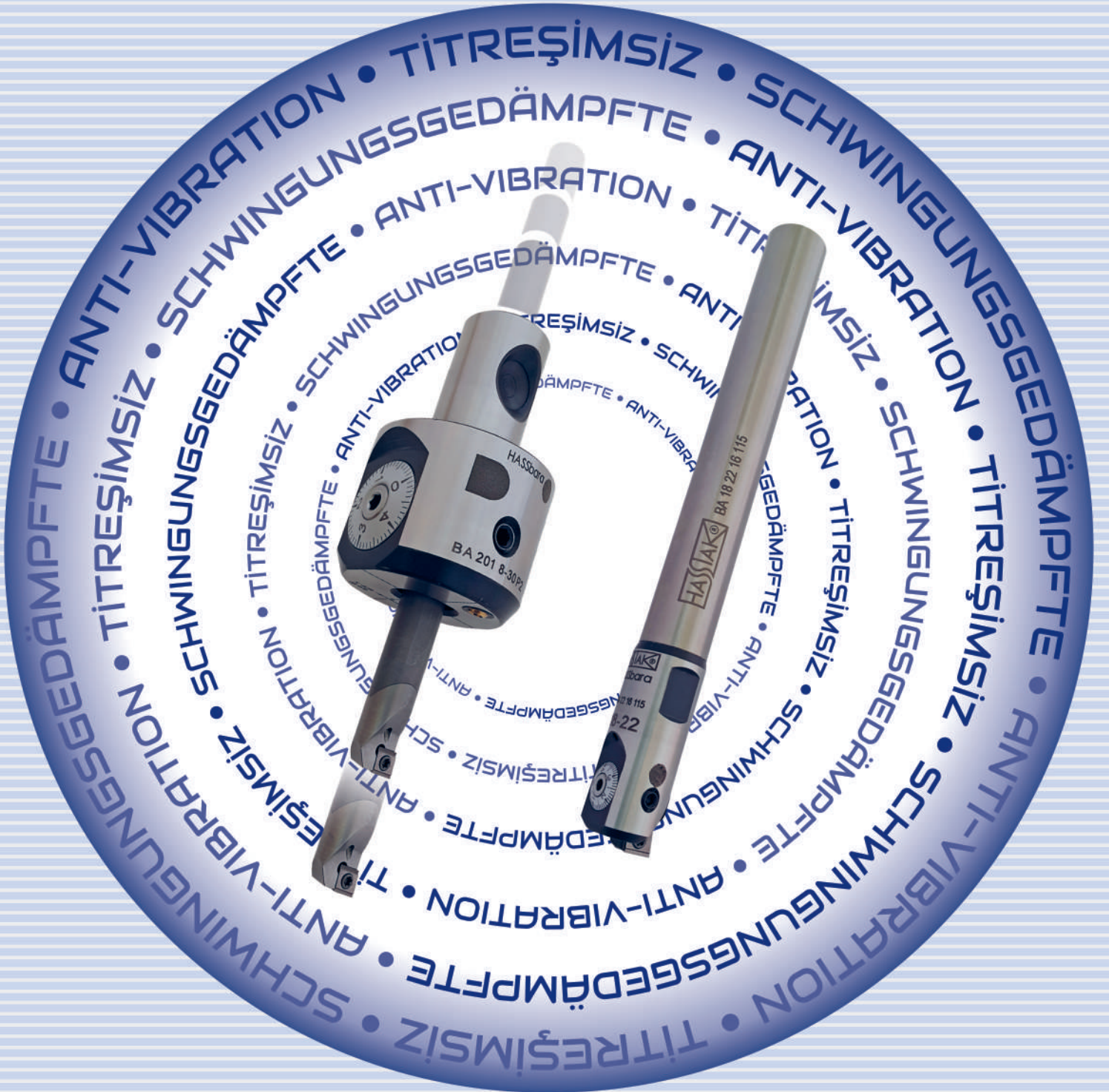


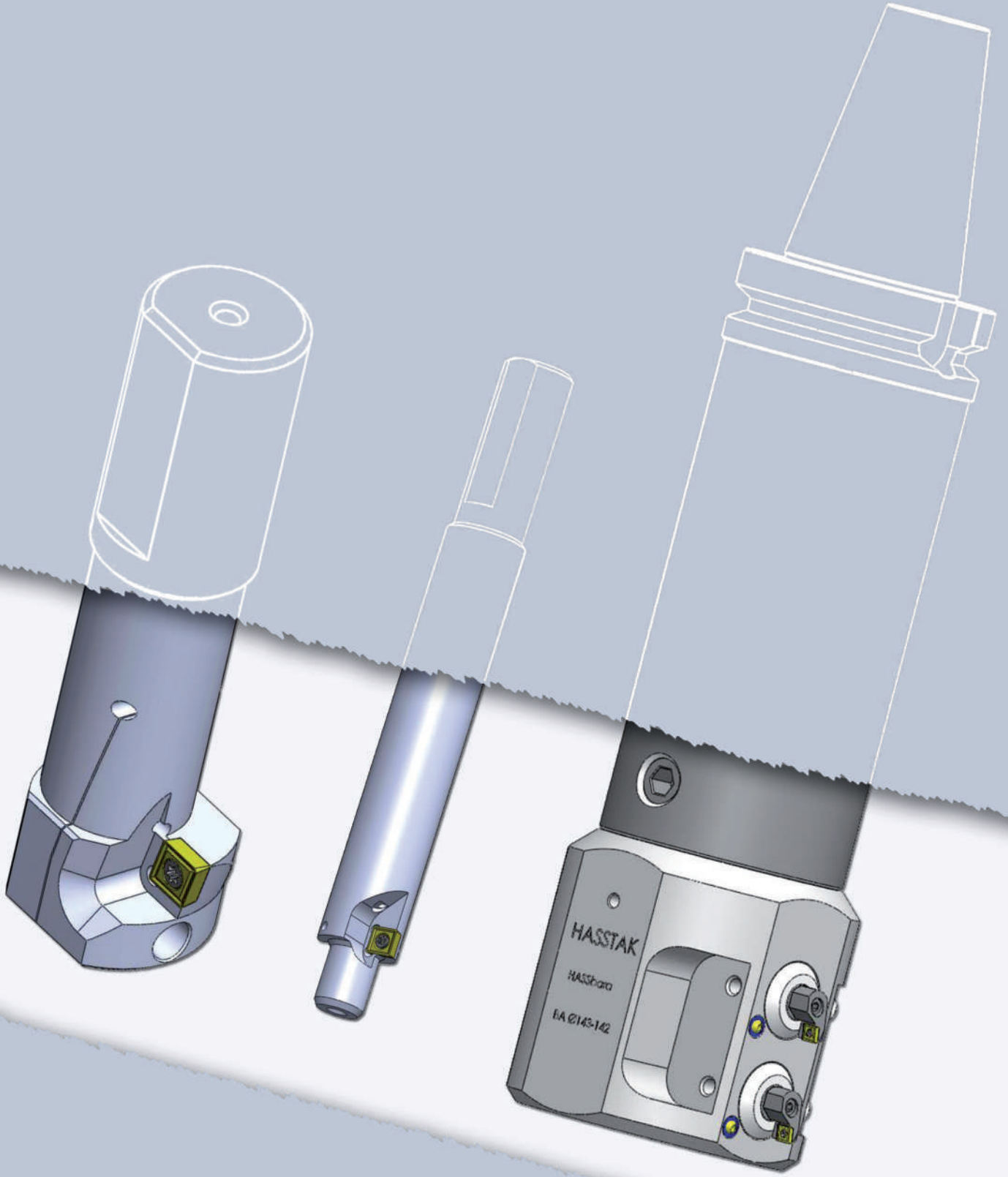
HASSAS MAKİNA TAKIMLARI
PRECISION MACHINE TOOLS

HASSbara[®]

Hassas Delik Baralama Takımları / Precision Boring Tools



2025



- * Bütün ürünlerde özel ölçü takım ihtiyaçlarınız için arayınız.
- * Please contact us for your special tool size requirements for all products.
- * Sonderanfertigung und Größen der Werkzeuge bitte anfragen.
- * Non esitate a cotattarci per utensili co misure speciali.

- * Bu katalogta bulunan fotoğraflar ve teknik özellikler, isteğe bağlı veya bahsedilmeyen ekipmanları gösterebilir. Üretici herhangi ön bildirim ve mecburiyete tabi olmadan değişiklik yapma hakkını saklı tutar.
- * The pictures and technical specifications can show the optional or unmentioned equipments. Manufacturer reserves the right to make changes without pre information and any obligations.
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ŞİRKETİMİZ BAŞARANLAR CNC LTD.

Şirketimiz Başaranlar Talaşlı imalat ve Makina San. Ltd. Şti. Ünvanıyla 1997 senesinde kuruldu. Bu tarihten başlayarak, bünyesinde barındırdığı nitelikli ve tecrübeli çalışanlarıyla, CNC takım tezgahlarında makina imalatçılara, döküm ve otomotiv sanayisine seri metal işleme alanında hizmet sundu. Bu hizmetinin yanısıra 2000 li yıllara HASSTAK markası ile hassas makina takımları imalatını başlatarak adım attı. HASSTAK çatısı altında Türkiyede ilk olarak HASSbara markasıyla Ayarlanabilir Hassas Delik Büyütme Takımlarını, sanayimizin ihtiyaç ve beklentilerini dikkate alarak, makina takımları pazarına sundu.

HASSTAK ailesine kanal freze takımları HASSkanal, ağaç işleme takımları HASSmara da eklenerek ürün yelpazesi genişleyerek devam etmiştir. HASSbara hassas delik baralama takımlarıyla kalıp imalatçılara, seri üretim yapan metal işleme atölyelerine, fabrikaların talaşlı imalat bölümlerine çözüm ortağı olarak hizmet vermekteyiz. Aynı zamanda sanayimizin önde gelen kuruluşlarına ve makina imalatçılara seri metal işleme alanında da talaşlı imalat yapmaya devam etmekteyiz. Bugün gerek metal işleme alanında ve gerekse makina takımları imalatında müşteri memnuniyetini en üst seviyede gerçekleştirmeyi düstur edinmiş yönetici ve çalışanlarıyla şirketimiz dünyaya ve insanlığa sunabileceği hizmetlerinin bulunduğu inancıyla, sorumluluklarının bilinci içinde çalışmalarını sürdürmektedir.

OUR COMPANY BASARANLAR CNC LTD

Our company was founded in 1997 with the firm name of Başaranlar Talasli Imalat ve Makina San. Ltd. Sti. Since from that date, it, thanks to its qualified and experienced staff, has served to machine manufacturers of CNC machine tools, casting and automotive industries in the field of serial metal processing.

In addition to the aforementioned services, it entered the new millennium by manufacturing machine tools under the HASSTAK brand.

Taking the needs and expectations of our industry, it put the HASSbara branded Adjustable Precise Hole Boring Sets on market under the umbrella of HASSTAK for the first time in Turkey. With the inclusion of HASSkanal branded disc mills and HASSmara branded wood working machines in the product range, HASSTAK product family expanded. With our HASSbara bar cutting tools, we serve as a solution partner to die manufacturers, mass-producer metal processing workshops and the machining departments of factories. Besides, we still do machining works of mass metal processing for the leading companies and machine manufacturers of the industry.

Today, with its managers and staff having adopted achieving maximum customer satisfaction as its principle in the fields of both metal processing and machine tools manufacturing, our company carry on its operations being aware of its responsibilities and believing that it has services to provide to the world and to the mankind.

UNSER UNTERNEHMEN BASARANLAR CNC LTD

Unser Unternehmen wurde 1997 unter dem Namen Başaranlar Talasli Imalat ve Makina San. Ltd. Şti. gegründet. Seit der Gründung unserem Unternehmens sind wir als Zulieferer für Automobil und Maschinenindustrie tätig. Ab dem Jahr 2000 haben wir, unter dem Namen HASSTAK unsere Werkzeugfertigung gegründet. Als Unternehmen HASSTAK, haben wir als einziges Unternehmen in der Türkei mit der Fertigung und Entwicklung von Feinspindelwerkzeugen, Scheibenfräsern, Sonderwerkzeugen und Verlängerungen begonnen und beliefern den Markt hier in der Türkei. Wir fertigen Werkzeuge für Form – ,Gesenkbau-und Schreinerindustrien. Ziel unseres Unternehmens ist, unsere Kunden mit hochwertigem und qualitativen Werkzeugen und Produkten Weltweit zu beliefern. Wir sind dabei unser Vertrieb in Richtung EU auszubauen.

ÜRETİM / KALİTE

Başaranlar CNC, 600 m² kapalı alanda, nitelikli ve tecrübeli çalışanlarıyla imalat yapmaktadır. Üretimi için gerek duyduğu teknolojiye sahip olarak bünyesinde bulundurduğu CNC takım tezgahları ve diğer makina tehzizatıyla üretimini gerçekleştirmektedir. Hammadde ve yardımcı hammaddeelerde en kaliteli ürünleri kullanarak, proje ve tasarımdan üretime ve de montaja, hatta satış sonrası hizmetlerine kadar ürünlerinin takipçisi bir kuruluştur. Ar-Ge çalışmalarını çok önemli gören, taklit değil tasarım geliştirip marka olmak için oluşturduğu bir araştırma grubuyla çalışmalarını yürütmektedir. Başaranlar CNC ürünleriyle ve markalarıyla ortaya koyduğu kalitesini, DIN EN ISO 9001-2000 kalite belgesiyle de onaylatmıştı.

PRODUCTION/QUALITY

Basaranlar CNC manufactures with its qualified and experienced staff in a closed area of 600 square meters. Having the required technology for manufacturing, it performs its manufacturing operations by the CNC machine tools and other machine equipment it owns. It uses the most quality products for raw and auxiliary materials and follows up its products from project and design stage to manufacturing and installation and even after-sale services. It attaches a special importance to and carries out R&D studies under the leadership of a research team which it has formed to become a brand by not imitating the other products but developing its own designs. Basaranlar CNC had its quality that it proves by its products and brand certified with DIN EN ISO 9001-2000 quality certificate.

PRODUKTION/QUALITÄT

Unsere Produktionsfläche Basaranlar CNC ist 600 m² groß. Mit einem modernen und guten CNC und konventionellen Maschinenpark fertigen wir unsere Werkzeuge und Produkte selber. Bei uns verwenden wir, für die Fertigung der Werkzeuge und Produkte, hochwertige Werkstoffe und Zukaufteile. Wir betreuen unsere Kunden vom Projekt, Entwicklung bis zum Einsatz der Werkzeuge und Produkte, um qualitativen hohen Ansprüchen gerecht zu werden. Wir arbeiten mit der Ar-Ge Gruppe zusammen, die darauf achtet das nicht Nachbauten sondern Eigenentwicklungen und Fertigungen betrieben werden. Als Basaranlar CNC sind wir nach den Standarts von DIN EN ISO 9001- 2000 zertifiziert.

PRODUCTION/QUALITY

Basaranlar CNC produce con personale qualificato e di grande esperienza in un area coperta di 600 metri quadrati. Possedendo la necessaria tecnologia per produrre svolge le lavorazioni con macchine CNC ed altre attrezzature di sua proprietà. Si utilizzano materie prime e materiali ausiliari di primaria qualità, segue i prodotti dalla progettazione e disegno fino alla fabbricazione ed offre un servizio di installazione e post-vendita. Si attribuisce una particolare importanza al lavoro di ricerca e sviluppo svolto sotto le direttive di un gruppo di ricerca che si è formato con il fine di diventare un marchio, non imitando altri prodotti, ma sviluppando i propri progetti. La qualità di Basaranlar CNC è provata attraverso i suoi prodotti ed il marchio certificato DIN EN ISO 9001-2000



HASSbara® Hassas delik işleme işlemlerinde raybaya göre daha güvenilir, seri, kullanışlı ve performansı yüksek bir çözüm. ISO Standartlarına uygun imal ettiğimiz kater ve kartuş uç yuvaları sayesinde birçok farklı markanın uçlarını kullanma imkanınız vardır. **HASSbara®** delik baralama takımlarının kartuşlarını ters (yukarıya bakacak şekilde) bağladığınızda ters baralama da yapabilirsiniz.*
IT6 tolerans işleme Yüksek yüzey kalitesi Kompakt ve rijid gövde. **HASSbara®** delik büyütme takımlarının çap ayar skalası yardımı ile çapta 0,005~0,01 mm ayar yapabilmek mümkündür.

HASSbara®, a more reliable, efficient and quicker and higher-performance solution for fine boring operations compared to reamers. Thanks to the tool holds and cartridge insert socket we manufacture in compliance with ISO Standards, you can use the inserts of different brands. You can also perform back boring by attaching the cartridges of **HASSbara®** boring tools in reverse direction (to face upwards).*

IT6 tolerance processing High Quality surface, Compact and rigid body. The diameter adjusting scale of **HASSbara®** fine boring tools enable a diameter adjustment by 0,005~0,01mm.

HASSbara® Unser modulares Feinbohrstangensystem ist effektiv und ergonomisch. Wir fertigen nach ISO Standarts, unsere Schnittstellen, Plattenhaltern und Plattensitze. Damit unsere Kunden nicht systemgebunden sind und ISO Schneidstoffe und Aufnahmen verwenden können. Also sind unsere kunden unabhängig von Herstellersystemen. **HASSbara®** Bei unseren Feinbohrstangen, können sie die Plattenhalter wie auf dem Bild (sene rechts), für eine Rückwärtsbearbeitung montieren und verwenden. Bei der Rückwärtsbearbeitung ist zu beachten, dass das Werkzeug gegen den Uhrzeigersinn gelaufen lassen muss/oder laufen muss. Die Fertigung mit der IT6 Toleranz unserer Werkzeuge führt zu einer hohen Genauigkeit. **HASSbara®** Die Skala der Feineinstellung unserer Werkzeuge, hat eine Genauigkeit von 0,005~0,01 mm im Durchmesser.

HASSbara® è una soluzione per lavorazioni di barenatura fine più affidabile, efficiente, veloce e con prestazioni più elevate paragonato agli alesatori Grazie al portautensile ed alla cartuccia porta inserto costruite in conformità con gli standard ISO, potete utilizzare inserti ISO standard di marchi differenti. Potete anche effettuare lavorazioni di retro-barenatura installando le cartucce **HASSbara®** in posizione rovesciata.*

Lavorazione con Tolleranza IT6, superficie di alta qualità, Corpo rigido. Il nonio degli utensili per barenatura fine **Hassbara®** consente una regolazione sul diametro di 0.005~0.01mm.

* Ters baralama(back boring) yaparken iş mili saat yönünün tersine(CCW)dönmelidir.

* While back boring, the spindle should rotate counter-clockwise (CCW).

* Bei rückwärtsbearbeitungen ist darauf zu achten, das die spindeldrehrichtung im uhrzeigersinn ist.

* Nelle lavorazioni di retro barenatura il mandrino dovrebbe ruotare in senso antiorario.





- * İçten soğutma sıvısı temini
- * With inner coolant supply
- * Mit Innenkühlung

İNCE TALAŞ İŞLEMLERİNDE DİKKAT EDİLECEK HUSUSLAR

- HASSbara® ince talaş işlemlerinde gerekli yüzey kalitesi için seçilecek ucun köşe radyusu büyük önem arzeder.
- Silicili bir uç geometrisi yüksek bir ilerleme imkanı verebilir. Fakat aynı zamanda daha fazla radyal kuvvetlere maruz kalacağı için titreşim olasılığı artar. Bu sebeple kesici uç geometrisi ve uç radyusu dikkatli seçilmelidir.
- Genellikle bu seçimde küçük uç radyusu 0,2 mm kullanılmalıdır. 0,4 mm radyusun üzerine çıkılmamalıdır. Talaş derinliği ap: 0,03~ 0,3 mm arası olabilir.

POINTS TO CONSIDER IN FINE CHIP OPERATIONS

- The corner radius of the selected insert is of vital importance for the desired surface quality in HASSbara® fine chip operations.
- A wiper insert geometry may ensure a high driving potential. At the same time, however, the vibration potential will increase as well, since it will be exposed to more of radial forces. Therefore, the cutter insert geometry and insert radius should be carefully selected.
- Generally, 0,2 mm of small insert radius should be selected. 0,4 mm radius should not be exceeded.

BEIM FEINSPINDELN ZU BEACHTENDE HINWEISE

- HASSbara® Um eine gute und genaue Oberfläche der zu bearbeitenden Bohrung erreichen zu können, ist die Auswahl des Eckenradius einer Wendeschneidplatte wichtig.
- Ist der Eckenradius z. B. zu groß, neigt das Werkzeug bei Überlänge zu schwingen.
- Daher empfehlen wir Eckenradien von 0,2mm bis max 0,4mm und ein ap: von 0,03mm bis 0,3mm.

CONSIDERAZIONI NELLE LAVORAZIONI DI FINITURA

- Il raggio dell'inserto utilizzato è di vitale importanza per l'ottenimento della finitura desiderata nelle lavorazioni di finitura con HASSbara®
- La scelta di inserti con raggio grande assicura una buona guida, allo stesso tempo tuttavia possono aumentare le vibrazioni dovute al maggiore sforzo radiale, quindi è necessario prestare molta attenzione alla geometria dell'inserto.
- Generalmente dovrebbe essere scelto un insert con raggio 0,2mm, non dovrebbe essere superato il raggio 0.4mm

HASSbara PERFORMANS

PERFORMANS SET Ø 8-170



H101P BA 8-170P Ø 8-170 mm

PERFORMANS SET Ø 8-30



H121P BA 8-30P Ø 8-30 mm

S./P.12-13-14

PERFORMANS SET Ø 29-40



H131P BA 29-40P Ø 29-40 mm

S./P.18

PERFORMANS SET Ø 39-54



H141P BA 39-54P Ø 39-54 mm

S./P.19

PERFORMANS SET Ø 52-80



H151P BA 52-80P Ø 52-80 mm

S./P.20

PERFORMANS SET Ø 78-170



H161P BA 78-170P Ø 78-170 mm

S./P.21

- * Bütün ürünlerde özel ölçü takım ihtiyaçlarınız için arayınız.
- * Please contact us for your special tool size requirements for all products.
- * Sonderanfertigung und Größen der Werkzeuge bitte anfragen.
- * Non esitate a cotattarci per utensili co misure speciali.

EKONOMİ SET Ø 8-170



H201E BA 8-170E Ø 8-170 mm

S./P.30-31-32

EKONOMİ SET Ø 8-250



H203E BT40 8-250E Ø 8-250 mm

S./P.30-31-32

ALU-LINE Ø 78-446 mm



S./P.23



S./P.22

ANTI-VIBRATION TOOL Ø 18-29



BA18-22 BA22-29 Ø 18-29 mm

S./P.16-17



ANTI-VIBRATION TOOL Ø 26-40



BA 26-33 BA 33-40 Ø 26-40 mm

S./P.16-17

- Kompakt gövde tasarımı ile yüksek yüzey kalitesi ve IT6 toleranslarında hassas delik işlemi yapılabilir.
- Takımların tüm yedek parçaları stoklarımızda mevcuttur.
- Compact body desing enables a high surface quality at IT6 tolerances.
- All spare parts of the tools are available in our stock.
- Alle Spindelwerkzeuge und Ersatzteile sind Lagerartikel.
- Sonderanfertigungen und Größen der Werkzeuge bitte anfragen.
- Il corpo compatto consente di ottenere una elevata qualità superficiale e tolleranza IT6
- Tutti i ricambi degli utensili sono disponibili a magazzino

EKSANTRİK ADAPTÖR / ECCENTRIC SLEEVE EXCENTER BÜCHSEN / MANICOTTI ECCENTRIC

- Buçuklu veya ondalıklı U-Drill ihtiyacınıza ekonomik bir alternatif.
- An economic alternative for your half and decimal U-drills.
- Eine effektive und kostengünstige Alternative zur Sonderdurchmessern von Bohren.
- Una alternativa economica per le Vostre punte U-drill decimali.
- $\varnothing 13\sim\varnothing 45$ mm arası delik delebilen U-Drill matkapların çapta (0,25mm) küçülterek veya (+0,5mm) büyüterek delik delebilmesini sağlayan ve ondalıklı ayar yapılabilmesine imkan veren araçtır.
- It allows U-drills capable of drilling $\varnothing 13\sim\varnothing 45$ mm holes to drill by reducing (0,25mm) or increasing (+0,5 mm) the diameter and enables decimal adjustments.
- Für Bohrer ab $\varnothing 13\sim\varnothing 45$ mm geeignet. Mit der Excenterbüchse kann ein Bohrer um 0,25mm kleiner oder um 0,5mm größer im Durchmesser verstellt werden.
- Consente di regolare le punte U-drill $\varnothing 13\sim\varnothing 45$ mm incrementando (+0,5mm) o riducendo (-0,25mm) il diametro di foratura.



EKS 25-20



EKS 32-25



EKS 40-32

S./P.35

MIKROBOR

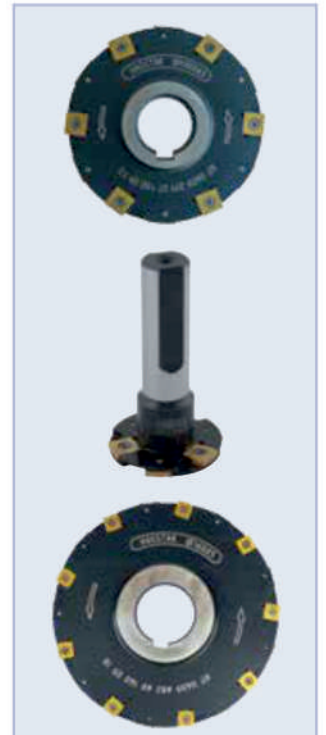
- Özel amaçlı baralama takım imalatında kullanmak için "hassas ayarlı baralama ünitesi"
- Precision boring cartridge "for use in manufacturing special purpose boring tool"
- Feineinstellpatronen für Sonderanfertigungen
- Cartucce di precisione per l'utilizzo in utensili speciali



S./P.45

KANAL FREZE / DISC MILLING W.P.SCHEIBENFRÄSER / FRESE A DISCO

- Derin olsun veya olmasın, uzun ve dar (4mm,5mm,6mm) kanal açma işlemleri için parmak frezeye kıyasla oldukça ekonomik ve seri bir alternatif **HASSkanal**
- **HASSkanal** is fairly economic and quick alternative compared to end mill in grooving operations whether deep, long or narrow (4 mm, 5 mm, 6mm).
- **HASSkanal** Scheibenfräser ab (4 mm bis 12 mm) Breite sind eine sehr gute Auswahl.
- **HASSkanal**, un'alternativa economica e veloce per la fresatura di scanalature sia profonde che lunghe o strette (4 mm, 5 mm, 6mm).
- KF 80-250 KANAL FREZE $\varnothing 80\sim 250$ mm ince kanallarda yüksek performans (4mm,5mm,6mm) dört köşeli kesici uçlarla ekonomik kanal açma uzun ömürlü takım gövdesi.
- KF 80-250 DISC MILLS -High performance in the thin grooves of (4 mm, 5 mm, 6 mm) Economic boring thanks to the square cutting inserts, long-lived tool body.
- KF 80-250 Scheibenfräser gibt es bei uns von D=80mm bis D=250mm
- Soluzione veloce ed economica nei lavori di scanalatura profondo o di lunghi tratti (L. 4, 5, 6 mm)



S./P.46-47

HASSbara ALUMİNYUM GÖVDE ALUMINIUM BODY / ALUMINIUMBRÜCKE

HASSMULTİBOR KABA ve İNCE DELİK
BARALAMA TAKIMLARI Ø150 - 1320
ROUGH AND FINE BORING TOOLS
SCHRUPP-UND SCHLICHTBOHRSTANGEN

- Alüminyum gövde yapısı
- Standart tutuculara monte edilebilir DIN6357
- İçten soğutma sıvısı temini
- Balans dengeleyici sistem
- Kullanım kolaylığı
- Aluminium body
- Mountable to standart tool holders DIN6357
- With inner coolant supply
- The system can be balanced
- Easy to use

- Aluminiumbrücken
- Kann auf Standardaufnahmen montiert werden DIN6357
- Mit Innenkühlung
- System mit Auswucht möglichkeit
- Einfache Bedienung

MATKAP ve KLAUVUZ UZATMALARI DRILL and TAPPING EXTENSIONS BOHRER und GEWINDEBOHRER VERLANGERUNG HALTER

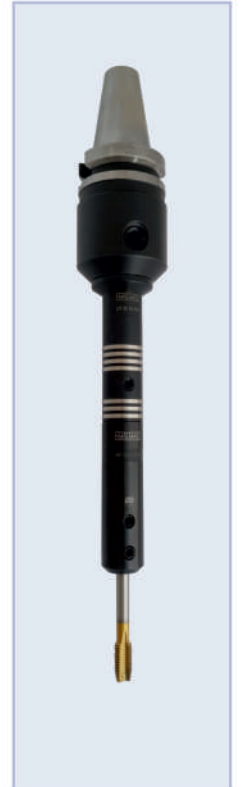
- Matkap uzatmaları
- Standart veldon modüler sistem
- Standart veldon tutucular ile kullanılır
- Derin yerlerde kısa delikler için, uzun HSS matkaplara farklı bir alternatif
- Montaj edilirken alından çekerek kuvvetli bağlama
- Drill extensions
- Standart veldon modular system
- Used with standart veldon holders
- A variant alternative to HSS drills for short holes at deep areas
- Whilst mounting strong binding by pulling the front
- Bohrer Verlängerungen
- Modulares Standart Weldon System
- Kann mit Standart Weldon Systemen verwendet werden
- Bei langer Auskraglänge und kurzen Bohrungen ist es eine gute Alternative zu langen HSS-Spiralbohrern
- Bei der Montage mit einer viertel Umdrehung (montieren/festziehen)



S./P.40-41-42-43



S./P.36



S./P.37

HASSkaba AYARLI KABA BARALAR Ø20-170 / ROUGH BORING TOOLS SCHRUPPBOHRSTANGEN

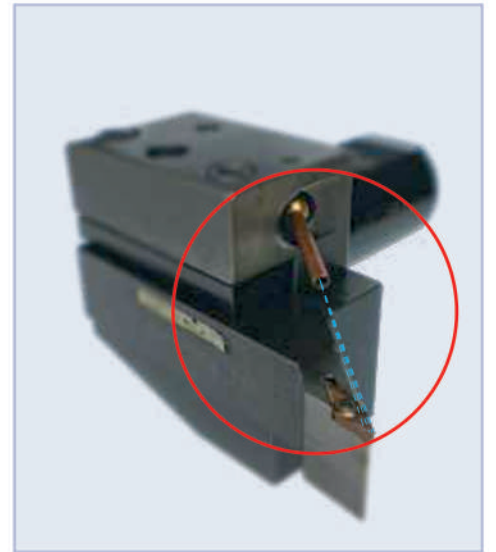
- Ø20 - Ø170mm kaba baralama takımlarımız ile hızlı bir şekilde işleme yapılabilir.
- Takımlarımızın ayarlanması kolaydır.
- Takımlarımızın içten su verme tertibatı vardır.
- Bu sayede kesici ucu soğutma ve talaş uzaklaştırma sorunu oluşturmaz.
- Ø80 mm den sonrası Alüminyum gövdeli, çelik kartuşlu olup hafiftir, tezgahınızı yormaz.
- Kaba bara takımları uzatma takılarak ta kullanılabilir.
- Fast processing with our Ø20 - Ø170mm rough boring tools
- Easy to use our tools
- Inner coolant supply system is included
- Cutting edge cooling and chip removal is not a problem.
- With aluminium body and steel cartridge above Ø80 mm, it is light and will not tire your CNC machine
- Rough boring bars can be used with extensions.
- D=20m – D=170mm Spindel Werkzeuge (Schrupp).
- Werkzeuge sind einstellbar.
- Werkzeuge haben Innenkühlung.
- Ab D=80mm gibt es Alu Träger mit Stahl Plattenhalter, was zur Gewicht – Einsparung führt
- Diese Spindel – Werkzeuge (Schrupp) haben eine Weldon Aufnahme als Schnittstelle, was von hohem Vorteil für Kunden ist, aufgrund der Flexibilität.
- Schruppbohrstangen können mit Verlängerungen bei Bedarf verlängert werden.



