

**PRISM high-speed mixers are ideal for mixing powders, pellets, flakes and liquids. Simple, safe and clean in operation, mixers are available in capacities ranging from 3 to 100 liters.**

## PRISM High-Speed Mixers

Designed for laboratory, development and production mixing requirements



### Applications:

- Powder Coatings
- Master Batches
- Pharmaceuticals
- PVC Dry Blends
- Plastisols

### Materials:

- Polymers
- Chemicals
- Pharmaceuticals
- Food
- Ceramics

### PRISM Pilot change-bowl mixers for laboratory and development needs

PRISM Pilot 3 and Pilot 5 mixers are designed for bench-top operation. Each lift-off tank can be placed on a scale so that ingredients can be weighed directly and conveniently. Tanks are locked to the mixer quickly, easily and safely.

A thermocouple is mounted in the baffle blade to monitor product temperature, which is displayed on the facia. Impellor speeds can be adjusted for optimum mixing, and the modular impellor can be reconfigured for different materials. Mixing cycles can be preset for repeatable batches. On com-

pletion of the mixing cycle, the tank can be removed easily from the mixer, to carry product to downstream processing.

### PRISM fixed-bowl mixers for production applications

Larger units are fixed-bowl design with contoured discharge valves for efficient mixing and simple product discharge. Mixing tanks are single wall or jacketed for temperature control, via an external circulator. An optional control for PVC dry blends enables the mixer to switch to a cooled, low speed cycle once a preset temperature is reached. A simple manual control panel is

## Technical Specifications

standard with each mixer. For special operations, a plc-controlled version can be supplied with touch screen operator interface.

The larger mixers feature single or two-speed motors to give efficient mixing at high speeds and reliable discharge at low speeds. A heavy-duty, mechanical seal ensures long life in production applications.



### Pharmaceutical mixers available

Pharmaceutical versions, to GMP design, are available with removable bowls, stainless steel construction and dust-tight touch screen operator interface.

### Application benefits

High-speed premixing ensures efficient distribution of the many ingredients in a **powder coatings** formulation, with the added benefit of breaking down resin flakes to give a uniform pre-blend. Trials have shown that high-speed premixing improves color development and allows the same color strength to be obtained with lower pigment concentrations.

**Masterbatch** dry-blends can be prepared with a wax dispersion aid. The pilot mixer is used to heat the polymer granules so that wax melts and pigment adhere to the granules' surfaces. As in **PVC dry-blend** applications, an optional feature allows a maximum product temperature to be preset so that when the temperature is reached, the mixer will automatically reduce impellor speed and open a solenoid valve for bowl cooling.

**Food and Pharmaceutical** product development call for thorough cleaning of the process contact parts. The bowl and impellor can be removed quickly and easily to promote cleaning, and the stainless steel change-bowl design meets GMP standards. Fixed-bowl versions of PRISM mixers can be fitted with a mechanical impellor seal and special discharge valve for mixing **Plastisols**.



### Supporting our customers

Thermo Electron Corporation is a leading supplier of equipment and instruments worldwide. Thermo Electron (Stone) UK has a fully equipped Technology Centre for customer trials on PRISM equipment. With worldwide representation, Thermo Electron supports customers globally.

Specifications		Pilot 3	Pilot 5	PM 10	PM 15	PM 40	PM 100
Installation		Bench mounted	Bench mounted	Floor standing	Floor standing	Floor standing	Floor standing
Mixing	Tank	Lift-off	Lift-off	Fixed	Fixed	Fixed	Fixed
Total Volume	Liters	3	5	10	15	40	100
Working Volume	Liters	0.75 - 2.0	0.75 - 3.5	1 - 6	2 - 10	5 - 25	10 - 60
Variable Blade Speed	rpm	0 - 6,000	0 - 3,000	0 - 3,000	0 - 2,000	0 - 2,000	315 & 630
Motor Power	kW	1.1	1.1	3.0	3.0	5.5	8.0
Power Supply	Volt/ph/Amp	220V/1ph/16A	220V/1ph/16A	400V/3ph/20A	400V/3ph/20A	400V/3ph/32A	400V/3ph/32A
Dimensions L x W x H	cm	67 x 46 x 56	69 x 46 x 59	85 x 65 x 120	80 x 58 x 107	140 x 65 x 110	210 x 55 x 160
Approx. weight	kg	80	85	200	200	250	400

### Thermo Electron Corporation

#### Material Characterization

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