

ZOLLER
expect great measures

Technical Description
Tool balancing system

toolBalancer





»toolBalancer«

Note:

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Equipment, options/default are stated in your quote or order confirmation.

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»toolBalancer«

Tool balancing system

ZOLLER »toolBalancer« is the balancing system for precise and economical checking and correction of unbalance in tool-holding fixtures, complete tools, and grinding wheels. The unbalance can be measured and corrected in one or two levels. A variety of balancing correction options are available for correction in the measurement software and can be selected depending on the application, such as fixed location correction with balancing screws, or the use of balancing rings or balancing by removing material through drilling or milling.



»toolBalancer« with monitor bracket

1	Machine base	5	Safety cover
2	Adapter compartment	6	Control cabinet
3	Safety cover grip rail	7	Panel PC with 17" monitor
4	Membrane keypad	8	Tool storage (optional)

Highlights

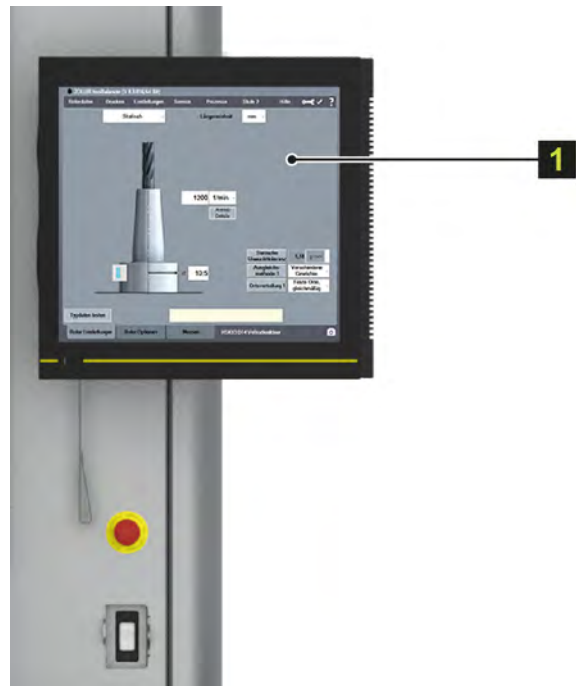
- »twinPanel« safety cover – conforms to DIN ISO 21940-23 class C60 for maximum safety. The internal “sacrificial disc” collects contamination, for instance from solvents and damage due to loose components, and can be exchanged quickly and inexpensively as needed.
- Solid machine base – specially designed for the requirements of balancing, made of a stiff, vibration-dampened UHPC material. The solid, 500 kg machine base gives the device an ideal level of stability, and therefore better precision.
- High-precision spindle – mounts almost any tool-holding fixture, with the corresponding balance adapter. Safe adapter exchange process: A unique design element prevents accidents and damage if the balance adapter is not screwed into the spindle correctly.
- Balance adapter with center offset – delivers a large and more easily measured sensor signal, and guarantees high-precision balancing results, even at high balancing quality and with low unbalance.
- Adapter compartment with swiveling front flap – three storage places for ergonomic, back-friendly, and fast adapter exchange without kneeling.
- Adapter interim storage – for safe adapter exchange and conveniently switching between adapter compartment and spindle.
- Membrane keypad – all key control elements are arranged ergonomically. It is resistant to dirt and oil, is durable, and impresses with a comfortable feel.
- Control cabinet – with active ventilation. All necessary electronic components are installed carefully and securely for defect-free operation. The positions of the control cabinet, drives, and sensors ensure excellent accessibility in case of maintenance and service work.



Tested operational safety through TÜV certification.

Control Unit Monitor Bracket

The swiveling monitor bracket is mounted on the control cabinet of the »toolBalancer«. The inclination of the monitor is adjustable, and can be set easily to the desired position. Simple software operation via touchscreen.



1 Panel Panel PC with 17" monitor and touch operation

Control Unit »cockpit«

The separate, height-adjustable »cockpit« control unit brings together all control elements such as a keyboard, mouse, and shelves for the operating instructions, small parts, thermo-label printer, color laser printer, and bar code reader in one compact area.



1	Panel Panel PC with 17" monitor and touch operation	4	Tray for thermo-label printer
2	Trays for keyboard, mouse and tools	5	Tray for bar code reader (optional)
3	Tray for operating instructions	6	Tray for color laser printer

»twinPanel« Safety Cover

Safety for Operators

The »twinPanel« safety cover conforms to protection class C60 under DIN ISO 21940-23, and is secured against unauthorized opening with a locking and tumbler system.

The internal Macrolon “sacrificial disc” collects contamination, for instance from solvents and damage due to loose components, and can be exchanged quickly and inexpensively as needed.

Ergonomics

The »twinPanel« safety cover can be opened horizontally to the left easily, ergonomically, and conveniently thanks to a grip rail on the bottom and right, and offers access to a large work area.

The design and opening angle of this safety cover also make it possible to insert heavy tools from above using a crane.



