

UNDP DEMONSTRATION PROJECT

Feininger (Nanjing) Energy Saving Technology Co., Ltd.

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Professional Manufacturer of XPS Line & XPS Foam Board





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Lying in Nanjing Tangshan New Town, Feininger (Nanjing) Energy Saving Technology Co.,Ltd is the first high quality XPS Foam Board Production Line manufacturer in China, the unique enterprise specializing in XPS Foam as well as developing, manufacturing and selling of XPS equipment.

As demonstration enterprise appointed by World Environment-protection Organization, National High-tech Enterprise, Jiangsu Provincial Enterprise in Building Efficiency, Feininger bears Innovation through her developing. The professional R&D center of Feininger has close co-operations with some academies and research institutions. In the year of 2002, Feininger firstly design and manufacture China high quality XPS Foam Board Production Line. Since then we have contributed to research of XPS technology, continuously improved the product, which enables us to be flag in XPS foaming industry home and abroad.

Feininger signed Commitment Letter with State Environment-protection Ministry to phase out HCFC by applying Fire-retardant Polystyrene, CO₂ (replacing HCFC), in production of XPS Foam, which plays an important role in resources utilization, energy saving and environment protection.

Feininger applies Automatic Feeding, ensuring raw materials are fed in precise proportion; Feininger uses Central Dust Collecting System, avoiding dusty production site; Feininger takes automatic down-stream lines, reaching automation of Edge Milling, Length Cutting, Transverse Conveying, Stacking and Packing. The final products are diverse, with various specifications, different Thickness, Width, Compressive Strength, Customized Length, different Surface Type, Edge Type and some special profile according to drawings. The products are widely applied in Civil Engineering, Building Insulation, Cold Storage, and other areas.

Feininger successfully won certificates of ISO9001:2008, ISO14001:2004 and CE, which ensures stable quality control. In addition, we accentuate humanization design with goal to offer quality and humanized products. Strict quality control is our promise to customers. Before products are delivered, each lot is inspected severely.

Feininger's aim: with our unremitting efforts, we offer customers with high quality energy saving products and fast & effective services, so as to prompt global energy saving industry!

Achievements



Demonstration Project of Phasing out HCFCs in XPS Foam Section (UNDP, MEP)



Pushing out Project of HCFCs in XPS Foam Section (UNIDO, MEP)



Member of National Plastic Product Quality Standardization Committee



Jiangsu Provincial Reputed Brand



Jiangsu Provincial Famous Brand



National High-tech Enterprise



Nanjing Enterprises Technology Center



Nanjing Outstanding Utility Model Prize for CO₂ Technology



CE



ISO14001



ISO9001

We are in deep cooperation with many Institutes and Academies



R & D Main Achievements

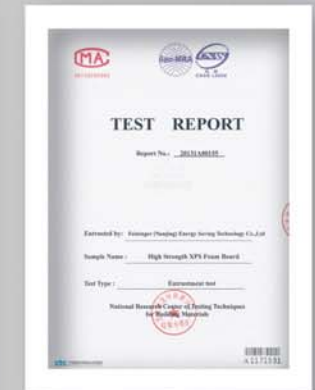
- CO₂ (Freon Free) Foaming Technology in XPS Industry
- Thickness 200mm XPS Foam Board
- 1000kpa XPS Foam Board

