White Masterbatch Twin Screw Extruder 50 Percent TiO2 150-220 kg h Fast Quote for Blown Film Compounding

Our Product Introduction

Basic Information

- Place of Origin: Nanjing, China
- Brand Name: HLD
- Certification: CE, ISO 9001:2015
- Model Number: Customized
- Minimum Order Quantity: 1 Set
- Price: USD 30000-42000 / Set
- Packaging Details: Bubble wrap, stretch film and fumigation-free plywood case for sea shipment
- Delivery Time: 35-45 working days after deposit received
- Payment Terms: T/T, L/C, Western Union
- Supply Ability: 20 Sets per Month



Product Specification

- Screw Design: Co-rotating Intermeshing Twin Screw
- Screw Diameter: 41.2 Mm
- L/D Ratio: 44:1
- Main Motor Power: 55 KW
- Screw Speed: 600 Rpm Max
- Output Capacity: 150-220 Kg/h
- Pigment Loading: 50-70 Percent TiO2
- Dispersion Method: High Shear Kneading With Distributive Mixing
- Filtration: Hydraulic Screen Changer 300 Mesh
- Pelletizing System: Die Face Pelletizing With Water Ring
- Suitable Materials: TiO2, CaCO3, Organic Pigments, PE Carrier
- Control System: Siemens PLC With Colour Recipe Storage
- Highlight: **titanium dioxide color masterbatch extruder**, **twin screw extruder white masterbatch**, **50 percent TiO2 masterbatch line**



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Product Description

Opacity is bought at the kneading block

Titanium dioxide is the most expensive ingredient in a white masterbatch, and opacity depends on how well it is separated into primary particles. Agglomerates waste pigment: the converter adds more masterbatch to hit the target hiding power, and the cost advantage disappears. So the whole line is built around one goal, breaking agglomerates without overheating the carrier.

Dispersion, then distribution

The screw uses a dispersive section with 90 degree kneading blocks and reverse elements to generate the stress needed to break TiO2 clusters, followed by a distributive section with wide pitch elements that spreads the pigment evenly. Doing the distributive work first is a common mistake; it distributes agglomerates rather than dispersing them.

Filtration as a quality gate

A hydraulic screen changer with 300 mesh packs sits before the die. Pressure differential is logged, and a stable value is the practical proof of dispersion. When the differential climbs, either the pigment lot changed or the kneading section needs attention.

Series data

Model	Screw Diameter	L/D	Motor Power	Screen Changer	Capacity
TSE-20B	21.7mm	40:1 44:1 48:1 52:1	4/5.5/7.5KW	Hydraulic	5-20KG
TSE-35B	35.6mm	40:1 44:1 48:1 52:1	18.5/22KW	Hydraulic	60-100KG
TSE-50B	**51mm**	**40:1 44:1 48:1 52:1**	**45/55KW**	**Hydraulic**	**150KG**
TSE-65B	62.4mm	40:1 44:1 48:1 52:1	75/90KW	Hydraulic	250-350KG
TSE-75B	71.5mm	40:1 44:1 48:1 52:1	132KW	Hydraulic	500-650KG

Shaded frame covers the 150-220 kg/h band typical for white masterbatch at 50-70 percent loading.

Changeover discipline

White is the hardest colour to change away from and back to. A split barrel with quick release screw elements shortens cleaning, and the PLC stores up to fifty formulations so shade adjustments are reproducible rather than artisanal. Keep a dedicated set of screen packs for white, since residual black from a previous batch ruins the shade.

Applications and grades

50-70 percent TiO2 white masterbatch for blown film.

White concentrates for injection moulding and household goods.

Pigment masterbatch for PP fibre and nonwoven, where fines must stay low.

Filled white masterbatch combining TiO2 with calcium carbonate for cost.

Small batch colour matching and sampling.

Pellet form

Die face pelletizing with a water ring keeps the granule surface clean and limits fines below about two percent, which matters because fines cause feeding surges at the converter. Strand cutting remains available when a cylindrical granule is specified. Send the target shade, the TiO2 grade and the carrier resin; we will propose the loading and the filtration mesh together with the frame.

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