

HAIMER®
以质取胜。

翰默刀具动平衡机 TOOL DYNAMIC

模块化动平衡系统
Modular balancing system



Tool Dynamic
Comfort Plus



www.haimer.cn

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翰默刀具动平衡的优势

THE TOOL DYNAMIC ADVANTAGES

1.

能使你的机床发挥更大潜能

- 更高的转速
- 更高的切削能力
- 更好的表面光洁度

Enable the full potential of your machine tool

- Higher RPMs
- Higher cutting capacity
- Better surface finish



2.

保护你的机床

- 更少的振动
- 降低轴承磨损
- 延长主轴寿命
- 采购预平衡的刀柄以控制质量
- 保护机床主轴不受损坏

Protect your machine tool

- Less vibrations
- Lower wear on bearings
- Higher spindle life time
- Quality control purchasing so-called pre-balanced tool holders
- Preservation of warranty in case of machine tool spindle damages



3.

减少你的加工成本

- 更少的停机时间
- 更高的工艺可靠性

Reduce your machining costs

- Less downtimes
- Higher process reliability



4.

准确而便捷的动平衡操作

- 人性化的操作软件
- 不需要平衡方面的专家来操作

Correct and easy balancing

- Software extremely user-friendly
- Not only for balancing experts



5.

翰默 HAIMER 是你机床系统方案的提供者

- 完美的平衡源于简单的方案
- 平衡——夹持——自动化

HAIMER as your system provider around the machine tool

- Single source solutions in perfect harmony
- Balancing – Clamping – Automation



使用平衡刀具，你可以在四个方面节省成本

- 更高的切削量
- 延长主轴寿命
- 更长的刀具寿命
- 得到更好的表面加工质量

With balanced tools you save money fourfold

- Higher cutting volume
- Longer spindle lifetime
- Longer tool life
- Higher precision at the workpiece





HAIMER
G 2.5 25000
A63.144.25.3
Ø 25 x 130
A 6

使用 HAIMER 翰默 动平衡机的十大理由

1

更高的转速

加工时的振动声音大通常是你无法提高刀具转速的原因。动平衡后的刀具系统允许你提高 10-15% 以上的转速，并且振动的声音和刀具的寿命不会恶化。

2

延长刀具的寿命

如果整个刀具系统做了动平衡，整体式圆柄刀具和刀片式刀具的寿命可以延长 20% 以上。取决于不平衡量的大小，刀具的寿命可能会提升更多。

3

稳定的刀具性能

振动的消除将大幅度地减少振纹和崩刃的现象，从而稳定刀具的性能，使高速加工成为可能。

4

延长主轴的寿命

不平衡的刀具系统将产生很大的离心力，从而损坏主轴的轴承。这些损伤降低了主轴的寿命，并且导致昂贵的非计划停机。

5

更好的工件表面质量

不平衡将产生过大的振动，并导致工件表面出现振纹和质量下降，为了获得更好的工件表面质量，请对整个刀具系统做动平衡。

6

提高精度

在高转速下，不平衡将导致刀具径跳误差比静态下的测量值更大。如果不做平衡，解决方案是降低转速和效率。

7

减少换刀次数

当刀具寿命提高 20 - 100% 时，换刀次数就减少了。

8

精确的测量

坚固的混凝土基座，离心力感应测量器，和数控机床的夹刀方式相同的专利主轴（发明专利号：CN 192356308 B*），简单可靠的校准过程。

9

应用简便

简易的软件和清晰的补偿选项（去重和配重），使动平衡的操作快速且简单。

10

工业 4.0 的成功

工业 4.0 的精髓就是收集各种信息并快速的自动交换，以优化加工流程。不做动平衡，优化的加工流程将被迫降低速度以解决问题，从而降低了生产效率。

Top 10 reasons to use HAIMER Balancing Technology

Faster Speed

Poor sound from vibration is often the reason faster speeds are not realized. Balanced assembly's permit 10~15% faster spindle speeds without degradation of sound or tool life.

Longer Tool Life

On average, balanced tools (solid round tools and inserts) last 20% longer when the entire tooling assembly is balanced. Depending on the amount of unbalance, the tool life increase can be much greater.

Repeatable Tool Performance

The elimination of vibration dramatically reduces problems like chatter and tool chipping, thereby stabilizing tool performance and making lights out machining possible.

Longer Spindle Life

Unbalance in a tool assembly creates excessive centrifugal forces that can damage spindle bearings. Such damage reduces spindle life and can lead to costly unplanned downtime.

Better Surface Finishes

Unbalance creates excessive vibration that can be translated to the finished part in the form of chatter and poorer finishes. To achieve the best finish, balance the full assembly.

Improved Accuracy

At higher speeds, unbalance can actually induce runout during rotation where none was measured statically. Without balance, the solution is slower speeds and less productivity.

Fewer Tool Changes

When tool life increases 20% to 100%, tool changing time is reduced. This means less time for tool changes in the tool room.

Accurate Process

A solid concrete base construction, centrifugal force sensors for measuring, patented spindle that clamps the tools identical to the machine tool, and a simple/reliable machine calibration process.

Ease of use

Simple software and clear compensation options (removing, adding or displacing weight) make the balancing process fast and simple for all users.

Industry 4.0 Success

Industry 4.0 is all about using gathered data to automate changes on the fly that optimize the machining process. Without balance, the optimal machining logic will ultimately require a reduction of speeds until the problem is resolved, thereby reducing productivity.

基本型刀具动平衡机： Tool Dynamic TD 1002： 用于基础动平衡/For minimalists



图片显示为TD1002带可选配的精度测量装置（订货号 80.254.00.3 可参见第18开始的可选项目表）
Picture shows TD1002 with optional runout measuring device (Order No. 80.254.00.3, see optional configurations p. 18)

TOOL DYNAMIC TD 1002

模块化动平衡系统/MODULAR BALANCING SYSTEM

可对刀具、刀柄和砂轮进行单平面和双平面(选配)的动平衡修正

- 台式动平衡机可以安装测量尺
- 砂轮平衡的优选方案
- 适用于小批量的标准刀具系统和砂轮检测，简单应用
- 自动夹持的转换套

Balancing Machine to balance tools, tool holders and grinding wheels on 1 and 2 planes (optional).

- Force measuring table and complementary machine
- Optimized for balancing of grinding wheels
- For small batch lots, single application, standard chucks and grinding wheel packages
- Adapter with automatic clamping system












特点

- 基础操作界面—集成用户界面和显示界面
- 自动锁紧的安全罩
- 采用专业高精度的主轴轴承

Features

- Menu-based handling – via integrated user interface and display
- Safety hood with automated door lock
- Special high precision spindle bearings

特点/Characteristics

	防振底座 Vibration optimised base	可调底座可减小振动	Adapted table for optimized base
	用户界面 User interface	集成操作界面便于操作	Integrated user interface for easy handling of the machine
	光学指引帮助 Optical indexing help	显示精确的主轴角度位置	Indication of the exact spindle angle position on display
	激光标记 Laser marking	用激光标示不平衡位置和改正位置	Indicates the position of unbalance and correction with a laser
	径向钻孔去重标示软件 Drilling radial	通过径向钻孔调整平衡	Balancing by drilling radially
	动平衡环配重标示软件 Software for compensation with balancing rings	用平衡环或者其它移动方式调平衡	Balancing by rings or other movable weights
	精确测量 Index balancing	测试过程中的误差补偿 (2次测量, 旋转180°精确测量)	Compensation of measuring errors by index balancing (2 measuring runs, indexing angle 180°)
	主轴补偿平衡测量功能 Balancing with spindle compensation	快速精确地测量重复部分 (简单测量运行时)	Quick and precise measurement of repetition parts (single measuring run)
	单平面动平衡测量功能 Balancing in 1 plane	在单平面测量和补偿不平衡量 (静态)	Measuring and compensation of unbalance in 1 plane (static)
	德语/英语/法语/西班牙语/意大利语	操作界面的语言	Languages for user interface
	附件和特殊装置 Accessories and special equipment	从18页开始介绍	Please check the table from page 18

技术参数/Technical details

Tool Dynamic TD 1002

尺寸(长x高x宽)/Dimensions(WxHxD) [mm]	500x680x820	功率/Power usage [kW]	0,4
重量/Weight [kg]	200	气源/Compressed air [bar]	6
主轴转速/Spindle speed [rpm]	600-1100	最大刀具长度/max. tool length [mm]	360
测量精度/Measuring accuracy [gmm]	< 1	最大刀具直径/max. tool diameter [mm]	340
电源需求/Power requirements [V/Hz]	230/50-60	最大刀具重量/max. tool weight [kg]	15
		订货号/Order No. TD105-H06-EU, 老订货号为: (80.250.00.3)	

技术数据变更恕不通知/Technical data subject to change without prior notice

经济型刀具动平衡机:
Tool Dynamic TD Economic:
针对初级使用者/For beginners



TOOL DYNAMIC TD ECONOMIC 模块化动平衡系统/MODULAR BALANCING SYSTEM

您开始进入模块化的动平衡机系统。
Tool Dynamic 经济型动平衡机能单平面测量和补偿不平衡量（静态）。因此非常适用于短的和双面不平衡量较小的刀具系统。集成的键盘和显示屏使操作十分简单。

Your start into the modular balancing system Tool Dynamic TD. The Tool Dynamic TD Economic measures and compensates the unbalance in one plane (static). Therefore TD Economic is perfect for balancing short tool holders and tools because of the couple unbalance being very low. Easy handling with integrated keyboard and screen.

特点/Characteristics

	底座由特殊材料制成 Base made of polymer concrete	高精度的测量必须建立在稳重的底座基础上	Highest measuring accuracy due to heavy base
	用户界面 User interface	集成操作界面便于操作	Integrated user interface for easy handling of the machine
	光学指引帮助 Optical indexing help	显示精确的主轴角度位置	Indication of the exact spindle angle position on display
	激光标记 Laser marking	用激光标示不平衡位置和改进位置	Indicates the position of unbalance and correction with a laser
	径向钻孔去重标示软件 Drilling radial	通过径向钻孔调整平衡	Balancing by drilling radially
	动平衡环配重标示软件 Software for compensation with balancing rings	用平衡环或者其它移动方式调平衡	Balancing by rings or other movable weights
	精确测量 Index balancing	测试过程中的误差补偿（2次测量，旋转180°精确测量）	Compensation of measuring errors by index balancing (2 measuring runs, indexing angle 180°)
	主轴补偿平衡测量功能 Balancing with spindle compensation	快速精确地测量重复部分（简单测量运行时）	Quick and precise measurement of repetition parts (single measuring run)
	单平面动平衡测量功能 Balancing in 1 plane	在单平面测量和补偿不平衡量（静态）	Measuring and compensation of unbalance in 1 plane (static)
	德语/英语/法语/西班牙语/意大利语	操作界面的语言	Languages for user interface
	附件和特殊装置 Accessories and special equipment	从18页开始介绍	Please check the table from page 18

技术参数/Technical details

Tool Dynamic TD Economic

尺寸(长x高x宽)/Dimensions(WxHxD) [mm]	500x1500x820	气源/Compressed air [bar]	6
重量/Weight [kg]	450	最大刀具长度/max. tool length [mm]	400
主轴转速/Spindle speed [rpm]	300-1100	选项/optional [mm]	700
测量精度/Measuring accuracy [gmm]	< 0,5	最大刀具直径/max. tool diameter [mm]	380
电源需求/Power requirements [V/Hz]	230/50-60	选项/optional [mm]	400/425
功率/Power usage [kW]	0,4	最大刀具重量/max. tool weight [kg]	30

订货号/Order No. TD101-H01-EU, 老订货号为: (80.220.00.09.3)

经济增强型刀具动平衡机:
Tool Dynamic TD Economic Plus:
针对有更高要求的用户/For the advanced



TOOL DYNAMIC TD ECONOMIC PLUS 模块化动平衡系统/MODULAR BALANCING SYSTEM

新款 TD 经济增强型对于双平面测量(动态)来说是十分完美的。长的刀具系统必需要双平面动平衡检测来校正不平衡量。

机器附件可以整齐地排列在内置的抽屉里面。通过激光标记，工作快速并准确，光学指引帮助自动找寻主轴角度。

并且可以使用平衡螺钉来调整刀具系统的动平衡。

The new TD Economic Plus is perfect to measure unbalance in two planes (dynamic). Long tools have to be balanced in two planes to correct also the couple or dynamic unbalance.

Accessories can be clearly arranged in the built in drawers. Work quickly and error free with laser marking, optical indexing help and automatic indexing of the spindle.

The "fixed components" allow to balance with screws at rotors with threaded bores.






如下的功能和经济型刀具动平衡机一样

The following characteristics are identical to Tool Dynamic TD Economic:

特点/Characteristics			
	特殊材料的底座 Base made of polymer concrete		径向钻孔去重标示软件 Drilling radial
	用户界面 User interface		动平衡环配重标示软件 Software for compensation with balancing rings
	光学指引帮助 Optical indexing help		精确测量 Index balancing
	激光标记 Laser marking		主轴补偿测量功能 Balancing with spindle compensation
			单平面动平衡测量功能 Balancing in 1 plane
			德语/英语/法语/西班牙语/ 意大利语

下面的功能是TD 经济增强型动平衡机的标准配置

The following characteristics are standard inclusive for Tool Dynamic TD Economic Plus:

特点/Characteristics		
	双平面动平衡测量功能 Balancing in 2 planes	在双平面测量和补偿动平衡 (动态) Measuring and compensation of unbalance in 2 planes (dynamic unbalance)
	固定位置调平衡 Fixed components	在预定位置调节平衡 比如： 使用动平衡螺钉 Enables balancing at predefined positions, e. g. with balancing screws
	自动定位 Automatic indexing	主轴能自动旋转到选定角度位置 Turns the spindle on the selected angle position and simplifies exact positioning of spindle
	附件架 Rack for accessories	储存架带两个集成的抽屉可以储存转换套或者其它附件 Storage rack with two integrated drawers for balancing adapters and further accessories
	附件和特殊装置 Accessories and special equipment	从 18 页开始介绍 Please check the table from page 18

技术参数/Technical details			
Tool Dynamic TD Economic Plus			
尺寸(长x高x宽)/Dimensions(WxHxD) [mm]	500x1500x820	气源/Compressed air [bar]	6
重量/Weight [kg]	450	最大刀具长度/max. tool length [mm]	400
主轴转速/Spindle speed [rpm]	300-1100	选项/optional	700
测量精度/Measuring accuracy [gmm]	< 0,5	最大刀具直径/max. tool diameter [mm]	380
电源需求/Power requirements [V/Hz]	230/50-60	选项/optional	400/425
功率/Power usage [KW]	0,4	最大刀具重量/max. tool weight [kg]	30
订货号/Order No. TD102-H01-EU, 老订货号为: (80.222.00.09.3)			

舒适型刀具动平衡机:
Tool Dynamic TD Comfort:
针对有远见的用户/For ambitious users



TOOL DYNAMIC TD COMFORT 模块化动平衡系统/MODULAR BALANCING SYSTEM

如果您经常使用动平衡机并希望缩短调节时间，那么舒适型动平衡机就能满足您的要求。它带有电脑、键盘、鼠标和显示器，大屏幕让你能快速的输入数据，并且使用的是图形界面，这让您的平衡调节更快。除此之外提供铣削功能来调节平衡，这项功能在去除大的不平衡量的应用中是非常有效的。

If you want to use the Tool Dynamic frequently and keep the balancing time as short as possible, you should decide on the TD Comfort machine. It's equipped with a PC, keyboard, mouse and monitor. The big screen enables you a fast input of tool data and all the comfort of a graphical user interface – you just balance faster! In addition the software of the machine offers the possibility to correct the unbalance with the help of a milling program what is very common in practice to correct the unbalance.







如下的功能和经济增强型动平衡机一样

The following characteristics are identical to Tool Dynamic TD Economic Plus:

特点/Characteristics					
	特殊材料的底座 Base made of polymer concrete		动平衡环配重标示软件 Software for compensation with balancing rings		双平面动平衡测量功能 Balancing in 2 planes
	用户界面 User interface		精确测量 Index balancing		固定位置调平衡 Fixed components
	光学指引帮助 Optical indexing help		主轴补偿测量功能 Balancing with spindle compensation		自动定位 Automatic indexing
	激光标记 Laser marking		单平面动平衡测量功能 Balancing in 1 plane		附件架 Rack for accessories
	径向钻孔去重标示软件 Drilling radial		德语/英语/法语/西班牙语/ 意大利语		

下面的功能是舒适型动平衡机的标准配置

The following characteristics are standard inclusive for Tool Dynamic TD Comfort:

特点/Characteristics			
	标签打印软件 Print label	可与标签打印机连接，打印测量结果	Print balancing result on label
	铣削去重标示软件 Milling program	用铣削方式来调节不平衡量	Milling program allows correction of unbalance via milling
	动平衡 TDC 4.0 软件 Balancing software TDC 4.0	新的软件，使用方便，图像集成显示并可以通过触摸屏控制	New software with user-friendly graphical interface and touchscreen-control
	屏幕托盘 Screen holder	舒适的托盘放置电脑屏幕和键盘	Comfortable tray to place PC-screen and keyboard
	TFT 屏幕 TFT screen	舒适型的配置（包含电脑、液晶屏幕、键盘、鼠标）	Package for comfortable usage via keyboard for integrated PC (includes TFT screen, keyboard, mouse)
	附件和特殊装置 Accessories and special equipment	从 18 页开始介绍	Please check the table from page 18

技术参数/Technical details			
Tool Dynamic TD Comfort			
尺寸(长x高x宽)/Dimensions(WxHxD) [mm]	1100x1500x820	气源/Compressed air [bar]	6
重量/Weight [kg]	452	最大刀具长度/max. tool length [mm]	400
主轴转速/Spindle speed [rpm]	300-1100	选项/optional	700
测量精度/Measuring accuracy [gmm]	< 0,5	最大刀具直径/max. tool diameter [mm]	380
电源需求/Power requirements [V/Hz]	230/50-60	选项/optional	400/425
功率/Power usage [kW]	0,4	最大刀具重量/max. tool weight [kg]	30
		订货号/Order No.	TD100-H01-EU, 老订货号为: (80.224.00.09.3)
带加高型保护罩的动平衡机订货号为: TD100-H02-EU, 老订货号为: (80.224.00.09.3+ 80.232.01.3), 最大刀具直径X长度为: Ø400 x 700 mm ;			
带加高型保护罩的动平衡机订货号为: TD100-H03-EU, 老订货号为: (80.224.00.09.3+ 80.232.02.3), 最大刀具直径X长度为: Ø425 x 700 mm ;			

舒适增强型刀具动平衡机: Tool Dynamic TD Comfort Plus: 针对追求完美的用户/For perfectionists



图片显示的是特殊选配：针对最大长度到 700mm 刀具系统的类型 3 安全罩（可参见第 18 开始的可选项目表）
Picture shows special equipment: Safety hood type 3 for tools with length up to 700 mm (see optional configurations from p. 18)

TOOL DYNAMIC TD COMFORT PLUS

模块化的动平衡系统/MODULAR BALANCING SYSTEM

舒适增强型刀具动平衡机提供了更大的便利性和舒适性。在使用时，你不会感到无所适从。

不需要成为专家，你就能快速、高效的进行刀具平衡。优化的触摸屏、集成电脑、舒适的附件抽屉等使平衡过程更快捷、便利并且容易，这也是你毫不犹豫选择TD 舒适增强型动平衡机的原因。

Tool Dynamic TD Comfort Plus offers a maximum of usability and comfort. Using TD Comfort Plus you will never lose your goal during the balancing progress. You would like to balance your tools efficiently, fast and without being an expert? Then feel free to choose Tool Dynamic TD Comfort Plus – optimized touchscreen usage, integrated PC, comfortable storages for your balancing accessories and a maximum of equipment make balancing fast, convenient and very easy.



