Foodunmask
UNMASK THE FOOD MYSTERY

MIXER CALIBRATION & FRICTION FACTOR CHECKLIST

Standard Operating Procedure (SOP) for Industrial High-Speed Mixing

Date: _____ **Mixer ID:** _____ **Operator:** _____

STEP 1: DAILY MECHANICAL INTEGRITY VERIFICATION

Check	Standard Parameter	Technical Instruction
☐	**Hook-to-Bowl Gap**	Ensure gap is 5mm – 7mm. Use feeler gauge to verify.
☐	**Breaker Bar Condition**	Check for "old dough" buildup. Surface must be polished/ clean.
☐	**Scraper Alignment**	Confirm zero metal-on-metal friction. Adjust if screeching persists.
☐	**V-Belt / Drive Status**	Inspect for slipping or harmonic vibration under load.

STEP 2: THERMAL FRICTION FACTOR (FF) CALCULATION

Calculate heat gain per batch to prevent dough tearing (>27°C).

$$FF = (3 \times \text{Final Dough Temp}) - (\text{Room Temp} + \text{Flour Temp} + \text{Water Temp})$$

Room Temp: _____°C	Flour Temp: _____°C	Water Temp: _____°C
Sum (1+2+3): _____°C	Final Dough Temp: _____°C	(Dough Temp × 3): _____°C
Calculated Friction Factor: _____		

STEP 3: CORRECTIVE MAINTENANCE ACTIONS

- **If Final Temp > 27°C:** Lower water temp or increase ice ratio.
- **If Dough Shredding:** Verify VFD frequency drift; calibrate hook RPM.
- **If Weight Drift:** Inspect bowl-lift height consistency.