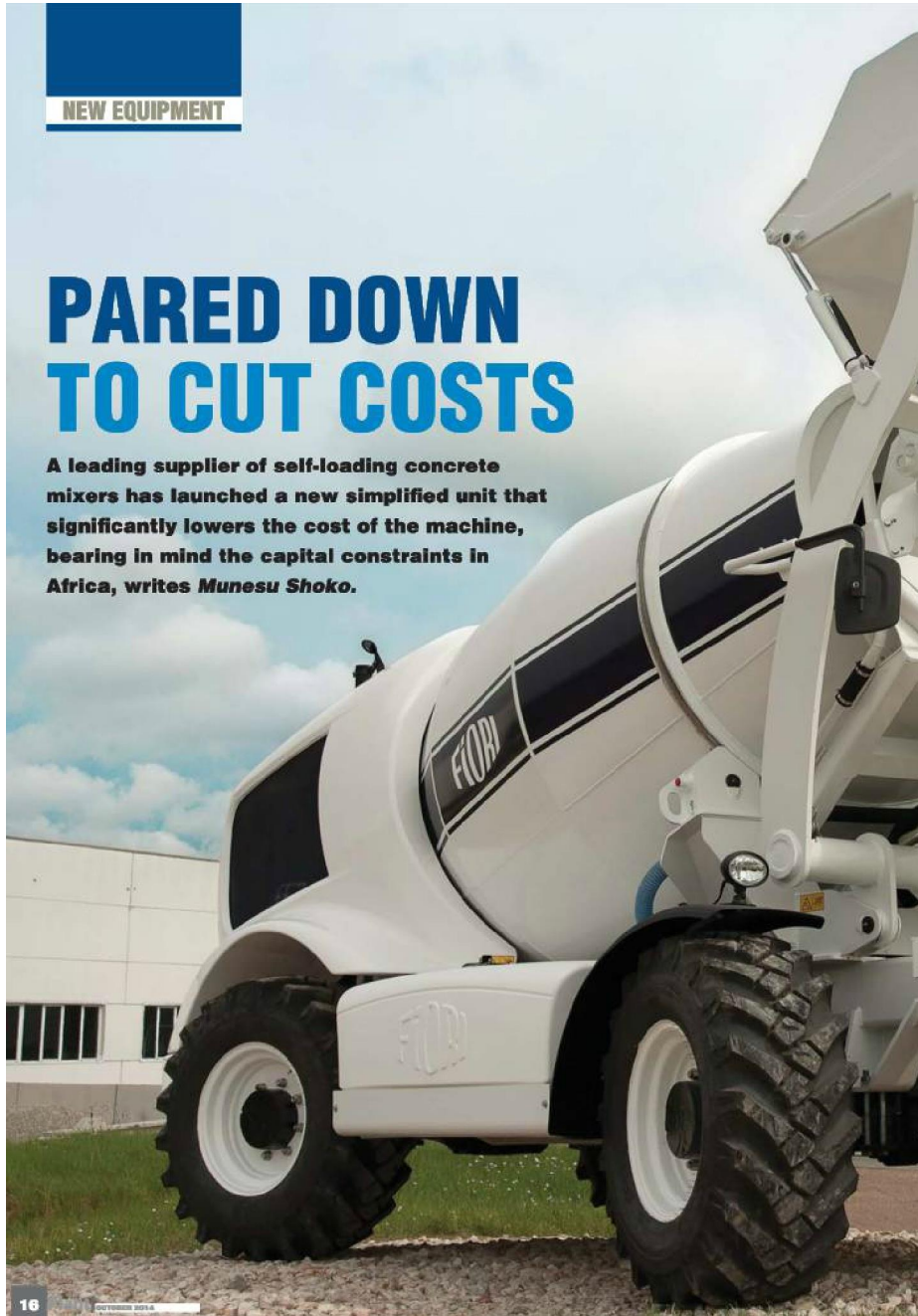


NEW EQUIPMENT

PARED DOWN TO CUT COSTS

A leading supplier of self-loading concrete mixers has launched a new simplified unit that significantly lowers the cost of the machine, bearing in mind the capital constraints in Africa, writes *Munesu Shoko*.





