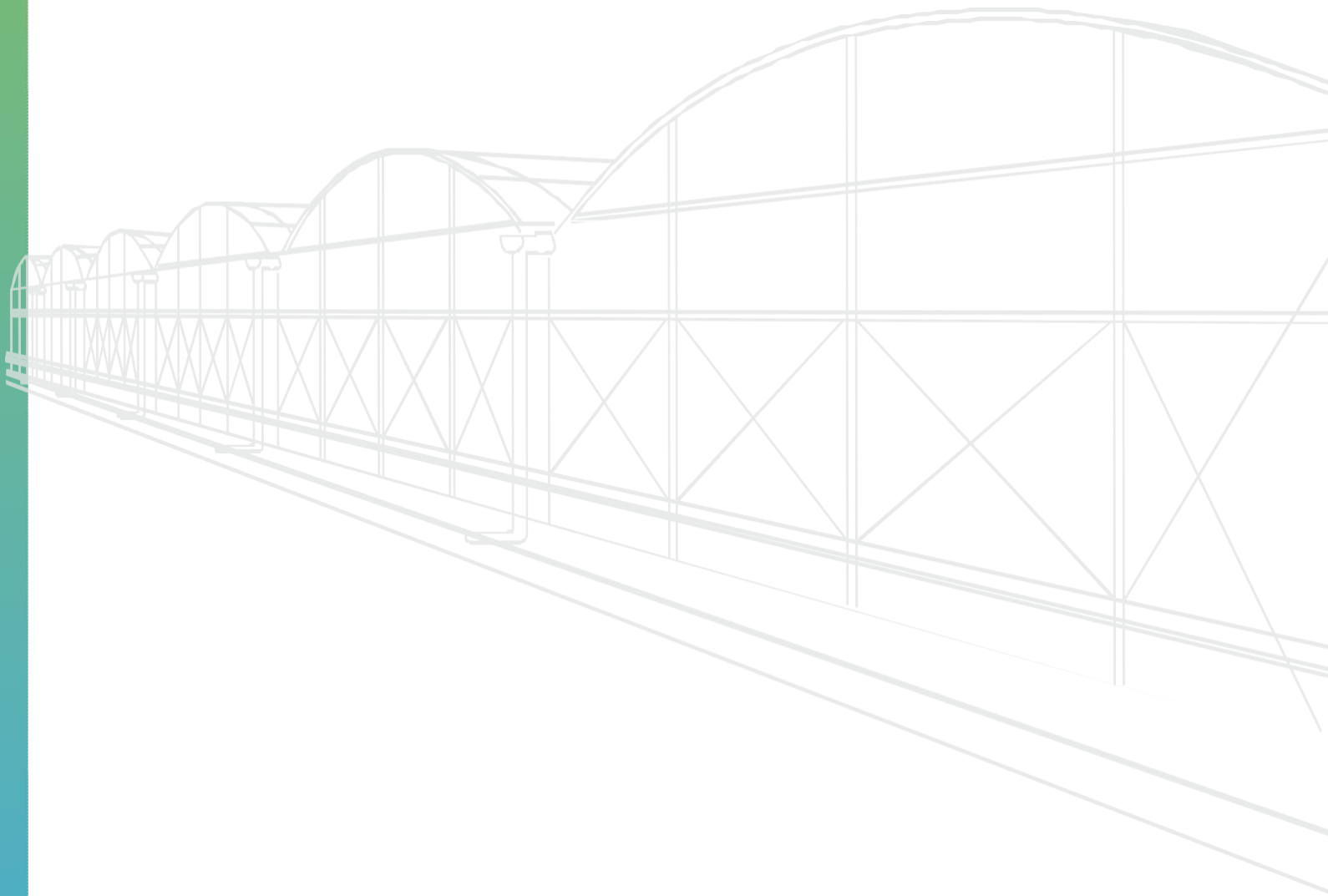


# PRODUCT CATALOG

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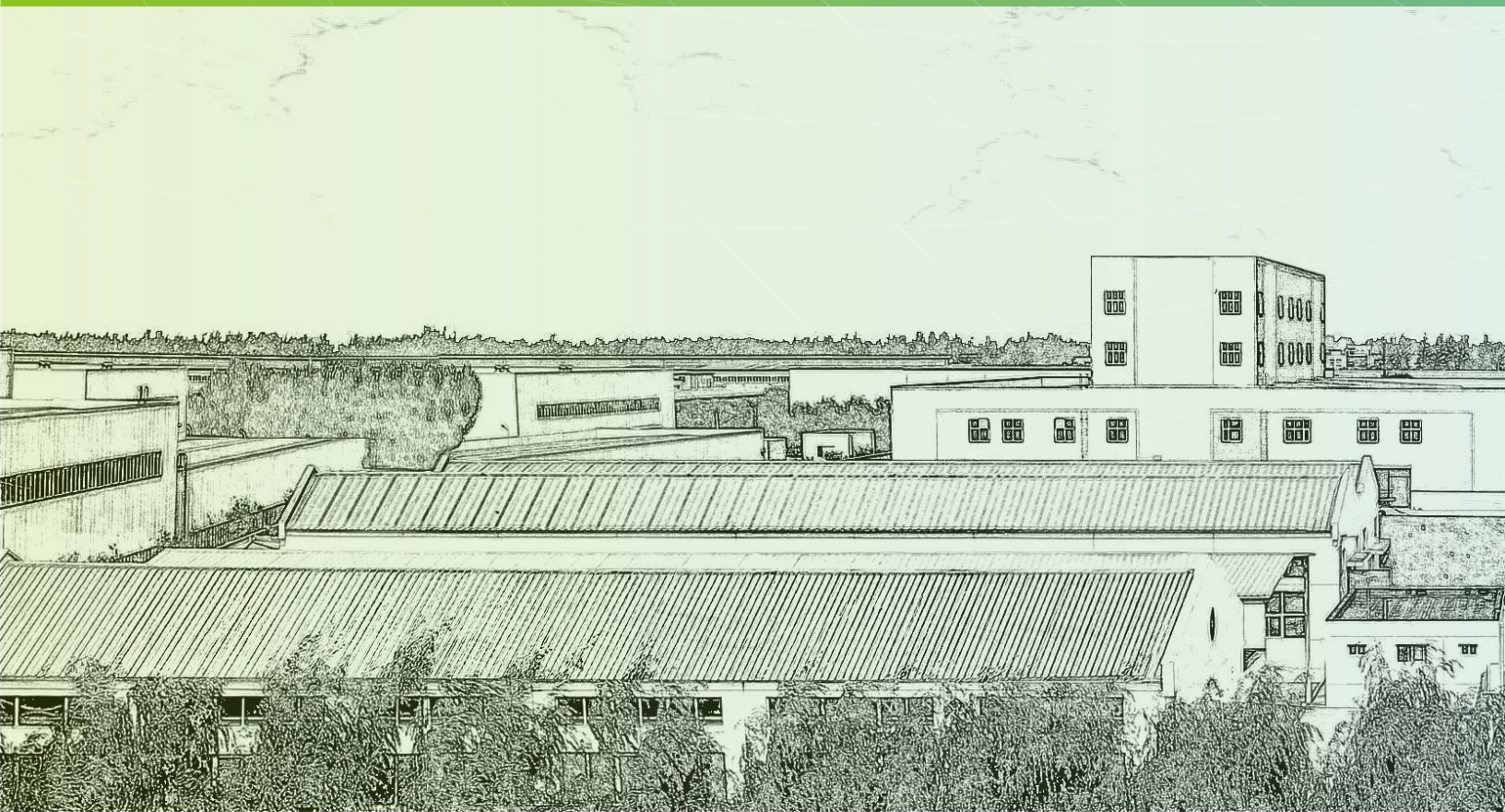
# Company Profile

Our company was founded in 1999, our factory is located in the Tongzhou District of Beijing and occupies more than 40,000 square meters. We employ more than 200 people across three R&D centers, three national offices and four distribution centers. We have three main series products, including polymer materials, electromechanical equipments and greenhouse automatic control system. Our products have been exported to more than 64 countries worldwide including Japan, the United States, Israel, and Europe etc.

The manufacturer maintains long-term business alliances with Japan Mitsui Chemicals, Japan KYOWA, Japan C.I. TAKIRON, Institute of Chemistry Chinese Academy of Sciences and Chinese Academy of Agricultural Sciences.

With that, our company has introduced advanced Japanese production technologies and management concepts, the company has in place a very strict quality control system, certified by ISO9001 quality management system, ISO14001 environmental management system, and GB/T28001 health and safety management, ensure that all the qualified products are strictly inspected and traceable, we believe we can provide better products and services to major domestic and foreign engineering companies and growers.

We are deeply indebted to our customers and suppliers for their continuous support. We are always committed to delivering to our customers the best.



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# 01

01

## Greenhouse Covering Film

### TOYOTANI® Polyethene Film

TOYOTANI® Clear Film

TOYOTANI® Diffused Film

TTPO® Multi-span Greenhouse Film

BHB White-black-white Greenhouse  
Film

TOYOTANI® Black-white Film



# TOYOTANI® Polyethene Film

## Japanese Technology, Our Product, Global Service

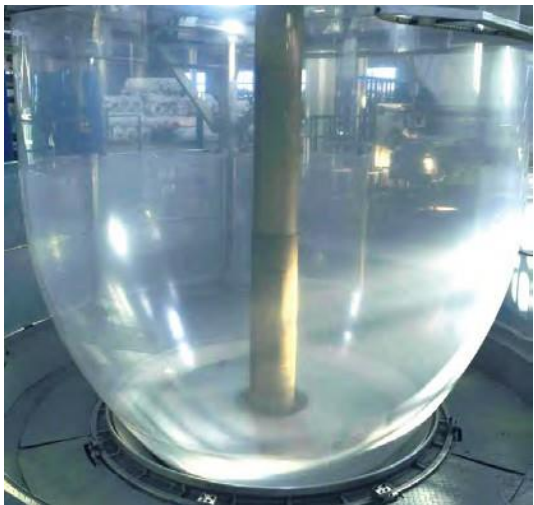
Though expensive, no single material waste being reused,  
Though arduous, no single minute loosening for quality control.

### TOYOTANI® Polyethene Film Introduction



▲ Factory Overview

Our company maintains long-term business alliances with Japan Mitsui Chemicals, Japan KYOWA, Japan C.I. TAKIRON, Institute of Chemistry Chinese Academy of Sciences and Chinese Academy of Agricultural Sciences. TOYOTANI® Polyethene film uses advanced Japanese Mitsui Technology and unique formulation. It is multi-layer film, the efficient functional additives are added into different layer. The top layer, which is facing the sky, is for anti-static and UV Stabilization, middle layers are for IR or Thermic and the inner layer, which is facing the plants, is mainly for the anti-mist and anti-drip. TOYOTANI® Polyethene Film, accurate thickness, no recycling material, adding the Metallocene with higher proportion to make sure the film has high light transmission and tensile strength. We complete them in Tongzhou Factory from the materials production to finished goods. We test every batch of film with imported Q-Lab QUV Spray (USA) to ensure the quality consistency.



# TOYOTANI® Clear Film

Crystal Clear/ High Strength/ Better Thermicity/ Anti-Drip& Anti-Mist/ Long Duration

01



## 2/ Features of TOYOTANI® Clear Film

- **Long Duration**

Temperature-resistant, Cold-resistant, UV Stabilization, Cost Effective.

- **High Strength**

The strength can reach twice the national standard, enhanced loading capacity.

- **Crystal Clear**

Superior performance of transparency, light transmission rate is over 90%, 3-5% higher than similar products, the higher transmission rate ensure adequate lights, which can be absorbed by plants.

- **Better Thermicity**

Including Ethylene Vinyl Acetate in the mixture in high quantities (EVA), using of Mineral Additives and Synthetic IR additives, the IR additives absorb most of the longwave IR radiation from the greenhouse, reducing heat loss, improving the film thermicity.

- **Anti-Drip & Anti-Mist**

Anti-Drip additives reduce surface tension of condensing water vapor and raise the surface tension of the inner side of plastic.

# TOYOTANI® Diffused Film

High Yield/ Enhanced color/ Crystal Clear/ Insolation Prevented

## 3/ TOYOTANI® Diffused Film Introduction

The incident light can reach the plant as “direct” radiation (waves moving parallel to one another) or as “Diffused” radiation (in which the light waves are moving along trajectories which are at various angles with respect to one another and to a horizontal plane).

Diffused film has an advantage over clear film. Diffused light does not allow the shadow formation of the top layers of leaves to prevent essential light from reaching the lower leaves. The end result is the facilitation of an effective dispersion of total light to the darker areas inside the plant volume enhancing photosynthesis and hence the production of biomass. (As Figure 1)

### Why choose diffused film:

- The diffused film is very popular all over the world, which is widely used in France, Spain, Israel, Turkey, Australia, African countries etc., because the diffused film with uniform distribution of light is good for the plant’s photosynthesis.  
It is proved by experiments that, regardless of planting cucumber, tomato, or flowers, the diffused film can increase the yield of them.
- The increased yield percentage is as follows:  
Cucumber(4-10%), Tomato(8-10%), Mixed Sweet Pepper(5%), Anthurium (25%). This increased yield is caused by the lights of diffused film, the diffusion lights are going to all parts of plant, making the photosynthesis more sufficient.

Figure 1

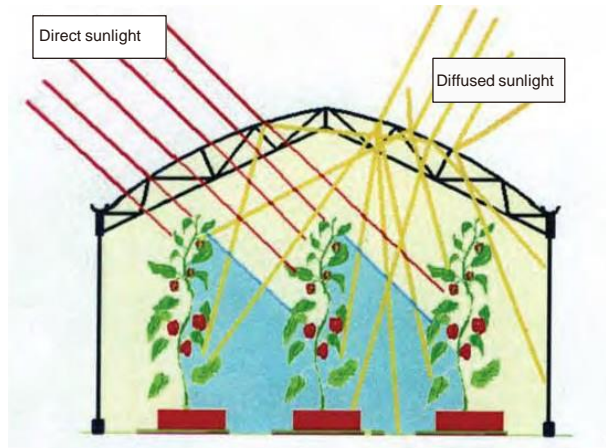


Figure 2



The Crops under regular film



The Crops under diffused film

Figure 3





# TTPO® Multi-span Greenhouse Film

No Water-bag/ Crystal Clear/ High Strength/ Dust-free/ Anti-algae/ Pesticide Resistance

01



## 4/ TTPO® Multi-span Greenhouse Film Introduction

PO film is a kind of agricultural film produced by using raw materials of advanced olefin and other auxiliaries, and using external spray drying process.

### Features

#### Ultra- long Life

Thickness of 0.15mm, 5 years guarantee

#### Crystal Clear/ High Strength

Sufficient light, growth promoting, anti-aging, high strength

#### Specially For Multi-span greenhouse

no deformation on the shed, no water-bag in use

#### Dust-free/ Anti- algae/ Pesticide Resistance

Effective dust and algae control, pesticide resistant, longer life

### Basic Performance

Ultra-transparent/ High insulation/ Long-lasting anti-drip and mist-elimination  
ultra-high strength/ long life

# BHB® White-black-white Greenhouse Film



01

## 5/ BHB White-black-white Greenhouse Film

### Features:

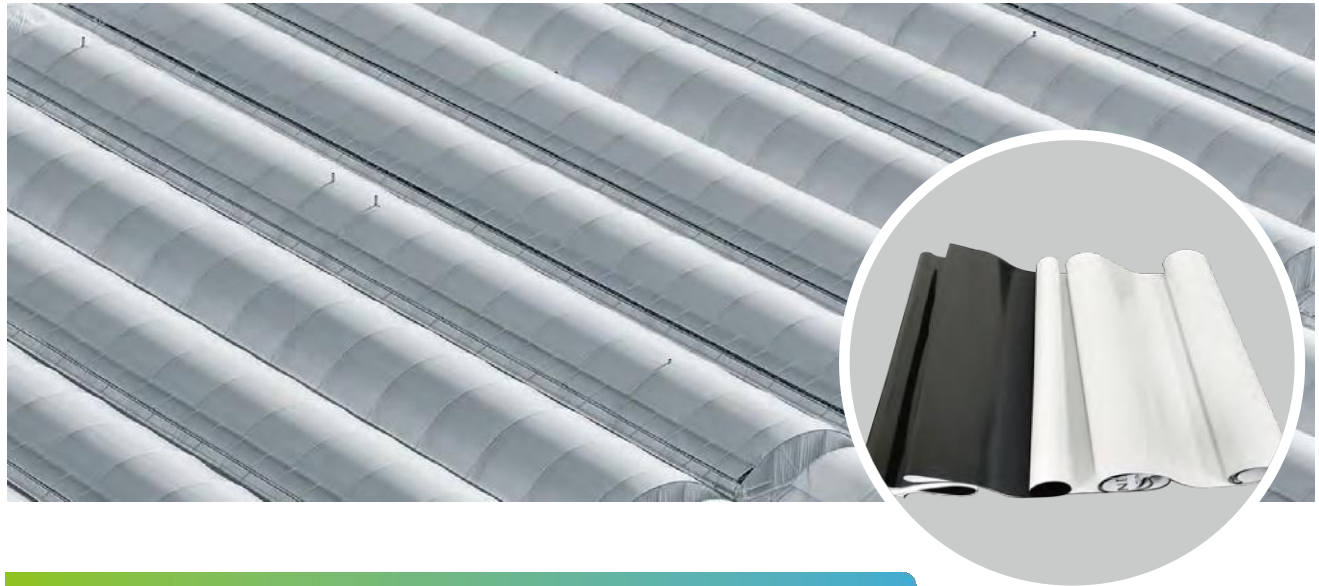
Shading 100%/ anti-aging, long life/ heat preservation in winter, cooling in summer /energy saving, improving the utilization of light and heat energy

No	Feature	white-black-white	black-white	Reason	Diagrams
1	Shading	100%	100%	<ul style="list-style-type: none"> <li>★The white surface reflects the sun's rays ;</li> <li>★The black side blocks light transmission.</li> </ul>	
2	Winter Insulation	Normal	Good	★The white inner layer of the White-black-white film blocks heat penetration for better insulation.	<p>Arrows are internal heat</p>
3	Summer Cooling	Good	Better	<ul style="list-style-type: none"> <li>★The white surface reflects the sun's rays and reduces heat absorption.</li> <li>The double layer of white reflects better.</li> </ul>	<p>Arrows are external heat</p>
4	<b>Life</b>	<b>Better</b>	Good	★Aging is caused by UV rays, the white layer inside and outside reflects light, reducing UV penetration and slowing down aging.	<p>external light</p> <p>internal light</p>
5	Energy saving	Yes	No	★White-black-white film with white inner layer reflects light and blocks heat penetration to improve light and heat utilization	<p>Arrows are internal light and heat</p>

# TOYOTANI® Black-white Film

Sun protection/ insulation/ blackout/ cool down

01



## 6/ TOYOTANI® Black and White Film Introduction

Black and white film is a kind of film which is white outside and black inside, and has the effect of total blackout.

### Features :

- The white side reflects the sun's rays and reduces heat absorption; the black side blocks the light transmission and cuts off light efficiently; it can effectively reduce the temperature by 5-10 degrees inside the shed in summer. In winter, it can reduce the heat dissipation in the shed or greenhouse.
- Excellent anti-aging performance, longer service life compared to traditional covering materials such as shade net, grass curtain, felt, etc.
- Stronger mechanical properties, strong wind resistance, less deformation, less water and snow accumulation
- It can effectively protect the facilities in the shed from the external environment, prolong its service life, and save more usage and labor costs.
- We have a joint venture with a Japanese company for 20 years. The quality control management technology is all from Japan, and the quality is fully controllable.

### Application of black and white film:

- Breeding: edible mushroom greenhouse, silkworm greenhouse, livestock and poultry farming greenhouse, aquaculture greenhouse, etc.
- Planting: flower shading, light cutting (to adjust the flowering period), etc.
- Others: silage, forage preservation, greenhouse building outer cover, agricultural products fresh storage (such as potatoes), hydroponic impermeable layer, etc.

## 7/ Properties of TOYOTANI® Clear Film

Product Code	Mode	Thickness (mm)	Light Transmission	Guarantee	Tensile Strength At Break (MD/TD)	Elongation At Break (MD/TD)	Tear Resistance (MD/TD)	Width (m)
100164400010	TM290A	0.06	91%	14 months	32MPa / 34MPa	600% / 650%	90kN/m / 110kN/m	0.5/1.8/2.2/2.2/5/4/5.2 /6/7/7.5 7.7/8/9/9.2/10/11/12/13/14
100164300010	TM390A	0.08	91%	18 months	30MPa / 32MPa	600% / 650%	90kN/m / 100kN/m	0.5/0.8/1/1.5/1.8/2.2/2.2/5/3 3.5/4/5/5.5/6/6.5/7/8/8.5/9/9.5/10 10.5/11/11.5/12/13/14/15/16
100130200010	TM490C	0.10	90%	24 months	30MPa / 32MPa	650% / 700%	90kN/m / 100kN/m	0.5/0.8/1/1.2/1.5/1.8/2.2/2.2/5 3.5/4/4.5/5/5.5/6/6.5/7/7.5/7.7/8 8.5/9/9.5/10/11/12/13/14/15/16
100131200010	TM590E	0.12	90%	36 months	28MPa / 30MPa	650% / 700%	90kN/m / 100kN/m	0.5/0.8/1/1.2/1.5/1.8/2.2/2.2/5/3 3.5/4/4.5/5/5.5/6/6.5/7/7.5/7.7/8/8.5 8.8/9/9.2/9.5/10/11/12/13/14/15/16
100132200010	TM690H	0.15	90%	48 months	28MPa / 30MPa	700% / 750%	90kN/m / 100kN/m	0.5/0.8/1/1.2/1.5/2/2.5/3/3.5/4/4.5 5/5.5/6/6.5/7/7.2/7.5/8/8.5/8.8 9/9.5/10/11/12/13/14/15
100163400010	TM890J	0.20	88%	60 months	24MPa / 26MPa	700% / 750%	90kN/m / 90kN/m	0.5/1/2/2.5/2.8/3/3.5/4/4.5/5/6/6.5 7/7.5/8/8.5/9/9.5/10/11/12/13/14

01

## 8/ Properties of TOYOTANI® Diffused Film

Product Code	Mode	Thickness (mm)	Light Transmission	Light Diffusion	Guarantee	Tensile Strength At Break (MD/TD)	Elongation At Break (MD/TD)	Tear Resistance (MD/TD)	Width (m)
100164500010	CM493C	0.10	90%	≥50%	24 months	30MPa / 32MPa	600% / 650%	90kN/m / 100kN/m	0.5/0.8/1/1.8/2.2/2.2/5/4.5/5/6 6/7/8/9/10/11/12/13/14/15/16
100164600010	CM594E	0.12	90%	≥55%	36 months	30MPa / 32MPa	600% / 650%	90kN/m / 100kN/m	0.5/0.8/1/1.8/2.2/2.7/8/9 10/11/12/13/14/15/16
100164100010	CM686H	0.15	89%	≥55%	48 months	28MPa / 30MPa	650% / 700%	90kN/m / 100kN/m	0.5/1/1.5/2/2.5/3/3.5/4/5/5.5/6 6.5/7/7.5/8/9/10/11/12/13/14/15
100163300010	CM886J	0.20	87%	≥60%	60 months	24MPa / 26MPa	650% / 700%	90kN/m / 90kN/m	0.5/1/3/4.2/4.5/5/6/7/7.5/8 8.5/9/9.5/10/10.5/11/12/13/14

## 9/ Properties of TTPO® Multi-span Crystal Clear Film

Product Code	Mode	Thickness (mm)	Light Transmission	Guarantee	Tensile Strength At Break (MD/TD)	Elongation At Break (MD/TD)	Tear Resistance (MD/TD)	Width (m)
100165600010	PM690J	0.15	90%	60 months	26Mpa / 30Mpa	700% / 800%	100kN/m / 110kN/m	1~16

Width of integer times can be cut.

The guarantee period in special areas depends on the specific local environment. Please consult the sales engineer for details.

## 10/ Properties of BH® White-black-white Greenhouse Film

Thickness (mm)	Light Transmission	Guarantee	Tensile Strength At Break (MD/TD)	Elongation At Break (MD/TD)	Tear Resistance (MD/TD)	Width (m)
0.13	100	60 months	35MPa / 35MPa	800% / 1000%	100kN/m / 110kN/m	0-12

01

## 11/ Properties of black-white Greenhouse Film

Thickness (mm)	Guarantee	Tensile Strength At Break (MD/TD)	Elongation At Break (MD/TD)	Tear Resistance (MD/TD)	Width (m)
0.13	48 months	26MPa / 28MPa	550% / 650%	90kN/m / 100kN/m	0-12

Width of integer times can be cut.

The warranty period in special areas depends on the specific local environment. Please consult the sales engineer for details.

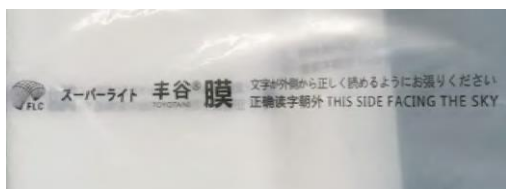
## 12/ Testing Report



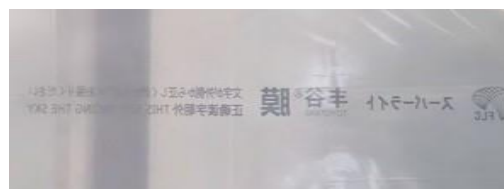
## 13/ Proper Installation Instructions

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### √Correct Installation

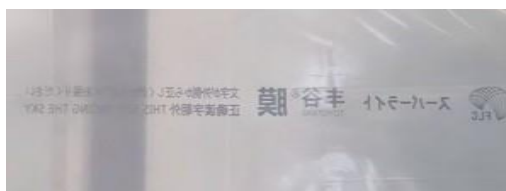


Viewed from outside, the lettering of Toyotani® film is positive-going

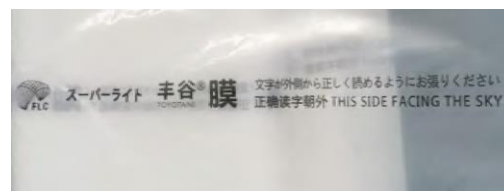


Viewed from inside, the lettering of Toyotani® film is negative-going

### \*Wrong Installation



Viewed from outside, the lettering of Toyotani® film is negative-going

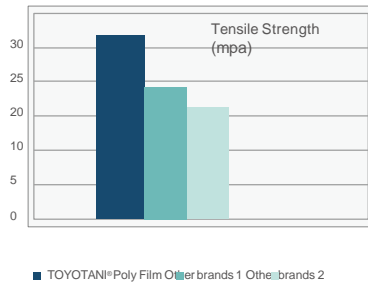


Viewed from inside, the lettering of Toyotani® film is positive-going

## 14/ Advantages of TOYOTANI® Greenhouse Film

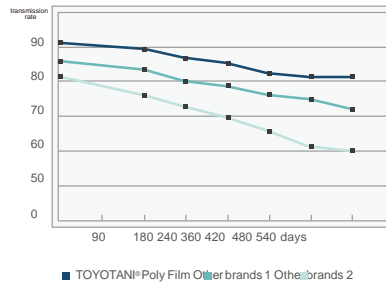
- Formulation: introduced from Japan, unique performance, and excellent quality.
- 100% new material: never add recycling material, stable and high quality.
- Longer life, pesticide resistant: the original Q-lab aging tester from the United States, regular testing, guaranteed life.
- Severe management: the introduction of Japanese quality control management technology, from the manufacture of masterbatch to the production of finished products, all completed in our Tongzhou production base under the whole control.

### Enhanced Strength

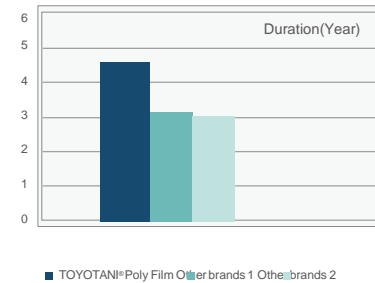


### High Light Transmission

Time-varying table of attenuating of transmission rate



### Longer Duration



## 15/ Film Selection, Installation guidelines

- The area, with big temperature difference between day and night, is suitable for the high-thermicity and high-transmission film.
- The area with strong sunshine is suitable for the high diffusion film.
- The function of two sides of the film is different, please install the film according to the prints and labels.
- Avoiding thermal expansion and contraction, install the greenhouse in the morning or evening, tighten the film in winter, and loosen it in summer.
- Do not spray the chemicals onto the film, and also do not use the Sulfur Burner inside the greenhouse, because this will accelerate the aging process.
- Avoid direct touching with the plants, equipment of irrigation and heater, etc.
- Store the film in a dry shading place within 6 months before installing.

## 16/ Use Cases



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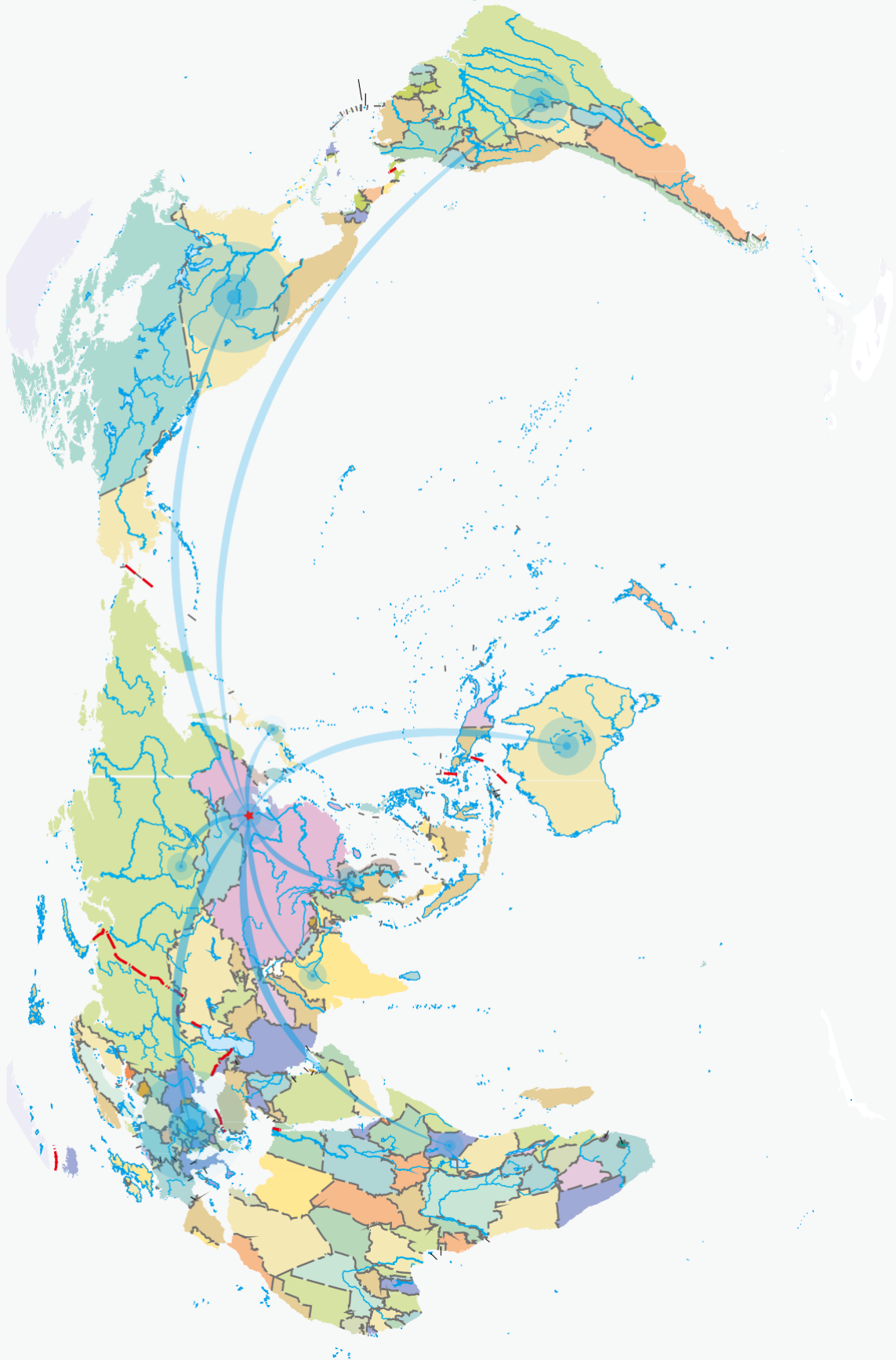
## 17/ Use Cases

01



18/ Contact information of sales service

01



# 02

## Greenhouse Film Reeler

02

### Kingzo® Electric Film Reeler

1. GMA Series of Kingzo®  
Electric Film Reeler
2. GMD Series of Kingzo®  
Electric Film Reeler
3. TOUP® Electric Film Reeler
4. Application and Instruction of  
Kingzo® Electric Film Reeler

### Accessories of Kingzo® Film Reeler

1. FLC® Guiding Bracket
2. Controller Product

### FLC®/ TANIKANKIT® Manual Film Reeler

Product Introduction of Manual  
Film Reeler



# KINGZO® / TOUP®

# Electric Film Reeler

## Introduction of Electric Film Reeler

Key Words	National electric film reeler standard setter, 17 years of experience, Exported to more than 60 countries.
Specification Series	KINGZO®, and TOUP®, Two Major Brands 40W-300W
Function Series	Sidewall/Roof Film Rolling, Two Sides Film Rolling 8m screening/ over 4m height of film rolling, manual release, with locking device (TOUP®)

02

### Definition

Electric film reeler is essentially a gear motor with a limit switch, low cost, flexible control, maintenance-free, easy to maintain, the current market of the electric film reeler is DC24V power supply drive, motor power is between 40W to 120W, the no-load speed of output shaft is about 3.6pm. Our company is the first company to develop and launch AC220V electric film reeler.

