YUFEI Q32 SERIES

TUMBLE BELT SHOT BLASTING MACHINE

Designed specifically for efficient surface cleaning and strengthening of small and medium-sized cast iron parts, cast steel parts, precision forged parts, stamping hardware parts and heat-treated components. The process involves continuous rolling of the workpieces by a wear-resistant circular rubber belt, combined with an efficient direct-connection shot blasting machine that uniformly sprays at 360°, quickly removing oxide scales, sand deposits and rust, and giving the workpieces a uniform and pure metallic color (Sa 2.5—3.0).

200–1000 kg	75–85 m/s	≥ 99.5%	< 10 mg/m³
Single batch loading capacity	Initial velocity of the projectile	Particle separation purity	CE ultra-low emissions



Core engineering manufacturing advantages:

• **Circular wear-resistant crawler mechanism:** Wear-resistant rubber/manganese cast chain plates rotate forward for shot blasting and reverse for automatic discharge, eliminating damage to workpieces from collisions;

• **Swiss technology direct coupling throwing head:** Variable-frequency direct-coupled high-efficiency shot blasting machine, with a mechanical efficiency of 96%, and a single person can replace the blades in 10 minutes quickly;

• **Standard engineering foundation scheme:** Integrated compact layout, providing standardized foundation excavation and seismic reinforcement drawings, ensuring smooth delivery.



Forged wrenches and hardware



Cast steel pipe fittings and tees



Flange sleeve and ring

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YUFEI MACHINERY

CONTINUOUS TUMBLING MECHANISM & FOUNDATION PIT STRUCTURE

Circular rubber tracks continuously roll | 360° non-stop projectile bombardment | Surface roughness reaches Sa 2.5—3.0 | The track-type shot blasting machine uses wear-resistant circular rubber tracks to support the workpiece. During operation, it forms a continuous and stable rolling cycle. The top high-power direct-connection shot blasting device projects a high-speed and dense stream of projectiles, completely removing oxide scales, sand deposits and rust, giving the metal surface a uniform and consistent microscopic roughness (Rz 40—80 μm), significantly enhancing fatigue resistance and coating adhesion.



Q32 Series Specification Sheet

Parameter	Q326	Q3210	Q3215
Tumble Belt Length	860 mm	1100 mm	1550 mm
Side Plate Diameter	Φ650 mm	Φ1000 mm	Φ1000 mm
Effective Working Volume	0.11 m³	0.40 m³	0.43 m³
Max.Single Workpiece Weight	20 kg	30 kg	227 kg
Loading Capacity	200 kg	600 kg	1,000 kg
Abrasive Flow Rate	200 kg/min	250 kg/min	200 × 2 kg/min
Blasting Turbine Motor Power	7.5 kW	15 kW	11 × 2 kW
Bucket Elevator Capacity	12 t/h	15 t/h	30 t/h
Dust Collector Air Volume	2,500 m³/h	4,500 m³/h	7,000 m³/h
Total Installed Power	13 kW	25 kW	37.5 kW
L×W×H mm	2000×1700×3000	2500×2250×3300	3200×2300×4200

Core application industries and their actual production scenarios



Precision casting



Forged fasteners



Pressing hardware components



Automobile gear bearings

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Q326 COMPACT

Small hardware / casting and forging parts



- **Batch loading capacity:** 200 kg (volume 0.11 m³)
- **Maximum weight per piece:** 20 kg
- **Blast Turbine Configuration:** 1 × 7.5 kW direct-connected abrasive blower
- **Dust removal air volume:** 2,500 m³/h
- **Features:** Occupies only 2×1.7m space, no need for deep pit, plug-and-play, particularly suitable for small and medium-sized processing workshops and small-batch parts。

Q3210 FLAGSHIP

The most popular product of the casting and forging factory



- **Batch loading capacity:** 600 kg (volume 0.40 m³)
- **Maximum weight per piece:** 30 kg
- **Blast Turbine Configuration:** 1 × 15 kW efficient direct-connected ejection head (250 kg/min)
- **Dust removal air volume:** 4,500 m³/h
- **Features:** Large tumbling chamber, equipped with an automatic hydraulic feeding machine (optional), extremely fast production cycle, the best-selling product worldwide. Classic。

Q3215 HEAVY-DUTY

Heavy-duty large capacity



- **Batch loading capacity:** 1,000 kg (volume 0.43 m³)
- **Maximum weight per piece:** 227 kg (thickened manganese steel chain plate)
- **Blast Turbine Configuration:** 2 × 11 kW double ejection heads arranged in a stepped pattern (400 kg/min)
- **Dust removal air volume:** 7,000 m³/h
- **Features:** Ultra-high load-bearing capacity and large-area powerful coverage by the dual ejection machines, Designed for heavy workpieces and high-volume batch blasting applications, including crankshafts, cast steel valves and large forgings..

1. WEAR-RESISTANT TUMBLE BELT & LINERS



1. Door Frame Seal : Rubber sealing to prevent the leakage of Steel Shot and dust outside.

2. Rear impact liner: The area directly facing the sandblasting equipment is the most severely worn. Therefore, a specially designed rolled manganese steel material was adopted.

3. Liner Bolts : High-strength anti-abrasion countersunk bolts, single-piece replaceable, without the need to dismantle the entire surface

4. Side Wall Liner : With the rebounding of the material, the curved surface closely adheres to the end disc of the track, ensuring a sealed operation.

5. Abrasive Screen : Precise sieve hole design: The impurities from the crushed pills flow downward, while the good pills are recycled and reused efficiently.

