SuperVIG

Reinforced Polyurethane Door

Specially designed for freezer

Vacuum Insulating Glass
Choose SUPERVIG

About the company

VIG (Xiamen) Technology Co., Ltd. as the core force of Fujian Super Tech Advanced Material Co., Ltd. (stock code: 688398) in the field of vacuum insulation technology, focuses on the production, R&D, and sales of vacuum glass and door profiles. Since its establishment in 2020, relying on the superior geographical location of Guankou, Xiamen, SuperVIG has quickly emerged in the vacuum glass industry.

SuperVIG has 85 mu (14 acres) of modern factory area and is equipped with 120,000㎡ of advanced intelligent production plant. With over 10 years of dedicated research and development in the vacuum field by parent company, SuperVIG has successfully developed a unique double-channel sealed vacuum glass production technology with independent intellectual property rights, leaping into the world's advanced ranks.

Innovative technology

End the traditional extraction port exhaust, revolutionary realization of material degassing, vacuum welding, second sealing and other series of processes in the high vacuum environment.

Equipment technology

Independent design from raw materials into the production line until the end of the entire process, the whole process automation, intelligent production line, with strong supply ability.

Real-time detection technology

Integrating materials, heat transfer and structural science, it builds a detection technology system around all aspects of product production, manufacturing and application.

High-performance technical materials

We independently developed alloy solder and high-efficiency composite alloy getter, and the weld leakage rate is strictly controlled at the level of 10^{-10}pa·L/S, which effectively extends the service life of the glass.

Vacuum Insulation Glass

The no-pumping-port design not only perfectly preserves the design aesthetics of the glass, but also brings a better experience in practicality. It overcomes the probability of defects such as exhaust port leakage and uneven local tempered stress, And the glass surface is flat, there is no need to reserve space on profile installation, which is easy to transport, install and fix.

Seven Key Features·One Glass Solution

Strong heat insulation ability
Improve the anti-condensation ability of glass

0.5mm gap
Industry-leading

Fully tempered glass
High hardness, safer to use

Good sound insulation effect
Weighted sound insulation 36-40 decibels

Lead-free solder
Comply with EU environmental standards

No bleeder hole
Good looking and long lifespan

Low heat transfer coefficient
The heat insulation effect is equivalent to 1200mm thick wall

VIG Reinforced Polyurethane Door

Specially designed for freezer

Match with vacuum glass, the energy saving and anti-dew performance are stronger

Improve the service life of freezer, energy-saving effect is more outstanding

Reinforced Polyurethane
Excellent bending resistance and durability, effectively reduce the heat exchange of inside and outside freezer

Fully tempered vacuum glass
Excellent thermal insulation performance and sound insulation effect, improving the ability of the glass exterior to resist condensation

Image only for reference

Advantages of the Door

1.Compared with aluminum alloy doors, VIG reinforced polyurethane doors have better thermal insulation and sound insulation effects, while being lighter and more cost-effective.

2.Compared with plastic steel doors, VIG reinforced polyurethane doors do not contain plasticizers, are more environmentally friendly, and have better strength and durability.

Light weight and high strength
With light weight, high strength characteristics, easy to install and use.

Heat preservation and consumption reduction
Good insulation performance, can effectively reduce the temperature difference between inside and outside, improve energy efficiency.

Good durability
Good weather resistance and corrosion resistance, not easy to be affected by moisture, deformation and aging.

Easy to install
It can be customized according to different needs, convenient processing and installation, and adapt to different freezer styles and space needs.

Energy saving comparison test of vacuum glass

	Temperature	Energy consumption (kw·h/24/)	Total heating power of the door	Remarks
Original Triple glazing with two cavities hollow door	13℃~22℃	11.7	158W	No condensation in 100% humidity environment
High bending modulus profile + vacuum glass door	15℃~22℃	6.8 (Save 41.8%)	45W	No condensation in environment with humidity≤75%
High bending modulus profile + vacuum composite hollow glass door	12℃~24℃	6.3 (Save 46.1%)	36W	No condensation in environment with humidity≤85%
High bending modulus profile + vacuum composite hollow electric heating glass door	16℃~22℃	7.4 (Save 36.7%)	60W	No condensation in 100% humidity environment

Factory laboratory test data

Test data of hollow glass door of Type A freezer				
Environmental temperature:		35/75%		
Dew point temperature:		29.9℃		
On/off temperature inside the freezer:		-19.5~-23.4℃		
		Left	Middle	right
Surface temperature of glass door: (electric heating)	Up	37.7	37.9	39.3
	Middle	36.2	36.5	36
	down	35.4	35.5	35.4
Transformer output:		55V		
Glass door resistance value:		25Ω		
Door heating power:		126W, Glass part 84W		

Test data of hollow glass door of Type B freezer				
Environmental temperature:		35/75%		
Dew point temperature:		29.9℃		
On/off temperature inside the freezer:		-20.8~-23.3℃		
		Left	Middle	right
Surface temperature of glass door:	Up	31.8	31.3	31.1
	Middle	31.6	31	30.9
	down	32.4	30.9	31.5
Transformer output:		56V		
Glass door resistance value:		82.2Ω		
Door heating power:		38.2W		

Image: Non-experimental machine. For reference only.