S./P.38-39

SU VERME MİSKETLERİ / BALL COOLANT NOZZLES / KUGELSPRITZDÜSE

- Küre mafsalsı şeklinde hareket edebilir ve ucuna bakır boru takılabilir.
- Sphere can act as joint and copper pipes can be mounted to the tip.
- Der Kugel kann wie ein Gelenk sich bewegen und es kein ein Kupferrohr an die Spitze montiert werden.



S./P.45

• HASSBARA TAKIMLARININ VELDON TUTUCULARA BAĞLANMASI • HOLDING OF HASSBARA TOOLS BY WELDON TOOL HOLDERS • HASSBARA HALTERSISTEME SIND WELDON SYSTEME



Hassbara takımları, özel tutucuya ihtiyaç olmadan her atölyede bulunabilen veya düşük maliyetli ve genel amaçlı kullanılabilen standart veldon tutuculara bağlanabilecek şekilde tasarlanmıştır. Hassbara takımının sapındaki konik yuva, veldon tutucunun civatasına denk gelecek şekilde yerleştirilir. Civata sıkıldığında takım sapı karşı yöne yaslanır. Saptaki konik yuva, veldon civatası merkezinden bir miktar aşağıda olduğundan, aynı zamanda yukarıya doğru çektirilir. Alın yüzeyler kenetlenmiş olur.

Bu sabitleme yöntemi aşağıda gösterilmiştir.

Hassbara tools are designed so that they can be hold, without any special tool holders, by the standard veldon tool holders which may be found in every workshop or used for general purpose despite their low costs. The conical socket on the handle of Hassbara tool is inserted so that it isfit into the veldon tool holder bolt. When the bolt is screwed, tool handle leans against the opposite wall of the socket. Since the conical socket on the handle is below the center of the veldon bolt, it, at the same time, will be driven up. So, face surfaces will interlock.

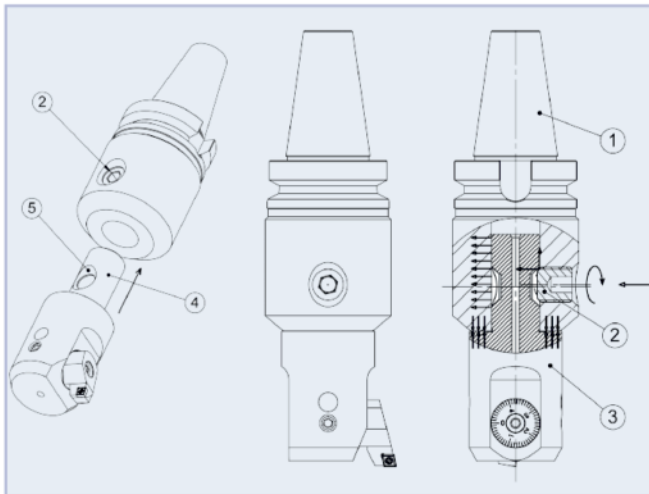
This fixing method is shown below:

Hassbara Halter Systeme sind ISO Weldon Systeme, welche von Vorteil ist. Unser ISO Weldon System sind nicht herstellerepezifisch, so dass NICHT And Ein Hersteller oder Lieferant gebunden ist. Der Kunde braucht keine teuren Schnittstellen, zwischen verschiedenen Lieferanten, dass führt zu einer hohen Flexibilität der Werkzeugen von Hasstak.

Spannsystem Weldon:

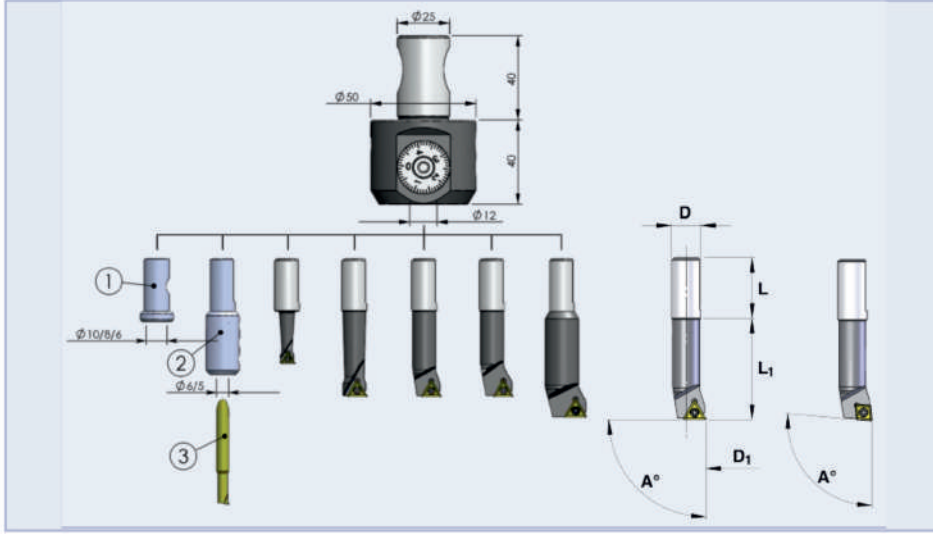
Gli utensili per barenatura HASSbara sono una soluzione affidabile, efficiente e veloce per ottenere fori di precisione. Tutte le cartucce ed i barenì utilizzano inserti ISO standard. Con gli utensili HASSbara si possono eseguire barenature o lamature in trazione montando la cartuccia al contrario (in questo caso il mandrino deve ruotare in senso antiorario) Tolleranza di barenatural IT6, regolazione con salti di 0,005 e 0,01mm La scelta del raggio dell'inserto è determinate per l'ottenimento dei valori di qualità superficiali richiesti, generalmente si utilizza r0.2 max r0.4 Gli utensili HASSbara sono progettati per poter essere utilizzati con normali mandrini standard attacco Weldon.

Il gambo Weldon è configurato per allinearsi perfettamente quando viene serrato al mandrino.




1. STANDART VELDON TUTUCU / STANDARD WELDON TOOL HOLDER
STANDART WELDON HALTER / MANDRINO WELDON STANDARD
2. SETSKUR CIVATA / SETSCREW
KLEMMSCHRAUBE / GRANO DI SERRAGGIO
3. HASSBARA TAKIM GÖVDESİ /
HASSBARA TOOL BODY / HASSBARA
SPINDELWERKZEUG / TESTINA HASSBARA
4. TAKIM SAPI / TOOL SHAFT
WELDON SCHAFT / GAMBO
5. KONİK YUVA / CONICAL SOCKET
KONISCHE SPANNFLÄSCHE /
SVASATURA DI TRAZIONE / ALLINEAMENTO

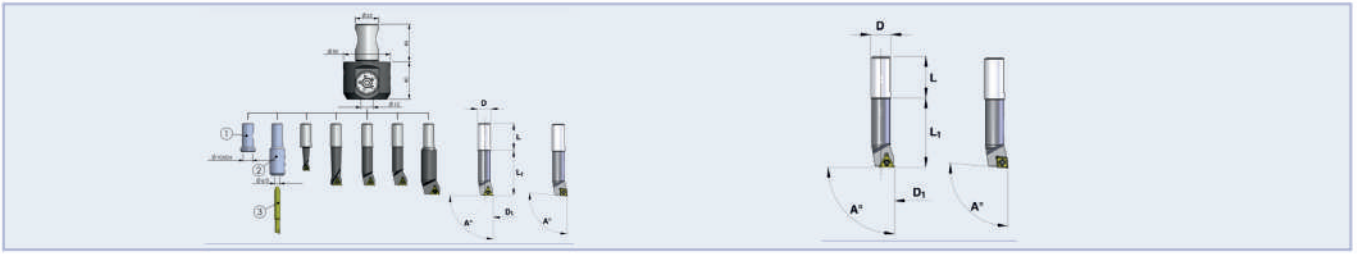
PERFORMANS Ø8~30 P




- HASSbara Ø8-30P takımı ile Ø8mm den küçük delikleri, redüksiyon kullanarak işlemeniz mümkündür. Bunun için Sayfa 14 teki redüksiyonlar ile birlikte karbür 'PİKO' delik katerlerini kullanabilirsiniz.
- With the HASSbara Ø8-30P tool, you can machine holes smaller than Ø8mm using reductions. For this, you can use carbide mikro boring bars together with the reductions on Page 14.
- Mit dem HASSbara Ø8-30P Werkzeug ist es möglich, Löcher kleiner als Ø8mm unter Verwendung von Reduzierungen zu bearbeiten. Hierfür können Sie die Hartmetall-Mikrobohrstangen zusammen mit den auf Seite 14 aufgeführten Reduzierungen verwenden.



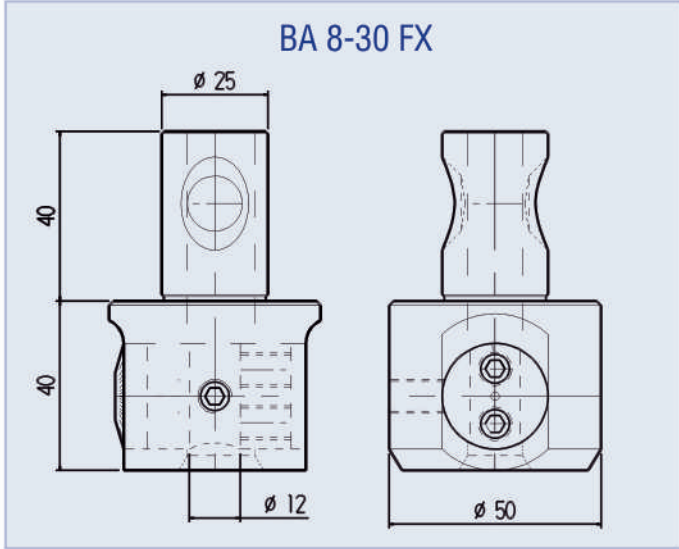
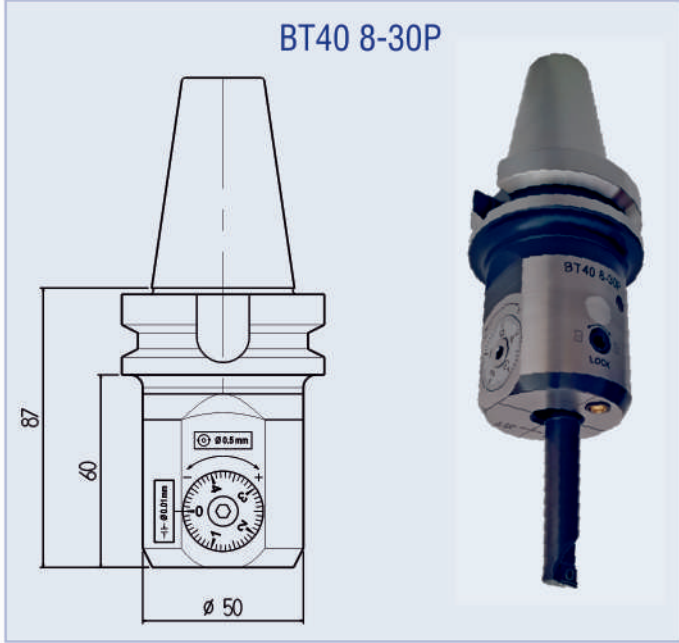
Kod No / Stock No Bestellnummer / Cod.	Kod / Code Bezeichnung / Articolo	Ø D1 (min-max)	D	L	L1	Uç/Insert W.P. Inserto	A		Torks Torx
H121P	BA 8-30P SET	8-30							
H122P	BA 201 8-30P GÖVDE	8-30							
H1221K	BA 201 K 8-14 25 TC06 90	8-14	12	25	25	TC..06	90°	M2	T06
H1231K	BA 201 K 12-18 40 TC09 90	12-18	12	25	40	TC..09	90°	M2,2	T07
H1241K	BA 201 K 16-22 40 TC09 90	16-22	12	25	40	TC..09	90°	M2,2	T07
H1251K	BA 201 K 20-26 40 TC09 90	20-26	12	25	40	TC..09	90°	M2,2	T07
H1261K	BA 201 K 24-30 50 TC11 90	24-30	12	25	50	TC..11	90°	M2,5	T08
H1222K	BA 201 K 8-14 30 CC06 95	8-14	12	25	30	CC..06	95°	M2,5	T08
H1202K	BA 201 K 8-14 35 CC06 95	8-14	12	25	35	CC..06	95°	M2,5	T08
H1232K	BA 201 K 12-18 40 CC06 95	12-18	12	25	40	CC..06	95°	M2,5	T08
H1242K	BA 201 K 16-22 40 CC06 95	16-22	12	25	40	CC..06	95°	M2,5	T08
H1252K	BA 201 K 20-26 40 CC06 95	20-26	12	25	40	CC..06	95°	M2,5	T08
H1262K	BA 201 K 24-30 50 CC06 95	24-30	12	25	50	CC..06	95°	M2,5	T08
H1234K	BA 201 K 12-18 40 TP09 90	12-18	12	25	40	TP..09	90°	M2,5	T08
H1246K	BA 201 K 16-22 40 TP09 90	16-22	12	25	40	TP..09	90°	M2,5	T08
H1299K	BA 201 K 20-26 40 TP09 90	20-26	12	25	40	TP..09	90°	M2,5	T08
H1270K	BA 201 K 24-30 40 TP09 90	24-30	12	25	50	TP..09	90°	M2,5	T08



Ø8~30 UZUN KATERLER / LONG BORING BARS / LANGE HALTER

Kod No / Stock No Bestellnummer / Cod.	Kod / Code Bezeichnung / Articolo	Ø D1 (min-max)	D	L	L1	Uç/Insert W.P. Inserto	A°		Torks Torx
H1223K	BA 201 K 10-16 40 CC06 95	10-16	12	25	40	CC..06	95°	M2,5	T08
H1233K	BA 201 K 12-18 50 CC06 95	12-18	12	25	50	CC..06	95°	M2,5	T08
H1203K	BA 201 K 12-18 60 CC06 95	12-18	12	25	60	CC..06	95°	M2,5	T08
H1243K	BA 201 K 16-22 50 CC06 95	16-22	12	25	50	CC..06	95°	M2,5	T08
H1244K	BA 201 K 16-22 60 CC06 95	16-22	12	25	60	CC..06	95°	M2,5	T08
H1245K	BA 201 K 16-22 70 CC06 95	16-22	12	25	70	CC..06	95°	M2,5	T08
H1253K	BA 201 K 20-26 50 CC06 95	20-26	12	25	50	CC..06	95°	M2,5	T08
H1256K	BA 201 K 20-26 50 CC06 90	20-26	12	25	50	CC..06	90°	M2,5	T08
H1257K	BA 201 K 20-26 60 CC06 90	20-26	12	25	60	CC..06	90°	M2,5	T08
H1254K	BA 201 K20-26 60 CC06 95	20-26	12	25	60	CC..06	95°	M2,5	T08
H1258K	BA 201 K 20-26 70 CC06 90	20-26	12	25	70	CC..06	90°	M2,5	T08
H1255K	BA 201 K 20-26 70 CC06 95	20-26	12	25	70	CC..06	95°	M2,5	T08
H1263K	BA 201 K 24-30 60 CC06 95	24-30	12	25	60	CC..06	95°	M2,5	T08
H1264K	BA 201 K 24-30 70 CC06 95	24-30	12	25	70	CC..06	95°	M2,5	T08
H1225K	BA 201 K 10-16 40 TC09 93	10-16	12	25	40	TC..09	93°	M2,2	T07
H1307K	BA 201 K 16-22 60 TC09 93	16-22	12	25	60	TC..09	93°	M2,2	T07
H1308K	BA 201 K 16-22 70 TC09 93	16-22	12	25	70	TC..09	93°	M2,2	T07
H1266K	BA 201 K 20-26 50 TC09 93	20-26	12	25	50	TC..09	93°	M2,2	T07
H1259K	BA 201 K 20-26 50 TC09 90	20-26	12	25	50	TC..09	90°	M2,2	T07
H1260K	BA 201 K 20-26 60 TC09 90	20-26	12	25	60	TC..09	90°	M2,2	T07
H1267K	BA 201 K 20-26 60 TC09 93	20-26	12	25	60	TC..09	93°	M2,2	T07
H1265K	BA 201 K 20-26 70 TC09 90	20-26	12	40	70	TC..09	90°	M2,2	T07
H1268K	BA 201 K 20-26 70 TC09 93	20-26	12	25	70	TC..09	93°	M2,2	T07
H1309K	BA 201 K 24-30 60 TC11 90	24-30	12	25	60	TC..11	90°	M2,5	T08
H1310K	BA 201 K 24-30 60 TC11 93	24-30	12	25	60	TC..11	93°	M2,6	T09
H1269K	BA 201 K 24-30 70 TC11 90	24-30	12	25	70	TC..11	90°	M2,7	T10
H1305K	BA 201 K 10-16 40 TP09 93	10-16	12	25	40	TP..09	93°	M2,5	T08
H1235K	BA 201 K 12-18 50 TP09 95	12-18	12	25	50	TP..09	95°	M2,5	T08
H1250K	BA 201 K 16-22 70 TP09 95	16-22	12	25	70	TP..09	95°	M2,5	T08
H1247K	BA 201 K 16-22 40 TP09 95	16-22	12	25	40	TP..09	95°	M2,5	T08
H1248K	BA 201 K 16-22 50 TP09 95	16-22	12	25	50	TP..09	95°	M2,5	T08
H1249K	BA 201 K 16-22 60 TP09 95	16-22	12	25	60	TP..09	95°	M2,5	T08
H1301K	BA 201 K 20-26 50 TP09 90	20-26	12	25	50	TP..09	90°	M2,5	T08
H1277K	BA 201 K 20-26 40 TP09 95	20-26	12	25	40	TP..09	95°	M2,5	T08
H1304K	BA 201 K 20-26 50 TP09 93	20-26	12	25	50	TP..09	93°	M2,5	T08
H1280K	BA 201 K 20-26 50 TP09 95	20-26	12	25	50	TP..09	95°	M2,5	T08
H1302K	BA 201 K 20-26 60 TP09 90	20-26	12	25	60	TP..09	90°	M2,5	T08
H1275K	BA 201 K 20-26 60 TP09 93	20-26	12	25	60	TP..09	93°	M2,5	T08
H1306K	BA 201 K 20-26 60 TP09 95	20-26	12	25	60	TP..09	95°	M2,5	T08
H1303K	BA 201 K 20-26 70 TP09 90	20-26	12	25	70	TP..09	90°	M2,5	T08
H1276K	BA 201 K 20-26 70 TP09 93	20-26	12	25	70	TP..09	93°	M2,5	T08
H1285K	BA 201 K 20-26 70 TP09 95	20-26	12	25	70	TP..09	95°	M2,5	T08
H1279K	BA 201 K 24-30 50 TP09 95	24-30	12	25	50	TP..09	95°	M2,5	T08
H1287K	BA 201 K 24-30 60 TP09 95	24-30	12	25	60	TP..09	95°	M2,5	T08
H1288K	BA 201 K 24-30 70 TP09 95	24-30	12	25	70	TP..09	95°	M2,5	T08

PERFORMANS Ø8~30 P HASSAS BARA İLAVELER / ADDITIONS / ADDITIONEN



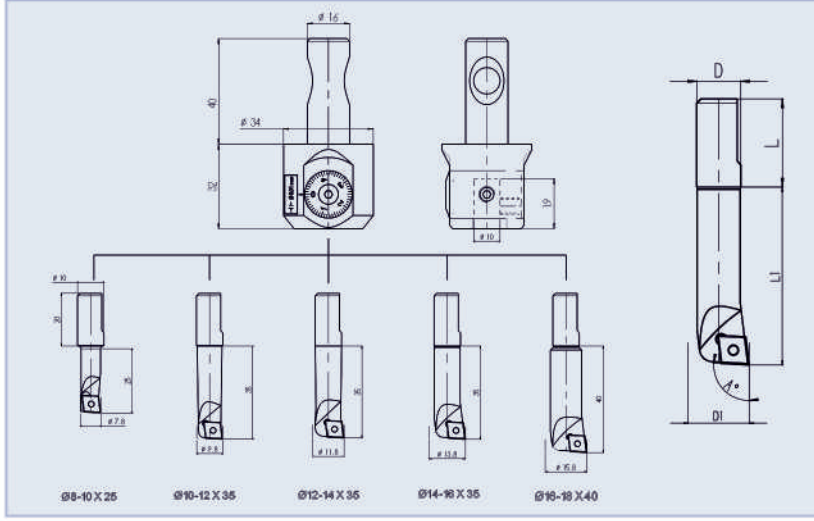
Kod No / Stock No / Bestellnummer / Cod.	Kod / Code / Bezeichnung / Articolo	Ø
H123P	BT40 8-30P GÖVDE (YENİ)	8-30
H125P	BT40 8-30P SET (YENİ)	8-30
H124P	8-30P FX GÖVDE (YENİ)	8-30
H126P	8-30P FX SET (YENİ)	8-30

Ø12 / 5-6-8-10 REDÜKSİYON / REDUCTION / REDUZIERUNG / RIDUZIONE

Kod No / Stock No / Bestellnummer / Cod.	Kod / Code / Bezeichnung / Articolo	Ø	FIGÜR NO
H1210R	BA 201 12/5 RED. UZUN	5	2
H1211R	BA 201 12/6 RED. UZUN	6	2
H1212R	BA 201 12/6 RED. FX	6	1
H1213R	BA 201 12/8 RED. FX	8	1
H1214R	BA 201 12/10 RED. FX	10	1

HASSbara MINI Ø8~18 P

(ŞAFT ÇAPI Ø16 mm / SHANK DIAMETER Ø16 mm)



STANDART SETİN İÇİNDEKİ KATERLER / BARS INCLUDED IN THE STANDARD SET

Kod No	Kod	Ø D1 (min-max)	D	L	L1	Uç	A	INSERT SCREW	Torks
H321P	BA 8-18P SET	8-18							
H322P	BA 312 8-18P GÖVDE	8-18							
H3121K	BA 312 K8-10 25 CC06 93	8-10	10	20	25	CC..06	93°	M2,5	T08
H3122K	BA 312 K10-12 35 CC06 93	10-12	10	20	35	CC..06	93°	M2,5	T08
H3123K	BA 312 K12-14 35 CC06 93	12-14	10	20	35	CC..06	93°	M2,5	T08
H3124K	BA 312 K14-16 35 CC06 93	14-16	10	20	35	CC..06	93°	M2,5	T08
H3125K	BA 312 K16-18 40 CC06 95	16-18	10	20	40	CC..06	95°	M2,5	T08

Ø8~18 UZUN KATERLER / LONG BORING BARS / LANGE HALTER

Kod No	Kod	Ø D1 (min-max)	D	L	L1	Uç	A	INSERT SCREW	Torks
H3129K	BA 312 K 8-10 30 CC06 95	8-10	10	20	30	CC..06	95°	M2,5	T08
H3130K	BA 312 K 10-12 40 CC06 95	10-12	10	20	40	CC..06	95°	M2,5	T08
H3131K	BA 312 K 12-14 40 CC06 95	12-14	10	20	40	CC..06	95°	M2,5	T08
H3132K	BA 312 K 14-16 40 CC06 95	14-16	10	20	40	CC..06	95°	M2,5	T08
H3134K	BA 312 K 16-18 50 CC06 95	16-18	10	20	50	CC..06	95°	M2,5	T08
H3126K	BA 312 K 8-10 25 TC06 93	8-10	10	20	25	TC..06	93°	M2	T06
H3133K	BA 312 K 8-10 25 TC06 90	8-10	10	20	25	TC..06	90°	M2	T06
H3127K	BA 312 K 8-10 30 TC06 90	8-10	10	20	30	TC..06	90°	M2	T06
H3128K	BA 312 K 8-10 30 TC06 93	8-10	10	20	30	TC..06	93°	M2	T06
H3135K	BA 312 K 10-12 35 TC09 93	10-12	10	20	35	TC..06	93°	M2	T06
H3138K	BA 312 K 10-12 35 TC06 93	10-12	10	20	35	TC..06	93°	M2	T06
H3136K	BA 312 K 10-12 40 TC06 93	10-12	10	20	40	TC..06	93°	M2	T06
H3137K	BA 312 K 10-12 40 TC09 93	10-12	10	20	40	TC..06	93°	M2	T06
H3139K	BA 312 K 12-14 35 TC06 93	12-14	10	20	35	TC..06	93°	M2	T06
H3140K	BA 312 K 12-14 35 TC09 93	12-14	10	20	35	TC..06	93°	M2	T06
H3142K	BA 312 K 12-14 40 TC09 93	12-14	10	20	40	TC..06	93°	M2	T06
H3141K	BA 312 K 12-14 40 TC06 93	12-14	10	20	40	TC..06	93°	M2	T06
H3145K	BA 312 K 14-16 35 TC06 93	14-16	10	20	35	TC..06	93°	M2	T06
H3146K	BA 312 K 14-16 35 TC09 93	14-16	10	20	35	TC..06	93°	M2	T06
H3143K	BA 312 K 14-16 40 TC09 93	14-16	10	20	40	TC..06	93°	M2	T06
H3144K	BA 312 K 14-16 40 TC06 93	14-16	10	20	40	TC..06	93°	M2	T06
H3147K	BA 312 K 16-18 40 TC06 93	16-18	10	20	40	TC..06	93°	M2	T06
H3148K	BA 312 K 16-18 40 TC09 93	16-18	10	20	40	TC..06	93°	M2	T06
H3149K	BA 312 K 16-18 50 TC09 93	16-18	10	20	50	TC..06	93°	M2	T06
H3150K	BA 312 K 16-18 50 TC06 93	16-18	10	20	50	TC..06	93°	M2	T06
H3157K	BA 312 K 12-14 35 TP09 93	12-14	10	20	35	TP..09	93°	M2,5	T08
H3158K	BA 312 K 12-14 40 TP09 93	12-14	10	20	40	TP..09	93°	M2,5	T08
H3160K	BA 312 K 14-16 35 TP09 93	14-16	10	20	35	TP..09	93°	M2,5	T08
H3159K	BA 312 K 14-16 40 TP09 93	14-16	10	20	40	TP..09	93°	M2,5	T08
H3161K	BA 312 K 16-18 40 TP09 93	16-18	10	20	40	TP..09	93°	M2,5	T08
H3162K	BA 312 K 16-18 50 TP09 93	16-18	10	20	50	TP..09	93°	M2,5	T08

TİTREŞİMSİZ DERİN DELİK İŞLEME TAKIMLARI Ø18-22/Ø22-29/Ø26-33/Ø33-40

HASSbara TİTREŞİM SÖNÜMLEYİCİ GÖVDE ANTI-VIBRATION TOOL BODY SCHWINGUNGSGEDÄMPFTE AUFNAHME

- Titreşim sönmüleyici sap malzemesi, derin deliklerin işlenebilmesi için özel olarak imal edilmiştir. Bu tip deliklerin hassas işlenmesinde, titreşimi sönmüleyerek yüksek yüzey kalitesi ve ölçü hassasiyeti elde edilir.
- Um tiefe Bohrungen bearbeiten zu können, sind schwingungsgedämpfte Aufnahmen von uns angefertigt worden. Man kann mit dieser schwingungsgedämpften Aufnahme (bei tiefen Bohrungen) Qualität und Maßhaltigkeit erzielen.
- The anti-vibration tool holder is specially produced to process deep holes. Whilst processing such precision holes, by ending absorbability high surface quality and measurement sensitivity is absorbed.



