

Since 1977



Tool Dynamic
模組化動平衡系統
Modular balancing system

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刀具動平衡的優點
THE TOOL DYNAMIC ADVANTAGES

<p>1.</p>	<p>提供工具機更高加工效率</p> <ul style="list-style-type: none"> -更高的主軸轉速 -更多的切削能力 -更好的加工表面 	
<p>2.</p>	<p>保護您的機器</p> <ul style="list-style-type: none"> -減少震動 -降低主軸軸承的磨耗 -提高主軸的使用壽命 -檢查購買的預校動平衡刀桿的品質 -保護主軸，避免損壞 	
<p>3.</p>	<p>降低加工成本</p> <ul style="list-style-type: none"> -減少停機時間 -提高製程的信賴度 	
<p>4.</p>	<p>正確與簡單的校正方法</p> <ul style="list-style-type: none"> -軟體的操作介面非常友善、操作容易 -不必是動平衡專家就會使用 	
<p>5.</p>	<p>HAIMER就是您最完整的系統供應者</p> <ul style="list-style-type: none"> -單一來源提供多種解決方案 -動平衡、夾持與自動化 	
<p>!</p>	<p>用動平衡校正的刀桿可以省錢又提高產量</p> <ul style="list-style-type: none"> -高的切削量 -更長的主軸壽命 -更長的刀具壽命 -得到更精密的加工工件 	

Tool Dynamic TD 1002:
桌上型 刀具動平衡機



TOOL DYNAMIC TD 1002 桌上型 刀具動平衡機

模組化動平衡系統/MODULAR BALANCING SYSTEM

用於做單平面與雙平面校正的刀桿動平衡機

- 包含一個工作桌放置動平衡機
- 適合於模具加工廠使用
- 適合小批量的刀桿動平衡校正與標準的刀桿動平衡校正
- 主軸座都有自動夾持系統

特性

- 選單式畫面- 內建操作畫面與操作按鍵
- 附刀具保護護罩，門鎖與校正啟動互鎖功能

Balancing Machine to balance tool holders on 1 and 2 planes

- Table and complementary machine
- Ideal for mould makers
- For small batch lots, single application and standard chucks
- Adapter with automatic clamping system

Features

- Menu-based handling – via integrated user interface and display
- Safety hood with automated door lock

各項標準配備與功能/Characteristics

	可以吸收震動的基座 Vibration optimised base	安裝在工作桌上，確保最佳化的工作性能	Adapted table for optimized base
	使用者介面 User interface	包含顯示螢幕與操作按鍵，操作簡單	Integrated user interface for easy handling of the machine
	主軸位置角度顯示 Optical indexing help	在螢幕上可以顯示正確的主軸角度	Indication of the exact spindle angle position on display
	雷射光指示功能 Laser marking	雷射光束指示不平衡量所在的位置	Indicates the position of unbalance and correction with a laser
	黏標列印 Print label	列印動平衡量測結果到黏標上	Print balancing result on label
	徑向鑽孔 Drilling radial	採用徑向鑽孔方式修正不平衡量	Balancing by drilling radially
	動平衡環修正軟體功能 Software for compensation with balancing rings	使用動平衡調整環來修正不平衡量的軟體	Balancing by rings or other movable weights
	雙向量測 Index balancing	採用兩次的量測來修正主軸的不平衡量(校正時需要把被測的刀桿轉動180°，做兩次的量測動作)	Compensation of measuring errors by index balancing (2 measuring runs, indexing angle 180°)
	使用主軸補償的方式校正方法 Balancing with spindle compensation	可以快速的量測同一種刀桿的不平衡量(只要跑一次量測動作即可)	Quick and precise measurement of repetition parts (single measuring run)
	單平面校正 Balancing in 1 plane	單平面方式量測刀具動平衡量(靜平衡)	Measuring and compensation of unbalance in 1 plane (static)
	語言介面	多種語言介面	Languages for user interface
	各項選擇性配件與功能 Accessories and special equipment	請參閱第14頁	Please check the table from page 14

詳細技術資料/Technical details

桌上型 刀具動平衡機 Tool Dynamic TD 1002

機器尺寸/Dimensions [mm]	500 × 680 × 820	消耗電力/Power usage [kW]	0.4
重量/Weight [kg]	200	壓縮空氣/Compressed air [bar]	6
主軸轉速/Spindle speed [r.p.m.]	300 – 1100	最大刀桿長度/max. tool length [mm]	360
不平衡量測精度/Measuring accuracy [gmm]	< 1	最大刀桿直徑/max. tool diameter [mm]	340
電力需求/Power requirements [V/Hz]	230/50 ~ 60	最大刀桿重量/max. tool weight [kg]	15
		訂購編號/Order No.	80.250.00

技術資料如有變更，恕不另行通知/ Technical data subject to change without prior notice

Tool Dynamic TD 2009 Economic:
經濟型 刀具動平衡機














TOOL DYNAMIC TD-2009經濟型 刀具動平衡機 模組化動平衡系統/MODULAR BALANCING SYSTEM

模組化刀具動平衡機的最基本款TD-2009，是單平面的動平衡機，最適合較短的刀桿與刀具使用，因為短刀桿的對偶不平衡量較少，只需要做單平面動平衡校正。

Your start into the modular balancing system Tool Dynamic TD 2009. The Tool Dynamic TD 2009 Economic measures and compensates the unbalance in one plane (static). Therefore TD 2009 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.

各項標準配備與功能/Characteristics

	使用人造花岡岩製成的基座 Base made of polymer concrete	為基座的重量足以保證得到最精密的量測精度	Highest measuring accuracy due to heavy base
	使用者介面 User interface	包含顯示螢幕與操作按鍵，操作簡單	Integrated user interface for easy handling of the machine
	主軸位置角度顯示 Optical indexing help	在螢幕上可以顯示正確的主軸角度	Indication of the exact spindle angle position on display
	雷射光指示功能 Laser marking	雷射光束指示不平衡量所在的位置	Indicates the position of unbalance and correction with a laser
	黏標列印 Print label	列印動平衡量測結果到黏標上	Print balancing result on label
	徑向鑽孔 Drilling radial	採用徑向鑽孔方式修正不平衡量	Balancing by drilling radially
	動平衡環修正軟體功能 Software for compensation with balancing rings	使用動平衡調整環來修正不平衡量的軟體	Balancing by rings or other movable weights
	雙向量測 Index balancing	採用兩次的量測來修正主軸的不平衡量(校正時需要把被測的刀桿轉動180°，做兩次的量測動作)	Compensation of measuring errors by index balancing (2 measuring runs, indexing angle 180°)
	使用主軸補償的方式校正方法 Balancing with spindle compensation	可以快速的量測同一種刀桿的不平衡量(只要跑一次量測動作即可)	Quick and precise measurement of repetition parts (single measuring run)
	單平面校正 Balancing in 1 plane	單平面方式量測刀具動平衡量(靜平衡)	Measuring and compensation of unbalance in 1 plane (static)
	語言介面	多種語言介面	Languages for user interface
	各項選擇性配件與功能 Accessories and special equipment	請參閱第14頁	Please check the table from page 14

詳細技術資料/Technical details

Tool Dynamic TD 2009 經濟型 刀具動平衡機

機器尺寸/Dimensions [mm]	500 × 1500 × 820	壓縮空氣/Compressed air [bar]	6
重量/Weight [kg]	450	最大刀桿長度/max. tool length [mm]	400
主軸轉速/Spindle speed [r.p.m.]	300 – 1100	最大刀桿長度(選購)/optional	700
不平衡量測精度/Measuring accuracy [gmm]	< 0.5	最大刀桿直徑/max. tool diameter [mm]	380
電力需求/Power requirements [V/Hz]	230/50 – 60	最大刀桿直徑(選購)/optional	425
消耗電力/Power usage [kW]	0.4	最大刀桿重量/max. tool weight [kg]	30
		訂購編號/Order No.	80.220.00.09

技術資料如有變更，恕不另行通知/Technical data subject to change without prior notice

Tool Dynamic TD 2009 Economic Plus:
進階型 刀具動平衡機



TOOL DYNAMIC TD 2009 ECONOMIC PLUS進階型 刀具動平衡機 模組化動平衡系統/MODULAR BALANCING SYSTEM

新型的TD-2009 Economic plus 進階型具有雙平面動平衡量測的功能，最適合用來校正長刀桿的動平衡。隨機的附件可以放在機身中的抽屜中。

雷射指示、角度指示與自動定位功能將主軸旋轉到定位，可以迅速與正確的來校正動平衡。“固定點功能”可以使用重量調整螺絲在鑽有螺絲孔的刀桿或是轉動件上校正動平衡。

The new TD 2009 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.