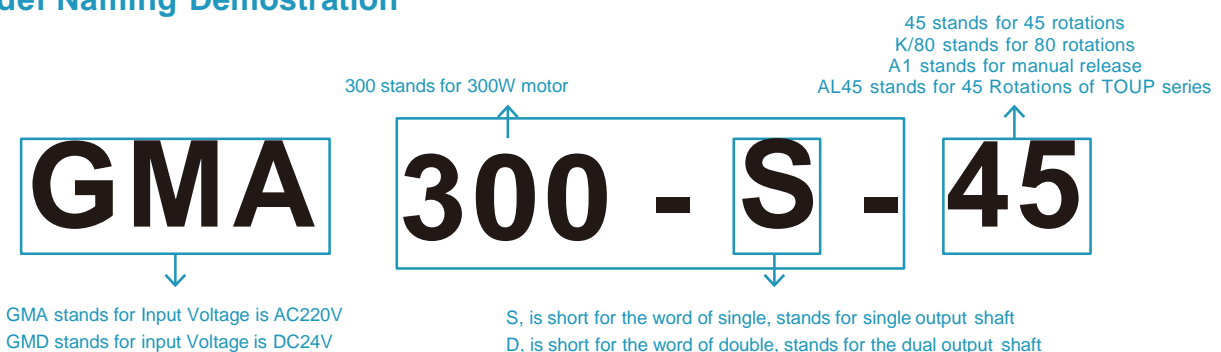
### Application

Mainly used in film greenhouse and livestock, including film rolling, curtain rolling, screening, etc. Works as a temperature regulator, ventilator, light control, etc.

### Development History Timelines

- 2003 Our company researched and developed the Kingzo® DC electric film reeler
- 2006 Kingzo® Electric film reeler started to export to more than 20 countries such as
- 2008 Exported of electric film reeler to Japan reached 5,000-10,000 units
- 2013 Kingzo® 220V AC electric film reeler launched, brought a technological innovation
- 2015 The industry's first large-distance (80 Rotation) electric film reeler specifically for curtaining
- 2017 Became the first one to set the industry standard for electric film reeler
- 2018 First to launch a distance high precision (12 Rotation) electric film reeler specifically for window opening
- 2020 First to launch the TOUP® electric film reeler with locking device, solving the unbalanced problem of electric film reeler

### Model Naming Demostration



# KINGZO®

## Introduction of GMA/GMD Electric Film Reeler

### 1/ Introduction of Kingzo® GMA Series

- Directly connected to AC 220V power supply, no need to convert power or transformer, convenient and cost saving
- 360 degree rainproof, no water accumulation at any angle
- Anti-misconnection, anti-overload protection, with electrical-leakage protection
- Easy and reliable limit positioning, high precision, good self-locking performance
- Low noise, high torque, super power saving
- Reinforced output shaft end, strong and durable
- Three years guarantee for the whole machine, five years failure rate of less than 5%
- With anti-condensation drainage holes, protection level IP5 (dustproof and waterproof)
- Provide 5m external power cable, convenient to connect to the control box



02

### 2/ Introduction of Kingzo® GMD Series

- 360 degree rainproof, no water accumulation at any angle
- The motor comes with anti-overload and anti-blocking protection function
- Double limit design, to protect the safety of the travel system
- Easy and reliable limit positioning, good self-locking performance
- Low noise, high torque, power saving
- Reinforced output shaft end, strong and durable
- Three years guarantee for the whole machine, five years failure rate of less than 5%
- With anti-condensation drainage holes, protection level IP5 (dustproof and waterproof)
- Provide 5m external power cable, convenient to connect to the control box
- DC 24 safety voltage, no need to worry about the safety of electricity



### 3/ GMA Series of Kingzo® Electric Film Reeler(AC 220V)



● GMA60-S



● GMA100-S  
GMA100-S-80 (8meters Distance)



● GMA120-S-A1  
( Manual Release )



● GMA300-S-45  
GMA300-S-80

### 4/ GMD Series of Kingzo® Electric Film Reeler(DC 24V)



● GMD60-S



● GMD100-S  
GMD100-S-80 (8meters Distance)



● GMD100-S-A1  
( Manual Release )



● GMD180-S



● GMD300-S-45

## 5/ Parameter Sheet for KINGZO® Electric Film Reeler

Product Code	Model	Voltage	Power	Torque	Current	RPM	Rolling	Rolling	GuidingPipe	Rolling Pipe-OD	Weight (Kg)	Guarantee (years)
		(V)	(W)	(N.m)	(A)	(r/min)	Distance	Length				
110431000010	GMA60-S	AC220	60	60	0.5	2.8	45	≤85m	Φ27.5orΦ33.5	Φ22orΦ27.5	3.7	3
110430500010	GMA100-S	AC220	100	100	0.8	2.8	45	≤100m	Φ27.5orΦ33.5	Φ22orΦ27.5	3.9	3
110440100010	GMA100-S-80	AC220	100	100	0.8	2.8	80	≤70m	Φ27.5orΦ33.5	Φ27.5orΦ33.5	3.9	3
110491800010	GMA120-S-A1	AC220	120	120	0.9	2.5	45	≤100m	Φ27.5orΦ33.5	Φ27.5orΦ33.5	4.5	3
110442000010	GMA300-S-45	AC220	300	300	3.0	3.3	45	Screening 4X80m	Φ33.5	Φ27.5orΦ33.5	8.0	3
110442800010	GMA300-S-80	AC220	300	300	3.0	3.3	80	Screening 2000m <sup>2</sup> <small>A type Screening Pinion</small>	--	--	8.0	3
110415400010	GMD60-S	DC24	60	60	3.7	2.8	45	≤85m	Φ27.5orΦ33.5	Φ22orΦ27.5	3.7	3
110415500010	GMD100-S	DC24	100	100	6.2	2.8	45	≤100m	Φ27.5orΦ33.5	Φ22orΦ27.5	3.7	3
110413100010	GMD100-S-80	DC24	100	100	6.2	2.8	80	≤70m	Φ27.5orΦ33.5	Φ27.5orΦ33.5	3.8	3
110415600010	GMD100-S-A1	DC24	100	100	6.2	2.8	45	≤100m	Φ27.5orΦ33.5	Φ27.5orΦ33.5	4.1	3
110413200010	GMD180-S	DC24	180	180	11.0	3.3	45	≤100m	Φ27.5orΦ33.5	Φ27.5orΦ33.5	7.9	3
110451000010	GMD300-S-45	DC24	300	300	20.0	3.5	45	Screening 4X80m	Φ33.5	Φ27.5orΦ33.5	8.0	3
110450500010	GMA150-S- AL45	AC220	150	150	1.4	2.8	45	≤100m	Φ27.5	Φ27.5orΦ33.5	5.5	3
110492600010	GMA300-S- AL45	AC220	300	300	3.0	3.3	45	≤100m	Φ33.5	Φ27.5orΦ33.5	9.4	3
110441900010	GMD150-S- AL45	DC24	150	150	9.3	2.8	45	≤100m	Φ27.5	Φ27.5orΦ33.5	5.5	3
110492500010	GMD300-S- AL45	DC24	300	300	20.0	3.5	45	≤100m	Φ33.5	Φ27.5orΦ33.5	9.4	3

02

## GMA Series

# KINGZO® Electric Film Reeler

### 1/ KINGZO® Electric Film Reeler GMA60-S

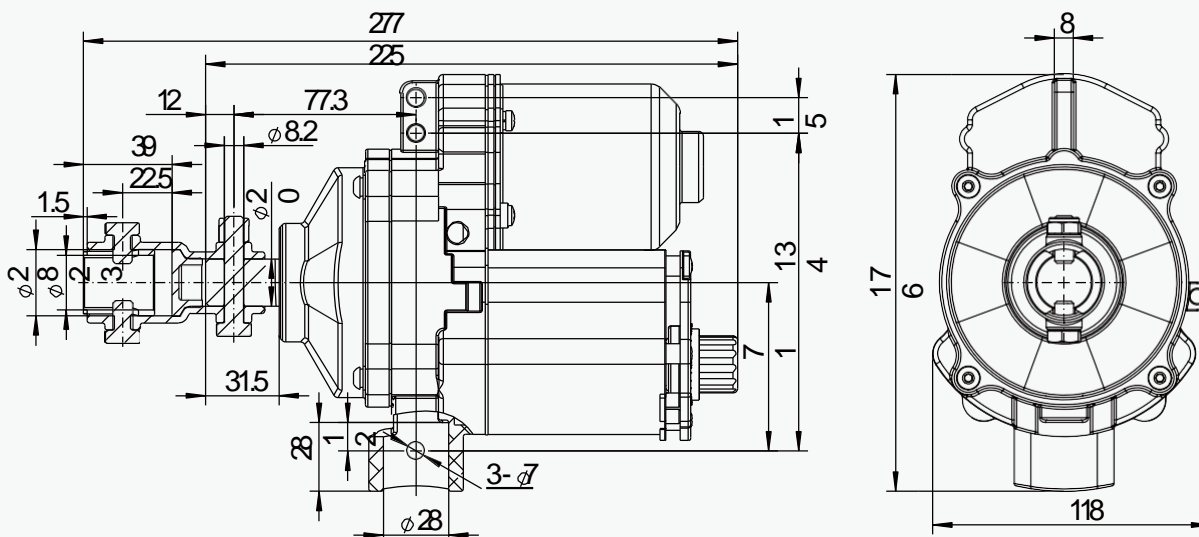
#### Product Description

- Anti-misconnection, anti-overload protection ;
- Reinforced output shaft;
- Low noise, big torque;
- Accurate limit switch and reliable self-locking property;
- Powered by AC220V/AC110V, no need transformer, more convenient to install, lower cost;
- Three water drain holes of anti-condensation added to protect the safety of circuit diagram, Protection Grade: IP55;
- Reinforced output shaft;
- Providing 3 meters long external electric cable for easy connection to the control box;
- 3 years quality guarantee.



02

Product Code	Model	Voltage (V)	Power (W)	Torque (N.m)	Current (A)	RPM (r/min)	Rolling Height	Rolling Length	GuidingPipe	Rolling Pipe-OD	Weight (Kg)	Guarantee (years)
110431000010	GMA60-S	AC220	60	60	0.5	2.8	45	≤85m	Φ27.5orΦ33.5	Φ22orΦ27.5	3.7	3





## 2/ KINGZO® Electric Film Reeler GMA100-S

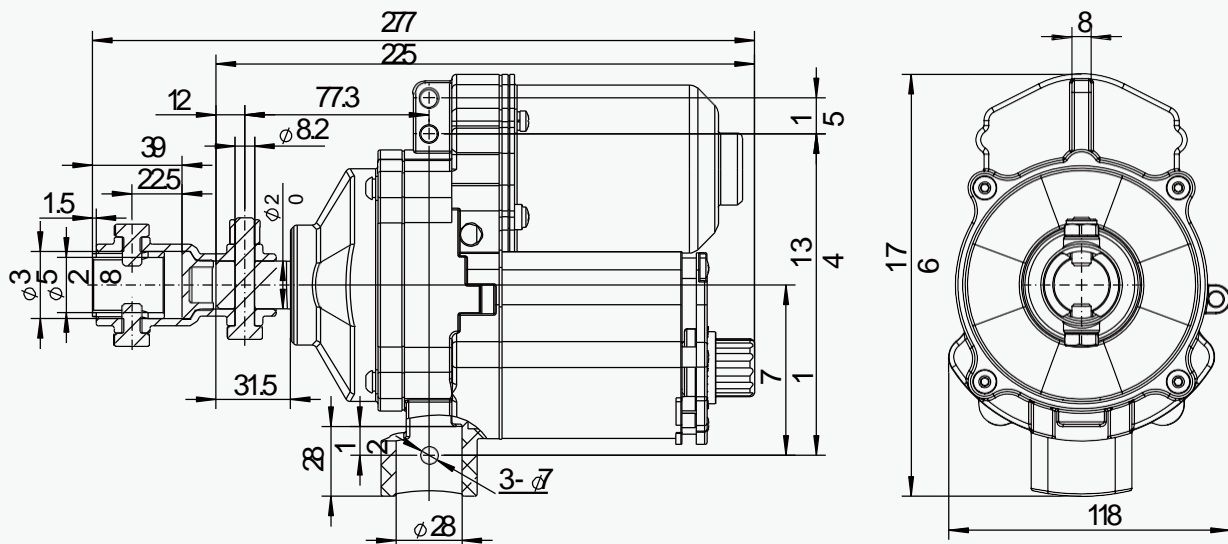
### Product Description

- Anti-misconnection, anti-overload protection ;
- Reinforced output shaft;
- Low noise, big torque;
- Accurate limit switch and reliable self-locking property;
- Powered by AC220V/AC110V, no need transformer, more convenient to install, lower cost;
- Three water drain holes of anti-condensation added to protect the safety of circuit diagram, Protection Grade: IP55;
- Reinforced output shaft;
- Providing 3 meters long external electric cable for easy connection to the control box;
- 3 years quality guarantee.



02

Product Code	Model	Voltage (V)	Power (W)	Torque (N.m)	Current (A)	RPM (r/min)	Rolling Height	Rolling Length	GuidingPipe	Rolling Pipe-OD	Weight (Kg)	Guarantee (years)
110430500010	GMA100-S	AC220	100	100	0.8	2.8	45	≤100m	Φ27.5orΦ33.5	Φ22orΦ27.5	3.9	3



### 3/ KINGZO® Electric Film Reeler GMA100-S-80

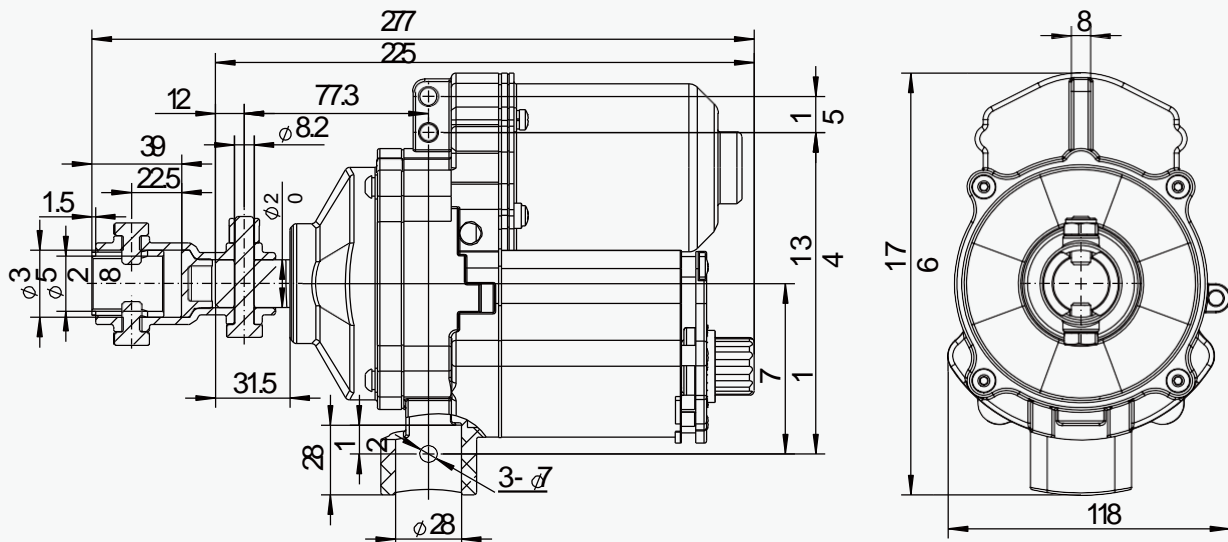
#### Product Description

- Longer rolling height, 8 meters;
- Anti-misconnection, anti-overload protection;
- Reinforced output shaft;
- Accurate limit switch and reliable self-locking property;
- Powered by AC220V/AC110V, no need transformer, more convenient to install, lower cost;
- Three water drain holes of anti-condensation added to protect the safety of circuit diagram, Protection Grade: IP55;
- Reinforced output shaft;
- Providing 3 meters long external electric cable for easy connection to the control box;
- 3 years quality guarantee.



02

Product Code	Model	Voltage (V)	Power (W)	Torque (N.m)	Current (A)	RPM (r/min)	Rolling Height	Rolling Length	Guiding Pipe Φ	Rolling Pipe-OD Φ	Weight (Kg)	Guarantee (years)
110440100010	GMA100-S-80	AC220	100	100	0.8	2.8	80	≤70m	Φ27.5orΦ33.5	Φ27.5orΦ33.5	3.9	3



## 4/ KINGZO® Electric Film Reeler GMA120-S-A1

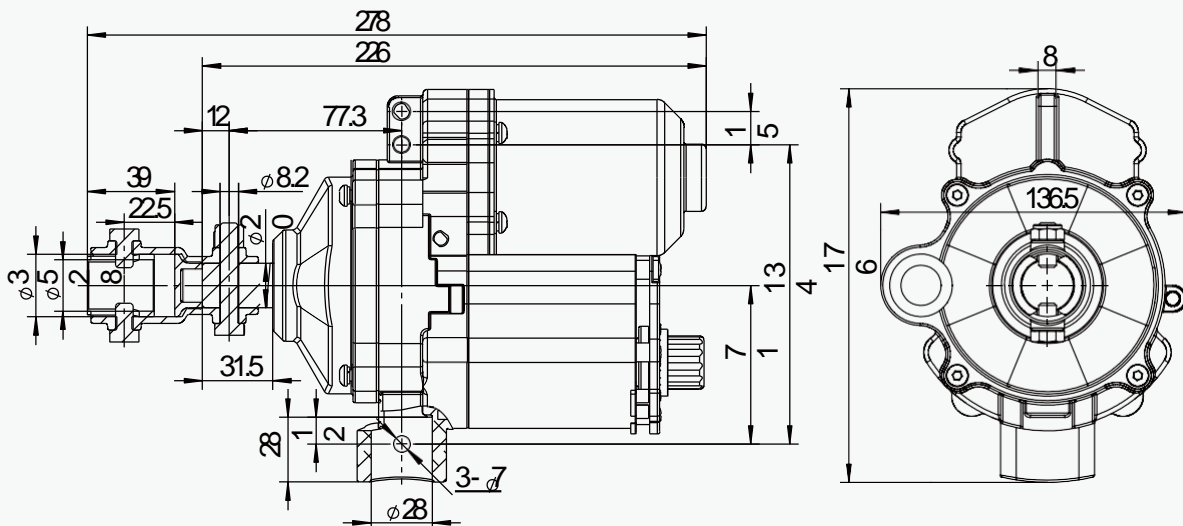
### Product Description:

- Manual releasing function, working during power failure;
- Anti-misconnection, anti-overload protection ;
- Reinforced output shaft;
- Accurate limit switch and reliable self-locking property;
- Powered by AC220V/AC110V, no need transformer, more convenient to install, lower cost;
- Three water drain holes of anti-condensation added to protect the safety of circuit diagram, Protection Grade: IP55;
- Reinforced output shaft;
- Providing 3 meters long external electric cable for easy connection to the control box;
- 3 years quality guarantee.



02

Product Code	Model	Voltage (V)	Power (W)	Torque (N.m)	Current (A)	RPM (r/min)	Rolling Height	Rolling Length	GuidingPipe Pipe-OD	Rolling Pipe-OD	Weight (Kg)	Guarantee (years)
110491800010	GMA120-S-A1	AC220	120	120	0.9	2.5	45 ≤100m	Φ27.5orΦ33.5	Φ27.5orΦ33.5		4.5	3



## 5/ KINGZO® Electric Film Reeler GMA300-S series

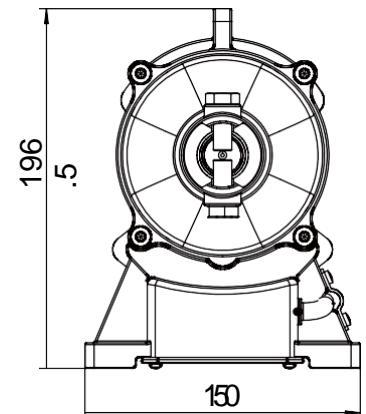
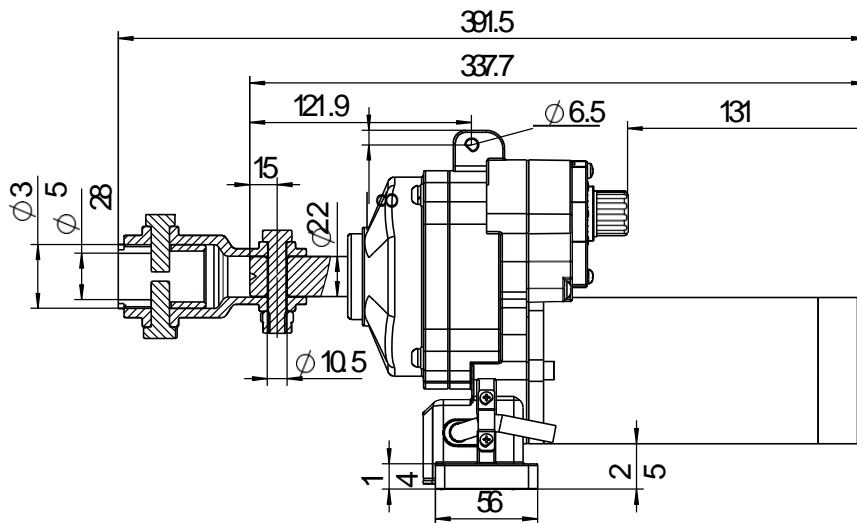
### Product Description:

- Small and flexible, easy to use, simple to install
- Double limit switch protection
- Three water drain holes of anti-condensation added to protect the safety of circuit diagram, Protection grade: IP55
- The side mounting dimensions are same as the standard gear motor
- Providing 5 meters long external electric cable for easy connection to the control box;
- 3 years quality guarantee



02

Product Code	Model	Voltage (V)	Power (W)	Torque (N.m)	Current (A)	RPM (r/min)	Rolling H eight	Rolling Length	GuidingPipe	Rolling Pipe-OD	Weight (Kg)	Guarantee (year)
110451000010	GMA300-S-45	AC220	300	300	3.0	3.3	45	Screening 4X80m	Φ33.5	Φ27.5orΦ33.5	8.0	3
110442800010	GMA300-S-80	AC220	300	300	3.0	3.3	80	Screening 2000m <sup>2</sup> <small>A type Screening Pinion</small>	--	--	8.0	3



## GMD Series

# KINGZO® Electric Film Reeler

### 1/ KINGZO® Electric Film Reeler GMD60-S

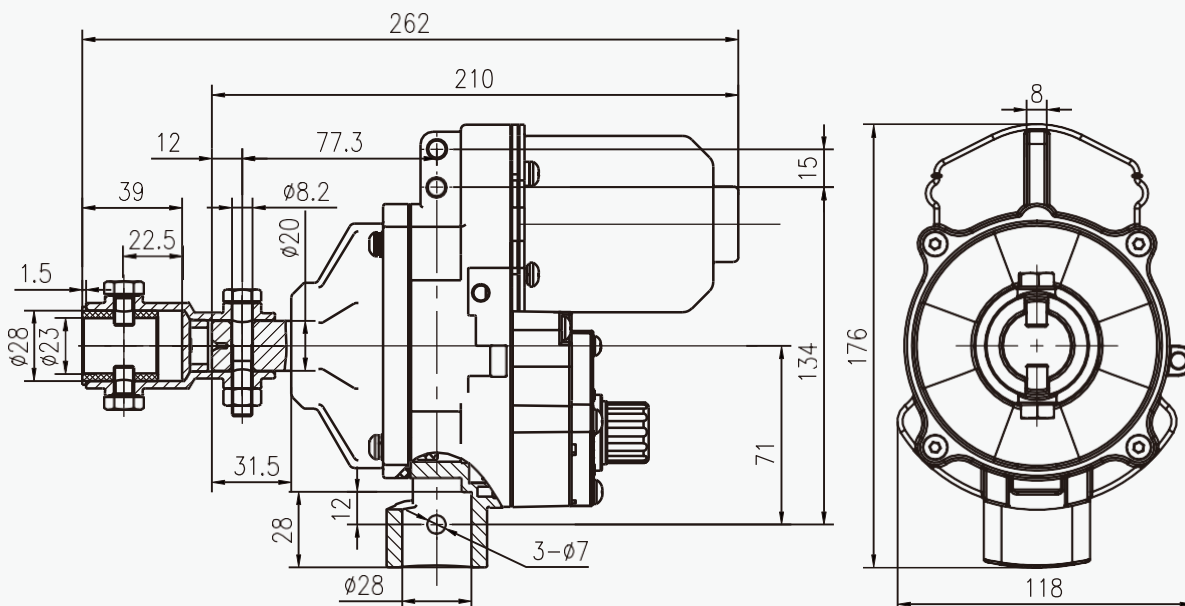
02

#### Product Description

- Low noise, big torque;
- Double limit switch protection;
- Accurate limit switch and reliable self-locking property;
- Three water drain holes of anti-condensation added to protect the safety of circuit diagram, Protection Grade: IP55;
- Reinforced output shaft;
- Providing 5 meters long external electric cable for easy connection to the control box;
- 3 years quality guarantee.



Product Code	Model	Voltage (V)	Power (W)	Torque (N.m)	Current (A)	RPM (r/min)	Rolling H eight	Rolling Length	Guiding Pipe	Rolling Pipe-OD	Weight (Kg)	Guarantee (years)
110415400010	GMD60-S	DC24	60	60	3.7	2.8	45	≤85m	Φ27.5orΦ33.5	Φ22orΦ27.5	3.7	3



## 2/ KINGZO® Electric Film Reeler GMD100-S

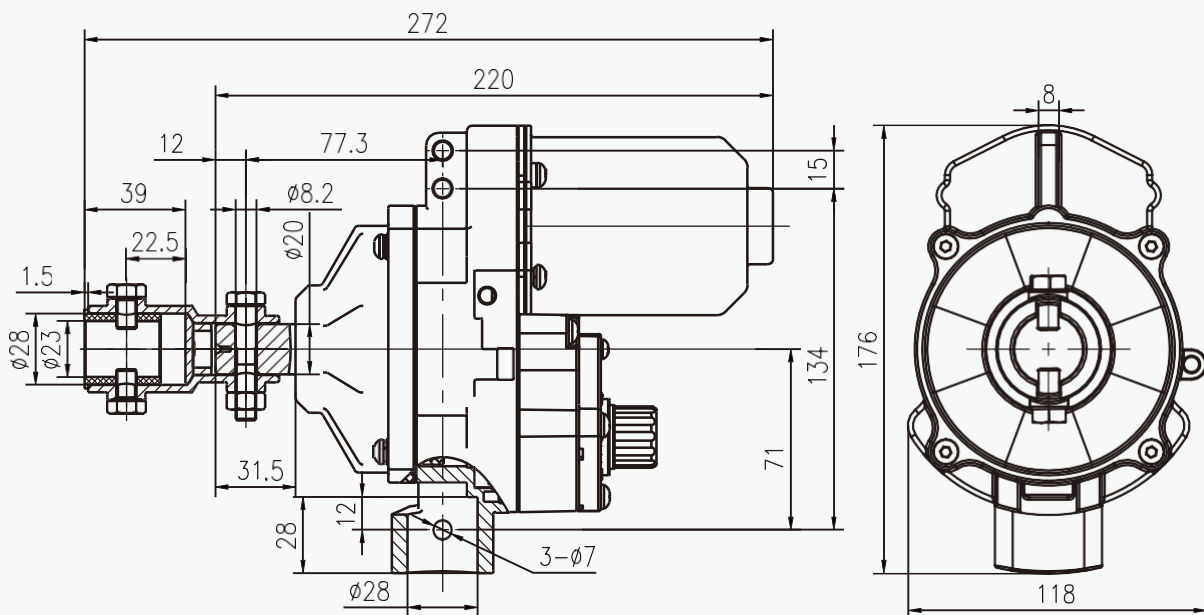
### Product Description

- Low noise, big torque;
- Double limit switch protection;
- Accurate limit switch and reliable self-locking property;
- Three water drain holes of anti-condensation added to protect the safety of circuit diagram, Protection Grade: IP55;
- Reinforced output shaft;
- Providing 5 meters long external electric cable for easy connection to the control box;
- 3 years quality guarantee.



02

Product Code	Model	Voltage (V)	Power (W)	Torque (N.m)	Current (A)	RPM (r/min)	Rolling H eight	Rolling Length	GuidingPipe	Rolling Pipe-OD	Weight (Kg)	Guarantee (years)
110415500010	GMD100-S	DC24	100	100	6.2	2.8	45	≤100m	Φ27.5orΦ33.5	Φ22orΦ27.5	3.7	3



### 3/ KINGZO® Electric Film Reeler GMD100-S-80

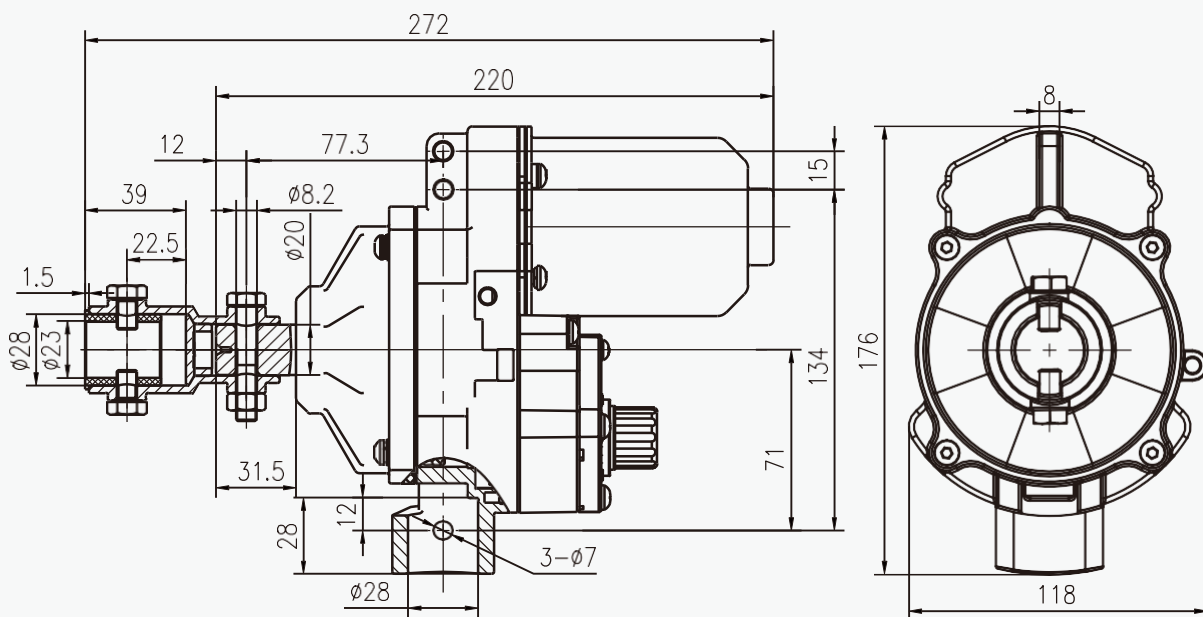
#### Product Description

- 8 meters long for screening, 4m high for film rolling;
- Low noise, big torque;
- Double limit switch protection;
- Accurate limit switch and reliable self-locking property;
- Three water drain holes of anti-condensation added to protect the safety of circuit diagram, Protection Grade: IP55;
- Reinforced output shaft;
- Providing 5 meters long external electric cable for easy connection to the control box;
- 3 years quality guarantee.