TİTREŞİMSİZ DERİN DELİK İŞLEME TAKIMLARI Ø18-22/Ø22-29/Ø26-33/Ø33-40

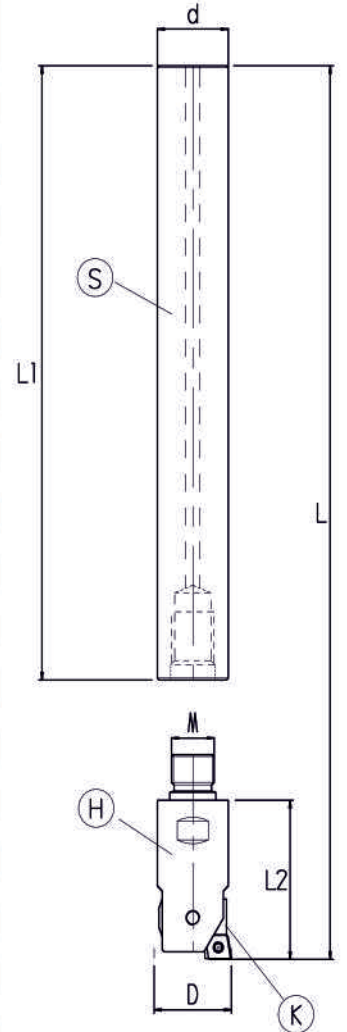
HASSbara TİTREŞİM SÖNÜMLEYİCİ GÖVDE ANTI-VIBRATION TOOL BODY SCHWINGUNGSGEDÄMPFTE AUFNAHME

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Ø18-22/Ø22-29/Ø26-33/Ø33-40

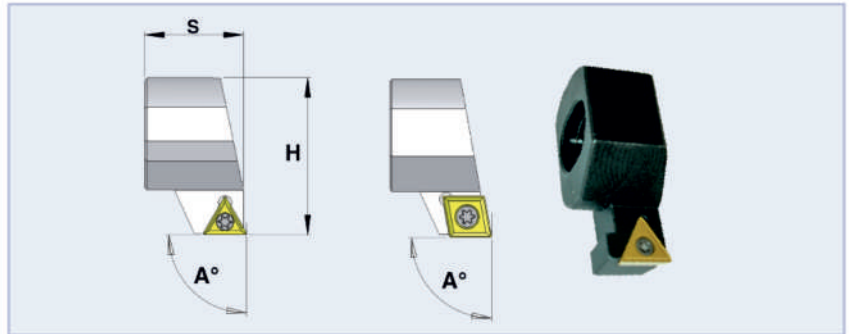
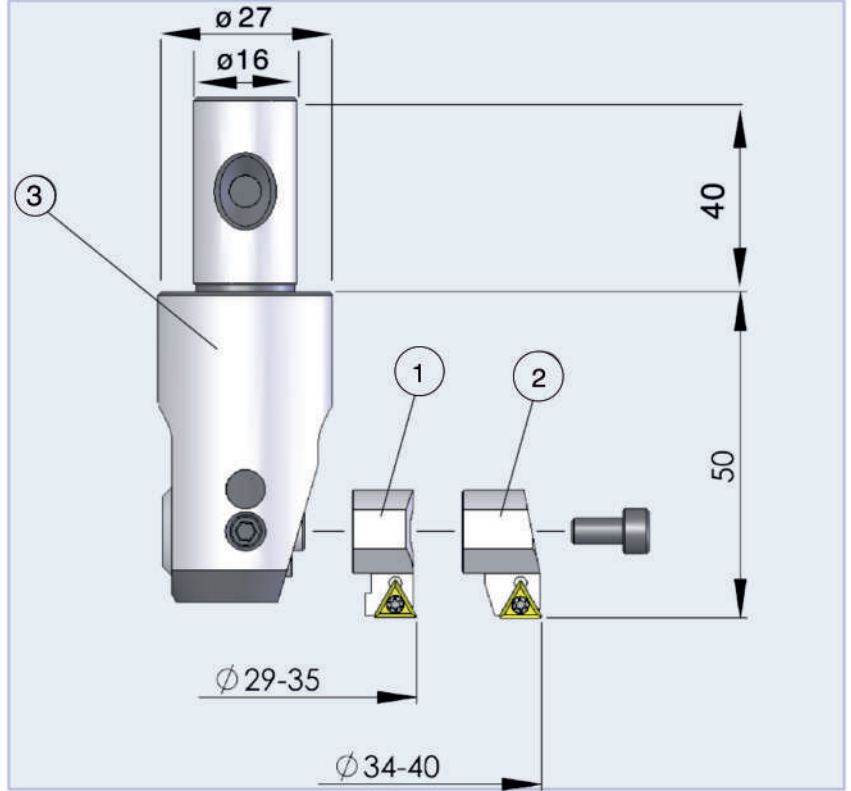
No	Kod No/Stock No Bestellnummerr	Kod / Code bezeichnung	T.r	Ø D1 (min-max)	Ø d	L	L1	L2	M
1	H5024	BA 18-22 TİTREŞİMSİZ SET		18-22	16	157	115	42	10x1
2	H5124	BA 18-22 TİTREŞİMSİZ SET (yeni)		18-22	16	167	125	42	10
3	H50240	BA 18-22 ÇELİK SAPLI SET		18-22	16	147	105	42	10x1
4	H51240	BA 18-22 ÇELİK SAPLI SET (yeni)		18-22	16	147	105	42	10
5	H5004	BA 18-22 BAŞLIK	H	18-22				42	10x1
6	H5014	BA 18-22 BAŞLIK (yeni)	H	18-22				42	10
7	H5002	BA 18-22 16 115 TİTREŞİMSİZ SAP	S	18-22	16		115		10x1
8	H5012	BA 18-22 16 125 TİTREŞİMSİZ SAP (yeni)	S	18-22	16		125		10
9	H50022	BA 18-22 16 105 ÇELİK SAP	S	18-22	16		105		10x1
10	H50122	BA 18-22 16 105 Y ÇELİK SAP (yeni)	S	18-22	16		105		10
11	H5006	KS 18-29 TC06 90 / KARTUŞ	K	18-29					
12	H5007	KS 18-29 CC06 90 / KARTUŞ	K	18-29					
13	H5035	BA 22-29 TİTREŞİMSİZ SET		22-29	20	192	150	42	12x1,5
14	H5135	BA 22-29 TİTREŞİMSİZ SET (yeni)		22-29	20	204	162	42	12
15	H50350	BA 22-29 ÇELİK SAPLI SET		22-29	20	157	115	42	12x1,5
16	H51350	BA 22-29 ÇELİK SAPLI SET (yeni)		22-29	20	157	115	42	12
17	H5005	BA 22-29 BAŞLIK	H	22-29				42	12x1,5
18	H5015	BA 22-29 BAŞLIK (yeni)	H	22-29				42	12
19	H50033	BA 22-29 20 115 ÇELİK SAP	S	22-29	20		115		12x1,5
20	H50133	BA 22-29 20 115 Y ÇELİK SAP (yeni)	S	22-29	20		115		12
21	H5003	BA 22-29 20 150 TİTREŞİMSİZ SAP	S	22-29	20		150		12x1,5
22	H5013	BA 22-29 20 162 TİTREŞİMSİZ SAP (yeni)	S	22-29	20		162		12
23	H5046	BA 26-33 TİTREŞİMSİZ SET		26-33	25	275	225	50	12
24	H50460	BA 26-33 ÇELİK SAPLI SET		26-33	25	190	140	50	12
25	H5010	BA 26-33 50 BAŞLIK	H	26-33				50	12
26	H5008	BA 26-33 25 225 TİTREŞİMSİZ SAP	S	26-33	25		225		12
27	H50088	BA 26-33 25 140 ÇELİK SAP	S	26-33	25		140		12
28	H5016	KS 26-40 CC06 90/ KARTUŞ	K	26-40					
29	H5017	KS 26-40 TC06 90/ KARTUŞ	K	26-40					
30	H5018	KS 26-40 TP09 90/ KARTUŞ	K	26-40					
31	H5019	KS 26-40 TC09 90/ KARTUŞ	K	26-40					
32	H5077	BA 33-40 TİTREŞİMSİZ SET		33-40	32	360	300	60	16
33	H50770	BA 33-40 ÇELİK SAPLI SET		33-40	32	240	180	60	16
34	H5011	BA 33 40 60 BAŞLIK	H	33-40				60	16
35	H5009	BA 33-40 32 300 TİTREŞİMSİZ SAP	S	33-40	32		300		16
36	H50099	BA 33-40 32 180 ÇELİK SAP	S	33-40	32		180		16



PERFORMANS Ø29~40 P



H131P BA 29-40P SET



No.	Kod No / Stock No / Bestellnummer / Cod.	Kod / Code / Bezeichnung / Articolo	Ø
	H131P	BA 29-40P SET	29-40
1	H132P	BA 301 29-40P GÖVDE	29-40

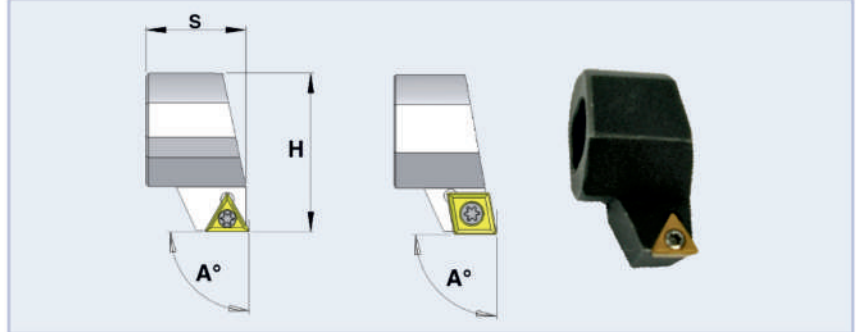
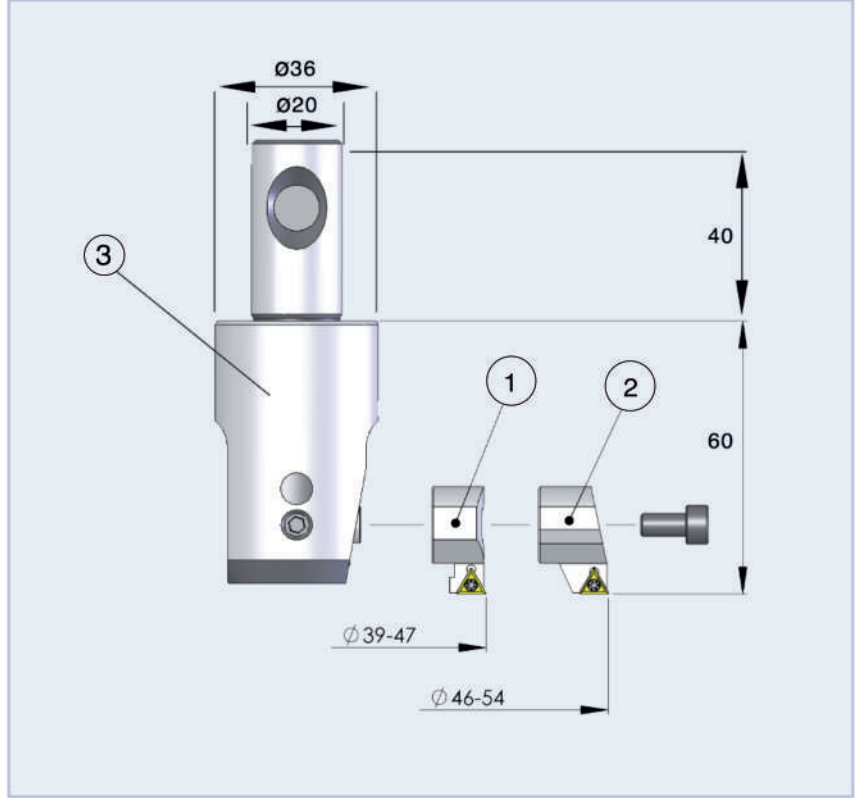
KARTUŞLAR / CARTRIDGES / PLATTENHALTER / CARTUCCIA

No.	Kod No / Stock No Bestellnummer / Cod.	Kod / Code Bezeichnung / Articolo	Ø D1 (min-max)	S	H	Uç/Insert W.P. Inserto	A		Torks Torx
1	H1321K	BA 301 KS 29-35 TC06 90	29-35	10	20	TC..06	90°	M2	T06
1	H1324K	BA 301 KS 29-35 TC09 90	29-35	10	20	TC..09	90°	M2,2	T07
2	H1331K	BA 301 KS 34-40 TC06 90	34-40	12	20	TC..06	90°	M2	T06
2	H1334K	BA 301 KS 34-40 TC09 90	34-40	12	20	TC..09	90°	M2,2	T07
1	H1322K	BA 301 KS 29-35 CC06 90	29-35	10	20	CC..06	90°	M2,5	T08
2	H1332K	BA 301 KS 34-40 CC06 90	34-40	12	20	CC..06	90°	M2,5	T08
1	H1323K	BA 301 KS 29-35 TP09 90	29-35	10	20	TP..09	90°	M2,5	T08
2	H1333K	BA 301 KS 34-40 TP09 90	34-40	12	20	TP..09	90°	M2,5	T08

PERFORMANS Ø39~54 P




H141P BA 39-54P SET

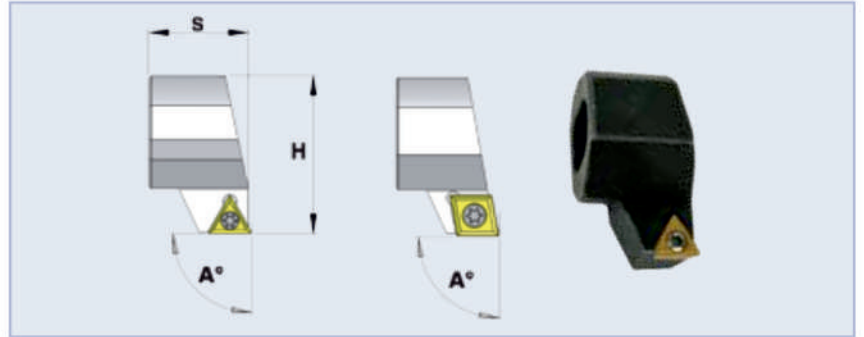
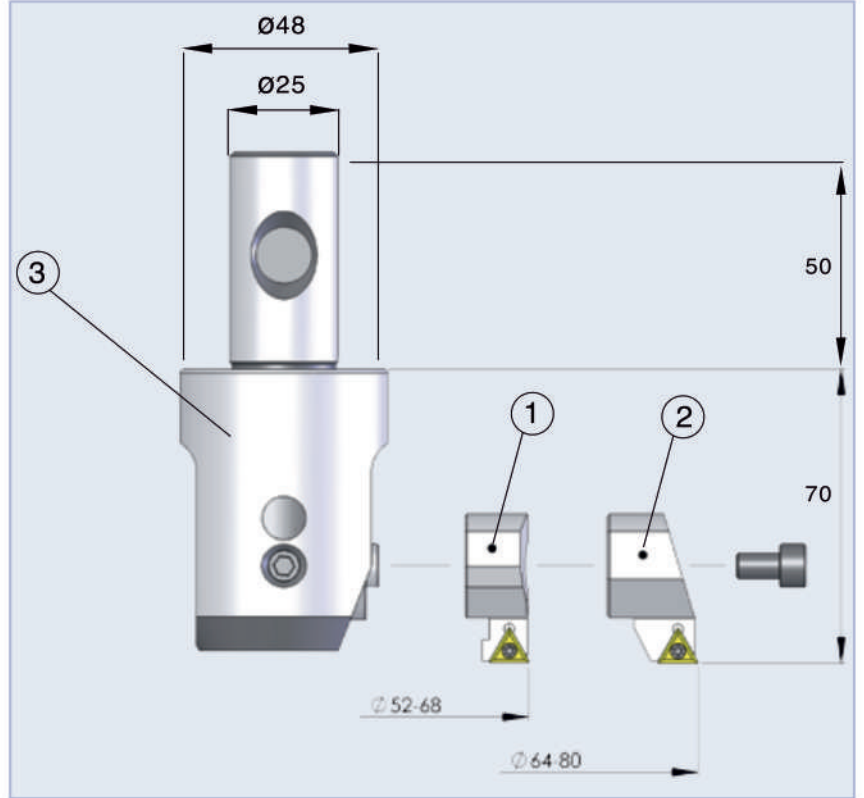


No.	Kod No / Stock No / Bestellnummer / Cod.	Kod / Code / Bezeichnung / Articolo	Ø
	H141P	BA 39-54P SET	39-54
1	H142P	BA 401 39-54P GÖVDE	39-54

KARTUŞLAR / CARTRIDGES / PLATTENHALTER / CARTUCCIA

No.	Kod No / Stock No Bestellnummer / Cod.	Kod / Code Bezeichnung / Articolo	Ø D1 (min-max)	S	H	Uç/Insert W.P. Inserto	A		Torks Torx
1	H1421K	BA 401 KS 39-47 TC06 90	39-47	12	24	TC..06	90°	M2	T06
1	H1424K	BA 401 KS 39-47 TC09 90	39-47	12	24	TC..09	90°	M2,2	T07
2	H1431K	BA 401 KS 46-54 TC06 90	46-54	15	24	TC..06	90°	M2	T06
2	H1434K	BA 401 KS 46-54 TC09 90	46-54	15	24	TC..09	90°	M2,2	T07
1	H1422K	BA 401 KS 39-47 CC06 90	39-47	12	24	CC..06	90°	M2,5	T08
2	H1432K	BA 401 KS 46-54 CC06 90	46-54	15	24	CC..06	90°	M2,5	T08
1	H1423K	BA 401 KS 39-47 TP09 90	39-47	12	24	TP..09	90°	M2,5	T08
2	H1433K	BA 401 KS 46-54 TP09 90	46-54	15	24	TP..09	90°	M2,5	T08

PERFORMANS Ø52~80 P

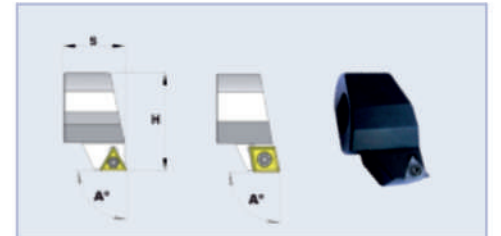
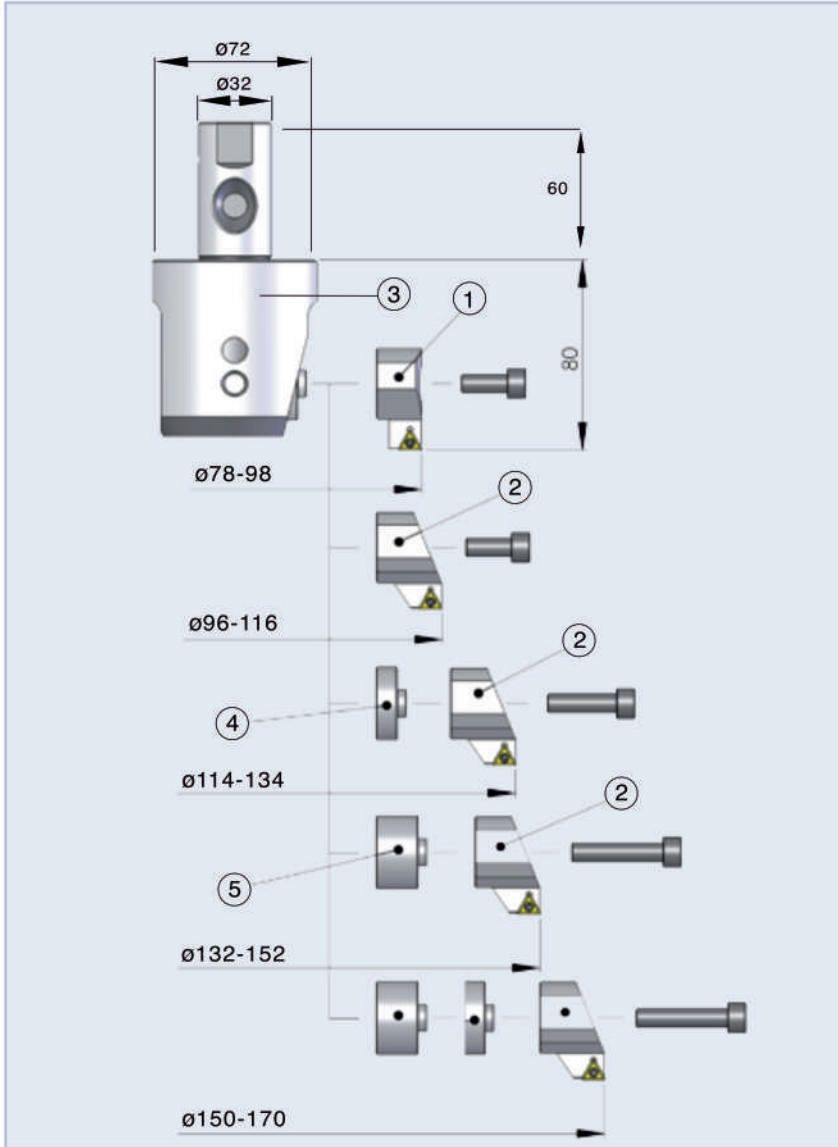


No.	Kod No / Stock No / Bestellnummer / Cod.	Kod / Code / Bezeichnung / Articolo	Ø
	H151P	BA 52-80P SET	52-80
1	H152P	BA 501 52-80P GÖVDE	52-80

KARTUŞLAR / CARTRIDGES / PLATTENHALTER / CARTUCCIA

No.	Kod No / Stock No Bestellnummer / Cod.	Kod / Code Bezeichnung / Articolo	Ø D1 (min-max)	S	H	Uç/Insert W.P. Inserto	A		Torks Torx
1	H1521K	BA 501 KS 52-68 TC09 90	52-68	15	35	TC..09	90°	M2,2	T07
2	H1531K	BA 501 KS 64-80 TC09 90	64-80	21	35	TC..09	90°	M2,2	T07
1	H1523K	BA 501 KS 52-68 TP09 90	52-68	15	35	TP..09	90°	M2,5	T08
2	H1533K	BA 501 KS 64-80 TP09 90	64-80	21	35	TP..09	90°	M2,5	T08
1	H1522K	BA 501 KS 52-68 CC06 90	52-68	15	35	CC..06	90°	M2,5	T08
2	H1532K	BA 501 KS 64-80 CC06 90	64-80	21	35	CC..06	90°	M2,5	T08

PERFORMANS Ø78~170 P

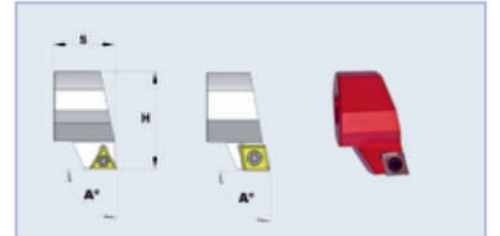
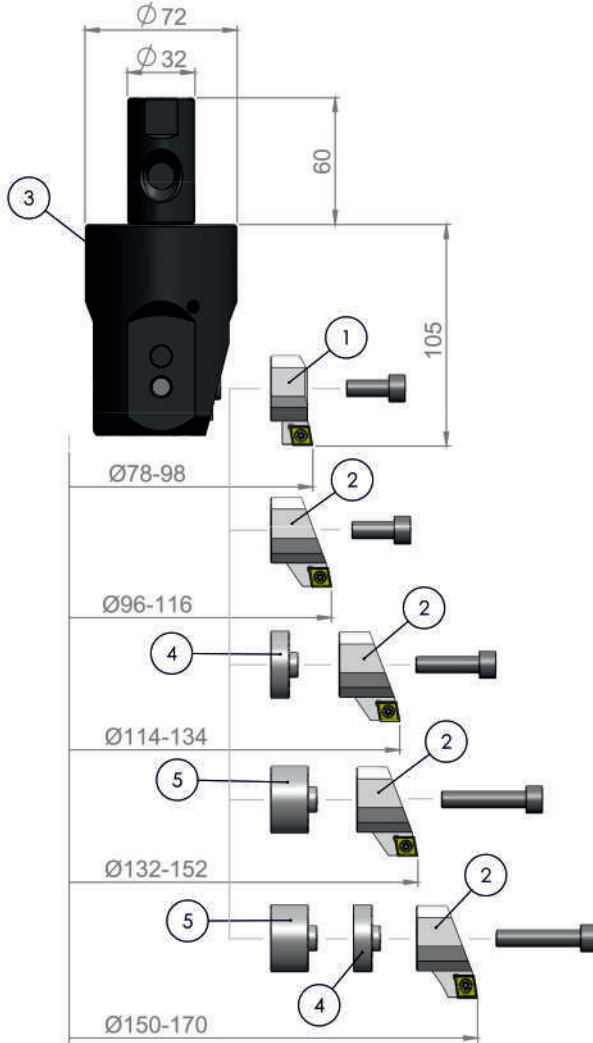


No.	Kod No / Stock No / Bestellnummer / Cod.	Kod / Code / Bezeichnung / Articolo	Ø
	H161P	BA 78-170P SET	78-170
3	H162P	BA 601 78-170P GÖVDE	78-170
	H163P	BT40 78-170P SET	78-170
	H164P	BT40 78-170P GÖVDE	78-170

KARTUŞLAR / CARTRIDGES / PLATTENHALTER / CARTUCCIA

No.	Kod No / Stock No Bestellnummer / Cod.	Kod / Code Bezeichnung / Articolo	Ø D1 (min-max)	S	H	Uç/Insert W.P. Inserto	A		Torks Torx
1	H1621K	BA 601 KS 78-98 TC11 90	78-98	20	44	TC..11	90°	M2,5	T08
2	H1631K	BA 601 KS 96-116 TC11 90	96-116	30	44	TC..11	90°	M2,5	T08
1	H1622K	BA 601 KS 78-98 CC09 90	78-98	20	44	CC..09	90°	M3,5	T15
2	H1632K	BA 601 KS 96-116 CC09 90	96-116	30	44	CC..09	90°	M3,5	T15
2	H1633K	BA 601 KS 96-116 TP09 90	96-116	30	44	TP..09	90°	M2,5	T08
1	H1623K	BA 601 KS 78-98 TP09 90	78-98	20	44	TP..09	90°	M2,5	T08
4	H1711Y	BA 601 KU 114-134 AL	114-134	9	-	-	-	-	-
5	H1712Y	BA 601 KU 132-152 AL	132-152	18	-	-	-	-	-

PERFORMANS Ø78~170 AL-P



Kod No / Stock No / Bestellnummer / Cod.	Kod / Code / Bezeichnung / Articolo	Ø
H171P	BA 78-170 AL-P SET	78-170
H172P	BA 601 78-170 AL-P GÖVDE	78-170