以下的功能與Tool Dynamic 2009 Economic 經濟型相同：

The following characteristics are identical to Tool Dynamic TD 2009 Economic:

各項標準配備與功能/Characteristics			
	使用人造花崗岩製成的基座 Base made of polymer concrete		黏標列印 Print label
	使用者介面 User interface		採用徑向鑽孔方式修正不平衡量 Drilling radial
	主軸位置角度顯示 Optical indexing help		使用動平衡調整環來修正不平衡量的軟體 Software for compensation with balancing rings
	雷射光指示功能 Laser marking		雙向量測 Index balancing
			使用主軸補償的方式校正方法 Balancing with spindle compensation
			單平面校正 Balancing in 1 plane
			多種語言介面

以下功能包含在Tool Dynamic TD2009 Economic plus 的標準功能中：

The following characteristics are standard inclusive for Tool Dynamic TD 2009 Economic Plus:

各項標準配備與功能/Characteristics			
	雙平面動平衡量測 Balancing in 2 planes	量測與補償雙平面的不平衡量 (動態不平衡)	Measuring and compensation of unbalance in 2 planes (dynamic unbalance)
	固定點動平衡功能 Fixed components	可以在預設的位置上調整動平衡，例如使用螺絲來調整不平衡量	Enables balancing at predefined positions, e.g. with balancing screws
	自動定位功能 Automatic indexing	主軸可以自動轉到不平衡量的位置	Turns the spindle on the selected angle position and simplifies exact positioning of spindle
	附件儲存抽屜 Rack for accessories	包含兩個抽屜可以放置工具與主軸座	Storage rack with two integrated drawers for balancing adapters and further accessories
	各項選擇性配件與功能 Accessories and special equipment	請參考第14頁	Please check the table from page 14

詳細技術資料/Technical details			
Tool Dynamic TD 2009 Economic Plus 進階型 刀具動平衡機			
機器尺寸/Dimensions [mm]	500 × 1500 × 820	壓縮空氣/Compressed air [bar]	6
重量/Weight [kg]	450	最大刀桿長度/max. tool length [mm]	400
主軸轉速 [r.p.m.]/Spindle speed [r.p.m.]	300 – 1100	最大刀桿長度 (選購)/optional	700
不平衡量測精度/Measuring accuracy [gmm]	< 0.5	最大刀桿直徑/max. tool diameter [mm]	380
電力需求/Power requirements [V/Hz]	230/50 – 60	最大刀桿直徑 (選購)/optional	425
消耗電力/Power usage [kW]	0.4	最大刀桿重量 (kg)/max. tool weight [kg]	30
		訂購編號/Order No.	80.222.00.09

技術資料如有變更，恕不另行通知/Technical data subject to change without prior notice

Tool Dynamic TD 2009 Comfort: 舒適型 刀具動平衡機



本照片是特別的護罩(選購型)，可以用來校正700mm長的刀具(請參考第14頁的資料)

Picture shows special equipment: Safety hood type 3 for tools with length up to 700 mm (see optional configurations from p. 14)

TOOL DYNAMIC TD 2009 COMFORT 舒適型 刀具動平衡機 模組化動平衡系統/MODULAR BALANCING SYSTEM

對於使用量較大的情況並且要縮短平衡時間，我們建議使用新型的 TD-2009 COMFORT 舒適型 刀具動平衡機。本機型隨機附有一台 PC、鍵盤、滑鼠與螢幕。大螢幕與舒適的圖形介面，可以讓操作者很方便的輸入刀具資料，操作者可以更迅速的使用動平衡軟體來進行動平衡校正。除此之外，也可以再購買銑削方式修正不平衡量軟體，這是經常使用的一種修正不平衡量的方式。

If you want to use the Tool Dynamic frequently and keep the balancing time as short as possible, you should decide on the TD 2009 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.






以下的功能與 Tool Dynamic 2009 Economic plus 進階型相同：

The following characteristics are identical to Tool Dynamic TD 2009 Economic Plus:

各項標準配備與功能/Characteristics					
	使用人造花岡岩製成的基座 Base made of polymer concrete		採用徑向鑽孔方式修正不平衡量 Drilling radial		雙平面量測 Balancing in 2 planes
	使用者介面 User interface		使用動平衡調整環來修正不平衡量的軟體 Software for compensation with balancing rings		固定點動平衡功能 Fixed components
	主軸位置角度顯示 Optical indexing help		雙向量測 Index balancing		主軸自動定位功能 Automatic indexing
	雷射光指示功能 Laser marking		使用主軸補償的方式校正方法 Balancing with spindle compensation		包含兩個抽屜可以放置工具與主軸座 Rack for accessories
	黏標列印 Print label		單平面量測 Balancing in 1 plane		多種語言介面

以下功能包含在 Tool Dynamic TD2009 COMFORT 舒適型 的標準功能中：

The following characteristics are standard inclusive for Tool Dynamic TD 2009 Comfort:

各項標準配備與功能/Characteristics		
	銑削功能 Milling program	使用銑削方式修正不平衡量 Milling program allows correction of unbalance via milling
	動平衡軟體 TD4.0 Balancing software TD 4.0	新的動平衡軟體，採用圖形介面與觸控螢幕 New software with user-friendly graphical interface and touchscreen-control
	螢幕托架 Screen holder	方便舒適的螢幕托架，可以安裝螢幕與鍵盤 Comfortable tray to place PC-screen and keyboard
	PC與TFT螢幕 PC & TFT screen	包含PC、動平衡軟體TD4.0, TFT 螢幕、鍵盤與滑鼠 Package for comfortable usage via keyboard (includes PC, Balancing software TD 4.0, TFT screen, keyboard, mouse)
	附件與特別附件 Accessories and special equipment	請參考 第14頁 Please check the table from page 14

詳細技術資料/Technical details			
Tool Dynamic TD 2009 Comfort 舒適型 刀具動平衡機			
機器尺寸/Dimensions [mm]	1100 × 1500 × 820	壓縮空氣/Compressed air [bar]	6
重量/Weight [kg]	450	最大刀桿長度/max. tool length [mm]	400
主軸轉速(r.p.m.) /Spindle speed [r.p.m.]	300 – 1100	最大刀桿長度(選購)/optional	700
不平衡量測精度/Measuring accuracy [gmm]	< 0.5	最大刀桿直徑/max. tool diameter [mm]	380
電力需求(V/Hz)/Power requirements [V/Hz]	230/50 – 60	最大刀桿直徑(選購) /optional	425
消耗電力 (kW)/Power usage [kW]	0.4	最大刀桿重量 (kg)/max. tool weight [kg]	30
		訂購編號/Order No.	80.224.00.09

技術資料如有變更，恕不另行通知/Technical data subject to change without prior notice

Tool Dynamic TD 2009 Comfort Plus: 豪華型 刀具動平衡機



本照片是特別的護罩(選購型)，可以用來校正700mm長的刀具(請參考第14頁的資料)

Picture shows special equipment: Safety hood type 3 for tools with length up to 700 mm (see optional configurations from p. 14)

TD 2009 COMFORT PLUS 豪華型 刀具動平衡機 模組化動平衡系統/MODULAR BALANCING SYSTEM

新一代的刀具動平衡機TD-2009 Comfort Plus豪華型的設計提供了最大的實用性與操作的舒適性。使用這一型的動平衡機的您將不會在每一次的動平衡量測中，浪費任何的時間與程序。任何人都可以像動平衡專家一樣，毫無困難的操作這台機器，迅速與正確的量測動平衡並且完成修正。本機型的基本配備包含了PC、觸控螢幕與操作台，可以最方便的來操作與使用各種選購的配件與功能。

The new Tool Dynamic TD 2009 Comfort Plus offers a maximum of usability and comfort. Using TD 2009 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 2009 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.



以下的功能與Tool Dynamic 2009 Comfort舒適型相同：

The following characteristics are identical to Tool Dynamic TD 2009 Comfort:

各項標準配備與功能/Characteristics					
	使用人造花崗岩製成的基座 Base made of polymer concrete		使用動平衡調整環來修正不平衡量的軟體 Software for compensation with balancing rings		固定點動平衡功能 Fixed components
	使用者介面 User interface		雙向量測 Index balancing		自動定位功能 Automatic indexing
	主軸位置角度顯示 Optical indexing help		使用主軸補償的方式校正方法 Balancing with spindle compensation		包含兩個抽屜可以放置工具與主軸座 Rack for accessories
	雷射光指示功能 Laser marking		單平面校正 Balancing in 1 plane		銑削修正不平衡量功能 Milling program
	黏標列印 Print label		雙平面量測 Balancing in 2 planes		動平衡軟體 TD 4.0 Balancing software TD 4.0
	採用徑向鑽孔方式修正不平衡量 Drilling radial				多種語言介面

以下功能包含在Tool Dynamic TD2009 COMFORT PLUS豪華型 的標準功能中：

The following characteristics are standard inclusive for Tool Dynamic TD 2009 Comfort Plus:

各項標準配備與功能/Characteristics			
	控制台與觸控螢幕 Control terminal incl. touchscreen	包含了一個舒適的操作台，可以存放觸控螢幕，鍵盤、滑鼠、印表機與更多的配件(需要搭配TD4.0動平衡軟體)	Console for storage of touchscreen, keyboard, mouse, printer, and further accessories (only together with Balancing software TD 4.0)
	各項選擇性配件與功能 Accessories and special equipment	請參閱第14頁	Please check the table from page 14

詳細技術資料/Technical details			
Tool Dynamic TD 2009 Comfort Plus			
機器尺寸/Dimensions [mm]	1100 × 1500 × 820	壓縮空氣/Compressed air [bar]	6
重量/Weight [kg]	450	最大刀桿長度/max. tool length [mm]	400
主軸轉速(r.p.m.)/Spindle speed [r.p.m.]	300 – 1100	最大刀桿長度(選購)/optional	700
不平衡量測精度/Measuring accuracy [gmm]	< 0.5	最大刀桿直徑/max. tool diameter [mm]	380
電力需求/Power requirements [V/Hz]	230/50 – 60	最大刀桿直徑(選購) /optional	425
消耗電力/Power usage [kW]	0.4	最大刀桿重量/max. tool weight [kg]	30
		訂購編號/Order No.	80.226.00.09

