

Belshaw

Donut Robot®

MARK II

MARK V

MARK II GAS

See our Mark II video at
<https://vimeo.com/belshaw/mark2>

Donut Robot® Fryers deposit, fry, turn, and dispense cake donuts automatically, improving donut quality and reducing costs. Training and labor requirements are substantially reduced while high quality, consistent and repeatable donuts are produced time after time. Additionally, Donut Robot® fryers can reduce shortening use by up to 50% in comparison with kettle fryers. Donut Robot® fryers are fun to watch and always attract passers-by – improving foot traffic and impulse buys. Donut size, frying times and shortening temperature can be adjusted within a generous range.

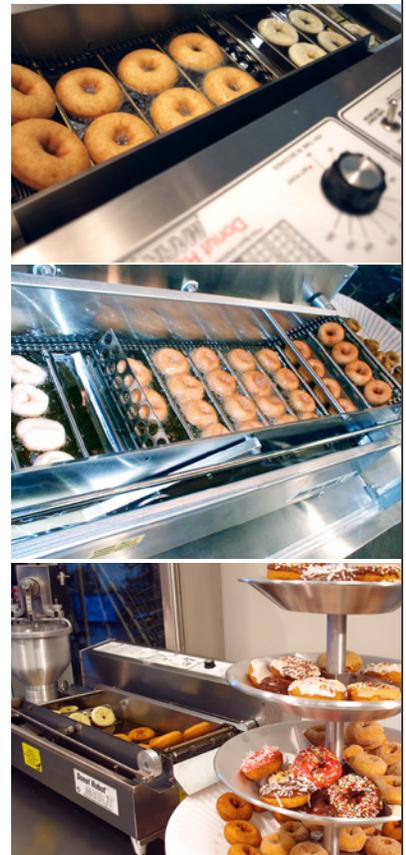
Donut Robot® production capacity

MARK II	30	dozen/hour	STANDARD DONUTS @95 secs fry time*
MARK II Gas			
MARK V	44	dozen/hour	
MARK II GP	102	dozen/hour	MINI DONUTS @60 secs fry time*
MARK II GP Gas			
MARK V GP	151	dozen/hour	
MARK II	30	79	BOTH TYPES (Standard / Mini Donuts) @60/95 secs fry time*
MARK II Gas			
MARK V	44	118	dozen/hour

*Production rates are estimates and may vary depending on size of donuts, frying time, oil temperature and percentage of capacity used. "Hybrid" models are standard machines, with addition of minidonut conversion kit for mini donuts.

Cake Donuts and Raised Donuts

Donut Robots can produce cake donuts right out of the box. In addition, you will need a way to filter your shortening ~ either an EZMelt18 Melter-Filter, or a Filter-Flo Siphon. A Roto Cooler is another popular accessory (see photo below). With a feed table and a set of cloths and trays, you can make excellent raised donuts. You can see all these accessories on the reverse page of this brochure.



Mark II GP (for mini donuts)



Mark II Gas



Mark V GP



Mark II with Roto Cooler



SAMPLE MARK II / MARK V BASIC SYSTEM for Cake Donuts and Mini Donuts

VIDEO: <https://vimeo.com/belshaw/mark2>



Required Equipment

Description

Item Numbers*

*North America item numbers shown. For international item numbers, contact Belshaw

EITHER	1	Donut Robot® Fryer	Mark II, 240V single phase	22602 (Plain plunger), 22601 (Star Plunger)	
			Mark II GP, 240V single phase, for mini donuts	22604	
			Mark V, 240V single phase	22650 (Plain plunger), 22652 (Star Plunger)	
			Mark V GP, 240V single phase, for mini donuts	22653	
OR	2	Roto-Cooler	Collects and displays donuts after frying	22104	
		3	Filtration System	EZMelt 18	20504 (120v)
			Fryer Drain and Valve	Drains to EZMelt 18	MK-0557-11.5 (drain needs hole in table supporting fryer)
		5	Filter-Flo Siphon	Filters shortening using siphon pump	DR42-1048

