

Professional  
Powder Equipment  
Manufacturer



Powder  
Equipment



Milling  
Technology



Powder  
Materials

# TENCAN

## Product Brochure



**OTHER GRINDING EQUIPMENT**

## Three roll mill

**TCTR**

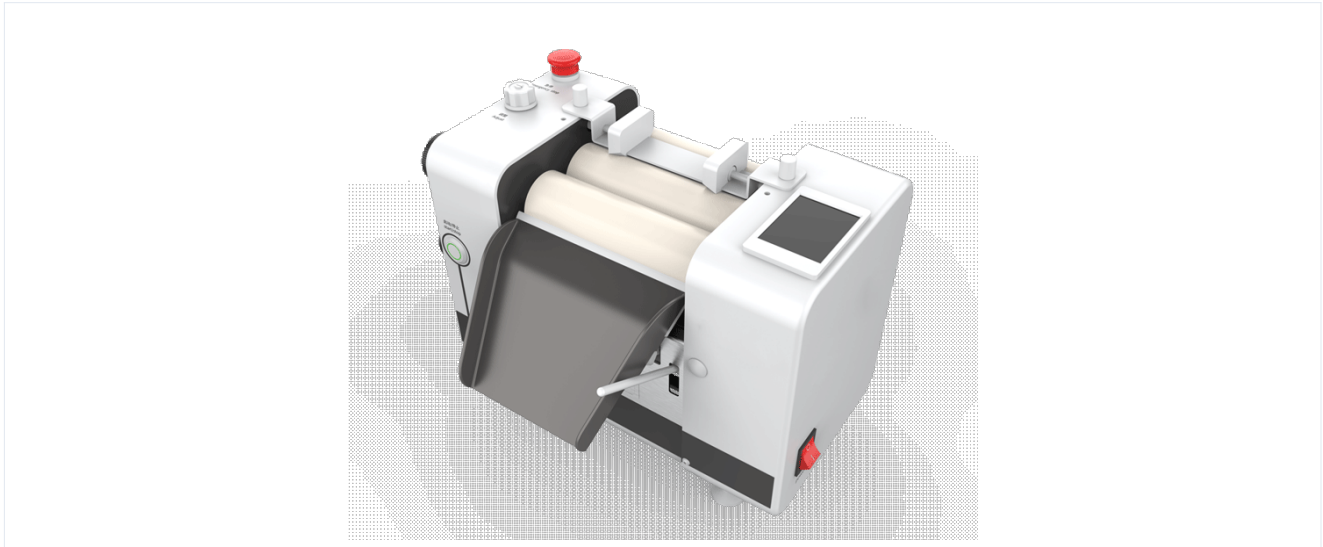
Three roll mill with ceramic rollers for high-viscosity material grinding and dispersion. Efficient shear force action ideal for paints, inks, and cosmetics.

<https://www.planetaryballmills.com/products/grinding-series/other-grinding-equipment/three-roll-mill.html>



## Product Overview

Three roll mill with ceramic rollers for high-viscosity material grinding and dispersion. Efficient shear force action ideal for paints, inks, and cosmetics.





## Product Introduction

This machine achieves grinding and dispersing effects through the mutual extrusion of the surfaces of three horizontal ceramic rollers and the shearing forces generated by different steering and speed differences. It is the most effective grinding and dispersing equipment for high-viscosity materials.

Grinding Series

## Three-Roll Mill



### High-Precision Grinding

Final fineness can be below  $0.1\ \mu\text{m}$ , depending on material properties.

