

Kaba机械锁芯 产品概述

Kaba gemini S



系统特点

- 排列于3个不同的行列位置
- 合计16组弹子 (tumbler pins)
- 合计32个弹子(tumbler pins)位置
- 特殊设计的弹子外形，有“防拍功能”，适用于小型至中型的主总匙系统
- 149万亿个独立钥匙
- 369万亿个钥匙组合
- 专利保护直到2009年

Kaba gemini S key

- 标准首盖颜色 - 蓝色



- 圆头版本



Kaba quattro S



系统特点

- 排列于4个不同的行列位置
- 合计22组弹子 (tumbler pins)
- 合计44个弹子(tumbler pins)位置
- 特殊设计的弹子外形，有“防拍功能”
- 适用于大型至复集的主总匙系统
- 超过2兆个独立钥匙
- 超过1千万亿个钥匙组合
- 专利保护直到2009年

Kaba quattro S key

- 标准首盖颜色 - 蓝色



- 大头版本



Kaba quattro pluS



系统特点

- 排列于4个不同的行列位置
- 合计22组弹子 (tumbler pins)
- 合计44个弹子(tumbler pins)位置
- 特殊设计的弹子外形，有“防拍功能”
- 适用于大型至复集的主总匙系统
- 超过2兆个独立钥匙
- 超过1千万亿个钥匙组合
- 专利保护直到2021年

Kaba quattro pluS key

- 标准首盖颜色 - 蓝色



- 大头跟首盖或没有首盖版本



Kaba penta



系统特点

- 排列于5个不同的行列位置
- 合计22组弹子 (tumbler pins)
- 合计85个弹子(tumbler pins)位置
- 特殊设计的弹子外形，有“防拍功能”
- 适用于大型至复集的主总匙系统
- 867兆个独立钥匙
- 31 septillion个钥匙组合
- 专利保护直到2021年

Kaba penta key

- 标准首盖颜色 - 深红色



- 大头跟首盖或没有首盖版本



Kaba机械锁芯 经销商产品概述

供应香港及中国市场

Kaba gemini T

Kaba expert



系统特点

- 排列于3个不同的行列位置
- 合计16组弹子 (tumbler pins)
- 合计32个弹子(tumbler pins)位置
- 特殊设计的弹子外形，有“防拍功能”
- 适用于通匙锁芯系统
- 专利保护直到2009年

系统特点

- 排列于4个不同的行列位置
- 合计22组弹子 (tumbler pins)
- 合计44个弹子(tumbler pins)位置
- 特殊设计的弹子外形，有“防拍功能”
- 适用于大型至复集的主总匙系统
- 专利保护直到2021年

Kaba gemini T key

- 标准首盖颜色 - 蓝色



- 圆头版本



Kaba expertT key

- 标准首盖颜色 - 蓝色



- 大头版本



Kaba机械锁芯 过去的产品概述

Kaba gemini



系统特点

- 排列于3个不同的行列位置
- 合计16组弹子 (tumbler pins)
- 合计32个弹子(tumbler pins)位置
- 不供应于新的系统，只供应锁芯更换或系统伸延

Kaba quattro



系统特点

- 排列于4个不同的行列位置
- 合计22组弹子 (tumbler pins)
- 合计44个弹子(tumbler pins)位置
- 不供应于新的系统，只供应锁芯更换或系统伸延

Kaba gemini key

- 圆头版本



Kaba quattro key

- 圆头版本



系统特点	Kaba gemini T	Kaba expertT
	系统代码 = 9	系统代码 = 5
双面互用式钥匙	是	是
安全级别	是	是
专利保护	AT 396.502 ¹⁾ 2009	WO 01/177466 ¹⁾ 2021
独立钥匙数量	--	907 billion
钥匙组合数量	--	76.1 trillion
于主总匙系统的独立钥匙数量	--	最多12870
适用于中型至大型的主总匙系统	--	是
适用于复集的主总匙系统	--	--
行列位置数量	3	4
根据EN1303防盗级别		
防盗级别第6级	是	是
防攻击级别第2级	是	是
根据DIN18252第82级于主总匙系统防盗级别	--	是
根据VdS B级	--	
防钻	--	M105323
防钻及防拉	--	M105324
主总匙系统安全功能	--	M105325
大头钥匙	有	有
钥匙复制只限于由制造商根据匙卡， 顾客签名或密码才可复制	授权经销商	授权经销商
可于其它家具锁配合主总匙系统	是	是
主总匙系统可提供短形锁芯， 基本长度为25/35mm	有	有
可升级至电子主总匙系统	是	是

