Ground treatment with the VibroSTA method meets a wide range of bearing capacity and reliable ground improvement requirements and provides an economical alternative to more expensive deep foundation technologies.

The equipment designed and manufactured by STA was born at the beginning of the '80 years with the first hydraulic vibroflots. The improvement of the equipment has never stopped during the years increasing the quality and the range of accessories. A particular elastic isolator completely stops the vibrations from the head of the VibroSTA. This isolator is very simple and strong and it has been manufactured also for other constructor’s equipment.

The constant request of more and more productivity and the application of the VibroSTA method in a wide range of soils has created a new method of application named Bottom Feed. For soft saturated more cohesive soils not compactable. The VibroSTA penetrates to the required depth displacing the soil laterally, then it is replaced by stones. The stones which are also compacted create a so called "stone column". With a second pipe near the main extension tubes, the stones are carried into the hole near the tip of the VibroSTA optimizing works in deep water or in particular soft soils.

The whole equipment is composed by a vibrating part which moves thanks to an internal rotative eccentric mass and a pulley block linked to the crane with suspension ropes. The extension pipes link the main parts in order to reach the requested length of the VibroSTA.

A stone tank can be applied at the top of the VibroSTA for the bottom feed method. The whole system is powered by a due hydraulic power pack designed and manufactured by STA.
VIBRO STA 10000

1.700/1.900 r.p.m.
Power of VibroSTA Puissance max du vibreurSTA 210 kW
Operative frecuence Fréquence opérationnelle 28 Hz
Operative centrifugal force Force centrifuge opérationnelle 360 kN
Amplitude Amplitude 26mm
Wear shield Bouclier de protection
easy to replace and manufactured with wear resistant steel facilement remplaçable et construit avec des matériaux de haute résistance
Pulley head Partie suspendue
predisposed for oil and water links racords pour l’eau et l’huile hydraulique
Extension pipes Extension pipes
Variable length available Tuyaux de raccordement avec longueurs variables en fonction de l’application
Total weight Poids total 4,200 Kg (10 m applications)
Weight of extension Poids rallonges 1,300 Kg
VIBRO STA 7500

1.700/1.900 r.p.m.
Power of VibroSTA Puissance max du vibreurSTA 154 kW
Operative frequence Fréquence opérationnelle 30 Hz
Operative centrifugal force Force centrifuge opérationnelle 230 kN
Amplitude Amplitude 26mm
Wear shield Bouclier de protection
easy to replace and manufactured with wear resistant steel facilement remplaçable et construit avec des matériaux de haute résistance
Pulley head Partie suspendue
predisposed for oil and water links raccords pour l'eau et l'huile hydraulique
Extension pipes Extension pipes
Variable length available
Tuyaux de raccordement avec longueurs variables en fonction de l'application
Total weight Poids total 3.800 Kg (10 m applications)
Weight of extension Poids rallonges 1.300 Kg
VIBRO STA 7500 IR

2.400/3.000 r.p.m.
Power of VibroSTA Puissance max du vibreurSTA 154 kW
Operative frequençe Fréquence opérationnelle 50 Hz
Operative centrifugal force Force centrifuge opérationnelle 230 kN
Amplitude Amplitude 12 mm
Wear shield Bouclier de protection
easy to replace and manufactured with wear resistant steel
facilement remplaçable et construit avec des matériaux de haute résistance
Extension pipes Extension pipes
Variable length available
Tuyaux de raccordement avec longueurs variables en fonction de l’application
Total weight Poids total 3.300 Kg (10 m application)
Weight of extension Poids rallonges 1.100 Kg
VIBRO STA 5000

3,000 r.p.m.
Power of VibroSTA Puissance max du vibreurSTA 112 kW
Operative frequency Fréquence opérationnelle 50 Hz
Operative centrifugal force Force centrifuge opérationnelle 120 kN
Amplitude Amplitude 9.5 mm
Wear shield Bouclier de protection
easy to replace and manufactured with wear resistant steel
facilement remplaçable et construit avec des matériaux de haute résistance
Extension pipes Extension pipes
Variable length available
Tuyaux de raccordement avec longueurs variables en fonction de l’application
Total weight Poids total 3,800 Kg (13 m)
Oil flow Oil flow 180 lpm
Pressure Pressure 310 bar
The Data Logger collects real time data such as:
- pressure
- rate of depth
- flow rates
- load and pulling force

The collection of all such data are managed by the due software in order to virtually rebuild “the story” of the different columns.

The Data Logger System is usefull to control the vibrocompaction of the soil and the working depth.

The STA System can also be configured not only for depth and vibrocompaction control but also for loading the gravel at the different steps of the stone column. The Data Logger display is normally positioned on the crane cabin.
POWER PACK V. 7500

- Engine power: 220 KW
- Operative oil flow: 250 lpm
- Oil flow max: 290 lpm
- Pressure: 340 bar
- Oil tank: 1500 lt
- Width: 2000 mm
- Length: 3600 mm
- Height: 2050 mm

The Vibro STA is proposed with different models of water pumps that can be normally powered by the power pack V. 7500
BOTTOM FEED SYSTEM
FREE HANGING

BOTTOM FEED SYSTEM
ON PILING RIG

vibro and grouting equipment