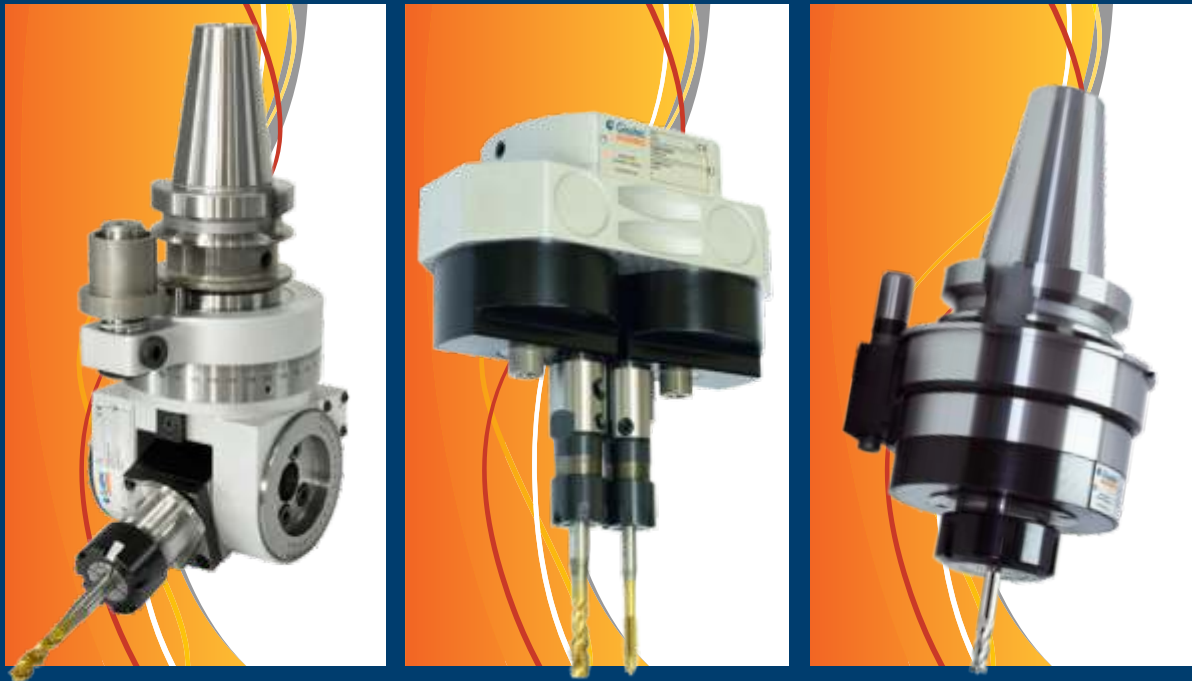




MOTION LINE



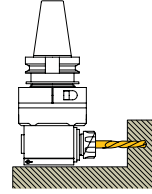
CABEÇOTES LINHA CENTROS DE USINAGEM

Technology in Motion

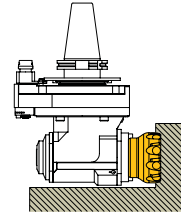


CONTENTS

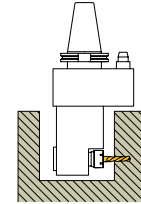
GA 90° Angle Head 5
 90° Winkelkopf
 90° Açılı Kafa



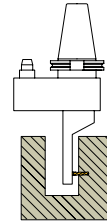
GA-X 90° Angle Head with ISO30/40 Output 8
 90° Winkelkopf mit ISO30/40 -Abtriebsspindel
 90° Açılı Kafa ISO30/40 Çıkışlı



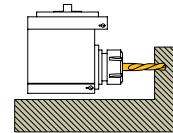
GA-L 90° Angle Head Extended 9
 90° Winkelkopf Verlängert
 90° Açılı Kafa Uzatmalı



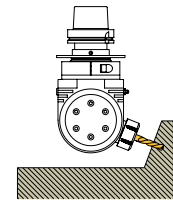
GS 90° Slim Angle Head 10
 90° Winkelkopf, schmale Bauform
 90° İnce Açılı Kafa



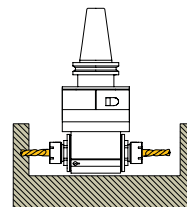
GA-F 90° Angle Head with Flange Connection 12
 90° Winkelkopf mit Flanschverbindung
 90° Flanş Bağlantılı Açılı Kafa










GT Tilting Head 15
 Schwenkkopf
 Ayarlanabilir Açılı Kafa

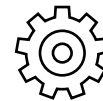
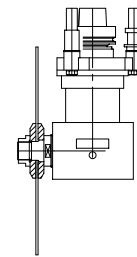
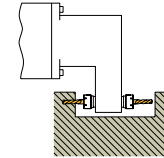
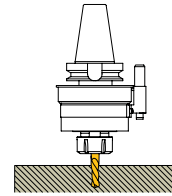
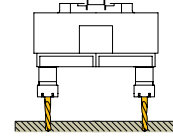
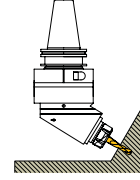


GD 90° Double Output Angle Head 20
 90° Doppel-Winkelkopf
 90° Çift Çıkışlı Açılı Kafa



CONTENTS

GM	Modular Angle Head with Fixed Angle Modularer Winkelkopf mit festem Winkel Modüler Sistem Sabit Açılı Kafa	22	
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SC	Spindle Speeder Schnelllaufspindel Hız Kafası	27	
Z	Special Solutions Sonderlösungen Özel Kafalar	30	
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Winkelkopf - GA-Serie

90° Açılı Kafa - GA Serisi



GA



GA-X



GA-L

Features

For drilling, tapping and light milling operations

Usable on both CNC and conventional machine tools

Heat-treated aluminium or steel main body

Compact and rigid construction

Coolant feed through stop-bar pin

Orientation ring and stop-bar pin 360° rotatable

Merkmale

Für Bohrungen, Gewindebohren und leichte Fräsbearbeitungen

Verwendbar mit CNC- und herkömmlichen Werkzeugmaschinen

Hauptkörper aus wärmebehandelter Aluminium- oder Stahllegierung

Kompakte und rigide Bauform

Kühlmittelezufuhr durch Anschlagstift

Skalenring und Anschlagstift können um 360° rotiert werden

Özellikler

Delik delme, kılavuz çekme ve frezeleme operasyonları için

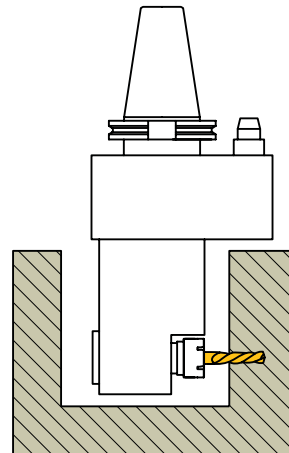
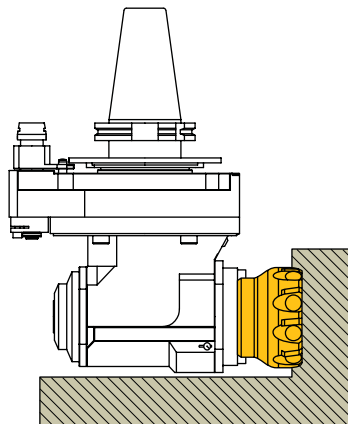
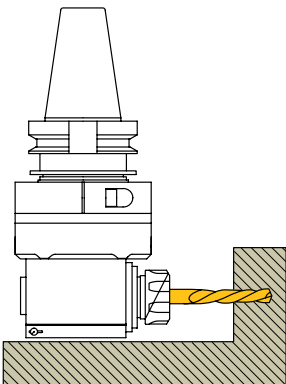
Üniversal ve CNC tezgahlarda kullanılabilir

Isıl işlem görmüş alüminyum veya çelik alaşımlı gövde

Kompakt ve rijit gövde

İndeks kolundan su vermeli

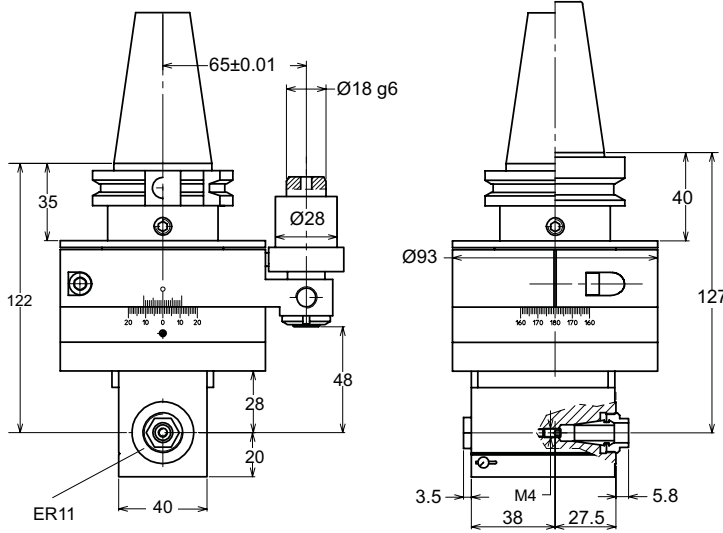
İndeks kolu ve skala 360° fener mili ekseninde ayarlanabilir





Winkelkopf - GA-Serie

90° Açılı Kafa - GA Serisi



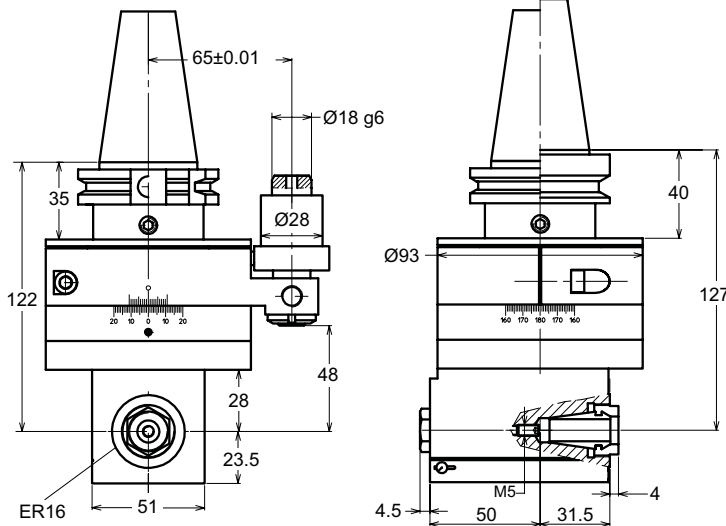
GA-11

SK40 / BT40 / CAT40 / HSK63

ER11
8.000 RPM

1,9 KW Power / Kraft / Güç
330 N Thrust / Schubkraft / Eksenel Kuvvet
1:1 Ratio / Übersetzung / Çevrim Oranı
3,5 kg Weight / Gewicht / Ağırlık

Torque / Drehkraft / Tork
10 Nm @ 1.000 RPM
5 Nm @ 4.000 RPM
4 Nm @ 6.000 RPM



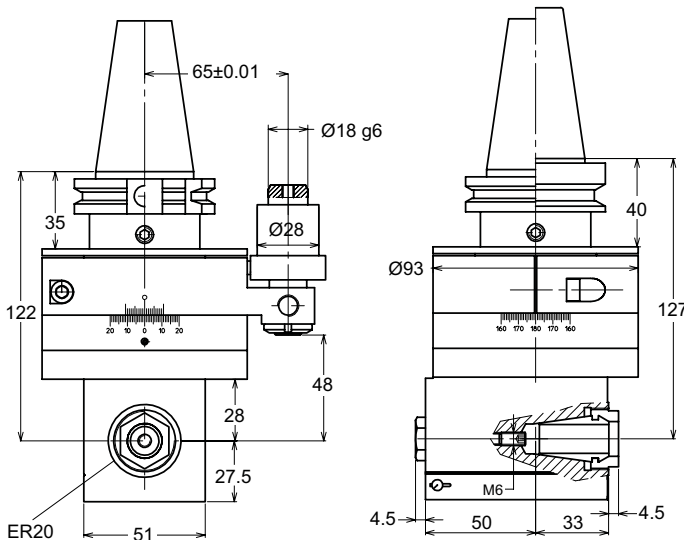
GA-16

SK40 / BT40 / CAT40 / HSK63

ER16
7.000 RPM

3,4 KW Power / Kraft / Güç
450 N Thrust / Schubkraft / Eksenel Kuvvet
1:1 Ratio / Übersetzung / Çevrim Oranı
4 kg Weight / Gewicht / Ağırlık

Torque / Drehkraft / Tork
27 Nm @ 500 RPM
16 Nm @ 2.000 RPM
11 Nm @ 4.000 RPM



GA-20

SK40 / BT40 / CAT40 / HSK63

ER20
6.000 RPM

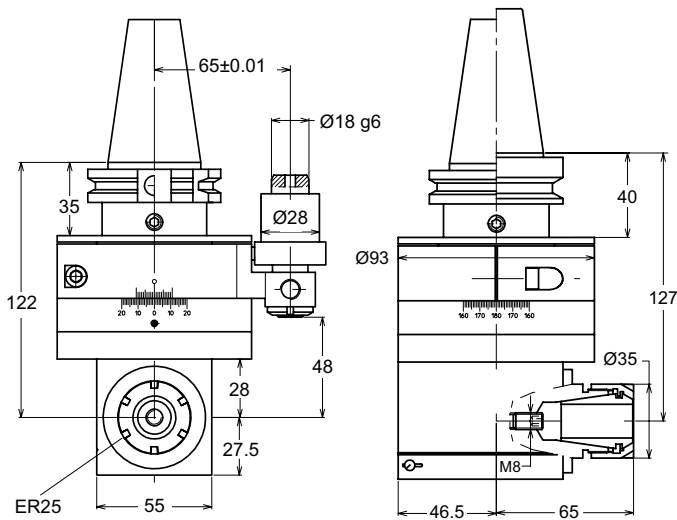
3,4 KW Power / Kraft / Güç
450 N Thrust / Schubkraft / Eksenel Kuvvet
1:1 Ratio / Übersetzung / Çevrim Oranı
4,1 kg Weight / Gewicht / Ağırlık

Torque / Drehkraft / Tork
27 Nm @ 500 RPM
16 Nm @ 2.000 RPM
11 Nm @ 4.000 RPM



Winkelkopf - GA-Serie

90° Açılı Kafa - GA Serisi



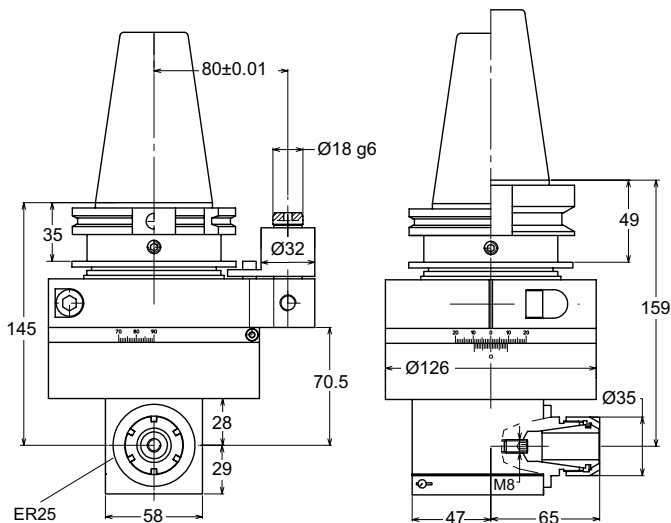
GA-25

SK40 / BT40 / CAT40 / HSK63

ER25
5.000 RPM

3,2 KW Power / Kraft / Güç
 450 N Thrust / Schubkraft / Eksenel Kuvvet
 1:1 Ratio / Übersetzung / Çevrim Oranı
 4,5 kg Weight / Gewicht / Ağırlık

Torque / Drehkraft / Tork
 27 Nm @ 500 RPM
 16 Nm @ 2.000 RPM
 11 Nm @ 4.000 RPM



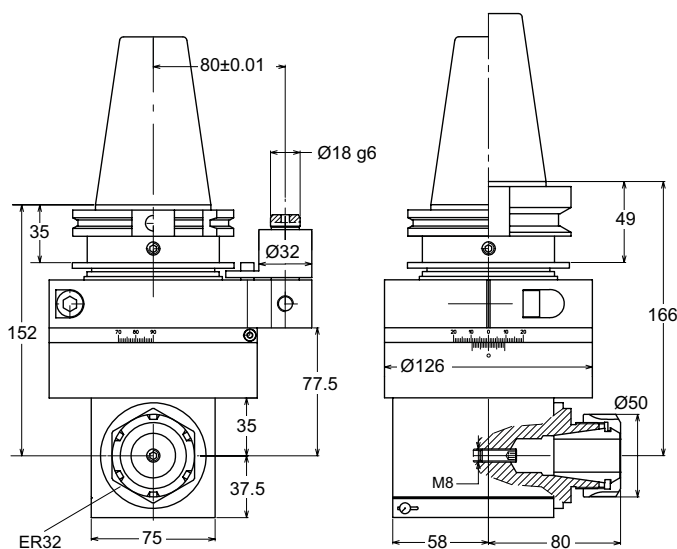
GA-25

SK50 / BT50 / CAT50 / HSK100

ER25
5.000 RPM

4,2 KW Power / Kraft / Güç
 1000 N Thrust / Schubkraft / Eksenel Kuvvet
 1:1 Ratio / Übersetzung / Çevrim Oranı
 9,2 kg Weight / Gewicht / Ağırlık

