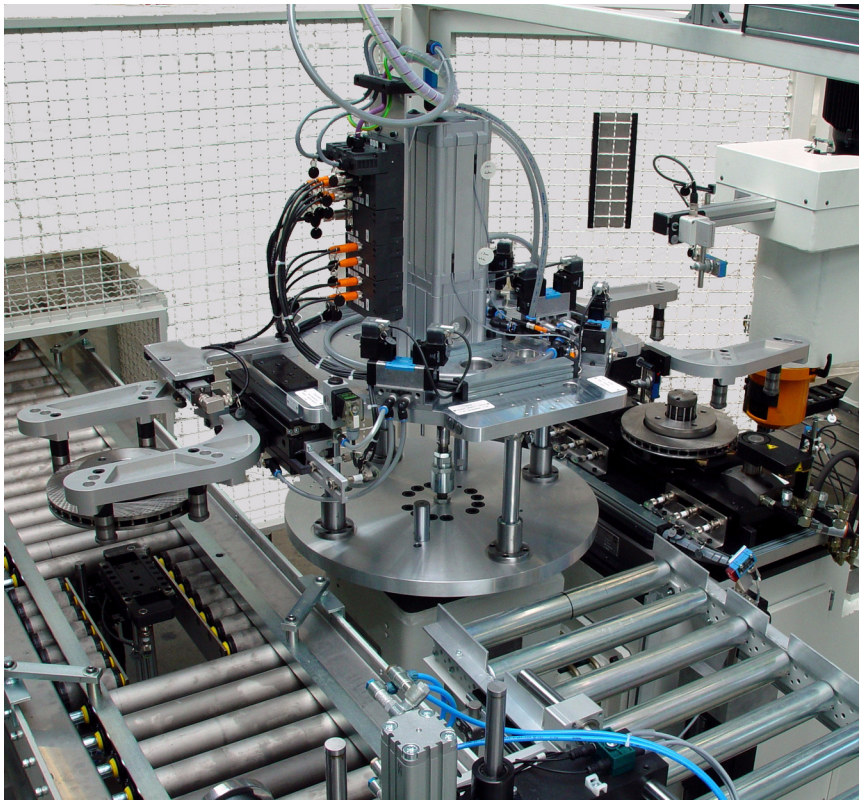
Hofmann.
Intelligent Balancing Solutions

Balancing Machine for Brake Discs

BVW11



Advantages

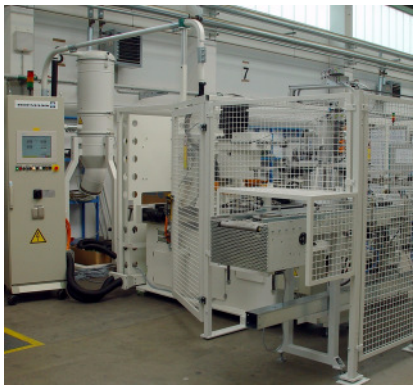
- Space saving and compact modular design.
- Fully automatic balancing with unbalance correction by milling.
- Measuring computer with touch screen operation.
- Integration into production lines possible.
- Handling system designed for large tool range with reduced change over time.
- Optional automatic calibration system with remount check (Hofmann patent).

Applications

- Balancing of automotive brake discs and drums.
- Configuration as a manual single machine or fully integrated into a production line.
- Loading options
  - Manual
  - Interlinking with lift swivel transport
  - Robot
  - Gantry loader.
- Unbalance correction radially on the external disc diameter with side-milling cutter.
- Feeding of workpieces in batch or mixed operation.

Description

- Soft-bearing vertical balancing machine for measuring and correcting unbalance of disc shaped rotors.
- Measuring, machining and auditing in 1, 2 or 3 stations depending on cycle time requirements.
- For measuring, the workpiece is clamped using a high precision holder.
- For unbalance correction, the workpiece is held by a swivelling chuck.
- The resulting swarf is extracted via an exhaust hood mounted on the cutter head.
- The measuring computer performs the sequencing, unbalance measurement and compensation calculation.



General view

Grippers with displacement measuring system

All information without obligation, subject to change without notice

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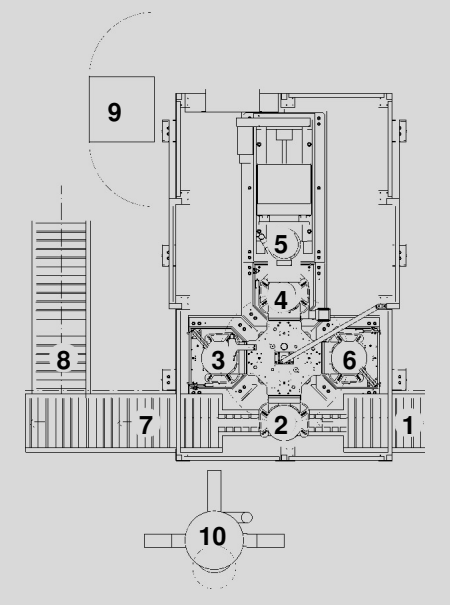
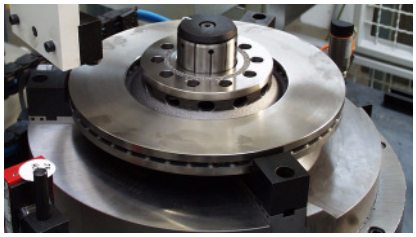


1 Inlet conveyor
2 Transfer position
3 Unbalance measuring
4 Compensation by milling
5 Milling unit
6 Unbalance auditing
7 Outlet conveyor
8 Not OK parts
9 Control cabinet
10 Swarf extractor

Layout example



Radial chuck and sleeve mandrel

Axial clamping chuck and lamella mandrel

Technical data

		BVW11-F1	BVW11-F2	BVW11-F3
Rotor				
Weight	kg	25	25	25
Outer diameter, max.	mm	410	410	410
Machine				
Width x depth x height	mm	2000 x 3700 x 2000	2000 x 3700 x 2000	2000 x 3700 x 2000
Balancing speed	rpm	600 - 800	600 - 800	600 - 800
Measuring uncertainty	gmm	< 10	< 10	< 10
Cutter diameter	mm	125	125	125
Cycle time [1)]	sec.	30	20	12
Cutter drive power	kW	7.5 - 14	7.5 - 14	7.5 - 14
Power consumption	kVA	27 - 36	27 - 36	27 - 36
Number of stations		1	2	3

[1)] Depending on the number of stations, correction ratio and milling parameters

Options

- Sleeve, lamella or segmented mandrel holders for unbalance measuring
- Hydraulic or pneumatic axial clamping chuck or radial chuck for unbalance compensation
- Hole scanning for detection of
  - Type of rotor
  - Simulation unbalance
  - Forbidden zones
- Displacement measuring system in the gripper for type recognition
- Cut detection
- Cutter set for 3 cutters max.
- Cutter drive power 14 kW
- Vertical NC cutter head positioning
- Test rotor with calibration weight
- Automatic calibration system with remount check (Hofmann patent)
- Report printer
- Additional software for statistics and production checking

Scope of supply

- Rigid machine housing
- Measuring unit with workpiece holder
- Compensation unit with swivelling chuck
- Milling unit with NC feed
- Swarf extraction unit with exhaust hood
- Protection device class B per ISO 7475 with access doors
- Control cabinet with automatic control and measuring computer

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