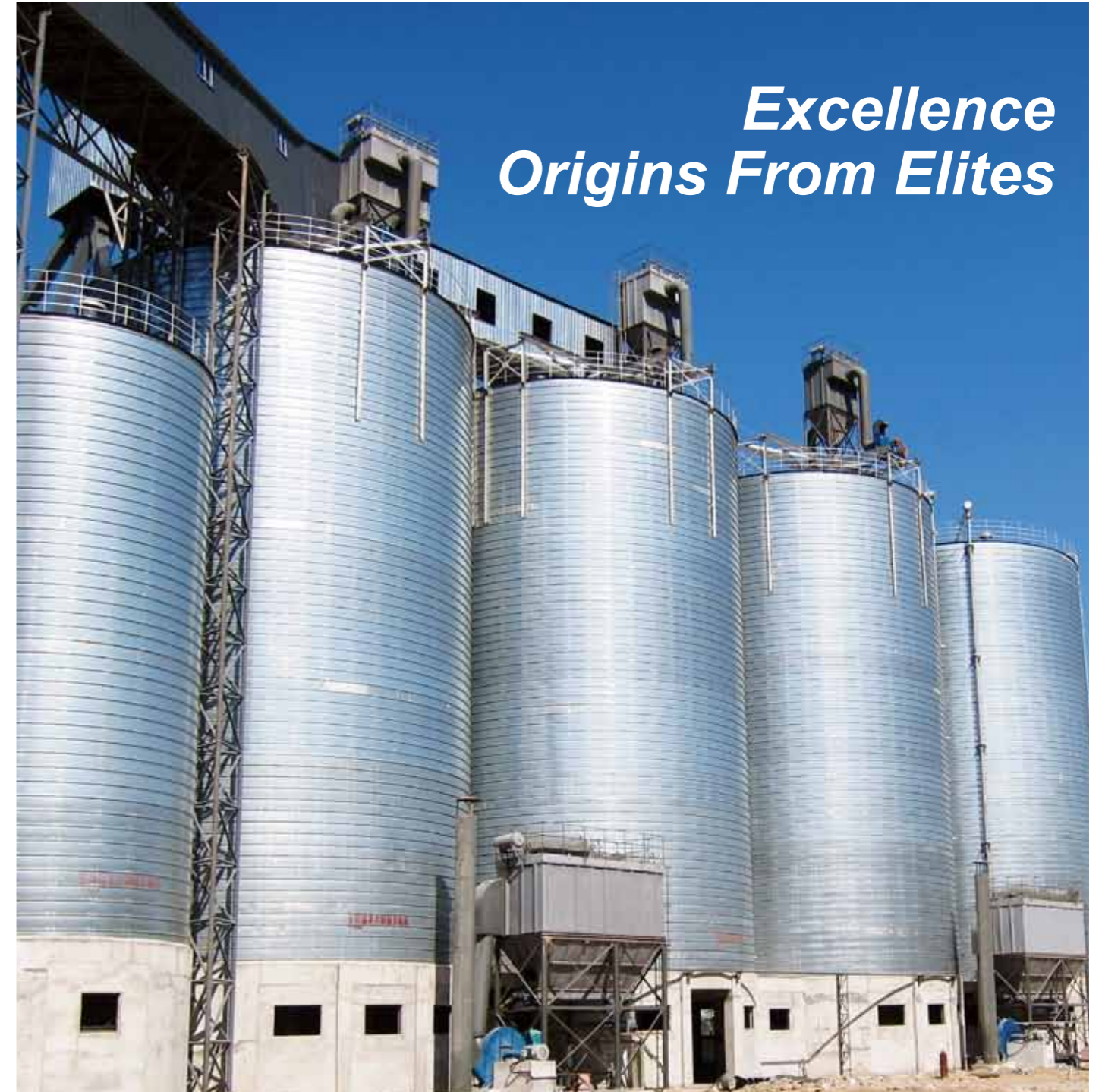


*Excellence  
Origins From Elites*



**Anyang Flyer Steel Silo Engineering Co., Ltd.**

**Phone:** +86-(0)372-5081703 **Zip Code:** 455000

**Email:** info@steel-silo.com **Web:** www.steel-silo.com

**Add:** Demonstration Garden of Advanced Equipment Manufacturing Industry, High-tech Zone, Anyang, Henan, P.R.C.



Anyang Flyer Steel Silo Engineering Co.,Ltd.