技術資料如有變更，恕不另行通知/Technical data subject to change without prior notice

圖形 Symbol	訂購編號 Order No.	名稱 Article name	說明	說明 Description	TD 1002	TD 2009				TD 800
					經濟型	進階型	舒適型	豪華型		
	—	最佳化的防震基座 Vibration optimized base	安裝在最佳化的基座的工作桌上	Adapted table for optimized base	●	—	—	—	—	—
	—	使用人造花崗岩製成的基座 Base made of polymer concrete	由於有非常重的基座，確保最佳的量測精度	Highest measuring accuracy due to heavy base	—	●	●	●	●	●
	—	使用者介面 User interface	機台上有內建的操作盤，操作方便容易！	Integrated user interface for easy handling of the machine	●	●	●	●	●	●
	—	主軸位置角度顯示 Optical indexing help	在操作螢幕上精確地顯示主軸的角度位置	Indication of the exact spindle angle position on display	●	●	●	●	●	●
	—	雷射光指示功能 Laser marking	雷射光束指示出不平衡量的所在位置，方便修正不平衡量	Indicates the position of unbalance and correction with a laser	●	●	●	●	●	●
	—	黏標列印 Print label	把動平衡的量測結果列印在黏標上	Print balancing result on label	●	●	●	●	●	●
	—	徑向鑽孔修正 Drilling radial	提供從徑向鑽孔修正不平衡量時的鑽孔深度	Balancing by drilling radially	●	●	●	●	●	●
	—	使用動平衡調整環來修正不平衡量的軟體 Software for compensation with balancing rings	使用動平衡調整環或其他可以移動的重量物來修正不平衡量	Balancing by rings or other movable weights	●	●	●	●	●	●
	—	雙向量測 Index balancing	量測不平衡量時，被測物轉動180°，量測兩次來補償主軸的誤差	Compensation of measuring errors by index balancing (2 measuring runs, indexing angle 180°)	●	●	●	●	●	●
	—	使用主軸補償的方式校正方法 Balancing with spindle compensation	主軸經過補償誤差後，只需要一次的量測就可以得到結果，量測迅速	Quick and precise measurement of repetition parts (single measuring run)	●	●	●	●	●	●
	—	單平面量測 Balancing in 1 plane	只量測與修正單一平面的不平衡(靜平衡)	Measuring and compensation of unbalance in 1 plane (static)	●	●	●	●	●	●
	80.252.00	雙平面量測 Balancing in 2 planes	量測與修正雙平面上的不平衡量(動態平衡)	Measuring and compensation of unbalance in 2 planes (dynamic unbalance)	○	○	●	●	●	●
	80.202.00	固定點動平衡功能 Fixed components	可以使用已經預定的位置來修正不平衡，例如使用螺絲	Enables balancing at predefined positions, e.g. with balancing screws	○	○	●	●	●	●
	80.217.00	主軸自動定位功能 Automatic indexing	主軸會轉動到選定的角度位置，簡化在主軸上定位的操作程序	Turns the spindle on the selected angle position and simplifies exact positioning of spindle	○	○	●	●	●	●

技術資料如有變更，恕不另行通知/Technical data subject to change without prior notice

● 包含/included

○ 選購/optional

— 不供應/not available

圖形 Symbol	訂購編號 Order No.	名稱 Article name	說明	說明 Description	TD 1002	TD 2009				TD 800
						經濟型	進階型	舒適型	豪華型	
	80.227.00	配件抽屜 Rack for accessories	有兩個安裝在機身下方的抽屜，可以放置工具與主軸座	Storage rack with two integrated drawers for balancing adapters and further accessories	—	○	●	●	●	●
	80.212.00	銑削程式 Milling program	使用銑削方式修正不平衡量的程式功能	Milling program allows correction of unbalance via milling	○	○	○	●	●	●
	80.245.06	動平衡軟體TD 4.0 Balancing software TD 4.0	新的動平衡軟體，友善的圖控操作介面，可以使用觸控螢幕介面	New software with user-friendly graphical interface and touchscreen-control	—	○	○	●	●	●
	80.228.00	螢幕固定架 Screen holder	安裝在機身旁邊的迴轉托架，可以放置鍵盤與螢幕	Comfortable tray to place PC-screen and keyboard	—	○	○	●	—	—
	80.223.00	控制台與觸控螢幕 Control terminal incl. touchscreen	控制台包含安裝觸控螢幕與各種儲存空間，可以安裝觸控螢幕、鍵盤、滑鼠、與更多的附件。(搭配TD4.0刀具動平衡軟體。)	Console for storage of touchscreen, keyboard, mouse, printer, and further accessories (only together with Balancing software TD 4.0)	—	○	○	○	●	●
	80.229.03	觸控螢幕 Touchscreen	TFT螢幕與觸控功能	TFT monitor with touchscreen	—	—	—	○	●	●
	80.229.00 + 80.229.01	PC 與 TFT 螢幕 PC & TFT screen	套裝組合，包含PC與TFT螢幕，TD4.0 動平衡軟體、鍵盤與滑鼠	Package for comfortable usage via keyboard (includes PC, Balancing software TD 4.0, TFT screen, keyboard, mouse)	—	○	○	●	—	—
	80.229.00 + 80.229.04	PC 與 觸控螢幕 PC & touchscreen	套裝組合，包含PC與TFT觸控螢幕，TD4.0 動平衡軟體、鍵盤與滑鼠	Package for comfortable usage via touchscreen (includes PC, Balancing software TD 4.0, sophisticated 19" touchscreen, keyboard, mouse)	—	○	○	—	●	●
	80.209.00	比重設定功能 Specific weight function	可以輸入被測物體或是鑽孔位置的材料比重，可以用於鋼料以外的其他產品。	Enables specification of the specific weight of the rotor to be balanced, if different from steel	○	○	○	○	○	○
	80.213.01	軸向鑽孔修正功能 Drilling axial	可以在軸向鑽孔修正不平衡量，例如砂輪或渦輪等產品	Enables balancing of rotors by axial drilling, e.g. for grinding wheels	○	○	○	○	○	○
	80.218.00	任意角度的雙向量測功能 Index balancing with free indexing angle	可以使用180°以外的其他角度做兩次量測，例如CAPTO刀桿	Index balancing of rotors which can not be indexed 180° (e.g. Capto chucks)	○	○	○	○	○	○
	80.214.00	量測結果報告表列印軟體 Software for printout of report	列印更詳細的動平衡量測報告(動平衡等級證明)	Printout of a detailed measuring protocol (balancing certificate)	○	○	○	○	○	○

技術資料如有變更，恕不另行通知/Technical data subject to change without prior notice













● 包含/included ○ 選購/optional — 不供應/not available

功能選擇說明
OPTIONAL CONFIGURATIONS

圖形 Symbol	訂購編號 Order No.	名稱 Article name	說明	說明 Description	TD 1002	TD 2009				TD 800
						經濟型	進階型	舒適型	豪華型	
	—	德文/英文/法文/ 義大利文/西班牙 文 介面	使用者可以選用的語 文介面	Languages for user interface	●	●	●	●	●	●
	80.229.00. EN	英文語文套裝 English language package	多語文版Windows與 英文鍵盤	Windows multilingual, keyboard English	—	—	—	○	○	○
	80.229.00. FR	法文語文套裝 French language package	多語文版Windows與 法文鍵盤	Windows multilingual, keyboard French	—	—	—	○	○	○
	80.229.00. IT	義大利文語文套裝 Italian language package	多語文版Windows與 義大利文鍵盤	Windows multi- lingual, keyboard Italian	—	—	—	○	○	○
	80.229.00. SP	西班牙文語文套裝 Spanish language package	多語文版Windows與 西班牙文鍵盤	Windows multilingual, keyboard Spanish	—	—	—	○	○	○
	80.229.00. PT	葡萄牙文語文套裝 Portuguese language package	多語文版Windows與 葡萄牙文鍵盤	Windows multilingual, keyboard Portuguese	—	—	—	○	○	○
	80.229.00. RU	俄文語文套裝 Russian language package	俄文語文套裝	User interface Russian, Windows multilingual, keyboard English	—	—	—	○	○	○
	80.229.00. CN	簡體中文語文套裝 Chinese language package	簡體中文語文套裝	User interface Chinese, Windows multilingual, keyboard English	—	—	—	○	○	○
	89.229.00. JP	日文語文套裝 Japanese language package	日文語文套裝	User interface Japanese, Windows multilingual, keyboard English	—	—	—	○	○	○
	80.145.07	使用者帳戶管理 User account administration	使用者帳戶管理	User administration with individual allocation of user rights	—	—	—	○	○	○
	80.246.09	禁制區域功能 Forbidden areas	禁制區域功能	Defined areas that are not allowed for the compensation of the unbalance	—	—	—	○	○	○
	80.245.10	變更補償位置功能 Alternative compensation positions	變更補償位置功能	Calculation of alternative positions, when proposed position not possible	—	—	—	○	○	○
	80.245.11	量測時間最佳化 Optimized measuring time	量測時間最佳化	Shortened mea- suring run, if measuring accuracy is sufficient	—	—	—	○	○	○
	80.232.01	加高型安全護罩(第三型) Safety hood type 3	加高型安全護罩(第三型)	Safety hood for extra long toolholders with max. 700 mm length and max. 400 mm diam. (opt. with second laser marking from top)	—	○	○	○	○	—