Optional Equipment

6	Mini Donut Conversion Kit	Hopper and plunger set for mini donuts	MK-1502-1
7	Support Table for Fryer	With pre-machined holes and storage	MK6-1005
8	Rack Loader	Holds glazing screens (replaces Roto-Cooler)	86100 (not needed if Roto Cooler used)
9	Glazing Screens	Collect donuts after frying, 24-48 recommended	SL200-0004 (not needed if Roto Cooler used)
10	Shortening Reserve Tank	Warms shortening ready to insert into fryer	MKV-1012 (not needed if EZMelt filtration used)
11	Icing & Glazing options	H&I-2 (2-Bowl Icer) • H&I-4 (4-Bowl Icer)	84900112 • 84900114 (both 120v)
		DFC (Donut Finishing Center)	21754 (120v)
12	Mixer	BABG10, 10-Quart	21697

SAMPLE MARK II / MARK V EXTENDED SYSTEM
for Cake and Yeast-Raised Donuts

VIDEO: <https://vimeo.com/belshaw/mark2>



Required Equipment

Description

Item Numbers*

*North America item numbers shown. For international item numbers, contact Belshaw)

1	Donut Robot® Fryer, with automatic Cake Donut Depositor (depositor not shown above)	Mark II, 240v single phase Mark V, 240v single phase	22602 (Plain plunger), 22601 (Star Plunger) 22650 (Plain plunger), 22652 (Star Plunger)
2	Filtration System	EZMelt 18	20504 (120v)
3	Feed Table + Splash Guard	FT42 with safety guard	835203 + FT42-0516
4	Proofing Trays	For use with Feed Table, 24-36 recommended	FT42-0052
5	Proofing Cloths	For use with Feed Table, 24-36 recommended	FT100-0532
6	Support Table for Fryer	With pre-machined holes and storage	MK6-1005 (or MK6-1007 if used with 7)
7	Proofer, 6-shelf	TZ-6	20218 (208-240v only)
8	Rack Loader	Holds glazing screens	86100
9	Glazing Screens	Collect donuts after frying, 24-48 recommended	SL200-0004
10	Fryer Drain and Valve	Drains to EZMelt 18	MKVI-0546 (or MKVI-0547 if used with MK6-1007 Support Table)

Optional Equipment

11	Glazer	HG18EZ + drain tray	22569
12	Icer (choose one)	H&I-2 (2-Bowl Icer)	84900112 (120v)
		H&I-4 (4-Bowl Icer)	84900114 (120v)
		DFC (Donut Finishing Center)	21754 (120v)
13	Jelly and Creme Injector	Autofiller	20600
14	Mixer	BABG20, 20 Quart	21698

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▶ VIDEO: <https://vimeo.com/belshaw/mark2>



Electronic Heat Controller maintains steady temperature

← Donut Robot® Mark II (shown with Roto-Cooler available separately)

Belshaw Adamatic's Donut Robot® fryers deposit, fry, turn, and dispense cake donuts or mini donuts automatically. Training and labor requirements are substantially reduced while high quality, consistent donuts are produced time after time. Additionally, Donut Robot® fryers reduce oil absorption in comparison with kettle fryers. Donut Robots are fun to watch and always attract passers-by.

- Donut size is adjustable up to 3½" (90mm). Frying time and temperature can be changed easily. The Donut Robot® fries every donut for an equal amount of time, and the electronic controller maintains temperature very close to target (normally within 1°), resulting in more consistent product than available with standard fryers.
- Donut Robot® Mark II, Mark II GP, Mark V and Mark V GP are all-electric machines. All fryers are the same width. The Mark V's length and frying capacity are approximately 50% greater than Mark II.
- Mark II and Mark II GP are also available as gas heated models. For details, download [Donut Robot Mark II/Mark II GP Gas spec sheet](#).
- Donut Robot® Mark II, Mark II GP, Mark V, and Mark V GP are compatible with Belshaw Adamatic's '[Insider](#)' [Ventless donut system](#).