下面的功能和舒适型动平衡机一样

The following characteristics are identical to Tool Dynamic TD Comfort:

特点/Characteristics					
	特殊材料的底座 Base made of polymer concrete		动平衡环配重标示软件 Software for compensation with balancing rings		固定位置调平衡 Fixed components
	用户界面 User interface		精确测量 Index balancing		自动定位 Automatic indexing
	光学指引帮助 Optical indexing help		主轴补偿测量功能 Balancing with spindle compensation		附件架 Rack for accessories
	激光标记 Laser marking		单平面动平衡测量功能 Balancing in 1 plane		铣削去重标示软件 Milling program
	标签打印软件 Print label		双平面动平衡测量功能 Balancing in 2 planes		动平衡 TDC 4.0 软件 Balancing software TDC 4.0
	径向钻孔去重标示软件 Drilling radial				德语/英语/法语/西班牙语/ 意大利

下面的功能是舒适增强型动平衡机的标准配置

The following characteristics are standard inclusive for Tool Dynamic TD Comfort Plus:

特点/Characteristics			
	包含触摸屏的动平衡控制终端 Control terminal incl. touchscreen	柜架用来存放触摸屏、键盘、鼠标、打印机和其它附件(包括与 TDC 4.0 软件相关的附件)。	Console for storage of touchscreen, keyboard, mouse, printer, and further accessories (only together with Balancing software TDC 4.0)
	附件和特殊装置 Accessories and special equipment	从 18 页开始介绍	Please check the table from page 18

技术参数/Technical details

Tool Dynamic TD Comfort Plus			
尺寸(长x高x宽)/Dimensions(WxHxD) [mm]	1100x1500x820	气源/Compressed air [bar]	6
重量/Weight [kg]	534	最大刀具长度/max. tool length [mm]	400
主轴转速/Spindle speed [rpm]	300-1100	选项/optional	700
测量精度/Measuring accuracy [gmm]	< 0,5	最大刀具直径/max. tool diameter [mm]	380
电源需求/Power requirements [V/Hz]	230/50-60	选项/optional	400/425
功率/Power usage [kW]	0,4	最大刀具重量/max. tool weight [kg]	30
订货号/Order No. TD103-H01-EU , 老订货号为: (80.226.00.09.3)			
带加高型保护罩的动平衡机订货号为: TD103-H02-EU , 老订货号为: (80.226.00.09.3+ 80.232.01.3), 最大刀具直径X长度为: Ø400 x 700 mm ;			
带加高型保护罩的动平衡机订货号为: TD103-H03-EU , 老订货号为: (80.226.00.09.3+ 80.232.02.3), 最大刀具直径X长度为: Ø425 x 700 mm ;			

工业 4.0 级舒适增强型动平衡机：
Tool Dynamic TD Comfort Plus i4.0:
工业 4.0 级动平衡机确保您的生产流程的高稳定性
Industry 4.0-ready balancing machine for maximum
process reliability in production.



图片显示的是特殊配置的设备，参考从18页开始的选项表
see optional configurations from page 18

TOOL DYNAMIC TD COMFORT PLUS i 4 . 0

模块化的动平衡系统/MODULAR BALANCING SYSTEM

新的翰默工业 4.0 级舒适增强型动平衡机使您的工作更高效和更舒适。该款产品的亮点有：工业 4.0 级的网络兼容性、数据传输至数控机床、独立的控制终端包含优化的 27" 触摸屏。工业 4.0 级舒适增强型动平衡机可以选配巴鲁夫 RFID 芯片读写系统和 DAC 链接。工业 4.0 级舒适增强型动平衡机经个性化的调试后，可以将刀具数据传输至数控机床的控制器中。

The new Tool Dynamic TD Comfort Plus i4.0 offers a maximum of usability and comfort. Highlights are the possibility of digital data transfer to the machine, network compatibilities (i4.0 ready) and an optimised 27" multi-touchscreen usage via separate control terminal. The Tool Dynamic TD Comfort Plus i4.0 is optional extendable with Balluff RFID and DAC connection. The TD Comfort Plus i4.0 allows for sending tool data to the machine tool control. Individual customised adaptations are necessary.






该设备的下列功能和舒适增强型动平衡机是完全相同的：

The following characteristics are identical to Tool Dynamic TD Comfort Plus:

特点/Characteristics					
	特殊材料的底座 Base made of polymer concrete		动平衡环配重标示软件 Software for compensation with balancing rings		固定位置调平衡 Fixed components
	用户界面 User interface		精确测量 Index balancing		自动定位 Automatic indexing
	光学指引帮助 Optical indexing help		主轴补偿测量功能 Balancing with spindle compensation		附件架 Rack for accessories
	激光标记 Laser marking		单平面动平衡测量功能 Balancing in 1 plane		铣削去重标示软件 Milling program
	标签打印软件 Print label		双平面动平衡测量功能 Balancing in 2 planes		动平衡 TDC 4.0 软件 Balancing software TDC 4.0
	径向钻孔去重标示软件 Radial drilling				德语/英语/法语/西班牙语/意大利 Deutsch/English/Français/Italiano/Español

下列配置是工业 4.0 级舒适增强型动平衡机的标配










The following characteristics are included standard for Tool Dynamic TD Comfort Plus i4.0:

特点/Characteristics			
	工业 4.0 级的控制终端包含触摸屏 Control terminal i4.0 incl. touchscreen	高品质的 27" 触摸屏带硬化的玻璃表面，易于操控。控制终端带抽屉，用于储存动平衡转换套和刀具，还有放置打印机的空间。	High quality 27" touchscreen with hardened glass surface for easiest control. Control terminal with drawer for balancing adapter and tools and storing facility for printers
	工业 4.0 就绪 i4.0 ready	通过 LAN 网络或者优盘将数据传输到数控机床的控制器中，可以选配通过巴鲁夫芯片传输数据的系统和 DAC 链接	Digital data transfer to machine via LAN or USB, optional data transfer with Balluff chip and DAC connectivity
	通过 27" 触摸屏操作软件 Software via 27" multi-touchscreen	使用 27" 触摸屏、鼠标和键盘使软件的操作更简捷	Software via 27" multi-touchscreen or mouse and keyboard for maximum usability
	Windows 10	基于 Windows 10 操作系统的软件	Software based on operation system Windows 10
	附件和特殊配置 Accessories and special equipment	请参考 P18-21 的表格	Please check the table on P18-21

技术参数/Technical details			
工业 4.0 级舒适增强型动平衡机/Tool Dynamic TD Comfort Plus i4.0			
尺寸(长x高x宽)/Dimensions (WxHxD) [mm]	1100×1500×820	气源/Compressed air [bar]	6
重量/Weight [kg]	544	最大刀具长度/max. tool length [mm]	400
主轴转速/Spindle speed [rpm]	300–1100	选项/optional	700
测量精度/Measuring accuracy [gmm]	< 0,5	最大刀具直径/max. tool diameter [mm]	380
电源需求/Power requirements [V/Hz]	230/50–60	选项/optional [mm]	400/425
功率/Power usage [kW]	0,4	最大刀具重量/max. tool weight [kg]	30
订货号/Order No. TD403-H01-EU, 老订货号为: (80.226.04.09.3)			
带加高型保护罩的动平衡机订货号为: TD403-H02-EU, 老订货号为: (80.226.04.09.3+ 80.232.01.3), 最大刀具直径X长度为: Ø400 x 700 mm ;			
带加高型保护罩的动平衡机订货号为: TD403-H03-EU, 老订货号为: (80.226.04.09.3+ 80.232.02.3), 最大刀具直径X长度为: Ø425 x 700 mm ;			

可选项目
OPTIONAL CONFIGURATIONS

图标 Symbol	订货号 Order No.	项目名称 Article name	描述	Description	TD 1002	Tool Dynamic TD Economic	Economic Plus	Comfort	Comfort Plus	Comfort Plus i4.0	TD Preset Microset	TD 800
												
	—	防振底座 Vibration optimized base	可调底座以减小振动	Adapted table for optimised base	●	—	—	—	—	—	—	—
	—	由特殊材料制成的立式底座 Base made of polymer concrete	高精度的测量必须建立在稳重的底座基础上	Highest measuring accuracy due to heavy base	—	●	●	●	●	●	●	●
	—	用户界面 User interface	集成操作界面便于操作	Integrated user interface for easy handling of the machine	●	●	●	●	●	●	●	●
	—	光学指引帮助 Optical indexing help	显示精确的主轴角度	Indication of the exact spindle angle position on display	●	●	●	●	●	●	●	●
	—	激光标记 Laser marking	用激光标示不平衡位置和改进位置	Indicates the position of unbalance and correction with a laser	●	●	●	●	●	●	●	●
	—	标签打印软件 Print label	可与标签打印机连接, 在标签上打印结果	Print balancing results on label	—	—	—	●	●	●	●	●
	—	径向钻孔去重标示软件 Drilling radial	通过径向钻孔调整平衡	Correction of unbalance by drilling radially	●	●	●	●	●	●	●	●
	—	动平衡环配重标示软件 Software for compensation with balancing rings	用平衡环或者其它移动方式调平衡	Correction of unbalance by rings or other movable weights	●	●	●	●	●	●	●	●
	—	精确测量 Index balancing	测试过程中的误差补偿(2次测量, 旋转180°精确测量)	Compensation of measuring errors by index balancing (2 measuring runs, indexing angle 180°)	●	●	●	●	●	●	●	●
	—	主轴补偿测量功能 Balancing with spindle compensation	快速精确地测量重复部分(简单测量运行的)	Quick and precise measurement of repetition parts (single measuring run)	●	●	●	●	●	●	●	●
	—	单平面动平衡测量功能 Balancing in 1 plane	在单平面测量和补偿不平衡量(静态)	Measuring and compensation of unbalance in 1 plane (static)	●	●	●	●	●	●	●	●
	80.252.01	双平面动平衡测量功能 Balancing in 2 planes	在双平面测量和补偿不平衡量(动态)	Measuring and correction of unbalance in 2 planes (dynamic unbalance)	○	○	●	●	●	●	●	●
	80.202.00	固定位置调平衡 Fixed components	在预定位置调节平衡比如: 使用动平衡螺钉	Enables balancing at predefined positions, e.g. with balancing screws	○	○	●	●	●	●	○	●
	80.217.00	自动定位 Automatic indexing	主轴能自动旋转到选定角度位置	Turns the spindle on the selected angle position and simplifies exact positioning of spindle	○	○	●	●	●	●	●	●

图标 Symbol	订货号 Order No.	项目名称 Article name	描述	Description	TD 1002	Tool Dynamic TD Economic	Economic Plus	Comfort	Comfort Plus	Comfort Plus i4.0	TD Preset Microset	TD 800
												
	80.227.00	附件架 Rack for accessories	储存架带两个集成的抽屉可以储存转换套或者其它附件	Storage rack with two integrated drawers for balancing adapters and further accessories	—	○	●	●	●	●	●	●
	80.212.00	铣削去重标示功能 Milling program	用铣削方式来调节不平衡量	Correction of unbalance via milling	○	○	○	●	●	●	○	●
	80.245.06	动平衡 TDC 4.0软件 Balancing software TDC 4.0	新的软件使用方便, 图像集成显示并且可通过触摸屏控制	New software with user-friendly graphical interface and touchscreen control	—	○	○	●	●	●	●	●
	80.228.03.3	屏幕托盘 Screen holder	舒适的托盘放置电脑屏幕和键盘	Comfortable tray to place PC-screen, keyboard and mouse	—	○	○	●	—	—	—	—
	80.228.02.01.3	打印机用支架 Printer desk	为打印机选配(需要屏幕托盘)	Optional desk for printer (Requires screen holder)	—	○	○	○	—	—	—	—
	80.228.02.02.3	电脑支架 PC holder	为外置式电脑选配(需要屏幕托盘)	Optional holder for external PC (Requires screen holder)	—	○	○	○	—	—	—	—
	80.228.02.04.3	刀具称重支撑臂 Support arm for tool scale	可选称重台(需要屏幕托盘)	Optional desk for tool scale (Requires screen holder)	—	○	○	○	—	—	—	—
	80.233.00.4	包含触摸屏的控制终端 Control terminal incl. touchscreen	集成了触摸屏, 键盘、鼠标、打印机和其他配件的控制终端	Terminal for storage of touchscreen, keyboard, mouse, printer, and further accessories	—	○	○	○	●	—	—	●
	80.233.09	包含触摸屏的工业4.0级控制终端 Control terminal i4.0 incl. touchscreen	集成了27"触摸屏和基于视窗系统的电脑的控制终端	Control terminal with 27" touchscreen and integrated PC (Windows based)	—	—	—	—	○	●	●	○
	80.233.01.3	标签打印机支撑臂 Support arm for label printer	可选标签打印机托盘(需要工业4.0级控制终端)	Optional desk for label printer (Requires Tool Control i4.0)	—	—	—	—	○	○	○	○
	80.233.02.3	称重台 Support arm for tool scale	可选称重台(需要工业4.0级控制终端)	Optional desk for tool scale or tools (Requires Tool Control i4.0)	—	—	—	—	○	○	○	○
	80.229.03	触摸屏 Touchscreen	带触摸屏的 TFT 显示器(可用于舒适型动平衡机的升级)	TFT monitor with touchscreen (Upgrade for TD Comfort)	—	—	—	○	●	●	●	●
	80.229.02	TFT 液晶屏幕 TFT screen	舒适型的配置(包含液晶屏幕、键盘、鼠标)	Comfortable usage via keyboard for integrated PC	—	○	○	●	—	—	—	—
	80.229.04	触摸屏 Touchscreen	带触摸屏的 TFT 显示器(可用于经济型和经济增强型动平衡机的升级)	TFT monitor with touchscreen for TD Economic and TD Economic Plus	—	○	○	—	●	●	●	●

可选项目
OPTIONAL CONFIGURATIONS

图标 Symbol	订货号 Order No.	项目名称 Article name	描述	Description	TD 1002	Tool Dynamic TD					TD Preset Microset	TD 800
						Economic	Economic Plus	Comfort	Comfort Plus	Comfort Plus i4.0		
	80.209.00	特殊密度功能 Specific weight function	针对特殊钢材或者 其它材料，可使用 此功能	Enables specifica- tion of the specific weight of the rotor to be balanced, if different from steel								
	80.213.01	轴向钻孔去重 标示功能 Drilling axial	通过轴向钻孔达到 平衡	Correction of unbal- ance by axial drill- ing, e.g. for grind- ing wheels	○	○	○	○	○	○	○	○
	80.218.00	使用任意的索引角精密测量 Index balancing with free indexing angle	分度测量不能被 180°分度的回转体 (例如：PSC 63 刀 柄)	Index balancing of rotors which can not be indexed 180° (e.g. PSC 63 chucks)	○	○	○	○	○	○	○	○
	80.214.00	打印功能软件 Software for printout of report	打印完整测试报告 (动平衡证书)	Printout of a de- tailed measuring protocol (balancing certificate)	○	○	○	○	○	○	○	○
	—	德语/英语/ 法语/西班牙 语/意大利语	主机操作界面的语 言	Languages for user interface for internal display	●	●	●	●	●	●	●	●
	80.245.12	使用者账户管 理 User account administration	不同用户不同权限	User administration with individual alloca- tion of user rights	—	—	—	○	○	○	○	○
	80.245.09	禁止区域 Forbidden areas	预先设定的不可进 行平衡调节的区域	Defined areas that are not allowed for the compensation of the unbalance	—	—	—	○	○	○	○	○
	80.245.10	可选择补偿区 域 Alternative compensation positions	当补偿位置不可以 操作时计算替换位 置	Calculation of al- ternative positions, when proposed position not possi- ble	—	—	—	○	○	○	○	○
	80.245.11	优化测量时间 Optimized measuring time	更短的测量时间， 保证有效测量精度	Shortened measur- ing run, if measuring accuracy is suffi- cient	—	—	—	○	○	○	○	○
	80.245.14	偏心平衡 Eccentric Balancing	在外表面去除偏心 量改善平衡	Correction of unbal- ance by eccentric material removal at peripheral surface	—	○	○	○	○	○	○	○
	80.232.01.3	保护罩类型 3 Safety hood type 3	针对加长刀具的保 护罩，最大刀具长 度 700mm，最大 刀具直径 400mm (包含顶部的第二 激光源)	Safety hood for ex- tra long toolholders with max. 700 mm length and max. 400 mm diam. (incl. second laser mark- ing from top)	—	○	○	○	○	○	—	—
	80.232.02.3	保护罩类型4 Safety hood type 4	针对加长刀具的保 护罩，最大刀具长 度 700mm，最大 刀具直径 425mm (包含顶部的第二 激光源)	Safety hood for ex- tra long toolholders with max. 700 mm length and max. 425 mm diam. (incl. second laser mark- ing from top)	—	○	○	○	○	—	—	—

图标 Symbol	订货号 Order No.	项目名称 Article name	描述	Description	TD 1002	Tool Dynamic TD					TD Preset Microset	TD 800
						Economic	Economic Plus	Comfort	Comfort Plus	Comfort Plus i4.0		
	80.254.00.3	跳动精度测量装置 Runout measuring device	简单和可靠地检测砂轮的径向和轴向跳动	Easy and reliable check of grinding wheel's runout and axial runout	○	—	—	—	—	—	—	—
	80.203.00	动平衡螺钉组 Balancing screw set	包含11×10个特殊的螺钉(M6), 通过刀柄上的M6动平衡螺纹孔修正刀具系统的精细动平衡 (见55页)	Set consisting of 11 × 10 special screws for fine-balancing of tool holders with balancing threads m6 (p. 55)	○	○	○	○	○	○	○	○
	79.350.xx	动平衡环 Balancing rings	适用于有圆柱外径的刀具系统的精细动平衡 (见54页)	For fine-balancing of all tool holders with cylindrical outer diameter (see p. 54)	○	○	○	○	○	○	○	○
	80.207.01	精密电子秤 Precision scale	精密地测量转子的重量	For highly precise weighing of balancing weights	○	○	○	○	○	○	○	○
	80.207.12	电子秤集成软件 Software scale integration	从电子秤自动传输转子重量	Automatic transfer of rotor weight from scale	—	—	—	○	○	○	○	○
	80.207.10	电子秤 Tool scale	测试转子的重量, 可选择电子秤集成软件直接传输重量到平衡软件(见可选项80.207.12)	Measures the weight of the tool holder, optional direct transfer into the balancing software (see option 80.207.12)	○	○	○	○	○	○	○	○
	80.215.02	动平衡报告激光打印机 Laser printer for balancing reports	打印详细动平衡报告的激光打印机 (必须和80.214.00选项搭配使用)	Laser printer with Ethernet port to print out a detailed balancing report (together with option 80.214.00)	○	○	○	○	○	○	○	○
	80.206.00	校正磁铁套装 Set of calibration magnets	用于测试和培训目的的磁铁	Calibration magnets for testing, training, and demonstration purposes	○	○	○	○	○	○	○	○
	80.200.02	产品培训 Training	该培训是未来质保期的前提条件	The training is obligatory for future warranty claims	○	○	○	○	○	○	○	○
	80.243.01	砂轮的寻边器 Grinding wheel edge finder	砂轮边缘的快速测量	Easy edge measurement for grinding wheels	—	—	—	—	—	—	○	—
	80.230.00	校准工具 Calibration tube	为了机器精密运行并减少误差的校准和检测工具	For the calibration and testing of every balancing machine with the help of a defined mass	○	○	○	○	○	○	○	○
	80.215.05	Dymo的标签打印机 Label printer "Dymo"	测量结果用标签形式打印(短报告), USB 接口	Printout of a label with the measuring results (short report); USB interface	—	—	—	○	○	○	○	○
	80.245.13	输出测量结果 Export measuring results	输出测量结果的软件	Software to export measuring results	—	—	—	○	○	○	○	○

刀具动平衡机控制终端: Tool Dynamic Control Terminal: 操作更舒适/For more operating comfort

带有硬质玻璃的高质量触摸屏
High quality touchscreen with hardened glass
surface for easiest control

