

# BLACK DIAMOND

## INSTRUCTION MANUAL

BDPM-60

60 Qt. Planetary Mixer

This manual contains important information regarding your Black Diamond unit. Please read this manual thoroughly prior to equipment set-up, operation and maintenance. Failure to comply with regular maintenance guidelines outlined in this manual may void the warranty.

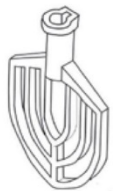
**WARNINGS**

- Do not immerse unit, cord or plug in liquid at any time
- Unplug cord from outlet when not in use and before cleaning
- Plug only into a 3-hole grounded electrical outlet of appropriate voltage
- Do not operate unattended
- Do not use this unit for anything other than intended use
- Do not use outdoors
- Always use on a firm, dry and level surface at least 12" from walls or any other obstruction
- Do not use if unit has a damaged cord or plug, in the event the appliance malfunctions, or has been damaged in any manner
- Keep children and animals away from unit
- Any incorrect installation, alterations, adjustments and/or improper maintenance can lead to property loss and injury. All repairs should be done by authorized professionals only
- Ensure that the designated power supply is adequate for continual usage
- Do not hose down mixer
- Do not operate with wet hands
- Unplug from the electrical supply prior to any maintenance or repairs

**TO INSTALL:**

1. Remove unit from box and make sure all plastic, tape and packing materials are removed.
2. Place the unit on a flat, secure surface with at least 12" of open space around all sides.
3. Check to make sure the outlet of the correct voltage for this item (220V) is near. Do not use an extension cord, this item must be plugged directly into an outlet.

**STANDARD ACCESSORIES - This mixer comes with one of each of the following accessories:**



Flat Beater



Dough Hook



Wire Whip



Mixing Bowl

When mixing always use the correct agitator for the job. To install agitator raise into the mixing axle and rotate clockwise on the shaft until it locks into place. To remove an agitator, raise it on the shaft until it clears the lock and rotate counterclockwise and lower. All of the accessories are fitted to the mixing bowl for precise use.

**Flat Beater** - Used for mixing dry ingredients and can work on all speeds. Do not run for more than 15 minutes.

**Dough Hook** - Used for mixing dough and can work in low and medium speeds only. Do not use on high speed. Do not run for more than 20 minutes.

**Wire Whip** - Used for mixing liquids and soft ingredients and can work in all speeds. Do not run for more than 15 minutes.

**NOTE:** Always stop the machine first before changing speeds in order to avoid damage to the unit's gears. Always ensure that the bowl is fully lifted and the wire guard is closed when in use.

- Slow speed is the middle setting (Dough hook setting with the knob facing forward)
- Medium speed is the bottom setting (Flat beater setting with the knob facing down)
- High speed is the top setting (Wire Whip setting with the knob facing up)

**MIXER CAPACITY CHART**

Product	Agitator	Speed	Max Bowl Capacity (60 qt)
Bread and roll dough - 60% AR *•◇	Dough hook	1st only	80 lbs
Heavy bread dough - 55% AR *•◇	Dough hook	1st only	70 lbs
Pasta Basic Egg Noodle	Dough hook		40 lbs
Pizza dough, thin - 40% AR *x•◇□	Dough hook	1st only	40 lbs
Pizza dough, medium - 50% AR *•◇□	Dough hook	1st only	70 lbs (1st)/35lbs (2nd)
Pizza dough, thick - 60% AR *•◇	Dough hook	1st only	70 lbs
Raised donut dough - 65% AR *◇	Dough hook	1st and 2nd	60 lbs
<b>Mashed potatoes</b>			
Mashed potatoes	Flat beater		40 lbs
<b>Waffle or Hotcake batter</b>			
Waffle or Hotcake batter	Flat beater		24 qts
<b>Egg whites</b>			
Egg whites	Wire whip		2 qts
<b>Meringue (Qty. of water)</b>			
Meringue (Qty. of water)	Wire whip		1 3/4 qts
<b>Whipped cream</b>			
Whipped cream	Wire whip		12 qts
<b>Fondant Icing</b>			
Fondant Icing	Flat Beater		36 lbs
<b>Cake</b>			
Cake	Flat beater		60 lbs
<b>Pie Dough</b>			
Pie Dough	Flat beater		50 lbs

\* **NOTE:** The mixer capacity depends on the moisture content of the dough. When mixing doughs (pizza, bread, or bagels) remember to check your AR%!

