Modular balancing machines of the HM series

Precision, accuracy and maximum flexibility for universal applications

HM 1 / 10 / 20 / 3 / 30 / 4 / 40 /
5 / 50 HS 10

Passion for Balancing

The universal balancing machines of the HM series are designed for the precise balancing of a wide spectrum of rotors. They are suitable for balancing cylindrical rotors with their own shaft and for balancing disc-shaped rotors with auxiliary devices. Their modular design and a wide range of accessories make these machines highly flexible.

Schenck HM series universal balancing machines are a high-efficiency investment for both one type of rotor and small batches.

Unbalance correction can be performed by adding material (weights or plastic putty) directly to the machine or by removing material on a separate machining machine.

True partnership

From planning to operation

At Schenck, problem-solving expertise is ecologically and economically sustainable. Our portfolio of selected products, systems and services ensures maximum energy efficiency and productivity throughout the entire life cycle of your plant or system. We have experts who know your industry in-depth, including standards and requirements. Focused on your products, services, our partner starts with consulting and application training.

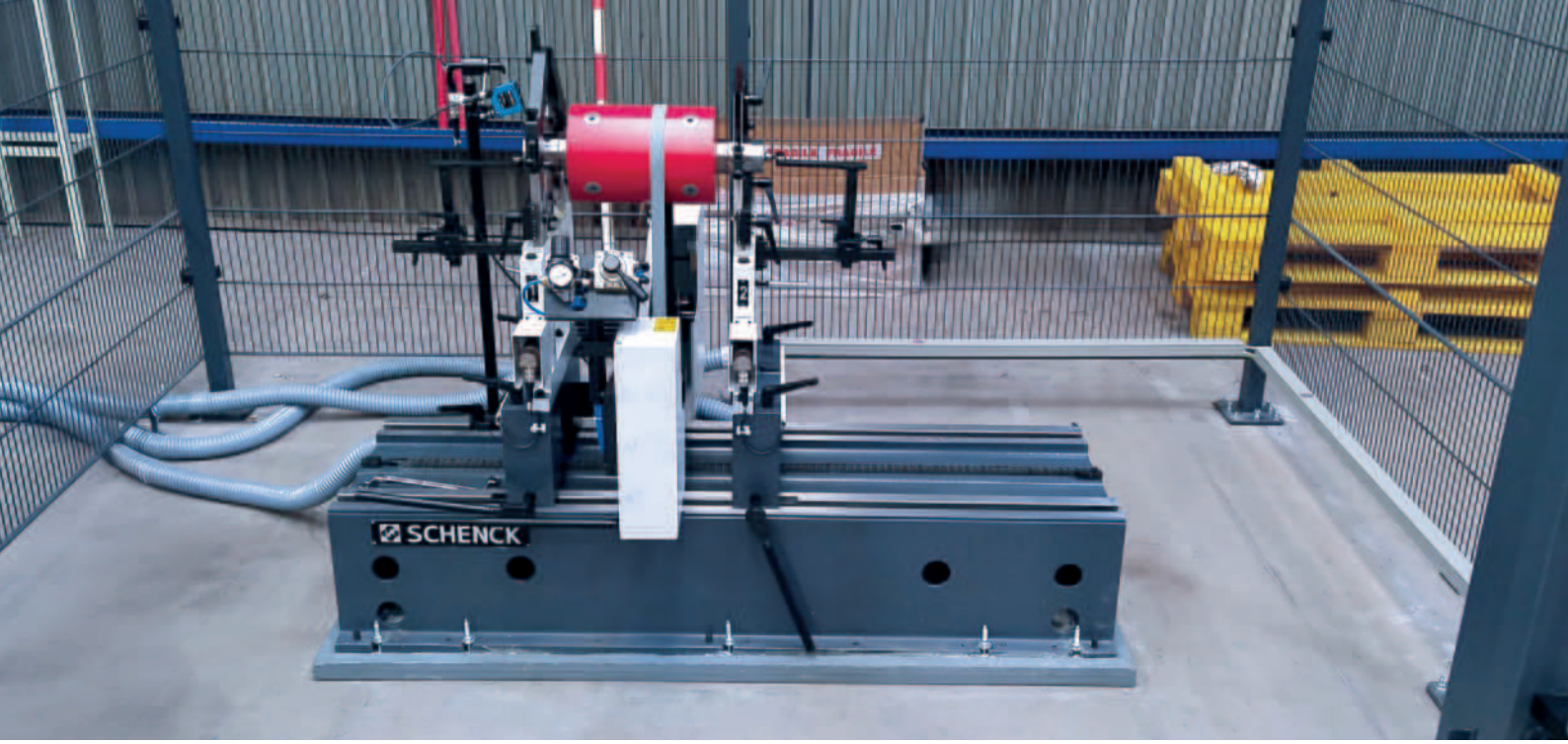
With Schenck, high system and plant availability remains reliable and predictable in the long term. We support you with after-sales solutions – from proactive maintenance agreements and optimization audits, to spare parts supply and retrofits, repairs and express deliveries, as well as specific modernization solutions, to the Schenck Helpdesk, which delivers technical support much more easily, through the smartphone/tablet.

