

# WEIGHING INSTRUMENTS ENSURING QUALITY AND COMPLIANCE IN THE PHARMA INDUSTRY.

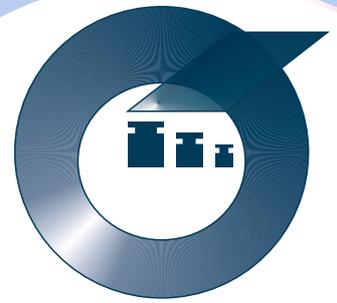
The quality and safety of drugs and personal care products are key for the protection of public health. Everyone needs to be completely confident that for example medicine contains the right quantity of each active substance to be safe and effective. Therefore, regulatory authorities worldwide set rules that impact the design, manufacturing, installation, daily using, hygienic cleaning and preventive maintenance of weighing instruments.

Furthermore, weighing instruments used in the pharmaceutical sector are integrated in production control software to further digitize production processes. Additionally, validation is a mandatory process to be implemented before start using these instruments. It requires dedicated operating manuals, additional verification and special training for the technicians responsible for installation and maintenance to ensure the weighing instruments are functioning correctly.

## WEIGHING AS PART OF THE PHARMA PRODUCTIONS PROCESS

Weighing instruments play a key role in several stages of the pharmaceutical production. Developing state-of-the-art pharmaceutical products requires high-precision scales that enable researchers to do innovative research.

Once a formula (recipe) is ready for production its ingredients (solid or liquid) and the net weight percentage of each is electronically available for the dispensing/dosing area. All ingredients are stocked with an associated code, but also with an ingredient batch code. Based on quality criteria the mandatory maximum allowed percentage of error per ingredient during the batch preparation is defined. Consequently, the same formula can be produced efficiently and effectively in high quantities according to production planning. Without the reliable and accurate weighing instruments the production of pharmaceuticals is less safe and less efficient.



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## THE FUTURE ROLE OF WEIGHING INSTRUMENTS ON THE PHARMA INDUSTRY

Since high-quality pharmaceuticals are the result of a reliable production process and innovative research, the quality of pharmaceuticals is highly dependent on the quality of weighing instruments. The development and production process of pharmaceuticals is continuously improving and weighing instruments are an important part to enable the pharmaceutical industry to realise these improvements. Successive generations of weighing instruments will include continuously improved sensors and built-in software to even predict any random failure or simply temporarily increase of weighing uncertainty.

Additionally, robustness is increased to deal with to more demanding hygienic and bacteria cleaning challenges. Also, instruments will be equipped with mandatory hardware and software to communicate with the production system software, allowing for a further digitalisation of the industry production.

For all these aspects modern weighing instruments are essential and help to contribute to safer and more effective pharmaceuticals.

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