

bilz

热胀仪 Shrink Units





亲爱的用户：

众所周知，利润来自于刀具，而刀具的生产率会影响总的切削成本，进而占到总成本的4% - 6%，绝大部分的生产和切削专家认可这个观点。

那么，什么方法能够让您的刀具性能上获得充分的收益，并且增加刀具寿命呢？这本手册能帮助您给您的刀具选择最佳的夹持系统。

我们是一个拥有多年经验的家族企业，这些经验帮助我们开发出许多可靠的产品和汇集出广泛的产品范围。最新的产品也包含在这个样本上。



“但求更好”不仅仅是一句口号，而是我们对质量的承诺。我们，还有我们的产品一直在坚持我们的承诺。

对于超出样本范围的产品，我们也可提供特殊订制的解决方案，请联系我们讨论您的解决方案需求。

比尔兹产品支持团队





Dear reader,

As everyone knows, money is made at the „cutting edge“. The productivity of this cutting edge influences the total costs of cutting processes, however its contributions only amount to 4 – 6 %. Most production and cutting experts will agree with these statements.

What should you do to fully profit from the cutting edge performance and to increase tool life? This manual will support you in selecting the optimal clamping tools for your “cutting edges”.

Our long experience as a traditional family-run company helps us to develop products you can rely on and compile a comprehensive product range in this manual. Many improvements have been included.



“Always better” is not just a slogan for us. It is a promise for quality. We and our products keep our promises. Beyond this product range, we can offer you various custom-designed solutions. Please speak with us about new solutions for your applications.

Many people react, we act.

On behalf of the whole Bilz Team



入门型 STARTER

手动热胀仪带风扇冷却，冷却时间大概300秒。

我们的入门型机型是ISO3400系列里最便宜的，这些机器可以外加外置的水冷装置。

Manual machine with air cooling, cooling time: approx. 300 s

Our STARTERs are the low-cost introduction to the ISO3400 range. These machines can optionally be fitted with a cooler at a later date.

全能型 ALLROUNDER

手动热胀仪带液体冷却，冷却时间大概30秒。

全能型机型在高效热胀上又进了一步，带一体式的液体冷却。热胀和冷却均在同一个位置，无需去移动热胀刀柄。

Manual machine with liquid cooling, cooling time: 30 s

The ALLROUNDER range is the progression to efficient shrinking with integrated liquid cooling. Shrinking and cooling are carried out in one position without the need to handle the shrink chucks.



专业型 PROFESSIONAL

自动热胀仪带液体冷却及吹干，冷却时间大概30秒。

全自动的操作过程给了操作员最大的安全保护，热胀刀柄在被加热后直接沉入水箱冷却，操作员没有机会碰到热的刀柄。

Automatic machine with liquid cooling and drying, cooling time: 30 s

The fully automated process guarantees maximum operator safety, as the heated shrink chuck is lowered directly into the cooling position following the shrinking procedure, without the operator being able to touch the hot chuck.

重载型 HEAVY DUTY

自动热胀仪带液体冷却，用于重载刀柄，冷却时间大概45秒。

大的及重载的热胀刀柄被加热后直接进行冷却，无需在热胀过程中做其它处理。

Automatic machine with liquid cooling for heavy holders, cooling time: 45 s

Big and heavy toolholders are shrunk automatically and are then cooled directly without the need for handling during the process.

热胀仪设备技术特点

比尔兹感应加热技术及可换盘片的优劣势



Shrink Machine Tech

Bilz Induction Technology – advantages of the change disc

拥有专利的铁基盘片能避免刀具被加热，直径3-50mm的硬质合金和高速钢刀具能被轻松装夹。

By means of the patented ferrite disc system the tool is prevented from heating; solid carbide and HSS-tools can be easily clamped within a range of 3 – 50 mm.

保持热胀刀柄的局部加热以及允许快速冷却降温。

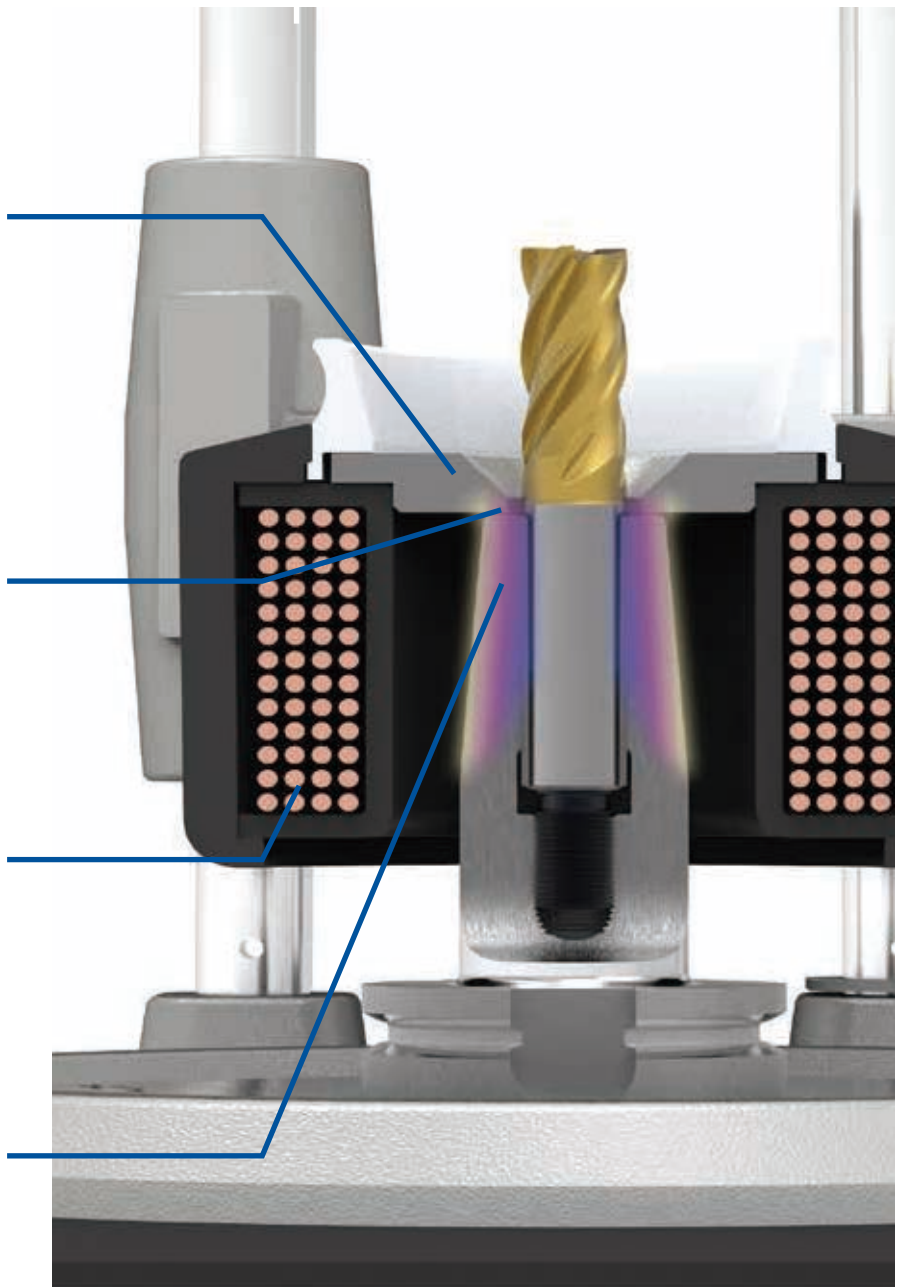
Local heating preserves the shrink chuck and allows quick cooling down.

通过适当的改变交替式磁场可获得功率增加。

Efficiency increase by appropriate adaption of the applied magnetic field.

使加热点集中在最适宜的区域，方便装夹。

Moving the Hot Spot into the optimum area – this makes shrinking out easy.



BILZ “下沉式水冷”



液体冷却技术-10倍高效于紧凑型风冷系统

Liquid cooling technique – 10 x more efficient than contact cooling systems

ISG液体冷却技术的优劣性测试

Advantages of the tried and tested ISG liquid cooling technique

Bilz ISG紧凑型风冷设备



Bilz contact cooling system for air-cooled ISG machines



技术优势 Technological Advantage	客户价值 Value to Customer
全自动的加热和冷却过程 Fully automatic shrinking and cooling process	<ul style="list-style-type: none"> ■ 没有烧伤风险, 上升后的刀柄已被完全冷却 ■ 不会受到加热后刀柄的伤害, 刀柄始终被冷却到室温 ■ 始终如一的冷却过程能够有效保持刀柄的同心病 ■ No risk of burning - shrink chuck is always fully cooled ■ No damage to the shrink chucks by overheating/burning, as the shrink chuck is ALWAYS cooled down to room temperature ■ Concentricity is maintained by uniform cooling down process
液体冷却借助于冷却塔原理 Liquid cooling by means of a cooling tower principle	<ul style="list-style-type: none"> ■ 以秒计的冷却过程, 有效减少生产辅助时间 ■ 冷却中没有添加防锈剂的动作 ■ 没有额外冷却设备消耗能源 ■ 保护刀具和刀不被锈蚀 ■ Reduction of non-productive times by cooling down within seconds ■ No active cooling down of the emulsion necessary ■ No power consumption due to an additional cooler ■ Protection against corrosion for the tool and the shrink chuck
刀具外形和冷却无关 Cooling - not dependent on contour	<ul style="list-style-type: none"> ■ 切削刃不会被冷却罩碰伤 ■ 对于不同几何形状的刀柄无需额外冷却设备 ■ No damage to the cutter from coolant caps ■ No extra cooling equipment required for different chuck external geometries
同一位置可完成加热和冷却 Heating and cooling in one position	<ul style="list-style-type: none"> ■ 更好的工作空间 ■ 不用移动发烫的刀柄 ■ Clean structured workplace ■ No moving of hot shrink chucks

热胀仪的操作 Operation of the Shrink Machine Series



图解式控制面板 Graphical control panel



图解式用户界面 (GUI)

通常情况，所有ISG系列热胀仪都配有图解式用户界面，简称GUI。GUI是完全基于图形的一种介于服务器和应用间的界面。在车间，它的优势很明显：

- 直观的操作
- 自我写作
- 语言独立
- 增加感知
- 美观大方
- 减少了反应及决策时间

GRAPHICAL USER INTERFACE (GUI)

By default all ISG Shrink Units are equipped with a Graphical User Interface, short GUI. GUI is an interface between server and application that is completely graphic based. The advantages of the GUI are as well obviously in the workshop:

- intuitive operation
- self-descriptive
- language independent
- increased visibility
- more pleasant appearance
- reduced reaction times

全新触摸显示屏 “NEW“ Touch Display



触摸显示屏

简单快速——智能

视野广——易操作

这就是全新触摸显示屏代表的。作为可选项，能应用所有型号热胀仪上。图形优化的触摸显示屏具有如下优点和长处：

- 图形化用户界面
- 仅有必要的几个接口
- 所有处理和输入都能在热胀仪上执行
- 建立和管理刀具
- 磁盘读取和描述

TOUCH DISPLAY

Simply fast-intelligent - smart

More scope - easier operation

this is what the new touch display stands for. It is available as an option for all common types of ISG Shrink Units. The graphically optimized touch display is characterized by the following advantages and extensions:

- graphical user interface
- only a few entries necessary
- all processes and inputs can be carried out directly on the shrinking device
- Creating and managing tools
- Reading and Describing disks

New



参数选择 PARAMETER PER PICK

全自动参数设置
LED控制屏

Fully automatic parameter selection
Additional signal via LED

数字式控制面板 Numerical control panel



菜单导向的操作面板，带预制的加热参数。即使是入门机型也有一个重要的安全特点，当操作正确可以避免刀柄过热。

Menu oriented numerical operating panel with predetermined parameters. This means that even the starter devices have an important safety feature which avoids the overheating of the chucks when handled correctly.