¹⁾ 专利覆盖欧洲及亚洲

²⁾ 需要另加配件

Kaba gemini S	Kaba quattro S	Kaba quattro pluS	Kaba penta
系统代码 = 2	系统代码 = 4	系统代码 = 7	系统代码 = 6
是	是	是	是
是	是	是	是
AT 396.502 ¹⁾ 2009	AT 396.502 ¹⁾ 2009	WO 01/177466 ¹⁾ 2021	WO 01/177466 ¹⁾ 2021
149 billion 369 billion	> 2 trillion > 1 quadrillion	> 2 trillion > 1 quadrillion	> 500 trillion > 30 septillion
最多87,000	最多12,870	> 30 million	> 50 million
--	--	--	--
--	是	是	是
4	4	4	5
是	是	是	是
是	是	是	是
是	是	是	是
--	M105323	M105323	M105323
--	M105324	M105324	M105324
--	M105325	M105325	M105325
有	有	有	有
是	是	是	是
是	是	是	是
有	有	有	有
是	是	是	是

¹⁾ 专利覆盖欧洲及亚洲

²⁾ 需要另加配件

机械锁芯 一般资料

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Kaba lock cylinders are ergonomically correct reversible key systems. The tumbler pin positions are arranged on each cylinder side in 3, 4 or 5 rows in a radial pattern around the keyway. The cylinder is hereby reliably resistant against picking - even with modern tools.

The additional codes required for master key systems are not achieved by using additional subdivisions of the tumbler pins, which would decrease security considerably, but rather by using a different arrangement of the tumbler pins in the cylinder. Central locks are coded via a special groove on the key. In this way, they are as secure as individual locks.

Kaba profile cylinders are serially equipped with increased drilling protection. All tumbler pins are made from hardened, chemically nickel plated steel. In addition, a 4 mm thick stud bolt made from hardened steel is also integrated into the cylinder body for each cylinder side.

The reversible key is protected against copying to a high degree. The code on factory made keys is not made by drilling but by using a special milling process which conceals the exact position of the code on the key. The key is made from nickel silver and offers high break resistance, the best gliding properties and the lowest wear.

Special labeling on the key and cylinder is possible if desired by the system user. A security card is required to receive duplicate keys (optional with signature and code).

Features of Kaba Master Key Systems

1. Kaba master key systems quattro S, quattro pluS and pentameet all the requirements of **VdS approval for Grade B**. In addition, they also fulfill **DIN 18252** and **European Standard EN 1303 Key Related Security Grade 6** requirements. With additional security elements, they can also meet European Standard **EN 1303 Attack Resistance Grade 2 requirements**.

2. The systems Kaba quattro pluS and penta are suitable for **large master key systems**. For example, there are more than 30 million individual locks possible for a system master key for Kaba quattro pluS and 50 million for Kaba penta.

3. Kaba systems are **ergonomically correct reversible key systems**, i.e. the Kaba reversible key is inserted vertically into the cylinder keyway.

4. Central lock functions for Kaba systems are implemented without a loss of security, i.e. **without additional pin subdivision**.

5. Kaba security master key systems offer maximum customer protection. System keys are **copy-protected** by a technological and patented copy protection process.

A specially designed key tip prevents unauthorized keys from being inserted into the keyway.

Replacement keys are produced without exception at the factory after checking the **security card** and/or code.

6. Kaba keys are manufactured from **wear-resistant nickel silver** and delivered with a colored clip bow (standard: Kaba blue, for penta dark red). An additional 11 colors are also available as an option.

7. Systems have up to **32, 44 and/or 85 tumbler pin positions** per cylinder side. Unlocking security is also increased through the use of special pin shapes. The block lengths of the pin pairs are always the same - this provides the highest security against lock picking.

Each pin pair can be varied at several levels. The pin rows are arranged radially to the cylinder center and are not subjected to any reciprocal variation limitations.

8. Kaba master key systems have a **modular design**. In combination with various lengths of cylinder housings (complete housings), cams and couplings, cylinders previously supplied can be quickly modified with regards to the length and/or function.

The concept of modular inserts also allows the use of other cylinder types such as single cylinders, thumbturn cylinders, furniture cylinders in the modular system.

9. All tumbler pins (in the stator and rotor) are made from hardened, chemically nickel plated steel to achieve **increased drilling protection**. In addition, the fixing area is secured with a 4 mm thick stud bolt made from hardened steel.

10. Increased protection against pulling or ripping out the lock is provided as an option with **VdS approval**. This protection can withstand a force of at least 15 kN for both the cylinder plugs and the cylinder body.

