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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 imalatçılarına, 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 Türkiye'de 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 imalatçılarına, seri üretim yapan metal işleme atölyelerine, fabrikaların talaşlı imalat bölümlerine çözüm ortağı olarak hizmet vermekteyiz. Aynı zamanda sanayimizin önde gelen kuruluşlarına ve makina imalatçılarına 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 onaylatmıştır.

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) bağıladığınızda 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, dass 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 inserto 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

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PERFORMANS SET Ø 29-40



H131P BA 29-40P Ø 29-40 mm

S./P. 15

PERFORMANS SET Ø 39-54



H141P BA 39-54P Ø 39-54 mm

S./P. 16

PERFORMANS SET Ø 52-80



H151P BA 52-80P Ø 52-80 mm

S./P. 17

PERFORMANS SET Ø 78-170



H161P BA 78-170P Ø 78-170 mm

S./P. 18

- * 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. 24-26

EKONOMİ SET Ø 8-250



H203E BT40 8-250E Ø 8-250 mm

S./P. 25

ALU-LİNE Ø 150-446



S./P. 20

ANTI-VIBRATION TOOL Ø 18-29



BA18-22 BA22-29 Ø 18-29 mm

S./P. 14

ALU-LİNE SET Ø 78-170



H171P BA 78-170AL-P Ø 78-170 mm

S./P. 19

- 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.
- $\varnothing 13\text{--}\varnothing 45$ mm arası delik delebilen U-Drill matkapların çapta (0,25mm) küçülterek veya (+0,5mm) büyüterek delik delebilmelerini sağlayan ve ondalıklı ayar yapılabilmesine imkan veren araçtır.
- It allows U-drills capable of drilling $\varnothing 13\text{--}\varnothing 45$ mm holes to drill by reducing (0,25mm) or increasing (+0,5 mm) the diameter and enables decimal adjustments.
- Für Bohrer ab $\varnothing 13\text{--}\varnothing 45$ 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 $\varnothing 13\text{--}\varnothing 45$ mm incrementando (+0,5mm) o riducendo (-0,25mm) il diametro di foratura.



EKS 25-20



EKS 32-25



EKS 40-32

S./P. 36

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. 37

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 $\varnothing 80\text{--}250$ 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. 28-39

HASSbara ALUMİNYUM GÖVDE ALUMINIUM BODY / ALUMINIUMBRÜCKE

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

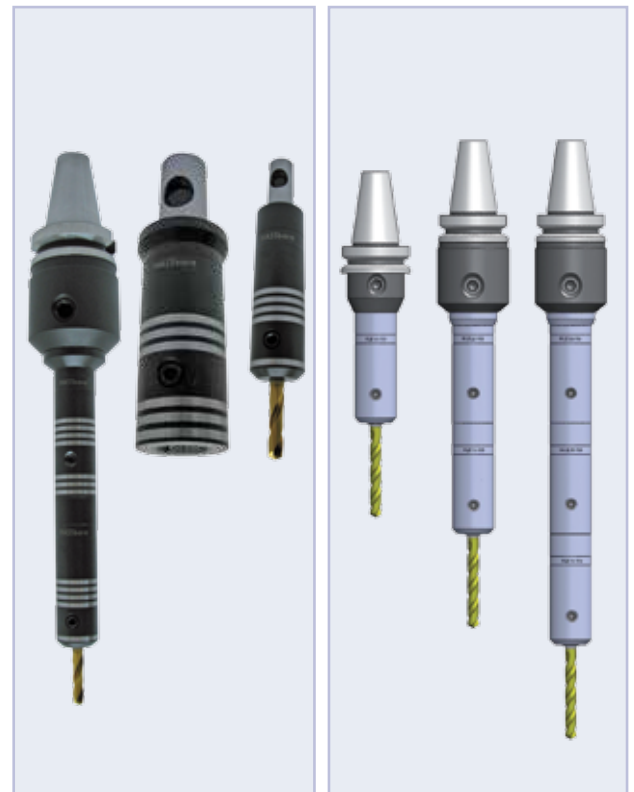
- Alüminyum gövde yapısı
- Standart tutuculara monte edilebilir DIN6357
- İçten soğutma sıvısı temini
- Balans dengeleyici sistem
- Kullanım kolaylığı
- Aluminium body
- Mountable to standart tool holders DIN6357
- With inner coolant supply
- The system can be balanced
- Easy to use
- Aluminiumbrücken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



S./P. 32-35

MATKAP UZATMALARI DRILL EXTENSIONS BOHRER VERLÄNGERUNGE

- 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 Auskräglänge und kurzen Bohrungen ist es eine gute Alternative zu langen HSS-Spiralbohrern
- Bei der Montage mit einer viertel Umdrehung (montieren/festziehen)



S./P. 29

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

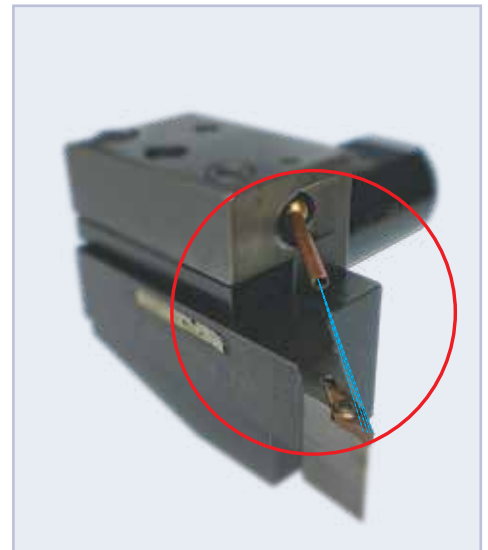
- Ø20 - Ø170mm kaba baralama takımlarımız ile hızlı bir şekilde işleme yapılabilir.
- Takımlarımızın ayarlanması kolaydır.
- Takımlarımızın içten su verme tertibatı vardır.
- Bu sayede kesici ucu soğutma ve talaş uzaklaştırma sorun oluşturmaz.
- Ø80 mm den sonrası Alüminyum gövdeli, çelik kartuşlu olup 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. 30-31

SU VERME MİSKETLERİ / BALL COOLANT NOZZLES / KUGELSPRITZDÜSE

- Küre mafsal 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. 37

• 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 çekilir. 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 is fit 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.

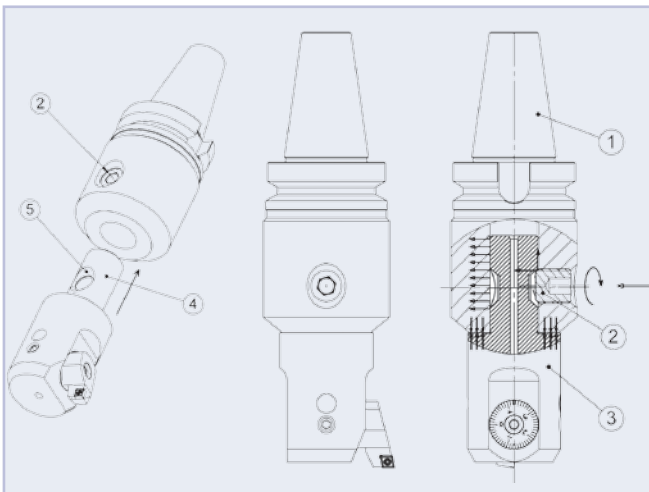
This fixing method is shown below:

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:

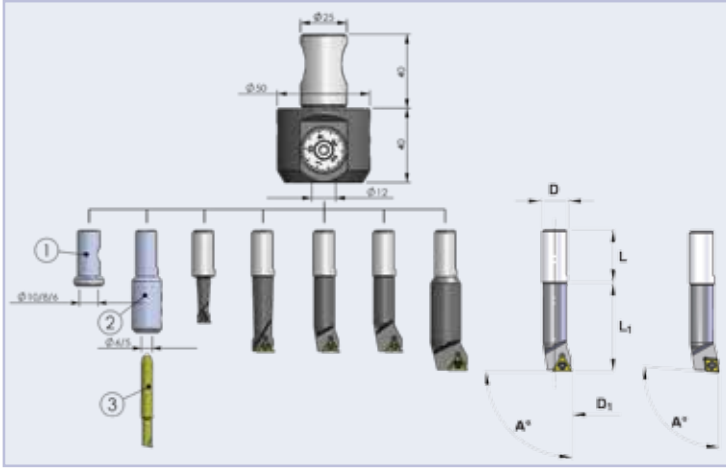
Gli utensili per barenatura HASSbara sono una soluzione affidabile, efficiente e veloce per ottenere fori di precisione. Tutte le cartucce ed i barenati utilizzano inserti ISO standard. Con gli utensili HASSbara si possono eseguire barenature o lamature in trazione montando la cartuccia al contrario (in questo caso il mandrino deve ruotare in senso antiorario) Tolleranza di barenatura 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

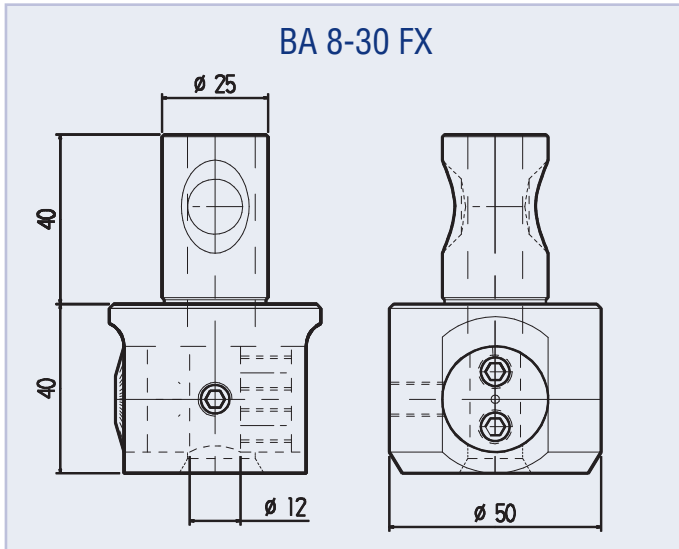
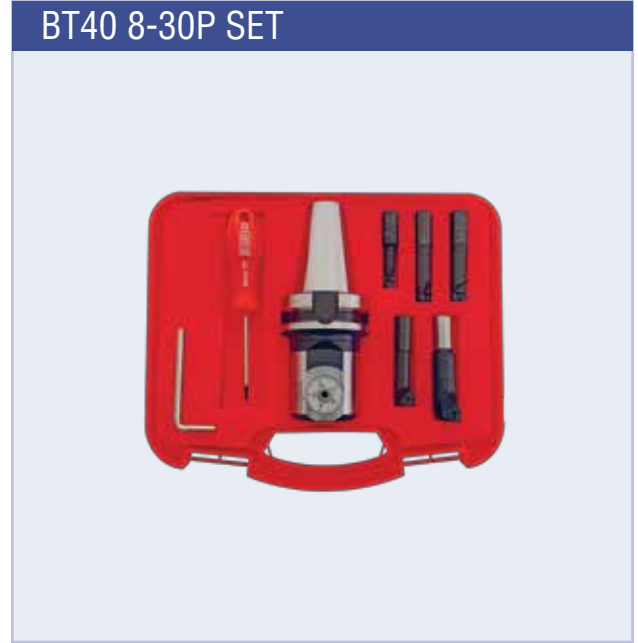
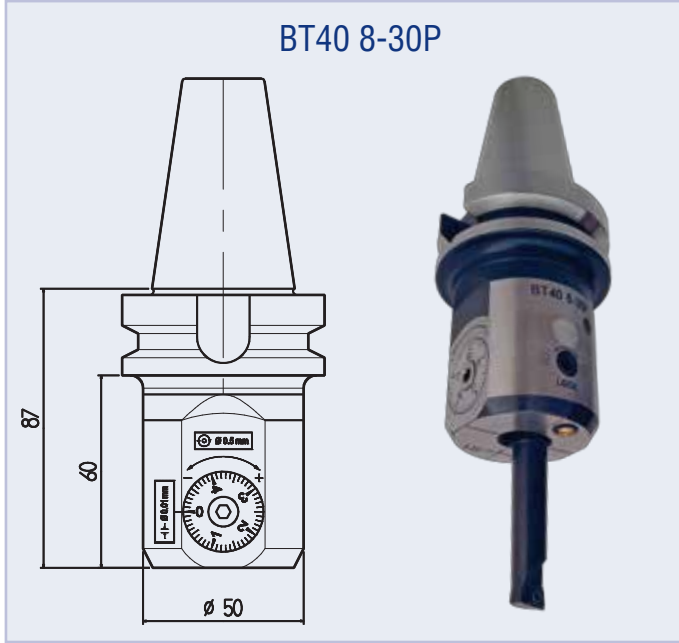


| Kod No / Stock No Bestellnummer / Cod. | Kod / Code Bezeichnung / Articolo | Ø D1 (min-max) | D | L | L1 | Uç/Insert W.P. Inserto | A | | Torks Torx |
|---|--------------------------------------|-------------------|----|----|----|------------------------------|-----|------|---------------|
| H121P | BA 8-30P SET | 8-30 | | | | | | | |
| H122P | BA 201 8-30P GÖVDE | 8-30 | | | | | | | |
| H1221K | BA 201 K8-14 T | 8-14 | 12 | 25 | 25 | TC..06 | 90° | M2 | T06 |
| H1231K | BA 201 K12-18 T | 12-18 | 12 | 25 | 40 | TC..09 | 90° | M2,2 | T07 |
| H1241K | BA 201 K16-22 T | 16-22 | 12 | 25 | 40 | TC..09 | 90° | M2,2 | T07 |
| H1251K | BA 201 K20-26 T | 20-26 | 12 | 25 | 40 | TC..09 | 90° | M2,2 | T07 |
| H1261K | BA 201 K24-30 T | 24-30 | 12 | 25 | 50 | TC..11 | 90° | M2,5 | T08 |
| H1232K | BA 201 K12-18C | 12-18 | 12 | 25 | 40 | CC..06 | 95° | M2,5 | T08 |
| H1242K | BA 201 K16-22C | 16-22 | 12 | 25 | 40 | CC..06 | 95° | M2,5 | T08 |
| H1252K | BA 201 K20-26C | 20-26 | 12 | 25 | 40 | CC..06 | 95° | M2,5 | T08 |
| H1262K | BA 201 K24-30C | 24-30 | 12 | 25 | 50 | CC..06 | 95° | 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 |
|---|--------------------------------------|-------------------|----|----|----|------------------------------|-----|------|---------------|
| H1222K | BA 201 K8-14 30 CC06 95 | Ø8-14 | 12 | 25 | 30 | CC..06 | 95° | M2.5 | T08 |
| H1223K | BA 201 K10-16 40 CC06 95 | Ø10-16 | 12 | 25 | 40 | CC..06 | 95° | M2.5 | T08 |
| H1233K | BA 201 K12-18 50 CC06 95 | Ø12-18 | 12 | 25 | 50 | CC..06 | 95° | M2.5 | T08 |
| H1243K | BA 201 K16-22 50 CC06 95 | Ø16-22 | 12 | 25 | 50 | CC..06 | 95° | M2.5 | T08 |
| H1244K | BA 201 K16-22 60 CC06 95 | Ø16-22 | 12 | 25 | 60 | CC..06 | 95° | M2.5 | T08 |
| H1245K | BA 201 K16-22 70 CC06 95 | Ø16-22 | 12 | 25 | 70 | CC..06 | 95° | M2.5 | T08 |
| H1253K | BA 201 K20-26 50 CC06 95 | Ø20-26 | 12 | 25 | 50 | CC..06 | 95° | M2.5 | T08 |
| H1254K | BA 201 K20-26 60 CC06 95 | Ø20-26 | 12 | 25 | 60 | CC..06 | 95° | M2.5 | T08 |
| H1255K | BA 201 K20-26 70 CC06 95 | Ø20-26 | 12 | 25 | 70 | CC..06 | 95° | M2.5 | T08 |
| H1263K | BA 201 K24-30 60 CC06 95 | Ø24-30 | 12 | 25 | 60 | CC..06 | 95° | M2.5 | T08 |
| H1264K | BA 201 K24-30 70 CC06 95 | Ø24-30 | 12 | 25 | 70 | CC..06 | 95° | M2.5 | T08 |
| H1225K | BA 201 K10-16 40 TC09 93 | Ø10-16 | 12 | 25 | 40 | TC..09 | 93° | M2.2 | T07 |
| H1256K | BA 201 K 20-26 50 CC06 90 | Ø20-26 | 12 | 25 | 50 | CC..06 | 90° | M2.5 | T08 |
| H1257K | BA 201 K 20-26 60 CC06 90 | Ø20-26 | 12 | 25 | 60 | CC..06 | 90° | M2.5 | T08 |
| H1258K | BA 201 K 20-26 70 CC06 90 | Ø20-26 | 12 | 25 | 70 | CC..06 | 90° | M2.5 | T08 |
| H1259K | BA 201 K 20-26 50 TC09 90 | Ø20-26 | 12 | 25 | 50 | TC..09 | 90° | M2.2 | T07 |
| H1260K | BA 201 K 20-26 60 TC09 90 | Ø20-26 | 12 | 25 | 60 | TC..09 | 90° | M2.2 | T07 |
| H1265K | BA 201 K 20-26 70 TC09 90 | Ø20-26 | 12 | 25 | 70 | TC..09 | 90° | M2.2 | T07 |
| H1266K | BA 201 K 20-26 50 TC09 93 | Ø20-26 | 12 | 25 | 50 | TC..09 | 93° | M2.2 | T07 |
| H1267K | BA 201 K 20-26 60 TC09 93 | Ø20-26 | 12 | 25 | 60 | TC..09 | 93° | M2.2 | T07 |
| H1268K | BA 201 K 20-26 70 TC09 93 | Ø20-26 | 12 | 25 | 70 | TC..09 | 93° | M2.2 | T07 |