快换系统ISG3400系列 Quick change system ISG3400 series



带有快换机构的线圈可作为选配。因此通过更换线圈可实现特殊尺寸刀柄的热装，所以热装范围可从预制式调整到可变情形，无需买新机器的持续投资。只有ISG3400系列支持此选项。你可以在第38页找到特殊线圈。

The coil system can be equipped with a quick change mechanism as an option. Therefore tools with special dimensions can also be shrunk in and out at any time with a specially adjusted coil. So, the range of performance can be adjusted permanently to modified conditions, without the need of constant investments in new machine technology. The option is available for the ISG3400 series only. You will find special coils on page 38

可调线圈 FLEX-COIL

不用更换盘片——因为线圈能调整到所有直径范围

No need to change the ferrite disc - because the coil adapts flexibly to all diameter ranges



New

充满活力的设计! 新的ThermoGrip® ISG 3400系列获红点奖 Passion Meets Design! reddot award for new ThermoGrip® ISG3400 Series

ISG 3400系列获得2012年度红点奖。最高专家评委称赞其出色的模块化设计和经济性技术能够完全满足每一个客户的需求。我们对此十分自豪，这项重要的奖项也再次证明我们的模块化和现代设备的理念能够满足所有客户的需求。绝大部分成功的解决方案都是通过和客户像可靠的伙伴一样工作才能产生，这就是我们品牌的质量价值，客户为了专业的解决方案而努力，而我们为了实现客户目标而努力，自始至终都是这样。

Our shrink machine ISG3400 series has won the reddot award for product design 2012. The high-level jury of experts complimented the way that the modular design and economical technology enables individual customer requirements to be fulfilled. This makes us very proud because this important award proves once again that our modular and modern equipment concepts meet individual customer requirements. The most successful solutions always arise from through working together with the customer as a reliable partner. This is what our brand values of quality, customer focus and solution expertise stand for - now and in the future, and what we stand for at Bilz - we hold our promises.



	固定线圈 Fixed Coil		可换线圈 Quick Change Coil
专业型 Professional	<p>ISG2410WK1</p>	<p>ISG3410WK1</p>	<p>ISG3410WK4-WS^{1,2}</p>
全能型 Allrounder	<p>ISG2430TWK</p> <p>reddot design award winner 2012</p>	<p>ISG3430TWK</p> <p>reddot design award winner 2012</p>	<p>ISG3430TWK-WS²</p> <p>reddot design award winner 2012</p>
入门型 Starter	<p>ISG2430TLK</p> <p>可选装水冷机 optionally with cooler</p>	<p>ISG3430TLK</p> <p>可选装水冷机 optionally with cooler</p>	<p>ISG3430TLK-WS²</p> <p>可选装水冷机 optionally with cooler</p>
	Ø 3 mm – 20 mm	Ø 3 mm – 32 mm	Ø 3 mm – 32 (50) mm

¹ 50mm只针对ISG3400 WK-WS机器带2号线圈（选配项）| 加热重载型THD热胀刀柄最大到直径25mm

² 反向加热至65mm边缘直径带反向加热线圈（选配项）| 针对TLK, TWK加热后自然冷却

¹ 50 mm only for ISG3410WK-WS with coil no. 2 (option) | THD Chuck up max. 25 mm

² Invers shrinking up to 65 mm flange diameter with invers coil | for TLK, TWK after shrinking process with time limit

ISG 3430 TLK 4



风冷系统单元扩展

ISG3430 TLK4

可以准备大量的刀柄，适用于特殊应用场合，如在脏的环境，风冷可以防止刀具和刀柄受潮，四个集成的风扇可以快速和长时间冷却刀柄，当刀柄放在冷却位置时，通过接触开关激活风扇工作。

- 最大冷却长度500mm
(选项, 可以通过增加导轨延长长度)
- 通过图解可以简易, 快速操作
- 显示所有热缩参数
- 从工作部位移到冷却位置很方便
- 风扇自动启动工作
- 对不同类型的刀柄容易更换不同的标准的刀柄底座

Expansion of the air cooled unit range

The ISG 3430 TLK 4

Continuous preparation of large tool quantities. Ideal for special applications such as in dirty environment caused to the air cooling avoiding moisture on the tool and tool holder. Four integrated fans provide quick and proximity cooling of the shrink chucks. Activation of the fans is via contact switches, as soon as the clamping chuck is pushed into the cooling position.

- Max. shrink length approximately 500 mm
(Option: can be increased using an extended guide unit)
- Easy, quick operator guidance with new graphic display
- Display of all shrink parameters
- Easy handling of the heated shrink chucks when moving from the shrinking position to the cooling position
- Automatic start of the fans
- Easy change of the tool location for all standard tool spindles

ISG 4410WK-HL

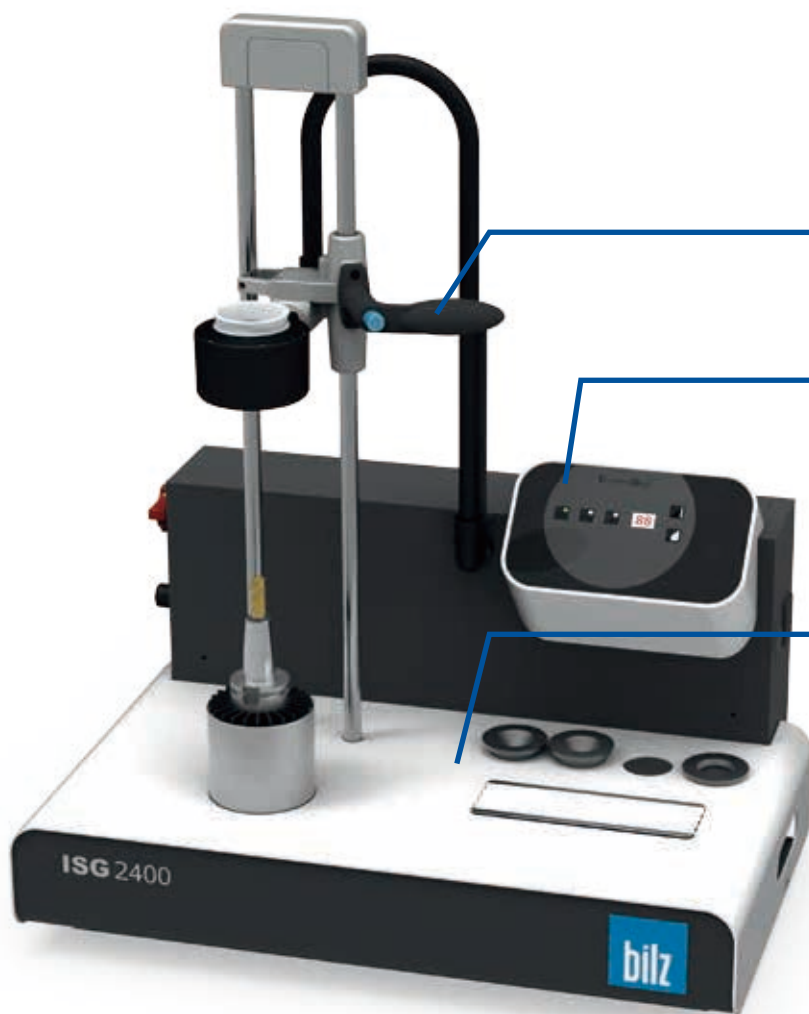


ISG4410 WK-HL针对重载加工的特殊设计。可选旋转导轨使大负载的带水平模式的热缩机很容易装载。

由于装有刀的刀柄重量大，可以达到40千克，开发了新的冷却方式。

The ISG 4410WK-HL has been especially designed for heavy machining. An optional pivoted coil guide means that a loading of the shrink machine with a lever system is easy.

Due to the high weight of the shrink holders with tool (up to 40 kg), a new cooling concept has been developed.



手动线圈导向
Manual coil operation

简洁的控制面板带数字显示屏和
菜单结构
Simple control panel with
numerical display and menu
structure

符合人体工程学的存储隔热盘
片、刀具和冷却罩
Ergonomic location off inter-
changeable pole discs, tools
and cooling adaptor

用模块式构建的热胀仪ISG2431TLK, BILZ使其容易的进入到当前的2400产品范围, 并保持最低的投资费用。
这个桌面式风冷机器带线轴导向系统和带有专利的隔热盘片, 确保费用是低的, 效益是高的。

作为一个选配项, 这个机器可以扩展至包括一台水冷系统FKS3400。用这个附加的水冷机, 冷却循环时间极大的减少, 进而效率得到提升

With the new modular built shrink machine ISG2431TLK, Bilz makes it easy to enter the current 2400 product range while keeping investment costs to a minimum.
This air-cooled, table-top machine with its manual spool guiding system together with the patented ferrite pole plate ensures that costs are low and benefits are high.

As an option the machine can be expanded to include the FKS 3400 liquid cooling system. With this addition the machine cycle times are considerably reduced and therefore efficiency increased.



	ISG 2431 TLK-8-FS	ISG 2430 TLK-8-FS
订货号 Ident No.	5111875	5111827
控制面板 Control panel	数显 numerical	图形 graphical
硬质合金夹持范围 Clamping range SC	Ø 3 – 20 mm	
高速钢夹持范围 Clamping range HSS	Ø 6 – 20 mm	
线圈 Coil	固定式, 3个隔热盘片 fixed, 3 pole discs	
最大刀具长度 Max. tool length	450 mm 在 at HSK-A63	
最大冷却长度 Max. cooling length	200 mm 在 at HSK-A63	
冷却方式 Cooling type	风冷 (风冷罩见37页) geometry independent air cooling (cool adaptors ref page 37)	
冷却时间 Cooling time	300 s	
最大接口尺寸 Max. machine interface	HSK-A100 SK50	
功率 Power	8 kW	
电源要求 Electric current supply	400V / 16A / 50Hz	
外形尺寸 (宽x长x高) Dimensions (WxDxH)	780 x 535 x 970 mm	
交付包装: Delivery package:	含加热线圈 (3-20) 4个隔热盘片, 带保护手套和操作手册, 不带刀柄底座和冷却罩 incl. Coil 1 from 3 - 20mm, 4 pole discs, protective gloves and operation manual, without tool holder/cooling adaptors	



手动线圈导向
Manual coil operation

ISG3400系列简洁的对话菜单同样应用于入门型机器
Clearly structured dialog menu
ThermoGrip® ISG3400 series now available in entry shrink machine STARTER

符合人体工程学的存储隔热盘片、刀具和冷却罩
Ergonomic location for interchangeable pole discs, tools plus cooling adaptor whilst shrinking



自动线圈导轨
Automatic coil operation

ISG3400系列简洁清晰的对话菜单
Clearly structured dialog menu
ThermoGrip® ISG3400 series

4个冷却位置
4 cooling position



	ISG 3430 TLK-11-FS	ISG 3430 TLK-11-WS	ISG 3430 TLK4A-11-WS
订货号 Ident No.	5102058	5102054	5106930
控制面板 Control panel	图形 graphical		
硬质合金夹持范围 Clamping range SC	Ø 3 – 32mm		
高速钢夹持范围 Clamping range HSS	Ø 6 – 32mm		
线圈 Coil	固定式, 4个隔热盘片 fixed, 4 pole discs	快换线圈 4个隔热盘片 quick change system 4 pole discs	
最大刀具长度 Max. tool length	450 mm 在 at HSK-A63		400mm, 可选680mm as an option 680 mm
最大冷却长度 Max. cooling length	200 mm 在 at HSK-A63		
冷却方式 Cooling type	风冷 (风冷罩见37页) contour depending air cooling (cool adaptors ref page 37)		
冷却工位 Cooling places	1	4	
冷却时间 Cooling time	300 s		
最大接口尺寸 Max. machine interface	HSK-A100 SK50		
功率 Power	11 kW		
电源要求 Electric current supply	400V / 16A / 50Hz		
外形尺寸 (宽x长x高) Dimensions (WxDxH)	780 x 535 x 970mm		800 x 588 x 1018mm
交付包装: Delivery package:	含1个加热线圈 (3-32mm) 4个隔热盘片, 带保护手套和操作手册, 不带刀柄底座和冷却罩 incl. Coil 1 from 3 - 32mm, 4 pole discs, protective gloves and operation manual, without tool holder/cooling adaptors		



手动移动线圈和冷却罩，无需压缩空气
Manual coil operation and cooling tower movement
– no compressed air required

无需移动高温的刀柄，数秒钟刀柄即被完全冷却。
Within a few seconds the shrink chuck will be cooled by „Cool Down“ technology without contact with the hot part.

