# Specification of Q2615 Shot Blasting Booth

## Part I Processed workpieces and parameters

| | | |
|---|---|---|
| 1 | Max. Workpiece size | Customized |
| 2 | Finish level | Can achieve Sa2.5 (GB8923-88) |
| 3 | Max. Workpiece weight | 15 T |
| 4 | Processing speed | 30-60 $m^3$/min |
| 5 | Surface roughness | 40~75 μ (Depend on abrasive size) |
| 6 | Suggest abrasive | Grinding steel shot and steel grit, Φ0.6~1.5 |
| 7 | Chamber inside dimension (L*W*H) | 16*6*4 m |
| 8 | Electric power supply | 380V, 3P, 50HZ or customized |
| 9 | Pit requirement | Waterproof |

## Part II Technical data of Q2615 Shot Blasting Booth

| | | | | |
|---|---|---|---|---|
| 1 | **Blasting Chamber** | | Rock wool composite panels | 50 mm (0.5 mm galvanized sheet on each side of composite panels) |
| | | | Support frame | 80*32 mm, 100*50 mm rectangle steel |
| | | | Protection plate | 4 mm white wear resistant rubber plate |
| | | | Gate | Size (H*W): 3600*4000 mm; Qty: 1 |
| | | | | Operating: Manually open |
| | | | Emergency door | 1 pcs (W*H=900*1900 mm) |
| 2 | **Shotblasting system** | | Blasting capacity | 2*35 kg/min |
| | | | Abrasive storage volume | 0.8 $m^3$ |
| | | | The nozzle length | 2*25 m |
| | | | Number of Blasting Guns | 2 pcs |
| | | | Number of sandblaster | 1 set |
| 3 | **Abrasive circulatory System** | Screw conveyor | Conveying capacity | 15 T/H |
| | | | Screw diameter | 180 mm |
| | | | Quantity | 7 sets |
| | | | Total power | 7*1.5 kw |
| | | Separator | Separating capacity | 15 T/H |
| | | | Wind speed of separator | 4-5 M/S |
| | | | Waste content of separator | ≤1% |
| | | | Quantity | 1 set |
| | | Bucket elevator | Lifting capacity | 15 T/H |
| | | | Lifting speed | 1.21 m/s |
| | | | Quantity | 1 set |
| | | | Power | 2.2 kw |
| 4 | **Lighting system** | | Lamp | LED |
| | | | Brightness | ⩾500 Lux |
| | | | Power | 24*0.1 kw |

| | | | |
|---|---|---|---|
| 5 | **Dust removal system** | Filtering material | Polyester coated fitter cartridge |
| | | Quantity | 1 set |
| | | Fan power | 2*11 kw |
| | | Full pressure | 2000 pa |
| | | Ventilation volume | 22000 $m^3$/h |
| | | Cartridge quantity | 16*φ350*660 pcs |
| | | Filtering area | 352 $m^2$ |
| | | Dust falling way | Automatic back pulse |
| | | Filtering accuracy | 1 μm |
| | | Back Pulse Quantity | 4 pcs |
| **6** | **Trolley system** | Dynamic load | 15 T |
| | | Track pitch | 2100 mm |
| | | Trolley size | 3000*5000 mm |
| | | Number of trolleys | 2 sets |
| | | Motor Power | 7.5 kw |
| **7** | **Dust emission level** | ≤90 mg/$m^3$ | |
| **8** | **Noise** | ≤95 dB | |
| **9** | **Total electric power** | About 45 kw | |
| **10** | **Production time** | 60 workdays | |

## Part Ⅲ Reference Pictures of Q26 Shot Blasting Booth

***Pictures***

## Part Ⅳ Installation and After-sales Policies

### 4.1 Installation, Commissioning, Training and Acceptance

- Seller will send one engineer to buyer's factory to supervise installation.

- Seller shall provide training to buyer's relevant employee.
- Seller shall test the machine to reach surface requirements indicated in the technical parameter.
- Buyer shall afford the visa, insurance, return tickets, transportation, hotel and meals.
- Buyer shall provide finished pits according to drawing by seller, necessary labor workers, and necessary tools, facilities, and powers.
- Buyer shall pay salary to our technicians. The date will be countered from the date when the engineer departure from Buyer's factory. All the holidays and weekends will be included.
- Buyer shall sign on the "***Q2615 Testing and acceptance agreement***" after the successful trial.