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 |

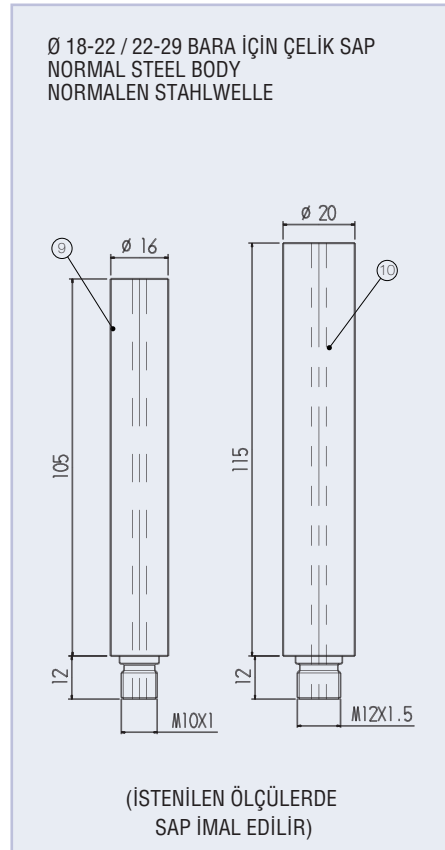
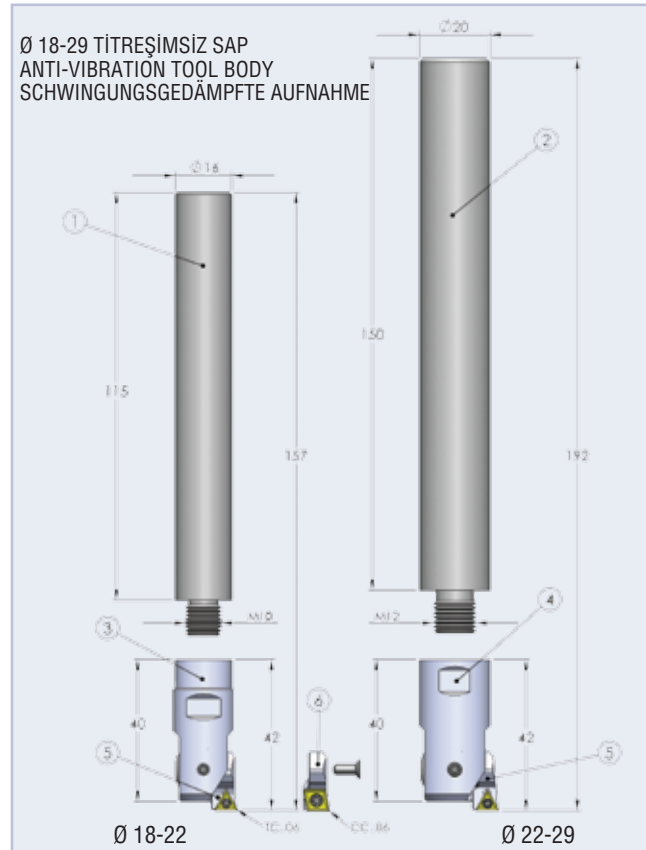
Ø12 / 5-6-8-10 REDÜKSİYON / REDUCTION / REDUZIERUNG / RIDUZIONE

| 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 |

TİTREŞİMSİZ DERİN DELİK İŞLEME TAKIMLARI

HASSbara TİTREŞİM SÖNÜMLEYİCİ GÖVDE ANTI-VIBRATION TOOL BODY SCHWINGUNGSGEDÄMPFTE AUFNAHME

- Titreşim sönmleyici sap malzemesi, derin deliklerin işlenebilmesi için özel olarak imal edilmiştir. Bu tip deliklerin hassas işlenmesinde, titreşimi sönmleyerek 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.



| No. | Kod No / Stock No / Bestellnummer / Cod. | Kod / Code / Bezeichnung / Articolo | Ø |
|-----|--|-------------------------------------|---------|
| 1 | H5002 | BA 18 - 22 16 115 SAP | 18 - 22 |
| 2 | H5003 | BA 22 - 29 20 150 SAP | 22 - 29 |
| 3 | H5004 | BA 18 - 22 GÖVDE | 18 - 22 |
| 4 | H5005 | BA 22 - 29 GÖVDE | 22 - 29 |
| 5 | H5006 | KS 18-29 T | - |
| 6 | H5007 | KS 18-29 C | - |
| | H5024 | BA 18 - 22 SET | 18 - 22 |
| | H5035 | BA 22 - 29 SET | 22 - 29 |
| 9 | H50022 | BA 18 - 22 16 105 ÇELİK SAP | 18 - 22 |
| 10 | H50033 | BA 22 - 29 20 115 ÇELİK SAP | 22 - 29 |
| | H50240 | BA 18 - 22 ÇELİK SAPLI SET | 18 - 22 |
| | H50350 | BA 22 - 29 ÇELİK SAPLI SET | 22 - 29 |

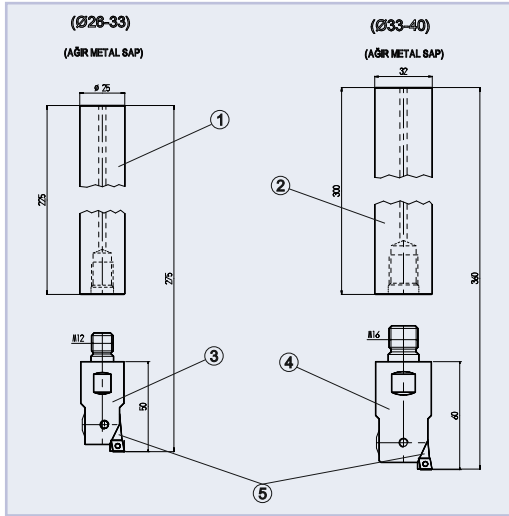
TİTREŞİMSİZ DERİN DELİK İŞLEME TAKIMLARI

HASSbara TİTREŞİM SÖNÜMLEYİCİ GÖVDE

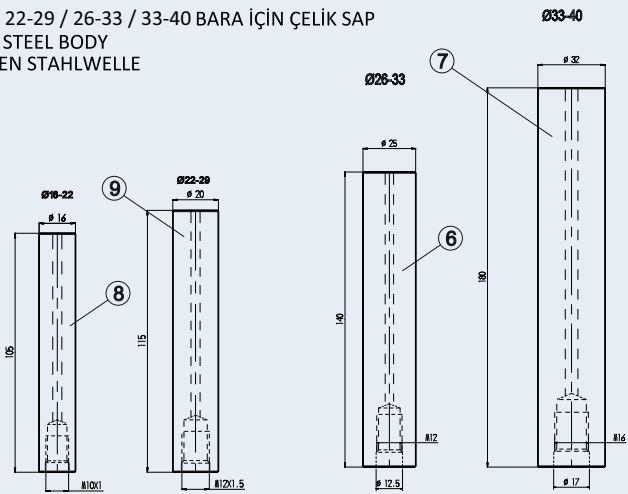
ANTI-VIBRATION TOOL BODY

SCHWINGUNGSGEDÄMPFTE AUFNAHME

- Titreşim sönmleyici sap malzemesi, derin deliklerin işlenebilmesi için özel olarak imal edilmiştir. Bu tip deliklerin hassas işlenmesinde, titreşimi sönmleyerek yüksek yüzey kalitesi ve ölçü hassasiyeti elde edilir.
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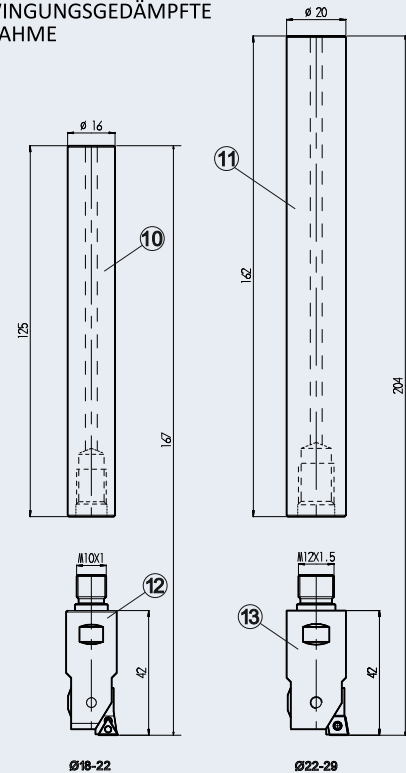
Ø 18-22 / 22-29 / 26-33 / 33-40 BARA İÇİN ÇELİK SAP
NORMAL STEEL BODY
NORMALEN STAHLWELLE



| No | Kod No | Kod | Ø D1 (min-max) |
|----|--------|--|----------------|
| | H5046 | BA 26-33 TİTREŞİMSİZ SET | 26-33mm |
| | H5077 | BA 33-40 TİTREŞİMSİZ SET | 33-40mm |
| 3 | H5010 | BA 26 33 50 BAŞLIK | 26-33mm |
| 4 | H5011 | BA 33 40 60 BAŞLIK | 33-40mm |
| 1 | H5008 | BA 26 33 25 224 SAP | 26-33mm |
| 2 | H5009 | BA 33 40 32 288 SAP | 33-40mm |
| 6 | H50088 | BA 26-33 25 140 ÇELİK SAP | 26-33mm |
| 7 | H50099 | BA 33-40 32 180 ÇELİK SAP | 33-40mm |
| | H50460 | BA 26-33 ÇELİK SAPLI SET | 26-33mm |
| | H50770 | BA 33-40 ÇELİK SAPLI SET | 33-40mm |
| 5 | H5012 | KS 26-40 CC06 90 / KARTUŞ | 26-40mm |
| 5 | H5013 | KS 26-40 TC06 90 / KARTUŞ | 26-40mm |
| 8 | H50122 | BA 18-22 16 105 Y (yeni sap) | 18-22mm |
| 9 | H50133 | BA 22-29 20 115 Y (yeni sap) | 22-29mm |
| | H51240 | BA 18-22 ÇELİK SAPLI SET (yeni) | 18-22mm |
| | H51350 | BA 22-29 ÇELİK SAPLI SET (yeni) | 22-29mm |
| | H5124 | BA 18-22 TİTREŞİMSİZ SET (yeni) | 18-22mm |
| | H5135 | BA 22-29 TİTREŞİMSİZ SET (yeni) | 22-29mm |
| 12 | H5014 | BA 18-22 BAŞLIK (yeni) | 18-22mm |
| 13 | H5015 | BA 22-29 BAŞLIK (yeni) | 22-29mm |
| 10 | H5012 | BA 18-22 16 125 TİTREŞİMSİZ SAP (yeni) | 18-22mm |
| 11 | H5013 | BA 22-29 20 160 TİTREŞİMSİZ SAP (yeni) | 22-29mm |

TİTREŞİMSİZ SAP
ANTI-VIBRATION TOOL BODY
SCHWINGUNGSGEDÄMPFTE
AUFNAHME

AĞIR METAL SAP



TİTREŞİMSİZ DERİN DELİK İŞLEME TAKIMLARI HASSbara TİTREŞİM SÖNÜMLEYİCİ GÖVDE ANTI-VIBRATION TOOL BODY SCHWINGUNGSGEDÄMPFTE AUFNAHME

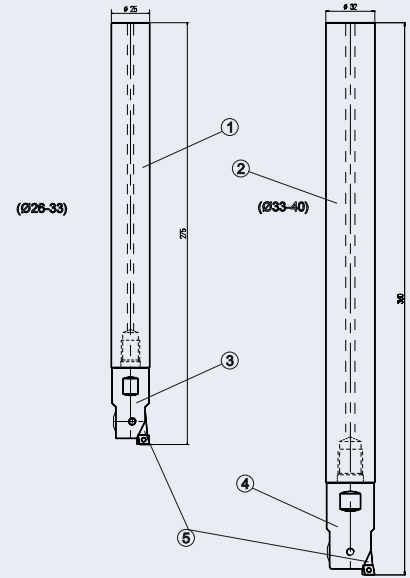
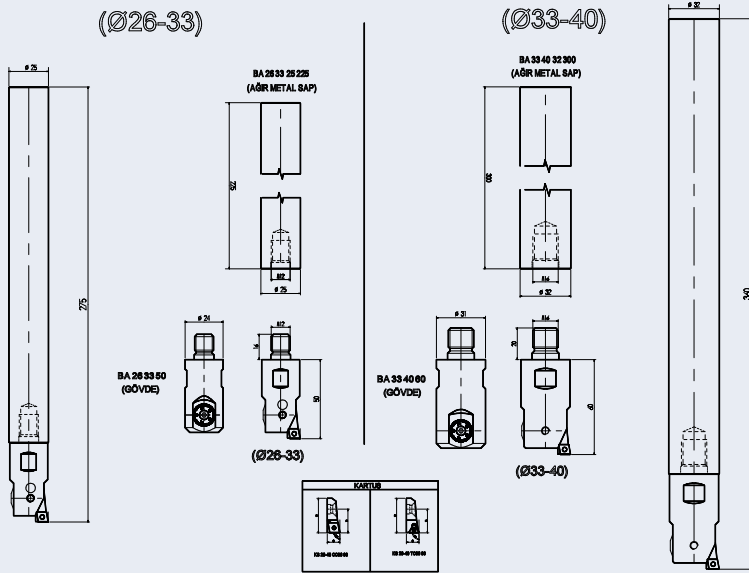
- Titreşim sönmüleyici sap malzemesi, derin deliklerin işlenebilmesi için özel olarak imal edilmiştir. Bu tip deliklerin hassas işlenmesinde, titreşimi sönmüleyerek yüksek yüzey kalitesi ve ölçü hassasiyeti elde edilir.
- Um tiefe Bohrungen bearbeiten zu können, sind schwingungsgedämpfte Aufnahmen von 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.



