# 河北固得 环保设备有限公司

Hebei GuDe Enviromental Protection Equipment Co., LTD.

FRP TANK

FRP PIPE

FRP TOWER

FRP PROFILES

FRP GRATING

FRP Products for Sewage treatment Flue and Gas Treatment Equipment









Quality control system

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Professional and qualified

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100% satisfaction guarantee

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**Ecological sensitivity** 

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Highly professional staff

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**Customized solutions** 

Hebei Gude Environmental Protection Equipment Co., Ltd. is an enterprise which mainly produces auxiliary equipment for metallurgy, chemical industry, environmental protection and food industry.



## Environmental Equipment FRP Products

——Professional FRP Tower Manufacturer

FRP Desulfurization tower

FRP Absorption Tower

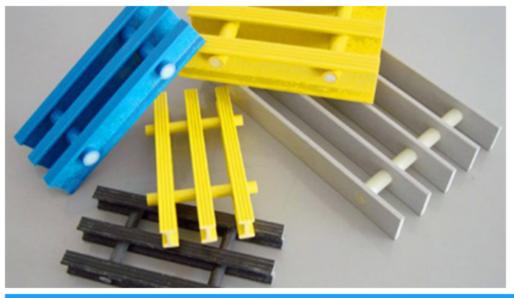
FRP Scrubber

FRP Pickling Tower











FRP Pultruded Profiles FRP Pultruded Grating FRP Pultruded CABLE TRAY







FRP Moulded Products FRP Grating FRP Cover





玻璃钢卧式储罐 FRP Horizontal Tanks



This type of tank can provide fully customized solutions according to customer needs, including production according to customer drawings or specific size requirements, to meet the special storage needs of various industrial fields.





drawings and technical requirements
provided by the customer

Size Customization: Non-standard
sizes according to the space
restrictions on the customer's site.

Interface Configuration: Customizable
inlets and outlets, manholes,
observation holes, etc. of various
calibers, positions and quantities.

Production by Drawing: Engineering

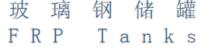


**Customized Service** 

Internal Structure: Special structures such as wave-breaking plates, heating coils, stirring devices, etc. can be added Color Selection: A variety of color options are available, and production can also be carried out according to customer-specified colors



#### Performance Advantages





- 1. Excellent corrosion resistance
- 2. Excellent structural performance
- 3. Long-term durability
- 4. Hygienic and environmental protection characteristics

  Smooth inner wall, not easy to scale, easy to clean, Non-toxic, in line with food-grade storage requirements

  Material can be recycled and has good environmental performance.





#### Main Application:

- 1.Chemical industry.
- 2. Environmental water treatment
- 3.Food and beverage industry
- 4. Petroleum and energy
- 5.Other industrial fields



#### Special purpose variants

Insulated tanks: Add insulation layer

Stirring tanks: Built-in mechanical or pneumatic

stirring device to prevent sedimentation.

Transport tanks: Reinforced structure designed

for transportation, equipped with fixing devices

Underground tanks: Special reinforced structure,

environmentally friendly tanks

Double-layer safety tanks: with leak detection

system for high-risk chemical storage



Vertical FRP storage tank













#### **Application areas**

Chemical industry, Environmental
protection engineering, Water
treatment: storage of pure water and
ultrapure water, Food and
pharmaceutical, Power electronics







#### FRP Pipe

Corrosive medium transportation: chemical park, electroplating plant, pharmaceutical company.

High-pressure pipeline system: oilfield water injection pipe, natural gas gathering and transportation pipe.

Municipal environmental protection: urban integrated pipeline corridor, sewage treatment plant.

Special environment: high-cold areas, coastal salt spray areas, underground humid environment.





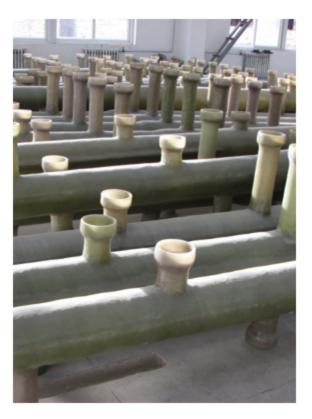




















## FRP Process Pipe 玻璃钢工艺管道







The reason why FRP process pipelines enjoy a reputation for significant energy saving is that their characteristics are reflected in n≤0.0084. Due to the smooth inner wall, the fluid transmission pressure loss is small. Large diameter pipelines can also reduce installation costs, reduce insulation costs, cancel anti-corrosion costs, and exempt overhaul costs.