Torque / Drehkraft / Tork
 27 Nm @ 500 RPM
 16 Nm @ 2.000 RPM
 11 Nm @ 4.000 RPM



GA-32

SK50 / BT50 / CAT50 / HSK100

ER32
4.000 RPM

5 KW Power / Kraft / Güç
 1200 N Thrust / Schubkraft / Eksenel Kuvvet
 1:1 Ratio / Übersetzung / Çevrim Oranı
 11,2 kg Weight / Gewicht / Ağırlık

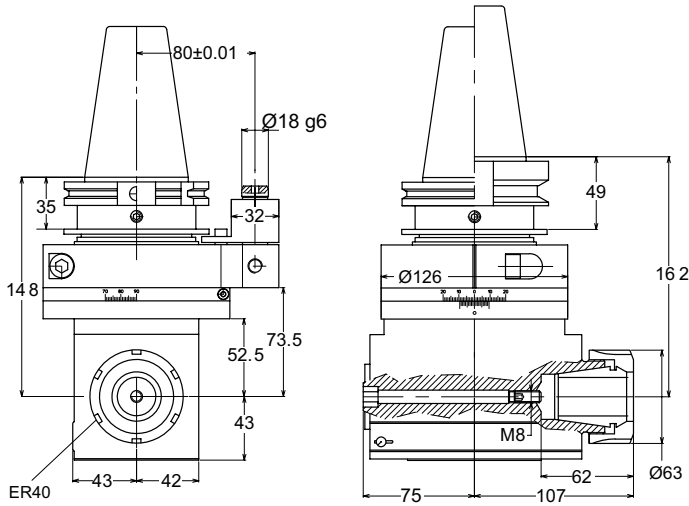
Torque / Drehkraft / Tork
 52 Nm @ 500 RPM
 32 Nm @ 2.000 RPM
 18 Nm @ 4.000 RPM





90° Anlık Kafa mit ISO30/40 -Abtriebsspindel

90° Açılı Kafa ISO30/40 Çıkışlı - GA-X Serisi

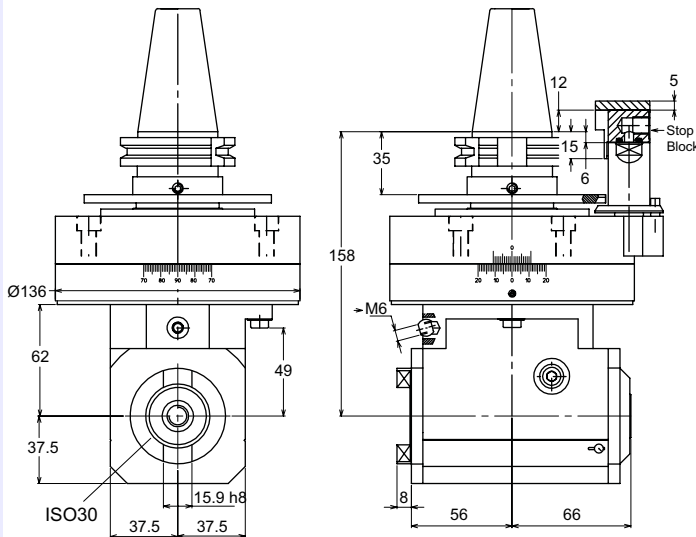
**GA-40**

SK50 / BT50 / CAT50 / HSK100

ER40
2.500 RPM

6,8 KW Power / Kraft / Güç
 1350 N Thrust / Schubkraft / Eksenel Kuvvet
 1:1 Ratio / Übersetzung / Çevrim Oranı
 14,6 kg Weight / Gewicht / Ağırlık

Torque / Drehkraft / Tork
 80 Nm @ 500 RPM
 42 Nm @ 2.000 RPM
 28 Nm @ 3.500 RPM

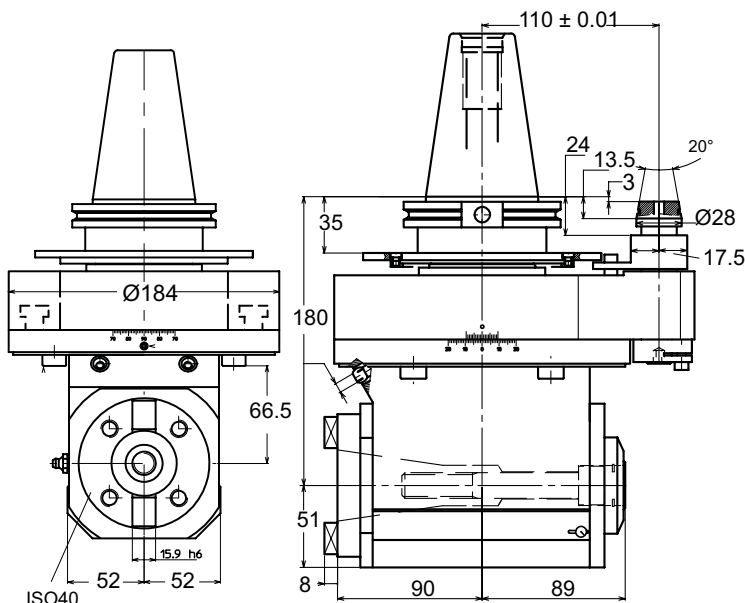
**GA-X30**

SK40 / BT40 / CAT40 / HSK63

ISO30
3.500 RPM

4 KW Power / Kraft / Güç
 700 N Thrust / Schubkraft / Eksenel Kuvvet
 1:1 Ratio / Übersetzung / Çevrim Oranı
 9 kg Weight / Gewicht / Ağırlık

Torque / Drehkraft / Tork
 63 Nm @ 500 RPM
 49 Nm @ 1.000 RPM
 31 Nm @ 2.000 RPM

**GA-X40**

SK50 / BT50 / CAT50 / HSK100

ISO40
3.000 RPM

8,4 KW Power / Kraft / Güç
 1250 N Thrust / Schubkraft / Eksenel Kuvvet
 1:1 Ratio / Übersetzung / Çevrim Oranı
 22,9 kg Weight / Gewicht / Ağırlık

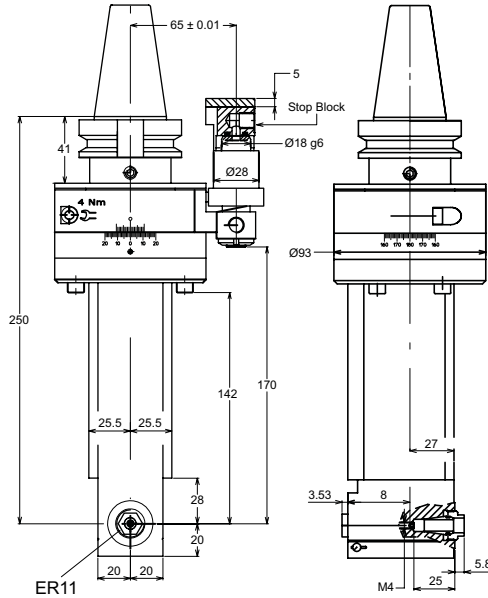
Torque / Drehkraft / Tork
 137 Nm @ 500 RPM
 102 Nm @ 1.000 RPM
 67 Nm @ 2.000 RPM





Winkelkopf Verlängert - GA-L-Serie

90° Açılı Kafa Uzatmalı - GA-L Serisi



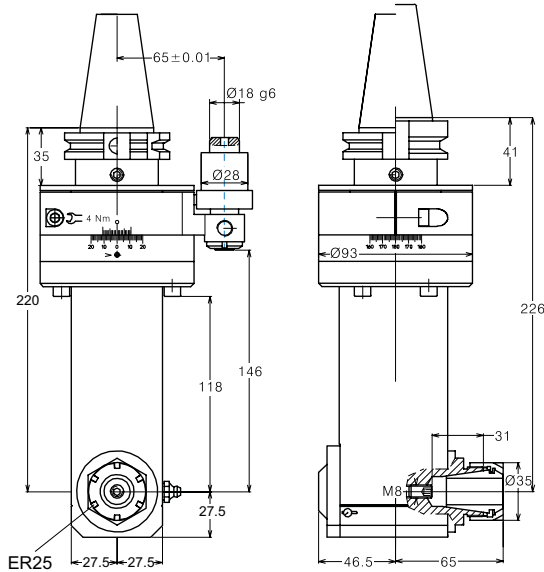
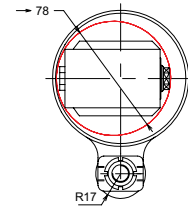
GA-L11

SK40 / BT40 / CAT40 / HSK63

ER11
8.000 RPM

3,2 KW Power / Kraft / Güç
130 N Thrust / Schubkraft / Eksenal Kuvvet
1:1 Ratio / Übersetzung / Çevrim Oranı
6 kg Weight / Gewicht / Ağırlık

Torque / Drehkraft / Tork
10 Nm @ 1.000 RPM
5 Nm @ 4.000 RPM
4 Nm @ 6.000 RPM



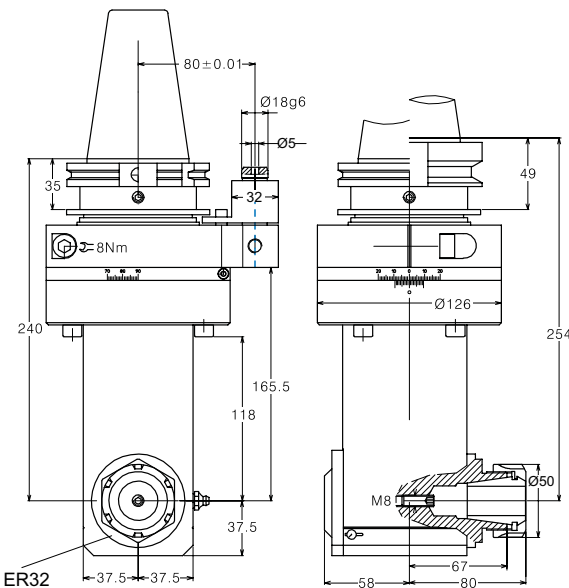
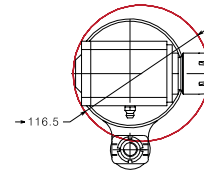
GA-L25

SK40 / BT40 / CAT40 / HSK63

ER25
5.000 RPM

3,2 KW Power / Kraft / Güç
180 N Thrust / Schubkraft / Eksenal Kuvvet
1:1 Ratio / Übersetzung / Çevrim Oranı
7,5 kg Weight / Gewicht / Ağırlık

Torque / Drehkraft / Tork
27 Nm @ 500 RPM
16 Nm @ 2.000 RPM
11 Nm @ 4.000 RPM



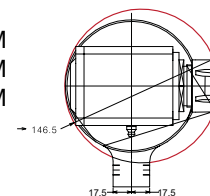
GA-L32

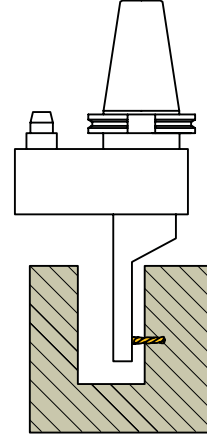
SK50 / BT50 / CAT50 / HSK100

ER32
4.000 RPM

5 KW Power / Kraft / Güç
350 N Thrust / Schubkraft / Eksenal Kuvvet
1:1 Ratio / Übersetzung / Çevrim Oranı
15,7 kg Weight / Gewicht / Ağırlık

Torque / Drehkraft / Tork
52 Nm @ 500 RPM
32 Nm @ 2.000 RPM
18 Nm @ 4.000 RPM




90° Winkelkopf Schmale Bauform - GS-Serie
90° İnce Açılı Kafa - GS Serisi

Features

For drilling, tapping and light milling operations

For cutting operations inside small bores

Usable on both CNC and conventional machine tools

Heat-treated aluminium or steel main body

Compact and rigid construction

Coolant feed through stop-bar pin

Merkmale

Für Bohrungen, Gewindebohren und leichte Fräsbearbeitungen

Für Bearbeitungen in kleineren Bohrungen

Verwendbar mit CNC- und herkömmlichen Werkzeugmaschinen

Hauptkörper aus wärmebehandelter Aluminium- oder Stahllegierung

Kompakte und rigide Bauform

Kühlmittelzufuhr durch Anschlagstift

Özellikler

Delik delme, kılavuz çekme ve frezeleme operasyonları için

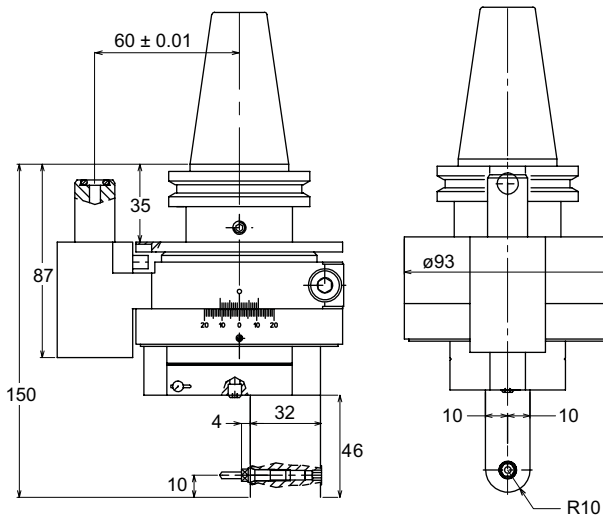
Yanaşması zor yerlerdeki operasyonlar için

Üniversal ve CNC tezgahlarda kullanılabilir

Isıl işlem görmüş alüminyum veya çelik alaşımlı gövde

Kompakt ve rijit gövde

İndeks kolundan su vermeli


GS-2

SK40 / BT40 / CAT40 / HSK63

6.000 RPM

Ø 3 Max Tool Ø / Max Werkzeug Ø / Maks Kesici Ø

1:1 Ratio / Übersetzung / Çevrim Oranı

6,5 kg Weight / Gewicht / Ağırlık

Ø42

Min. Workpiece Ø without tool

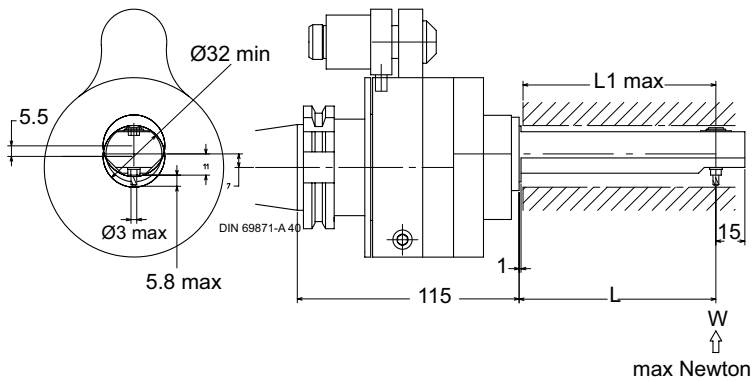
Min. Werkstück Ø ohne Werkzeug

Min. İş Parçası Ø kesici takımsız



Winkelkopf Schmale Bauform - GS-Serie

90° İnce Açılı Kafa - GS Serisi



GS-3

SK40 / BT40 / CAT40 / HSK63

6.000 RPM

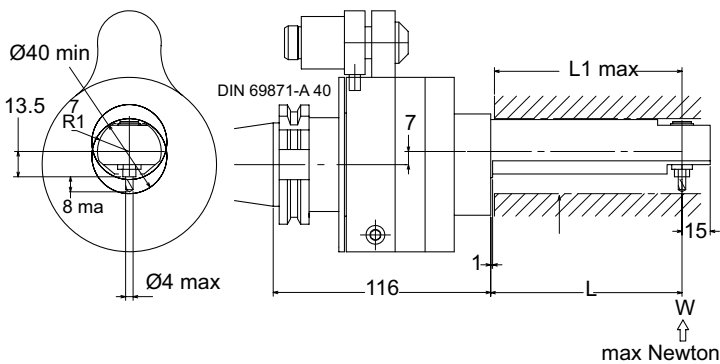
Ø 3

Max. Tool Ø
Max. Werkzeug Ø
Maks. Kesici Ø

Ø32

Min. Workpiece Ø
Min. Werkstück Ø
Min. İş Parçası Ø

L	L1	W
102	100	55
122	120	35
132	130	25



GS-4

SK40 / BT40 / CAT40 / HSK63

6.000 RPM

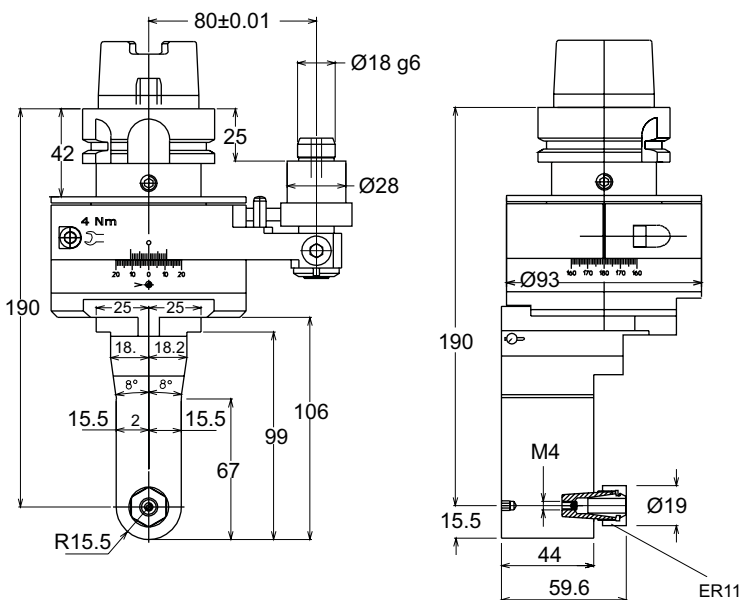
Ø 4

Max. Tool Ø
Max. Werkzeug Ø
Maks. Kesici Ø

Ø40

Min. Workpiece Ø
Min. Werkstück Ø
Min. İş Parçası Ø

L	L1	W
102	100	100
122	120	70
132	130	55



GS-11

SK40 / BT40 / CAT40 / HSK63

ER11

6.000 RPM

1:1 Ratio / Übersetzung / Çevrim Oranı

Ø65

Min. Workpiece Ø without tool
Min. Werkstück Ø ohne Werkzeug
Min. İş Parçası Ø kesici takımsız



