



**Modular machine structure**

**Optimised for industrial balancing of a wide range of wheels on a single machine**

**Fully automatic sequence of operations**

**Flexible use through mixed mode operation**

**Short cycle times**

**Unbalance correction with knock on, clip-on or adhesive weights**

**Optional measurement of radial or lateral runout**

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## Balancing machine for car wheels

**Type 420 RBLR**

### Range of Application

Series 420 RBLR balancing machines are used for measurement and correction of the unbalance of car wheels in two planes. Steel and/or alloy wheels of varying dimensions with a variety of different wheel spigot diameters can be processed.

Unbalance correction is achieved by means of graded lead weights with integral or separate clip, or by means of graded or infinitely variable adhesive weights. The machines are used in large volume production in mixed or batch mode.

The machines can be interlinked with other plant components such as: valve insertion systems, tyre mounting, inflating and matching machines, tyre bead seat stabilisation machines, additional residual unbalance checking machines, etc.

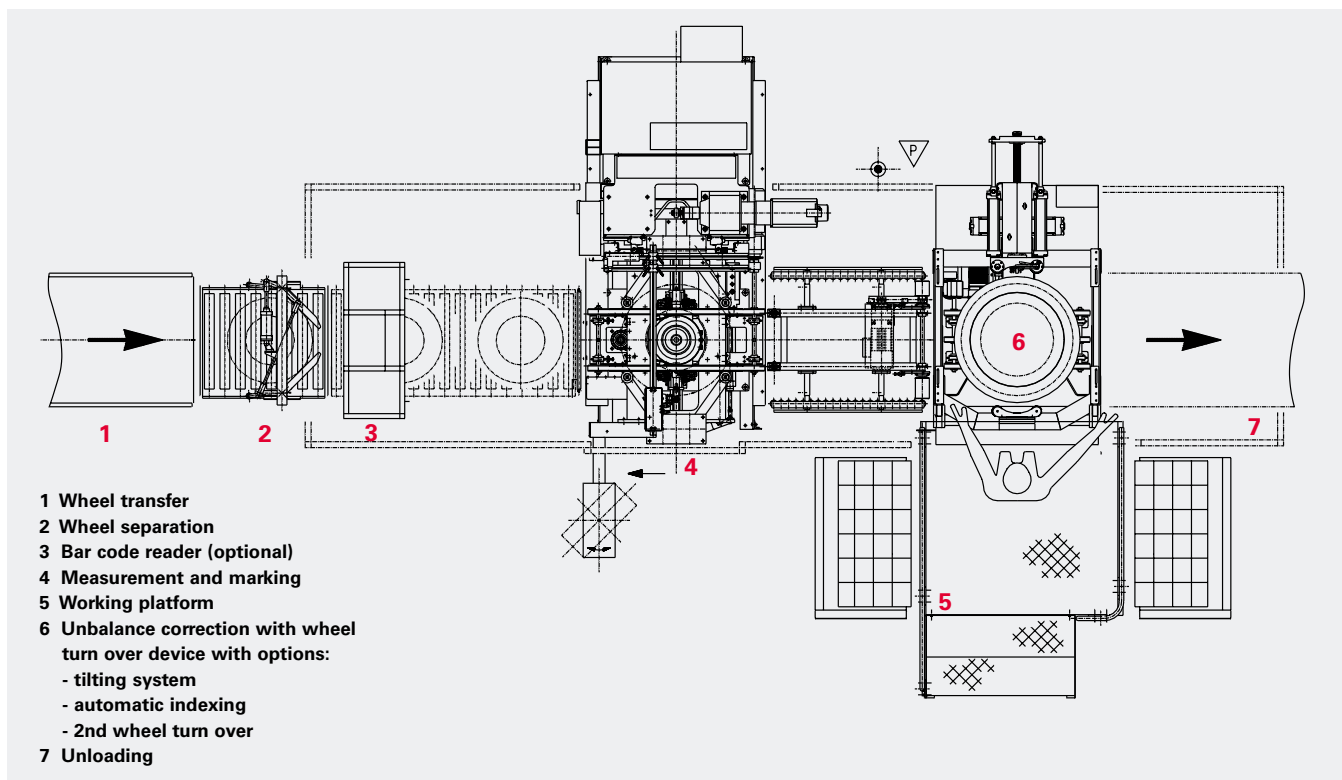
## Operating method

- Individual wheels are fed into the measuring station, and centered along the outer diameter. The wheel is then lowered onto the balancing unit and clamped.
- A measurement run is performed to determine the magnitude and angular position of unbalance, following which the wheel is indexed and correction locations are marked.
- The wheel is then unclamped, lifted and unloaded from the balancing machine for unbalance correction.
- Depending on the method of unbalance correction, knock on, clip on or adhesive weights are applied manually or automatically in the correction station or stations. For application of weights in the lower correction plane, the wheel is turned.
- The balanced wheel is then unloaded from the machine and transferred to the subsequent conveyor systems.