■ Feinger is Co-complier of National Standard and Industry Standard

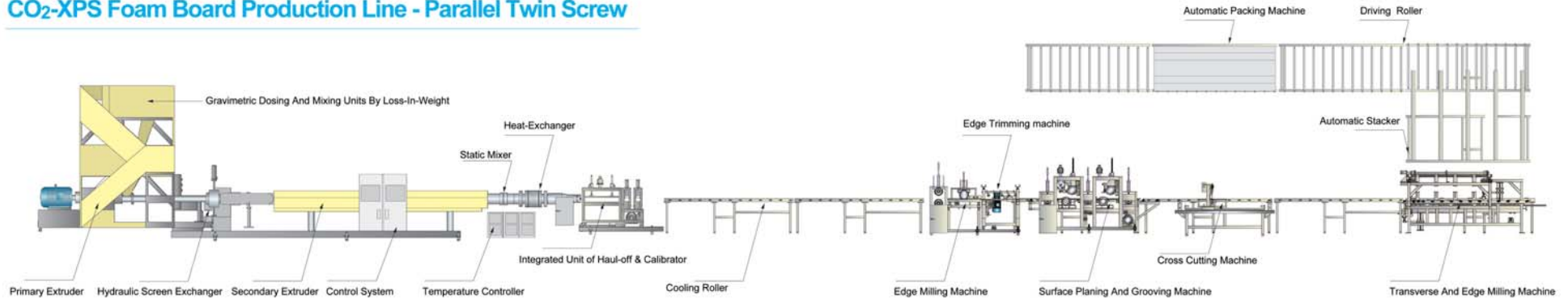
- 1 National standard GB 8624 with Sichuan Fire-fighting Research Institute
- 2 Standards of "XPS for Civil Engineering" and "XPS for Cold Storage"
- 3 Jiangsu Provincial Standard "Residual Blowing Agent Detection in XPS"



Test Report



CO₂-XPS Foam Board Production Line - Parallel Twin Screw



Technical Specification

Model	Primary Extruder Screw	Secondary Extruder Screw	Output (kg/hr)	Blowing Agent (Gas)	Product width (mm)	Size (m*m*m)	Weight (Tons)
FS120/150C	SE120	SE150	280-450	CO ₂ +Ethanol, HFC,HCFC, Butane,LPG, DME...	600, 900, 1200	40x10x4	18
FS150/200C	SE150	SE200	380-600			45x12x4	22
FS75T/200C	TE75	SE200	400-600			45x10x4	22
FS95T/300C	TE95	SE300	800-1000			60x15x5	35
FS110T/400C	TE110	SE400	1400-2000			100x20x5	60