28升水箱
28l liquid tank

	ISG 2430 TWK-8-FS	ISG 3430 TWK-11-FS	ISG 3430 TWK-11-WS
订货号 Ident No.	5111879	5110425	5111880
控制面板 Control panel	图形 graphical		
硬质合金夹持范围 Clamping range SC	Ø 3 – 20mm	Ø 3 – 32mm	
高速钢夹持范围 Clamping range HSS	Ø 6 – 20mm	Ø 6 – 32mm	
线圈 Coil	固定式, 3个隔热盘片 fixed, 3 pole discs	固定式, 4个隔热盘片 fixed, 4 pole discs	快换系统升级限制请看(1), 4个隔热盘片 quick change system limited upgradability (1), 4 pole discs
最大刀具长度 Max. tool length	500 mm 在 at HSK-A63		
最大冷却长度 Max. cooling length	160 mm 在 at HSK-A63		
冷却方式 Cooling type	液体冷却, 外形独立 liquid cooling, geometry independent		
冷却时间/水箱 Cooling time/Liquid tank	30s / 28l		
最大接口尺寸* Max. machine interface*	HSK-A100 SK50		
功率 Power	8kW	11kW	
电源要求 Electric current supply	400V / 16A / 50Hz		
外形尺寸 (宽x长x高) Dimensions (WxDxH)	800 x 560 x 1130mm		
交付包装: Delivery package:	含1个加热线圈 (3–32mm) 4个隔热盘片, 1L冷却防锈剂, 带保护手套和操作手册, 不带刀柄底座和冷却罩 incl. Coil 1 from 3 - 32mm, 4 pole discs, 1000 ml cooling and corrosion protection, protective gloves and operation manual, without tool holder/cooling adaptors		

(1) 热胀刀柄外径最大到65mm, 只针对反装线圈并有时间限制。

(1) Shrink chuck with external diameter up to 65 mm – only with inverse coil and time limit

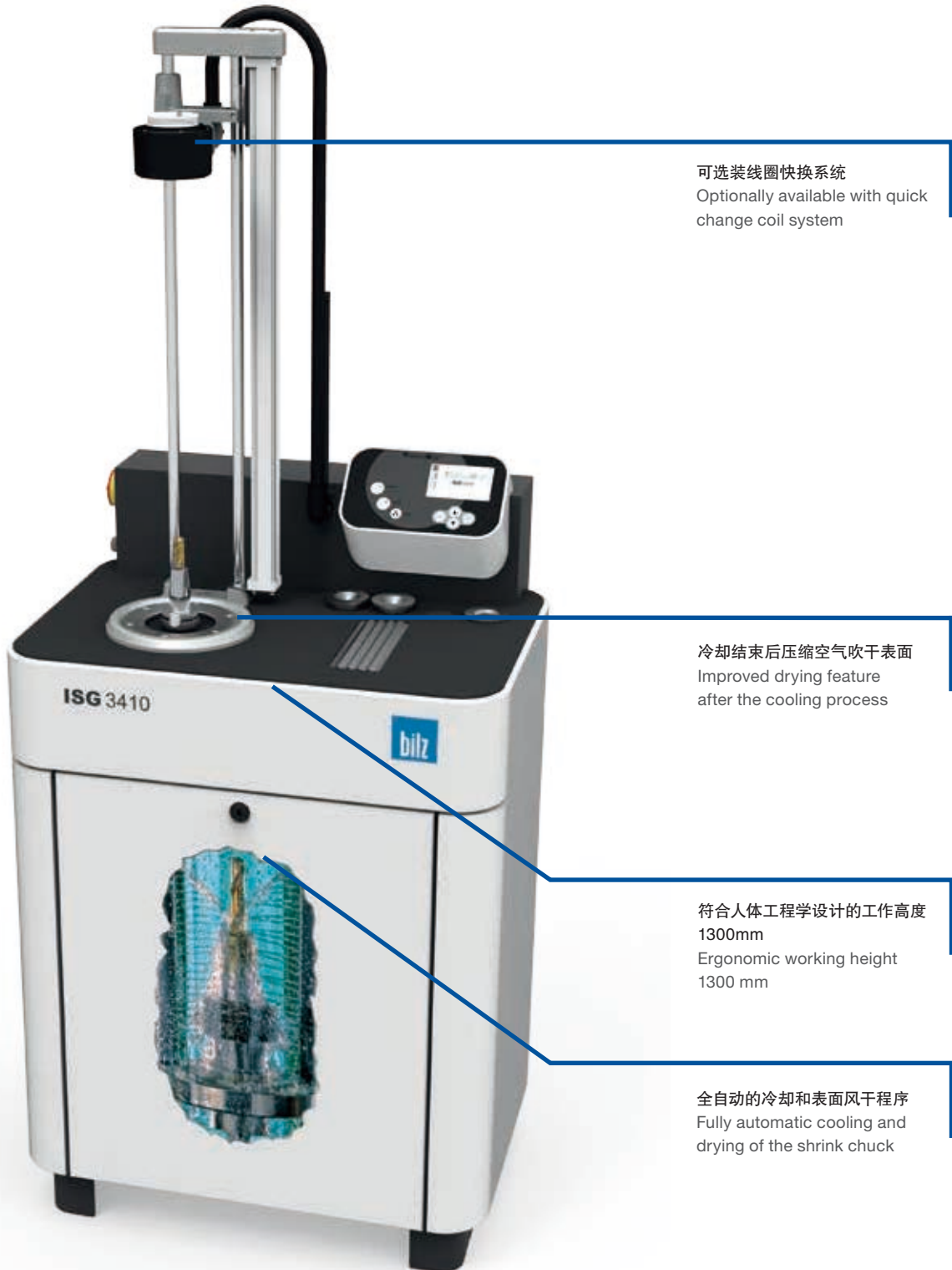
* 刀柄基座见36页

*(Tool holders ref page 36)

专业型 Professional

全自动程序, 解放双手

Fully automatic Shrinking and Cooling „hands free“



可选装线圈快换系统
Optionally available with quick
change coil system

冷却结束后压缩空气吹干表面
Improved drying feature
after the cooling process

符合人体工程学设计的工作高度
1300mm
Ergonomic working height
1300 mm

全自动的冷却和表面风干程序
Fully automatic cooling and
drying of the shrink chuck



	ISG2410WK1-8-FS-BIL	ISG3410WK1-11-FS-BIL	ISG3410WK4-11-WS-BIL
订货号 Ident No.	5110995	5075418	5072341
控制面板 Control panel	图形 graphical		
硬质合金夹持范围 Clamping range SC	Ø 3 – 20 mm	Ø 3 – 32 mm	Ø 3 – 50 mm
高速钢夹持范围 Clamping range HSS	Ø 6 – 20 mm	Ø 6 – 32 mm	Ø 6 – 50 mm
线圈 Coil	固定式, 3个隔热盘片 fixed, 3 pole discs	固定式, 4个隔热盘片 fixed, 4 pole discs	快换系统可升级到热装 直径 Ø 50 mm (1) 4个隔热盘片 quick change system expandable up to Ø 50 mm (1) 4 pole discs
最大刀具长度 Max. tool length	400 mm 在 at HSK-A63		680 mm 在 at HSK-A63
最大冷却长度 Max. cooling length	200 mm 在 at HSK-A63		400 mm 在 at HSK-A63
冷却方式 Cooling type	液体冷却带吹干, 外形独立 Liquid cooling with drying, geometry independent		
冷却时间/水箱 Cooling time/Liquid tank	20s / 50l		
最大接口尺寸 Max. machine interface	HSK-A100 SK50		
功率 Power	8 kW	11 kW	
电源要求 Electric current supply	400V / 16A / 50Hz		
空气压力 Air pressure	4 Bar		
外形尺寸 (宽x长x高) Dimensions (WxDxH)	800 x 560 x 1720 mm		800 x 560 x 1950 mm
交付包装: Delivery package:	含1个加热线圈 (3–32mm) 4个隔热盘片, 1L冷却防锈剂, 带保护手套和操作手册, 不带刀柄底座和冷却罩 incl. Coil 1 from 3 - 32mm, 4 pole discs, 1000 ml cooling and corrosion protection, protective gloves and operation manual, without tool holder/cooling adaptors		

(1) 2号线圈只能加热THD重载热胀刀柄最大直径到25mm
(1) THD Chuck up to max. 25 mm only with Coil 2 Ident No. 5129760

重载型 Heavy Duty

全自动的加热和冷却, 适合大的及重载热胀刀柄

Fully automatic Shrinking and Cooling, also suitable for large and heavy Shrink Chucks



有不同的线圈可供选择, 带线圈快换功能

Different sizes of coil available with coil quick change system

用于热胀刀柄大至HSK-A125及40公斤重

For shrink chucks up to HSK-A125 and up to 40 kg weight

无需移动高温的刀柄, 数秒钟刀柄即被完全冷却。

Within a few seconds the shrink chuck will be cooled by „Cool Down“ technology without contact with the hot part.



ISG 4410 WK-HL



重载冠军 —— 可加热到重达40公斤的刀柄

The Heavyweight Champion – Shrink Chucks up to 40 kg

用于重载切削刀柄加热的ISG 4410 WK-HL经过特殊设计, 由于加热和冷却位置从三个侧面都容易接近, 因此使用杠杆系统能使放置刀柄十分容易, 每次热装循环完成后线圈塔可向旁边移开90°。

热胀刀柄最大重量达40公斤, 为了应对各种复杂的需求, 我们新开发的产品能给用户提供最安全更容易的操作。整个换刀过程全自动而且非常省时。冷却时, 被加热的刀柄通过乳化液冷却, 自动从水箱向上移动, 然后压缩空气吹干。

The ISG 4410 WK-HL has been specially designed for heavy machining. An optional pivoting coil guide means that a loading of the shrink machine with a lever system is easy. After each shrinking cycle the coil tower moves as an option radially away from the shrinking position at a 90° angle.

Shrink chucks and tools can be shrunk in and out up to a maximum weight of 40 kg. Due to the complex requirements, a concept was developed that offers maximum user safety and ease of use. The complete tool change process is automated and extremely time-saving. To cool the heated shrink chuck, the bellows moves fully automatically upwards from the housing. The shrink chucks are cooled by means of emulsion and then dried with compressed air.

