

Flow balancer
Rivus



For continuous
dosing of granular
products

Flow balancer Rivus at a glance

Faster. Smarter. Balanced.

Why dosing?

Dosing defines product streams to downstream processes by running them under the most effective conditions and blending requirements, thereby achieving the desired product composition.

Why flow balancer?

- Specific calibration curves are available to cope with changing products and properties
- Dosing accuracy down to $\pm 1\%$
- Complete product stream is measured for most accurate and consistent dosing



Flow balancer
Measuring complete
mass stream



Other principles
Measuring only parts of mass stream
and estimating mass flow

Typical flow balancer use cases

Blending and recipe control (quality): Balances multiple streams (e.g. wheat varieties) to hit target blends and ash/protein specs.

Feed rate stabilization (performance): Smooths incoming grain or intermediate product flow to keep downstream machines (cleaners, scourers, dehullers) within optimal load ranges.

Buffering between process steps (safety): Decouples upstream fluctuations (e.g. tempering bins) from sensitive equipment to avoid surges and starvation.

...and many more!



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Insights into the Rivus process

Operation: The impact plate measures the force given by the incoming product. Based on this force, the inlet gate defines its opening degree in order to dose at the desired flow rate. This control loop automatically runs the machine at the desired dosing throughout the operation.

Standby: During standby, the inlet gate is completely closed, preventing any product entering the process—this as well the fails-safe position.