Under freezing media, the pipeline will not be frozen and cracked.

Corrosion resistance: In an environment where pipelines are crisscrossed and intertwined, different corrosion-resistant pipelines can be selected according to the requirements of the medium; Pressure resistance, Heat resistance, Good insulation performance, good flame retardancy, flame retardant, and flame resistant; good transparency performance, which can be colorful after improvement; good thermal insulation performance, non-toxic; can be used for the transportation of drinking water.

DN	0.6MPa		1.0MPa		1.6MPa		2.5MPa		L(m)
	t(mm)	w(kg/m)	t(mm)	w(kg/m)	t(mm)	w(kg/m)	t(mm)	w(kg/m)	
25	4.5	0.8	4.5	0.8	4.5	0.8	4.5	0.8	1
32	4.5	1	4.5	1	4.5	1	4.5	1	1
40	4.5	1.2	4.5	1.2	4.5	1.2	4.5	1.2	1
50	4.5	1.5	4.5	1.5	4.5	1.5	4.5	1.5	3
65	4.5	1.9	4.5	1.9	4.5	1.9	5.5	2.3	3
80	4.5	2.3	4.5	2.3	4.5	2.3	5.5	2.8	6
100	4.5	2.8	4.5	2.8	5.5	3.5	5.5	3.5	8
125	5	3.9	5	3.9	5.6	4.4	6.5	5.1	8
150	5	4.6	5.5	5.1	6	5.6	7.5	7	10
200	5.5	6.7	6	7.4	6.5	8	8	9.9	12
250	6	9.2	6.5	9.9	6.5	9.9	9.5	14.7	12
300	6.5	11.9	7	12.8	7	12.8	10.5	19.5	12
350	6.5	13.8	7	14.9	7.5	16	11.5	24.8	12
400	7	17	7.5	18.2	8	19.5	14	34.6	12
450		19.1 22.7	7.5	20.5	8	21.9	15	41.6	12
500	7.5		8	24.2		27.3	16	49.3	12
600	8.5	30.9	9	32.7	12	43.8	19	70.2	12
700	9	38.1	11	46.7	14	59.6	22	94.8	12
800	9.5	45.9	12.5	60.6	16	77.9	23.5	115.5	12
900	10.5	57	14	76.3	17.5	95.8	25	138	12
1000	12	72.5	15	90.8	19	115.5	27	165.4	12
1200	13	94.1							12
1400	16	135.2							12
1500	17	153.9							12
1600	18	173.8							12
1800	20	217.2							12
2000	23	277.6							12
2200	24	318.4							12
2500	27.5	414.7							12
2600	28.6	448.5							12
2800	30.2	509.9							12
3000	32.5	588							12
3400	35.9	735.9							12
3600	37.6	816							12
4000	39.8	959.2							12



#### FRP Mortar Pipe 玻璃钢夹砂管道





#### **Application areas**

Urban underground pipelines: replace concrete pipes to solve corrosion and leakage problems.

Power plant desulfurization system: acid and alkali resistant, suitable for wet desulfurization slurry transportation.

Oilfield gathering and transportation pipelines: corrosion resistance, reducing the erosion of crude oil and sewage on pipelines.

Highway drainage: light weight, high strength, high construction efficiency.





## 玻璃钢管件 FRP ipe Fitting\_

The accessories of FRP pipes include elbows, tees, flanges, Y-joints, T-joints, reducers, etc. Various FRP pipes have corresponding accessories, see the figure below.

