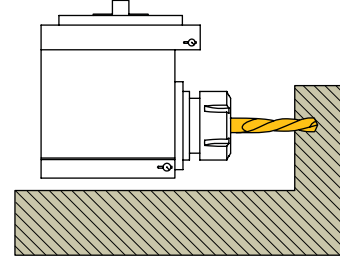


90° Winkelkopf mit Flanschverbindung - GA-F-Serie

90° Flanş Bağlantılı Açılı Kafa - GA-F Serisi



GA-F

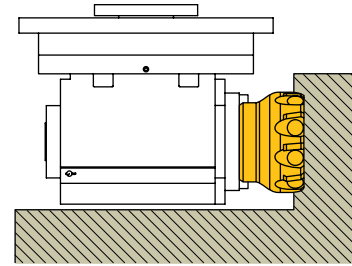


Suitable for all machine types by using a connection kit
Verwendbar mit allen Maschinentypen mithilfe einer Anschlusschnittstelle
Bağlantı adaptörü ile tüm tezgahlarda kullanılabilir

SK30, SK40, SK50, BT30, BT40, BT50, HSK63A, HSK100A
Transfer Machines / Transferanlagen / Transfer Tezgahları



GA-FX



Features

For drilling, tapping and milling operations

Used with a flange interface with the spindle for manual loading

Heat-treated aluminium or steel main body

Compact and rigid construction

Merkmale

Für Bohrungen, Gewindebohren und Fräsbearbeitungen

Flanschverbindung mit der Spindel; manueller Wechsel

Hauptkörper aus wärmebehandelter Aluminium- oder Stahllegierung

Kompakte und rigide Bauform

Özellikler

Delik delme, kılavuz çekme ve frezeleme operasyonları için

Fener miliyle flanş bağlantısı ile kullanılır, el ile takılıp sökülür

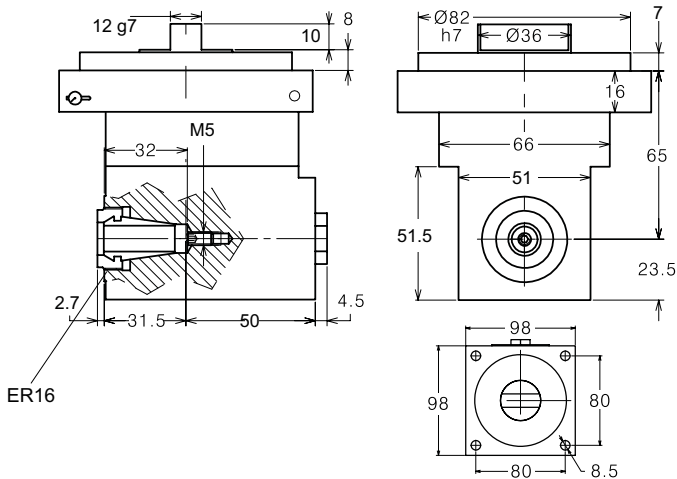
Isıl işlem görmüş alüminyum veya çelik alaşımlı gövde

Kompakt ve rijit gövde



90° Winkelkopf mit Flanschverbindung - GA-F-Serie

90° Flanş Bağlantılı Açılı Kafa - GA-F Serisi

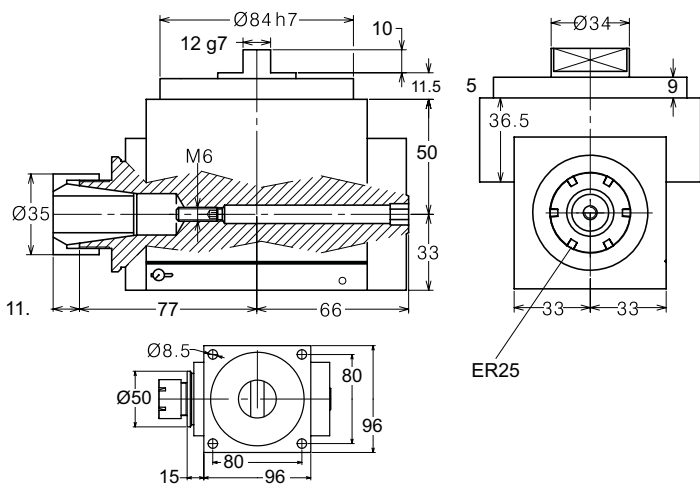


GA-F16

ER16
5.000 RPM

3,4 KW Power / Kraft / Güç
700 N Thrust / Schubkraft / Eksenel Kuvvet
1:1 Ratio / Übersetzung / Çevrim Oranı
2,3 kg Weight / Gewicht / Ağırlık

Torque / Drehkraft / Tork
27 Nm @ 500 RPM
16 Nm @ 2.000 RPM
11 Nm @ 4.000 RPM

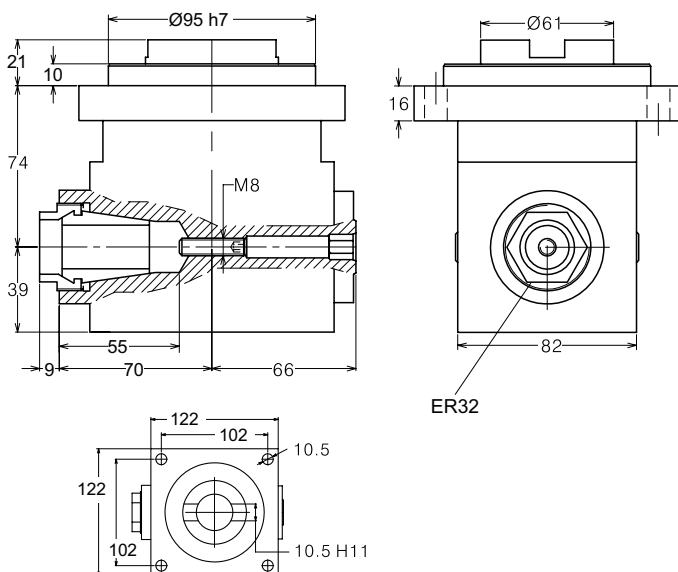


GA-F25

ER25
2.500 RPM

4,2 KW Power / Kraft / Güç
1400 N Thrust / Schubkraft / Eksenel Kuvvet
1:1 Ratio / Übersetzung / Çevrim Oranı
3 kg Weight / Gewicht / Ağırlık

Torque / Drehkraft / Tork
27 Nm @ 500 RPM
16 Nm @ 2.000 RPM
11 Nm @ 4.000 RPM



GA-F32

ER32
3.000 RPM

5 KW Power / Kraft / Güç
1500 N Thrust / Schubkraft / Eksenel Kuvvet
1:1 Ratio / Übersetzung / Çevrim Oranı
7.7 kg Weight / Gewicht / Ağırlık

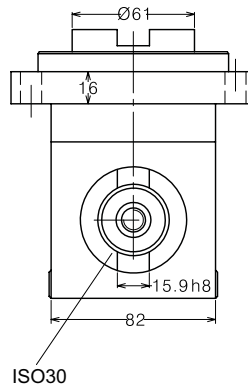
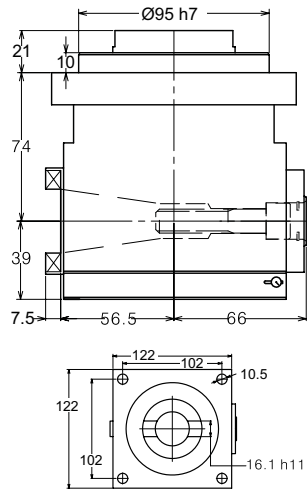
Torque / Drehkraft / Tork
80 Nm @ 500 RPM
38 Nm @ 2.000 RPM
29 Nm @ 3.000 RPM





90° Winkelkopf mit Flanschverbindung - GA-FX-Serie

90° Flanş Bağlantılı Açılı Kafa - GA-FX Serisi

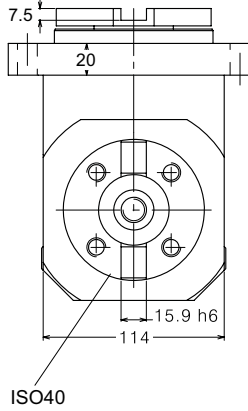
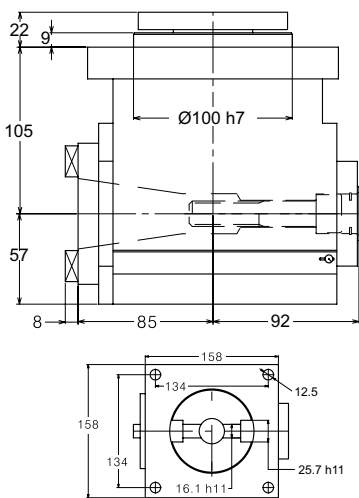


GA-FX30

ISO30
3.000 RPM

4 KW Power / Kraft / Güç
1500 N Thrust / Schubkraft / Eksenel Kuvvet
1:1 Ratio / Übersetzung / Çevrim Oranı
7,7 kg Weight / Gewicht / Ağırlık

Torque / Drehkraft / Tork
63 Nm @ 500 RPM
49 Nm @ 1.000 RPM
31 Nm @ 2.000 RPM

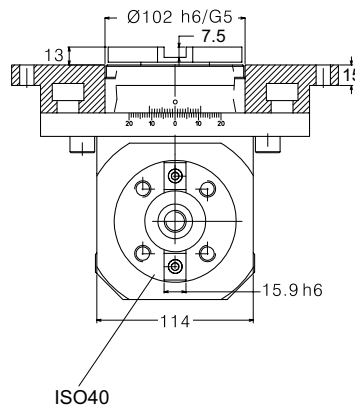
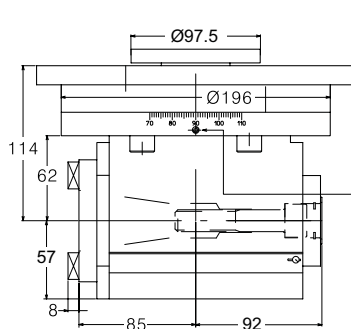


GA-FX40

ISO40
2.000 RPM

5 KW Power / Kraft / Güç
2200 N Thrust / Schubkraft / Eksenel Kuvvet
1,5 : 1 Ratio / Übersetzung / Çevrim Oranı
22 kg Weight / Gewicht / Ağırlık

Torque / Drehkraft / Tork
137 Nm @ 500 RPM
102 Nm @ 1.000 RPM
67 Nm @ 2.000 RPM



GA-FX40 Rotate

ISO40
2.000 RPM

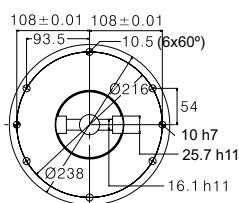
5 KW Power / Kraft / Güç
2200 N Thrust / Schubkraft / Eksenel Kuvvet
1,5 : 1 Ratio / Übersetzung / Çevrim Oranı
26 kg Weight / Gewicht / Ağırlık

Torque / Drehkraft / Tork
137 Nm @ 500 RPM
102 Nm @ 1.000 RPM
67 Nm @ 2.000 RPM

Option / Option / Opsiyon

GA-FX63-1K

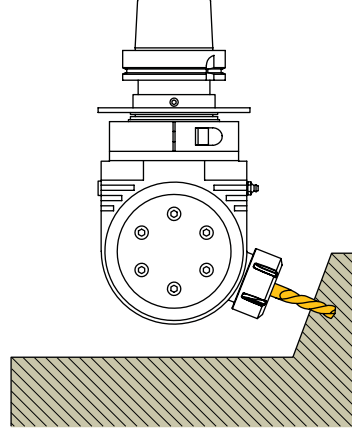
With Internal Cooling, HSK63 Output
Mit Innenkühlung, HSK63-Abtrieb
İçten Su Vermeli, HSK63 Çıkışı





Schwenkkopf - GT-Serie

Ayarlanabilir Açılı Kafa - GT Serisi



Features

For drilling, tapping and light milling operations

+/- 90° tilting spindle axis

Usable on both CNC and conventional machine tools

Heat-treated aluminium main body

Compact and light construction

Coolant feed through stop-bar pin

Orientation ring and stop-bar pin 360° rotatable

Merkmale

Für Bohrungen, Gewindebohren und leichte Fräsbearbeitungen

+/- 90° verstellbarer Schwenkkopf

Verwendbar mit CNC- und herkömmlichen Werkzeugmaschinen

Hauptkörper aus wärmebehandelter Aluminiumlegierung

Kompakte und leichte Bauform

Kühlmittelzufuhr durch Anschlagstift

Skalenring und Anschlagstift können um 360° rotiert werden

Özellikler

Delik delme, kılavuz çekme ve frezeleme operasyonları için

+/- 90° ayarlanabilir açılı kullanım

Üniversal ve CNC tezgahlarda kullanılabilir

Isıl işlem görmüş alüminyum alaşımlı gövde

Kompakt ve hafif gövde

İndeks kolundan su vermeli

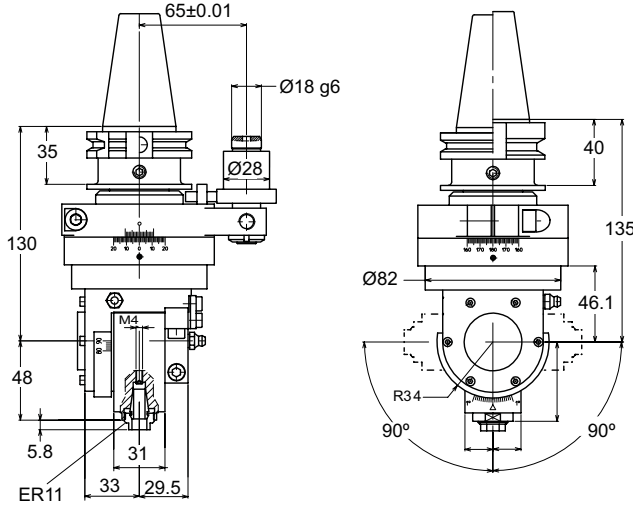
İndeks kolu ve skala 360° fener mili ekseninde ayarlanabilir