MODEL SELECTION, STANDARD AND GP MODELS

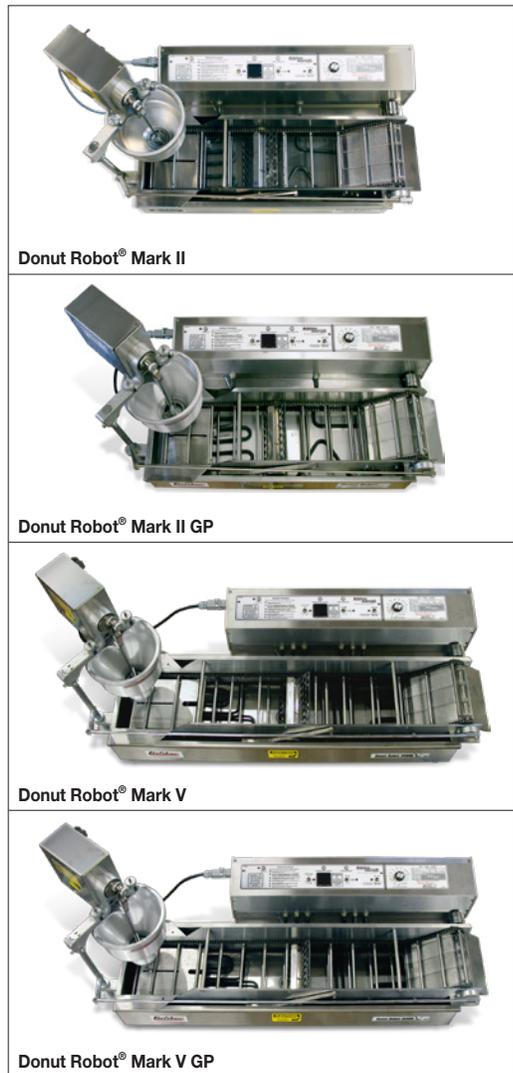
- For standard size donuts: choose Donut Robot® Mark II or Mark V
- For mini donuts: choose Donut Robot® Mark II GP or Mark V GP
- For standard size donuts AND mini donuts: choose Donut Robot® Mark II or Mark V, with optional Mini Donut Hopper/Plunger Kit (Part #MK-1502-1)

CAPACITY	Standard donuts @120 sec frytime	Mini donuts @90 sec frytime
Mark II*	354 per hour (30 dozen)	
Mark II* GP		1220 per hour (102 dozen)
Mark II* with Minidonut Kit	354 per hour (30 dozen)	944 per hour (79 dozen)
Mark V	530 per hour (44 dozen)	
Mark V GP		1806 per hour (151 dozen)
Mark V with Minidonut Kit	530 per hour (44 dozen)	1413 per hour (118 dozen)

*or Mark II Gas

RAISED DONUTS

- With the addition of an FT42 Feed Table, Proofing Trays, and Proofing Cloths, Mark II and Mark V are suitable for making excellent raised donuts.



