

emi di  
emi di forat  
stemi di forat  
stemi di forat  
stemi di forat  
stemi di forat

TA

MO

HT

VH

TSI/TSX

T



MT-TC-TC3



Made in Italy



Sistemi di foratura  
di foratura  
di foratura



L'azienda O.M.G. Srl è lieta di presentare in questa unica soluzione grafica tutti i suoi prodotti, interamente progettati e costruiti al suo interno.

Chi ci conosce da un pò di tempo avrà potuto notare l'evoluzione tecnica e strutturale di cui l'azienda è protagonista.

La nostra gamma di prodotti si è ampliata e migliorata:

- serie TA**, teste ad angolo
- serie MO**, moltiplicatori di giri
- serie HT**, torrette a revolver
- serie VH**, teste multiple ad interassi variabili
- serie TSI-TSX**, teste per spuntatura ingranaggi
- serie T**, teste a giunti universali

e dove i prodotti di serie non arrivano, le esecuzioni speciali **serie MT, TC, TC3, TFS** ogni volta studiate e personalizzate renderanno possibili le più svariate applicazioni.

E' una dichiarazione d'intenti, l'esplicitazione della nostra mission: creatività e consulenza tecnica al servizio del cliente per aiutarlo a migliorare la propria produttività, affidabilità del servizio pre e post vendita con la garanzia di un'assistenza tempestiva e una sempre maggiore puntualità nelle consegne. Ringraziamo con l'occasione tutti i clienti che hanno scelto i prodotti O.M.G., contribuendo così all'evoluzione degli stessi; un gradito benvenuto a tutti quelli che si rivolgeranno con fiducia ad O.M.G., certi di avere un'azienda attenta alle singole esigenze e partecipe nelle più diverse attività produttive.

#### ***Un po' di storia.***

L'azienda O.M.G. nasce negli anni '60 come laboratorio di piccole dimensioni specializzato nella progettazione e fabbricazione di teste multiple. La produzione era indirizzata, allora, verso tre prodotti: mandrini a maschiare, teste multiple a giunti universali e teste multiple ad interassi variabili.

In seguito, sintonizzandosi con la grande evoluzione dell'industria metalmeccanica, anche l'azienda O.M.G. cresce e si sviluppa, partecipando alla diffusione di nuovi prodotti con le proposte più innovative e d'avanguardia in questo settore di ricerca e produzione.

Le tecnologie d'avanguardia nei processi produttivi e l'impiego di nuove tecniche computerizzate firmano la notorietà e l'immagine del marchio O.M.G.; un nome diffuso e conosciuto da tutte le aziende, piccole e grandi, un'immagine mai smentita ma sottolineata nelle numerose campagne pubblicitarie realizzate.

***Ringraziamo per l'attenzione,  
O.M.G. srl.***



*O.M.G. Srl is pleased to present, in a single graphic solution, its entire range of products, all designed and built inside its production facility.*

*Those of you who have known us for some time will be well aware of the technical and organisational evolution that distinguishes our company.*

*Our range of products has been extended and upgraded:*

**series TA**, angle heads

**series MO**, spindle speeders

**series HT**, revolver turret heads

**series VH**, variable centre distance multispindle heads

**series TSI-TSX**, gear chamfering heads

**series T**, universal joint heads

*and where standard products are not enough, we can also offer a range of special products series MT, TC, TC3, TFS purposely designed and customised for various types of applications.*

*Our mission involves a declaration of intent: creativity and technical advice at the service of customers to enable them to upgrade their output and their before and after-sales service reliability through prompt assistance and increasingly more punctual delivery.*

*Allow us to take this opportunity to thank all those customers who have chosen O.M.G. products, thereby contributing to their evolution; a warm welcome too to those who turn with confidence to O.M.G., a company that caters for individual requirements and is involved in a range of different manufacturing activities.*

#### **A short history.**

*O.M.G. was established in the 1960s as a small workshop specialised in designing and manufacturing multispindle heads. At that time, production centred on three products: tapping spindles, adjustable joint multispindle heads and variable centre distance multispindle heads.*

*Later on, in line with the evolution of the mechanical engineering industry, O.M.G. expanded and developed, taking part in the diffusion of new products with innovative and cutting-edge proposals for this research and production sector.*

*The cutting-edge technologies employed in the manufacturing processes and the use of new computerised methods resulted in the O.M.G. brand name and image becoming widely known to small and large companies alike, an image sustained by a long series of advertising campaigns.*

**Thank you for your attention,  
O.M.G. srl.**

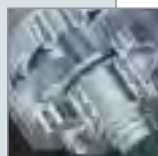




# INDICE INDEX



Serie TA (Teste ad angolo - *Angle heads*) ..... 1



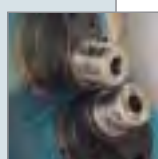
Serie MO (Moltiplicatori di giri - *Spindle speeders*) ..... 2



Serie HT (Torrette a revolver - *Turret heads*) ..... 3



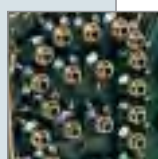
Serie VH (Teste multiple ad assi variabili - *Variable axis heads*) ..... 4



Serie TSI/TSX (Teste di fresatura - *Twin spindle milling heads*) ..... 5



Serie T (Teste multiple a giunti universali - *Adjustable joint multispindle heads*) ..... 6



Serie MT-TC-TC3 (Teste multiple ad assi fissi - *Fixed multispindle heads*) ..... 7



Accessori - *Accessories* ..... 8



Appendice tecnica - *Technical supplement* ..... 9

TA

MO

HT

VH

TSI/TSX

T

MT-TC-TC3

Accessori  
Accessories

Appendice tecnica  
Technical supplement





TA  
 MO  
 HT  
 VH  
 TSI/TSX  
 T  
 MT-TC-TC3  
 Accessori  
 Appendice tecnica

## teste ad angolo angle heads

Le nuove teste ad angolo serie **TA** della O.M.G. sono state realizzate per eseguire quelle lavorazioni che con le macchine utensili orizzontali o verticali non si possono risolvere se non con ulteriori piazzamenti del pezzo; le teste ad angolo perciò consentono una riduzione di tempi e costi nelle lavorazioni meccaniche.

La O.M.G. presenta una gamma rinnovata e ampliata di teste ad angolo, così suddivise:

**Serie TA** monomandrino, dove l'angolo è di 90°

**Serie TA... 2** a due mandrini contrapposti

**Serie TA... D** monomandrino con passaggio refrigerante per il centro

**Serie TAO**, monomandrino offset specifica per operazione di fresatura

**Serie TAO... D**, con liquido refrigerante ad alta pressione passante per il centro utensile

**Serie TAV**, l'inclinazione del mandrino è regolabile da +90° a -90°

**Serie TAF**, l'inclinazione del mandrino viene eseguita su richiesta del cliente

**Teste speciali** realizzate su specifiche richieste del cliente.

Le teste ad angolo O.M.G. possono venire applicate su macchine utensili tradizionali, centri di lavoro con cambio automatico dell'utensile, centri di tornitura con torretta motorizzata. Il cinematismo trattato termicamente, i cuscinetti di precisione utilizzati e le coppie coniche Gleason, conferiscono a tutte le teste un'ottima rigidità e precisione nelle lavorazioni "a sbalzo" che queste teste eseguono.

Il sistema antirotante di nuova concezione aumenta la rigidità e la precisione di posizionamento; quando alle teste ad angolo sono richieste prestazioni estreme si consiglia l'utilizzo del sistema **TRIBLOCK**.

Le teste ad angolo serie **TA** sono state studiate e definite avvalendosi di sistemi computerizzati all'avanguardia a supporto di conoscenze acquisite dalla O.M.G. in quarant'anni di esperienza nel settore.

Tutto questo ha permesso di fare scelte innovative nei materiali da costruzione, nei trattamenti termici e nelle lavorazioni meccaniche così da ottenere precisione, robustezza, rigidità e finitura al "top".

*The new OMG TA series of angle heads has been manufactured in order to execute machining operations that horizontal or vertical machine tools are unable to perform except with further piece placements. Hence, the angle heads further reduce mechanical machining times and costs.*

*O.M.G. markets a renewed and extended range of angle heads as follows:*

**TA series** 90° single-spindle

**TA... 2 series** two opposite spindles

**TA... D series** single-spindle with internal coolant through the tool

**TAO series** offset single spindle particularly on milling operation

**TAO... D series** with high pressure coolant through the spindle center

**TAV series** the angular position of the spindle is adjustable from +90° to -90°

**TAF series** the angular position of the spindle is made according to customer requirements.

**Special heads** made according to customer requirements.

*The angle heads made by O.M.G. can be fitted to traditional machine tools, machining centres with automatic tool change and lathe centres with motorised turrets. The heat-treated kinematic mechanism, the precision bearings and the Gleason bevel gears, provide all heads with excellent strength and precision in "cantilever" machining operations.*

*The new antirotation system increases strength and positioning precision; when extreme angle head performances are required, we suggest using the Triblock system.*

*The TA series of angle heads has been studied and defined by advanced computerised systems as a support to OMG's 40 years' experience in the sector. All this has resulted in innovative solutions being achieved in terms of building materials, heat treatments and machining operations, in order to obtain precision, strength, reliability and excellent finishes.*