### Application









I.Application in the field of environmental protection

- 1. Desulfurization tower
- 2. Waste gas treatment tower
- 3. Deodorization tower
- 4. Spray tower

II. Application in chemical process field

- 1. Absorption tower
- 2. Scrubber
- 3. Neutralization tower
- 4. Drying tower
- 5. Process tower
- 6. Reaction tower

III. Application in other fields

- 1. Cooling tower
- 2. Filter tower
- 3. Distillation tower













#### Advantages of FRP tower:

Excellent corrosion resistance: can withstand corrosion from acids, alkalis, salts and a variety of organic solvents

Lightweight and high strength: weighs only 1/4 of steel, but its strength is comparable to alloy steel

Long service life: can reach more than 20 years under normal use conditions

Low maintenance cost: not easy to scale, no need for anti-corrosion treatment

Flexible design: various sizes and structures can be customized according to process requirements

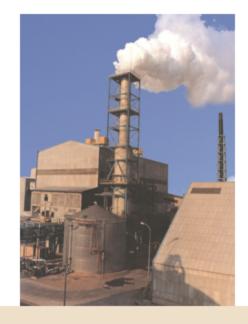
Easy installation: can be hoisted as a whole or assembled in sections, with a short construction period















**FRP chimneys** widely used in waste gas emission scenarios that require corrosion resistance and high temperature resistance, including:

Chemical industry: acid mist, alkali mist, organic waste gas emission

Power industry: flue gas treatment of coal-fired power plants and waste incineration plants

Metallurgical industry: waste gas emission of blast furnaces and coking plants

Environmental protection engineering: desulfurization and denitrification (FGD) system, waste gas treatment of sewage treatment plants

Other fields: ventilation and smoke exhaust in pharmaceutical, papermaking, food processing and other industries









#### Standard profile types

Rods: diameter Φ5-100mm

Pipes: Φ20-500mm (wall thickness 2-15mm)

I-beam/channel steel: height 30-300mm, wing width 50-200mm

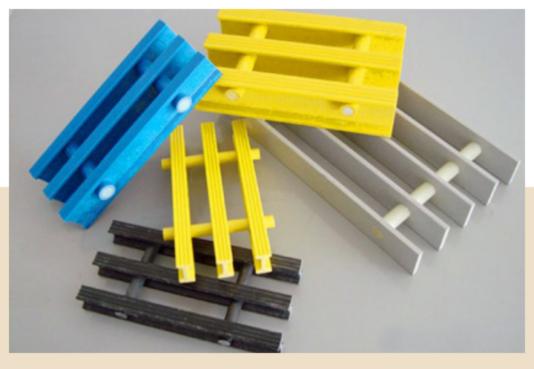
Square tube: 20×20mm to 400×400mm

Customization capabilities

Support non-standard cross-section design (such as special-shaped structures,

hollow multi-cavity).

The length is usually 6m/branch, which can be extended to 12m.





#### FRP Grating 玻璃钢格栅



#### Application fields

**Industry Application scenarios** 

Petrochemical: Platform, walkway, tank fence, sewage treatment pool cover Electric power: communication Cable trench cover, substation walkway, insulated pedal

Marine and marine: Deck, gangway, dock anti-slip walkway

Food and pharmaceutical: Workshop floor, cleaning platform, anti-corrosion workbench

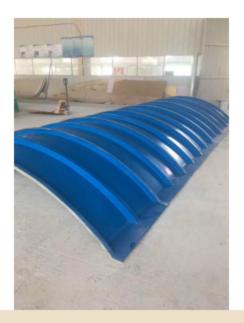
Municipal construction: Greening tree pool cover, pedestrian bridge, drainage ditch cover

Environmental protection industry: Waste gas treatment tower platform, desulfurization tower grille















#### Welcome your inquiry about the FRP products

including cable tray, Cover Plate for Sewage treatment, FRP Fans, FRP SMC Panel water tank, etc.

We will quote you the best possible price as per your requirement.



# 谢谢观看

Thanks for watching

FRP has become an important material in modern industry, municipal construction and other fields due to its excellent corrosion resistance, high strength, lightweight and safety and anti-slip advantages. As a professional FRP manufacturer, we can provide customized solutions according to customer needs to ensure product performance and service life. If you need more technical parameters or purchase consultation, please feel free to contact us!

-- Hebei GuDe, a professional fiberglass grille manufacturer

