# Machine Master

## Module Guide: Machine Master

### Module Location

Settings > Production > Machine Master

### Module Purpose

The **Machine Master** module is the inventory center for all individual production machine assets. While "Machine Type" is about categories, this module is about registering each physical machine or **work center** specifically, complete with its unique code, name, production capacity, and operational costs. The data here becomes the backbone for production scheduling, utility tracking, and cost calculation.?

## 1. Main View (Machine List)

The main page displays a list of all individual production machines registered in the system.

### View Explanation

- **Filter**: Allows searching for a specific machine by **Machine Master Code**.
- **Machine List Table**:
  - **Machine Master Code**: A unique ID for each machine asset (e.g., `opballmill`, `WL001`).

- **Machine Name**: A descriptive name for the machine (e.g., `BALLMILL ZIP`, `WLP`).
- **Machine Type**: The category of the machine, which is drawn from the Machine Type module.
- **Is Replaceable**: An indicator (yes/no) that shows whether this machine has an alternative if it breaks down.
- **Is Broken**: A status indicator that shows whether the machine is currently in a broken state or not.

- **Action Buttons**:
  - **New Machine**: Opens the form to register a new machine.
  - **Delete / Print**: Standard buttons for data management and reporting.

# 2. Add Machine Master Page

This form is used to register the details of a new production machine.

**View Explanation**

- **Basic Information**:
  - **Code & Machine Name**: The unique ID and name for this specific machine.

- **Number of Machines**: The number of physical units of this machine.
- **Is Replaceable**: A checkbox to mark the machine's flexibility.
- **Machine Type**: A dropdown to select the machine's category from the **Machine Type** master.

- **Capacity & Cost**:
  - **Machine Capacity**: A very important section where the user defines the machine's output capacity for each type of process or production **section**. This capacity is measured in **units per hour** (e.g., the `BALLMILL ZIP` machine can produce `X` units in the `Biscuit Production` section per hour).
  - **Machine Cost**: A field to enter the machine's operational cost per hour (e.g., electricity, depreciation, maintenance costs). This is a key component for cost accounting.?

# 3. Steps to Register a New Machine

1. Ensure the **Machine Type** already exists. If not, create it first in the Machine Type module.
2. On the Machine Master main page, click **New Machine**.
3. Fill in the **Code** and **Machine Name**.
4. Select the appropriate **Machine Type**.

5. Define the **Machine Capacity** for each relevant production **section**. This is the most critical data for scheduling.

6. Enter the **Machine Cost** per hour.

7. Click **Save**.

# 4. Integrated Workflow & Business Process

- **Production Scheduling & Capacity Planning**: The capacity-per-hour data is the heart of the scheduling system. When a Production Planner creates a **Work Order** for 1,000 biscuit units on the `BALLMILL ZIP` machine, the system will look at this machine's capacity (e.g., 100 units/hour) and automatically allocate 10 hours of machine time to complete the job.?

- **Cost of Production (COGS) Calculation**: The machine cost per hour defined here will be automatically accumulated into the cost of production. If a **Work Order** runs for 10 hours on a machine with a cost of Rp50,000/hour, then Rp500,000 will be charged as an **overhead cost** to that **Work Order**.?

- **Asset & Maintenance Management**: With a complete list of all machines, the maintenance team can plan preventive maintenance schedules, track repair history, and manage spare parts for each machine individually. The "Is Broken" indicator will tell the scheduling system not to allocate jobs to a machine that is currently non-operational.

# 5. Tips & Important Notes

- The accuracy of the **Machine Capacity** data is extremely important. Inaccurate data will lead to errors in estimating production completion times and result in unrealistic scheduling.

- Periodically review and update the capacity and cost data, especially after machine upgrades or changes in operational expenses.

- The management of this module requires collaboration between the engineering team (for capacity data), the production team, and the accounting team (for cost data).

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