除了水冷系统的全部优点之外还有如下亮点:

- 热装范围 \varnothing 3 毫米 – \varnothing 50 毫米 (2")
- 热装刀柄最大外径尺寸最大90毫米
- 刀具重量可达到40公斤
- 专为直径大于32mm的重载热胀刀柄开发 (用线圈IGS3400-5-HL)
- 可用于HSK-A 125, SK 50, BT 50 和 CAT 50
- 刀具总长710毫米
- 完全自动的热装及冷却循环
- 满足航空工业要求

Besides the advantages of liquid cooling, the machine offers the following highlights:

- shrinking range from \varnothing 3 mm up to \varnothing 50 mm (2")
- shrink-fit holder external diameter max. 90 mm
- for tools up to 40 kg
- specially developed for THD chucks up to tool shank diameter 32 mm (with Coil ISGS3400-5-HL)
- up to HSK-A 125, SK 50, BT 50 or CAT 50
- optional tool length 710 mm
- fully automatic shrinking and cooling cycle
- meets Aerospace requirements



	ISG 4410 WK1-HL-11-WS		ISG 4410 WK2-HL-11-WS	
订货号 Ident No.	5114881		5101927	
控制面板 Control panel	图形 graphical			
硬质合金夹持范围 Clamping range SC	Ø 3 – 50 mm (2")			
高速钢夹持范围 Clamping range HSS	Ø 6 – 50 mm (2")			
线圈 Coil	快换系统可升级到热装直径 Ø 50 mm (2") 4个隔热盘片 quick change system expandable up to Ø 50 mm (2") 4 pole discs			
最大刀具长度 Max. tool length	500 mm 在 at HSK-A125		800 mm 在 at HSK-A125	
最大冷却长度 Max. cooling length	350 mm 在 at HSK-A125			
冷却方式 Cooling type	液体冷却, 外形独立 Liquid cooling, geometry independent			
冷却时间/水箱 Cooling time/Liquid tank	30 s / 60 l			
最大接口尺寸 Max. machine interface	HSK-A125 SK50			
功率 Power	11 kW			
电源要求 Electric current supply	400V / 16A / 50Hz			
空气压力 Air pressure	4 bar			
外形尺寸 (宽x长x高) Dimensions (WxDxH)	1200 x 580 x 1850 mm		1200 x 690 x 2130 mm	
交付包装: Delivery package:	带保护手套和操作手册及2升防锈剂, 不带刀柄底座。 incl. protective gloves and operation manual, 2 litre coolant concentrate, without tool holder			
选配附件: Optional accessories:	用于重载热胀刀柄的线圈, 见38页 coils for heavy duty shrink chucks ref page 38			

MS502-P

小直径刀柄的热装专家

The specialist for minimum Chuck Sizes



MS502-P被开发应用于细长、薄壁和非常短的热装刀柄。低成本的入门级型号和多用途、轻巧，通用220V电源，操作简便，使其极具性价比。

The process secure MS502-P was developed for slim, thin-walled and extremely short shrink chucks. The low-cost entry-level model with its versatile application, low weight, universal 220 V-connection and simple operational concept is the ideal step into performance class shrinking.

基本系统不包括哑铃式底座和风冷机。
The basic system does not include tool dumbbell and air cooler.

技术数据: MS502 Technical Data: MS502									
订货号 Ident No.	外形尺寸 Dimensions 长 D 宽 W 高 H			夹持范围 Ø Clamping range Ø	适用的柄部 Suitable tool shanks	空气压力 Air pressure	电源要求 Electric current supply	功率 Power kW	重量 Weight kg
5109277	350	520	220 mm	3-16 mm (T...) 6-20 mm (TSF)	HM(SC)	-	230V/16 A	3	14

交附包装: MS502热胀仪 (包括线圈) 及4个盘片, 保护手套
Delivery package: shrink machine MS502 with coil and 4 pole discs, protective gloves

附件 MS502-P Accessories MS502-P

哑铃式底座MS502-P Tool dumbbell MS502-P



调整后的MS502KS的风冷系统, 哑铃式底座只需旋转180° 后冷却程序即开始。

Surted to the air cooling system MS502KS, the dumbbell just has to be turned around by 180° and the cooling process can be started.

型号 Designation	订货号 Ident No.
MS502-HSK25	9185320
MS502-HSK32	9185341
MS502-HSK40	9185343
MS502-HSK50	9185344
MS502-HSK63	9185345
MS502-SK30	9185348
MS502-SK40	9185350

可拆装风冷机MS502 KS Mountable air cooler MS502 KS



小型风冷机为MS502专门开发可直接装到微型热胀机上, 属于选配件, 需6bar压缩空气。

The air cooler, specifically developed for the MS502, can be mounted directly onto the micro shrink machine. The air cooler is available as an option. A 6-bar compressed air supply is required.

风冷机 Air cooler	型号 Designation	订货号 Ident No.
MS502	MS502KS	9186531

盘片 Pole disc



夹持范围-Ø Clamping-Ø	型号 Designation	订货号 Ident No.
Ø 3 - Ø 5 mm	MS502-1	9185352
Ø 6 - Ø 8 mm	MS502-2	9185353
Ø 10 - Ø 12 mm	MS502-3	9185354
Ø 14 - Ø 16 mm	MS502-4	9185356

ISG 1000

经济的紧凑型入门级热胀仪

The low-cost compact entry-level Shrink Machine



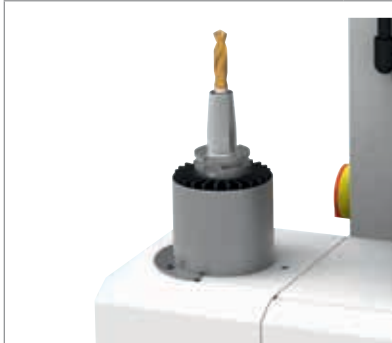
- 易于手握和按压按钮
 - 按下按钮即开始加热
 - 松开按钮加热完成
 - 紧凑、轻巧、实用
 - 轻巧的ISG 1000可灵活用于任何场合
 - 专利的感应加热程序
 - 盘片可用于线圈和刀具之间的最佳防护，被证明过的快换系统
 - 程序控制的6.5Kw高频生成器
 - 可实现Ø 3–16 mm硬质合金热装
 - 最大刀长290 mm
 - 适用于所有标准主轴刀柄的简单换刀
-
- Easy handling at the push of a button
 - Press the button: the ISG 1000 shrinks
 - Release the button: shrinking stops
 - Small, light, powerful
 - The lightweight ISG 1000 can be used flexibly and at any location
 - Patented induction shrinking process
 - Optimal shielding between coil and tool shank-pole disc with proven quick change system
 - Process controlled 6,5kW high frequency generator,
 - Shrinking range 3–16 mm WC (Wolfram Carbide)
 - Maximum tool length from taper base line 290 mm
 - For all standard tool spindles with simple exchange of the tool holder

技术数据: ISG1000 Technical Data: ISG1000									
订货号 Ident No.	外形尺寸 Dimensions 长 D 宽 W 高 H			夹持范围 Ø Clamping range Ø	适用的柄部 Suitable tool shanks	空气压力 Air pressure	电源要求 Electric current supply	功率 Power kW	重量 Weight kg
5036653	390	310	640	3–16 mm (HM/WC)	(HM/WC)	–	3 x 400 V/16 A	6,5	17

交付包装: ISG1000热胀仪包含保护手套、使用手册、线圈和隔热盘片 (6–16mm)

Delivery package: shrink machine ISG1000 incl. protective gloves and operation manual, with coil and pole disc from Ø 6mm–Ø 16mm

附件ISG 1000 Accessories ISG 1000



特别为ISG1000开发的风冷机可被装到所有入门级机器上，需外接230V电源，ISG1000包装中不包括这台风冷机，可使用T3-W...或T3-K...的风冷底座或风冷罩。
详见第37页。

The air cooler, specifically developed for the ISG1000, can be assembled directly onto the entry-level machine. A 230 V connection is required. The air cooler is not included in the delivery package of the ISG1000. It is suitable for all ThermoGrip® tool holders T3-W... and cooling adaptors T3-K... .

You can find the cooling adaptors on page 37.

型号 Designation	订货号 Ident No.	电源要求 Electric current supply	外形尺寸 Dimensions		
			长 D	宽 W	高 H
ISGKL1000-230V-BIL	5036661	230 V/16 A	390	190	110

		
	MS502-P	ISG 1000
订货号 Ident No.	5109277	5036653
硬质合金夹持范围 Clamping range WC	Ø 3 – 16mm	
高速钢夹持范围 Clamping range HSS	-	Ø 12 – 16mm
线圈 Coil	固定式 fixed	
最大刀具长度 Max. tool length	160mm 在 at HSK-E50	290mm 在 at HSK-A63
最大冷却长度 Max. cooling length	-	
冷却方式 Cooling type	自然冷却 no cooling	自然冷却 no cooling
冷却时间 Cooling time	300秒 MS502 KS	300秒 ISGKL 1000
最大接口尺寸 Max. machine interface	HSK-E50	HSK-A100 SK 50
功率 Power	3kW	6,5kW
电源要求 Electric current supply	230V	400V / 16A / 50Hz
外形尺寸 (宽x长x高) Dimensions (WxDxH)	350 x 520 x 220mm	390 x 310 x 640mm
需要的附件 Required accessories	刀柄底座 tool dumbbell	刀柄基座/风冷冷却罩 tool holder/cooling adaptors
选配附件 Optional accessories	风冷机, 见24-33页 air cooler, ref page 24 and 33	

FKS 3400 水冷机

LIQUID COOLER



水冷机FKS 3400是一个单独的机器，用于快速冷却加热后的刀柄。

The liquid cooler FKS3400 is a separate machine for cooling chucks which have been heated up during the shrinking process.

交付包装: 1升冷却防锈剂

Delivery package: 1 l cooling concentrate is included in delivery

最大冷却长度: Max. cooling length:	350mm 在 at HSK-A63
冷却方式: Type of cooling:	液体冷却 Liquid cooling
冷却时间: Cooling time:	20s
水箱容量: Tank volume:	15l
最大热装刀柄: Max. spindle connection:	HSK-A100 和 and SK50
空气压力: Air pressure:	Min 4 bar
外形尺寸 (宽x长x高): Dimensions (WxDx H):	424 x 516 x 700 mm
重量: Weight:	22kg



自动: Automatic control:	
型号 Designation	订货号 Ident No.
FKS3400AZ	5082588



手动: Manual control:	
型号 Designation	订货号 Ident No.
FKS3400MZ	5082590

水冷机刀柄基座 FKS3400
Tool holders FKS3400

用于保持刀柄在冷却机里的正确位置

For holding and correct positioning of the shrink chuck on the liquid cooler



型号 Designation	订货号 Ident No.	机床接口 Machine interface	参考图片 Image
FKS03-SK30/40	6773728	SK30/40, CAT30/40, BT30/40	1
FKS03-SK50	6773729	SK50, CAT50, BT50	-
FKS03-HSK25/32	6773725	HSK-25/32	2
FKS03-HSK40/50	6773726	HSK-40/50/F63	3

压缩气枪及软管 FKS3400
Air gun with flex tube for FKS3400

符合人机工程学设计, 重量易于手握, 易于调节空气流量

Ergonomic design, low weight for easy handling, easily adjustable air flow



型号 Designation	订货号 Ident No.
ISGZ3400-DP-FKS	5055749

数据管理系统 TDSc System

针对全自动热胀仪 ISG3410-WK-WS

- 在几秒内完成热胀过程
- 避免错误的参数选择
- 不会让刀柄过热而损坏刀柄
- 最大的安全特性

FULLY AUTOMATIC SHRINKING with the ThermoGrip® shrink machine ISG3410- WK-WS

- Fully automatic shrinking within seconds
- No incorrect input of parameters
- No overheating and burning of the shrink holders
- Maximum security



扫描热胀仪上的二维码了解
数据管理系统

Scan the QR Code to view the TDSc
System in combination with the
ThermoGrip® Shrink Machine

芯片中的热胀参数通过系统设置连接到热胀仪上

- 所有的相关数据，热胀流程存储在数据芯片中
- 读取装置连接到热胀仪的USB接口中

SYSTEM CONFIGURATION WITH CONNECTION to shrink machine, shrinking parameters on the data carrier

- All relevant data for the shrink process is stored on the data carrier (EPC range)
- Reading unit is connected to the shrinking machine via USB interface

TDSc - DC ...芯片 Datenträger Data Carrier



TID (12 BYTE)
EPC Speicher Memory (16 BYTE)



独创的芯片安装系统 (专利申请中)
Innovative Mounting System
of the Data Carrier (patent pending)



TDSc 读取装置 Reading Unit



USB



ISG系列热胀仪的附件 Accessories for the ISG Machine Series



芯片读取装置 BIS-C Chip Reader




巴鲁夫BIS-C / BIS-M芯片读取装置，带手持读取装置和支架
* 可按需选配，需额外的澄清

Balluff BIS-C / BIS-M evaluation unit with handheld Chip Reader and holder
* Option on request, additional clarification necessary

适合以下设备
Suitable for the following machines

型号 Designation	订货号 Ident No.	ISG2410 WK1	ISG2430 TLK	ISG2430 TWK	ISG2431 TLK	ISG3410 WK1	ISG3410 WK4	ISG3430 TLK	ISG3430 TLK4	ISG3430 TWK	ISG4410 WK1	ISG4410 WK2
ISGZ3410-BIS-C	5108649	✓	—	✓	—	✓	✓	—	✓	✓	✓	✓

BILZ RFID芯片读取装置 Bilz Chip Reader




BILZ RFID芯片读取装置，带手持读取装置和支架

Bilz RFID evaluation unit with handheld Chip Reader and holder

适合以下设备
Suitable for the following machines

型号 Designation	订货号 Ident No.	ISG2410 WK1	ISG2430 TLK	ISG2430 TWK	ISG2431 TLK	ISG3410 WK1	ISG3410 WK4	ISG3430 TLK	ISG3430 TLK4	ISG3430 TWK	ISG4410 WK1	ISG4410 WK2
ISGZ3410-BILZ-ID	5097703	✓	—	✓	—	✓	✓	—	✓	✓	✓	✓

刀具管理编辑器 Tool Memory Editor



电脑程序设置客户的指定刀柄和相应的加热参数。

PC program with which customer-specific tool designations and the corresponding shrink parameters can be set up.