Ø 26-40 TİTREŞİMSİZ SAP ANTI-VIBRATION TOOL BODY SCHWINGUNGSGEDÄMPFTE AUFNAHME



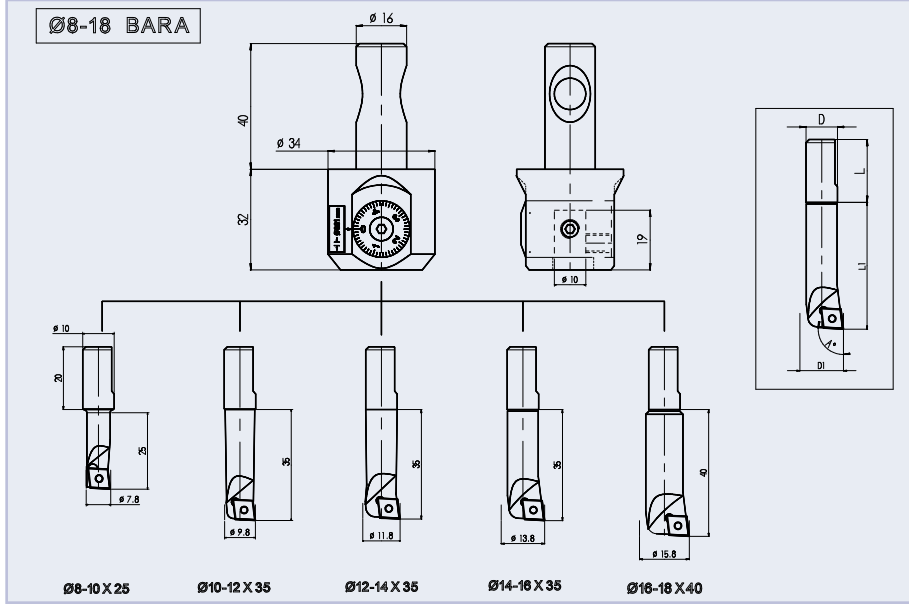
* Titreşim sönmüleyici hammadde kullanılarak özel bara kateri imal edilir.

* We can do special boring bar by anti-vibration material

* Um Schwingungen und Rattermarken zu vermeiden, haben wir PassendeSchwingungsgedämpfte Halter

HASSbara MINI Ø8~18 P

(ŞAFT ÇAPI Ø16 mm / SHANK DIAMETER Ø16 mm)



STANDART SETİN İÇİNDEKİ KATERLER / BARS INCLUDED IN THE STANDARD SET

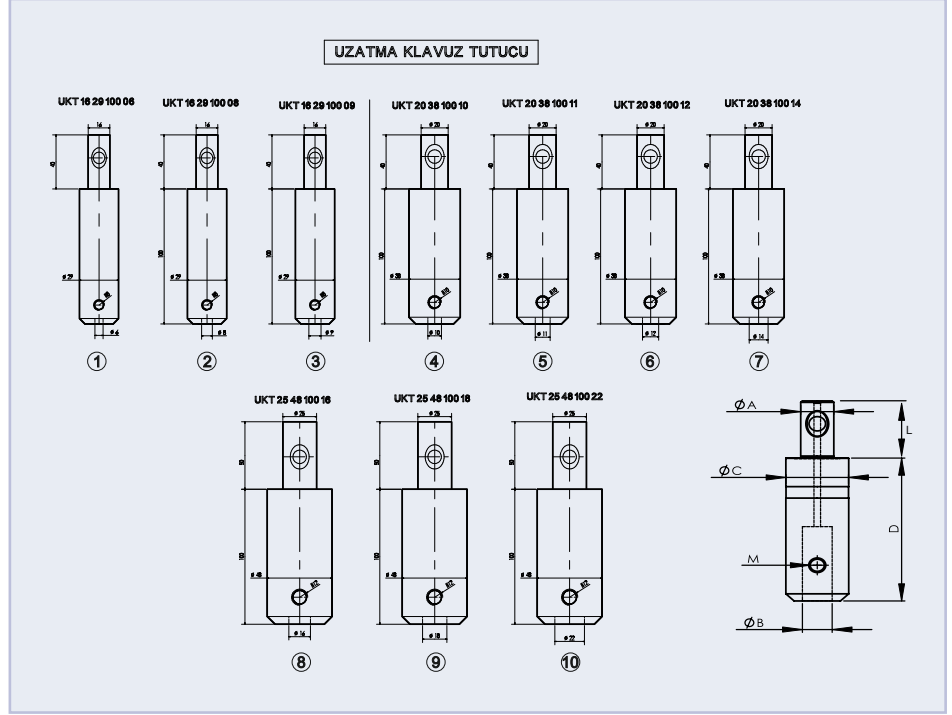
| Kod No | Kod | Ø D1 (min-max) | D | L | L1 | Uç | A | INSERT SCREW | Torks |
|--------|--------------------------|----------------|----|----|----|--------|-----|--------------|-------|
| H321P | BA 8-18P SET | 8-18mm | | | | | | | |
| H322P | BA 312 8-18P GÖVDE | 8-18mm | | | | | | | |
| H3121K | BA 312 K8-10 25 CC06 93 | 8-10mm | 10 | 20 | 25 | CC..06 | 93° | M2,5 | T08 |
| H3122K | BA 312 K10-12 35 CC06 93 | 10-12mm | 10 | 20 | 35 | CC..06 | 93° | M2,5 | T08 |
| H3123K | BA 312 K12-14 35 CC06 93 | 12-14mm | 10 | 20 | 35 | CC..06 | 93° | M2,5 | T08 |
| H3124K | BA 312 K14-16 35 CC06 93 | 14-16mm | 10 | 20 | 35 | CC..06 | 93° | M2,5 | T08 |
| H3125K | BA 312 K16-18 40 CC06 95 | 16-18mm | 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 |
|--------|---------------------------|----------------|----|----|----|--------|-----|--------------|-------|
| H3126K | BA 312 K8-10 25 TC06 93 | 8-10mm | 10 | 20 | 25 | TC..06 | 93° | M2 | T06 |
| H3133K | BA 312 K8-10 25 TC06 90 | 8-10mm | 10 | 20 | 25 | TC..06 | 90° | M2 | T06 |
| H3127K | BA 312 K8-10 30 TC06 90 | 8-10mm | 10 | 20 | 30 | TC..06 | 90° | M2 | T06 |
| H3128K | BA 312 K8-10 30 TC06 93 | 8-10mm | 10 | 20 | 30 | TC..06 | 93° | M2 | T06 |
| H3129K | BA 312 K8-10 30 CC06 95 | 8-10mm | 10 | 20 | 30 | CC..06 | 95° | M2,5 | T08 |
| H3130K | BA 312 K10-12 40 CC06 95 | 10-12mm | 10 | 20 | 40 | CC..06 | 95° | M2,5 | T08 |
| H3131K | BA 312 K12-14 40 CC06 95 | 12-14mm | 10 | 20 | 40 | CC..06 | 95° | M2,5 | T08 |
| H3132K | BA 312 K14-16 40 CC06 95 | 14-16mm | 10 | 20 | 40 | CC..06 | 95° | M2,5 | T08 |
| H3134K | BA 312 K16-18 50 CC06 95 | 16-18mm | 10 | 20 | 50 | CC..06 | 95° | M2,5 | T08 |
| H3135K | BA 312 K10-12 35 TC09 93 | 10-12mm | 10 | 20 | 35 | TC..06 | 93° | M2 | T06 |
| H3136K | BA 312 K10-12 40 TC06 93 | 10-12mm | 10 | 20 | 40 | TC..06 | 93° | M2 | T06 |
| H3137K | BA 312 K10-12 40 TC09 93 | 10-12mm | 10 | 20 | 40 | TC..06 | 93° | M2 | T06 |
| H3138K | BA312 K10-12 35 TC06 93 | 10-12mm | 10 | 20 | 35 | TC..06 | 93° | M2 | T06 |
| H3139K | BA 312 K12-14 35 TC06 93 | 12-14mm | 10 | 20 | 35 | TC..06 | 93° | M2 | T06 |
| H3140K | BA 312 K12-14 35 TC09 93 | 12-14mm | 10 | 20 | 35 | TC..06 | 93° | M2 | T06 |
| H3141K | BA 312 K12-14 40 TC06 93 | 12-14mm | 10 | 20 | 40 | TC..06 | 93° | M2 | T06 |
| H3142K | BA 312 K12-14 40 TC09 93 | 12-14mm | 10 | 20 | 40 | TC..06 | 93° | M2 | T06 |
| H3143K | BA 312 K14-16 40 TC09 93 | 14-16mm | 10 | 20 | 40 | TC..06 | 93° | M2 | T06 |
| H3144K | BA 312 K14-16 40 TC06 93 | 14-16mm | 10 | 20 | 40 | TC..06 | 93° | M2 | T06 |
| H3145K | BA 312 K14-16 35 TC06 93 | 14-16mm | 10 | 20 | 35 | TC..06 | 93° | M2 | T06 |
| H3146K | BA 312 K14-16 35 TC09 93 | 14-16mm | 10 | 20 | 35 | TC..06 | 93° | M2 | T06 |
| H3147K | BA 312 K16-18 40 TC06 93 | 16-18mm | 10 | 20 | 40 | TC..06 | 93° | M2 | T06 |
| H3148K | BA 312 K16-18 40 TC09 93 | 16-18mm | 10 | 20 | 40 | TC..06 | 93° | M2 | T06 |
| H3149K | BA 312 K16-18 50 TC09 93 | 16-18mm | 10 | 20 | 50 | TC..06 | 93° | M2 | T06 |
| H3150K | BA 312 K 16-18 50 TC06 93 | 16-18mm | 10 | 20 | 50 | TC..06 | 93° | M2 | T06 |

KLAVUZ UZATMALARI

KLAVUZ UZATMALARI / TAPPING EXTENSIONS / GEWINDEBOHRER HALTER



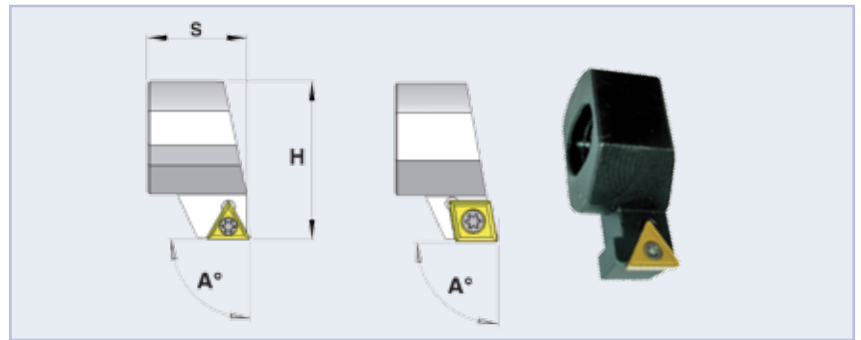
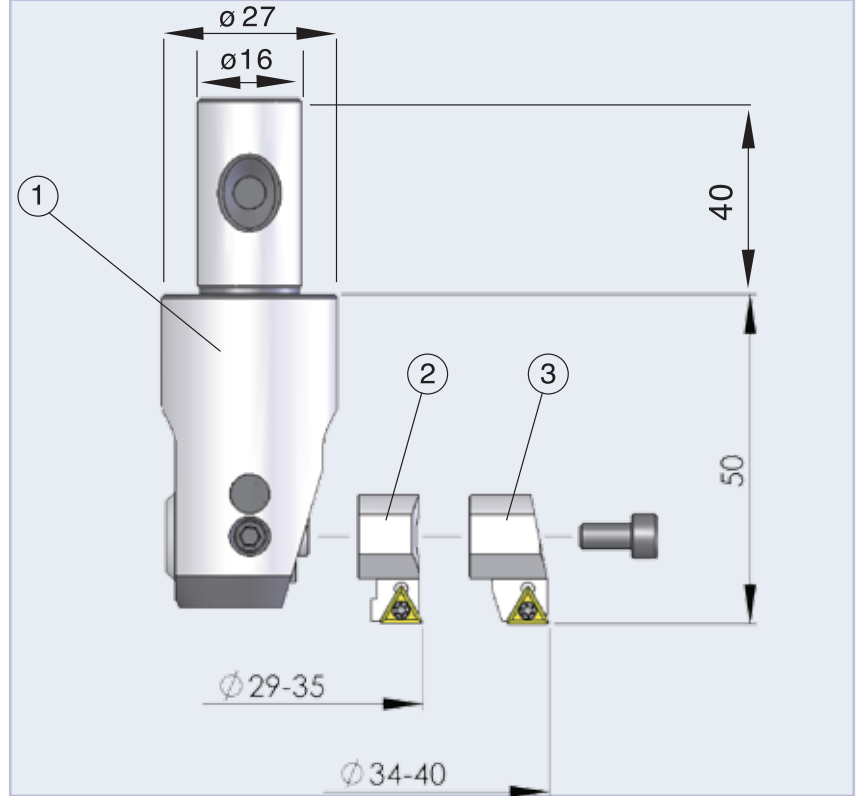
- Klavuz uzatmaları
- Standart veldon modüler sistem
- Standart veldon tutucular ile kullanılır
- Derin yerlerde kısa delikler için,
- Montaj edilirken alından çekerek kuvvetli bağlama

- 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 | TEKNİK RESİM |
|----|--------|----------------------------------|----|----|----|----|-----|------------|--------------|
| 1 | HUKT06 | UKT 16 29 100 06 (klavuz tutucu) | 16 | 6 | 29 | 40 | 100 | M8 | 1 |
| 2 | HUKT08 | UKT 16 29 100 08 (klavuz tutucu) | 16 | 8 | 29 | 40 | 100 | M8 | 2 |
| 3 | HUKT09 | UKT 16 29 100 09 (klavuz tutucu) | 16 | 9 | 29 | 40 | 100 | M8 | 3 |
| 4 | HUKT10 | UKT 20 38 100 10 (klavuz tutucu) | 20 | 10 | 38 | 40 | 100 | M10 | 4 |
| 5 | HUKT11 | UKT 20 38 100 11 (klavuz tutucu) | 20 | 11 | 38 | 40 | 100 | M10 | 5 |
| 6 | HUKT12 | UKT 20 38 100 12 (klavuz tutucu) | 20 | 12 | 38 | 40 | 100 | M10 | 6 |
| 7 | HUKT14 | UKT 20 38 100 14 (klavuz tutucu) | 20 | 14 | 38 | 40 | 100 | M10 | 7 |
| 8 | HUKT16 | UKT 25 48 100 16 (klavuz tutucu) | 25 | 16 | 48 | 50 | 100 | M12 | 8 |
| 9 | HUKT18 | UKT 25 48 100 18 (klavuz tutucu) | 25 | 18 | 48 | 50 | 100 | M12 | 9 |
| 10 | HUKT20 | UKT 25 48 100 22 (klavuz tutucu) | 25 | 22 | 48 | 50 | 100 | M12 | 10 |

PERFORMANS Ø29~40 P

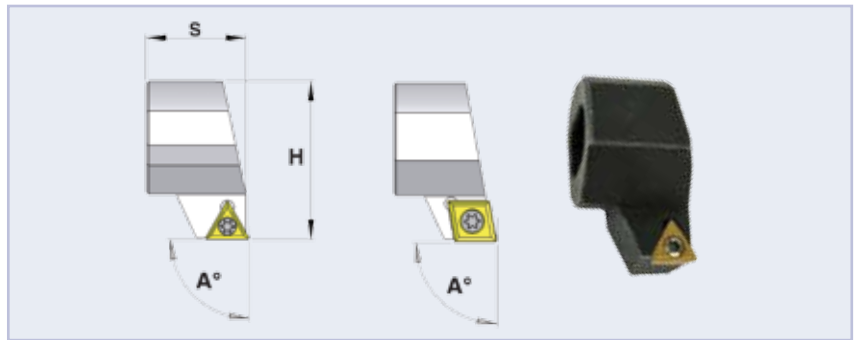
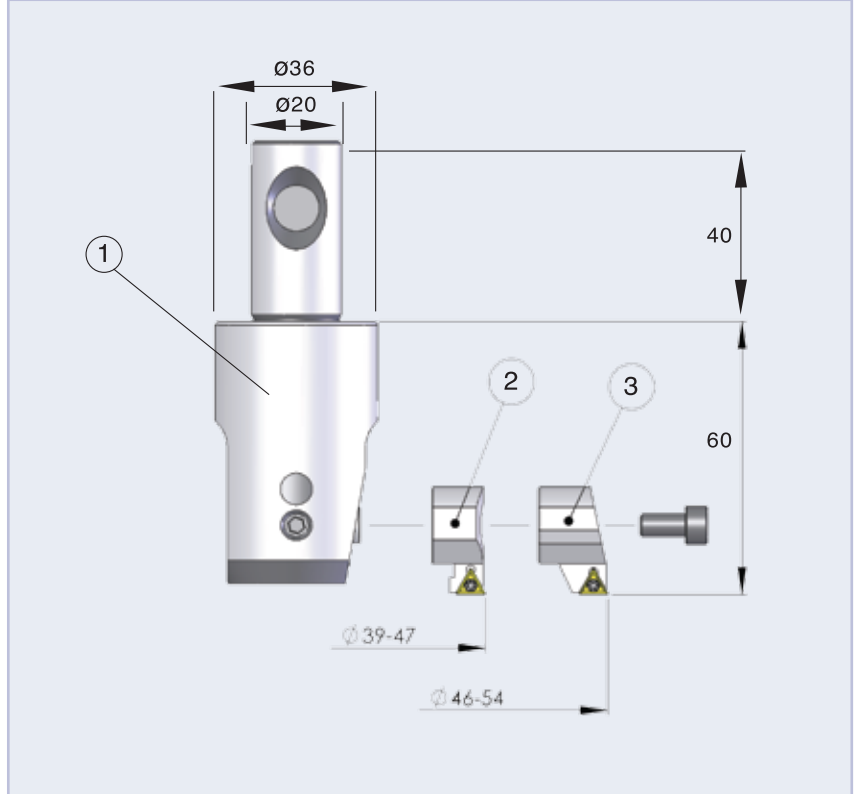


| No. | Kod No / Stock No / Bestellnummer / Cod. | Kod / Code / Bezeichnung / Articolo | Ø |
|-----|--|-------------------------------------|-------|
| | H131P | BA 29-40P SET | 29-40 |
| 1 | H132P | BA 301 29-40P GÖVDE | 29-40 |