11. As an option, Kaba cylinders in master key systems can also be equipped with a **steel housing and additional special carbide fastening pins** to provide increased protection against drilling, pulling and tearing.

若需要中文翻译，请联系我们。



12. Double cylinders can be supplied optionally as short cylinders with full master key system functionality (basic length 25/35 mm).

13. The system can be used with Euro profile double cylinders with

a) **Priority function**

(the cylinder can also be locked from the outside when a key is inserted in the inside)

b) **Emergency override key function**

(locking out one side is overcome by using an emergency override key) Note: Standard for double cylinders in Europrofile, the emergency override key must be ordered separately.

c) **Cam with 360° freewheel function**

14. The following can also be integrated into the system:

a) **Cam locks** with an installation diameter of 19 mm

b) **Switch/Elevator cylinders** (round cylinders) with an installation diameter of 19 mm

c) **Furniture cylinders** with an installation diameter of 22 mm

d) **Padlocks**

15. Euro profile cylinders are supplied standard with a 2x12 adjustable cam (in 15° increments).

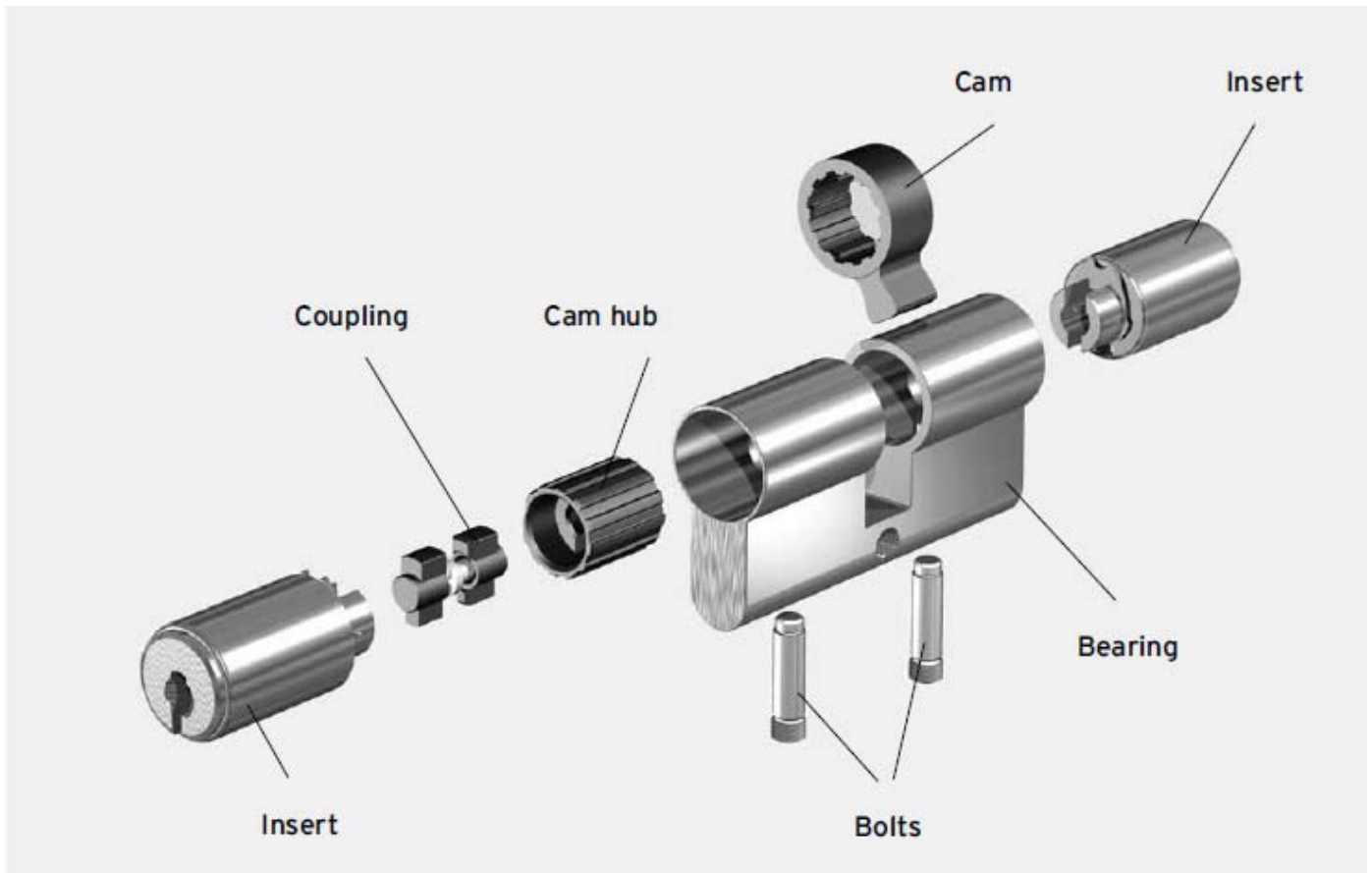
16. If required, mortise lock cylinders in "**Swiss Profile**" (22 mm) for special doors (main entrances, etc.) can be integrated into master key systems with Euro profile cylinders while maintaining all lock functions.