*%AR (% Absorption Ratio) = Water weight divided by flour weight. The capacities listed in the cart above are based on flour at room temperature and 70 °F water temperature*

x Maximum Mixing Time – 7 minutes

- If high gluten flour is used, reduce the batch size by 10%

- ◇ If using chilled flour, water below 70 °F, or ice, reduce batch size by 10%

- 2<sup>nd</sup> speed should never be used on 60% AR or lower with the exception of the BDPM-60. BDPM-60 requires a 50% reduction in batch size to mix in speed 2 with 50% AR doughs.

Helpful measurements for calculating the correct size mixer for your application  
 8.3 lbs = 1 gallon of water - 2.08 lbs = 1 Quart

**NOTES:**

- Do not use attachments on the #12 hub while mixing

**TO USE:**

1. Plug the unit into an outlet of the appropriate voltage.
2. With unit turned off insert the mixing bowl into the holder in the down position and align on the pins. Once bowl is securely aligned on pins, lock into place with the side clips.
3. Insert the desired **agitator** onto the mixing axle and turn to lock into place as directed on page 2.
4. Once the bowl and **agitator** are locked into place, add ingredients to the bowl and raise the bowl by pulling the bowl lift handle towards you until it hits its full raised position.
5. Adjust your speed setting for the correct application by turning the knob to the correct position as described on page 2.
6. Set the timer for the desired mixing time. The timer has two settings; turn the dial to the left for manual run or you can turn the dial to the right to a desired set time for mixing. Once the timer goes off the machine will shut down. The timer must be set to one of these settings or the machine will not operate.
7. With bowl in the fully raised position, the **agitator** locked into place and the correct speed setting selected, close the wire guard over the bowl, set the timer and press the green power button to start mixing. The wire guard must be closed fully for machine to operate.
8. Once mixing is completed, press the red stop button to stop the **agitator**.
9. Open the wire guard and lower the bowl to its lowest setting. If more mixing is needed repeat step 7.

**NOTE:** Always stop the machine before changing speeds.

**Meat Grinder Attachment:**

- The Meat Grinder should only be used for purposes intended
- Please remove bones, skins and any other foreign materials before grinding
- Meats and other food should be defrosted and not used when frozen
- For best results, cut the meat into smaller size pieces to fit easily through the feed tube
- If not in use, please remove the meat grinder attachment from the unit
- Do not run the grinder for longer periods of time than necessary

**CLEANING - NOTE:** To maintain cleanliness and increase service life, this item should be cleaned daily. Do not immerse the unit in water or any other liquid, if liquid enters the electrical compartment it may cause a short circuit or electrical shock.

1. Before cleaning or attempting to move this item always turn off and unplug.
2. Wipe the entire unit with a clean soft cloth until it is completely dry.
3. To avoid damage to the unit, do not use abrasive cleaners or scouring pads.
4. If soap or chemical cleaners are used, be sure they are completely rinsed away with clean water immediately after cleaning. Chemical residue could damage or corrode the surfaces of the unit.
5. After using of the machine, please remove the flat beater, dough hook, wire whip and meat grinder from the machine and wash these parts thoroughly in hot, soapy water to prevent the growth of bacteria.
6. When clean and maintain the inside of the protective cover and swivel mount, please loosen the screw around the protective cover and take off the protective cover. If there is no sign of oil leak, no need to take off the swivel mount. Clean the swivel mount with a wet cloth, the protective cover can be cleaned by detergent and washed under the water supply tap. After washing by clean water, use dry cloth to wipe out the water and make it dry.

To avoid serious injury or damage, never attempt to repair or replace a damaged power cord yourself. Contact a professional repair service.

