

Ready to get started; the standard Belle mixer with the Multidrum components, the MUV Electric Wheelbarrow and a standard wheelbarrow.

SIFT & SHIFT

Bright orange Belle Minimix 150 tip-up mixers are used by countless small builders all around the UK. So there should be considerable potential for a clever adaptation that allows these popular mixers to not only produce concrete or mortar but also to effectively create usable topsoil by screening out stones and building debris from waste material on site.

John Shakespeare of Wem in Shropshire had the idea of creating a screening drum able to be fitted to a Belle mixer. He had used his MiniMix 150 to produce concrete to secure new fence posts around his property and he wanted to recycle the stony material dug from the fence postholes into good quality topsoil. So what is now called the Multidrum Soil Screener was born.

The UK-made Multidrum package comprises a three-part soil screening drum and a special dual chute arrangement that fits onto the mixer frame under the drum. This dual chute allows larger debris to drop into a wheelbarrow placed behind the mixer, whilst screened material falls into a second wheelbarrow at the front.

We put the Multidrum concept to the test with a used Belle mixer; and also took the opportunity to check out one of the brand new MUV Electric Wheelbarrows recently launched by Nu-Star Material

Nick Johnson tries out two innovative British products developed to aid small-scale material screening and movement on site.

Handling of Ednaston in Derbyshire.

The UK-made, pedestrian controlled MUV Electric Wheelbarrow can carry up to 400kg of material on level ground at a maximum speed of 6.0km/h. Complete with its own integral 110V/240V charger,



Nick Johnson removes the standard mixer drum ready to turn the machine into an effective small-scale screener.

this battery powered barrow really does take the effort out of moving materials around on site.

The test location was on a farm in Bedfordshire where the variety of materials ready for recycling included a mound of soil mixed up with asphalt planings. All the equipment arrived and the Multidrum was unpacked. To facilitate easier transport and storage, the screener drum is composed of three sections which can slot inside each other.

The standard Honda engined MiniMixer was placed on its three-legged stand and its mixer drum was simply unscrewed in an anti-clockwise direction and removed. The blue coloured dual chute assembly was then inserted through the frame of the mixer – an operation that would have been helped by a larger and clearer illustration in the assembly instructions. This chute assembly is secured by means of a sliding bracket to accommodate subtle differences in the dimensions of different mixer frames.

The three sections of the screening drum were then separated and the smallest, red coloured base drum was



securely connected to the mixer by rotating it clockwise onto the projecting drive shaft. Then the intermediate (green) and outer (yellow) drum sections were bolted on to the base drum (whilst ensuring that the large holes in the base of each drum were aligned). The longest edge of the blue chute assembly should clear the inner edge of the largest diameter yellow outer drum but, on the test unit, it had to be bent outwards slightly to prevent fouling during drum rotation.

A traditional, hand pushed, wheelbarrow was then placed under the front chute to collect the screened material. A second wheelbarrow would normally be placed under the rear chute to take the over sized material but, during the PB test, the MUV Electric Wheelbarrow was manoeuvred into the rear position. Because the skip of this powered barrow is larger and higher than its non-powered counterpart, its skip had to be tipped up slightly to get under the end of the chute.

The Honda GX120 mixer engine was then fired up and material shovelled into the Multidrum. The screening process worked very effectively with the finer screened material flowing smoothly into the front barrow whilst the larger stones and debris dropped into the MUV barrow behind.

It was found that feeding material into the screening drum had to be done carefully to prevent unscreened material from dropping straight down into the front barrow. An internal flange around the outer edge of the yellow drum might help unscreened material containment but this would prevent the other drums from being



Material has to be carefully fed into the outer yellow drum to prevent any falling straight down into the front barrow.

carried inside it for transport or storage, and it might also allow overloading of the mixer. Screening is best carried out with dry material and care needs to be taken to separate out larger objects, such as whole bricks, before loading.

Unaccustomed as I am to sustained hard manual labour, I quickly became a big fan of the electrically powered MUV barrow. Powered by two EM 90Ahr sealed



Designed to 'wheel away inefficiency' the MUV Electric Wheelbarrow allowed Nick Johnson to move and tip 400kg loads without undue physical effort.

gel batteries, this quiet barrow is simple to operate (with a twist-grip throttle and a dead-man's handle) and it can quickly dump a full load by means of an electric actuator. There is a clearly visible battery condition indicator and tests by Nu-Star indicate that a running time of up to 14 hours is possible between charges (which last 9 to 10 hours).

The test MUV had a black plastic skip with a capacity of 237 litres. With this skip the machine is 825mm wide and the unit weighs 242kg. The two front drive wheels and the swivelling rear castor wheel are all fitted with puncture proof tyres. This wheel arrangement means that the unit will not negotiate really bad ground and it needs three planks or a full width ramp for loading onto a trailer for road transport.

Whilst considerably more expensive than a standard wheelbarrow, the MUV electric machine moves more material more productively with less operative fatigue and much less risk of back injury. Both it and the Multidrum are great examples of British enterprise and are well worthy of evaluation.

For further information on the Multidrum screener drum use the reader enquiry number 223
For further information on the MUV Electric Wheelbarrow use the reader enquiry number 224



Calculate, Estimate, Purchase
 Download for FREE on the App Store today to see what the construction industry has been missing out on.
www.probuildersystems.com

NEW BLACK MAGIC FROM GARADOR

Garador is ahead of the design game yet again – this time with the launch of its two Bisecur remote hand transmitters in a dramatic new matt black finish. Garador's new matt black remotes feature an elegant shape and are based on ground breaking Bisecur technology and high frequency (868 Mhz) encryption signals for added security.



Find out more from Garador on 01935 443707 or visit www.garador.co.uk

CIRCLE NUMBER 096