适合以下设备
Suitable for the following machines

型号 Designation	订货号 Ident No.	ISG2410 WK1	ISG2430 TLK	ISG2430 TWK	ISG2431 TLK	ISG3410 WK1	ISG3410 WK4	ISG3430 TLK	ISG3430 TLK4	ISG3430 TWK	ISG4410 WK1	ISG4410 WK2
ISGZ3410-TME	5096091	✓	✓	✓	—	✓	✓	✓	✓	✓	✓	✓

**USB接口
USB Interface**



USB接口在分配器主板和黑盒子上

Connection of the USB-connector on the distributor board to the plug and socket on the generator box

型号 Designation	订货号 Ident No.	ISG2410 WK1	ISG2430 TLK	ISG2430 TWK	ISG2431 TLK	ISG3410 WK1	ISG3410 WK4	ISG3430 TLK	ISG3430 TLK4	ISG3430 TWK	ISG4410 WK1	ISG4410 WK2
ISGZ3410-USB-BG	5082290	✓	✓	✓	—	✓	✓	✓	✓	✓	✓	✓

New



触摸屏 TOUCH DISPLAY

视野广——易操作
More scope - easier operation

- 少输入
- Less input necessary
- 刀具——建立和管理
- Tooling - set up and management
- 数据存储——直接读写
- Data carriers - direct reading and writing

型号 Designation	订货号 Ident No.	ISG2410 WK1	ISG2430 TLK	ISG2430 TWK	ISG2431 TLK	ISG3410 WK1	ISG3410 WK4	ISG3430 TLK	ISG3430 TLK4	ISG3430 TWK	ISG4410 WK1	ISG4410 WK2
ISGZ3410-TOUCH-BF	5155545	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

New



存储台 STORAGE TABLE

侧边存储台更方便
Side storage table for better comfort

型号 Designation	订货号 Ident No.	ISG2410 WK1	ISG2430 TLK	ISG2430 TWK	ISG2431 TLK	ISG3410 WK1	ISG3410 WK4	ISG3430 TLK	ISG3430 TLK4	ISG3430 TWK	ISG4410 WK1	ISG4410 WK2
ISGZ3410-7-340	5152457	✓	—	—	—	✓	✓	—	—	—	—	—
ISGZ3410-7-340-COR	5154978	✓	—	—	—	✓	✓	—	—	—	—	—

ISGZ3410-7-340 mit Gummimatte, ISGZ3410-7-340-COR mit Corian Platte

**Abdeckung
Cover**



高质量的人造大理石代替橡胶垫。
有4个盘片位置，和两个转换底座位置。

High quality Corian cover instead of the standard rubber mat.
Placement positions for 4 pole discs and 2 tool adaptors.

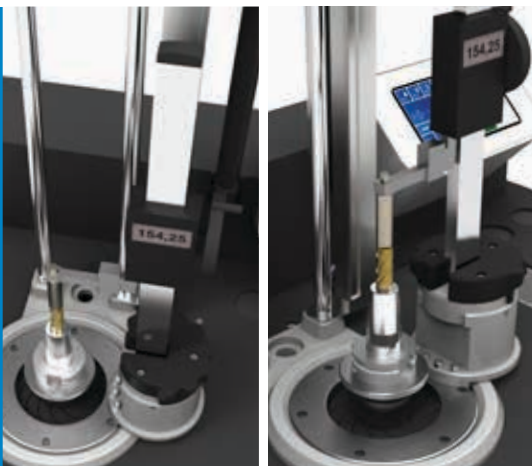
适合以下设备 Suitable for the following machines

型号 Designation	订货号 Ident No.	ISG2410 WK1	ISG2430 TLK	ISG2430 TWK	ISG2431 TLK	ISG3410 WK1	ISG3410 WK4	ISG3430 TLK	ISG3430 TLK4	ISG3430 TWK	ISG4410 WK1	ISG4410 WK2
ISGZ3410-4-WK	5106207	✓	—	✓	—	✓	✓	—	—	✓	—	—

长度预调 LENGTH PRESETTING

- 调整精度 $\pm 0.05\text{mm}$ (更高精度要求, 请使用单独测量设备)
- 最大测量长度300mm, 按需可测其它尺寸
- 长度预调仪带刀尖保护功能

- Adjustment accuracy $\pm 0.05\text{ mm}$ (for maximum accuracy, please use separate adapter)
- total measuring length 300 mm, other lengths on request
- Increased safety due to end position detection of the length preset



New

型号 Designation	订货号 Ident No.	ISG2410 WK1	ISG2430 TLK	ISG2430 TWK	ISG2431 TLK	ISG3410 WK1	ISG3410 WK4	ISG3430 TLK	ISG3430 TLK4	ISG3430 TWK	ISG4410 WK1	ISG4410 WK2
ISVG3410WK-LE300 新部件 For new units	5155198	✓	—	—	—	✓	✓	—	—	—	—	—
刀座 Tool holders on request	5155543	✓	—	—	—	✓	✓	—	—	—	—	—

蒸汽收集装置 Steam extraction unit

蒸汽收集装置是独立的230v电压, 收集嘴位置手动去固定。可调节自吸能力, 可更换收集滤芯。

Side location extraction, separate 230 V connection; suction nozzle positioned manually; suction capacity adjustable; replaceable filter unit.

适合以下设备
Suitable for the following machines

型号 Designation	订货号 Ident No.	ISG2410 WK1	ISG2430 TLK	ISG2430 TWK	ISG2431 TLK	ISG3410 WK1	ISG3410 WK4	ISG3430 TLK	ISG3430 TLK4	ISG3430 TWK	ISG4410 WK1	ISG4410 WK2
ISGZ3410 3	5105890	✓	—	—	—	✓	✓	—	—	—	—	—

XL冷却箱 XL coolant tank

加大的XL冷却箱代替标准的冷却箱, 可以加大冷却能力三分之一。

The XL tank replaces the standard tank and increases the coolant volume by 1/3.

适合以下设备
Suitable for the following machines

型号 Designation	订货号 Ident No.	ISG2410 WK1	ISG2430 TLK	ISG2430 TWK	ISG2431 TLK	ISG3410 WK1	ISG3410 WK4	ISG3430 TLK	ISG3430 TLK4	ISG3430 TWK	ISG4410 WK1	ISG4410 WK2
ISGZ3402.2-WK	5109064	✓	—	—	—	✓	✓	—	—	—	—	—

文件夹
Tray




可以放置A4纸, 工件图, 说明书
Tray for documents up to DIN A4, e.g. tool plans, instructions

适合以下设备
Suitable for the following machines

型号 Designation	订货号 Ident No.	ISG2410 WK1	ISG2430 TLK	ISG2430 TWK	ISG2431 TLK	ISG3410 WK1	ISG3410 WK4	ISG3430 TLK	ISG3430 TLK4	ISG3430 TWK	ISG4410 WK1	ISG4410 WK2
ISGZ3402	5104885	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

维护装置
Maintenance Unit




包含一个可以通断的过滤阀。关闭阀可以关闭启动部件。在极端恶劣的情况下, 过滤阀可以给热胀仪机一个可靠的保障。
Includes a lockable stop valve, micro filter with water trap and manometer. With the stop valve the pressure of the unit can be switched off. During varying or bad pressure quality, the microfilter guarantees a reliable operation of the shrink machine.

适合以下设备
Suitable for the following machines

型号 Designation	订货号 Ident No.	ISG2410 WK1	ISG2430 TLK	ISG2430 TWK	ISG2431 TLK	ISG3410 WK1	ISG3410 WK4	ISG3430 TLK	ISG3430 TLK4	ISG3430 TWK	ISG4410 WK1	ISG4410 WK2
ISGZ3401	5097959	✓	—	—	—	✓	✓	—	✓	—	✓	✓

盘托
Disc tray



可以放置ISGS3201-0到3 (3到32毫米) 的直径。
在自动加热的过程中合适的盘片的LED灯会显示。
Identification location tray for pole discs ISGS3201-0 up to 3 (Ø 3 – 32 mm).
During automatic shrinking the suitable pole disc is displayed via LED in the tray.

适合以下设备
Suitable for the following machines

型号 Designation	订货号 Ident No.	ISG2410 WK1	ISG2430 TLK	ISG2430 TWK	ISG2431 TLK	ISG3410 WK1	ISG3410 WK4	ISG3430 TLK	ISG3430 TLK4	ISG3430 TWK	ISG4410 WK1	ISG4410 WK2
ISGZ3410-1	5101175	✓	—	✓	—	✓	✓	—	✓	✓	—	—

New



参数选择 PARAMETER PER PICK

全自动参数设置
LED控制屏

Fully automatic parameter selection
Additional signal via LED

断刀取出装置
Ejection device (Shrink machines)
for broken tools



断刀取出器可方便拆除刀柄里的断刀，即使刀具断点在刀柄里面也毫无困难。

有适合所有标准主轴接口（HSK, SK, ABS）的基座，即使是很紧的装配也易于取出，更多的主轴接口的基座按需定制。

The ejection device enables broken tools to be removed easily from chucks. Even tools where the point of breakage is in the tool holder can be removed without difficulty.

The basic tool holder can be adapted to all standard machine interfaces (HSK, SK, ABS) by means of different adaptors. Even with a tight fit (bore diameter/tool shank) the shrunk-in shanks can be removed without difficulty. Further interfaces on request.

* 5054457 – T3-WSG/30 x 59 扩展选项

* 5054457 – T3-WSG/30 x 59 extension necessary

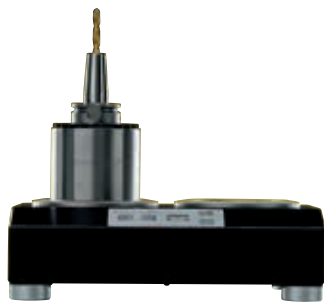
型号 Designation	ISG ...TLK, ISG ...WK 订货号 Ident No.	ISG ...TWK 订货号 Ident No.
T3-WSG/HSK32/C3	9091116	9091116 + 5054457*
T3-WSG/HSK40/C4	9091118	9091118 + 5054457*
T3-WSG/HSK50/C5	9091119	9091119 + 5054457*
T3-WSG/HSK63/C6	9091120	9091120 + 5054457*
T3-WSG/HSK80	9091121	9091121 + 5054457*
T3-WSG/HSK100	9091124	9091124 + 5054457*
T3-WSG/SK30, BT30	9128634	9128634 + 5054457*
T3-WSG/SK40, BT40	9091127	9091127 + 5054457*
T3-WSG/SK50, BT50	9091128	9091128 + 5054457*

HSK-63 转换头
Modification set from HSK-63 to ...



型号 Designation	订货号 Ident No.
T3-WSG/HSK63-SK30	5119635
T3-WSG/HSK63-HSK32	9102761
T3-WSG/HSK63-HSK40	9102762
T3-WSG/HSK63-HSK50	5022799

ISGK2002 — 程控风冷站
ISGK2002 – Processor-controlled cooling station



ISGK 2002风冷站有两个冷却位置，可作为移动热胀仪的完美补充，使增加冷却位置成为可能。双工位的程控，即冷却时间可各自单独设置。

The cooling station ISGK 2002 with two additional cooling positions is the perfect complement for the mobile shrinking machines.