Small parts

Balancing machines

These devices are perfect for balancing small parts such as electrical armatures, fans and assembled assemblies. They are designed to be used in research and development, in production batches and in repair shops.

Machine	HM1	HM10	HS10
Maximum weight [kg]	10	18	18
Maximum diameter [mm]	360	360	-
Rotor support diameter [mm]	2 - 22 / 22 - 50	6 - 30 / 30 - 70	-
Distance between bearings [mm]	15 - 450	15 - 450	max. 450
Minimum residual unbalance [gmm] attainable	0,1	0,2	0,2
Supply voltage	220V	220V	220V
Dimensions L x W x H [mm]	1500 x 750 x 1500 mm	1500 x 750 x 1500 mm	1500 x 750 x 1500 mm
Painting	RAL 7024 / 7035 graphite grey / light grey	RAL 7024 / 7035 graphite grey / light grey	RAL 7024 / 7035 graphite grey / light grey

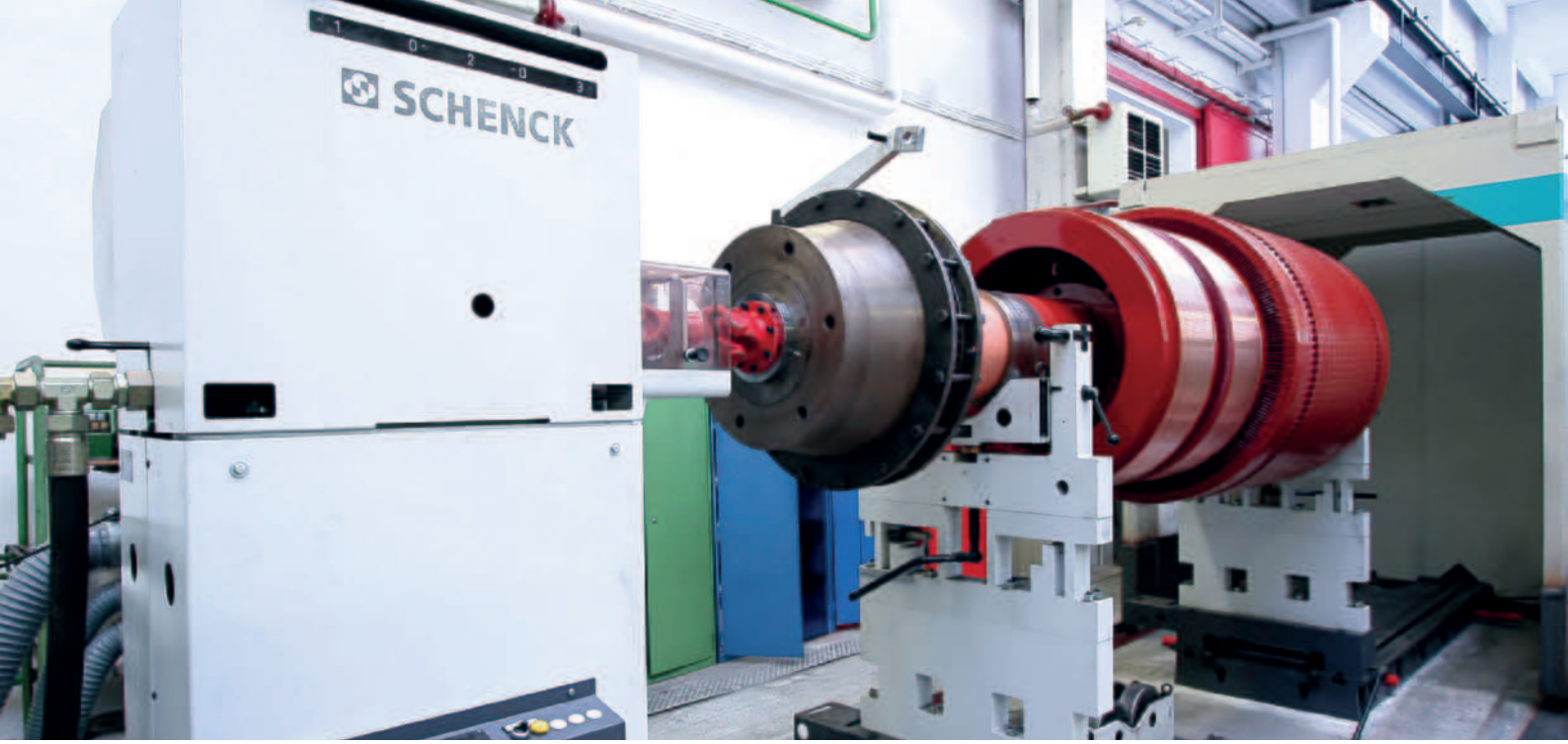


Mid-range parts

Balancing machines

These balancing machines allow for precise balancing of a wide spectrum of rotors. Cylindrical rotors with their own shafts as well as disc-shaped rotors with auxiliary shafts can be balanced simply and precisely. Typical rotors of this application are electric armatures, rollers and turbines up to 700kg, fans, rotors and drive elements.

Machine	**HM2**	**HM20**	**HM3**	**HM30**
Maximum weight [kg]	60	120	300	700
Maximum Diameter (D1) [mm]	800		1260	
Rotor support diameter [mm]	8 - 50	9 - 70		10 - 80
Distance between bearings (L1) (1) (2) [mm]	BK: 620. BU: 1370		BU:1330. U:1550	
Minimum attainable residual unbalance [gmm]	1,0	1,6	2,0	3,0
Drive Type (2)	BU, BK		BU, U	
Drive power (with frequency inverter) (2) [kW]	1,1		BU: 3.0 kW. U: 4.0	
Supply voltage	380V, 60Hz, Three Phase			
Measuring unit	CAB 706 (according to RC 2537 br)			
Painting	RAL 7024 / 7035 graphite grey / light grey			
Options				
Measuring unit CAB 920	Vectometric display, networking, ... (according to RC 1049 br folder)			
Additional Software	Operator assistance, documentation, calculation of imbalance correction			
Printer with mounting kit	For documentation of your balancing process			
