

STONE COLUMNS

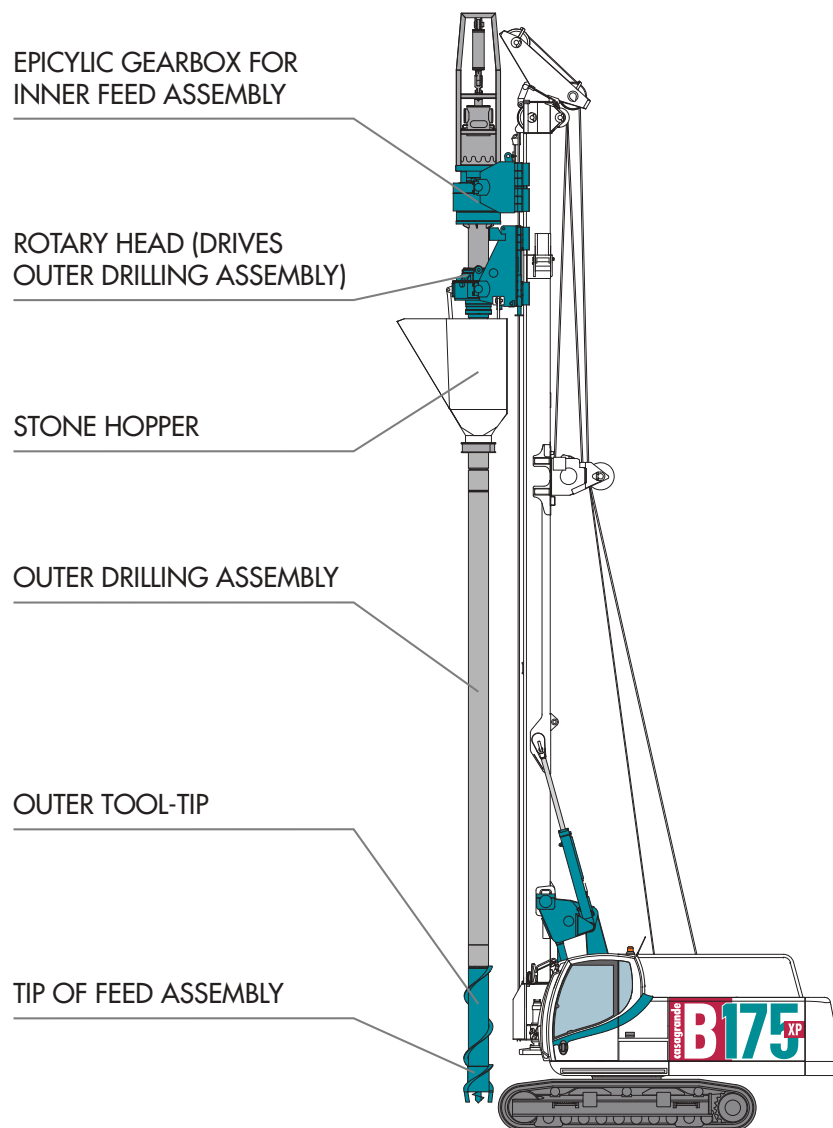
NEW PATENTED STONE COLUMNS
GROUND IMPROVEMENT SYSTEM



STONE COLUMNS

NEW PATENTED STONE COLUMNS GROUND IMPROVEMENT SYSTEM

MAIN COMPONENTS



PATENTED TECHNOLOGY

- > The new ground improvement method is vibration free so it can be used immediately next to sensitive sites or neighbouring buildings
- > Less power required
- > Fuel savings
- > Only two plant items required
- > Fast to set up
- > No high pressure water or air injection required therefore less mess
- > Bottom feed – can be used in collapsing soils
- > Binder can be introduced to provide rigid inclusions in the soil – no expensive concrete delivery trucks or pumps required
- > No creation of liquefaction and possible machine instability due to vibrations
- > No high wear and high maintenance high frequency vibrating parts
- > Proven technique in a number of different soil types
- > Recognised by international geotechnical engineering design companies

NON VIBRATION STONE COLUMNS SYSTEM



Method opens up new foundation possibilities, where previously stone columns/ground improvement could not be considered due to vibrations and nuisance.