技術資料如有變更，恕不另行通知/Technical data subject to change without prior notice

● 包含/included ○ 選購/optional — 不供應/not available

圖形 Symbol	訂購編號 Order No.	名稱 Article name	說明	說明 Description	TD 1002	TD 2009				TD 800
						經濟型	進階型	舒適型	豪華型	
	80.232.02	加高型安全護罩 (第四型) Safety hood type 4	加長與加大的安全護罩，可以量測長度700 mm，最大刀徑：425 mm (另外可以選購第二個雷射指示光，從上面指示位置。)	Safety hood for extra long toolholders with max. 700 mm length and max. 425 mm diam. (opt. with second laser marking from top)	—	○	○	○	○	—
	80.211.03	第二個雷射指示光 (從頂部照射) 2 nd Laser (from top)	適用於第三與第四型加大護罩	Only available for safety hood types 3 and 4	—	○	○	○	○	○
	80.203.00	動平衡調整螺絲組 Balancing screw set	包含11種(每種10個)的螺絲組，用於調整刀桿上已經預先鑽孔攻牙(M6)的動平衡。(例如HAIMER的燒結式刀桿)	Set consisting of 11 × 10 special screws for fine-balancing of tool holders with balancing threads m6 (e.g. shrink fit chucks from HAIMER)	○	○	○	○	○	○
	79.350.xx	動平衡調整環 Balancing rings	用於精密調整刀桿的不平衡量，詳細規格請參閱35頁	For fine-balancing of all tool holders with cylindrical outer diameter (see p. 35)	○	○	○	○	○	○
	80.207.01	精密電子秤 Precision scale	用於量測動平衡配重的重量	For highly precise weighing of balancing weights	○	○	○	○	○	○
	80.207.12	電子秤資料傳輸軟體 Software scale integration	自動把被測物體重量傳輸到動平衡軟體的功能	Automatic transfer of rotor weight from scale	—	—	—	○	○	○
	80.207.10	電子秤 Tool scale	量測刀桿等被測物的重量，可以加選傳輸軟體(80.207.12)把刀桿重量直接傳輸到動平衡軟體。	Measures the weight of the tool holder, optional direct transfer into the balancing software (see option 80.207.12)	—	—	—	○	○	○
	80.215.02	雷射印表機 Laser printer for balancing reports	列印動平衡量測報告(需要搭配 80.214.00 報告列印軟體)	Laser printer with Ethernet port to print out a detailed balancing report (together with option 80.214.00)	○	○	○	○	○	○
	80.206.00	校正用磁鐵組 Set of calibration magnets	經過校驗重量的磁鐵，用來做檢測、訓練與展示用	Calibration magnets for testing, training, and demonstration purposes	○	○	○	○	○	○
	80.200.02	教育訓練 Product training	操作與使用的教育訓練	The training is obligatory for future warranty claims	○	○	○	○	○	○
	80.230.00	校正規 Calibration tube	用來校正動平衡基的標準規	For the calibration and testing of every balancing machine with the help of a defined mass	○	○	○	○	○	○
	80.215.03	黏標印表機 Label printer	列印動平衡量測結果的黏標	Printout of a label with the measuring results (short report)	○	○	○	○	○	○

技術資料如有變更，恕不另行通知/Technical data subject to change without prior notice

● 包含/included ○ 選購/optional — 不供應/not available

動平衡機操作台/Tool Dynamic Control Terminal: 讓操作更加舒適的設計

高品質的硬化玻璃表面觸控螢幕，
操作更方便

High quality touchscreen with hardened
glass surface for easiest control

鍵盤與滑鼠

Traditional input with keyboard and
mouse possible

附件收納用抽屜

Drawer for accessories

印表機放置架

Storing Facility for Printers

主軸座收納抽屜

Storage for balancing adapter and tools

額外的收納抽屜

Additional drawer



刀具動平衡軟體4.0/TOOL DYNAMIC TD SOFTWARE 4.0

新一代的智慧型軟體

完全使用圖控畫面操作的軟體，讓動平衡量測的操作更簡單容易，圖形化的取代了大部分的文字選擇，可以使用滑鼠或是觸控螢幕來操作。

TD系列中舊的簡單操作介面仍然保留，任何已經使用過Haimer動平衡機操作的人都可以輕易地使用。

除此之外，還有一系列更多的功能！

使用者管理可以設定不同的使用權限，例如有的使用者可以輸入新的刀柄資料與動平衡公差，而負責操作的使用者只能叫出這些已經設定好的資料，執行動平衡的校正工作。

輔助說明功能可以讓新的使用者更容易的學習，必要的時候也可以顯示提醒的資訊給操作者。輔助功能引導整個動平衡操作程序，讓動平衡的過程變得更容易！

功能說明：

- 當刀柄或是轉子上的某些位置無法用來作為修正動平衡時(選購功能)，可以將這些位置定義為“禁制區域”
- 變換修正動平衡量位置時，可重新計算修正量(選購功能)
- 對使用者更友善的操作介面
- 使用觸控螢幕操作(選購功能)
- 使用者權限管理功能(選購功能)
- 可以連接到外部的電子秤，傳輸被測刀桿的重量到動平衡軟體(選購功能)
- 每個按鍵有功能說明
- 重要的操作程序有輔助說明功能
- 機器型式決定動平衡的公差
- 包含刀桿資料管理功能與資料庫
- 資料庫管理有檔案夾的功能
- 可以與其他系統交換資料庫的資料，例如刀具管理系統

New intelligent balancing software

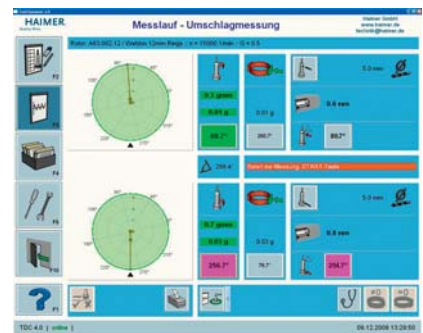
Balancing is now even easier and more user-friendly. The user interface is completely made up of graphics. Buttons with symbols replace the text fields in most locations. Selection can take place using function buttons, by clicking the mouse or by touching the screen.

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.

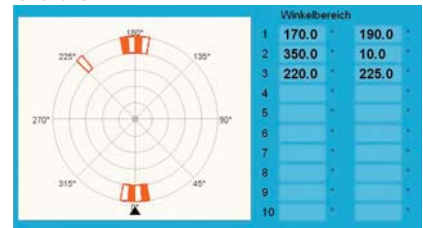
A help function makes operation easier for new and occasional users. If required, a short function description can be displayed as a reminder. An assistant function guides through all function processes, so that balancing is made even easier.



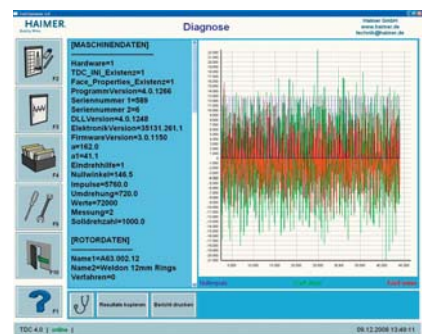
新的圖像使用者介面
New graphical user interface



直覺的使用者導引與圖形的輔助說明
Intuitive user guidance with graphical help functions



新的軟體功能：禁制區域功能(選購功能)
New feature: Forbidden areas



先進的偵測模式，紀錄機器的動態錯誤訊息
Advanced diagnostic modes

刀具動平衡與設定機/Tool Dynamic TD Preset: 給獨特的需求者使用



TOOL DYNAMIC TD PRESET 刀具動平衡與設定機 TOOL BALANCING AND PRESETTING

兩套系統結合成單一的創新設計

刀具動平衡與刀具設定是現代切削加工製造技術中非常重要的技術，很明顯的，如果能夠把這兩套系統結合在同一台機器上，可以同時完成兩道程序。刀具動平衡與刀具設定的兩套技術是結合HAIMER的刀具動平衡技術與ZOLLER的刀具設定與量測技術的完美組合，刀具夾持在HAIMER的高精密與精密平衡主軸上，可以節省時間與提高校驗動平衡與刀具設定的精度，因為刀具可以不需要重複的取上取下。

- 技術領導者的斬新技術
- 整合兩種功能在同一台機器上，效率高節省時間
- 使用了HAIMER的高精密主軸系統，夾持精度高
- 合理的價格與性能比
- 佔用空間少
- 操作簡單
- 有各種主軸座可供選購，市場上的各種型式都有供應
- 最方便的量測方法

訂購編號：80.240.00



量測系統配備高解析度攝影機與數位影像量測程序

Presetting

Measuring system with high resolution camera and digital photo processing

Two approved systems – a trendsetting innovation

Tool balancing and presetting are key elements of modern manufacturing. It is obviously a good idea to combine these two procedures. The Tool Dynamic TD Preset is a perfect combination of HAIMER's balancing technology and Zoller's measuring technology. The tool is clamped in the high precision balancing spindle fitted with HAIMER's proven adapter system. This saves time and increases accuracy because the tool does not have to be re-clamped.

- Forward-looking state-of-the-art technology by technology leaders
- Highest efficiency and saved time by combining two production stages
- Utmost precision due to high precision clamping in HAIMER's balancing adapters
- Reasonable price and efficiency ratio
- Needs little space
- Simple and logical operation
- Adapter for all interfaces
- Highest possible measuring comfort

Order No. 80.240.00



專業的軟體功能
 有不同的選項功能可以做動平衡校正與量測

Software for professionals

Various options for measuring and balancing clearly arranged in menus

大直徑動平衡機Tool Dynamic TD 800: 適合於特別的用途

新產品
NEW



照片上顯示的機型包含了偏擺量測裝置
Picture shows special equipment: Runout measuring console

TOOL DYNAMIC TD 800 大尺寸用動平衡機/SPECIAL BALANCING MACHINES

可以量測直徑800 mm的動平衡機

採用HAIMER的動平衡技術TOOL DYNAMIC系列的設計，TD 800可以用來量測大尺寸的迴轉體，例如軸承環、砂輪與渦輪轉子。使用訂製的夾持系統，可以快速與方便的來校正各種大型轉動物體的動平衡。

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.



安全護罩可以折疊式的打開，讓大型轉子可以從上面放入動平衡機上，更重的物體可以使用吊具來搬移。

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.

