

A close-up photograph of a hopper scale component, likely a sensor or actuator. The component is made of polished metal and features a threaded section on the right side. A blue cable is connected to the left side of the component. The background is dark with a large, semi-transparent graphic overlay in shades of yellow, green, and teal on the right side.

Hopper scale
TUBEX MSDN-L

TUBEX, the new generation of Bühler scales. **Exactly what you need.**

How do you turn a precise measuring instrument into a competitive advantage? This is exactly what Bühler asked itself while developing its new generation of scales. The answer was a modular scale platform that sets new standards. TUBEX is designed to impress with innovative features that easily adapt to your requirements.

TUBEX is the high-precision scale that fits your needs exactly.

Our new generation of scales provides exactly the advantages you need, whether you are in the food or the feed industry.

TUBEX not only weighs accurately and dependably, it also saves energy and reduces costs in the long term. In addition, you benefit from having the highest product safety, easiest operation and minimal maintenance requirements. Take one look at its unique design and you will see the advantage.



TUBEX uses an electromechanical drive system instead of pneumatic cylinders.



The scale control is easy to use and conveniently connects to the Internet of Things thanks to its state-of-the-art electronics.



You can significantly reduce your energy usage, wear and maintenance costs.



You benefit from high throughput with minimum space requirement.



With stainless steel openings on the scale for cleaning and a weighing system that measures the differential pressure, the highest level of food safety is ensured.



The attractive design is also highly functional, ergonomic and can be easily retrofitted for existing scales.

Whatever your needs, TUBEX's high precision and innovative functions are tailored to your requirements.

High-performing scale technologies. **Exactly what gives top products the advantage.**



Accurate weighing of raw materials and product at every point in the manufacturing and processing chain is essential for efficient and cost-optimized production in the food and feed industry. The new TUBEX MSDN-L provides the perfect solution.

TUBEX MSDN-L is the high-capacity hopper scale for accurately weighing a wide range of materials through the entire process, from raw material to finished product. TUBEX MSDN-L offers significant benefits:

Highest food safety through innovative technology.

The hygienic design contributes significantly to higher product quality and food safety. Additionally, cleaning time is reduced as there are no openings for air leakage or need for filter materials. The process becomes more efficient while total operating costs are reduced. **Exactly what our customers expect from high product sanitation.**

Reduced energy costs through efficient drive.

Energy efficiency is an increasingly important topic. TUBEX MSDN-L exclusively uses a unique electro-mechanical 24V drive instead of the usual pneumatic drive systems. This reduces energy costs by around 95 percent. **Exactly what our customers envision in terms of optimum energy efficiency!**

Intelligent design. Exactly what optimal processes need.

We thought of everything when designing the TUBEX hopper scale: components optimized for sanitation, stainless steel materials, intelligent measuring technology and maintenance-friendly access openings. All that adds up to a great value for our customers: a high performing, highly efficient and accurate weighing system.



Sanitary design.

The generously dimensioned radii in the interior space and all high-quality materials, including the product-contacting parts made of stainless steel, comply with international requirements for hygienic design such as EHEDG. This significantly reduces the risk of product buildup and cross-contamination – which means top sanitation conditions. **Exactly what the strictest guidelines for food safety require!**



Flexible control.

Every TUBEX has a modern on-site control with a user-friendly interface and a display that can be read even from a distance. Operating and servicing parameters are permanently monitored and transmitted to a higher-level control system. The scale control system can be adapted to the customer's

specific applications - everything is possible, including a standard display, data transmission to mobile devices and a touch screen on the scale itself. **Exact information for the Internet of Things!**



Electromechanical drive technology.

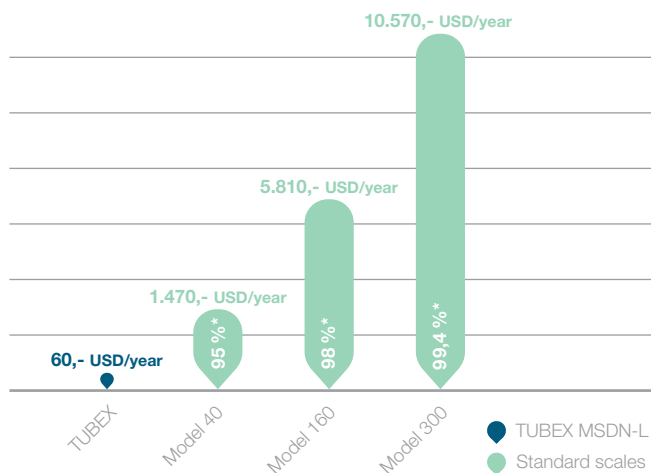
The electromechanical drive of the TUBEX hopper scale not only reduces energy costs, it also enables considerably more precise motion and position control. State-of-the-art Super-Caps provide the basis for intelligent energy management. An integrated diagnostic system contributes to the early detection and troubleshooting of problems. Drive components are free of wear which lowers maintenance costs substantially. **Exactly the way our customers can keep rising energy costs under control!**



SuperCaps reduce costs.

