

AirSprings – adjustable spring system for increasing productivity and upgrade workforce safety

K. Jung¹, J. Herzog² and N. Kriel³

1.
Sales Engineer, Steinhaus Multotec GmbH, Muelheim an der Ruhr, D-45478, Email:
K.Jung@steinhaus-gmbh.de
2.
Sales Engineer, Steinhaus Multotec GmbH, Muelheim an der Ruhr, D-45478. Email:
J.Herzog@steinhaus-gmbh.de
3.
Managing Director, Multotec Pty Ltd, Brisbane QLD 4117. Email: Nigel.Kriel@multotec.com.au

AIRSPRINGS – ADJUSTABLE SPRING SYSTEM FOR INCREASING PRODUCTIVITY AND UPGRADE WORKFORCE SAFETY

The paper „AirSprings – adjustable spring system for increasing productivity and upgrade workforce safety“ presents the key features and developments of air suspensions for screening machines with a focus on health and safety and plant performance.

The technology to change screening machines and feeders from steel springs to airsprings is introduced and field studies and scientific examinations are presented, showing a reduction in vibration of the machines by 99% on average, leading back the kinetic energy to increase the productivity of the screens.

As this is the worlds first in-operation adjustable suspension system, the details of auto-levelling suspensions are displayed, enabling the process to be more flexible and efficient as inclination can be changed during operation, eliminating spot wear and one-sided loadout on the screen/feeder.

The locked maintenance position ensures the highest possible safety during shutdowns, immobilizing the machine during services.

In the final conclusion the lifetime and long-term experiences of airsprings are compared to steel and rubber springs, showing an economic comparison (including detailed TCO) of the available suspension systems on the market in a neutral overview.

Table of Content

1. History/technical development of airspring suspension system
2. Noise/Vibration reduction and physical effects of air suspensions
3. Improvement of process parameters and economic/environmental characteristics
4. Field studies and reference plants
5. Conclusion & Comparison of current suspension systems