

## Merits of the new ABI MOBILRAM TM 20

### IMPROVED MAST-in-MAST DESIGN

1. TM 20 features a NEW leader design to allow for greater crowd and pull forces, has now 235 kN of pull instead of 170 kN pull. Less friction losses due to enhanced guiding system throughout the new machine resulting in as much as twice the crowd forces compared to the TM 16/20!



2. TM 20 has 150 kN-m of torque capability instead of 60 kN-m, to allow the use of more powerful ABI and Delmag rotary heads as single or double!
3. The rig is able to carry 12 metric tons of pile and attachment, instead of 8 tons on the older model. This means it can handle larger, heavier, more powerful vibros or rotaries and heavier piles.





4. It has a new generation MRZV 28VV and 30VV vibro that runs a 1500 kN centrifugal force instead of a 925 kN vibrator. Also an optimized power transition from diesel engine to vibrator with better adjustability of driving parameters. The enhanced gear box design increases the efficiency and reduces the noise emissions.

5. The new VV type vibrators are able to spin at 2600 rpm, a very high frequency compared to the older units at 2100 rpm. The higher rpm enables it to drive much easier through fine sands.
6. The new VV vibrators come with a variable speed motors. Previously the motors could only run one speed. This means one can match the frequency to the ground conditions, much like gear change on a car for different speeds and hills. All above results in shorter driving / extracting times, with considerable less fuel consumption and all in all a lower environmental impact.
7. The new generation VV vibrators come with an accelerometer, which calculates the G-forces on the exciter bearings and regulates the power going to the gear box should the operator trie to put too much power on a very light load. Previous vibrator models had bearing damages due to operators using far to much of centrifugal force on a small or light pile.



8. The new vibrators can have a camera mounted on. The operator can then watch the clamping of the pile much easier than from the ground some possibly 20m up. Now he can see it on a screen in the cab.
9. The rig also has a backup camera, so the operator can see what ever is behind him or at the right side of the carrier in the blind spots on the screen.
10. The new VV vibrators come with new plumbing that runs the gear oil instead of hydraulic oil to the slew motor that changes the variable moment. This means substantial less down time on the gear boxes in case of internal leaks.

11. The new vibrators feature larger jaw pad surface area and this resulted in much longer jaw pad life, despite the higher driving forces. It also spreads the forces better on the steel piles.
12. The new rigs feature a much larger and brighter colour touch screen making it easier to use for the operator and see in direct sunlight.
13. The carrier has a spacier engine compartment, which is needed for the larger TIER 4f engines from now on in regulated markets.
14. The Diesel engine is also now behind the cab and runs parallel to the tracks. This balances the rig better as the mast is on the other side during transport. The older rigs are heavier on the mast side, since both the engine and mast were on the same side, making them harder to balance on a low boy.
15. The new rig has a new DOCKING system, which is a quick attachment system that allows the swapping of attachments in a few minutes. The previous systems required a manual connection of the electronic cables and the safety lock mechanism. Now all of this can be done from the cab and no one needs to climb up on the vibrator to do this.



16. The new docking system has a new concept, where the sled stays on the mast. Many of the different ABI models have different mast widths and need different sled. They could not be switched easily from rig to rig. This new system would mean that all the new attachments would fit on any TM 17, TM 20 and TM 22 and are easily interchangeable.
17. The new 6 line docking system comes with 6 hoses instead of 4 hoses on the older units and features greater orifices. This means there is less restriction for the hydraulic oil flow and therefore resulting in a more efficient hydraulic system. In addition one can now run the larger vibros as well with larger hydraulic motors.
18. The TM 20 has a new hydraulic hose tensioning device that allows the owner to tension each individual hose, since hoses stretch as they get older.

19. The hoses on a TM 20 are very long and hang from the top of the mast and sway back and forth as the rig moves. A new plastic block to protect hose end fittings from breaking due to the swinging back and forth increase the life of the hose connections to the fittings. These often had blown out as the rig was getting older.

20. The mast that rotates around its own axis now rotates 93 degrees instead of 90 degrees and comes with a manual pin.

21. New auger guide system heavy frame version build in to the lower mast section.

22. As a result the new TM 20 rig can be heavier than the older TM 16/20, but adopted many of the features of the larger TM 22 and TM 20/25!