**TO REMOVE GUIDE RAIL DUST GUARD PLATE FOR REGULAR CLEANING:**

1. Rotate wheel to release bowl to the lowest position
2. Loosen screws on both sides of the guide rail dust guard plate
3. Remove the guide rail dust guard plate to clean, and ensure to clean inside the hole.  
*(Note: If screws are loosened manually, it is not necessary to remove the handwheel. If a power tool is used, the handwheel must be removed first)*

Net Weight: 661.5 lbs (300 KGS)

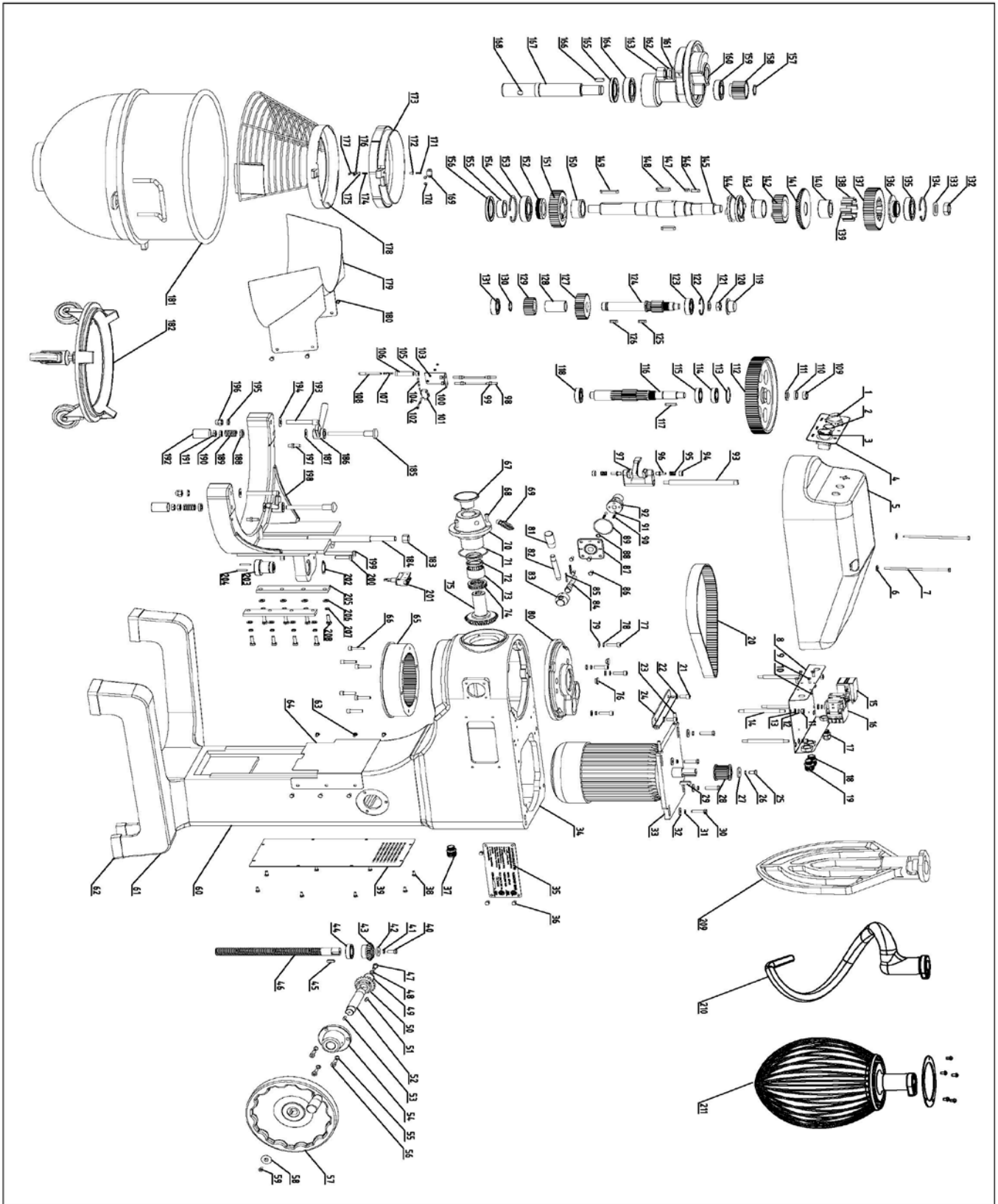
Dimensions: 30.5"x 26" x 52" (770 x 660 x 1315 mm)