TA04P .....	1-2
TA06P .....	1-3
TA07P .....	1-4
TA07PL .....	1-5
TA10P .....	1-6
TA10PL .....	1-7
TA13P .....	1-8
TA16P .....	1-9
TA20P .....	1-10
TA20.30 .....	1-11
TA26P .....	1-12
TA26.40 .....	1-13
TA07.2P .....	1-14
TA10.2P .....	1-15
TA13.2P .....	1-16
TA16.2P .....	1-17
TA20.2P .....	1-18
TA26.2P .....	1-19
TA07.PD .....	1-20
TA10.PD .....	1-21
TA13.PD .....	1-22
TA16.PD .....	1-23
TA20.PD .....	1-24
TA26.PD .....	1-25
TAV10.P .....	1-26
TAO13... ..	1-27
TAO20... ..	1-28
TAO13... D .....	1-29
TAO20... D .....	1-30
TAV13.P .....	1-31
TAV20.P .....	1-32
TAV50.T .....	1-33
TAF13.P .....	1-34
TAF20.P .....	1-35
TA13PT .....	1-36
TA16PT .....	1-37
TA20...T .....	1-38
TA26...T .....	1-39
TA50.T .....	1-40
TA13P.VDI .....	1-42
TA16P.VDI .....	1-43
TAV10P.VDI .....	1-44
TAV13P.VDI .....	1-45
Antirotante/Torque arm .....	1-46
Antirotante Triblock/Triblock torque arm .....	1-48
Esecuzioni speciali/Special executions .....	1-52

Accessori/Accessories ..... 8-1

TA

MO

HT

VH

TSI/TSX

T

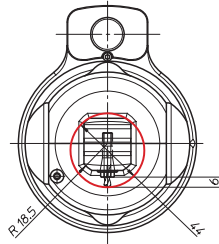
MT-TC-TC3

Accessori  
AccessoriesAppendice tecnica  
Technical supplement

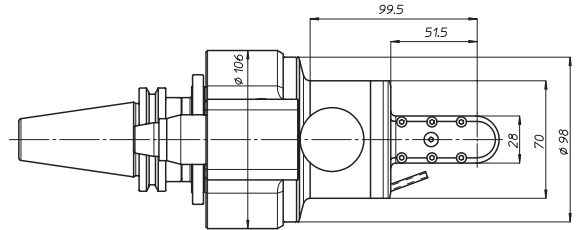
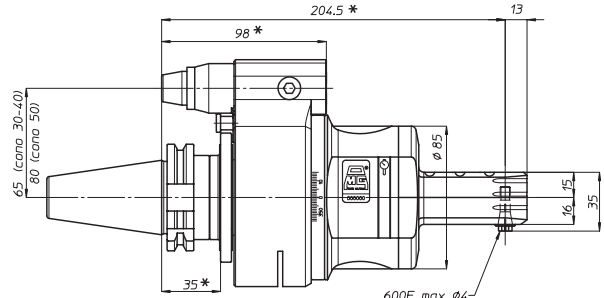
testa ad angolo - angle head

# TA04P

TA04P-DIN69871.A30  
 TA04P-DIN69871.A40  
 TA04P-DIN69871.A45  
 TA04P-DIN69871.A50  
 TA04P-ANSI B5.50 CAT40  
 TA04P-ANSI B5.50 CAT50  
 TA04P-MAS403.BT40  
 TA04P-MAS403.BT50

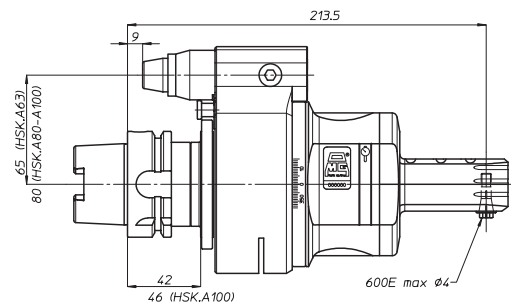


Diametro minimo del  
foro in cui entra la testa

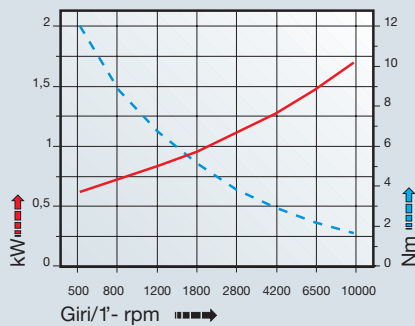


\* Con cono BT50 aumentate le quote di 8 mm  
 Increase the quote by 8 mm when using BT50 shank

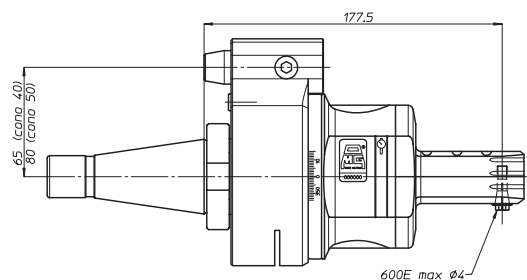
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 TA04P-DIN69893.HSK.A80  
 TA04P-DIN69893.HSK.A100



prestazioni  
performances TA04P



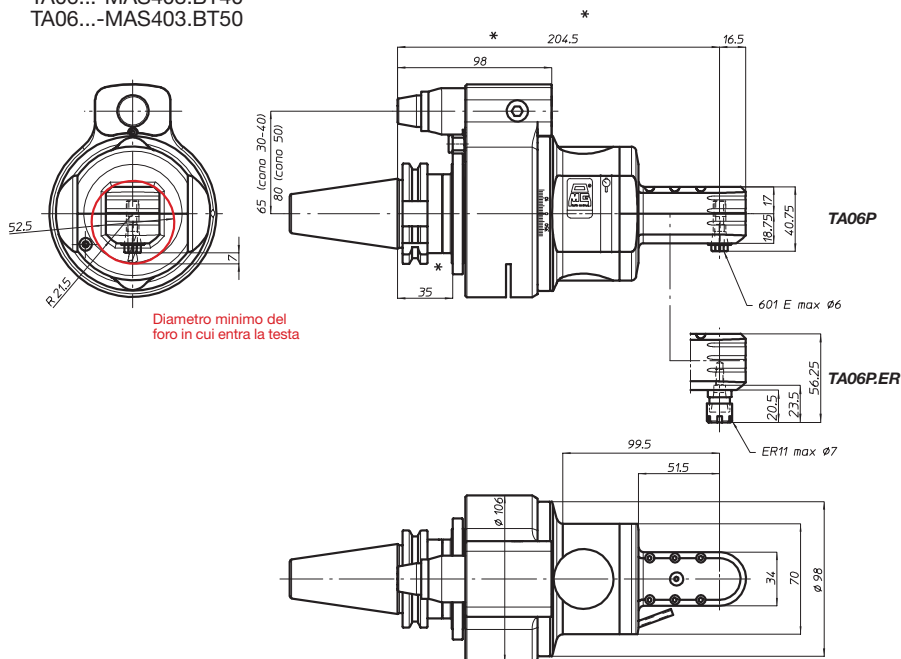
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 TA04P-DIN2080.50  
 TA04P-ANSI B5.18 NMTB40  
 TA04P-ANSI B5.18 NMTB50





# TA06P

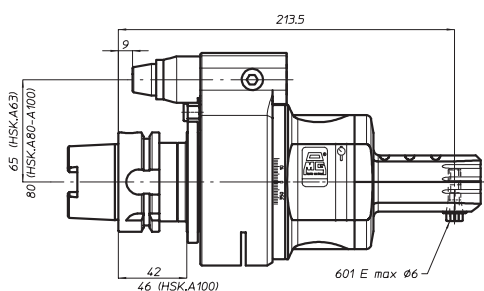
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 TA06...-ANSI B5.50 CAT50  
 TA06...-MAS403.BT40  
 TA06...-MAS403.BT50



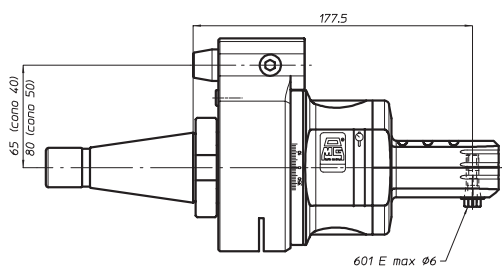
Diametro minimo del foro in cui entra la testa

\* Con cono BT50 aumentate le quote di 8 mm  
 Increase the quote by 8 mm when using BT50 shank

TA06...-DIN69893.HSK.A63  
 TA06...-DIN69893.HSK.A80  
 TA06...-DIN69893.HSK.A100



TA06...-DIN2080.40  
 TA06...-DIN2080.50  
 TA06...-ANSI B5.18 NMTB40  
 TA06...-ANSI B5.18 NMTB50



peso/weight



6 kg



8,3 kg

rotazione/rotation

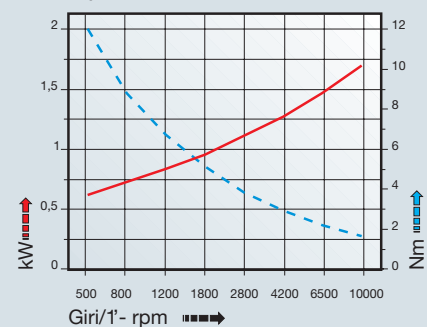


input



output

prestazioni performances TA06P



TA

MO

HT

VH

TSI/TSX

T

MT-TC-TC3

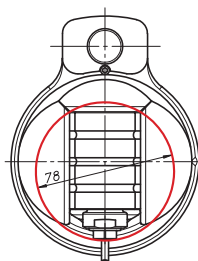
Accessori  
Accessories

Appendice tecnica  
Technical supplement

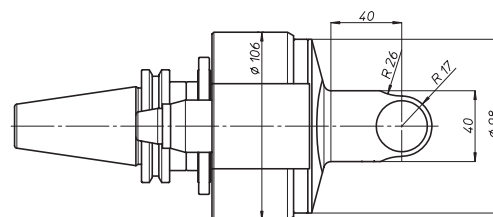
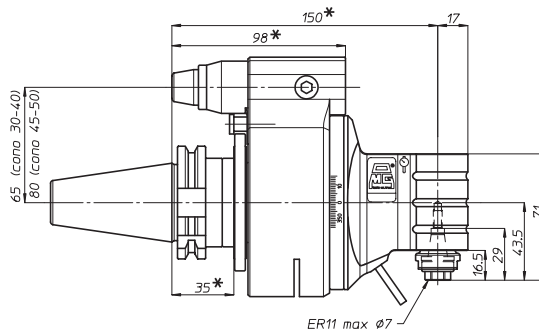
# TA07P