Additional base [mm]	-	-	500 / 1500	
Roller inserts for rotor diameters [Ø mm]	50 - 100	70 - 140		80 - 160
Class B protection (in accordance with ISO 21940-23)	Rotating Parts Protection			
Class C protection (in accordance with ISO 21940-23)	Fragment Splash Protection			



Large parts

Balancing machines

The modular system offers more accessories and flexibility. Whether in production or maintenance, for single rotors or series batches, measuring unbalances, determining position, correcting or performing control measurement, our solution will adapt perfectly.

Machine	**HM4**	**HM40**	**HM5**	**HM50**
Maximum weight [kg]	1500	3000	5500	8000
Maximum Diameter (D1) [mm]	1600			
Rotor support diameter [mm]	12 - 100	15 - 120	18 - 140	25 - 180
Distance between bearings (L1) (1) (2) [mm]	BU: 1720. U: 2000		BU:2300. U:2000	
Minimum residual unbalance [gmm] attainable	5	8	16	20
Drive Type (2)	BU, U			
Drive power (2) [kW]	7,5		> 7.5	> 15
Supply voltage	380V, 60Hz, three-phase, 60Hz			
Measuring unit	CAB 706 (according to RC 2537-1)			
Painting	RAL 7024 / 7035 graphite grey / light grey			
Options				
Measuring unit CAB 920	Reference system for critical balances (according to folder RC1049 br)			
Additional Software	Operator assistance, documentation, calculation of imbalance correction			
Printer with mounting kit	For documentation of your balancing process			
Additional base [mm]	500/1000/2000		1000 / 2500	
Roller inserts for rotor diameters [Ø mm]	100 - 200	120 - 240	140 - 280	180 - 380
Class B protection (in accordance with ISO 21940-23)	Rotating Parts Protection			
Class C protection (in accordance with ISO 21940-23)	Fragment Splash Protection			

Accurate measurement, easy balancing:

Discover our measuring units

The CAB706 is considered the most cost-effective Schenck measuring unit. Ideal for universal balancing machines, both horizontal and vertical. It has an operation-friendly interface with graphical and numerical visualization of the unbalance.