17. Kaba systems can optionally be equipped with a **Duplo function** (the regular key can only be turned so far so that only the lock latch can be activated).

18. The mechanical master key system can also be upgraded with an electronic master key system. The Kaba reversible key can be upgraded with a Legic® transponder without having to change the existing mechanical master key system. Such keys may be used in mechanical, mechatronic and electronic master key systems.

Mechatronic systems, consoles for access control and time attendance can also be integrated into the master key system. We also provide suitable software for access control and time attendance.

19. We also offer an optional master key system management program.



Investment security and upward compatibility - in short, long term use and usability of products once purchased have always been an important issue for - and an substantial differentiating characteristic of Kaba.

Kaba reversible key systems Kaba penta, Kaba quattro pluS, Kaba quattro S, Kaba gemini S, Kaba experT and Kaba gemini T have a module system design that makes it quick and easy to modify cylinder lengths and types.

Existing cylinders can be modified quickly and easily regarding length and/or function in combination with different cylinder bodies (complete housings), couplings and cam hubs. The locking system itself cannot be modified by the dealer. A general 2x12 conversion of the cam is possible.

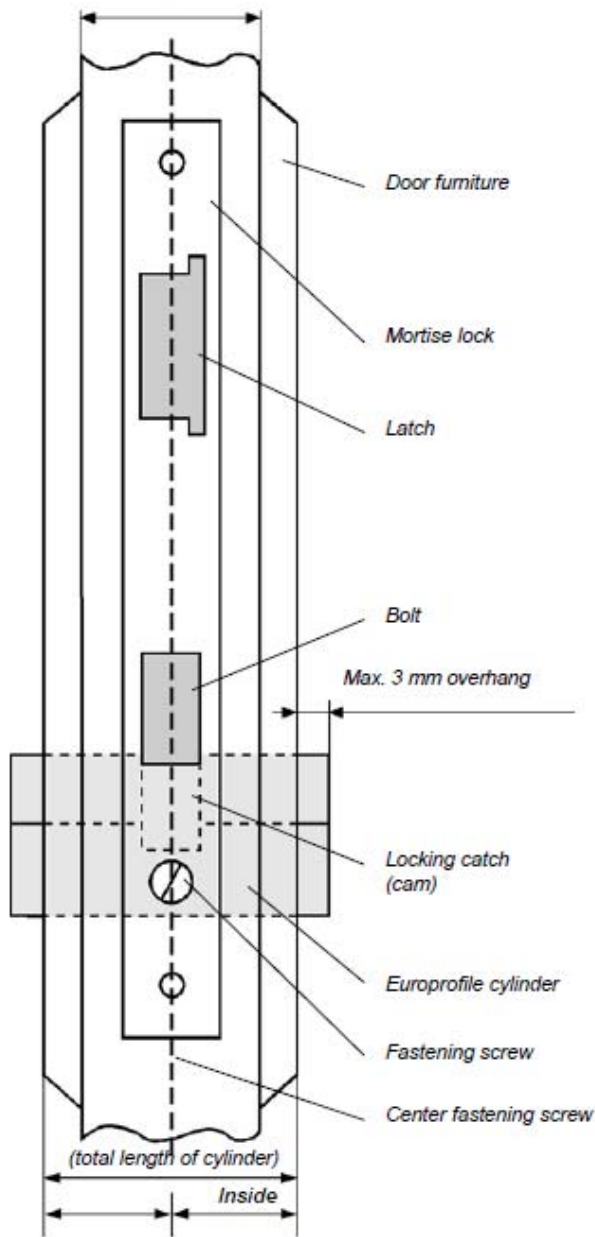
The module insert concept allows the inserts to be used trouble-free in other cylinder types (single cylinders, thumbturn cylinders, rim cylinders, furniture cylinders, padlocks and cam locks).

Kaba modular expands the application area of authorized dealers, especially in the service area. A quick conversion of an existing cylinder and an adjustment to changed customer desires and requirements increases versatility and flexibility.