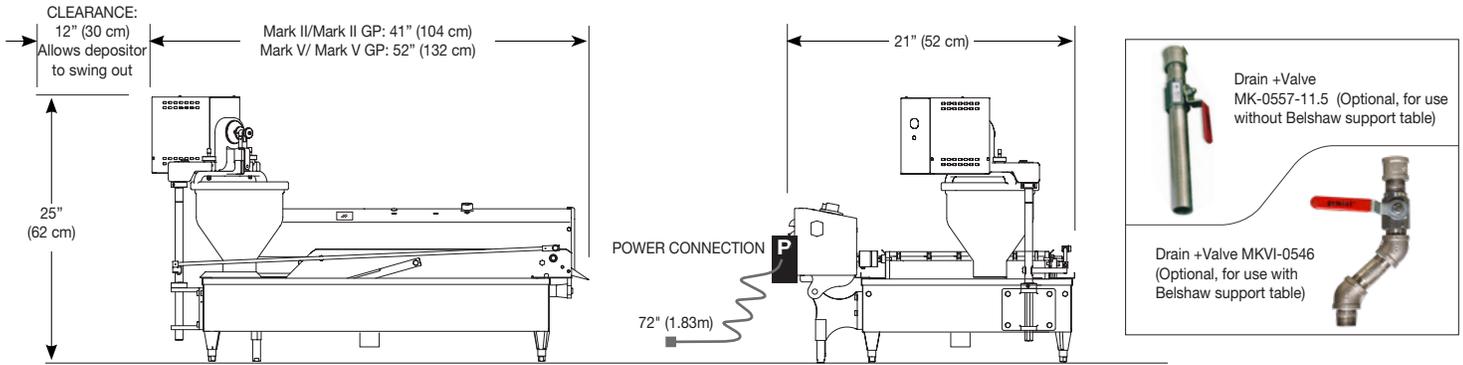
Donut Robot® Mark II

Donut Robot® Mark II GP

Donut Robot® Mark V

Donut Robot® Mark V GP

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STANDARD FEATURES

- Electric heat with high durability, low wattage-density heating element
- Temperature control by electronic controller (normally within $\pm 1^\circ$)
- High temperature limit switch – cuts power at approximately 450°F (232°C)
- Automatic cake donut depositor, synchronized with fryer conveyor
- On Mark II and Mark V, stainless steel 'Plain' donut plunger, 1-9/16" (39.7mm) diameter. Deposits 2 standard size donuts per conveyor row.
- On Mark II GP and Mark V GP, double 1" (25.4mm) diameter plunger. Deposits 4 mini donuts per conveyor row.
- Stainless steel conveyor with flight bar system for advancing donuts
- On Mark II and Mark V, conveyor's flight bars are spaced 3 3/4" (95mm) from center to center for standard size donuts. Flight bars are round, 3/8" (9.5mm) diameter.
- On Mark II GP and Mark V GP, flight bars are spaced 3" (76mm) center-to-center.
- Aluminum hopper with 10 lbs (4.5kg) batter capacity (or 10 qt / 9.5 liter)
- Batter weight adjustment dial, allows variation from small to large donuts
- Kettle drain with cap (extended drain and valve optional)
- Automatic turning and dispensing of donuts
- Frying time dial sets frying times from approximately 55 to 360 seconds
- Half-speed switch that reduces automatic cake donut deposits to 1 donut per conveyor row instead of 2. For GP models, 2 per row instead of 4.
- Compatible with Belshaw Adamatic's 'Insider' ventless cabinet

OPTIONS

- Extended drain with valve (Item# MK-0557-11.5) for Belshaw support tables. Extends 15" (38cm) below the fryer. Drain valves require a hole in the fryer's supporting table.
- 1-9/16" Star Plunger. Makes ring donuts with a star shape around the center hole.
- Mini donut conversion kit (Item#MK-1502-1). This kit includes hopper and double plunger used on 'GP' models, for depositing 4 mini donuts per conveyor row. Changeover from standard to mini donuts and back again takes less than one minute

ACCESSORIES

- **Roto-Cooler** (Item #22104). Revolving white polyethylene tray for collecting donuts as they are dispensed from fryer
- **EZMelt 18**. Melter-filter for filtering and recycling oil, with fixed hose connection available for instant refill of fryer. Requires drain and valve.
- **Shortening Reserve Tank** (Item #MKV-1012). Small container for holding oil or shortening above the fryer, with a valve for allowing refills to fryer
- **FT2 Feed Table with trays and cloths**. Required for yeast-raised donut production
- **Filter Flo Siphon**. Alternative to EZMelt for filtering shortening. (No drain required)

VENTILATION AND FIRE SUPPRESSION

- Customer is responsible for installation of ventilation hood and/or fire suppression as required by local codes.

