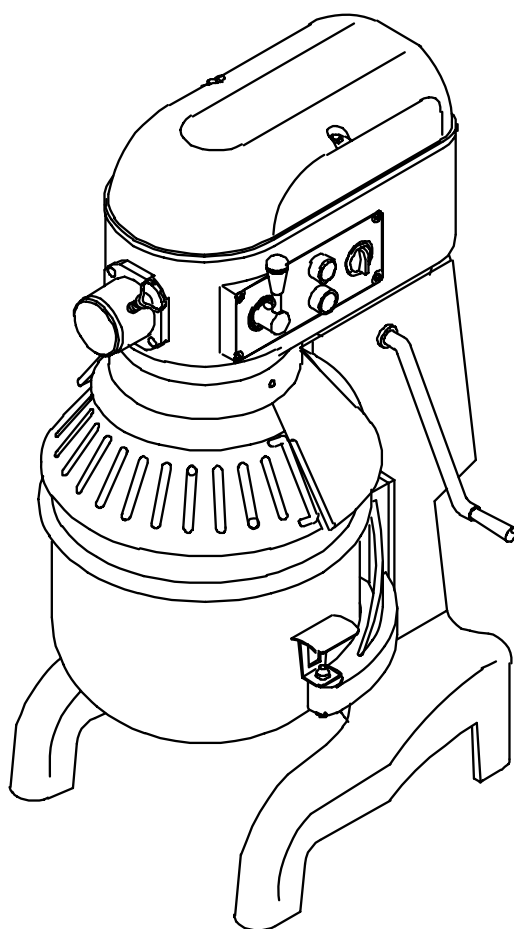




INSTALLATION / OPERATION MANUAL

BM20 Planetary Mixer



WORLD-WIDE BRANCHES

UNITED KINGDOM

Blue Seal
Units 6-7, Mount Street Business Park
Mount Street, Nechells
Birmingham B7 5QU
Ph: (121) 327 5575
Fax: (121) 327 9711

UNITED STATES

Moffat Inc
3765 Champion Blvd
Winston-Salem
North Carolina 27115
Ph: (336) 661 0257
Fax: (336) 661 9546

CANADA

Lessard Agencies Ltd
PO Box 97
Stn D Toronto
Ontario M6P3J5
Ph: (416) 766 2764
Fax: (416) 760 0394

NEW ZEALAND

Christchurch

Moffat Limited
PO Box 10-001
16 Osborne Street
Christchurch
Ph: (03) 389 1007
Fax: (03) 389 1276

Auckland

Moffat Limited
4 Waipuna Road
Mt Wellington
Auckland
Ph: (09) 574 3150
Fax: (09) 574 3159

AUSTRALIA

Victoria

Moffat Pty Limited
740 Springvale Road
Mulgrave, Melbourne
Victoria 3171
Ph: (03) 9518 3888
Fax: (03) 9518 3838

New South Wales

Moffat Pty Limited
8/142 James Ruse Drive, Rose Hill
PO Box 913, Smithfield
Sydney, N.S.W. 2142
Ph: (02) 8833 4111
Fax: (02) 8833 4133

Western Australia

Moffat Pty Limited
PO Box 689
Joondalup Business Centre
WA 6027
Ph: (08) 9562 0263
Fax: (08) 9562 0385

Queensland

Moffat Pty Limited
30 Prosperity Place
Geebung, Brisbane
Queensland 4034
Ph: (07) 3630 8600
Fax: (07) 3630 8623

South Australia

Moffat Pty Limited
28 Greenhill Road
Wayville
South Australia 5034
Ph: (08) 8274 2116
Fax: (08) 8274 2129

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Date Purchased.....	Serial No
Dealer	
Service Agent	

Introduction

Introduction

We are confident that you will be delighted with your BLUE SEAL MIXER, and it will become a most valued appliance in your commercial kitchen.

A new mixer can seem very complex and confusing at first glance. To ensure you receive the utmost benefit from your new Blue Seal, there are two important things you can do.

Firstly

Please read the instruction book carefully and follow the directions given. The time taken will be well spent.

Secondly

If you are unsure of any aspect of the installation, instructions or performance of your oven, contact your Blue Seal dealer promptly. In many cases a phone call could answer your question.