Graded filter selected materials can be used so columns are more resistant to clogging in liquefaction events. Columns remain effective for multiple events.



No introduction of high pressure water or air required so relatively mess free. Sites immediately adjacent to sensitive environments completed.

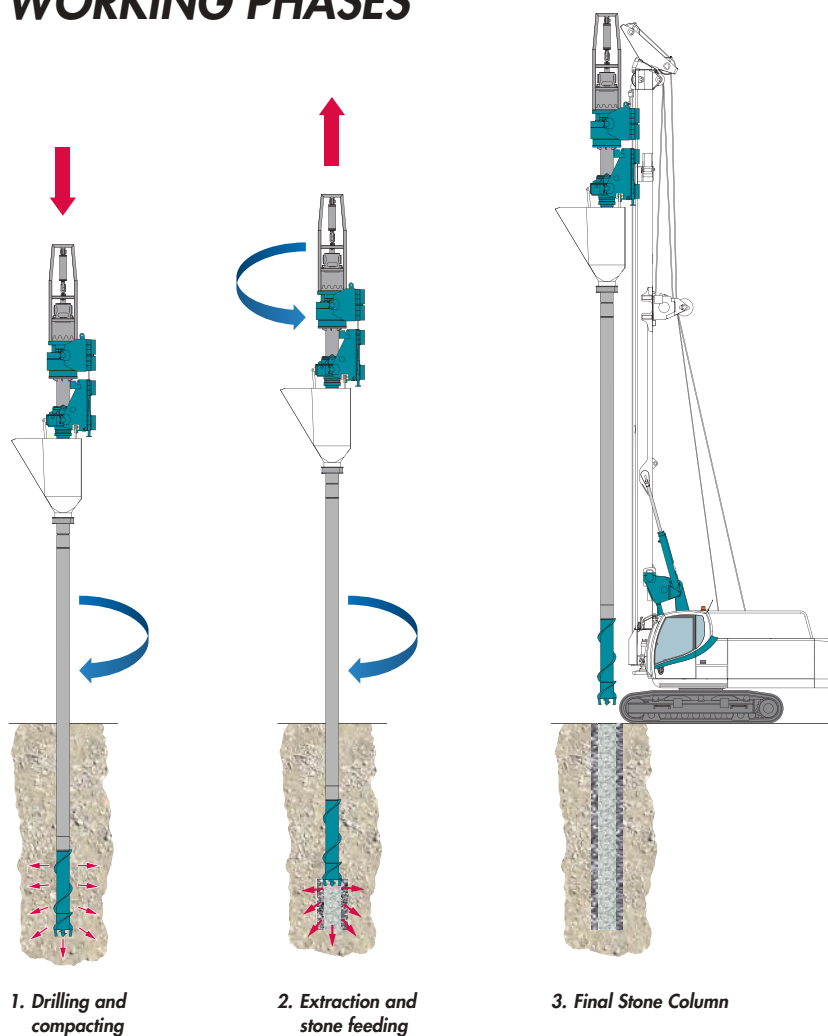
The tooling is a hybrid drilling assembly, this allows tool penetration through hard layers and removes the requirement for predrilling, that is often required for vibrating tooling.

TECHNICAL SPECIFICATIONS

HYDRAULIC RIG	B175XP	B200XP
Tool diameter*	480 ÷ 550 mm	480 ÷ 620 mm
Final column diameter*	600 ÷ 800 mm	600 ÷ 850 mm
Max. depth*	11 m	13,5 m
Torque of rotary head	175 kNm	210 kNm
Diesel engine - power	194 kW	239 kW
Weight of equipment	~ 43000 kg	~ 64000 kg

* Subject to ground conditions

WORKING PHASES



Method builds complete columns at all times, so there is no-void space introduction to allow column contamination at any time, unlike methods where a plunging motion is used.

Patent assembly creates compact columns larger than the tool diameter (up to Ø 900 mm*) by compressing stone in the horizontal vertical directions, DURING THE EXTRACTION PHASE.



Fuel and Cost Savings on traditional stone column systems. No additional power packs are required, only one rig to perform the job. Can be attached to a conventional rotary piling rig, thus a truly multi-purpose machine that can be converted back to other techniques is possible.



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