ELECTRICAL DATA

Mark II and Mark II GP

- 208-240 V, 50/60 Hz, 1 ph, 4.4-5.8 kW, 21-24 A
- 208-240 V, 50/60 Hz, 3 ph, 4.5-5.9 kW, 12.7-14.7 A

Mark V and Mark V GP

- 208-240 V, 50/60 Hz, 1 ph, 6.9-9.1 kW, 33-38 A
- 208-240 V, 50/60 Hz, 3 ph, 6.9-9.0 kW, 19.2-22.1 A
- North America single phase Mark II includes plug NEMA 14-30P
- North America single phase Mark V includes plug NEMA 14-50P
- Other worldwide voltages available (plug not supplied)

FRYING AREA AND SHORTENING CAPACITY (approx)

Mark II and Mark II GP

- Frying area: 32"L x 12"W x 4.5"D (81 x 30.5 x11.5 cm)
- Shortening volume: 7 gallons (27 liter)
- Shortening weight: 50 lbs (23 kg)

Mark V and Mark V GP

- Frying area: 43"L x 12"W x 4.5"D (109 x 30.5 x11.5 cm)
- Shortening volume: 10 gallons (38 liter)
- Shortening weight: 72.6 lbs (33 kg)

CLEARANCE

- 2 inches (5 cm) between machine and all construction
- 2 feet (61 cm) at outfeed for Roto-Cooler or other receptacle
- 12 inches (30 cm) at infeed for depositor to swing out

SHIPPING DATA

Shipped in 2 cartons. Freight class: 85

Mark II / Mark II GP

- Fryer: 44"x24"x18", 130 lbs (112x61x46cm, 59 kg)
- Depositor: 16"x16"x22", 24 lbs (41x41x56cm, 11 kg)

Mark V / Mark V GP

- Fryer: 56"x24"x18", 146 lbs (142x61x46cm, 66 kg)
- Depositor: 16"x16"x22", 24 lbs (41x41x56cm, 11 kg)

CERTIFICATIONS



- NSF-169 ; ETL certified to UL-197, CSA C22.2
- CE models available for European Union and other countries.

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FILTRATION

OPTION 1: Filter Flo Siphon (DR42-1048) + Shortening Reserve Tank (MKV-1012)

- Simple and effective siphon for extracting shortening from the fryer. The filter at the bottom cleans the shortening as it drains. A metal leakproof container is required to hold shortening after it passes through the Filter-Flo.



OPTION 2: Melter-Filter (EZMelt 18) + Drain (MK-0557-11.5)

- Filters shortening from the fryer, and pumps it back for re-use. Solid shortening can be melted in the filter. The internal heating element keeps shortening liquid at approximately 250°F(120°C). (A different drain is used with Belshaw support table)



CAKE DONUTS

Roto-Cooler (22104)

- Attractive, continuously rotating tray that collects donuts automatically after frying. Position it just off the end of the fryer and it works by itself.



Mini donut kit (MK-1502-1)

- Includes hopper and double plunger, for depositing 4 mini donuts per conveyor row. Changeover from standard to mini donuts takes less than one minute.



YEAST-RAISED DONUTS

Support Table for Fryer (MK6-1005)

- Houses the Mark II or Mark V fryer, EZMelt 18 filtration system, and RL18 Rack Loader.
- With storage space for shortening, glaze, screens, and assorted items



Support for Feed Table (FT6-1004)

- Stand for the FT42 Feed Table
- Storage space for Shortening, Glaze, Screens, Proofing Trays/Cloths, and assorted items.



Feed Table (FT42)

- Accepts yeast-raised donuts on Proofing Trays/Cloths and drops them automatically into the fryer.



Proofing Trays (FT42-0052) & Proofing Cloths (FT100-0532)

- Place donuts on a Proofing Cloth and Proofing Tray, allow to rise in proofer, then transfer onto the Feed Table. Minimum 20 trays / 25 cloths are recommended.