»toolBalancer 550« safety cover

»toolBalancer 750« safety cover

Electronics

Measuring Machine Control

The measuring machine control hardware in the »toolBalancer« consists of the ZOLLER panel PC with 17" TFT color monitor and touch operation. The ZOLLER operating software and operating system for the measuring machine control are installed on the panel PC.



Measuring machine control with ZOLLER operating software on »toolBalancer« with monitor bracket



Measuring machine control with ZOLLER operating software on »toolBalancer« with »cockpit«

Features

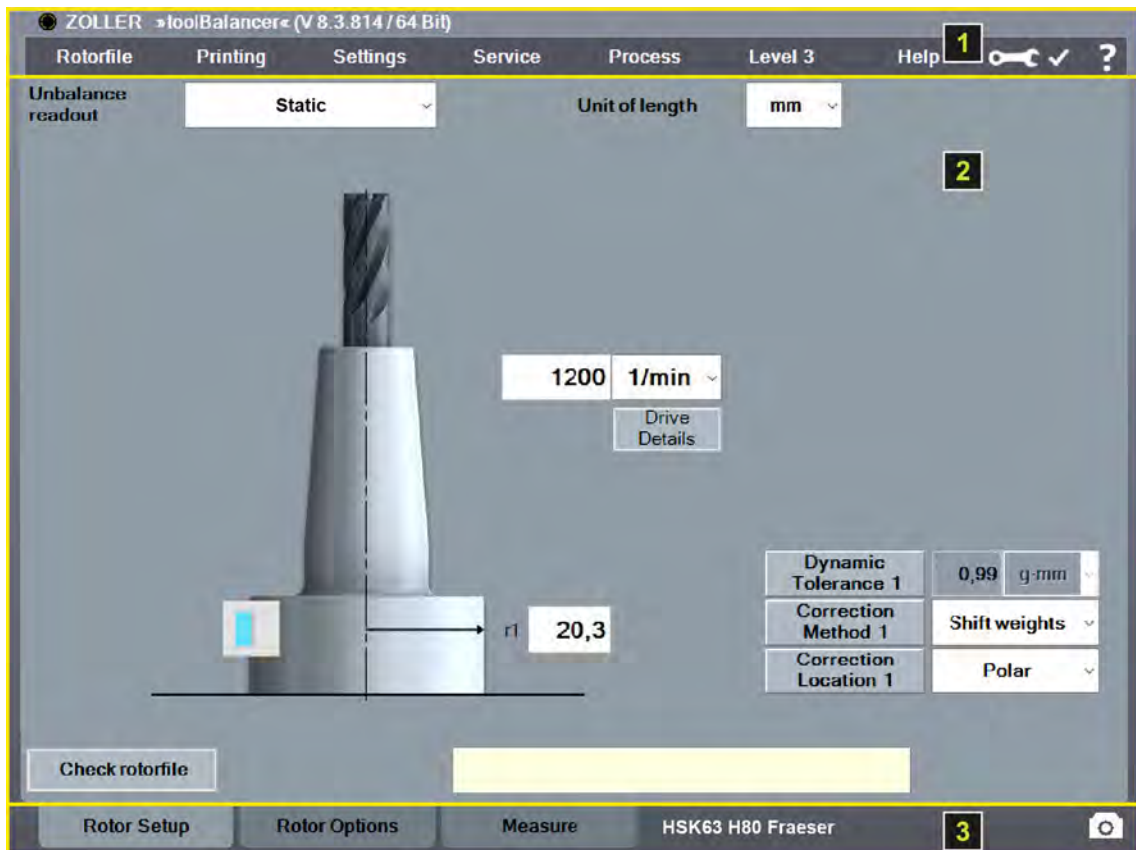
- Anti-glare screen, TFT color monitor with touch operation
- Dimensions: approx. 39 x 34 cm (17" screen diagonal)
- Fast and shock-resistant solid state disk (SSD)
- Quick software reaction time
- Operating system: Windows 10, 64 Bit

Software

ZOLLER Operating Software

Fast Balancing Without Extensive Effort

All functions of the ZOLLER operating software can be accessed via the menu line and footer line. Tabs are opened when the entries in the sub-menu are pressed. The data for the tool can be entered via the tabs or the display functions can be selected during ongoing operation.



1	Menu line with main menus	3	Footer with tabs
2	Dialog line with specific operating and display elements.		

Applications

»toolBalancer« operating software

Intuitive software with graphical user interface for quickly and simply balancing in 1 or 2 levels, including comprehensive standard functions



Touchscreen

Convenient software operation via touchscreen



Optical insertion aid

Graphic display of the angular position of the spindle on the monitor



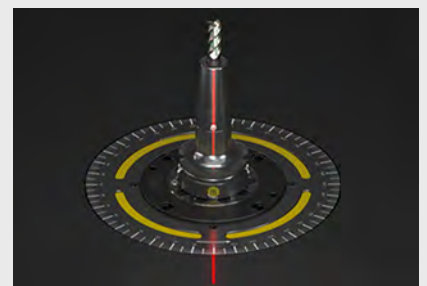
Automatic insertion aid

The spindle automatically turns to the compensation position after the balancing run is complete, making exact positioning easier.