### 4.2 After-sales Service

- One year guarantee time. Easily worn parts and spare parts are not included. (*stated in Q2615*)
- Extended guarantee will be available basted on mutual negotiation.
- Whole-life technical support. Any problem during using appears, will reply within 8 working hours with technical solution.
- Wear parts and spare parts will be available through the machine life. (*stated in Q2615)*

## Part Ⅴ Technical specification of Q2615 Shot Blasting Booth

### 5.1. Application

Q26 Shot Blasting Chamber is a specially designed machine used in the surface cleaning for high and large jobs.

### 5. 2 Components and function

Q2615 Shot Blasting Booth mainly includes Blasting chamber, Shotblasting system, Abrasive circulation system, Lighting system, Dust collector, Electric control system and other parts. The surface finish level can achieve Sa2.5.

### 5.2.1 Blasting chamber

Blasting body is made of 50 mm rock wool composite panels and rectangular steel frame, it is a strong, seal and spacious operation space to clean the workpiece. Blasting chamber is consist of body shell, left and right side wall, lateral wall, roof, protection plate, etc.

It is equipped with 24 LED lamps (all lamps are defended by steel protective net), inner light brightness can achieve 500 Lux. The blasting chamber is protected by white wear resistant rubber plate which has high wear resistant performance. This can prolong the service life, reduce noise. The door is manually door, on one side of blasting chamber has one set of emergency door.

**5.2.2. Blasting assembly**

Blasting assembly is composed of one set 0.8 $m^3$ shotblasting tank, sprayer pipe, nozzle and pneumatic components, etc. It is used for continuous operation with sand blast wheel, nozzle using boron carbide material, spray pipe is 25*2 meters length, and the production of tank with pressure vessel certificate. **Equipped 2 pcs air conditioning protective clothing.**

**5.2.3 Abrasive circulation system**

This machine used materials circulation purification equipment including shot circulatory system and abrasive separation purification system, is made up by screw conveyor, bucket elevator, separator, abrasive supply valve, conveying shot tube, etc.

**5.2.3.2 Screw conveyor**

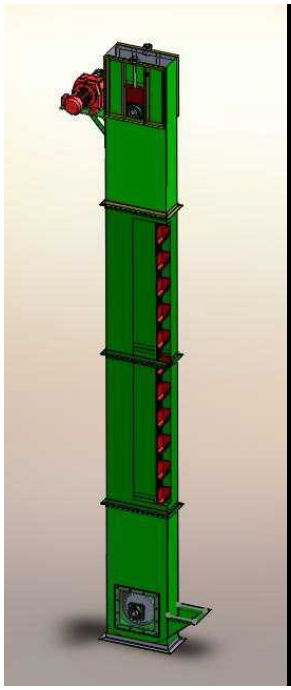
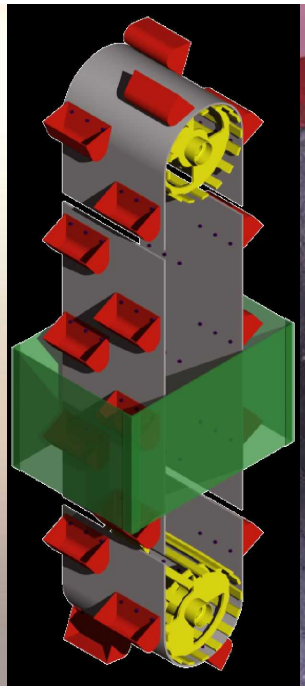
Screw conveyor consists of decelerator, screw axis, conveyor shell, bearing, etc. It is standard conveying device and an important part of abrasive circulating system. The screw blade is made of 16 Mn.

This unit is responsible for conveying the abrasive to the elevator. Screw conveyor located at the bottom of shot blasting chamber, the spiral blade welding in the drive shaft. Conveyor motor drives screw conveyor to send abrasive to discharge outlet, then the mixed abrasive will be conveyed to elevator bottom.