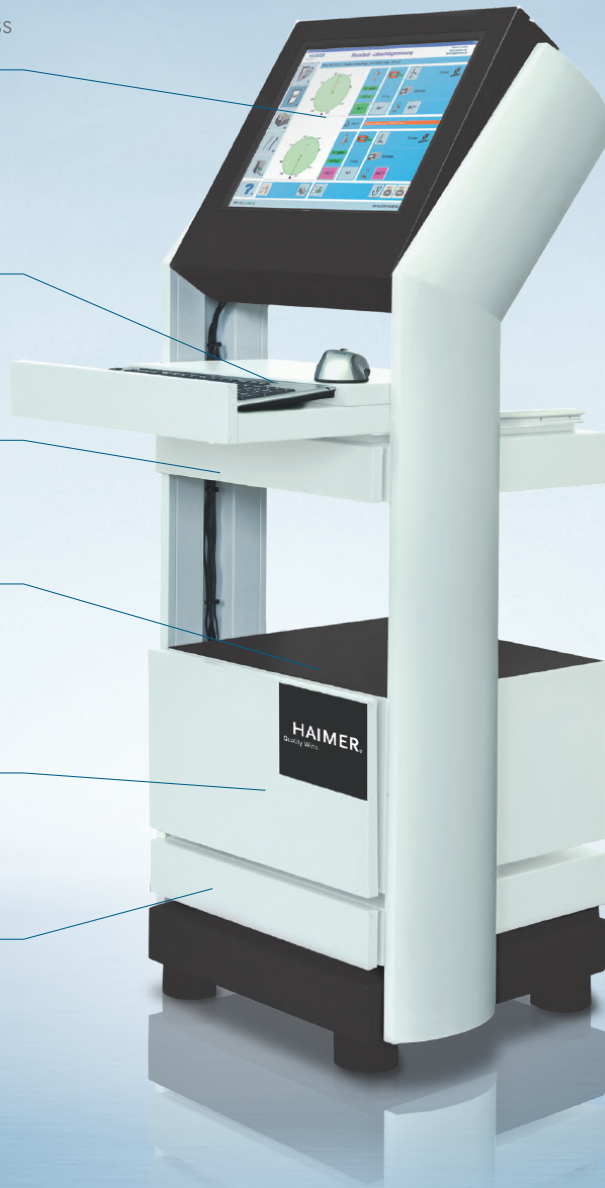
抽拉式键盘鼠标抽屉
Traditional input with keyboard and
mouse possible

附件抽屉
Drawer for accessories

打印机储放架
Storing Facility for Printers

工具和动平衡转换套储存架
Storage for balancing adapter and tools

附加抽屉
Additional drawer



TOOL DYNAMIC TD SOFTWARE TDC 4.0

动平衡软件 TDC 4.0

智能化动平衡软件

动平衡现在变得更容易和人性化。用户界面图形显示，按钮符号代替了文字输入。通过点击鼠标或者触摸屏，使用功能键进行操作。

旧版本的界面依然被保留。无论是谁，以前使用过老的界面，现在使用新界面时也不会出现问题。

除此之外，增加了新的功能

用户管理系统设定不同的进入权限。比如，一个用户建立出新的刀具资料并确定了刀具系统的平衡精度，另一个用户只可以把存在的数据调用出来进行平衡操作。

- 用户友好界面
- 触摸屏操作 (可选)
- 根据实际加工时的情况确定允许的
不平衡量
- 刀具管理数据库
- 刀具数据管理文件夹
- 与其它系统可简易地进行数据交换
如：刀具数据管理

更多选项

- 在不能进行不平衡补偿的地方
定义禁止区域
- 对可选择区域进行计算
- 带有访问权限的用户管理
- 可联接外部电子称
- 优化测量运行
- 测量结果输出

Intelligent balancing software

Balancing is now even easier and more user-friendly. The user interface is completely made up of graphics. Buttons with symbols replace the text fields in most locations. Selection can take place using function buttons, by clicking the mouse or by touching the screen.

The proven simple design of the old interface has been kept. Anyone who already knows the Tool Dynamic can work with the new software without any problems.

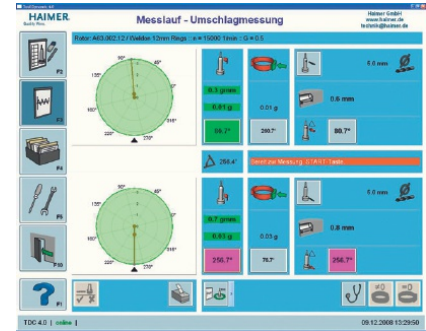
In addition, there is a series of further functions

User management makes it possible to assign different access rights. For example, one user can create new tool data and determine balance tolerances while another may only call up the existing data and carry out the balancing procedure.

- User-friendly design
- Operation with touchscreen (optional)
- Allocation of balance tolerances by machine type
- Tool management with database
- Tool data management in folder structure
- Simple data exchange with other systems, e.g. tool data management

Further options

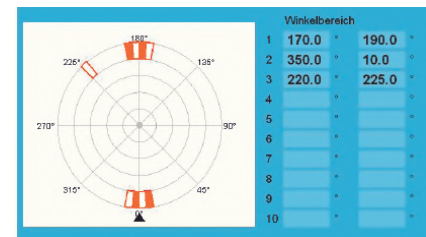
- Definition of forbidden areas where the compensation of the unbalance is not possible
- Calculation of alternative balancing positions
- User management with access rights
- Connection to external scales possible
- Optimized measuring run
- Export of measuring results



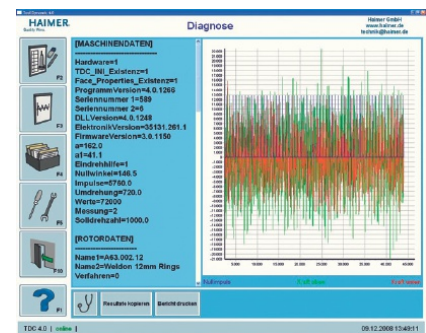
简洁明了的用户界面
Clearly arranged graphical user interface



图形帮助功能
Intuitive user guidance



功能：禁止区域
Feature: Forbidden areas



先进的诊断功能
Advanced diagnostic modes

刀具预调与动平衡一体机（对刀动平衡一体机）： Tool Dynamic TD Preset Microset: 一次装夹完成刀具预调和动平衡/ For balancing and presetting in one step



图片显示的是翰默的刀具预调和动平衡一体机及附件
(参考 P18 页开始的选配表)
Picture shows TD Preset Microset with accessories
(see optional configurations from page 18)

TOOL DYNAMIC TD PRESET MICROSET 刀具预调和动平衡一体机/ TOOL BALANCING AND PRESETTING

两种经典的系统-

一个趋势性的创新设备

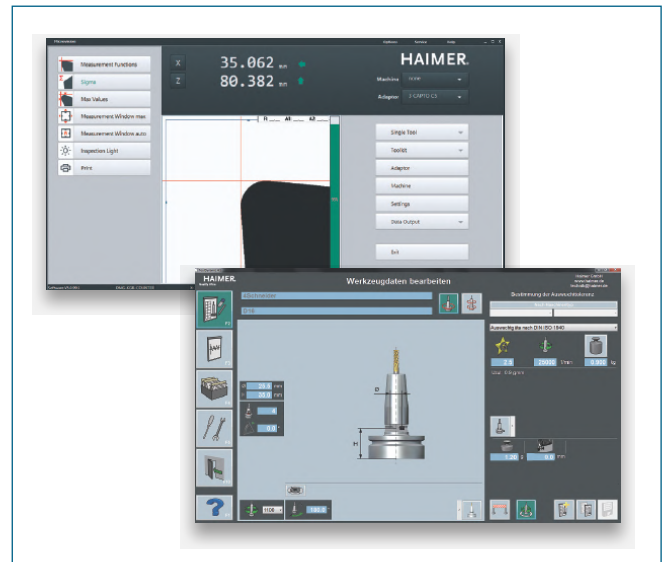
翰默的刀具预调和动平衡一体机是翰默的动平衡技术和对刀仪技术的完美结合。刀具通过翰默经典的动平衡机转换套系统夹持在高精度的动平衡机主轴上。由于刀具无需再次装夹，因此可以节省时间和金钱，提高精度。

- 突破性的艺术级科技：舒适增强型动平衡机和翰默高级对刀仪
- 通过两个工序的结合获得更高的效率并节省时间
- 由于翰默高精度动平衡转换套系统的应用，获得了很高的测量精度
- 占用的空间更小
- 通过27英寸的触摸屏和HAIMER TDC 4.0 and Microvision UNO软件实现简单和有逻辑的操作
- 提供各种接口的转换套
- 大幅度地简化了测量工作

Two proven systems – a trendsetting innovation

The Tool Dynamic Preset Microset is a perfect combination of HAIMER's balancing and HAIMER's Microset presetting technology. The tool is clamped in the high precision balancing spindle fitted with HAIMER's proven adapter system. This saves time, money and increases accuracy because the tool does not have to be re-clamped.

- Breakthrough state-of-the-art technology: Tool Dynamic Comfort Plus and Microset UNO Premium
- Highest efficiency and time saving by combining two production stages
- Utmost precision due to high precision clamping in HAIMER's balancing adapters
- Needs little space
- Simple and logical operation with HAIMER TDC 4.0 and Microvision UNO with 27" mult-touchscreen
- Adapter for all interfaces
- Highest possible measuring convenience



预调

通过高分辨率的照相机和电子成像工艺

Presetting

Measuring system with high resolution camera and digital image processing

专业的软件

各种测量和动平衡的选项清晰的列在操作目录中，可以自动在动平衡和预调软件之间进行切换

Software for professionals

Various options for measuring and balancing clearly arranged in menus with automatic switch between balancing and presetting software

技术参数/Technical details

Tool Dynamic TD Preset Microset

尺寸(长x高x宽)/Dimensions(WxHxD) [mm]	2000 × 1800 × 850
重量/Weight [kg]	823
电源/Power requirements [V/Hz]	230/50 – 60
主轴转速 [U/min]/Spindle speed [rpm]	300 – 1100
测量精度/Measuring accuracy [gmm]	< 0,5
功率/Power usage [kW]	1,5
重复精度/Repeatability [mm]	± 0,002

视觉的分辨率/Visual Indicator [mm]	0,001
气源/Compressed air [bar]	5 – 6
可以测量动平衡的最大刀具长度/max. tool length balancing [mm]	700
可以测量和预调的最大刀具长度 max. tool length measuring and presetting	400
最大刀具直径/max. tool diameter [mm]	400
最大刀具重量/max. tool weight [kg]	30

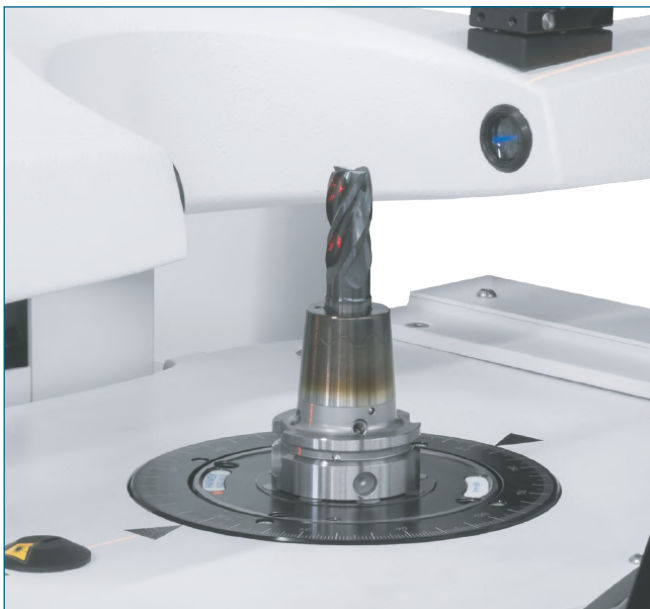
订货号/Order No. TD104-H02-EU, 老订货号为: (80.240.00.09.3)

你所获得的利益

- 直观的对话框简化了操作
- 通过操作测量臂来自动切换两种软件
- 通过高分辨率的照相机和电子成像工艺实现非接触的测量，Microvision 测量软件包含所有重要的测量功能，还有各种新式且不断升级的预调装置
- 通过电脑和 27 英寸的触摸屏简化操作
- 高大的保护罩用于最大长度为 700mm 的刀具。可以进行单平面（静态）和双平面（动态）动平衡检测
- 各种测量和动平衡方式
- 选配的砂轮快速寻边器：测量组合砂轮的好帮手，再通过动平衡获得更好的磨削效果
- 应用 RFID 系统 (巴鲁夫芯片等)可以读写动平衡等级和允许的最高转速
- 可以使用扫描枪
- 可以使用翰默数据分析和控制系统 DAC
- 内置的柜子可以储存附件

Your benefits at a glance

- Simple operation through photorealistic input dialog
- Automatic software switch by positioning the measuring arm
- Non-contact measurement with a high-resolution camera and digital image processing, incl. measuring software „Microvision“ with all important measuring functions of a modern and up-to-date presetting device
- Convenient operation, menu-driven via PC and 27" touch screen
- Large hood for tool holders with max. 700 mm length. Balancing in 1 plane (static) and 2 planes (dynamic)
- Various measuring and balancing methods
- Optional Grinding wheel edge finder: ideal for measuring grinding wheel packages and subsequently balancing for best grinding results
- RFID ready (Balluff etc.) to read and write balance grade and max. rotation
- Ready for barcode scanner
- HAIMER DAC (Data Analyzer & Controller) ready
- Built-in drawer cabinet for storing accessories



通过高分辨率的照相机和电子成像工艺实现非接触的测量，包含 Microvision 测量软件

Non-contact measurement with a high-resolution camera and digital image processing, incl. measuring software „Microvision“



选配：用于测量砂轮的快速寻边器

轻松的测量砂轮

测针消除砂轮顶端的模糊影像并获得清晰的分界点（订货号：80.243.01）

Optional: Grinding wheel edge finder for grinding wheels

Easy edge measurement for grinding wheels

The measuring pin eliminates the blur on the surface and creates a clear point of intersection. (Order No. 80.243.01)

TOOL DYNAMIC TD PRESET MICROSET 刀具预调和动平衡一体机的产品特征/FEATURES

机器和控制系统/Machine & Tool Control

- | | |
|---|--|
| <ul style="list-style-type: none"> - 稳固和寿命长的铸铁结构 - 特制的混凝土基座 - 优化的热稳定性很好的材料提高了测量的稳定性 - USB / LAN 通过优盘和网络输出数据 - Windows 10 - 主机内储物架上有两个抽屉 - 控制器的储物抽屉可以储存动平衡转换套和附件 - 通过 27 英寸的多触点显示屏或者鼠标和键盘可以轻松操作的软件 - 标签打印机 (选配) | <ul style="list-style-type: none"> - Robust, long-life cast iron construction - Base made of polymer concrete - Thermally optimised material combination for improved repeatability - USB / LAN data output - Windows 10 - Storage rack with two integrated drawers - Storage drawers for balancing adapters and tool accessories in the Tool Control - Software via 27" multi-touch-screen or mouse & keyboard for maximum usability - Label printer (on option) |
|---|--|

刀具预调/Tool Presetting

- | | |
|---|--|
| <ul style="list-style-type: none"> - 技术包: 检测光, 寻边器, 触摸释放 - Sigma 功能 - 重复精度 $\pm 2 \mu\text{m}$ - 手动微调 - 储存 1000 个零点和刀具的内存 - 简易和直观的测量软件 - 手动 RFID 系统 (选配) - 双向接口 (选配) - 后处理软件 (选配) | <ul style="list-style-type: none"> - Technology package: Incident light, Edgfinder, release-by-touch - Sigma function - $\pm 2 \mu\text{m}$ repeatability - Manual fine adjustment - Memory for 1.000 zero points and tools - Easy and intuitive Microvision measuring software - Manual RFID system (on option) - Bi-directional interface (on option) - Post processor (on option) |
|---|--|

动平衡/Balancing

- | | |
|--|---|
| <ul style="list-style-type: none"> - 集成的用户界面, 易于操作 - 光学的辅助分度 - 激光标识 - 第二激光源 (从上方) - 精确测量 - 径向钻孔 - 带主轴补偿的动平衡测量 - 使用动平衡环补偿的软件 - 单平面或者双平面的动平衡检测 - 动平衡测量软件 TDC 4.0 | <ul style="list-style-type: none"> - Integrated user interface for easy handling of the machine - Optical indexing help - Laser marking - 2nd. Laser (from above) - Index balancing - Drilling radial - Balancing with spindle compensation - Software for compensation with balancing rings - Balancing in 1 and 2 planes - Balancing software TDC 4.0 |
|--|---|

TD 800 刀具动平衡机:
Tool Dynamic TD 800:
针对特殊要求/For specialists



图片显示的是特殊装置：跳动精度测量控制台
Picture shows special equipment: Runout measuring console

TOOL DYNAMIC TD 800 特殊的动平衡机/SPECIAL BALANCING MACHINES

对于直径接近800mm的大型旋转件——这是你的解决方案

基于成熟动平衡技术的TD800型动平衡机允许对更大的旋转件进行测量，如轴承环，砂轮和涡轮。选用定制的夹持转换套可以让您快速方便地调节平衡。

Your solution for big rotors up to diam. 800 mm

Based on the proven Tool Dynamic balancing technology the Tool Dynamic TD 800 allows balancing big rotors of all kind. Bearing rings, grinding wheels and turbine wheels. With hand tailored clamping adapters you can balance your rotors as easy and quick as usual.



保护罩从中间分开，因此转子可以轻松放入，沉重的工件可以用吊装工具吊入。

The safety hood is segmented and opens to the side. Thus the rotor is accessible from above. Heavy parts can be handled by a crane.

技术参数/Technical details

Tool Dynamic TD 800

尺寸(长x高x宽)/Dimensions(WxHxD) [mm]	2000×1950×1020	功率/Power usage [kW]	1,0
重量/Weight [kg]	674	气源/Compressed air [bar]	5 – 6
主轴转速 [U/min]/Spindle speed [rpm]	100-1100	最大刀具长度/max. tool length [mm]	750
测量精度/Measuring accuracy [gmm]	< 0,5	最大刀具直径/max. tool diameter [mm]	800
电源需求/Power requirements [V/Hz]	230/50-60	最大刀具重量/max. tool weight [kg]	110
		订货号/Order No. TD107-H04-EU, 老订货号为: (80.270.00)	

自动刀具动平衡机:
Tool Dynamic TD Automatic:
针对专业需求/For professionals



自动刀具动平衡机 TOOL DYNAMIC TD AUTOMATIC AUTOMATIC BALANCING TECHNOLOGY

我们将动平衡推向更高标准： 更快，更好，更高效

TD 自动调节型动平衡机

TD 自动调节型动平衡机是全球真正的数控自动调节不平衡量的综合型动平衡机。它能够通过钻孔和铣削的方式，自动修正单平面或双平面的动平衡，并能垂直或者水平地工作。

这款动平衡机集成了19寸的触摸屏。数控系统是西门子840DSL。这个系统能和动平衡软件同时使用。

自动调节平衡——这就是它的工作

在测量结束后，机器能自动计算为了达到平衡需要钻孔的深度，以及铣切、磨削的量。然后动平衡机的主轴自动转到正确的位置，集成的数控装置就能自动去除不平衡量。

动平衡不仅仅更快和更容易，因为失误而导致刀具系统不能正确调节平衡也将不复存在。

- 测量和补偿动平衡在一个步骤完成
- 快速，简单和经济
- 不会出现误操作
- 可以集成在自动化生产线中
- 专门的软件对于特殊的平衡要求

TD 自动型动平衡机—带立式加工中心的平衡机：**操作更舒适、工艺可靠性更高、效率和精度更高**

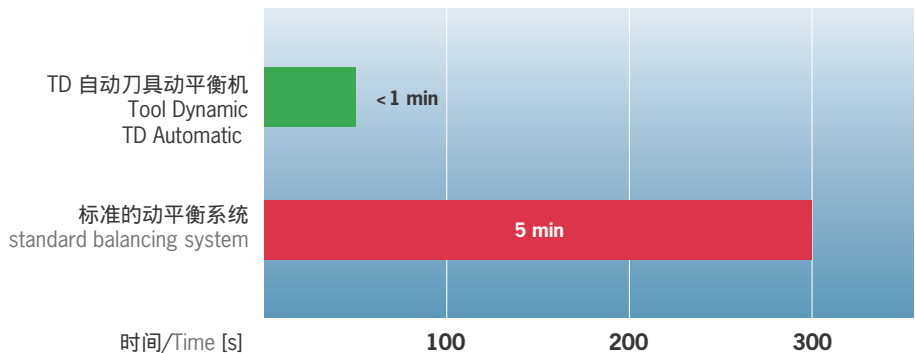
订货号/Order No. TD106-H07-EU, 老订货号为: (80.260.00)

提高你的效率：更快的平衡

Improve your efficiency: balancing in record time!