Laser marking

Display of the unbalance and correction position on the chuck using a laser beam



Balancing in one level

To measure and correct for unbalance in one level (static)



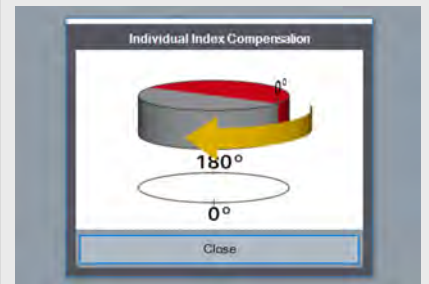
Balancing in two levels

To measure and correct for unbalance in two levels (dynamic)



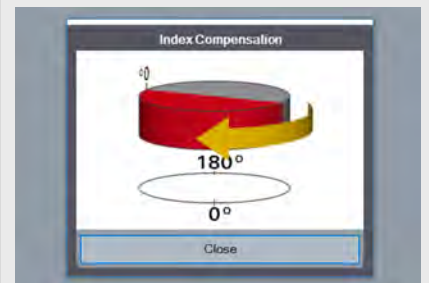
Turnover balancing

Compensation via two measurements, standard turnover angle 180° (adjustable)



Type-specific turnover balancing

Storing the turnover value for subsequent measurements. Quick and precise balancing of repeat parts over 1 measurement sequence



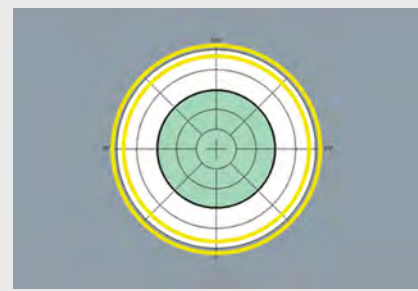
«Fixed location» correction position

Correction of unbalance at the specified positions, (for instance with balancing screws). Position specification symmetrical or user-defined



«Polar distribution» correction position

Correction of unbalance possible over the entire circumference



«Different weights» balance correction

Correction of unbalance by attaching or removing weights (such as balancing screws). Incl. option to specify available weight sets



«Shift weights» balancing correction

Correction of unbalance by turning balancing rings or slot nuts



«Radial drilling» balancing correction

Correction of unbalance through radial drilling. Automatic calculation of number, angular position and depth of drill holes



«Milling» balancing correction

Correction of unbalance through radial, tangent, or axial milling



Label printing

Output of measurement results in 1 or 2 levels on ZOLLER thermo-label printer

Rotor type	HSK63 H200 Endmill D10	ZOLLER
Rotor-ID		
G 2,5 (25000 1/min)		Tolerance
Unbalance plane 1	0.85 gmm / 236.1 °	OK
Unbalance plane 2	0.14 gmm / 49.6 °	OK
6/8/2022	11:00:55 AM	Level 2

Log printing*

Output of the measurement report as printout on laser printer or as a .pdf file. Incl. Editing function

Balancing report

Type data

Rotor type	HSK63 D14 Ballnose Cutter
Last change	08/2022 9:37 AM
Rot speed	1200 rpm

DN ISO 21940-11 calculation

Calculation based on	Quality grade G
Deviation in %	0
Balancing quality grade	G 2.5
Mass of rotor	1.24 kg
Service speed	20000 rpm
Permissible unbalance	1.48 gmm

Measuring Results, Run: 2

Actual compensations	
Measuring speed	Inducting 1200 rpm
Unbalance	Static 10.99 gmm 0.3°
Correction	Corrector Plane 1 - Different weights (Add) 9 180.0° 7.4° Tot

Measuring Results, Run: 3

Actual compensations	
Measuring speed	Inducting 1200 rpm
Unbalance	Static 0.26 gmm 52.1°