On both ends of the screw conveyor adopt triple seal protection. the abrasive and dust will drop to the clearance between end plate and bearing once leak out, will not enter the bearing. Screw conveyor shaft with sensors detecting unit can detect the working state.

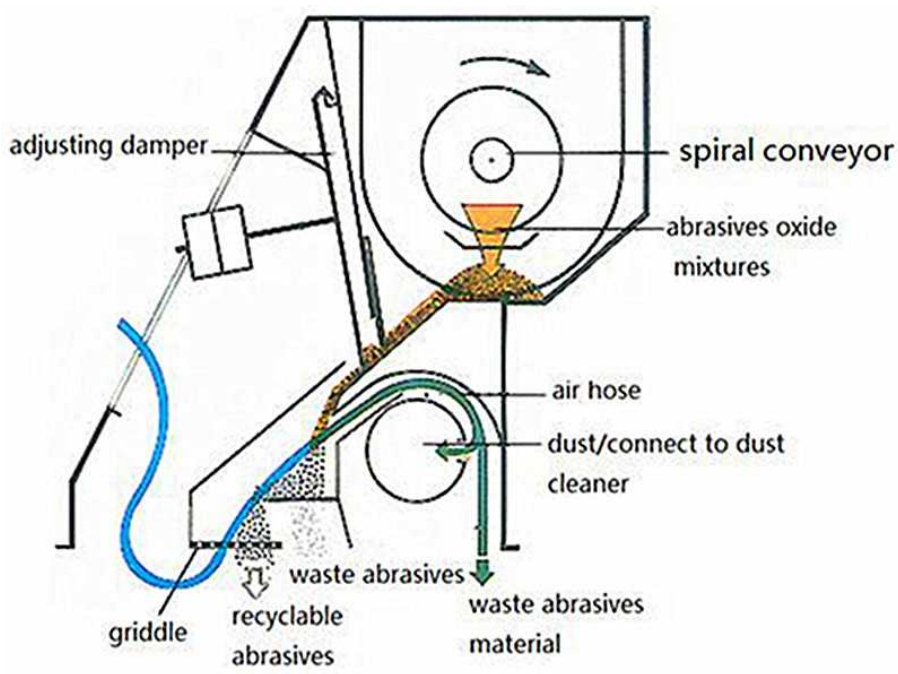
**5.2.3.3 Bucket elevator**

Consists of decelerator, upper and bottom barrel, belt, bucket and tensioning device, etc. Housing of bucket elevator is welded of steel plate. There is a checking door for maintenance and replacing buckets at the bottom of the housing.

In operation, the hoppers fixed on the conveyor belt bring the abrasive to the top, then put down the abrasive to separator. Using polyester wire core special belt, with the function of high strength, high tensile properties. Pulley use squirrel cage structure, avoiding scattered abrasive embed to the gap between the pulley and belt, affecting transmission. There is 10% design Margin for elevator capacity. Because the hoist falls abrasive by centrifugal gravity, part of the material will fall back into the hoist every time. Therefore, it is necessary to increase the lifting capacity appropriately.