**TROUBLESHOOTING**

<b>Problem</b>	<b>Possible Causes</b>	<b>Solution</b>
The axles don't work when operating the machine	Electrical connection is not good	Check the plug in the outlet
Leaking oil	Oil gaskets are worn out or damaged	Replace the oil gasket(s)
Difficult to raise or lower the bowl	Either the slideway is corroded, or the lead screw, bevel gear or hand wheel shaft is dried out	Clean and oil the dried out parts
Motor is overheating and speed has decreased	The voltage is not enough, incorrect speed is set or there is too much food in the bowl	Check the voltage or adjust the speed to a better setting. If the bowl is overloaded, remove some of the food to lighten the load
Item is making too much noise and overheating	Poor lubrication	Add or replace oil
Agitator touches bowl	Either the bowl or agitator is deformed	Repair or replace deformed part
Mixing bowl is out of position	Moving direction is not correct	Adjust position



Parts Diagram and Replacement Parts for the Planetary Mixer



**Replacement Parts for the Planetary Mixer**

Drawing Number	Part Description
1	Timer
2	Start Button
3	Stop Button
4	Switch Panel
5	Convex Upper Cover
6	Large Flat Washer
7	Hex Bolt
8	Electrical Base Board
9	Cross Recessed Pan Head Screw
10	Hex Nut
11	Hex Nut
12	Spring Washer
13	Flat Washer
14	Electrical Base Board Fixed Rod
15	Thermal Relay
16	AC Contactor
17	Power Line Sheath
18	Power Line Sheath
19	Power Line Sheath
20	Synchronous Belt
21	Inner Hexagon Screw
22	Loose Rib
23	Hex Bolt
24	Motor Adjusting Base
25	Hex Bolt
26	Spring Washer
27	Motor Shaft Circlip
28	Motor Pulley
29	Flat Key
30	Hex Bolt
31	Spring Washer
32	Large Flat Washer
33	Motor
34	Casing
35	Data Plate
36	Hex Bolt
37	Power Line Sheath
38	Hex Bolt
39	Rear Cover Plate
40	Hex Bolt
41	Spring Washer
42	Bevel Gear Circlip
43	Lifting Bevel Gear
44	Rolling Bearing
45	Flat Key
46	Lifting Screw Arbor
47	Hex Bolt
48	Spring Washer
49	Bevel Gear Circlip
50	Lifting Bevel Gear

Drawing Number	Part Description
51	Flat Key
52	Handwheel Shaft
53	Flat Key
54	Handwheel Shaft Fixing Base
55	Spring Washer
56	Inner Hexagon Screw
57	Elevating Handwheel
58	Shaft Circlip
59	Cross Recessed Countersunk Head Screw
60	Support Pillar
61	Base
62	Podotheca
63	Hex Bolt
64	Guide Rail Dust Guard Plate
65	Annular Gear
66	Inner Hexagon Screw
67	Front Cover
68	Inner Hexagon Screw
69	Locking Screw
70	Bevel Gear Base
71	O Ring
72	Oil Seal
73	Needle Roller Bearing Without Inner Ring
74	Plane Bearing
75	Passive Bevel Gear
76	Bearing Base Oil Hole Cover
77	Inner Hexagon Screw
78	Spring Washer
79	Loose Rib
80	Bearing Base
81	Handle Sleeve
82	Variable Speed Handle
83	Variable Speed Handle Base
84	Variable Speed Mandrel
85	Elastic Cylindrical Pin
86	Hex Bolt
87	Variable Speed Base
88	O Ring
89	O Ring
90	Position Limit Spring
91	Steel Ball
92	Eccentric Bushing
93	Shifting Fork Guide Rod
94	Shifting Fork Nut
95	Shifting Fork Spring
96	Shifting Fork Top Latch
97	Shifting Fork
98	Double-screw Bolt
99	Hex Nut
100	Protective Shield Position Switch Base