平衡过程：
简单测量，补偿和检查

Balancing process:
Simple measuring run,
compensation and check



We take balancing to the next level: faster, better, more efficient!

Tool Dynamic TD Automatic

Tool Dynamic TD Automatic is a truly universal CNC-based balancing machine with automated correction of the unbalance. It automatically compensates the unbalance in one or two planes by drilling, milling or grinding. The machine can work vertically and horizontally.

The balancing machine is controlled by an integrated 19" touchscreen. The numerical control is a Siemens 840DSL, which can be accessed simultaneously with the balancing software.

Automatic Balancing – that's how it works

After measuring the unbalance the software calculates how deep the machine must drill, mill or grind in order to compensate the unbalance. The balancing spindle turns into the correct position. The integrated CNC unit moves to the pre-selected balancing plane and automatically removes the appropriate amount of material. Done.

Balancing could not be any quicker or easier. Errors, such as those caused by incorrect marking on the tool holder or through inadvertently incorrect drilling depths are no longer an issue.

- Measures and compensates unbalance in one step
- Rapid, easy and economic
- No incorrect drilling on the rotor
- Integration into automatic production lines is possible
- Specific software for particular methods of balancing available

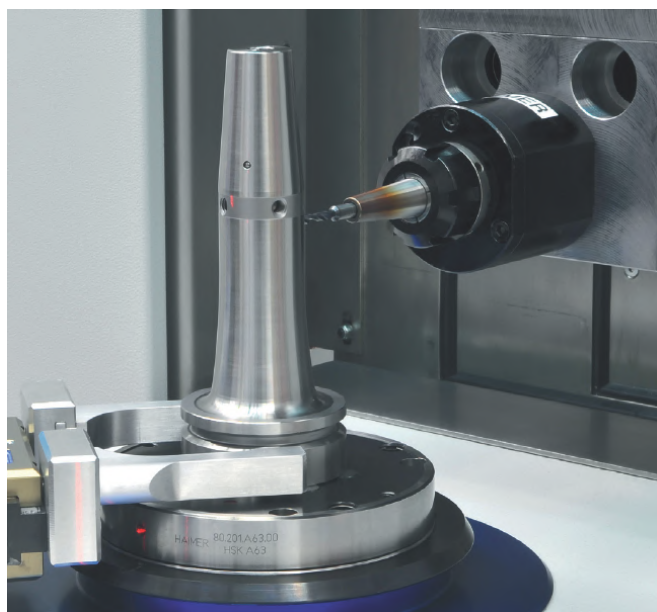
Tool Dynamic TD Automatic – automatic vertical CNC based balancing machine: **Maximum of comfort, maximum of process reliability with highest efficiency and precision.**

你所获得的利益

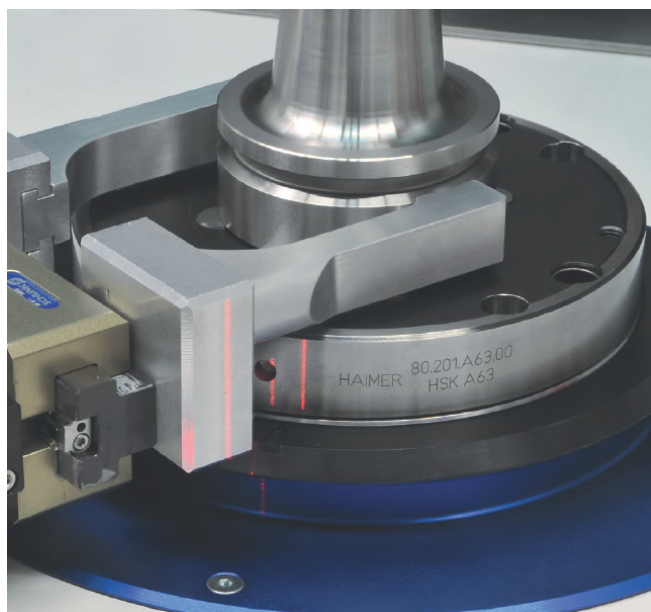
- 通过集成的四轴数控装置，可以通过钻孔和铣削方式调节不平衡量
- 动平衡转换套可替换，并保持高精度。标准的转换套能满足客户全面的需求，而且可以针对客户的特殊情况提供非标方案。
- 机械手用于被测量的回转体的自动翻面，无需任何额外工具，它能和动平衡转换套一起更换
- 铁屑由抽气装置排出
- 中央润滑免维护，实现三班轮流使用
- 动平衡主轴和控制箱有冷却系统
- 能缩短时间的动平衡测量方式——更快的测量和调节
- 简单测量模式：测量、钻孔和检测在**一分钟内**完成
- 可以与机器人单元集成——使您的动平衡机在生产线上使用
- 智能软件能让已调节的旋转体再次进行有效快速的精细平衡

Your benefits at a glance

- Correction of unbalance is fully automated by drilling, milling or grinding in one or two planes with the help of an integrated simultaneous 4 Axis CNC machine tool
- Integrated and exchangeable balancing adapters clamp rotors with highest precision. There are standard adapters for all common interfaces and customized solutions for special purposes
- Gripper for automated indexing (optional). It can be mounted without any additional tools and changed together with the balancing adapter
- Chips are removed by exhaust (suction) equipment
- Central lubrication enables a nearly maintenance free 3 shift use
- Balancing spindle and control box are cooled
- Dynamic measuring mode enables shortest measuring times – balance and control your rotors in record time!
- Simple measuring mode: Measuring, drilling and checking in less than **1 minute!**
- Integration of robot unit is possible – embody your balancing machine in your production line!
- Intelligent software allows the fast and efficient re-balancing of already balanced rotors



数控加工单位自动补偿不平衡量
Automated compensation of unbalance via CNC machining unit



集成式动平衡转换套和机械手完成自动化的精确测量
Integrated balancing adapter and gripper for automatic index measuring

自动刀具动平衡机

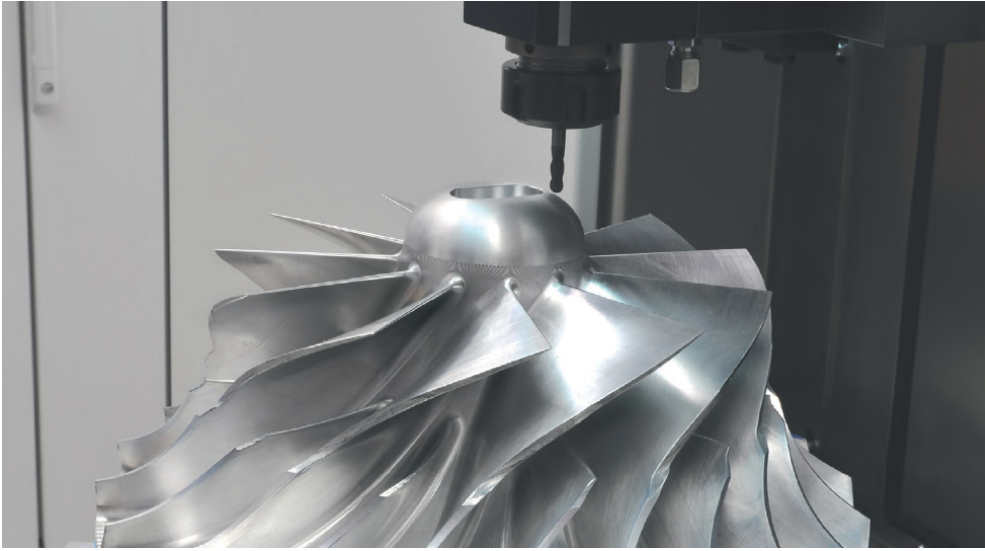
TOOL DYNAMIC TD AUTOMATIC

产品特征/PRODUCT FEATURES

技术参数/Technical data		
测量精度/Measuring accuracy		
测量精度/Measuring accuracy	<0,5 gmm	
转子范围/Limitation of the rotor		
最大直径/Max. diameter	400 mm	
最大长度/Max. length	600 mm	
最大重量/Max. weight	50 kg	
工作范围/Operational range		
X-轴/X-axis	155 mm	
Y-轴/Y-axis	395 mm	
Z-轴/Z-axis	205 mm	
B-轴/B-axis	360°	
快速模式/Rapid mode	20 m/min	所有轴/on all axis
动平衡主轴/Balancing spindle		
最大转速/Max. RPM	1400 RPM	
最大力矩/Max. torque	35 Nm	
数控单元/CNC unit		
刀柄接口/Interface	VDI 30	
最大转速/Max. engine speed	6000 rpm	可调/adjustable
最大力矩/Max. torque	15 Nm	在S3-25%/at S3-25%
最大钻孔直径/Max. drilling capacity	∅ 10 mm	淬火钢硬度为HRC60/in hardened steel with HRC 60
水平方向转子的的工作范围/Operational range of rotor in horizontal mode		
最大直径/Max. diameter	400 mm	
最大长度/Max. height	250 mm	
垂直方向转子的的工作范围/Operational range of rotor in vertical mode		
最大直径/Max. diameter	400 mm	
最大长度/Max. height	280 mm	

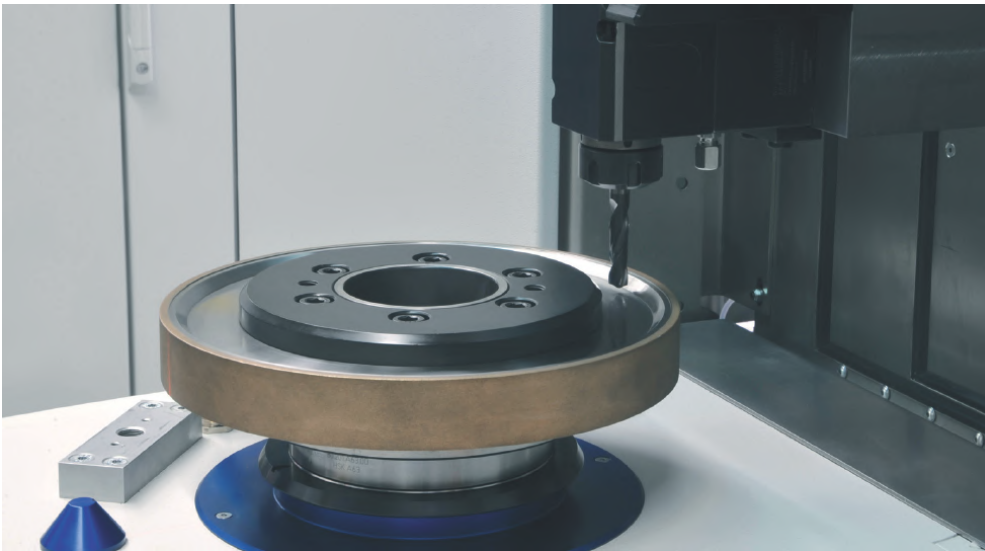


集成控制和平衡软件
Integrated control and balancing software



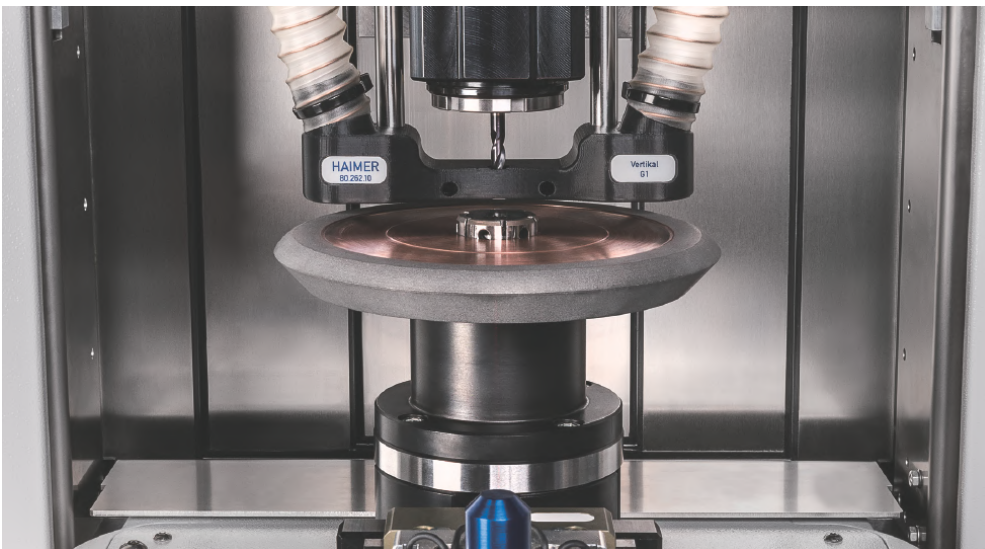
涡轮增压器的压缩机轮
通过铣削达到平衡

**Compressor wheel
for turbocharger**
Balancing by peripheral milling
axial.



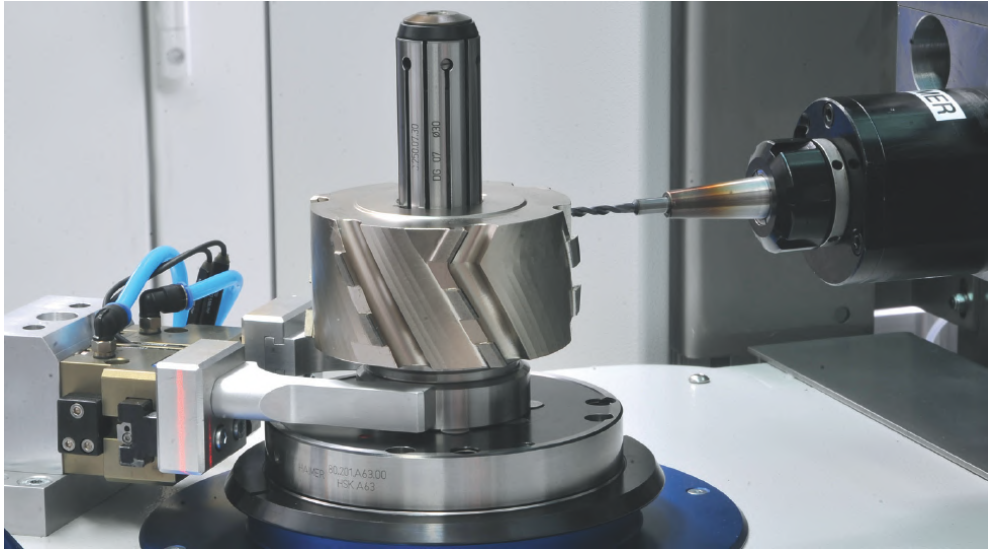
轴向钻削调节砂轮动平衡
平衡过的砂轮可以提高工件表面
光洁度和工件精度。

**Balancing of grinding wheels
by axial drilling**
Balanced grinding wheels reduce
the surface roughness of the work
piece what leads to a remarkable
increase of the process performance
and to a higher precision of the end
product.



轴向钻削调节砂轮动平衡

**Balancing of grinding wheels
by axial drilling**

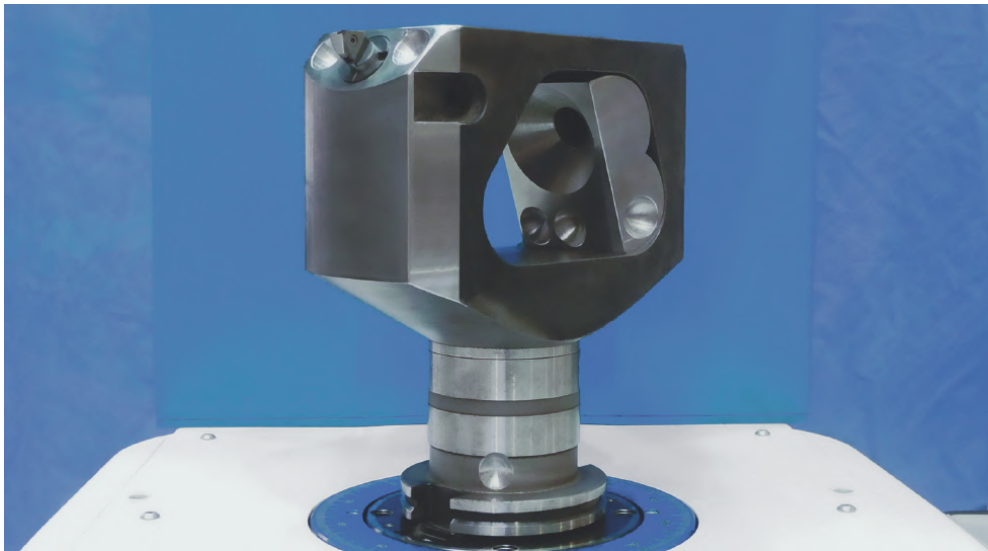


木工刀具

平衡让刀刃避免振动并使它在加工家具时拥有高精度。这会提高你的生产力，达到更高的切削能力。

Tools for woodworking

Balancing avoids breaking of cutting edges and vibrations and enables the highest accuracy at the edges of the piece of furniture. Thus you raise your productivity and you can realize a higher cutting capacity.

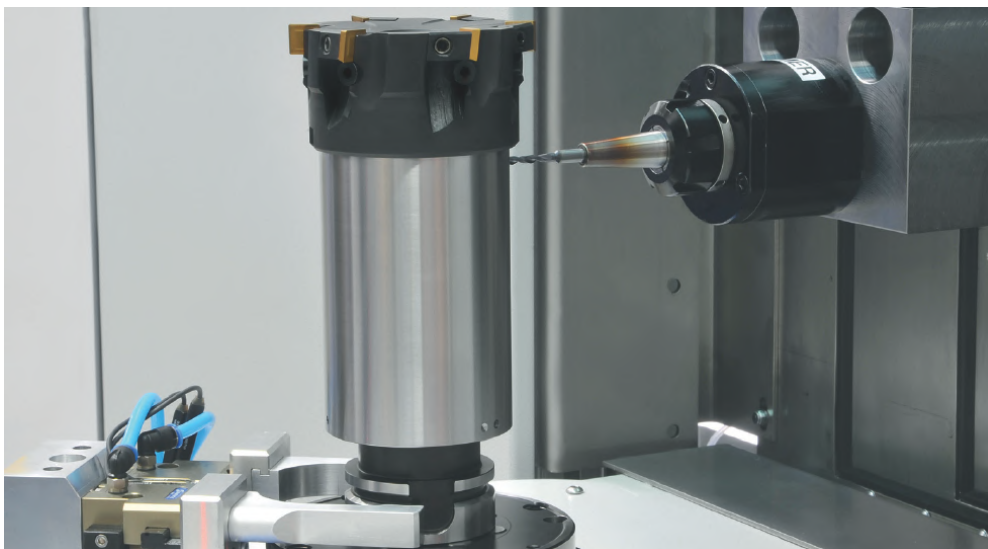


平衡镗刀

获得更好的公差和圆周精度。切削能力将提升300%。

Balancing of fine boring heads

Get better tolerance grades and better roundness. The cutting capacity can be raised up to 300%.