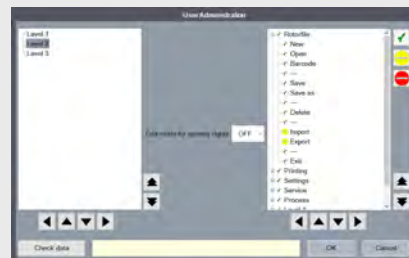
Measurement data export*

Automatic export of measurement data in CSV format

Time	Run	Type	Rotor ID	Reference speed [rpm]	Amount 1 [gmm]	Angle 1	Amount 2 [gmm]	Angle 2
27.06.2022 09:00	2	HSK63 D14 ballnose cutter	HSK63 D14	1200	10.99	0.3°	1.48	0.00
27.06.2022 09:01	3	HSK63 D14 ballnose cutter	HSK63 D14	1200	0.26	52.1°	1.48	0.00
27.06.2022 09:02	2	HSK63 D14 ballnose cutter	HSK63 D14	1200	10.99	0.3°	1.48	0.00
27.06.2022 09:03	3	HSK63 D14 ballnose cutter	HSK63 D14	1200	0.26	52.1°	1.48	0.00
27.06.2022 09:04	2	HSK63 D14 ballnose cutter	HSK63 D14	1200	10.99	0.3°	1.48	0.00
27.06.2022 09:05	3	HSK63 D14 ballnose cutter	HSK63 D14	1200	0.26	52.1°	1.48	0.00
27.06.2022 09:06	2	HSK63 D14 ballnose cutter	HSK63 D14	1200	10.99	0.3°	1.48	0.00
27.06.2022 09:07	3	HSK63 D14 ballnose cutter	HSK63 D14	1200	0.26	52.1°	1.48	0.00
27.06.2022 09:08	2	HSK63 D14 ballnose cutter	HSK63 D14	1200	10.99	0.3°	1.48	0.00
27.06.2022 09:09	3	HSK63 D14 ballnose cutter	HSK63 D14	1200	0.26	52.1°	1.48	0.00
27.06.2022 09:10	2	HSK63 D14 ballnose cutter	HSK63 D14	1200	10.99	0.3°	1.48	0.00
27.06.2022 09:11	3	HSK63 D14 ballnose cutter	HSK63 D14	1200	0.26	52.1°	1.48	0.00
27.06.2022 09:12	2	HSK63 D14 ballnose cutter	HSK63 D14	1200	10.99	0.3°	1.48	0.00
27.06.2022 09:13	3	HSK63 D14 ballnose cutter	HSK63 D14	1200	0.26	52.1°	1.48	0.00
27.06.2022 09:14	2	HSK63 D14 ballnose cutter	HSK63 D14	1200	10.99	0.3°	1.48	0.00
27.06.2022 09:15	3	HSK63 D14 ballnose cutter	HSK63 D14	1200	0.26	52.1°	1.48	0.00
27.06.2022 09:16	2	HSK63 D14 ballnose cutter	HSK63 D14	1200	10.99	0.3°	1.48	0.00
27.06.2022 09:17	3	HSK63 D14 ballnose cutter	HSK63 D14	1200	0.26	52.1°	1.48	0.00
27.06.2022 09:18	2	HSK63 D14 ballnose cutter	HSK63 D14	1200	10.99	0.3°	1.48	0.00
27.06.2022 09:19	3	HSK63 D14 ballnose cutter	HSK63 D14	1200	0.26	52.1°	1.48	0.00
27.06.2022 09:20	2	HSK63 D14 ballnose cutter	HSK63 D14	1200	10.99	0.3°	1.48	0.00
27.06.2022 09:21	3	HSK63 D14 ballnose cutter	HSK63 D14	1200	0.26	52.1°	1.48	0.00
27.06.2022 09:22	2	HSK63 D14 ballnose cutter	HSK63 D14	1200	10.99	0.3°	1.48	0.00
27.06.2022 09:23	3	HSK63 D14 ballnose cutter	HSK63 D14	1200	0.26	52.1°	1.48	0.00
27.06.2022 09:24	2	HSK63 D14 ballnose cutter	HSK63 D14	1200	10.99	0.3°	1.48	0.00
27.06.2022 09:25	3	HSK63 D14 ballnose cutter	HSK63 D14	1200	0.26	52.1°	1.48	0.00
27.06.2022 09:26	2	HSK63 D14 ballnose cutter	HSK63 D14	1200	10.99	0.3°	1.48	0.00
27.06.2022 09:27	3	HSK63 D14 ballnose cutter	HSK63 D14	1200	0.26	52.1°	1.48	0.00
27.06.2022 09:28	2	HSK63 D14 ballnose cutter	HSK63 D14	1200	10.99	0.3°	1.48	0.00
27.06.2022 09:29	3	HSK63 D14 ballnose cutter	HSK63 D14	1200	0.26	52.1°	1.48	0.00
27.06.2022 09:30	2	HSK63 D14 ballnose cutter	HSK63 D14	1200	10.99	0.3°	1.48	0.00
27.06.2022 09:31	3	HSK63 D14 ballnose cutter	HSK63 D14	1200	0.26	52.1°	1.48	0.00
27.06.2022 09:32	2	HSK63 D14 ballnose cutter	HSK63 D14	1200	10.99	0.3°	1.48	0.00
27.06.2022 09:33	3	HSK63 D14 ballnose cutter	HSK63 D14	1200	0.26	52.1°	1.48	0.00
27.06.2022 09:34	2	HSK63 D14 ballnose cutter	HSK63 D14	1200	10.99	0.3°	1.48	0.00
27.06.2022 09:35	3	HSK63 D14 ballnose cutter	HSK63 D14	1200	0.26	52.1°	1.48	0.00
27.06.2022 09:36	2	HSK63 D14 ballnose cutter	HSK63 D14	1200	10.99	0.3°	1.48	0.00
27.06.2022 09:37	3	HSK63 D14 ballnose cutter	HSK63 D14	1200	0.26	52.1°	1.48	0.00
27.06.2022 09:38	2	HSK63 D14 ballnose cutter	HSK63 D14	1200	10.99	0.3°	1.48	0.00
27.06.2022 09:39	3	HSK63 D14 ballnose cutter	HSK63 D14	1200	0.26	52.1°	1.48	0.00
27.06.2022 09:40	2	HSK63 D14 ballnose cutter	HSK63 D14	1200	10.99	0.3°	1.48	0.00
27.06.2022 09:41	3	HSK63 D14 ballnose cutter	HSK63 D14	1200	0.26	52.1°	1.48	0.00
27.06.2022 09:42	2	HSK63 D14 ballnose cutter	HSK63 D14	1200	10.99	0.3°	1.48	0.00
27.06.2022 09:43	3	HSK63 D14 ballnose cutter	HSK63 D14	1200	0.26	52.1°	1.48	0.00
27.06.2022 09:44	2	HSK63 D14 ballnose cutter	HSK63 D14	1200	10.99	0.3°	1.48	0.00
27.06.2022 09:45	3	HSK63 D14 ballnose cutter	HSK63 D14	1200	0.26	52.1°	1.48	0.00
27.06.2022 09:46	2	HSK63 D14 ballnose cutter	HSK63 D14	1200	10.99	0.3°	1.48	0.00
27.06.2022 09:47	3	HSK63 D14 ballnose cutter	HSK63 D14	1200	0.26	52.1°	1.48	0.00
27.06.2022 09:48	2	HSK63 D14 ballnose cutter	HSK63 D14	1200	10.99	0.3°	1.48	0.00
27.06.2022 09:49	3	HSK63 D14 ballnose cutter	HSK63 D14	1200	0.26	52.1°	1.48	0.00
27.06.2022 09:50	2	HSK63 D14 ballnose cutter	HSK63 D14	1200	10.99	0.3°	1.48	0.00
27.06.2022 09:51	3	HSK63 D14 ballnose cutter	HSK63 D14	1200	0.26	52.1°	1.48	0.00
27.06.2022 09:52	2	HSK63 D14 ballnose cutter	HSK63 D14	1200	10.99	0.3°	1.48	0.00
27.06.2022 09:53	3	HSK63 D14 ballnose cutter	HSK63 D14	1200	0.26	52.1°	1.48	0.00
27.06.2022 09:54	2	HSK63 D14 ballnose cutter	HSK63 D14	1200	10.99	0.3°	1.48	0.00
27.06.2022 09:55	3	HSK63 D14 ballnose cutter	HSK63 D14	1200	0.26	52.1°	1.48	0.00
27.06.2022 09:56	2	HSK63 D14 ballnose cutter	HSK63 D14	1200	10.99	0.3°	1.48	0.00
27.06.2022 09:57	3	HSK63 D14 ballnose cutter	HSK63 D14	1200	0.26	52.1°	1.48	0.00
27.06.2022 09:58	2	HSK63 D14 ballnose cutter	HSK63 D14	1200	10.99	0.3°	1.48	0.00
27.06.2022 09:59	3	HSK63 D14 ballnose cutter	HSK63 D14	1200	0.26	52.1°	1.48	0.00
27.06.2022 10:00	2	HSK63 D14 ballnose cutter	HSK63 D14	1200	10.99	0.3°	1.48	0.00