It makes it possible to increase the number of cooling positions.

The double cooling station is processor-controlled, meaning that the operating time of each cooling fan can be adjusted separately.

型号 Designation	订货号 Ident No.	电源要求 Electric current supply	外形尺寸 Dimensions		
			长 D	宽 W	高 H
ISGK2002	9070415	230V/1,6A	270	380	120

隔热盘片

Pole discs one-piece



*) 经常和线圈2 ISG3400-2 一起发货,
订货号5129760
always delivered with coil 2 ISGS3400-2
Ident No. 5129760

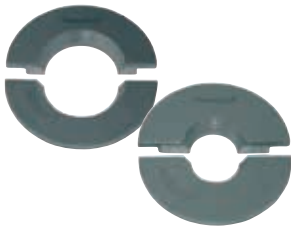
用于刀具柄部和线圈之间的最佳的磁力线防护

For optimal shielding of the magnetic field between coil and tool shank

型号 Designation	夹持范围-Ø Clamping-Ø	ISG1000	ISG 2400 系列 订货号 Ident No.	ISG 3400 系列 Spule 1 Spule 2	
ISGS1001-2	6,0 – 16 mm	5094533	–	–	–
ISGS2201-1	3,0 – 5,9 mm	6725758	6725758	–	–
ISGS2201-2	6,0 – 12 mm	–	6725759	–	–
ISGS2201-3	12,1 – 20 mm	–	6725760	–	–
ISGS3201-0	3,0 – 5,9 mm	–	–	6726157	–
ISGS3201-1	6,0 – 12 mm	–	–	6726143	–
ISGS3201-2	12,1 – 22 mm	–	–	6726144	–
ISGS3201-3	22,1 – 32 mm	–	–	6726145	–
ISGS3401-100X27X10	Durchlass 27 mm	–	–	–	5137388
ISGS3401-72X100X35X20*)	Durchlass 35 mm	–	–	–	5137383
ISGS3401-100X54X10	Durchlass 54 mm	–	–	–	5137387

分体式隔热盘片

Pole discs two-piece



用于切削直径大于加热直径的情况下

For use when the cutting diameter is bigger than the shrinking diameter

型号 Designation	夹持范围-Ø Clamping-Ø	ISG1000	ISG 2400 系列 订货号 Ident No.	ISG 3400 系列 Spule 1 Spule 2	
ISGS2201GT-1	3,0 – 5,9 mm	9074537	9074537	–	–
ISGS2201GT-2	6,0 – 12,0 mm	9074538	9074538	–	–
ISGS2201GT-3	12,1 – 20,0 mm	9074539	9074539	–	–
ISGS3201GT-0	3,0 – 5,9 mm	–	–	9074540	–
ISGS3201GT-1	6,0 – 12,0 mm	–	–	9074541	–
ISGS3201GT-2	12,1 – 22,0 mm	–	–	9074542	–
ISGS3201GT-3	22,1 – 32,0 mm	–	–	9074543	–
ISGS3401GT-72X100X22X20	Durchlass 22 mm	–	–	–	5137396
ISGS3401GT-72X100X35X20	Durchlass 35 mm	–	–	–	5137398
ISGS3401GT-100X54X10	Durchlass 54 mm	–	–	–	5137394

薄壁刀柄盘片

Pole discs TSF



TSF套装可允许热胀仪加热薄壁型刀柄, 同样用于刀具柄部和线圈间的磁力线防护。

这种盘片能够保证安全、可靠热装TSF刀柄。

The TSF set allows TSF shrink chucks to be shrunk using the shrink machine.

The TSF discs provide optimal shielding of the magnetic field between coil and tool shank.

This guarantees safe and reliable shrinking of the TSF shrink chucks.

型号 Designation	夹持范围-Ø Clamping-Ø	ISG1000	ISG 2400 系列 订货号 Ident No.	ISG 3400 系列	
ISGS...201-TSF-SET 由以下零件组成		9102759	9102759	9102645	
ISGS...201-TSF-SET consists of the following parts					
TVP-ISG-TSF 贮存盒		6955194	6955194	6955194	
TVP-ISG-TSF storage box					
ISGS...201-TSF03	3 mm	9102727	9102727	9088924	
ISGS...201-TSF04	4 mm	9102728	9102728	9088925	
ISGS...201-TSF05	5 mm	9102749	9102749	9102646	
ISGS...201-TSF06	6 mm	9102750	9102750	9088926	
ISGS...201-TSF08	8 mm	9102752	9102752	9088927	
ISGS...201-TSF10	10 mm	9102753	9102753	9088928	
ISGS...201-TSF12	12 mm	9102754	9102754	9088980	
ISGS...201-TSF14	14 mm	9102755	9102755	9102647	
ISGS...201-TSF16	16 mm	9102756	9102756	9088981	
ISGS...201-TSF18	18 mm	9102757	9102757	9102648	
ISGS...201-TSF20	20 mm	9102758	9102758	9088982	
ISGS3201-TSF25	25 mm	–	–	9088983	

转换基座, TER带长度调节
Basic adaptor TER with length adjustment



T3-WWK/TER



T3-W/55x114x70

长度可变, 机械式长度调节, 可精确调节至需要的刀具长度。
适用于所有夹持尺寸, 配有适当的刀柄夹头。
水冷式热胀仪ISG...TWK和ISG...WK, 只需要夹头基座 T...-WWK/TER。
对于台式热胀仪ISG1000和ISG...TLK, 需要夹头基座 T...-WWK/ TER 和 T...-W/TER。

Variable, mechanical length adjustment, can be precisely adjusted to the required tool length.
For all clamping sizes with suitable shrink adaptor.
For water cooled shrink machines ISG... TWK and ISG... WK only the basic adaptor T...-WWK/TER is needed.
An additional adaptor T...-W/TER in combination with the basic holder T...-WWK/TER is required for the table shrink machines ISG 1000 and ISG... TLK.

型号 Designation	订货号 Ident No.			
	ISG1000	ISG...TLK	ISG...TWK	ISG...WK
T3-WWK/TER	-	-	5020330	
T3-WWK/TER +	5020330 +	5020330 +	-	-
T3-W/55x114x70	5051118	5051118	-	-

TER热胀筒夹转换套
Adaptors for shrink fit adaptors TER



热胀筒夹转换套使用于基础转换座T...-WWK/TER
For safe holding of the TER shrink fit collet
Suitable for basic adaptor T...-WWK/TER

型号 Designation	订货号 Ident No.
TER 11-2	5111889
TER 16-2	5111890
TER 20-2	5111891
TER 25-2	5111892
TER 32-2	5111893

TER热胀筒夹专用隔热盘片
Pole discs for shrink fit adaptors TER



用于刀具柄部和线圈之间的最佳的磁力线防护
For optimal shielding of the magnetic field between coil and tool shank

Scheiben-Ø Disc-Ø	夹持范围-Ø Clamping-Ø	DA	型号 Designation	订货号 Ident No.
ISG2400 Series 40 mm	03 - 06 mm	ER11	ISGS2201-TER11-1	5065479
	03 - 04 mm	ER16	ISGS2201-TER16-1	5065474
	06 - 08 mm	ER16	ISGS2201-TER16-2	5065477
	06 - 10 mm	ER20	ISGS2201-TER20-1	5065473
	03 - 04 mm	ER25	ISGS2201-TER25-1	5065468
	06 - 08 mm	ER25	ISGS2201-TER25-2	5065470
	10 - 16 mm	ER25	ISGS2201-TER25-3	5065472
	06 - 14 mm	ER32	ISGS2201-TER32-1	5065466
ISG3400 Series 54 mm	16 - 20 mm	ER32	ISGS2201-TER32-2	5065467
	03 - 06 mm	ER11	ISGS3201-TER11-1	5095918
	03 - 04 mm	ER16	ISGS3201-TER16-1	5087772
	06 - 08 mm	ER16	ISGS3201-TER16-2	5087773
	06 - 10 mm	ER20	ISGS3201-TER20-1	5087774
	03 - 04 mm	ER25	ISGS3201-TER25-1	5087777
	06 - 10 mm	ER25	ISGS3201-TER25-2	5087778
	12 - 16 mm	ER25	ISGS3201-TER25-3	5087779
	06 - 08 mm	ER32	ISGS3201-TER32-1	5087780
	10 - 20 mm	ER32	ISGS3201-TER32-2	5087781

水冷刀柄基座
Tool holders water cooled

用于保持刀柄在热胀仪上的正确位置
For holding and correct positioning of the shrink chuck on the shrink machine



更多的基座可根据需求订制
More tool holders available on request

型号 Designation	ISG...TWK, ISG...WK 订货号 Ident No.
T3-WWK/HSK25	9075293
T3-WWK/HSK32	9073950
T3-WWK/HSK40, (HSK-F50)	9073952
T3-WWK/HSK50, (HSK-F63)	9073953
T3-WWK/HSK63, (HSK-F80)	9073954
T3-WWK/HSK80	9073956
T3-WWK/HSK100	9073957
T3-WWK/SK30, CAT30, BT30	9073958
T3-WWK/SK40, CAT40, BT40	9073959
T3-WWK/SK50, CAT50, BT50	9073961
T3-WWK/SK50-25, CAT50, BT50	5086758
* T3-WWKA-HSK63	5135917
T3-WWK/C3	9079542
T3-WWK/C4	9076662
T3-WWK/C5	9076663
T3-WWK/C6	9076664
T3-WWK/C8	9076907
TGK 301-WWK/100, 基座延长杆 Extension of tool holders	6954754

保护罩
Protective cover

保护机器不被弄脏
For protection of the machine against dirt



型号 Designation	短型 short 订货号 Ident No.	长型 long 订货号 Ident No.
ISG2200-SH	6725799	
ISG3200-SH	9081381	
ISG3200-SH		5015460

辅助泵
Service pump

辅助泵用于抽空ISG...WK热胀仪冷却箱中的冷却液。
辅助泵使用3 V直流电, 600毫米排水管
只有一个操作按钮
工作流量约9升/分钟
使用两节1.5 V电池供电



The service pump can be used to empty the cooling tank of ISG...WK shrink machines.
Service pump with 3V battery, 600mm drainage hose
Operation with 1 button
Power approx. 9 litre/min.
Power via 2 batteries Mono Type D 1,5 V (included)

型号 Designation	订货号 Ident No.
ISGP-3V-600	5021281

风冷罩

Cooling adaptor air cooled machine



用于快速风冷刀柄，由于设计精密，冷却罩完全围绕夹持区域，热量通过冷却罩的散热片被迅速发散至外部。

For fast cooling of the heated shrink chucks. Due to the precise design and the enclosure of the clamping area, the heat is rapidly diverted to the outside via the fins of the adaptor.