The Blue Seal BM20 is a dependable mixer for kneading and mixing all kinds of dough, egg, cream, cookies, mayonnaise etc. The mixer works smoothly and reliably. There are 3 speeds and various style attachments which can be selected to obtain the best results. These are made of alloy aluminum or they're of food hygiene standard.

This model Mixer is equipped with a powerful ½ HP motor and strong belt & gear drive design. The gears are made of hardened alloy steel and a hardened steel worm wheel. A stainless steel safety guard or a timer is available on all models.

With proper operation and maintenance this mixer will give you years of service, and obtain the best results.

Safety Precautions



Improper installation, adjustment, alteration, service or maintenance can cause property damage, injury or death.

Read the installation, operating and maintenance instructions thoroughly before installing or servicing this equipment. Failure to do so may result in serious injury or damage.

- Keep hands and clothing away from the bowl and hob attachments when in operation.
- Keep rigid objects away from the bowl and hub attachments when in operation.
- Do not use this machine for any applications other than food processing.
- Use the machine only with the electrical supply specified on the rating plate.
- Disconnect the machine from its power source before carrying out any maintenance.
- Do not disable or remove any of the safety mechanisms included with this machine.
- Do not leave the machine in operation unattended.
- Observe all maintenance and safety inspection schedules.
- Ensure the machine and any accessories / attachments are in stable, upright position before operating.
- Ensure all safety features of the machine are fitted and operate correctly within the safety requirements and procedures before operating the machine.

Motor

½ HP powerful, ball bearing, ventilated within mixer enclosure.

Electrical supply

230-240 Volts AC, 50Hz, 1P+N+E, 0.375kW

Transmission

The gears are constantly mesh in a special lubricant assuring long life; transmission gears are of heat treated alloy steel, High accurate construction. All bearings are ball bearings. Positive timing belt drive eliminates slip and speed variation.

Timer

The 15 minute timer will stop the mixer when the desired time has elapsed.

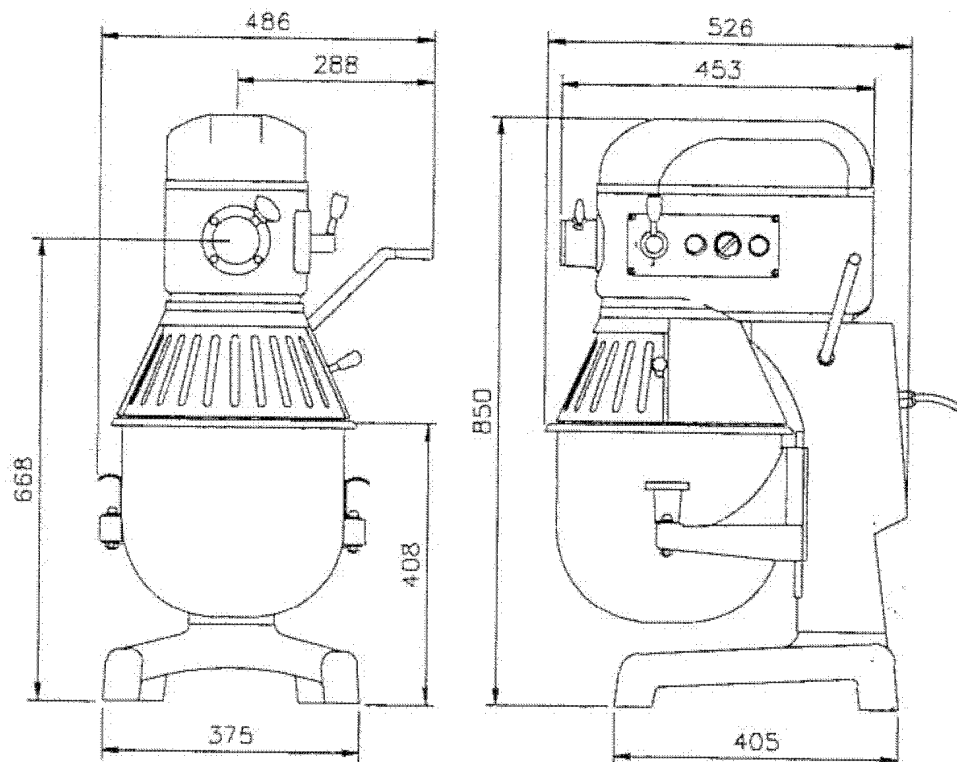
Safety guard

Stainless steel safety guard smoothly rotates open. Fitted with a limit switch to shut off power immediately to protect operator.