Foaming Technology

- CO₂+Blowing Agents(Freon Free)
- HCFC, HFC
- Butane, LPG, DME

MAX 1000KPa

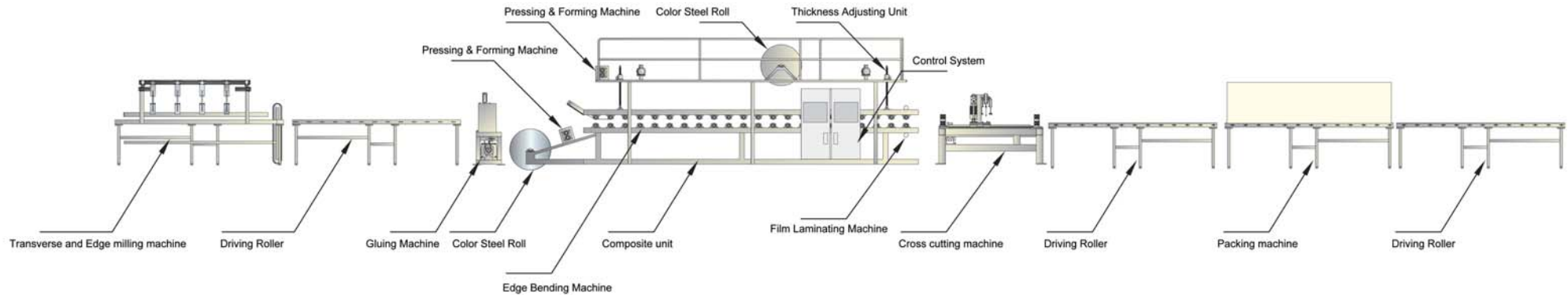


MAX 200mm



TWIN-SCREW EXTRUSION LINE

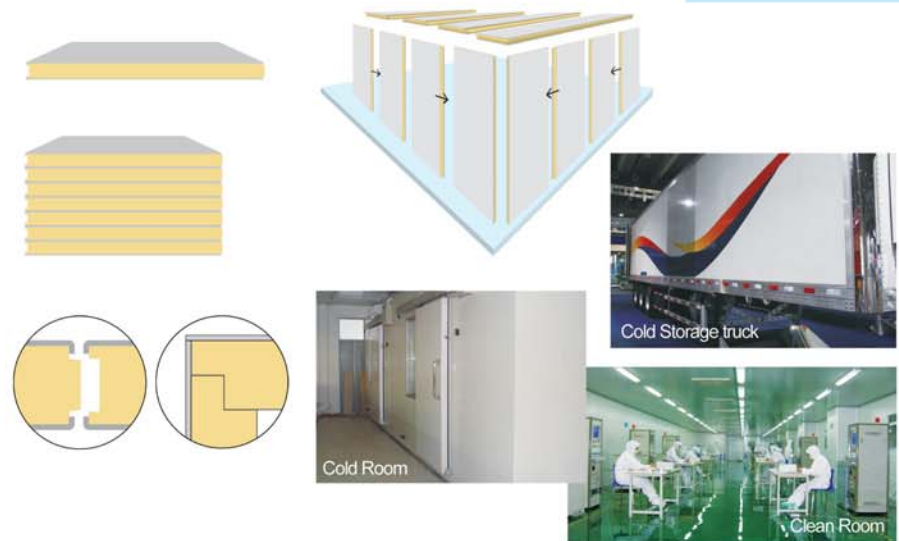
Double Surface Color Steel Sandwich Panel Production Line Special for XPS Foam Board



Double Surface Color Steel Sandwich Panel Production Line produces Sandwich panel using Color Steel on the two surfaces and Core material of XPS Foam Board. The product is mainly applied as Steel Structure Wall Panel, Roof Panel and Cold Storage Panel.

Technical Specification	
Power Supply	380V/50-60Hz
General Power	32KW
Linear Production Speed	0-4m/min
Machine Size	20000*3000*2800mm
Product Width	1000mm, 1200mm
Product Thickness	30-250mm
Annual Output	600,000 M ²

Professional **Designer & Constructor** of Cold Storage System



Automatic Feeding System

Vacuum Inhaling System



Loss-in-weight Dosing System

Technical Specification

Type	Dosing Range kg/hr	Applicable for	Technology data
GDM1	100-400 kg/h	Pellets(GPPS material)	Weightless Control Module GE/CN II; Weight Sensor: MT1260; Motor Control Module VFD015E43A; Interface C2 Touch
GDM2	100-400 kg/h	Pellets(GPPS material)	
GDM3	100-400 kg/h	Pellets(GPPS material)	
GDM4	4-50 kg/h	Pellets(fire resistant material)	
GDM5	4-50 kg/h	Pellets(Color Masterbatch)	
GDM6	1.5-30 kg/h	Powder(Talcum Powder)	

Applicable for the twin screw and automatic & large scale XPS machine;
Flexible Connection to dosing hopper, which is integrated with
air-discharge and filtering device; Interlock with extruder ;
Automatic precise dosing;
Easy adjustment of materials proportion.



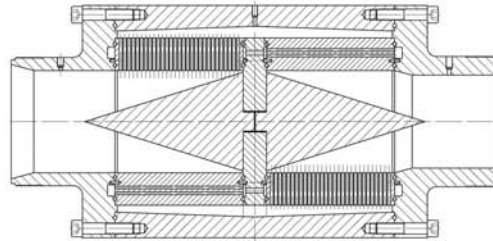
Hydraulic Screen Exchanger

- Oil hydraulic driven
- Fore and post pressure sensor included
- Cycling screen changer
- Non-stop design
- Stable Pressure
- Reliable



Heat-Exchanger

After going through Heat-Exchanger, Melt Mass mix thoroughly to reach even final temperature. This helps polystyrene expand better and more uniform. Hence, low density is ensured.

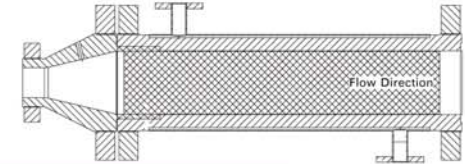


Technical Specification

Model	HE150/ HE200/ HE300/ HE400
Cooling Method	Oil Cooling
	Cooling Media: Heat-conduct Oil Temperature Range: up to 180°C
Oil Temperature Controller	Heating Power: 9 KW Temperature Precision: ±0.1°C

Static Mixer

After going through Static Mixer, Melt Mass have uniform material temperature, color and viscosity. In this case, product quality and beautiful appearance are ensured.