Schwenkkopf - GT-Serie

Ayarlanabilir Açılı Kafa - GT Serisi



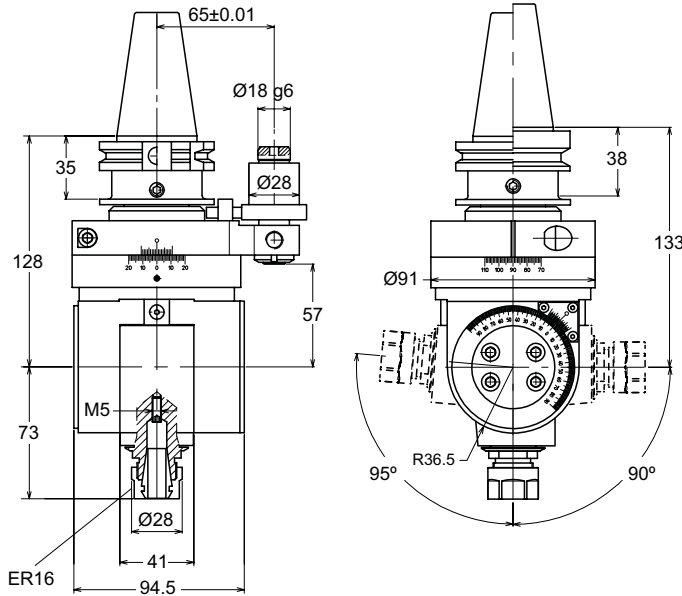
GT-11

SK40 / BT40 / CAT40 / HSK63

ER11
12.000 RPM

1,3 KW Power / Kraft / Güç
270 N Thrust / Schubkraft / Eksenel Kuvvet
1:1 Ratio / Übersetzung / Çevrim Oranı
3,5 kg Weight / Gewicht / Ağırlık

Torque / Drehkraft / Tork
4,1 Nm @ 1.000 RPM
2,2 Nm @ 5.000 RPM
1,2 Nm @ 12.000 RPM



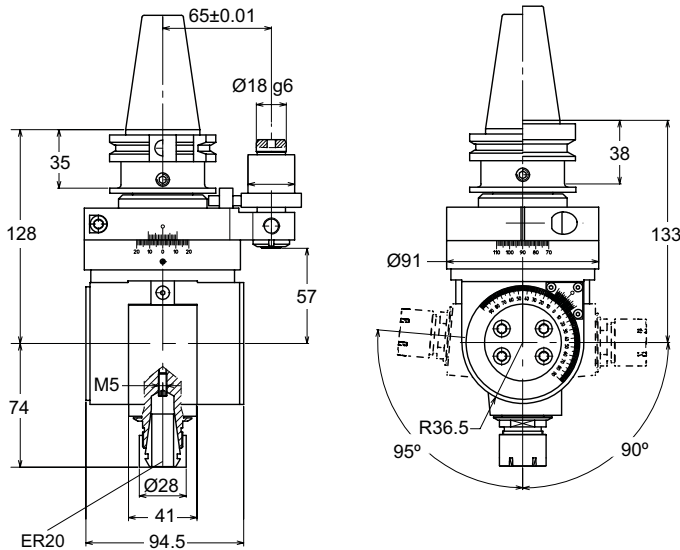
GT-16

SK40 / BT40 / CAT40 / HSK63

ER16
12.000 RPM

3 KW Power / Kraft / Güç
350 N Thrust / Schubkraft / Eksenel Kuvvet
1:1 Ratio / Übersetzung / Çevrim Oranı
4 kg Weight / Gewicht / Ağırlık

Torque / Drehkraft / Tork
12 Nm @ 1.000 RPM
5 Nm @ 5.000 RPM
3 Nm @ 12.000 RPM



GT-20

SK40 / BT40 / CAT40 / HSK63

ER20
12.000 RPM

3 KW Power / Kraft / Güç
350 N Thrust / Schubkraft / Eksenel Kuvvet
1:1 Ratio / Übersetzung / Çevrim Oranı
5 kg Weight / Gewicht / Ağırlık

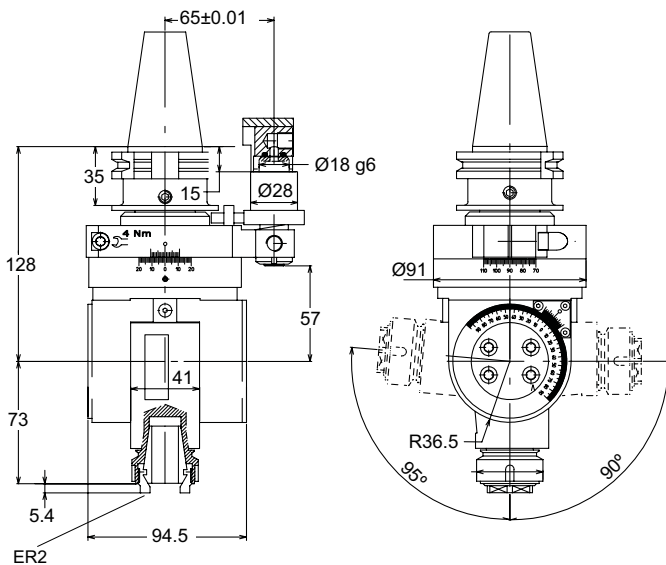
Torque / Drehkraft / Tork
12 Nm @ 1.000 RPM
5 Nm @ 5.000 RPM
3 Nm @ 12.000 RPM





Schwenkkopf - GT-Serie

Ayarlanabilir Açılı Kafa - GT Serisi



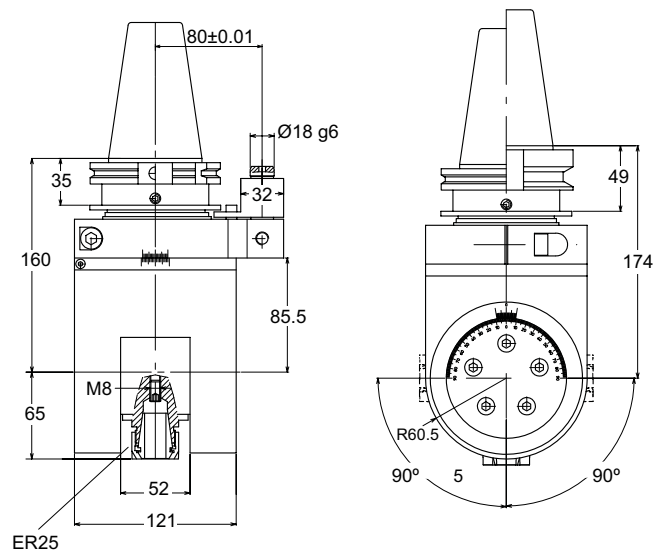
GT-25

SK40 / BT40 / CAT40 / HSK63

ER25
5.000 RPM

3 KW Power / Kraft / Güç
500 N Thrust / Schubkraft / Eksenal Kuvvet
1:1 Ratio / Übersetzung / Çevrim Oranı
5 kg Weight / Gewicht / Ağırlık

Torque / Drehkraft / Tork
19 Nm @ 500 RPM
12 Nm @ 2.000 RPM
7 Nm @ 5.000 RPM



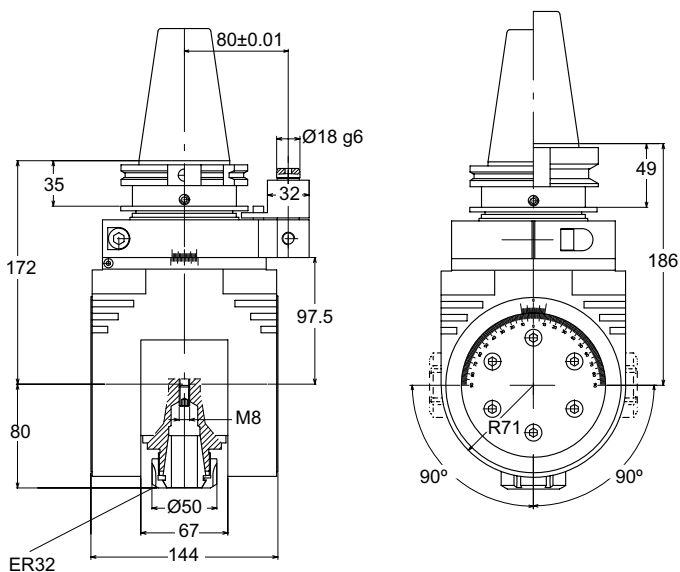
GT-25

SK50 / BT50 / CAT50 / HSK100

ER25
4.000 RPM

3,2 KW Power / Kraft / Güç
1000 N Thrust / Schubkraft / Eksenal Kuvvet
1:1 Ratio / Übersetzung / Çevrim Oranı
13 kg Weight / Gewicht / Ağırlık

Torque / Drehkraft / Tork
25 Nm @ 500 RPM
15 Nm @ 2.000 RPM
10 Nm @ 4.000 RPM



GT-32

SK50 / BT50 / CAT50 / HSK100

ER32
3.000 RPM

5 KW Power / Kraft / Güç
1200 N Thrust / Schubkraft / Eksenal Kuvvet
1:1 Ratio / Übersetzung / Çevrim Oranı
17 kg Weight / Gewicht / Ağırlık

Torque / Drehkraft / Tork
48 Nm @ 500 RPM
26 Nm @ 2.000 RPM
20 Nm @ 3.000 RPM





Features

GT-FX Heads are custom manufactured and specifications such as size, torque and speed can be modified as per user needs

For drilling, tapping and milling operations

Used with a flange interface with the spindle for manual loading

Heat-treated aluminium or steel main body

Compact and rigid construction

Merkmale

GT-FX-Schwenkköpfe sind maßgefertigt und die Spezifikationen wie Größe, Drehmoment und Drehzahl können modifiziert werden

Für Bohrungen, Gewindebohren und Fräsbearbeitungen

Flanschverbindung mit der Spindel; manueller Wechsel

Hauptkörper aus wärmebehandelter Aluminium- oder Stahllegierung

Kompakte und rigide Bauform

Özellikler

GT-FX Kafalar özel üretim olup, kafa boyutları, tork ve devir gibi özellikler müşteri ihtiyaçlarına uygun olarak modifiye edilebilir

Delik delme, kılavuz çekme ve frezeleme operasyonları için

Fener mili flanş bağlantısı ile kullanılır, el ile takılıp sökülür

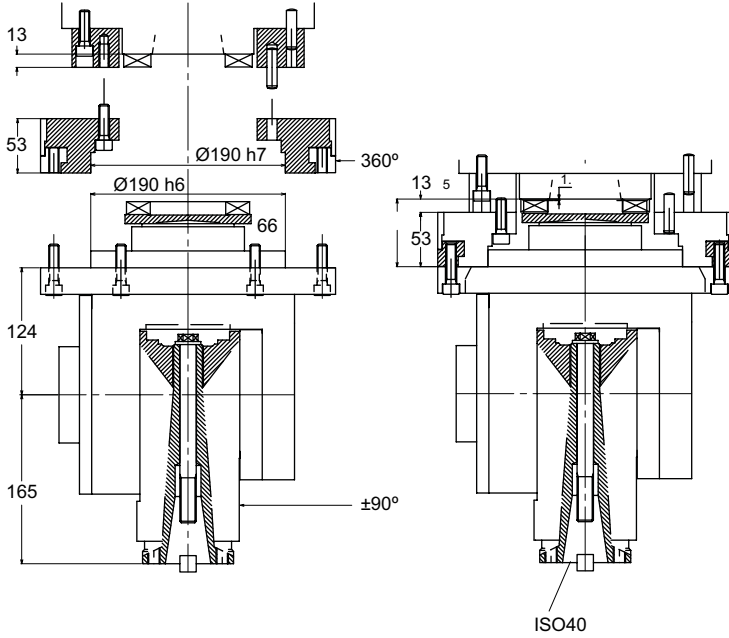
Isıl işlem görmüş alüminyum veya çelik alaşımılı gövde

Kompakt ve rijit gövde



Schwenkkopf mit Flanschverbindung - GT-FX-Serie

Flanş Bağlantılı Ayarlanabilir Açılı Kafa - GT-FX Serisi



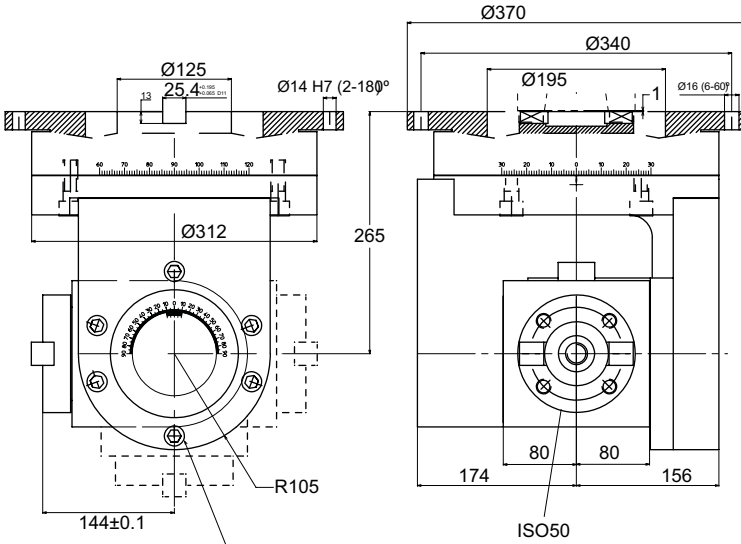
GT-FX40

ISO40
2.500 RPM

1:1 Ratio / Übersetzung / Çevrim Oranı
60 kg Weight / Gewicht / Ağırlık

Torque / Drehkraft / Tork
135 Nm @ 500 RPM
100 Nm @ 1.000 RPM

Option / Option / Opsiyon
15° Indexing / Indexierung / İndeksleme



GT-FX50

ISO50
2.000 RPM

1:1 Ratio / Übersetzung / Çevrim Oranı
140 kg Weight / Gewicht / Ağırlık
15° Indexing / Indexierung / İndeksleme

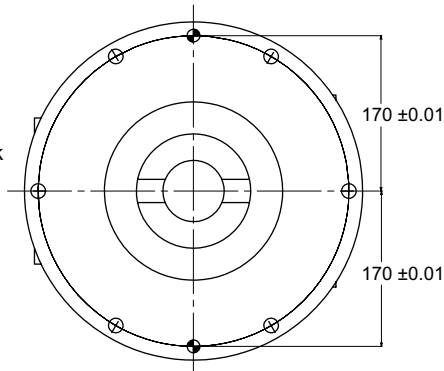
Torque / Drehkraft / Tork
200 Nm @ 500 RPM
150 Nm @ 1.000 RPM

Option / Option / Opsiyon
5° Indexing / Indexierung / İndeksleme

Clamping screws to adjust
position of tilting spindle

Spannschrauben zum
Verstellen vom Schwenkkopf

Çıkış milinin açısını ayarlamak
için sıkma civataları



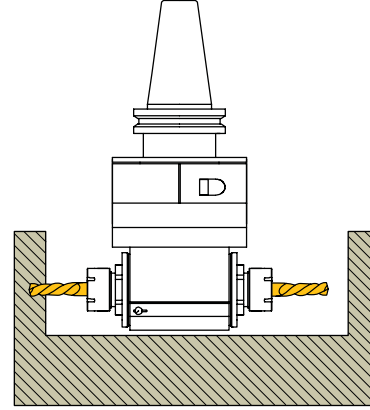
90° Double Output Angle Head - GD Series