Hub

The hub is only for the BM20HAT models.

Dimensions



Model	Bowl Capacity	Motor	Voltage	Net Weight (Approx.)	Agitator speed (rpm)		
BM20AT BM20HAT	20 litres	½ HP 0.375 kW	230-240Vac, 50Hz, 1P+N+E	98 Kg	Low 116	Med 210	High 383

Installation



Before installing the mixer, check that the available electrical supply match that of the mixer as stated on the mixer's rating plate.

Unpacking

Immediately after unpacking the mixer, check it for possible shipping damage. If this machine is found to be damaged after unpacking, save the packaging material and contact the carrier within one day of delivery.

Location

Place the mixer in its operating location - this should be a sturdy level surface. There should be adequate space around the mixer for the user to operate the control and install and remove bowls.

Holes are provided in the base to permanently secure the mixer, although this not necessary in normal installations.

Floor models must be leveled front-back and side-to-side by sliding shims under the legs as required.

Electrical connection

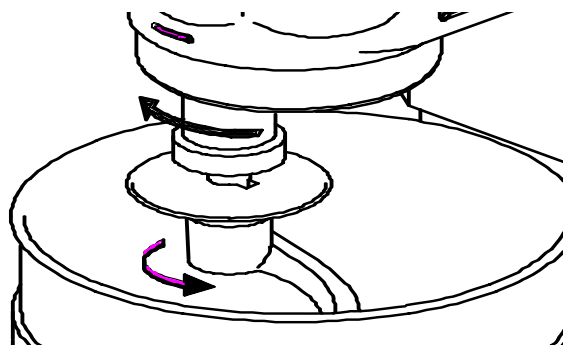
The supply cord on this machine is provided with a three-pin 13A fused and earthed plug. It is imperative that the outlet to which this plug is connected be properly earthed (grounded).

Prior to installation, test the electrical service to assure it agrees with the specifications on the machine data plate located on the back side of the pedestal.

Permissible voltage fluctuation is $\pm 10\%$ of nominal voltage.

Rotation

To start the motor, push the ON button. The speed selector handle must be at one of the numbers indicating a speed, not an intermediate rating.





Keep hands, clothing and utensils out of the bowl whilst the machine is in operation. Failure to follow the operation instructions or improper use of the mixer may result in damage to the mixer, or cause injury to the operator.

Important:

Great care must be taken to minimise dust emission when handling dry ingredients such as flour. Bags should be opened in the lower part of the bowl and poured from as close to the base of the bowl as possible.

It is recommended that ingredients suppliers' hazard data sheets are consulted prior to use. The use of respiratory protective equipment during loading of the bowl may be required.

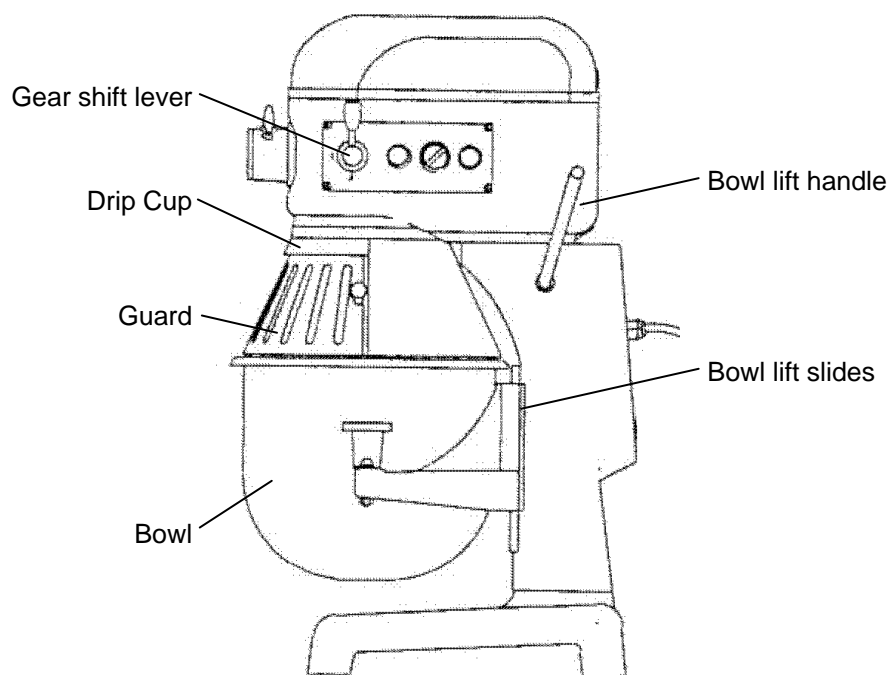


Figure 1

Controls

All models are furnished with an ON-OFF switch which controls power to the mixer.