### Imported Nano-Grade Ceramic Rollers



### Visual Electronic Touchscreen Control

Optional



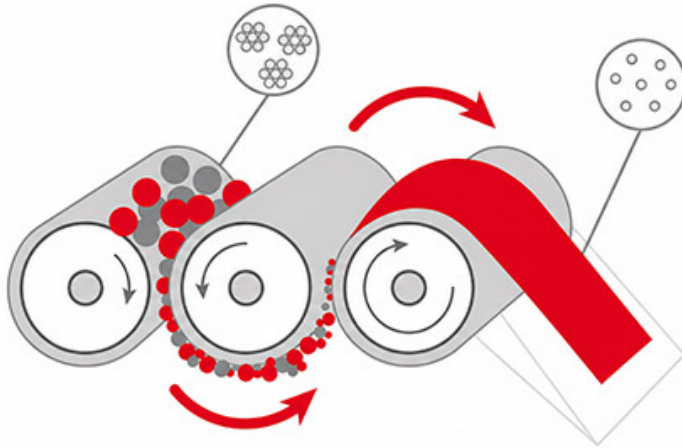
### Ceramic Roller Precision

Concentricity  $< 2\ \mu\text{m}$ ,  
Straightness  $< 2\ \mu\text{m}$ ,  
Surface Finish  $< 0.3\ \mu\text{m}$



## Grinding Series

# Three-Roll Mill / Operating Principle



This machine achieves grinding and dispersion through the mutual extrusion of three horizontal ceramic rollers, together with shear force generated by different rotation directions and speed differences. It is one of the most effective grinding and dispersing devices for high-viscosity materials.

The most effective grinding and dispersing equipment for high viscosity materials.

## Technical parameters

Equipment model: **TCTR-50T**

Ceramic roller material: zirconia/alumina/silicon carbide/silicon nitride, nano-level imported raw material ceramic roller

Porcelain roller specifications: diameter: 50mm ; Length: 150mm

Porcelain roller precision: roller concentricity/straightness less than 2 microns, surface finish less than 0.3 microns

Speed ratio: Speed ratio is 1:2:4

Porcelain roller spacing: 5-140 microns

Porcelain roller speed: 0-500RPM (maximum speed of discharge roller per minute)

Power configuration: 120W DC motor, stable torque, convenient and safe

Electrical appliance control: touch screen speed adjustment, knob speed adjustment, distance display, speed display

Movement mode: gap adjustment is unilateral operation, and the porcelain roller moves parallel, which is convenient and fast

Size: about L360mm\*W190mm\*H285mm

Power: 120W, 220V (50Hz)

Weight: about 20kg

Equipment model: **TCTR-80**

Ceramic roller material: zirconia/alumina/silicon carbide/silicon nitride, nano-level imported raw material ceramic roller

Porcelain roller specifications: diameter: 80mm ; Length: 200mm

Porcelain roller precision: roller concentricity/straightness less than 2 microns, surface finish

less than 0.3 microns

Speed ratio: Speed ratio is 1:3:9

Porcelain roller spacing: 5-140 microns

Porcelain roller speed: 0-500RPM (maximum speed of discharge roller per minute)

Power configuration: 1.5KW servo motor, stable torque, convenient and safe

Electrical control: knob speed adjustment, speed display

Movement mode: gap adjustment is unilateral operation, and the porcelain roller moves parallel, which is convenient and fast

Cooling system: with built-in cooling interface, optional external equipment

Size: about L600mm\*W380mm\*H495mm

Power: 1.5KW, 220V (50Hz)

Weight: about 75kg

## Grinding Series

# Three-Roll Mill Applications

Suitable for printing inks and coatings, electronic industry, new materials, new energy, food, pharmaceuticals and healthcare, and cosmetics.

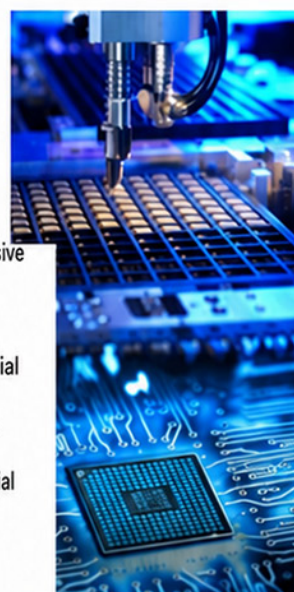
### Printing Ink & Coating

1. Offset Printing Ink
2. Screen Printing Ink
3. Special Inks
4. Security Inks
5. Architectural Coatings
6. Industrial Coatings
7. Color Art
8. Pigment



### Electronic Industry

1. Conductive Slurry (Ag Paste, Al Paste, etc.)
2. Solder Paste
3. Electronic Printing Ink
4. OLED Conductive Resin
5. LCD Module Electrical Adhesive
6. PV Ink
7. Solar Cell Electrode Material
8. Electronic Ceramic Paste
9. Electronic Packaging Material