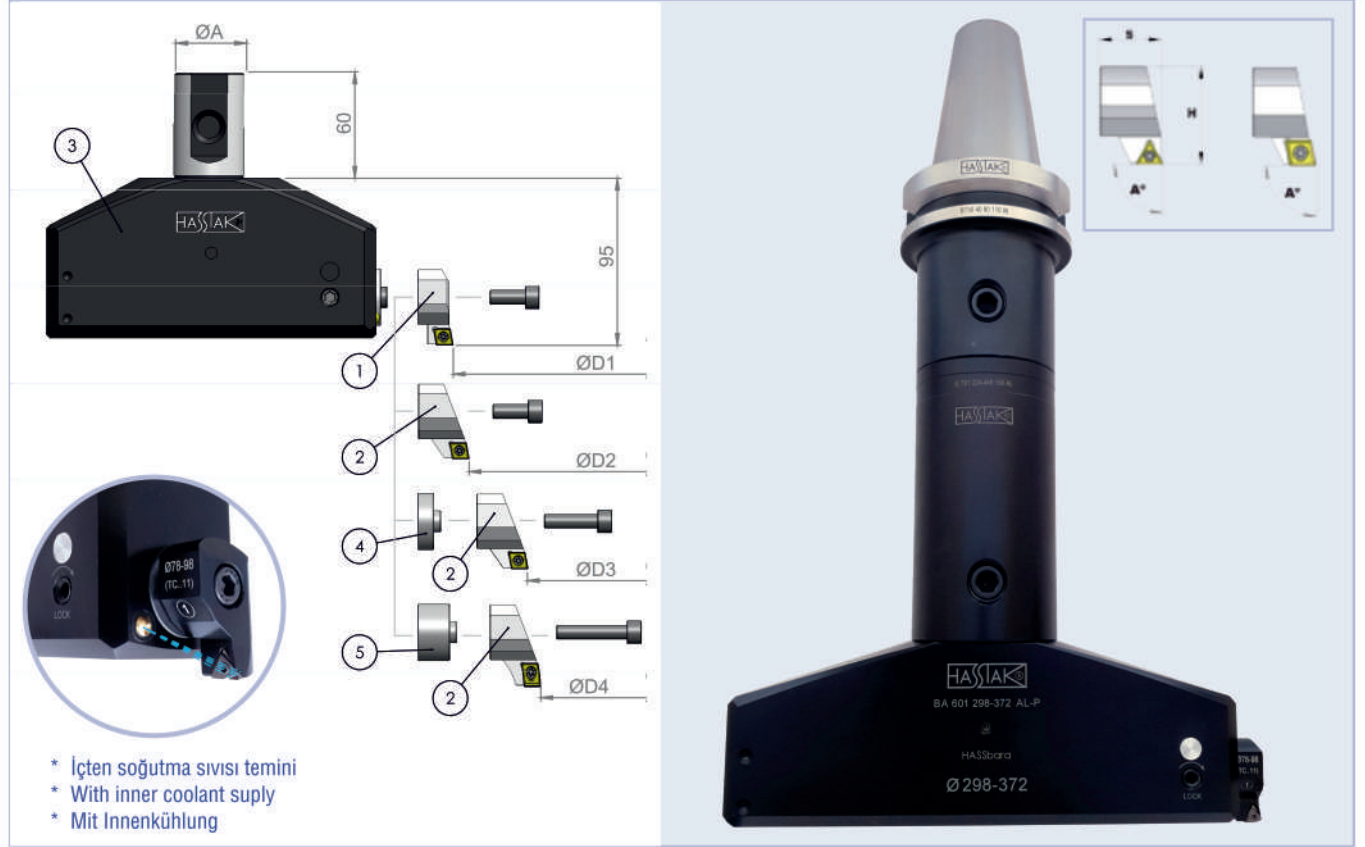
KARTUŞLAR / CARTRIDGES / PLATTENHALTER / CARTUCCIA

No.	Kod No / Stock No Bestellnummer / Cod.	Kod / Code Bezeichnung / Articolo	Ø D1 (min-max)	S	H	Uç/Insert W.P. Inserto	A		Torks Torx
1	H1721K	BA 601 KS 78-98 TC11 90 AL	78-98	20	44	TC..11	90°	M2,5	T08
2	H1731K	BA 601 KS 96-116 TC11 90 AL	96-116	30	44	TC..11	90°	M2,5	T08
1	H1722K	BA 601 KS 78-98 CC09 90 AL	78-98	20	44	CC..09	90°	M3,5	T15
2	H1732K	BA 601 KS 96-116 CC09 90 AL	96-116	30	44	CC..09	90°	M3,5	T15
2	H1733K	BA 601 KS 96-116 TP09 90 AL	96-116	30	44	TP..09	90°	M2,5	T08
1	H1723K	BA 601 KS 78-98 TP09 90 AL	78-98	20	44	TP..09	90°	M2,5	T08
4	H1711Y	BA 601 KU 114-134 AL	114-134	9	-	-	-	-	-
5	H1712Y	BA 601 KU 132-152 AL	132-152	18	-	-	-	-	-

ALU-LINE FINISH Ø150~Ø446

HASSbara ALUMİNYUM GÖVDE / ALUMINIUM BODY / ALUMINIUM BRÜCKE

ALU-LINE Ø150~Ø446 mm FINIS DELİK BARALAMA TAKIMLARI / FINE BORING TOOLS
FEINSPINDELWERKZEUGE / BARENATURA



Kod No / Stock No Bestellnummer / Cod.	Kod / Code Bezeichnung / Articolo	Ø Dmin - Ø Dmax	Ø D1	Ø D2	Ø D3	Ø D4	Ø A
H3446P	BA 150-446 AL P TÜM SET	Ø150 - 446					
H181P	BA 150-224 AL-P SET	Ø150 - 224	Ø150 - 170	Ø168 - 188	Ø186 - 206	Ø204 - 224	32
H191P	BA 224-298 AL-P SET	Ø224 - 298	Ø224 - 244	Ø242 - 262	Ø260 - 280	Ø278 - 298	40
H201P	BA 298-372 AL-P SET	Ø298 - 372	Ø298 - 318	Ø316 - 336	Ø334 - 354	Ø352 - 372	40
H211P	BA 372-446 AL-P SET	Ø372 - 446	Ø372 - 392	Ø390 - 410	Ø408 - 428	Ø426 - 446	40

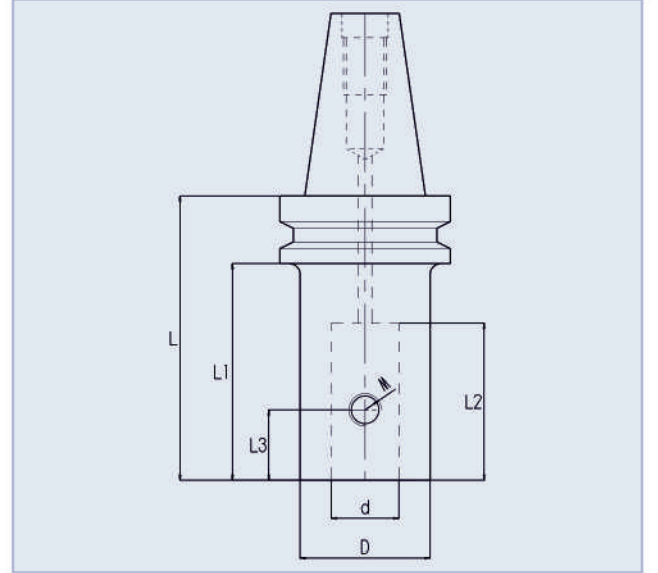
No.	Kod No / Stock No Bestellnummer / Cod.	Kod / Code Bezeichnung / Articolo	Ø D1 (min-max)	S	H	Uç/Insert W.P. Inserto	A		Torks Torx
1	H1721K	BA 601 KS 78-98 TC11 90 AL	78-98	20	44	TC..11	90°	M2,5	T08
2	H1731K	BA 601 KS 96-116 TC11 90 AL	96-116	30	44	TC..11	90°	M2,5	T08
1	H1722K	BA 601 KS 78-98 CC09 90 AL	78-98	20	44	CC..09	90°	M3,5	T15
2	H1732K	BA 601 KS 96-116 CC09 90 AL	96-116	30	44	CC..09	90°	M3,5	T15
2	H1733K	BA 601 KS 96-116 TP09 90 AL	96-116	30	44	TP..09	90°	M2,5	T08
1	H1723K	BA 601 KS 78-98 TP09 90 AL	78-98	20	44	TP..09	90°	M2,5	T08
4	H1711Y	BA 601 KU 114-134 AL	114-134	9	-	-	-	-	-
5	H1712Y	BA 601 KU 132-152 AL	132-152	18	-	-	-	-	-
3	H182P	BA 601 150-224 AL-P BODY	150-224	-	-	-	-	-	-
3	H192P	BA 601 224-298 AL-P BODY	224-298	-	-	-	-	-	-
3	H202P	BA 601 298-372 AL-P BODY	298-372	-	-	-	-	-	-
3	H212P	BA 601 372-446 AL-P BODY	372-446	-	-	-	-	-	-

HASSbara BT40 ve BT50 TUTUCULAR HASSbara TOOL HOLDERS / HASSbara HALTERSYSTEME

MODÜLER BAĞLANTI SİSTEMİ SAYESİNDE UZATMA KULLANILABİLİR.
BT TUTUCUYA TAKIMI BAĞLAMA İŞLEMİNDE, KARŞILIKLI 2 ADET SETSKUR CIVATAYI SIKMAYA BAŞLADIĞIMIZDA, BT TUTUCU, TAKIMI KENDİNE DOĞRU ÇEKER VE ÇOK GÜÇLÜ BİR BAĞLANTI GERÇEKLEŞİR.

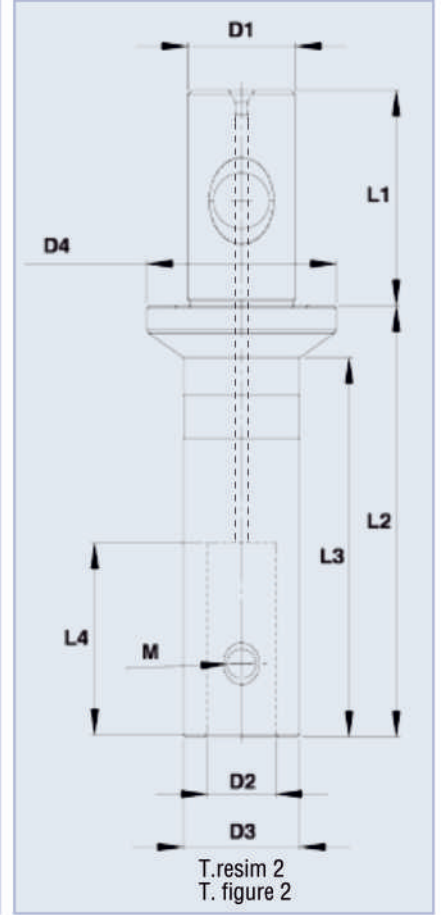
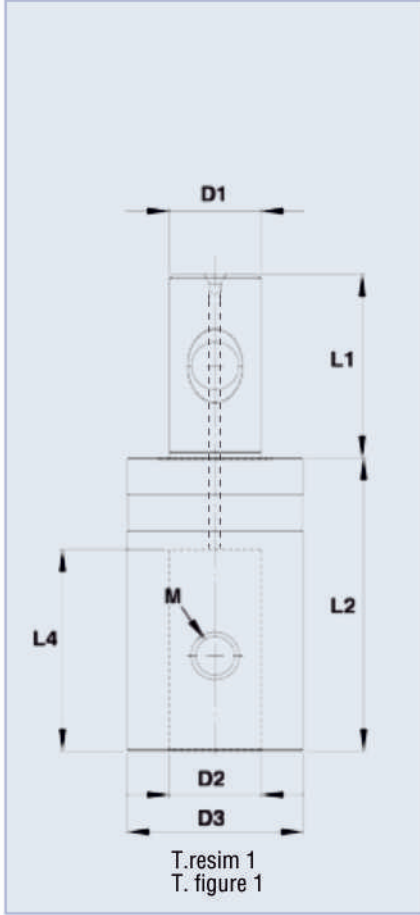
THANKS TO THE MODULAR CONNECTION SYSTEM, EXTENSIONS CAN BE USED. IN THE PROCESS OF CONNECTING THE TOOL TO THE BT HOLDER, WHEN WE START TIGHTENING THE 2 MUTUAL SETSKUR BOLTS, THE BT HOLDER PULLS THE TOOL TOWARDS ITSELF AND A VERY STRONG CONNECTION IS REALIZED.

DANK DES MODULAREN VERBINDUNGSSYSTEMS KÖNNEN VERLÄNGERUNGEN VERWENDET WERDEN. BEIM ANSCHLIEßEN DES WERKZEUGS AN DEN BT-HALTER ZIEHT DER BT-HALTER DAS WERKZEUG ZU SICH HERAN, SOBALD WIR BEGINNEN, DIE BEIDEN GEGENÜBERLIEGENDEN SETSKUR-SCHRAUBEN ANZUZIEHEN, UND ES ENTSTEHT EINE SEHR STARKE VERBINDUNG.



Kod No / Stock No Bestellnummer / Cod.	Kod / Code Bezeichnung / Articolo	d	D	L	L1	L2	L3	M
H1901U	Bt40 U 29-40 40	16	27	67	40	42	25	8
H1902U	BT40 U 29-40 70	16	28	97	70	42	25	8
H1903U	BT40 U 39-54 40	20	36	67	40	52	27	10
H1904U	BT40 U 39-54 75	20	36	102	75	52	27	10
H1905U	BT40 U 52-80 40	25	48	67	40	58	26	12
H1906U	BT40 U 52-80 80	25	48	107	80	58	26	12
H905X24	BT50 40 80 110 W	40	80	110	72	76	30	20
H905X36	BT50 32 72 110 W	32	72	110	72	67	24	20

UZATMALAR EXTENSIONS / VERLÄNGERUNG / PROLUNGHE



No.	Kod No / Stock No Bestellnummer / Cod.	Kod / Code Bezeichnung / Articolo	Ø	D1	D2	D3	D4	L1	L2	L3	L4	M	T.r./f. V-R
1	H1371U	U 301 29-40 90	29-40	25	16	27	44	50	100	88	44	M8	2
2	H1372U	U 301 29-40 60	29-40	25	16	27	44	50	60	50	44	M8	2
3	H902X80	UA 16 29 16 60	-	16	16	29	-	45	60	-	46	M8	1
4	H1373U	U 301 29-40 50	29-40	16	16	27	-	40	50	-	44	M8	1
5	H1471U	U 401 39-54 100	39-54	25	20	36	44	50	110	98	55	M10	2
6	H1472U	U 401 39-54 60	39-54	25	20	36	44	50	60	50	55	M10	2
7	H1473U	U 401 39-54 50	39-54	20	20	36	-	40	50	-	44	M10	1
8	H902X78	U 25 48 20 100	-	25	20	48	-	50	100	-	51	M10	1
9	H902X79	UA 20 38 20 60	-	20	20	38	-	50	60	-	51	M10	1
10	H902X55	UA 20 20 150	-	20	20	35	-	50	150	-	52	M10	1
11	H1571U	U 501 52-80 80	52-80	25	25	48	-	50	80	-	55	M12	1
12	H1572U	U 501 52-80 150	52-80	32	25	48	-	60	150	-	55	M12	1
13	H902X58	U 501 52 80 200	52-80	32	25	45	-	60	200	-	58	M12	1
14	H902X60	U 501 52 80 320	52-80	32	25	45	-	60	320	-	68	M12	1
15	H1671U	U 601 78-170 80	78-152	32	32	72	-	60	80	-	65	M20	1
16	H1672U	U 601 78-170 80 AL	78-152	32	32	72	-	60	80	-	65	M20	1
17	H1673U	U 601 78-170 120 AL	78-152	32	32	-	-	60	120	-	65	M20	1
18	H1674U	U 701 224-446 100 AL	224-446	40	40	80	-	60	100	-	65	M20	1
19	H1675U	U 701 224-446 150 AL	224-446	40	40	80	-	60	150	-	65	M20	1
20	H1676U	U 701 224 446 80 AL	224-446	40	40	90	-	60	80	-	63	M20	1
21	H1677U	U 701 224 446 120 AL	224-446	40	40	80	-	60	120	-	72	M20	1

KULLANIM REHBERİ Ø8~30 P

OPERATING MANUAL Ø 8~30 P / BENUTZERHANDBUCH Ø 8~30 P CARATTERISTICHE PERFORMANCE Ø 8~30 P

1. GÖVDE / BODY / FEINBOHRSTANGE / CORPO UTENSILE
2. SABİTLEME VİDASI / FIXING SCREW / KLEMMSCHRAUBE / GRANO BLOCCAGGIO NONIO
3. SKALA / SCALE / SKALA / NONIO
4. KATER YUVASI / BORING BAR SOCKET
AUFNAHME PLATTENHALTER / ALLOGGIAMENTO BARENO
5. KATER / BORING BAR / PLATTENHALTER / BARENO
6. KATER SABİTLEME VİDASI / BORING BAR FIXING SCREW
KLEMMSCHRAUBE FÜR PLATTENHALTER / GRANO SERRAGGIO BARENO
7. GRESÖRLÜK / GREASE NIPPLE / SCHMIERNIPPEL / INGRASSATORE

TANIMLAMA VE KULLANIM

- Kateri, sapındaki düzliğe KATER SABİTLEME VİDASI (6) basacak şekilde takınız.
- Çap ayarını SKALA'dan (3) yapmadan önce SABİTLEME VİDASI nı (2) gevşetiniz.
- Çap ayarını daima skalayı saat yönünde çevirerek yapınız.
- Özellikle çap küçültmek istendiğinde, SKALA (3) İstlenen değerden en az 20 çizgi geri alınarak (saat yönünün tersine çevirerek) tekrardan istenen değere (saat yönüne çevirerek) gelinmelidir.
- Ayar bittiğinde SABİTLEME VİDASI nı (2) sıkımayı UNUTMAYINIZ!

DESCRIPTION AND USE

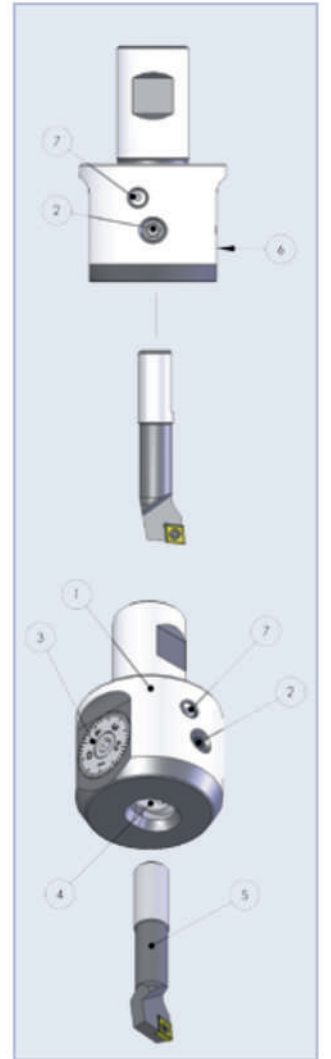
- Install the boring bar so that the BORING BAR FIXING SCREW (6) presses onto the flat point on its handle.
- Before making diameter adjustment from SCALE (3), loose FIXING SCREW (2).
- Adjust the diameter always by rotating the scale clockwise.
- If you wish specifically to reduce the diameter, adjust SCALE (3) back to at least twenty marks less the desired value (by rotating it counter-clockwise), then re-adjust it to the desired value (by rotating it clockwise).
- DO NOT FORGET to tighten the FIXING SCREW (2) when you complete the adjustment!

MONTAGE ANLEITUNG

- Plattenhalter in die Aufnahme (4) einführen und mit der Klemmschraube (6) fixieren.
- Bitte die Klemmschraube (2) vor der Feineinstellung des Werkzeuges lösen.
- Die Feineinstellung sollte immer in Richtung Uhrzeigersinn sein, damit dem Totengang in der Spindel (3) entgegen gewirkt wird.
- Bitte nach der Einstellung die Klemmschraube (2) wieder anziehen.

MANUAL DI UTILIZZO

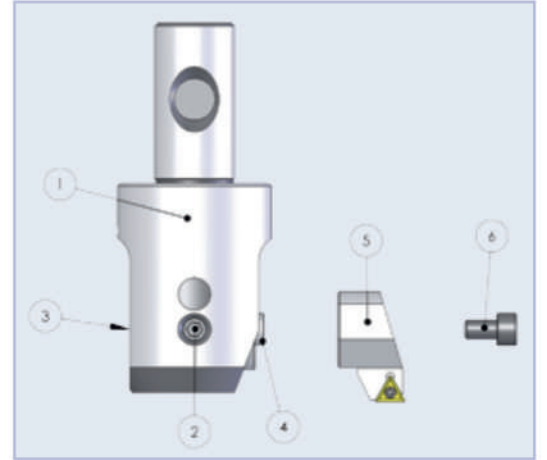
- Installare il bareno(5) nella sua sede(4) con il pianetto rivolto verso il grano di fissaggio(6).
- Prima di fare regolazioni di diametro tramite il nonio(3) allentare il grano di bloccaggio(2).
- Regolare il diametro ruotando sempre in senso orario.
- Se vi è la necessità di ridurre il diametro ruotare il nonio oltre la posizione desiderata di almeno di 20 posizioni e poi procedere nuovamente in senso orario fino al valore desiderato.
- Non dimenticarsi di serrare il grano di bloccaggio nonio(2) a regolazione avvenuta.



KULLANIM REHBERİ Ø29~446 P / AL-P

OPERATING MANUAL / BENUTZERHANDBUCH MANUAL DI UTILIZZO Ø 29~446 P/AL-P

1. GÖVDE / BODY / FEINBOHRSTANGE / CORPO UTENSILE
2. SABİTLEME VİDASI / FIXING SCREW / KLEMMSCHRAUBE
GRANO BLOCCAGGIO NONIO
3. SKALA / SCALE / SKALER / NONIO
4. KARTUŞ YUVASI / CARTRIDGE SOCKET
BEFESTIGUNGSSCHRAUBE / ALLOGGIAMENT CARTUCCIA
5. KARTUŞ / CARTRIDGE / PLATTENHALTER / CARTUCCIA
6. KARTUŞ SABİTLEME VİDASI / CARTRIDGE FIXING SCREW
KLEMMSCHRAUBE FÜR PLATTENHALTER
VITE SERRAGGIO CARTUCCIA



HASSbara BA 29-40P / BA 39-54P / BA 52-80P / BA 78-170P / BA 78-170 AL-P / BA 150-224 AL-P / BA 224-298 AL-P / BA 298-372 AL-P / BA 372-446 AL-P ÜRÜNLERİ İÇİN TANIMLAMA VE KULLANIM REHBERİ

- KARTUŞU (5) yerine monte etmeden önce SABİTLEME VİDASINI (2) sıkınız. Daha sonra Kartuşu (5) yuvasına (4) takarak imbus vidası ile (6) sabitleyiniz
- Çap ayarını SKALA'dan (3) yapmadan önce SABİTLEME VİDASI nı (2) gevşetiniz.
- Çap ayarını daima skalayı saat yönünde çevirerek yapınız.
- Özellikle çap küçültmek istendiğinde, SKALA (3) İstlenen değerden en az 20 çizgi geri alınarak (saat yönünün tersine çevirerek) tekrardan istenen değere (saat yönünde çevirerek) gelinmelidir.
- Ayar bittiğinde SABİTLEME VİDASI nı (2) sıkmayı UNUTMAYINIZ!

PRODUCT DESCRIPTION AND OPERATING MANUAL FOR

HASSbara BA29-40P / BA39-54P / BA52-80P / BA78-170P / BA78-170AL-P / BA 150-224 AL-P / BA 224-298 AL-P / BA 298-372 AL-P / BA 372-446 AL-P

- Before mounting CARTRIDGE (5) in place, tighten FIXING SCREW (2). Then, mount cartridge (5) in its socket (4) and fix with Imbus screw (6).
- Before adjusting diameter from SCALE (3), loose FIXING SCREW (2).
- Adjust the diameter always by rotating the scale clockwise.
- If you wish specifically to reduce the diameter, adjust SCALE (3) back to at least twenty marks less the desired value (by rotating it counter-clockwise), then re-adjust it to the desired value (by rotating it clockwise).
- DO NOT FORGET to tighten the FIXING SCREW (2) when you complete the adjustment!

MONTAGE ANLEITUNG

HASSbara BA29-40P / BA39-54P / BA52-80P / BA78-170P / BA78-170AL-P / BA 150-224 AL-P / BA 224-298 AL-P / BA 298-372 AL-P / BA 372-446 AL-P

- Plattenhalter (5) auf die Schnittstelle (4) mit der Befestigungsschraube (6) montieren.
- Bitte darauf achten, dass die Klemmschraube (2) angezogen ist.
- Vor der Feineinstellung , sollte diese wieder gelöst werden.
- Die Feineinstellung sollte immer in Richtung Uhrzeigersinn sein damit dem Totengang in der Spindel (3) entgegen gewirkt wird
- Nach der Feineinstellung muss die Klemmschraube (2) wieder angezogen werden.

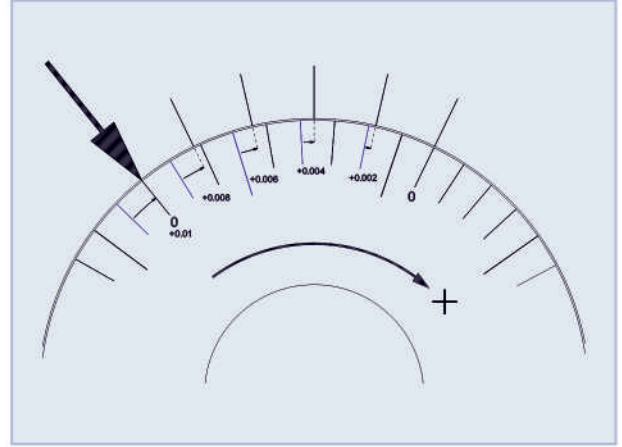
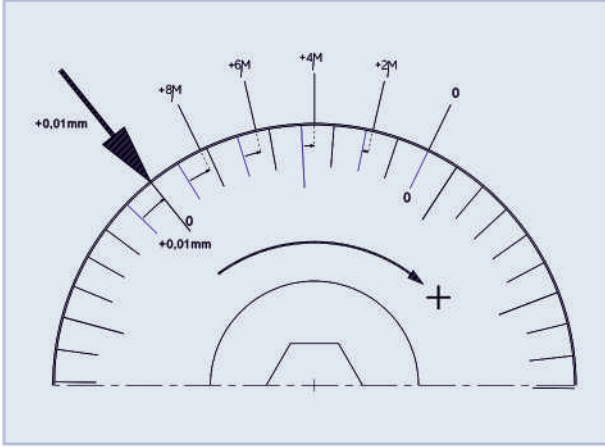
MANUAL DI UTILIZZO

HASSbara BA29-40P / BA39-54P / BA52-80P / BA78-170P / BA78-170AL-P / BA 150-224 AL-P / BA 224-298 AL-P / BA 298-372 AL-P / BA 372-446 AL-P

- Prima di installare la cartuccia(5) nella sua sede(4) e fissarlo con la vite(6) serrare in grano di bloccaggio nonio(2).
- Prima di fare regolazioni di diametro tramite il nonio(3) allentare il grano di bloccaggio(2).
- Regolare il diametro ruotando sempre in senso orario.
- Se vi è la necessità di ridurre il diametro ruotare il nonio oltre la posizione desiderata di almeno di 20 posizioni e poi procedere nuovamente in senso orario fino al valore desiderato.
- Non dimenticarsi di serrare il grano di bloccaggio nonia(2) a regolazione avvenuta.



HASSbara TAKIMLARDA HASSAS İNCE AYAR NASIL YAPILIR HOW TO MAKE PRECISION FINE TUNING ON HASSbara TOOLS WIE WIRD DIE FEINEINSTELLUNG BEI HASSBARA-WERKZEUGEN VORGENOMMEN?



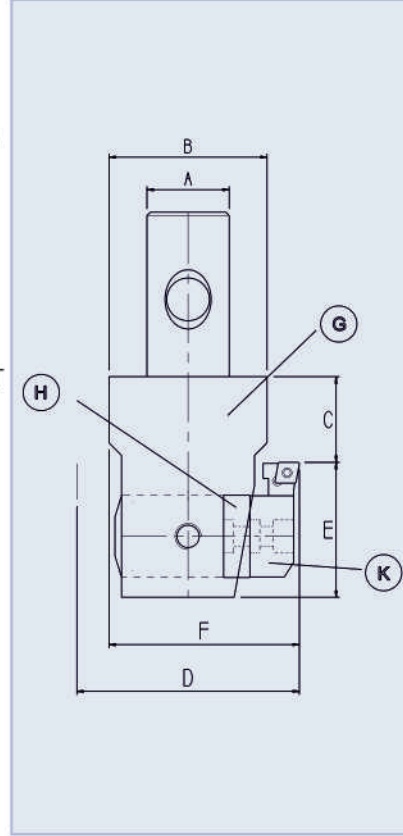
- Çap büyötmek için öncelikle takımın kilitleme civatasını gevşetin.
- Skalayı saat yönünde bir tam tur çevirdiğinizde 0,5mm, skala üzerindeki iki çizgi arası kadar çevirdiğinizde ise 0,01mm çap büyür.
- Bindelikli ayar için skalanın hemen üst tarafında bulunan 5 adet taksimat (vernier) çizgisinden faydalanılır.
- Bu 5 adet taksimat çizgisinden teknik resimde de görüldüğü gibi, sağ baştan ikinci çizgi, kendisine en yakın olan skala tanburunun üzerindeki (mavi) çizgi ile örtüştüğünde, çap 0,002mm büyür.
- Sağ baştan üçüncü çizgi, kendisine en yakın olan skala tanburunun üzerindeki (mavi) çizgi ile örtüştüğünde, çap 0,004mm büyür.
- Sağ baştan dördüncü çizgi, kendisine en yakın olan skala tanburunun üzerindeki (mavi) çizgi ile örtüştüğünde, çap 0,006mm büyür.
- Sağ baştan beşinci çizgi, saat yönüne dönüştü, bir sonraki skala tanburunun üzerindeki (mavi) çizgi ile örtüştüğünde ise, çap 0,008mm büyür.
- Ayar tamamlandığında HASSbara takımının kilitleme civatası sıkılmalıdır.