02

Product Code	Model	Voltage (V)	Power (W)	Torque (N.m)	Current (A)	RPM (r/min)	Rolling Height	Rolling Length	GuidingPipe	Rolling Pipe-OD	Weight (Kg)	Guarantee (years)
110413100010	GMD100-S-80	DC24	100	100	6.2	2.8	80	≤70m	Φ27.5orΦ33.5	Φ27.5orΦ33.5	3.8	3



## 4/ KINGZO® Electric Film Reeler GMD100-S-A1

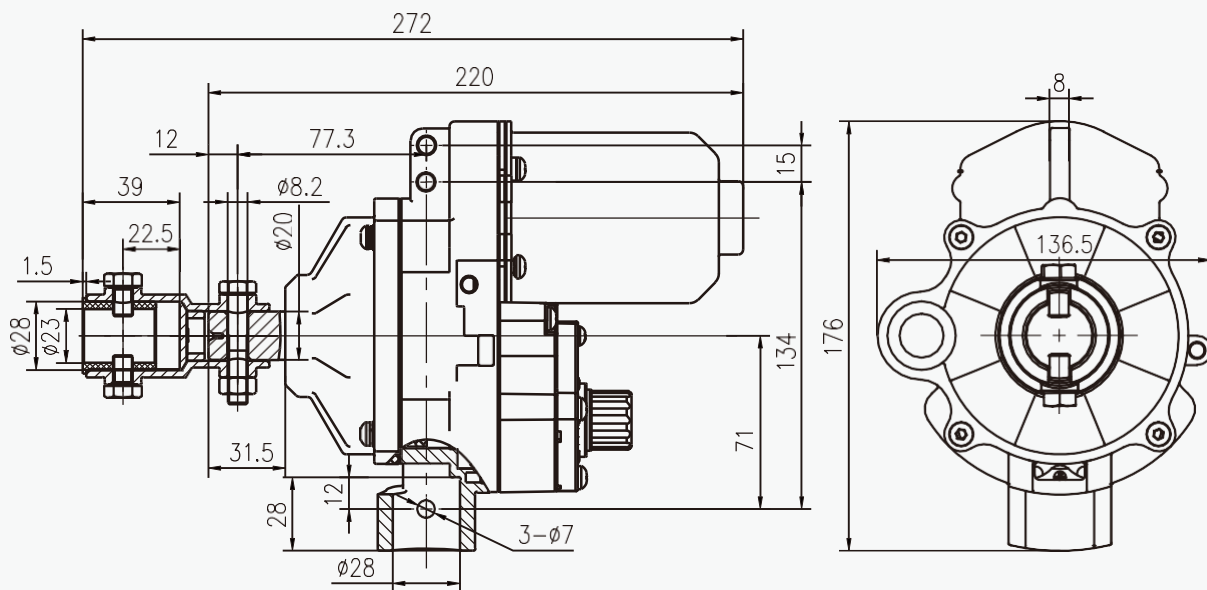
### Product Description

- Low noise, big torque
- Manual rolling function, working during power failure;
- Double limit switch protection;
- Accurate limit switch and reliable self-locking property;
- Three water drain holes of anti-condensation added to protect the safety of circuit diagram, Protection Grade: IP55;
- Reinforced output shaft;
- Providing 5 meters long external electric cable for easy connection to the control box;
- 3 years quality guarantee.



02

Product Code	Model	Voltage (V)	Power (W)	Torque (N.m)	Current (A)	RPM (r/min)	Rolling Height	Rolling Length	Guiding Pipe Φ27.5orΦ33.5	Rolling Pipe-OD Φ27.5orΦ33.5	Weight (Kg)	Guarantee (years)
110415600010	GMD100-S-A1	DC24	100	100	6.2	2.8	45	≤100m	Φ27.5orΦ33.5	Φ27.5orΦ33.5	4.1	3





## 5/ KINGZO® Electric Film Reeler GMD180-S

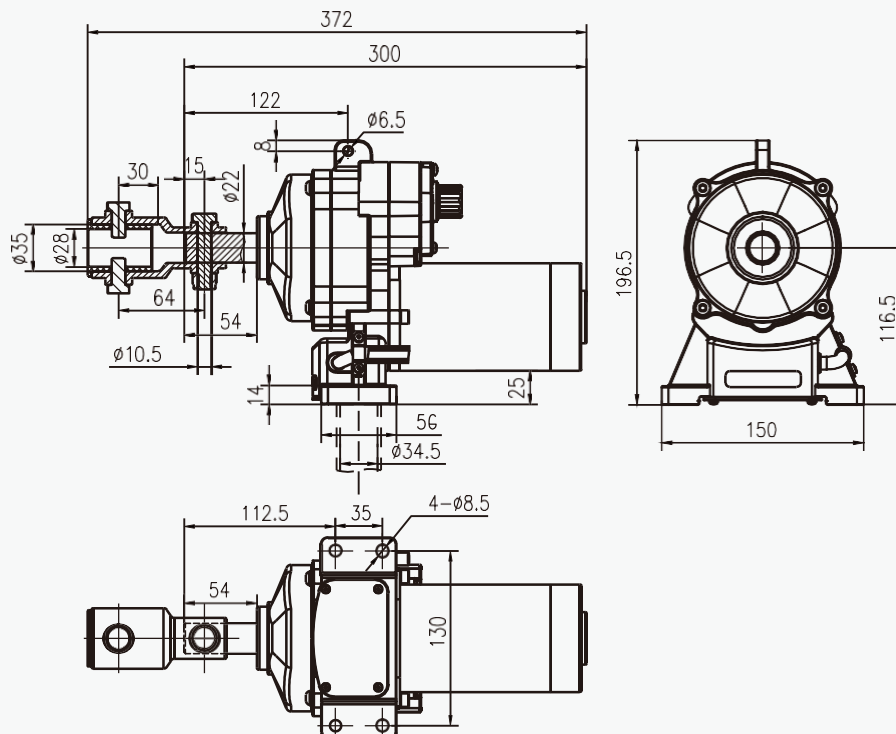
### Product Description:

- Low noise, big torque;
- Double limit switch protection;
- Accurate limit switch and reliable self-locking property;
- Three water drain holes of anti-condensation added to protect the safety of circuit diagram, Protection Grade: IP55;
- Reinforced output shaft;
- Providing 5 meters long external electric cable for easy connection to the control box;
- 3 years quality guarantee.



02

Product Code	Model	Voltage (V)	Power (W)	Torque (N.m)	Current (A)	RPM (r/min)	Rolling eight H	Rolling Length	Guiding Pipe	Rolling Pipe-OD	Weight W (Kg)	Guarantee (years)
110413200010	GMD180-S	DC24	180	180	11.0	3.3	45	≤100m	Φ27.5orΦ33.5	Φ27.5orΦ33.5	7.9	3



## 6/ KINGZO® Electric Film Reeler GMD300-S

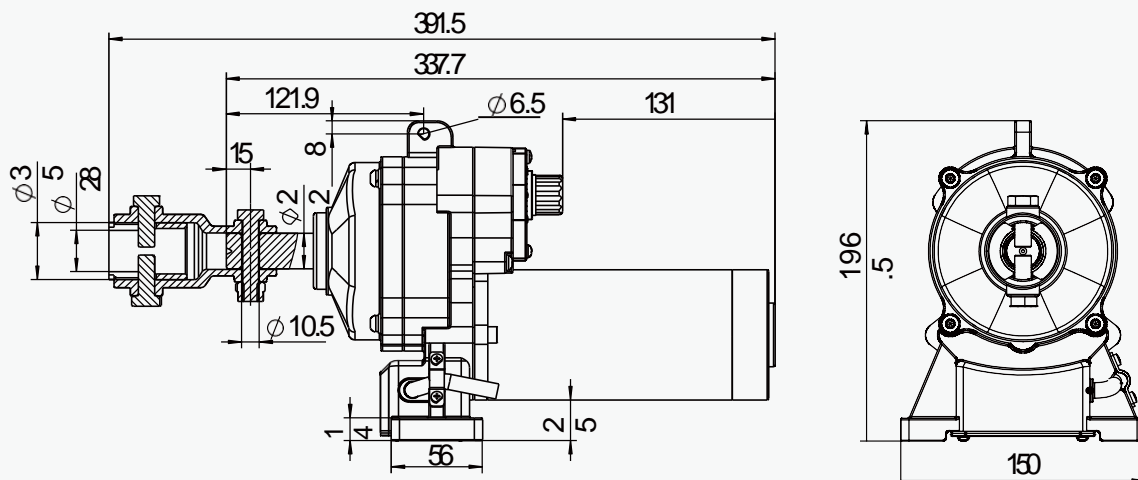
### Product Description:

- Suitable for greenhouse quilt rolling, poultry curtain;
- Replace big torque gear motor, economical, easy to adjust the limit switch and install, small size;
- Double limit switch protection;
- Three water drain holes of anti-condensation added to protect the safety of circuit diagram, Protection Grade: IP55;
- Providing 5 meters long external electric cable for easy connection to the control box;
- 3 years quality guarantee.



02

Product Code	Model	Voltage (V)	Power (W)	Torque (N.m)	Current (A)	RPM (r/min)	Rolling Height H	Rolling Length	Guiding Pipe	Rolling Pipe-OD	Weight (Kg)	Guarantee (years)
110451000010	GMD300-S-45	DC24	300	300	20.0	3.5	45	Curtaining 4X80m	Φ33.5	Φ27.5orΦ33.5	8.0	3



TOUP®

# Electric Film Reeler

## 1/ TOUP® Electric Film Reeler

02

### Product Description:

- Prevent the film from being damaged by the vertical head of the electric film reeler
- The rolling tube is more straight, to protect the head film and extend the life of the film
- No need the climb pipe, the whole structure is more compact
- To install at left or right side according to the relative position of climbing pipe and rolling pipe
- No need the Guiding Bracket
- 3 years quality guarantee



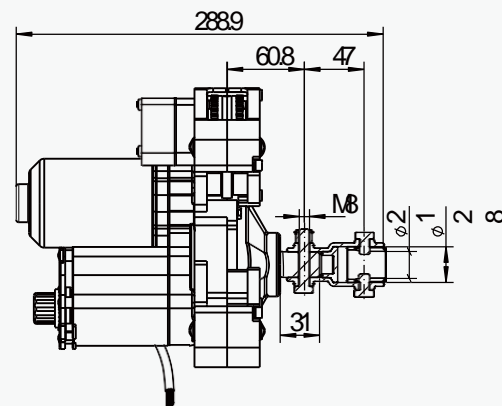
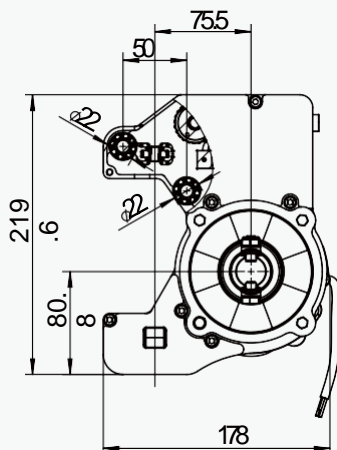
GMA



GMD

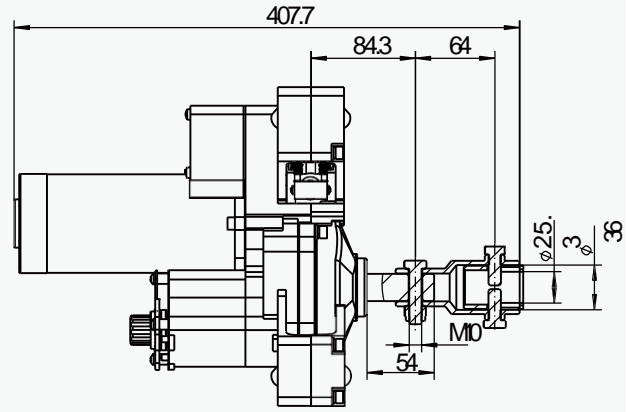
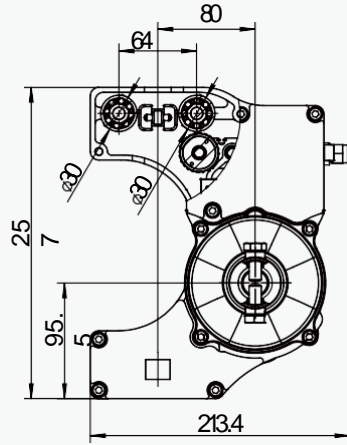
		(V)	(W)	(N.m)	(A)	RPM (r/min)	H		Guiding Pipe		W (Kg)	e (years)
110450500010	GMA150-S-AL45	AC220	150	150	1.4	2.8	45	≤100m	Φ27.5	Φ27.5orΦ33.5	5.5	3
110492600010	GMA300-S-AL45	AC220	300	300	3.0	3.3	45	≤100m	Φ33.5	Φ27.5orΦ33.5	9.4	3
110441900010	GMD150-S-AL45	DC24	150	150	9.3	2.8	45	≤100m	Φ27.5	Φ27.5orΦ33.5	5.5	3
110492500010	GMD300-S-AL45	DC24	300	300	20.0	3.5	45	≤100m	Φ33.5	Φ27.5orΦ33.5	9.4	3

(1) GMA150-S-AL45 Dimensional Drawing

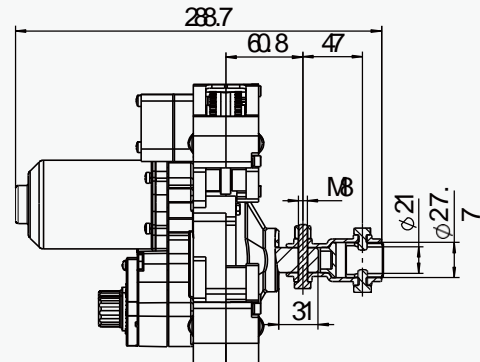
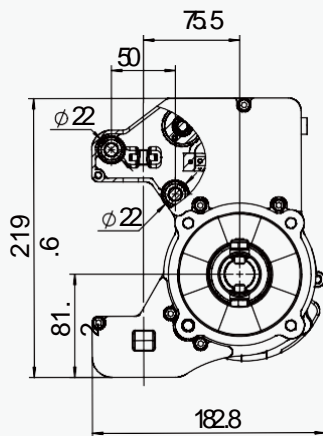


## 2/ Toupe® Electric Film Reeler Dimensional Drawing

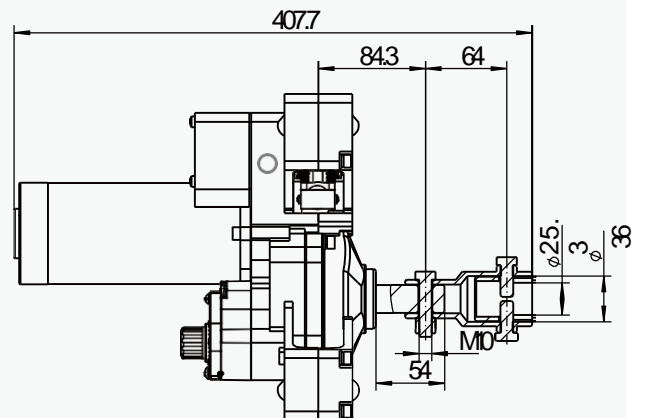
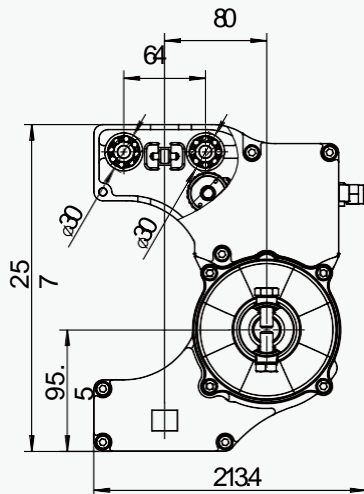
(2) GMA300-S-AL45 Dimensional Drawing



(3) GMD150-S-AL45 Dimensional Drawing



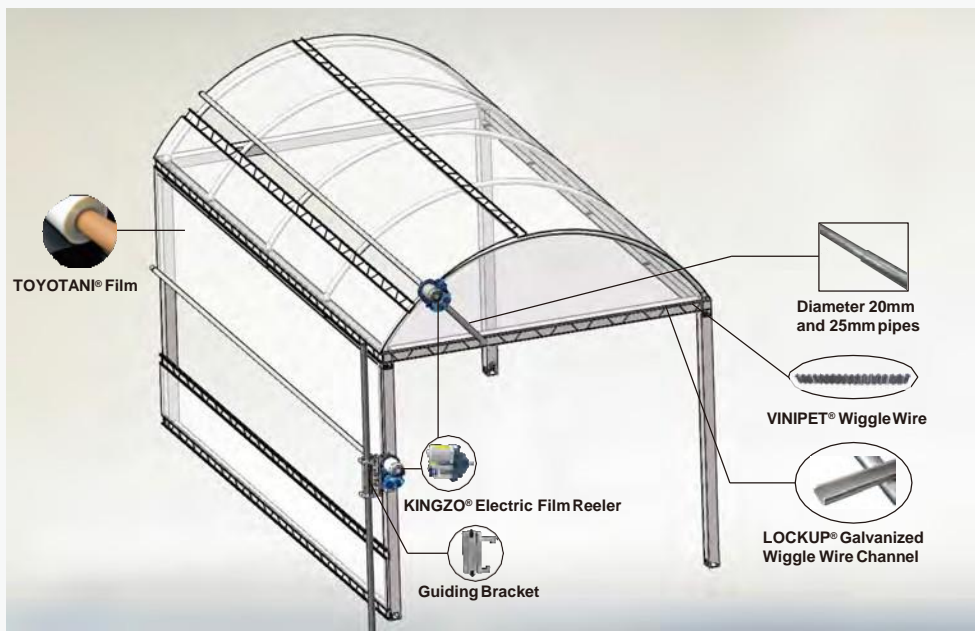
(4) GMD300-S-AL45 Dimensional Drawing



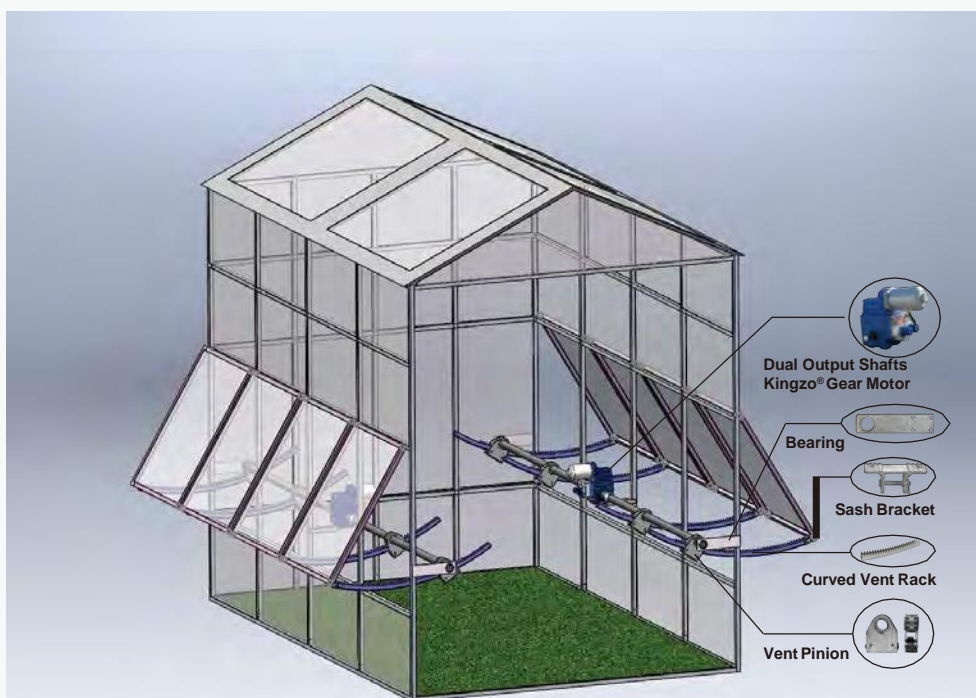
# Application & Instruction

## 1/ Greenhouse Sidewall & Roof Opening System

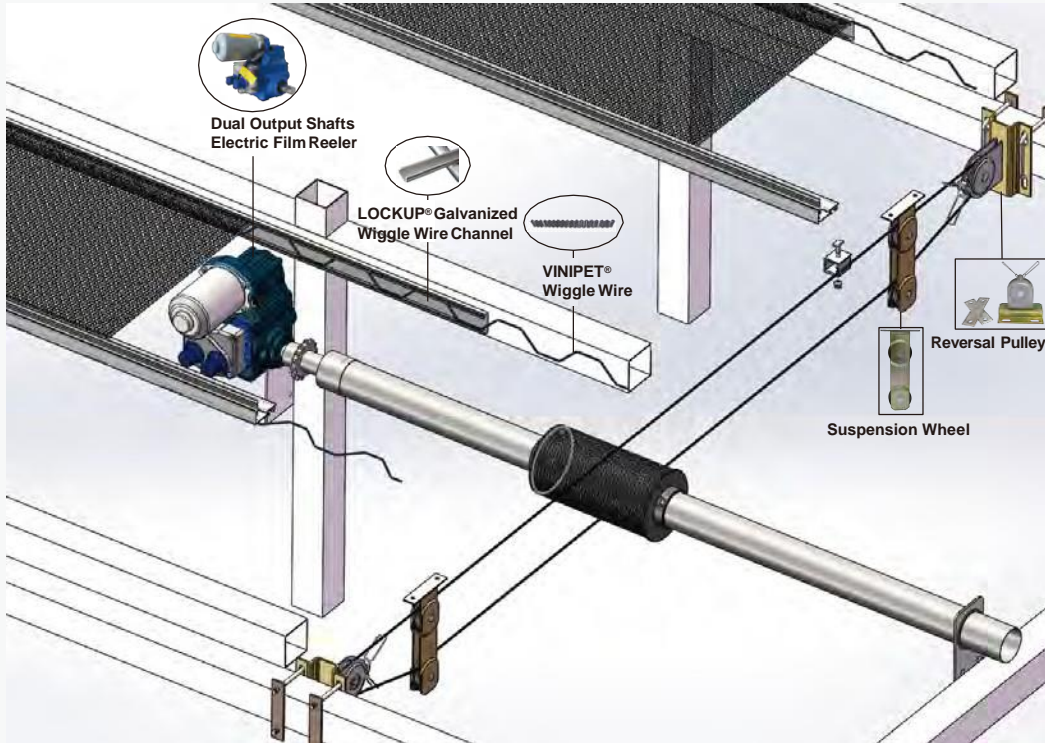
02



## 2/ Rack & Pinion Ventilation System Driven by Gear Motor

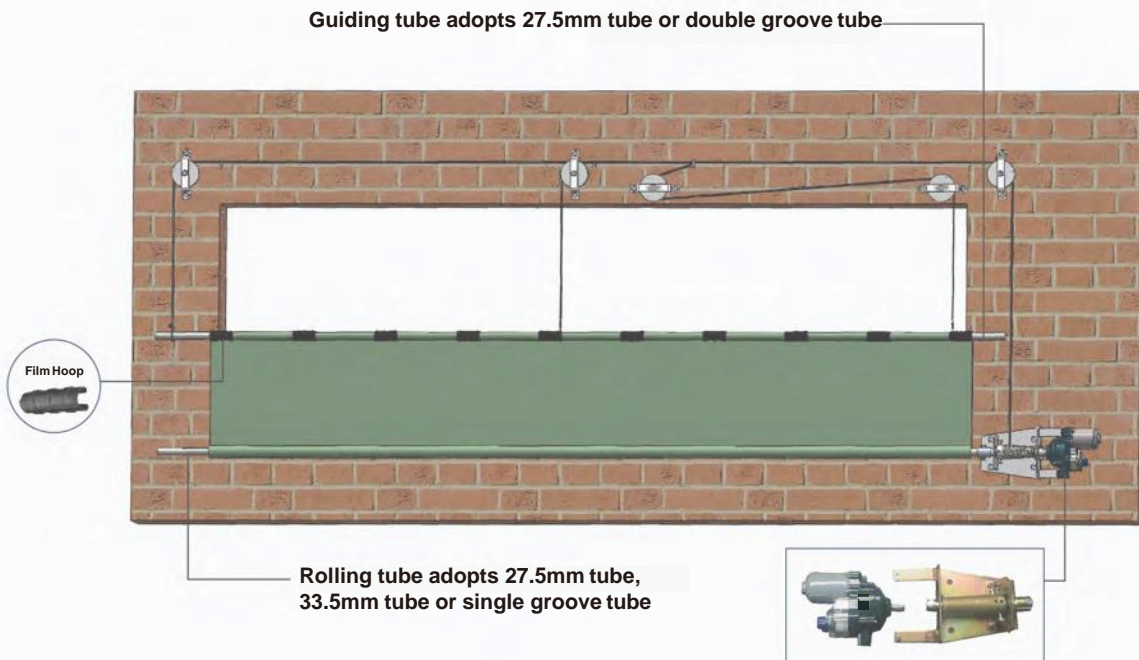


### 3/ Rack & Pinion Screening System Driven by Gear Motor



02

### 4/ Screening System in Livestock



## 5/ Applications of KINGZO® Electric Film Reeler

a. Application on Screening System



b. Application on Vent System in Livestock

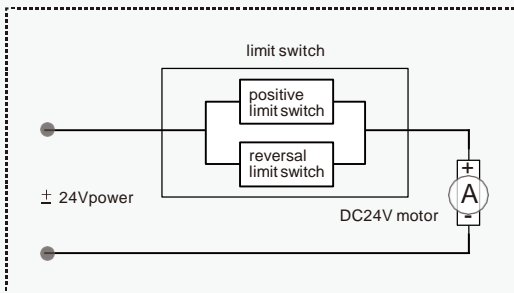


c. Application on Stationary Usage in Greenhouse

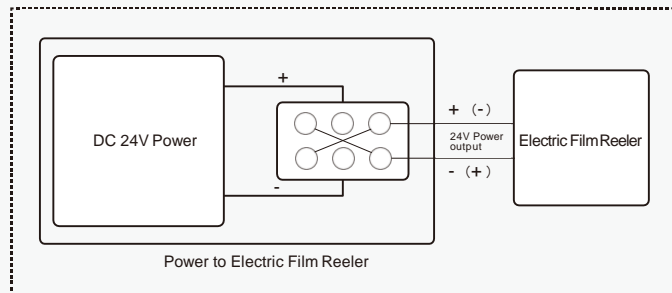


## 6/ Schematic Diagram of KINGZO® Electric Film Reeler

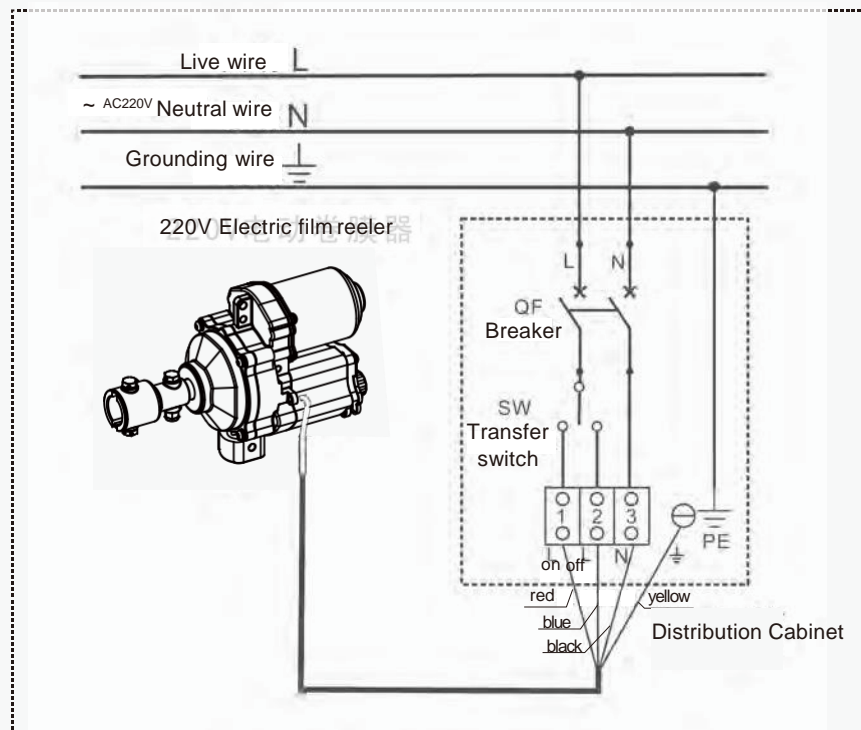
### Schematic Diagram 24V



### Wiring Diagram 24V Reeler



### Schematic Diagram 220V

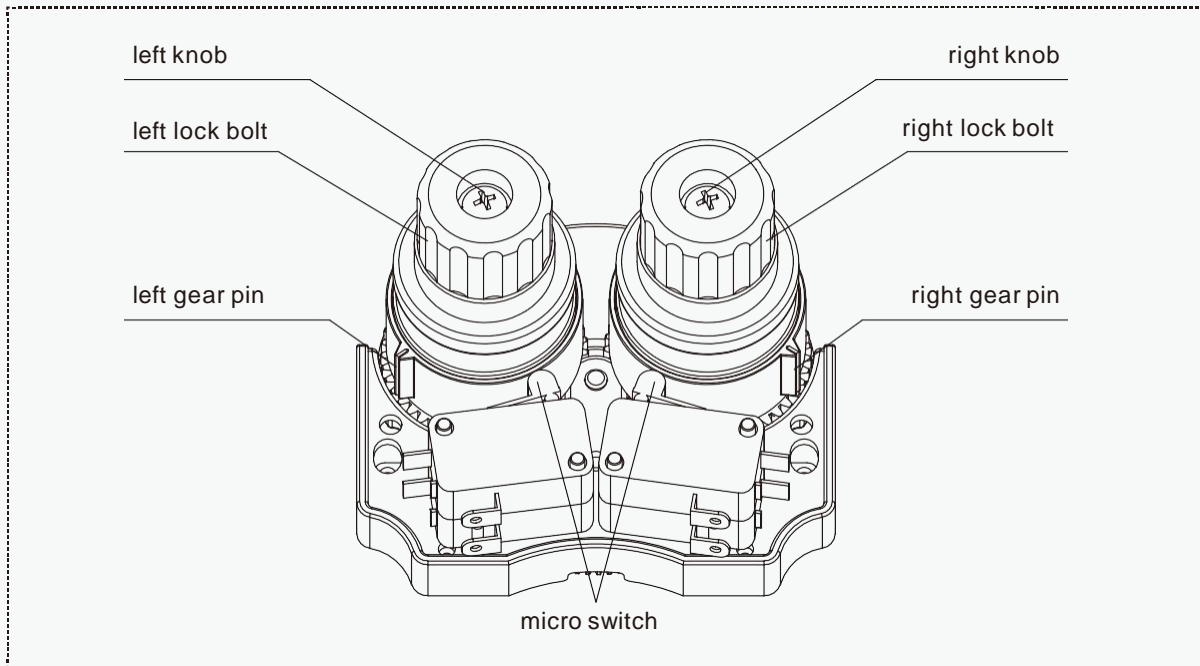


#### Notice:

1. All power distribution devices **MUST** be selected and installed by professionals.
2. In order to use the electricity safely, the terminal box of the reeler should be connected with the grounding cable reliably.
3. After the cables are connected, the water clog in the terminal box and the lid of the waterproof box should be sealed tightly to prevent rain from entering.
4. 5 units or less can be used in parallel, if there are more than 5 units in parallel, electrical control devices should be added, and each electrical control device should not have more than 5 units in parallel.



## 7/ KINGZO® Electric Film Reeler Limit Switch Illustration



02

### Limit switch adjusting

1. Loosen the left and right lock bolts by a crosshead screwdriver, at the same time make sure the gear pin doesn't touch the microswitch.
2. Turn on the power, and make the motor run, confirm the status of the rolling pipe, it is rolling up or rolling down.
3. When the motor is rolling up the plastics, rotate any of the knobs slowly, and make the gear pin touch the microswitch(with click sound). If the motor stops running, it means this adjust pin controls the direction of the rolling. If the motor doesn't stop running, the other adjust pin is used to control the direction of the rolling.
4. When the motor is rolling up the plastics, the pipe arrives at the required position, at this time rotates the knob which controls the tolling status and makes the gear pin touch the microswitch (with click sound), hold on and fasten the lock bolt by a crosshead screwdriver.
5. When the motor is rolling down the plastics, the pipe arrives at the required position, at this time rotates the knob which controls the tolling status and makes the gear pin touch the microswitch (with click sound), hold on and fasten the lock bolt by a cross head screwdriver.
6. The above steps would set up the motor's limit range. Turn on the power and check if the range set up is right. If it is not correct, please review the manual carefully and do the setup again.