GD



90° Doppel-Winkelkopf - GD-Serie

90° Çift Çıkışlı Açılı Kafa - GD Serisi



Features

For drilling, tapping and milling operations

Two opposing spindles

Usable on both CNC and conventional machine tools

Heat-treated aluminium or steel main body

Coolant feed through stop-bar pin

Orientation ring and stop-bar pin 360° rotatable

Merkmale

Für Bohrungen, Gewindebohren und Fräsbearbeitung

Beidseitiger Antrieb

Verwendbar mit CNC- und herkömmlichen Werkzeugmaschinen

Hauptkörper aus wärmebehandelter Aluminium- oder Stahllegierung

Kühlmittelzufuhr durch Anschlagstift

Skalenring und Anschlagstift können um 360° rotiert werden

Özellikler

Delik delme, kılavuz çekme ve frezeleme operasyonları için

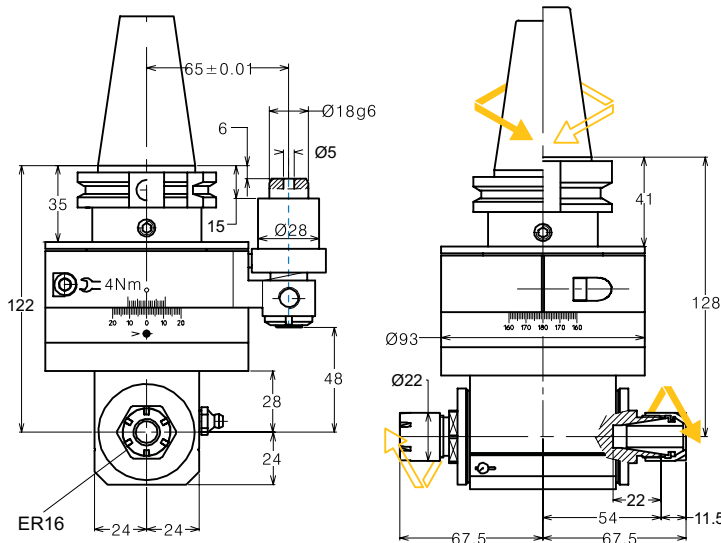
Çift pens başlığı çıkışlı

Üniversal ve CNC tezgahlarda kullanılabilir

Isıl işlem görmüş alüminyum veya çelik alaşımlı gövde

İndeks kolundan su vermeli

İndeks kolu ve skala 360° fener mili ekseninde ayarlanabilir



GD-16

SK40 / BT40 / CAT40 / HSK63

ER16

7.000 RPM

3,4 KW Power / Kraft / Güç

450 N Thrust / Schubkraft / Eksenel Kuvvet

1:1 Ratio / Übersetzung / Çevrim Oranı

5 kg Weight / Gewicht / Ağırlık

Torque / Drehkraft / Tork

18 Nm @ 1.000 RPM

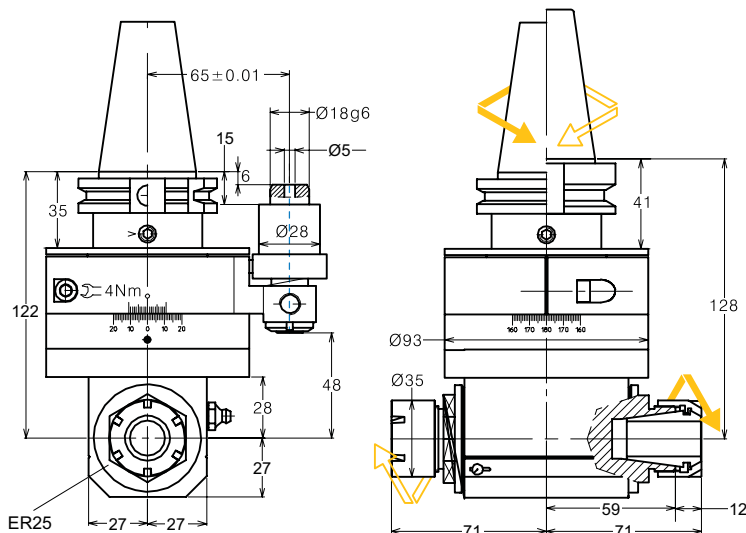
13 Nm @ 2.000 RPM

9 Nm @ 4.000 RPM



90° Doppel-Winkelkopf - GD-Serie

90° Çift Çıkışlı Açılı Kafa - GD Serisi



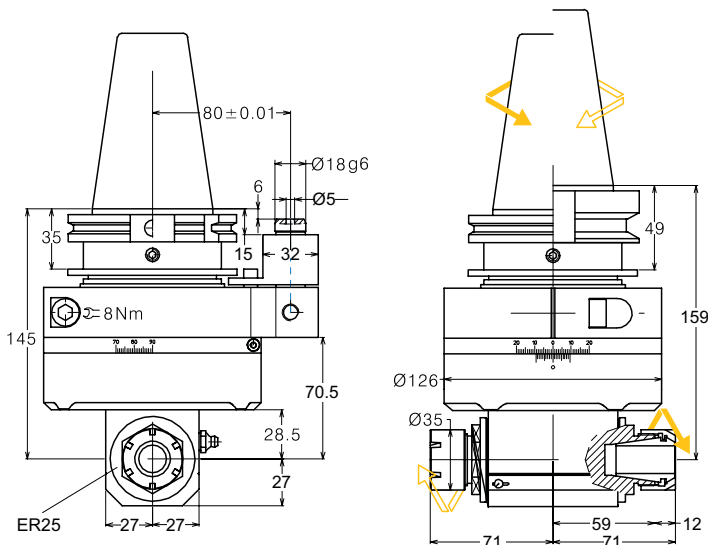
GD-25

SK40 / BT40 / CAT40 / HSK63

ER25
5.000 RPM

3,2 KW Power / Kraft / Güç
1000 N Thrust / Schubkraft / Eksenel Kuvvet
1:1 Ratio / Übersetzung / Çevrim Oranı
5,5 kg Weight / Gewicht / Ağırlık

Torque / Drehkraft / Tork
27 Nm @ 500 RPM
16 Nm @ 2.000 RPM
11 Nm @ 4.000 RPM



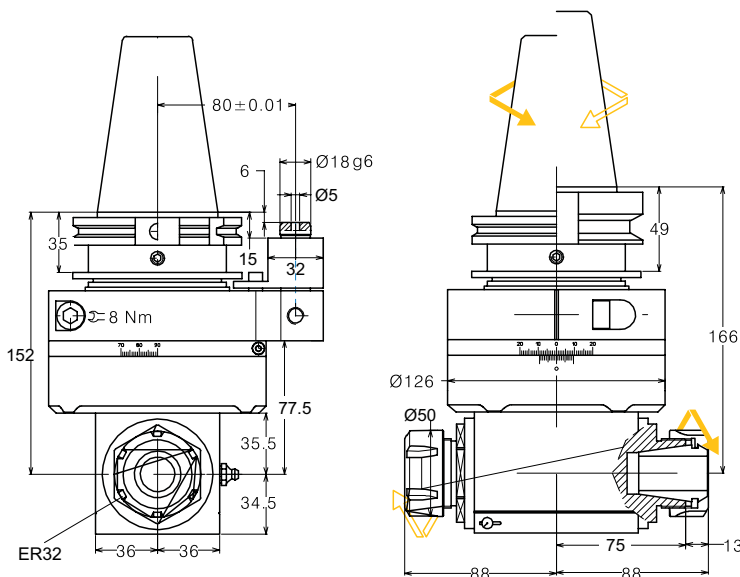
GD-25

SK50 / BT50 / CAT50 / HSK100

ER25
5.000 RPM

3,2 KW Power / Kraft / Güç
850 N Thrust / Schubkraft / Eksenel Kuvvet
1:1 Ratio / Übersetzung / Çevrim Oranı
11 kg Weight / Gewicht / Ağırlık

Torque / Drehkraft / Tork
27 Nm @ 500 RPM
16 Nm @ 2.000 RPM
11 Nm @ 4.000 RPM



GD-32

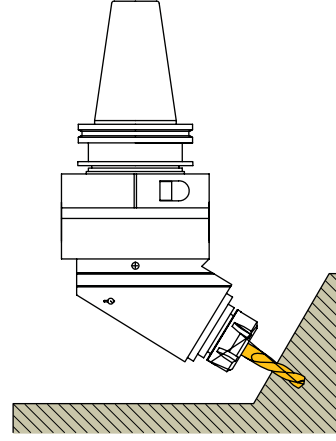
SK50 / BT50 / CAT50 / HSK100

ER32
4.000 RPM

5 KW Power / Kraft / Güç
1200 N Thrust / Schubkraft / Eksenel Kuvvet
1:1 Ratio / Übersetzung / Çevrim Oranı
11,2 kg Weight / Gewicht / Ağırlık

Torque / Drehkraft / Tork
52 Nm @ 500 RPM
32 Nm @ 2.000 RPM
18 Nm @ 4.000 RPM





Features

For drilling, tapping and milling operations

Fixed angle body with interchangeable shank

Usable on both CNC and conventional machine tools

Heat-treated aluminium main body

Compact and rigid construction

Coolant feed through stop-bar pin

Orientation ring and stop-bar pin 360° rotatable

Merkmale

Für Bohrungen, Gewindebohren und Fräsbearbeitungen

Gehäuse mit festem Winkel und austauschbarem Kegelschaft

Verwendbar mit CNC- und herkömmlichen Werkzeugmaschinen

Hauptkörper aus wärmebehandelter Aluminiumlegierung

Kompakte und rigide Bauform

Kühlmittelzufuhr durch Anschlagstift

Skalenring und Anschlagstift können um 360° rotiert werden

Özellikler

Delik delme, kılavuz çekme ve frezeleme operasyonları için

Sabit ara açılı gövde ve değiştirilebilir modüler konik

Üniversal ve CNC tezgahlarda kullanılabilir

Isıl işlem görmüş alüminyum alaşımlı gövde

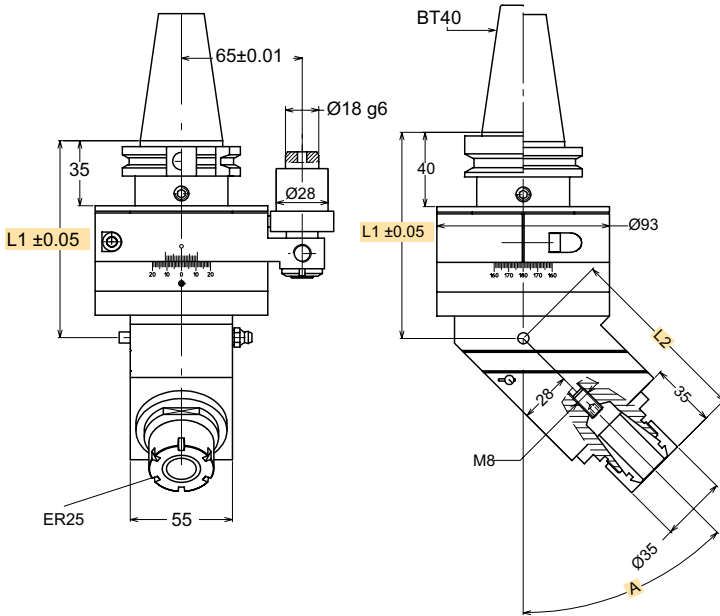
Kompakt ve rijit gövde

İndeks kolundan su vermeli

İndeks kolu ve skala 360° fener mili ekseninde ayarlanabilir



Modularer Winkelkopf mit festem Winkel - GM-Serie
Modüler Sistem Sabit Açılı Kafa - GM Serisi



GM-25

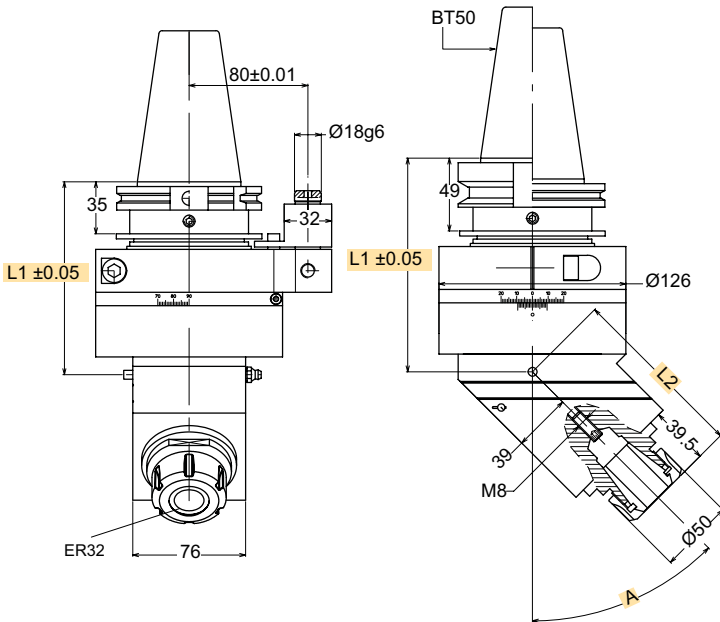
SK40 / BT40 / CAT40 / HSK63

ER25
5.000 RPM

3 KW Power / Kraft / Güç
450 N Thrust / Schubkraft / Eksenel Kuvvet
1:1 Ratio / Übersetzung / Çevrim Oranı
5 kg Weight / Gewicht / Ağırlık

Torque / Drehkraft / Tork
23 Nm @ 1.000 RPM
17 Nm @ 2.000 RPM
10 Nm @ 5.000 RPM

A	L1 SK / CAT	L1 BT	L2
2° - 30°	102	107	96
31° - 60°	106	111	100
61° - 90°	115	120	108



GM-32

SK50 / BT50 / CAT50 / HSK100

ER32
3.000 RPM

5 KW Power / Kraft / Güç
1200 N Thrust / Schubkraft / Eksenel Kuvvet
1:1 Ratio / Übersetzung / Çevrim Oranı
11 kg Weight / Gewicht / Ağırlık

Torque / Drehkraft / Tork
45 Nm @ 1.000 RPM
31 Nm @ 2.000 RPM
23 Nm @ 3.000 RPM

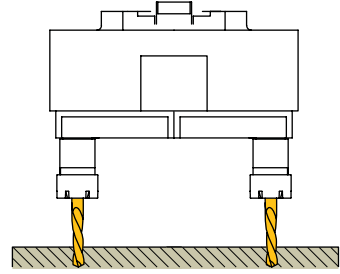
A	L1 SK / CAT	L1 BT	L2
2° - 30°	125	139	113
31° - 60°	130	144	120
61° - 90°	142	156	130





Verstellbarer Mehrspindelkopf - MS-Serie

Ayarlanabilir Çok Milli Kafa - MS Serisi



Features

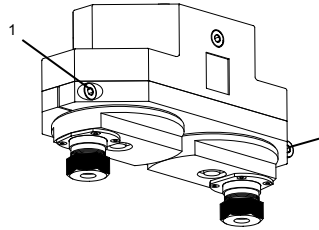
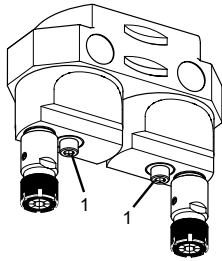
- Drilling, tapping and countersinking
- Usable on conventional machines using a connection kit
- Heat-treated aluminium alloy housing
- Compact and lightweight construction

Merkmale

- Für Bohrungen, Gewindebohren und Senkbohren
- Verwendbar mit herkömmlichen Werkzeugmaschinen
- Hauptgehäuse aus wärmebehandelter Aluminiumlegierung
- Kompakt und leicht

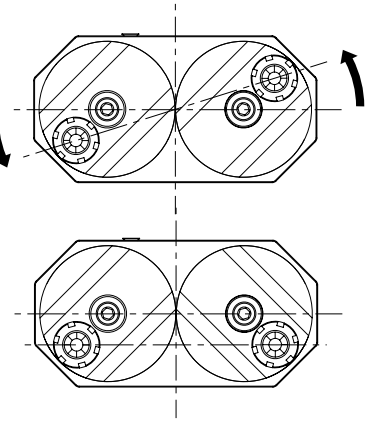
Özellikler

- Çoklu delme ve kılavuz çekme operasyonları için uygundur
- Üniversal tezgahlarda ara bağlantı elemanları ile kullanılır
- Isıl işlem görmüş alüminyum alaşımli gövde
- Kompakt ve hafif



P

O



Setting Up

To set up the centre distance between the spindles, unscrew screw 1 of each spindle unit and rotate them in the same direction, until the required distance is obtained.

Einstellung

Um den passenden Abstand zwischen den Spindeln einzustellen, lockern Sie die Schraube 1 von jeder Spindeleneinheit und drehen Sie diese in dieselbe Richtung, bis der notwendige Abstand erreicht ist.

Ayarlar

Pens başlıkları arasındaki mesafeyi ayarlamak için 1 nolu vidayı her başlık üzerinde gevşetin ve istediğiniz mesafeye gelene kadar aynı yönde çevirin.

In order to balance the forces during machining operation, the positioning of the spindles must be followed as shown. At the end of this operation fasten screw 1 of each spindle unit using a torque wrench.

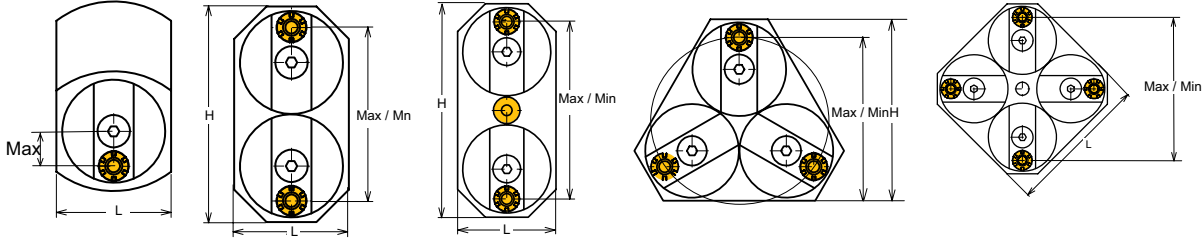
Um während der Verarbeitungsprozesse die Kraft auszugleichen, stellen Sie die Spindeln ein. Anschließend klemmen Sie die Schraube 1 jedes Spindels mittels Drehmomentschlüssels.

Operasyon sırasında güçleri dengelemek için pens başlıklarını şekildedeki gibi pozisyonlayın. 1 nolu vidayı sıkarak pens başlıklarını sabitleyin.