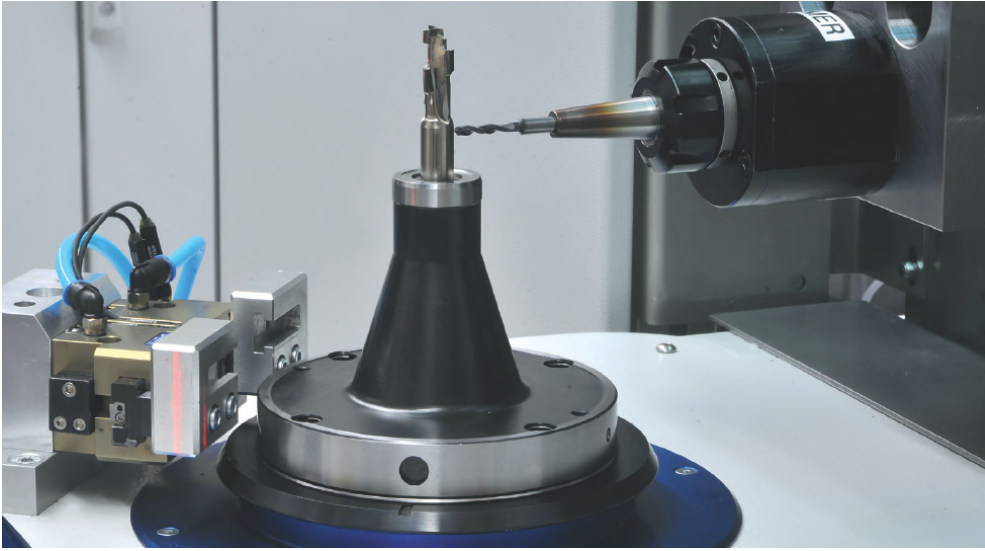


双平面平衡铣刀盘

长的刀具必须在双平面做动平衡消除不平衡量(动平衡)。以达到更高的切削能力和更好的表面加工质量。

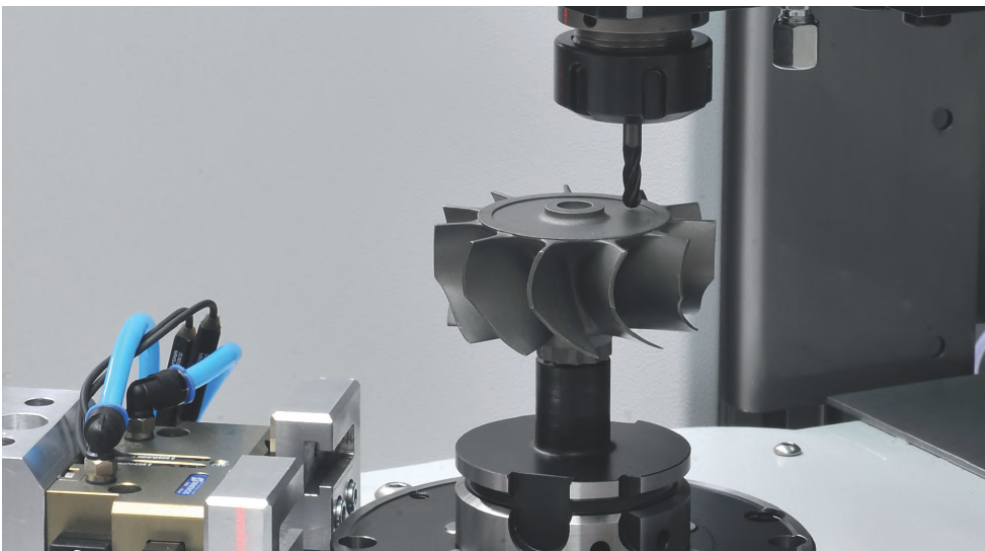
Milling head, balancing in two planes

Long projecting tools must be balanced in two planes in order to eliminate the couple unbalance (dynamic balancing). At longer tools that leads to a higher cutting capacity and a better surface finish.



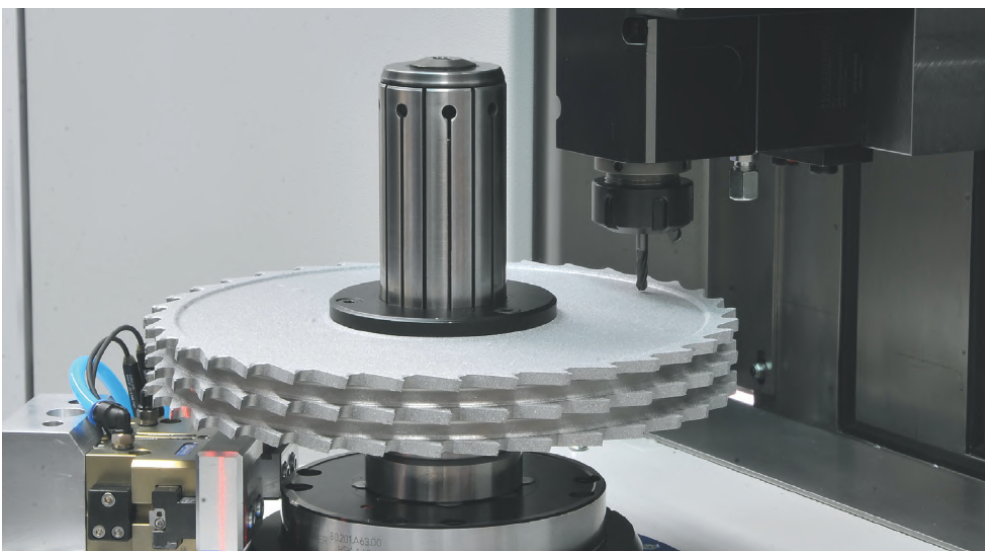
HG后拉式动平衡转换套平衡直柄刀具
如果需要更多的资料查看 52 页。

Balancing of tools with a HG balancing adapter for tools with shank
For further information please go to p. 52.



压缩机涡轮
轴向钻孔

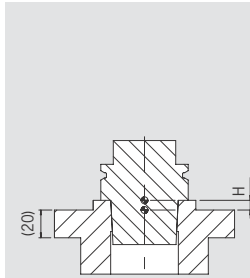
Compressor wheel for turbo charger
Axial drilling.



焊接PCD刀具动平衡调整
木工刀具调整动平衡，减少了加工中的振动。此外，在加工时将噪音降到更低。

Balancing of PCD jointing cutters for laminate
Balancing enables the best edge quality for the piece of furniture by vibration-free tool run. In addition the noise while machining is reduced to a minimum.

SK/BT/CAT/BBT*/PSC/KM*/KM4X* 接口动平衡转换套
BALANCING ADAPTER SK/BT/CAT/BBT*/PSC/KM*/KM4X*



- μm 级的高测量精度和重复夹持精度
- 紧密的设计缔造简单和快速

- μm precise clamping for highest measuring accuracy and repeatability
- Easy and quickest changing due to compact design

注意：转换套仅适用于翰默 HAIMER 的动平衡机

Attention: Adapters only to be used with original HAIMER Tool Dynamic Balancing Machines

SK/BT/CAT/BBT接口动平衡转换套自动夹持系统
SK/BT/CAT/BBT balancing adapter with automatic clamping system

订货号/Order No.	锥度尺寸/for taper size	拉钉/for pull stud	高度/Height H
80.201.330.01	SK30/BT30/BBT30 ¹⁾	螺纹M12/thread M12	0 mm
80.201.330.01.IN	CAT30	螺纹1/2"-13 /thread 1/2"-13	0 mm
80.201.330.02	SK30	DIN 69872; ISO 7388-3, Form AF/AD/AC	0 mm
80.201.330.02	BT30/BBT30 ¹⁾	MAS 30°/45°/90°; ISO 7388-3, Form JD/JF	0 mm
80.201.330.04	SK30	ISO 7388-3, Form UF/UD/UC	0 mm
80.201.140.01	SK40	DIN 2080 螺纹M16/thread M16	0 mm
80.201.340.01	SK40/BT40/BBT40 ¹⁾	螺纹M16/thread M16	0 mm
80.201.340.01.IN	CAT40	螺纹5/8"-11/thread 5/8"-11	0 mm
80.201.340.02	CAT40/SK40	DIN 69872; ISO 7388-3, Form AF/AD/AC	0 mm
80.201.340.02	BT40/BBT40 ¹⁾	JIS B6339	0 mm
80.201.340.04	CAT40/SK40	ISO 7388-3, Form UF/UD/UC	0 mm
80.201.340.06	CAT40	类似/Similar ISO 7388-3 Form JF/JD/MORI-SEIKI 90° (L3 =0.99")	0 mm
80.201.340.06	BT40	MAS 30°/45°/90°; ISO 7388-3, Form JD/JF	0 mm
80.201.150.01	SK50	DIN 2080 螺纹M24/thread M24	0 mm
80.201.350.01	SK50/BT50/BBT50 ¹⁾	螺纹M24/thread M24	0 mm
80.201.350.01.IN	CAT50	螺纹1"-8/thread 1"-8	0 mm
80.201.350.02	CAT50/SK50	DIN 69872; ISO 7388-3, Form AF/AD/AC	0 mm
80.201.350.02	BT50/BBT50 ¹⁾	JIS B6339	0 mm
80.201.350.04	CAT50/SK50	ISO 7388-3, Form UF/UD/UC	0 mm
80.201.350.06	CAT50	类似/Similar ISO 7388-3 Form JF/JD/MORI-SEIKI 90° (L3 =1.39")	0 mm
80.201.350.06	BT50/BBT50 ¹⁾	MAS 30°/45°/90°; ISO 7388-3, Form JD/ JF	0 mm

PSC 接口动平衡转换套自动夹持系统/Balancing adapter PSC with automatic clamping system

订货号/Order No.	锥度尺寸/for taper size	高度/Height H
80.201.C3.00	PSC 32	7 mm
80.201.C4.00	PSC 40	7 mm
80.201.C5.00	PSC 50	7 mm
80.201.C6.00	PSC 63	7 mm
80.201.C8.00	PSC 80	7 mm
80.201.C10.00	PSC 100	7 mm

KM接口动平衡转换套自动夹持系统/Balancing adapter KM with automatic clamping system

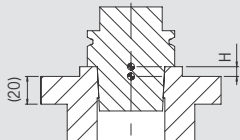
订货号/Order No.	锥度尺寸/for taper size	高度/Height H
80.201.KM32.01	KM32	7 mm
80.201.KM40.01	KM40	7 mm
80.201.KM50.01	KM50	7 mm
80.201.KM63.01	KM63	7 mm
80.201.KM80.01	KM80	7 mm
80.201.KM100.01	KM100	30 mm
80.201.KM125.00	KM125 (按需求定做/upon request)	

KM4X接口动平衡转换套自动夹持系统/Balancing adapter KM4X with automatic clamping system

订货号/Order No.	锥度尺寸/for taper size	高度/Height H
80.201.KM63.4X	KM4X 63	7 mm
80.201.KM100.4X	KM4X 100	30 mm

¹⁾ BBT: 也适合 BIG (大昭和) 的 BBT 系列的刀柄 / also suitable for BIG-Plus
BBT和 BIG-PLUS 是大昭和公司的注册商标 / tradenames of Big Daishowa Co., Ltd.
KM/KM4X是肯纳公司的注册商标 / tradenames of Kennametal Inc.
可按客户需求定做 / Further adapter available on request

HSK 接口动平衡转换套 BALANCING ADAPTER HSK



- μm 级的高测量精度和重复夹持精度
- 紧密的设计缔造简单和快速

- μm precise clamping for highest measuring accuracy and repeatability
- Easy and quickest changing due to compact design

注意：转换套仅适用于翰默 HAIMER 的动平衡机

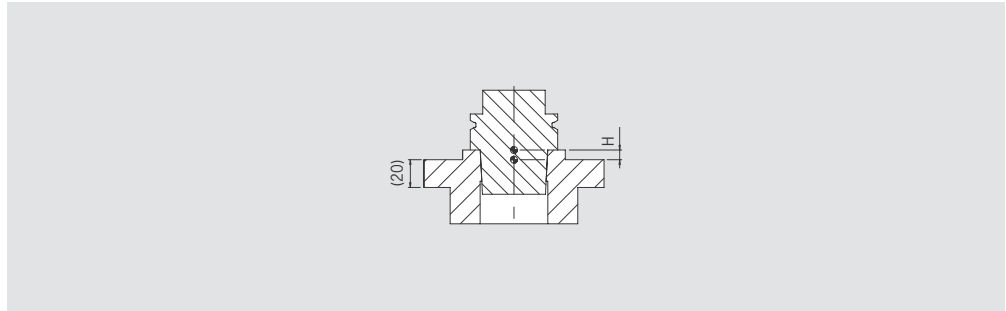
Attention: Adapters only to be used with original HAIMER Tool Dynamic Balancing Machines

HSK 动平衡转换套自动夹持系统/HSK balancing adapter with automatic clamping system				
HSK接口 HSK interface	转换套订货编号 Adapter Order No.	通用 Analogy	描述 Description	高度 Height H
HSK 25				
E	80.201.E25.00		针对HSK-E25的夹持系统/Adapter for HSK-E25 with clamping system	0 mm
HSK 32				
A	80.201.A32.00		针对HSK-A32的夹持系统/Adapter for HSK-A32 with clamping system	0 mm
B	80.201.E25.00	B32=E25	针对HSK-E25的夹持系统/Adapter for HSK-E25 with clamping system	0 mm
C	80.201.A32.00	C32=A32	针对HSK-A32的夹持系统/Adapter for HSK-A32 with clamping system	0 mm
D	80.201.E25.00	D32=E25	针对HSK-E25的夹持系统/Adapter for HSK-E25 with clamping system	0 mm
E	80.201.E32.00		针对HSK-E32的夹持系统/Adapter for HSK-E32 with clamping system	0 mm
F	80.201.E25.00	F32=E25	针对HSK-E25的夹持系统/Adapter for HSK-E25 with clamping system	0 mm
HSK 40				
A	80.201.A40.00		针对HSK-A40的夹持系统/Adapter for HSK-A40 with clamping system	0 mm
B	80.201.E32.00	B40=E32	针对HSK-E32的夹持系统/Adapter for HSK-E32 with clamping system	0 mm
C	80.201.A40.00	C40=A40	针对HSK-A40的夹持系统/Adapter for HSK-A40 with clamping system	0 mm
D	80.201.E32.00	D40=E32	针对HSK-E32的夹持系统/Adapter for HSK-E32 with clamping system	0 mm
E	80.201.E40.00		针对HSK-E40的夹持系统/Adapter for HSK-E40 with clamping system	0 mm
F	80.201.E32.00	F40=E32	针对HSK-E32的夹持系统/Adapter for HSK-E32 with clamping system	0 mm
HSK 50				
A	80.201.A50.00		针对HSK-A50的夹持系统/Adapter for HSK-A50 with clamping system	0 mm
B	80.201.E40.00	B50=E40	针对HSK-E40的夹持系统/Adapter for HSK-E40 with clamping system	0 mm
C	80.201.A50.00	C50=A50	针对HSK-A50的夹持系统/Adapter for HSK-A50 with clamping system	0 mm
D	80.201.E40.00	D50=E40	针对HSK-E40的夹持系统/Adapter for HSK-E40 with clamping system	0 mm
E	80.201.E50.00		针对HSK-E50的夹持系统/Adapter for HSK-E50 with clamping system	0 mm
F	80.201.E40.00	F50=E40	针对HSK-E40的夹持系统/Adapter for HSK-E40 with clamping system	0 mm
HSK 63				
A	80.201.A63.00		针对HSK-A63的夹持系统/Adapter for HSK-A63 with clamping system	0 mm
B	80.201.E50.00	B63=E50	针对HSK-E50的夹持系统/Adapter for HSK-E50 with clamping system	0 mm
C	80.201.A63.00	C63=A63	针对HSK-A63的夹持系统/Adapter for HSK-A63 with clamping system	0 mm
D	80.201.E50.00	D63=E50	针对HSK-E50的夹持系统/Adapter for HSK-E50 with clamping system	0 mm
E	80.201.E63.00		针对HSK-E63的夹持系统/Adapter for HSK-E63 with clamping system	0 mm
F	80.201.E50.00	F63=E50	针对HSK-E50的夹持系统/Adapter for HSK-E50 with clamping system	0 mm
Weinig				
Weinig	80.201.W63.00		针对威力刀柄的转换套/Adapter for Weing tool holder	0 mm
Makino				
Makino	80.201.F63.00.M	Makino F63	针对Makino F63的夹持系统/Adapter for Makino F63 tool holder	0 mm
Makino	80.201.F80.00.M	Makino F80	针对Makino F80的夹持系统/Adapter for Makino F80 tool holder	0 mm
HSK 80				
A	80.201.A80.00		针对HSK-A80的夹持系统/Adapter for HSK-A80 with clamping system	0 mm
B	80.201.E63.00	B80=E63	针对HSK-E63的夹持系统/Adapter for HSK-E63 with clamping system	0 mm
C	80.201.A80.00	C80=A80	针对HSK-A80的夹持系统/Adapter for HSK-A80 with clamping system	0 mm
D	80.201.E63.00	D80=E63	针对HSK-E63的夹持系统/Adapter for HSK-E63 with clamping system	0 mm
E	80.201.E80.00		针对HSK-E80的夹持系统/Adapter for HSK-E80 with clamping system	0 mm
F	80.201.E63.00	F80=E63	针对HSK-E63的夹持系统/Adapter for HSK-E63 with clamping system	0 mm
HSK 100				
A	80.201.A100.00		针对HSK-A100的夹持系统/Adapter for HSK-A100 with clamping system	0 mm
B	80.201.E80.00	B100=E80	针对HSK-E80的夹持系统/Adapter for HSK-E80 with clamping system	0 mm
C	80.201.A100.00	C100=A100	针对HSK-A100的夹持系统/Adapter for HSK-A100 with clamping system	0 mm
D	80.201.E80.00	D100=E80	针对HSK-E80的夹持系统/Adapter for HSK-E80 with clamping system	0 mm
E	80.201.E100.00		针对HSK-E100的夹持系统/Adapter for HSK-E100 with clamping system	0 mm
F	80.201.E80.00	F100=E80	针对HSK-E80的夹持系统/Adapter for HSK-E80 with clamping system	0 mm
HSK 125				
A	80.201.A125.00		针对HSK-A125的夹持系统/Adapter for HSK-A125 with clamping system	61 mm

可按客户需求定做/ Further adapter available on request

HSK 接口的动平衡转换套-增高复合型

BALANCING ADAPTER HSK-INCREASED OFFSET



- 提高可操控性
- μm 级的高测量精度和重复夹持精度
- 紧密的设计缔造简单和快速

- Increased offset for better accessibility
- μm precise clamping for highest measuring accuracy and repeatability
- Easy and quickest changing due to compact design

注意:

转换套仅适用于翰默 HAIMER 的动平衡机

Attention:

Adapters only to be used with original HAIMER Tool Dynamic Balancing Machines

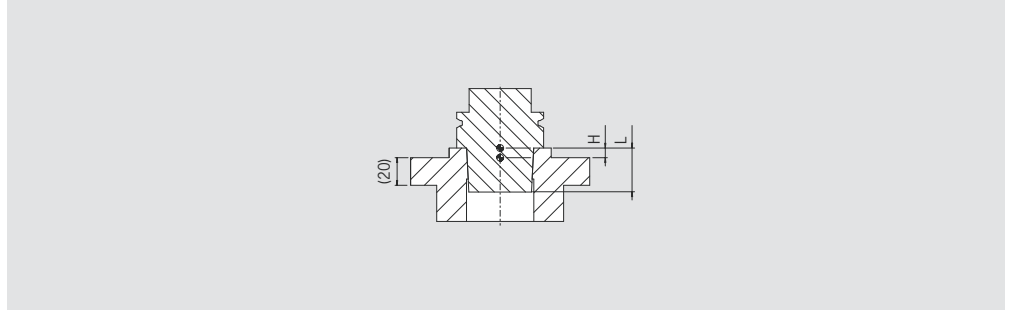
带自动夹持系统的HSK动平衡转换套 - 增高复合型

HSK balancing adapter with automatic clamping system - increased offset

订货号/Order No.	锥度尺寸/for taper size	高度/Height H
80.201.E32.02	HSK-A/C/E 32; HSK-B/D/F 40	57 mm
80.201.E40.02	HSK-A/C/E 40; HSK-B/D/F 50	57 mm
80.201.E50.02	HSK-A/C/E 50; HSK-B/D/F 63	57 mm
80.201.E63.02	HSK-A/C/E 63; HSK-B/D/F 80	57 mm

可按客户需求定做/ Further adapter available on request

ROLLOMATIC 接口的动平衡转换套
BALANCING ADAPTER ROLLOMATIC



- 提高可操控性
- μm 级的高测量精度和重复夹持精度
- 紧密的设计缔造简单和快速

- Increased offset for better accessibility
- μm precise clamping for highest measuring accuracy and repeatability
- Easy and quickest changing due to compact design