Technical Data

Application	Universal, for horizontal or vertical, sub- or over-critical balancing machines (force or displacement measurement)
Basic system	Modular and maintenance-friendly design, with units for measuring, evaluating and displaying. Conditioning and calculations via an integrated PC with Schenck "Computer Aided Balancing" (CAB) software
Functions	- Measurement of unbalance in 2 planes, static and moment unbalance - Automatic comparison with tolerance - Tolerance calculation according to ISO - Vector and numerical display - Polar display - Display on uniform or unevenly distributed components - Conversion to other parameterized data - Average of measured values relative to time and related to rotor type - Single compensation, keyway compensation, folding - Balancing protocols – individually configurable - Simplification of complex work processes - Help function - Automatic self-test
Languages	Portuguese, English, German, French (other languages on request)
Display	High-contrast TFT color monitor with high brightness
Data Entry	Keyboard and mouse
Measurement methods	Powerful digital unbalance signal processing for maximum measurement accuracy
Unbalance Measurement Range	1 : 1.000.000
Speed range	120 to 5,000 rpm
Data Storage	Depending on the average storage size, virtually unlimited
Options	- Printer - Angled positioning aid - Extension software for correction, e.g. for drilling or weight classes - Specific calibration of rotors - Signal amplifiers for machines supplied by other manufacturers

cab920
SCHENCK
Rotorfile
Print
Settings
Service
Process
Level 2
Help
Correction Plane 1 1,7 ° Tol
Correction Plane 2 2,1 ° Tol
203 g·mm
38 °
247 g·mm
251 °
Print Manager
Print
Hold
Rotor Setup
Rotor Options
Measure
SCHENCK
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The CAB 920 is ideal for more integrated production processes and more complex applications, such as flexible rotors and at high speeds. It has powerful features to make operation even simpler with the highest possible measurement accuracy.

Technical Data

Usage	On universal, horizontal or vertical balancing machines with force or displacement measurement
Basic system	Modular design and user-friendly interface, with measurement, analysis and display of units. Data processing and calculation via industrial PC integrated with Schenck "Computer-Aided Balancing" (CAB) software using the SmartTouch user interface
Functions	- 'Rotor File Wizard' function for easy insertion of rotor data - Numerical and vectometric display - Measurement of dynamic unbalance in 2 planes, static and moment unbalance - Automatic tolerance comparison - Polar or component display, evenly distributed or not - Average of the measured values over time, - Tolerance calculation according to ISO 1940 - Configurable balancing reports in PDF format via the print manager - Single compensation, keyway compensation, folding - Drive for automatic measurement cycle - Definition and storage of file-related balancing procedures for simplifying complex workflows - Help function, self-test - Monitoring measurement signals
Display	15" TFT high-brightness color monitor
Data Entry	Touchscreen (also possible via keyboard and mouse)
Measurement method	Efficient, fully digital processing of measured data for highest measurement accuracy
Unbalance Measurement Range	1 : 2.000.000
Speed	100 to 5,000 rpm (optional :40 to 100,000 rpm)
Data Storage	Depending on the storage medium, practically unlimited.
Interfaces	- USB for peripherals - Front USB, to export the stored data, etc. - Network interface for data back-up, teleservice and remote maintenance
Options	- Customer-specific reports, freely configured - Measured values marked, average over runs - Angled positioning aid - Software extension for drilling, milling and applying greases - Overlapping cycle - Specific calibration of rotors - Alternating operation of 2 balancing machines with one measuring unit - Recording and storage of measured values during start-up - Vibration velocity measurement mode, at one or two times the reference frequency (2f) - Additional channels for run-out measurement, etc. - Statistical software - Printer - Industry-specific solutions: - Cylindrical roller industry: laser reading, special reports, 3-plane display, etc. - Cardan shaft industry: up to 4 planes in parallel, permanent or specific calibration of rotors, compensation of reaction forces - Electric motor and generator industry: high-speed package, including measurement at start-up and balancing in 3 planes - Crankshafts: calculation of correction in different planes, according to rotor geometry and forbidden zones