Operation



Standby

Benefits



Maintenance
Uptime-focused design



Min. space requirements
Compact outline and 1-to-1 replacements



Control
Simple and secure operations



Configurability
Easily integrated into your plant

Commodities



Wheat



Oat



Barley



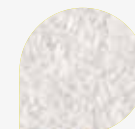
Malt



Maize



Rye



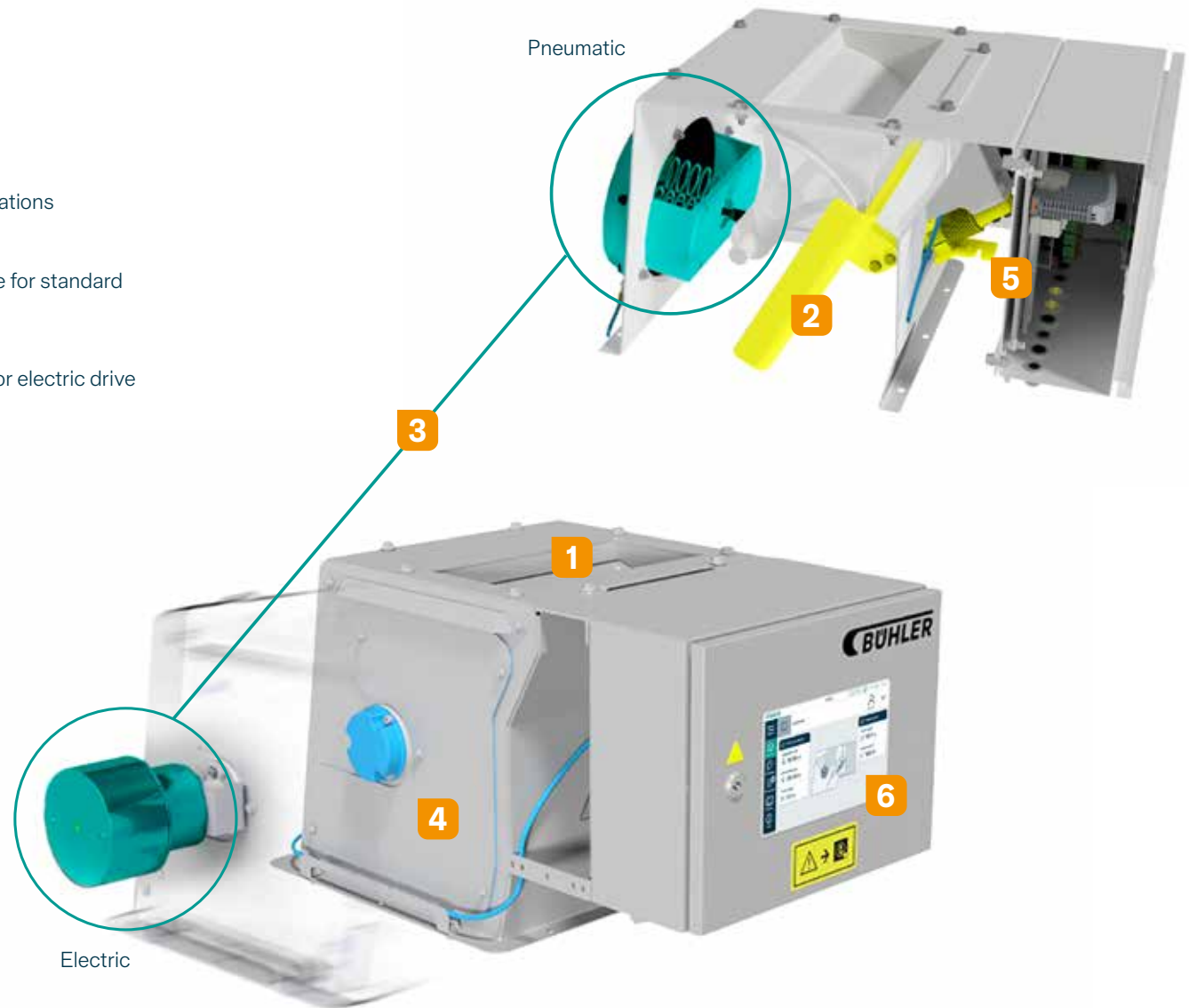
Rice



Other granular products

Designed-for-purpose Key elements of Rivus

- 1** Inlet - available for standard or high abrasive applications
- 2** Impact plate with high-precision load cell - available for standard or high abrasive applications
- 3** Inlet gate - actuated by pneumatic (rear-mounted) or electric drive (side- or rear-mounted)
- 4** Dual-sided mirrored large maintenance covers
- 5** External calibration fixture, directly on the load cell
- 6** bUnify machine controller with 7" web panel HMI

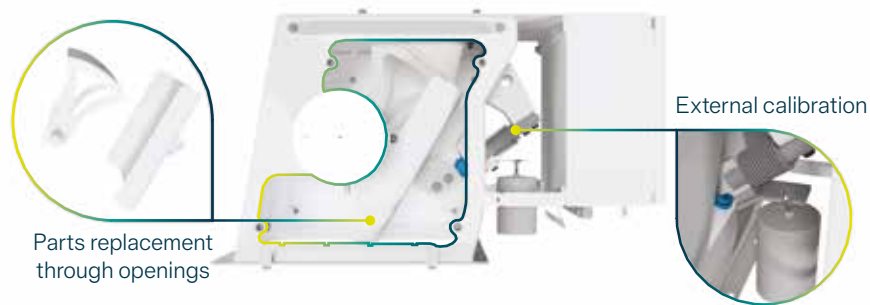


Match the Rivus to your needs

Benefits in detail

Maintenance

Quick access to the inside of the Rivus through the large side openings allow for easy reach when cleaning or exchanging parts. External calibration further simplifies maintenance excluding the need to open the flow balancer when calibrating, keeping machine and operator safety high.



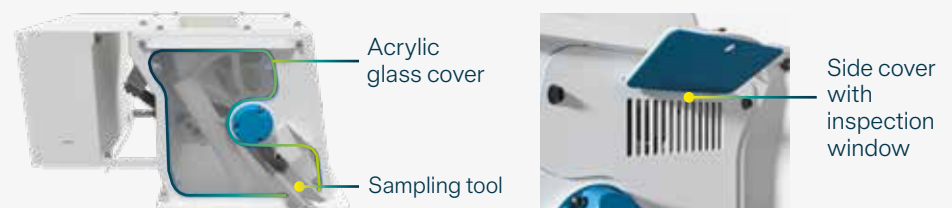
Control

Always secure and straight-forward operation. Whether with the latest Bühler Machine Control with local 7" HMI or Control Link remote access with your device and an onboard RGB LED showing machine status. You decide!