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 |
|-----|--|-------------------------------------|----------------|----|----|------------------------|-----|---|------------|
| 2 | H1321K | BA 301 KS 29-35 T | 29-35 | 10 | 20 | TC..06 | 90° | M2 | T06 |
| 3 | H1331K | BA 301 KS 34-40 T | 34-40 | 12 | 20 | TC..06 | 90° | M2 | T06 |
| 2 | H1322K | BA 301 KS 29-35 C | 29-35 | 10 | 20 | CC..06 | 90° | M2.5 | T08 |
| 3 | H1332K | BA 301 KS 34-40 C | 34-40 | 12 | 20 | CC..06 | 90° | M2.5 | T08 |

PERFORMANS Ø39~54 P

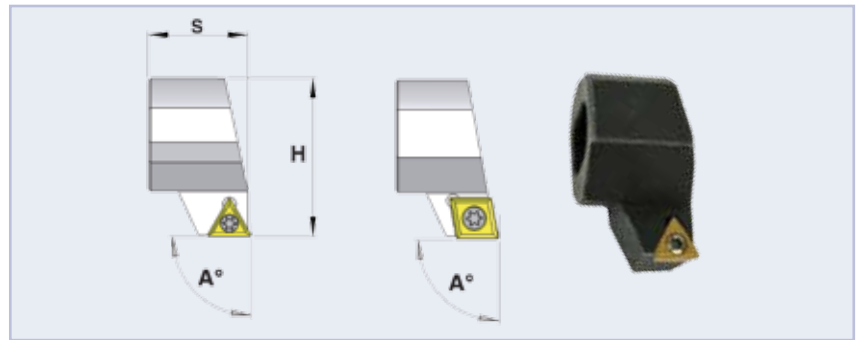
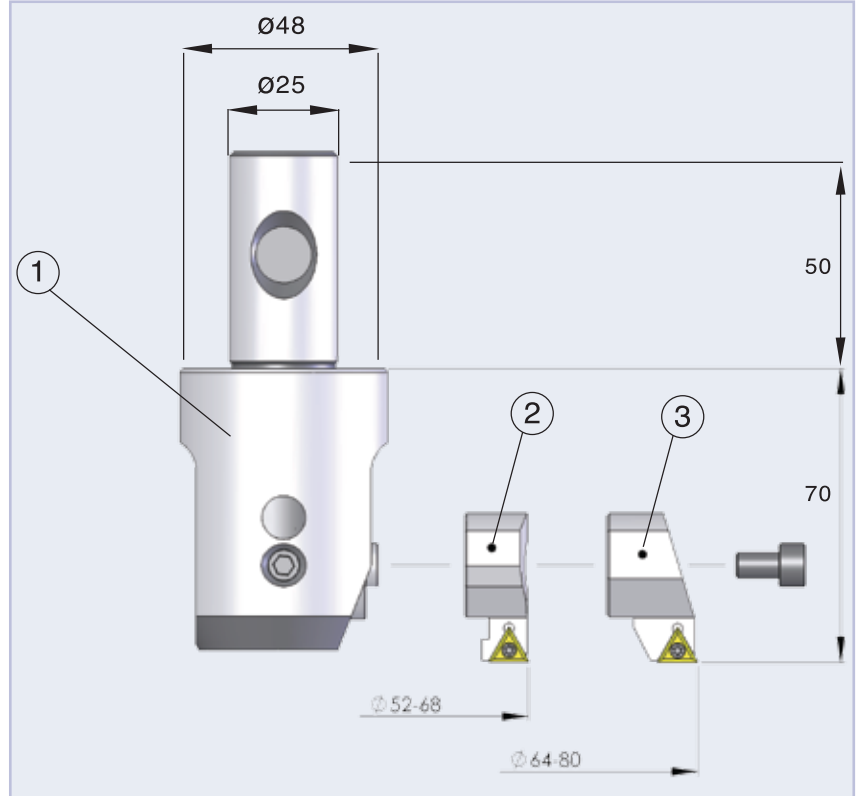


| No. | Kod No / Stock No / Bestellnummer / Cod. | Kod / Code / Bezeichnung / Articolo | Ø |
|-----|--|-------------------------------------|-------|
| | H141P | BA 39-54P SET | 39-54 |
| 1 | H142P | BA 401 39-54P GÖVDE | 39-54 |

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 |
|-----|--|-------------------------------------|----------------|----|----|------------------------|-----|------|------------|
| 2 | H1421K | BA 401 KS 39-47 T | 39-47 | 12 | 24 | TC..06 | 90° | M2 | T06 |
| 3 | H1431K | BA 401 KS 46-54 T | 46-54 | 15 | 24 | TC..06 | 90° | M2 | T06 |
| 2 | H1422K | BA 401 KS 39-47 C | 39-47 | 12 | 24 | CC..06 | 90° | M2.5 | T08 |
| 3 | H1432K | BA 401 KS 46-54 C | 46-54 | 15 | 24 | CC..06 | 90° | M2.5 | T08 |

PERFORMANS Ø52~80 P

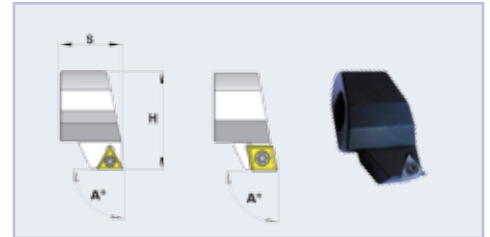
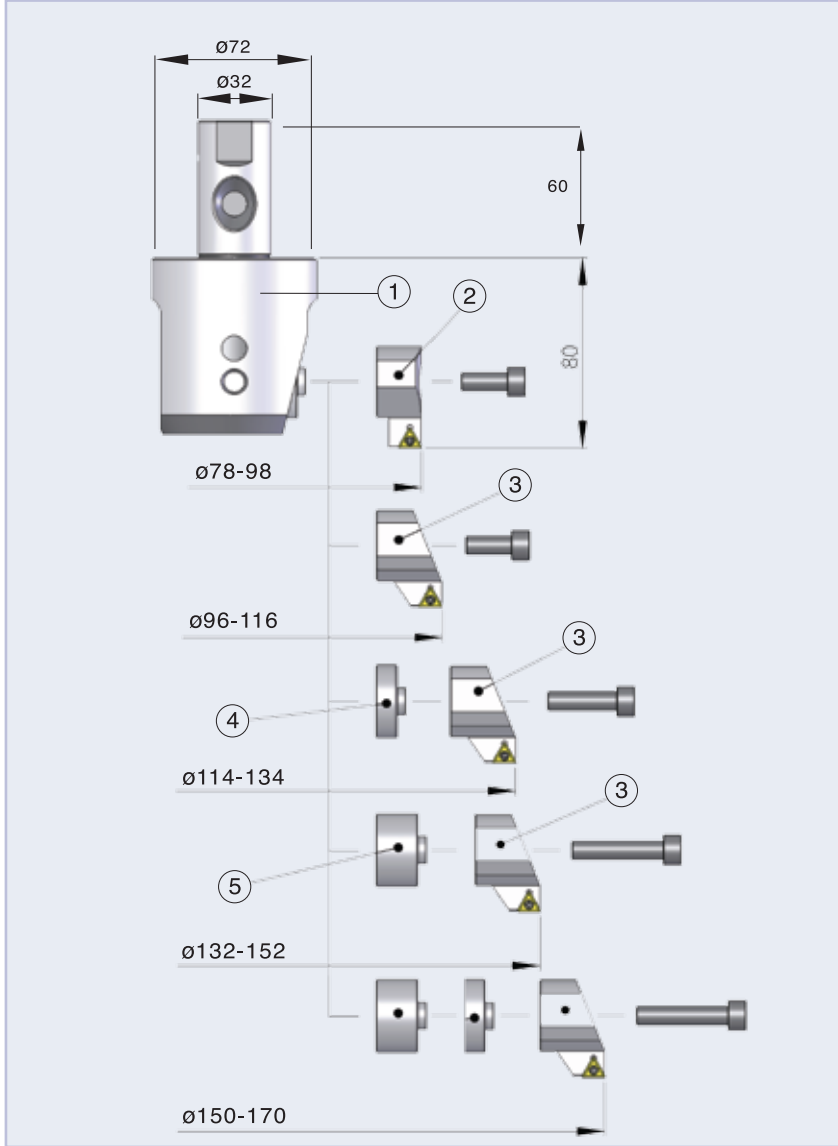


| No. | Kod No / Stock No / Bestellnummer / Cod. | Kod / Code / Bezeichnung / Articolo | Ø |
|-----|--|-------------------------------------|-------|
| | H151P | BA 52-80P SET | 52-80 |
| 1 | H152P | BA 501 52-80P GÖVDE | 52-80 |

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. / Insetto | A | | Torks / Torx |
|-----|--|-------------------------------------|----------------|----|----|----------------------------|-----|------|--------------|
| 2 | H1521K | BA 501 KS 52-68 T | 52-68 | 15 | 35 | TC..09 | 90° | M2,2 | T07 |
| 3 | H1531K | BA 501 KS 64-80 T | 64-80 | 21 | 35 | TC..09 | 90° | M2,2 | T07 |
| 2 | H1522K | BA 501 KS 52-68 C | 52-68 | 15 | 35 | CC..06 | 90° | M2,5 | T08 |
| 3 | H1532K | BA 501 KS 64-80 C | 64-80 | 21 | 35 | CC..06 | 90° | M2,5 | T08 |

PERFORMANS Ø78~170 P

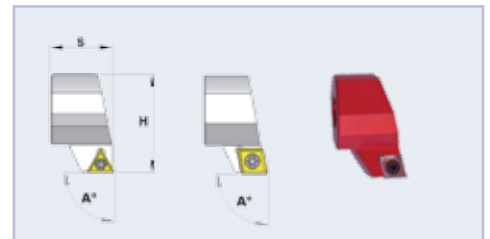
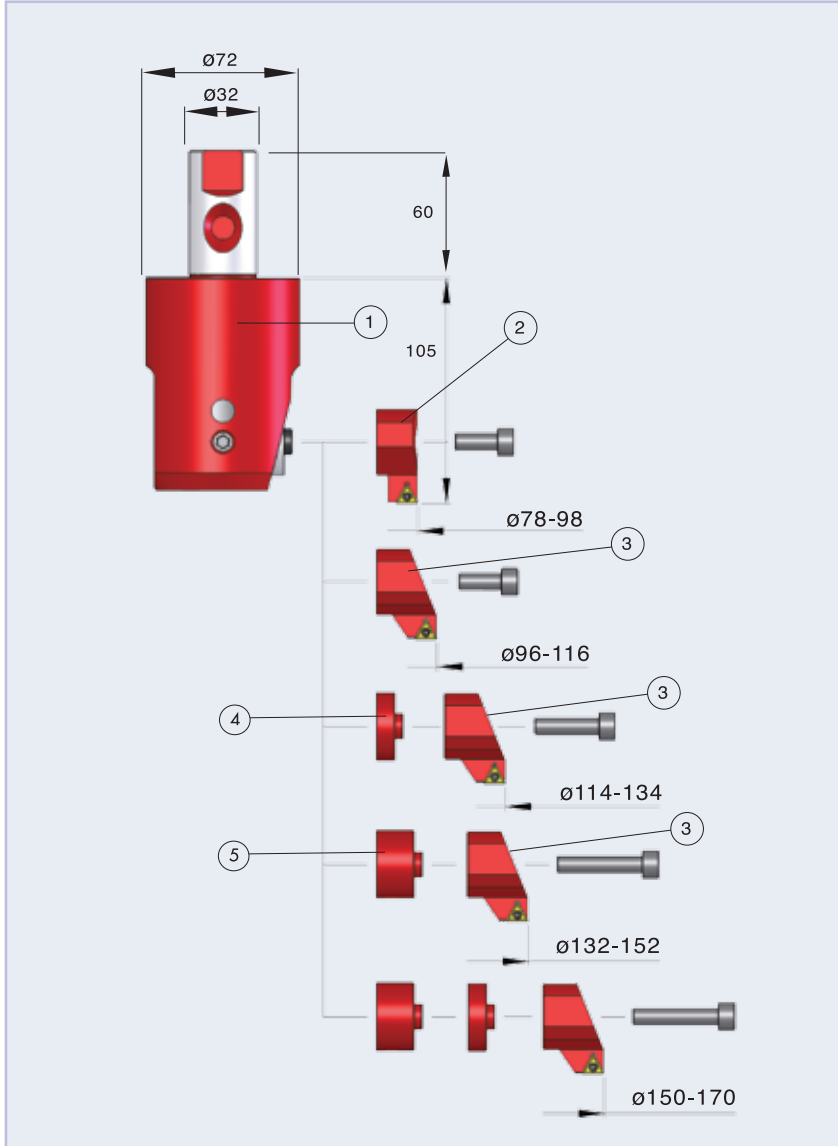


| No. | Kod No / Stock No / Bestellnummer / Cod. | Kod / Code / Bezeichnung / Articolo | Ø |
|-----|--|-------------------------------------|--------|
| 1 | H161P | BA 78-170P SET | 78-170 |
| | H162P | BA 601 78-170P GÖVDE | 78-170 |

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 |
|-----|--|-------------------------------------|----------------|----|----|----------------------------|-----|---|--------------|
| 2 | H1621K | BA 601 KS 78-98 T | 78-98 | 20 | 44 | TC..11 | 90° | M2,5 | T08 |
| 3 | H1631K | BA 601 KS 96-116 T | 96-116 | 30 | 44 | TC..11 | 90° | M2,5 | T08 |
| 2 | H1622K | BA 601 KS 78-98 C | 78-98 | 20 | 44 | CC..09 | 90° | M3,5 | T15 |
| 3 | H1632K | BA 601 KS 96-116 C | 96-116 | 30 | 44 | CC..09 | 90° | M3,5 | T15 |
| 4 | H1611Y | BA 601 KU114-134 | 114-134 | - | - | - | - | - | - |
| 5 | H1612Y | BA 601 KU132-152 | 132-152 | - | - | - | - | - | - |

PERFORMANS Ø78~170 AL-P



| No. | Kod No / Stock No / Bestellnummer / Cod. | Kod / Code / Bezeichnung / Articolo | Ø |
|-----|--|-------------------------------------|--------|
| 1 | H171P | BA 78-170 AL-P SET | 78-170 |
| | H172P | BA 601 78-170 AL-P GÖVDE | 78-170 |