User administration*

User administration incl. 3 user levels with assignment of individual access rights



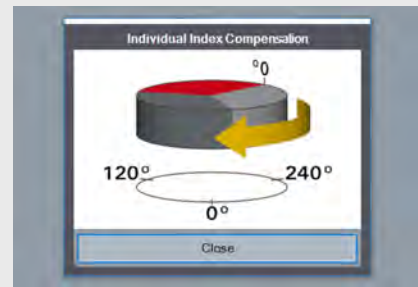
«Axial drilling» balancing correction*

Correction of unbalance through axial drilling. Automatic calculation of number, angular position and depth of drill holes



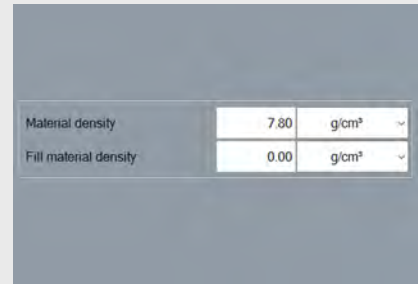
Turnover balancing of PSC holders*

Turnover balancing of PSC tool-holding fixtures (Capto) and tools over 3 measurements, standard turnover angle 120°/240° (adjustable)



Sealing function*

Option to input the specific weight for the object to be balanced, if deviating from steel



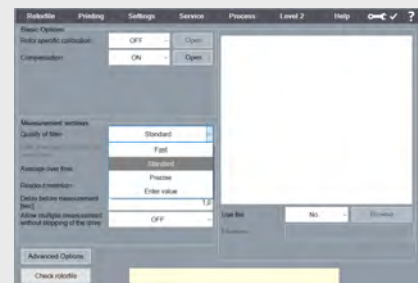
Blocked areas*

Option to specify angular ranges that may not be used to correct the unbalance



Variable measurement time*

In addition to the default, 2 predefined measurement times can be selected, or the measurement time can be adjusted individually (such as to shorten the measurement time)



* Options are not included in the standard scope.

