NEPTUN: pursuing a perfect balance between past and future

Attributing the alleged phenomenon to current inclinations of the market, NEPTUN aims through Rock to mitigate any further worsening of the trend by a perfect mix of past reliability with future functionality and ingeniousness, all reinforced by a traditional sturdy structure - and innovative patents besides.

Prompted by a shared sense at NEPTUN that 'things aren't built to last anymore', the company aims by its Rock series to address this perceived nostalgia for how things were built in the past – here identified as the poor reliability of some of today's machines, coupled with their lack of strength or extended lifespan.

Rock is available in four sizes, namely:

- Rock 8, which has eight wheels;
- Rock 11, eleven wheels;
- Rock 10-45, which has ten wheels and a variable angle;

- Rock 14-45, fourteen wheels and a variable angle.

TRACING THE PAST

Commencing from the outset, straight-line edgers were once characterized by a very robust structure which has since disappeared from the market owing to cost-reduction needs. Here ROCK has noted the great advantages of a sturdy structure in cast iron, together with the great thickness afforded by its steel. Above all, these offer undeniable durability and reliability over the years, as well as reduced vibrations which ensure high productivity, quality and silent operations.

The Rock model is one of the most robust straight-line edgers in the market, and the heaviest. Rock 11, for example, weights over 4.5 tons. Acting jointly with the structure's rigidity, that weight prevents the machine bins from bending while guaranteeing a life-use that spans several decades and ensures an absence of vibrations, silent operations and optimal tool performance.

Other main structural characteristics of Rock include its spindles -all in cast iron and also mounted within a cast iron case- as well as its separate motorization and belt drive transmission and conveyor structure through solid cast iron boxes. This compactness ensures minimum vibrations over the entire lifetime of the machine. Moreover, its main conveyors slide along rectified, adjustable steel guides that are automatically lubricated by a film of oil - a system that guarantees maximum precision and extended lifetime.

FORGING THE FUTURE

Moving into the future, the Rock series is known on the market for having straight-line edgers with a significant number of patents. The line alone is characterized by several innovative solutions that aim to improve the machine's processing quality and productivity while widening processing possibilities. For instance –and still structurally-speaking- machines

within the Rock series feature the patented conveyor in double material. The shell is made of highly mechanically resistant material that's especially designed to grant structural rigidity. Furthermore, the part in contact with the guides is made of wear-resistant, long-lasting Kevlar. This solution is a new milestone in conveyor durability, guaranteeing a working life that extends to more than 2 million linear metres.

Besides its standard version, Rock is further configurable in two innovative patented versions, namely that of the Rock AWA (Automatic Wheels Adjustment) and Rock ETS (Edge To Shape). Rock AWA is a straight-line edger with automatic wheel management, i.e. both for diamond and polishing. Over time the AWA system combines simplicity, precision and consequent reliability. Compared to other automatisms, a peculiarity is its hydraulic spindle management system that's free of electrical and electronic components in the spindle area. It also boasts class IP68 water resistance, which ensures elevated reliability.

Upon machine start-up or when the operator decides, Rock AWA activates its presetting of the diamond tools, repositioning them with extreme precision on the desired removal values - a cycle that takes only half a minute and requires no manual commands. It's also possible to store and manage "recipes" or sets of variables depending upon the wheel-type used (whether metal or resin), arris width and the glass typology identified for processing (float, laminated, high thickness, etc.) which can be easily recalled for obtaining preset settings according to the required processing upon the edge and threads. In this way, even an inexperienced operator can easily obtain a product of the highest quality.

The polishing wheels have an automatic compensation system that allows them to be used right up to complete wear (from a new wheel) without requiring any adjustment. When the tool has almost reached complete wear, the control panel signals its need for replacement. Here the information appears in advance, such that production can continue and a replacement be carried out at the end of the shift.

MORE KEY BENEFITS

Particularly appreciated by users is the safety system that prevents potential damage to the wheels and spindle in the event of glass breakage, which includes the possibility to work glass that either has notches or the shape of a parallelogram. As for parallelogram shapes, the RC-4 system holds the newest patent of Neptun's edgers. This ingenious system is made of variable speed trolleys to drive the work of parallelogram-shaped plates -even those of large dimensions- all in complete safety and ease of use. In fact, the system relies on neither expensive, complex electromechanical movements nor return joints to the main transmission, which can wear out or malfunction over time. Ordinary maintenance is reduced to cleaning the guides – all with a view to 'working smarter, not harder'. The RC-4 system can be retrofitted on all Rock models and can be installed upon the edgers of other brands as well. Finally, as innovative solution the patented ETS system allows the Rock series to perform edge processing with control of the final geometry, both in terms of angles and respecting final desired dimensions - also out of square.

AUTOMATION FEATURES

This sophisticated process consists of scanning incoming angles by a laser system and adjusting the removal angle by means of specific axes that are controlled by the powerful CNC. Simultaneously, the same laser system measures every glass side in real time, with the removal angle consequently adjusted to achieve the desired final dimensions. According to production requirements, the operator can choose whether to use the ETS mode or that of the normal processing cycle.

ETS can be further automated, thanks to the barcode data acquisition system, which affords automatic and quick importing of the processing data – thus avoiding potential writing errors consequent to manual insertion of the glass dimensions by the operator.

Nowadays the needs of glass grinding are becoming ever more complex and demanding. The Rock straight-line edgers were created to meet all these needs whilst providing a high investment value thanks to the attractive combination of price, maintenance costs, machine duration and extended working features.

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