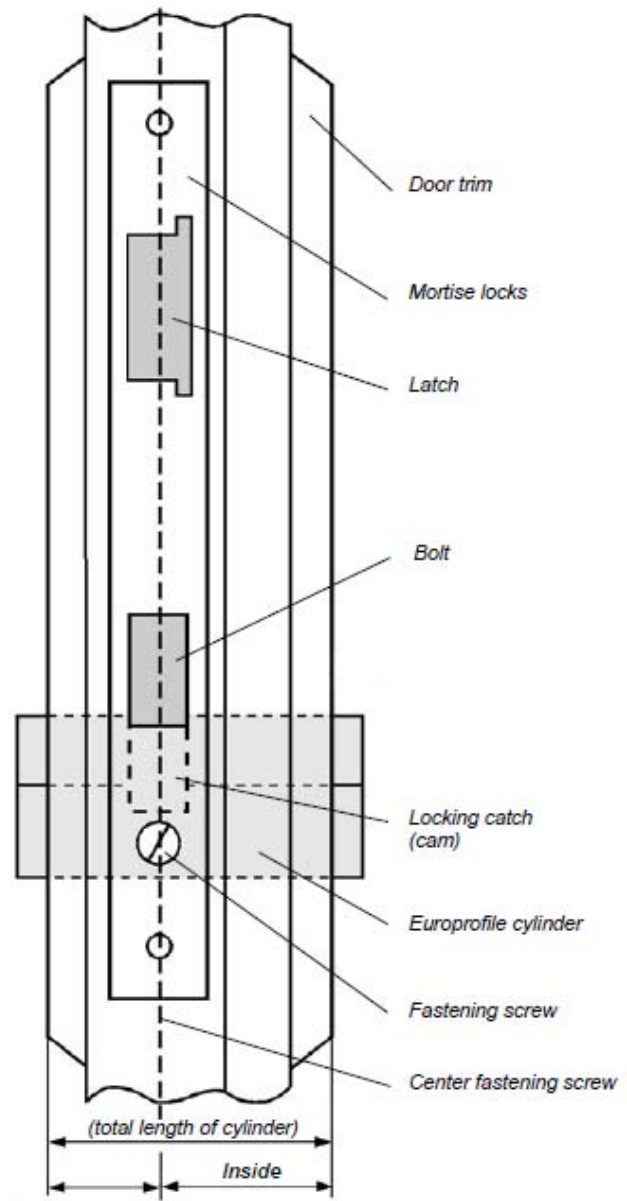
Specially trained and authorized modular dealers have an agreement with Kaba to carry out cylinder conversion. Kaba provides a dealer set to support these dealers (basic equipment of required cylinder parts for length changes and/or other conversions) as well as installation tools.

确定锁芯长度

若需要中文翻译，请联系我们。



Non-rebated door



Rebated door

When determining the required cylinder length, the thickness of the door furniture and/or rosette being used must always be added to the door leaf thickness.

The required cylinder length is determined after inserting the the mortise lock:

1. Outside = distance from cylinder fastening screw to the outside (including door furniture)
2. Inside = distance from cylinder fastening screw to the inside (including door furniture)
3. Select the next larger dimension from the Kaba cylinder list.

请注意下列事项信息是如何订购我们的产品。全部产品订购编号可分类成别以下的代码，包括：
钥匙系统，产品组别，尺寸，特殊功能及表面处理。

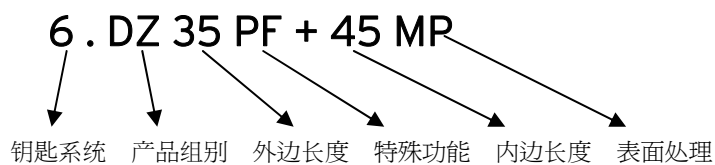
于极端环境下的特殊配置

可购买化学性镀镍表面处理的锁芯及钥匙去面对极端的应用环境。

订购字尾: *.NIC

产品订购例子

双锁芯, Kaba penta钥匙系统，外边长度 (35mm), 内边长度 (45mm) 外边“优先功能” 设置 表面处理为抛光黄铜色。



钥匙系统代码

1	Kaba gemini (只供锁芯更换或系统伸延)
2	Kaba gemini S
3	Kaba quattro (只供锁芯更换或系统伸延)
4	Kaba quattro S
5	Kaba experT
6	Kaba penta
7	Kaba quattro pluS
8	Kaba 8 (只供锁芯更换或系统伸延)
9	Kaba gemini T