Pan Mixers South Africa (PMSA) believes sub-Saharan Africa is a land of opportunities for its Fiori range of self-loading concrete mixers. PMSA has entered into a joint venture with Italian original equipment manufacturer (OEM) Fiori to represent the latter's range of equipment in the region. Having studied the market over years, according to Quintin Booysen, marketing and sales manager of PMSA, the OEM has launched a new, simplified self-loading concrete mixer that has lost some of its bells and whistles to lower its upfront cost significantly.

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|------------------------|----------------------|
| Engine model | Perkins series 1,104 |
| Maximum power | 82,5kW |
| Operating weight | 6 200kg |
| Load carrying capacity | 8 700kg |

Photograph courtesy of PMSA

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The DB X range comes with a fixed forward-facing drum. The mixing drum is 3 500L, slightly less than the DB 450's 4 000L.



Photograph courtesy of PMSA

“Bearing in mind the lack of capital in Africa, we looked at developing a simple machine that can produce certified concrete and we came up with the DB X35.”

In South Africa, PMSA's market is growing every year, driven by increasing government investment into rural housing, where the supply of readymix or setting up of batching plants is not viable. The hotspots include Eastern Cape and KwaZulu-Natal's outlying areas.

The new DB X35 is a simplified version and a dedicated range, complementing the DB 260 and 460 range. In the process of developing the new DBX range, the OEM did away with the swivel top, which only serves the purpose of rotating the drum, and installed a fixed forward-facing drum instead.

“Bearing in mind the lack of capital in Africa, we looked at developing a simple machine that can produce certified concrete and we came up with the DB X35. On top of losing the swivel top, we also had to do away with the full batch controller, admixture tanks and high pressure

washer,” says Booysen. These are extra bells and whistles, which, according to Booysen, most users didn't deem necessary. This has significantly lowered the cost of the new DB X range. The new unit weighs in with a competitive 35% cost saving against the more advanced DB 460 range. The new unit retails at about R900 000, compared with the DB460's R1,4-million price tag.

The new design of the machine also factored in the exorbitant freight costs of getting these units from the manufacturing plant in Europe to Africa. Booysen tells *Plant Equipment & Hire* that the

new unit's design allows for packing two units in a single open top 12m container. "We needed to design a machine that we can pack head to head to reduce supply costs," says Booyesen, adding that the new design has chipped in with a sound 30% to 40% saving of total supply costs.

Simplified technology

The DB X35 comes with a 3 500-litre (l) mixing drum, slightly lesser than the DB 460's 4 000l. A major change made to the unit is its turned drum and forward facing drum with loading now done on the cab front side, which is moved away from the operator to eliminate the dust setback when loading from the front.

It comes with a self-priming volumetric water pump with quick suction of 250l per minute. Two connected water tanks positioned opposite each other with a total capacity of 870l are standard features. Water feed to the drum is controlled by means of a flow pump. The water pump is operated from the driver's seat.

At a drum rotation speed of 24rpm, the mixer's Class S1 concrete is produced as 3,5 cu m. Drum rotation is achieved by means of a piston pump with variable flow rate and an orbital hydraulic motor closed circuit with a small electrical control positioned in the cabin. It also comes with an unloading chute with hydraulic tilting by means of a double-acting jack and control placed in the cabin. This also comes standard with one chute extension.

The loading device, with a grab bucket and lifting arms, is controlled by double-acting hydraulic cylinders. The automatic unloading hatch is driven by a mechanical lever.

Growing presence

Booyesen says sub-Saharan is a growth region for this range of machinery. Bearing in mind these opportunities, PMSA and Fiori are on an expansion drive to increase market share across the region. Before entering into a joint venture, PMSA catered for the southern Africa market alone, including Mozambique, Zambia, Namibia, Zimbabwe and Botswana, while Fiori had its eye on the west African business ventures.