**Replacement Parts for the Planetary Mixer**

<b>Drawing Number</b>	<b>Part Description</b>
101	Position Switch
102	Cross Recessed Pan Head Screw
103	Hex Nut
104	Splitpin
105	Contact Terminal
106	Carrier Rod Base
107	Carrier Rod Spring
108	Carrier Rod
109	Hex Thin Nut
110	Spring Washer
111	Loose Rib
112	Passive Belt Wheel
113	Circlip For Hole
114	Rolling Bearing
115	Rolling Bearing
116	Input Shaft
117	Flat Key
118	Rolling Bearing
119	Bridge Shaft Dust Proof Cover
120	Hex Thin Nut
121	Small Flat Washer
122	Circlip For Hole
123	Rolling Bearing
124	Bridge Shaft
125	Flat Key
126	Flat Key
127	Bridge Shaft Big Gear
128	Bridge Shaft Sleeve
129	Bridge Shaft Small Gear
130	Shaft Circlip
131	Rolling Bearing
132	Hex Thin Nut
133	Loose Rib
134	Circlip For Hole
135	Rolling Bearing
136	Ratchet Upper Cover
137	External Star Wheel
138	Roller
139	Roller Spring
140	Clutch Inner Ring
141	Driving Bevel Gear
142	Upper Coupling Gear
143	Output Shaft Gear Sleeve
144	Clutch
145	Output Shaft
146	Flat Key
147	Flat Key
148	Flat Key
149	Flat Key
150	Output Shaft Gear Sleeve

<b>Drawing Number</b>	<b>Part Description</b>
151	Lower Coupling Gear
152	Upper Sleeve For Bearing
153	Rolling Bearing
154	Circlip For Hole
155	Lower Sleeve For Bearing
156	Oil Seal
157	Shaft Circlip
158	Planetary Gear
159	Rolling Bearing
160	Swivel Mount
161	Flat Washer
162	Spring Washer
163	Hex Nut
164	Rolling Bearing
165	Oil Seal
166	Flat Key
167	Planetary Shaft
168	Taper Pin
169	Position Limiting Seat
170	Cross Recessed Pan Head Screw
171	Position Limiting Spring
172	Position Limiting Pin
173	Movable Cover Base
174	Position Limiting Spring
175	Position Limiting Pin
176	Position Limiting Pin Guard
177	Cross Recessed Countersunk Head Screw
178	Movable Shield
179	Fixed Shield
180	Hex Bolt
181	Bowl
182	Bowl Trolley
183	Hex Nut
184	Bowl Tight Pressing Shaft
185	Handle Core Shaft
186	Bowl Tight Pressing Handle
187	Pin Shaft Washer
188	Decorative Sheath Bushing
189	Core Shaft Spring
190	Hex Thin Nut
191	Hex Thin Nut
192	Decorative Sheath
193	Bowl Locating Pin
194	Pin Shaft Washer
195	Spring Washer
196	Cap Nut
197	Handle Lever
198	Bowl Base
199	Hex Bolt
200	Hex Bolt

## Replacement Parts for the Planetary Mixer

Drawing Number	Part Description
201	Position Switch
202	Shaft Circlip
203	Lifting Nut
204	Elastic Cylindrical Pin
205	Pressplate
206	Flat Washer
207	Spring Washer
208	Hex Bolt
209	Beater
210	Hook
211	Whip

## 1 YEAR LIMITED WARRANTY

Ice Bins • Oven Accessories • Proofing and Hot Holding Cabinets • Planetary Mixers • Gas: Charbroilers, Cooktops, Griddles, Ovens, Ranges

### ONE (1) YEAR LIMITED WARRANTY ON PARTS AND APPROVED STRAIGHT-TIME LABOR

(subject to limitations below)

The Legacy Companies (the "Company") warrants this product (the "Product") will be free from defects in material and workmanship under normal use and service as specified by the Company for duration of:

- One (1) Year Limited Warranty on Parts and Approved Straight-Time Labor

This Limited Warranty is non-transferable.

