Twin Screw Extruder Flame Retardant PP Cable Compound Machine 500-700 kg h Turnkey Line for Halogen Free Cable Compound

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 95000-130000 / 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: 71.5 Mm
- L/D Ratio: 48:1
- Main Motor Power: 200 KW
- Screw Speed: 500 Rpm Max
- Output Capacity: 500-700 Kg/h
- Flame Retardant Loading: Up To 60 Percent ATH Or MDH
- Side Feeder: Twin Screw Side Feeder For ATH And MDH Powder
- Venting: Two Stage Vacuum Venting
- Screw Material: Bimetallic Wear Resistant Alloy
- Pelletizing System: Die Face Pelletizing With Water Ring And Centrifugal Dryer
- Suitable Materials: PP, EVA, PE With ATH, MDH, Intumescent Systems
- Control System: Siemens PLC With Gravimetric Dosing



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Product Description

Flame retardant loading changes the physics of the line

A halogen free cable compound can carry 60 percent or more of aluminium hydroxide or magnesium hydroxide. At that level the melt behaves like a filled paste: viscosity is high, melt strength is low, and the mineral brings its own moisture into the barrel. Electrical tests then punish any residue: a compound that fails the hot wire test usually has moisture or undispersed filler, not a formulation error.

Feeding the mineral correctly

ATH and MDH are side fed into melt, not mixed dry, because dry blending at this loading segregates in the hopper. The side feeder is a twin screw design with forced conveyance, speed interlocked to the main feeder so the ratio stays fixed when throughput is trimmed.

Venting and dispersion

Two vacuum vents remove both the surface moisture on the mineral and the water released as it heats. Dispersion uses 45 and 90 degree kneading blocks in sequence: 45 degree elements wet the particles, 90 degree elements break the clusters. Running only 90 degree blocks raises melt temperature unnecessarily and can start the decomposition that flame retardants are designed to resist later.

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 500-700 kg/h band at up to 60 percent ATH or MDH.

Downstream and drying

Die face pelletizing with a water ring and a centrifugal dryer is the standard route, since a mineral filled melt cannot be strand cut reliably. Pellets ship below 0.3 percent moisture. A melt pump is worth considering at the upper end of the loading range to hold die pressure steady.

Quality checkpoints worth building in

Screen pack and die head cleaned between campaigns; residue shows up as dielectric failure.
Gravimetric dosing on polymer, ATH, compatibiliser and antioxidant, each on its own feeder.
Barrel temperature logging, because ATH starts decomposing around 200 degrees Celsius.
Pellet moisture measured at the bagging station, not at the lab an hour later.

Programs served

Halogen free PP insulation compounds, low smoke zero halogen sheath compounds, EVA and PE based FR compounds, intumescent masterbatch, and rail or building cable compounds.
Share the standard you must meet, the loading you want and the cable construction, and we will confirm screw geometry, venting depth and the pelletizing package in one proposal.

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