

Laboratory Mixers and Extruders

ASME compliant MX 0.4 / VTE 1 / MXE1 / MX2E

These equipment are devoted to small-scale production of industrially-relevant shaped catalysts. Mixing of oxides, water, and binders, and extrusion allow for R&D extrudates production from oxide gels or powders (alumina, zeolite, titanium dioxide). For very small product volumes, these operations are performed in two batch-operated systems.

Building upon high catalysis R&D know-how, VINCI Technologies manufactures 4 devices devoted to catalyst extrudates forming :

- ✔ **Mixer - MX 0.4 / Extruder - VTE 1** (piston-type)
Working volume 100 to 400 cc
- ✔ **Mixer - Extruder - MXE 1** (single screw)
Working volume 500 cc to 1.5 liter
- ✔ **Mixer - Extruder - MX 2 E** (twin screw mixing and extrusion)
Working volume from 4 liters



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MIXER - MX 0.4

The MX 0.4 is a batch system designed to thoroughly mix, blend or knead pasty and highly viscous products.

ADVANTAGES

- ✔ Ease of cleaning and maintenance
- ✔ Flexibility for mixing products of different rheologies
- ✔ Total visibility of the mixed product
- ✔ Constructed with non-corrosive materials
- ✔ Materials of construction not affected by mixed product
- ✔ Compact
- ✔ Vacuum operation possible
- ✔ Ease of installation (less than 15 min)
- ✔ Clean and controlled vacuum

MAIN FEATURES

- ✔ Working volume 100 to 400 cc
- ✔ Working temperature 5 to 170 °C
- ✔ Quick disassembly of the front trough end and the blades by hand
- ✔ Machine all stainless
- ✔ Variable speed on blades
- ✔ Monobloc construction
- ✔ One cable to "plug-in"
- ✔ Cover in stainless steel with sight-glass
- ✔ Vacuum design
- ✔ Insulation and sheathing
- ✔ Jacketed for heating / cooling
- ✔ Temperature probe in trough

EXTRUDER - VTE1

The VTE 1 is a piston-type extruder designed to form the mixed catalyst into its final shape.

MAIN FEATURES

- ✔ Manual loading
- ✔ Vertical cylinder
- ✔ Electrical jack with three pre-programmed speeds to push the product through the die by a piston
- ✔ Pressure measured during extrusion
- ✔ Standard die designed to form 4 mm diameter solid extrudates

Dies for less conventional extrudate shapes are quoted on request

MIXER-EXTRUDER – MXE1

With an extrusion screw option, the MXE 1, available for bigger working volumes, not only enhances the mixing process but also provides a mean to transfer and form the final product. Mixing is performed as a batch operation while extrusion is continuous.

ADDED FEATURES COMPARED TO MX 0.4

- ✔ Working volume 500 cc to 1.5 liter
- ✔ Quick disassembly of the extrusion screw
- ✔ Extrusion screw at the bottom of the trough
- ✔ Temperature probe in trough and extrusion barrel

MIXER-EXTRUDER – MX2E

This Z blade twin screw mixer / extruder type MX 2 E is particularly adapted to compound high viscosity products, such as wet mixtures of alumina, zeolites, clays, silicas, titanium dioxide. The MX 2 E operates in batches with pre-weighed loads.

Mixing of the different component materials is obtained by continuous action of two very robust Z blades rotating in reverse direction one from the other. During mixing stage, rotation of the twin screw is forcing back the product inside the bowl and takes large part in homogenizing the different products. At end of mixing stage, product extrusion or discharge is obtained through twin screw rotation reversing.

ADDED FEATURES COMPARED TO MXE 1

- ✔ Working volume from 4 liters
- ✔ Both mixing and extrusion are performed with a double screw

THE VINCI ADVANTAGE

Building upon 30 years of experience and innovation in catalysis R&D equipment, VINCI Technologies guarantees customer satisfaction.