Carbon Black Masterbatch Twin Screw Extruder 30 Percent Loading 120-180 kg h Fast Delivery for Black Colour Batch

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 32000-45000 / 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: 48:1
- Main Motor Power: 55 KW
- Screw Speed: 600 Rpm Max
- Output Capacity: 120-180 Kg/h
- Carbon Black Loading: 30-40 Percent
- Dispersion Method: High Shear Kneading Block Sequence
- Screw Material: Bimetallic Wear Resistant Alloy
- Filtration: Hydraulic Screen Changer 200 Mesh
- Pelletizing System: Die Face Pelletizing With Water Ring
- Suitable Materials: Carbon Black, PE And EVA Carriers
- Control System: Siemens PLC With Gravimetric Control
- Highlight: **carbon black masterbatch extruder**, **twin screw extruder black masterbatch line**,



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Product Description

Black masterbatch is a dispersion test, not a tonnage contest

Two suppliers can both claim 30 percent carbon black. The difference shows up at 200 mesh: one clogs the screen in minutes, the other runs a full shift. Dispersion is what the buyer is paying for, and dispersion is decided by the kneading sequence, the filtration stage and the melt temperature history, in that order.

Screw layout for carbon black

The screw is built in three acts. First, melting and conveying with medium pitch elements. Second, a high shear dispersive section using multiple 90 degree kneading blocks with reverse elements to raise the local stress enough to break agglomerates. Third, a distributive section that spreads the dispersed black evenly before the die. Running the dispersive stage too early, before the polymer is fully melted, is the most common cause of unmelted black specks.

Filtration tells you the truth

A hydraulic screen changer with 200 mesh packs sits between the die and the pelletizer. Pressure rise across the screen is monitored continuously: a healthy compound holds a stable differential, while rising pressure means agglomerates are passing. Operators learn to read that gauge faster than any laboratory test.

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 120-180 kg/h band; the same screw design scales up on the 62.4 mm frame.

Building the line around it

Gravimetric feeders for resin, black and wax, because black loading is where cost control lives.

Die face pelletizing with a water ring, since the melt strength of a 30-40 percent compound will not hold a strand reliably.

Split barrel sections, so cleaning between black and colour batches takes hours rather than a full day.

Bimetallic screw elements, as carbon black at high loading is abrasive over long runs.

Questions we get

Can one machine do black and colour? Yes, with a split barrel and quick release screw elements. Plan a cleaning procedure into the changeover; the machine is not the constraint, the cleaning discipline is.

How do I know dispersion is good enough? Ask for a filter pressure value at your target mesh, not a photograph. We quote the expected differential pressure with the proposal.

Give us the black grade, the carrier resin and the mesh you must pass, and the screw layout and filtration get specified together.

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