注意:
转换套仅适用于翰默 HAIMER 的动平衡机

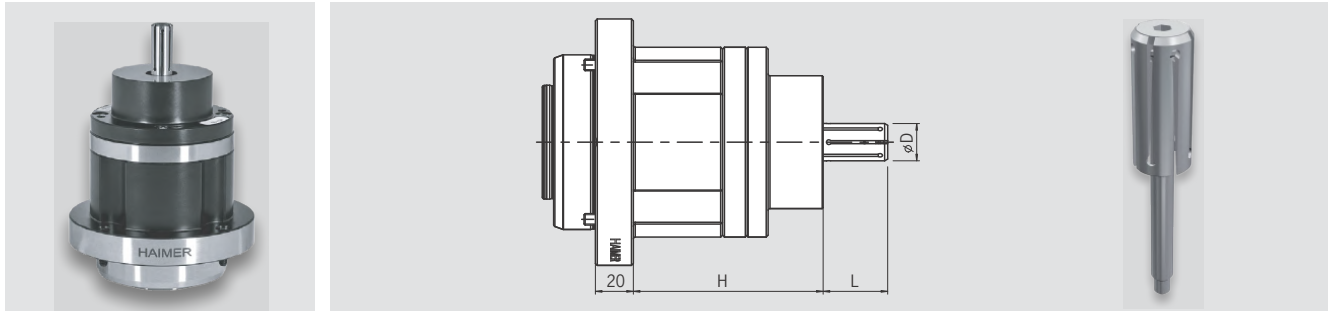
Attention:
Adapters only to be used with original HAIMER Tool Dynamic Balancing Machines

带自动夹持系统的动平衡转换套
Balancing adapter Rollomatic with automatic clamping system

订货号/Order No.	锥度尺寸/for taper size	长度/Length L	高度/Height H
80.201.R025.00	R025 - 20	20 mm	57 mm
80.201.R025.01	R025 - 25	25 mm	57 mm

可按客户需求定做/ Further adapter available on request

HSM 动平衡转换套(手动型)
HSM BALANCING ADAPTER (MANUAL)
HSM 00 – HSM 01



**用于夹持内孔为 Ø 15 至 Ø 100 mm 的回转体的带芯轴的
手动动平衡转换套**

- 夹持范围 - 0,3 / + 0,5 mm
- 精确的同心夹持获得更高的重复精度
- 精确动平衡至 < 1 g · mm
- 配套使用

备注:
 转换套仅适用于翰默 HAIMER 的动平衡机

Manual balancing adapter with cartridge mandrel for inner diameter with bore of Ø 15 up to Ø 100 mm

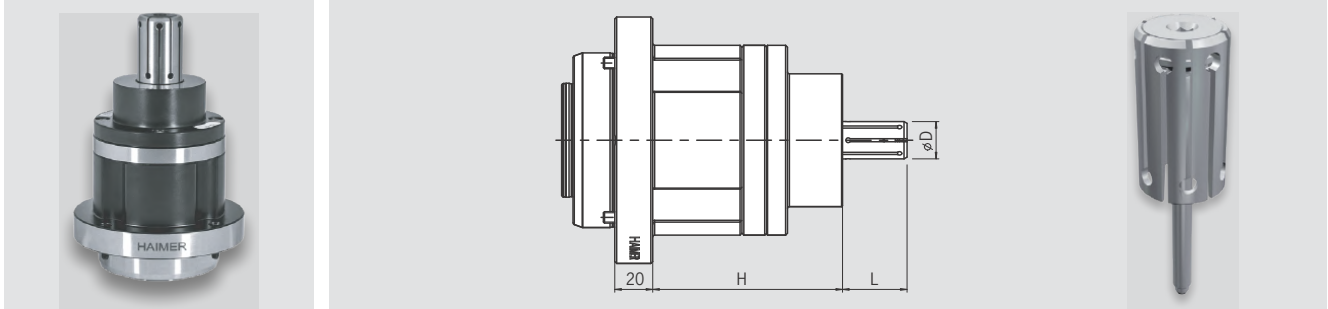
- Clamping range - 0,3 / + 0,5 mm
- Precise centrally clamping for highest repeatability
- Fine balanced to < 1 g·mm
- Individual useable

Note:
 Adapters only to be used with original HAIMER Tool Dynamic Balancing Machines

翰默手动夹持系统的动平衡转换套 HSM balancing adapter with manual clamping system	夹套 Clamping set	内孔直径 Ø D [mm] Bore Ø D [mm]	夹持长度 L Clamping length L	转换套的高度 H Height adapter H
订货号/Order No.	订货号/Order No.	- 0,3 /+ 0,5 mm		
HSM 00, 夹持范围/Clamping range 15-20 mm				
80.201.HSM00.00	80.201.HSZ00.15	Ø 15,0	34	100 mm
	80.201.HSZ00.15.5	Ø 15,5	34	100 mm
	80.201.HSZ00.16	Ø 16,0	34	100 mm
	80.201.HSZ00.16.5	Ø 16,5	34	100 mm
	80.201.HSZ00.17	Ø 17,0	34	100 mm
	80.201.HSZ00.17.5	Ø 17,5	34	100 mm
	80.201.HSZ00.18	Ø 18,0	34	100 mm
	80.201.HSZ00.18.5	Ø 18,5	34	100 mm
	80.201.HSZ00.19	Ø 19,0	34	100 mm
	80.201.HSZ00.19.5	Ø 19,5	34	100 mm
	80.201.HSZ00.20	Ø 20,0	34	100 mm
HSM 01, 夹持范围/Clamping range 20-25 mm				
80.201.HSM01.00	80.201.HSZ01.20	Ø 20,0	39	100 mm
	80.201.HSZ01.20.5	Ø 20,5	39	100 mm
	80.201.HSZ01.21	Ø 21,0	39	100 mm
	80.201.HSZ01.21.5	Ø 21,5	39	100 mm
	80.201.HSZ01.22	Ø 22,0	39	100 mm
	80.201.HSZ01.22.5	Ø 22,5	39	100 mm
	80.201.HSZ01.23	Ø 23,0	39	100 mm
	80.201.HSZ01.23.5	Ø 23,5	39	100 mm
	80.201.HSZ01.24	Ø 24,0	39	100 mm
	80.201.HSZ01.24.5	Ø 24,5	39	100 mm
	80.201.HSZ01.25	Ø 25,0	39	100 mm

订购时需要同时订动平衡转换套和至少一个夹套/
 When ordering, you need one balancing adapter and at least one clamping set

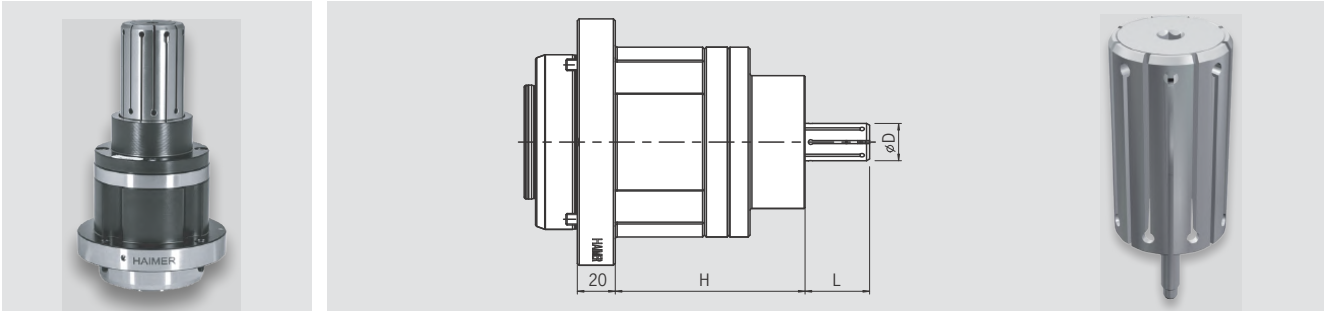
HSM 动平衡转换套 (手动型)
HSM BALANCING ADAPTER (MANUAL)
HSM 02 - HSM 04



翰默手动夹持系统的动平衡转换套 HSM balancing adapter with manual clamping system	夹套 Clamping set	内孔直径 Ø D [mm] Bore Ø D [mm]	夹持长度 L Clamping length L	转换套的高度 H Height adapter H
订货号/Order No.	订货号/Order No.	- 0,3 /+ 0,5 mm		
HSM 02, 夹持范围/Clamping range 25-30 mm				
80.201.HSM02.00	80.201.HSZ02.25	Ø 25,0	45	100 mm
	80.201.HSZ02.25.5	Ø 25,5	45	100 mm
	80.201.HSZ02.26	Ø 26,0	45	100 mm
	80.201.HSZ02.26.5	Ø 26,5	45	100 mm
	80.201.HSZ02.27	Ø 27,0	45	100 mm
	80.201.HSZ02.27.5	Ø 27,5	45	100 mm
	80.201.HSZ02.28	Ø 28,0	45	100 mm
	80.201.HSZ02.28.5	Ø 28,5	45	100 mm
	80.201.HSZ02.29	Ø 29,0	45	100 mm
	80.201.HSZ02.29.5	Ø 29,5	45	100 mm
	80.201.HSZ02.30	Ø 30,0	45	100 mm
HSM 03, 夹持范围/Clamping range 30-35 mm				
80.201.HSM03.00	80.201.HSZ03.30	Ø 30,0	49	100 mm
	80.201.HSZ03.30.5	Ø 30,5	49	100 mm
	80.201.HSZ03.31	Ø 31,0	49	100 mm
	80.201.HSZ03.31.5	Ø 31,5	49	100 mm
	80.201.HSZ03.32	Ø 32,0	49	100 mm
	80.201.HSZ03.32.5	Ø 32,5	49	100 mm
	80.201.HSZ03.33	Ø 33,0	49	100 mm
	80.201.HSZ03.33.5	Ø 33,5	49	100 mm
	80.201.HSZ03.34	Ø 34,0	49	100 mm
	80.201.HSZ03.34.5	Ø 34,5	49	100 mm
	80.201.HSZ03.35	Ø 35,0	49	100 mm
HSM 04, 夹持范围/Clamping range 35-40 mm				
80.201.HSM04.00	80.201.HSZ04.35	Ø 35,0	59	100 mm
	80.201.HSZ04.35.5	Ø 35,5	59	100 mm
	80.201.HSZ04.36	Ø 36,0	59	100 mm
	80.201.HSZ04.36.5	Ø 36,5	59	100 mm
	80.201.HSZ04.37	Ø 37,0	59	100 mm
	80.201.HSZ04.37.5	Ø 37,5	59	100 mm
	80.201.HSZ04.38	Ø 38,0	59	100 mm
	80.201.HSZ04.38.5	Ø 38,5	59	100 mm
	80.201.HSZ04.39	Ø 39,0	59	100 mm
	80.201.HSZ04.39.5	Ø 39,5	59	100 mm
	80.201.HSZ04.40	Ø 40,0	59	100 mm

订购时需要同时订动平衡转换套和至少一个夹套/
When ordering, you need one balancing adapter and at least one clamping set

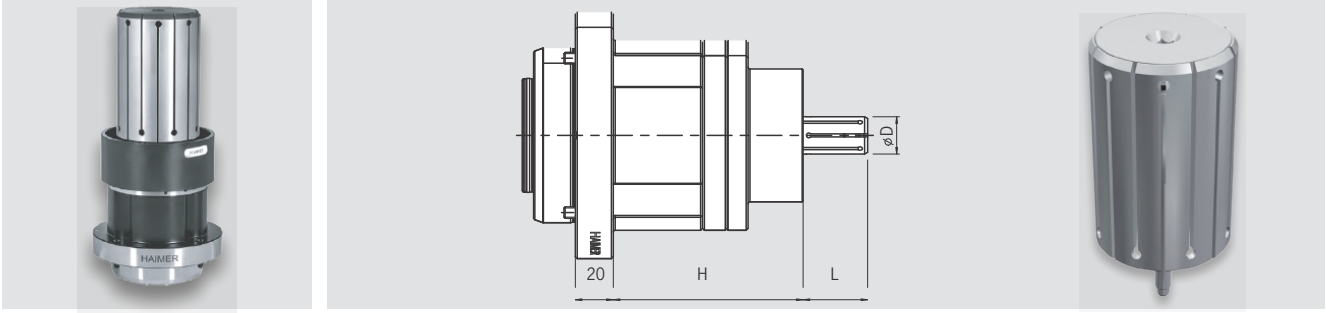
HSM 动平衡转换套 (手动型)
HSM BALANCING ADAPTER (MANUAL)
HSM 05 – HSM 07



翰默带手动夹持系统的动平衡转换套 HSM balancing adapter with manual clamping system	夹套 Clamping set	内孔直径 Ø D [mm] Bore Ø D [mm]	夹持长度 L Clamping length L	转换套的高度 H Height adapter H
订货号/Order No.	订货号/Order No.	- 0,3 /+ 0,5 mm		
HSM 05, 夹持范围/Clamping range 40-45 mm				
80.201.HSM05.00	80.201.HSZ05.40	Ø 40,0	59	100 mm
	80.201.HSZ05.40.5	Ø 40,5	59	100 mm
	80.201.HSZ05.41	Ø 41,0	59	100 mm
	80.201.HSZ05.41.5	Ø 41,5	59	100 mm
	80.201.HSZ05.42	Ø 42,0	59	100 mm
	80.201.HSZ05.42.5	Ø 42,5	59	100 mm
	80.201.HSZ05.43	Ø 43,0	59	100 mm
	80.201.HSZ05.43.5	Ø 43,5	59	100 mm
	80.201.HSZ05.44	Ø 44,0	59	100 mm
	80.201.HSZ05.44.5	Ø 44,5	59	100 mm
	80.201.HSZ05.45	Ø 45,0	59	100 mm
HSM 06, 夹持范围/Clamping range 45-55 mm				
80.201.HSM06.00	80.201.HSZ06.45	Ø 45,0	79	100 mm
	80.201.HSZ06.46	Ø 46,0	79	100 mm
	80.201.HSZ06.47	Ø 47,0	79	100 mm
	80.201.HSZ06.48	Ø 48,0	79	100 mm
	80.201.HSZ06.49	Ø 49,0	79	100 mm
	80.201.HSZ06.50	Ø 50,0	79	100 mm
	80.201.HSZ06.51	Ø 51,0	79	100 mm
	80.201.HSZ06.52	Ø 52,0	79	100 mm
	80.201.HSZ06.53	Ø 53,0	79	100 mm
	80.201.HSZ06.54	Ø 54,0	79	100 mm
	80.201.HSZ06.55	Ø 55,0	79	100 mm
HSM 07, 夹持范围/Clamping range 55-65 mm				
80.201.HSM07.00	80.201.HSZ07.55	Ø 55,0	89	100 mm
	80.201.HSZ07.56	Ø 56,0	89	100 mm
	80.201.HSZ07.57	Ø 57,0	89	100 mm
	80.201.HSZ07.58	Ø 58,0	89	100 mm
	80.201.HSZ07.59	Ø 59,0	89	100 mm
	80.201.HSZ07.60	Ø 60,0	89	100 mm
	80.201.HSZ07.61	Ø 61,0	89	100 mm
	80.201.HSZ07.62	Ø 62,0	89	100 mm
	80.201.HSZ07.63	Ø 63,0	89	100 mm
	80.201.HSZ07.64	Ø 64,0	89	100 mm
	80.201.HSZ07.65	Ø 65,0	89	100 mm

订购时需要同时订动平衡转换套和至少一个夹套/
 When ordering, you need one balancing adapter and at least one clamping set

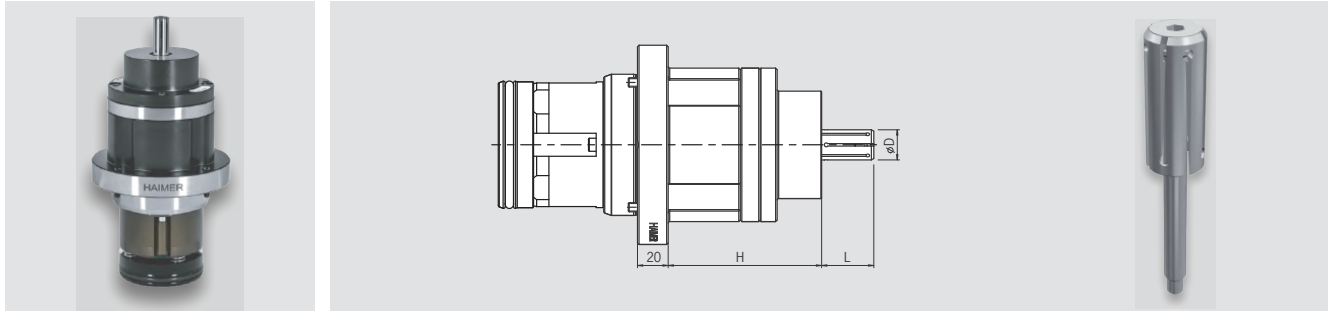
HSM 动平衡转换套 (手动型)
HSM BALANCING ADAPTER (MANUAL)
HSM 08 – HSM 09



翰默带手动夹持系统的动平衡转换套 HSM balancing adapter with manual clamping system	夹套 Clamping set	内孔直径 ϕD [mm] Bore ϕD [mm]	夹持长度 L Clamping length L	转换套的高度 H Height adapter H
订货号/Order No.	订货号/Order No.	- 0,3 /+ 0,5 mm		
HSM 08, 夹持范围/Clamping range 65–82 mm				
80.201.HSM08.00	80.201.HSZ08.65	$\phi 65,0$	99	100 mm
	80.201.HSZ08.66	$\phi 66,0$	99	100 mm
	80.201.HSZ08.67	$\phi 67,0$	99	100 mm
	80.201.HSZ08.68	$\phi 68,0$	99	100 mm
	80.201.HSZ08.69	$\phi 69,0$	99	100 mm
	80.201.HSZ08.70	$\phi 70,0$	99	100 mm
	80.201.HSZ08.71	$\phi 71,0$	99	100 mm
	80.201.HSZ08.72	$\phi 72,0$	99	100 mm
	80.201.HSZ08.73	$\phi 73,0$	99	100 mm
	80.201.HSZ08.74	$\phi 74,0$	99	100 mm
	80.201.HSZ08.75	$\phi 75,0$	99	100 mm
	80.201.HSZ08.76	$\phi 76,0$	99	100 mm
	80.201.HSZ08.77	$\phi 77,0$	99	100 mm
	80.201.HSZ08.78	$\phi 78,0$	99	100 mm
	80.201.HSZ08.79	$\phi 79,0$	99	100 mm
	80.201.HSZ08.80	$\phi 80,0$	99	100 mm
	80.201.HSZ08.81	$\phi 81,0$	99	100 mm
	80.201.HSZ08.82	$\phi 82,0$	99	100 mm
HSM 09, 夹持范围/Clamping range 82–101 mm				
80.201.HSM09.00	80.201.HSZ09.82	$\phi 82,0$	121	100 mm
	80.201.HSZ09.83	$\phi 83,0$	121	100 mm
	80.201.HSZ09.84	$\phi 84,0$	121	100 mm
	80.201.HSZ09.85	$\phi 85,0$	121	100 mm
	80.201.HSZ09.86	$\phi 86,0$	121	100 mm
	80.201.HSZ09.87	$\phi 87,0$	121	100 mm
	80.201.HSZ09.88	$\phi 88,0$	121	100 mm
	80.201.HSZ09.89	$\phi 89,0$	121	100 mm
	80.201.HSZ09.90	$\phi 90,0$	121	100 mm
	80.201.HSZ09.91	$\phi 91,0$	121	100 mm
	80.201.HSZ09.92	$\phi 92,0$	121	100 mm
	80.201.HSZ09.93	$\phi 93,0$	121	100 mm
	80.201.HSZ09.94	$\phi 94,0$	121	100 mm
	80.201.HSZ09.95	$\phi 95,0$	121	100 mm
	80.201.HSZ09.96	$\phi 96,0$	121	100 mm
	80.201.HSZ09.97	$\phi 97,0$	121	100 mm
	80.201.HSZ09.98	$\phi 98,0$	121	100 mm
	80.201.HSZ09.99	$\phi 99,0$	121	100 mm
	80.201.HSZ09.100	$\phi 100,0$	121	100 mm
	80.201.HSZ09.101	$\phi 101,0$	121	100 mm

订购时需要同时订动平衡转换套和至少一个夹套/
 When ordering, you need one balancing adapter and at least one clamping set