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- TA07P-DIN69871.A45
- TA07P-DIN69871.A50
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- TA07P-ANSI B5.50 CAT50
- TA07P-MAS403.BT40
- TA07P-MAS403.BT50

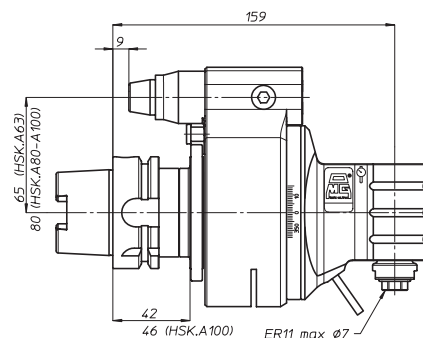


Diametro minimo del foro in cui entra la testa

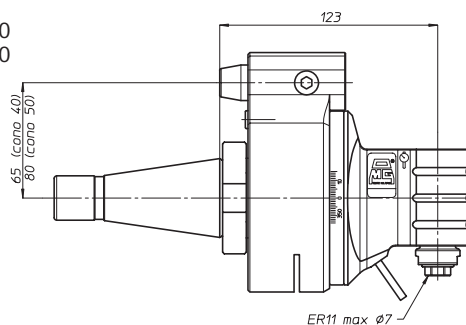


\* Con cono BT50 aumentate le quote di 8 mm  
Increase the quote by 8 mm when using BT50 shank

- TA07P-DIN69893.HSK.A63
- TA07P-DIN69893.HSK.A80
- TA07P-DIN69893.HSK.A100



- TA07P-DIN2080.40
- TA07P-DIN2080.50
- TA07P-ANSI B5.18 NMTB40
- TA07P-ANSI B5.18 NMTB50



peso/weight



5 kg



7 kg

rotazione/rotation

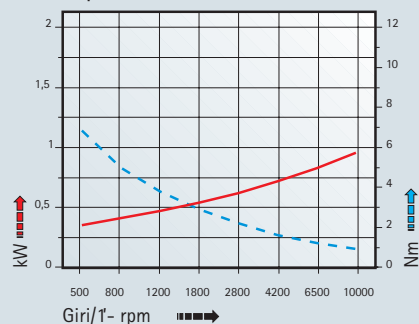


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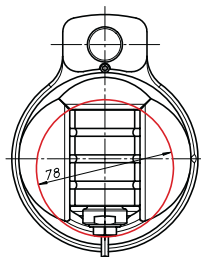
output

prestazioni performances **TA07P**

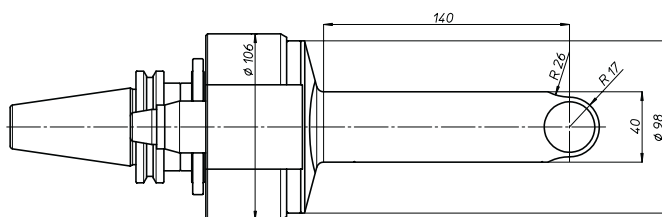
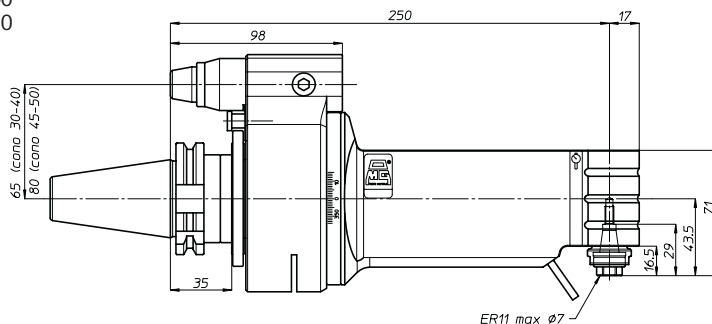


# TA07P.L

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- TA07P.L-DIN69871.A40
- TA07P.L-DIN69871.A45
- TA07P.L-DIN69871.A50
- TA07P.L-ANSI B5.50 CAT40
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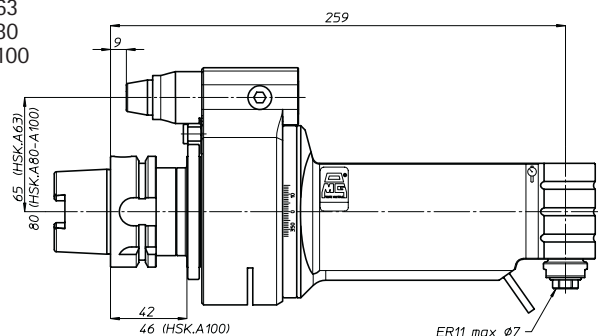


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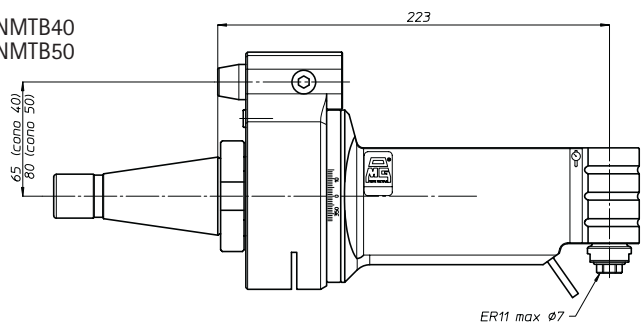


\* Con cono BT50 aumentate le quote di 8 mm  
Increase the quote by 8 mm when using BT50 shank

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- TA07P.L-DIN69893.HSK.A80
- TA07P.L-DIN69893.HSK.A100



- TA07P.L-DIN2080.40
- TA07P.L-DIN2080.50
- TA07P.L-ANSI B5.18 NMTB40
- TA07P.L-ANSI B5.18 NMTB50



peso/weight



7,5 kg



9,5 kg

rotazione/rotation

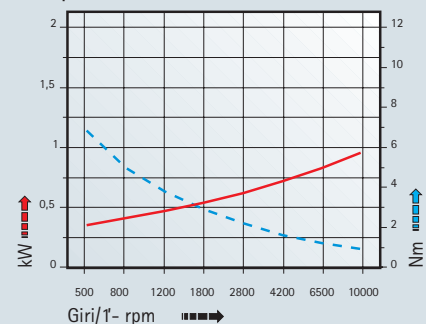


input



output

prestazioni performances TA07P.L



TA

MO

HT

VH

TSI/TSX

T

MT-TC-TC3

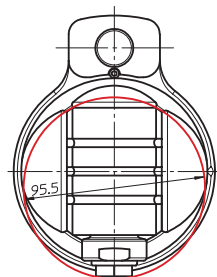
Accessori  
Accessories

Appendice tecnica  
Technical supplement

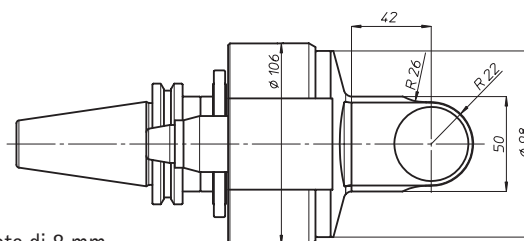
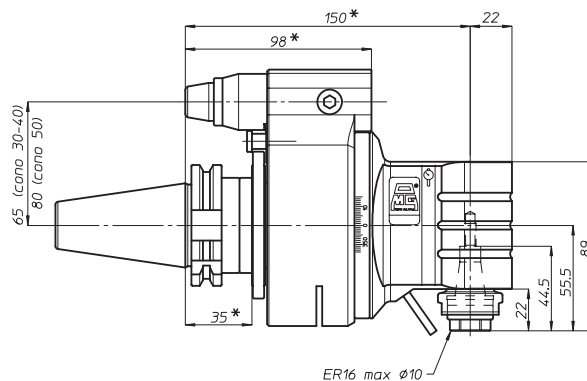
# TA10P



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- TA10P-DIN69871.A45
- TA10P-DIN69871.A50
- TA10P-ANSI B5.50 CAT40
- TA10P-ANSI B5.50 CAT50
- TA10P-MAS403.BT40
- TA10P-MAS403.BT50



Diametro minimo del foro in cui entra la testa



\* Con cono BT50 aumentate le quote di 8 mm  
Increase the quote by 8 mm when using BT50 shank

peso/weight



5,3 kg



7,5 kg

rotazione/rotation

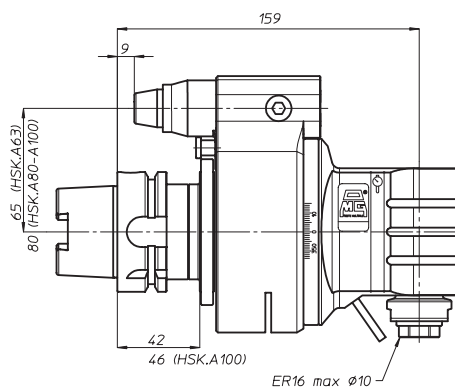


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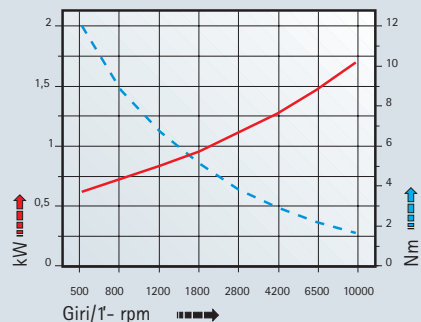


output

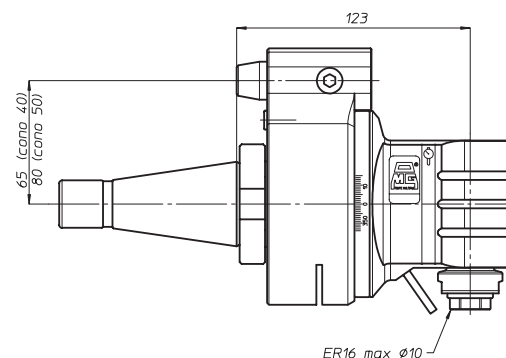
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prestazioni performances **TA10P**