技術資料/Technical details			
Tool Dynamic TD 800			
尺寸/Dimensions [mm]	1500 × 1910 × 900	壓縮空氣壓力/Compressed air [bar]	5–6
重量/Weight [kg]	550	壓縮空氣消耗量 [公升/小時]/Air consumption [l/h]	30
主軸速度/Spindle speed [r.p.m.]	200–1100	最大的轉子長度/max. tool length [mm]	750
動平衡量測精度/Measuring accuracy [gmm]	< 0.5	最大轉子直徑/max. tool diameter [mm]	800
電源/Power requirements [V/Hz]	230/50–60	最大轉子重量/max. tool weight [kg]	110
耗電量/Power usage [kW]	1.0	訂購編號/Order No.	80.270.00

技術資料如有變更，恕不另行通知/Technical data subject to change without prior notice

新產品
NEW

全自動動平衡量測校正機/Tool Dynamic TD 2010 Automatic:
適合專業的刀具生產者



TOOL DYNAMIC TD 2010 AUTOMATIC
全自動動平衡量測校正機
AUTOMATIC BALANCING TECHNOLOGY

我們把動平衡校正技術帶到另一個層次：
更快、更好、更有效率

最新的全自動動平衡量測校正機

最新設計的Tool Dynamic TD2010 Automatic是一台以CNC為基礎設計的動平衡量測校正機，可以全自動的量測不平衡量，並且自動的修正不平衡。本機器可以自動的修正不平衡量，無論是單平面或是雙平面的量測，使用的修正方式可以有鑽孔、銑削與研磨，修正的刀具可以是垂直或是水平的方向來修正。

自動的平衡量測與修正- 操作原理

在量測不平衡量之後，軟體會根據修正的刀具尺寸，自動計算鑽孔深度或是銑削與研磨的深度，主軸會轉到正確的位置，配置的CNC機器根據設定的修正平面，自動地用鑽孔、銑削或研磨等方法把需要移除的重量移除，得到正確的動平衡值。

沒有比這樣的機器可以做得更快與準確又簡單了！在修正不平衡量的過程中會發生過切的狀況都不會再發生了。

- 量測與修正不平衡量只有一次的步驟
- 快速、簡單與經濟
- 在轉子上不會出現錯誤的鑽孔
- 可以與生產線配置使用
- 可以選購特別的軟體與特別的方法來修正不平衡量

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

The new Tool Dynamic TD 2010 Automatic

The new Tool Dynamic TD 2010 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 2010 Automatic 以CNC機器為基礎的動平衡機：最大的操作舒適性、最大的程序可靠度與最高的效率與精度

訂購編號 80.260.00

Tool Dynamic TD 2010 Automatic – automatic vertical CNC based balancing machine: Maximum of comfort, maximum of process reliability with highest efficiency and precision.

Order No. 80.260.00

改善效率：創紀錄的校正時間！

Improve your efficiency: balancing in record time!

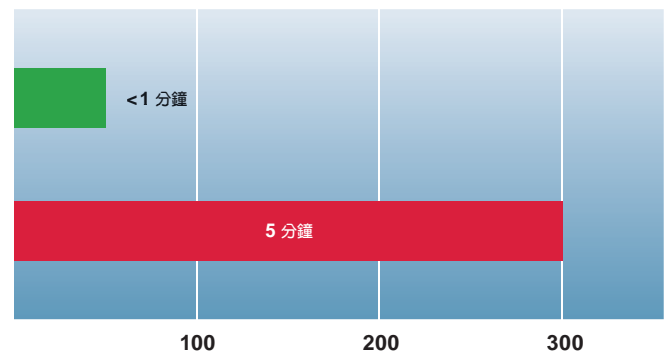
動平衡程序：
量測、修正與檢查

Balancing process:

Simple measuring run,
compensation and check

全自動動平衡機
Tool Dynamic
TD 2010 Automatic

標準的動平衡機
standard balancing system



優點總覽

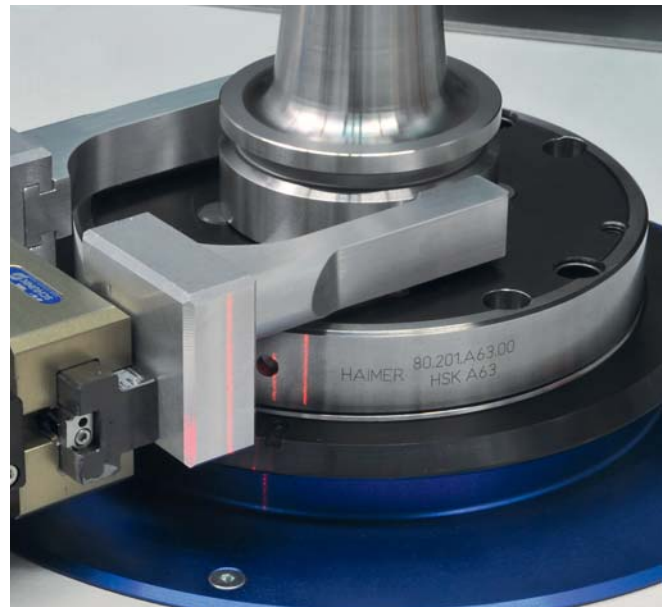
- 全自動修正不平衡量，可以使用鑽孔、銑削或是研磨的方式修正，無論單平面或雙平面平衡，都可以在整合的四軸CNC加工機與動平衡機一次完成。
- 可交換式的高精密動平衡主軸座，內建夾刀系統，國際市場上主要的工具機主軸規格都列在標準規格中，如果不在標準規格內，還可以訂製特殊的主軸規格。
- 兩次量測(Index measuring)時自動轉向定位時的夾刀夾爪(選購)，可以不需要使用額外的工具就可以與主軸座一起交換。
- 在鑽孔、銑削與研磨時所產生的切屑，由吸塵機同步吸出。
- 中央潤滑系統，整台機器幾乎免停機維護，可以24小時三班制的工作。
- 動平衡主軸與控制箱都有冷卻機。
- 動平衡量測模式提供最短的量測時間，動平衡量測與檢測在最短的時間內完成。
- 簡單的量測模式：量測、鑽孔與再檢測可以在一分鐘內完成。
- 可以整合外部的機器人單元，把動平衡量測、修正與再檢測整合在生產線上。
- 智慧型的軟體可以對已經校驗過的轉子提供最快速與最有效率的再檢測動作。

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



以CNC機能自動修正不平衡量
Automated compensation of unbalance via CNC machining unit



整合夾持爪可以提供自動的雙向量測動作
Integrated balancing adapter and gripper for automatic index measuring

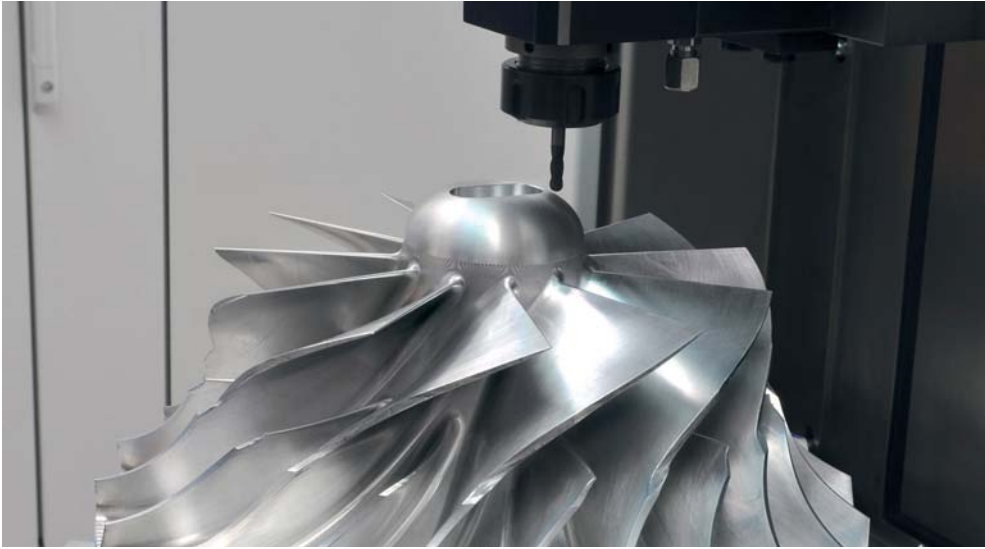
全自動動平衡量測校正機/TOOL DYNAMIC TD 2010 AUTOMATIC 產品特色/PRODUCT FEATURES

技術資料/Technical data		
量測精度/Measuring accuracy		
量測精度/Measuring accuracy	<0.5 gmm	
轉子(被測物)的限制/Limitation of the rotor		
最大直徑/Max. diameter	400 mm	
最大長度/Max. length	600 mm	
最大重量/Max. weight	50 kg	
操作範圍/Operational range		
X 軸/X-axis	160 mm	
Y 軸/Y-axis	400 mm	
Z 軸/Z-axis	250 mm	
B 軸/B-axis	360°	
快送速度/Rapid mode	20 m/min	所有的軸向都相同/on all axis
動平衡主軸/Balancing spindle		
最高轉速/Max. RPM	1100 U/min/rpm	
最大扭力/Max. torque	35 Nm	
刀具主軸/CNC unit		
主軸規格/Interface	VDI 30	
最大轉速/Max. engine speed	6000 U/min	可以無段變速/adjustable
最大扭力/Max. torque	15 Nm	在 S3-25% 時/at S3-25%
最大鑽孔能力/Max. drilling capacity	Ø 10 mm	以硬化鋼HRC60°材料為基準/in hardened steel with HRC 60
轉子在水平狀態下的操作範圍/Operational range of rotor in horizontal mode		
最大直徑/Max. diameter	400 mm	
最大高度/Max. height	250 mm	
轉子在立式狀態下的操作範圍/Operational range of rotor in vertical mode		
最大直徑/Max. diameter	400 mm	
最大高度/Max. height	280 mm	