- To increase the diameter, first loosen the locking screw of the tool.
- When you turn the scale one full turn clockwise, the diameter increases by 0.5 mm, and when you turn it between two lines on the scale, the diameter increases by 0.01 mm.
- For thousandths adjustment, 5 vernier lines located just above the scale are used.
- As can be seen in the technical drawing of these 5 division lines, when the second line from the right side overlaps with the (blue) line on the scale drum closest to it, the diameter increases by 0.002mm.
- When the third line from the right overlaps with the (blue) line on the scale drum closest to it, the diameter increases by 0.004 mm.
- When the fourth line from the right overlaps with the (blue) line on the scale drum closest to it, the diameter increases by 0.006 mm.
- When the fifth line from the right coincides with the (blue) line on the next scale drum in a clockwise rotation, the diameter increases by 0.008 mm.
- When the adjustment is completed, the locking bolt of the HASSbara set should be tightened.

- Um den Durchmesser zu vergrößern, lösen Sie zunächst die Verriegelungsschraube des Werkzeugs.
- Drehen Sie die Skala im Uhrzeigersinn um eine volle Umdrehung, wodurch der Durchmesser um 0,5 mm zunimmt. Wenn Sie die um 0,01 mm. Skala zwischen zwei Linien drehen, erhöht sich der Durchmesser
- Für eine Einstellung im Tausendstelbereich werden die 5 Teilstriche (Nonius) direkt über der Skala verwendet.
- Wie in der technischen Zeichnung zu sehen ist, vergrößert sich der Durchmesser um 0,002 mm, wenn die zweite Linie von rechts mit der übereinstimmt.
- nächstgelegenen (blauen) Linie auf dem Skalentrommel übereinstimmt.
- Wenn die dritte Linie von rechts mit der nächstgelegenen (blauen) Linie auf dem Skalentrommel übereinstimmt, vergrößert sich der Durchmesser um 0,004 mm.
- Wenn die vierte Linie von rechts mit der nächstgelegenen (blauen) Linie auf dem Skalentrommel übereinstimmt, vergrößert sich der Durchmesser um 0,006 mm
- Wenn die fünfte Linie von rechts bei einer Drehung im Uhrzeigersinn mit der nächsten (blauen) Linie auf der Skalentrommel übereinstimmt, vergrößert sich der Durchmesser um 0,008 mm.
- Nach Abschluss der Einstellung muss die Verriegelungsschraube des HASSbara-Werkzeugs festgezogen werden.

HASSbara HASSAS BARA TAKIMLARININ TERS BARA OLARAK KULLANILMASI USING HASSbara PERFORMANCE FINE BORING SETS AS BACK FINE BORING VERWENDUNG DER HASSBARA HOCHPRÄZISEN BOHRSTANGEN ALS RÜCKWÄRTS-BOHRSTANGEN

- İŞLENECEK ÇAPA GÖRE TAKIMIN GEÇECEĞİ MİNİMUM DELİK
- ÇAPININ HESAPLANMASI: $\emptyset_{\min} = (D+B+1) / 2$
- İŞLENECEK DELİK DERİNLİĞİ FAZLA İSE, HASSbara UZATMALAR SAYFASINDAN (sayfa 25) SEÇİM YAPINIZ.
- DİKKAT! TAKIM SOL DÖNÜŞ OLARAK ÇALIŞTIRILMALIDIR.
- CALCULATION OF THE MINIMUM HOLE DIAMETER TROUGH WHICH THE TOOL WILL PASS, ACCORDING TO THE DIAMETER TO BE MACHINED
- $\emptyset_{\min} = (D+B+1) / 2$
- IF THE DEPTH OF THE HOLE TO BE MACHINED IS LARGE, SELECT FROM THE HASSbara EXTENSIONS PAGE (page 25).
- ATTENTION! THE TOOL MUST BE OPERATED AS A LEFT TURN.
- BERECHNUNG DES MINIMALEN LOCHDURCHMESSERS, DURCH DEN DAS WERKZEUG JE NACH ZU BEARBEITENDEM DURCHMESSER PASST.
- $\emptyset_{\min} = (D+B+1) / 2$
- WENN DIE ZU BEARBEITENDE BOHRTIEFE GROß IST, WÄHLEN SIE AUS DER HASSBARA-VERLÄNGERUNGSSEITE AUS (seite 25).
- ACHTUNG! DAS WERKZEUG MUSS ALS LINKSDREHUNG BETRIEBEN WERDEN.



- G: HASSbara başlık / Fine Boring Head / Feinspindelwerkzeug
K: Kartuş / Cartridge / Plattenhalter
H: Kartuş Uzatması / Cartridge Extensions / Plattenhalter Verlängerung
D: İşleme Çapı / Making hole Diameter / Zu bearbeitender Lochdurchmesser
F: Delik Çapı / Hole Diameter / Bohrungsdurchmesser

YAPTIĞI ÇAP'A GÖRE
GEÇECEĞİ MİN. ÇAP =
 $\emptyset_{\min} = (F+0,5) = (D+B+1)/2$

No.	G	K	H		D (min-max)	F (min-max)	C	E	A	B
			Kod No / Stock No Bestellnummer / Cod.	Kod / Code Bezeichnung / Articolo						
1	BA 301 29-40 P	BA 301 KS29-35 C	H1311Y	BA 301 KU 39-47 AL	39-42	33-35	22	26	16	27
2	BA 301 29-40 P	BA 301 KS34-40 C	H1311Y	BA 301 KU 39-47 AL	41-47	34-37,5	22	26	16	27
3	BA 401 39-54P	BA 401 KS39-47 C	H1411Y	BA 401 KU 48-62 AL	48-55	42-46	29	29	20	36
4	BA 401 39-54P	BA 401 KS46-54 C	H1411Y	BA 401 KU 48-62 AL	54-62	45-49	29	29	20	36
5	BA 501 52-80P	BA 501 KS52-68 C	-	-	63-68	55,5-58	26	41	25	48
6	BA 501 52-80P	BA 501 KS52-68 C	H1511Y	BA 501 KU 68-96 AL	68-84	58-66	26	41	25	48
7	BA 501 52-80P	BA 501 KS64-80 C	-	-	69-80	59-64	26	41	25	48
8	BA 501 52-80P	BA 501 KS64-80 C	H1511Y	BA 501 KU 68-96 AL	80-96	64-72	26	41	25	48
9	BA 601 78-170P	BA 601 KS78-98 C	-	-	94-98	83-85	25	52	32	72
10	BA 601 78-170P	BA 601 KS78-98 C	H1711Y	BA 601 KU 114-134 AL	96-116	84-94	25	52	32	72
11	BA 601 78-170P	BA 601 KS96-116 C	-	-	103-116	88-94	25	52	32	72
12	BA 601 78-170P	BA 601 KS96-116 C	H1711Y	BA 601 KU 114-134 AL	114-134	93-103	25	52	32	72
13	BA 601 78-170P	BA 601 KS96-116 C	H1712Y	BA 601 KU 132-152 AL	132-152	111-121	25	52	32	72
14	BA 601 78-170P	BA 601 KS96-116 C	H1711Y+H1712Y	BA 601 KU 114-134 AL+ BA 601 KU 132-152 AL	150-170	129-139	25	52	32	72

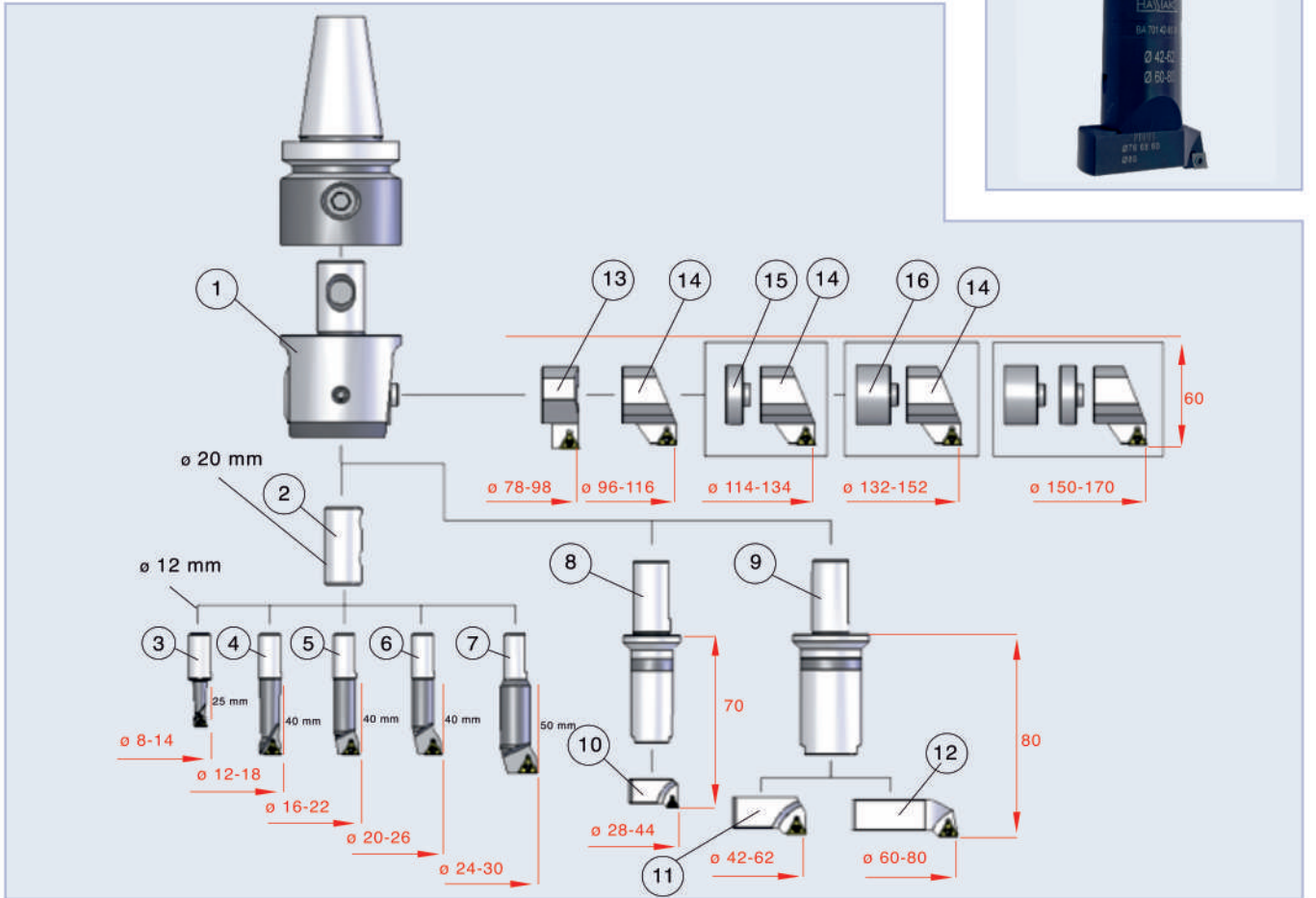
EKONOMİ SET Ø8~170 E / Ø8~250 E



H201E BA 8-170E SET

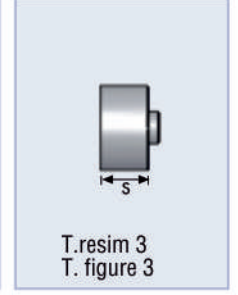
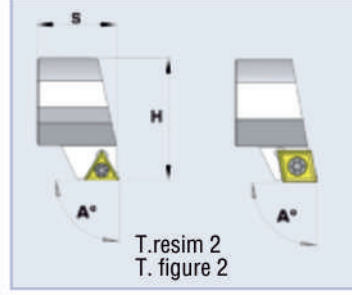
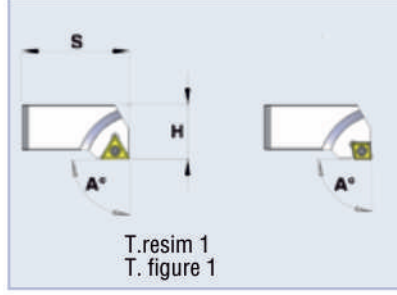
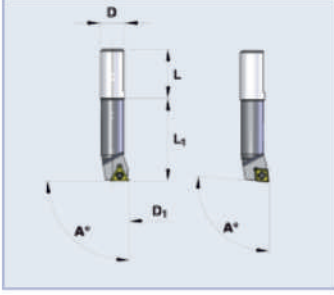


H202E BA 8-250E SET



No.	Kod No / Stock No / Bestellnummer / Cod.	Kod / Code / Bezeichnung / Articolo	Ø
1	H201E	BA 8-170 E-SET	8-170
	H702E	BA 701 8-170 E GÖVDE	8-170
	H202E	BA 8-250 E-SET	8-250
	H703E	BT40 8-250E GÖVDE (YENİ)	8-250
	H203E	BT40 8-250E SET (YENİ)	8-250
	H204E	BT40 8-170 E SET (YENİ)	8-170
	H2010R16	ADP 26 20 16 45 (YENİ)	-
2	H2010R08	ADP 26 20 08 45 (YENİ)	-
	H2010R	ADP 20 26 12 45	-

EKONOMİ SET Ø8~170 E / Ø8~250 E



KATERLER / BORING BARS / BOHRSTANGEN / BARENI

No.	Kod No / Stock No Bestellnummer / Cod.	Kod / Code Bezeichnung / Articolo	Ø D1 (min-max)	D	L	L1	Uç/Insert W.P. Inserto	A		Torks Torx
3	H1221K	BA 201 K 8-14 25 TC06 90	8-14	12	25	25	TC..06	90°	M2	T06
4	H1231K	BA 201 K 12-18 40 TC09 90	12-18	12	25	40	TC..09	90°	M2,2	T07
5	H1241K	BA 201 K 16-22 40 TC09 90	16-22	12	25	40	TC..09	90°	M2,2	T07
6	H1251K	BA 201 K 20-26 40 TC09 90	20-26	12	25	40	TC..09	90°	M2,2	T07
7	H1261K	BA 201 K 24-30 50 TC11 90	24-30	12	25	50	TC..11	90°	M2,5	T08
3	H1222K	BA 201 K 8-14 30 CC06 95	8-14	12	25	30	CC..06	95°	M2,5	T08
4	H1232K	BA 201 K 12-18 40 CC06 95	12-18	12	25	40	CC..06	95°	M2,5	T08
5	H1242K	BA 201 K 16-22 40 CC06 95	16-22	12	25	40	CC..06	95°	M2,5	T08
6	H1252K	BA 201 K 20-26 40 CC06 95	20-26	12	25	40	CC..06	95°	M2,5	T08
7	H1262K	BA 201 K 24-30 50 CC06 95	24-30	12	25	50	CC..06	95°	M2,5	T08
4	H1234K	BA 201 K 12-18 40 TP09 90	12-18	12	25	40	TP..09	90°	M2,5	T08
5	H1246K	BA 201 K 16-22 40 TP09 90	16-22	12	25	40	TP..09	90°	M2,5	T08
6	H1299K	BA 201 K 20-26 40 TP09 90	20-26	12	25	40	TP..09	90°	M2,5	T08
7	H1270K	BA 201 K 24-30 40 TP09 90	24-30	12	25	50	TP..09	90°	M2,5	T08

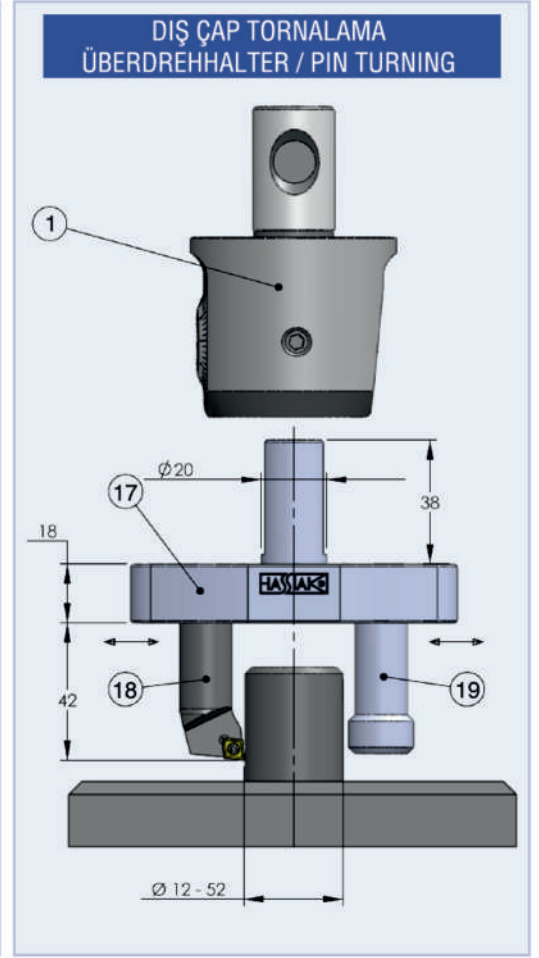
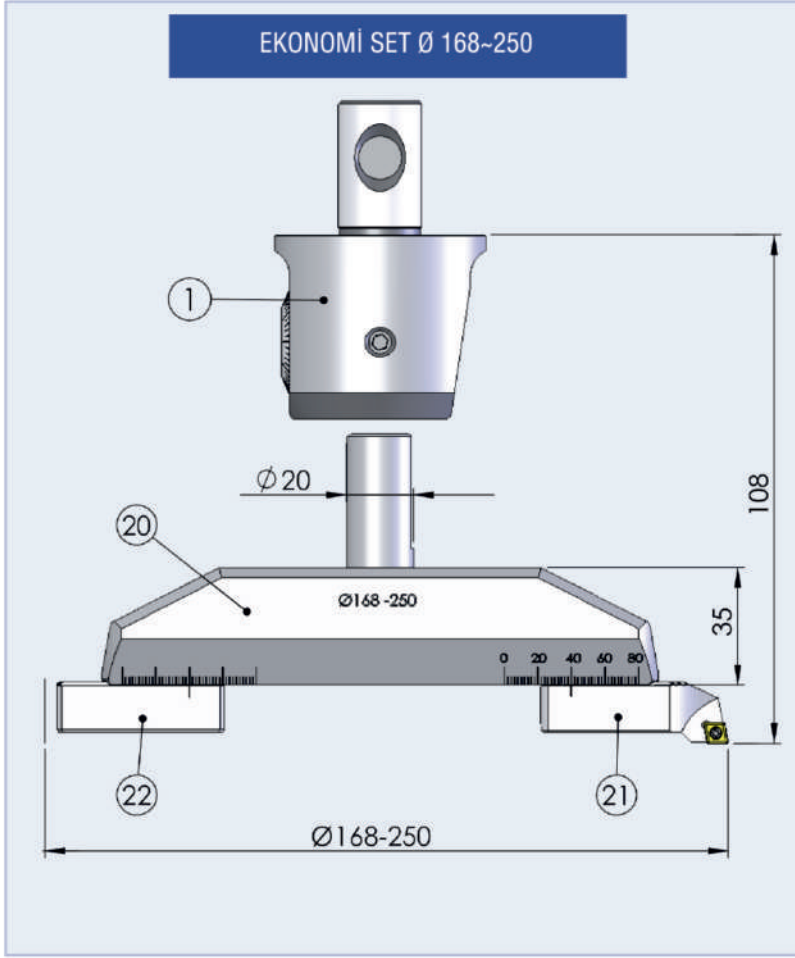
KARTUŞ ADAPTÖRLERİ / CARTRIDGE BARS / AUFNAHME / ADAPTATORECARTUCCIA

No.	Kod No / Stock No / Bestellnummer / Cod.	Kod / Code / Bezeichnung / Articolo	Ø
8	H2011A	BA 701-28-44 70	28-44
9	H2012A	BA 701-42-80 80	42-80

KARTUŞLAR / CARTRIDGES / PLATTENHALTER / CARTUCCIA

No.	Kod No / Stock No Bestellnummer / Cod.	Kod / Code Bezeichnung / Articolo	Ø	H	S	Uç/Insert W.P. Inserto	A		Torks Torx	T.r/f. V-R
10	H2121K	BA 701 KS 28-44 TC09 90	28-44	16	26	TC..09	90°	M2,2	T07	1
11	H2131K	BA 701 KS 42-62 TC11 90	42-62	20	39	TC..11	90°	M2,5	T08	1
12	H2141K	BA 701 KS 60-80 TC11 90	60-80	20	56	TC..11	90°	M2,5	T08	1
10	H2122K	BA 701 KS 28-44 CC06 90	28-44	16	26	CC..06	90°	M2,5	T08	1
11	H2132K	BA 701 KS 42-62 CC06 90	42-62	20	39	CC..06	90°	M2,5	T08	1
12	H2142K	BA 701 KS 60-80 CC06 90	60-80	20	56	CC..06	90°	M2,5	T08	1
10	H2123K	BA 701 KS 28-44 TP09 90	28-44	16	26	TP..09	90°	M2,5	T08	1
11	H2133K	BA 701 KS 42-62 TP09 90	42-62	20	39	TP..09	90°	M2,5	T08	1
12	H2143K	BA 701 KS 60-80 TP09 90	60-80	20	56	TP..09	90°	M2,5	T08	1
13	H1621K	BA 601 KS 78-98 TC11 90	78-98	20	44	TC..11	90°	M2,5	T08	2
14	H1631K	BA 601 KS 96-116 TC11 90	96-116	30	44	TC..11	90°	M2,5	T08	2
13	H1622K	BA 601 KS 78-98 CC09 90	78-98	20	44	CC..09	90°	M3,5	T15	2
14	H1632K	BA 601 KS 96-116 CC09 90	96-116	30	44	CC..09	90°	M3,5	T15	2
13	H1633K	BA 601 KS 96-116 TP09 90	96-116	30	44	TP..09	90°	M2,5	T08	2
14	H1623K	BA 601 KS 78-98 TP09 90	78-98	20	44	TP..09	90°	M2,5	T08	2
15	H1711Y	BA 601 KU 114-134 AL	114-134	-	9	-	-	-	-	3
16	H1712Y	BA 601 KU 132-152 AL	132-152	-	18	-	-	-	-	3

EKONOMİ SET İLAVELER / ADDITIONS / ADDITIONEN



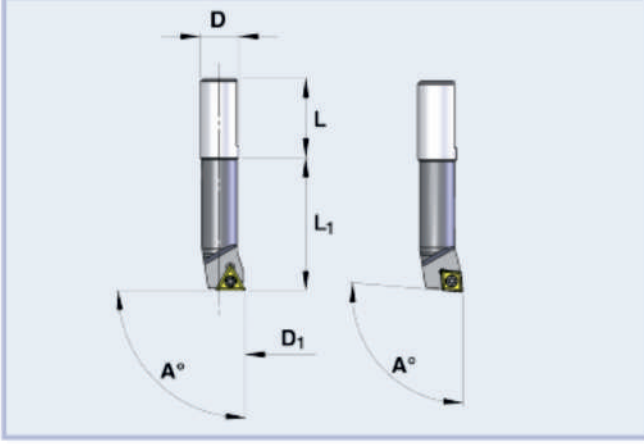
No.	Kod No / Stock No / Bestellnummer / Cod.	Kod / Code / Bezeichnung / Articolo	Ø
17	H2213	BA D12-52 42 20	12-52
18	H2214	BA DK 12-52 42	12-52
19	H2215	DBA 12-52	12-52
20	H2015	KZ 168-250 ALU	-
21	H2016	K 168-250 CC06 90	-
22	H2017	BLS 168-250	-

UZUN KARTUŞ ADAPTÖRLERİ / LONG CARTRIDGE BARS


No.	Kod No / Stock No / Bestellnummer / Cod.	Kod / Code / Bezeichnung / Articolo	Ø
8	H2013A	BA 701-28-44 100	28-44
9	H2014A	BA 701-42-80 120	42-80

- * Bütün ürünlerde özel ölçü takım ihtiyaçlarınız için arayınız.
- * Please contact us for your special tool size requirements for all products.
- * Sonderanfertigung und Größen der Werkzeuge bitte anfragen.
- * Non esitate a cotattarci per utensili co misure speciali.

UZUN KATERLER / LONG BORING BARS / LANGEN-HALTER / BARENI



Ø8~170 EKONOMİ SET UZUN KATERLER / Ø8~170 ECONOMY SET LONG BORING BAR Ø8~170 ECONOMY SET LANGEN-HALTER / BARENI Ø8~170E ECONOMY

Kod No / Stock No Bestellnummer / Cod.	Kod / Code Bezeichnung / Articolo	Ø D1 (min-max)	D	L	L1	Uç/Insert W.P. Inserto	A		Torks Torx
H1271K	BA 701 K 16-22 60 CC06 90	16-22	20	40	60	CC..06	90°	M2,5	T08
H1272K	BA 701 K 16-22 60 CC06 95	16-22	20	40	60	CC..06	95°	M2,5	T08
H1281K	BA 701 K 20-26 70 CC06 90	20-26	20	40	70	CC..06	90°	M2,5	T08
H1282K	BA 701 K 20-26 70 CC06 95	20-26	20	40	70	CC..06	95°	M2,5	T08
H1291K	BA 701 K 24-30 80 CC06 90	24-30	20	40	80	CC..06	90°	M2,5	T08
H1292K	BA 701 K 24-30 80 CC06 95	24-30	20	40	80	CC..06	95°	M2,5	T08
H1293K	BA 701 K 24-30 80 CC09 90	24-30	20	40	80	CC..09	90°	M3,5	T15
H1294K	BA 701 K 24-30 80 CC09 95	24-30	20	40	80	CC..09	95°	M3,5	T15
H1273K	BA 701 K 16-22 60 TC09 90	16-22	20	40	60	TC..09	90°	M2,2	T07
H1274K	BA 701 K 16-22 60 TC09 93	16-22	20	40	60	TC..09	93°	M2,2	T07
H1283K	BA 701 K 20-26 70 TC09 90	20-26	20	40	70	TC..09	90°	M2,2	T07
H1284K	BA 701 K 20-26 70 TC09 93	20-26	20	40	70	TC..09	93°	M2,2	T07
H1295K	BA 701 K 24-30 80 TC11 90	24-30	20	40	80	TC..11	90°	M2,5	T08
H1296K	BA 701 K 24-30 80 TC11 93	24-30	20	40	80	TC..11	93°	M2,5	T08
H1278K	BA 701 K 16-22 60 TP09 90	16-22	20	40	60	TP..09	90°	M2,5	T08
H1286K	BA 701 K 16-22 60 TP09 93	16-22	20	40	60	TP..09	93°	M2,5	T08
H1289K	BA 701 K 20-26 70 TP09 90	20-26	20	40	70	TP..09	90°	M2,5	T08
H1290K	BA 701 K 20-26 70 TP09 93	20-26	20	40	70	TP..09	93°	M2,5	T08
H1297K	BA 701 K 24-30 80 TP09 90	24-30	20	40	80	TP..09	90°	M2,5	T08
H1298K	BA 701 K 24-30 80 TP09 93	24-30	20	40	80	TP..09	93°	M2,5	T08

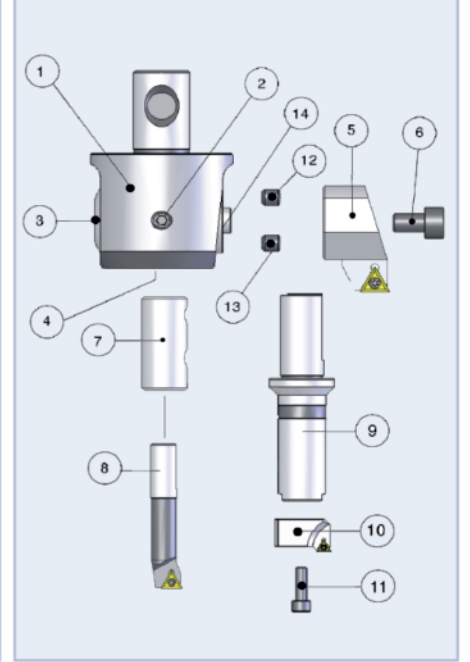
- H2010R Redüksiyon ile birlikte kullanılan Ø12mm saplı UZUN HASSbara katerleri için SAYFA 13 e bakınız.
- For LONG HASbara toolholders with Ø12mm shank used with H2010R Reduction, see PAGE 13.
- Für Lange HASbara-Werkzeughalter mit Ø12mm Schaft, die mit H2010R-Reduktion verwendet werden, siehe SEITE 13.