Balance Adapter

SK adapter

	Type
SK 30	DIN 69871 A, ISO 7388-3 AF/AD/AC
SK 30	DIN 2080
SK 40 / BT 40	DIN 69871 A, ISO 7388-3 AF/AD/AC, MAS-BT, BBT
SK 40	DIN 2080
SK 50 / BT 50	DIN 69871 A, ISO 7388-3 AF/AD/AC, MAS-BT, BBT
SK 50	DIN 2080

Special tension bolts

	Type
BT 30	BT 30 to SK 30 balance adapter
CAT 30	CAT 30 to SK 30 balance adapter
CAT 40	CAT 40 to SK 40 balance adapter
CAT 50	CAT 50 to SK 50 balance adapter

HSK adapter

	Type
HSK 25	DIN 69893, 25 A/C/E, 32 B/F
HSK 32	DIN 69893, 32 A/C/E, 40 B/F
HSK 40	DIN 69893, 40 A/C/E, 50 B/F
HSK 50	DIN 69893, 50 A/C/E, 63 B/F
HSK 63	DIN 69893, 63 A/C/E, 80 B/F
HSK 63 F	Weinig (not according to DIN69893)
HSK 80	DIN 69893, 80 A/C/E, 100 B/F
HSK 80 F	HSK 85 W Weinig (not according to DIN 69893)
HSK 100	DIN 69893, 100 A/C/E, 125 B/F
HSK 125	DIN 69893, 125 A/C

*Can only be used in conjunction with adapter flange (article no.: 6WT01925-001).

PSC adapter

	Type
PSC 32	ISO 26623, (C3)
PSC 40	ISO 26623, (C4)
PSC 50	ISO 26623, (C5)
PSC 63	ISO 26623, (C6)
PSC 80/X	ISO 26623, (C8/X)
PSC 100	ISO 26623, (C10)

Accessories

Thermo-label Printer

To output the balancing results on a thermal label.

- Print thickness 8 dots/mm
- Printing width 108 mm / 4.25 inches
- USB interface
- Mains voltage 100-240 V



Color Laser Printer

The color laser printer for log and list printing has a memory of 128 MB (upgradeable to 640 MB), a printing speed up to 20 pages/minute, a maximum resolution of 1200 x 1200 dpi, a universal paper cassette for 250 pages (A4 and smaller), a USB interface and a network connection. A mains voltage of 220 to 230 V AC (Europe) or 110 V to 127 V AC (USA) is required. The printer is also monochrome (b/w) capable.



Color Laser Printer Tray

Tray for »toolBalancer« with monitor bracket.

- Width: 515 mm (21 in.)
- Depth: 500 mm (20 in.)
- Height: 455 mm (18 in.)
- Weight: 32 kg (71 lbs)



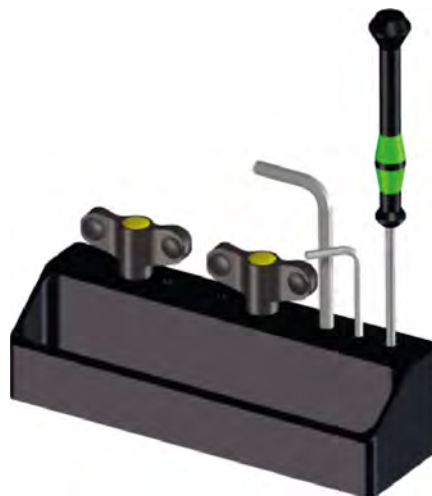
Tray for Thermo-label Printer

Tray for »toolBalancer« with monitor bracket.



Tool Tray

The tool tray is used to store the equipment for balancing and balance adapter exchange. The tool tray can be attached directly in the work room using a magnet interface.



Tool Scale

The scale is used to weigh tools and tool-holding fixtures.

- Max. weighing range 30 kg
- Readability 1 g
- Weighing plate 252 mm x 225 mm



Precision Scale

The scale is used to weigh correction weights (e.g. balance screws)

- max. weighing range 100 g
- Readability 0.001 g
- Scale platform diameter 82 mm
- Optionally available with DAkkS calibration certificate



QR, Line, DataMatrix Code or Barcode Reader

The QR, line, DataMatrix or barcode reader allows tool data to be imported. The high sampling speed guarantees efficient use. The following codes with a maximum length of 80 mm (3.15 in.) are readable: Code 2/5 family, Code 39, EAN/UPC, EAN 128, Code 128, Code 93, CODABAR, TELEPEN, PLESSEY, Code 49, CODE MSI, Code Delta IBM, Code 11, CODABLOCK, Code 16K, ISBN/ISSN and ISBT 128.



UPS Unit

The UPS provides the power supply to the PC for at least five minutes in the event of a power outage. During the buffer time, all data must be saved, the measurement software exited and the product switched off.