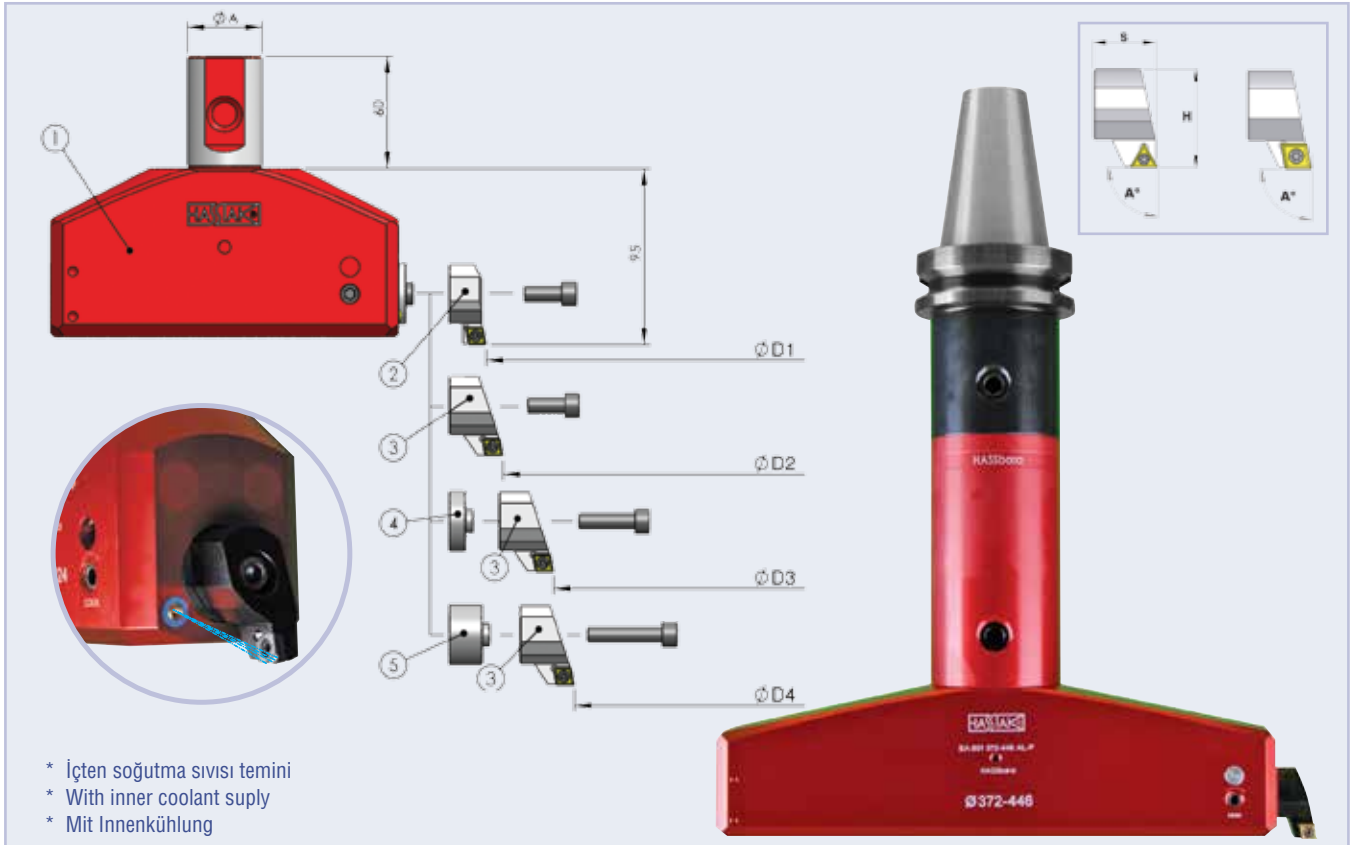
KARTUŞLAR / CARTRIDGES / PLATTENHALTER / CARTUCCIA

| 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 |
|-----|--|-------------------------------------|----------------|----|----|----------------------------|-----|---|--------------|
| 2 | H1721K | BA 601 KS 78-98 T AL | 78-98 | 20 | 44 | TC..11 | 90° | M2,5 | T08 |
| 3 | H1731K | BA 601 KS 96-116 T AL | 96-116 | 30 | 44 | TC..11 | 90° | M2,5 | T08 |
| 2 | H1722K | BA 601 KS 78-98 C AL | 78-98 | 20 | 44 | CC..09 | 90° | M3,5 | T15 |
| 3 | H1732K | BA 601 KS 96-116 C AL | 96-116 | 30 | 44 | CC..09 | 90° | M3,5 | T15 |
| 4 | H1711Y | BA 601 KU114-134 AL | 114-134 | - | - | - | - | - | - |
| 5 | H1712Y | BA 601 KU132-152 AL | 132-152 | - | - | - | - | - | - |

ALU-LINE FINISH Ø150~Ø446

HASSbara ALUMİNYUM GÖVDE / ALUMINIUM BODY / ALUMINIUM BRÜCKE

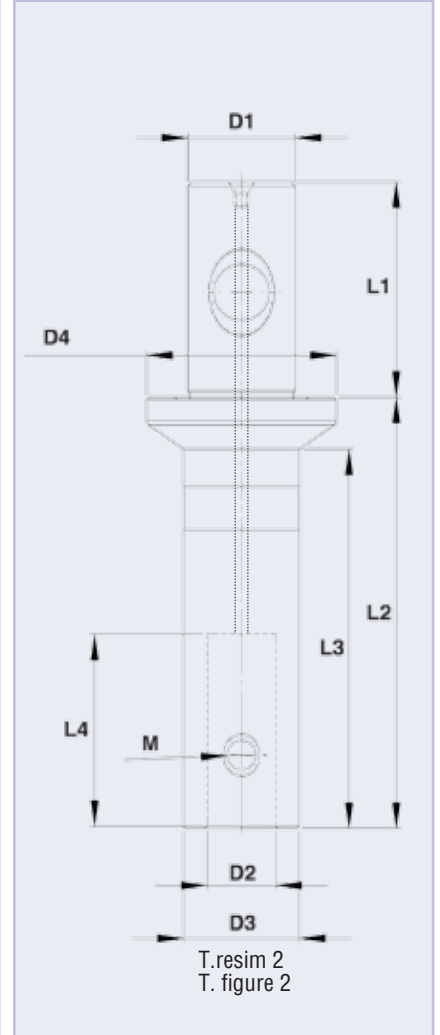
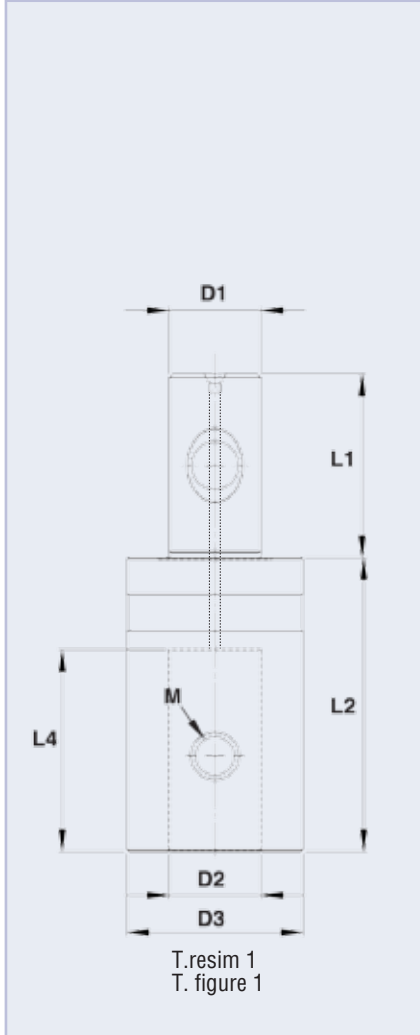
ALU-LINE Ø150~Ø446 mm FINIS DELİK BARALAMA TAKIMLARI / FINE BORING TOOLS FEINSPINDELWERKZEUGE / BARENATURA



| Kod No / Stock No Bestellnummer / Cod. | Kod / Code Bezeichnung / Articolo | Ø Dmin - Ø Dmax | Ø D1 | Ø D2 | Ø D3 | Ø D4 | Ø A |
|---|--------------------------------------|-----------------|------------|------------|------------|------------|-----|
| 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 | S | H | Uç/Insert W.P. Inserto | A | | Torks Torx |
|-----|---|--------------------------------------|----|----|------------------------------|-----|------|---------------|
| 2 | H1721K | BA 601 KS 78-98 T AL | 20 | 44 | TC..11 | 90° | M2,5 | T08 |
| 3 | H1731K | BA 601 KS 96-116 T AL | 30 | 44 | TC..11 | 90° | M2,5 | T08 |
| 2 | H1722K | BA 601 KS 78-98 C AL | 20 | 44 | CC..09 | 90° | M3.5 | T15 |
| 3 | H1732K | BA 601 KS 96-116 C AL | 30 | 44 | CC..09 | 90° | M3.5 | T15 |
| 4 | H1711Y | BA 601 KU114-134 AL | - | - | - | - | - | - |
| 5 | H1712Y | BA 601 KU132-152 AL | - | - | - | - | - | - |
| 1 | H182P | BA 601 150-224 AL-P BODY | - | - | - | - | - | - |
| 1 | H192P | BA 601 224-298 AL-P BODY | - | - | - | - | - | - |
| 1 | H202P | BA 601 298-372 AL-P BODY | - | - | - | - | - | - |
| 1 | H212P | BA 601 372-446 AL-P BODY | - | - | - | - | - | - |

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 | H1373U | U 301 29-40 50 | 29-40 | 16 | 16 | 27 | * | 40 | 50 | - | 44 | M8 | 1 |
| 4 | H1471U | U 401 39-54 100 | 39-54 | 25 | 20 | 36 | 44 | 50 | 110 | 98 | 55 | M10 | 2 |
| 5 | H1472U | U 401 39-54 60 | 39-54 | 25 | 20 | 36 | 44 | 50 | 60 | 50 | 55 | M10 | 2 |
| 6 | H1473U | U 401 39-54 50 | 39-54 | 20 | 20 | 36 | - | 40 | 50 | - | 44 | M10 | 1 |
| 7 | H1571U | U501 52-80 80 | 52-80 | 25 | 25 | 48 | - | 50 | 80 | - | 55 | M12 | 1 |
| 8 | H1572U | U501 52-80 150 | 52-80 | 32 | 25 | 48 | - | 60 | 150 | - | 55 | M12 | 1 |
| 9 | H1671U | U601 78-170 80 | 78-152 | 32 | 32 | 72 | - | 60 | 80 | - | 65 | M20 | 1 |
| 10 | H1672U | U601 78-170 80 AL | 78-152 | 32 | 32 | 72 | - | 60 | 80 | - | 65 | M20 | 1 |
| 11 | H1673U | U601 78-170 120 AL | 78-152 | 32 | 32 | 72 | - | 60 | 120 | - | 65 | M20 | 1 |
| 12 | H1674U | U701 224-446 100 AL | 224-446 | 40 | 40 | 80 | - | 60 | 100 | - | 65 | M20 | 1 |
| 13 | H1675U | U701 224-446 150 AL | 224-446 | 40 | 40 | 80 | - | 60 | 150 | - | 65 | 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) İstenen değerden en az 20 çizgi geri alınarak (saat yönünün tersine çevirerek) tekrardan istenen değere (saat yönüne çevirerek) gelinmelidir.
- Ayar bittiğinde SABİTLEME VİDASI nı (2) sıkmayı UNUTMAYINIZ!

DESCRIPTION AND USE

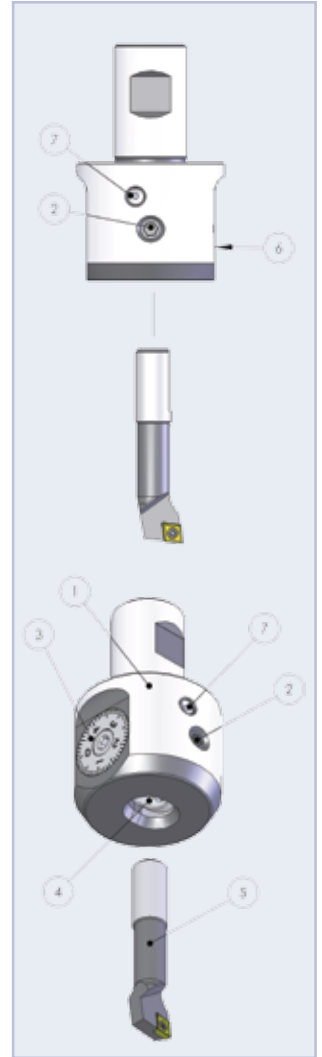
- Install the boring bar so that the BORING BAR FIXING SCREW (6) presses onto the flat point on its handle.
- Before making diameter adjustment from SCALE (3), loose FIXING SCREW (2).
- Adjust the diameter always by rotating the scale clockwise.
- If you wish specifically to reduce the diameter, adjust 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 Totgang 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 sade(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.

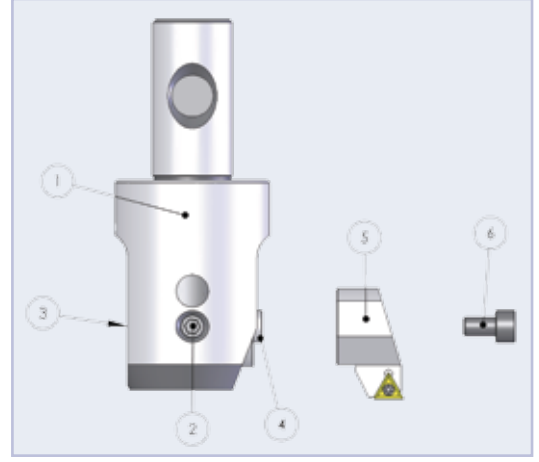


KULLANIM REHBERİ Ø29~446 P / AL-P

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.



