

Core machines Z84200 - for very large cores

Vacuum core



Shooting head volume 200 litre

Multiple shooting per core

Core length up to 2700 mm

Vacuum core process
with
Cold Box Amin process
or
Water Glass process

On request of Chinese and American waggon casting producers SUZHU developed the special technology **Vacuum core process** for mass production of monolith central cores for bolster and frame casting.

Chinese Railway foundries as well as ABC America Standard Car Zhuzhou Company are working with Z84200 machines, with Amin-Technology as well as with non-organic Water glass-Technology



Core for bolster and frame Chinese Railway, length approx. 2500 / 2300 mm

Advantages of the Vacuum core process:

- Decrease of content of binder up to 50% and decrease of Amin or CO₂ consumption
- Collapse characteristic of cores after pouring are increased

The Z84200 machine has **special applications for Railway waggon castings bolster and frame**, such as

- **Skeleton inside** of core for increase of core handling stability
- Core may get a **shell of zircon sand**
- Core may be produced with **metal chills at lower and upper core surface**



In addition, at Z84200 machines with Vacuum core technology are produced other large cores, such as large engine block cores and hooks.

small foundation pit underneath the machine

Foundation pit for core box - transfer car is approx. 500 mm. The machine table is not lifting up; instead, the shooting head is moving down.

easy and free access

All the important parts for maintenance (hydraulic cylinders, pneumatic valves and electric control parts) are easy and freely accessible. The shooting head is indexing to filling position with free access for easy sand cleaning.

continuous 24-hour work

The machine frame is extra strong and the machines are suited for continuous 24-hour work.

core boxes of solid steel for mass production

The core machines Z84200 are suited for use of solid core boxes from steel to ensure lowest possible tool wearing in mass production conditions.

full automatic work

The Z84200 machines work full automatic with sand shooting and gas injection, core removal ejection.

additions

The Z84200 machines may be equipped on customer request with automatic core box cleaning, automatic core box parting agent injection, fast pattern exchange, robots for core picking-up etc.

Technical characteristics Core machines Z84200

Parameter	Unit	
Shooting head volume	liter	200
Maximum external size of core box	mm	2800×960×1100
Shooting area size	mm	2700×760
Blowing area size	mm	2680×720
Stroke of upwards core ejection cylinder	mm	115
Stroke of downwards core ejection cylinder	mm	300
Maximum clamping force of core box	KN	600
Maximum upwards core ejection force	KN	160
Maximum downwards core ejection force	KN	200
Oil pressure	MPa	10~12.5
Supercharge oil pressure	MPa	16
Compressed air pressure	MPa	0.5~0.6
Electrical power connection	KW	60
Hydraulic pump power connection	KW	30
Productivity* with Cold Box Amin process	cycles/h	20, up to 30 under special conditions
Productivity* with Water Glass pr.	cycles/h	8
Machine weigth	Tons	≈30

* Productivity is a maximal number shown and is not guaranteed. It is dependent of the real used time for core removal (manually or by robot) and other manual works, as well as time selected by the customer for sand shooting, gassing and degassing of core.



Automatic handling system for central cores for Railway castings bolster and frame, including

- continuous core drying oven
- storage including storage software and core lifetime supervision
- transport to moulding line
- core setting robot with laser check of core and mould surface and positioning according to really location of mould
- core data transfer

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