method and quantity constant, we compared the time required by each model to perform a uniform grating.

Sugar Grinding

200 gm of sugar was ground in the dry grinding jar, or in the jar specified for the purpose, using the dry grinding blade, to obtain a fine powder. Keeping the quantity of sugar and the method of grinding common, we compared the time taken by each model.

Safety Tests

We conducted 19 safety tests on each of the sample. The safety tests included the test for protection against electric shock, starting, input, supply connections and external flexible cables and cords, provision of earthing, internal wiring, electrical insulation and leakage current, moisture resistance, temperature rise, the tests for abnormal operation, construction, stability and mechanical hazards, mechanical strength, screws and connections, creepage distances and clearances, the test for components, terminals for external conductors, and resistance to heat, fire and rusting.

Interlocking safety for jar fixing and safety lid locking system was provided in **Panasonic MX-AC 300**. None of the other brands that we tested had this important feature. Only **Usha Shriram** (all three models) mixers had both the indicating lamps; power indicator and overload indicator. **Philips** (both models), **Boss** (both models), **Bajaj — GX - 10** and **GX - 11**, **Jaipan Hero** and **Inalsa Companion** had the power indicator only. In other 15 models, neither the power indicator nor the overload indicator was provided.

You may find it difficult to understand switch operation in **Sumeet Grinderman** and **Crompton CG-EX**, as there was no marking to correlate it with the speed of the mixer. Switching off the mixer directly from speed-3 (full speed) was not possible in models except **Panasonic MX-AC 300**, **Philips 1629**, **Usha Shriram MG 2553**, **Inalsa Victor** and **Orpat OMG 6017**. All the other models had a unidirectional switch and they needed to be switched off step by step.

Maharaja Whiteline Perfectmix did not provide draining facility for any liquid which spilt and collected in the area where the jar fixed into the mixer.

We also looked into the instruction manual provided with each model to know whether common users could follow them easily. In both models of **Philips**, instruction and other details were provided in 9 languages. In 3 models each of **Bajaj** and **Usha** it was provided in English and Hindi, in **Black & Decker** it was in English and some other foreign languages, and in the rest it was in English only.

Are They Easy To Clean?

The jars of a food mixer need proper cleaning. Any residue may affect the taste of food. Cleaning becomes easier if the blades are removable and the surface of the jars is smooth. We checked the 26 models for ease of cleaning. **Black & Decker FG** had no screw or rivet on internal surface of its jars and all blades were removable. Hence, this model is most convenient for cleaning. In the jars of other models, screws/rivets were either protruding from fitting of handles or from the base. In **Philips** (both models), **Boss** (both models), and **Inalsa companion**, the blades in all the jars were removable. In other models, the blade in the *chutney* jar was fixed but removable in other jars. In all the three models of **Orpat**, all jars had fixed blades. We could not remove them easily with the spatula provided by the manufacturer.

Undurable Marking

Only 5 mixers (**Orpat — Kitchen Gold**, **Kitchen Queen** and **OMG 6017**, and **Maharaja Whiteline — Perfectmix** and **Smartchef**) had legible and durable marking. In the case of other 21 mixers, the markings were legible but not durable. They were printed on paper or sticker and glued on the mixer, thus not complying with the requirement of Standard for durability of marking. **Boss Vega** and **Usha Shriram MG 2553** were not marked with rated voltage or

Energy Cost

We calculated the energy cost per year for tough dry grinding function (grinding of 100 gm. of turmeric pieces into fine powder), and found that it was the least in **Bajaj GX-11** (Rs. 14), followed by **Philips 1629** (Rs.15). The energy cost was the highest in **Orpat OMG 6017** (Rs. 67).

Convenience

We checked all 26 models for availability of features like provision of indicating lamps and positioning of overload protection switches, the interlocking safety system, cord storage facility and the length of the cord, switching OFF convenience, indication for jar fixing, number of jars and, blades for functions like whisking/whipping and grating, cleaning of jars, instruction languages, etc. We tested them also for the ease of use and cleaning.

Temperature Withstand Test of Jar

The jars were filled with boiling water, and allowed to keep it for 10 minutes, then emptied, and brought back to room temperature. The process was repeated five times. Thereafter, the jars were checked for cracks, deformation, and their proper fitting into respective mixers. This test was applicable to non-metallic jars, and all of them conformed to the Standards.