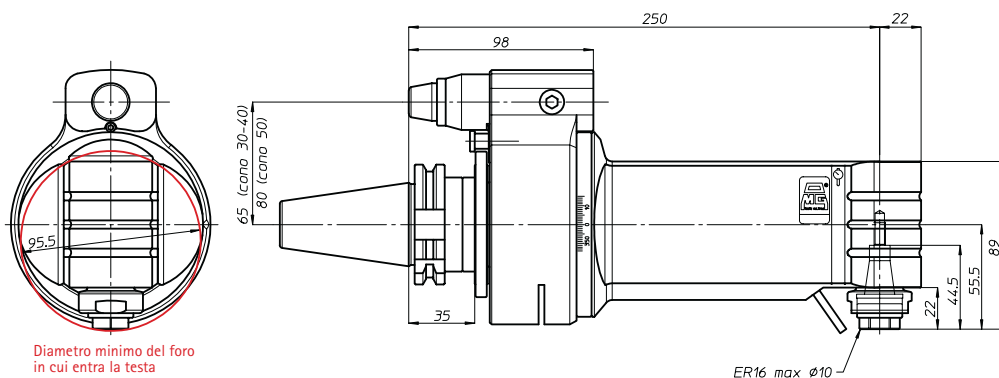
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- TA10P-ANSI B5.18 NMTB50





# TA10P.L

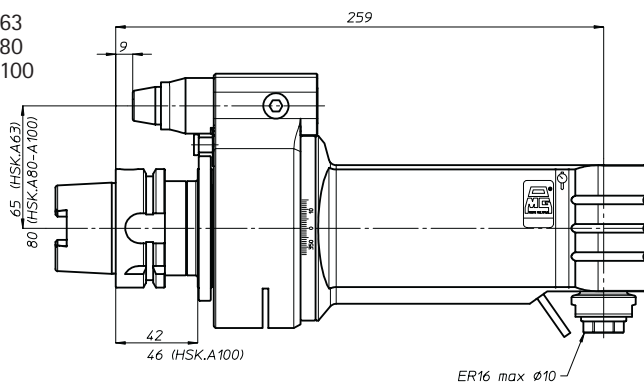
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- TA10P.L-DIN69871.A45
- TA10P.L-DIN69871.A50
- TA10P.L-ANSI B5.50 CAT40
- TA10P.L-ANSI B5.50 CAT50
- TA10P.L-MAS403.BT40
- TA10P.L-MAS403.BT50



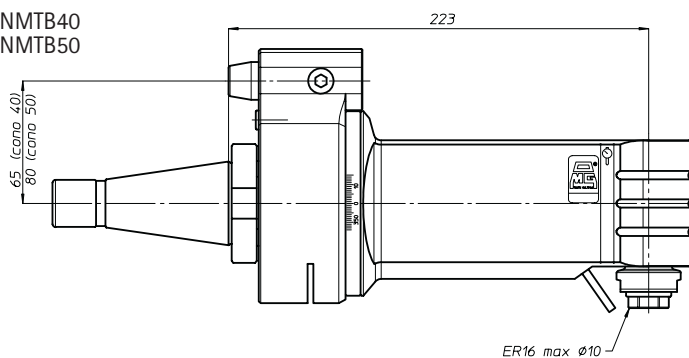
Diametro minimo del foro in cui entra la testa


\* Con cono BT50 aumentate le quote di 8 mm  
Increase the quote by 8 mm when using BT50 shank

- TA10P.L-DIN69893.HSK.A63
- TA10P.L-DIN69893.HSK.A80
- TA10P.L-DIN69893.HSK.A100



- TA10P.L-DIN2080.40
- TA10P.L-DIN2080.50
- TA10P.L-ANSI B5.18 NMTB40
- TA10P.L-ANSI B5.18 NMTB50



  $\varnothing 10$ 
 M8
  1-1
  giri/1' r.p.m. 10000

peso/weight



8,3 kg



10,5 kg

rotazione/rotation

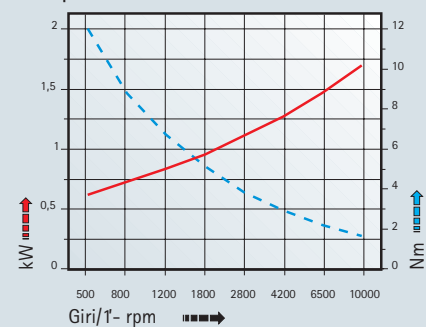


input



output

prestazioni performances **TA10P.L**



TA

MO

HT

VH

TSI/TSX

T

MT-TC-TC3

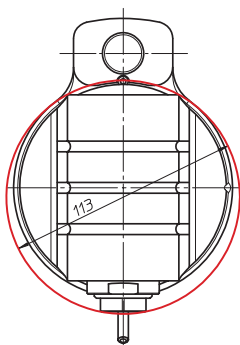
Accessori  
Accessories

Appendice tecnica  
Technical supplement

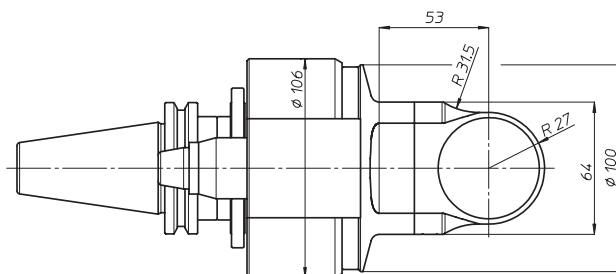
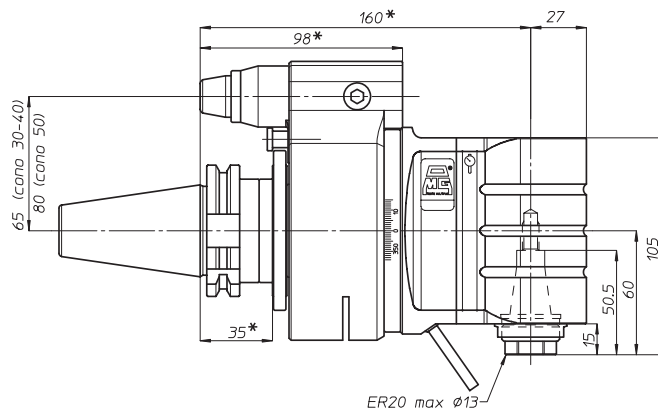
# TA13P



- TA13P-DIN69871.A40
- TA13P-DIN69871.A45
- TA13P-DIN69871.A50
- TA13P-ANSI B5.50 CAT40
- TA13P-ANSI B5.50 CAT50
- TA13P-MAS403.BT40
- TA13P-MAS403.BT50

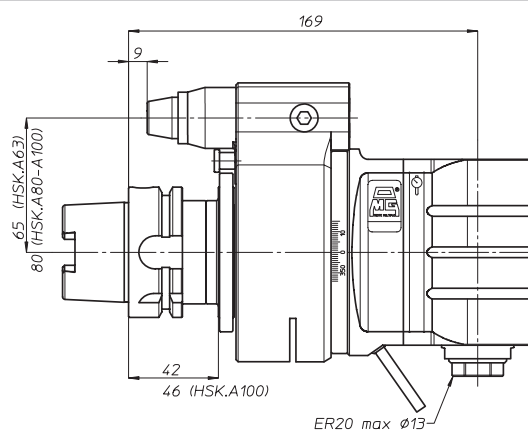


Diametro minimo del foro in cui entra la testa

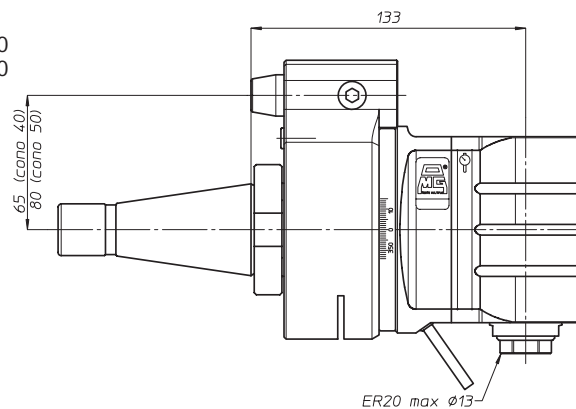


\* Con cono BT50 aumentate le quote di 8 mm  
Increase the quote by 8 mm when using BT50 shank