2. DIRECT-DRIVE BLAST TURBINE SYSTEM



• Penetrator wheel and directional sleeve: Special high-chromium alloy Cr20 is precisely cast, and undergoes heat treatment with a hardness of HRC 62–66. The window for directional projectile ejection can be precisely adjusted;

• Self-locking quick-release blades: Self-locking design without bolts, with a single person completing the replacement and maintenance of the entire set of 8 blades in just 10 minutes;

• Extremely strong initial projectile velocity: The projectile ejection speed can reach 75–85 m/s, which is High-Efficiency Blasting: Optimized blast turbine design provides high-speed abrasive projection and efficient surface cleaning.

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1. ABRASIVE RECYCLING

Bucket Elevator + Air-Wash Abrasive Separator



• **Cycle purity:** Full curtain gravity wind separation, Abrasive Separation Efficiency: ≥ 99.5%

• **Lifespan enhancement:** Completely separates broken pellets from fine powder, wear-resistant blade lifespan increased by 30%

• **Anti-blocking filtration:** Built-in automatic heavy hammer overflow regulating valve and efficient rotating filter screen.

2. DUST COLLECTION

Pulse-Jet Cartridge Dust Collector



• **Ultra-low emissions:** Nanocoated flame-retardant filter cartridge, dust emission concentration < 10 mg/m³

• **Pulse self-cleaning:** PLC-controlled timed reverse blowing for cleaning and descaling, stable pressure difference, extremely low wind resistance

• **Green compliance:** 100% meets EU CE, OSHA and domestic strict environmental protection standards。

3. SMART CONTROL

Siemens PLC touch screen intelligent control cabinet



• **One-button start-stop:** Full-process automated linkage control (feeding - rolling - shot blasting - dust removal - discharging)

• **Safety interlock:** Pneumatic door closed interlock detection. Opening the door will immediately stop the machine to prevent bullet splashing

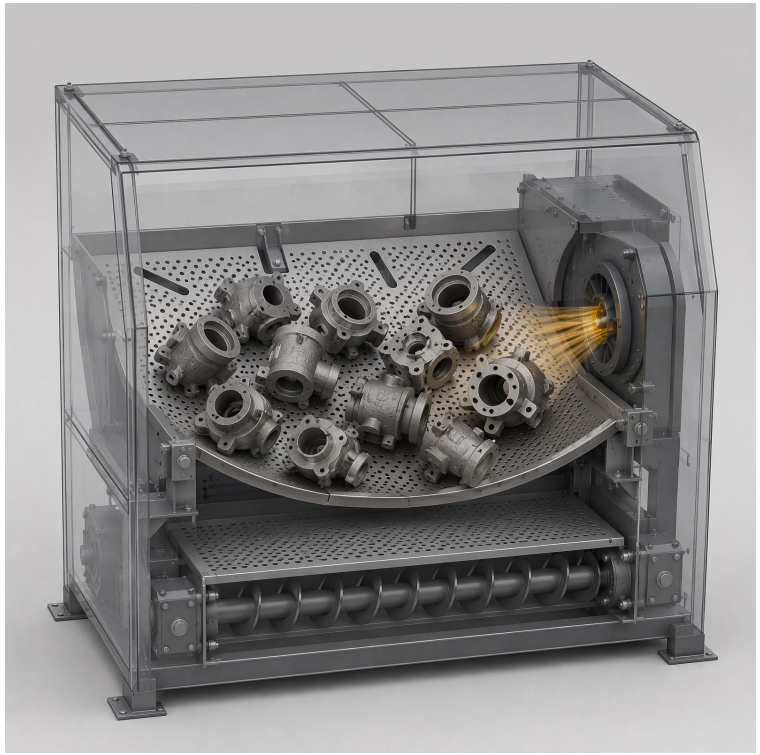
• **Fault diagnosis:** Real-time monitoring of motor current, track rotation speed and self-diagnostic alarms for faults.

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1. 3D BLASTING DYNAMICS SIMULATION

Simulation optimization of projectile trajectory · Elimination of dead zones · 100% kinetic energy coverage



• **Dynamic optimization:** Through ANSYS fluid and projectile kinematics simulation, the spatial incidence angle of the centrifugal blasting turbine is accurately calculated, and the projectile beam is tightly focused on the high-drop point of the rolling workpiece;
• **Comprehensive and seamless coverage:** Combined with the continuous rolling action of the tracks, the 360° full coverage cleaning of the workpiece's grooves, holes and backside is achieved;
• **Anti-projectile empty throw wear:** Precisely control the projectile dispersion angle to avoid ineffective bombardment of the end disc and the edge of the tracks, and the service life of the wear-resistant parts is extended by 25%.

2. GLOBAL TURNKEY PROJECTS & TEAM



On-site delivery of complete machines to European customers



Global technical team on-site joint debugging



✓ **48-hour global response: Senior mechanical and electrical engineers are dispatched to key overseas markets for on-site installation and commissioning;**

✓ **The entire machine enjoys a 24-month extended warranty, and pure original high-chrome wear-resistant and easily replaceable factory parts are provided for life**



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Yufei Intelligent Manufacturing Global Business and Technical Support Fast Lane (Scan the QR code for immediate contact):



Hebei Yufei Machinery Manufacturing Co., Ltd. ·
20,000 ㎡ Modern Heavy Industry Manufacturing Base

Commitment to Enterprise Strength and Quality Assurance (Manufacturing Strength):

- **Heavy Industry Manufacturing Heritage:** Over 20 years of focus on the research and manufacturing of surface treatment equipment, with large-power laser cutting, CNC bending, and a complete set of dynamic balance testing platforms;
- **Full-process Factory Test Run:** 100% no-load power-on test run and precise detection of head vibration dynamic balance to ensure zero defects at the factory;
- **Rapid Response to Solutions:** Free provision of exclusive 3D process layout drawings and precise factory quotations within 24 hours.