Technical Specification

Model	SM150/ SM200/ SM300/ SM400
Mixing Section Length	4D
Working Principal	While Mixing Section is fixed, Melt Materials are stirred and mixed automatically.
Characteristics	Excellent Homogenization Uniform Material Temperature Uniform Material Color Uniform Viscosity Excellent Product Appearance & Quality

Slot Die

The special channel inside of Slot Die makes melt materials flow out easily, which ensures stable Pressure Drop.



Technical Specification

Model	SD300/SD450/SD600
Principal	Distance between Die Lips: 0.5-1.5mm By adjusting the distance, different product thickness will be reached.
Advantages	Easy Adjusting Stable Pressure-drop.

Calibrator

Technical Specification

Model	Name
EHC-800	Electric Heating Calibrator (1400*800mm)
EHC-1200	Electric Heating Calibrator (1400*1200mm)
OHC-800	Oil Heating Calibrator (1400*800mm)
OHC-1200	Oil Heating Calibrator (1400*1200mm)



Technical Specification

Item	Parameters
Lifting Motor	1.5KW*2
Driving Motor	0.75KW
Heating Power	9KW
Material of cover plate	PTFE

Haul-off Unit

Technical Specification

Item	Parameters
Motor	3KW Inverter Control
Roller Specification	φ275x1400mm
Up-roller driving method	Pneumatic



Lengthwise Edge Milling & Trimming Unit

Technical Specification

Working Principal

XPS board is pulled to this machine firstly, then after being processed via fixing device, the edges will be milled into required dimension, and meanwhile powder is inhaled by Central Dust Collecting Unit

Through trimming machine, the shape of Ship-lap is achieved.(If trimming is not required, cutting blade will be put away).



Double Surface Planing & Grooving Machine

Technical Specification

Working Principal

Surface planing & grooving are processed simultaneously. Planing tool is made of alloy blades which are positioned besides the XPS Foam.

Surface grooving cutter is disposable alloy blade, and groove depth is easily adjusted. There are fixing devices at two ends of the machine to avoid vibration



Automatic Stacking System

Automatic Stacking System is fully automatic, greatly improving the stacking efficiency. It could process 2 stacks at the same time. Servo motor controls ascending & descending steadily. Precise electrical control parts guarantee the accuracy and assure that the equipment runs for a long time.



Technical Specification

Item		Parameters
Stacking width	mm	A: 600, B:1200
Stacking height	mm	520
Motor		Servo motor
Sensor		Infrared sensor
Dimensions (L x W x H)(approx.)	m	5.0 x 5.5 x 1.1



Length Cutting Machine (Alloy Blade)

Technical Specification

Item	Parameters
Cutting Thickness	20mm-100mm
Cutting Width	600mm
Cutting Length	≥1180mm
Driving motor	2.2KW 380V 50HZ Inverter Control
Length* Width	2500mm*1500mm



Automatic Packing System

Technical Specification

Item	Parameters
Type	Enclosed
Packing width	600 mm
Packing length	900 mm /1000 mm /1200 mm
Maximum Thickness	660 mm
Packing Material	PE shrinkage film
Sensor	Infrared sensor
Power	40 KW
Dimensions (L x W x H)	20.0 x 2.2 x 2.4 m



Operation Control System

Feininger designs the most advanced integrated operation control system in XPS industry. The strong Central Control units control the material feeding, foam agent pump, extruders and board's thickness together. The touch screen is clear to understand and easy to operate.

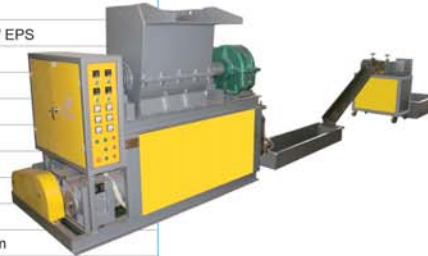


Recycling & Granulating System

Recycling & Granulating System crush the off-cuts of XPS board, and recycle it into GPPS granules. The system is in integrated design, easy to operate and maintain. The system control the recycling temperature accurately, to reach the best quality of recycled GPPS granules.