- TA13P-DIN69893.HSK.A63
- TA13P-DIN69893.HSK.A80
- TA13P-DIN69893.HSK.A100



- TA13P-DIN2080.40
- TA13P-DIN2080.50
- TA13P-ANSI B5.18 NMTB40
- TA13P-ANSI B5.18 NMTB50



peso/weight



6,5 kg



9 kg

rotazione/rotation

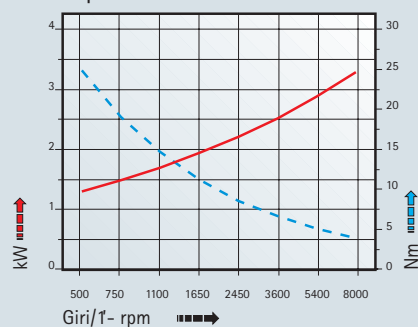


input



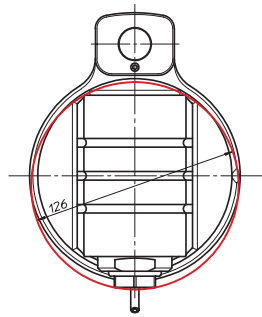
output

prestazioni performances **TA13P**

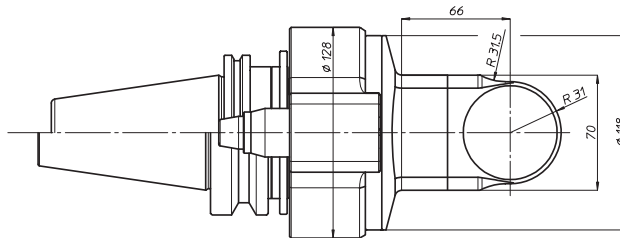
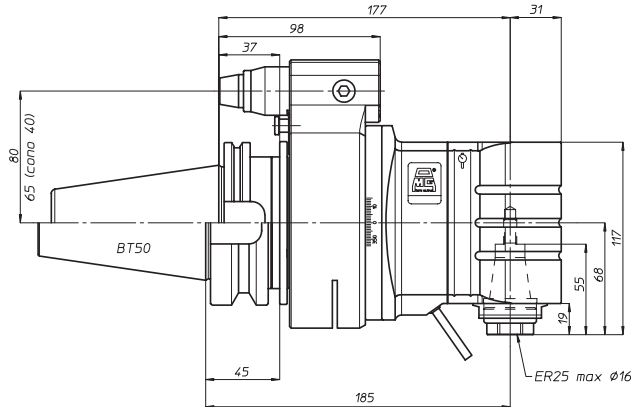


# TA16P

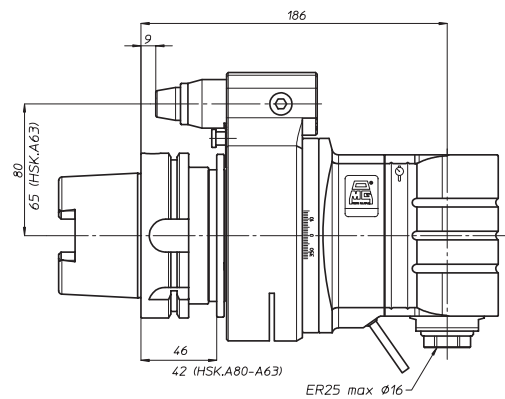
TA16P-DIN69871.A40  
 TA16P-DIN69871.A45  
 TA16P-DIN69871.A50  
 TA16P-ANSI B5.50 CAT40  
 TA16P-ANSI B5.50 CAT50  
 TA16P-MAS403.BT40  
 TA16P-MAS403.BT50



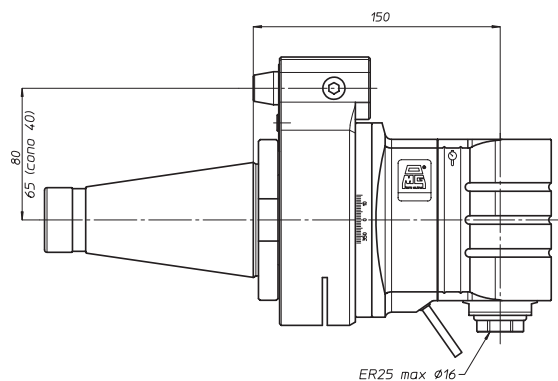
Diametro minimo del foro in cui entra la testa



TA16P-DIN69893.HSK.A63  
 TA16P-DIN69893.HSK.A80  
 TA16P-DIN69893.HSK.A100



TA16P-DIN2080.40  
 TA16P-DIN2080.50  
 TA16P-ANSI B5.18 NMTB40  
 TA16P-ANSI B5.18 NMTB50



peso/weight



7,7 kg



11,7 kg

rotazione/rotation

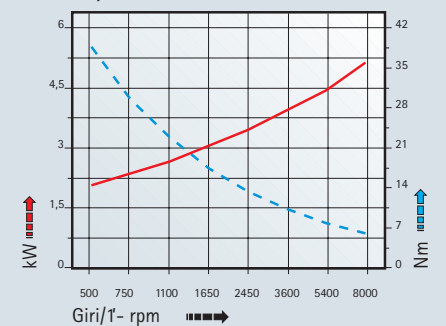


input



output

prestazioni performances TA16P



TA

MO

HT

VH

TSI/TSX

T

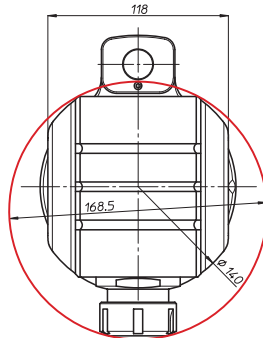
MT-TC-TC3

Accessori  
AccessoriesAppendice tecnica  
Technical supplement

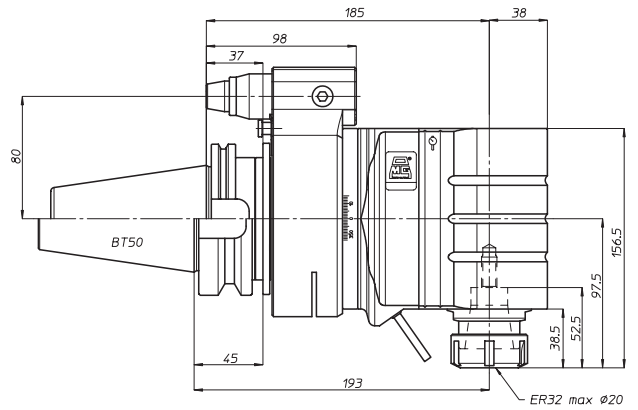
testa ad angolo - angle head

# TA20P

TA20P-DIN69871.A45  
TA20P-DIN69871.A50  
TA20P-ANSI B5.50 CAT50  
TA20P-MAS403.BT50



Diametro minimo del foro  
in cui entra la testa



peso/weight



14,5 kg

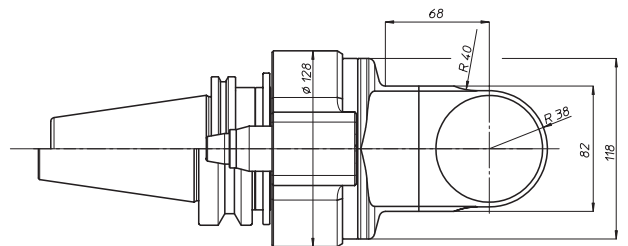
rotazione/rotation



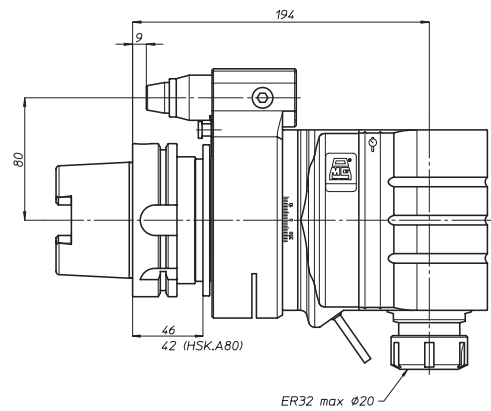
input



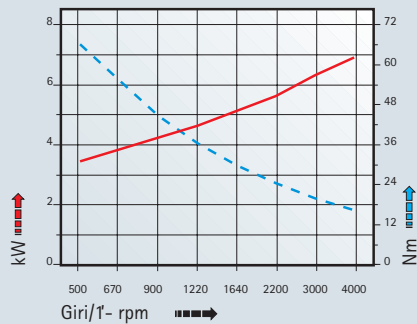
output



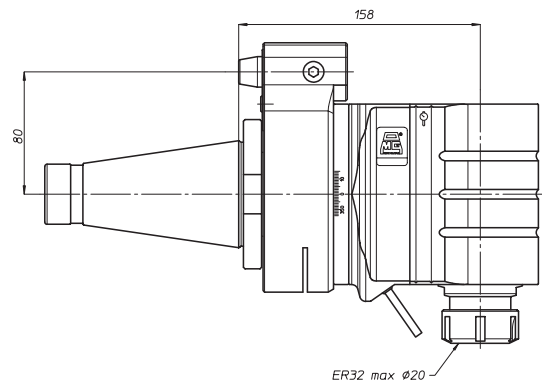
TA20P-DIN69893.HSK.A80  
TA20P-DIN69893.HSK.A100



prestazioni  
performances **TA20P**



TA20P-DIN2080.50  
TA20P-ANSI B5.18 NMTB50

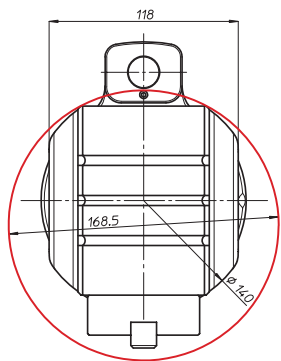


1-10

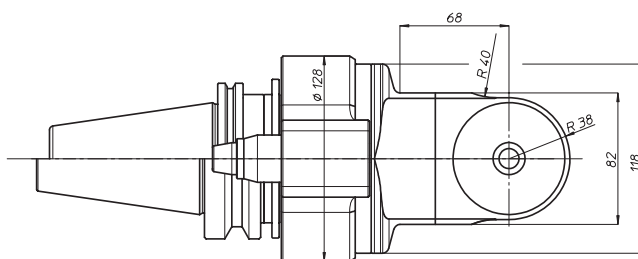
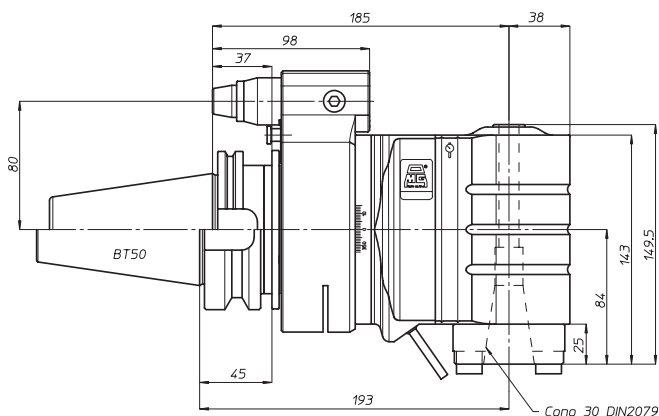