KULLANIM REHBERİ Ø 8~250 E / Ø8~170 E

DESCRIPTION AND OPERATING MANUAL

MONTAGE ANLEITUNG / MANUALDI UTILIZZO

1. GÖVDE / BODY / FEINSPINDELWERKZEUG / CORPO
2. SABİTLEME VİDASI / FIXING SCREW
KLEMMSCHRAUBE / GRANO BLOCCAGGIO NONIO
3. SKALA / SCALE / SKALA / NONIO
4. KATER YUVASI / BORING BAR SOCKET
AUFNAHME PLATTENHALTER / ALLOGGIAMENTO BARENO
5. KARTUŞ / CARTRIDGE / PLATTENHALTER / CARTUCCIA
6. KARTUŞ SABİTLEME / CARTRIDGE FIXING SCREW
BEFESTIGUNGSSCHRAUBE / VITE FISSAGGIO CARTUCCIA
7. Ø20/12 REDÜKSİYON / Ø20/12 REDUCTION
Ø20/12 REDUZIERUNG / RIDUZIONE Ø20/12MM
8. KATER / BORING BAR / PLATTENHALTER /BARENO
9. KARTUŞ ADAPTÖRÜ / CARTRIDGE BAR
AUFNAHME PLATTENHALTER / BARENO CON CARTUCCIA
10. KARTUŞ / CARTRIDGE / PLATTENHALTER /CARTUCCIA
11. KARTUŞ VİDASI / CARTRIDGE SCREW / BEFESTIGUNGSSCHRAUBE
VITE CARTUCCIA
12. REDÜKSİYON SABİTLEME VİDASI / REDUCTION FIXING SECREW
BEFESTIGUNGSSCHRAUBE-REDUZIERUNG / GRANO FISSAGGIO RIDUZIONE
13. KATER SABİTLEME VİDASI / BORING BAR FIXING SCREW
BEFESTIGUNGSSCHRAUBE-PLATTENHALTER / GRANO FISSAGGIO BARENO
14. KARTUŞ YUVASI / CARTRIDGE SOCKET
AUFNAHME PLATTENHALTER / ALLOGGIAMENTO CARTUCCIA



Ø 8 - 30 UYGULAMASI

- A- Kater ve Redüksiyonu takmadan önce SABİTLEME VİDASI nı (2) sıkınız
- B- REDÜKSİYONU (7), Kater yuvasına (4) taktıktan sonra (12) nolu vidayı sıkarak sabitleyin
- C- Kateri, sapındaki düzlüğe (13) nolu vida basacak şekilde REDÜKSİYONA (7) takınız ve (13) nolu vidayı sıkınız.
- D- Çap ayarını SKALA DAN (3) yapmadan önce SABİTLEME VİDASI nı (2) gevşetiniz.
- E- Çap ayarını daima merkezden dışa doğru yapınız. (Saat yönünde döndür)
- F- Özellikle çap küçültmek istendiğinde, SKALA (3) istenen değerden en az 20 çizgi geri alınarak (saat yönünün aksine çevirerek) tekrardan istenen değere (saat yönüne çevirerek) gelinmelidir.
- G- Ayar bittiğinde SABİTLEME VİDASI nı (2) sıkımayı UNUTMAYINIZ!

Ø 28 - 80 UYGULAMASI

- H- Kartuş adaptörünü (9) kater yuvasına(4) takmadan önce sabitleme vidasını(2)sıkınız
- I- Redüksiyonu(12)numaralı vidayı gevşeterek çıkartınız.
- J- Kartuş adaptörünü sapındaki düzlüğe 13 numaralı vida basacak şekilde kater yuvasına (4) takınız ve 12 ile 13 numaralı vidalar ile adaptörü (9) sabitleyiniz.
- K- İşleme yapacağınız çapa uygun kartuş(10) tipini kartuş adaptörüne (9) 11 numaralı imbus civata ile sabitleyiniz.
- L- Çap ayarlamasını D/E/F/G'ye göre yapınız.

Ø 78 - 250 UYGULAMASI

- M- Kartuşu Ø 78-250 (5) yerine monte etmeden önce SABİTLEME VİDASINI (2) sıkınız. Daha sonra kartuju (5) yuvasına (14) takarak imbus vidası ile (6) sabitleyiniz.
- N- Çap ayarlamasını D/E/F/G'ye göre yapınız.

APPLICATION OF Ø 8 - 30

- A - Tighten FIXING SCREW (2) before mounting Boring bar and Reduction
- B - Place REDUCTION (7) in Boring bar socket (4) and fasten it by tightening the screw no (12).
- C- Mount the boring bar so that the screw no (13) press onto the flat point on its handle and tighten the screw no (13).
- D- Loosen FIXING SCREW (2) before adjusting the diameter from SCALE (3)
- E- Adjust the diameter outwardly (by rotating clockwise)
- F- Specifically, if you wish to reduce the diameter, adjust SCALE (3) back to at least twenty marks less the desired value (by rotating it counter-clockwise), then re-adjust it to the desired value (by rotating it clockwise).
- G- DO NOT FORGET to tighten FIXING SCREW (2) when you complete the adjustment!

APPLICATION OF Ø 28 - 80

- H - Tighten fixing screw (2) before mounting cartridge bar (9) in boring bar socket (4)
- I- Tighten and remove the reduction no. (12)
- J- Mount the cartridge bar so that the screw no (13) press onto the flat point on its handle and fasten the sleeve by the screws no. (12) and (13).
- K- Fasten the cartridge (10) type suitable for the desired diameter onto the cartridge bar (9) by Imbus bolt no.(11)
- L- Adjust diameter i according to D/E/F/G.

APPLICATION OF Ø 78 - 250

- M- Tighten fixing screw (2) before mounting cartridge Ø 78-250 (5) in its place. Then install the cartridge in its socket (14) and fasten it with Imbus screw (6).
- N- Adjust diameter according to D/E/F/G.

MONTAGE ANLEITUNG Ø 8 - 30

- A - Vor der Montage der Reduzierung oder Plattenhalter, bitte die Klemmschraube (2) anziehen.
- B - Bauen Sie die Reduzierung (7) in die Aufnahme (4) und klemmen Sie es mit der Schraube (7).
- C- Den Plattenhalter (8) in die Reduzierung (7) einbauen und mit der Schraube (13) anziehen.
- D- Vor der Feineinstellung an der Skala (3), bitte die Schraube (2) lösen.
- E- Die Feineinstellung möglichst im Uhrzeigersinn ausführen.
- F- Den Totengang entgegen zu wirken.
- G- Bitte die Schraube (2) nach Verstellung anziehen.

MONTAGE ANLEITUNG Ø 28 - 80

- H - Die Reduzierung (7) bitte ausbauen, indem Sie die Schraube (12) lösen.
- I- Vor der Montage der Aufnahme (9) in die Aufnahme (4), bitte die Klemmschraube (2) anziehen.
- J- Bauen Sie die Reduzierung (9) in die Aufnahme (4) ein und befestigen Sie es mit den Schrauben (12 / 13).
- K- Die Feineinstellung wie D/E/F/G ausführen.

MONTAGE ANLEITUNG Ø 78 - 250

- L - Vor der Montage des Plattenhalters (5) in die Aufnahme (14), bitte die Klemmschraube (2) anziehen.
- M- Die Feineinstellung wie D/E/F/G ausführen.

EKSANTRİK ADAPTÖR

ECCENTRIC SLEEVE / EXCENTER BÜCHSEN / MANICOTTI ECCENTRIC

- Hassentrik'in standart bir veldon tutucu ile kullanılabilmesi ekonomik avantaj sağlar.
- Hassentrik kann man mit einer Standart - Weldon - Aufnahme verwenden, was von Vorteil ist.
- Ability to use Hassentrik with a standard veldon holder gives an economic advantage.



EKSANTRİK ADAPTÖR NE İŞE YARAR ?

Bu adaptör U-Drill matkaplar ile delik delme işleminde çap ölçüsünü $\varnothing+0.5\sim\varnothing-0.25$ arasında ondalıklı olarak ayarlayan araçtır. Örnek: $\varnothing24$ Standart U-dril matkap ile eksantrik adaptör kullanılarak $\varnothing23.75$ mm ile $\varnothing24.5$ mm arasında delik delinebilir.

WOFÜR SIND EXCENTERBÜCHSEN GUT?

Verstellbereich von $\varnothing + 0.5\text{mm} / \varnothing - 0.25\text{mm}$ Beispiel: Ein W.P.Bohrer $D=24\text{mm}$ kann mit der Excenterbüchse verstellt werden. Entweder kleiner auf $D=23,75\text{mm}$ oder größer $24,5\text{mm}$. Eine schnelle und einfache Lösung gegenüber Sonderdurchmessern.

1. U DRILL MATKAP / U-DRILL
W.P.BOHRER / PUNTA U-DRILL
2. EKSANTRİK ADAPTÖR / ECCENTRIC SLEEVE
EXCENTERBÜCHSE / MANICOTTI ECCENTRIC
3. VELDON TUTUCU / WELDON TOOL HOLDER
WELDON WERKZEUGHALTER / MANDRINO WELDON
4. KADEMELİ SETSKUR / STEP SETSCREW
KLEMMSCHRAUBE /GRANO PER HASSENTRIK

MONTAJDA DİKKAT EDİLECEK HUSUS

HASSentrik ile beraber verilen setiskur civatasını (4) sıkarken U-drill in dış ucu setiskur civatasının sol tarafında kalması gerekmektedir.

POINT TO CONSIDER DURING MOUNTING

While tightening setscrew bolt (4) provided with HASSentrik, The outer insert of U-drill should remain on the left hand side of setscrew bolt.

WICHTIGE MONTAGE HINWEISE

Bei der Montage ist zu beachten, dass die mitgelieferte Schraube Pos.(4) verwendet wird und die Aussenschniede des Bohrers in Richtung Schraube zeigt.

IMPORTANTE

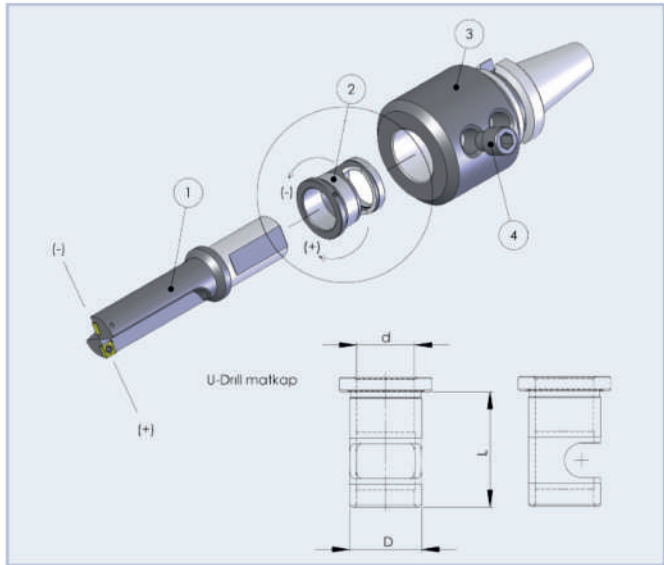
Quando serrate il grano HASSentrik (4) l'inserto esterno della punta U-drilli dovrebbe rimanere sul lato sinistro rispetto al grano(4)

WHAT ECCENTRIC SLEEVE IS USED FOR?

This sleeve is used for adjusting diameter value in decimals between $\varnothing+0.5\sim\varnothing-0.25\text{mm}$ in drilling with U-drill. Example: Holes of $\varnothing23.75$ mm to $\varnothing24.5$ can be bored with $\varnothing24$ Standard U-drill by using eccentric sleeve.

A COSA SERVE UN MANICOTTO ECCENTRICO?

Consente di regolare le punte U-drill $\varnothing13\text{-}45\text{mm}$ incrementando (+0.5mm) o riducendo (-0.25mm) il diametro di foratura. Ad esempio con una punta U-drill $\varnothing 24\text{mm}$ potete forare da $\varnothing 23.75$ a 24.5mm utilizzando il sistema HASSentrik.



Kod No / Stock No Bestellnummer / Cod.	Kod / Code Bezeichnung / Articolo	D	d	L
EKS 220	EKS 25-20	25	20	40
EKS 325	EKS 32-25	32	25	40
EKS 432	EKS 40-32	40	32	40

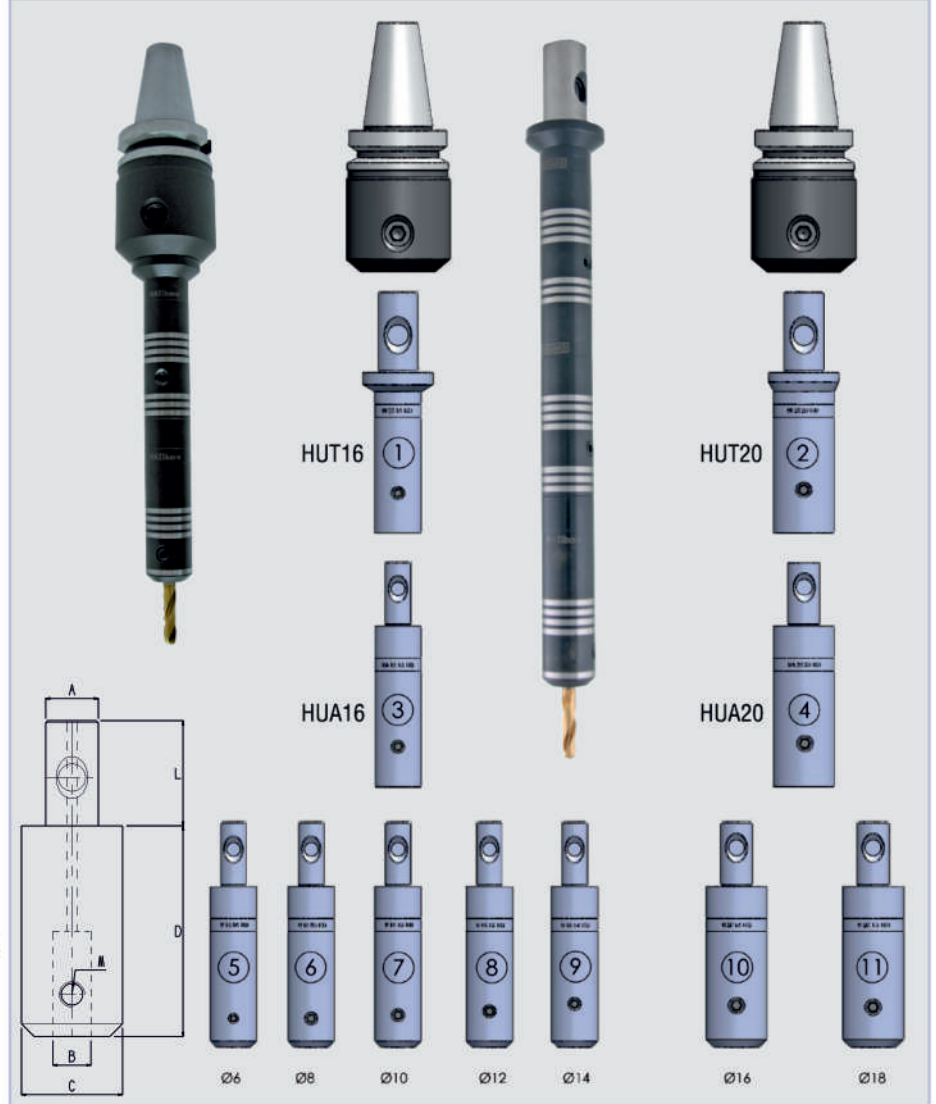
MATKAP UZATMALARI

MATKAP UZATMALARI / DRILL EXTENSIONS / BOHRER VERLÄNGERUNGEN

- Matkap uzatmaları
- Standart veldon modüler sistem
- Standart veldon tutucular ile kullanılır
- Derin yerlerde kısa delikler için, uzun HSS matkaplara farklı bir alternatif
- Montaj edilirken alından çekerek kuvvetli bağlama
- İçten su verebilme

- Drill extensions
- Standart veldon modular system
- Used with standart veldon holders
- A variant alternative to HSS drills for short holes at deep areas
- Whilst mounting strong binding by pulling the front
- With inner coolant supply

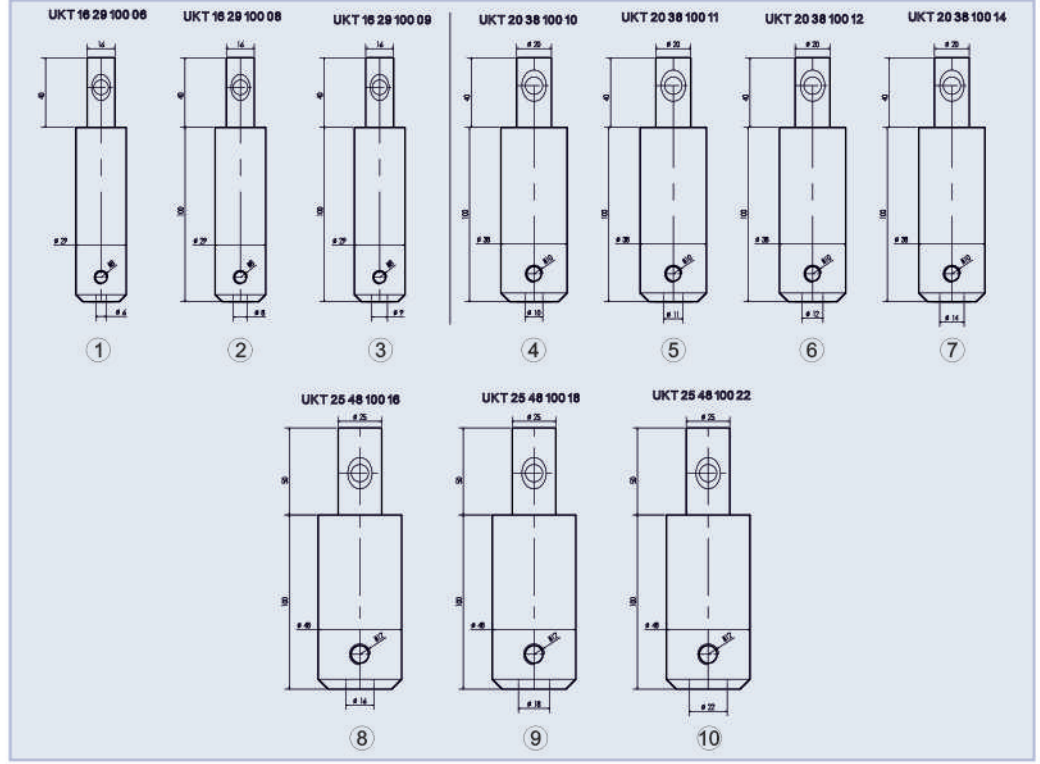
- Bohrer Verlängerungen
- Modulares Standart Weldon System
- Kann mit Standart Weldon Systemen verwendet werden
- Bei langer Auskraglänge und kurzen Bohrungen ist es eine gute Alternative zu langen HSS-Spiralbohrern
- Bei der Montage mit einer viertel Umdrehung (montieren/festziehen)
- Mit Innenkühlung



No.	Kod No / Stock No Bestellnummer / Cod.	Kod / Code Bezeichnung / Articolo	Ø A	Ø B	Ø C	D	M
1	HUT16	UT 25 16 100	25	16	29	100	M8
2	HUT20	UT 25 20 100	25	20	38	100	M10
3	HUA16	UA 16 16 100	16	16	29	100	M8
4	HUA20	UA 20 20 100	20	20	38	100	M10
5	HU06	U 16 06 100	16	6	29	100	M6
6	HU08	U 16 08 100	16	8	29	100	M8
7	HU10	U 16 10 100	16	10	29	100	M8
8	HU12	U 16 12 100	16	12	29	100	M8
9	HU14	U 16 14 100	16	14	29	100	M8
10	HU16	U 20 16 100	20	16	38	100	M10
11	HU18	U 20 18 100	20	18	38	100	M10

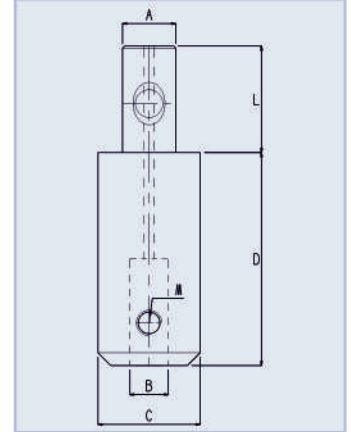
KILAVUZ UZATMALARI

KILAVUZ UZATMALARI / TAPPING EXTENSIONS / GEWINDEBOHRER HALTER



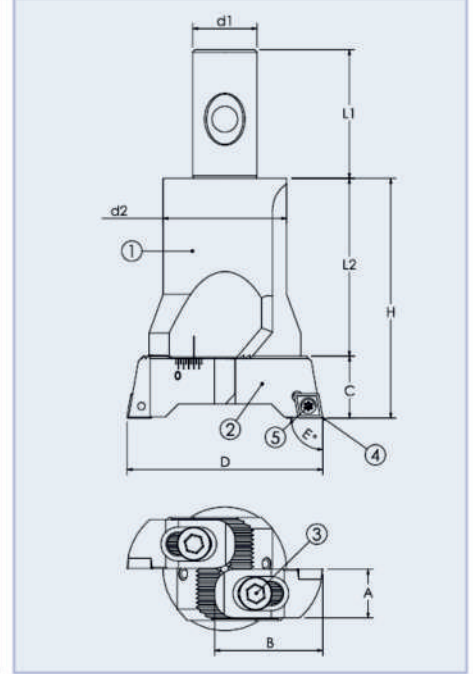
- Klavuz uzatmaları
- Standart veldon modüler sistem
- Standart veldon tutucular ile kullanılır
- Derin yerlerde kısa delikler için,
- Montaj edilirken alından çekerek kuvvetli bağlama
- Tapping extensions
- Standart veldon modular system
- Used with standart veldon holders
- A variant alternative to HSS tapping for short holes at deep areas
- Whilst mounting strong binding by pulling the front

- Gewindebohrer Halter
- Modulares Standart Weldon System
- Kann mit Standart Weldon Systemen verwendet werden
- Bei langer Auskraglänge und kurzen Bohrungen ist es eine gute Alternative zu langen HSS-Gewindebohrer
- Bei der Montage mit einer viertel Umdrehung (montieren/festziehen)



No	Kod No	Kod	A	B	C	L	D	LOCK SCREW
1	HUKT06	UKT 16 29 100 06 (kılavuz tutucu)	16	6	29	40	100	M8
2	HUKT08	UKT 16 29 100 08 (kılavuz tutucu)	16	8	29	40	100	M8
3	HUKT09	UKT 16 29 100 09 (kılavuz tutucu)	16	9	29	40	100	M8
4	HUKT10	UKT 20 38 100 10 (kılavuz tutucu)	20	10	38	40	100	M10
5	HUKT11	UKT 20 38 100 11 (kılavuz tutucu)	20	11	38	40	100	M10
6	HUKT12	UKT 20 38 100 12 (kılavuz tutucu)	20	12	38	40	100	M10
7	HUKT14	UKT 20 38 100 14 (kılavuz tutucu)	20	14	38	40	100	M10
8	HUKT16	UKT 25 48 100 16 (kılavuz tutucu)	25	16	48	50	100	M12
9	HUKT18	UKT 25 48 100 18 (kılavuz tutucu)	25	18	48	50	100	M12
10	HUKT20	UKT 25 48 100 22 (kılavuz tutucu)	25	22	48	50	100	M12

HASSkaba AYARLI KABA BARALAR Ø20-170 / ROUGH BORING TOOLS SCHRUPPBOHRSTANGEN



HASSkaba AYARLI KABA BARALAR SETLER Ø20-170 ROUGH BORING TOOLS SETS / SCHRUPPBOHRSTANGEN

No.	Kod No / Stock No Bestellnummer / Cod.	Kod / Code Bezeichnung / Articolo	Dmin-Dmax	D1	D2	L1	L2	H
1	H700KB1	AKB 20 24 60 SET	Ø20-24	20	19	45	50	60
2	H701KB1	AKB 20 24 80 SET	Ø20-24	20	19	45	70	80
3	H702KB1	AKB 20 24 90 SET	Ø20-24	20	19	45	80	90
4	H703KB1	AKB 20 24 110 SET	Ø20-24	20	19	45	100	110
5	H710KB2	AKB 24 30 62 SET	Ø24-30	25	24	50	50	62
6	H711KB2	AKB 24 30 82 SET	Ø24-30	25	24	50	70	82
7	H712KB2	AKB 24 30 102 SET	Ø24-30	25	24	50	90	102
8	H720KB3	AKB 30 40 65 SET	Ø30-40	16	27	40	50	65
9	H730KB4	AKB 40 54 80 SET	Ø40-54	20	36	40	60	80
10	H740KB5	AKB 52 68 90 SET	Ø52-68	25	48	50	70	92
11	H750KB6	AKB 64 80 100 SET	Ø64-80	25	48/59	50	80	102
12	H760KB7	AKB 80 110 110 ALU SET	Ø80-110	32	72	60	80	110
13	H770KB8	AKB 110 140 110 ALU SET	Ø110-140	40	80/98	60	80	110
14	H780KB9	AKB 140 170 110 ALU SET	Ø140-170	40	80/118	60	80	110

Kaba Bara Seti, Bir Gövde ve İki Kartuştan İbaretir.
In Set, One Body And Two Cartridges.

Schruppbohrstange besteht aus einem Zahnkörper und zwei Plattenhaltern

* Kaba Baralar Uzatma Takılarak Da Kullanılabilir.

* Rough Boring Bars Can Be Used With Extension.


* Schruppbohrstangen können mit Verlängerungen bei Bedarf Verlängert werden.

HASSkaba AYARLI KABA BARALAR Ø20-170 / ROUGH BORING TOOLS SCHRUPPBOHRSTANGEN



GÖVDELER / BODIES / BRUCKEN

KARTUŞLAR / CARTRIDGES / PLATTENHALTER / CARTUCCIA

No.	Kod No / Stock No Bestellnummer / Cod.	Kod / Code Bezeichnung / Articolo	Kod No / Stock No Bestellnummer / Cod.	Kod / Code Bezeichnung / Articolo	E°	A	B	C	İMBUS (3)	INSERT (4)		Torks Torx
1	H700KB	AKB 20 24 60 GÖVDE										
2	H701KB	AKB 20 24 80 GÖVDE	H705KK	KK 20-24 CC06 90	90	8,5	17,5	12	M4	CC..06	M2,5	T8
3	H702KB	AKB 20 24 90 GÖVDE										
4	H703KB	AKB 20 24 100 GÖVDE										
5	H710KB	AKB 24 30 60 GÖVDE										
6	H711KB	AKB 24 30 82 GÖVDE	H715KK	KK 24-30 CC06 91	90	10	20	13	M4	CC..06	M2,5	T8
7	H712KB	AKB 24 30 102 GÖVDE										
8	H720KB	AKB 30 40 65 GÖVDE	H725KK	KK 30-40 CC06 90	90	12	24	15	M5	CC..06	M2,5	T8
9	H730KB	AKB 40 54 80 GÖVDE	H735KK	KK 40-54 CC09 90	90	15,4	32	20	M6	CC..09	M3,5	T15
			H775KK	KK 40-54 CC09 75	75	15,4	32	20	M6	CC..09	M3,5	T15
10	H740KB	AKB 52 68 90 GÖVDE	H745KK	KK 52-80 CC09 90	90	19	42	24	M8	CC..09	M3,5	T15
			H746KK	KK 52-80 CC12 90	90	19	42	24	M8	CC..12	M5	T15
			H785KK	KK 52-80 CC09 75	75	19	42	24	M8	CC..09	M3,5	T15
			H786KK	KK 52-80 CC12 75	75	19	42	24	M8	CC..12	M5	T15
11	H750KB	AKB 64 80 100 GÖVDE	H745KK	KK 52-80 CC09 90	90	19	42	24	M8	CC..09	M3,5	T15
			H746KK	KK 52-80 CC12 90	90	19	42	24	M8	CC..12	M5	T15
			H785KK	KK 52-80 CC09 75	75	19	42	24	M8	CC..09	M3,5	T15
			H786KK	KK 52-80 CC12 75	75	19	42	24	M8	CC..12	M5	T15
12	H760KB	AKB 80 110 110 ALU GÖVDE	H765KK	KK 80-170 CC12 90	90	25,8	65	32	M8	CC..12	M5	T15
			H795KK	KK 80 170 CC12 75	75	25,8	65	32	M8	CC..12	M5	T15
13	H770KB	AKB 110 140 110 ALU GÖVDE	H765KK	KK 80-170 CC12 90	90	25,8	65	32	M8	CC..12	M5	T15
			H795KK	KK 80 170 CC12 75	75	25,8	65	32	M8	CC..12	M5	T15
14	H780KB	AKB 140 170 110 ALU GÖVDE	H765KK	KK 80-170 CC12 90	90	25,8	65	32	M8	CC..12	M5	T15
			H795KK	KK 80 170 CC12 75	75	25,8	65	32	M8	CC..12	M5	T15

KABA : IT 9-10

Kaba Bara Seti, Bir Gövde ve İki Kartuştan İbaretir.

In Set, One Body And Two Cartridges.

Schruppbohrstange besteht aus einem Zahnkörper und zwei Plattenhaltern

* Kaba Baralar Uzatma Takılarak Da Kullanılabilir.

* Rough Boring Bars Can Be Used With Extension.