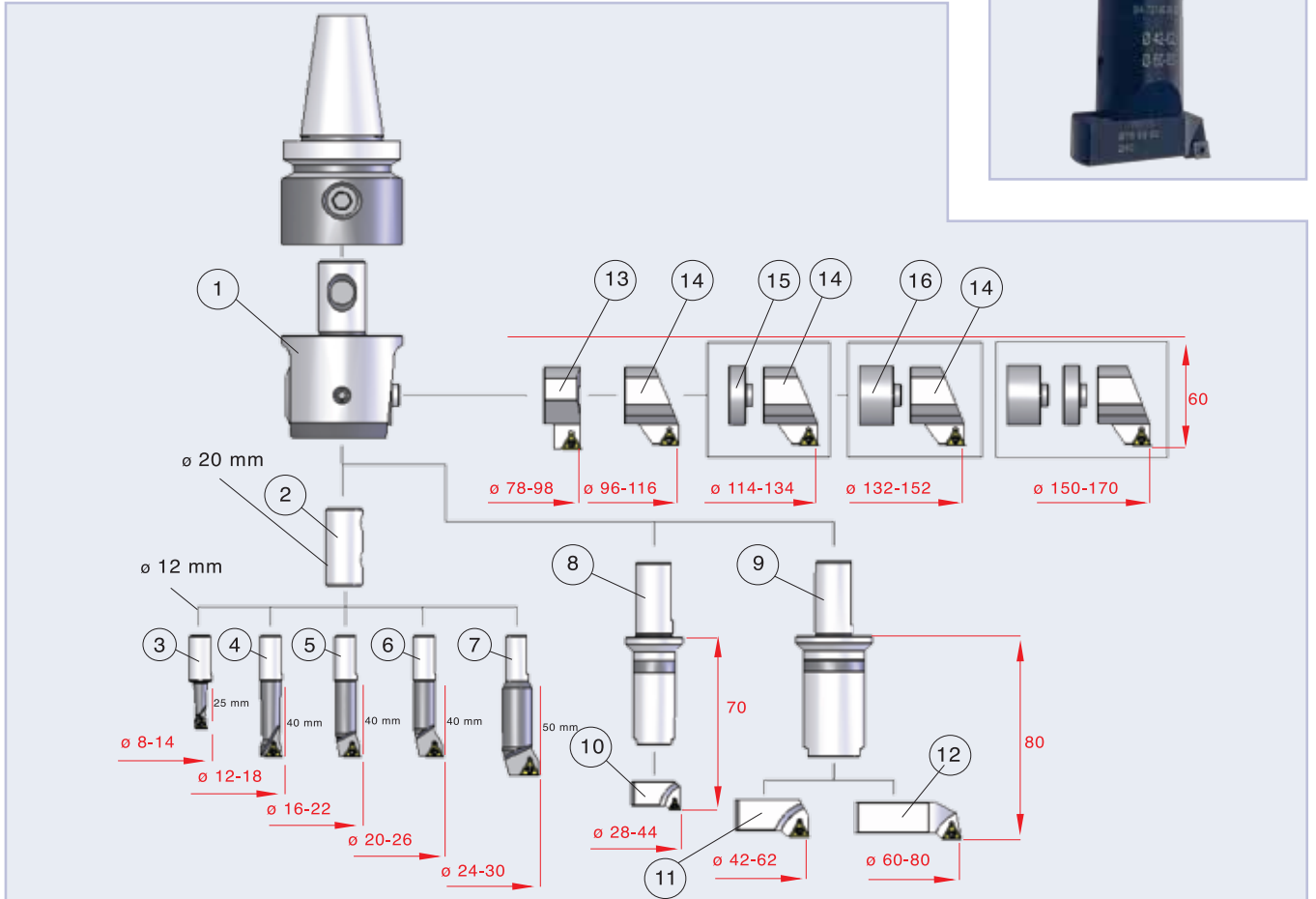
EKONOMİ SET Ø8~170 E



H201E BA 8-170E SET

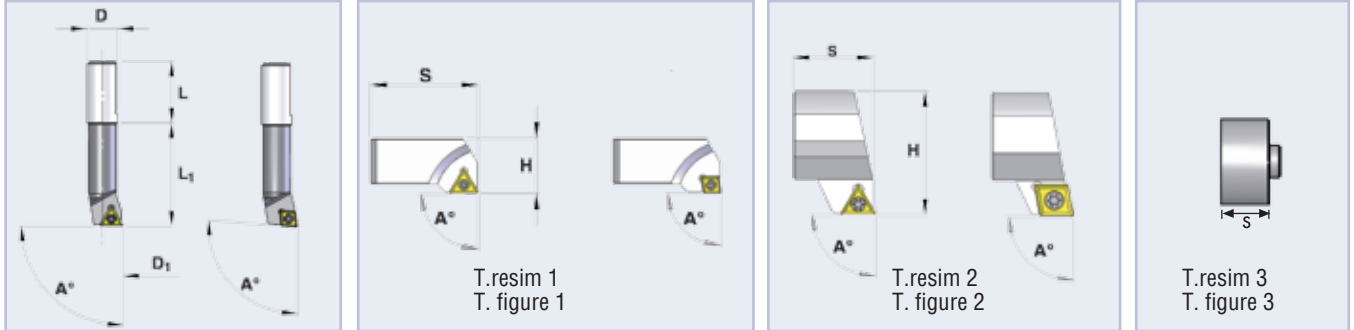


H202E BA 8-250E SET




| 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 |
| 2 | H2010R16 | ADP 26 20 16 45 (YENİ) | - |
| | H2010R08 | ADP 26 20 08 45 (YENİ) | - |
| | H2010R | ADP 20 26 12 45 | - |

EKONOMİ SET Ø08~170 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 K8-14 T | 8-14 | 12 | 25 | 25 | TC..06 | 90° | M2 | T06 |
| 4 | H1231K | BA 201 K12-18 T | 12-18 | 12 | 25 | 40 | TC..09 | 90° | M2,2 | T07 |
| 5 | H1241K | BA 201 K16-22 T | 16-22 | 12 | 25 | 40 | TC..09 | 90° | M2,2 | T07 |
| 6 | H1251K | BA 201 K20-26 T | 20-26 | 12 | 25 | 40 | TC..09 | 90° | M2,2 | T07 |
| 7 | H1261K | BA 201 K24-30 T | 24-30 | 12 | 25 | 50 | TC..11 | 90° | M2,5 | T08 |
| 4 | H1232K | BA 201 K12-18C | 12-18 | 12 | 25 | 40 | CC..06 | 95° | M2,5 | T08 |
| 5 | H1242K | BA 201 K16-22C | 16-22 | 12 | 25 | 40 | CC..06 | 95° | M2,5 | T08 |
| 6 | H1252K | BA 201 K20-26C | 20-26 | 12 | 25 | 40 | CC..06 | 95° | M2,5 | T08 |
| 7 | H1262K | BA 201 K24-30C | 24-30 | 12 | 25 | 50 | CC..06 | 95° | M2,5 | T08 |

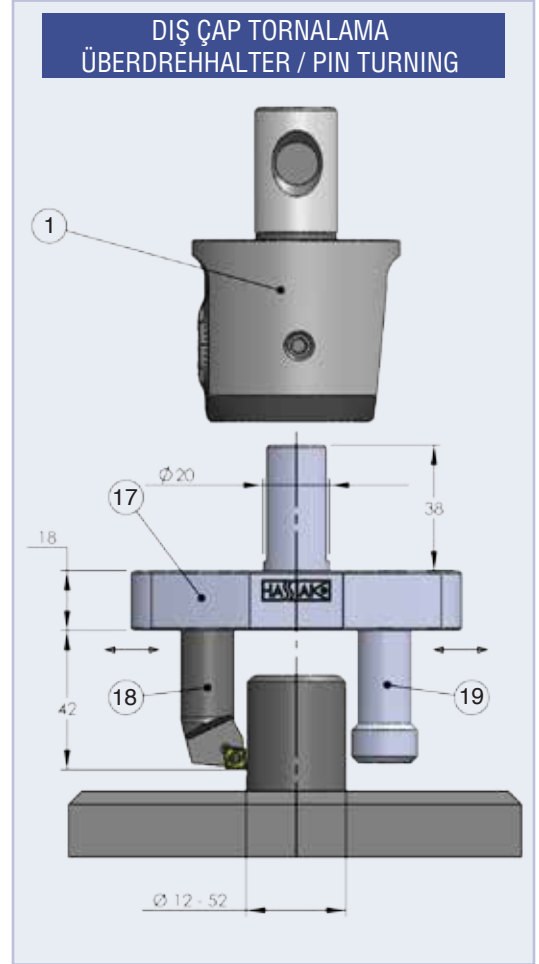
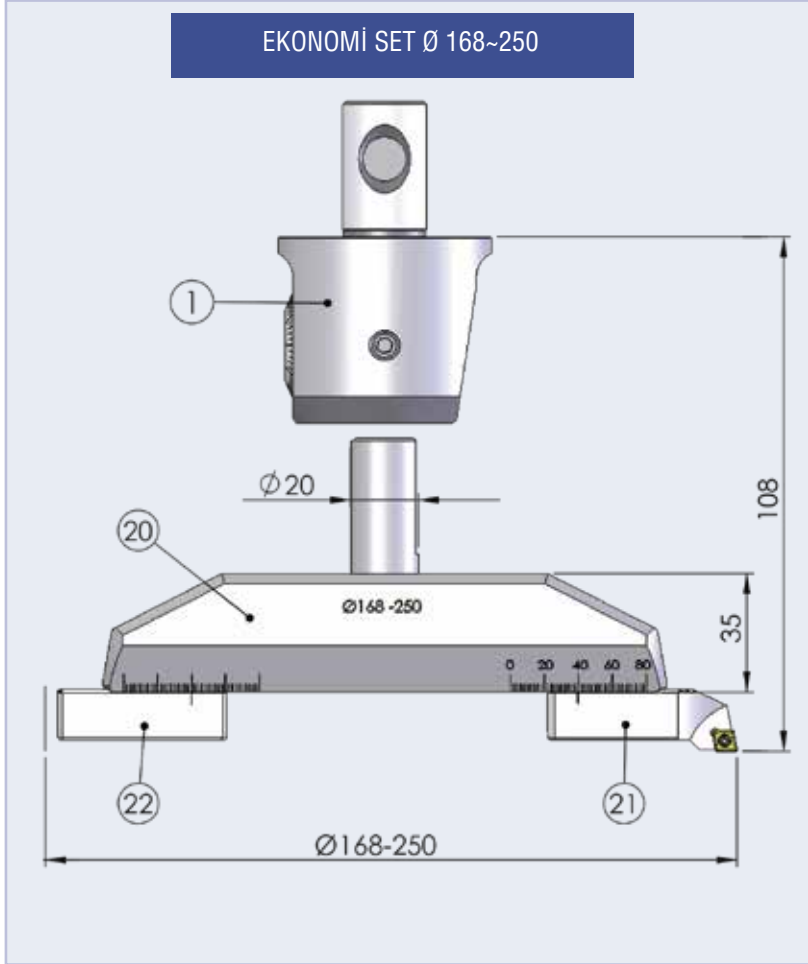
KARTUŞ ADAPTÖRLERİ / CARTRIDGE BARS / AUFNAHME / ADAPTATORECARTUCCIA

| 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 T | 28-44 | 16 | 26 | TC..09 | 90° | M2,2 | T07 | 1 |
| 11 | H2131K | BA 701 KS 42-62 T | 42-62 | 20 | 39 | TC..11 | 90° | M2,5 | T08 | 1 |
| 12 | H2141K | BA 701 KS 60-80 T | 60-80 | 20 | 56 | TC..11 | 90° | M2,5 | T08 | 1 |
| 10 | H2122K | BA 701 KS 28-44 C | 28-44 | 16 | 26 | CC..06 | 90° | M2,5 | T08 | 1 |
| 11 | H2132K | BA 701 KS 42-62 C | 42-62 | 20 | 39 | CC..06 | 90° | M2,5 | T08 | 1 |
| 12 | H2142K | BA 701 KS 60-80 C | 60-80 | 20 | 56 | CC..06 | 90° | M2,5 | T08 | 1 |
| 13 | H1621K | BA 601 KS 78-98 T | 78-98 | 44 | 20 | TC..11 | 90° | M2,5 | T08 | 2 |
| 14 | H1631K | BA 601 KS 96-116 T | 96-116 | 44 | 30 | TC..11 | 90° | M2,5 | T08 | 2 |
| 13 | H1622K | BA 601 KS 78-98C | 78-98 | 44 | 20 | CC..09 | 90° | M3,5 | T15 | 2 |
| 14 | H1632K | BA 501 KS 96-116C | 96-116 | 44 | 30 | CC..09 | 90° | M3,5 | T15 | 2 |
| 15 | H1611Y | BA 601 KU 114-134 | 114-134 | | 9 | | | | | 3 |
| 16 | H1612Y | BA 601 KU 132-152 | 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 |

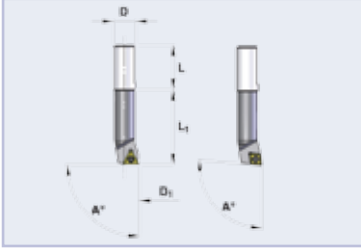
* Bütün ürünlerde özel ölçü takım ihtiyaçlarınız için arayınız.

* 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



Ø8~30 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 |
|---|--------------------------------------|-------------------|----|----|----|------------------------------|-----|---|---------------|
| H1222K | BA 201 K8-14 30 CC06 95 | Ø8-14 | 12 | 25 | 30 | CC..06 | 95° | M2.5 | T08 |
| H1223K | BA 201 K10-16 40 CC06 95 | Ø10-16 | 12 | 25 | 40 | CC..06 | 95° | M2.5 | T08 |
| H1233K | BA 201 K12-18 50 CC06 95 | Ø12-18 | 12 | 25 | 50 | CC..06 | 95° | M2.5 | T08 |
| H1243K | BA 201 K16-22 50 CC06 95 | Ø16-22 | 12 | 25 | 50 | CC..06 | 95° | M2.5 | T08 |
| H1244K | BA 201 K16-22 60 CC06 95 | Ø16-22 | 12 | 25 | 60 | CC..06 | 95° | M2.5 | T08 |
| H1245K | BA 201 K16-22 70 CC06 95 | Ø16-22 | 12 | 25 | 70 | CC..06 | 95° | M2.5 | T08 |
| H1253K | BA 201 K20-26 50 CC06 95 | Ø20-26 | 12 | 25 | 50 | CC..06 | 95° | M2.5 | T08 |
| H1254K | BA 201 K20-26 60 CC06 95 | Ø20-26 | 12 | 25 | 60 | CC..06 | 95° | M2.5 | T08 |
| H1255K | BA 201 K20-26 70 CC06 95 | Ø20-26 | 12 | 25 | 70 | CC..06 | 95° | M2.5 | T08 |
| H1263K | BA 201 K24-30 60 CC06 95 | Ø24-30 | 12 | 25 | 60 | CC..06 | 95° | M2.5 | T08 |
| H1264K | BA 201 K24-30 70 CC06 95 | Ø24-30 | 12 | 25 | 70 | CC..06 | 95° | M2.5 | T08 |
| H1225K | BA 201 K10-16 40 TC09 93 | Ø10-16 | 12 | 25 | 40 | TC..09 | 93° | M2.2 | T07 |
| H1256K | BA 201 K 20-26 50 CC06 90 | Ø20-26 | 12 | 25 | 50 | CC..06 | 90° | M2.5 | T08 |
| H1257K | BA 201 K 20-26 60 CC06 90 | Ø20-26 | 12 | 25 | 60 | CC..06 | 90° | M2.5 | T08 |
| H1258K | BA 201 K 20-26 70 CC06 90 | Ø20-26 | 12 | 25 | 70 | CC..06 | 90° | M2.5 | T08 |
| H1259K | BA 201 K 20-26 50 TC09 90 | Ø20-26 | 12 | 25 | 50 | TC..09 | 90° | M2.2 | T07 |
| H1260K | BA 201 K 20-26 60 TC09 90 | Ø20-26 | 12 | 25 | 60 | TC..09 | 90° | M2.2 | T07 |
| H1265K | BA 201 K 20-26 70 TC09 90 | Ø20-26 | 12 | 25 | 70 | TC..09 | 90° | M2.2 | T07 |
| H1266K | BA 201 K 20-26 50 TC09 93 | Ø20-26 | 12 | 25 | 50 | TC..09 | 93° | M2.2 | T07 |
| H1267K | BA 201 K 20-26 60 TC09 93 | Ø20-26 | 12 | 25 | 60 | TC..09 | 93° | M2.2 | T07 |
| H1268K | BA 201 K 20-26 70 TC09 93 | Ø20-26 | 12 | 25 | 70 | TC..09 | 93° | M2.2 | T07 |

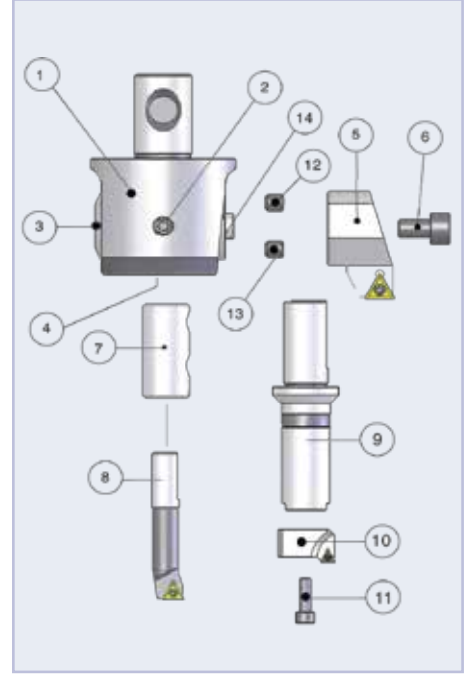
Ø8~170 EKONOMİ SET UZUN KATERLER / Ø8~170 ECONOMY SET LONG BORING BAR Ø8~170 ECONOMY SET LANGEN-HALTER / BARENI Ø8~170E ECONOMY

| 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 |
| 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 |
| 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 |
| 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 |
| 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 |
| 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 |

KULLANIM REHBERİ Ø 8~250 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 kartuşu (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.