# Accessory of KINGZO® Electric Film Reeler FLC® Guiding Bracket

## 1/ CRP40-A(Used with 40W Electric Film Reeler)

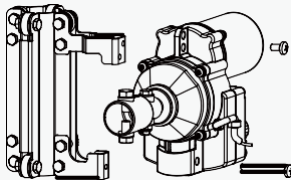
CRP40-A Guiding Bracket



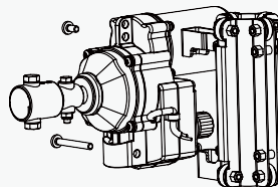
Assembly Diagram of Guiding Bracket and Electric Film Reeler



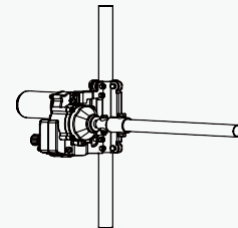
Installation diagram on left side of motor



Installation diagram on right side of motor



Design sketch after mounting



## 2/ CRP100-F(Used with 60W/ 100W Electric Film Reeler)

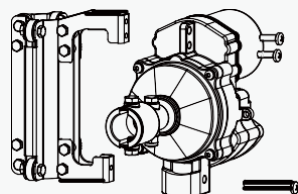
CRP100-F Guiding Bracket



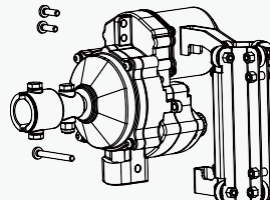
Assembly Diagram of Bracket and Electric Film Reeler



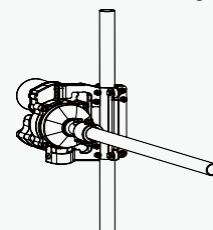
Installation diagram on left side



Installation diagram on right side



Design sketch after mounting



### 3/ CRP100-A-DN20/DN25(Used with 100W Electric Film Reeler)

CRP100-A-DN20 Guiding Bracket

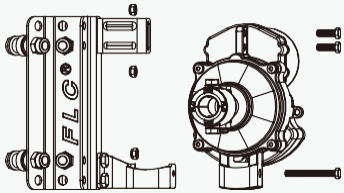


Assembly Diagram of Guiding Bracket and Electric Film Reeler

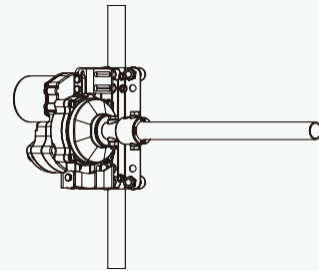


02

Installation diagram



Design sketch after mounting



### 4/ CRP180-A-DN20/DN25(Used with 180W Electric Film Reeler)

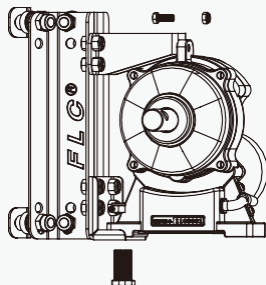
CRP180-A Guiding Bracket



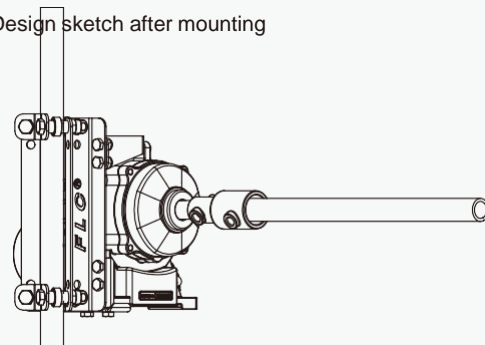
Assembly Diagram of Bracket and Electric Film Reeler



Installation diagram



Design sketch after mounting



## 5/ CRP300-F(Used with 300W Electric Film Reeler)

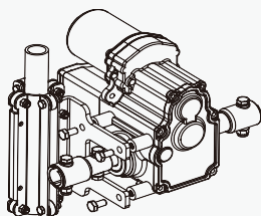
CRP300-F Guiding Bracket



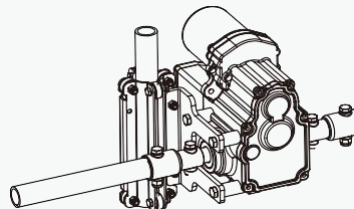
Assembly Diagram of Bracket and Electric Film Reeler



Installation diagram



Design sketch after mounting



## 6/ Guiding Bracket Parameter

Product Code	Model	Suitable Reeler Model	Suitable Pipe Model	Unit
110503800010	CRP40-A	40W	$\Phi 20 < D < \Phi 27.5$	piece
110503900010	CRP100-F	60W、100W	$\Phi 20 < D < \Phi 27.5$	piece
110503100010	CRP100-A-DN20	60W、100W	$\Phi 20 < D < \Phi 27.5$	piece
110503200010	CRP100-A-DN25	60W、100W	$\Phi 20 < D < \Phi 33.5$	piece
110502700010	CRP180-A-DN20	180W	$\Phi 20 < D < \Phi 27.5$	piece
110502800010	CRP180-A-DN25	180W	$\Phi 20 < D < \Phi 33.5$	piece
110448100010	CRP300-F	300W	$\Phi 20 < D < \Phi 33.5$	piece

# Accessory Products of KINGZO® Electric Film Reeler Control Product

## 1/ Special Power for DC 24V Electric Film Reeler

02



● DC 24V Reeler Power – 100W (manual)



● DC 24V Reeler Power – 200W (remote)



● DC 24V Reeler Power – 200W (manual)



● DC 24V Reeler Power – 300W (manual)

## 2/ Special Power for DC 24V Electric Film Reeler

Product code	Name	Model	Input voltage (AC)	Output voltage (DC)	Power	Unit
190102700010	100W Power for DC Electric Film Reeler(manual)	FLC E800 24V 100W/M1	AC220V	DC24V	100W	piece
190100700010	200W Power for DC Electric Film Reeler(remote)	FLC E800 24V 200W/R	AC220V	DC24V	200W	piece
190100500010	200W Power for DC Electric Film Reeler(manual)	FLC E800 24V 200W/M1	AC220V	DC24V	200W	piece
190102500010	300W Power for DC Electric Film Reeler(manual)	FLC E800 24V 300W-M2	AC220V	DC24V	300W	piece

### 3/ Switch Box for Electric Film Reeler Switch E300-A220V

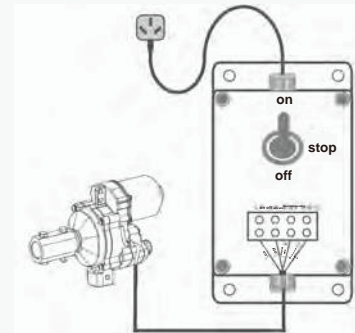
#### Product Description

- Working Voltage: AC 220V;
- Working Current: 2A;
- Overload protection for reeler was built-in and reversing switch was external, to control the reeler forward, reversal and stop;
- Easy to install, the wiring is easy and reliable, no power consume. 1
- year quality guarantee



#### Notice

- Please connect the control box to reeler according to the diagram;
- Ensure keeping the water-proof and seal after installation;
- Only adopt to AC 220V reeler and only control 1 piece reeler;
- MUST connect the power with ground protection.



Wiring Diagram

### 4/ Control Box Customized for Reeler 24V

#### Product Description

- The electric film reeler capacity of each channel is 60W, each channel equips protection fuse;
- Each channel equips one toggle switch to operate the open, close and stop;
- The FLC® control box supplies single phase 220V/50Hz power;
- The earth wire is required, the earth wire must connect safety with the ground point of control box.
- 1 year quality guarantee



Control Box Customized for Reeler 24V (outside)

#### Notice

- Ensure output terminal function when install the control box wiring, wrong wiring is forbidden;
- Each reeler channel equips overloading and fuse short, please check the fuse if the reeler does not work;
- Each channel equips one piece reeler, please do not connect more reelers;
- The installation and distribution of control box MUST be operated by professional.



Control Box Customized for Reeler 24V (inside)

## 5/ Parameter List of 24V Reeler Control Box

Reeler QTY to control	1 piece Reeler by one Channel	2 pieces Reeler by one Channel	3 pieces Reeler by one Channel	4 pieces Reeler by one Channel
4 pieces	DC104	DC204	DC304	DC404
5 pieces	DC105	DC205	DC305	DC405
6 pieces	DC106	DC206	DC306	DC406
7 pieces	DC107	DC207	DC307	DC407
8 pieces	DC108	DC208	DC308	DC408
9 pieces	DC109	DC209	DC309	DC409
10 pieces	DC110	DC210	DC310	DC410
11 pieces	DC111	DC211	DC311	DC411
12 pieces	DC112	DC212	DC312	DC412
13 pieces	DC113	DC213	DC313	DC413
14 pieces	DC114	DC214	DC314	DC414
15 pieces	DC115	DC215	DC315	DC415
16 pieces	DC116	DC216	DC316	DC416
17 pieces	DC117	DC217	DC317	DC417
18 pieces	DC118	DC218	DC318	DC418
19 pieces	DC119	DC219	DC319	DC419
20 pieces	DC120	DC220	DC320	DC420

Remarks:1. Models Selection: Supposing the reeler quantity is 17 pieces and one channel controls 3 pieces reeler, the right control box is horizontal 3 and vertical 17, the model No. is DC317.

2. The sheet data is created according to 100W reeler. Considering the power limit, so one control box equips 20 pieces reelers max.

02

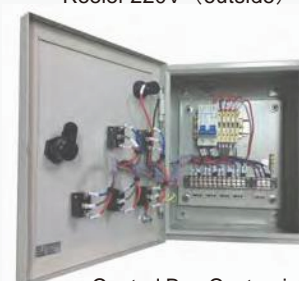
## 6/ Control Box Customized for Reeler 220V

### Product Description

- The electric film reeler capacity of each channel is 400W, each channel equips protection fuse;
- Each channel equips one toggle switch to operate the open、close and stop;
- The FLC® control box supplies single phase 220V / 50Hz power;
- The earth wire is required, the earth wire must connect safety with the ground point of control box.
- 1 year quality guarantee
- Ensure output terminal function when install the control box wiring, wrong wiring is forbidden;
- Each reeler channel equips overloading and fuse short, please check the fuse if the reeler does not work;
- Each channel equips two piece reelers, please do not connect more reelers;
- The installation and distribution of control box MUST be operated by professionals.



Control Box Customized for Reeler 220V (outside)



Control Box Customized for Reeler 220V (inside)

## 7/ Parameter List of Customized 220V Reeler Control Box

Reeler QTY to control	1 piece Reeler by one Channel	2 pieces Reeler by one Channel	3 pieces Reeler by one Channel	4 pieces Reeler by one Channel	5 pieces Reeler by one Channel	6 pieces Reeler by one Channel
1 piece	AC101					
2 pieces	AC102	AC202				
3 pieces	AC103	AC203	AC303			
4 pieces	AC104	AC204	AC304	AC404		
5 pieces	AC105	AC205	AC305	AC405	AC505	
6 pieces	AC106	AC206	AC306	AC406	AC506	AC606
7 pieces	AC107	AC207	AC307	AC407	AC507	AC607
8 pieces	AC108	AC208	AC308	AC408	AC508	AC608
9 pieces	AC109	AC209	AC309	AC409	AC509	AC609
10 pieces	AC110	AC210	AC310	AC410	AC510	AC610
11 pieces	AC111	AC211	AC311	AC411	AC511	AC611
12 pieces	AC112	AC212	AC312	AC412	AC512	AC612
13 pieces	AC113	AC213	AC313	AC413	AC513	AC613
14 pieces	AC114	AC214	AC314	AC414	AC514	AC614
15 pieces	AC115	AC215	AC315	AC415	AC515	AC615
16 pieces	AC116	AC216	AC316	AC416	AC516	AC616
17 pieces	AC117	AC217	AC317	AC417	AC517	AC617
18 pieces	AC118	AC218	AC318	AC418	AC518	AC618
19 pieces	AC119	AC219	AC319	AC419	AC519	AC619
20 pieces		AC220	AC320	AC420	AC520	AC620
21 pieces		AC221	AC321	AC421	AC521	AC621
22 pieces		AC222	AC322	AC422	AC522	AC622
23 pieces		AC223	AC323	AC423	AC523	AC623
24 pieces		AC224	AC324	AC424	AC524	AC624
25 pieces		AC225	AC325	AC425	AC525	AC625
26 pieces		AC226	AC326	AC426	AC526	AC626
27 pieces		AC227	AC327	AC427	AC527	AC627
28 pieces		AC228	AC328	AC428	AC528	AC628
29 pieces		AC229	AC329	AC429	AC529	AC229
30 pieces		AC230	AC330	AC430	AC530	AC630
31 pieces		AC231	AC331	AC431	AC531	AC631
32 pieces		AC232	AC332	AC432	AC532	AC632
33 pieces		AC233	AC333	AC433	AC533	AC633
34 pieces		AC234	AC334	AC434	AC534	AC634
35 pieces		AC235	AC335	AC435	AC535	AC635
36 pieces		AC236	AC336	AC436	AC536	AC636
37 pieces		AC237	AC337	AC437	AC537	AC637
38 pieces		AC238	AC338	AC438	AC538	AC638
39 pieces		AC239	AC339	AC439	AC539	AC639
40 pieces		AC240	AC340	AC440	AC540	AC640

Remarks: 1. Models Selection: Supposing the reeler quantity is 17 pieces and one channel controls 3 pieces reeler, the right control box is horizontal 3 and vertical 17, the model No. is AC317.

2. One AC 220V control box may control 6 pieces reelers per channel max.

3. One control box control over 20 pieces reelers, it is not suggested to control one piece reeler by one channel separately, so there is no relative models in the list.



# TANIKANKIT®/ FLC® Manual Film Reeler

## 1/ Appearance of Manual Film Reeler

02



● BS104



● NA104



● NS105



● NSA105



● NA105



● BS107



● BSA107



● BA107

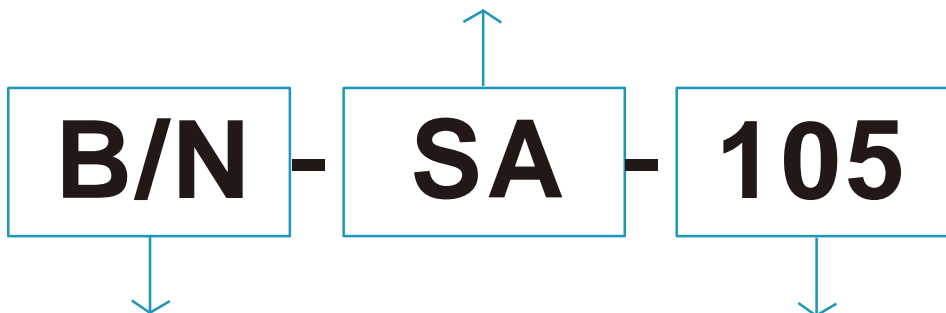
## 2/ Parameter Sheet for FLC®/ TANIKANKIT® Manual Film Reeler

Product Code	Model No.	Torque	Speed Ratio	Rolling Length	Application	Size of Rolling Tube	Size of Guiding Tube	Guarantee
110202100010	BS104	30N·m	4:1	≤90m	Sidewall	Φ25x2orΦ27.5	Φ27.5	3 years
110101100010	NA104	30N·m	4:1	≤100m	Sidewall and Roof	Φ19orΦ22orΦ27.5	Crank rodΦ22 or Φ27.5	3 years
110200400010	NS105	50N·m	5:1	≤100m	Sidewall	Φ22orΦ27.5	Φ27.5	3 years
110200600010	NSA105	40N·m	5:1	≤100m	High Sidewall	Φ22orΦ27.5	Φ27.5	3 years
110200200010	NA105	50N·m	5:1	≤100m	Roof	Φ22orΦ27.5	upper pipe for slip pipeΦ22orΦ27.5 lower pipe for slip pipeΦ27.5orΦ33.5	3 years
110205200010	BS107	60N·m	7:1	≤130m	Sidewall	Φ22orΦ27.5	Φ27.5	3 years
110205100010	BSA107	50N·m	7:1	≤100m	High Sidewall	Φ22orΦ27.5	Φ27.5	3 years
110205300010	BA107	60N·m	7:1	≤130m	Roof	Φ22orΦ27.5	upper pipe for slip pipeΦ22orΦ27.5 lower pipe for slip pipeΦ27.5orΦ33.5	3 years

02

## 3/ Model Naming Demostration

S stands for Sidewall, A stands for high position, SA stands for Sidewall at high position



BN is first Capital, stands for series model

105 stands for speed ratio of 5:1  
107 stands for speed ratio of 7:1

FLC®/ TANI KANKIT®

# Manual Film Reeler Introduction

## 1/ FLC® BS104 Manual Film Reeler

02

### Product Description

- Easy to install and operate;
- Big output torque and light weight; Side ventilation for greenhouse;
- Accurate limit range and reliable performance of self-locking;
- Wide application for greenhouse, livestock, etc.;
- Stainless steel handles, full plastic resin casing, long anticorrosion time; 3 years quality guarantee.



Product Code	Model No.	Torque	Speed Ratio	Rolling Length	Application	Size of Rolling Tube	Size of Guiding Tube	Guarantee
110202100010	BS104	30N·m	4:1	≤90m	Sidewall	Φ22 or Φ27.5	Φ27.5	3 years

### FLC® BS104 Manual Film Reeler Application



## 2/ TANIKANKIT® NA104 Manual Film Reeler

### Product Description

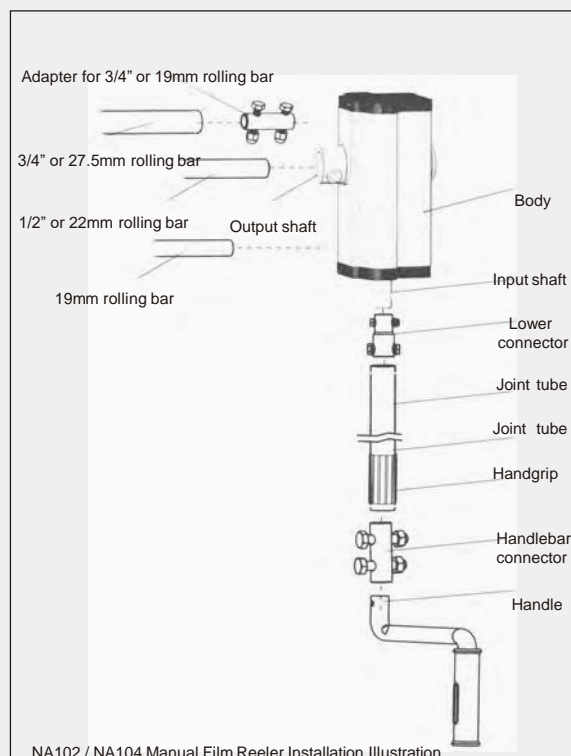
- Easy to install and operate;
- Big output torque and light weight;
- Side & roof ventilation for greenhouse;
- Reliable performance of self-locking;
- Wide application for greenhouse, livestock, etc.;
- Stainless steel handles, full aluminum shell, long anticorrosion time;
- 3 years quality guarantee.



02

Product Code	Model No.	Torque	Speed Ratio	Rolling Length	Application	Size of Rolling Tube	Size of Guiding Tube	Guarantee
110101100010	NA104	30N·m	4:1	≤100m	Sidewall and Roof	Φ19 or Φ22 or Φ27.5	Crank rod Φ22 or Φ27.5	3 years

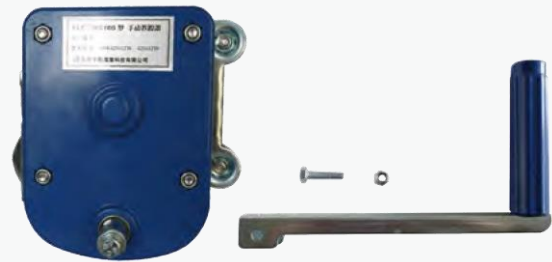
### TANIKANKIT® NA104 Manual Film Reeler Application



## 3/ FLC® NS105 Manual Film Reeler

### Product Description

- Easy to install and operate;
- Big output torque and light weight;
- Side ventilation for greenhouse;
- Reliable performance of self-locking;
- Wide application for greenhouse, livestock, etc.;
- Suitable for  $\Phi 22$  or  $\Phi 27.5$  rolling tube;
- 3 years quality guarantee.



02

Product Code	Model No.	Torque	Speed Ratio	Rolling Length	Application	Size of Rolling Tube	Size of Guiding Tube	Guarantee
110200400010	NS105	50N·m	5:1	≤100m	Sidewall	$\Phi 22$ or $\Phi 27.5$	$\Phi 27.5$	3 years

### FLC® NS105 Manual Film Reeler Application



## 4/ FLC® NSA105 Manual Film Reeler

### Product Description

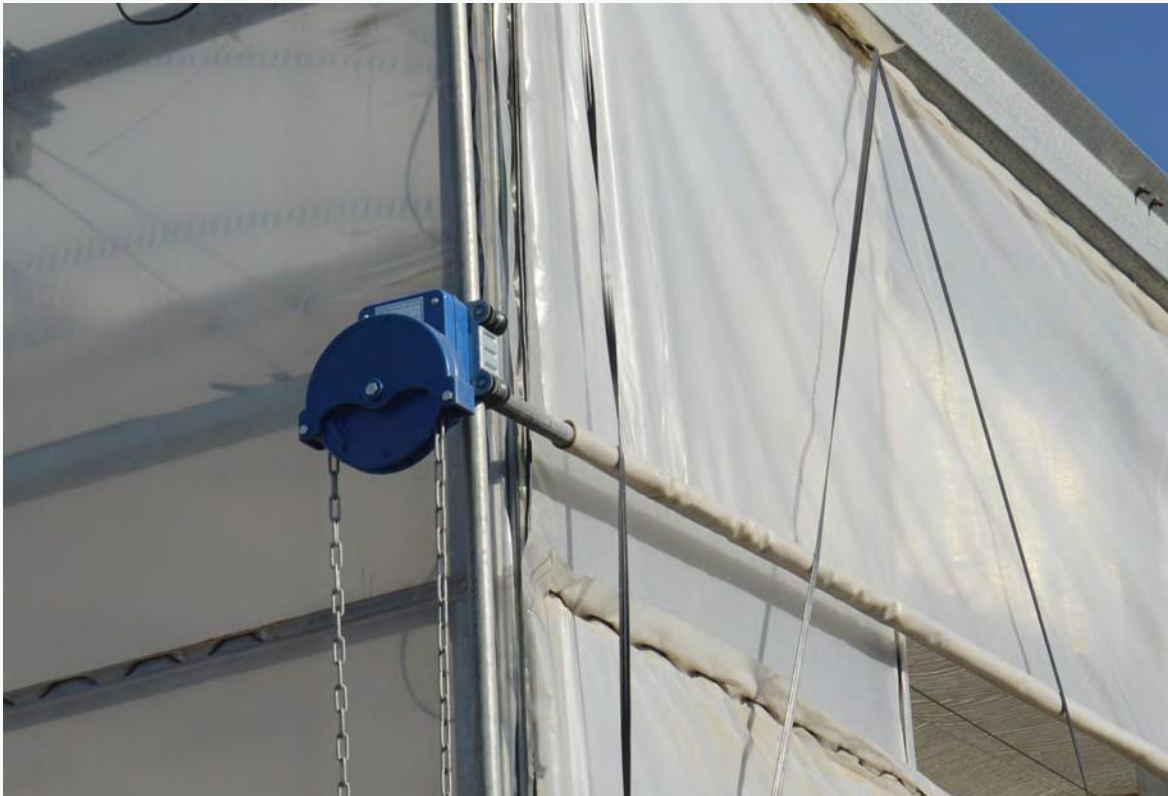
- Easy to install and operate;
- Add the transition gear in the transmission system with more steady performance;
- Big speed ratio and output torque, light weight;
- Reliable performance of self-locking;
- Side ventilation for high position;
- 3 years quality guarantee.



02

Product Code	Model No.	Torque	Speed Ratio	Rolling Length	Application	Size of Rolling Tube	Size of Guiding Tube	Guarantee
110200600010	NSA105	40N·m	5:1	≤100m	Sidewall for high position	Φ22 or Φ27.5	Φ27.5	3 years

### FLC® NSA105 Manual Film Reeler Application



## 5/ FLC® NA105 Manual Film Reeler

### Product Description

- Easy to install and operate;
- Add the transition gear in the transmission system; with more steady performance;
- Big speed ratio and output torque, light weight;
- Wide application: besides greenhouse vent, it also can be used for ventilation driven by rack and pinion system by hand in small area;
- Reliable performance of self-locking;
- Suitable for  $\Phi 22$  or  $\Phi 27.5$  rolling tube;
- 3 years quality guarantee.



02

Product Code	Model No.	Torque	Speed Ratio	Rolling Length	Application	Size of Rolling Tube	Size of Guiding Tube	Guarantee
110200200010	NA105	50N·m	5:1	≤100m	Roof	$\Phi 22$ or $\Phi 27.5$	upper pipe $\Phi 22$ or $\Phi 27.5$ lower pipe $\Phi 27.5$ or $\Phi 33.5$	3 years

### FLC® NA105 Manual Film Reeler Application



## 6/ FLC®BS107 Manual Film Reeler

### Product Description

- Easy to install and operate;
- Add the transition gear in the transmission system with more steady performance;
- Big speed ratio and output torque, light weight;
- Suitable for side curtain vent of livestock especially;
- Reliable performance of self-locking;
- Side ventilation for greenhouse;
- 3 years quality guarantee.



02

Product Code	Model No.	Torque	Speed Ratio	Rolling Length	Application	Size of Rolling Tube	Size of Guiding Tube	Guarantee
110205200010	BS107	60N·m	7:1	≤130m	Sidewall	Φ22 or Φ27.5	Φ27.5	3 years

### FLC® BS107 Manual Film Reeler Application





## 7/ FLC® BSA107 Manual Film Reeler

### Product Description

- Easy to install and operate;
- Add the transition gear in the transmission system with more steady performance;
- Big speed ratio and output torque, light weight;
- Suitable for side curtain vent of livestock especially;
- Reliable performance of self-locking;
- Side ventilation for greenhouse;
- 3 years quality guarantee.



02

Product Code	Model No.	Torque	Speed Ratio	Rolling Length	Application	Size of Rolling Tube	Size of Guiding Tube	Guarantee
110205100010	BSA107	50N·m	7:1	≤100m	Sidewall for high position	Φ22 or Φ27.5	Φ27.5	3 years

### FLC® BSA107 Manual Film Reeler Application



## 8/ FLC® BA107 Manual Film Reeler

### Product Description

- Big output torque and longer rolling length;
- Easy to install and operate;
- Self locking at two directions, safe and reliable;
- Suitable for various film rolling and screening vent in livestock, especially for the roof vent in greenhouse;
- 3 years quality guarantee.



02

Product Code	Model No.	Torque	Speed Ratio	Rolling Length	Application	Size of Rolling Tube	Size of Guiding Tube	Guarantee
110205300010	BA107	60N·m	7:1	≤130m	Roof	Φ22 or Φ27.5	upper pipe Φ22orΦ27.5 lower pipe Φ27.5orΦ33.5	3 years

### FLC® BA107 Manual Film Reeler Application



# 03

## Wiggle Wire/ Wiggle Wire Channel

03

### VINIPET® Wiggle Wire

1. VINIPET® B623H Wiggle Wire
2. VINIPET® B6B Wiggle Wire
3. VINIPET® B5B Wiggle Wire

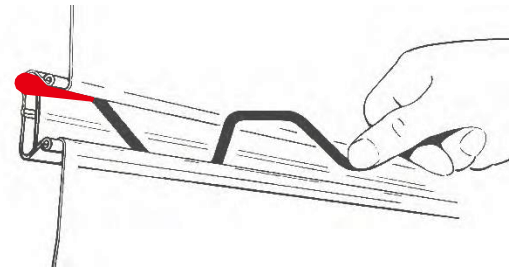
### LOCKUP® Wiggle Wire Channel

1. LOCKUP® Galvanized  
Wiggle Wire Channel
2. LOCKUP® Swedged  
Galvanized Wiggle Wire Channel
3. LOCKUP® Aluminum  
Wiggle Wire Channel



# VINIPET® Wiggle Wire

Japanese Standard, Japanese Production Line, Eight Procedures of Inspection; Anti-fake stripes, Thicker ends of wire, Economical and Safe.



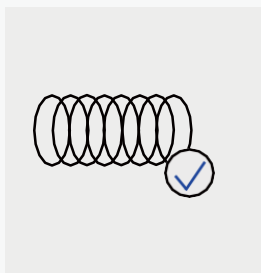
## 1/VINIPET® Wiggle Wire Introduction

VINIPET® Wiggle Wire was originally designed and manufactured for exporting to Japan according to Japanese standard. With eight inspection procedures (Figure 1), it is made of specialized spring wire, coated by the anti-aging resin for many years, produced under strict management system, it has been exported to Japan for 16 years.

VINIPET® Wiggle Wire has B5 and B6 two series of products, including VINIPET®B623H (Blue, 6 years guarantee), VINIPET®B5B (White, 5 years guarantee), VINIPET®B6B (White, 6 years guarantee), thicker and rounded ends, PVC coating design, can be repeatedly used for 6 - 8 years.

03

**Figure 1**  
**Eight Inspection Procedures**



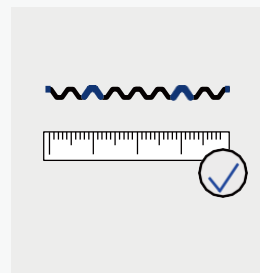
**1. Inspection of Steel Wire**

Wire Diameter: 2.30mm  
Diameter after Coating: 2.85mm  
Tensile Strength > 1800N/mm<sup>2</sup>



**2. Inspection of Plastic Powder**

8 terms of technical specification inspection  
Inspected by American Q-Lab UV testing machine



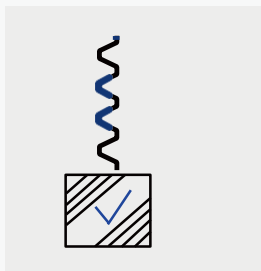
**3. Inspection of Shaping product Dimension**

Length: 1955mm  
Height: 36mm



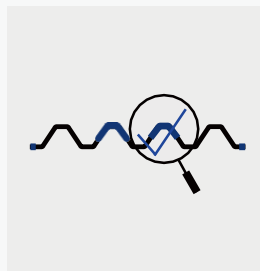
**4. Inspection of End product Dimension**

Length: 1955mm  
Height: 36mm



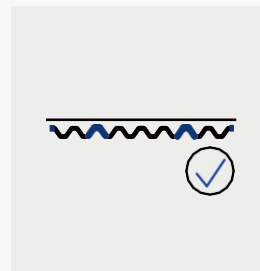
**5. Inspection of Elasticity**

Taking a sample of 275mm length wiggly wire with a load 20kg weight, the difference is less than 15mm.



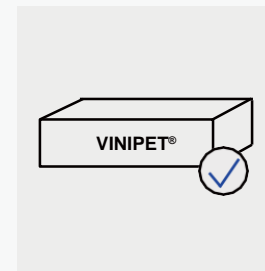
**6. Inspection of Appearance**

No scratch and no deformation



**7. Inspection of flatness and distortion**

Glancing flatness < 20mm  
Torsion resistance < 30mm



**8. Inspection of finished products**

Comprehensive evaluation of Length, Height, Weight, Diameter, Appearance and package

## 2/The Advantage of VINIPET® Wiggle Wire

03

### ● Economical

a. Due to the aging and cracking of the outer PVC coating resin, the common wiggle wire in the market will be rusted out in less than two years and cannot be used repeatedly.

b. VINIPET® Wiggle Wire is made of spring steel wire, coated with UV resin, can be used 6-8 years repeatedly. So it is real cost-saving.

### ● Safety

a. The proportion of wiggle wires in the cost of the whole greenhouse is less than 1%. It is this 1% of wiggle wires that guarantees 100 % safety of greenhouse film.

b. In recent years, 2-5 years warranty film is widely used, but the common wiggle wire with it is easy to rust and break down at any time. VINIPET® Wiggle Wire, coated by premium engineering plastic powder with UV stabilization, can withstand 14-grade wind. The film-fixing ability is stronger.

c. Common wiggle wire's ends are too sharp, and it is easy to puncture the film, while VINIPET® Wiggle Wire's ends are thicker and rounded, ensuring easy and faster installation while simultaneously preventing tears.

### ● Quality Guarantee

From purchase date, within the warranty period, FLC would do full compensate or replace them due to quality problems.

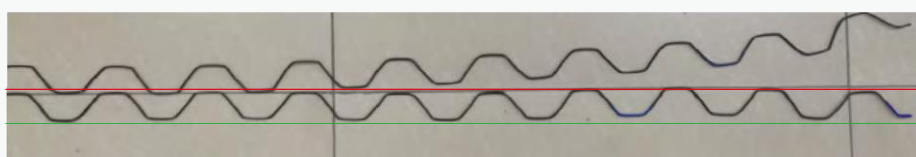
### ● Testing of simulated wind pressure

Test Method: The test area is 1 square meter, the two sides of the film are fixed in the wiggle wire channel with VINIPET®6 wiggle wires.