Verstellbarer Mehrspindelkopf - MS-Serie

Ayarlanabilir Çok Millî Kafa - MS Serisi



Code	ER	Min	Max	H	L	RPM	KW	N	Ratio	kg
MS8-1	ER8	0	28	-	46	3500	0,18	195	1:1	0,5
MS8-2	ER8	13,5	69,5	87	46					0,9
MS8-3L	ER8	27	83	100	46				1	
MS8-3	ER8	19,9	75,9	80	-				1,3	
MS8-4	ER8	30,7	86,7	85	-	1750			1:2	1,8
MS11-1	ER11	0	56	-	80	3000	0,34	490	1:1	1,8
MS11-2	ER11	18	130	154	80					2,4
MS11-3L	ER11	36	148	173	80				2,8	
MS11-3	ER11	29,5	141,5	144,5	-				3,5	
MS11-4	ER11	49	161	154	0				1:2	4,6
MS16-1	ER16	0	53	-	80	3000	0,56	735	1:1	3,3
MS16-2	ER16	24	124	154	80					3,3
MS16-3L	ER16	24,25	148,5	178,5	80				3,6	
MS16-3	ER16	35,5	135,5	144,5	-				4,9	
MS16-4	ER16	55	155	185	-					6,6
MS20-1	ER20	0	53	-	88	3000	1,5	1500	1:1	2,5
MS20-2	ER20	29	135	170	88					3,6
MS20-3L	ER20	63	169	204	88				4,9	
MS20-3	ER20	42	148	159,5	-				5,5	
MS20-4	ER20	63	169	170	-					7,5
MS25-1	ER25	0	64	-	124	2500	1,1	1135	1:1	4,4
MS25-2	ER25	37	165	212	111					6,3
MS25-3L	ER25	79	207	254	111				7,7	
MS25-3	ER25	53	181	199	-				9,2	
MS25-4	ER25	79	207	212	-					12,2
MF20-2	ER20	37,5	169,5	236	124	2000	2	1000	1:1	9,5
MF25-2	ER25	45	201	278	140	2000	2,5	1500	1:1	12

*MS Milling, Tapping / Bohren, Gewindeschneiden / Delik Delme, Kılavuz Çekme

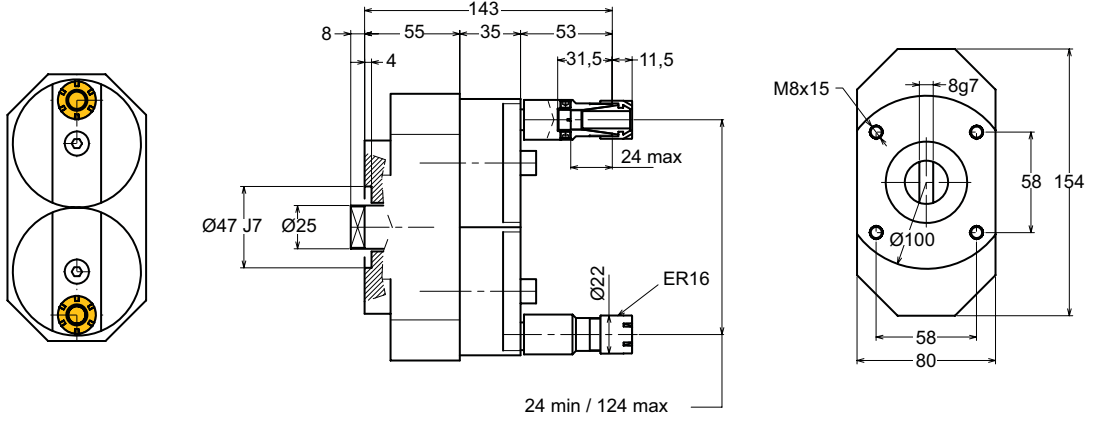
MF Milling, Drilling, Tapping / Fräsen, Bohren, Gewindeschneiden / Frezeleme, Delik Delme, Kılavuz Çekme





Verstellbarer Mehrspindelkopf - MS-Serie

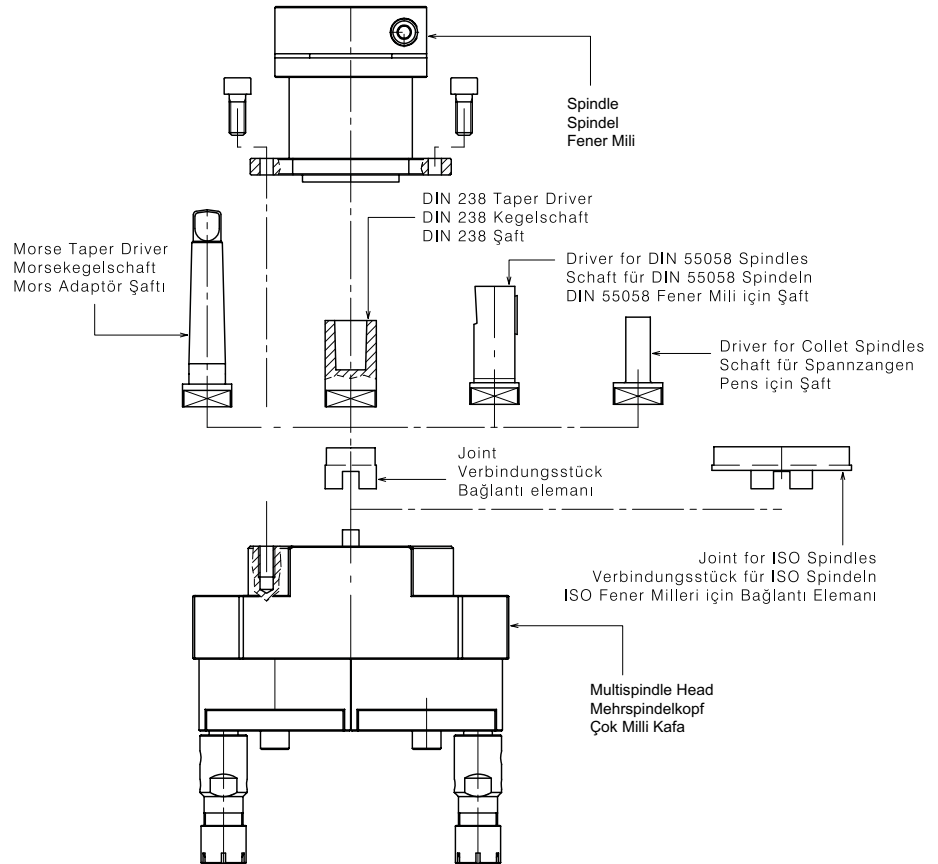
Ayarlanabilir Çok Millî Kafa - MS Serisi



How to connect to a machine

Maschinenverbindung

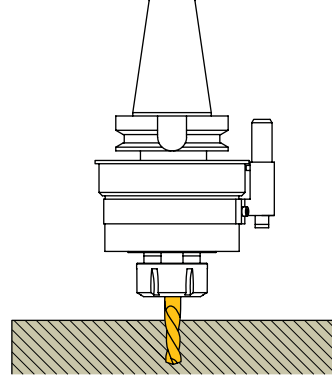
Tezgaha bağlama şekli





Schnelllaufspindel - SC-Serie

Hız Kafası - SC Serisi



Features

For drilling, light milling operations and for finishing on steel, aluminium, plastic and wood

Interchangeable shank

Usable on both CNC and conventional machine tools

Heat-treated steel alloy main housing

Coolant feed through stop-bar pin

Merkmale

Für Bohrungen, leichte Fräsbearbeitungen und Schlichten von Stahl, Aluminium, Kunststoff und Holz

Wechselbarer Kegelschaft

Verwendbar mit CNC- und herkömmlichen Werkzeugmaschinen

Hauptkörper aus wärmebehandelter Stahlegierung

Kühlmittelezufuhr durch Anschlagstift

Özellikler

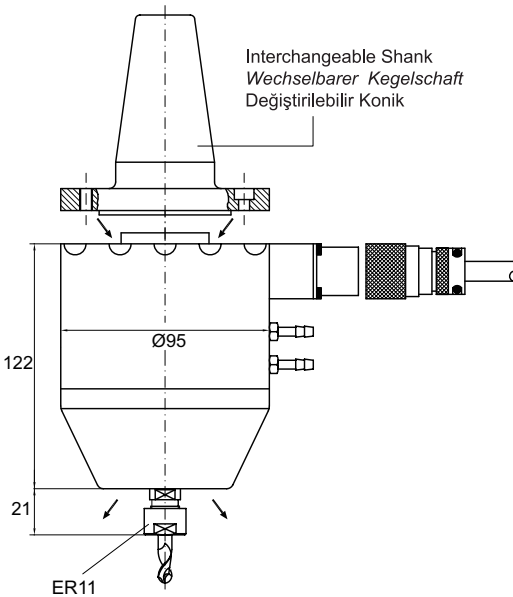
Delik delme, hafif frezeleme ve çelik, alüminyum, plastik ve ağaç üzerinde finiş operasyonları için

Değiştirilebilir modüler konik

Üniversal ve CNC tezgahlarda kullanılabilir

Isıl işlem görmüş çelik alaşımli gövde

İndeks kolundan su vermeli

**SE-11** electric / elektro / elektrikli

Max. 28.000 RPM Cont. / Dauemd / Sürekli

Max. 44.000 RPM Cont. / Dauemd / Sürekli

Max. 60.000 RPM Cont. / Dauemd / Sürekli

SK40 / BT40 / CAT40 / HSK63
SK50 / BT50 / CAT50 / HSK100

ER11

3,5 kg Weight / Gewicht / Ağırlık

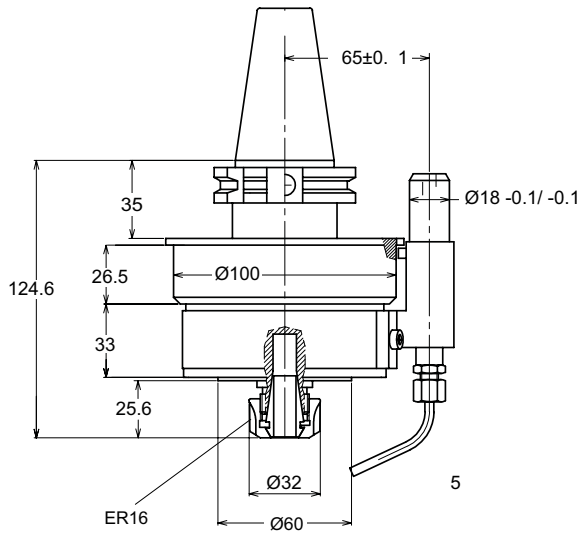
RPM	28.000	44.000	60.000
Hz	500	750	1.000
KW	0,8	1	1,6
Nm	0,3	0,2	0,2





Schnelllaufspindel - SC-Serie

Hız Kafası - SC Serisi

**SC-16** ceramic / keramisch / seramik

Max. 30.000 RPM

Max. 24.000 RPM Cont. / Dauernd / Sürekli

S-16

Max. 24.000 RPM

Max. 20.000 RPM Cont. / Dauernd / Sürekli

SK40 / BT40 / CAT40 / HSK63 / HSK80

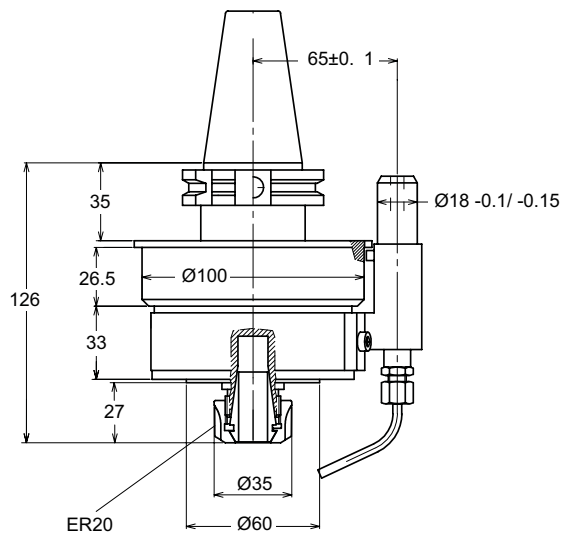
ER16

1,7 KW Power / Kraft / Güç

380 N Thrust / Schubkraft / Eksenel Kuvvet

1:4,8 Ratio / Übersetzung / Çevrim Oranı

3,8 kg Weight / Gewicht / Ağırlık

**SC-20** ceramic / keramisch / seramik

Max. 24.000 RPM

Max. 19.000 RPM Cont. / Dauernd / Sürekli

S-20

Max. 19.000 RPM

Max. 15.000 RPM Cont. / Dauernd / Sürekli

SK40 / BT40 / CAT40 / HSK63 / HSK80

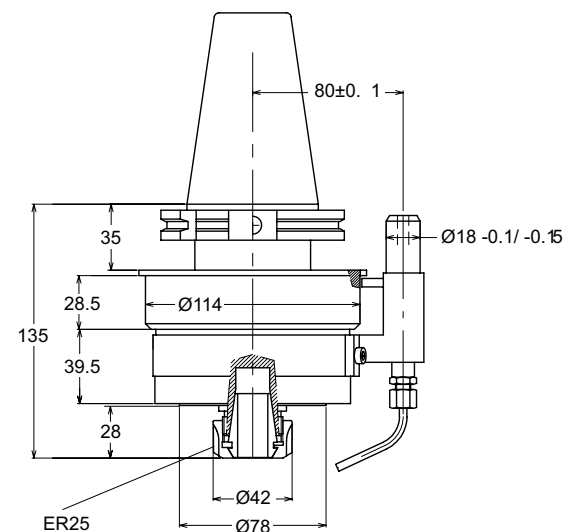
ER20

1,7 KW Power / Kraft / Güç

610 N Thrust / Schubkraft / Eksenel Kuvvet

1:4,8 Ratio / Übersetzung / Çevrim Oranı

4 kg Weight / Gewicht / Ağırlık

**SC-25** ceramic / keramisch / seramik

Max. 18.000 RPM

Max. 15.000 RPM Cont. / Dauernd / Sürekli

S-25

Max. 15.000 RPM

Max. 12.000 RPM Cont. / Dauernd / Sürekli

SK50 / BT50 / CAT50 / HSK80 / HSK100

ER25

3,6 KW Power / Kraft / Güç

630 N Thrust / Schubkraft / Eksenel Kuvvet

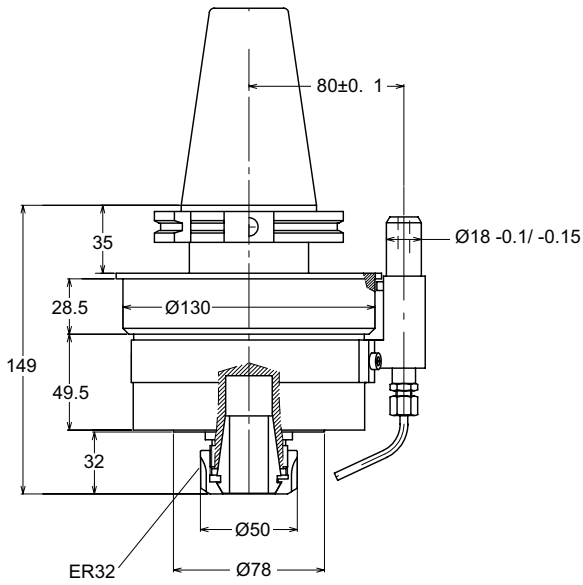
1:4,8 Ratio / Übersetzung / Çevrim Oranı