The TIMER is used in conjunction with the ON-OFF switch for timed mixing operations and will stop the mixer when the desired timed has elapsed.

The GEAR SHIFT LEVER is used to change speeds. Always stop the mixer before changing speeds. To change speeds, turn the switch OFF, move the gear shift lever to the desired speed, and turn the switch back ON.

- Speed 1 (low) - This speed is for heavy mixtures such as bread dough, heavy batters, and potatoes.
- Speed 2 (medium) - This speed is for light dough which must rise quickly, heavy batters, and some whipping operations.
- Speed 3 (high) - This speed is fast speed for light work such as whipping cream, beating eggs, and mixing thin batters.

Mixing bowl / Agitators

New mixers bowls and agitators (beaters, whip, and dough arms) should be thoroughly washed with hot water and mild soap solution, rinsed with either a mild soda or vinegar solution, and thoroughly rinsed with clean water BEFORE being put into service. This cleaning procedure should also be followed for bowls and agitators before whipping egg whites or whole eggs.

Fitting the bowl

The bowl must be installed before the agitator. To install the bowl, fully lower the bowl support (Fig. 1). Position the bowl so the alignment bracket on the back of the bowl is in the bowl retainer and the alignment pins on the front of the bowl support fit in the holes on the sides of the bowl.

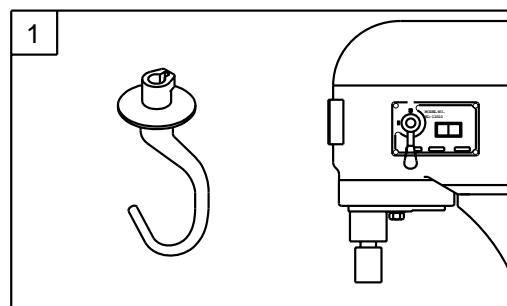
Fitting the agitators

To install an agitator, the bowl must be installed and fully lowered. Place the agitator in the bowl, push it up on the agitator shaft, and turn it clockwise to seat the shaft pin in the slot of the agitator shank.

Dough arm

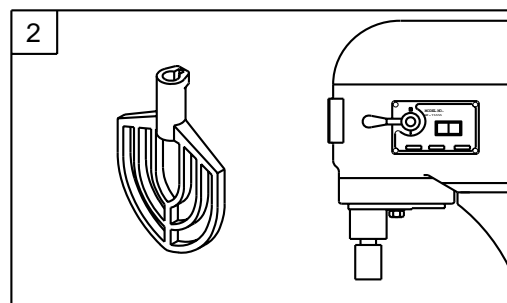
It is frequently used for heavy bread dough, and preferable to be use at low speed.

The moisture content of heavy dough is a critical when selecting proper mixing speed. You should never use 2nd speed when mixing heavy dough with an Absorption Ratio (AR) of 50% or less.



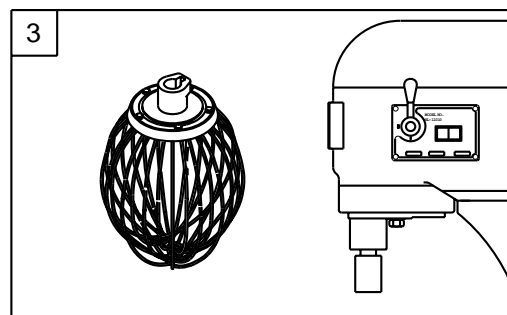
Beater

It is commonly used for thin batters, cake and mashing potatoes, like stuffing and preferable to be used at middle speed.



Whip

It is best for whipping cream and beating eggs and preferable to be used at high speed.