技術資料如有變更，恕不另行通知/Technical data subject to change without prior notice

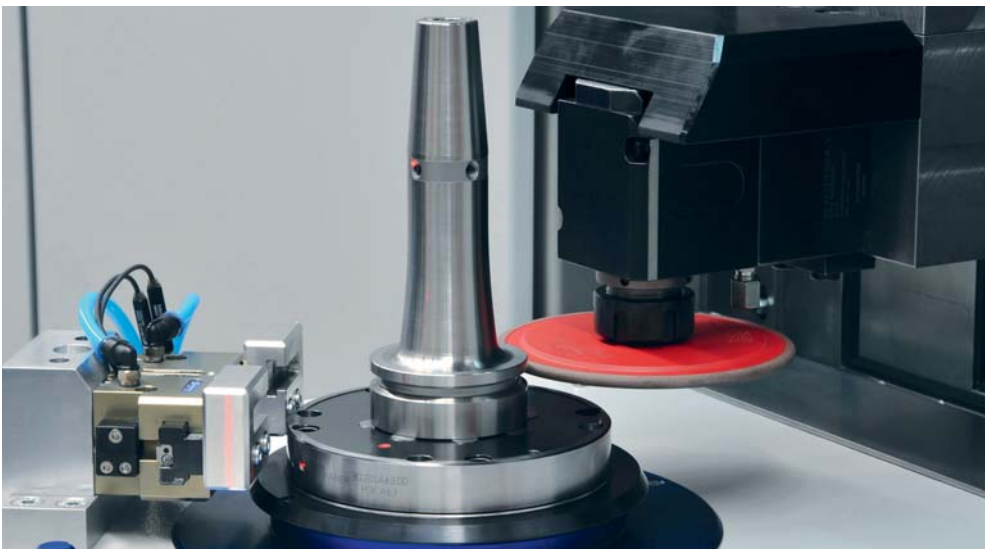


整合控制器與動平衡軟體
Integrated control and balancing software



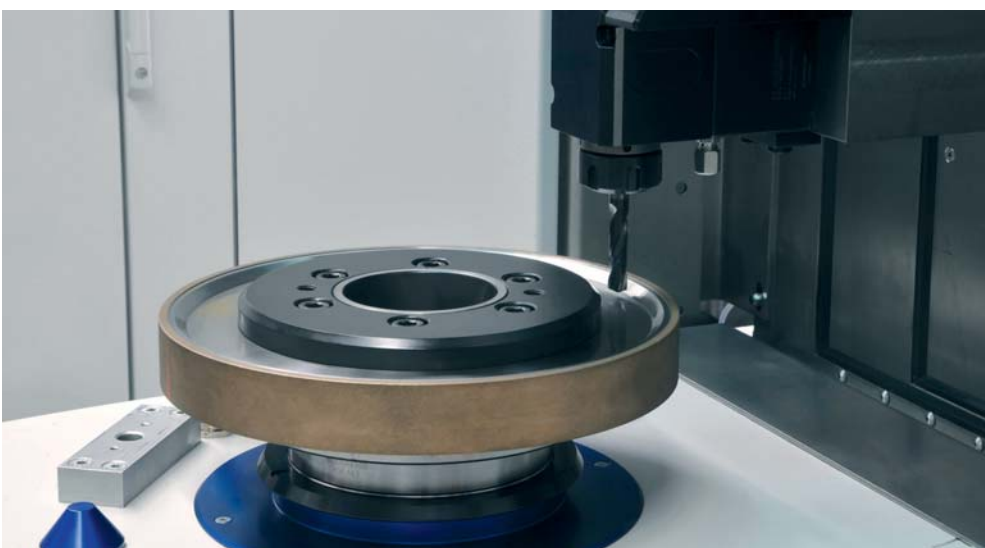
渦輪增壓器的壓縮轉子
使用銑刀主軸修正動平衡

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



使用砂輪修正CNC刀桿的
動平衡
優點：減少震動，提高機器產能
與延長刀具壽命

**Balancing of tool holders by
grinding**
Lower vibrations, raise the
productivity of machine tools
and are conducive to higher tool
lifetime.



使用軸向的鑽孔功能修正砂
輪的動平衡
校正砂輪的動平衡，可以減少研
磨工件的表面粗度，提高生產效
率與產品的精度

**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.



木工刀具

木工刀具在經過良好的動平衡校正以後，可以避免切刃的破裂與震動，並且提高產品的精度，生產品質更優良的木器產品。不但可以提高產能與效率，更可以提升產品的質感與附加價值。

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.

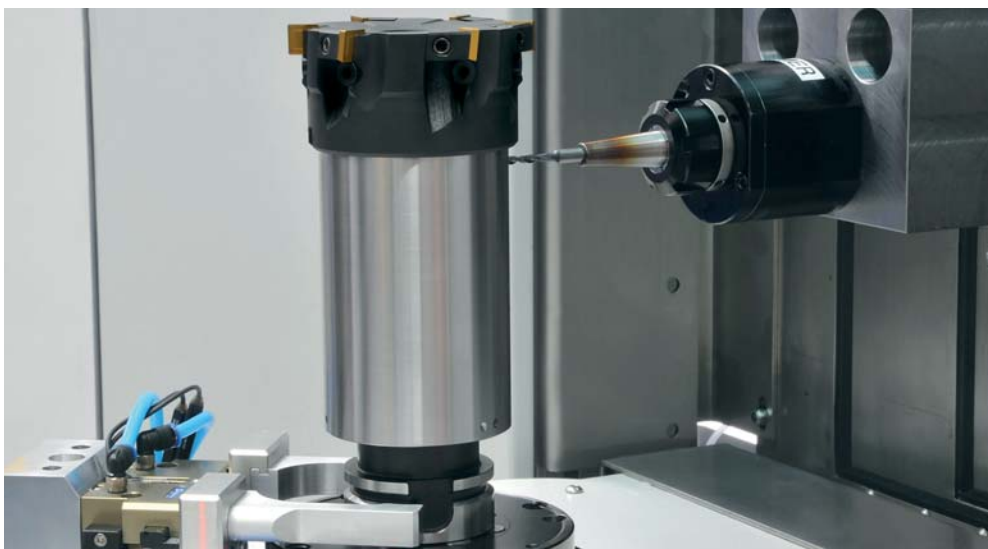


搪孔刀具

提高搪孔尺寸公差等級與更好的表面粗度，切削速度更可以提高300%。

Balancing of fine boring heads

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



銑刀刀頭做雙面動平衡校正加長的平面銑刀桿與銑刀頭需要做雙平面校正，可以消除扭轉的不平衡狀態，延長刀具壽命，增加切削能力與更好的表面粗度。

Milling head, balancing in two planes

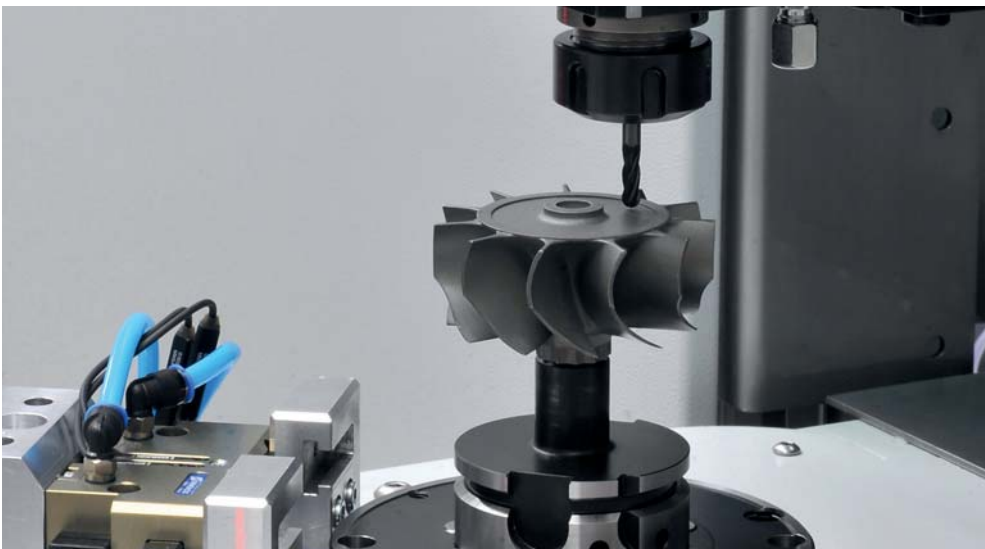
Long projecting tools must be balanced in two planes in order to eliminate the couple unbalance (dynamic balancing). At longer tools that leads to a higher cutting capacity and a better surface finish.



使用HAIMER後拉式筒夾HG系列夾持直柄的刀具做動平衡校正
請參閱第33頁，了解更多的資料。

Balancing of tools with a HG balancing adapter for tools with shank

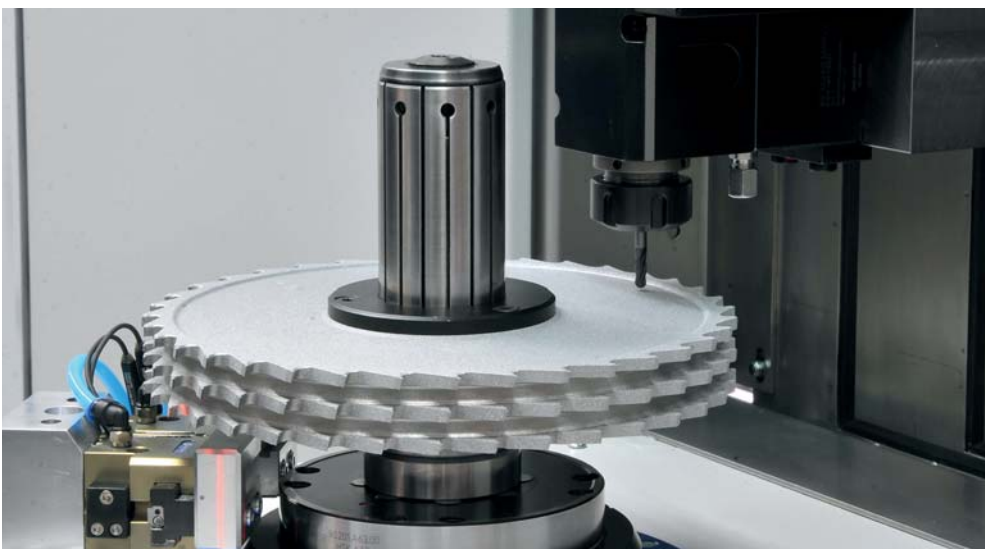
For further information please go to p. 33.



渦輪增壓器的壓縮輪校正軸向鑽孔

Compressor wheel for turbo charger

Axial drilling.



校正切片用的PCD薄片銑刀經過動平衡校正以後的銑刀在高速切削時，減少震動與噪音，提升效率，更可以提升家具產品的品質。

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.