* Schruppbohrstangen können mit Verlängerungen bei Bedarf Verlängert werden.

HASSMULTİBOR Ø150 - 1320 KABA VE İNCE

HASSbara ALUMİNYUM GÖVDE / ALUMINIUM BODY / ALUMINIUM BRÜCKE

HASSMULTİBOR KABA ve İNCE DELİK BARALAMA TAKIMLARI

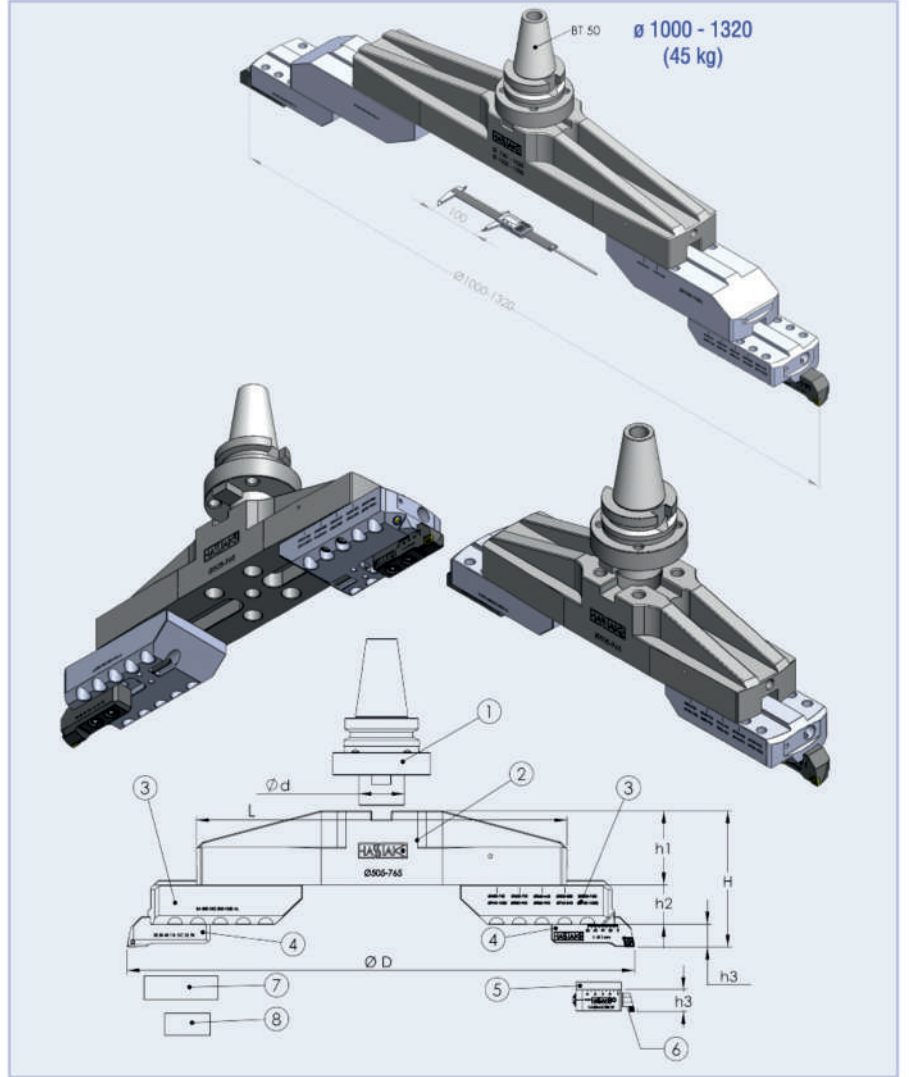
HASSMULTİBOR ROUGH AND FINE BORING TOOLS

HASSMULTİBOR SCHRUPP-UND SCHLICHTBOHRSTANGEN

1. ALIN KAMALI TUTUCU (DIN 6357)
2. KAMALI GÖVDE (ALU)
3. KIZAKLI GÖVDE (ALU)
4. KABA PASO KATERİ
5. HASSAS AYARLI FİNİŞ BOR (Ø 0,01 mm)
6. KARTUŞ (CC..06)
7. KARŞI AĞIRLIK
8. KARŞI AĞIRLIK 2

1. PASSFEDER NUT MIT DIN6357
2. ALU BRÜCKE / ALU SCHLITTEN
3. BRÜCKE MIT NUT
4. SCHRUPP PLATTENHALTER
5. FEINEINSTELLUNG MIT 0,01MM (FEINBOHRKÖPFE)
6. WENDEPLATTENHALTER
7. GEGENGEWICHT 1
8. GEGENGEWICHT 2

1. HOLDING ARBOR DIN6357
2. MAIN BODY
3. BODY SLIDE
4. ROUGH BORING TOOLHOLDERS
5. FINISH BORING TOOLHOLDER
6. INSERT HOLDER
7. COUNTERWEIGHT 1
8. COUNTERWEIGHT 2



Ø Dmin - Ø Dmax	L	d	h1	h2	h3	H
Ø 150-230	134	Weldon	79	-	30	110
Ø 150-210	140	60	90	-	30	120
Ø 205-285	196	60	90	-	30	120
Ø 280-360	270	60	90	-	30	120
Ø 355-435	346	60	90	-	30	120
Ø 430-510	420	60	90	-	30	120
Ø 505-765	490	60	95	50	30	175
Ø 760-1020	740	60	95	50	30	175
Ø 1000-1320	740	60	118	52	30	272

HASSMULTİBOR KABA VE İNCE HASSbara ALUMİNYUM GÖVDE / ALUMINIUM BODY ALUMINIUMBRÜCKE

- Alüminyum gövde yapısı
- Standart tutuculara monte edilebilir DIN6357
- İçten soğutma sıvısı temini
- Balans dengeleyici sistem
- Kullanım kolaylığı
- Aluminium body
- Mountable to standart tool holders DIN6357
- With inner coolant suply
- The system can be balanced
- Easy to use
- Aluminiumbrücken
- Kann auf Standartaufnahmen montiert werden DIN6357
- Mit Innenkühlung
- System mit Ausuchtmöglichkeit
- Einfache Bedienung



Fig. No.	Kod No / Stock No / Bestellnummer / Cod.	Kod / Code / Bezeichnung / Articolo	Ø	Ağırlık (kg) Weight
	H4060	BA 850 U 128 100 AL (UZATMA)	-	2,9
	H4061	BA 850 U 128 250 AL (UZATMA)	-	7,6
	H4049	ADP 40 60 40 AL (Ø40 WELDON İÇİN HASSMULTİ ANA ADAPTÖR)	-	1,1
	H4050	ADP 40 60 60 AL (BT 40 İÇİN HASSMULTİ ARA ADAPTÖR)	-	1,2
	H4051	ADP 32 60 60 AL (BT40 İÇİN HASSMULTİ ARA ADAPTÖR)	-	1,4
	H4040	BA GK 150-230 AL (WELDON) GÖVDE	150-230	2,2
2	H404	BA 850 GK 150-210 AL	150-210	2,3
2	H414	BA 850 GK 205-285 AL	205-285	3,4
2	H424	BA 850 GK 280-360 AL	280-360	4,2
2	H434	BA 850 GK 355-435 AL	355-435	5,3
2	H444	BA 850 GK 430-510 AL	430-510	6,5
2	H454	BA 850 GK 505-765 AL	505-765	9,1
2	H464	BA 850 GK 760-1320 AL	760-1320	18,4
3	H474	BA 850 GKZ 505-1020	505-1020	2,6
5	H401	MLB 38 486018	-	0,38
7	H484	BA 850 BLS 30 36 100	-	0,8
8	H485	BA 850 BLS 30 30 60	-	0,38
4	H410K	KK 30-40-110 CC12 90 R	-	0,8
4	H411K	KK 30-40-110 CC12 75 R	-	0,8
6	H1432K	BA 401 KS 46-54 CC06 90	-	0,2
6	H1431K	BA 401 KS 46-54 TC06 90	-	0,2
6	H1434K	BA 401 KS 46-54 TC09 90	-	0,2
6	H1433K	BA 401 KS 46-54 TP09 90	-	0,2
3	H495	BA 850 GKZ 1000-1320 AL	1000-1320	5,5

BT50 Ø40 WELDON MINIMUM 75 MAKSİMUM 100 MM DERİNLİK KAZANDIRIR.

Not: BT50 tutucu ağırlığı= 8kg



HASSMULTİBOR KABA VE İNCE HASSbara ALUMİNYUM GÖVDE / ALUMINIUM BODY / ALUMINIUMBRÜCKE

SETLER / SETS

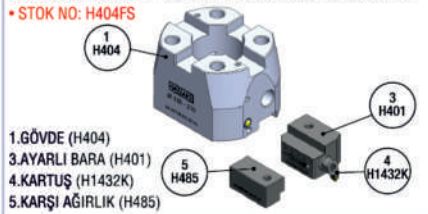
SET İÇİNDEKİLER / IN SET / IM SET ENTHALTEN

No.	Kod No / Stock No Bestellnummer / Cod.	Kod / Code Bezeichnung / Articolo	Ana Köprü Main Bridge Alu Brücke	Kaba Kater Rough Bar Schrupp Plattenhalter	Hassas Paso Ünitesi Finish Boring Unit Fein Einstellungen	İnce Paso Kartuşu Fine Cartridge Fein Wendepfattenhalter	Balans Ağırlığı Balance Weigh Gegengewicht	Alt Kızak Lower Bridge Brücke Mit Nut	Alt Kızak 2 Lower Bridge 2 Brücke Mit Nut 2	Ağırlık Gr. Weight Gr.
1	H404TS	BA 150-210 AL P Multi TÛM SET (ALL SET)	H404	H410K x 2	H401	H1432K	H485			6300
2	H404KS	BA 150-210 AL P Multi KABA SET (ROUGH SET)	H404	H410K x 2						5350
3	H404FS	BA 150-210 AL P Multi Finish SET (FINISH SET)	H404		H401	H1432K	H485			4200
4	H414TS	BA 205-285 AL P Multi TÛM SET (ALL SET)	H414	H410K x 2	H401	H1432K	H485			7300
5	H414KS	BA 205-285 AL P Multi KABA SET (ROUGH SET)	H414	H410K x 2						6350
6	H414FS	BA 205-285 AL P Multi Finish SET (FINISH SET)	H414		H401	H1432K	H485			5300
7	H424TS	BA 280-360 AL P Multi TÛM SET (ALL SET)	H424	H410K x 2	H401	H1432K	H485			8500
8	H424KS	BA 280-360 AL P Multi KABA SET (ROUGH SET)	H424	H410K x 2						7550
9	H424FS	BA 280-360 AL P Multi Finish SET (FINISH SET)	H424		H401	H1432K	H485			6400
10	H434TS	BA 355-435 AL P Multi TÛM SET (ALL SET)	H434	H410K x 2	H401	H1432K	H485			9600
11	H434KS	BA 355-435 AL P Multi KABA SET (ROUGH SET)	H434	H410K x 2						8650
12	H434FS	BA 355-435 AL P Multi Finish SET (FINISH SET)	H434		H401	H1432K	H485			7500
13	H444TS	BA 430-510 AL P Multi TÛM SET (ALL SET)	H444	H410K x 2	H401	H1432K	H485			10900
14	H444KS	BA 430-510 AL P Multi KABA SET (ROUGH SET)	H444	H410K x 2						9950
15	H444FS	BA 430-510 AL P Multi Finish SET (FINISH SET)	H444		H401	H1432K	H485			8900
16	H454TS	BA 505-765 AL P Multi TÛM SET (ALL SET)	H454	H410K x 2	H401	H1432K	H485	H474 x 2		19300
17	H454KS	BA 505-765 AL P Multi KABA SET (ROUGH SET)	H454	H410K x 2				H474 x 2		18350
18	H454FS	BA 505-765 AL P Multi Finish SET (FINISH SET)	H454		H401	H1432K	H485	H474 x 2		17200
19	H464TS	BA 760-1020 AL P Multi TÛM SET (ALL SET)	H464	H410K x 2	H401	H1432K	H485	H474 x 2		28200
20	H464KS	BA 760-1020 AL P Multi KABA SET (ROUGH SET)	H464	H410K x 2				H474 x 2		27250
21	H464FS	BA 760-1020 AL P Multi Finish SET (FINISH SET)	H464		H401	H1432K	H485	H474 x 2		26300
22	H474TS	BA 760-1320 AL MULTI TÛM SET (ALL SET)	H464	H410K x 2	H401	H1432K	H485	H474 x 2	H495 x 2	40000
23	H474KS	BA 760-1320 AL MULTI KABA SET (ROUGH SET)	H464	H410K x 2				H474 x 2	H495 x 2	39020
24	H474FS	BA 760-1320 AL MULTI Finish SET (FINISH SET)	H464		H401	H1432K	H485	H474 x 2	H495 x 2	38000
25	H4040TS	BA GK 150-230 AL P Multi TÛM SET (ALL SET)	H4040	H410K x 2	H401	H1432K	H485			5200
26	H4040KS	BA GK 150-230 AL P Multi Kaba SET (ROUGH SET)	H4040	H410K x 2						4220
27	H4040FS	BA GK 150-230 AL P Multi Finish SET (FINISH SET)	H4040		H401	H1432K	H485			3160

HASSAS / FINISH / FEIN

BA 150-210 AL-P MULTİ FINISH SET Ø150-210

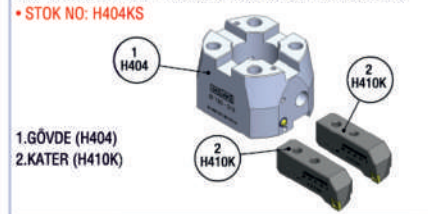
• STOK NO: H404FS



KABA / ROUGH / SCHRUPP

BA 150-210 AL-P MULTİ KABA SET Ø150-210

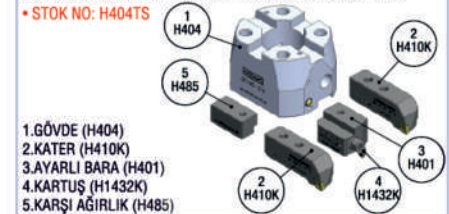
• STOK NO: H404KS



TÛM / ALL / ALLE

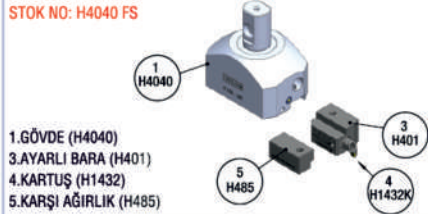
BA 150-210 AL-P MULTİ TÛM SET Ø150-210

• STOK NO: H404TS



BA 150-230 AL-P MULTİ FINISH SET Ø150-230

STOK NO: H404 FS



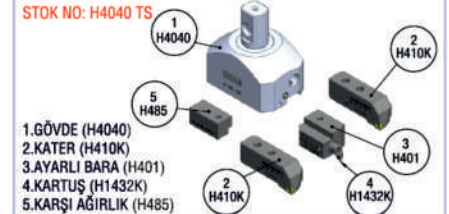
BA 150-230 AL-P MULTİ KABA SET Ø150-230

STOK NO: H4040 KS



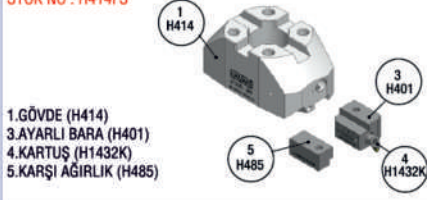
BA 150-230 AL-P MULTİ TÛM SET Ø150-230

STOK NO: H4040 TS

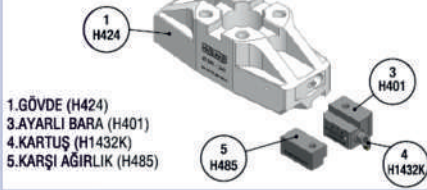


HASSAS / FINISH / FEIN

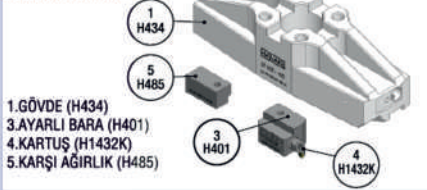
BA 205-285 AL-P MULTİ FINISH SET Ø205-285
STOK NO : H414FS



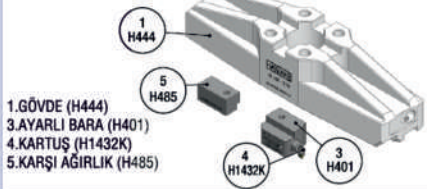
BA 280-360 AL-P MULTİ FINISH SET Ø280-360
STOK NO : H424FS



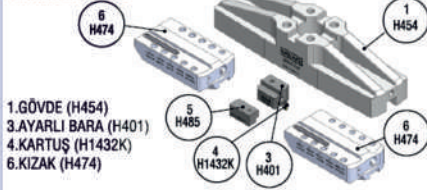
BA 355-435 AL-P MULTİ FINISH SET Ø355-435
STOK NO : H434FS



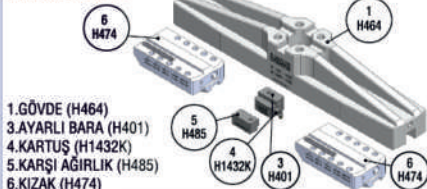
BA 430-510 AL-P MULTİ FINISH SET Ø430-510
STOK NO : H444FS



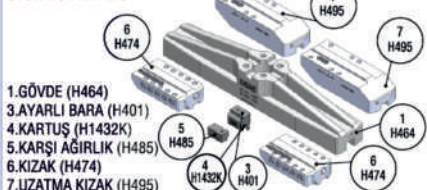
BA 505-765 AL-P MULTİ FINISH SET Ø505-765
STOK NO : H454FS



BA 760-1020 AL-P MULTİ FINISH SET Ø760-1020
STOK NO : H464FS

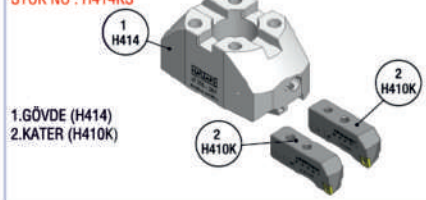


BA 760-1320 AL-P MULTİ FINISH SET Ø760-1320
STOK NO : H474FS

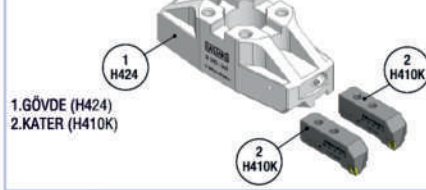


KABA / ROUGH / SCHRUPP

BA 205-285 AL-P MULTİ KABA SET Ø205-285
STOK NO : H414KS



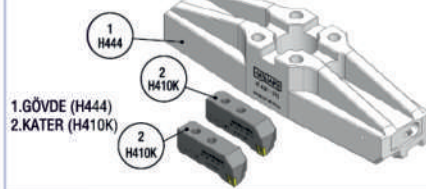
BA 280-360 AL-P MULTİ KABA SET Ø280-360
STOK NO : H424KS



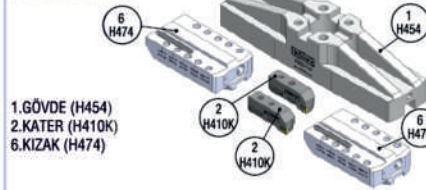
BA 355-435 AL-P MULTİ KABA SET Ø355-435
STOK NO : H434KS



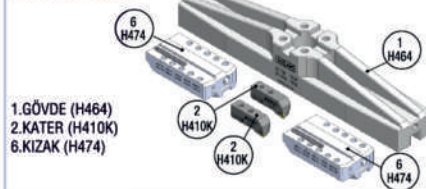
BA 430-510 AL-P MULTİ KABA SET Ø430-510
STOK NO : H444KS



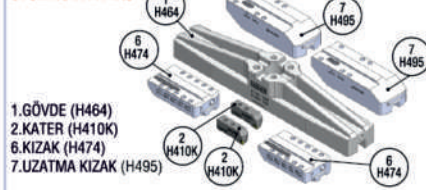
BA 505-765 AL-P MULTİ KABA SET Ø505-765
STOK NO : H454KS



BA 760-1020 AL-P MULTİ KABA SET Ø760-1020
STOK NO : H464KS

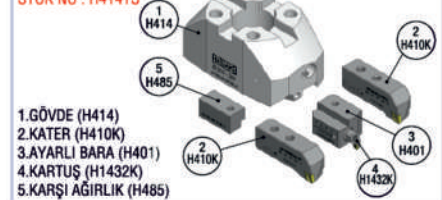


BA 760-1320 AL-P MULTİ KABA SET Ø760-1320
STOK NO : H474KS

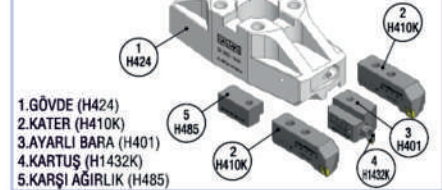


TÜM / ALL / ALLE

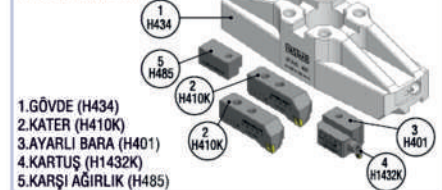
BA 205-285 AL-P MULTİ TÜM SET Ø205-285
STOK NO : H414TS



BA 280-360 AL-P MULTİ TÜM SET Ø280-360
STOK NO : H424TS



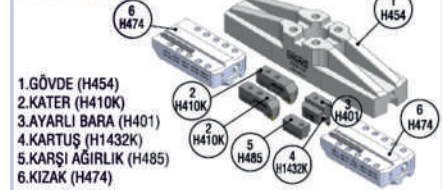
BA 355-435 AL-P MULTİ TÜM SET Ø355-435
STOK NO : H434TS



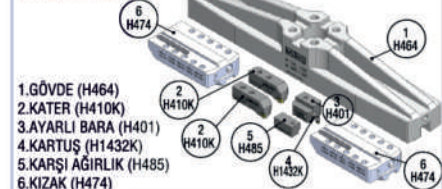
BA 430-510 AL-P MULTİ TÜM SET Ø430-510
STOK NO : H444TS



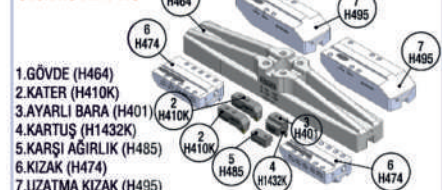
BA 505-765 AL-P MULTİ TÜM SET Ø505-765
STOK NO : H454TS



BA 760-1020 AL-P MULTİ TÜM SET Ø760-1020
STOK NO : H464TS

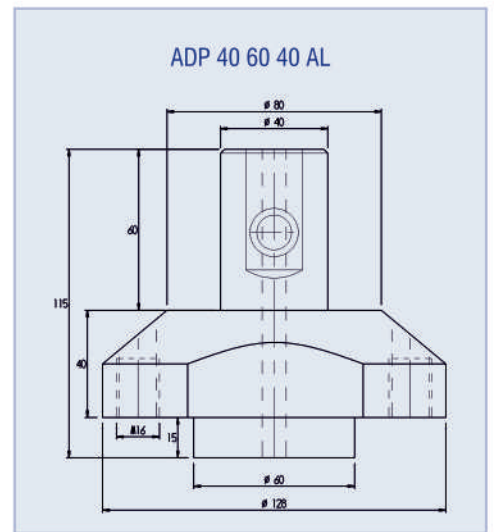
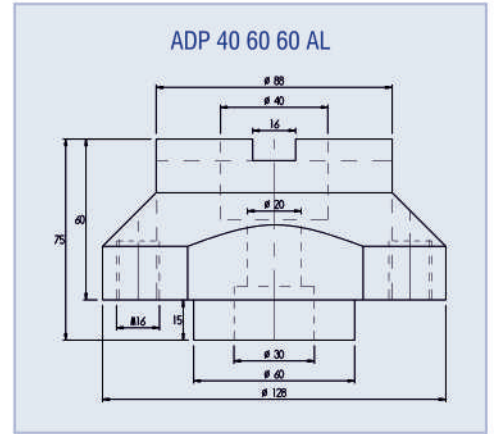
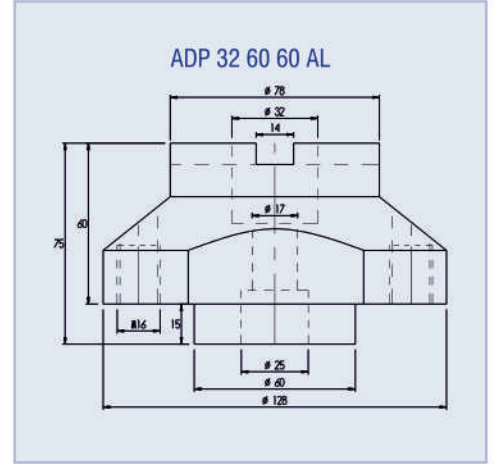
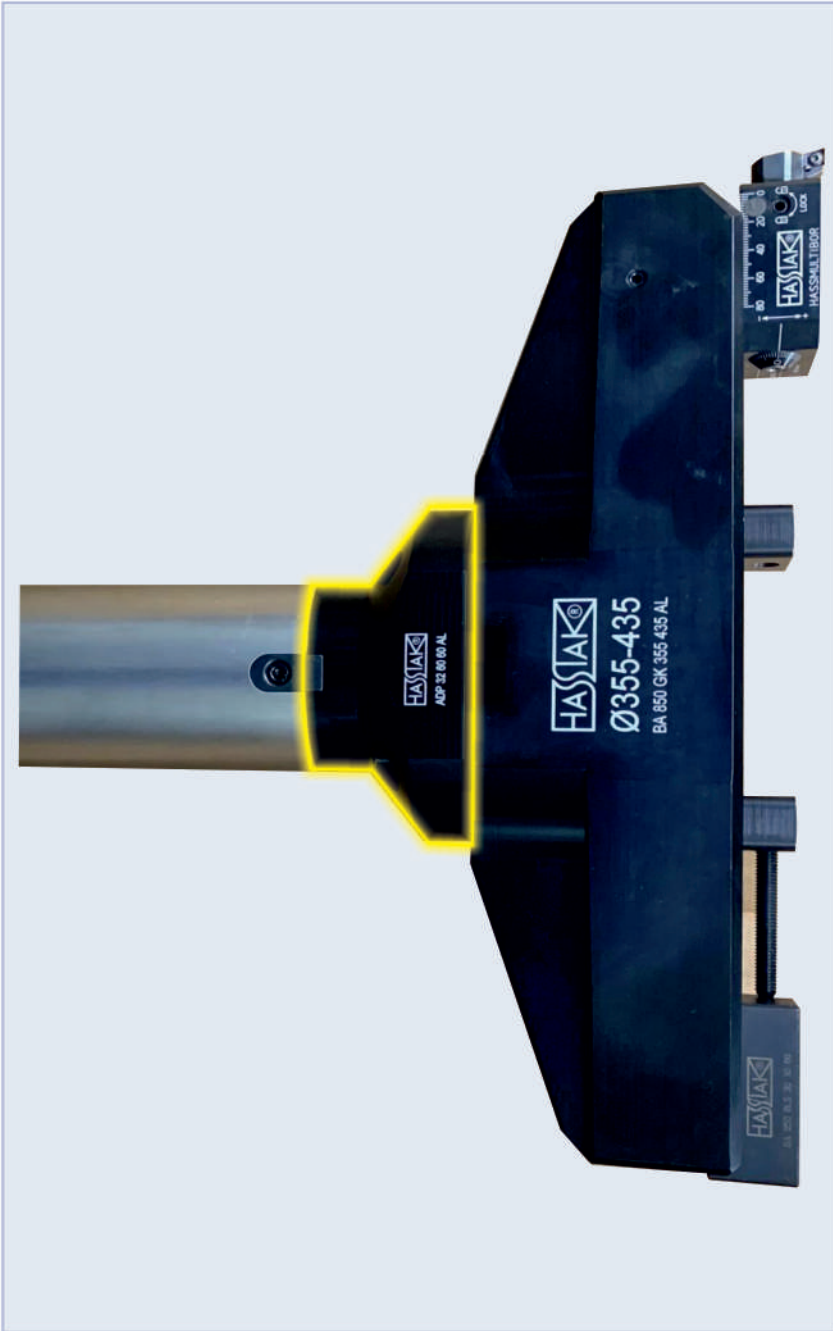


BA 760-1320 AL-P MULTİ TÜM SET Ø760-1320
STOK NO : H474TS



HASSMULTI TAKIMLAR İÇİN ARA BAĞLANTI ÇÖZÜMLERİ INTERCONNECTION SOLUTIONS FOR HASSMULTI TOOLS VERBINDUNGSLÖSUNGEN FÜR HASSMULTI-WERKZEUGE

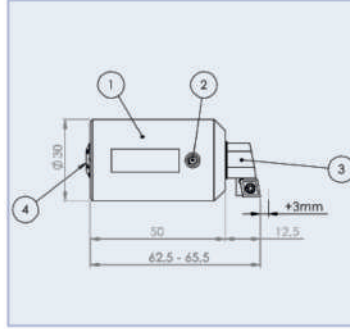
ALIN KAMALI MALAFA / VELDON TUTUCU
SHELL MILL HOLDER / WELDON TOOL HOLDER
QUERNUT-AUFSTECKDORNE MIT VERGROBERTEM
BUNDDURCHMESSER / FRASERAUFNAHMEN