OEMs test data

Door type	Triple glazing with two cavities hollow door	Vacuum glass door	Difference
Power consumption (Kw/day)	8.74	5.81	2.94 (33.5%)

Freezer Door Vacuum Glass Installation Guide

1.For the profiles of vacuum glass, it is recommended to choose materials with the bending modulus greater than 20GPa, so as to reduce the bending deformation caused by the large temperature difference between the two sides of vacuum glass.

2.Place rubber gaskets (Shore hardness: 80A) between the profile mounting grooves and the vacuum glass.

Requirements:

·≥ 2 gaskets per edge. ·Gasket width > vacuum glass thickness.

·Gasket length ≥ 25 mm. ·Gasket thickness: 2-6 mm.

Ensure no sharp or hard objects contact the vacuum glass in the mounting grooves.

3.Select materials with thermal conductivity < 0.5 W/(m·K).

(1) When the temperature difference between inside and outside < 30℃, Insertion depth ≥ 30 mm (can meet 75% dew point requirements).

(2) When the temperature difference between inside and outside ≥ 30℃, The heat transfer effect of the vacuum glass boundary is more obvious, Increase insertion depth, or add the appropriate auxiliary heat at the junction of the glass and the profile to prevent the junction of the profile and the glass outer surface failure to meet dew point requirements.

4.When installing vacuum glass, determine the installation face based on the product identification surface. Among them, the hot side is the side with high temperature, and the cold side is the side with low temperature.

Development Process

Oct 2007

Fujian Super Tech Advanced Material Co., Ltd. was established, the vacuum insulation panel was listed, and the vacuum insulating glass entered the theoretical research.

Mar 2018

Began to carry out substantial structural design, process route demonstration, preliminary experimental verification of Vacuum glass.

Jan 2019

Started to design the process verification machine and entrust the third party, Simultaneously processing independent R&D on sealing alloy materials.

Jun 2020

Established the integrated R&D laboratory including process testing machine, material research and development, and testing technology;
VIG (Xiamen) Technology Co., Ltd. (subsidiary).

Aug 2020

Achieved fully tempered, no-pumping-port, all-metal-sealed, dual-sealed vacuum glass samples.
Began independent design of the continuous vacuum glass production line.

Golden Nail Award

Won the "Golden Nail Award", a top-tier annual award for outstanding home appliance components, after standing out among over 300 competing products.

AWE Core Component Award

Won the "AWE Core Component Award", which is widely regarded as the "Oscar" in the field of global smart life.

Jan 2021

The project was recognized by Xiamen government.
Began to plan the vacuum glass industry base in Guankou Town, covers an area of 85 mu (14 acres), Planning annual capacity of 2 million square meters.

Aug 2022

The first pilot production line for continuous,fully tempered, no-pumping-port, all-metal-sealed, dual-sealed vacuum glass began to be installed at Super Tech's production base,trial production and practical validation.

Jan 2024

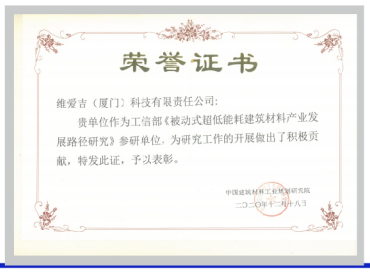
Topping-out ceremony held for the Xiamen production base factory building.

May 2024

Two planned vacuum glass production lines with annual capacity of 200,000 square meters entered installation phase simultaneously.

Recognized by national professional organization

Recognized as a key contributor to the MIIT (Ministry of Industry and Information Technology) research project "Development Pathway research of Passive Ultra-Low Energy Consumption Building Materials Industry".
Awarded the Certificate of Honor by the China Building Materials Industry Planning & Research Institute.


荣誉证书

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贵单位作为工信部《被动式超低能耗建筑材料产业发展路径研究》参研单位，为研究工作的开展做出了积极贡献，特发此证，予以表彰。

中国建筑材料工业规划研究院

二〇二〇年十二月十八日

Shortlisted for CF Award

Successfully shortlisted for the 2021 Canton Fair Export Product Design Award (CF Award) - a highly competitive selection process involving 1,972 entries.

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