高度 120mm Projection length up to 120mm

型号 Designation	夹持范围-Ø Clamping-Ø	ISG 1000	ISG 24..TLK 订货号 Ident No.	ISG 34..TLK...
T3-K/3-5,9	3,0-5,9 mm	6725996	6725996	6725996
T3-K/6-9	6,0-9,0 mm	6725955	6725955	6725955
T3-K/9,1-12	9,1-12,0 mm	6725956	6725956	6725956
T3-K/12,1-16	12,1-16,0 mm	6725951	6725951	6725951
T3-K/16,1-22	16,1-22,0 mm	-	6725953	6725953
T3-K/22,1-32	22,1-32,0 mm	-	-	6725954

高度 120 - 200mm Projection length 120 - 200mm

型号 Designation	夹持范围-Ø Clamping-Ø	ISG 1000	ISG 24..TLK 订货号 Ident No.	ISG 34..TLK...
T3-K/3-5,9, L200	3,0-5,9 mm	6726049	6726049	6726049
T3-K/6-9, L200	6,0-9,0 mm	6726024	6726024	6726024
T3-K/9,1-12, L200	9,1-12,0 mm	6726025	6726025	6726025
T3-K/12,1-16, L200	12,1-16,0 mm	6726026	6726026	6726026
T3-K/16,1-22, L200	16,1-22,0 mm	-	6726027	6726027
T3-K/22,1-32, L200	22,1-32,0 mm	-	-	6726028

冷却罩毛坯

Cooling adaptor blanks

型号 Designation	夹持范围-Ø Clamping-Ø	订货号 Ident No.
T3-K/0-R	0 mm	6726039
T3-K/18-R	18 mm	6726031
T3-K/35-R	35 mm	6726032

风冷刀柄基座

Tool holders air cooled



用于保持刀柄在热胀仪上的正确位置

For holding and correct positioning of the shrink chuck on the shrink machine

型号 Designation	ISG1000	ISG ...TLK 订货号 Ident No.	ISG ...TLK4
T3-W/HSK25-40		6726042	
T3-W/HSK32		6725939	
T3-W/HSK40 /HSK50F,B,D		6725940	
T3-W/HSK50 /HSK63F,B,D		6725941	
T3-W/HSK63 /HSK80F,B,D		6725942	
T3-W/HSK80 /HSK100F,B,D		6725943	
T3-W/HSK100		6725938	
T3-W/SK30, CAT, BT		6725958	
T3-W/SK35, CAT, BT		9070411	
T3-W/SK40, CAT, BT		6725944	
T3-W/SK45, CAT, BT		6726005	
T3-W/SK50, CAT, BT		6725945	
T3-W/25, ABS25		6725933	
T3-W/32, ABS32, CAPTO C3		6725934	
T3-W/40, ABS40, CAPTO C4		6725935	
T3-W/50, ABS50, CAPTO C5		6725936	
T3-W/63, ABS63, CAPTO C6		6725937	
T3-W/C8		9070950	
T3-W/SCA1		6726048	
T3-W/SCA2		6726050	
T3-W/WE1		6725948	
T3-W/WE2		6725949	

止动块
Stop block



这个夹具用于像分离式盘片这种特殊的场合。在盘片和刀柄的端面无法找到正确位置的时候，可用这个工具阻挡线圈使其定位。

Fixture used for special applications such as two-piece pole discs. Used as a stopper for positioning the coil when no correct positioning between pole disc and chuck front end is possible.

适合于: Suitable for: **2410WK, 3430TLK4-WS, 3410WK, 3410WK-WS**

型号 Designation	订货号 Ident No.
ISGF3414	5049287

感应线圈
Induction coils



ISGS3200-1
用于 for 3 – 32mm


ISGS3400-2
用于 for 32 – 50mm

感应线圈结合快换技术，线圈2 (ISGS3200-2) 只能用于**ISG3410WK-WS**和**ISG3430TLK4-WS**。
针对特殊应用的线圈按需定制。

Induction coil in combination with the quick change coil technology (... WS ...) possible. **Coil 2** (ISGS3200-2) only for the **ISG3410WK-WS** and **ISG3430TLK4-WS**. Special coils for special applications are available on request.

型号 Designation	ISG ...-WS 订货号 Ident No.	ISG 3410WK-WS 订货号 Ident No.
ISGS3200-1	6726141	6726141
ISGS3400-2	-	5129760

用于HL重载热胀仪的线圈
Coils for HL Units



线圈只适合ISG44XX-WK-HL。
Induction coils only suitable for the shrink machines ISG44XX-WK-HL.

型号 Designation	夹持范围 Ø Clamping range Ø	订货号 Ident No.
ISGS3400-1-HL	THD 16mm (交付包装 Delivery package)	5019318
ISGS3400-2-HL	THD 20-25 (选配 Optional)	5019540
ISGS3400-5-HL	THD 32mm (选配 Optional)	5016568

New



可调线圈 FLEX - COIL

不用更换盘片——因为线圈能调整到所有直径范围

Adjusts itself to all diameter ranges flexibly.
No need to change ferrite discs anymore

型号 Designation	订货号 Ident No.	ISG2410 WK1	ISG2430 TLK	ISG2430 TWK	ISG2431 TLK	ISG3410 WK1- WS	ISG3410 WK4- WS	ISG3430 TLK	ISG3430 TLK4- WS	ISG3430 TWK	ISG4410 WK1	ISG4410 WK2
ISGS3400-1-FLEX	5132369	-	-	-	-	✓	✓	-	✓	-	-	-



图1：放入刀柄
Image1: Inserting tool adaptors



图2：线圈定位
Image 2 : Coil positioning

应用场合:

- 切削刃直径大于热装柄部直径
- 反向热装最大适合到HSK-A63接口
- 仅能用于带快换接口技术的感应线圈
- 这种线圈也可用于早期的ISG 3200机型

热胀流程:

以ISG3410WK-WS使用ISGZ3400WK-INV套装为例

1. 将基座加长杆和HSK-A63基座放入热胀仪
2. 如图1所示将刀柄放入
3. 套入反装线圈
4. 如图2所示使用锁定块固定好线圈位置
(刀柄顶端和线圈顶端持平)
5. 在菜单中选择“反向热装”

Application:

- Cutting edge of the tool > tool shank diameter
- Suitable for inverse shrinking up to machine interface HSK-A63
- Induction coil only possible in combination with the quick change coil technology (...WS...)
- Induction coil also suitable for the earlier models of the ISG3200 series

Shrink process:

Example ISG3410WK-WS with inverse kit ISGZ3400WK-INV

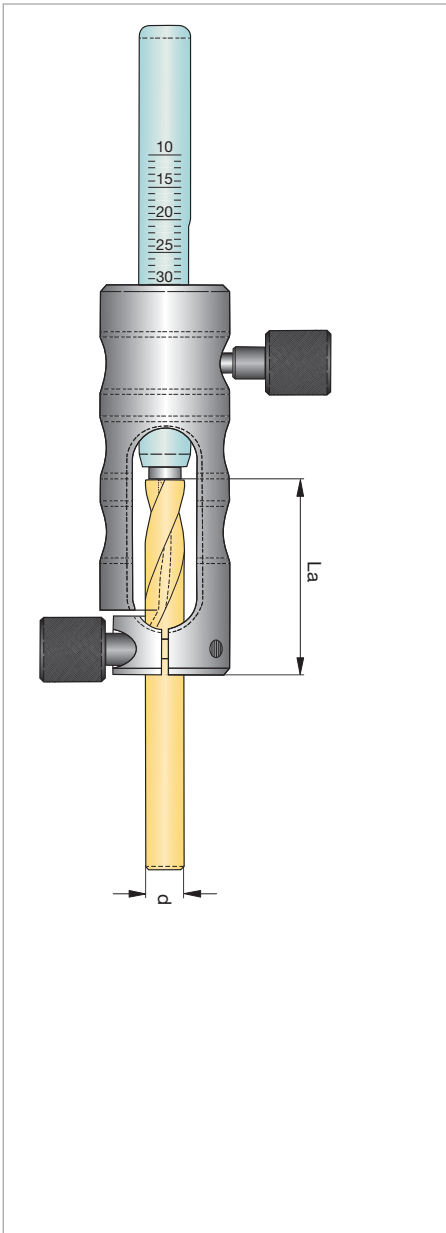
1. Insert the tool holder extension together with HSK-A63 tool adaptors
2. Position the shrink chuck as shown in Image 1
3. Plug in the inverse coil
4. Position the stop block shown in Image 2
(top shrink chuck = top inverse coil)
5. Select „inverse shrinking“ in the menu



型号 Designation	ISG3430TWK-WS ISG3410WK-WS 订货号 Ident No.	ISG3430TLK-WS ISG3430TLK4-WS 订货号 Ident No.
ISGZ3400WK-INV	5051051	-
ISGZ3400TLK-INV	-	5051052

<p>盘片毛坯 Sintered plate blanks</p> 	<p>用于定制特殊尺寸 Customisation for special sizes</p>	<table border="1"> <thead> <tr> <th>型号 Designation</th> <th>订货号 Ident No.</th> </tr> </thead> <tbody> <tr> <td>72 x 10,0 R0462301</td> <td>6706744</td> </tr> <tr> <td>72 x 20,0 R0462309</td> <td>6706747</td> </tr> <tr> <td>72 x 30,0 R0462311</td> <td>5033389</td> </tr> </tbody> </table>	型号 Designation	订货号 Ident No.	72 x 10,0 R0462301	6706744	72 x 20,0 R0462309	6706747	72 x 30,0 R0462311	5033389
型号 Designation	订货号 Ident No.									
72 x 10,0 R0462301	6706744									
72 x 20,0 R0462309	6706747									
72 x 30,0 R0462311	5033389									
<p>固定环 (随机器交付) Clamping ring (Included in delivery of machines)</p> 	<p>用于把盘片固定在线圈中 For secure holding of the pole disc inside the coil</p>	<table border="1"> <thead> <tr> <th>型号 Designation</th> <th>订货号 Ident No.</th> </tr> </thead> <tbody> <tr> <td>ISGS309</td> <td>6950431</td> </tr> </tbody> </table>	型号 Designation	订货号 Ident No.	ISGS309	6950431				
型号 Designation	订货号 Ident No.									
ISGS309	6950431									
<p>保护手套 (随机器交付) Protective gloves (Included in delivery of machines)</p> 	<p>保护双手不被烫伤或割伤 For protection against possible burns and cutting injuries</p>	<table border="1"> <thead> <tr> <th>型号 Designation</th> <th>订货号 Ident No.</th> </tr> </thead> <tbody> <tr> <td>VA662-10</td> <td>6947666</td> </tr> </tbody> </table>	型号 Designation	订货号 Ident No.	VA662-10	6947666				
型号 Designation	订货号 Ident No.									
VA662-10	6947666									
<p>冷却添加剂 (1L包含在WK系列设备中) Coolant concentrate emulsion, 1l (1l included in delivery of WK machines)</p> 	<p>冷却剂用于保护刀柄不生锈 Coolant concentrate emulsion for protection of clamping chucks against corrosion</p>	<table border="1"> <thead> <tr> <th>型号 Designation</th> <th>ISG ... TWK 订货号 Ident No.</th> <th>ISG ... WK 订货号 Ident No.</th> </tr> </thead> <tbody> <tr> <td>Synergy 905/1</td> <td>5085078</td> <td></td> </tr> </tbody> </table>	型号 Designation	ISG ... TWK 订货号 Ident No.	ISG ... WK 订货号 Ident No.	Synergy 905/1	5085078			
型号 Designation	ISG ... TWK 订货号 Ident No.	ISG ... WK 订货号 Ident No.								
Synergy 905/1	5085078									
<p>清洗剂 (5 X 1L) Cleaner for machines and systems (5 liter)</p> 	<p>用于再次加注冷却液前清洗冷却液系统 For cleaning and disinfecting the coolant system before refilling</p>	<table border="1"> <thead> <tr> <th>型号 Designation</th> <th>ISG ... TWK 订货号 Ident No.</th> <th>ISG ... WK 订货号 Ident No.</th> </tr> </thead> <tbody> <tr> <td>Techniclean MTC43/5</td> <td>5046778</td> <td></td> </tr> </tbody> </table>	型号 Designation	ISG ... TWK 订货号 Ident No.	ISG ... WK 订货号 Ident No.	Techniclean MTC43/5	5046778			
型号 Designation	ISG ... TWK 订货号 Ident No.	ISG ... WK 订货号 Ident No.								
Techniclean MTC43/5	5046778									

装刀长度调节器 Length Adjusting Sleeve



长度调节管用于准确测定刀具伸出刀柄的长度。将推杆移至要求的尺寸并锁紧，然后把刀具柄部放入热胀刀柄的沉孔，下压至塑料止推片，顶住刀具并锁紧，然后加热刀柄，刀具下落停止即装刀完成。

The length adjusting sleeve makes it possible to determine exactly how far the cutting tools protrudes out of the shrink chuck. The slide is adjusted to the required length and clamped in.