Energy Consumption

The energy consumed for performing the same task was assessed for all the food mixers. For every model, we ground an equal amount (100 gm) of dry turmeric pieces (1-2 inch size). The jars and the blades were used as per the dry grinding instructions provided in the manuals. Grinding continued till the turmeric pieces turned into a fine powder. The fineness of the powder was judged by sieving the powder. The energy consumed by each of the mixers was noted.

voltage range. Rated operating time and/or rated resting time in hours, as per the requirements of Standards for marking of food mixers, was not marked on *Philips* (both models), *Black & Decker FG*, *Orpat — Kitchen Queen* and *Kitchen Gold*, *Kenstar Tufan*, *Inalsa Victor*, *Usha Shriram MG 2553*, *Maharaja Whiteline Perfectmix* and *Sumeet Grinderman*.

Black & Decker FG, *Usha Shriram 2553*, *Inalsa Victor*, *Maharaja Whiteline Perfectmix*, and *Orpat — Kitchen Gold* and *Kitchen Queen* did not have marking for symbol of nature of power supply (AC or DC).

Areas Of Action

To ensure the performance and safety of food mixers as per the requirements of the Standards, CERS has requested the chief electrical inspector and the Commissioner of electricity, Gandhinagar, Gujarat, to cover food mixers under the Quality Control Order, 2003.

The BIS should

- * cover the category of 'Juicers Mixers Grinders' (JMG) under the scope of IS 4250-1980 and IS 302-2-14-1994
- * include a requirement for the length of the power cord as a minimum of 2 metres under cl. 25.0 of IS 302-2-14-1994 for home appliances.
- * cover the 'test for marking' under the 'type tests' mentioned in the IS so as to ensure proper marking on food mixers.
- * cover the definitions of 'cord guard' and 'cord anchorage' under a clause of terminology to make a safe and quality product available to users.

Claims vs. Facts

Black & Decker FG

Claim: Unique cord storage facility allows storage of cord reducing table-top clutter

Fact: No facility for cord winding or storage found.

Orpat OMG 6017

Claim: Dry grinder: 100gm - 200 gm. Grinds masalas, coffee beans and other hard things into fine powder within minutes.

Fact: The mixer could not grind 100 gm of turmeric pieces into fine powder at a time. One need to repeat the grinding, taking small quantities in the jar.

- * make the 'endurance test' applicable under the scope of IS 302-2-14-1994, to check the durability of parts.
- * cover the testing time for 'temperature withstand test for jars' of food mixers.
- * cover the tests for coconut grating and sugar grinding under the scope of IS 4250-1980

Manufacturers' Response

As a policy, we convey the test results to all the manufacturers, irrespective of whether their products have passed or failed. The results are posted at their registered offices by Registered A.D./Courier. All the manufacturers receive the result/s of their own product/s only and are given two weeks from the date of receipt to respond.

Panasonic Home Appliances India Co. Ltd. thanked us for sending the test results, to which it agreed.

Boss Home Appliances replied that it had never done testing on egg whites. The company assured us that it would take necessary steps.

Crompton Greaves Ltd., three of whose models were tested, congratulated on conducting such tests "for the benefits of the consumer". Referring to its non-conformity in the *CG-DX Turbo (750W)* model, it said, "Thanks to the input (by INSIGHT), we have switched to power cord with 0.75mm² cross-sectional area of the conductor". Besides, the company is improving on the designs of the *CG-DX (550W)* and *CG-DX Turbo (750W)* models to make them compatible for whisking egg whites. On INSIGHT's results of the *CG-EX (500W)* model, the company said, "We have been providing a

Choose The Right Food Mixer

95% Panasonic MX-AC 300 Price: Rs. 3700

If budget is not a constraint and you want to go for the best performance and overall quality, we advise you to go for Panasonic MX-AC 300.

Good: It mixes, grinds and grates with quick and consistent results. Outstanding model for whisking/whipping. Its unique 'interlocking safety' and 'safety lid locking' system ensure that the mixer would not start until the jar and the lid are properly fixed. Good overall construction and convenience of use, even for a disabled person. Low energy cost.

Bad: Lack of power indicator (which was absent in many models that we tested).



93% Sumeet Grinderman Price: Rs. 3150

Good: The fastest in grating and sugar grinding. Outstanding model for mixing, grinding, whisking/whipping with quick and uniform results. Low energy cost.

Bad: Users may find it difficult to correlate the switch



(knob) with the speed of the mixer. Unidirectional switch. No power indicator.

92% Black & Decker FG Price: Rs. 3200

Good: Excellent model for whipping/ whisking. Smooth finishing with absence of any screw or rivets inside the jars, and removable blades make it the easiest to clean. Easy fixing and removing of jars from the body.