产品组别

DZ	欧式双锁芯 (17mm外形)
DZCH	瑞士式双锁芯 (22mm外形)
DZUN	Union式双锁芯 (椭圆形)
ODZ	Oval 式双锁芯 (Scandinavia形)
DKZ	欧式扭手锁芯 (17mm外形)
HZ	欧式单锁芯 (17mm外形)
WC	WC 锁芯
VHZ	挂锁
AZ	防盗门锁芯
IZ	Inside Cylinder
BMZ	信箱锁芯
ZSL	钥匙
EZSL	电子钥匙
FG	窗口扳手
GTS	玻璃门锁芯
MZ	家具锁
MAS	家具锁
MES	家具锁 (Espagnolette)
DRZ	Push Cylinder
ZVZ	中央锁
OL	OLives
ROS	花环
AFZ	升降机锁芯
SZM	电开并器锁芯
SZO	电开并器锁芯
SK	钥匙

特殊功能:

BAZ	施工钥匙功能
DF	"Duplo"功能
PF	优先权功能
ST	钢制锁芯 - 增加防钻保护
LAM	锁芯外壳加 steel shim insert
ZS	防拉保护
FL.360 F	Free Wheel 360°
SSW	防尘盖

表面处理:

NI	纯镍色
CR	标准镀铬色
CRP	抛光镀铬色
CRM	灰暗镀铬色
MS	标准 / 纯黄铜色
MSA	标准红古铜色
MB	Brass, brushed
MG	Brass, varnished
MP	抛光黄铜色
BH	浅啡色
BM	中度啡色
BD	深啡色
NIC	化学性镀镍色
GO	镀金色



NI
纯镍色



CR
标准镀铬色



BM
中度啡色



BH
浅啡色



BD
深啡色



MS
标准 / 纯黄铜色



MP
抛光黄铜色



NIC
化学性镀镍色



CRP
抛光镀铬色

系统特点及标准

若需要中文翻译，请联系我们。



Kaba security cylinders offer a very high degree of security thanks to innovative construction, precise manufacturing methods, high quality raw materials and semi-finished products, and motivated and qualified employees. The standard configurations of the Kaba lock systems gemini S, expert, quattro S, quattro pluS meet the requirements of European Standard EN1303, Key Related Security Grade 6 and with the installation of security door furniture Attack Resistance Grade 2. With additional optional security elements in the the lock cylinder, Kaba lock cylinders also meet the requirements of EN3103 Attack Resistance Grade 2 without door furniture. Kaba lock cylinders are certified according to VdS Grade B for increased drilling and pulling protection, according to DIN18252 with drilling and pulling protection and according to the Dutch Standard SKG with ** and *** stars with and without pulling protection. The following table provides an overview of which cylinder configurations fulfill which standards. Certificate copies can be provided upon request.

Standard	Configuration	Order code	Systems							Equipment					Housing types				
			gemini	gemini S	gemini T	quattro	quattro S	quattro pluS	expert	penta	Hardened tumbler pins	Front hardened insert connecting screw	Back hardened insert connecting screw	Front insert connecting screws with carbide bolts + short hardened insert	Insert with BS (carbide long pins)	Pulling protection pin	Standard housing	Housing with 2 insert connecting holes (on one side)	Housing with 2 insert connecting bores and bore for pulling protection pin (on one side)
Kaba configurations																			
BS1		BS1	o	o	o	o	o	o	o	o	o	o	o	o	o	o			
BS2		BS2+LAM	o	o	o	o	o	o	o	o	o	o	o	o	o	o			o
ZS		ZS.BS1/2	o	o	o	o	o	o	o	o	o	o	o	o	o	o			
Standard-specific configurations with certificate																			
Kaba	Standard		x	x	x	x	x	x	x	x	x	x	x	x	x				
EN 1303	AW2*		x			x	x	x	x	x		x				x			
	AW2	D.LAM	x			x	x	x	x	x	x	x							x
DIN 18252	with BS	D	x			x	x	x	x	x	x	x					x		
	with ZS	ZS.D	x			x	x	x	x	x	x	x		x				x	
VdS	A																		
	B without ZS	V				x	x	x	x	x		x	x	x			x		
	B with ZS	ZS.V				x	x	x	x	x		x	x	x	x			x	
SKG	**		x	x		x	x	x	x		x					x			
	*** without ZS	V				x	x	x	x		x	x	x			x			
	*** with ZS	ZS.V				x	x	x	x		x	x	x	x				x	