Balancing Screw Set

Assorted box including 50 pieces of 10 different M6 balancing screws each for fine balancing of tool-holding fixtures.



Column Tray for Scales and Balance Screw Set

The tray offers space for the two scales available as accessories (tool scale and precision scale) as well as the balance screw set.

- Width: 505 mm (20 in.)
- Depth: 485 mm (19 in.)
- Height: 965 mm (38 in.)
- Weight: approx. 30 kg (approx. 67 lbs)



Column tray without balance screw set



Column tray with balance screw set

Product Version

»toolBalancer 550« with Monitor Bracket

- Display directly on the device.
- Software operation via touchscreen.
- Max. tool length approx. 550 mm

»toolBalancer 750« with Monitor Bracket

- Display directly on the device.
- Software operation via touchscreen.
- Max. tool length approx. 750 mm

»toolBalancer 550« with »cockpit«

- Display on the »cockpit«
- Software operation via touchscreen, mouse, and keyboard.
- Max. tool length approx. 550 mm

»toolBalancer 750« with »cockpit«

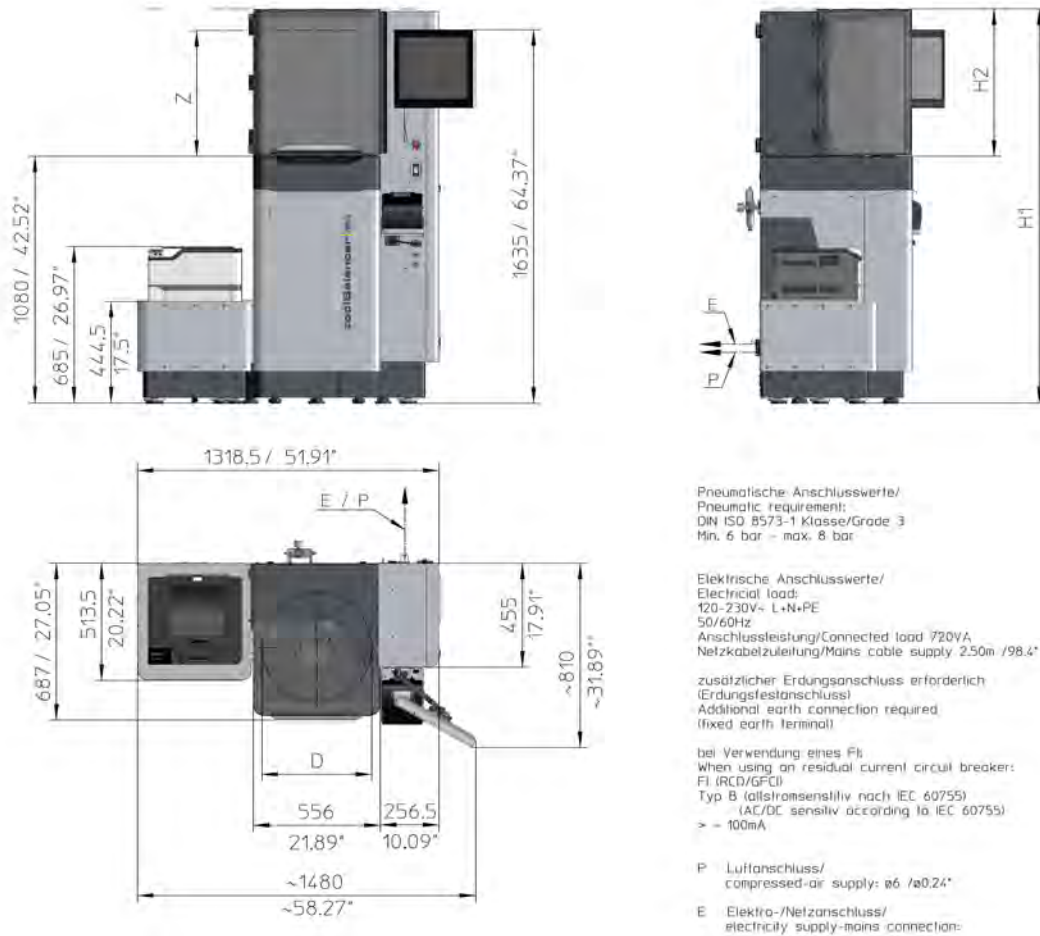
- Display on the »cockpit«
- Software operation via touchscreen, mouse, and keyboard.
- Max. tool length approx. 750 mm

Technical Data

Spindle speed	max. 1200 rpm	
Measuring accuracy	0.4 gmm	
Smallest achievable residual unbalance	0.5 gmm/kg	
Measurement uncertainty (according to DIN 1319)		
- for measurement on one level	0.4 gmm	
- for measurement on two levels	1.0 gmm	
Alternating current	120-230 V~ L+N+PE	
Connection	Socket with protective ground contact	
Power	720 VA	
Frequency	50 Hz/ 60 Hz	
Circuit breaker	6 A (thermal)	
Compressed air supply	6-8 bar	90-116 psi
Operating pressure of the pneumatics	6.0 bar	90 psi
Quality of compressed air	dry, lightly oiled	
Ambient temperature during operation	5-35 °C	
Relevant humidity during operation:	5-90 % (non-condensing)	
Use in operations	Interiors	
Noise level	During operation the product reaches a noise level of < 45 dbA. When using the printer, which is available as an option, the noise level may briefly rise to < 54 dbA according to DIN EN ISO 1683:2015-09.	