HSA 动平衡转换套 (自动型)
HSA BALANCING ADAPTER (AUTOMATIC)
HSA 00 – HSA 01



用于夹持内孔为 Ø 15 至 Ø 100 mm 的回转体的带芯轴的自动动平衡转换套

- 夹持范围 - 0,3 / + 0,5 mm
- 精确的同心夹持获得最高的重复精度
- 精确动平衡至 < 1 g · mm
- 单独使用

备注:

转换套仅适用于翰默 HAIMER 的动平衡机

Automatic balancing adapter with cartridge mandrel for inner diameter with bore of Ø 15 up to Ø 100 mm

- Clamping range - 0,3 / + 0,5 mm
- Precise centrally clamping for highest repeatability
- Fine balanced to < 1 g·mm
- Individual useable

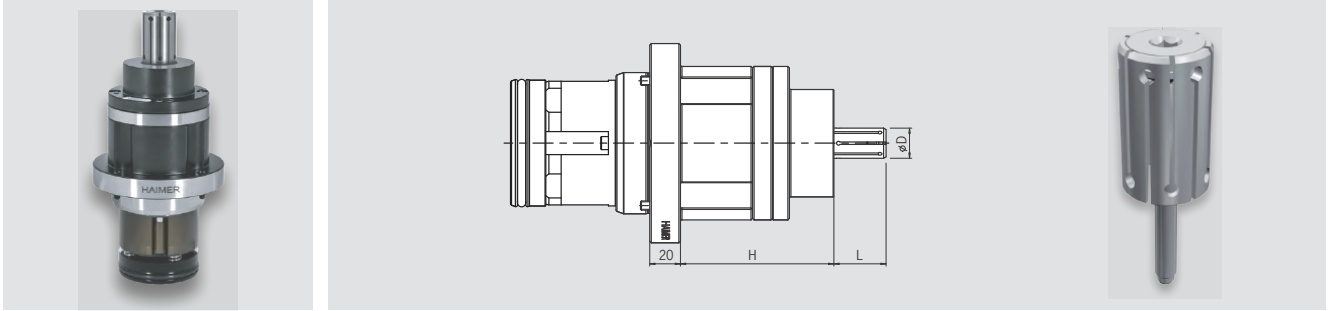
Note:

Adapters only to be used with original HAIMER Tool Dynamic Balancing Machines

翰默带自动夹持系统的动平衡转换套 HSA balancing adapter with automatic clamping system	夹套 Clamping set	内孔直径 Ø D [mm] Bore Ø D [mm]	夹持长度 L Clamping length L	转换套的高度 H Height adapter H
订货号/Order No.	订货号/Order No.	- 0,3 / + 0,5 mm		
HSA 00, 夹持范围/Clamping range 15-20 mm				
80.201.HSA00.00	80.201.HSZ00.15	Ø 15,0	34	100 mm
	80.201.HSZ00.15.5	Ø 15,5	34	100 mm
	80.201.HSZ00.16	Ø 16,0	34	100 mm
	80.201.HSZ00.16.5	Ø 16,5	34	100 mm
	80.201.HSZ00.17	Ø 17,0	34	100 mm
	80.201.HSZ00.17.5	Ø 17,5	34	100 mm
	80.201.HSZ00.18	Ø 18,0	34	100 mm
	80.201.HSZ00.18.5	Ø 18,5	34	100 mm
	80.201.HSZ00.19	Ø 19,0	34	100 mm
	80.201.HSZ00.19.5	Ø 19,5	34	100 mm
	80.201.HSZ00.20	Ø 20,0	34	100 mm
HSA 01, 夹持范围/Clamping range 20-25 mm				
80.201.HSA01.00	80.201.HSZ01.20	Ø 20,0	39	100 mm
	80.201.HSZ01.20.5	Ø 20,5	39	100 mm
	80.201.HSZ01.21	Ø 21,0	39	100 mm
	80.201.HSZ01.21.5	Ø 21,5	39	100 mm
	80.201.HSZ01.22	Ø 22,0	39	100 mm
	80.201.HSZ01.22.5	Ø 22,5	39	100 mm
	80.201.HSZ01.23	Ø 23,0	39	100 mm
	80.201.HSZ01.23.5	Ø 23,5	39	100 mm
	80.201.HSZ01.24	Ø 24,0	39	100 mm
	80.201.HSZ01.24.5	Ø 24,5	39	100 mm
	80.201.HSZ01.25	Ø 25,0	39	100 mm

订购时需要同时订动平衡转换套和至少一个夹套/
 When ordering, you need one balancing adapter and at least one clamping set

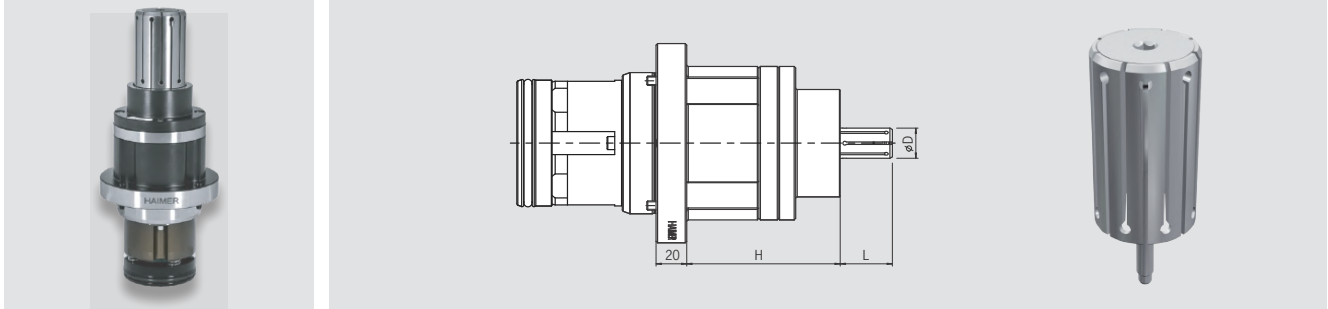
HSA 动平衡转换套 (自动型)
 HSA BALANCING ADAPTER (AUTOMATIC)
 HSA 02 – HSA 04



翰默带自动夹持系统的动平衡转换套 HSA balancing adapter with automatic clamping system	夹套 Clamping set	内孔直径 Ø D [mm] Bore Ø D [mm]	夹持长度 L Clamping length L	转换套的高度 H Height adapter H
订货号/Order No.	订货号/Order No.	- 0,3 /+ 0,5 mm		
HSA 02, 夹持范围/Clamping range 25–30 mm				
80.201.HSA02.00	80.201.HSZ02.25	Ø 25,0	45	100 mm
	80.201.HSZ02.25.5	Ø 25,5	45	100 mm
	80.201.HSZ02.26	Ø 26,0	45	100 mm
	80.201.HSZ02.26.5	Ø 26,5	45	100 mm
	80.201.HSZ02.27	Ø 27,0	45	100 mm
	80.201.HSZ02.27.5	Ø 27,5	45	100 mm
	80.201.HSZ02.28	Ø 28,0	45	100 mm
	80.201.HSZ02.28.5	Ø 28,5	45	100 mm
	80.201.HSZ02.29	Ø 29,0	45	100 mm
	80.201.HSZ02.29.5	Ø 29,5	45	100 mm
	80.201.HSZ02.30	Ø 30,0	45	100 mm
HSA 03, 夹持范围/Clamping range 30–35 mm				
80.201.HSA03.00	80.201.HSZ03.30	Ø 30,0	49	100 mm
	80.201.HSZ03.30.5	Ø 30,5	49	100 mm
	80.201.HSZ03.31	Ø 31,0	49	100 mm
	80.201.HSZ03.31.5	Ø 31,5	49	100 mm
	80.201.HSZ03.32	Ø 32,0	49	100 mm
	80.201.HSZ03.32.5	Ø 32,5	49	100 mm
	80.201.HSZ03.33	Ø 33,0	49	100 mm
	80.201.HSZ03.33.5	Ø 33,5	49	100 mm
	80.201.HSZ03.34	Ø 34,0	49	100 mm
	80.201.HSZ03.34.5	Ø 34,5	49	100 mm
	80.201.HSZ03.35	Ø 35,0	49	100 mm
HSA 04, 夹持范围/Clamping range 35–40 mm				
80.201.HSA04.00	80.201.HSZ04.35	Ø 35,0	59	100 mm
	80.201.HSZ04.35.5	Ø 35,5	59	100 mm
	80.201.HSZ04.36	Ø 36,0	59	100 mm
	80.201.HSZ04.36.5	Ø 36,5	59	100 mm
	80.201.HSZ04.37	Ø 37,0	59	100 mm
	80.201.HSZ04.37.5	Ø 37,5	59	100 mm
	80.201.HSZ04.38	Ø 38,0	59	100 mm
	80.201.HSZ04.38.5	Ø 38,5	59	100 mm
	80.201.HSZ04.39	Ø 39,0	59	100 mm
	80.201.HSZ04.39.5	Ø 39,5	59	100 mm
	80.201.HSZ04.40	Ø 40,0	59	100 mm

订购时需要同时订动平衡转换套和至少一个夹套/
 When ordering, you need one balancing adapter and at least one clamping set

HSA 动平衡转换套 (自动型)
HSA BALANCING ADAPTER (AUTOMATIC)
HSA 05 – HSA 06

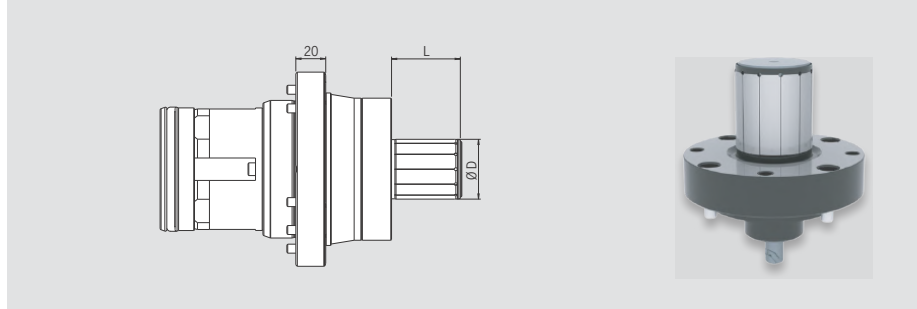


翰默带自动夹持系统的动平衡转换套 HSA balancing adapter with automatic clamping system	夹套 Clamping set	内孔直径 Ø D [mm] Bore Ø D [mm]	夹持长度 L Clamping length L	转换套的高度 H Height adapter H
订货号/Order No.	订货号/Order No.	- 0,3 /+ 0,5 mm		
HSA 05, 夹持范围/Clamping range 40–45 mm				
80.201.HSA05.00	80.201.HSZ05.40	Ø 40,0	59	100 mm
	80.201.HSZ05.40.5	Ø 40,5	59	100 mm
	80.201.HSZ05.41	Ø 41,0	59	100 mm
	80.201.HSZ05.41.5	Ø 41,5	59	100 mm
	80.201.HSZ05.42	Ø 42,0	59	100 mm
	80.201.HSZ05.42.5	Ø 42,5	59	100 mm
	80.201.HSZ05.43	Ø 43,0	59	100 mm
	80.201.HSZ05.43.5	Ø 43,5	59	100 mm
	80.201.HSZ05.44	Ø 44,0	59	100 mm
	80.201.HSZ05.44.5	Ø 44,5	59	100 mm
	80.201.HSZ05.45	Ø 45,0	59	100 mm
HSA 06, 夹持范围/Clamping range 45–55 mm				
80.201.HSA06.00	80.201.HSZ06.45	Ø 45,0	79	100 mm
	80.201.HSZ06.46	Ø 46,0	79	100 mm
	80.201.HSZ06.47	Ø 47,0	79	100 mm
	80.201.HSZ06.48	Ø 48,0	79	100 mm
	80.201.HSZ06.49	Ø 49,0	79	100 mm
	80.201.HSZ06.50	Ø 50,0	79	100 mm
	80.201.HSZ06.51	Ø 51,0	79	100 mm
	80.201.HSZ06.52	Ø 52,0	79	100 mm
	80.201.HSZ06.53	Ø 53,0	79	100 mm
	80.201.HSZ06.54	Ø 54,0	79	100 mm
	80.201.HSZ06.55	Ø 55,0	79	100 mm

订购时需要同时订动平衡转换套和至少一个夹套/
 When ordering, you need one balancing adapter and at least one clamping set

可以定制夹持孔径为55mm-101mm的HSA自动型动平衡转换套 (按需生产) /
 HSA Balancing Adapters (automatic) are also available with diameters of 55 mm – 101 mm (upon request)

SDA 动平衡转换套 (自动型)
SDA BALANCING ADAPTER (AUTOMATIC)



带芯轴的自动型动平衡转换套，适用于内孔直径从Ø 8 至Ø 60 mm和1"至2"的回转体

- 夹持范围 - 0,03 / + 0,05 mm
- 精确的同心夹持获得很高的重复测量精度
- 精确动平衡至 < 1 g · mm
- 配套使用

备注:

这些转换套只能用于翰默 HAIMER 生产的动平衡机

Automatic balancing adapter with mandrel for inner diameter with bore of Ø 8 up to Ø 60 mm and 1" up to 2".

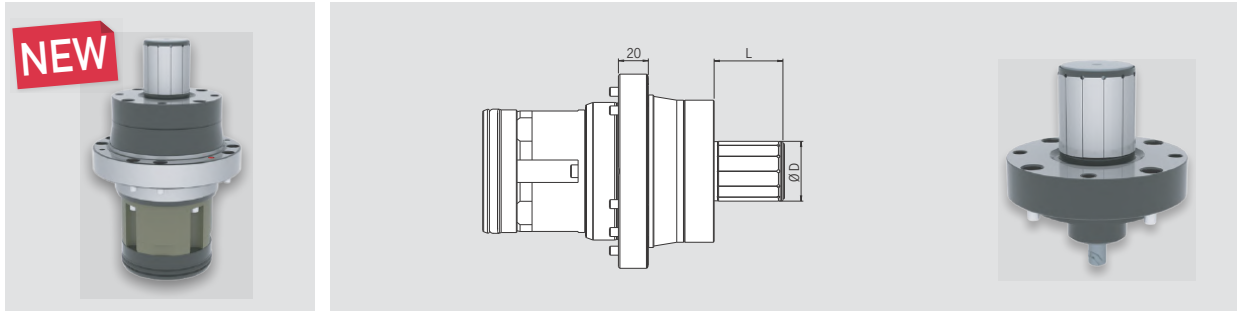
- Clamping range - 0,03 / + 0,05 mm
- Precise center clamping for highest repeatability
- Fine balanced to < 1 g-mm
- Can be used individually

Attention:

Adapters only to be used with original HAIMER Tool Dynamic Balancing Machines

SDA 翰默带自动夹持系统的动平衡转换套 SDA balancing adapter with automatic clamping system	内孔直径 Ø D [mm] Bore Ø D [mm]	夹持长度 L [mm] Clamping length L [mm]
订货号/Order No.		
80.201.SDA08.00	Ø 8,0	2 x D
80.201.SDA10.00	Ø 10,0	2 x D
80.201.SDA12.00	Ø 12,0	2 x D
80.201.SDA14.00	Ø 14,0	2 x D
80.201.SDA16.00	Ø 16,0	2 x D
80.201.SDA18.00	Ø 18,0	2 x D
80.201.SDA20.00	Ø 20,0	1 x D
80.201.SDA22.00	Ø 22,0	1 x D
80.201.SDA25.00	Ø 25,0	1 x D
80.201.SDA27.00	Ø 27,0	1 x D
80.201.SDA30.00	Ø 30,0	1 x D
80.201.SDA32.00	Ø 32,0	1 x D
80.201.SDA35.00	Ø 35,0	1 x D
80.201.SDA40.00	Ø 40,0	1 x D
80.201.SDA45.00	Ø 45,0	1 x D
80.201.SDA50.00	Ø 50,0	1 x D
80.201.SDA55.00	Ø 55,0	1 x D
80.201.SDA60.00	Ø 60,0	1 x D
80.201.SDA1Z.00	Ø 1" (25,40 mm)	1 x D
80.201.SDA11/4Z.00	Ø 1 1/4" (31,75 mm)	1 x D
80.201.SDA11/2Z.00	Ø 1 1/2" (38,10 mm)	1 x D
80.201.SDA17/8Z.00	Ø 1 7/8" (47,625 mm)	1 x D
80.201.SDA2Z.00	Ø 2" (50,8 mm)	1 x D

SDA 动平衡转换套 (自动型) SDA BALANCING ADAPTER (AUTOMATIC)



带芯轴的自动型动平衡转换套，优化的夹持长度适用于内孔直径从Ø 16 至Ø 60 mm和3/4"至2"的面铣刀

- 夹持范围 - 0,03 / + 0,05 mm
- 精确的同心夹持获得很高的重复测量精度
- 精确动平衡至 < 1 g · mm
- 配套使用

备注:

这些转换套只能用于翰默 HAIMER 生产的动平衡机

Automatic balancing adapter with mandrel for inner diameter with bore of Ø 16 up to Ø 60 mm and 3/4" up to 2". Suitable for face mills with optimised clamping length.

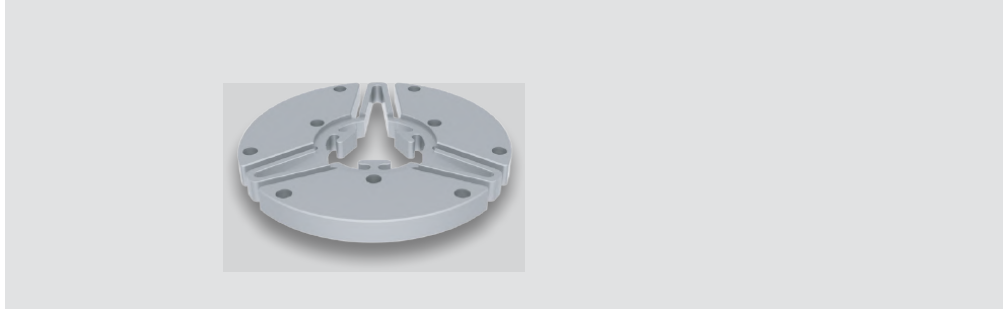
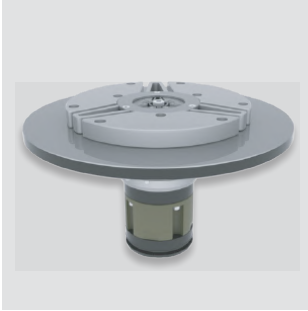
- Clamping range - 0,03 / + 0,05 mm
- Precise centre clamping for highest repeatability
- Fine balanced to < 1 g · mm
- Can be used individually

Attention:

Adapters only to be used with original HAIMER Tool Dynamic Balancing Machines

SDA 翰默带自动夹持系统的动平衡转换套 SDA balancing adapter with automatic clamping system	内孔直径 Ø D [mm] Bore Ø D [mm]	夹持长度 L [mm] Clamping length L [mm]
订货号/Order No.		
80.201.SDA16.02	Ø 16,00	16,00
80.201.SDA22.02	Ø 22,00	18,00
80.201.SDA27.02	Ø 27,00	20,00
80.201.SDA32.02	Ø 32,00	23,00
80.201.SDA40.02	Ø 40,00	26,00
80.201.SDA50.02	Ø 50,00	29,00
80.201.SDA60.02	Ø 60,00	39,00
80.201.SDA3/4Z.02	Ø 3/4" (19,05 mm)	17,05
80.201.SDA1Z.02	Ø 1" (25,40 mm)	17,05
80.201.SDA11/4Z.02	Ø 1 1/4" (31,75 mm)	17,05
80.201.SDA11/2Z.02	Ø 1 1/2" (38,10 mm)	23,40
80.201.SDA17/8Z.02	Ø 1 7/8" (47,625 mm)	23,40
80.201.SDA2Z.02	Ø 2" (50,80 mm)	23,40

SAB 动平衡转换套 (自动型)
 SAB BALANCING ADAPTER (AUTOMATIC)
 SAB 01



带弹簧垫片的自动型动平衡转换套，适用于内孔直径从Ø 120 至Ø 250 mm的回转体

- 夹持范围 - 0,15 / + 0,8 mm
- 精确的同心夹持获得很高的重复测量精度
- 精确动平衡至 < 1 g · mm
- 配套使用

备注:

这些转换套只能用于翰默 HAIMER 生产的动平衡机

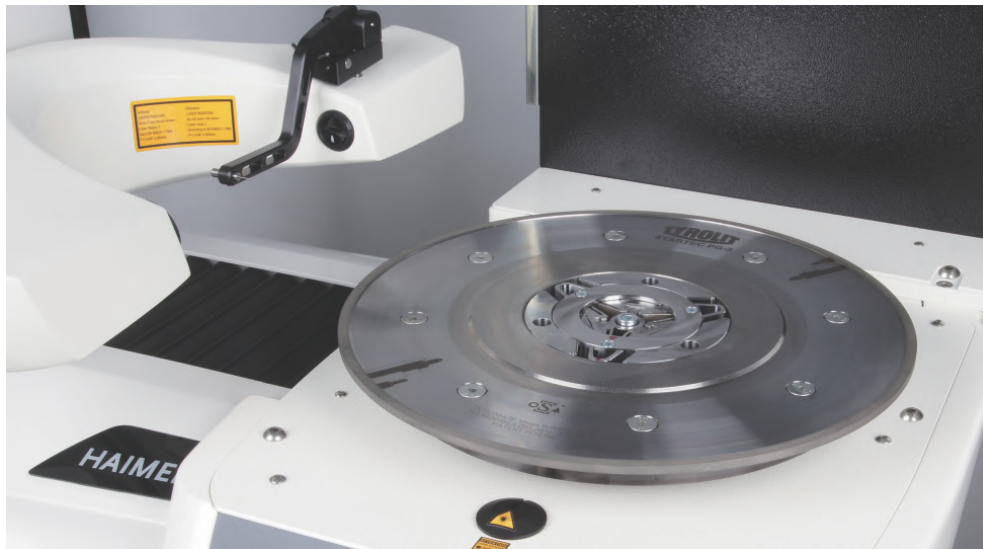
Automatic balancing adapter with spring washer for inner diameter with bore of Ø 120 up to Ø 250 mm

- Clamping range - 0,15 / + 0,8 mm
- Precise centricly clamping for highest repeatability
- Fine balanced to < 1 g·mm
- Individually useable

Note:

Adapters only to be used with original HAIMER Tool Dynamic Balancing Machines

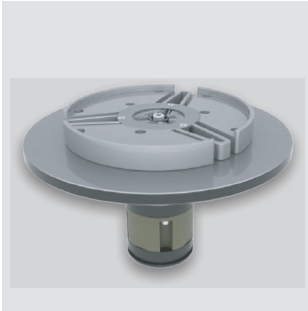
SAB 自动夹持型动平衡转换套 SAB balancing adapter with automatic clamping system	弹簧垫片 Spring washer	内孔 Ø D [mm] Bore Ø D [mm]
订货号/Order No.		可以定制/on request
SAB 01, 夹持范围/Clamping range 120–250 mm		
80.201.SAB01.00	80.201.SAB01.120	Ø 120
	80.201.SAB01.127	Ø 127
	80.201.SAB01.150	Ø 150
	80.201.SAB01.175	Ø 175
	80.201.SAB01.203	Ø 203
	80.201.SAB01.250	Ø 250



应用案例

Application example

SAS 动平衡转换套 (自动型)
 SAS BALANCING ADAPTER (AUTOMATIC)
 SAS 01



带弹簧垫片的自动型动平衡转换套，适用于外圆直径从Ø 120 至Ø 250 mm的回转体

- 夹持范围 - 0,15 / + 0,8 mm
- 精确的同心夹持获得很高的重复测量精度
- 精确动平衡至 < 1 g · mm
- 配套使用

备注:

这些转换套只能用于翰默 HAIMER 生产的动平衡机

Automatic balancing adapter with spring washer for outside diameter of Ø 120 up to Ø 250 mm

- Clamping range - 0,15 / + 0,8 mm
- Precise centrally clamping for highest repeatability
- Fine balanced to < 1 g·mm
- Individually useable

Note:

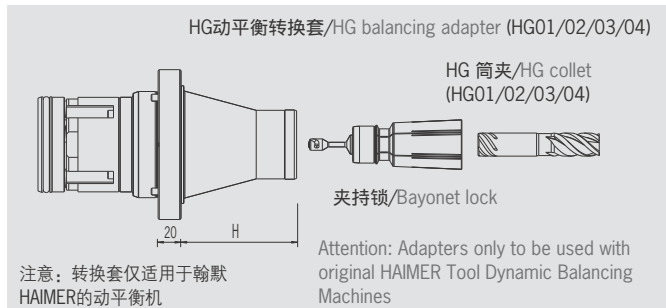
Adapters only to be used with original HAIMER Tool Dynamic Balancing Machines

SAS 自动夹持型动平衡转换套 SAS balancing adapter with automatic clamping system	弹簧垫片 Spring washer	外圆 Ø D [mm] Spindle Ø D [mm]
订货号/Order No.		可以定制/on request
SAS 01, 夹持范围/Clamping range 120–250 mm		
80.201.SAS01.00	80.201.SAS01.120	Ø 120
	80.201.SAS01.127	Ø 127
	80.201.SAS01.150	Ø 150
	80.201.SAS01.175	Ø 175
	80.201.SAS01.203	Ø 203
	80.201.SAS01.250	Ø 250



应用案例
 Application example

HG 动平衡转换套 HG BALANCING ADAPTER



针对直柄刀具的动平衡转换套

- 自动高效地夹持直柄刀具
- 可夹持公差达到 h8 的圆柱柄刀具
- 可按要求订作最大的夹持直径达到 40mm 的转换套

动平衡转换套可更换高精度的夹套并且自动夹持。从现在起你可以直接夹持直柄刀具作动平衡而不需要任何附件。

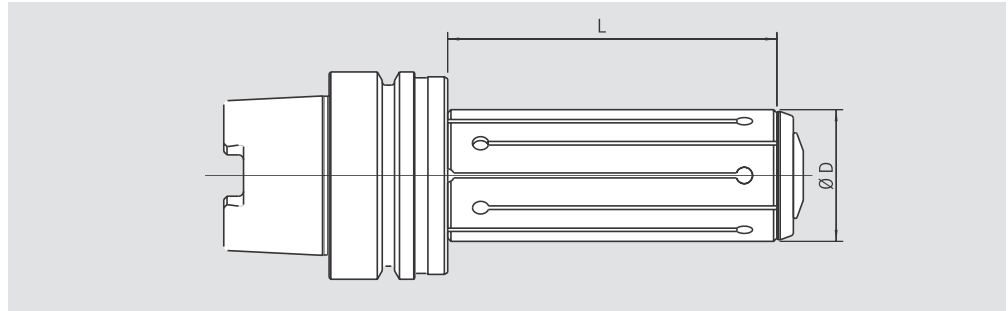
Balancing adapter for tools with shank

- For efficient and automatic clamping of tools with shank
- For cylindrical shanks up to tolerance h8
- Available with shank diameter up to 40 mm upon request

Balancing adapter with exchangeable high precision collets (system HG) and automatic clamping. From now on you can clamp your shank-tools directly in the balancing adapter without any accessories.

HG-转换套/HG adapter	筒夹/Collet	夹持范围/Clamping range D	高度/Height H
订货号/Order No.	订货号/Order No.		
HG01	HG01	Ø 2-9.25 mm	
80.201.HG01.00	80.201.HG01.02	2 mm	80 mm
	80.201.HG01.02.5	2,5 mm	80 mm
	80.201.HG01.03	3 mm	80 mm
	80.201.HG01.03.5	3,5 mm	80 mm
	80.201.HG01.04	4 mm	80 mm
	80.201.HG01.04.5	4,5 mm	80 mm
	80.201.HG01.05	5 mm	80 mm
	80.201.HG01.05.5	5,5 mm	80 mm
	80.201.HG01.05.6	5,6 mm	80 mm
	80.201.HG01.06	6 mm	80 mm
	80.201.HG01.06.3	6,3 mm	80 mm
	80.201.HG01.07	7 mm	80 mm
	80.201.HG01.07.1	7,1 mm	80 mm
	80.201.HG01.08	8 mm	80 mm
	80.201.HG01.09	9 mm	80 mm
	80.201.HG01.09.25	9,25 mm	80 mm
HG02	HG02	Ø 10-14 mm	
80.201.HG02.00	80.201.HG02.10	10 mm	80 mm
	80.201.HG02.11	11 mm	80 mm
	80.201.HG02.12	12 mm	80 mm
	80.201.HG02.12.5	12,5 mm	80 mm
	80.201.HG02.13	13 mm	80 mm
	80.201.HG02.14	14 mm	80 mm
HG03	HG03	Ø 16-20 mm	
80.201.HG03.00	80.201.HG03.16	16 mm	80 mm
	80.201.HG03.18	18 mm	80 mm
	80.201.HG03.20	20 mm	80 mm
HG04	HG04	Ø 20-32 mm	
80.201.HG04.00	80.201.HG04.20	20 mm	100 mm
	80.201.HG04.22	22 mm	100 mm
	80.201.HG04.25	25 mm	100 mm
	80.201.HG04.27	27 mm	100 mm
	80.201.HG04.30	30 mm	100 mm
	80.201.HG04.32	32 mm	100 mm

动平衡芯轴 BALANCING ARBOUR



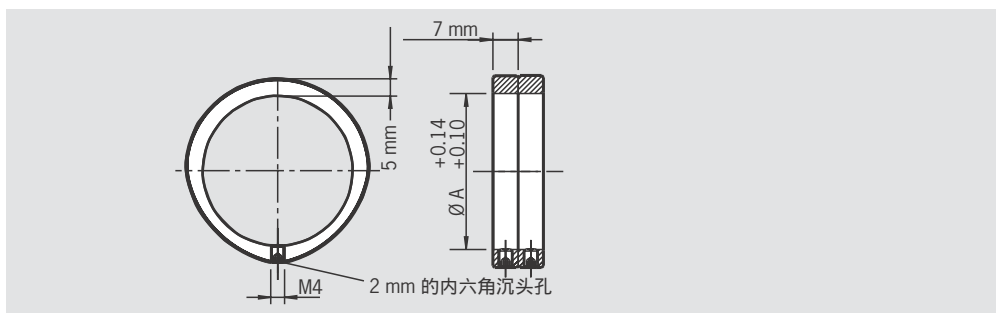
- 平衡带有中心圆孔的工具
- 高的夹持精度和重复精度
- 精细平衡<1gmm
- 十分实用

- To balance tools with cylindrical bore
- Precise centrally clamping for highest repeatability
- Fine balanced to < 1gmm
- Individual useable

动平衡芯轴 Balancing arbour	夹套 Collet	夹持范围 Clamping range Ø D	L L
订货号/Order No.	订货号/Order No.		
DG07, 夹持范围/Clamping range 25–34,5 mm			
80.250.A63.070	80.250.07.25	Ø 25–25,5	100
	80.250.07.26	Ø 26–26,5	100
	80.250.07.28	Ø 28–28,5	100
	80.250.07.30	Ø 30–30,5	100
	80.250.07.32	Ø 32–32,5	100
	80.250.07.34	Ø 34–34,5	100
DG08, 夹持范围/Clamping range 35–44,5 mm			
80.250.A63.080	80.250.08.35	Ø 35–35,5	100
	80.250.08.36	Ø 36–36,5	100
	80.250.08.38	Ø 38–38,5	100
	80.250.08.40	Ø 40–40,5	100
	80.250.08.42	Ø 42–42,5	100
	80.250.08.44	Ø 44–44,5	100
DG09, 夹持范围/Clamping range 45–54,5 mm			
80.250.A63.090	80.250.09.45	Ø 45–45,5	125
	80.250.09.48	Ø 48–48,5	125
	80.250.09.50	Ø 50–50,5	125
	80.250.09.52	Ø 52–52,5	125
	80.250.09.54	Ø 54–54,5	125
DG10, 夹持范围/Clamping range 55–64,5 mm			
80.250.A63.100	80.250.10.55	Ø 55–55,5	135
	80.250.10.58	Ø 58–58,5	135
	80.250.10.60	Ø 60–60,5	135
	80.250.10.62	Ø 62–62,5	135
	80.250.10.65	Ø 65–65,5	135

订购时需同时订购动平衡芯轴和筒夹
By ordering you need one balancing arbour and one collet

动平衡环
BALANCING RINGS



适用于带有圆柱外径 (diam.A) 的刀具系统做精细动平衡。

For fine-balancing of all tool holders with cylindrical outer diameter (diam. A).

动平衡环有一个自身设定的不平衡量，通过固定到不同角度来补偿整个刀具系统的不平衡量。

The balancing index rings have a defined unbalance in themselves. They are turned in such a position that the unbalance of the tool holder will be compensated. There are always 2 rings needed per balancing plane.

必须用 2 个平衡环来调节一个平衡面。

- Balancing quickly and precisely
- No damage of tool holder
- Can be repeated as often as necessary
- Simply fixed by clamping screw
- Suitable for tool holders of all brands
- The balancing machine determines the position of the rings

- 快速精确地进行平衡
- 对刀具系统没有损伤
- 根据需要可进行重复操作
- 可通过螺丝进行简单的固定
- 适用于各种品牌的刀具系统
- 动平衡机指定环的位置

— 发货时包含：2个动平衡环，含支紧螺钉，不包含扳手

— Included in delivery: 2 balancing rings with clamping screws without hex wrench

订货号/Order No.	Ø A [mm]	不平衡量 unbalance	最大转速 rpm [1/min]
79.350.15	15	14 g·mm	max. 55.000
79.350.16	16	14 g·mm	max. 55.000
79.350.17	17	16 g·mm	max. 55.000
79.350.18	18	17 g·mm	max. 55.000
79.350.19	19	19 g·mm	max. 55.000
79.350.20	20	21 g·mm	max. 55.000
79.350.22	22	23 g·mm	max. 55.000
79.350.23	23	25 g·mm	max. 55.000
79.350.24	24	27 g·mm	max. 55.000
79.350.25	25	28 g·mm	max. 55.000
79.350.26	26	32 g·mm	max. 50.000
79.350.27	27	32,5 g·mm	max. 50.000
79.350.28	28	34 g·mm	max. 50.000
79.350.30	30	37 g·mm	max. 45.000
79.350.32	32	43 g·mm	max. 45.000
79.350.34	34	46 g·mm	max. 40.000
79.350.35	35	48 g·mm	max. 40.000
79.350.36	36	51 g·mm	max. 40.000
79.350.38	38	56 g·mm	max. 35.000
79.350.40	40	60 g·mm	max. 35.000
79.350.42	42	65 g·mm	max. 35.000
79.350.43	43	69 g·mm	max. 35.000
79.350.44	44	72 g·mm	max. 35.000
79.350.46	46	80 g·mm	max. 35.000
79.350.48	48	85 g·mm	max. 30.000
79.350.50	50	90 g·mm	max. 30.000
79.350.52	52	100 g·mm	max. 30.000
79.350.53	53	100 g·mm	max. 30.000
79.350.54	54	103 g·mm	max. 30.000

订货号/Order No.	Ø A [mm]	不平衡量 unbalance	最大转速 rpm [1/min]
79.350.55	55	105 g·mm	max. 30.000
79.350.56	56	110 g·mm	max. 30.000
79.350.58	58	120 g·mm	max. 30.000
79.350.60	60	128 g·mm	max. 25.000
79.350.62	62	132 g·mm	max. 25.000
79.350.63	63	135 g·mm	max. 25.000
79.350.64	64	147 g·mm	max. 25.000
79.350.65	65	147 g·mm	max. 25.000
79.350.66	66	145 g·mm	max. 25.000
79.350.68	68	161 g·mm	max. 25.000
79.350.70	70	165 g·mm	max. 25.000
79.350.72	72	170 g·mm	max. 25.000
79.350.74	74	184 g·mm	max. 25.000
79.350.76	76	186 g·mm	max. 20.000
79.350.78	78	206 g·mm	max. 20.000
79.350.80	80	215 g·mm	max. 20.000
79.350.82	82	213 g·mm	max. 20.000
79.350.84	84	229 g·mm	max. 20.000
79.350.86	86	249 g·mm	max. 20.000
79.350.87	87	256 g·mm	max. 20.000
79.350.88	88	251 g·mm	max. 20.000
79.350.89	89	260 g·mm	max. 20.000
79.350.90	90	265 g·mm	max. 20.000
79.350.92	92	275 g·mm	max. 20.000
79.350.94	94	286 g·mm	max. 20.000
79.350.96	96	300 g·mm	max. 20.000
79.350.98	98	305 g·mm	max. 20.000
79.350.100	100	320 g·mm	max. 15.000
79.350.125	125	500 g·mm	max. 15.000

技术数据变更恕不通知/Technical data subject to change without prior notice

动平衡螺钉套装 SET OF BALANCING SCREWS



动平衡螺钉适用于所有带 M6 动平衡螺纹孔的刀具系统（例如翰默 HAIMER 的热缩刀柄）

For fine-balancing of all tool holders with balancing threads M6 (e. g. shrink fit chucks from HAIMER).

螺钉的重量经过精确校准。将之通过螺纹旋入刀具系统的平衡螺孔中，这样可以补偿整个刀具系统的不平衡量。

The screws have different weights in a fine graduation. They are screwed into the balancing threads of the tool holder so that their weight compensates the unbalance of the tool holder.

- 一套包括11种不同尺寸和重量的螺钉
- 螺钉旋入螺纹孔的底部，不需要其它附加螺钉固定
- 快速、精确平衡
- 对刀具系统没有损伤
- 根据需要可重复进行
- 适合所有品牌的刀具系统
- 由动平衡机来计算需要螺钉的重量（例如翰默 HAIMER 动平衡机）
- 发货时包含：盒子中装有 11x10 个动平衡螺钉、螺丝扳手

- Set consisting of screws of 11 different sizes and weights
- Screws are screwed to the ground of the thread and tightened. No additional fixing of screws necessary.
- Balancing quickly and precisely
- No damage of tool holders
- Can be repeated as often as necessary
- Suitable for tool holders of all brands
- The balancing machine calculates the necessary weight of the screws (e. g. HAIMER TOOL DYNAMIC)
- Included in delivery: Case with 11 x 10 balancing screws, screw driver

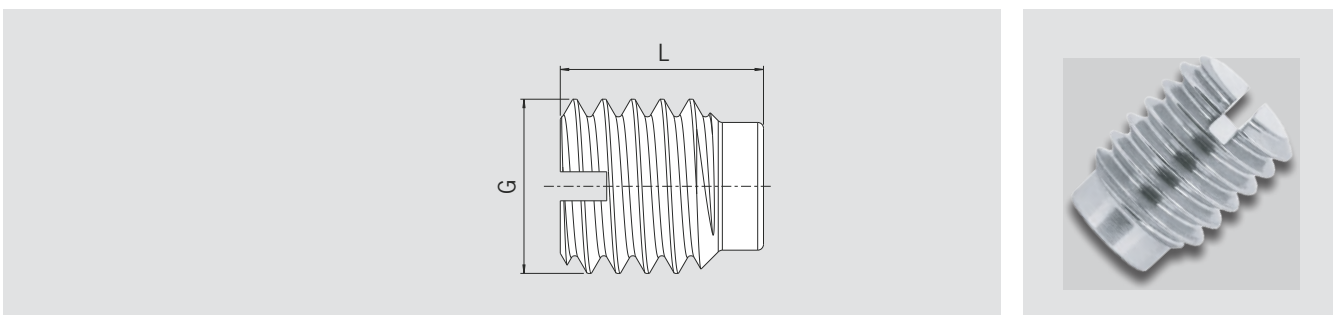
附件/Accessories

订货号/Order No.

平衡螺钉套装/Set of Balancing Screws

80.203.00

重金属的动平衡螺钉 HEAVY METAL BALANCING SCREWS



重金属的动平衡螺钉（M6）用于整个刀具系统的手动平衡修正

Heavy metal balancing screws (thread M6) for manual balancing of tool holders.

长度/Length L [mm]	07	07	08	08	10	10
尺寸/Size G [mm]	M6x7	M6x7	M6x8	M6x8	M6x10	M6x10
质量/Mass(ca.)	大约 2,3 g	大约 2,3 g	大约 2,7 g	大约 2,7 g	大约 3,5 g	大约 3,5 g
订货号/Order No.	.7.0	.7.0.SET	.8.0	.8.0.SET	.10.0	.10.0.SET



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