Technical Specification

Item	Parameters
Material	Margin of XPS / EPS
Crush Power	11 KW
Screw Diameter	φ75 mm
Material of Screw	38CrMoALA
Heating Power	26 KW
Motor Power	7.5 KW
Cooling water tank Length	1.8 m
Pelletizer power	3 KW
Dimensions (L x W x H)	7.0 x 1.2 x 1.5 m



Powder Recycling & Granulating System

Powder Recycling & Granulating System is our latest design, with 2-stage screw extruders. It has large and stable output, and it is easy to operate and maintain. The screen change is driven by motor, easy and efficient to change the filter screen. The system controls the recycling temperature accurately, to reach the best quality of recycled GPPS granules.

Technical Specification

Item	Parameters
Material	Powder of XPS / EPS
1st Screw Diameter	Φ120 mm
1st Motor	37 KW
2nd Screw Diameter	Φ110 mm
2nd Motor	7.5 KW
Material of Screw	38CrMoALA
Cooling water tank length	1.8 m
Pelletizer power	2.2 KW
Dimensions (L x W x H)	7.0 x 1.2 x 1.5 m



Central Dust Collecting System



Equipment technical after sale service commitment

Technical Service

Wherever you are and whenever you need, our in-house experts and engineers are always ready for offering help. They would help you to check and analyze your problems, and then give you their suggestions and solutions. They can help you optimize your existing production line, update information or probably point out the potential problems. You can get access to our service via email, telephone and fax. Now, English and Chinese bilingual on-line services are available. We will be glad to help you.

Training

Feininger has a completed training system. According to the differentiated customer's requests, we will arrange comprehensive training program respectively to ensure the operating staff run our line very well. Every expert who would be the teacher of our training center has adequate know-how, practices and excellent professional background. Your training program can be achieved at your site or in our training center at Nanjing by our qualified expert. The major subjects of our training program are as following:

- Plastic Extrusion Theory
- Foam Extrusion Theory
- Material Formulation System
- Mechanical Maintenance
- Control Theory of Production Line

Spare Parts

We have all key parts of our products in stock in case of urgent demand. Therefore, we can ship it as quickly as possible. Meanwhile, Feininger highly recommends you to purchase our original spare parts. For our original spare parts have significant advantage as follows:

- High quality after years of testing and upgrading.
- Quickly delivery for we possess a convenient logistics channel.
- Competitive price for we are the professional manufacturer in China.
- Excellent compatibility due to our standardized system.

After Sale Service Mail: after_sales@feininger.cn



Feininger in Global



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4	5	

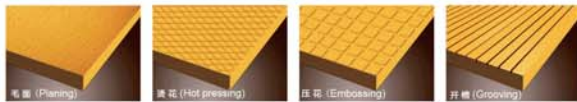
- 1 Chinese Embassy in Islamabad
- 2 Beijing-Shanghai High-speed railway
- 3 Shanghai-Hangzhou High-speed railway
- 4 Refrigeration storage of Yurun Group
- 5 Olympic Sports Center

Application

XPS Foam Board Technical Data

Thickness	20-200mm
Width	600mm / 900mm / 1200mm
Length	1200mm, 2400mm or your choice
Compressive Strength	100-1000 KPa
Thermal Conductivity	≤ 0.030 W / (m·K) (25°C)
Water Absorption	≤ 1.0% (by volume)
Moisture Permeability	≤ 3.0 ng/(m·s·Pa)
Dimensional Stability	≤ 1.5%

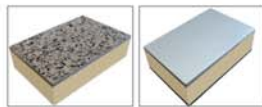
SURFACE



EDGE



Aluminum Film Color Steel Cement



Marble PVC



Construction...



Aviation...



Wind Power Generation...



Civil Engineering...



Cold storage...

Solution for Cold Storage System

Cold Storage Building Energy Consumption takes up 30-50% of the whole Cold Storage System, which has been a major concern of residents.

Feininger will offer an Economic & Green Energy Saving Solution to residents! A sound insulation solution will not only meet building efficiency requirements but also save your cost!

Feininger XPS Foam is an Insulation Material that will maintain its performance by 80-85% in 50 years; and it is an outstanding material for Low Temperature (below -25°C) Cold Storage System!

Intelligently Designed Professional Insulation System



Feininger XPS Foam is your best choice of Cold Storage Insulation Material!

XPS Foam Application in Civil Engineering Areas



Application in High-speed Railway



Application in Highway



Application in Canal

Exterior Wall External Insulation System