HSK 動平衡主軸 BALANCING ADAPTER HSK



- μm 級的夾持精度，確保最高的量測精度與重複精度。
- 一體式的設計，交換迅速簡單。
- μm precise clamping for highest measuring accuracy and repeatability
- Easy and quickest changing due to compact design

HSK動平衡主軸，包含自動鎖刀系統/HSK balancing adapter with automatic clamping system

HSK 規格 HSK interface	訂購編號 Adapter Order No.	相當的規格 Analogy	說明 Description
HSK 25			
E	80.201.E25.00		適用於HSK-E25的刀具，包含鎖刀系統/Adapter for HSK-E25 with clamping system
HSK 32			
A	80.201.A32.00		適用於HSK-A32的刀具，包含鎖刀系統/Adapter for HSK-A32 with clamping system
B	80.201.E25.00	B32 = E25	適用於HSK-E25的刀具，包含鎖刀系統/Adapter for HSK-E25 with clamping system
C	80.201.A32.00	C32 = A32	適用於HSK-A32的刀具，包含鎖刀系統/Adapter for HSK-A32 with clamping system
D	80.201.E25.00	D32 = E25	適用於HSK-E25的刀具，包含鎖刀系統/Adapter for HSK-E25 with clamping system
E	80.201.E32.00		適用於HSK-E32的刀具，包含鎖刀系統/Adapter for HSK-E32 with clamping system
F	80.201.E25.00	F32 = E25	適用於HSK-E25的刀具，包含鎖刀系統/Adapter for HSK-E25 with clamping system
HSK 40			
A	80.201.A40.00		適用於HSK-A40的刀具，包含鎖刀系統/Adapter for HSK-A40 with clamping system
B	80.201.E32.00	B40 = E32	適用於HSK-E32的刀具，包含鎖刀系統/Adapter for HSK-E32 with clamping system
C	80.201.A40.00	C40 = A40	適用於HSK-A40的刀具，包含鎖刀系統/Adapter for HSK-A40 with clamping system
D	80.201.E32.00	D40 = E32	適用於HSK-E32的刀具，包含鎖刀系統/Adapter for HSK-E32 with clamping system
E	80.201.E40.00		適用於HSK-E40的刀具，包含鎖刀系統/Adapter for HSK-E40 with clamping system
F	80.201.E32.00	F40 = E32	適用於HSK-E32的刀具，包含鎖刀系統/Adapter for HSK-E32 with clamping system
HSK 50			
A	80.201.A50.00		適用於HSK-A50的刀具，包含鎖刀系統/Adapter for HSK-A50 with clamping system
B	80.201.E40.00	B50 = E40	適用於HSK-E40的刀具，包含鎖刀系統/Adapter for HSK-E40 with clamping system
C	80.201.A50.00	C50 = A50	適用於HSK-A50的刀具，包含鎖刀系統/Adapter for HSK-A50 with clamping system
D	80.201.E40.00	D50 = E40	適用於HSK-E40的刀具，包含鎖刀系統/Adapter for HSK-E40 with clamping system
E	80.201.E50.00		適用於HSK-E50的刀具，包含鎖刀系統/Adapter for HSK-E50 with clamping system
F	80.201.E40.00	F50 = E40	適用於HSK-E40的刀具，包含鎖刀系統/Adapter for HSK-E40 with clamping system
HSK 63			
A	80.201.A63.00		適用於HSK-A63的刀具，包含鎖刀系統/Adapter for HSK-A63 with clamping system
B	80.201.E50.00	B63 = E50	適用於HSK-E50的刀具，包含鎖刀系統/Adapter for HSK-E50 with clamping system
C	80.201.A63.00	C63 = A63	適用於HSK-A63的刀具，包含鎖刀系統/Adapter for HSK-A63 with clamping system
D	80.201.E50.00	D63 = E50	適用於HSK-E50的刀具，包含鎖刀系統/Adapter for HSK-E50 with clamping system
E	80.201.E63.00		適用於HSK-E63的刀具，包含鎖刀系統/Adapter for HSK-E63 with clamping system
F	80.201.E50.00	F63 = E50	適用於HSK-E50的刀具，包含鎖刀系統/Adapter for HSK-E50 with clamping system
Weinig			
Weinig	80.201.W63.00		Weinig 刀具專用主軸座/Adapter for Weing tool holder
HSK 80			
A	80.201.A80.00		適用於HSK-A80的刀具，包含鎖刀系統/Adapter for HSK-A80 with clamping system
B	80.201.E63.00	B80 = E63	適用於HSK-E63的刀具，包含鎖刀系統/Adapter for HSK-E63 with clamping system
C	80.201.A80.00	C80 = A80	適用於HSK-A80的刀具，包含鎖刀系統/Adapter for HSK-A80 with clamping system
D	80.201.E63.00	D80 = E63	適用於HSK-E63的刀具，包含鎖刀系統/Adapter for HSK-E63 with clamping system
E	80.201.E80.00		適用於HSK-E80的刀具，包含鎖刀系統/Adapter for HSK-E80 with clamping system
F	80.201.E63.00	F80 = E63	適用於HSK-E63的刀具，包含鎖刀系統/Adapter for HSK-E63 with clamping system
HSK 100			
A	80.201.A100.00		適用於HSK-A100的刀具，包含鎖刀系統/Adapter for HSK-A100 with clamping system
B	80.201.E80.00	B100 = E80	適用於HSK-E80的刀具，包含鎖刀系統/Adapter for HSK-E80 with clamping system
C	80.201.A100.00	C100 = A100	適用於HSK-A100的刀具，包含鎖刀系統/Adapter for HSK-A100 with clamping system
D	80.201.E80.00	D100 = E80	適用於HSK-E80的刀具，包含鎖刀系統/Adapter for HSK-E80 with clamping system
E	80.201.E100.00		適用於HSK-E100的刀具，包含鎖刀系統/Adapter for HSK-E100 with clamping system
F	80.201.E80.00	F100 = E80	適用於HSK-E80的刀具，包含鎖刀系統/Adapter for HSK-E80 with clamping system
HSK 125			
A	80.201.A125.00		適用於HSK-A125的刀具，包含鎖刀系統/Adapter for HSK-A125 with clamping system

技術資料如有變更，恕不另行通知/Technical data subject to change without prior notice

動平衡主軸 SK/BT/CAT/BBT/CAPTO/KM
BALANCING ADAPTER SK/BT/CAT/BBT/CAPTO/KM



- μm 級的夾持精度，確保最高的量測精度與重現精度。
- 一體式的設計，交換迅速簡單。
- μm precise clamping for highest measuring accuracy and repeatability
- Easy and quickest changing due to compact design

SK/BT/CAT/BBT 動平衡主軸，附有自動鎖刀系統

SK/BT/CAT/BBT balancing adapter with automatic clamping system

訂購編號/Order No.	適合的主軸錐度規格/for taper size	適合的拉刀螺紋規格/for pull stud
80.201.330.01	SK30/BT30/BBT30 ¹⁾	M12螺柱式拉刀/thread M12
80.201.330.01.IN	CAT30	1/2"-13
80.201.330.02	SK30/BT30/BBT30 ¹⁾	DIN 69872/MAS 30°/45°/90°
80.201.330.04	SK30	ISO 7388
80.201.140.01	SK40	DIN 2080/thread M16
80.201.340.01	SK40/BT40/BBT40 ¹⁾	M16螺柱式拉刀/thread M16
80.201.340.01.IN	CAT40	5/8"-11
80.201.340.02	SK40/BT40/BBT40 ¹⁾	DIN 69872/JIS B6339
80.201.340.04	SK40	ISO 7388
80.201.340.06	BT40	MAS 30°/45°/90°
80.201.150.01	SK50	DIN 2080/thread M24
80.201.350.01	SK50/BT50/BBT50 ¹⁾	M24螺柱式拉刀/thread M24
80.201.350.01.IN	CAT50	1"-8
80.201.350.02	SK50/BT50/BBT50 ¹⁾	DIN 69872/JIS B6339
80.201.350.04	SK50	ISO 7388
80.201.350.06	BT50/BBT50 ¹⁾	MAS 30°/45°/90°

動平衡主軸Capto系列，含自動鎖刀系統/Balancing adapter Capto with automatic clamping system

訂購編號/Order No.	適合的CAPTO錐度規格/for taper size
80.201.9C3.10	Capto C3
80.201.9C4.10	Capto C4
80.201.9C5.10	Capto C5
80.201.9C6.10	Capto C6
80.201.9C8.10	Capto C8
80.201.9C10.10	Capto C10

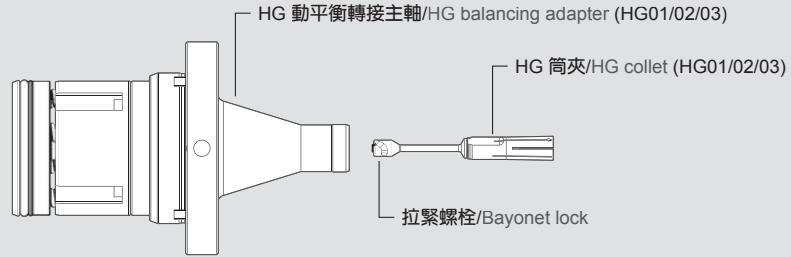
動平衡主軸KM系列，含自動鎖刀系統/Balancing adapter KM with automatic clamping system

訂購編號/Order No.	適合的KM錐度規格/for taper size
80.201.KM40.00	KM40
80.201.KM50.00	KM50
80.201.KM63.00	KM63
80.201.KM80.00	KM80
80.201.KM100.00	KM100
80.201.KM125.00	KM125 (非標準品，請詢價/upon request)

1) BBT: 適合BIG-PLUS 刀柄使用/also suitable for BIG-Plus

技術資料如有變更，恕不另行通知/
Technical data subject to change without prior notice

HG 動平衡轉接主軸與HG筒夾
HG BALANCING ADAPTER



適用於直柄刀具的動平衡主軸

- 可以自動夾持直柄刀具，校正動平衡
- 適合夾持直柄刀具，夾持範圍到h8
- 最大夾持直徑可以到40mm (請詢價)