# TA20.30

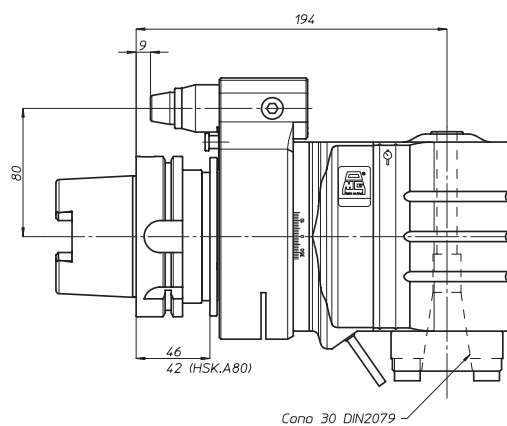
TA20.30-DIN69871.A45  
 TA20.30-DIN69871.A50  
 TA20.30-ANSI B5.50 CAT50  
 TA20.30-MAS403.BT50



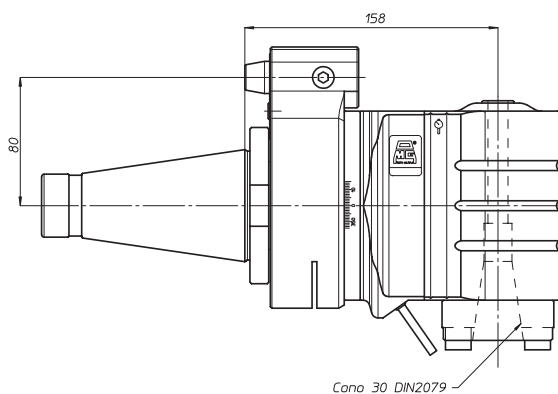
Diametro minimo del foro in cui entra la testa



TA20.30-DIN69893.HSK.A80  
 TA20.30-DIN69893.HSK.A100



TA20.30-DIN2080.50  
 TA20.30-ANSI B5.18 NMTB50



peso/weight



14,7 kg

rotazione/rotation

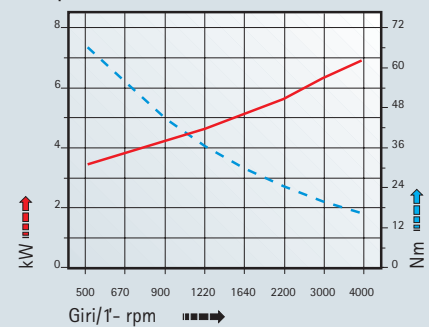


input



output

prestazioni performances **TA20.30**



TA

MO

HT

VH

TSI/TSX

T

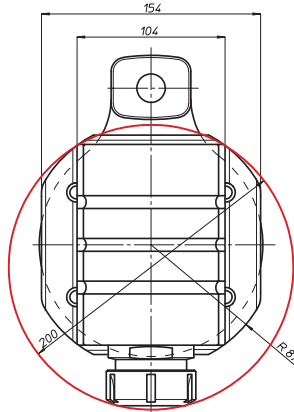
MT-TC-TC3

Accessori  
AccessoriesAppendice tecnica  
Technical supplement

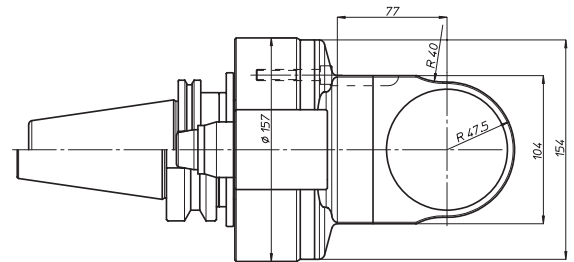
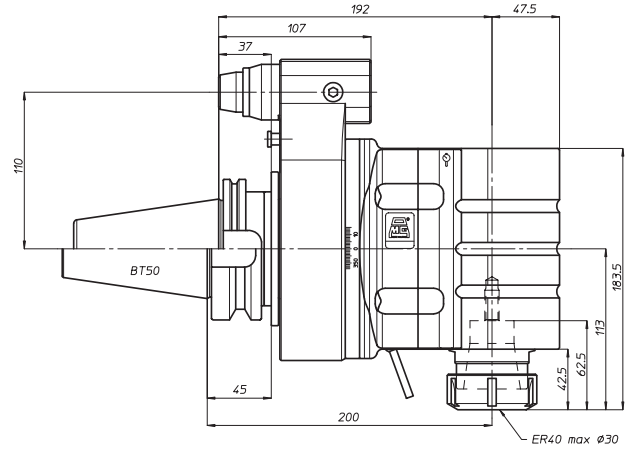
testa ad angolo - angle head

# TA26P

TA26P-DIN69871.A50  
TA26P-ANSI B5.50 CAT50  
TA26P-MAS403.BT50



Diametro minimo del foro  
in cui entra la testa



peso/weight



22 kg

rotazione/rotation

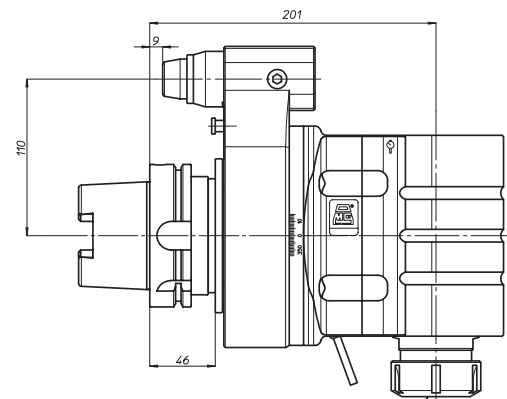
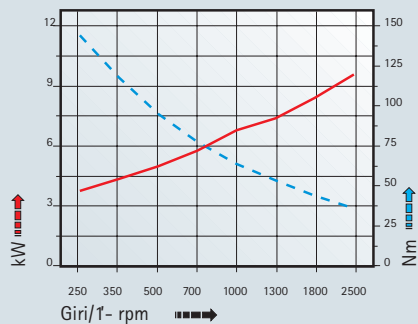


input

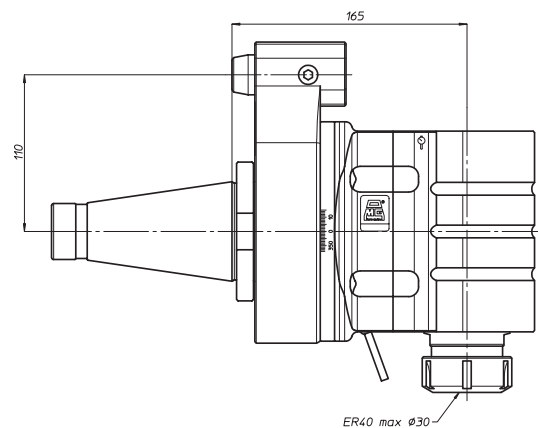


output

TA26P-DIN69893.HSK.A100

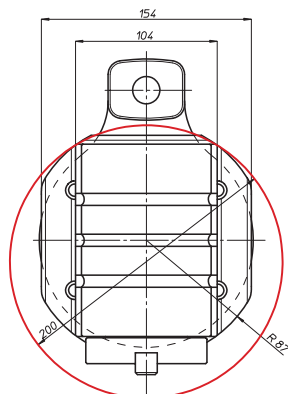
prestazioni  
performances **TA26P**

TA26P-DIN2080.50  
TA26P-ANSI B5.18 NMTB50

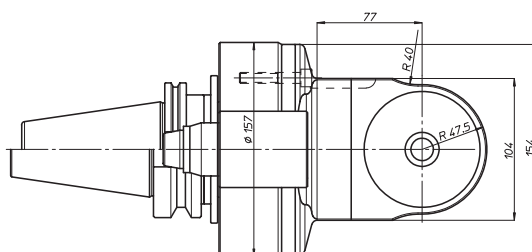
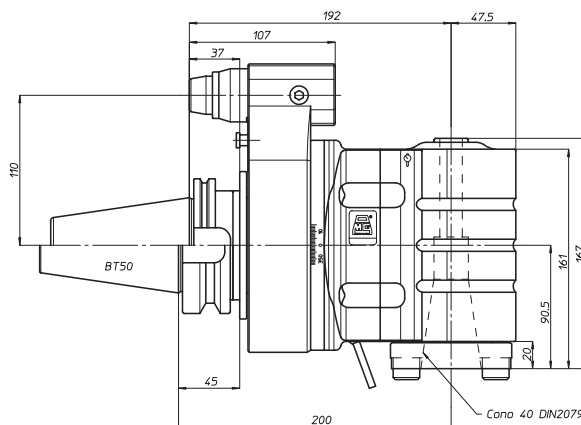