Test Result: The maximum load-bearing capacity is 580kg, and the average load-bearing capacity of each wiggle wire is 290kg. (Considering the safety factor of twice, the load-bearing of 14-grade wind is about 133kg per square meter, the wiggle wire which withstands 14-grade wind should bear more than 260 kg load per square meter)



### ● Comparison of wiggle wire flatness



It is proved that VINIPET® B6 wiggle wire distort less than common one when they are taken out of wiggle wire channel.

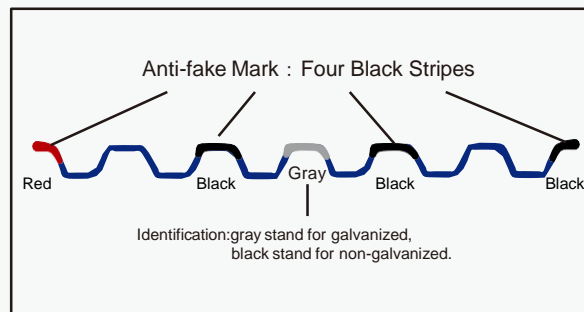
# VINIPET® Wiggle Wire

## VINIPET® B623H Wiggle Wire

### 1/VINIPET® B623H Wiggle Wire

#### Production Description

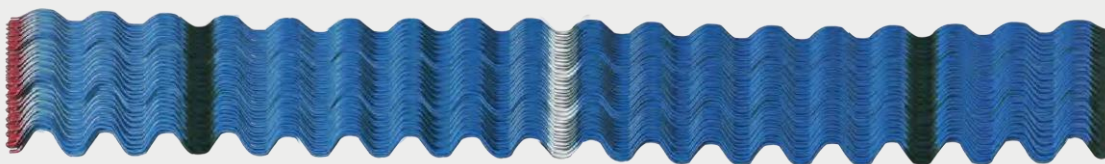
- Four black stripes as anti-fake mark;
- Thicker and rounded ends to protect film and ensure easier and faster installation;
- Made of galvanized steel wire and coated by UV resin, repeated to use 6-8 years;
- 6 years quality guarantee.



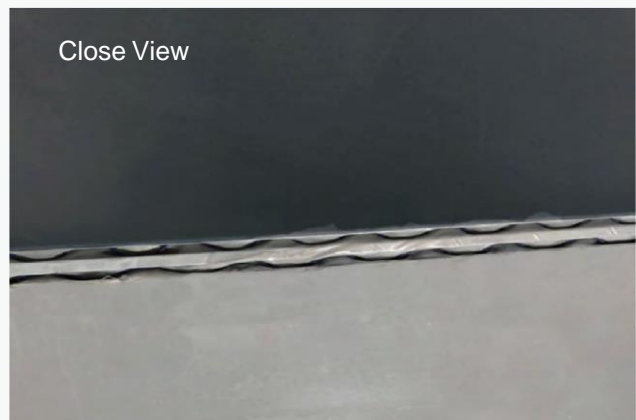
03

Product Code	Model	Specification	Color	Anti-fake Mark	Treatment	Guarantee
120506500010	B623H	Φ2.3	blue	four black stripes	full coated	6 years

#### Appearance Figure



#### Application Figure



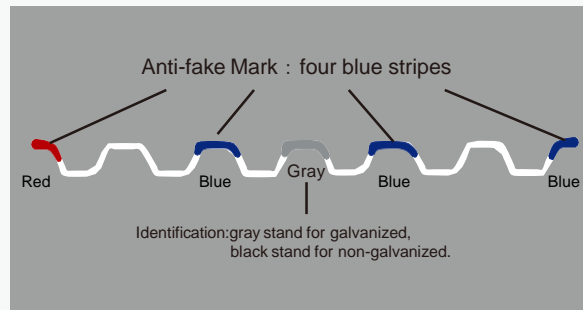
# VINIPET® Wiggle Wire

## VINIPET® B6B Wiggle Wire

### 2/VINIPET® B6B Wiggle Wire

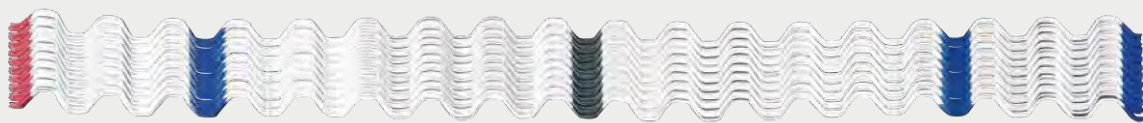
#### Production Description

- White color generally absorbs very little heat, to extent the lifetime of film;
- Thicker and rounded ends to protect film and ensure easier and faster installation;
- Made of galvanized steel wire and coated by UV resin, repeated to use 6-8 years;
- 6 years quality guarantee.



Product Code	Model	Specification	Color	Anti-fake Mark	Treatment	Guarantee
120506000010	B6B20H	Φ2.0	white	four blue stripes	full coated	6 years
120506100010	B6B23H	Φ2.3	white	four green stripes	full coated	6 years

#### VINIPET® B6B20H Wiggle Wire Appearance Figure



Close View

#### VINIPET® B6B23H Wiggle Wire Appearance Figure



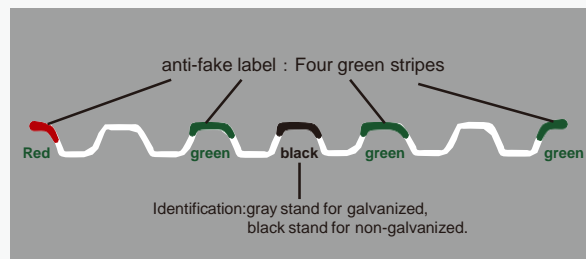
# VINIPET® Wiggle Wire

## VINIPET® B5<sub>B</sub> Wiggle Wire

### 3/ VINIPET® B5<sub>B</sub> Wiggle Wire

#### Product Description

- Thicker and rounded ends to protect film and ensure easier and faster installation;
- White color generally absorbs very little heat, to lengthen the lifetime of film;
- 5 years quality guarantee.



Note: B5<sub>B</sub> White wiggle wire uses white plastic powder made of special formula, the Elongation At Break has been increased by 30%-50% than the black plastic powder, therefore, the white wiggle wire has longer life than black wiggle wire.

Product Code	Model	Specification	Color	Anti-fake Mark	Treatment	Guarantee
120504900010	B5B20H	Φ2.0	white	four blue stripes	full coated	5 years
120505900010	B5B23H	Φ2.3	white	four green stripes	full coated	5 years

#### VINIPET® B5B23H Wiggle Wire Appearance



#### Application

Distant View



Close View





## 4/ VINIPET® Wiggle Wire Application



03



## Wiggle Wire Channel

### 1/ LOCKUP® Galvanized Wiggle Wire Channel

#### Product Description

- Made of steel sheet from “Shougang Group”;
- Thick Zinc Coating, Long time of anti corrosion;
- Scientific design of inside angle.



#### Principle of Wind-resist

When the wind acts on film, the force is transferred to the wiggle wire, according to the force theory, if  $\alpha < \beta$ , the channel will lock the wiggle wire and the wiggle wire will move downwards; if  $\alpha > \beta$ , the wiggle wire will move upwards.

When the wind-resist LOCKUP® wiggle wire channel is used with wiggle wire, as  $\alpha < \beta$ , the more wind loading, the more force to go downwards. It is hard to collapse. On the contrary, for the common and U shape wiggle wire channel,  $\alpha > \beta$ , so the more wind loading, the more force to go upwards. It is hard to collapse.

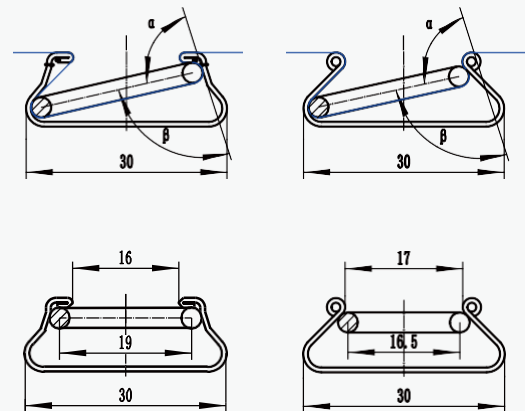


diagram of wind-resist principle

Model	Specification	Width(mm)	Height(mm)	Thickness(mm)	Zinc Coating	Length(m/pc)
KF-3B (120)	Common	30	11	0.70	$\geq 120\text{g/m}^2$	4m/6m
KF-3B (275)	Common	30	11	0.70	$\geq 275\text{g/m}^2$	4m/6m
KF-4	Common	31.5	13.5	0.90	$\geq 275\text{g/m}^2$	4m/6m

## 2/ LOCKUP® Swaged Galvanized Wiggle Wire Channel

### Product Description

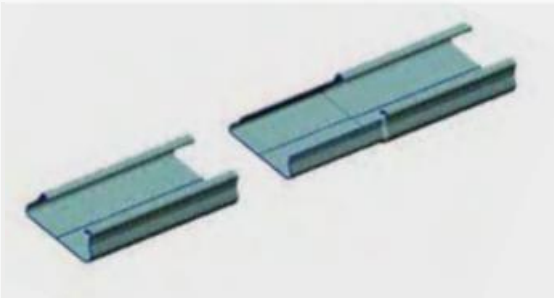
- Self-connecting with ends connection, 30% intensity improved at connecting point;
- Working efficiency improved 100%;
- Working with VINIPET® Wiggle Wire, which can withstand winds of Grade 14 (Beaufort Scale: Hurricane).



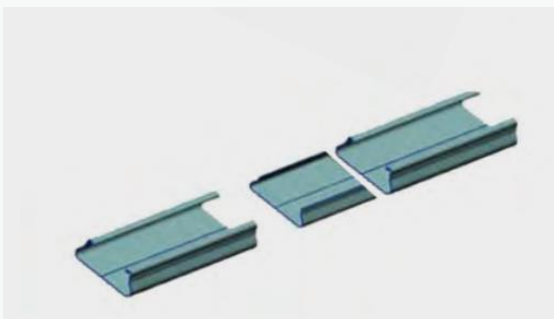
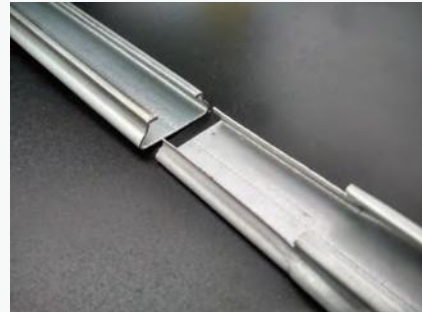
03

Model	Specification	Width(mm)	Height(mm)	Thickness(mm)	Zinc Coating	Length(m/pc)
KF-3BS	Swaged	30	11	0.70	≥120g/m <sup>2</sup>	4050mm/6050mm
KF-3BS	Swaged	30	11	0.70	≥275g/m <sup>2</sup>	4050mm/6050mm
KF-4S	Swaged	31.5	13.5	0.90	≥275g/m <sup>2</sup>	4050mm/6050mm

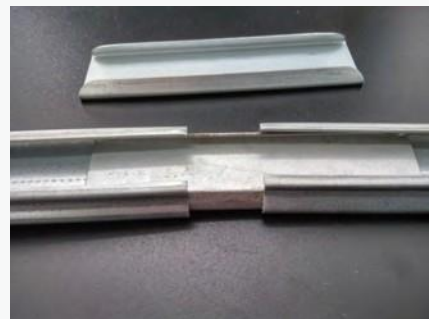
## 3/ Two options for Wiggle Wire Channel Connecting



Swaged Ends Connecting



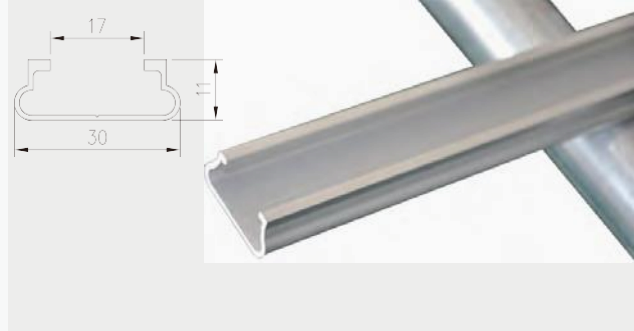
Wiggle Wire Channel Connector



## 4/ LOCKUP® Aluminum Wiggle Wire Channel

### A/ Product Description

- “U” Shape Aluminum Wiggle Wire Channel;
- Strong anti-corrosion;
- Can work with 2 pcs of wiggle wire.

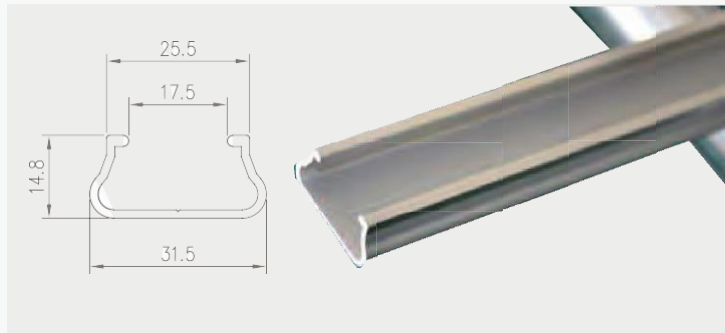


Model	Specification	Width(mm)	Height(mm)	Thickness(mm)	Length(m/pc)
KCL-UY	Common	30	11	0.80	3m/4m/6m
KCL-U	Common	30	11	0.80	3m/4m/5m

03

### B/ Product Description:

- KFA-4 Aluminum Wiggle Wire Channel;
- Strong anti-corrosion;
- Can work with 3 pcs of wiggle wires.



Model	Specification	Width(mm)	Height(mm)	Thickness(mm)	Length(m/pc)
KFA-4Y	Common	31.5	14.8	1.50	3m/4m/6m
KFA-4	Common	31.5	14.8	1.50	3m/4m/6m

5/ LOCKUP® Wiggle Wire Channel Application



03



# 04

## Greenhouse Ventilation and Screening

### Ventilation and Screening System

1. Continuous Rack and Pinion Ventilation System
2. A Type Rack and Pinion Screening System
3. Cable Driving Screening System

### Gear Motor

1. 3GG® Gear Motor
2. KINGZO® Gear Motor

### Accessories for Ventilation and Screening System

1. Accessories for Continuous Rack and Pinion Ventilation System
2. Accessories for A Type Rack and Pinion Screening System
3. Accessories for Cable Driving Screening System
4. Accessories for Economical Screening System
5. General Accessories for Screening System

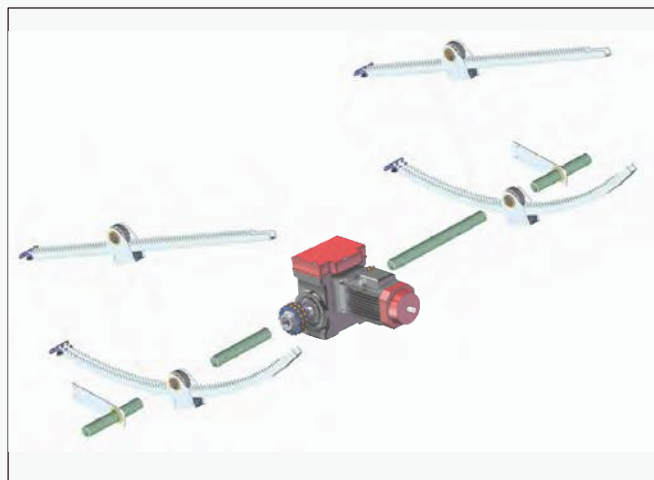


# Greenhouse Ventilation and Screening System Installation Diagram

## 1/ Continuous Rack and Pinion Vent System

### Installation Diagram

- Continuous vent system consists of vent gear motor, drive shaft, rack and pinion and shaft bearing. The gear motor drives the pinion by the drive shaft to move the rack back and forward to open or close the vent.

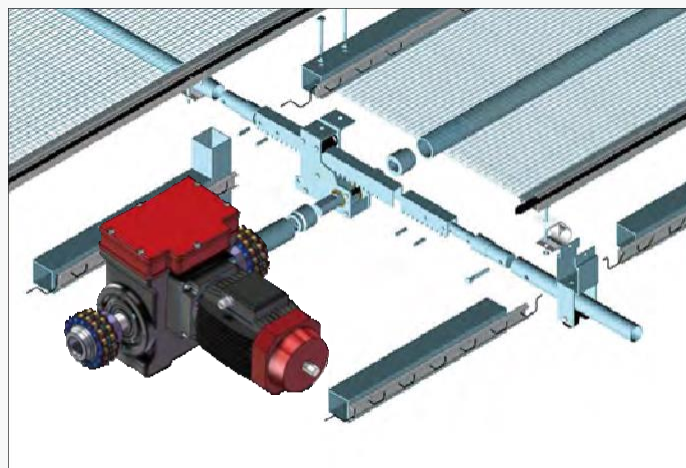


04

## 2/ A Type Rack and Pinion Screening System

### Installation Diagram

- A type rack and pinion Screening system is widely used in interior and exterior Screening system in multi span greenhouses; this system always has stable and reliable performance.
- Application:  
Interior and exterior Screening system.



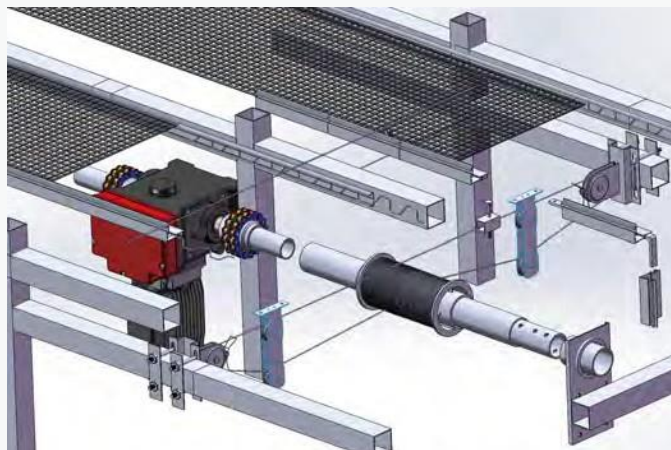
Working Principle:

Gear motor drives the pinion by the drive shaft to move the rack back and forward; the rack is connected with the handspike sitting on the supporting wheel, so the Screening movement is realized by reciprocating movement of the handspike to open or close the Screening system.

### 3/ Cable Driving Screening System

#### Installation Diagram

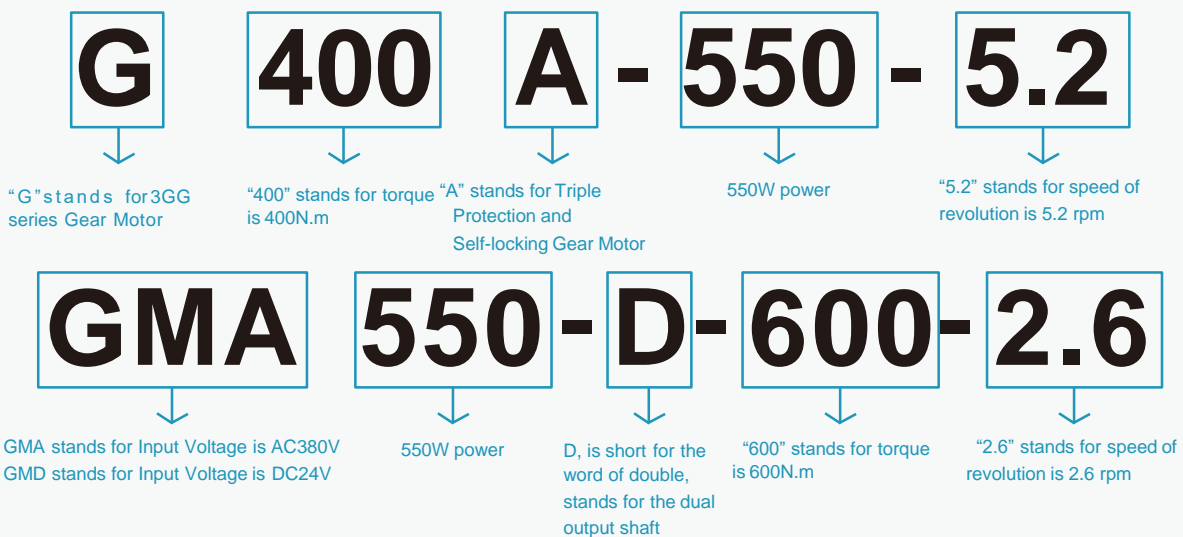
- B type rack and pinion Screening system is widely used in interior and exterior screening system in multi span greenhouses; this system always has stable and reliable performance.
- Application:  
Interior and exterior screening system.



Working Principle:

Gear motor drives the pinion by the drive shaft to move the rack back and forward; the rack is connected with the handspike sitting on the supporting wheel, so the screening movement is realized by reciprocating movement of the handspike to open or close the screening system.

### 4/ Model Naming Demostration





# Gear Motor

## Gear Motor Introduction

Brand Series	3GG series, Kingzo series
Specification series	By Power (W):150-1500 By Torque(N.m):150-1200
Function series	Window opening series, Screening series

### Defination

The Gear Motor is a kind of power transmission mechanism, using the speed converter to decelerate the speed of the motor to the required speed and get a larger torque mechanism.

### Application

- Window Opening: It drives the window opening system of greenhouse or barn to realize the control of window opening and closing degree.
- Screening: Drive the curtain and shading system of the greenhouse or livestock, realize the retractable control of the screening and the shading net.

### Development history timelines

In 2013, Kingzo trademark was registered and our own reducer was launched.

In 2015, Kingzo gear motor for livestock was launched

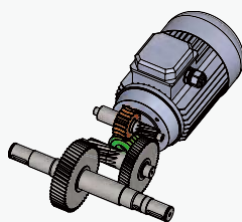
In 2016, 3GG trademark was registered

In 2018, 3GG Gear motor was launched on the market

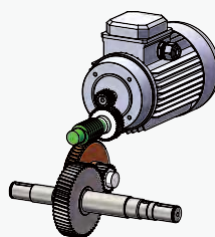
In 2019, There are 5 patents related to 3GG (Patent No. ZL2020200879077, etc.)

In 2020, 3GG triple-proof self-locking speed Gear motor launched

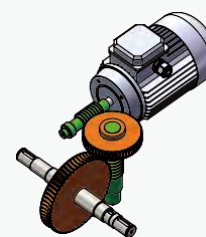
### Common transmission structure of Gear Motor



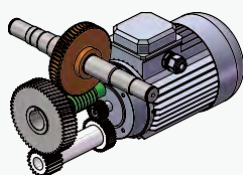
● Domestic C1 type



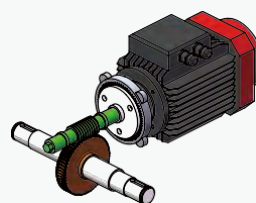
● Domestic C2 type



● Foreign L type



● Foreign R type



● Our 3GG type

## List of Gear motor parameters

	Product Code	Mode	Voltage Power Torque Current RPM					Range	Maximum Loading	Output Connection		Weight (Kg)
			(V)	(W)	(N.m)	(A)	(r/min)			Diameter	Tube Diameter	
3GG® Gear Motor	110424300010	G400-250-1.3	AC380	250	400	1.1	1.3	90	Venting 1.2m X100m	Ø27	Ø34	21
	110424700010	G400-550-2.6	AC220	550	400	4.0	2.6	90	Venting 1.2m X100m Screening 3000m <sup>2</sup>	Ø27	Ø34	21
	110422100010		AC380	550	400	1.5	2.6	90	Venting 1.2m X100m Screening 3000m <sup>2</sup>	Ø27	Ø34	20
	110424100010	G400-550-5.2	AC220	550	400	4.0	5.2	90	Screening 3000m <sup>2</sup>	Ø27	Ø34	22
	110422200010		AC380	550	400	1.9	5.2	90	Screening 3000m <sup>2</sup>	Ø27	Ø34	20
	110440400010	G800-750-2.6	AC380	750	800	2.0	2.6	90	Venting 1.2m X200m Screening 6000m <sup>2</sup>	Ø35	Ø34	32
	110431500010	G800-1100-5.2	AC380	1100	800	3.0	5.2	90	Screening 6000m <sup>2</sup>	Ø35	Ø34	34
	110449200010	G1200-1100-2.6	AC380	1100	1200	2.6	2.6	90	Venting 1.2m X300m Screening 9000m <sup>2</sup>	Ø35	Ø34	36
	110449300010	G1200-1500-5.2	AC380	1500	1200	3.5	5.2	90	Screening 9000m <sup>2</sup>	Ø35	Ø34	34
3GG® Triple Protection and Self-locking Gear Motor	110422100010	G400A-250-1.3	AC380	250	400	1.1	1.3	90	Venting 1.2m X100m	Ø27	Ø34	23
	110432300010	G400A-550-2.6	AC380	550	400	1.5	2.6	90	Venting 1.2m X100m Screening 3000m <sup>2</sup>	Ø27	Ø34	21
	110441500010		AC220	550	400	4.0	2.6	90	Venting 1.2m X100m Screening 3000m <sup>2</sup>	Ø27	Ø34	21
	110432500010	G400A-550-5.2	AC380	550	400	1.9	5.2	90	Screening 3000m <sup>2</sup>	Ø27	Ø34	22
	110494800010		AC220	550	400	4.0	5.2	90	Screening 3000m <sup>2</sup>	Ø27	Ø34	22
	110431400010	G800A-750-2.6	AC380	750	800	2.0	2.6	90	Venting 1.2m X200m Screening 6000m <sup>2</sup>	Ø35	Ø34	33
	110431500010	G800A-1100-5.2	AC380	1100	800	3.0	5.2	90	Screening 6000m <sup>2</sup>	Ø35	Ø34	35
	110449400010	G1200A-1100-2.6	AC380	1100	1200	2.6	2.6	90	Venting 1.2m X300m Screening 9000m <sup>2</sup>	Ø35	Ø34	37
	110419500010	G1200A-1500-5.2	AC380	1500	1200	3.5	5.2	90	Screening 9000m <sup>2</sup>	Ø35	Ø34	39
Kingzo® Gear Motor	110492700010	GMA150-D	AC220	150	150	1.4	2.8	45	Film Rolling ≤100m	Ø20	Ø27.5/Ø33.5	6.5
	110492800010	GMA150-D-12	AC220	150	150	1.4	2.8	12	See Product Details	Ø20	Ø27.5/Ø33.5	6.5
	110492900010	GMA150-D-80	AC220	150	150	1.4	2.8	80	Screening 1000m <sup>2</sup>	Ø20	Ø27.5/Ø33.5	6.5
	110493000010	GMD150-D	DC24	150	150	9.3	2.8	45	Film Rolling ≤100m	Ø20	Ø27.5/Ø33.5	6.5
	110493100010	GMD150-D-12	DC24	150	150	9.3	2.8	12	See Product Details	Ø20	Ø27.5/Ø33.5	6.5
	110493200010	GMA250-D-45	AC220	250	250	2.3	3.2	45	Venting 160m×4m Screening 1500m <sup>2</sup>	Ø22	Ø34/Ø43	9
	110493400010	GMA250-D-12	AC220	250	250	2.3	3.2	12	Venting 50m×1.2m (length)×(high)	Ø22	Ø34/Ø43	9
	110493600010	GMA250-D-80	AC220	250	250	2.3	3.2	80	Film Rolling 120m×8 m Screening 1500m <sup>2</sup>	Ø22	Ø34/Ø43	9
	110493800010	GMD250-D-45	DC24	250	250	18.0	3.2	45	Film Rolling 160m×4m Screening 1500m <sup>2</sup>	Ø22	Ø34/Ø43	9
	110494000010	GMD250-D-12	DC24	250	250	18.0	3.2	12	Venting 50m×1.2m (length)×(high)	Ø22	Ø34/Ø43	9
	110494200010	GMD250-D-80	DC24	250	250	18.0	3.2	80	Film Rolling 120m×8m Screening 1500m <sup>2</sup>	Ø22	Ø34/Ø43	9
	110494400010	GMA300-D-380	AC380	300	300	1.0	3.5	38	Film Rolling 300m×3 m 2500m <sup>2</sup>	Ø22	Ø34	15
	110494500010	GMA300-D-220	AC220	300	300	1.8	3.5	38	Film Rolling 300m×3 m Screening 2500m <sup>2</sup>	Ø22	Ø34	16
	110494600010	GMD300-D-24	DC24	300	300	18.0	3.0	38	Film Rolling 300m×3 m Screening 2500m <sup>2</sup>	Ø22	Ø34	17
	110407400010	GMA550-D-600-2.6	AC380	550	600	1.6	2.6	90	Venting 1.2m×150m	Ø25	Ø34	26
	110407300010	GMA750-D-800-2.6	AC380	750	800	2.0	2.6	90	Venting 1.2m×200m	Ø25	Ø34	28
	110443300010	GMA1100-D-1200-2.6	AC380	1100	1200	2.8	2.6	90	Venting 1.2m×300m	Ø32	Ø48.3	30
	110407900010	GMA550-D-400-5.2	AC380	550	400	1.8	5.2	90	Screening 3000m <sup>2</sup>	Ø25	Ø34	25
110407600010	GMA750-D-600-5.2	AC380	750	600	2.2	5.2	90	Screening 4500m <sup>2</sup>	Ø25	Ø34	27	
110443400010	GMA1500-D-1200-5.2	AC380	1500	1200	3.5	5.2	90	Screening 9000m <sup>2</sup>	Ø32	Ø48.3	39	

# 3GG® Gear Motor

## 1/ 3GG® Gear Motor

### Product Description

- Self-locking performance is excellent, braking distance is less than 10mm;
- Limit control failure rate decrease to 0.5%;
- Additional overload protection and power phase loss protection function;
- Additional manual opening and closing device;
- 3 years quality guarantee.