During the Warranty Period, your exclusive remedy is repair or replacement without charge of the Product or any component found to be defective at the Company's discretion. If the Product or any component is no longer available, the Company will replace it with a similar one of equal or greater value.

The Warranty Period begins on the earliest of: (a) documented installation date; (b) date of purchase; or (c) date of shipment from the Company. In all cases, the Warranty Period shall not begin later than six (6) months after shipment.

The obligation of the Company under this warranty is limited to the repair or replacement, at the Company's sole discretion, of defective parts or assemblies that are reported during the Warranty Period and determined by the Company to be defective but excluding all labor charges (except as provided in the next paragraph).

The Company will cover approved straight-time labor only, performed during normal business hours, for covered defects reported within the applicable labor warranty period. Labor coverage excludes overtime, premium rates, travel exceeding one hundred (100) miles round-trip, multiple service trips, and access delays.

Costs expressly excluded from this warranty include, but are not limited to:

- Adjustments
- Cleaning and/or sanitizing
- Consumable/wearable items, such as gaskets, filters, light bulbs, legs, casters, hinges, non-stick cooking surfaces, etc.
- Labor to remove and/or install replacement equipment
- Disposal of defective equipment
- Improper or inadequate utility connections, including but not limited to:
  - \* Voltage outside of data plate specifications
  - \* Improper gas pressure
  - \* Improper gas supply
  - \* Water pressure outside of specified range
  - \* Poor water quality
  - \* Non-use or incorrect use of water filtration system
- External drain malfunction.
- Adverse operating conditions as set forth in the owner/user manual for the product.
- Non-authorized modification of the product.
- Improper installation of the product, including installation in a hostile environment
- Improper maintenance, abuse or misuse of the product.
- Causes beyond the reasonable control of the Company, including without limitation fires, freezing, floods and other natural disasters.
- Damage during transit.

No warranty shall apply to any product on which the model or serial number has been altered or removed. Adjustments or modifications to any equipment manufactured by the Company are not covered by this warranty.

This Warranty only extends to the original owner/end user and is not transferable or applicable to products sold through unauthorized channels.

This Warranty covers installations for Commercial use only. Installation or use in any residential or non-commercial setting voids all warranty coverage.

This warranty applies to the original installation location only.

**IMPORTANT INSTALLATION NOTICE:** Equipment installed outdoors or in mobile or non-permanent environments (including food trucks, trailers, RVs, or boats) is limited to a thirty (30) day warranty unless expressly approved in writing by the Company.

All warranty requests are to be made through the Company's Warranty and Technical Service team. All warranty requests shall include the product model and serial number, original installation date and/or Proof of Purchase, photo of the equipment serial number data plate and complete customer identification and location.

Replacement parts may be new or rebuilt at the Company's discretion and are warranted for the longer of ninety (90) days or the remaining original Warranty Period. Company and its agents are expressly permitted to specify rebuilt parts as suitable replacement parts. All replacement parts must be approved Company parts obtained through the Company or a Company approved parts distributor.

THIS WARRANTY IS IN LIEU OF ALL IMPLIED WARRANTIES, INCLUDING WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, PERFORMANCE, OR OTHERWISE, WHICH ARE HEREBY EXCLUDED. IN NO EVENT SHALL THE COMPANY BE LIABLE FOR ANY DAMAGES, WHETHER DIRECT, INDIRECT, INCIDENTAL, FORESEEABLE, CONSEQUENTIAL, OR SPECIAL ARISING OUT OF OR IN CONNECTION WITH THIS PRODUCT INCLUDING DAMAGES ARISING FOR LOSS OF PROFIT, FOOD OR BEVERAGE SPOILAGE CLAIMS, OR OTHER COMMERCIAL LOSS.

You may have other legal rights depending upon where you live. Some States or Provinces do not allow limitations on warranties so the foregoing may not apply to you.