Rack Loader RL18 (#86100)

- Allows donuts to slide off the end of the fryer and fill up a stack of Glazing Screens with 24 donuts per screen. The screens can then be used for glazing, icing, or storing in a rack.



Glazing Screens (SL200-0004)

- Used with RL18 Rack Loader to sort and collect donuts. Can then be used for glazing, icing, or storing in a rack. Each screen holds 2 dozen donuts. Minimum of 20 screens are recommended



ACCESSORY EQUIPMENT

Glazer + Drain Tray: (HG18EZ + HG18EZ-1002)

- Glazes 2 dozen donuts at a time on a glazing screen. The glaze applicator is supported on rails.
- The drain tray allows excess glaze to drain, as you glaze the next screen of donuts



Proofer (EP18/24 or TZ6)

- EP18/24. 17-shelf proofer with 6 doors
- Or TZ6. 6-shelf version with 2 doors, and a top that doubles as a work surface
- Capacity approximately 50 dozen donuts per hour (at a proofing time of 35-40 minutes).



Icer (H&I-2 or H&I-4) or Donut Finishing Center

- H&I-2 / H&I-4: 2 or 4-bowl icers for hand dipping donuts. 13" bowls are warmed directly by heated water tank at 120-130°F (50-55°C), for the best possible icing condition for donuts.
- DFC: 3 air-warmed 1/3-size pans for icing, 4 unwarmed 1/4-size pans for sprinkles or other finishes + plenty of work and storage space.



Autofiller Donut Injector (#20600)

- Jelly, jam, custard and creme injector for donuts and pastry
- Includes 6-quart capacity hopper, with 7/16" nozzles
- 5/16" nozzles optional for donut "holes"
- Designed specially for donuts



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Donut Robot® PLUNGERS AND ATTACHMENTS

(for all Donut Robot® Depositors, including Mark VI Dual Depositor)

Item Number	Plunger / Attachment	Plunger	Donut type
U-1001	PLAIN PLUNGER 1-9/16" Diameter <ul style="list-style-type: none"> For standard Ring donuts. Also makes "Old Fashion" donuts using Old Fashion donut mix. Size is adjustable using the weight adjuster on the Donut Robot®, up to 3½" (89mm) diameter. 		
U-1001S	STAR PLUNGER 1-9/16" Diameter <ul style="list-style-type: none"> The Star plunger makes the same size ring donuts as the Plain plunger, but produces a more consistent, rounder hole and a star pattern around the hole. Size is adjustable using weight adjuster on Donut Robot®, up to 3½" (89mm) diameter. 		
MK-1502-1	MINI DONUT CONVERSION KIT with Double Plunger for mini donuts <ul style="list-style-type: none"> This is the standard hopper and plunger combination on Donut Robot GP models. You can use it with standard Donut Robot models to change back and forth between standard size donuts and mini donuts. It includes Mini Donut Hopper and Plunger as shown. 		
DR42-1018x1.563	DUNKERETTE ATTACHMENT <ul style="list-style-type: none"> Attaches to a 1-9/16" Plain or Star Plunger. Forms 2 half-donuts as shown. Size is adjustable using weight adjuster on Donut Robot® 		
DR42-1016x1.563	NUGGET ATTACHMENT <ul style="list-style-type: none"> Attaches to a 1-9/16" Plain or Star Plunger. Produces 3 separate or joined balls, depending on the height of the hopper. Size is adjustable using weight adjuster on Donut Robot® 		
DR42-1017x1.563	BALL ATTACHMENT <ul style="list-style-type: none"> Attaches to a 1-9/16" Plain or Star Plunger. Produces 4 separate balls, or joined balls, depending on the height of the hopper. Size is adjustable using weight adjuster on Donut Robot® 		

Attachments

- Attachments are simple devices that divide the normal deposit into halves, thirds, or quarters. Attachments are inserted onto a Plain plunger or Star plunger.