04

Product Code	Mode	Voltage (V)	Power (W)	Torque (N.m)	Current (A)	RPM (r/min)	Range	Maximum Loading	Output Diameter	Connection Tube Diameter	Weight (Kg)	Guarantee (years)
110424300010	G400-250-1.3	AC380	250	400	1.1	1.3	90	Venting 1.2m X100m	Ø27	Ø34	21	3
110424700010	G400-550-2.6	AC220	550	400	4.0	2.6	90	Venting 1.2m X100m Screening 3000m <sup>2</sup>	Ø27	Ø34	21	3
110422100010		AC380	550	400	1.5	2.6	90	Venting 1.2m X100m Screening 3000m <sup>2</sup>	Ø27	Ø34	20	3
110424100010	G400-550-5.2	AC220	550	400	4.0	5.2	90	Curtaining 3000m <sup>2</sup>	Ø27	Ø34	22	3
110422200010		AC380	550	400	1.9	5.2	90	Screening 3000m <sup>2</sup>	Ø27	Ø34	20	3
110440400010	G800-750-2.6	AC380	750	800	2.0	2.6	90	Venting 1.2m X200m Screening 6000m <sup>2</sup>	Ø35	Ø34	32	3
110431500010	G800-1100-5.2	AC380	1100	800	3.0	5.2	90	Screening 6000m <sup>2</sup>	Ø35	Ø34	34	3
110449200010	G1200-1100-2.6	AC380	1100	1200	2.6	2.6	90	Venting 1.2m X300m Screening 9000m <sup>2</sup>	Ø35	Ø34	36	3
110449300010	G1200-1500-5.2	AC380	1500	1200	3.5	5.2	90	Screening 9000m <sup>2</sup>	Ø35	Ø34	34	3

## 2/ Ventilation Case

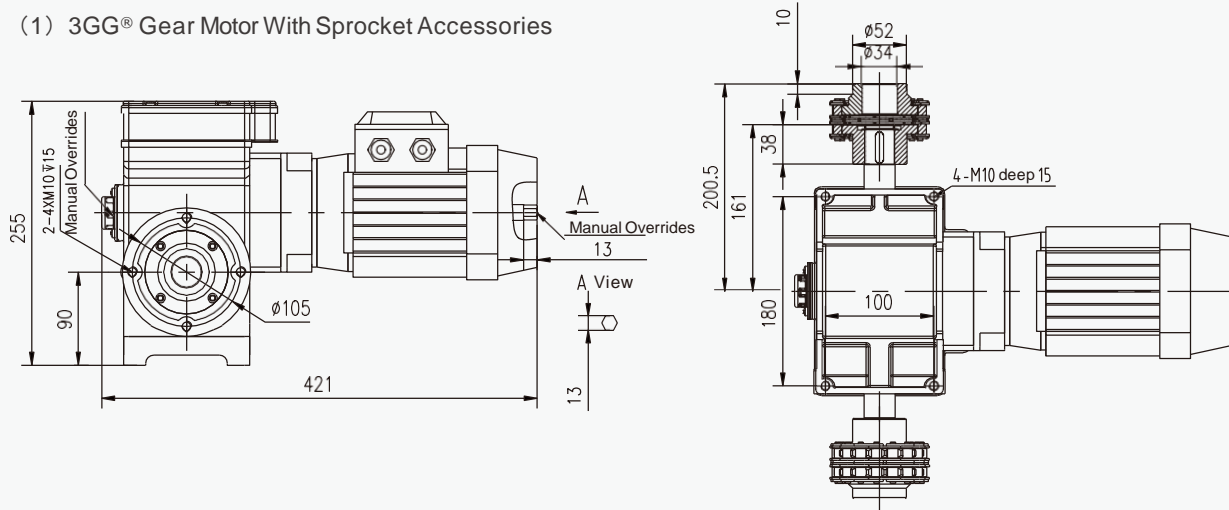


## 3/ Screening Case

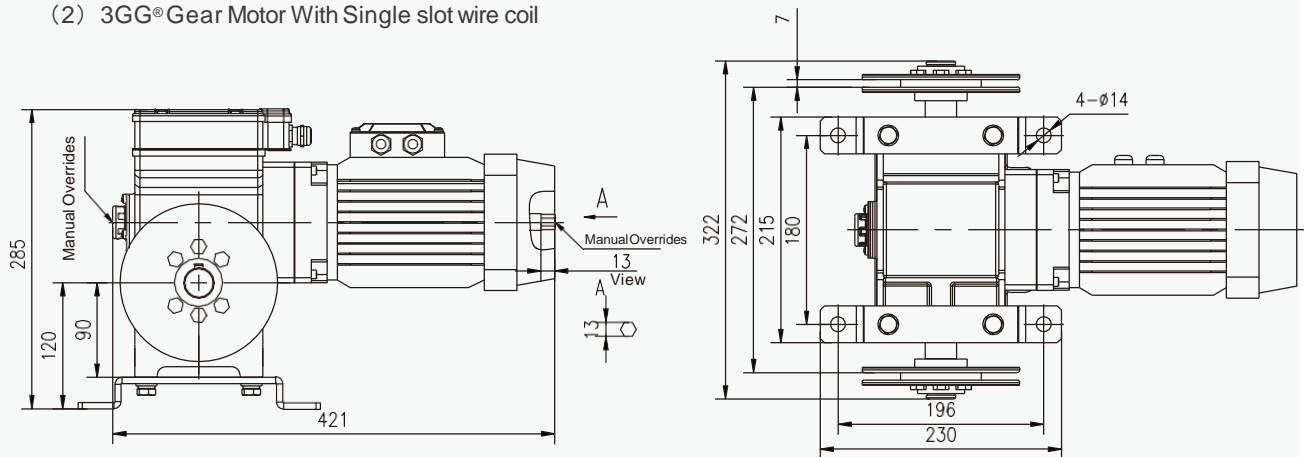


## 4/ 3GG® Gear Motor Installation Sketch Drawing

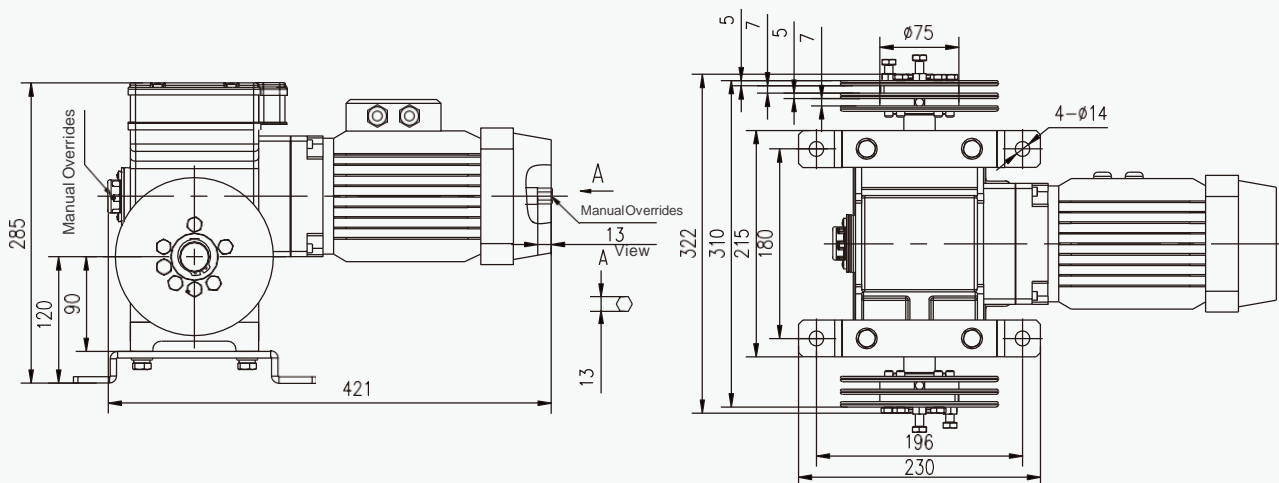
(1) 3GG® Gear Motor With Sprocket Accessories



(2) 3GG® Gear Motor With Single slot wire coil



(3) 3GG® Gear Motor With Double slot wire coil



# 3GG®

## Triple Protection and Self-locking Gear Motor (three-phase)

### 1/ 3GG® Triple Protection and Self-locking Gear Motor

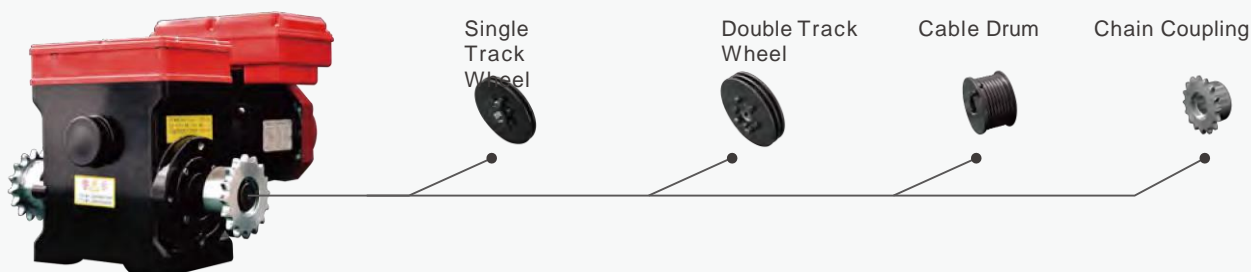
#### Product Description

- **Savings on distribution material costs**  
Multiple Gear Motor can be connected in parallel with a group of power lines, and control lines can also be shared. Protecting the limit control system, reducing the rate of motor burnout.
- **No special control box required**  
Easy wiring, only need to connect to the three-phase power cord for normal use.
- **Adjustable limit for one person**  
Manual /automatic dual mode control, 1 person can operate, saving manpower. Manual mode, with a manual switch directly off, Automatic mode, remote control via external switch.
- **Phase Loss Protection, Wrong Phase Protection**  
Protecting the limit control system, reducing the rate of motor burnout.
- **Manual opening and closing device for power failure**  
No concern that the system will still need to be turned on and off after a power outage. Manual opening and closing device for power failure.
- **Excellent self-locking performance**  
Final stage worm gear design, braking distance less than 10mm. Fully meets the high precision requirements of window opening systems. Failure rate of Limit Control is less than 5%.

04

Product Code	Mode	Voltage (V)	Power (W)	Torque (N.m)	Current (A)	RPM (r/min)	Range	Maximum Loading	Output Diameter	Connection Tube Diameter	Weight (Kg)	Guarantee (years)
110422100010	G400A-250-1.3	AC380	250	400	1.1	1.3	90	Venting 1.2m X100m	Ø27	Ø34	23	3
110432300010	G400A-550-2.6	AC380	550	400	1.5	2.6	90	Venting 1.2m X100m Screening 3000m <sup>2</sup>	Ø27	Ø34	21	3
110432500010	G400A-550-5.2	AC380	550	400	1.9	5.2	90	Screening 3000m <sup>2</sup>	Ø27	Ø34	22	3
110431400010	G800A-750-2.6	AC380	750	800	2.0	2.6	90	Venting 1.2m X200m Screening 6000m <sup>2</sup>	Ø35	Ø34	33	3
110431500010	G800A-1100-5.2	AC380	1100	800	3.0	5.2	90	Screening 6000m <sup>2</sup>	Ø35	Ø34	35	3
110449400010	G1200A-1100-2.6	AC380	1100	1200	2.6	2.6	90	Venting 1.2m X300m Screening 9000m <sup>2</sup>	Ø35	Ø34	37	3
110419500010	G1200A-1500-5.2	AC380	1500	1200	3.5	5.2	90	Screening 9000m <sup>2</sup>			39	3

#### 3GG® Series Gear Motor Accessories



## 2/ 3GG® Gear Motor application for Ventilation System



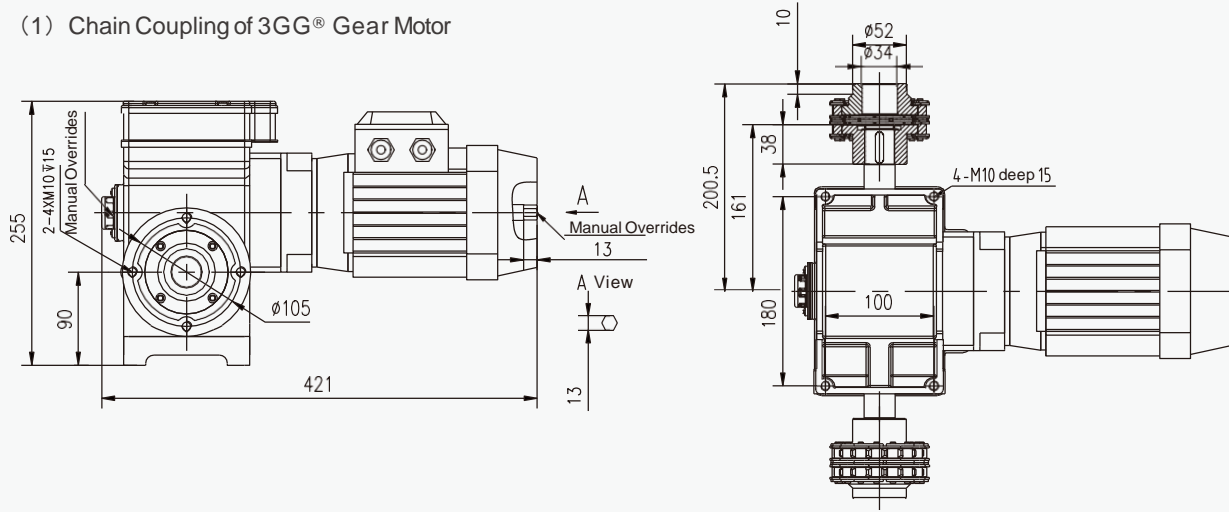
04

## 3/ 3GG® Gear Motor application for Screening System



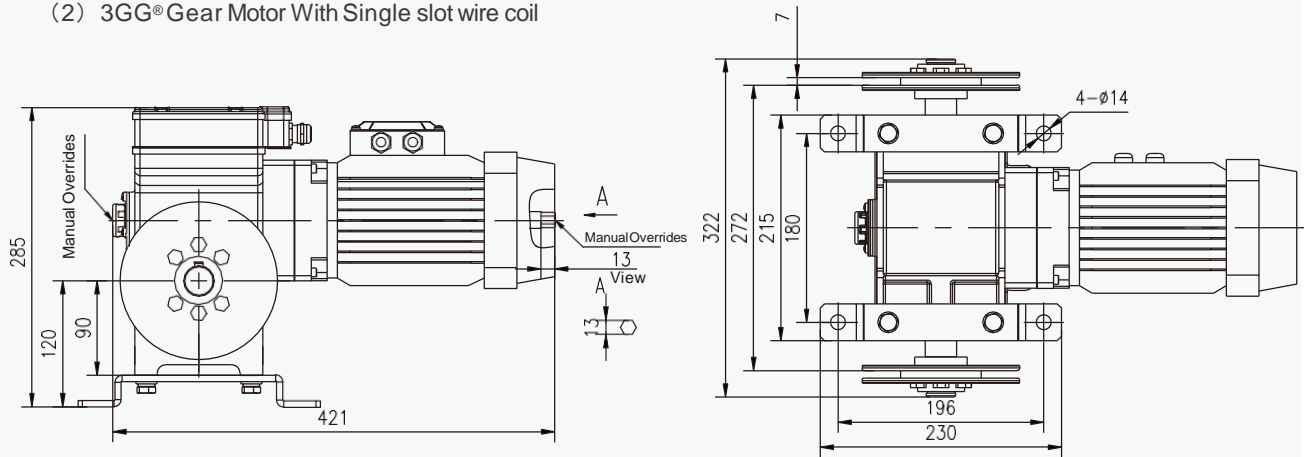
## Triple Protection and Self-locking Gear Motor Installation Sketch Drawing

(1) Chain Coupling of 3GG® Gear Motor

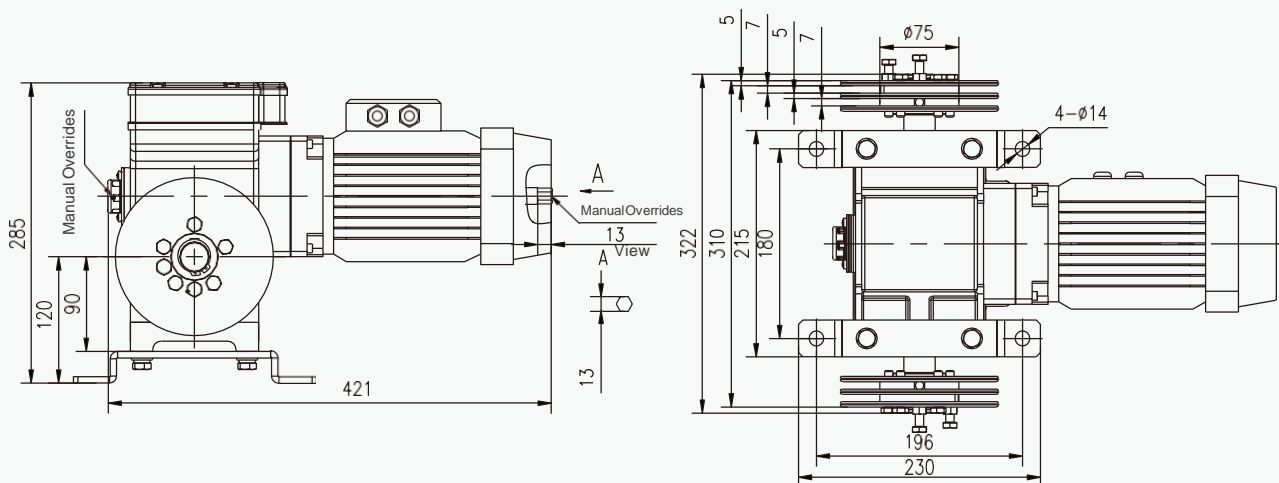


04

(2) 3GG® Gear Motor With Single slot wire coil



(3) 3GG® Gear Motor With Double slot wire coil



# 3GG®

## Triple Protection and Self-locking Gear Motor (Single phase)

### 1/ 3GG® Triple Protection and Self-locking Gear Motor

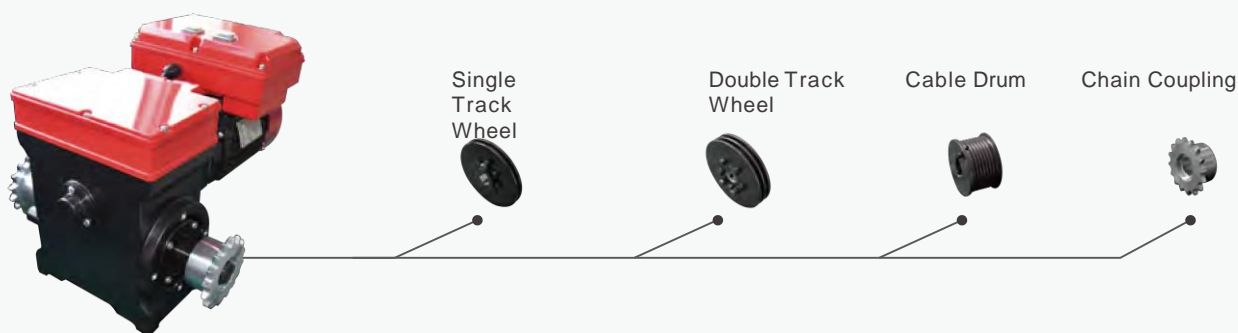
#### Product Description

- Savings on distribution material costs  
Only need 220V AC , and it can be used when connected
- Saving on distribution material cost  
No need control box, only one power cord is needed, which is convenient and cost-effective
- Adjustable limit for one person  
Manual /automatic dual mode control, 1 person can operate, saving manpower. Manual mode, with a manual switch directly off, Automatic mode, remote control via external switch.
- Phase Loss Protection, Wrong Phase Protection  
Protecting the limit control system, reducing the rate of motor burnout.
- Manual opening and closing device for power failure  
No concern that the system will still need to be turned on and off after a power outage. Manual opening and closing device for power failure.
- Excellent self-locking performance  
Final stage worm gear design, braking distance less than 10mm. Fully meets the high precision requirements of window opening systems. Failure rate of Limit Control is less than 5‰.

04

Product Code	Mode	Voltage (V)	Power (W)	Torque (N.m)	Current (A)	RPM (r/min)	Range	Maximum Loading	Output Diameter	Connection Tube Diameter	Weight (Kg)	Guarantee (years)
110441500010	G400A-550-2.6	AC220	550	400	4.0	2.6	90	Venting 1.2m X 100m Shading 3000m <sup>2</sup>	Ø27	Ø34	21.0	3
110494800010	G400A-550-5.2	AC220	550	400	4.0	5.2	90	Shading 3000m <sup>2</sup>	Ø27	Ø34	22.0	3

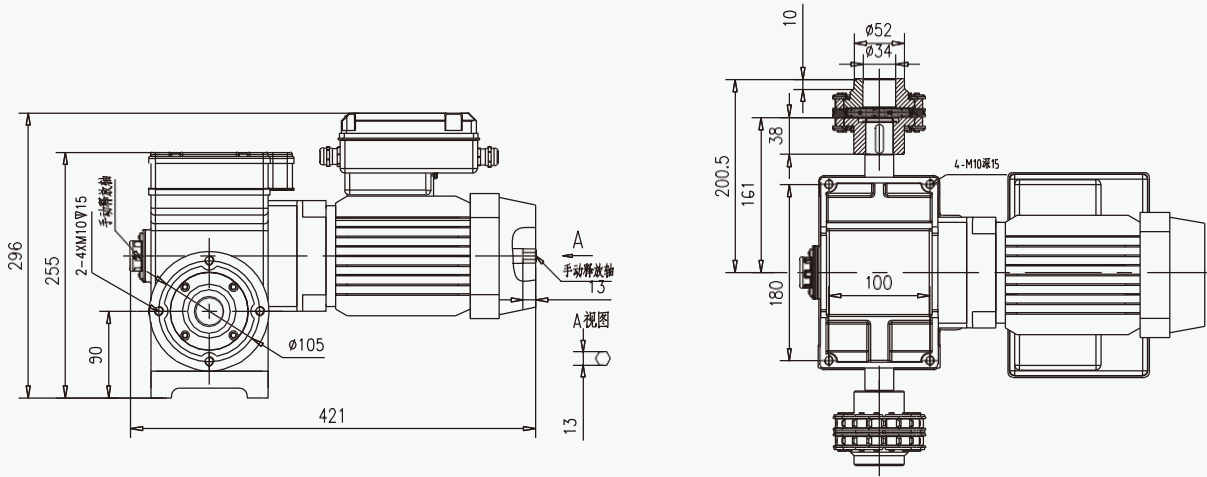
#### 3GG® Series Gear Motor Accessories





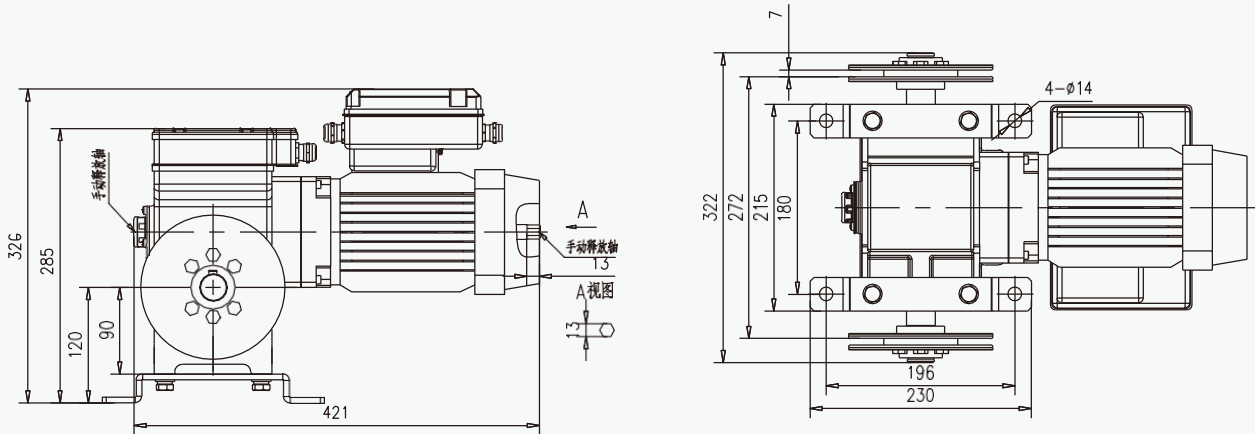
## Triple Protection and Self-locking Gear Motor Installation Sketch Drawing

(1) Chain Coupling of 3GG® Gear Motor

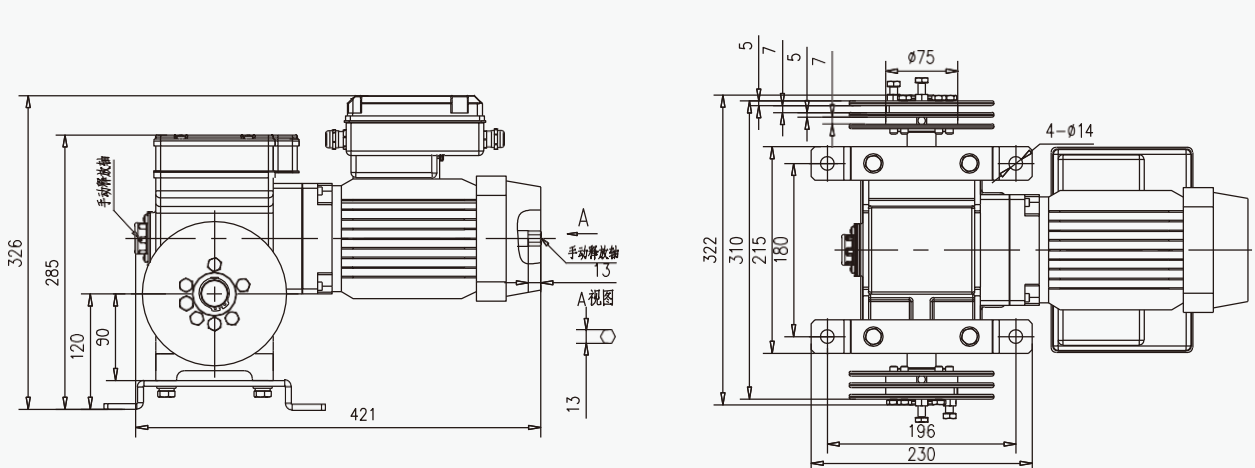


04

(2) Single Track Wheel of 3GG® Gear Motor



(3) Double Track Wheel of 3GG® Gear Motor



# Kingzo® Gear Motor

## 150/120 N.m GMA Series

### 1/ Kingzo® Gear Motor GMA150-D/ GMA120-D

#### Product Description:

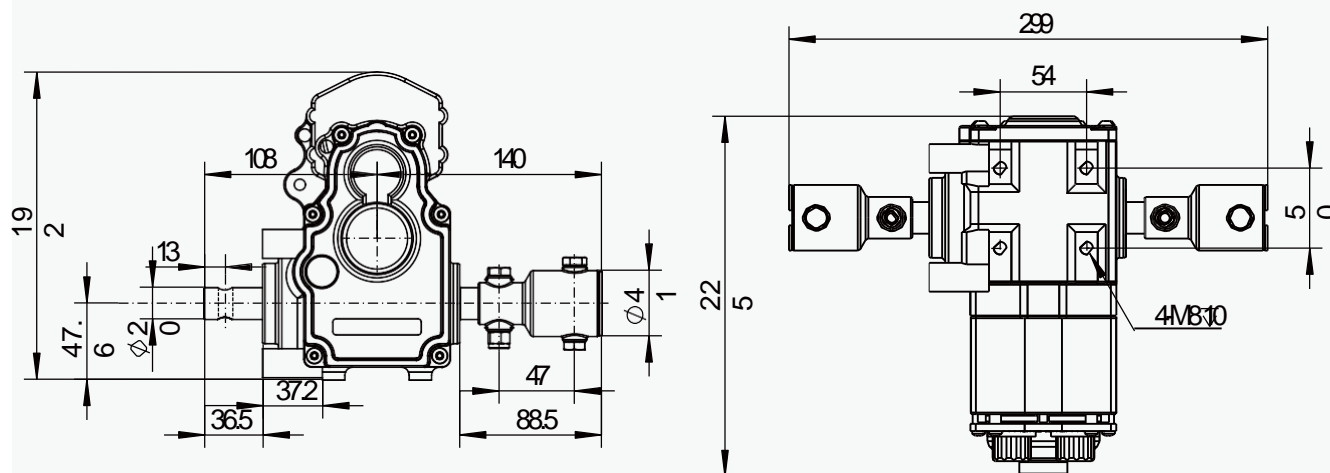
- Dual output shafts;
- Prevent leaning due to the long rolling tube;
- Big torque, rolling more film, lower cost;
- Powered by AC220V/AC110V, no need transformer, more convenient to install, lower cost;
- Three water drain holes of anti-condensation added to protect the safety of circuit diagram, Protection Grade: IP55;
- Reinforced output shaft;
- Providing 3 meters long external electric cable for easy connection to the control box;
- 3 years quality guarantee.



04

Product Code	Mode	Voltage	Power	Torque	Current	RPM	Range	Maximum Loading	Output Diameter	Connection Tube Diameter	Weight	Guarantee
110492700010	GMA150-D	AC220	150	150	1.4	2.8	45	Film Rolling ≤100m	Ø20	Ø27.5/Ø33.5	6.5	3
110439800010	GMA120-D	AC220	120	120	1.0	2.7	45	Film Rolling ≤110m	Ø20	Ø27.5/Ø33.5	6.1	3

#### Dimensional Drawing



## 2/ Kingzo® Gear Motor GMA150-D-12/GMA120-D-12 (Specially designed for windows opening)

### Product Description:

- Specially designed for small area windows ventilation to replace big power gear motor;
- High control accuracy and high repeat accuracy;
- Braking distance less than 10mm;
- The simple limit control device;
- Connected to AC220V power directly and save cost;
- With drainage holes, Protection Grade: IP55;
- 3 years quality guarantee.

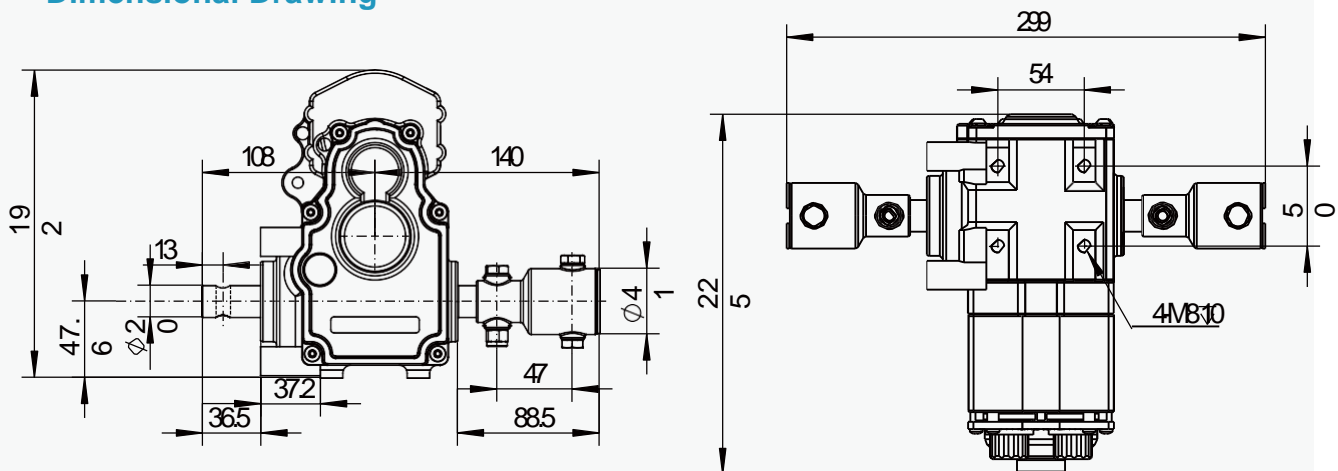


04

Product Code	Mode	Voltage (V)	Power (W)	Torque (N.m)	Current (A)	RPM	Range (r/min)	Maximum Loading	Output Diameter	Connection Tube Diameter	Weight (Kg)	Guarantee (years)
110492800010	GMA150-D-12	AC220	150	150	1.4	2.8	12	See Product Details	Ø20	Ø27.5/Ø33.5	6.5	3
110421200010	GMA120-D-12	AC220	120	120	1.0	2.7	12	See Product Details	Ø20	Ø27.5/Ø33.5	6.1	3

Glass Window				Film Window (Double Layer Poly Film/10mm PC Board/ Aluminum Window frame)			
Width B/m	Length L/m	Length of Rack Ls/m	Diameter of Pinion mm	Width B/m	Length L/m	Length of Rack Ls/m	Diameter of Pinion mm
1.2	30	1.2	44	1.2	35	1.2	44
1.4	25	1.4	44	1.4	30	1.4	44
1.6	22	1.6	44	1.6	27	1.6	44

### Dimensional Drawing



## 3/Kingzo® Gear Motor GMA150-D-K/GMA120-D-K (Specially designed for small greenhouse screening)

### Product Description:

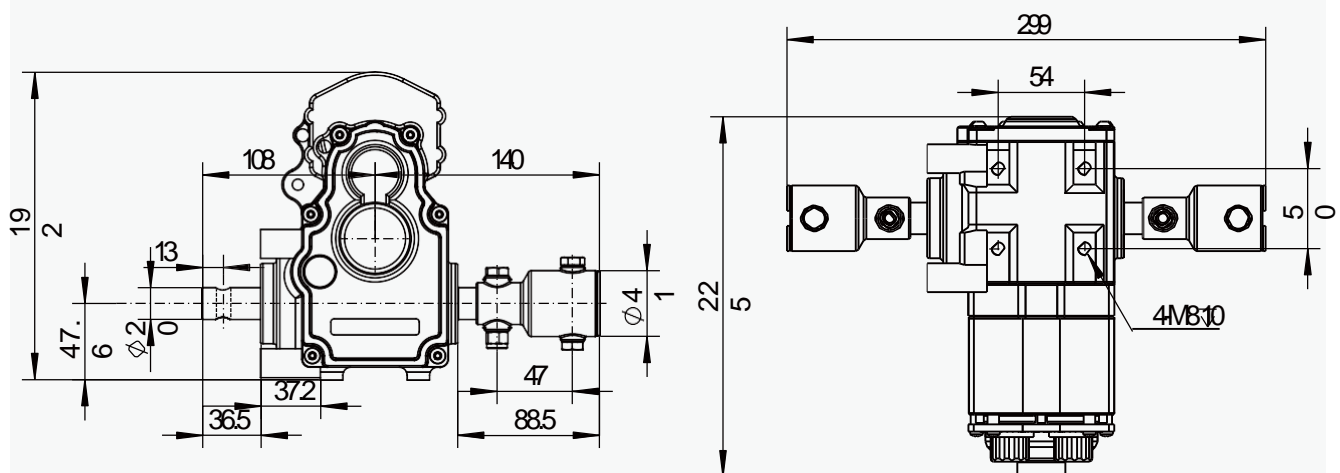
- Specially designed for small area screening system, replace high power gear motor
- Anti-misconnection, anti-overload protection
- Low noise, high torque
- High precision of limit switch, great self-locking
- Directly connected to AC 220V power supply, cost-effective
- Provide 5m external power cable, convenient to connect to the control box
- With anti-condensation drainage holes, Protection Grade: IP55 (dustproof and waterproof)
- Three years guarantee



04

Product Code	Mode	Voltage (V)	Power (W)	Torque (N.m)	Current (A)	RPM Range (r/min)	Maximum Loading	Output Connection Diameter	Tube Diameter	Weight (Kg)	Guarantee (years)
110492900010	GMA150-D-K	AC220	150	150	1.4	2.8 80	Screening 1000m <sup>2</sup>	Ø20	Ø27.5/Ø33.5	6.5	3
110421600010	GMA120-D-K	AC220	120	120	1.0	2.7 80	Screening 800 m <sup>2</sup>	Ø20	Ø27.5/Ø33.5	6.1	3

### Dimensional Drawing



# Kingzo® Gear Motor

## 150N.m GMD Series

### 1/ Kingzo® Gear Motor GMD150-D / GMD120-D

#### Product Description:

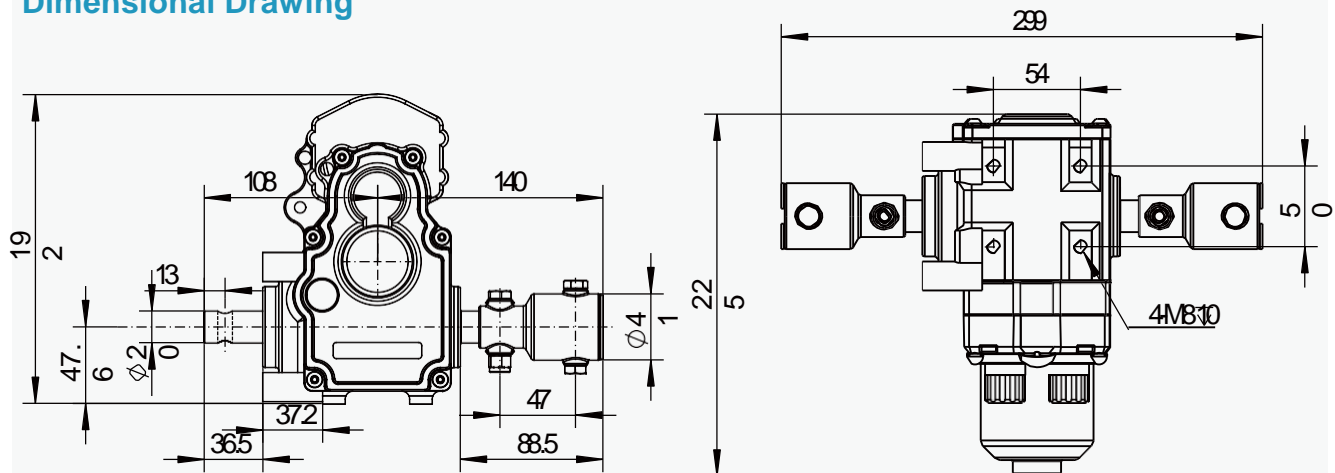
- Dual Output shaft, film rolling at both ends ;
- Effectively prevent the unbalance of electric film reeler due to the long rolling tube ;
- High torque, high film rolling capacity, more economical ;
- With anti-condensation drainage holes, Protection Grade: IP55 (dustproof and waterproof) ;
- Providing 5 meters long external electric cable for easy connection to the control box ;
- 3 years quality guarantee.