* In connection with a pulling protection fixture in the door furniture

o = Kaba Standard, x = Institutional Standard

系统特点 产品订购例子

若需要中文翻译，请联系我们。



If not otherwise stated, all Kaba cylinders are supplied with

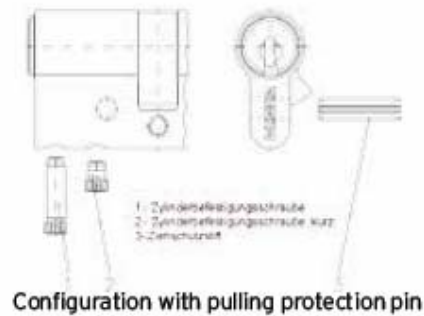
- hardened insert fastening screw(s)
- hardened tumbler pins

Order examples (all double cylinders "DZ"):

6.DZ30+30NI Kaba penta

Order code "ZS" for configuration with pulling protection pin

6.DZ30ZS+30NI Kaba penta with pulling protection on the outside



Configuration with pulling protection pin

Kaba BS1 (drilling protection 1)

For all configurations that are not supplied as per DIN:

- 2 hardened insert fastening screws

Order code "BS1," e.g.

9.DZ30+30BS1.NI Kaba gemini T with drilling protection level 1

9.DZ30ZS.BS1+30.NI Kaba gemini T with BS 1 with pulling protection pin

9.DZ30+30ST.NI Kaba gemini T with BS1 with steel housing

9.DZ30+30LAM.NI Kaba gemini T with BS1 with steel shims



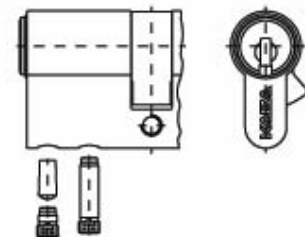
3 steel shims in the housing

Configuration with steel shims

Kaba BS2 (drilling protection 2)

Equipment for all configurations that are not supplied as per VdS:

- Insert with drilling protection using carbide long pins
- 1 Insert fastening screw, long, hardened
- 1 Insert fixing screw short, hardened with 1 carbide bolt
- Housing (also ST or LAM) with 2 insert fastening bolt holes



Drilling protection 2 configuration

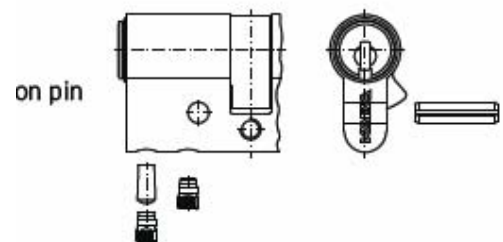
Order code "BS2," e.g.

2.DZ30BS2+30NI Kaba gemini S in BS2 configuration

2.DZ30ZS.BS2+30NI Kaba gemini S in BS2 configuration with pulling protection pin

2.DZ30BS2+30ST.NI Kaba gemini S in BS2 configuration with steel housing

2.DZ30BS2+30LAM.NI Kaba gemini S in BS2 configuration with steel shims



Drilling protection 2 with pulling protection pin

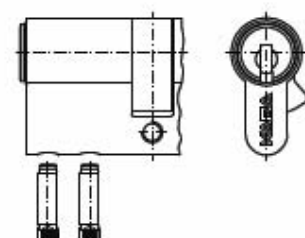
Kaba cylinders as per DIN 18252 contain:

- 2 hardened insert fastening screws

Order code "D," e.g.

6.DZ30D+30NI Kaba penta in DIN 18252 configuration

6.DZ30ZS.D+30NI Kaba penta in DIN 18252 configuration with pulling protection pin



DIN cylinder without pulling protection pin

系统特点

产品订购例子

若需要中文翻译，请联系我们。

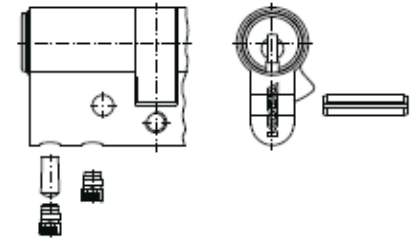
KABA®

Kaba cylinders as per VdS Grade B contain

- Insert outside with drilling protection using carbide long pins
- 1 long, hardened insert fastening screw
- 1 short, hardened insert fastening screw and 1 carbide bolt
- Housing with two insert connecting holes

Order code "V," e.g.

- | | |
|-----------------|---|
| 6.DZ30V+30NI | Kaba penta, VdS configuration |
| 6.DZ30ZS.V+30NI | Kaba penta, VdS configuration with pulling protection pin |



VdS cylinder with pulling protection pin

Kaba cylinders as per EN1303 Attack Resistance Grade 2 contain:

- Insert outside with drilling protection using carbide long pins
- 1 long, hardened insert fastening screw
- 1 short, hardened insert fastening screw and 1 carbide bolt
- Housing with two insert fastenting holes

Order code examples

- | | |
|------------------|--|
| 6.DZ30ZS.D+30NI | Kaba penta as per EN 1303 Grade 6/2 with pulling protection pin |
| 6.DZ30D.LAM+30NI | Kaba penta as per EN 1303 Grade 6/2 with steel shim inserts in the housing |

General Notes

Please note the following information about lock cylinders. Non-adherence may relieve Kaba GmbH from regress claims.