Balancing adapter for tools with shank

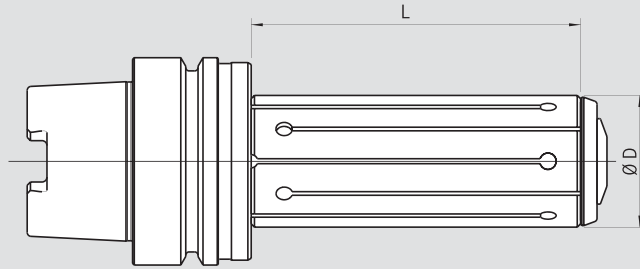
- For efficient and automatic clamping of tools with shank
- For cylindrical shanks up to tolerance h8
- Available with shank diameter up to 40 mm upon request

使用高精密筒夾 (HG系列) 的動平衡主軸，自動夾持系統，不需要其他附件就可以夾持各種的直柄刀具。

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 動平衡主軸/HG adapter 訂購編號/Order No.	筒夾系列/Collet 訂購編號/Order No.	夾持範圍 D/Clamping range D
HG01	HG01	Ø 2–9 mm
80.201.HG01.00	80.201.HG01.02	2 mm
	80.201.HG01.02.5	2.5 mm
	80.201.HG01.03	3 mm
	80.201.HG01.1/8Z	1/8"
	80.201.HG01.04	4 mm
	80.201.HG01.04.5	4.5 mm
	80.201.HG01.3/16Z	3/16"
	80.201.HG01.05	5 mm
	80.201.HG01.05.5	5.5 mm
	80.201.HG01.05.6	5.6 mm
	80.201.HG01.06	6 mm
	80.201.HG01.06.3	6.3 mm
	80.201.HG01.1/4Z	1/4"
	80.201.HG01.07	7 mm
	80.201.HG01.07.1	7.1 mm
	80.201.HG01.5/16Z	5/16" mm
80.201.HG01.08	8 mm	
80.201.HG01.09	9 mm	
HG02	HG02	Ø 10–14 mm
80.201.HG02.00	80.201.HG02.3/8Z	3/8"
	80.201.HG02.10	10 mm
	80.201.HG02.11	11 mm
	80.201.HG02.7/16Z	7/16"
	80.201.HG02.12	12 mm
	80.201.HG02.12.5	12.5 mm
	80.201.HG02.1/2Z	1/2"
	80.201.HG02.14	14 mm
	80.201.HG02.9/16Z	9/16"
	HG03	HG03
80.201.HG03.00	80.201.HG03.5/8Z	5/8"
	80.201.HG03.16	16 mm
	80.201.HG03.18	18 mm
	80.201.HG03.3/4Z	3/4"
	80.201.HG03.20	20 mm

技術資料如有變更，恕不另行通知/Technical data subject to change without prior notice



- 適用於圓形內孔的刀具使用
- 高精度的夾持同心度與重現精度
- 預校動平衡精度 < 1 gmm
- 可以單獨使用

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

動平衡刀柄 Balancing arbour	擴張筒夾規格 Collet	夾持範圍 Clamping range Ø D	長度 L
訂購編號/Order No.	訂購編號/Order No.		
DG07, 夾持範圍 25-34.5 mm/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, Spannbereich/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, Spannbereich/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, Spannbereich/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
	80.250.10.64	Ø 64-64.5	135

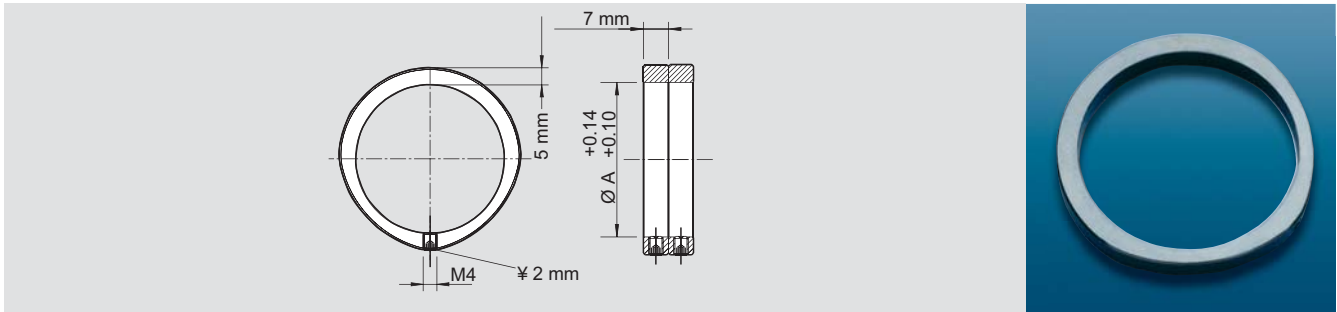
訂購時必須訂購一個動平衡刀柄與一個筒夾
By ordering you need one balancing arbour and one collet

技術資料如有變更，恕不另行通知/
Technical data subject to change without prior notice



可以訂購特殊的動平衡主軸與筒夾，
適合特別的內孔尺寸/
Balancing arbour with automatic clamping:
Special balancing arbours tailored for your production
process available on request.

動平衡調整環/BALANCING RINGS
 動平衡調整螺絲套組/SET OF BALANCING SCREWS



適合於所有直柄外徑的刀桿，做精密動平衡調整時使用。
 動平衡環都有預先保留的不平衡量，利用兩個相同不平衡量的動平衡調整環放置在指定的角度上，修正刀柄的不平衡量。每個平面的調整都需要使用兩個動平衡調整環。
 - 包含的內容：調整環每組兩個，附有六角孔的夾緊設定螺絲，但是不含六角板手。

For fine-balancing of all tool holders with cylindrical outer diameter (diam. A)
 The balancing 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.
 - Included in delivery: 2 balancing rings with clamping screws without hex wrench

訂購編號/ Order No.	Ø A [mm]	不平衡量/ ca. unbalance
79.350.15	15	9 g·mm
79.350.17	17	12 g·mm
79.350.19	19	16 g·mm
79.350.20	20	17 g·mm
79.350.22	22	20 g·mm
79.350.24	24	27 g·mm
79.350.25	25	32 g·mm
79.350.26	26	33 g·mm
79.350.27	27	33 g·mm
79.350.28	28	40 g·mm
79.350.30	30	45 g·mm
79.350.32	32	36 g·mm
79.350.34	34	40 g·mm
79.350.35	35	48 g·mm
79.350.36	36	47 g·mm
79.350.38	38	53 g·mm
79.350.40	40	57 g·mm
79.350.42	42	65 g·mm

訂購編號/ Order No.	Ø A [mm]	不平衡量/ ca. unbalance
79.350.43	43	65 g·mm
79.350.44	44	68 g·mm
79.350.46	46	75 g·mm
79.350.48	48	81 g·mm
79.350.50	50	87 g·mm
79.350.52	52	94 g·mm
79.350.53	53	86 g·mm
79.350.54	54	91 g·mm
79.350.55	55	94 g·mm
79.350.56	56	100 g·mm
79.350.58	58	106 g·mm
79.350.60	60	110 g·mm
79.350.62	62	120 g·mm
79.350.63	63	123 g·mm
79.350.64	64	126 g·mm
79.350.65	65	129 g·mm
79.350.66	66	120 g·mm
79.350.68	68	135 g·mm

訂購編號/ Order No.	Ø A [mm]	不平衡量/ ca. unbalance
79.350.70	70	145 g·mm
79.350.72	72	152 g·mm
79.350.74	74	160 g·mm
79.350.76	76	168 g·mm
79.350.78	78	178 g·mm
79.350.80	80	186 g·mm
79.350.82	82	199 g·mm
79.350.84	84	215 g·mm
79.350.86	86	224 g·mm
79.350.87	87	225 g·mm
79.350.88	88	226 g·mm
79.350.89	89	231 g·mm
79.350.90	90	237 g·mm
79.350.92	92	247 g·mm
79.350.94	94	253 g·mm
79.350.96	96	267 g·mm
79.350.98	98	277 g·mm
79.350.100	100	285 g·mm

動平衡調整螺絲套組
 適用於燒結式刀桿的動平衡調整，在附件說明中有詳細內容。
 包含的內容：11種規格的螺絲，每種螺絲有10個，M6螺絲，包含一支螺絲起子

Set of Balancing Screws
 For fine balancing of shrink fit chucks (Thread integrated in the shrink fit chucks). Detailed information see accessories.
 Included in delivery: case with 11x 10 pcs. balancing screws M6, 1 screw driver



附件/Accessories

動平衡調整螺絲組/Set of Balancing Screws

訂購編號/Order No.

80.203.00

技術資料如有變更，恕不另行通知/Technical data subject to change without prior notice

始於1977年由Haimer先生一人開始；今日Haimer之產品於德國國內已占領先地位，於國際上亦因其優良之品質而被廣泛採用

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- 全部動平衡校正
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- JIS B6339-BT30/40/50
- CAT 40/50
- DIN 69893 HSK-A, HSK-C
- HSK-CHSK-E, HSK-F



TD-2002 刀柄動平衡機

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- SK/MSA BT/CAT/HSK
- 各種規格齊全
- 操作簡單，校正迅速



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- 高精度，適合各種CNC機器使用
- 多種式樣可以選擇

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- Highest precision at fair prices
- DIN 69871 – SK30, SK40, SK50
- CAT40, CAT50
- JIS B 6339 – BT30, BT40, BT50
- DIN 69893 – HSK-A, HSK-C, HSK-E, HSK-F

Made by HAIMER: Tool Dynamic

- Modular balancing system for tool holders, grinding wheels and rotors
- Measuring in one or two planes
- Easy and fast handling

Made by HAIMER: Power Clamp

- Inductive shrink fit equipment for shortest rigging periods
- Tool change just by pressing a button
- For shrinking HSS and solid carbide tools from Ø 3 to Ø 50 mm

Made by HAIMER: Sensors

- For centering bores and shafts
- Different versions
- High measuring accuracy

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