8 kg Weight / Gewicht / Ağırlık



Schnelllaufspindel - S-Serie

Hız Kafası - S Serisi

**S-32**

SK50 / BT50 / CAT50 / HSK80 / HSK100

Max. 9.600 RPM Cont. / Dauernd / Sürekli

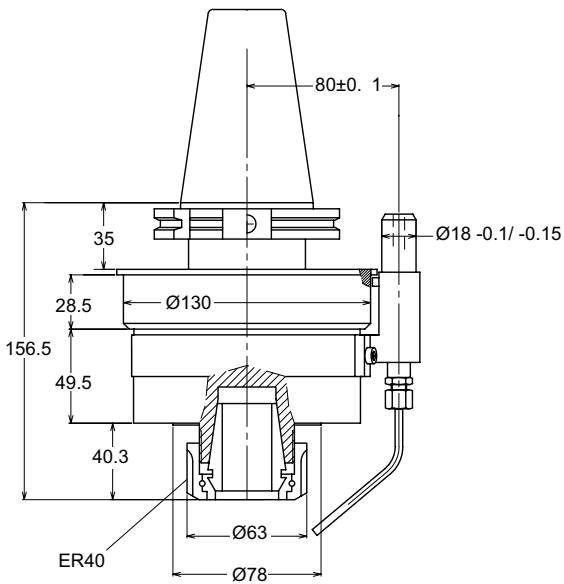
ER32

4,4 KW Power / Kraft / Güç

900 N Thrust / Schubkraft / Eksenel Kuvvet

1:4,8 Ratio / Übersetzung / Çevrim Oranı

8 kg Weight / Gewicht / Ağırlık

**S-40**

SK50 / BT50 / CAT50 / HSK80 / HSK100

Max. 9.600 RPM Cont. / Dauernd / Sürekli

ER40

4,4 KW Power / Kraft / Güç

1100 N Thrust / Schubkraft / Eksenel Kuvvet

1:4,8 Ratio / Übersetzung / Çevrim Oranı

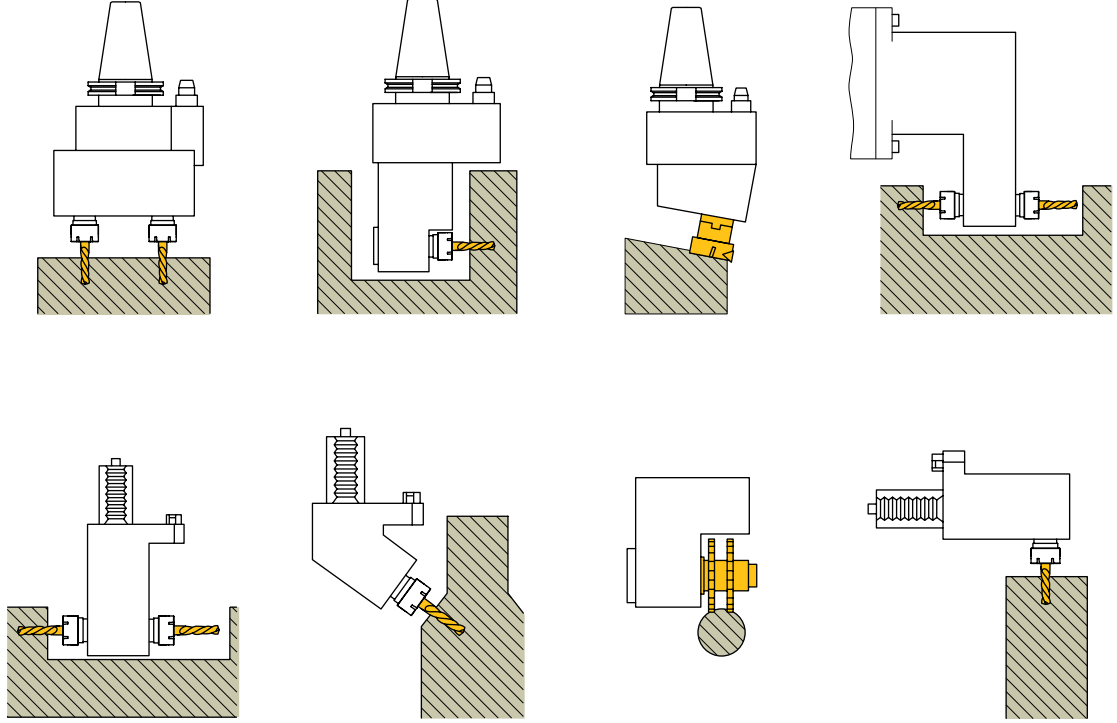
9,6 kg Weight / Gewicht / Ağırlık





Sonderlösungen - Z-Serie

Özel Çözümler - Z Serisi



Special angle heads, multispindle heads, spindle speeders and driven tools custom developed according to workpiece drawings and machine specifications for drilling, tapping, light milling, heavy milling operations

Examples:

Customise length and size

Increase torque for heavy operations by increasing input/output ratio

Increase speed for fine operations by decreasing input/output ratio

Use a multiple number of linear or angled output spindles

Use a custom output, e.g. weldon, shell mill holder, combi mill holder

Sonderwinkelköpfe, -mehrspeindelköpfe, -schnelllaufspindel und angetriebene Werkzeuge entwickelt anhand Werkstückzeichnungen für Bohrungen, Gewindebohren, leichte und schwere Fräsbearbeitungen

Beispiele:

Sonderlängen und -maße

Drehmoment erhöhen mit einem höheren Übersetzungsverhältnis für schwere Bearbeitungen

Geschwindigkeit erhöhen mit einem niedrigeren Übersetzungsverhältnis

Lineare oder abgewinkelte Mehrspindeln einsetzen

Verschiedene Abtriebsspindeln so wie Weldon, Aufsteckfräsdorn, usw.

İş parçası resmine ve tezgah özelliklerine göre özel geliştirilmiş, delik delme, kılavuz çekme, hafif ve ağır frezeleme operasyonları yapan özel açılı kafalar, çok millî kafalar, hız kafaları ve tahrikli takımlar

Örnekler:

Özel boy ve ölçüler

Çevrim oranını artırarak ağır operasyonlar için torku yükseltme

Çevrim oranını azaltarak hassas operasyonlar için hızı yükseltme

Doğrusal veya açılı birden fazla çıkış kullanma

Veldon ve alın kamalı malafa gibi farklı çıkışlar kullanma



Sonderlösungen - Z-Serie
Özel Çözümler - Z Serisi



Special Milling and Drilling Head
Sonderbohr- und Fräskopf
Özel Delik Delme ve Frezeleme Kafası

Automotive / Autoindustrie

SK40 DIN 69871
Max. 2.500 RPM

1 x Ø11, 1 x Ø22	Output / Abtrieb / Çıkış
1 : 1	Ratio / Übersetzung / Çevrim Oranı
70 x 134 x 222	Dimensions / Abmessungen / Boyutlar
7 kg	Weight / Gewicht / Ağırlık



Angle Head with ISO 50 Output
Winkelkopf mit ISO 50 Spindelaufnahme
ISO 50 Çıkışlı Açılı Kafa

/ Makina Sektörü

Machinery / Maschinenbau

SK50 DIN 69871
Max. 2.600 RPM

ISO 50	Output / Abtrieb / Çıkış
Steel / Stahl / Çelik	Main Housing / Gehäuse / Gövde
1,5 : 1	Ratio / Übersetzung / Çevrim Oranı
320 x 164 x 510	Dimensions / Abmessungen / Boyutlar
102 kg	Weight / Gewicht / Ağırlık



2 Spindle Special Drilling Head
Sonderbohrkopf
Çift Çıkışlı Özel Kafa

Aerospace / Luftfahrtindustrie / Havacılık

Max. 2.000 RPM

2 x ER25	Output / Abtrieb / Çıkış
1 : 1	Ratio / Übersetzung / Çevrim Oranı
120 x 420 x 210	Dimensions / Abmessungen / Boyutlar
19 kg	Weight / Gewicht / Ağırlık





Sondermehrspindelköpfe - Z-Serie
Özel Çok Milli Kafalar - Z Serisi



4 Spindle Fixed Drilling Head
Mehrspindelkopf
4 Çıkışlı Özel Çoklu Kafa

Engine Technology / *Motortechnologie* / Motor Teknolojisi

SK50 DIN 69871
Max. 2.500 RPM

4 x ER25	Output / Abtrieb / Çıkış
1 : 1,7	Ratio / Übersetzung / Çevrim Oranı
142 x 156 x 212	Dimensions / Abmessungen / Boyutlar
13 kg	Weight / Gewicht / Ağırlık



4 Spindle Fixed Drilling Head
Mehrspindelkopf
4 Çıkışlı Özel Çoklu Kafa

Valve Technology / *Armaturtechnologie* / Valf Teknolojisi

Transfer Machine / *Transferanlage* / Transfer Tezgahı
Max. 2.500 RPM

1 x Ø6, 3 x Ø5	Output / Abtrieb / Çıkış
1 : 1,9	Ratio / Übersetzung / Çevrim Oranı
118 x 170	Dimensions / Abmessungen / Boyutlar
4 kg	Weight / Gewicht / Ağırlık



7 Spindle Drilling and Chamfering Head
Mehrspindelkopf zum Bohren und Anfasen
7 Çıkışlı Delik Delme ve Pah Kırma Kafası

Automotive / *Autoindustrie* / Otomotiv

Max. 4.500 RPM

7 x HSK63A	Output / Abtrieb / Çıkış
2 : 1	Ratio / Übersetzung / Çevrim Oranı
460 x 603 x 250	Dimensions / Abmessungen / Boyutlar
285 kg	Weight / Gewicht / Ağırlık



11 Spindle Fixed Drilling Head
Mehrspindelkopf mit 11 Spindeln
11 Çıkışlı Özel Kafa

/ Otomotiv

Automotive / *Autoindustrie*

Max. 1.900 RPM

11 x Ø12 Weldon	Output / Abtrieb / Çıkış
1 : 2	Ratio / Übersetzung / Çevrim Oranı
240 x 240 x 205	Dimensions / Abmessungen / Boyutlar
17 kg	Weight / Gewicht / Ağırlık



Angetriebene Sonderwerkzeuge - Z-Serie
Özel Tahrikli Takımlar - Z Serisi



Reversed Drilling Driven Tool
Sonderbohrkopf
Özel Tahrikli Takım

/ Otomotiv

Automotive / Autoindustrie

VDI 30
Max. 4.000 RPM

ER20
Steel / Stahl / Çelik
1 : 1

Output / Abtrieb / Çıkış
Main Housing / Gehäuse / Gövde
Ratio / Übersetzung / Çevrim Oranı



Extended Driven Tool
Verlängerter Bohr- und Fräskopf
Uzatmalı Tahrikli Takım

/ Otomotiv

Automotive / Autoindustrie

Max. 4.000 RPM

Ø6 Weldon
1 : 2
Steel / Stahl / Çelik

Output / Abtrieb / Çıkış
Ratio / Übersetzung / Çevrim Oranı
Main Housing / Gehäuse / Gövde



3 Spindle Special Driven Tool
Axial Bohr- und Fräskopf mit 3 Spindeln
3 Çıkışlı Özel Tahrikli Takım

/ Elektronik

Electronic / Elektronik

VDI 50
Max. 1.500 RPM

3 x ER25
1 : 1

Output / Abtrieb / Çıkış
Ratio / Übersetzung / Çevrim Oranı



6 Spindle Axial Driven Tool
Axial Bohr- und Fräskopf mit 6 Spindeln
6 Çıkışlı Eksenel Tahrikli Takım

Automotive / Autoindustrie / Otomotiv

Max. 4.500 RPM

6 x HSK-C50
1 : 1
Steel / Stahl / Çelik

Output / Abtrieb / Çıkış
Ratio / Übersetzung / Çevrim Oranı
Main Housing / Gehäuse / Gövde





Winkelaggregate zur Holzbearbeitung - A-Serie
Ağaç İşleme için Açılı Kafalar - A Serisi



Features

For drilling, tapping and milling operations

90° fixed angle aggregates with 1 output, 2 outputs and four outputs, tilting heads, fixed angle heads

Heat-treated aluminium main body

Compact and light construction

Orientation ring and stop-bar pin 360° rotatable

Merkmale

Für Bohrungen, Gewindebohren und Fräsbearbeitungen

90°-Winkelaggregate mit einer Spindel, zwei Spindeln und vier Spindeln, verstellbarer Schwenkkopf und Aggregate mit festem Winkel

Hauptkörper aus wärmebehandelter Aluminiumlegierung

Kompakte und leichte Bauform

Skalenring und Anschlagstift können um 360° rotiert werden

Özellikler

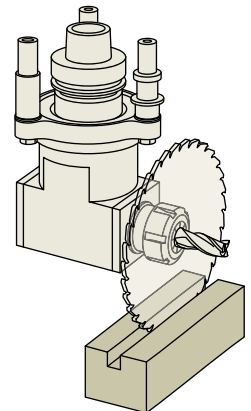
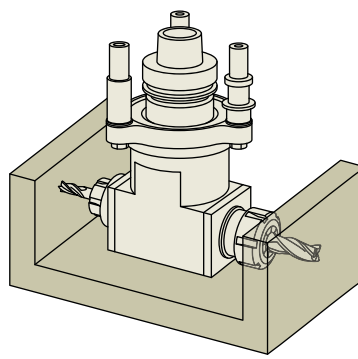
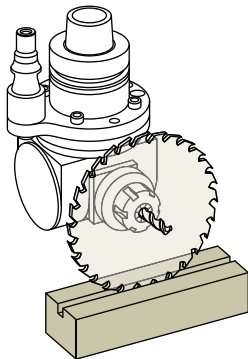
Delik delme, kılavuz çekme ve frezeleme operasyonları için

90° sabit açılı tek çıkışlı, çift çıkışlı ve dört çıkışlı kafalar, ayarlanabilir açılı kafalar, sabit ara açılı kafalar

Isıl işlem görmüş alüminyum alaşımli gövde

Kompakt ve hafif gövde

İndeks kolu ve skala 360° fener mili ekseninde ayarlanabilir

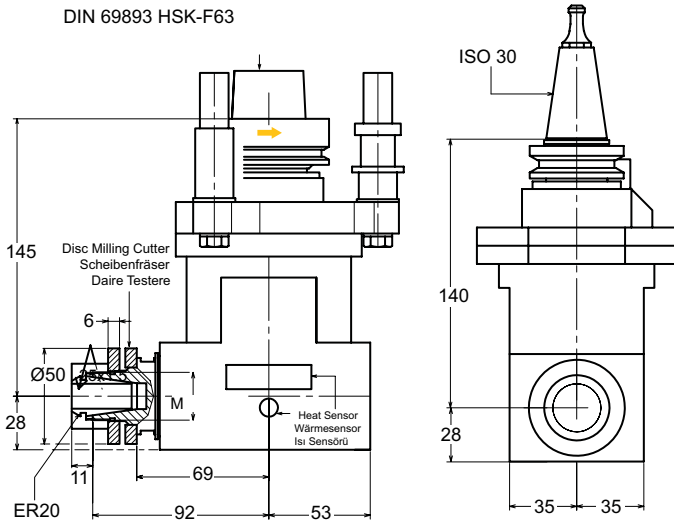




Winkelaggregate zur Holzbearbeitung - A-Serie

Ağaç İşleme için Açılı Kafalar - A Serisi

DIN 69893 HSK-F63



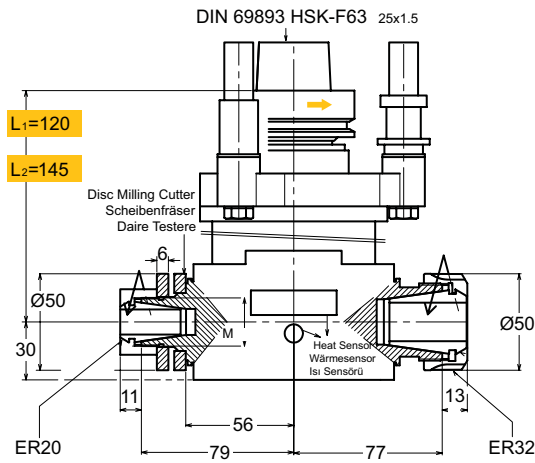
AA-20

HSK-F63 / ISO30

ER20
9.000 RPM

1 : 1,5 Ratio / Übersetzung / Çevrim Oranı
5,5 kg Weight / Gewicht / Ağırlık

DIN 69893 HSK-F63 25x1.5



AD-20-32

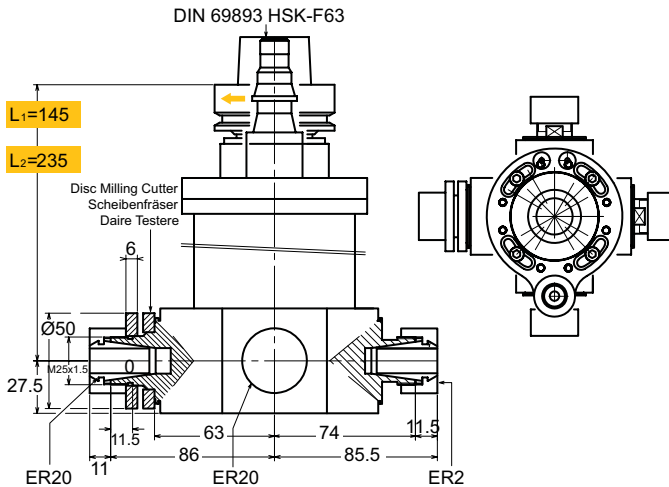
HSK-F63

15.000 RPM
ER20 + ER32

L₁ = 120
1 : 1,5 Ratio / Übersetzung / Çevrim Oranı
6,5 kg Weight / Gewicht / Ağırlık

L₂ = 145
1 : 1,5 Ratio / Übersetzung / Çevrim Oranı
7 kg Weight / Gewicht / Ağırlık

DIN 69893 HSK-F63



A4-20

HSK-F63

9.000 RPM
4 x ER20

L₁ = 145
1 : 1,5 Ratio / Übersetzung / Çevrim Oranı
6,5 kg Weight / Gewicht / Ağırlık