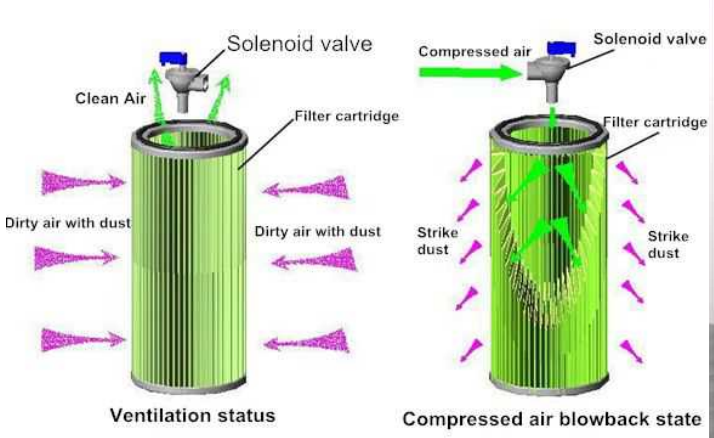
### 5.2.3.4 Separator



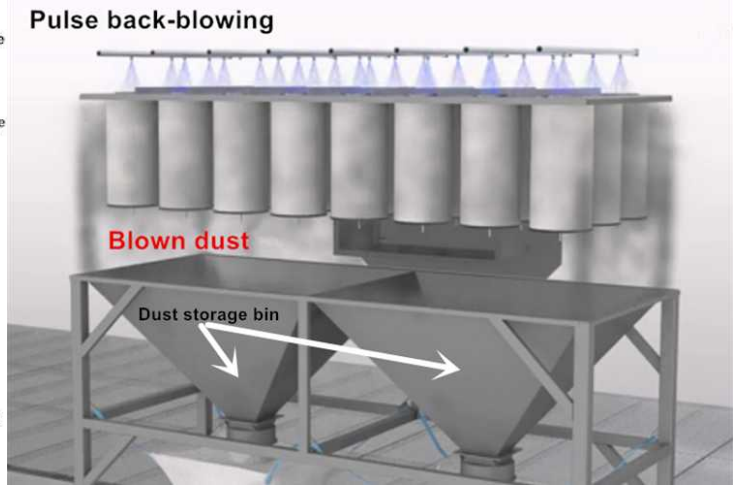
This machine uses full-curtain flow curtain air separator. It is the latest type of separator in our company, separating efficiency can reach 99.5%. The separator is one of the key components of this equipment. The design size of the separation zone directly affects the effect of the separator. The wear of the shot blasting turbines will be accelerated if the separation effect is not good.

### 5.2.4 Dust removal system

Dust removal system includes cartridge filter, blower, motor, pipes, etc. It is stable and easy operation, low noise, high efficiency and easy maintenance. The fan power is 22 kw, ventilation quantity is 22000 $m^3/h$. Pulse blowback dust removing, cartridge can be easily removed for cleaning then re-use.




Filter cartridge dust removal operating principle



### 5.2.5 Electric control system

The electrical control system for three-phase AC frequency 50 HZ voltage 380 V power distribution, alarm device and overload protection device are available.

To ensure the reliable operation of the equipment and the safety of operators, the shot blasting turbines, maintenance door and abrasive circulation system are equipped with electric interlock and self-locking system.

Installed circulating system accident (Unexpected) abrasive supply blocking device and alarm device.

## Part Ⅵ Main function parts and outsourcing parts manufacturer

| The components name | Manufacturers | Place of origin |
|---|---|---|
| Blasting assembly | Qingdao Zhiling Machinery Co., Ltd | Qingdao, China |
| Separator | Qingdao Zhiling | Qingdao, China |
| Screw conveyor | Qingdao Zhiling | Qingdao, China |
| Electric control system | Qingdao Zhiling | Qingdao, China |
| Main low-voltage apparatus | China | China |
| Dust removal system | Qingdao Zhiling | Qingdao, China |
| Fan | Qingdao Zhiling | Qingdao, China |
| Speed reducer | China brand | China |
| Pneumatic parts | China brand | China |
| Detection electric | China brand | China |

## Part Ⅶ Each part of the wall thickness of the material

| Name | Material | Thickness (mm) |
|---|---|---|
| Chamber body | Rock wool composite panels | 75 mm |
| Chamber frame | Square tube | 100*50 mm, 80*32 mm |
| Protective rubber plate | White wear-resistant rubber sheet | 4 mm |
| Elevator, separator, screw, dust removal | Q235 steel plate | 3 mm |
| Pipe | Galvanized pipe | 0.5 mm |
| Screw blade | 16 Mn | 4 mm |

## Loading pictures for reference:

CCLU 765219 4
45G1
MAX. GROSS 32,500 KG 71,650 LBS
TARE 3,800 KG 8,380 LBS
NET 28,700 KG 63,270 LBS
CU. CAP. 76.4 CU.M. 2,697 CU.FT.

HDMU 671303 7
45G1
MAX. GROSS 32,500 kg 71,650 lb
TARE 3,800 kg 8,380 lb
NET 28,700 kg 63,270 lb
CU. CAP. 76.4 M³ 2,696 FT³