MIKROBOR

- Özel amaçlı baralama takım imalatında kullanmak için "hassas ayarlı baralama ünitesi"
- Precision boring cartridge "for use in manufacturing special purpose boring tool"
- Feineinstellpatronen für Sonderanfertigungen
- Cartucce di precisione per l'utilizzo in utensili speciali

1. GÖVDE (ALÜ) / BODY (ALU)
HALTER (ALU) / CORPO (ALUMINIO)
2. SABİTLEME VİDASI / FIXING SCREW
KLEMMSCHRAUBE / GRANO DI SERRAGGIO CARTAINSERTO
3. KARTUŞ (CC..06) / CARTRIDGE (CC.06)
PLATTENHALTER (CC..06) / CARTUCCIA PORTAINSERTO
4. SKALA (0,01mm) / SCALE (0,01 mm)
SKALA (0,01 mm) / NONIO 0,01 mm

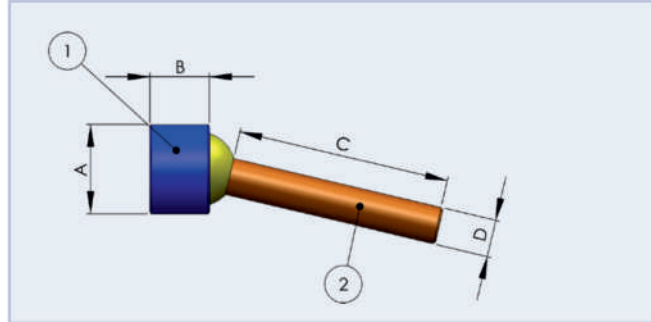


Kod No / Stock No Bestellnummer / Cod.	Kod / Code Bezeichnung / Articolo
H305MB	BA 910 MB 30-50-14
H1331K	BA 301 KS 34-40 Tc06
H1332K	BA 301 KS 34-40 Cc06
H1333K	BA 301 KS 34-40 TP09 90
H1334K	BA 301 KS 34-40 TC09 90
H306MB5	BA 910 MB SET (KARTUŞ DAHİL)

- * Mikroborun özel takımında uygulanması.
- * Application of Mikrobor in special tool.
- * Beispiele zur Verwendung.
- * Applicazione di Mikrobor in utensili speciali

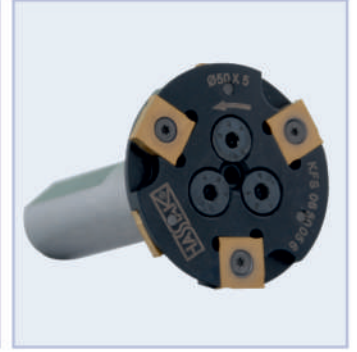
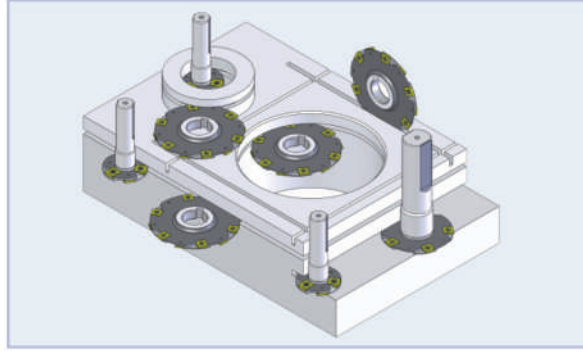
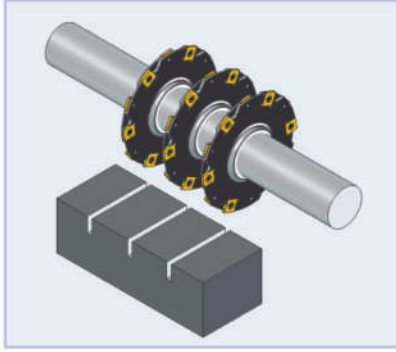
HASSMULTİBOR SU VERME MİSKETLERİ

SU VERME MİSKETLERİ / BALL COOLANT NOZZLES / KUGELSPRITZDÜSE



Kod No / Stock No / Bestellnummer / Cod.	Kod / Code / Bezeichnung / Articolo	Ø A	B	C	Ø D	FIGÜR NO
SVM01	SUVER 08	8	6	-	-	1
SVM02	SUVER 10	10	7	-	-	1
SVM03	SUVER 12	12	8	-	-	1
SVBB01	BB 08 01	-	-	27	4	2
SVBB02	BB 08 02	-	-	47	4	2
SVBB03	BB 10 03	-	-	27	4	2
SVBB04	BB 10 04	-	-	47	4	2
SVBB05	BB 12 05	-	-	25	5	2
SVBB06	BB 12 06	-	-	45	5	2

SAPLI KANAL FREZELER / CYLINDRICAL - WELDON SHANK DISC MILLS / W.P.SCHEIBENFRÄSER / FRESE A DISCO



ANA GÖVDE / MAIN BODY

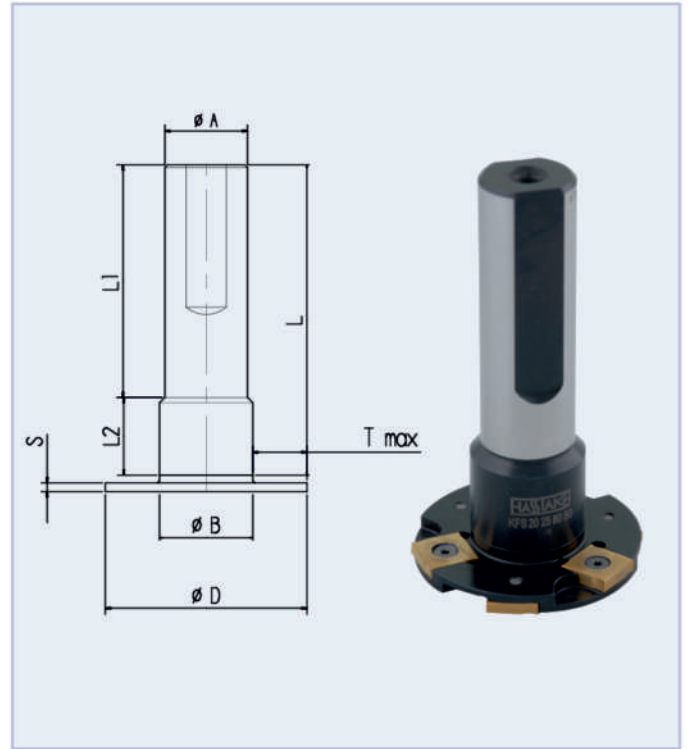
Kod No / Stock No Bestellnummer Cod.	Kod / Code Bezeichnung / Articolo	Ø D	S -0,05 +0,15	Z	Tmax	Uç/Insert W.P. Inserto	Uç Kalınlık
KFS4035	KFS 06 40 35 4	40	3,5	2X2	11	SNHX1102	2,3
KFS404	KFS 06 40 04 4	40	4	2X2	11	SNHX1102	2,3
KFS4045	KFS 06 40 45 4	40	4,5	2X2	11	SNHX1102	2,3
KFS405	KFS 06 40 05 4	40	5	2X2	11	SNHX1103	2,7

KFS5035	KFS 06 50 35 6	50	3,5	2X3	12	SNHX1102	2,3
KFS504	KFS 06 50 04-6	50	4	2X3	12	SNHX1102	2,3
KFS5045	KFS 06 50 45 6	50	4,5	2X3	12	SNHX1102	2,3
KFS505	KFS 06 50 05-6	50	5	2X3	12	SNHX1103	2,7
KFS5055	KFS 06 50 55 6	50	5,5	2X3	12	SNHX1203	3,2
KFS506	KFS 06 50 06 6	50	6	2X3	12	SNHX1203	3,2

KFS6335	KFS 08 63 35 8	63	3,5	2X4	15	SNHX1102	2,3
KFS634	KFS 08 63 04-8	63	4	2X4	15	SNHX1102	2,3
KFS6345	KFS 08 63 45 8	63	4,5	2X4	15	SNHX1102	2,3
KFS635	KFS 08 63 05-8	63	5	2X4	15	SNHX1103	2,7
KFS6355	KFS 08 63 55 8	63	5,5	2X4	15	SNHX1203	3,2
KFS636	KFS 08 63 06 8	63	6	2X4	15	SNHX1203	3,2

KFS804	KFS 10 080 04-10	80	4	2X5	22	SNHX1102	2,3
KFS805	KFS 10 080 05-10	80	5	2X5	22	SNHX1103	2,7
KFS806	KFS 10 080 06-8	80	6	2X4	22	SNHX1203	3,2

KFS201	KFS 12 100 04-12	100	4	2X6	28	SNHX1102	2,3
KFS202	KFS 12 100 05-12	100	5	2X6	28	SNHX1103	2,7
KFS203	KFS 12 100 06-10	100	6	2X5	28	SNHX1203	3,2
KFS204	KFS 12 100 08-10	100	8	2X5	28	SNHX1205	5,4

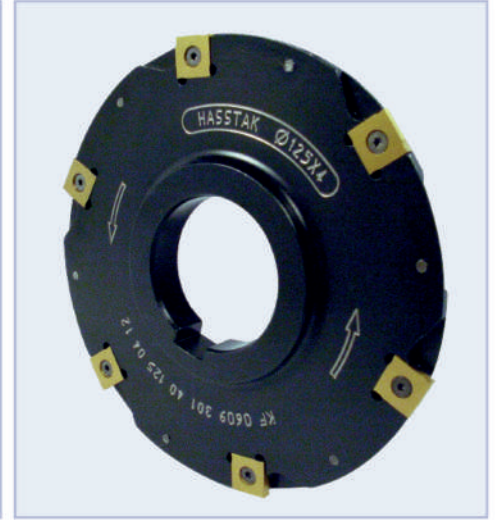
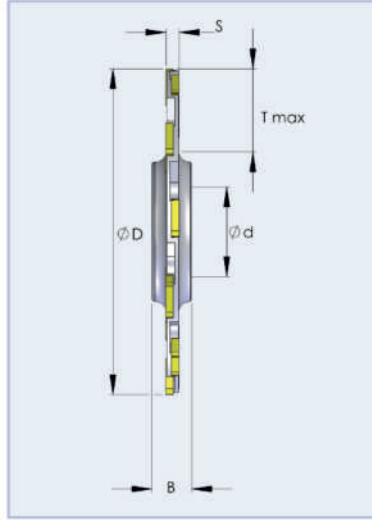
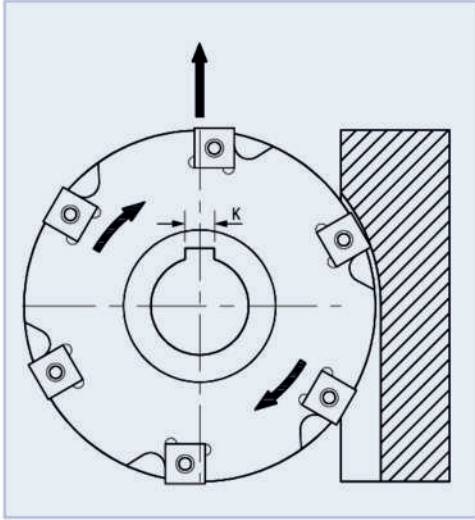


MALAFALAR / WELDON SHANK / WELDON SCHAFT

Kod No / Stock No Bestellnummer / Cod.	Kod / Code Bezeichnung / Articolo	Ø A	Ø B	L1	L2	L
KFSM 01	KFSM 20 25 80 50	20	25	60	20	80
KFSM 02	KFSM 25 32 100 63	25	32	75	25	100
KFSM 03	KFSM 32 36 120 80	32	36	90	30	120
KFSM 04	KFSM 32 40 120 100	32	40	90	30	120
KFSM 05	KFSM 20 16 80 40	16	20	60	20	80

KANAL FREZE

DISC MILLS / W.P.SCHEIBENFRÄSER / FRESE A DISCO



No.	Kod No / Stock No Bestellnummer / Cod.	Kod / Code Bezeichnung / Articolo	Ø d	Ø D	S -0,05 +0,15	Z	B	T max	K	Uç/Insert W.P. Inserto	Uç Kalınlığı Insert Thickness
1	KF 101	KF 101 22 080 04-8	22	80	4	2X4	12	20	6	SNHX1102	2,3 mm
2	KF 102	KF 102 22 080 05-8	22	80	5	2X4	12	20	6	SNHX1103	2,7 mm
3	KF 103	KF 103 22 080 06-8	22	80	6	2X4	12	20	6	SNHX1203	3,2 mm
4	KF 104	KF 104 22 080 08-8	22	80	8	2X4	12	20	6	SNHX1205	5,4 mm
5	KF 105	KF 105 22 080 10-8	22	80	10	2X4	12	20	6	SNHX1205	5,4 mm
6	KF 106	KF 106 22 080 12-8	22	80	12	2X4	12	20	6	SNHX1207	7 mm

7	KF 201	KF 201 27 100 04-12	27	100	4	2X6	12	26	8	SNHX1102	2,3 mm
8	KF 202	KF 202 27 100 05-12	27	100	5	2X6	12	26	8	SNHX1103	2,7 mm
9	KF 203	KF 203 27 100 06-10	27	100	6	2X5	12	26	8	SNHX1203	3,2 mm
10	KF 204	KF 204 27 100 08-10	27	100	8	2X5	12	26	8	SNHX1205	5,4 mm
11	KF 205	KF 205 27 100 10-10	27	100	10	2X5	12	26	8	SNHX1205	5,4 mm
12	KF 206	KF 206 27 100 12-10	27	100	12	2X5	12	26	8	SNHX1207	7 mm

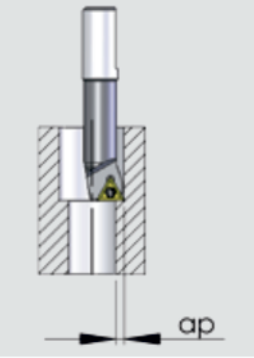
13	KF 301	KF 301 40 125 04-14	40	125	4	2X7	12	31	10	SNHX1102	2,3 mm
14	KF 302	KF 302 40 125 05-14	40	125	5	2X7	12	31	10	SNHX1103	2,7 mm
15	KF 303	KF 303 40 125 06-12	40	125	6	2X6	12	31	10	SNHX1203	3,2 mm
16	KF 304	KF 304 40 125 08-12	40	125	8	2X6	12	31	10	SNHX1205	5,4 mm
17	KF 305	KF 305 40 125 10-12	40	125	10	2X6	12	31	10	SNHX1205	5,4 mm
18	KF 306	KF 306 40 125 12-12	40	125	12	2X6	12	31	10	SNHX1207	7 mm

19	KF 401	KF 401 40 160 04-18	40	160	4	2X9	12	43	10	SNHX1102	2,3 mm
20	KF 402	KF 402 40 160 05-18	40	160	5	2X9	12	43	10	SNHX1103	2,7 mm
21	KF 403	KF 403 40 160 06-16	40	160	6	2X8	12	43	10	SNHX1203	3,2 mm
22	KF 404	KF 404 40 160 08-16	40	160	8	2X8	12	43	10	SNHX1205	5,4 mm
23	KF 405	KF 405 40 160 10-16	40	160	10	2X8	12	43	10	SNHX1205	5,4 mm
24	KF 406	KF 406 40 160 12-16	40	160	12	2X8	12	43	10	SNHX1207	7 mm

TEKNİK BİLGİ

TECHNICAL DATA / TECHNISCHE INFORMATIONEN / DATI TECNICI

TABLO 1 / TABLE 1 / TABELLE 1 / TABELLA 1

Malzeme / Material Materialien / Materiale	Kesme Hızı Cutting Speed Vc Velocità Di Taglio	İlerleme (uç Radyusuna Göre) =fh(mm/revir) Feed (according To Insert Radius) =fn(mm/rotation) fn (abhängig vom Radius der WSP) Avanzamento (mm/giro)			ap=0.1 - 0.2
		R=0.2	R=0.4	R=0.8	
Alışsız Çelik / Non-alloyed steel Niedriglegiertem Stahl / Acciai non legati	150-250	0,04-0,08	0,07-0,1	0,08-0,15	
Alışlı Çelik / Alloyed steel Stahl / Acciai legati	100-200	0,04-0,08	0,07-0,1	0,08-0,15	
Pazlanmaz / Stainless Stahl rostfrei / Inox	100-150	0,04-0,08	0,1-0,15	0,1-0,15	
Döküm / Cast Grauguss / Ghisa	90-140	0,05-0,08	0,08-0,15	0,08-0,15	
Alüminyum / Aluminum Aluminium / Alluminio	200-300	0,04-0,08	0,05-0,7	0,08-0,2	
Isıl İşlemli Çelik / Heat-resistant steel Hitze beständigen Stahl/ Acciao temprato	80-120	0,03-0,08	0,04-0,05	0,05-0,07	

NOT 1 : Tabloya göre uygulanan devir (n) hesabının sonucu 6000 dev/dk nın üzerinde çıkan hesaplamalarda n= 6000 dev/dk olarak alınmalıdır.

NOT 2 : İşleme derinliği işleme çapının 4 katına çıkarsa kesme hızı %20 işleme derinliği işleme çapının 6-7 katına çıkarsa kesme hızı %40 düşürülmelidir. Ve "op" değeri 0.025~0.05 mm arası olmalıdır.

NOTE 1 : For the calculations giving a value greater than 6000rpm as a result of the above rotation calculation (n), n=6000 rpm is based.

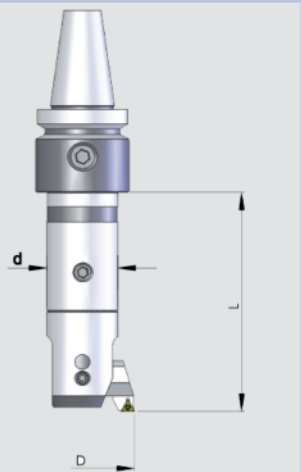
NOTE 2 : The processing speed should be reduced by 20% and 40%, respectively, if processing depth increases up to four times and 6-7 times of processing diameter.

HINWEIS 1 : Sollte die Drehzahl (N) , laut ihrer Berechnung über 6000 U/min sein, ist die nicht zu überschreiten (max. 6000 U/min).

HINWEIS 2 : Wenn die Bearbeitungstiefe über das vierfache vom Durchmesser der zu bearbeitenden Bohrung ist, muss der Vorschub um 20% gesenkt werden. Bei Durchmessern um das 6-7 fache, muss der Vorschub um 40% gesenkt werden. Die Empfehlung für ap in diesen Fällen ist 0,025 – 0,05mm.

NOTA 1 : l'avanzamento calcolato è basato su una velocità di rotazione di 6000g/min.

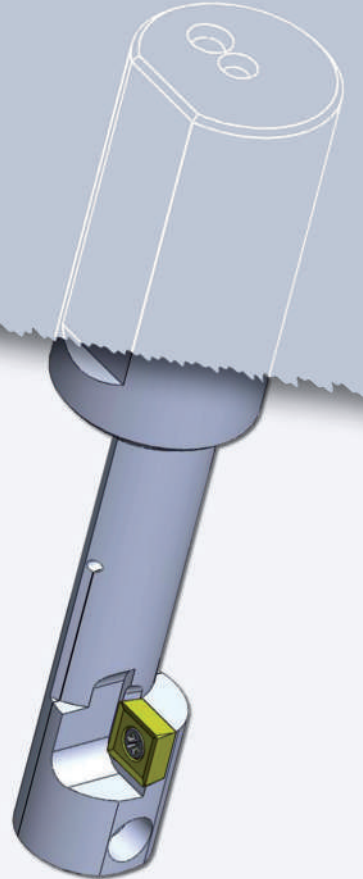
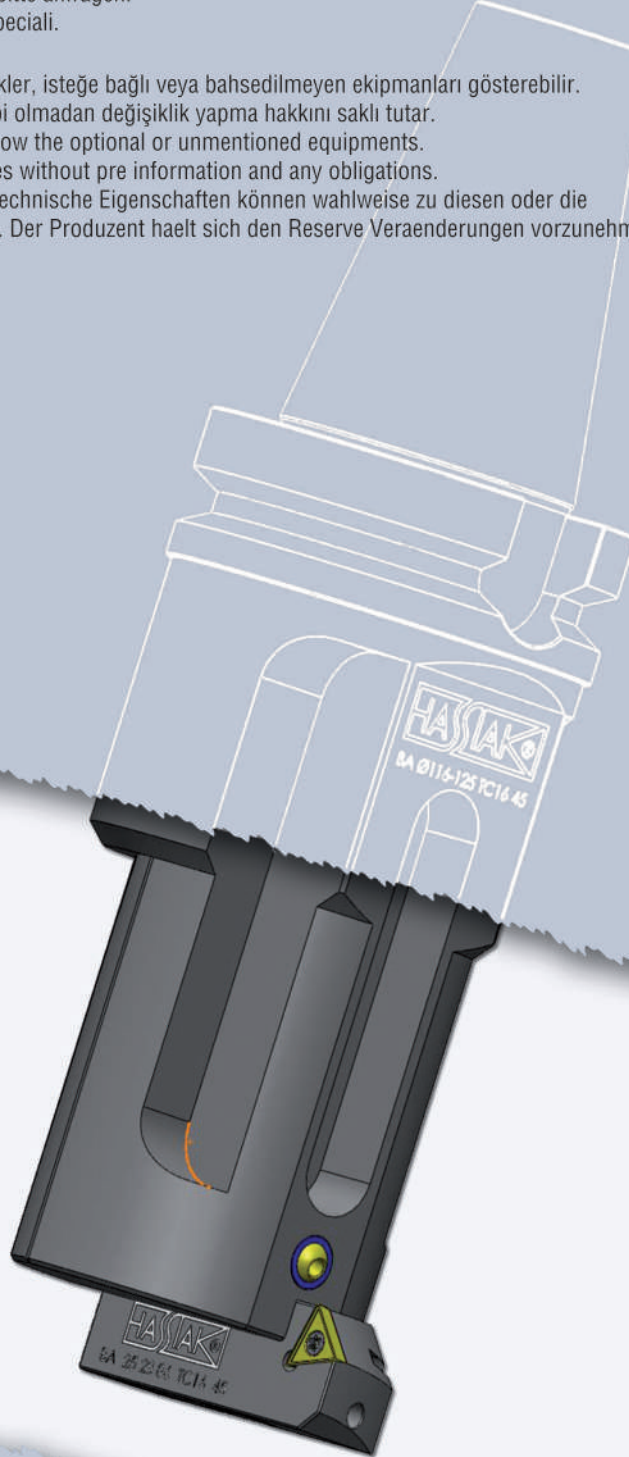
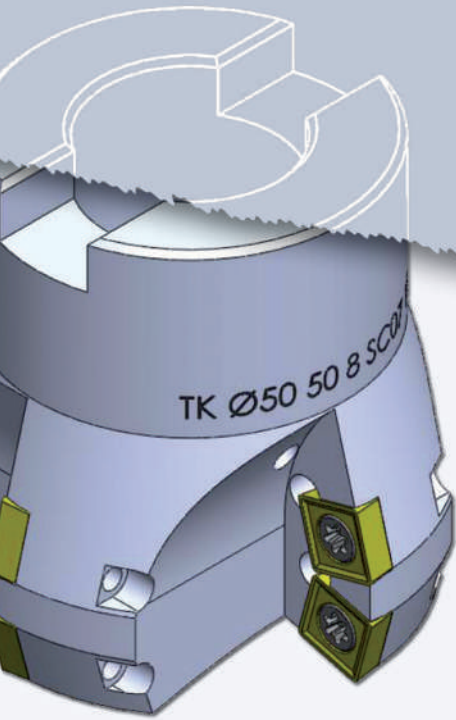
NOTA 2 : Se la profondità di lavoro è da 4 a 6 volte maggiore del diametro di lavoro, la velocità di taglio va ridotta rispettivamente di un -20% e-40%.

VC : Kesme hızı / Cutting Speed / Vc / Velocità di taglio (m/dk)	VC = $\pi \cdot D \cdot n / 1000$	
D : İşleme çapı / Processing diameter / Diametro di lavoro (mm)	$n = Vc \cdot 1000 / \pi \cdot D$	
n : Devir / Rotation / Rotazione (devir/dk)	Vf = n.fn	
Vf : Kesme ilerlemesi / Cutting feed / Avanzamento (mm/dk) (mm/dak)	(L/d > 4) → Vc= Vcx0.8	
fn : (mm/devir)	(L/d > 6) → Vc= Vcx0.6	
π : 3,14		
Örnek / Example Ausbund / Esempio 1	D = Ø12 H7 L = 30 n = 3800 dev/dk VC = 140 Vf = 300 mm/dk (R0,4) Malzeme / Material / Metariale GG20	
Örnek / Example Ausbund / Esempio 2	D = Ø 55 L = 220 n = 1389 dev/dk Vc = 300x0,8 (L/D>4) Vf = 120 mm/dk (R0, 4 uç için/insert) Malzeme / Material / Metariale Al.	
Örnek / Example Ausbund / Esempio 3	D = Ø 30,5 L = 100 n = 2500 dev/dk Vc = 240 Vf = 180 mm/dk (R0, 4 / ap=0,03) Malzeme / Material / Metariale CK45	



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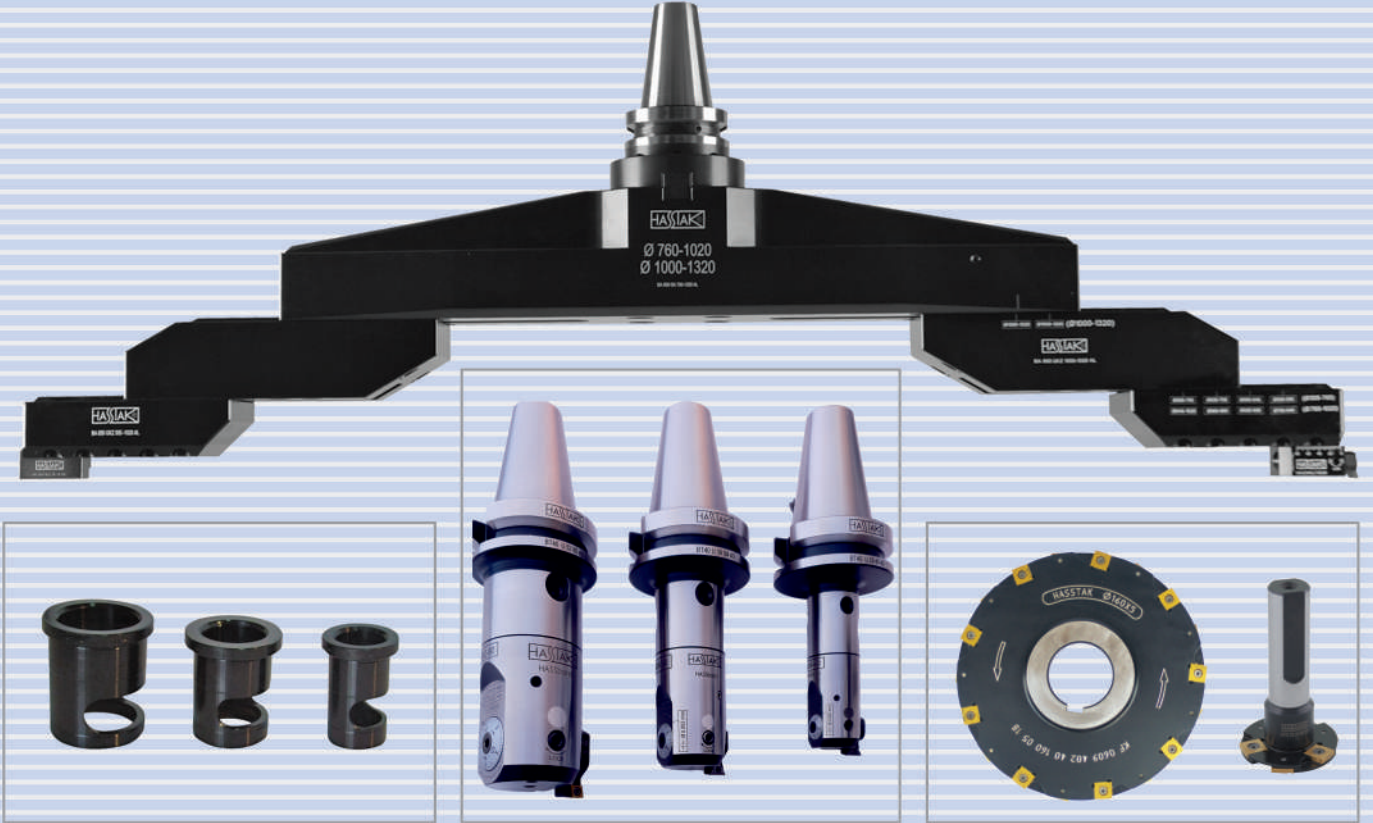


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