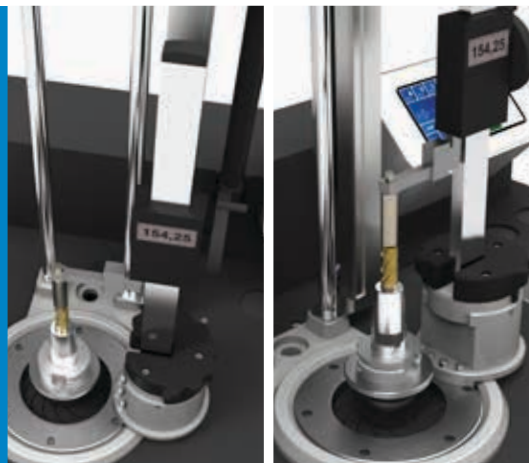
The cutting tool is then inserted into the bore hole, pressed against the plastic stop and clamped. This way the cutter is inserted into the hot shrink chuck up to the stop.



T3-LS...			
d 直径 Tool	La	型号 Designation	订货号 Ident No.
3mm	5 – 25mm	T3-LS0300-5-25	5021284
3mm	30 – 50mm	T3-LS0300-30-50	5032090
4mm	5 – 25mm	T3-LS0400-5-25	5021285
4mm	30 – 50mm	T3-LS0400-30-50	5032091
5mm	5 – 25mm	T3-LS0500-5-25	5021286
5mm	30 – 50mm	T3-LS0500-30-50	5032092
6mm	10 – 35mm	T3-LS0600-10-35	5021287
6mm	35 – 60mm	T3-LS0600-35-60	5032093
8mm	10 – 35mm	T3-LS0800-10-35	5021288
8mm	35 – 60mm	T3-LS0800-35-60	5032094
10mm	15 – 50mm	T3-LS1000-15-50	5021289
10mm	35 – 60mm	T3-LS1000-35-60	5032095
12mm	15 – 50mm	T3-LS1200-15-50	5021290
16mm	30 – 65mm	T3-LS1600-30-65	5032102

长度预调 LENGTH PRESETTING

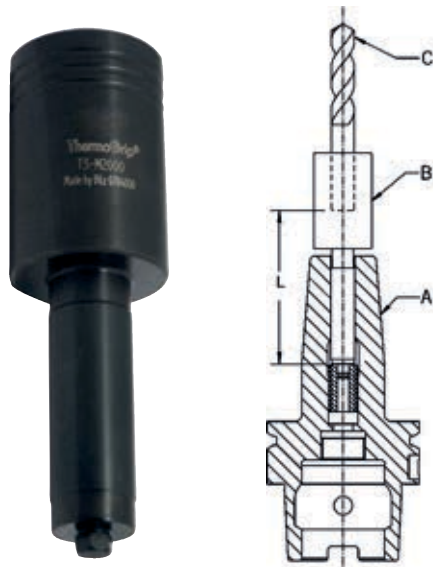
- 调整精度 $\pm 0.05\text{mm}$ (更高精度要求, 请使用单独测量设备)
- 最大测量长度300mm, 按需可测其它长度
- 长度预调仪带刀尖保护功能
- Adjustment accuracy $\pm 0.05\text{ mm}$ (for maximum accuracy, please use separate adapter)
- total measuring length 300 mm, other lengths on request
- Increased safety due to end position detection of the length preset



New

装刀长度预调棒

Measuring Adaptor for Length Presetting



低价—高效

这种预调装置由于设计简单，用途广泛因而预调成本极为低廉。刀柄的装刀长度可以单独的预调。

应用广泛

这种预调装置适用于所有标准的长度预调仪。

节省成本

由于使用简单，因此可节省操作时间，而且还可以在高精度装刀尺寸要求时保证工艺安全。

Low price – big effect

The ThermoGrip® measuring adaptor is the low cost entry into presetting and is characterised by its simple handling and versatility. The length in the tool holder can be preset independently of the clamping device.

One for all

The ThermoGrip® measuring adaptor works on all standard length presetting machines.

Cost reduction

Due to the simple handling, time can be saved. The ThermoGrip® measuring adaptor guarantees process security in production due to higher dimensional accuracy at the length presetting.

T3-M...				
d1 [mm]	SW	L [mm]	型号 Designation	订货号 Ident No.
6	2,5	80	T3-M0600	6725959
8	3,0	80	T3-M0800	6725962
10	4,0	80	T3-M1000	6725963
12	5,0	80	T3-M1200-SW5	6726111
14	5,0	80	T3-M1400-SW5	6726112
16	6,0	80	T3-M1600	6725967
18	6,0	80	T3-M1800	6725968
20	8,0	80	T3-M2000	6725969
25	8,0	80	T3-M2500	6725970
32	8,0	80	T3-M3200	6725971

使用方法:

预调棒 (B) 放入刀柄 (A) 里并将六方插入长度调节螺丝。

刀具 (C) 放入预调棒 (B) 里面。

在对刀仪上通过旋转预设器调节长度、调节螺丝，获得所需的尺寸。

取出装刀长度预调棒。

调节中需考虑差异尺寸 (L = 80 mm)，要从总长中减去，最终获得实际刀具长度。

注意：取出预调棒 (B) 时请勿旋转，否则会影响尺寸。

最后，将刀具 (C) 从预调棒 (B) 中拿出，再热装入刀柄 (A)。

Measurement process

The measuring adaptor (B) is put into the ThermoGrip® shrink chuck (A) and locks into the hexagon of the length presetting screw.

The tool (C) is inserted into the measuring adaptor (B).

By turning the measuring adaptor (B) the tool length is determined via the adjusting screw in the check by the help of a presetting device.

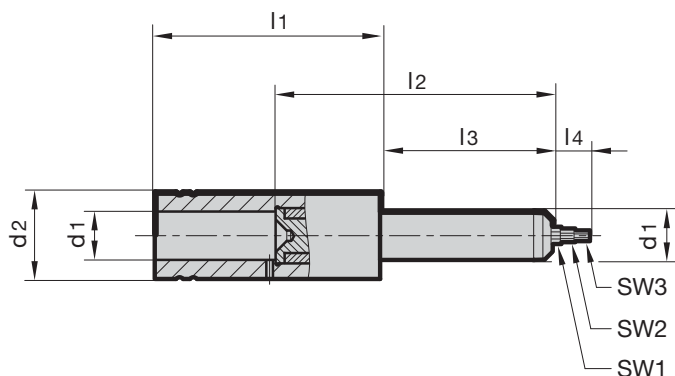
The measuring adaptor (B) is then taken out of the ThermoGrip® shrink chuck.

The differential dimension (L) (L = 80 mm) has to be considered during adjusting. This stored value has to be deducted from the total length.

Tip: Take care not to turn the measuring adaptor (B) when taking it out. Otherwise the length adjusting screw is displaced and the total length is readjusted.

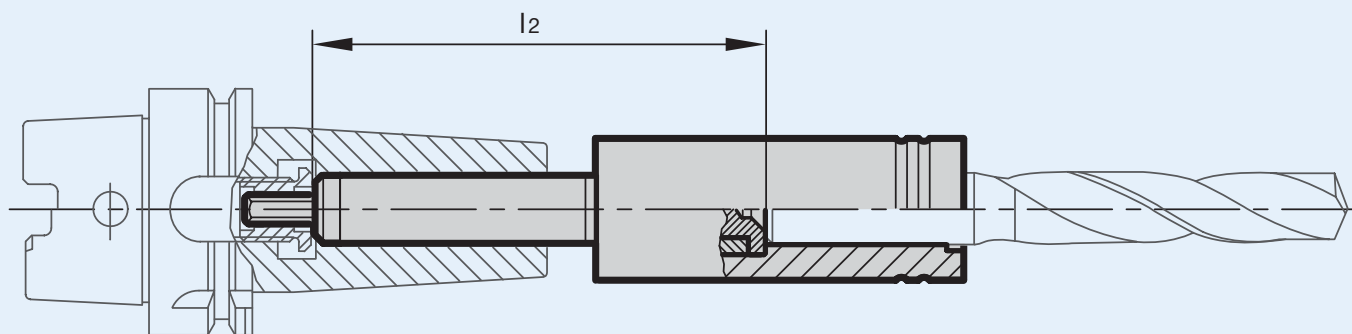
As a last step you put the tool (C) without measuring adaptor into the counterbore of the ThermoGrip® shrink chuck (A) and shrink it on the ISG machine of your own choice.

万用装刀长度预调棒 (MQL 1 + 2 通道) Universal Measuring Adaptor (MQL 1 + 2 Channel)



T3-M...






型号 Designation	d1 [mm]	d2 [mm]	l1 [mm]	l2 [mm]	l3 [mm]	l4 [mm]	SW1	SW2	SW3	订货号 Ident No.
T3-M0600/0001	6	25	115	80	50	10	2,0	1,5	-	5046404
T3-M0600/0002	6	25	115	80	50	10	3,0	2,5	-	5046406
T3-M0600/0003	6	25	115	80	50	10	4,0	-	-	5046407
T3-M0800/0001	8	25	115	80	50	10	2,0	1,5	-	5046461
T3-M0800/0002	8	25	115	80	50	10	3,0	-	-	5046462
T3-M0800/0003	8	25	115	80	50	10	4,0	-	-	5046463
T3-M1000/0001	10	25	115	80	50	10	2,0	1,5	-	5046464
T3-M1000/0002	10	25	115	80	50	10	4,0	3,0	-	5046466
T3-M1200/0001	12	25	115	80	50	10	3,0	2,0	1,5	5046468
T3-M1200/0002	12	25	115	80	50	10	5,0	4,0	-	5046469
T3-M1400/0001	14	25	115	80	50	10	3,0	2,0	1,5	5046470
T3-M1400/0002	14	25	115	80	50	10	5,0	4,0	-	5046471
T3-M1600/0001	16	25	120	85	55	10	3,0	2,0	1,5	5046472
T3-M1600/0002	16	25	120	85	55	10	6,0	5,0	4,0	5046473
T3-M1800/0001	18	30	120	85	55	10	3,0	2,0	1,5	5046474
T3-M1800/0002	18	30	120	85	55	10	6,0	5,0	4,0	5046475
T3-M2000/0001	20	30	135	90	65	10	4,0	3,0	2,0	5046476
T3-M2000/0002	20	30	135	90	65	10	8,0	5,0	-	5046477
T3-M2500/0001	25	35	140	100	70	10	4,0	3,0	2,0	5046478
T3-M2500/0002	25	35	140	100	70	10	8,0	5,0	-	5046479
T3-M3200/0001	32	45	150	100	70	10	4,0	3,0	2,0	5046480
T3-M3200/0002	32	45	150	100	70	10	8,0	5,0	-	5046482



T

				
DIN 69893			ANSI B5.50	
HSK-A	HSK-C	HSK-E	HSK-F	CAT
HSK-A32	HSK-C32	HSK-E25	HSK-F40	CAT40 Inch
HSK-A40	HSK-C40	HSK-E32	HSK-F63	CAT40
HSK-A50	HSK-C50	HSK-E40		CAT50 Inch
HSK-A63	HSK-C63	HSK-E50		CAT50
HSK-A80		HSK-E63		
HSK-A100				

TSF

				
DIN 69893			DIN ISO7388 -1	DIN ISO7388 -2
HSK-A	HSK-E	HSK-F	AD	BT
HSK-A63	HSK-E25	HSK-F40	AD40	BT40
	HSK-E32			
	HSK-E40			
	HSK-E50			

TER


ER型热胀筒夹 ER Shrink Fit Adaptor
ER
ER11
ER16
ER20
ER25
ER32

T

DIN ISO7388-1		DIN ISO7388-2
AD	ADB	BT
AD30	ADB40	BT30
AD40	ADB50	BT40
		BT50

THD

DIN 69893	DIN ISO7388-1	DIN ISO7388-2	ANSI B5.50
HSK-A	ADB	BT	CAT
HSK-A100	ADB50	BT50	CAT 40
HSK-A125			CAT 50

延长杆 Extensions	减震延长杆 Chuck Extensions with Vibration Damping
TSFV	VIDAT
12	20
16	25
20	32
25	
32	

TMQ

DIN 69893
HSK-A
MQ 1
MQ 2



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fair • fast • transparent

- fair assessment of your tool's condition
- you decide whether to go ahead with a repair or renewal after receiving our cost estimate
- if the repair is no longer economical, you will receive a non-binding quote for a new product
- repair and return will be carried out as quickly as possible
- please communicate any special requests to us

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Contact details service:

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