04

Product Code	Model	Voltage (V)	Power (W)	Torque (N.m)	Current (A)	Speed (r/min)	Limit Range (r)	Maximum load	Rolling Pipe-OD	Guiding Pipe-OD	Weight (Kg)	Guarantee
110493000010	GMD150-D	DC24	150	150	9.3	2.8	45	Film Rolling ≤100m	Ø20	Ø27.5/Ø33.5	6.5	3
110412800010	GMD120-D	DC24	120	120	7.5	2.7	45	Film Rolling ≤110m	Ø20	Ø27.5/Ø33.5	6.1	3

#### Dimensional Drawing



## 2/ Kingzo® Gear Motor GMA150-D-K / GMA120-D-K (Small area Screening and windows opening)

### Product Description :

- Specially developed and designed for small area window opening, replacing high power gear motor ;
- High control accuracy, high repeatability ;
- Easy travel and limit switch setting ;
- With anti-condensation drainage holes, Protection Grade: IP55 (dustproof and waterproof) ;
- Providing 5 meters long external electric cable for easy connection to the control box.



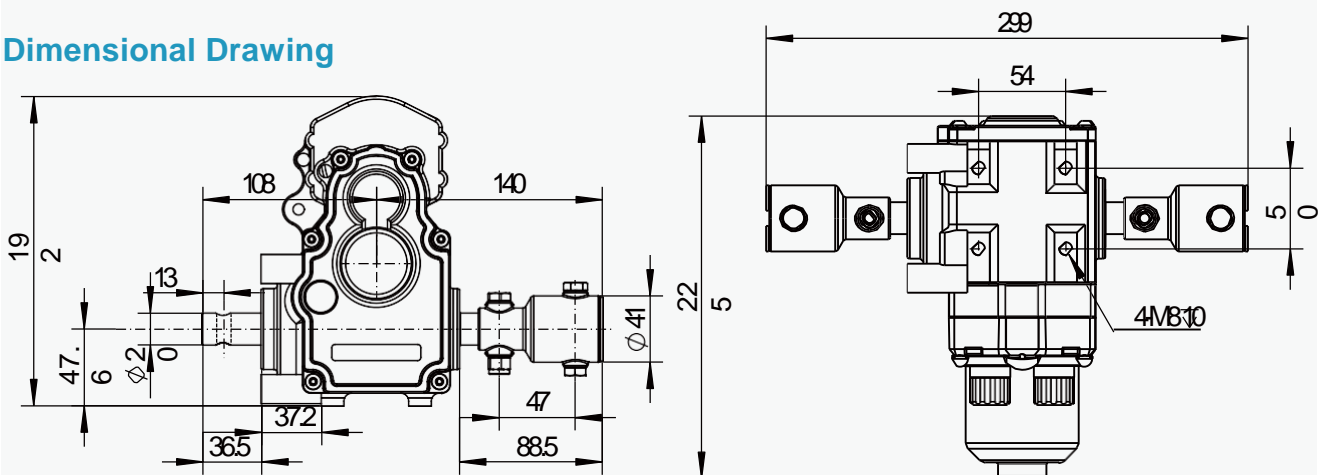
Product Code	Model	Voltage (V)	Power (W)	Torque (N.m)	Current (A)	Speed (r/min)	Limit Range (r)	Maximum load	Rolling Pipe-OD	Guiding Pipe-OD	Weight (Kg)	Guarantee
110493100010	GMD150-D-12	DC24	150	150	9.3	2.8	12	See the table below	Ø20	Ø27.5/Ø33.5	6.5	3
110421100010	GMD120-D-12	DC24	120	120	7.5	2.7	12	See the table below	Ø20	Ø27.5/Ø33.5	6.1	3

04

### Venting Capacity

Glass Window				Film Window (Double Layer Poly Film/10mm PC Board/ Aluminum Window frame)			
Width B/m	Length L/m	Length of Rack Ls/m	Diameter of Pinion mm	Width B/m	Length L/m	Length of Rack Ls/m	Diameter of Pinion mm
1.2	30	1.2	44	1.2	35	1.2	44
1.4	25	1.4	44	1.4	30	1.4	44
1.6	22	1.6	44	1.6	27	1.6	44

### Dimensional Drawing



# Kingzo® Gear Motor 250/200N.m

Easy Installation, Adjustable by one person, Labor-saving

## 1/ Kingzo® Gear Motor (250/200N.m)

### Product Description

- Excellent self-locking performance,braking distance is less than 10mm ;
- IP Grade 65, Higher dust protection grade ;
- Release Function,in the event of a power failure,the emergency opening and closing can be completed manually in a short time ;
- Adding position sensor distance control module to make the control more intelligent and convenient ;
- Compact structure, small size, light weight ;
- Provide 5 meters external power cord, convenient to connect the control box, safe and reliable.



GMA



GMD

04

## 2/ Application of window opening

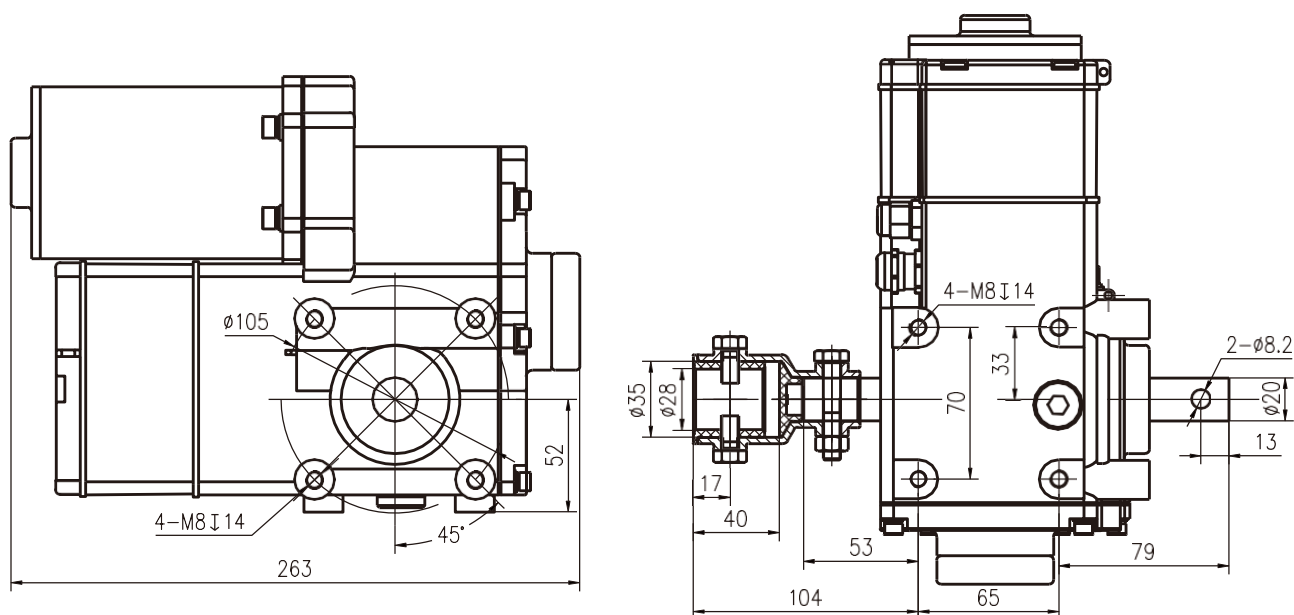


### 3/ Kingzo® Gear Motor Specification and Dimensional Drawing (250N·m)

Model										
Parameter										
Product Code	110493300010	110493500010	110438700010	110493900010	110494100010	110494300010				
Power (W)	250			250						
Torque (N.m)	250			250						
Current (A)	2.3			18.0						
Voltage (V)	AC 220			DC 24						
RPM (r/min)	3.2			3.2						
Recommended Maximum Load	Rolling Capacity	Screening Capacity	Venting Capacity	Rolling Capacity	Screening Capacity	Rolling Capacity	Screening Capacity	Venting Capacity	Rolling Capacity	Screening Capacity
	160m×4m Length×Height	1500m <sup>2</sup>	50m×1.2m Length×Height	120m×8m Length×Height	1500m <sup>2</sup>	160m×4m Length×Height	1500m <sup>2</sup>	50m×1.2m Length×Height	120m×8m Length×Height	1500m <sup>2</sup>
Distance Range (Calculated by number of output shaft cycles)	45 Rotation		12 Rotation	80 Rotation		45 Rotation		12 Rotation	80 Rotation	
IP Grade	IP65			IP65						
Weight	9.5Kg			10.0Kg						

04

### Dimensional Drawing



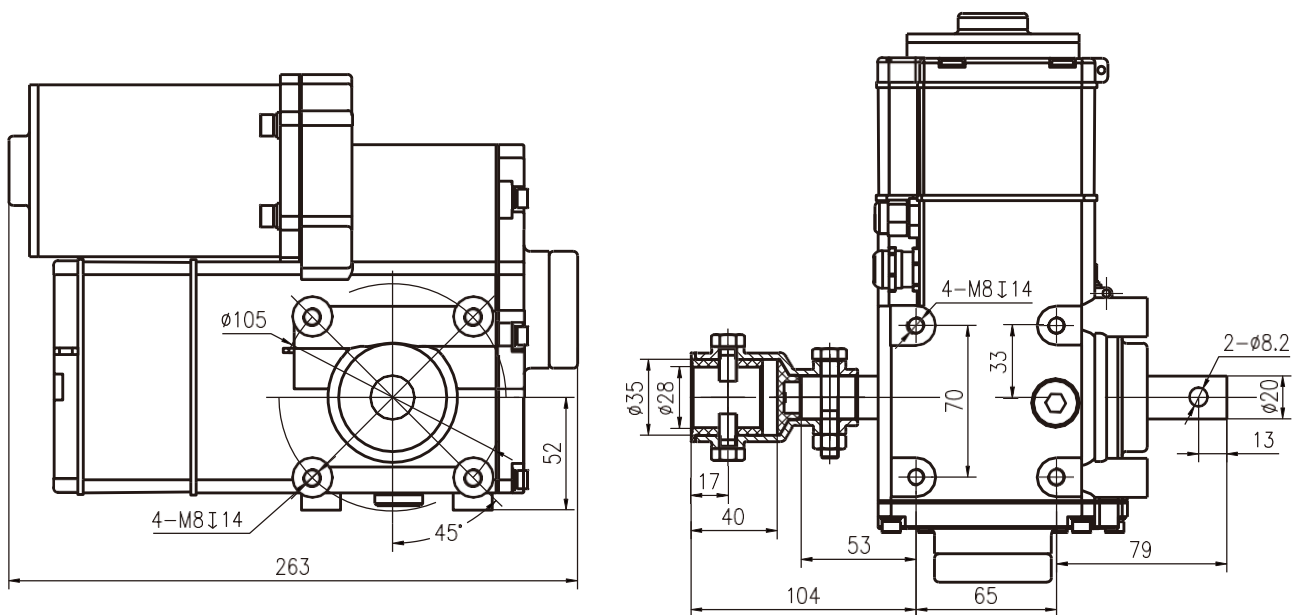


## 4/ Kingzo® Gear Motor Specification and Dimensional Drawing (200N·m)

Model											
Parameter											
Product Code	110438600010	110438400010	110438700010	110438000010	110437700010	110438200010					
Power (W)	180					180					
Torque (N.m)	200					200					
Current (A)	1.8					15.0					
Voltage (V)	AC 220					DC 24					
RPM (r/min)	3.5					3.5					
Recommended Maximum Load	Rolling Capacity	Screening Capacity	Venting Capacity	Rolling Capacity	Screening Capacity	Rolling Capacity	Screening Capacity	Venting Capacity	Rolling Capacity	Screening Capacity	
	140m×4m Length×Height	1000m <sup>2</sup>	36m×1.2m Length×Height	100m×8m Length×Height	1000m <sup>2</sup>	140m×4m Length×Height	1000m <sup>2</sup>	36m×1.2m Length×Height	100m×8m Length×Height	1000m <sup>2</sup>	
Distance Range (Calculated by number of output shaft cycles)	45 Rotation		12 Rotation	80 Rotation		45 Rotation		12 Rotation	80 Rotation		
IP Grade	IP65					IP65					
Weight	9.0Kg					9.2Kg					

04

### Dimensional Drawing



# Kingzo® Gear Motor

## Kingzo® Gear Motor for Ventilation and Screening

### 1/ Kingzo® Gear Motor for Ventilation

#### Product Description

- Specialized for greenhouse vent open and close;
- Big torque capability;
- Wide range of usage;
- Stable performance, low failure rate;
- Accurate limit control;
- 3 years quality guarantee.



04

Product Code	Model	Voltage (V)	Power (W)	Torque (N.m)	Current (A)	Speed (r/min)	Limit Range (r)	Maximum load	Rolling Pipe-OD	Guiding Pipe-OD	Weight (Kg)	Guarantee
110407400010	GMA550-D-600-2.6	AC380	550	600	1.6	2.6	90	Venting 1.2m×150m	Ø25	Ø34	26.0	3
110407300010	GMA750-D-800-2.6	AC380	750	800	2.0	2.6	90	Venting 1.2m×200m	Ø25	Ø34	28.0	3
110443300010	GMA1100-D-1200-2.6	AC380	1100	1200	2.8	2.6	90	Venting 1.2m×300m	Ø32	Ø48.3	30.0	3

#### Application



## 2/ Kingzo® Gear Motor for Screening

### Product Description

- Double output shaft, two sides working for screening system;
- Compact, reliable performance, easy to install and operate;
- Reliable performance of reverse self-locking with travel control device. It can be automatically controlled with the control system;
- 3 years quality guarantee.



Product Code	Model	Voltage (V)	Power (W)	Torque (N.m)	Current (A)	Speed (r/min)	Limit Range (r)	Maximum load	Rolling Pipe-OD	Guiding Pipe-OD	Weight (Kg)	guarantee
110407900010	GMA550-D-400-5.2	AC380	550	400	1.8	5.2	90	Screening 3000m <sup>2</sup>	Ø25	Ø34	25.0	3
110407600010	GMA750-D-600-5.2	AC380	750	600	2.2	5.2	90	Screening 4500m <sup>2</sup>	Ø25	Ø34	27.0	3
110443400010	GMA1500-D-1200-5.2	AC380	1500	1200	3.5	5.2	90	Screening 9000m <sup>2</sup>	Ø32	Ø48.3	39.0	3

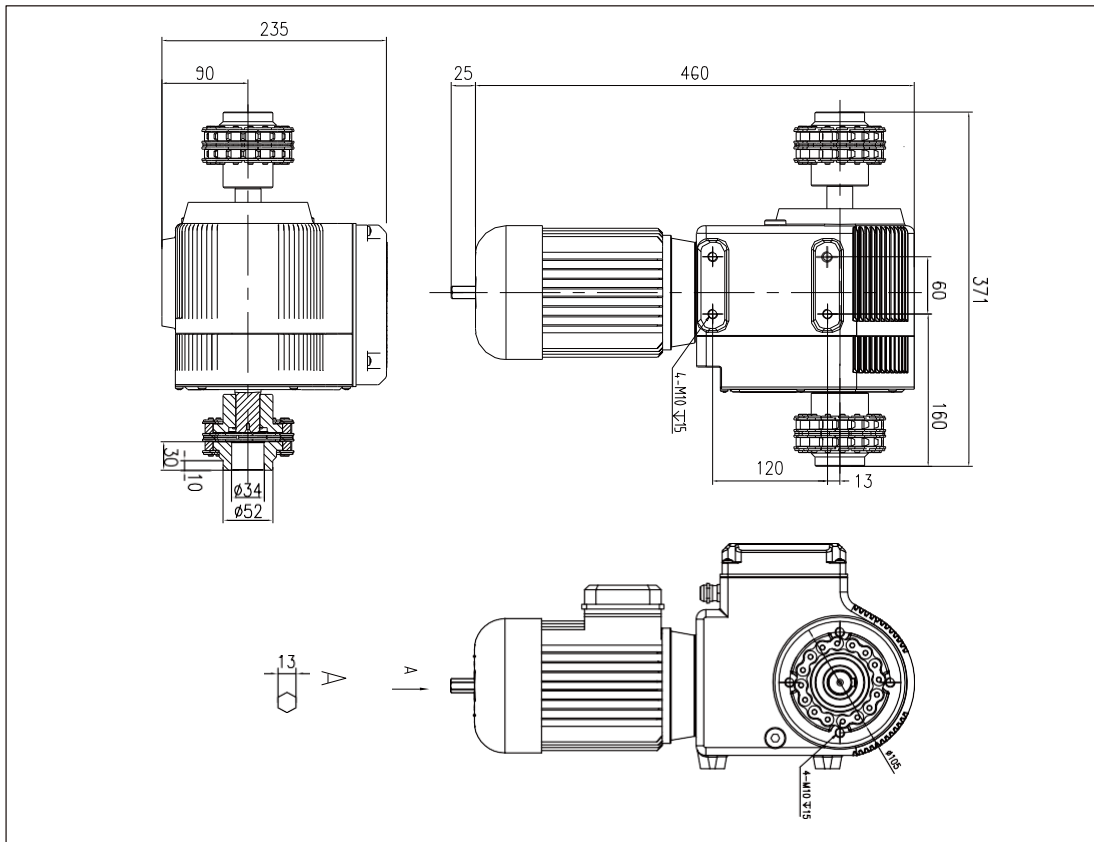
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### Application



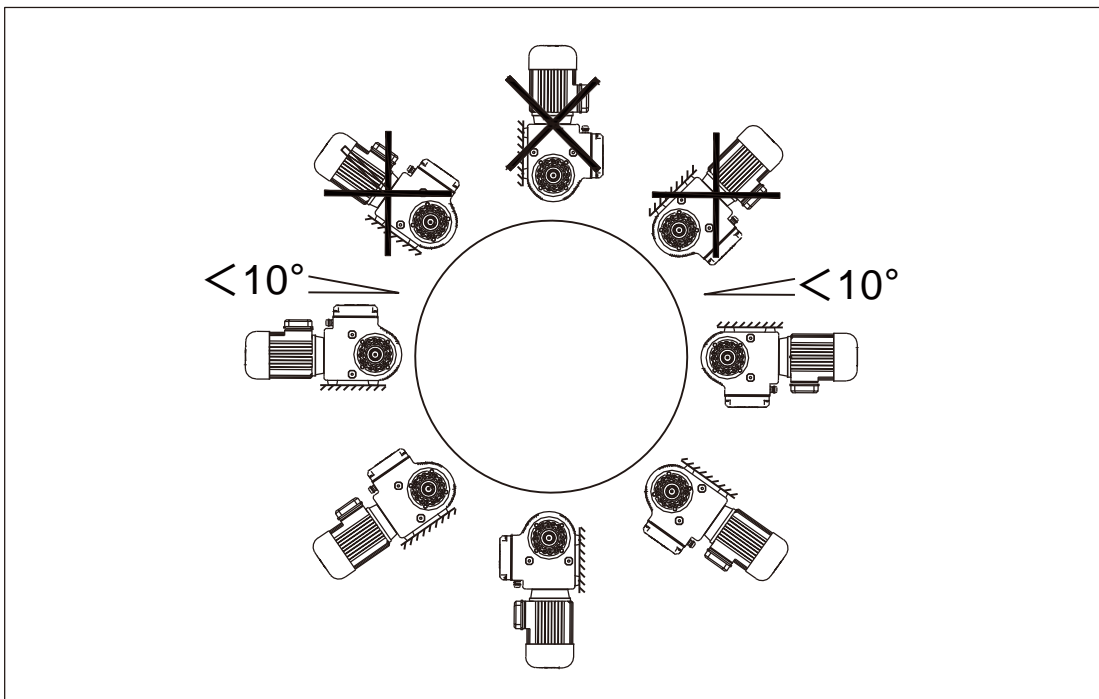


### 3/ Kingzo® Gear Motor Dimension



04

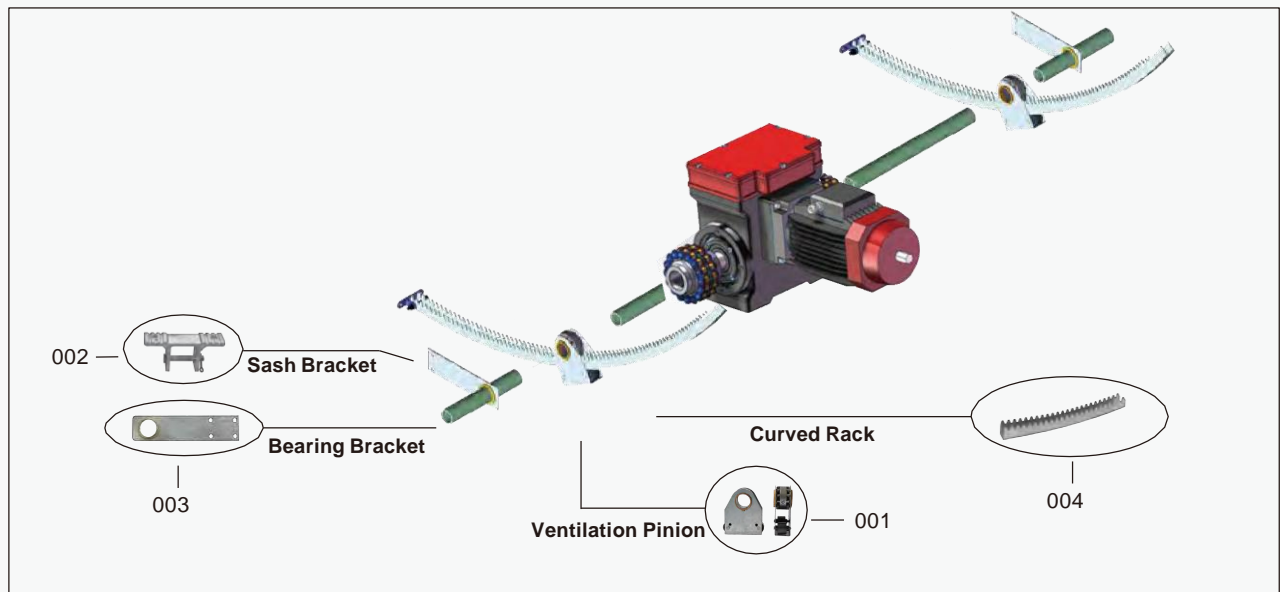
### 4/ Kingzo® Gear Motor Installation Diagram



Note: X means Forbidden Installation Angle.

# Greenhouse Ventilation and Screening Accessories

## 1/ Continuous Rack and Pinion Vent System



04

## 1/ 001 Ventilation Pinion



Product Code	Model	Specs	Height	Unit
130300400030	CLKC—ATF1—30	1" Powder Metallurgy Pinion with Bronze Insert	30mm	piece
130300100030	CLKC—ATB1—30	1" Stainless Steel Pinion with Bronze Insert	30mm	piece
130300200030	CLKC—ANF1—30	1" Powder Metallurgy Pinion with Nylon Insert	30mm	piece

Note: Pinion frame is made of galvanized steel sheet; mesh with rack is accurate, small noise and reliable performance.

## 1/ 002 Sash Bracket



Note: Used for the connection of rack and vent frame.

Product Code	Model	Unit
130900600030	XMZ-LZ	set

## 1/ 003 Bearing Bracket



1" bronze insert, straight



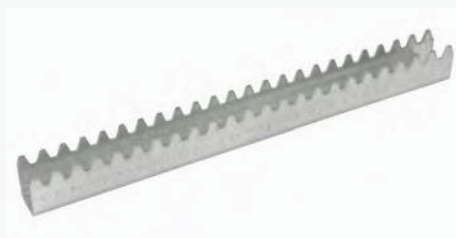
5/4" bronze insert, straight

Product Code	Model	Specs	Unit
140200800030	SSP-31-1	1" bronze insert, straight	piece
140200900030	SSP-31-2	5/4" bronze insert, straight	piece

Note: Used for supporting the driving shaft.

## 1/ 004 Straight Rack

04



Product Code	Model	Length	Thickness	Unit
130402100030	CTKZ- 2-5301050	L=1050	2.5mm	piece
130402200030	CTKZ- 2-5301250	L=1250	2.5mm	piece
130402300030	CTKZ- 2-5301450	L=1450	2.5mm	piece
130402400030	CTKZ- 2-5301650	L=1650	2.5mm	piece
130402500030	CTKZ- 2-5302000	L=2000	2.5mm	piece

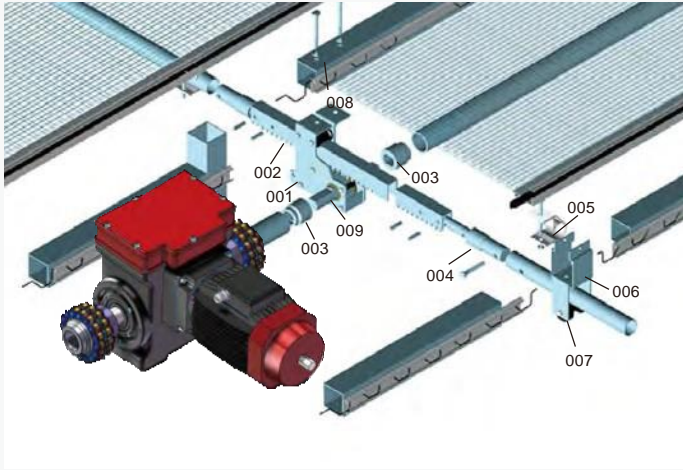
## 1/ 005 Curved Rack



Product Code	Model	Length	Thickness	Height	Unit
130408100030	CTKH-2.0301050	1050mm	2.0mm	30mm	piece
130408200030	CTKH-2.0301250	1250mm	2.0mm	30mm	piece
130410100030	CTKH-2.5301050	1050mm	2.5mm	30mm	piece
130414200030	CTKH-3.0301250	1250mm	3.0mm	30mm	piece

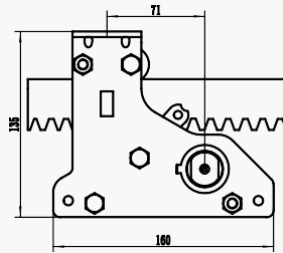
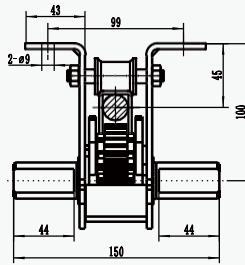
Note: Other length could be custom made on request.

## 2/ A Type Rack and Pinion Screening System



1. A type screening pinion
2. Rack arm
3. Welding joint
4. Coupling Connector
5. Table Clamp
6. Clamp for supporting wheel
7. Supporting wheel
8. Washer
9. Anti-slip Clip

### 2/ 001 A Type Screening Pinion



**Product Code**

**Product**

**Specs**

**Unit**

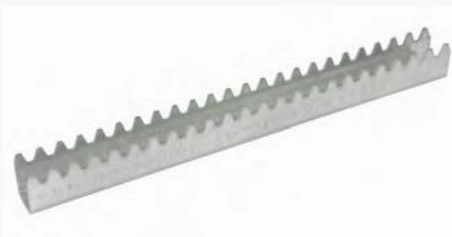
140501100030

A type screening pinion

Steel Triple Gears

piece

### 2/ 002 Rack Arm



Product Code	Model	Length	Thickness	Unit
140600100030	CTLM-2.752965	L=2965	2.75mm	piece
140600200030	CTLM-2.753965	L=3965	2.75mm	piece
140600300030	CTLM-2.754965	L=4965	2.75mm	piece
140600700030	CTLM-3.02965	L=2965	3.0mm	piece
140600800030	CTLM-3.03965	L=3965	3.0mm	piece
140600900030	CTLM-3.04965	L=4965	3.0mm	piece

Note: Other length could be tailor made on request.



## 2/ 003 Welding Joint



Product Code	Model	Specs	Unit
141107300430	HHJT-ZT	1", 5/4" General use, cold extrusion	piece

Note: Used for the connection of A type screening pinion and drive shaft.

## 2/ 004 Coupling Connector



04

Product Code	Model	Specs	Unit
141107100030	LMCTJT-27	Φ 27	piece
141107200030	LMCTJT-32	Φ 32	piece

Note: Used for the connection of rack and handspike in A type rack and pinion screening system.

## 2/ 005 Table Clamp



Product Code	Model	Specs	Unit
141103100030	SSP-11-27	Φ 27	piece
141103200030	SSP-11-32	Φ 32	piece

## 2/ 006 Clamps for Supporting Wheel



Product Code	Model	Specs	Unit
141105100030	GLBG-6040	60*40(Vertical)	piece
141105300030	GLBG-5050	50*50	piece
141105200030	GLBG-4060	40*60(Horizontal)	piece
141105400030	GLBG-4040	40*40	piece

## 2/ 007 Supporting Wheel



SSP-56



SSP-61



SSP-60



SSP-63

Product Code	Model	Unit
141101100030	SSP-56	piece
141101300030	SSP-60	piece
141101400030	SSP-61	piece
141101500030	SSP-63	piece

04

## 2/ 008 Washer



Product Code	Model	Unit
140500500030	DP-A45	set

Note: Used for A type screening pinion.

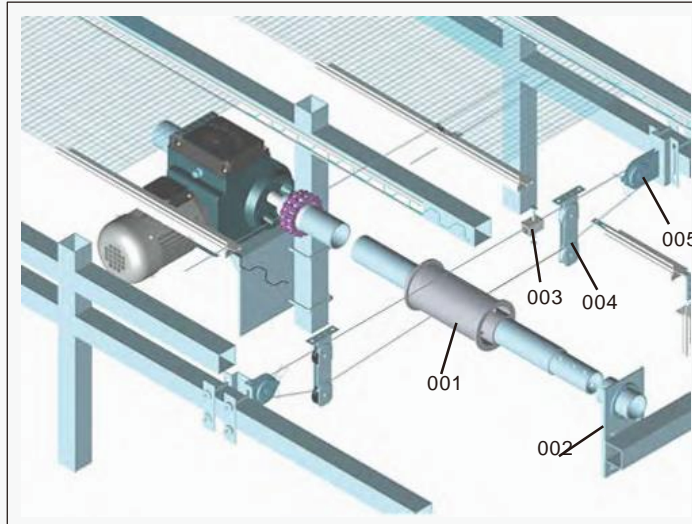
## 2/ 009 Anti-slip Clip



Product Code	Mode	Specs	Unit
140500600030	KJ-A	For A type pinion	piece

Note: Mounted on the A type pinion input shaft for easy drive shaft installation and removal

### 3/ Accessories For Cable Driving Screening System



1. Winding drum
2. Bearing plate
3. Aluminum drive clip
4. Suspension wheel
5. Reversal Pulley

04

### 3/ 001 Metal Winding Drum/Plastic Winding Drum



Made of galvanized steel, used for 2" shaft, 3 pcs of screws



Used for 1" shaft, used for small area of screening system.