1 Product information and use according to the intended purpose

A lock cylinder is in the sense of this definition a component, that in general can be installed exchangeably in door locks, door furniture, apparatuses or doors prepared herefor or in other related product types. Other lock cylinder styles shall be handled accordingly. The proper operation of the lock cylinders is performed with its respective keys.

1.1 Lock cylinders can then be installed without reserve in locks, door furniture, apparatuses, etc. if they have been expressly arranged for the respective lock cylinder. In other cases the manufacturer, dealer, installer or user of such locks, door furniture, apparatuses etc must themselves be sure for himself that the selected lock cylinder is suitable for application. For example, in prison cells only thumbturn cylinders may be installed. Mandatory legal regulations must also be adhered to. (e.g. emergency exits, elevators).

1.2 Lock cylinders, that may be subject to force, may not protrude more than 3 mm above the door furniture. The degree of burglary resistant measures is according to the demands required (see e.g. the requirements of burglary resistant door elements according to VST/BVD).

1.3 The installation of lock cylinders must be executed in such a manner, that when the key has been properly removed from the cylinder that no external force can be transferred to the cam or in the turning direction of the locking bar.

1.4 For humid or refrigerated rooms, outside use, use in marine environments or for use environs with aggressive, corrosion agents, the lock cylinders must be specified in the appropriate special configuration. Electronic or mechatronic products may only be used in such environments in consent with the manufacturer. The same applies for lock cylinders that are heavily exposed to dust. In such cases weather protective rosettes shall be used.

1.5 Usually a double cylinder with two locking sides can not be operated if a key has been inserted into the other side of the lock cylinder. If this should be possible, select a lock cylinder with the respective function.

1.6 For correct use of the key, apply force to key only when it has been completely inserted into the keyway and has reached the stop.

1.7 Lock cylinders and keys form a functional unit. We can only hold our liability for our original products only.

1.8. Replacement keys for lock cylinders must be checked for correct function in the respective lock cylinder immediately upon receipt.

2 Misuse

Misuse - incorrect product use of lock cylinders or keys occurs when:

2.1 tools such as nails, pliers, or others are used on the key bow to increase torque.

2.2 the key is used as a lever handle to open a door. The key is not suited to use in place door furniture (knob, lever handle, rigid handle etc.)

2.3 the lock cylinder is operated with falsified, bent, damaged or badly worn key.

2.4 it has been attempted to unlock the cylinder with picking tools, other objects or unauthorized duplicate keys

2.5 if foreign are objects are found in the keyway or on the key or if the maintenance guidelines have not been followed.

3. Product performance as far as the performance has not been specified in our catalogues, brochures and technical descriptions, must be specified for the individual lock cylinders and approved by Kaba. The life cycle (security and function) of a lock cylinder is about 10-15 years, depending on the application frequency of use. The cylinder are tested to 50,000 locking cycles minimum. The corresponds to about 10-15 locking cycles per day for the duration of 15 years. It is however possible that a lock cylinder can become defective after a short period of time if it is not operated and maintained properly. Lock cylinders and keys must be replaced, especially if the key cannot be freely inserted and retracted, in spite of correct maintenance. Batteries used in Kaba products are subject to the specification of the respective manufacturer. No guarantee can be provided for such products.

4 Preventive maintenance of lock cylinders should be carried out once a year - depending on usage also more often - using our recommended cleaning agent. Principally lock cylinders may never be treated with resinated substances (e.g. oil). Cleaning agents may only be used that contain no corrosion causing ingredients.

5 Information and instructions about the fulfillment of the information and instruction obligations and services are available for licensees, locksmiths, architects, planners, advisory institutions, contractors or users: Catalogues, brochures, master key plans, instructions for installation, operation and maintenance, factory advise and training for a selection of lock cylinders as well as for installation, operation and maintenance:

5.1 for architects, planners and advisory institutions, all required production information must be requested from us and adhered to.

5.2 for licensees, product information shall be followed and especially all required instructions must be requested from us and be passed on to contractors and users.

5.3 for contractors all product information shall be followed and especially the operation and maintenance manuals shall be requested from us and forwarded to the contracting body and users.

We reserve the right to change or supplement this information at any time.

Subject to change