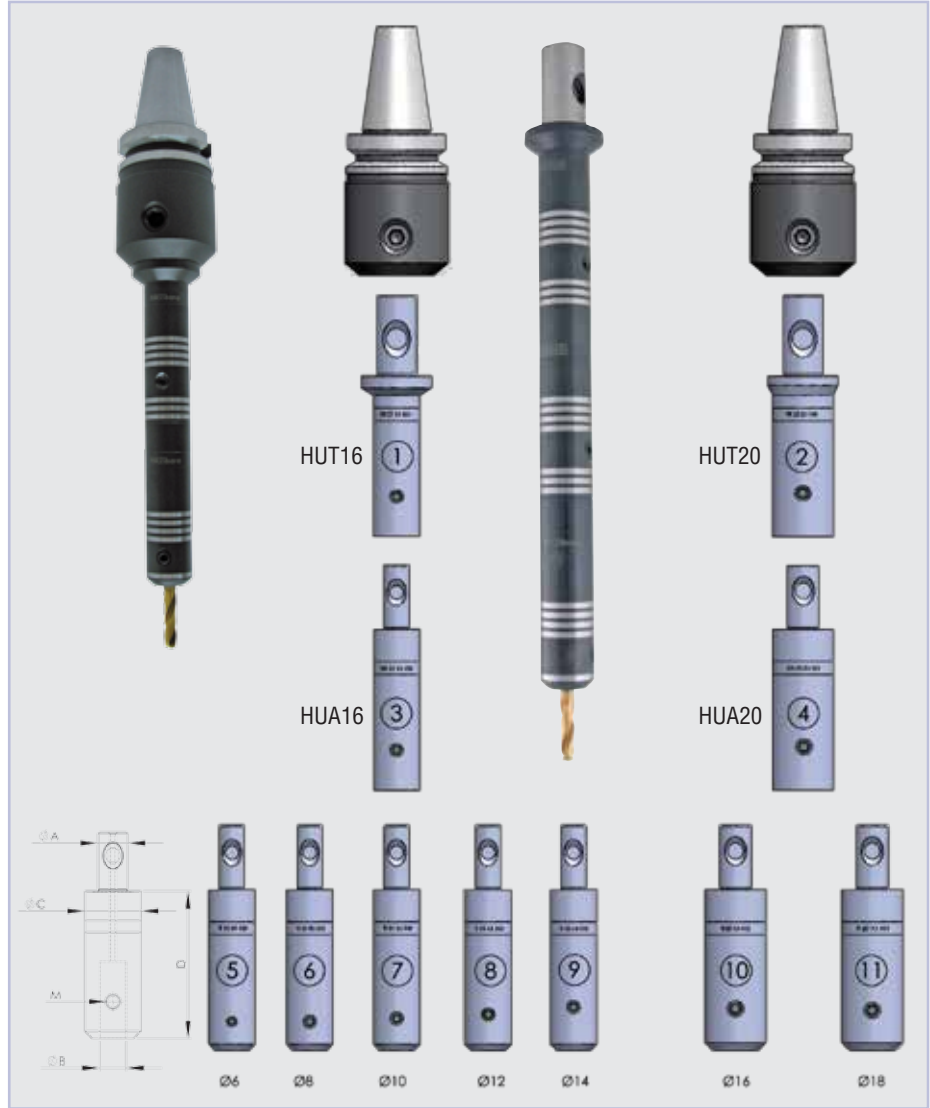
MONTAGE ANLEITUNG Ø 78 - 250

- 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.

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 suply
- 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 |

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 |

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 | H705KK | KK 20-24 CC06 90 | 90 | 8,5 | 17,5 | 12 | M4 | CC..06 | M2,5 | T8 |
| 2 | H701KB | AKB 20 24 80 GÖVDE | | | | | | | | | | |
| 3 | H702KB | AKB 20 24 90 GÖVDE | | | | | | | | | | |
| 4 | H703KB | AKB 20 24 100 GÖVDE | | | | | | | | | | |
| 5 | H710KB | AKB 24 30 60 GÖVDE | H715KK | KK 24-30 CC06 91 | 90 | 10 | 20 | 13 | M4 | CC..06 | M2,5 | T8 |
| 6 | H711KB | AKB 24 30 82 GÖVDE | | | | | | | | | | |
| 7 | H712KB | AKB 24 30 102 GÖVDE | | | | | | | | | | |
| 8 | H720KB | AKB 30 40 65 GÖVDE | | | | | | | | | | |
| 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 |
| | | | 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 |
| 10 | H740KB | AKB 52 68 90 GÖVDE | H785KK | KK 52-80 CC09 75 | 75 | 19 | 42 | 24 | M8 | CC..09 | M3,5 | T15 |
| | | | 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 |
| 11 | H750KB | AKB 64 80 100 GÖVDE | H785KK | KK 52-80 CC09 75 | 75 | 19 | 42 | 24 | M8 | CC..09 | M3,5 | T15 |
| | | | 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 |
| 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 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.

KABA : IT 9-10

HASSMULTİBOR Ø150 - 1320 KABA VE İNCE

HASSbara ALUMİNYUM GÖVDE / ALUMINIUM BODY / ALUMINIUM BRÜCKE

HASSMULTİBOR KABA ve İNCE DELİK BARALAMA TAKIMLARI

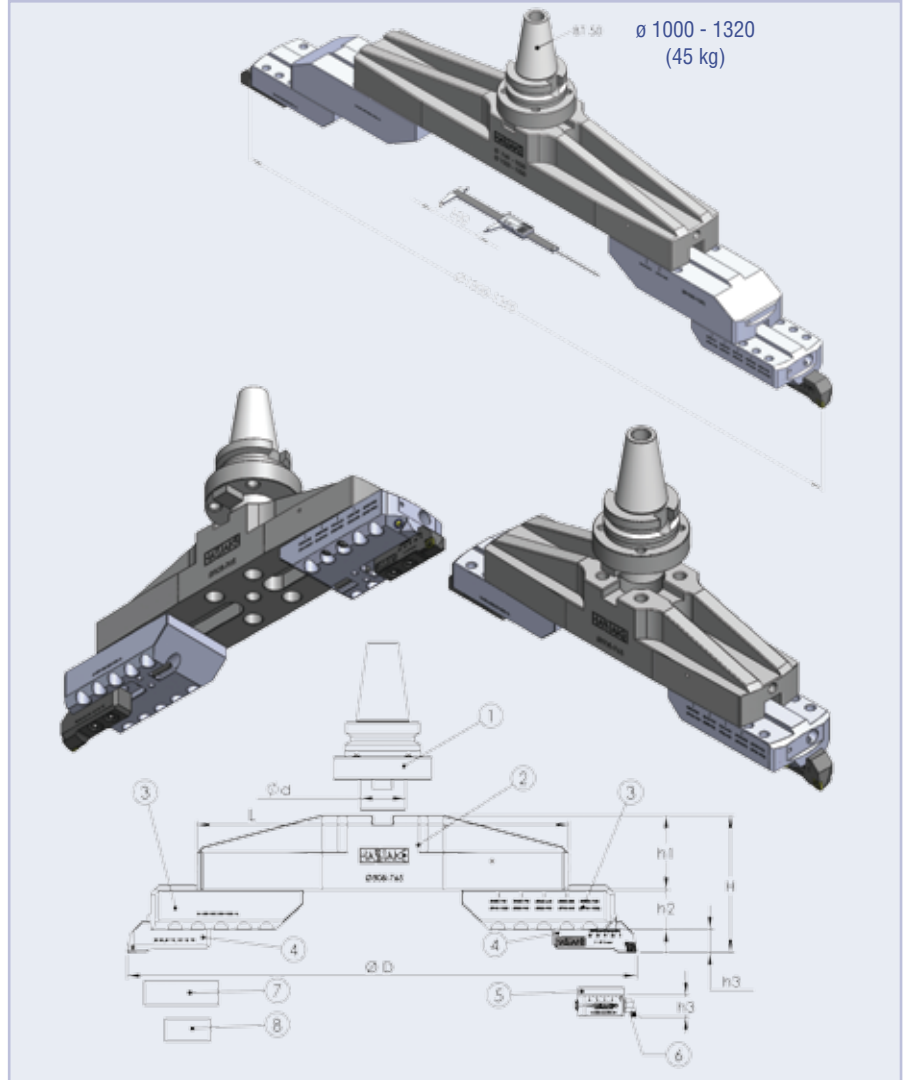
HASSMULTİBOR ROUGH AND FINE BORING TOOLS

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 supply
- 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 |
|----------|--|-------------------------------------|-------------|------------------------|
| | H4040 | BA GK 150-230 AL (WELDON) GÖVDE | Ø 150-230 | 2,2 |
| 2 | H404 | BA 850 GK 150-210 AL | Ø 150-210 | 2,3 |
| 2 | H414 | BA 850 GK 205-285 AL | Ø 205-285 | 3,4 |
| 2 | H424 | BA 850 GK 280-360 AL | Ø 280-360 | 4,2 |
| 2 | H434 | BA 850 GK 355-435 AL | Ø 355-435 | 5,3 |
| 2 | H444 | BA 850 GK 430-510 AL | Ø 430-510 | 6,5 |
| 2 | H454 | BA 850 GK 505-765 AL | Ø 505-765 | 9,1 |
| 2 | H464 | BA 850 GK 760-1320 AL | Ø 760-1320 | 18,4 |
| 3 | H474 | BA 850 GKZ 505-1020 | Ø 505-1020 | 2,6 |
| 5 | H401 | MLB 38 48 60 18 | | 0,38 |
| 7 | H484 | BA 850 BLS 30 36 100 | | 0,8 |
| 8 | H485 | BA 850 BLS 30 30 60 | | 0,38 |
| 4 | H410 K | KK 30-40-110 CC12 90 R | | 0,8 |
| 4 | H411 K | KK 30-40-110 CC12 75 R | | 0,8 |
| 6 | H1432 K | BA 401 KS46-54C | | 0,02 |
| 3 | H495 | BA 850 GKZ 1000-1320 AL | Ø 1000-1320 | 5,5 |

BT50 Ø40 WELDON MİNİMUM 75 MAKSİMUM 100 MM DERİNLİK KAZANDIRIR.

Not: BT 50 Tutucu ağırlığı = 8 kg



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

SETLER / SETS

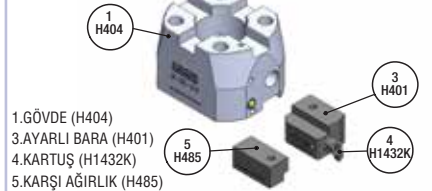
SET İÇİNDEKİLER / IN SET / IM SET ENTHALTEN

| 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 | H495TS | BA 760-1320 AL MULTI TÛM SET (ALL SET) | H464 | H410K x 2 | H401 | H1432K | H485 | H474 x 2 | H495 x 2 | 40000 |
| 23 | H495KS | BA 760-1320 AL MULTI KABA SET (ROUGH SET) | H464 | H410K x 2 | | | | H474 x 2 | H495 x 2 | 39020 |
| 24 | H495FS | 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

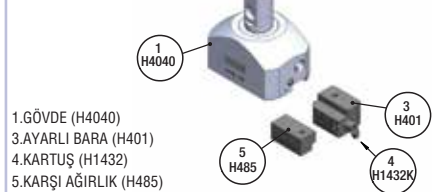
BA 150-210 AL-P MULTİ FINISH SET Ø150-210

• STOK NO: H404FS



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

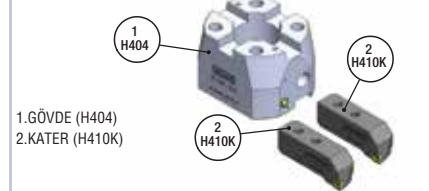
STOK NO: H4040 FS



KABA / ROUGH / SCHRUPP

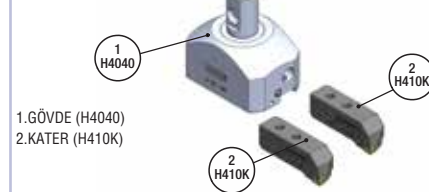
BA 150-210 AL-P MULTİ KABA SET Ø150-210

• STOK NO: H404KS



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

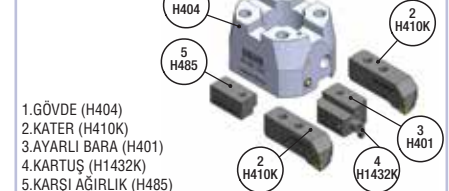
STOK NO: H4040 KS



TÛM / ALL / ALLE

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

• STOK NO: H404TS



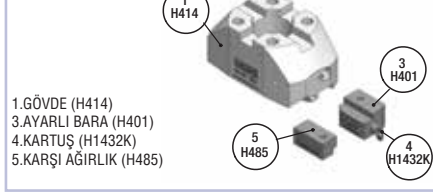
BA 150-230 AL-P MULTİ TÛM SET Ø150-230

STOK NO: H4040 TS



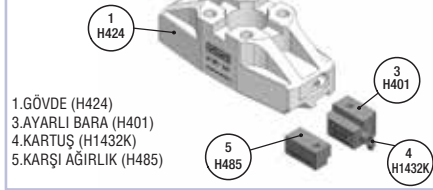
HASSAS / FINISH / FEIN

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



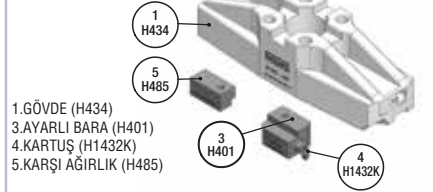
- 1.GÖVDE (H414)
- 3.AYARLI BARA (H401)
- 4.KARTUŞ (H1432K)
- 5.KARŞI AĞIRLIK (H485)

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



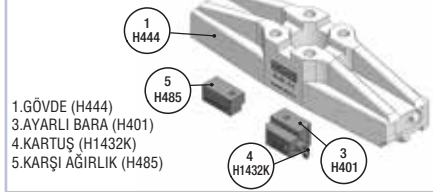
- 1.GÖVDE (H424)
- 3.AYARLI BARA (H401)
- 4.KARTUŞ (H1432K)
- 5.KARŞI AĞIRLIK (H485)

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



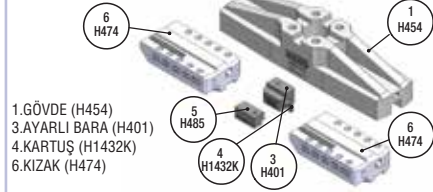
- 1.GÖVDE (H434)
- 3.AYARLI BARA (H401)
- 4.KARTUŞ (H1432K)
- 5.KARŞI AĞIRLIK (H485)

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



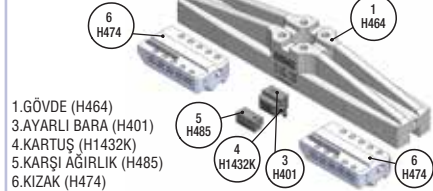
- 1.GÖVDE (H444)
- 3.AYARLI BARA (H401)
- 4.KARTUŞ (H1432K)
- 5.KARŞI AĞIRLIK (H485)

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



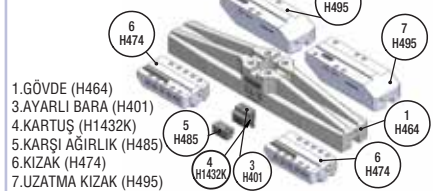
- 1.GÖVDE (H454)
- 3.AYARLI BARA (H401)
- 4.KARTUŞ (H1432K)
- 6.KIZAK (H474)

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



- 1.GÖVDE (H464)
- 3.AYARLI BARA (H401)
- 4.KARTUŞ (H1432K)
- 5.KARŞI AĞIRLIK (H485)
- 6.KIZAK (H474)

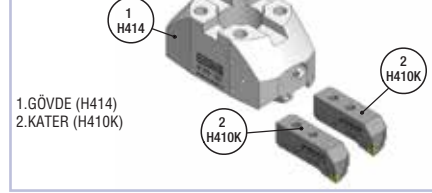
BA 760-1320 AL-P MULTİ FINISH SET Ø760-1320
STOK NO : H474FS



- 1.GÖVDE (H464)
- 3.AYARLI BARA (H401)
- 4.KARTUŞ (H1432K)
- 5.KARŞI AĞIRLIK (H485)
- 6.KIZAK (H474)
- 7.UZATMA KIZAK (H495)

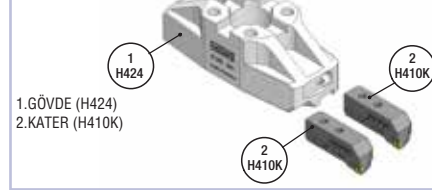
KABA / ROUGH / SCHRUPP

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



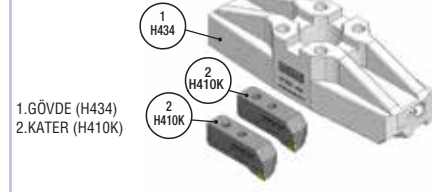
- 1.GÖVDE (H414)
- 2.KATER (H410K)

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



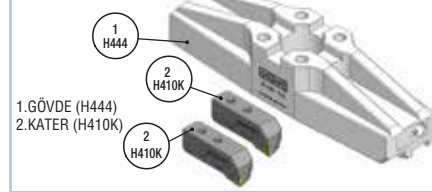
- 1.GÖVDE (H424)
- 2.KATER (H410K)