## BRAND CULTURE

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### **Products Concept**

Elites and excellence

### **Business Philosophy**

Facing to the orientation of high-end market  
to manufacture product with super quality and competitive price

### **Corporate Vision**

To make Flyer the elite for talents and silo industry

### **Business Success Secretes**

Efficiency comes from harmony, value is based  
on trustworthiness

### **Core Values**

Honesty, solidly and innovation



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# 01

## COMPANY PROFILE

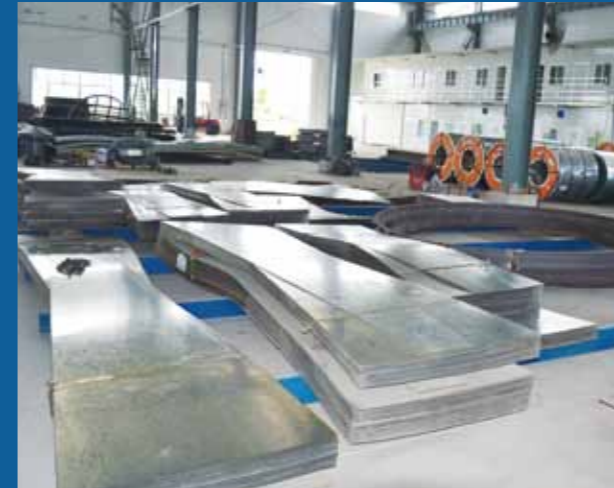
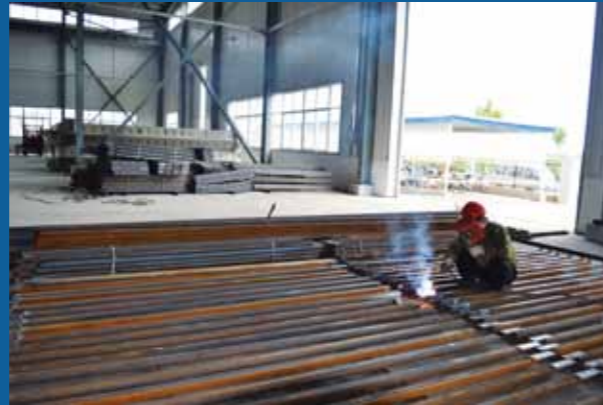
Flyer Steel Silo Co., Ltd, founded in May of 2007, is located in the Demonstration Garden of Advanced Equipment Manufacturing Industry in Anyang High-tech Zone, China. It covers an area of 7000 square meters of production workshop, and over 3000 square meters of office building. Flyer is in possession of registered capital of 20 million RMB, and over 100 million RMB of total assets. Out of its more than 300 employees, 30 of them are technicians. Flyer is specialized in manufacturing spiral steel silo for 8 years with the most advanced technology in the world. Its product is featured by excellent airtight performance, small footprint, easy management, long service life, and easiness to be extensively applied in various industries, such as the construction industry, chemical industry, grain and oil industry, industrial materials



Office Environment

storage, as well as civil engineering. The dimension of the silo body can be flexibly customized to meet and even exceed customers' requirement. From its establishment to the present day, Flyer has evolved to be China's leading integrated service providers in silo storing industry. It persists on providing a series of sustainable solutions for the various aspects of storage projects, including product design, manufacturing, installation and maintenance. Now Flyer enjoys high reputation for providing top class products and service in China, and is continuously on the way of developing the technology and product ranges to meet the increasing market demand.