Installation Dimensions with Monitor Bracket

»toolBalancer« with monitor bracket and color laser printer



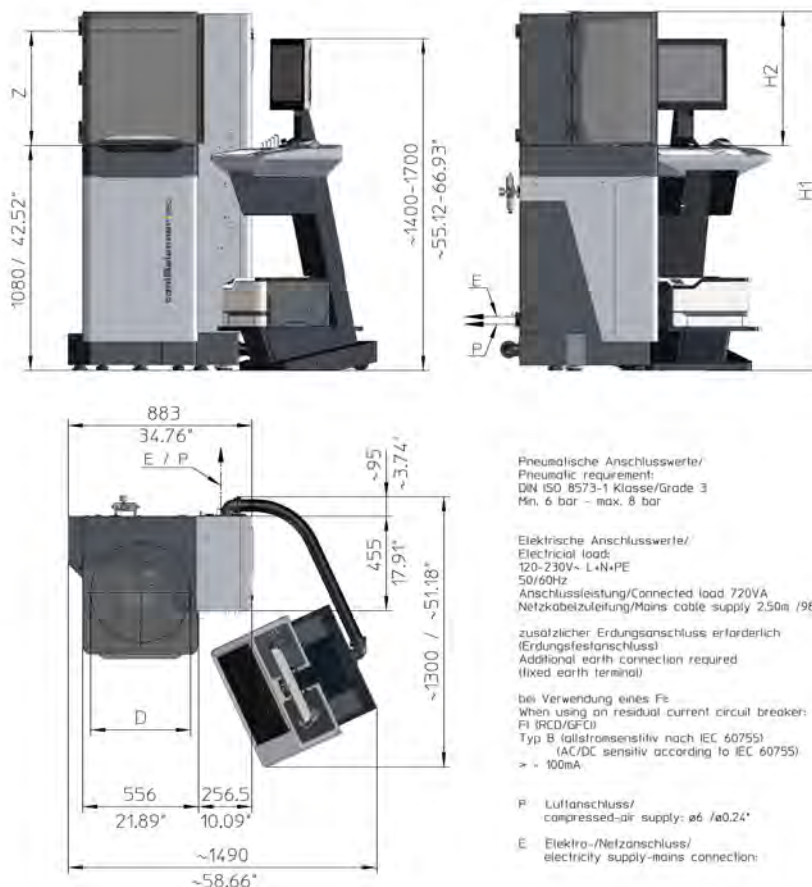
Measuring range		H1 mm	H2 mm	Weight kg
D mm	Z mm			
480	550	~1725	645	740
480	750	~1957	877	755

P Compressed air connection

E Electricity connection

Installation Dimensions with »cockpit«

»toolBalancer« with »cockpit«



Measuring range		H1 mm	H2 mm	Weight kg	Weight »cockpit« kg
D mm	Z mm				
480	550	~1725	645	~730	~60
480	750	~1957	877	~745	~60

P Compressed air connection

E Electricity connection

Packaging

Transport packaging consisting of wood panels, including wrapping in a corrosion protection film.



Note:

Seaworthy packaging can also be selected for overseas transport.

	Approx. dimensions (W x D x H)	Gross weight ¹⁾ wood
»toolBalancer 550«	1140 x 1140 x 2150 mm (45 x 45 x 85 inch)	approx. 930 kg (2055 lbs)
»toolBalancer 750«	1140 x 1140 x 2350 mm (45 x 45 x 93 inch)	approx. 950 kg (2095 lbs)
Control unit »cockpit«	900 x 900 x 1800 mm (36 x 36 x 71 inch)	approx. 150 kg (331 lbs)

¹⁾Gross weight corresponds to the weight of the balancing machine with packaging material.

Note:

Options will change the gross weight. Gross weight corresponds to the weight of the balancing machine with packaging material.

For the net weight see section «Technical Data», page 26.

Service

Commissioning

Technical commissioning will take at least 1 day (8h/day) and will be handled at the customer's location by a ZOLLER service technician, including travel costs.

Operator Training

A training session of at least 1 day (8h/day) will be carried out at the customer's location by a ZOLLER service technician, including travel costs.

Production Support

Production support will take at least 1 day (8h/day) and will be carried out at the customer's location by a ZOLLER service technician, including travel costs.

Factory Acceptance / Preliminary Acceptance

Upon request, the factory acceptance / preliminary acceptance (8hrs/day) can be performed jointly with the customer at ZOLLER in Pleidelsheim. This will be performed by a ZOLLER service technician.

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Head office	Headquarters	Branch office	Representative

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E. Zoller GmbH & Co. KG

Tool presetter and measuring machines

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