Balance Systems

Wide Range of Versatility

High Precision

Large Volume Production Runs

BVK4

THE HAND-IN-GLOVE SOLUTION

Your final benefits

Balance Systems superior capability of balancing solutions gives the Automotive, Machinery and Aerospace Industry an edge over its competition.
This technology in fact, helps to increase efficiency and precision in the manufacturing processes so as to make it easier to satisfy the **Lean Six-Sigma** methodology and help to improve the **NVH** (Noise-Vibration-Harshness) characteristics of vehicles and machines. Furthermore, the repeatability and accuracy achieved by balancing operations provided by Balance Systems, give an enhanced **Dependability** on the customer's final applications.

3 axis
Wide Range of Versatility

BVK4 is the first machine in the world which has been specifically designed with the working-spindle that interpolates up to 3 axis.

Thanks to this concept, **the rotating tool can move freely wherever is needed toward the workpiece**.

Consequently, a wide range of part variants can be processed with one single machine by simply selecting the Part Program with a quick mechanical change-over.

2 gcm
High Precision

Balance Systems has 40-years of experience dedicated towards Process Control Systems for machine tools and Balancing Machines for rotating components. The dreamlike combination of expertise in these two different fields, **earns a unique awareness in both metal-cutting process and vibration analysis that allows our customers to reach extreme balancing tolerances** at a very low residual unbalance ratio up to 2 gcm* (0.028 oz inch).

30 sec.
Large Volume Production Runs

The perfect balance of the fastest robot-part handling and data processing available in the market, one of many key design features with the BVK4 machine is its capability of high volume production runs. In fact, we are able to reach up to a top speed of 30seconds* to process each rotating component.

** depending on the workpiece dimension and weight*

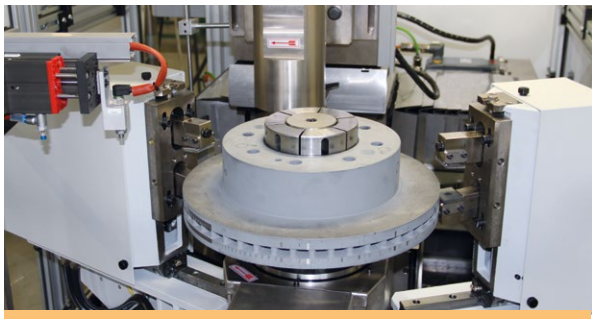
Simply tailored

Balance Systems BVK4 has been engineered with a modular design concept. This particular characteristic allows each Customer to create their own solution by matching the aforementioned features. All these points can be chosen during the quotation process in order to fit the balancing machine depending on requirements, without an additional rise in cost or increase in overall lead-time.

Fundamental

Whatever is the final configuration chosen by the Customer, a fully integrated combination of functional test stands, statistics data-collection, automatic clamping equipment, and tool touch-detection system are included in the standard scope-of-supply (Pic. 1).

Other basic features are also characterized by the mechanical matter, where the stiff granite base-plate allows reduction in vibration from the floor and the machine enclosure which covers the entire machine in both a safer and ergonomic way.



Pic. 1

Pic. 2

Furthermore, particular attention is held on the control software and its operator interface. The proprietary Windows-based system and the rugged electronic hardware are specifically designed for industrial environment as it offers high operational speed and accuracy.

Balance Systems' standard quality is even enhanced by the interconnectivity solutions, automatic-calibration procedure, remote support, and specific visual aids and alerts to simplify the operator's daily tasks and reduce human errors (Pic. 2).