# WORKSHOP



# 02

## PROFESSIONAL EQUIPMENT AND TECHNICAL INNOVATION

### Professional Equipment

Flyer R&D center has a team with many experts of the silo industry. To insure a leading position of our technology and product, technicians in R&D are sent to professional institutes home and abroad regularly for further study, providing our customers with quality experience of professional service.

### Technical Innovation

Dr. Shan Minghuan, a senior expert from Germany and a technical leader in our company, developed the SM60 equipment (patent No.: ZL2012202165005) in 2012. Steel plate with a thickness of 6mm can be processed with this equipment.



Decoiling Machine



Forming Machine



Bending Machine



Bearing Machine



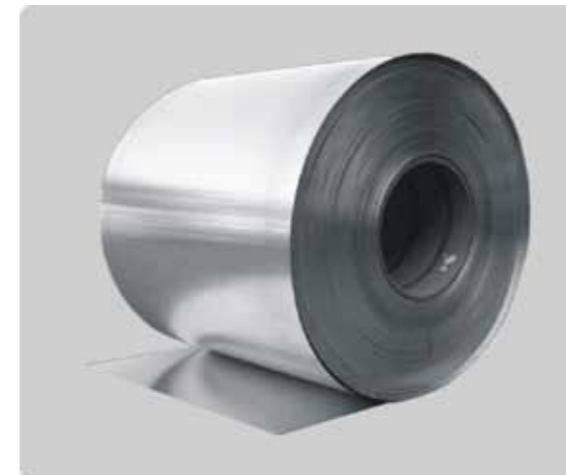


# QUALIFICATIONS AND HONORS



## Principle of Spiral Folding

Flyer steel silo uses the most advanced spiral undercutting technology in the world. While being constructed, coil sheet of 495 mm in width is shaped through the shaping machine, bent by the bending machine, and then undercut to form a spiral protruding strip of 30-40mm width around the silo body, which plays a role of strengthening the silo body. Our shaping machine is also able to fold two different steel sheets together at once.



Galvanized Coil



Coiling Principle



Bending Undercut



Bending Process

# Spiral Steel Silo Construction Technology And Process

To guarantee the quality of the entire project, we ensure every link from equipment locating, silo bending, roof installing, silo lifting, silo fixing, corridor installation and other auxiliary equipments is perfectly safe.