# TA26.40

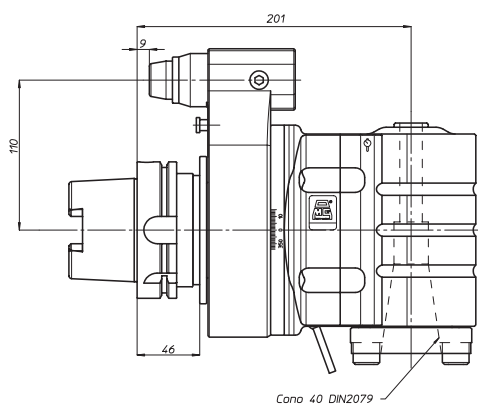
TA26.40-DIN69871.A50  
 TA26.40-ANSI B5.50 CAT50  
 TA26.40-MAS403.BT50



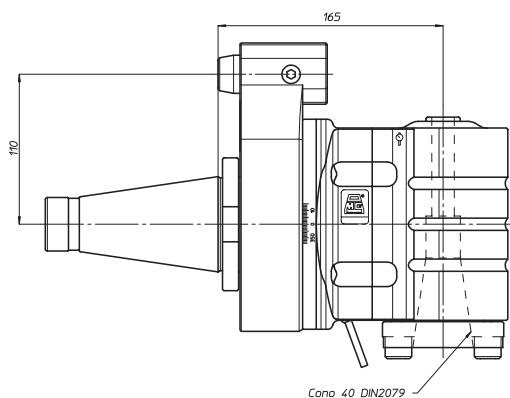
Diametro minimo del foro in cui entra la testa



TA26.40-DIN69893.HSK.A100



TA26.40-DIN2080.50  
 TA26.40-ANSI B5.18 NMTB50



peso/weight



22 kg

rotazione/rotation

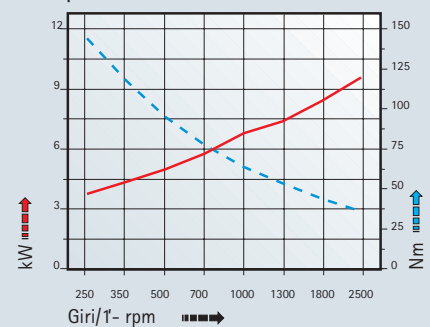


input



output

prestazioni performances **TA26.40**



TA

MO

HT

VH

TSI/TSX

T

MT-TC-TC3

Accessori  
Accessories

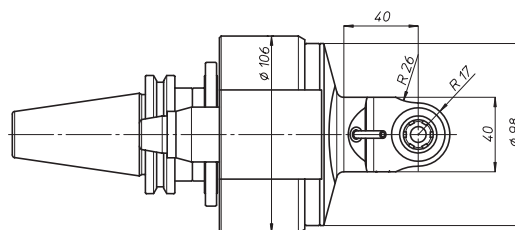
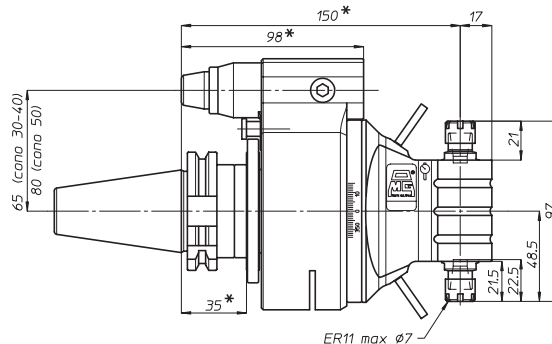
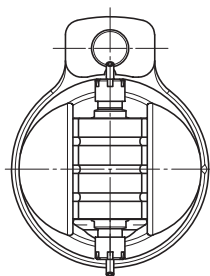
Appendice tecnica  
Technical supplement

testa ad angolo - angle head

# TA07.2P

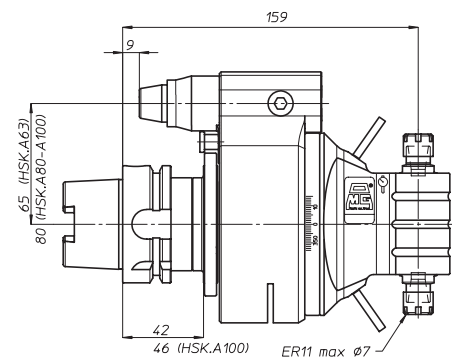


- TA07.2P-DIN69871.A30
- TA07.2P-DIN69871.A40
- TA07.2P-DIN69871.A45
- TA07.2P-DIN69871.A50
- TA07.2P-ANSI B5.50 CAT40
- TA07.2P-ANSI B5.50 CAT50
- TA07.2P-MAS403.BT40
- TA07.2P-MAS403.BT50

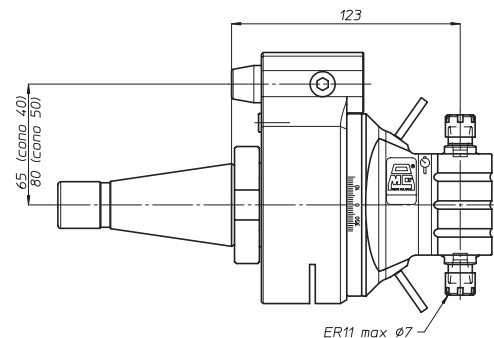


\* Con cono BT50 aumentate le quote di 8 mm  
Increase the quote by 8 mm when using BT50 shank

- TA07.2P-DIN69893.HSK.A63
- TA07.2P-DIN69893.HSK.A80
- TA07.2P-DIN69893.HSK.A100



- TA07.2P-DIN2080.40
- TA07.2P-DIN2080.50
- TA07.2P-ANSI B5.18 NMTB40
- TA07.2P-ANSI B5.18 NMTB50



peso/weight



5 kg



7 kg

rotazione/rotation

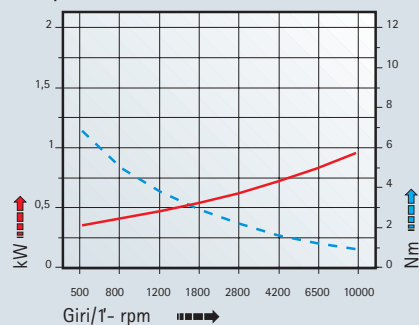


input



output

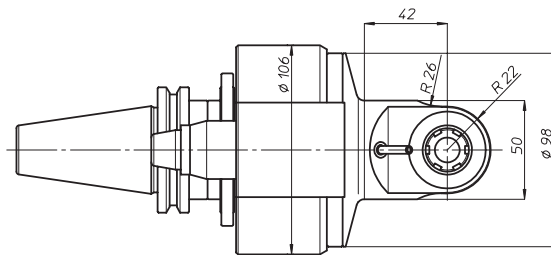
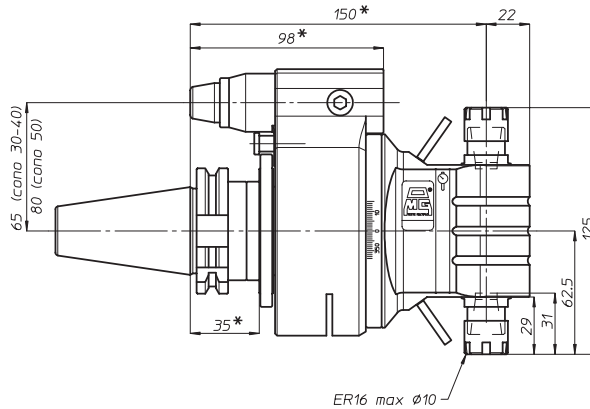
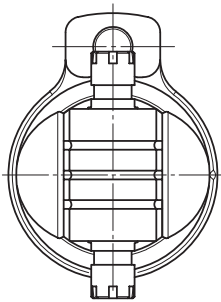
prestazioni performances **TA07.2P**





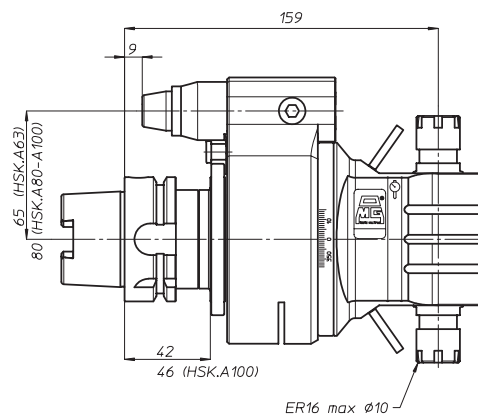
# TA10.2P

- TA10.2P-DIN69871.A30
- TA10.2P-DIN69871.A40
- TA10.2P-DIN69871.A45
- TA10.2P-DIN69871.A50
- TA10.2P-ANSI B5.50 CAT40
- TA10.2P-ANSI B5.50 CAT50
- TA10.2P-MAS403.BT40
- TA10.2P-MAS403.BT50

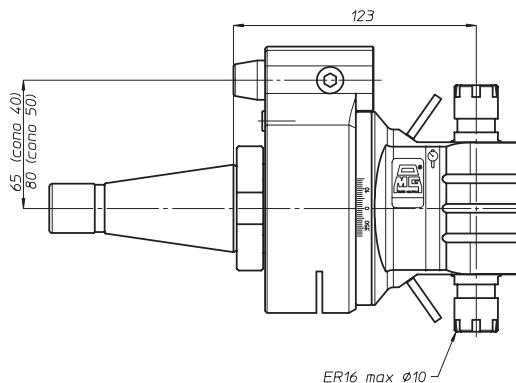


\* Con cono BT50 aumentate le quote di 8 mm  
Increase the quote by 8 mm when using BT50 shank