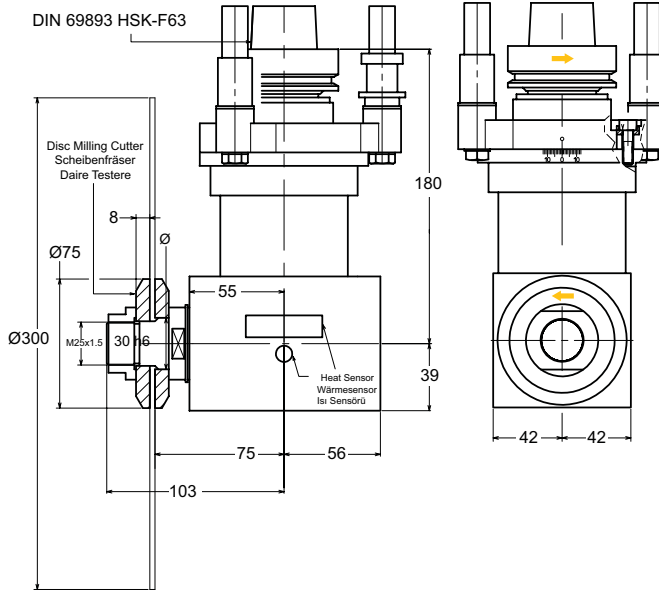
L₂ = 235
1 : 1,5 Ratio / Übersetzung / Çevrim Oranı
8,8 kg Weight / Gewicht / Ağırlık





Winkelaggregate zur Holzbearbeitung - A-Serie

Ağaç İşleme için Açılı Kafalar - A Serisi

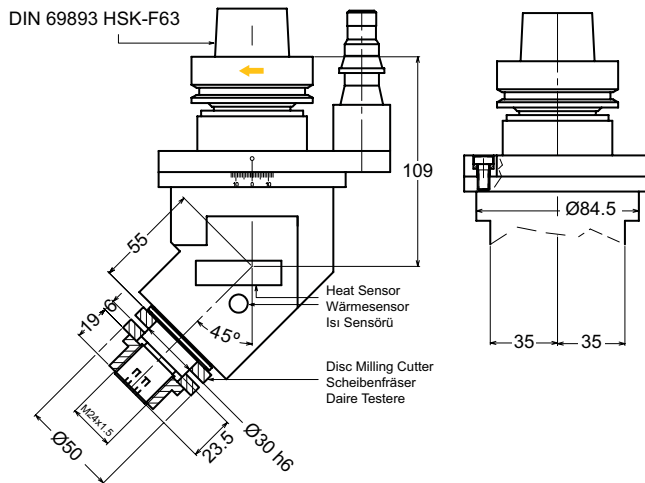


AAF-30

HSK-F63

Ø30
5.000 RPM

2 : 1 Ratio / Übersetzung / Çevrim Oranı
7,5 kg Weight / Gewicht / Ağırlık

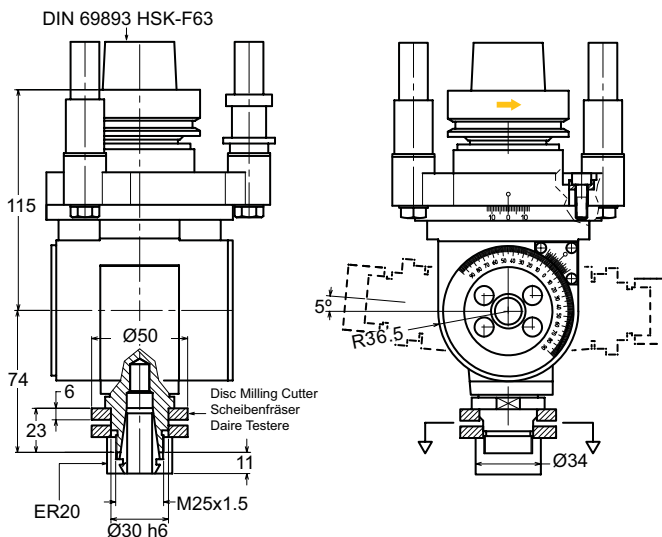


AMF-30

HSK-F63

Ø30
9.000 RPM

1 : 1 Ratio / Übersetzung / Çevrim Oranı
4,2 kg Weight / Gewicht / Ağırlık



AT-20

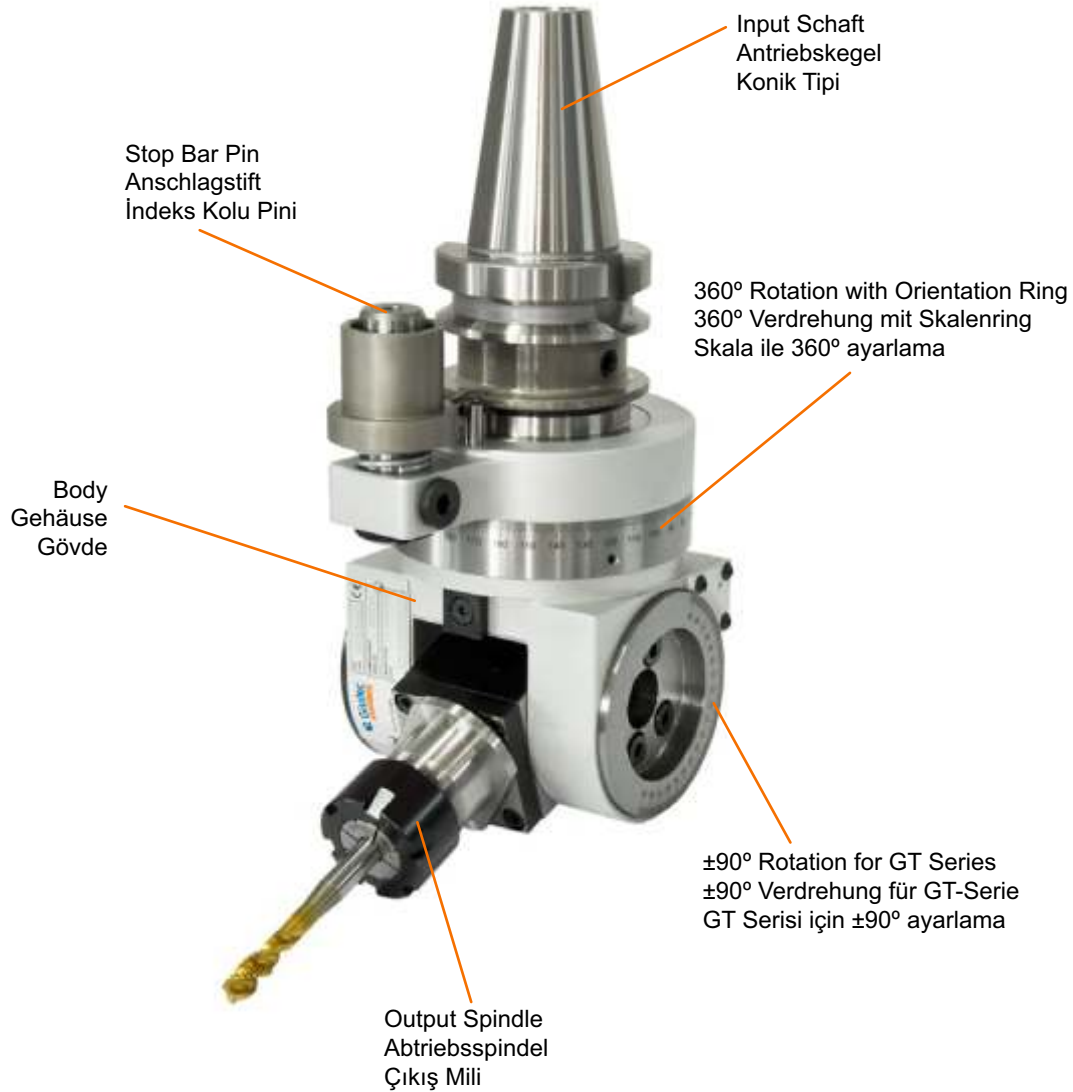
HSK-F63

ER20

12.000 RPM
1 : 1,5 Ratio / Übersetzung / Çevrim Oranı
4,3 kg Weight / Gewicht / Ağırlık

15.000 RPM
1 : 1 Ratio / Übersetzung / Çevrim Oranı
4,4 kg Weight / Gewicht / Ağırlık





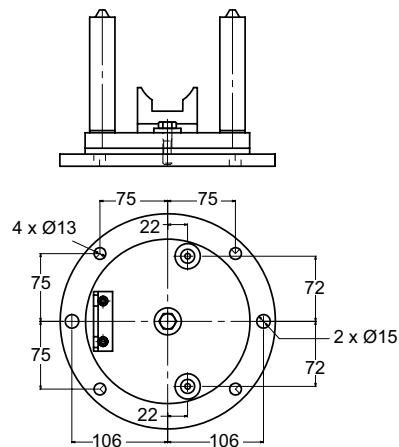
Conical Stop Bar Pin
Konischer Anschlagstift
Konik İndeks Kolu Pini



HSK63 Output
HSK63 Abtrieb
HSK63 Çıkış

Cradle for GA-X
Aufnahmevorrichtung für GA-X
GA-X için Fikstür

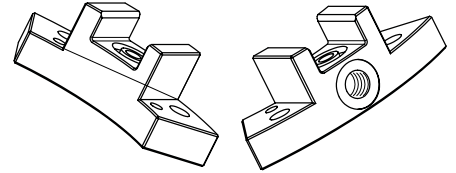
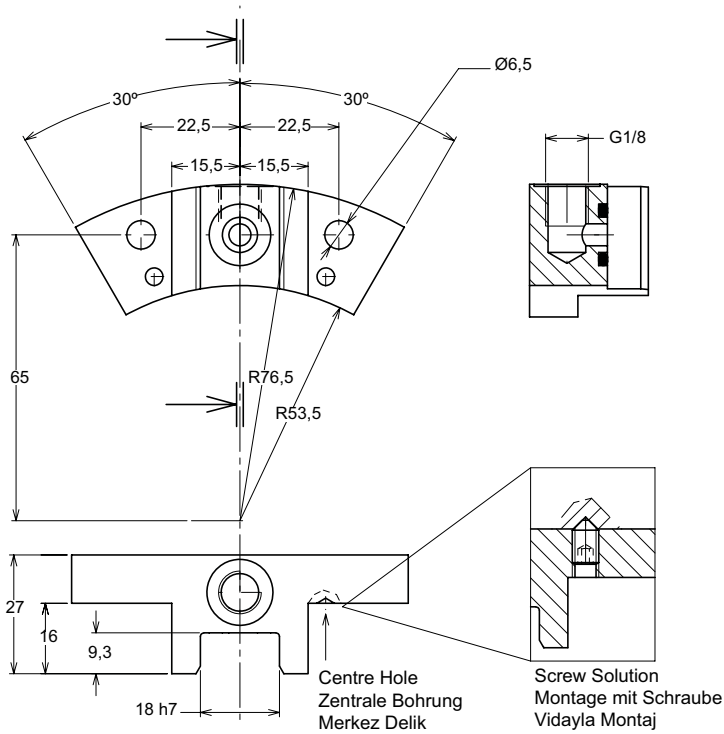
Cradle for GA-X
Aufnahmevorrichtung für GA-X
GA-X için Fikstür





Technische Informationen - Standard Stop-Block Montage

Teknik Bilgiler - Standart Stop Bloğu Montajı



Angle heads are supplied with a stop block to be installed on the spindle nose:

Check H Dimension

Using the formula $H - A = P$ calculate plate thickness (P)
 - if $P < 5$ make the thickness of supplied plate smaller
 - if $P > 5$ produce and use a thicker plate

Mount the stop-block -and the plate if necessary- to the spindle nose on the opposite side of the ATC arm

Winkelköpfe werden mit einem Stop-block geliefert, der an die Spindelnase montiert wird:

Maß H kalkulieren

*Mit der Formel $H - A = P$ Plattenhöhe (P) ausrechnen
 - wenn $P < 5$, die Höhe von gelieferter Platte verringern
 - wenn $P > 5$, eine höhere Platte fertigen und einsetzen*

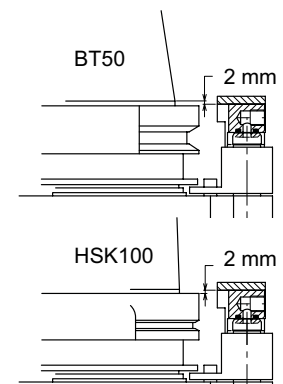
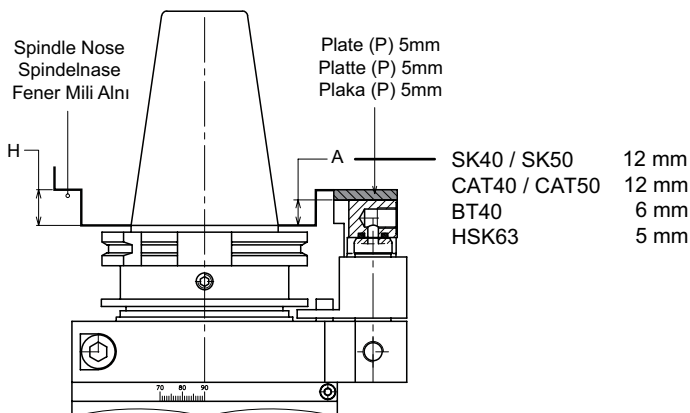
Stop-block und wenn nötig die Platte an die Spindelnase gegenüber automatischen Werkzeugwechslers montieren

Açılı kafaların yanında verilen stop bloğu fener milinin altına montaj edilip kullanılır:

H mesafesini kontrol edin

H - A = P formülünü kullanarak Plaka yüksekliğini (P) hesaplayın
 - P < 5 ise birlikte gelen plakanın yüksekliğini azaltın
 - P > 5 ise yüksekliği daha fazla olan bir plaka kullanın

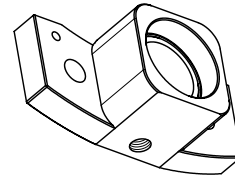
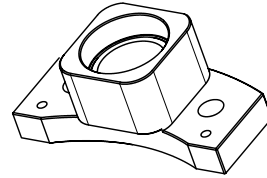
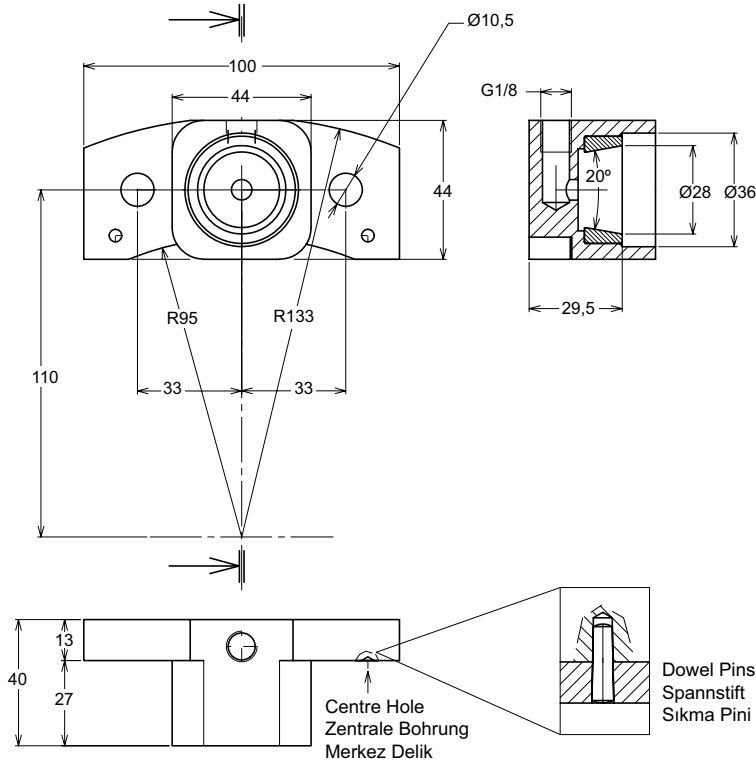
Stop bloğu ve gerekliyse plakayı ATC kolunun tam karşı tarafına gelecek şekilde fener milinin altına monte edin





Technische Informationen - Konischer Stop-Block Montage

Teknik Bilgiler - Konik Stop Bloğu Montajı



Angle heads are supplied with a stop block to be installed on the spindle nose:

Winkelköpfe werden mit einem Stop-block geliefert, der an die Spindelnase montiert wird:

Açılı kafaların yanında verilen stop bloğu fener milinin altına montaj edilip kullanılır:

Check H Dimension

Maß H kalkulieren

H mesafesini kontrol edin

Using the formula $H - A = P$ calculate plate thickness (P)
 - if $P < 5$ make the thickness of supplied plate smaller
 - if $P > 5$ produce and use a thicker plate

Mit der Formel $H - A = P$ Plattenhöhe (P) ausrechnen
 - wenn $P < 5$, die Höhe von gelieferter Platte verringern
 - wenn $P > 5$, eine höhere Platte fertigen und einsetzen

H - A = P formülünü kullanarak Plaka yüksekliğini (P) hesaplayın
 - P < 5 ise birlikte gelen plakanın yüksekliğini azaltın
 - P > 5 ise yüksekliği daha fazla olan bir plaka kullanın

Mount the stop-block -and the plate if necessary- to the spindle nose on the opposite side of the ATC arm

Stop-block und wenn nötig die Platte an die Spindelnase gegenüber automatischen Werkzeugwechslers montieren

Stop bloğu ve gerekliyse plakayı ATC kolunun tam karşı tarafına gelecek şekilde fener milinin altına monte edin