SCHENCK ONE – this is the future

Planning and preparation

Asset Manager

- The machine and plant groups are individually structured in a clear and individual manner.
- Important documents, such as machine manuals, are stored centrally.
- Direct access to the service contact in the Schenck Helpdesk

Rotor Manager

- Any number of log data, stored regardless of location and machine.
- Job preparation and planning can be done from the PC while the machine is in use.
- Rotor type data can be synchronized across selected machines

Balancing

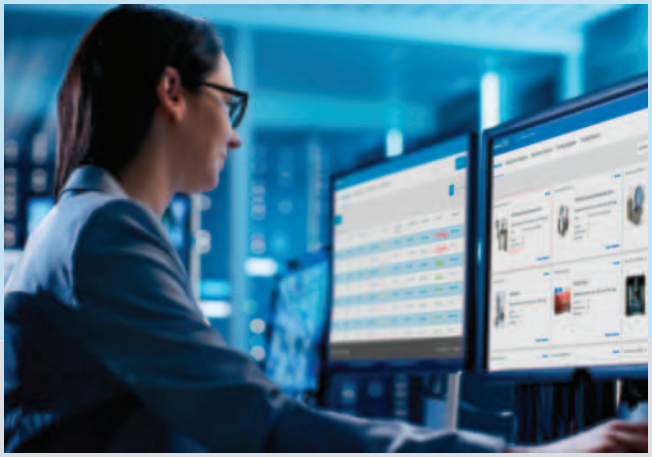
Balancing Assistant

- Simple machine calibration.
- Reliable and guided balancing.
- Highly precise unbalance measurement on the proven vectormeter.
- Automatic tolerance calculation in accordance with ISO 21940-11.
- Various calculations to compensate or imbalance.

Schenck ONE is our brand of software solutions for all aspects of balancing. Whether creating the rotor type file, measuring the unbalance, documenting the results, or maintaining the machine condition, our Schenck ONE ecosystem offers the optimal support for every process step.

More efficiency and quality for your success

Saving and analyzing



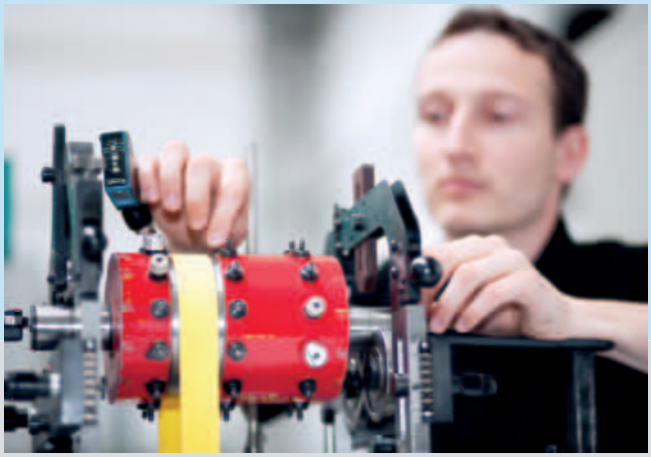
Report Center

- Simple saving and retrieval of all balance results.
- Access to reports on the machine and on the PC (PDF and CSV).
- Subsequent modification of reports (e.g. language, logo, units, etc.)

Machine Center

- Improved balancing processes in a sustainable way.
- Output and measurement uncertainties transparently displayed on control panels.
- Performance comparison of individual machines, machine groups, or locations.
- Key data of individual rotor types, individual rotor types (balancing number, measurement, measurement distribution, etc.)

Maintenance



Maintenance Assistant

- The highest quality is guaranteed through transparent maintenance.
- Maintenance plan for all your machinery, including those from third-party manufacturers, digitally recorded.
- Maintenance task reminders organized by user-specific email.

SCHENCK

Dürr Brasil Ltda. - Divisão Schenck RoTec
Rua Arnaldo Magniccaro, 500 04691-060
São Paulo SP Brasil Tel.: +55 11 5632-4512
E-mail: vendas@schenck-rotec.com.br
www.schenck-rotec.com.br

DÜRR GROUP