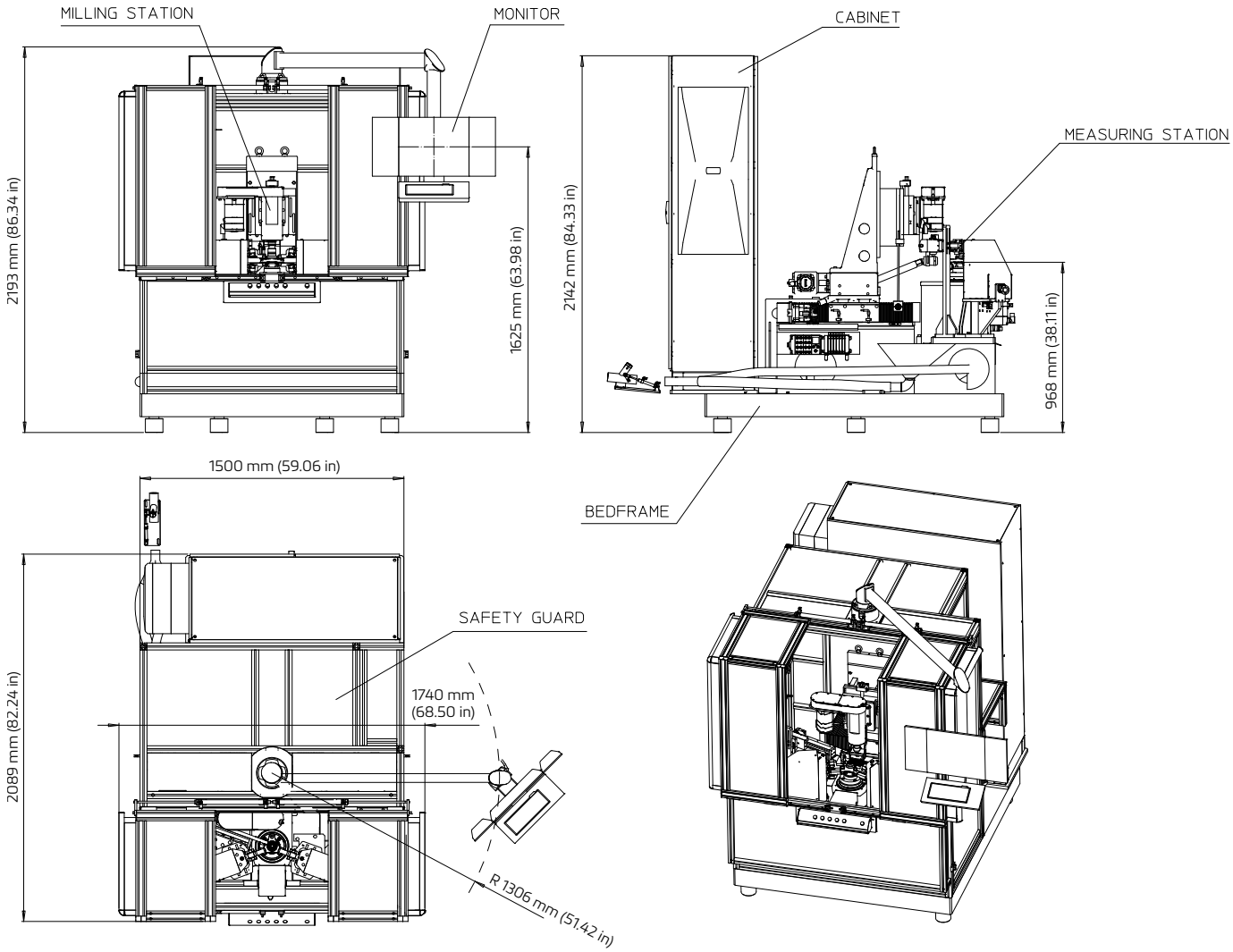
Custom-built balancing machines can be tailored in case of specific needs by means of Balance Systems flexible organization.

For Production and R&D demands

Mass unbalance produces negative effect such as vibration, noise and mechanical failures. To figure this matter out, it is mandatory that the Company adopts a vibration management program to address these issues during the design, development, and production phase of rotating components. **Balance Systems BVK4 model range delivers dedicated solutions aimed at meeting the different needs for both Production and R&D departments.**

PROBLEM	SOLUTION
• Achieving the production targets	• **Large production rates capability**
• Reduction in machine down time	• **High reliability and qualified Service**
• Reducing the retooling time	• **Wide versatility design**
• Reaching highest quality	• **State-of-the-art balancing**

the KEY
for this scenario is
BVK4



Technical data

Max workpiece weight	30 kg (66.14 lb)
Max workpiece diameter	400 mm (15.75 in)
Max workpiece thickness	200 mm (7.87 in)
Cycle time *	30 sec.
Control system	Touch screen industrial PC
Balancing tolerance	up to 2 gcm (0.028 oz inch)
U.R.R. (Unbalance Reduction Ratio)	95 %
CPK	> 1.66
Power supply	400-480 V, 3 ph + pe, 50-60 Hz
Weight	2000 kg (4,409.25 lb)
Dimensions (LxWxH)	1500 x 2089 x 2193 mm (59.06 x 82.24 x 86.34 in)

** depending on the workpiece dimension and weight*

Options

- SPC (Statistical Process Control)
- Printer
- Preventive Maintenance Diagnosis
- Gauging system
- Tele service
- Chips recovery system
- Marking system
- Robot interface

UNI EN ISO 9001

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