Equipment Location



Silo Bending



Roof Installation



Keep Rising



Stiffeners Fixing

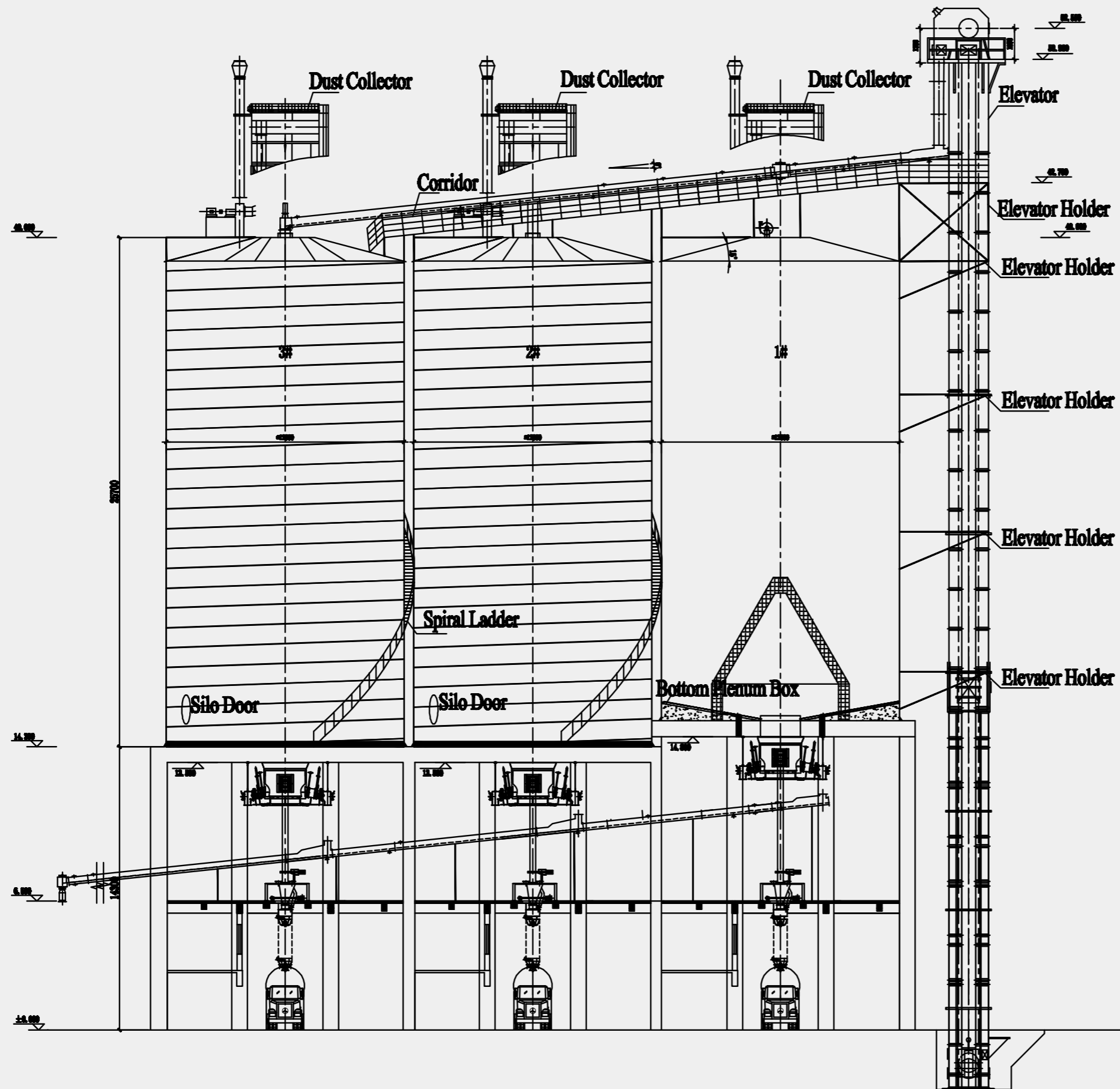


Silo Lifting



Auxiliary Equipment Installation

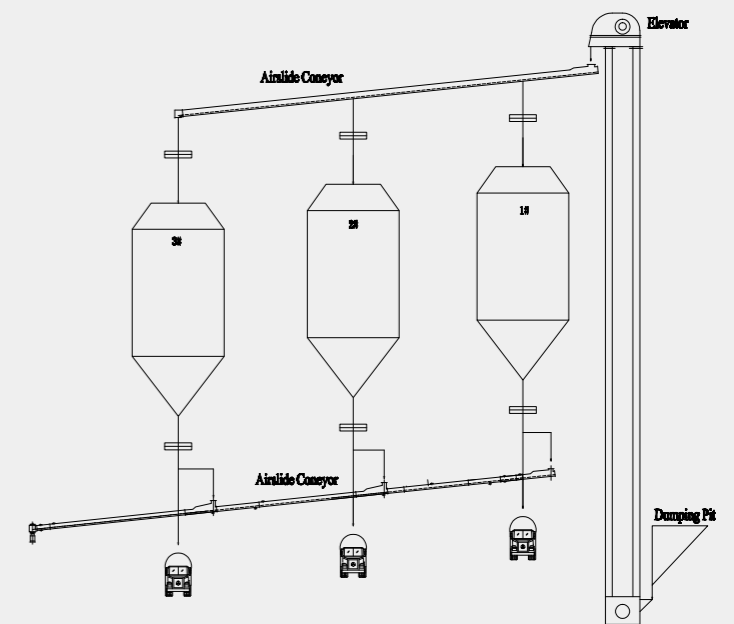




03

# PROCESS FLOW DIAGRAM

CAD is specially customized to best meet special requirement.