Bad: Unidirectional switch makes it difficult to switch off the mixer directly from full speed; No power indicator.



92% Philips - 1629 Price: Rs. 3000

Good: Excellent in performance with good quality of overall construction. Energy cost lowest among the top five scorers. Fixing and removing the jars from the body is also very easy. Instruction manual in maximum number of languages, thus easy to understand for all.

Bad: Blade for whipping/ whisking function not provided.



power supply cord with moulded bush... This design ensures proper cord anchorages such that conductors are relieved from strain, including twisting". The company accepted our feedback on its not meeting certain marking requirements on the mixers and said that they were "being implemented with immediate effect."

INSIGHT: The moulded bush provided for power cord can only serve the purpose of cord guard and not satisfy the requirement of Standards.

Usha Shriram (India), replied : "(i) Class II symbol is being provided on **MG-2053E**; (ii) Class B Ins is being provided on Specs Stickers of **MG-2053E**, **MG-2553** and

MG-2573; (iii) Cord anchorage has been modified...in **MG-2573**; (iv)...checked whisking egg whites in all models and the performance was satisfactory; (v) cross-section area of supply cord has been increased from 0.50 sq. mm to 0.75 sq. mm in **MG-2573**; and (vi) Specs. are already engraved in **MG-2553**".

INSIGHT: We suggest to (i) improve the design of whisking blade of all three models to obtain stiff consistency of the whisked material, and (ii) provide marking on all three mixers in embossed form (for durability).

Bajaj Electricals Limited appreciated the test results on **GX-10 (550W)**, **GX-11 (600W)** and **Twister (750W)**. It said that, with immediate effect, it would put the class II symbol on the rating label of **GX-11 (600W)** mixer, and change the cord size to have a nominal cross-section of 0.75mm² in **Bajaj Twister (750W)**. It accepted our feedback on egg whisking and "will try to improve on the design and make it easier for the consumers".

Maharaja Whiteline thanked for the results and said that it would study the cord anchorage of **Perfectmix** model and improve on it. It would also change the colour of the power supply wire from pink to red, and strike a balance between the cross-section of the conducting wires and the wattage of the motor of **Smartchef** model. On our findings on egg whisking, it said, "...we shall test the machine again for this application and take action..." (**INSIGHT** will await information on the corrective measures.)

The manufacturers of **Philips**, **Jaipan**, **Orpat**, **Inalsa**, **Sumeet**, **Kenstar**, and **Black & Decker** brands did not respond till the time of going to press. ■

Names and Addresses of Manufacturers

Brand: Orpat

M/s Ajanta Limited, Orpat Industrial Estate, Rajkot Highway, Morbi-363 641

Brand: Usha Shriram

Usha Shriram (India), Block A, DDA Commercial Complex, Ring Road, Naraina, New Delhi - 110 028

Brand: Panasonic

Panasonic Home appliances India Co. Ltd., 88, 6th floor, SPIC Building Annexe, Mount Road, Guindy, Chennai-600 032

Brand: Philips

Philips Electronics India Limited, 9th floor, DLF 9-B, DLF Cyber City, Sector 25, DLF Phase-3, Gurgaon - 122 002

Brand: Maharaja Whiteline

Omex Industries, Plot no. 5-6, Industrial Area, Baddi, District - Solan (HP)

Brand: Jaipan

Jaipan Kitchen Appliances, 17, Cama Industrial Estate, Walbhat Road, Goregaon (East), Mumbai-400 063

Brand: Crompton

Crompton Greaves Limited, Fan and

Appliances Division

Plot no. 1, Bethora Industrial Estate, Bethora, Ponda, Goa - 403 409

Brand: Bajaj

Bajaj Electricals Limited, 45/47 Veer Nariman Road, Mumbai-400 023

Brand: Inalsa

M/s Tureg Marketing Private Ltd., C-196, Sector-63, Noida-201 301

Brand: Boss

Boss Home Appliances, B/66, Kiran Industrial Estate, M.G. Road Goregaon(West), Mumbai - 400 062

Brand: Sumeet

Sumeet Appliances Pvt. Ltd., Plot no. 315 A, Kanak Krupa CHS, Shimpoli Road, Chikwadi, Borivali (East), Mumbai - 400 092

Brand: Kenstar

PICL (India) Pvt. Ltd., Village Burawala, P.O. Barotiwal, Baddi, Dist. Solan (H.P.)

Brand: Black & Decker

Gryphon Appliances Limited, D-6/4, Okhla Industrial Area, Phase-1, New Delhi - 110 020