In contrast to compressed air systems, an electromagnetic drive only requires energy when it is in motion. In addition, when compared to a pneumatic drive, an electromagnetic drive system, such as the one used by TUBEX, is seven to eight times more efficient. TUBEX also uses SuperCaps to store braking energy. When combined with its improved efficiency, TUBEX MSDN-L reduces energy costs by about 95 percent in comparison to conventional scales. Depending on the model, the energy savings can even be 99.4 percent.

Annual energy costs and cost savings.



* Saving of energy costs with TUBEX MSDN-L compared to standard scales with same dimensions



Easy to retrofit.

TUBEX makes retrofitting existing weighing systems in the process easy, bringing equipment up-to-date and providing the added benefits of higher food safety and energy efficiency.

Exactly the way to structure existing plants for greater sanitation and efficiency!

Broad range of application.

TUBEX hopper scale is ideally suited for internal process control. Almost all weighing requirements can be reliably handled due to its capacity range from 13 m³/hr up to 100 m³/h.

Exactly what our customers need for various uses in their process!



An overview of the advantages:

- Maximum food safety
- Reduced energy costs
- Flexible control
- Less space required
- Easy to retrofit

Customized service. **Exactly according to your requirements.**

Bühler puts close customer relations and high customer satisfaction at the top of its priority list. That is why we cultivate a constructive and trusting partnership with our customers worldwide. Our customers can rely on the expert advice of our experienced professionals to keep their machines, systems and processes running at the highest level of performance, precision and efficiency.



Plant and production processes at their best.

Bühler offers a comprehensive service package for problem-free operation of your TUBEX. Expertly trained service technicians can advise and support our customers on site or wherever needed through tailored service agreements, fast repair and support services and innovative retrofits.

Better control with automation solutions.

As a market leader and process specialist, Bühler provides extensive experience in the planning, commissioning and maintenance of efficient automation solutions. We support our customers by optimizing their existing processes and structuring their plant control more efficiently with powerful automation solutions and control systems such as the Bühler WinCos control system.

Broad product range. Exactly as needed.

The right scale for every requirement.

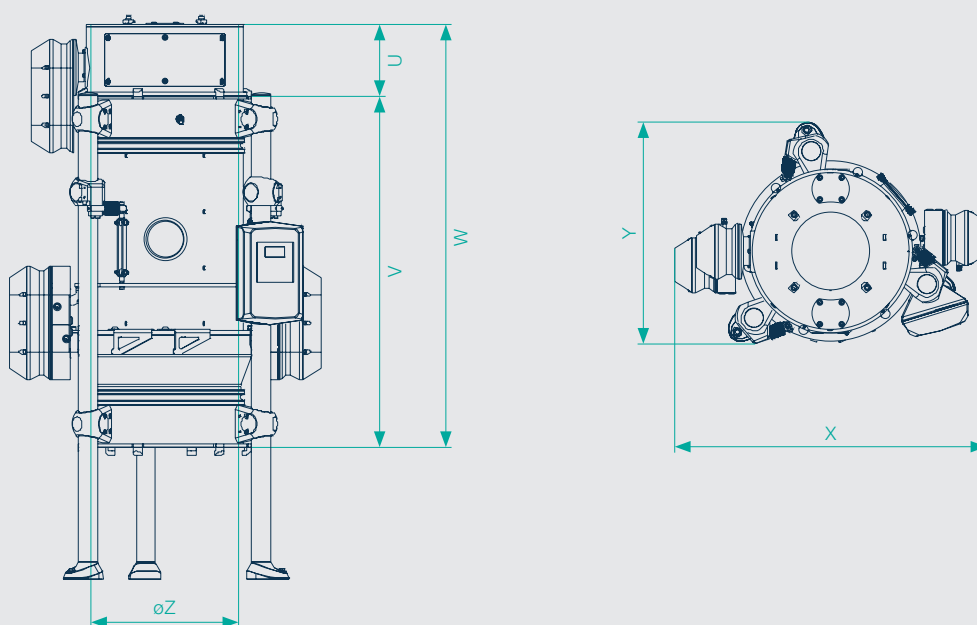
TUBEX comes in a variety of versions to meet individual capacity and throughput requirements. All versions share: robust,

durable construction, compact design for reduced space requirements and convenient operation and maintenance.

Exactly what you need for your food or feed operation.

Overview of technical data for the TUBEX MSDN-L:

		MSDN-L 40	MSDN-L 80	MSDN-L 120	MSDN-L 160	MSDN-L 240	MSDN-L 300
Capacity range	m ³ /h	13	26	40	53	79	99
Approx. Weight	kg	200	215	230	250	275	290
Volume	m ³	0,88	1,07	1,25	1,88	2,15	2,38
Dimensions	mm						
U		230	230	230	230	230	230
V		890	1130	1370	1312	1632	1872
W		1120	1360	1600	1542	1862	2102
X		1000	1000	1000	1096	1096	1096
Y		710	710	710	780	780	780
ø Z		500	500	500	600	600	600



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