## 04

**PRODUCTS**

Providing products with superior quality and competitive price to middle and high-end market

With strong technical strength, superior performance, unique manufacturing method, Flyer takes advantage of professional equipment and mechanical operation for manufacturing excellent products. Using high intense of hot-dipped galvanized steel coil with double-side zinc coating and most advanced spiral bending technique, Flyer produces products with stable structure, anti-corrosion and air tightness performance.

We provide flexible choices on dimensions in a fairly large range to meet various demands, and a comparably small coverage that could narrow the separation distance down to 500mm for maximized space utilization. Short duration, cost-effectiveness, high automation, easy operation, and long service life make Flyer as your optimal choice.

## Cement Silo

We offer dependable and economical cement steel silos which meet national standards and will custom fabricate to suit your needs. Made of high intense hot rolled double galvanized coil that resists corrosion, our stainless steel silos are extensively applied in NSP cement production line, which makes Flyer you optimal choice.



Binhai Renzhou Cement Co., Ltd.



Huixian Sunstone Cement Co., Ltd.



Luoyang tongzhu cement Co.,Ltd.



Xinjiang Tunhe Cement Co., Ltd.





Binhai Renzhou Cement Co., Ltd.

## Industry Powders Storage Silo

We manufacture a large selection of steel silos for storage of slag, mineral powder, fine powder and fly ash. Using high intense of hot-dipped galvanized steel coil with double-side zinc coating of 275g/m<sup>2</sup> and most advanced spiral bending technique, Flyer produces products with stable structure, anti-corrosion and air tightness performance, which is why we are able to provide longer guarantees for our products.



Fuxin xinghua Fine Ore Comprehensive Utilization Co., Ltd.



Changzhi Zhangshan Building Materials Co., Ltd.

## Grain Storage Silo

In accordance with different nature of the solid material for storage and varied technological requirements, Flyer steel silo is manufactured by using of variety of materials to meet different requirement, which allows it to be widely used in industrial of grain, food, brewing, feed, as well as in agriculture.



Halar Mcdoli Beer Row Material Co., Ltd.



Baiyudong (Hebei) Flour Industry Co., Ltd.

## Wastewater Treatment Silo

Flyer steel silo is manufactured by special equipment for bending and seaming, so the seal of the silo is particularly good. It can be used for storage of sewage and biogas, which can be widely applied to other industries, such as light industry, water treatment, environmental protection.



Huadian Songhua River Basin Sewage Treatment Project



Pingdingshan Sludge Treatment and Disposal Project



Jining Zezhong Resources Comprehensive Utilization Co., Ltd.



Leiyang Yanxin Nonferrous Metals Co., Ltd.



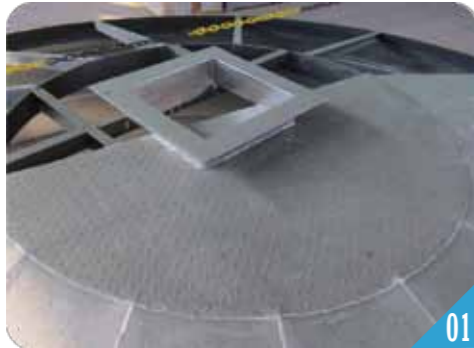
Qingzhou Tailong Carbonization Utilization Co., Ltd.

## Chemicals Storage Silo

Special equipments are used in bending and seaming of steel silo for chemicals industry to ensure a perfect manufacturing in process. Excellent airtight performance enables Flyer steel silo on storage of various industrial chemicals. Bilayer bend method is used to bending and shaping two different sheet materials at the same time, so that the cost for storing strong corrosive materials in chemical industry can be largely reduced.

