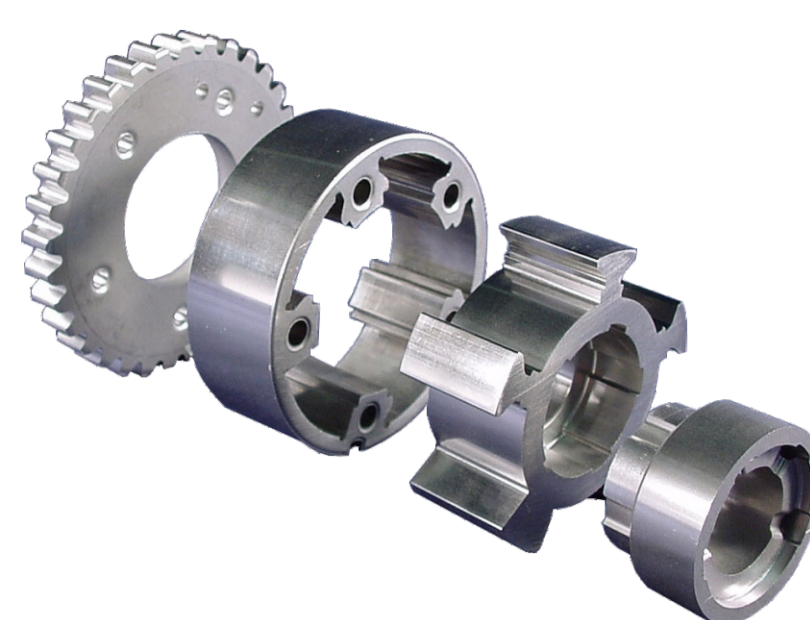


## Oil Bearing

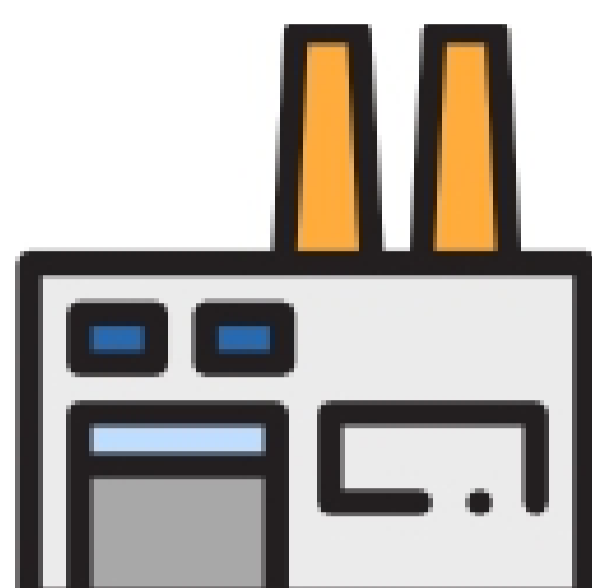
**Oil bearings** are made by infiltrating powder metallurgy samples into oil to fill their pores.

The oil in the pores will form a coating film that can improve the **load capacity** of the bearing while reducing its **friction coefficient** at the same time. Additionally to protecting the grinding shaft, there is no downtime during maintenance or the expensive costs associated with using waste materials such as lubricants.

They are widely used, such as **FA automation equipment, food, construction machinery, and automotive industry**. Regardless of which material is used to cast oil bearings, the finished product **must** be heat resistance, water resistance, wear resistance, and corrosion resistance.



## Oil Content



The **porosity** of porous products **determines** how much oil they **absorb**. It is commonly used to reduce the permeability of the oil bearing itself in order to **enhance the load capacity and durability** and have a greater coefficient of friction at the same time.

Therefore, we must pay close attention to the porosity, permeability, and oil content of the sample to not cause excessive friction and high temperature of the bearing during operation due to insufficient oil content of the bearing.

**Additionally**, powder metallurgy bearings with different oil contents need to be selected according to the different working environments. For example, the bearing with a **high oil content has a high porosity**.

Because of the **large capacity to store oil**, there is no need to add lubricating oil for a long time. However, due to its **low strength**, the application environment is constrained in low-load operating conditions. In contrast, low-oil content bearings can be used in high-speed and heavy load environments.



**The first condition to consolidate quality is to thoroughly explore the density.** Not only **reduces** the time for the proportion of raw materials, but also **stabilize** the accuracy of quality.