Plunger size and product weight

- You can adjust the amount of batter deposited to make a larger or smaller donut, between the MIN and MAX weights shown below. Product weights are estimates only.

Plunger Size		Product Size (per dozen, after frying)	
in	mm	MIN	MAX
1"	25.4mm	5 oz. (142g)	6 oz. (170g)
1-9/16"	39.7mm	15 oz. (426g)	27 oz. (780g)

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⚠ CAUTION
Before using the Donut Robot®

EITHER
OR

Read and understand the Operator's Manual
.....
Get training and supervision from an authorized person who has operated this fryer, and is familiar with the procedures in the manual.

1

FIRST CHECKS



Allow 45 minutes for fryer to heat up

- FRYER HEAT off
- FRYER DRAIN VALVE shut
- CONVEYOR on "AUTO"
- SWING depositor away from fryer (to stay cool)
- SET fryer switch to "Cake Donut Depositor"
- FRYER full of shortening? If not, follow manual instructions~ "Inserting Shortening"

2

STARTUP



Plug in fryer

- TURN ON breaker behind fryer
- ⚠ ONLY if fryer is full of shortening, SET THERMOSTAT to 375° (or your preferred temperature).
- CONNECT Roto Cooler cord to fryer, then turn it on (OR, set up Rack Loader)

3

FILL SHORTENING RESERVE TANK



Place Shortening Reserve Tank on fryer

- FILL with shortening
- ALLOW TO HEAT by itself
- HAVE MORE SHORTENING ready to refill
- NEVER touch hot shortening! It's much hotter than boiling water.

4

GET READY



While fryer is heating...

- WIPE DRY any wet equipment or hardware
- DO NOT ALLOW water to mix with shortening
- PREPARE donut racks and displays
- PREPARE all icings and toppings
- EVERYTHING CLEAN? .. Dry? ... Ready to use? ...

5

OTHER JOBS
(Insert in space opposite)



- _____
- _____
- _____
- _____
- _____
- _____



6

**MIXING
BATTER**



Start when fryer temp is at least 350°

- WEIGH about 7+ lbs of cake donut mix
- FOLLOW directions on bag
- ADD water - MIX about 1 minute slow, 2 minutes fast
- EMPTY batter into Donut Robot® hopper
- REST batter 5 minutes (from mixing to depositing)

7

**DEPOSITING
INTO FRYER**



Do this for each hopper load...

- SET Depositor switch to “PRIME” (UP)
- CATCH the first 5 donuts in a scraper and put back
- MOVE depositor over fryer. CONNECT the long rod
- CHECK for correct height (about 1” above shortening)
- SET Depositor switch to “ON” (DOWN)

8

AS YOU GO



Watch fryer carefully

- CHECK size of donuts (adjust depositor dial if necessary)
- CHECK temperature is close to target
- CHECK donuts for color (change Fry Time to correct)
- INSERT more shortening (between top/bottom of chain)
- REMOVE donuts from Roto-Cooler frequently

Cleaning and Maintenance

For full cleaning and maintenance instructions, see “Cleaning” in the Donut Robot® Operator’s Manual

1

FRYER
~ every day



- TURN OFF heat; DISCONNECT main plug
- FILL the fryer ready for next day
- CLEAN Roto-Cooler
- WIPE all other parts with paper towel or sponge
- FILTER the shortening

2

DEPOSITOR
~ every day



- CLEAN hopper and plunger
- DRY hopper and plunger with paper towel
- DIP plunger in shortening to prevent rust, wipe dry
- LEAVE plunger lying inside hopper, do not insert fully
- WIPE all other parts with paper towel

3

FRYER
~ every week
or as needed



- USE TSP and water to clean fryer. (See “Cleaning the conveyor and kettle” page in manual)
- ⚠️ DO NOT mix water and shortening
- Dry with towel
- Keep a record of cleaning and maintenance activities