## Unique Detail Optimization

All the innovations on the products above are all patents of Flyer and take the worldwide lead. Flyer provides free updating service for the products to bring the customers a better experience of high quality service.



01  
The cover plate on the roof is fabricated with hot rolling galvanized sheet instead of common sheet. It is good-looking in appearance and with excellent performance. The working life of the roof can be as long as the silo body;



02  
For the convenience of customs' doing maintenance work on the roof, non-slip strips are installed on the roof



03  
To avoid falling objects, skirting board of -2.0×100 is installed at the bottom of the banister on the roof.



04  
To prevent dust blocking, the amount of air vent has been added to reduce pressure more evenly.



05  
The painted components inside the roof help avoid the condensing, a phenomenon that common sheet may have, to extend its serving life and ensure its safety.



06  
Manufactured with hot-rolling galvanized coil instead of common sheet, the wallboard of silo gate is single-pressed with professional equipments. It has better performance in sealing, anticorrosion, and appearance as well.



07  
A temporary rest platform and a straight ladder are installed under the silo gate, providing convenience for maintenance.



08  
For the special steel silo clamping apparatus, Flyer changes iron casting to steel casting, whose material is the same with the welded parts and free from outside temperature impact, avoiding splitting during welding process.



09  
High strength steel channels are used as internal stiffeners whose sizes are enlarged from top to bottom according to the pressure distribution of the silo body. Two stiffening plates are installed at the joint of two stiffeners for reinforcement. The distance between two stiffeners is no more than 1m.



# Application

## Product Advantages And Features

### Good Overall Performance, Long Working Life

Flyer uses professional equipments to manufacture the steel silos. During the rolling process, the silo wall undercut a 30mm-40mm spiral convex strip, which is 5 times thicker of the material. It helps improve the silo's loading capacity and make the steel silo better than others in overall strength, stability and earthquake resistance. Besides, Flyer uses high anticorrosive material which makes the silo's working life much longer than others.

### Short Construction Period, Low Cost

The silo can be constructed on site and the roof can be installed on the ground. Short duration can be guaranteed for on-site construction during the whole procedure. Our professional equipments can provide a shaping speed of 3-5m per minute, so a cement silo with a capacity of 1000 tons could be done within 5-7 days. Cost-effectiveness can be achieved for light sheets are used for the whole silo which is as heavy as the rebar of concrete silo. Bilayer bending method is used to bend and shape two different sheet materials at one time, so that the cost for storing strong corrosive materials in chemical industry can be largely reduced.

### Good Sealing Performance, Wide Application

With special equipments for bending and seaming, the quality of all parts of the silo body is guaranteed and the seal of the silo is particularly good. Therefore, if the silo is for storage of grain, the process requirement of disinfection and fumigation can be well met. In addition, in accordance with different nature of the solid material for storage and varied technological requirements, the material for building the silo can be chosen from a variety of materials, allowing the silo to be widely used in industries of grain, food, brewing, sewage purification, as well as in agriculture

### Less Area Occupation, Easy Management

Compared with other similar manufacturers, Flyer provides steel silos with free choices of the height and diameter within a wider range. To save space, the distance between two silos can be narrowed to 500mm. With high automatic production, temperature measurement and material level equipments, spiral silo can be operated conveniently.