## TWS-PM Porous Solid Density Tester

**TWS-PM checks the overall density** of the sample, **show the most realistic analysis directly**.

The **pore structure** and **oil content** of oil bearings **greatly affects** the **physical properties and durability of the powder**. We can say, the key point to confirm the quality, is to measure the overall density of the sample from the inside out.



### Features:

- With Infrared temperature sensors can automatically detect the water temperature and automatically compensate for water temperature.
- With upper and lower limit functions and buzzer device, can determine whether the specific gravity of the test object is qualified or not.
- The large tank design is to reduce the error that caused by the buoyancy. The size of the water tank is 148 × 100 × 85mm.

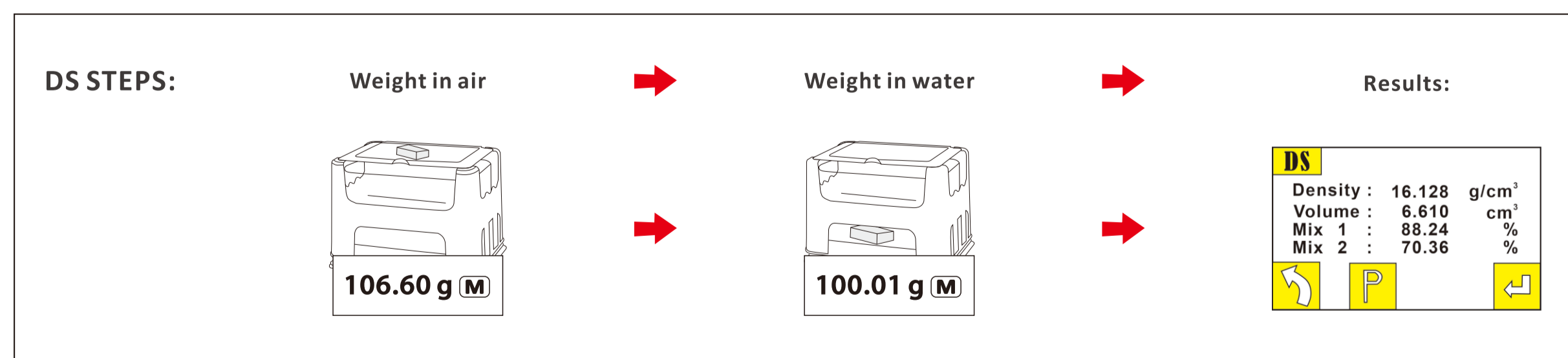
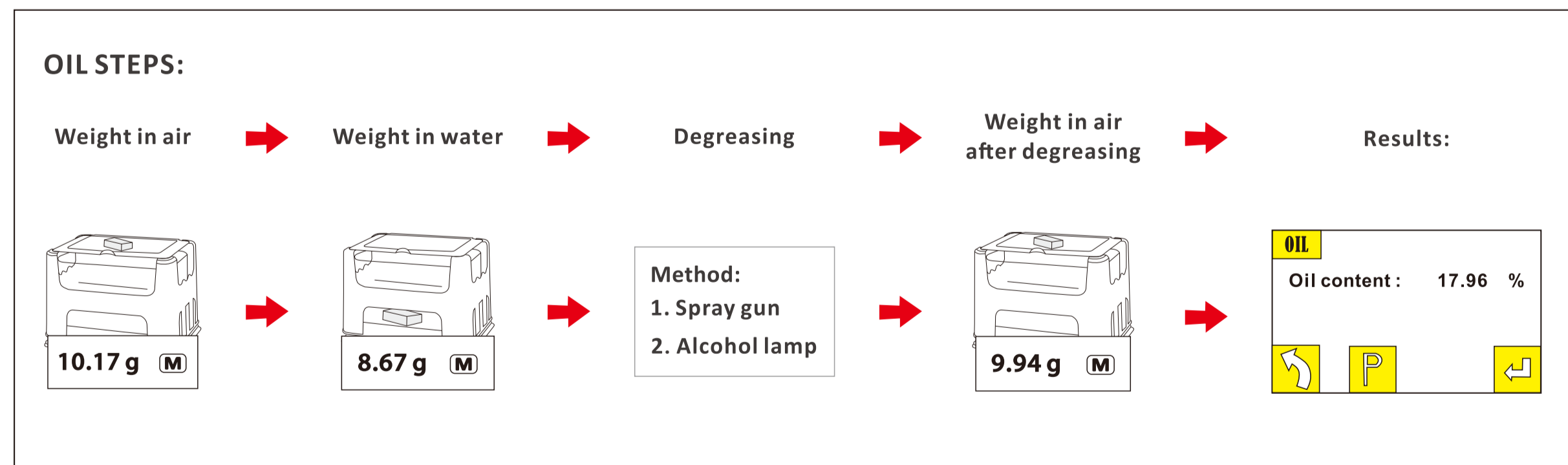
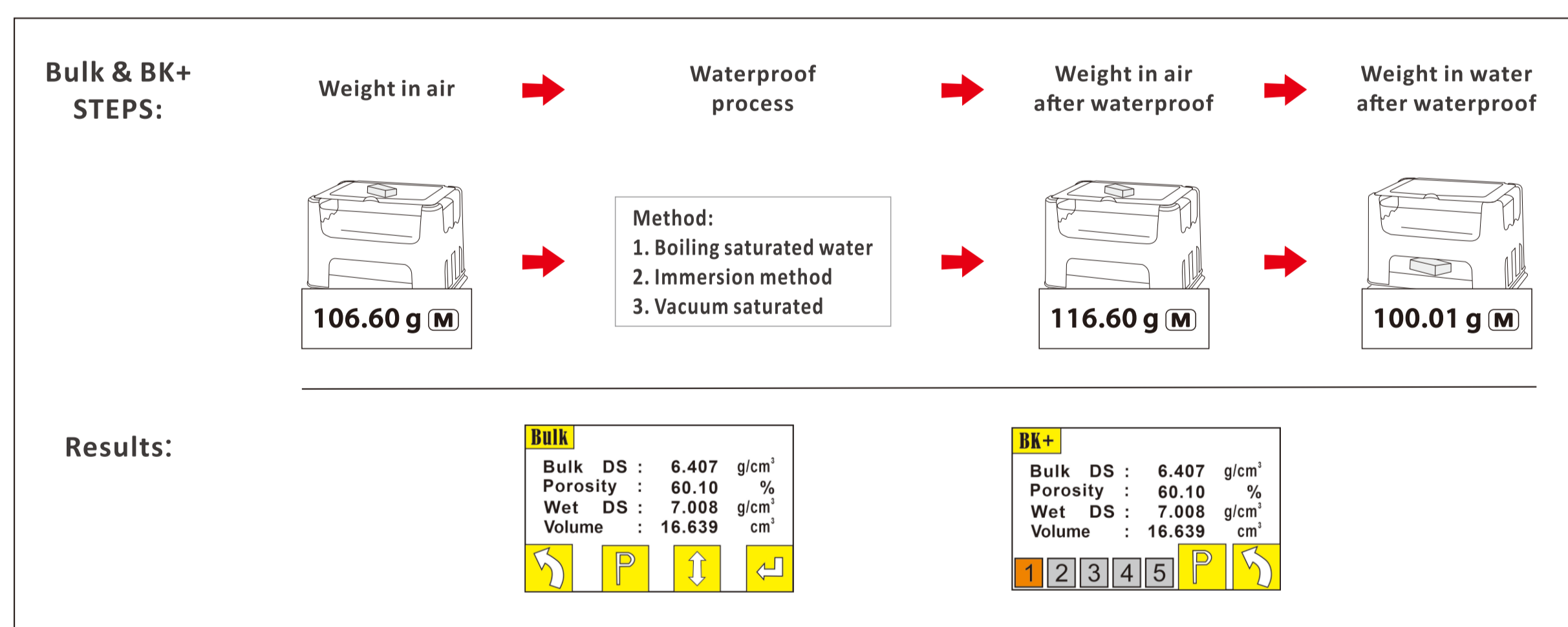
## Testing Mode & Testing Steps

MatsuHaku PM series equipped **4** modes:

- 1. BULK** - For porous absorbent material, directly shows the Bulk density, Porosity, Wet density, Volume.
- 2. BK+** - With **5 groups of memory functions**. For porous absorbent material, directly shows the Bulk density, Porosity, Wet density, Volume.
- 3. Oil** - For oil-containing sample, shows the Oil content density directly.
- 4. DS** - For nonabsorbent material, shows the Density, Volume, Mix ratio directly.

### International Standard

Applying the **Archimedes buoyancy method** and the international standard of **ASTMD B311, B328, MPIF STM 42, STM 57, GB/T5163, ISO 2738:1999**.



## MatsuHaku Density Tester Keep You Aware Of

1. **Reduce** the cost and the **Defect** loss
2. Fit the international **Standard**
3. Make sure the quality **Stable**



**With MatsuHaku Density Tester  
Quality control is more easier than you thought**