

OUR VISION ON ERGO- NOMICS



HIGH OUTPUT **LESS FAILURES** *cost reduction*
OPERATORS MORE ALERT
 more productivity **MORE EFFICIENCY**
 LESS CONSEQUENTIAL DAMAGE

less absenteeism
LESS FATIGUE
 60% LESS BACK/
 NECK COMPLAINTS
corporate image

OUR VISION ON ERGONOMICS

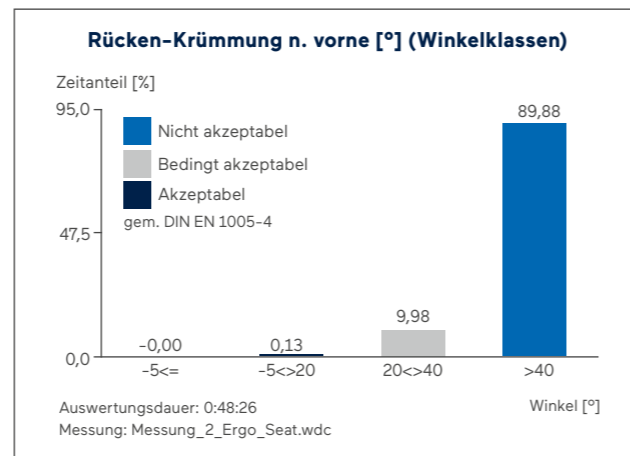
Crane operators spend a lot of hours in their working station, with work that requires operators to look downwards almost continuously. Consequently, many crane drivers suffer from neck and back complaints. To prevent excessive physical strain and offering comfort and a safe working environment, contribute to the operators concentration and vitality. For that reason, Metagro develops cabins and operator seats from the perspective of the operator and his tasks. We develop ergonomic solutions. Since ergonomics is key to ensure that the operator stays healthy and alert, which benefits his efficiency and his productivity. That's why we believe in ergonomics. Since ergonomics pays off.

A healthy posture

Positioning the spreader on top of the container and moving the container requires an intensive leaning forward position from the operator. The viewing demands of some of these activities more or less dictate the crane driver's working posture. So the crane driver's working posture involves significant back and neck flexion for prolonged periods of time. Prolonged bending of the neck and prolonged bending of the trunk are known as risk factors for the development of chronic neck pain and back pain.



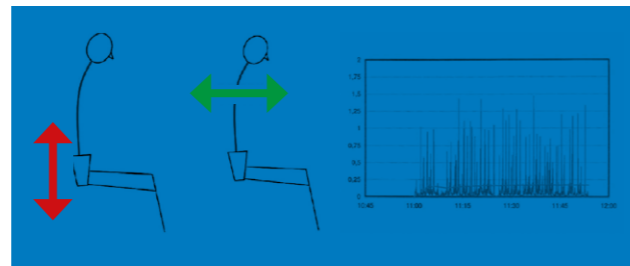
"In terms of posture, operating the container cranes is one of the most stressful activities on the terminal site. The action takes place below the driver, the driver's gaze is lowered most of the time."



"Studies also suggest a relationship between stress and strain: 50% of crane drivers surveyed stated that they suffered from lumbar spine complaints", source: VDI reports No. 2277, 2016, N. Raffler et al.

Absorbing Cabin shocks

In addition to posture problems, the shocks of the cabin are certainly an aggravating factor, resulting in back- and neck complaints as well.



Metagro invented a complete new concept, a working station aiming at reducing the loads on the back and neck muscles and at the same time improving the outside view. The operator's bent forward posture is made easier by giving a new way of support. Within this concept, the support of the upper body is provided by the installation of two armrests with integrated controls, one on each side of the driver. These armrests are fully adjustable, which means that they can be adjusted in height, in a fore-aft direction, in slope and they can pivot towards each other. Thus, the driver is able to bend over with his body while leaning on his forearms.

In addition, in the new concept, the seat is no longer positioned on the cab's floor, but it is suspended from the ceiling. This construction together with the armrest-mounted controls allow for more glass in the cab's floor.

The main viewing window can be extended underneath the operator and extra viewing windows can be created to the left and right of the operator for viewing backwards. We recently added new functionalities such as an Easy Access / width adjustment for various body postures, an adjustable lumbar support, seat suspension for better comfort and a forward tilting position of 10 degrees for downwards view.



"Unobstructed, full downwards view for extra safety, with new design RTG & suspended Ergoseat"



Ergonomics pays off: "The installed bar above the driver's seat allows short balancing exercises in order to counteract the strain caused by forced posture," Mike Dehnerdt, bridge coordinator Eurogate Container Terminal Hamburg GmbH.

Optimal Climate, noise insulation & visibility

The indoor climate greatly affects the operator's performance. If the temperature distribution is poor or too cold/high, the operator loses focus at the expense of their efficiency. A plug-and-play climate-control system, such as Metagro's Industrial Climate Unit, makes a big difference. The operator can regulate the temperature, humidity and airflow themselves, making it ideal in all weather conditions. In addition, the Industrial Climate Unit is resistant to shocks, vibrations and it's acoustically insulated.

Filter unit

Polluted air is not healthy. Operators often work in areas with a high-emission of hazardous substances. Metagro has developed filter units that provide clean air in the cabin.

Metagro can fully customize the design of this quality cabin to meet specific customer needs. All cabins meet the highest standards. The new cabins will be manufactured including the new Generation Ergo Seat.



"The operator has a serious responsibility and benefits from a comfortable, safe and healthy work environment."

On-going ergonomic product innovations

Metagro is constantly working on innovations. Recently we added a full color touch screen to our operator seat.

The touch screen enables the operator to control seat, cabin and crane functionalities as well. The touch screen enables remote support and can be activated to provide fun and entertainment, only accessible during the breaks of the operator.



Container handling does not allow longer breaks on the crane, but there are short breaks in between. Metagro developed a stretching bar, enabling short compensatory exercises directly at the workplace. In this way, the particularly stressed back and neck muscles are relieved.



Quelle: EUROGATE Container Terminal Hamburg GmbH.

Legal obligation

According to EU Directive 90/270/EEC, the employer is legally obliged to carry out a workplace risk assessment when hiring new employees and for existing employees when the working environment changes. This could include new functions and tasks or a new workplace. Employers must prevent their employees from developing physical complaints due to an incorrect work posture. The Ergoseat, Metagro's ergonomic seat, is based on ISO 11226, the international standard for static working postures.

ERGONOMICS PAYS OFF

Due to a prolonged wrong working position, absenteeism due to illness among operators has always been high. Our cabins, combined with our Ergoseat ensure a healthy working posture and fewer back and neck complaints. This means that operators are less likely to be absent and can continue to work in a healthy manner for a longer period of time.

In addition, a healthy work posture ensures better concentration so that operators make fewer mistakes. Errors that may cause not only costly delays but also material damage or, in the worst case, accidents. In addition to financial harm, this can also lead to reputational damage. An investment in ergonomics provides a quick return with health, safety, reliability and efficiency. Ergonomics pays off.

More information: www.metagro.nl



**EXPERIENCE OUR
ERGONOMIC SOLUTIONS!**



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