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



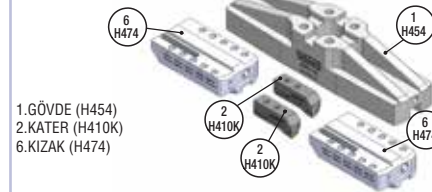
- 1.GÖVDE (H434)
- 2.KATER (H410K)

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



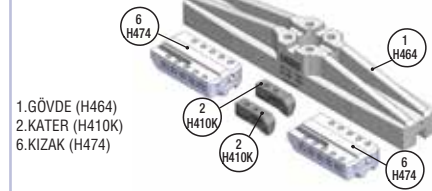
- 1.GÖVDE (H444)
- 2.KATER (H410K)

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



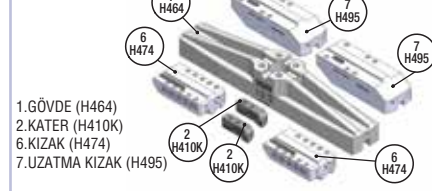
- 1.GÖVDE (H454)
- 2.KATER (H410K)
- 6.KIZAK (H474)

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



- 1.GÖVDE (H464)
- 2.KATER (H410K)
- 6.KIZAK (H474)

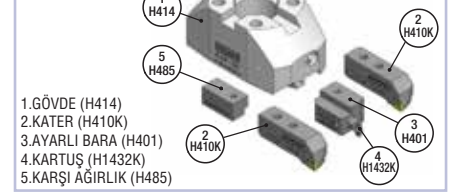
BA 760-1320 AL-P MULTİ KABA SET Ø760-1320
STOK NO : H474KS



- 1.GÖVDE (H464)
- 2.KATER (H410K)
- 6.KIZAK (H474)
- 7.UZATMA KIZAK (H495)

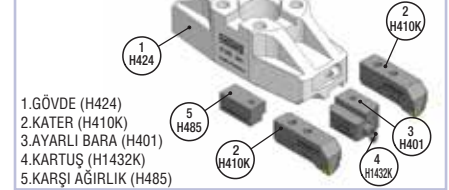
TÜM / ALL / ALLE

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



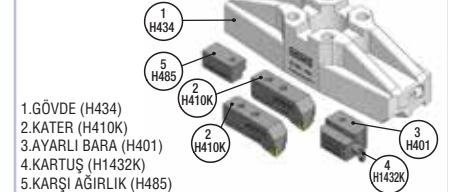
- 1.GÖVDE (H414)
- 2.KATER (H410K)
- 3.AYARLI BARA (H401)
- 4.KARTUŞ (H1432K)
- 5.KARŞI AĞIRLIK (H485)

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



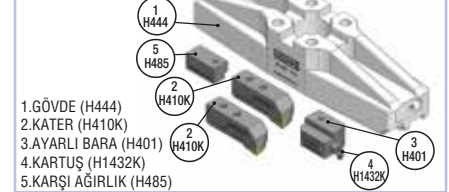
- 1.GÖVDE (H424)
- 2.KATER (H410K)
- 3.AYARLI BARA (H401)
- 4.KARTUŞ (H1432K)
- 5.KARŞI AĞIRLIK (H485)

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



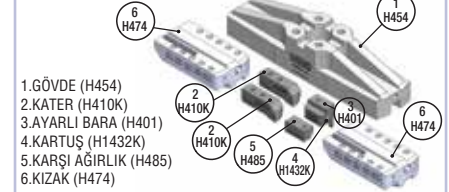
- 1.GÖVDE (H434)
- 2.KATER (H410K)
- 3.AYARLI BARA (H401)
- 4.KARTUŞ (H1432K)
- 5.KARŞI AĞIRLIK (H485)

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



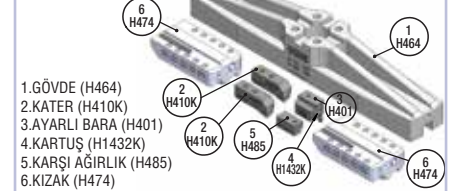
- 1.GÖVDE (H444)
- 2.KATER (H410K)
- 3.AYARLI BARA (H401)
- 4.KARTUŞ (H1432K)
- 5.KARŞI AĞIRLIK (H485)

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



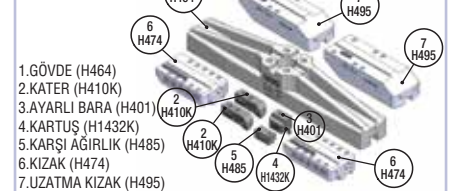
- 1.GÖVDE (H454)
- 2.KATER (H410K)
- 3.AYARLI BARA (H401)
- 4.KARTUŞ (H1432K)
- 5.KARŞI AĞIRLIK (H485)
- 6.KIZAK (H474)

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



- 1.GÖVDE (H464)
- 2.KATER (H410K)
- 3.AYARLI BARA (H401)
- 4.KARTUŞ (H1432K)
- 5.KARŞI AĞIRLIK (H485)
- 6.KIZAK (H474)

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



- 1.GÖVDE (H464)
- 2.KATER (H410K)
- 3.AYARLI BARA (H401)
- 4.KARTUŞ (H1432K)
- 5.KARŞI AĞIRLIK (H485)
- 6.KIZAK (H474)
- 7.UZATMA KIZAK (H495)

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?

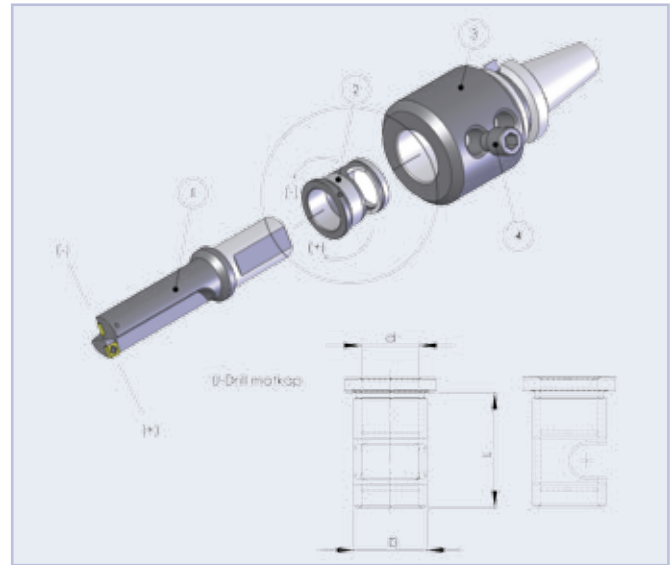
This sleeve is used for adjusting diameter value in decimals between $\varnothing+0.5\sim\varnothing-0.25\text{mm}$ in drilling with U-drill.

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 $\varnothing13-45\text{mm}$ incrementando $(+0.5\text{mm})$ o riducendo (-0.25mm) il diametro di foratura.

Ad esempio con una punta U-drill $\varnothing24\text{mm}$ potete forare da $\varnothing23.75$ 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 |

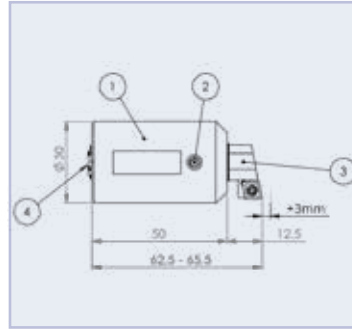
MIKROBOR

- 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 CARTAININSERTO
3. KARTUŞ (CC..06) / CARTRIDGE (CC.06)
PLATTENHALTER (CC..06) / CARTUCCIA PORTAININSERTO
4. SKALA (0,01mm) / SCALE (0,01 mm)
SKALA (0,01 mm) / NONIO 0,01 mm

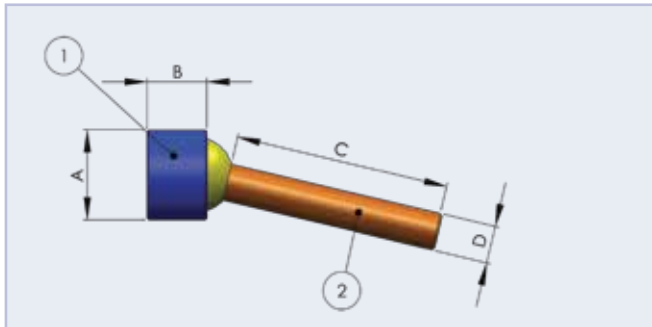
| Kod No / Stock No Bestellnummer / Cod. | Kod / Code Bezeichnung / Articolo |
|---|--------------------------------------|
| H305MB | BA 910 MB 30-50-14 CC06 |
| H1331K | BA 301 KS 34-40 (TCMT 06) |
| H1332K | BA 301 KS 34-40C (CCMT 06) |

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



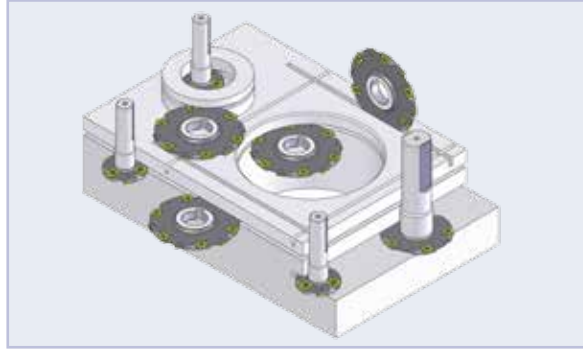
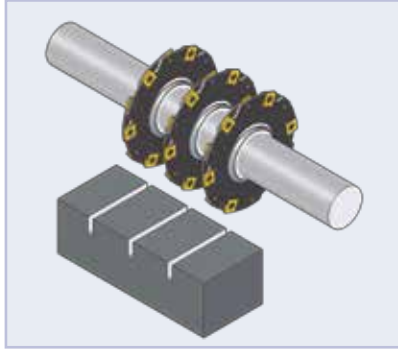
HASSMULTİBOR SU VERME MİSKETLERİ

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 |

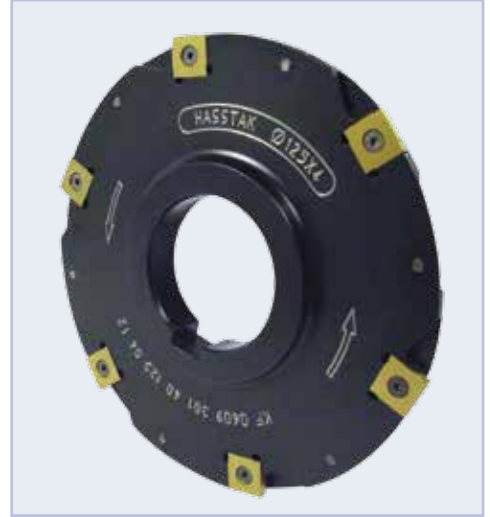
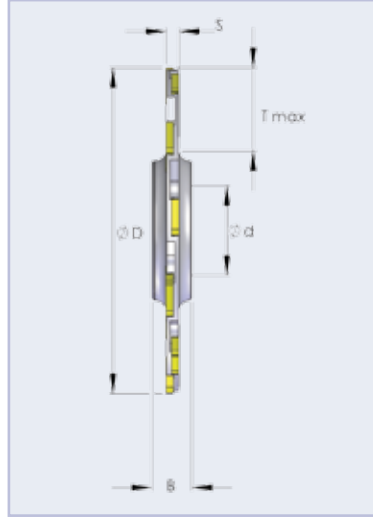
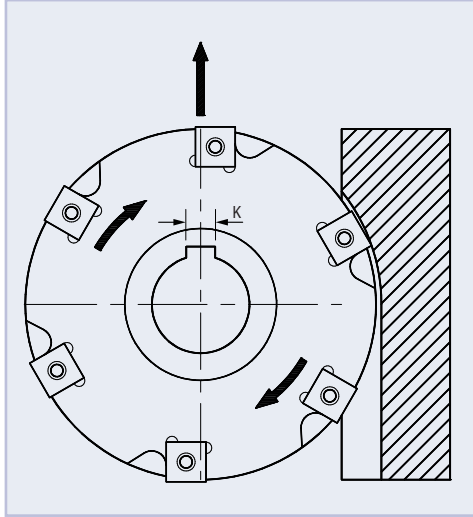


MALAFALAR / WELDON SHANK / WELDON SCHAFT

| Kod No / Stock No Bestellnummer / Cod. | Kod / Code Bezeichnung / Articolo | Ø A | Ø B | L1 | L2 | L |
|---|--------------------------------------|-----|-----|----|----|-----|
| KFS01 | KFS 20 25 80 50 | 20 | 25 | 60 | 20 | 80 |
| KFS02 | KFS 25 32 100 63 | 25 | 32 | 75 | 25 | 100 |
| KFS03 | KFS 32 36 120 80 | 32 | 36 | 90 | 30 | 120 |
| KFS03 | KFS 32 36 120 80 | 32 | 36 | 90 | 30 | 120 |
| KFS04 | KFS 32 40 120 100 | 32 | 40 | 90 | 30 | 120 |
| KFS 05 | KFS 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 201 | KF 201 27 100 04-12 | 27 | 100 | 4 | 2X6 | 12 | 26 | 8 | SNHX1102 | 2,3 mm |
| 7 | KF 202 | KF 202 27 100 05-12 | 27 | 100 | 5 | 2X6 | 12 | 26 | 8 | SNHX1103 | 2,7 mm |
| 8 | KF 203 | KF 203 27 100 06-10 | 27 | 100 | 6 | 2X5 | 12 | 26 | 8 | SNHX1203 | 3,2 mm |
| 9 | KF 204 | KF 204 27 100 08-10 | 27 | 100 | 8 | 2X5 | 12 | 26 | 8 | SNHX1205 | 5,4 mm |
| 10 | KF 205 | KF 205 27 100 10-10 | 27 | 100 | 10 | 2X5 | 12 | 26 | 8 | SNHX1205 | 5,4 mm |
| 11 | KF 206 | KF 206 27 100 12-10 | 27 | 100 | 12 | 2X5 | 12 | 26 | 8 | SNHX1207 | 7 mm |

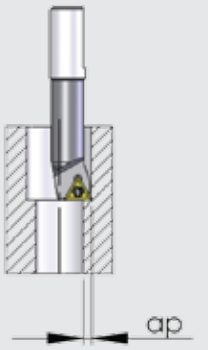
| | | | | | | | | | | | |
|----|--------|---------------------|----|-----|----|-----|----|----|----|----------|--------|
| 12 | KF 301 | KF 301 40 125 04-14 | 40 | 125 | 4 | 2X7 | 12 | 31 | 10 | SNHX1102 | 2,3 mm |
| 13 | KF 302 | KF 302 40 125 05-14 | 40 | 125 | 5 | 2X7 | 12 | 31 | 10 | SNHX1103 | 2,7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

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

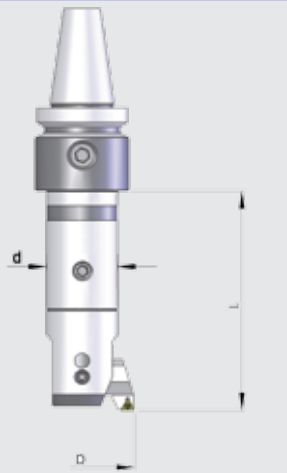
NOTE 2 : The processing speed should be reduced by 20% and 40%, respectively, if processing depth increases up to four times and 6-7 times of processing diameter.

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 lavora, la velocità di taglio va ridotta rispettivamente di un -20% e-40%.

| | | |
|--|--|---|
| VC : Kesme hızı / Cutting Speed / Vc / Velocità di taglio (m/dk) | VC = π.D.n/1000 |  |
| D : İşleme çapı / Processing diameter / Diametro di lavoro (mm) | n = Vc.1000/ π.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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Hassas Delik Baralama Takımları / Precision Boring Tools



HASSAS MAKİNA TAKIMLARI
PRECISION MACHINE TOOLS



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HASSkanal

Kanal Freze / Disc Milling Cutter Tools

HASSkata

Delik Katerleri / Boring Bars

HASSentrik

Eksantrik Adaptör / Eccentric Sleeve

HASSkaba

Kaba Delik Baralama Takımları / Rough Boring Tools



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