Construction

- Cement
- Bentonite Clay
- Clay
- China Clay
- Clinker
- Sand
- Ceramic Granule
- Shale Particle
- Ironstone
- Carbide Slag
- Bauxite
- Desulfurization Powder



Industry Powder

- Fly Ash
- Coal
- Dry Slag
- Slag
- Micro Powder
- Limestone
- Pulverized Lime
- Steel Slag
- Grinding Aids
- Gypsum
- Water Granulated Slag
- Furnace Slag
- Coal Gangue Powder
- Calcined Dolomite
- Granulated Coal



Chemical Industry

- Desulfurization Powder
- Iron Ore Powder
- Alumina
- Vitriified Micro Bubbles
- Additives
- Magnesia Slag
- Calcium Powder
- Antimony Trioxide
- Calcined Coke
- Petroleum Coke
- Carbon
- Calcined Petroleum Cok



Grain And Oil Industry

- Chaff
- Wheat
- Malt
- Barley
- Corn
- Pea
- Soybean



Environmental Protection

- Sludge
- Wastewater

# Preferential Capacity Table

Preferential capacity, both aesthetically and practically, is provided here for your reference.

| Diameter(m) | Highly(m) |     |     |     |     |     |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
|-------------|-----------|-----|-----|-----|-----|-----|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
|             | 6         | 7   | 8   | 9   | 10  | 11  | 12   | 13   | 14   | 15   | 16   | 17   | 18   | 19   | 20   | 21   | 22   | 23   | 24   | 25   |
| 4           | 75        | 88  | 100 | 113 | 126 | 138 | 151  | 163  | 176  | 188  | 201  |      |      |      |      |      |      |      |      |      |
| 5           | 118       | 137 | 157 | 177 | 196 | 216 | 236  | 255  | 275  | 295  | 314  | 334  | 353  |      |      |      |      |      |      |      |
| 6           |           |     | 226 | 254 | 283 | 311 | 339  | 367  | 396  | 424  | 452  | 480  | 509  |      |      |      |      |      |      |      |
| 7           |           |     |     |     | 385 | 423 | 462  | 500  | 539  | 577  | 615  | 654  | 693  | 731  | 770  |      |      |      |      |      |
| 8           |           |     |     |     | 502 | 553 | 603  | 653  | 703  | 754  | 804  | 854  | 904  | 955  | 1005 | 1056 | 1106 |      |      |      |
| 9           |           |     |     |     |     |     | 763  | 827  | 890  | 954  | 1017 | 1081 | 1145 | 1208 | 1272 | 1336 | 1400 |      |      |      |
| 10          |           |     |     |     |     |     | 942  | 1021 | 1099 | 1178 | 1256 | 1335 | 1413 | 1492 | 1570 | 1649 | 1728 |      |      |      |
| 11          |           |     |     |     |     |     | 1140 | 1235 | 1330 | 1425 | 1520 | 1615 | 1710 | 1805 | 1900 | 1996 | 2091 |      |      |      |
| 12          |           |     |     |     |     |     | 1356 | 1470 | 1583 | 1696 | 1808 | 1922 | 2035 | 2148 | 2261 | 2374 | 2487 | 2601 | 2714 | 2827 |
| 13          |           |     |     |     |     |     | 1592 | 1725 | 1857 | 1990 | 2122 | 2255 | 2388 | 2521 | 2653 | 2786 | 2919 | 3053 | 3186 | 3318 |
| 14          |           |     |     |     |     |     |      |      |      | 2308 | 2462 | 2616 | 2769 | 2923 | 3077 | 3231 | 3385 | 3539 | 3695 | 3848 |
| 15          |           |     |     |     |     |     |      |      |      | 2649 | 2826 | 3003 | 3179 | 3356 | 3533 | 3709 | 3886 | 4062 | 4241 | 4418 |
| 16          |           |     |     |     |     |     |      |      |      |      |      |      | 3617 | 3818 | 4019 | 4220 | 4421 | 4624 | 4825 | 5027 |
| 17          |           |     |     |     |     |     |      |      |      |      |      |      | 4048 | 4310 | 4537 | 4764 | 4991 |      |      |      |
| 18          |           |     |     |     |     |     |      |      |      |      |      |      | 4578 | 4832 | 5087 | 5341 | 5595 |      |      |      |
| 19          |           |     |     |     |     |     |      |      |      |      |      |      | 5101 | 5384 | 5668 | 5951 | 6234 |      |      |      |
| 20          |           |     |     |     |     |     |      |      |      |      |      |      | 5652 | 5966 | 6280 | 6594 | 6908 |      |      |      |
| 22          |           |     |     |     |     |     |      |      |      |      |      |      | 6842 | 7223 | 7603 | 1982 | 8362 |      |      |      |
| 24          |           |     |     |     |     |     |      |      |      |      |      |      | 8143 | 8595 | 9048 |      |      |      |      |      |
| 25          |           |     |     |     |     |     |      |      |      |      |      |      | 8835 | 9326 | 9817 |      |      |      |      |      |