## Design (Example)

The machine is made up of several modular working stations. The number of stations is dependent on the machine functions and throughput required. Interlinking of the individual stations by suitable conveyor systems enables the machine to operate fully automatically. Loading and unloading of the machine also takes place automatically. The modular machine concept provides for high ease of operation,

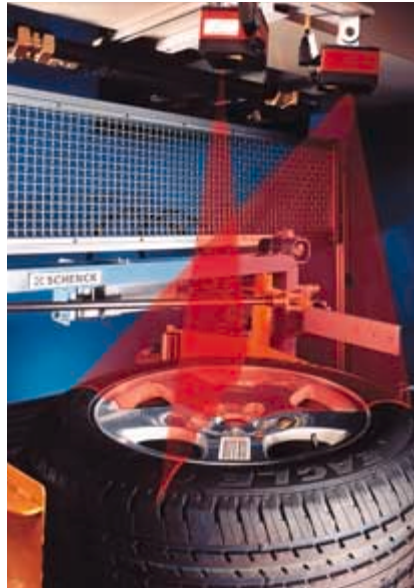
easy change over from one workpiece type to the next, and fast trouble shooting. Processing of measurement data takes place with the help of the Schenck CAB 850 W measuring instrumentation, featuring software packages for calculation of optimum unbalance correction values or statistical parameters, self test, etc. The system is designed for intuitive operation with the help of a touch screen.



## Options



Wheel turn over device with tilting system



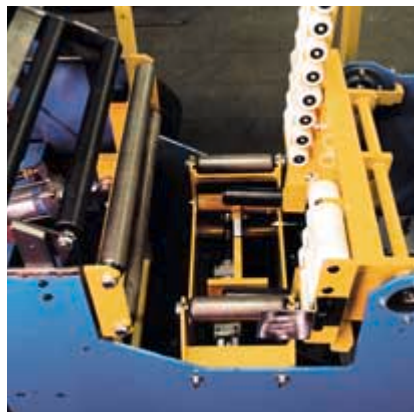
Bar code reader



Automatic application of adhesive weights



Clip insertion device



Vertical correction unit



Radial and lateral runout measuring system

- Standardized modules from a modular system
- Compact design
- Wheel spectrum ranging from 13"-20" disc wheel diameters, and outer diameters ranging from 500 - 900 mm
- High measuring accuracy, resulting, for example, from vibration-isolated spindle
- Minimum cycle times resulting from weight-optimized, speed-controlled lifting table
- Maximum wheel weight 50 kg
- CAB 850 W electronic measuring unit with touch screen as ergonomic control console for measuring system and PLC, with extensive test and statistic functions and automated eccentricity compensation by indexing
- Measuring system for radial and lateral runout and recognition of bulging and indentations
- Easy calibration through magnitude calibration with master wheel

## Technical features

## Important data at a glance

Machine	Dimensions (WxHxD)	mm	1200x2300x2900
	Machine weight	kg	3000
	Air supply pressure	bar	6,0
	Air consumption	m <sup>3</sup> /h	20
	Power supply	V / Hz	400 / 50
	Control voltage DC	V	24
	Total connected load	kVA	12
	Balancing spindle speed	min <sup>-1</sup>	350
	Clamping method		pneumatic
	Measuring unit		Schenck CAB 850 W
	PLC		Siemens S7
	Operation		Touchscreen 15"
	Control cabinet dimensions (WxHxD)mm		1000x2000x600
Wheel dimensions	Total wheel weight	kg	50
	Wheel outer diameter	mm	500 - 900
	Wheel width	mm	130 - 360
	Rim diameter	inch	13 - 20
	Rim width	inch	3,5 - 11
Cycle time	Unbalance measurement depending on wheel weight and marking process	s	9 - 14



### Balancing and Diagnostic Systems

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