Optimize your workflow further with optional features

- Acrylic glass viewing covers offer fast inspection and process visibility without interrupting production.
- Sampling tool allows for real-time in-stream sample-taking for routine quality control.
- Self-closing inspection window allows you to monitor the process and detect issues such as blockages at the inlet.



Match the Rivus to your needs

Benefits in detail



Configurability

Tailor your flow balancer Rivus to your process and infrastructure requirements! Mix and match between mild-steel or stainless-steel execution and pneumatic or electric drive configurations.

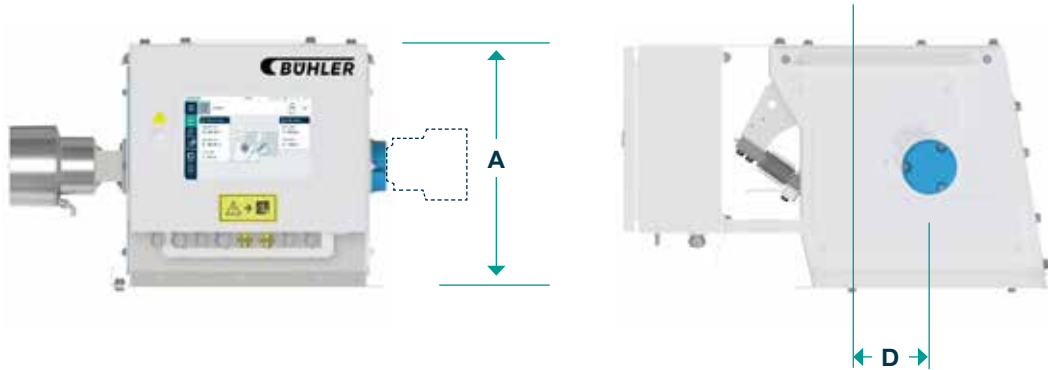


Minimum space requirements

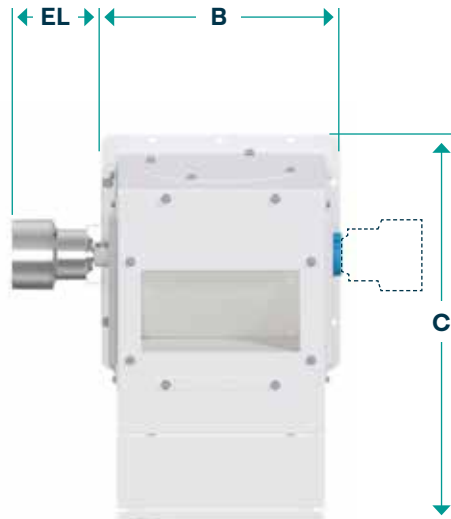
Keep adaptations to a minimum. The compact outline, supported by rear-mounted drive assembly, copes with space critical requirements. The sleek design allows for one-to-one plug-and-play replacements for MZAH, MZAL and AUZH. You can even keep the existing inlets and outlets!

Sized to fit

Technical specifications and capacities



Size	A mm	B mm	C mm	D mm	EL mm
10	388	436	705	107	163
12	388	436	705	107	163
15	388	436	705	107	163
25	388	436	705	107	163



Size	Volume flow [m³/h]	Wheat (0.75kg/dm³) [t/h]	Maize (0.6kg/dm³) [t/h]	Oat (0.55kg/dm³) [t/h]	Paddy rice (0.5kg/dm³) [t/h]
10	up to 10	up to 7.5	-	-	-
12	up to 20	up to 15	up to 15	up to 9	up to 7
15	up to 40	up to 30	up to 30	up to 18	up to 13
25	up to 133	up to 100	up to 100	up to 60	up to 47

*For other grain capacities get in touch with your local sales representative



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