### New Materials

1. Composite Ceramic Paste
2. CNT
3. Nanocomposites



### New Energy

1. Solar Cell
2. Wind Power
3. Lithium-Ion Battery
4. Sodium-Ion Battery
5. Fuel Cell
6. Solid-State Battery



### Food

1. Flavoring Agent
2. Chocolate
3. Syrup Preparation



### Pharmaceutical & Healthcare

1. Medicinal Ointment
2. Dental Material
3. Toothpaste



### Cosmetics

1. Skin Care Products
2. Foundation
3. Lip Gloss
4. Carbon Black Cosmetics

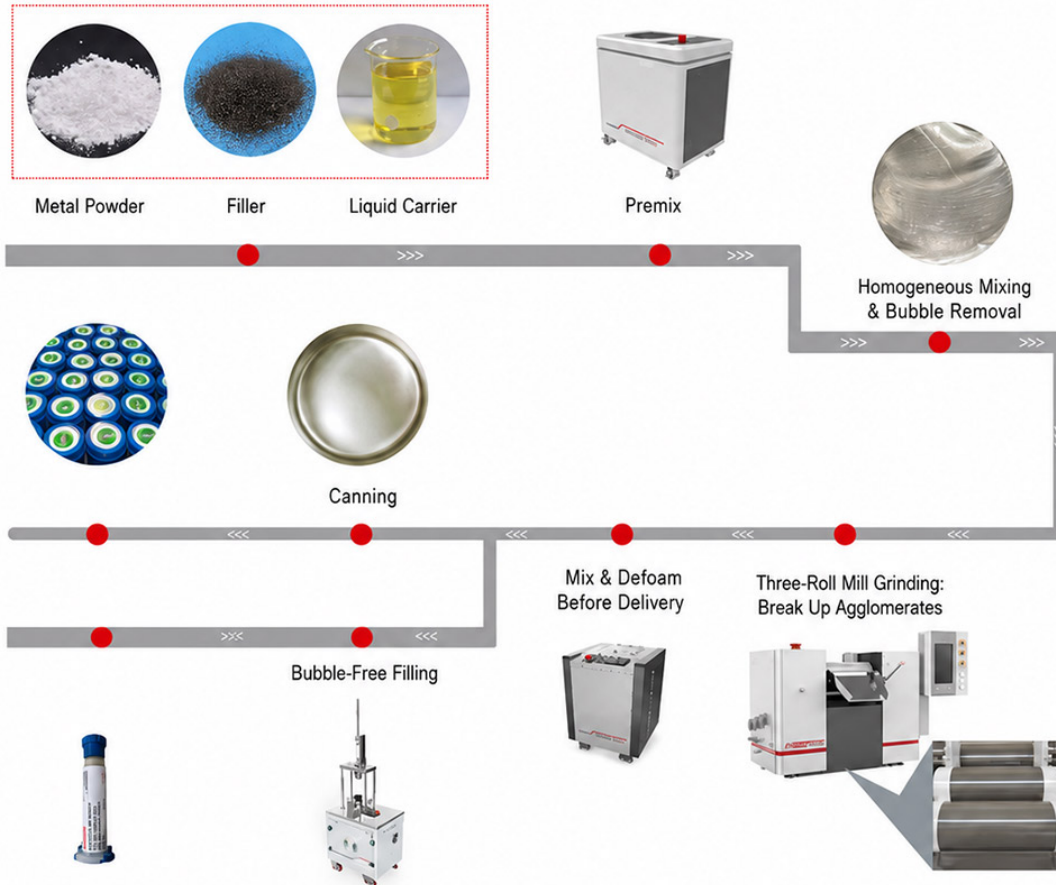


# Typical Industry Solutions

Industries' Solution

## Electronic Paste Industry Solution

Electronic paste solution



## Accessories & Customization

### Accessories

Grinding jars, heating elements, sample holders, control modules and other matching accessories can be selected according to the product configuration.

### Customization

For voltage, capacity, chamber size, process temperature or application requirements, please contact TENCAN for a suitable configuration.