The whole sub-Saharan market, with the exception of north Africa which is looked after by Fiori Europe, now falls under PMSA. To grow the footprint, the company has established certified dealers and suppliers in several markets including Ghana, Nigeria, Cameroon, Niger, Ethiopia, Mauritania, Tanzania, Zambia, Namibia, as well as Kenya, which also services Uganda.

Booyesen says Fiori holds about 80% of the market share in South Africa, a market also contested by other OEMs such as D'avino, Piccini and Carmix. In the rest of Africa, he believes the Italian OEM has racked up about 50% of the market. With way more than 100 units operating in South Africa, Booyesen says the building industry has taken delivery of 60% of the units, while the construction and civil sector is host to the remaining 40%.

Opportunities galore

Booyesen commends the great strides being made by the region in boosting its cement capacity. A new report *Equity Research Sub-Saharan Africa: Africa Rising*, published by Imara, suggests that Nigeria is sub-Saharan's largest cement producer with 28,3 million tons per year (mtpy).

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Ranked the biggest economy in Africa, the country's demand for cement is expected to reach 35mtpy by 2020. Elsewhere, Ethiopia's annual cement capacity reached 12,6mtpy, Angola 8mtpy, Senegal 6,5mtpy and Ghana 6,7mtpy. Nigeria consumed 18,3mt and South Africa 12,2mt of cement in 2013, with the two economic powerhouses accounting for half of total cement used in sub-Saharan. According to the report, the urban population in Africa is forecast to reach 865 million by 2050 and housing shortages in economies such as Nigeria are reaching critical levels.

But, according to Booyesen, the "next big thing in the region" is the need for certified concrete. The infrastructure gap in these countries represents a big need for concrete. He sees self-loading mixers as the rightful answer for the critical unavailability of certified concrete in these countries. In Kenya, for example, Jonathan Lodompui, director of the country's Vision 2030, says it is estimated that Kenya's infrastructure and construction industry



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Photograph courtesy of PMSA

values will double in 2015 compared with 2010. Total government expenditure on roads increased from Kshs91,5-billion (about USD1-billion) in 2011/2012 to Kshs6-billion in 2012/2013. But he is concerned about incorrect concrete mixes in the industry. Booyesen says the lack of efficient road infrastructure in the region, along with persistent road congestion are not conducive for readymix concrete. This translates into a big market for self-loading concrete mixers, allowing for making concrete on site.

Wolfram Schmidt, engineer of the BAM Federal Institute for Materials Research and Testing, shares this view. He points out that the supply chains in most sub-Saharan countries are unstable and readymix production capacities are virtually non-existent, barring a handful of companies operating in few large urban environments such as Nairobi, Kenya and Dar es Salaam, Tanzania. He says the feasibility of readymix concrete in the short to medium term is hindered by the congested roads.

This situation is compounded by a lack of equipment needed for steady production on construction sites. He says smaller

companies do not have the technology for quality batching, with mixers used only for specific purposes and concrete mainly produced with shovels. This can be attributed to the high costs of leasing of the equipment. Booyesen says the value of setting up a batching plant can be translated into five DB X35 machines, not considering the ease of transport to site and virtually no civil or establishment costs of these units.

Hotspots

Booyesen notes several infrastructure development zones that present significant opportunities. He points out Mozambique, where road-building projects and the Nacala corridor are major business drivers for self-loading mixing concrete technology. Namibia, with its strong focus on low-cost housing, is also brimming with prospects.

Elsewhere, Booyesen says the South African market is growing every year. This is driven by increasing government investment into rural housing, where the supply of readymix or setting up of batching plants is not viable. The hotspots in the country include Eastern Cape and KwaZulu-Natal's outlying areas. ■

OPINION

This technology is establishing itself in an environment in which participants were previously sceptical of this type of a batching plant. The self-loading concrete mixer weighs in with several benefits for the contractor. For me what stands out is its flexibility. It can produce concrete, plaster and mortar on the same site using a single unit. This is new technology designed to make contractors' jobs much easier and cut costs in a tough market.

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