**Note**  
 The table is a cylinder chamber volume. Top conical angle to provide reference to 15°, not part of the calculation volume warehouse roof, another table in the deduction of bins fill slope partial volume. The steel silo diameter can choose between 3-28 meters, considering the production, series of angle, the diameter of preferably above series.

# 05

## OUR SERVICE



**1** We provide attentive service on your preliminary technical consultation and professional final-period design so as to meet the demand of the clients. engineering and construction plans freely based on your special requirement.

**2** We provide professional construction team composed of professional engineers and technical elites with systematic training and experience to ensures high standards of construction quality.

**3** We provide a detailed construction schedule timely for you, so that you would manage the project progress comprehensively and carry out coordination according to the plan.

**4** We adhere to provide personalized service on the principal of quality-oriented. Every link of the project is under strict quality supervision based on the company and national standards. Strictly following all standards, we guarantee the quality of the project from design, preparation, prefabricated to on-site installation.

**5** We provide free training before the silos are used to show you professional way on operation and maintenance.

**6** We provide a 1-year free maintenance after the project is delivered and for over one-year maintenance period, we provide thoughtful service as usual and collect only the corresponding cost of materials.

**7** We provide phone service every three months to remind our customers of possible problems in the course of using steel sheet and collect advices or suggestions in product quality and the related services.

**8** We guarantee a timely reaction for arriving at the scene after receiving feedback.

## 06

## COOPERATION PARTNERS

Since the establishment, we have been cooperating with plenty of reliable partners all over China. A list of part of our partners is as follows:

- Xinjiang Tianshan Building Materials Co., Ltd.
- Xinjiang Qingsong Building Materials & Chemicals Co., Ltd.
- Inner Mongolia Baotou Xiangshunda Industry and Trade Co., Ltd.
- Inner Mongolia CNBM Tongda Building Materials Co., Ltd.
- Henan Taiyangshi Cement Group Co., Ltd.
- Shandong Jinan Wohushan Building Material Co., Ltd.
- Shanxi Gujiao City Riyue Thermal Power Co., Ltd.
- Gang East Zhongshan City Huiwang New Building Material Co., Ltd.
- Jingxi County Guangxi Dieling Cement Co., Ltd.
- Liaoning Tieling Dahuofang Cement Co., Ltd.
- Shannxi Tongchuan City Mine Cement Co., Ltd.
- Tianjin Wangchongzheng Cement Co., Ltd.
- Chongqing Longxi Construction (Group) Co., Ltd.
- Beijing Capital Iron And Steel Group Lujiashan Limestone Mine Co., Ltd.
- Xiluodu Project Department of Yunnan Hydraulic Engineering Machinery Plant
- Shanghai Ming 's Building Material Co., Ltd.
- Shandong Lianggang New Energy Development Co., Ltd.
- Hebei Baiyudong Flour Manufacture Co., Ltd.
- Xinjiang Tunhe Cement Co., Ltd.
- Hefei Cement Research & Design Institute.
- Gansu Qilianshan Cement Group Co., Ltd.
- Xinxiang Wangs Cement Co., Ltd.
- Xiangtan Huaqiang Building Material Co., Ltd.
- Ningxia Huasheng Concrete Industry Co., Ltd.
- Jiangsu Binhai Renzhou Cement Co., Ltd.