Product Code	Model	Specs	Unit
141001200030	RXT-70	Φ70x120	piece
141001000030	SSP-76-1	Φ32,4m	piece
141001100030	SSP-76-2	Φ32,6m	piece

### 3/ 002 Bearing Plate



Product Code	Model	Specs	Unit
140200100030	SSP-21-1	1" Nylon bearing, 2 splints	piece
140200200030	SSP-21-2	2" Nylon bearing, 2 splints	piece

Note: Used for supporting the drive shaft.

### 3/ 003 Aluminum Drive Clip



Product Code	Model	Specs	Unit
141005400030	SSP-10	L=30	piece

Note: Made of aluminum alloy material, used for connecting cable and the leading edge profile.

### 3/ 004 Suspension Wheel



Product Code	Model	Specs	Unit
141004200030	SSP-68	Double wheel	piece

Note: Used for guiding the driving cable.

### 3/ 005 Reversal Pulley



Product Code	Name	Unit
141003100030	Reversal pulley	piece

Note: Used for the reversal of the driving cable.

### 3/ 006 Cone Winding Drum



Product Code	Model	Specs	Unit
640100100430	Cone winding drum(6")	3/4"	piece

Note: Used for livestock house.

### 3/ 007 Bearing Plate



Product Code	Model	Specs	Unit
140200300030	SSP-22-1	1"	piece
140200400030	SSP-22-2	2"	piece



Product Code	Model	Specs	Unit
140200500030	SSP-23-1	1"	piece
140200600030	SSP-23-2	2"	piece

Note: In the screening system, supporting the drive shaft, it can distribute shaft torque and reduce load of drive shaft.

## 4/ Economical Screening System

## 4/ 001 Aluminum Pipe



Product Code	Model	Specs	Unit
140400900030	QDLG-19x1.2Y	Φ19x1.2mm	m

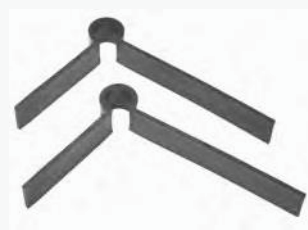
Note: It could replace the leading edge profile, cost efficient and durable.

## 4/ 002 Plastic Connector



Product Code	Model	Specs	Unit
140410600030	SSP-19	Φ19	set

## 4/ 003 Plastic Screen Folder



Product Code	Model	Specs	Unit
140901000030	SSP-32	Φ19	piece

Note: Used for working with the pipe, fixing the shading net.

## 4/ 004 Steel Screen Folder



Product Code	Model	Specs	Unit
140901100030	SSP-33	Φ19	piece

Note: Made of high flexible stainless steel, no distortion.

## 4/ 005 Screen Clip



Product Code	Model	Specs	Unit
140901800030	SSP-42	Φ19	piece

Note: Used for fixing the shading nets to 19mm pipe.

04

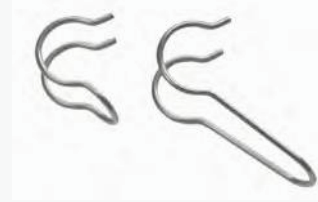
#### 4/ 006 Plastic Screen Clip



Product Code	Model	Specs	Unit
140902100030	SSP-46	Φ19	piece
140902000030	SSP-47	Φ19	piece

Note: Used for fixing the shading nets to 19mm pipe and polyester wire.

#### 4/ 007 Stainless Steel Clamp



Product Code	Model	Specs	Unit
770100400030	SSP-80-1	Φ19,13mm	piece
770100500030	SSP-80-2	Φ19,38mm	piece

Note: Used for fixing the shading nets to 19mm pipe and polyester wire.

#### 4/ 008 Double Screen Clip



Product Code	Model	Specs	Unit
140901900030	SSP-43	Φ19	piece

Note: Used for fixing the driving cable to the pipe.

#### 4/ 009 Tube Clamp With Screwing



Product Code	Model	Specs	Unit
141005500030	SSP-44	Φ19	piece

Note: Used for fixing the driving cable to the pipe.

#### 4/ 010 Screen Stopper



Product Code	Model	Specs	Unit
140901200030	SSP-34 stainless steel		piece

Note: Used with truss clamps, stainless steel material, high flexible.

#### 4/ 011 Aluminum Saddle Clamp



Product Code	Model	Specs	Unit
140902300030	SSP-09	Φ19,L=21	piece

Note: Used for working with the aluminum drive clip or the table clamp.

## 5/ General Accessories for Screening System

### 5/ 001 Screening Net Weight



Product Code	Model	Specs	Unit
140801700130	YPZ-503	Φ50	set

Note: Used as balance weight on the edge of screening nets, wind proof.

### 5/ 002 Fixing Spring(interior use)



Product Code	Model	Unit
140900100030	DWH-N	piece

Note: Used for guiding polyester wire on leading edge I, V.

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### 5/ 003 Plastic Peg



Product Code	Model	Unit
140802300030	SSP-53	piece

Note: Used for working with steel wire and screening net.

### 5/004 Clamps for Supporting Wheel



Product Code	Model	Specs	Unit
141105100030	GLBG-6040	60*40 (Vertical)	piece
141105300030	GLBG-5050	50*50	piece
141105200030	GLBG-4060	40*60 (Horizontal)	piece
141105400030	GLBG-4040	40*40	piece

### 5/005 S Screen Hook



Product Code	Model	Unit
140801900030	SSP-36	piece

Note: Connecting the edge of shading net to the wire.

### 5/006 S Hook



Product Code	Model	Unit
140802000030	SSP-37	piece

Note: Connecting the edge of shading net to the wire.

### 5/007 Polyester Wire



Product Code	Model	Name	Clor	Dia	Specs	Unit
140800600030	SSP-70-1	Polyester wire	Black	Φ2.2	1900m/roll	roll
140800500030	SSP-70-2	Polyester wire	clear	Φ2.0	2300m/roll	roll
140803600030	SSP-70-4	Polyester wire	clear	Φ2.3	2300m/roll	roll

Note: Used for shading system to hold and cover the shading nets, made of polyester, strong tensile strength, long life span.

### 5/008 T Bolts



Product Code	Specs	Unit
140802600030	M6*75	piece
140802500030	M6*40	piece

Note: For greenhouse use.



### 5/009 Motor Bracket



Used for connecting Gear Motor with greenhouse frame

Product Code	Model	Unit
130800100030	DJZ-KLWJ	piece

### 5/010 Sash Bracket



Note: Used for the connection of rack and vent frame.

Product Code	Model	Unit
130900600030	XMZ-LZ	set

### 5/011 Aluminum Leading Edge



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Product Code	Model	Specs	Unit
140400100030	SSP-01	6m/Piece	m

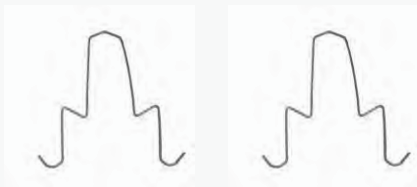
### 5/012 Edge Connector



Used for extended connection

Product Code	Model	Unit
140410100030	XCJB- 1	set

### 5/013 Exterior Fixing Spring



304 Stainless Steel, Used for Polyester Wire and Aluminum Leading Edge I & V

Product Code	Model	Unit
14090900030	DWH-WA	piece

### 5/014 Table Clamp



Product Code	Model	Unit
141103100030	Φ 27	piece
141103200030	φ 32	piece

### 5/015 Bracket For Bearing Plate



Product Code	Model	Unit
140201000030	ZJ- SSP- 21- 2	piece

Used together with 2 ' ' bearing plate.

### 5/016 Stainless Steel Wire Peg



Product Code	Model	Unit
140800800030	SSP- 16	piece

Used for fix the screen net.

### 5/017 Steel Cable Clip



Product Code	Model	Unit
584000200030	5mm, Malleable iron clamp	piece
584000100030	3mm, Malleable iron clamp	piece

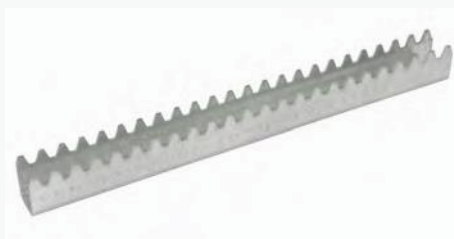
### 5/018 Small Pulley



Product Code	Model	Unit
141004100030	SSP-64	piece

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### 5/019 Rack Arm



Product Code	Model	Length	Thickness	Unit
140600100030	CTLM-2.752965	L=2965	2.75mm	piece
140600200030	CTLM-2.753965	L=3965	2.75mm	piece
140600300030	CTLM-2.754965	L=4965	2.75mm	piece
140600700030	CTLM-3.02965	L=2965	3.0mm	piece
140600800030	CTLM-3.03965	L=3965	3.0mm	piece
140600900030	CTLM-3.04965	L=4965	3.0mm	piece

Note: Other length could be tailor made on request.

## 5/020 Pulley with Ball Bearing



Product Code	Model	Specs	Unit
141002100030	SSP-65-80	φ80	piece
141002200030	SSP-65-100	φ100	piece

Plastic pulley has a good anti-friction capability, ensure long life span

## 5/021 Wire Strainer

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Model: Stainless ratchet wheel strain clamp



Model: Hot galvanized strain clamp

Product Code	Model	Specs	Unit
141000100030	Stainless steel ratchet ring type wire tensifier	SSP-72-1	piece
141000300030	Hot galvanized strain clamp	SSP-72-2	piece

## 5/022 Bearing Plate



1" bronze insert



5/4" bronze insert



1" nylon insert

Product Code	Model	Specs	Unit
140200800030	SSP-31-1	1" bronze insert, straight	piece
140200900030	SSP-31-2	5/4" bronze insert, straight	piece
140200100030	SSP-21-1	1" Nylon insert, 2 pcs straight	piece

Note: Used for holding shaft, good anti-friction capability, long life.

## 5/023 Reversal Pulley



Product Code	Model	Specs	Unit
141002000030	HXL- SY	pitch 60-70mm	piece

Used for driving cable reversing

## 5/024 Aluminum Tube Coupler



Product Code	Model	Unit
140410700030	JT-ODLG19, φ19	set

Used for φ19mm aluminum tube connection

# 05

## Greenhouse Ventilation Products

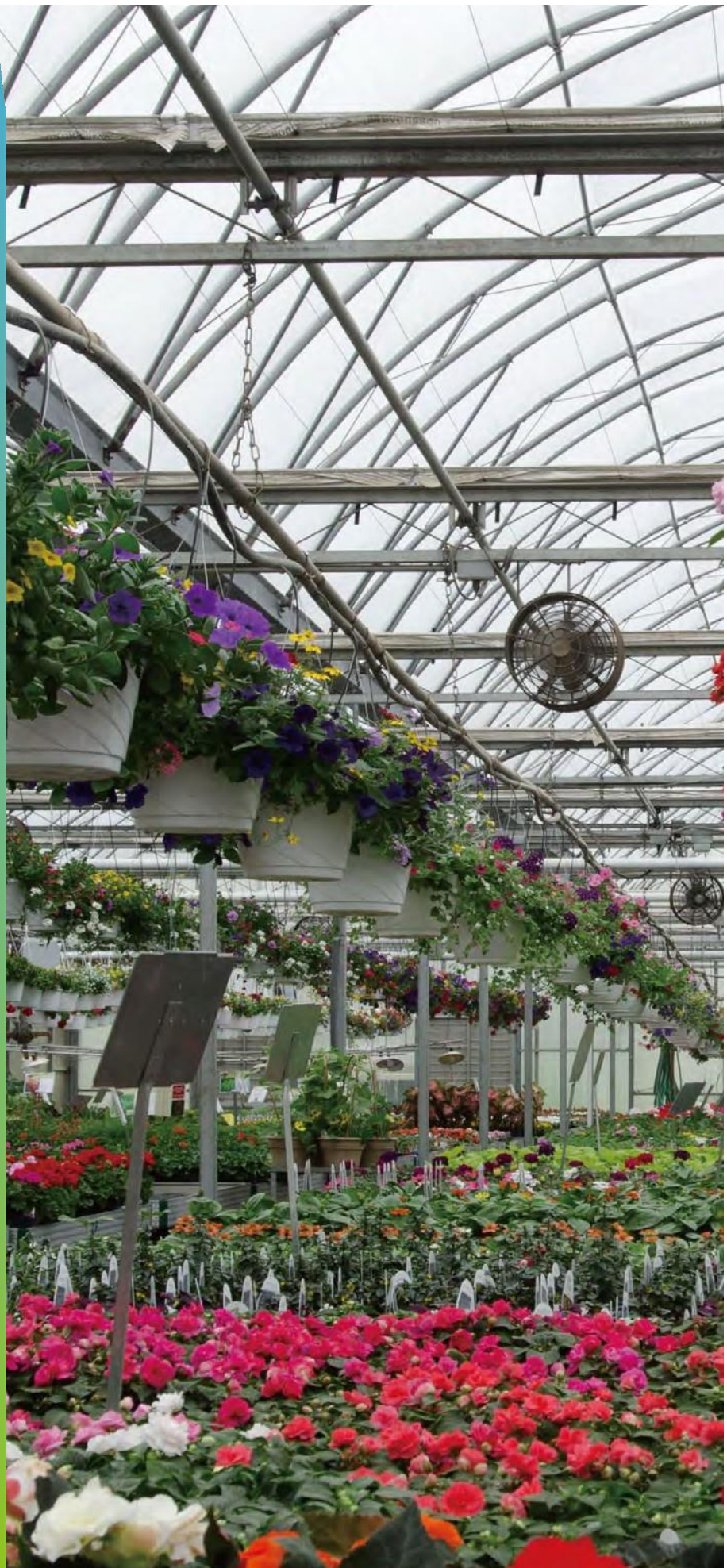
### KOOL MAX® Easy Wind

1. KOOL MAX® Electric Easy Wind
2. KOOL MAX® Manual Easy Wind
3. KOOL MAX® Electric Easy Wind for Livestock

### FLC® Circulation Fan

### FLC® Inflation Blower

1. FLC® Centrifugal Inflation Blower
2. FLC® 95B-1 Centrifugal Inflation Blower
3. FLC® Centrifugal Inflation Blower Accessories



05

# Greenhouse Ventilation Products

## KOOL MAX® Easy Wind

### 1/ KOOL MAX® Electric Easy Wind ST-PQD/DD-400

#### Product Description

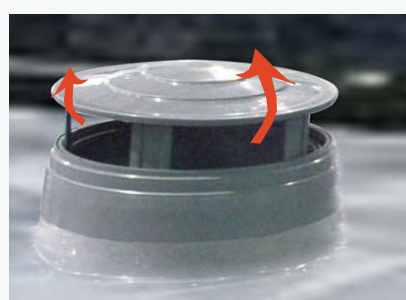
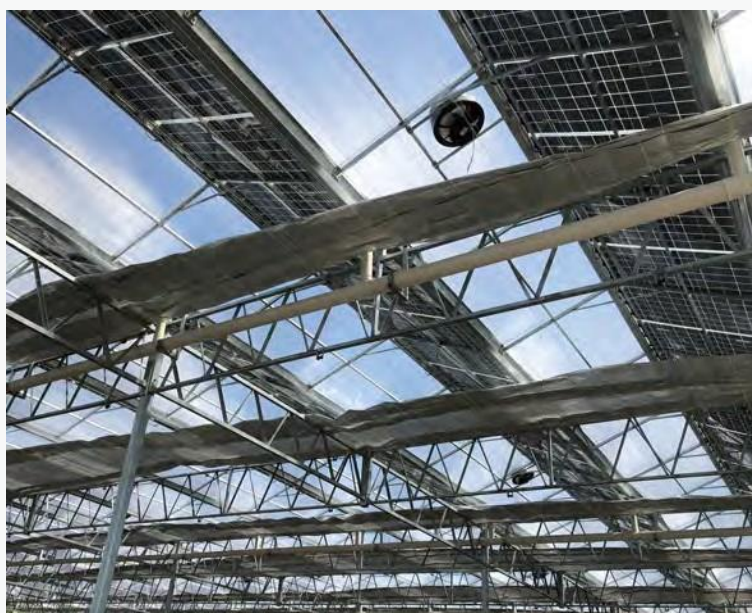
- Faster cooling, excellent dehumidification performance;
- Excellent forced ventilation performance;
- Rain leak-proof design;
- Anti-aging, durable using life;
- Convenient installation, firm and reliable;
- 3 years quality guarantee.



Product Code	Model	Air Flow	Blade Diameter	RPM	Frequency	Voltage	Current	Power	Weight	Guarantee
250600500030	XT-PQD/DD-400	4600m³/h	390mm	72Pa	50Hz	220V	0.9A	200W	7.5kg	3 years

05

#### KOOL MAX® Electric Easy Wind Application



## 2/ KOOL MAX® Manual Easy Wind XT-PQD/SD

### Product Description

- Faster cooling, excellent dehumidification performance;
- Excellent forced ventilation performance;
- Rain leak-proof design;
- Anti-aging, durable life;
- Convenient installation, firm and reliable;
- 3 years quality guarantee.



Product Code	Model	Outlet Diameter	Inlet Diameter	Installation Position	Height	Weight	Guarantee
250601000030	XT-PQD/SD-A	410mm	480mm	527mm	280mm	2.3kg	3 years

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### KOOL MAX® Manual Easy Wind Application



### 3/ KOOL MAX® Livestock Electric Easy Wind XM-PQD/DD

#### Product Description

- Faster cooling, excellent dehumidification performance;
- Excellent forced ventilation performance;
- Rain leak-proof design;
- Anti-aging, durable using life;
- Convenient installation, firm and reliable;
- Inverted taper design;
- 3 years quality guarantee.



Product Code	Specs	Air Flow	Blade Diameter	RPM	Frequency	Voltage	Current	Power	Weight	Guarantee
250600300030	XM-PQD/DD	4600m³/h	390mm	1390r/min	50Hz	220V	0.9A	200W	9.0kg	3 years

05

#### KOOL MAX® Livestock Electric Easy Wind Application





# Greenhouse Ventilation Products

## FLC® Circulation Fan

### 1/ FLC® Circulation Fan

#### Product Description

- Motor with overheating protection;
- Convenient installation and long span life;
- Plastic coated galvanized plate, excellent anti-corrosion;
- Blades with large angle imitation vortex long tail, stable running, air throwing max 45 meters;
- 3 years quality guarantee.



Product Code	Model	Blade Diameter	Nominal Voltage	Frequency	Rated Power	RPM	Air Flow	Weight	Guarantee
280101100030	ZLFJ400-W4/220	400	220	50	250	1400	4800	12.9kg	3years
280101000030	ZLFJ400-W4/380	400	380	50	250	1400	4800	12.5kg	3years
280301700030	ZLFJ500-W7/220	500	220	50	370	1400	7700	16.9kg	3years
280301600030	ZLFJ500-W7/380	500	380	50	370	1400	7700	15.8kg	3years

05

#### FLC® Circulation Fan Application



# Greenhouse Ventilation Products

## FLC® Inflation Blower

### 1/ FLC® Centrifugal Inflation Blower

#### Product Description

- The product is composed of the turbo, the propeller and low noise motor etc;
- The propeller is designed as multi winged, Insulation Protection IP45;
- Stable performance, low noise, big air flow capability;
- Compact and easy to repair;
- Thermal protector built in;
- Adopting oil retaining roller bearing;
- CCC and CE certified;
- Motor frequency 50Hz;
- 3 years quality guarantee.



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#### FLC® Centrifugal Inflation Blower Product Photo and Parameter



FLC-LCF/140A



FLC-LCF/140

Product code	Model	Air Flow	RPM	Frequency	Voltage	Electricity Current	Power	Thermal Protection	Adjustable Pressure Range	Unit
160100800010	FLC-LCF/140A	310m³/h	2190r/min	50Hz	220V	0.5A	70W	yes	50-200Pa	piece
160100400010	FLC-LCF/140	310m³/h	2190r/min	50Hz	220V	0.5A	70W	yes	/	piece

Note: Inflatable area of about 800m², inflation pressure between film is appropriate at 80Pa .

## 2/ FLC® 95B-1 Centrifugal Inflation Blower

### Product Description

- Environment Temperature ≤ 55°C, Insulation Grade B, Insulation Protection IP45;
- Stable performance, low noise, big air flow capability;
- Thermal protector built in;
- Adopting oil retaining roller bearing;
- 20000 hours long continuous working life;
- CE certified;
- 3 years quality guarantee.



Product code	Model	Air Flow	RPM	Frequency	Voltage	Electricity Current	Power	Weight	Thermal Protection	Unit
160100100010	FLC-LCF/95B-1	150m³/h	2350r/min	50/60Hz	220V	0.19/0.23A	12W	1.5kg	yes	piece

Note: Inflatable area of about 400m², inflation pressure between film is appropriate at 80Pa.

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## 3/ FLC® Centrifugal Inflation Blower Accessories



Product code	Model	Unit
160200600010	CQFJPJ-LXZ-140A	set

Accessories include Air inlet 1, Air inlet 3, Air inlet 4, Φ76A Aluminum hose 1.5meters, 1 installation bracket, Metal hose clams, Bolts and nuts.



Product code	Model	Unit
160200900010	CQFJPJ-LXZ	set

Accessories include Air inlet 1, Air inlet 2, Φ76A Aluminum hose 1.5meters, 1 installation bracket, Metal hose clams, Bolts and nuts.

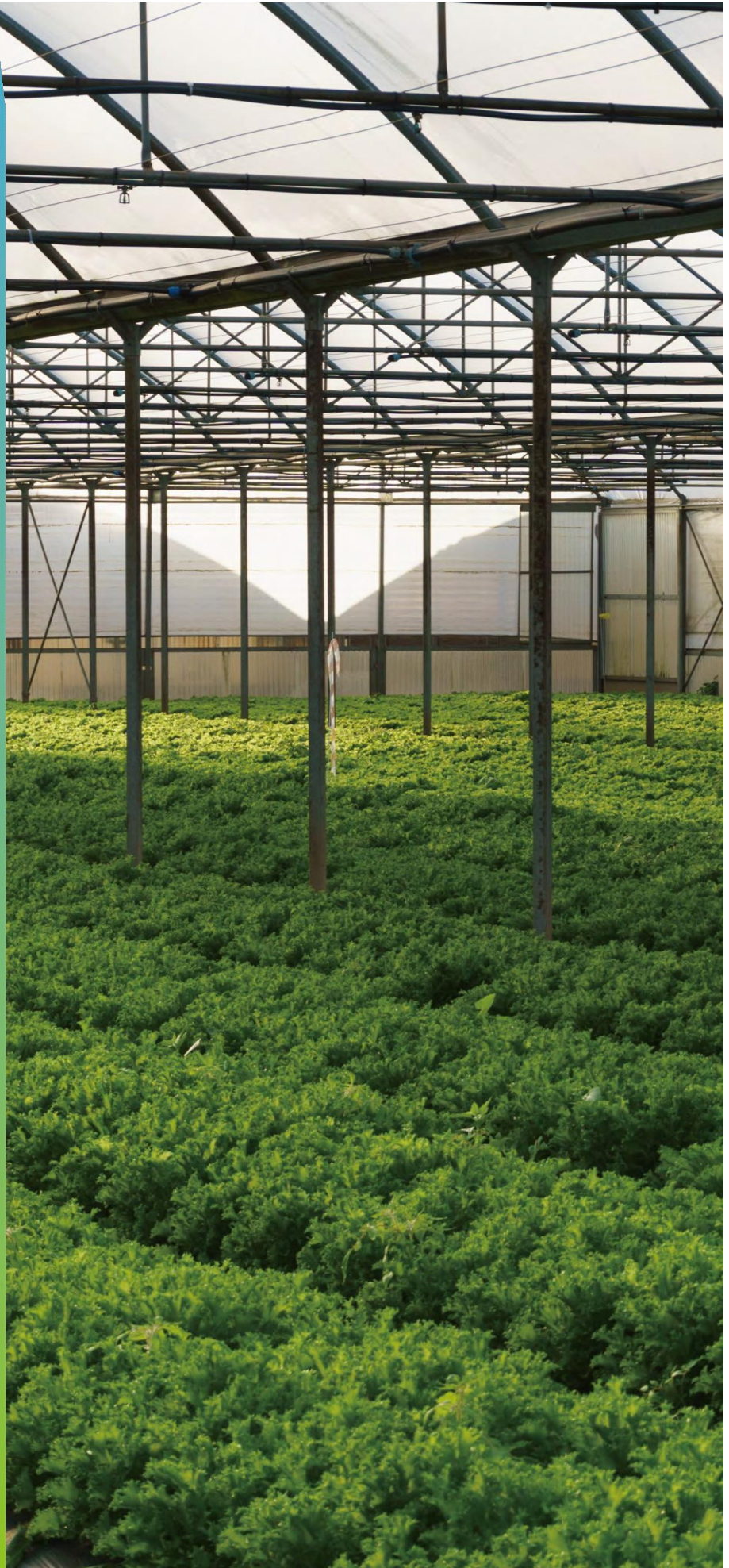
# 06

## Other Greenhouse Accessories

Sunny® Roof Vent

Sunny® Sliding Door

Greenhouse Special  
Accessories



# Other Greenhouse Accessories

## Greenhouse Special Accessories

### 1/ Sunny® Roof Vent

#### Product Description

- With specially designed tube clamps, it is very easy to install to the greenhouse structure
- Special profile is designed in vent frames, conveniently to fix the film by wiggle wire
- Specially designed gutter connector to the end of the vent frame, convenient drainage
- Big vent area, three opening angles are available
- good self-locking capability



Product Code	Specification	Size	Unit
250100600010	BMC-9060Z	600mmx900mm	Set
250100300010	BMC-13060Z	600mmx1300mm	Set
250100100010	BMC-15060Z	600mmx1500mm	Set

Note: It is mainly used for Solar Greenhouse, Tunnel, Gutter connected greenhouse. It is pre-assembled in aluminum frame with rope-pulling open close mechanism, easy operation and installation, size can be customized

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#### Sunny® Roof Vent Connector



Product Code	Specification	Size	Unit
250110000030	DCLJ-26	26	Set
250110100030	DCLJ-33	33	Set
250110200030	DCLJ-42	42	Set

#### Sunny® Roof Vent Application:



## 2/ Sunny® Sliding Door for Film Greenhouse

### Product Description:

Sunny Sliding door is new professional door that Fenglong designed for greenhouse; Adopting professionally designed aluminum alloy profile, carefully manufactured, with beautiful, light weight, strong structure, flexible pushing and pulling, good sealing, etc. The disassembled lower rail can avoid the problem of damage to the lower rail caused by the incoming and outgoing vehicles, this product also has the feature of extremely easy installation, and can be installed without power tools on site.



Product Code	Model	Structure	Appearance	Opening Method	Specification	Unit
250200100010	BMMT-1.2/2.0	Square-shaped frame	Silver White	Lifting Push-Pull	1.2mx2.0m,Single, Aluminum doors	Set
250200300010	BMMT-1.5/2.4	Square-shaped frame	Silver White	Lifting Push-Pull	1.2mx2.0m,Single, Aluminum doors	Set
250200200010	BMMT-2.4/2.0	Square-shaped frame	Silver White	Lifting Push-Pull	2.4mx2.0m,Double, Aluminum doors	Set
250200400010	BMMT-3.0/2.4	Square-shaped frame	Silver White	Lifting Push-Pull	3.0mx2.4m,Double, Aluminum doors	Set

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### Sunny® Sliding Door for Film Greenhouse Application



# Other Greenhouse Accessories

## Greenhouse Special Accessories

### 1/ Patch Tape



Product Code	Model	Specification	Thickness
100500300250	BMJD10-	70mmx5m	0.10mm
<del>7005</del>			
100500300350	BMJD10-	70mmx15m	0.10mm
<del>7015</del>			
100500300450	BMJD10-	100mmx15m	0.10mm
<del>10015</del>			
100500900030	BMJD12-	70mmx15m	0.12mm
<del>7015</del>			
100500800030	BMJD12-10015	100mmx15m	0.12mm

Note: Widely used on EVA film, PE film, PVC film etc. to fix the damages of agriculture film. It is highly adhesive and water proof. It has high light transmission.

### 2/ Brace Band

06



Brace band using photo

Product Code	Model	Material	Specs	Thickness	Unit
240800100030	YKG-2212	Hot galvanized	Φ22	1.2mm	piece
240800200030	YKG-2515	Hot galvanized	Φ25	1.5mm	piece
240800800030	YKG-3220	Hot galvanized	Φ32	2.0mm	piece
240800700030	YKG-6020	Hot galvanized	Φ60	2.0mm	piece

Note: Used for connecting with the round pipe.

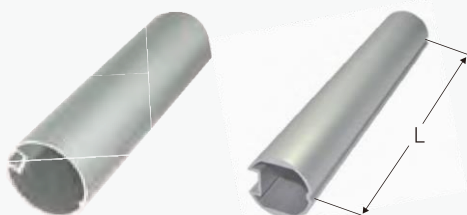
### 3/ Pipe Strap



Product Code	Model	Specification	Thickness	Unit
240802100030	BYKG-25	Φ25	1.2mm	piece
240802200030	BYKG-32	Φ32	1.5mm	piece
<del>240802300030</del>	<del>BYKG-50</del>	<del>Φ50</del>	<del>2.0mm</del>	<del>piece</del>

Note: Used for connecting to the pipes.

#### 4/ Single Groove Tube and Coupling



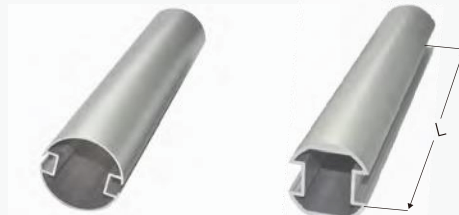
Single Groove Tube

Coupling

Product Code	Name	Model	Specs
130601700030	Single Groove Tube	JMG-DCY-3000	Φ50
130601000030	Coupling	LJJ-DCJMG	L=250

Note: The Single groove tube is used to roll plastics, screen and soft material;  
The coupling is used to extend and connect the tube.

#### 5/ Double Groove Tube and Coupling



Double Grooves Tube

Coupling

Product Code	Name	Model	Specs
130600600030	Double Grooves tube	JMG-SCY-6000	Φ50
130601200030	Coupling	LJJ-SCJMG	L=250

Note: The Double groove tube is used to roll plastics, screen and soft material;  
The coupling is used to extend and connect the tube.

#### 6/ Greenhouse Band (Webbing Rope)



Product Code	Model	Specs	Unit
120700200050	YMX-3H	300m/roll	roll

Note: Tensile strength, low thermal expansion and contraction coefficient, add anti-aging additives, longlife span.

#### 8/ Wiggle Wire Channel Connector



Product Code	Model	Specs	Unit
120230200010	NJP-3	KF-3	piece
120230300010	NJP-4	KF-4	piece

Note: Used for connecting LOCKUP®galvanized wiggle wire channel.

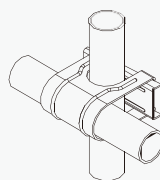
#### 7/ T Clamp



(Used for junction of round pipes)

Product Code	Model	Specs	Unit
240805100030	TXQ-48	Φ48xΦ48	set

#### 9/ Purlin Bow Clamp



Product Code	Model	Specs	Unit
240804100030	GQ-3333	33.4x33.4 (1.315"x1.315")	set
240804200030	GQ-4233	42.16x33.4 (1.66"x1.315")	set
240804300030	GQ-4833	48.26x33.4 (1.9"x1.35")	set

Note: Made of galvanized steel sheet, used for cross connection of the pipes or for multi-span greenhouse.



## 10/ TOYOTANI® Protection Film



Product Code	Model	Specs	thickness	Unit
100165100010	LM490C	10cm*400m	0.10mm	roll
100165200010	LM590E	10cm*300m	0.20mm	roll

## 11/ Film Hoop



Product Code	Model	Specs	Unit
120800100030	SSP-15-22	Φ22	piece
120800200030	SSP-15-25	Φ25	piece
120800300030	SSP-15-32	Φ32	piece

## 12/ Film Protector Strip

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Product Code	Material	Specification	Unit	Guarantee
120904000030	Rubber	20m	Roll	6 years
120904100030	Rubber	50m	Roll	6 years

## 13/ Single Groove Tube



Product Code	Material	Specs
130602000030	cold rolling steel	φ34, L=4000mm