Attachments - optional

To install an attachment, loosen the thumb screw on the attachment hub and remove the plug. Insert the attachment into the attachment hub making certain that the square shank of the attachment is in the square driver of the mixer. Secure the attachment by tightening the thumb screw.

Move the gear shift lever to the desired speed and start the mixer to operate the attachment.

The meat and food chopper attachment should be operated in second or third speed. If material in the cylinder stalls the mixer, stop the mixer at once. DO NOT attempt to restart the mixer in a lower speed - remove the adjusting ring, knife, plate, and worm and clear the obstruction.

Mixing heavy dough

The moisture content of heavy dough is a critical factor when selecting proper mixing speed. You should never use 2nd speed when mixing heavy dough with an Absorption Ratio (AR) of 60% or less. To determine the Absorption Ratio (AR) of a product, the water weight divide by the flour weight.

Example: Calculate the Absorption Ratio of a mixture containing 2 kg of water and 4 kg of flour.

$$AR = 2 \div 4 = 0.50 = 50 \%$$

PRODUCT	Agitator	BM20	
Egg Whites	Whip	1 l	
Mashed Potatoes	Beater	7 kg	
Mayonnaise (Qts. Oil)	Beater	10 l	
Meringue (Qts. Water)	Whip	1 l	
Waffle/Pan cake Batter	Beater	8 l	
Whipped Cream	Whip	4 l	
Sheet Cake Batter	Beater	9 kg	
Cup Cake	Beater	22 dz.	
Layer Cake	Beater	9 kg.	
Pound Cake	Beater	9.5 kg	
Sugar Cookie	Beater	30 dz.	
Bread or Roll Dough (Light/ Medium, 60% AR [†])	Hook *	Water 2.6 kg	Flour 4.3 kg
Bread or Roll Dough (Heavy, 55% AR [†])	Hook *	Water 2 kg	Flour 3.6 kg
Thin Pizza Dough, Pasta, Basic Egg Noodle (40% AR, = , 5 min. max. mix time)	Hook *	Water 0.9 kg	Flour 2.25 kg
Medium Pizza Dough (50% AR [†])	Hook *	Water 1.3 kg	Flour 2.6 kg
Thick Pizza Dough (60% AR [†])	Hook *	Water 2.7 kg	Flour 4.5 kg
Raised Donut Dough (65% AR)	Hook *	Water 1.3 kg	Flour 2 kg
Whole Wheat Dough (70% AR)	Hook **	Water 3.2 kg	Flour 4.5 kg

* 1st speed only

** 1st speed & 2nd speed only

[†] If high gluten flour is used, reduce above dough batch size by 10 %

Cleaning Guidelines

Caution:

ALWAYS DISCONNECT FROM POWER SUPPLY BEFORE CLEANING OR MAINTENANCE

THIS UNIT IS NOT WATER PROOF.

DO NOT USE WATER JET SPRAY TO CLEAN INTERIOR OR EXTERIOR OF THIS UNIT.

The mixer should be thoroughly cleaned daily with a clean damp cloth and plastic scraper (metallic implements are not recommended).

Never use a metal or stiff brush to clean the mixer. Never clean the mixer with a water hose or any fluid pressure.

Bowls and agitators should be removed from the mixer and cleaned in a sink. The bowl guard should be removed periodically and wiped clean.

Maintenance Guidelines

The **transmission case** and **planetary mechanism** should be inspected weekly for leaks, damage, etc. Should it become necessary to repack the ball bearings, an authorized service technician or the manufacturer should be contacted. Use of unproved grease or lubricants may lead to damage and void the unit's warranty.

The **bowl lift slides** (Fig. 1) should be lubricated every six months, or more often under heavy usage. Disconnect the unit from the power supply before removing the top housing or apron.

The **drip cup** (Fig. 1) should be inspected periodically for moisture or lubricant dripping. Remove the cup and wipe it with a soft cloth.

Any parts found to be damaged, defective or worn out should be replaced immediately.

Replacement part list

BM20AT-12-001	Stainless steel bowl
BM20AT-12-003	Aluminium hook
BM20AT-12-004	Stainless steel wire whip
BM20AT-12-002	Batter beater
BM20AT-06-003	HUB Attachment drive
HL-GL12SH	Mincer
HL-VS12A	Slicer/Shredder
BM20ATM	10 litre reduction kit (includes bowl, hook, beater)

Wiring Diagram

BM20 Wiring Diagram