- TA10.2P-DIN69893.HSK.A63
- TA10.2P-DIN69893.HSK.A80
- TA10.2P-DIN69893.HSK.A100



- TA10.2P-DIN2080.40
- TA10.2P-DIN2080.50
- TA10.2P-ANSI B5.18 NMTB40
- TA10.2P-ANSI B5.18 NMTB50



peso/weight



5,5 kg



7,5 kg

rotazione/rotation

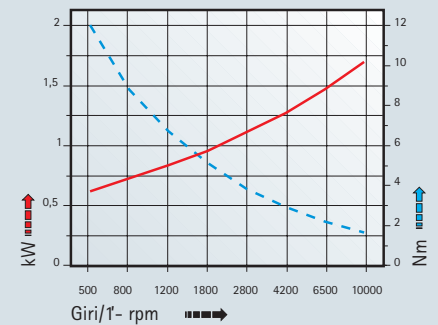


input



output

prestazioni performances TA10.2P

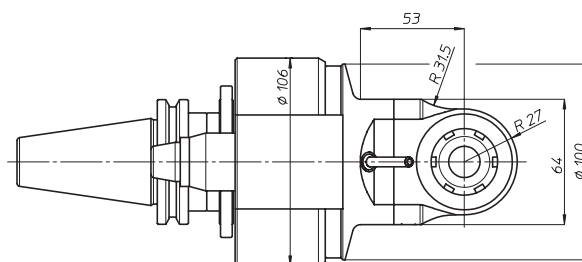
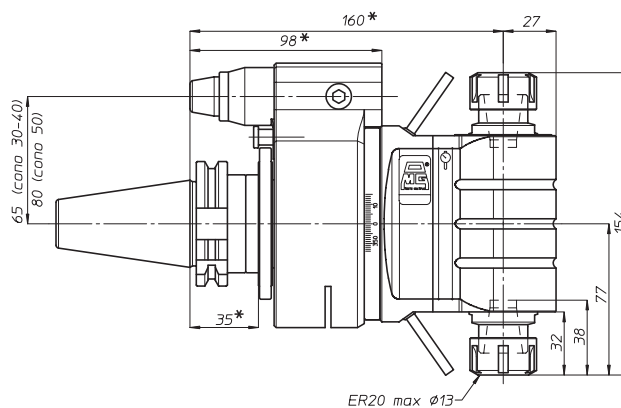
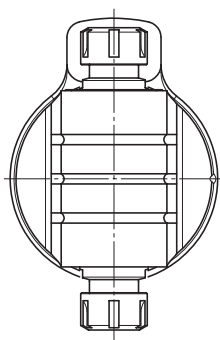


testa ad angolo - angle head

# TA13.2P

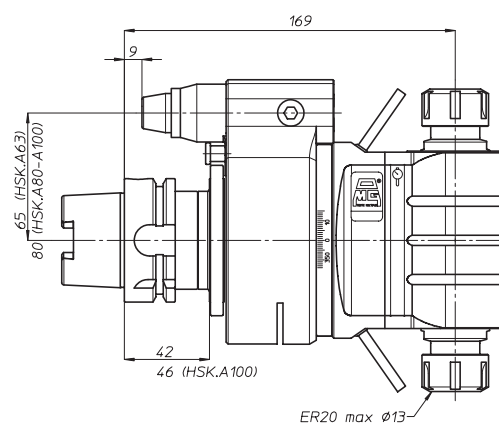


- TA13.2P-DIN69871.A40
- TA13.2P-DIN69871.A45
- TA13.2P-DIN69871.A50
- TA13.2P-ANSI B5.50 CAT40
- TA13.2P-ANSI B5.50 CAT50
- TA13.2P-MAS403.BT40
- TA13.2P-MAS403.BT50

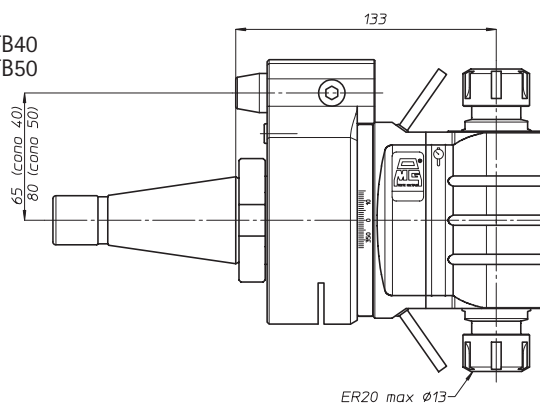


\* Con cono BT50 aumentate le quote di 8 mm  
Increase the quote by 8 mm when using BT50 shank

- TA13.2P-DIN69893.HSK.A63
- TA13.2P-DIN69893.HSK.A80
- TA13.2P-DIN69893.HSK.A100



- TA13.2P-DIN2080.40
- TA13.2P-DIN2080.50
- TA13.2P-ANSI B5.18 NMTB40
- TA13.2P-ANSI B5.18 NMTB50



peso/weight



6,5 kg



9 kg

rotazione/rotation

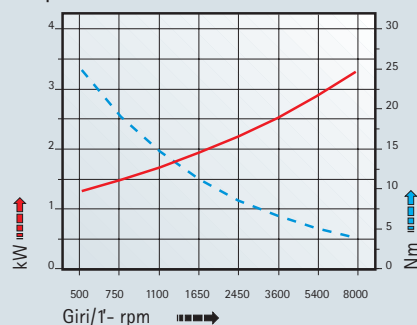


input



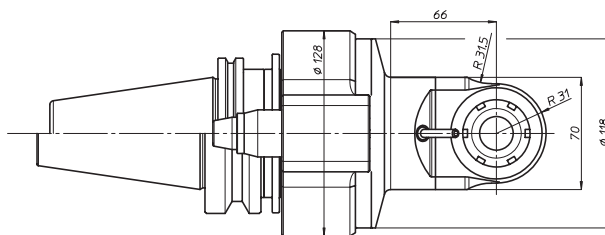
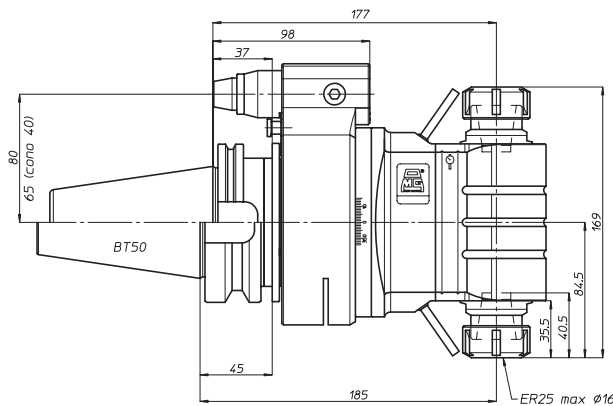
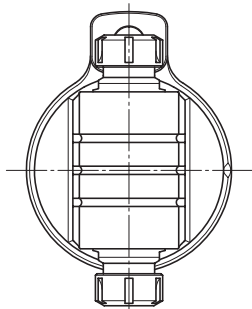
output

prestazioni performances **TA13.2P**

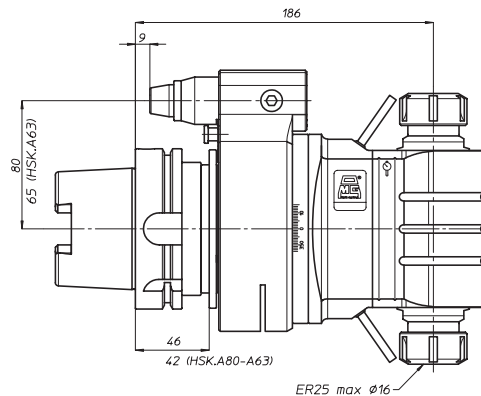


# TA16.2P

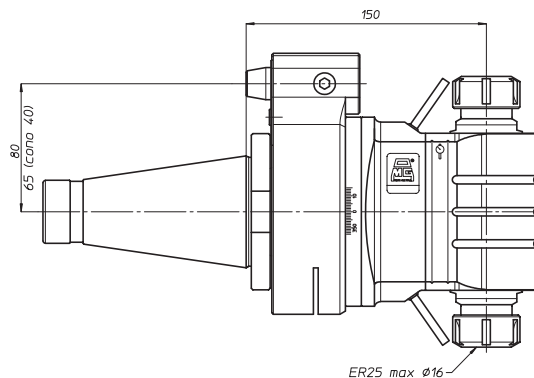
- TA16.2P-DIN69871.A40
- TA16.2P-DIN69871.A45
- TA16.2P-DIN69871.A50
- TA16.2P-ANSI B5.50 CAT40
- TA16.2P-ANSI B5.50 CAT50
- TA16.2P-MAS403.BT40
- TA16.2P-MAS403.BT50



- TA16.2P-DIN69893.HSK.A63
- TA16.2P-DIN69893.HSK.A80
- TA16.2P-DIN69893.HSK.A100



- TA16.2P-DIN2080.40
- TA16.2P-DIN2080.50
- TA16.2P-ANSI B5.18 NMTB40
- TA16.2P-ANSI B5.18 NMTB50



peso/weight



7,7 kg



12,2 kg

rotazione/rotation

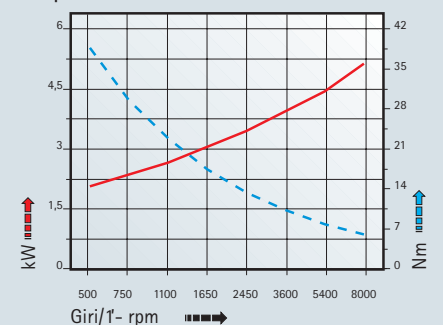


input



output

prestazioni performances **TA16.2P**



TA

MO

HT

VH

TSI/TSX

T

MT-TC-TC3

Accessori  
Accessories

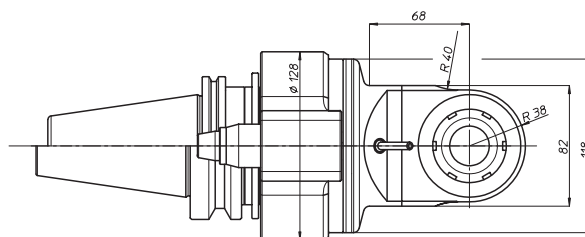
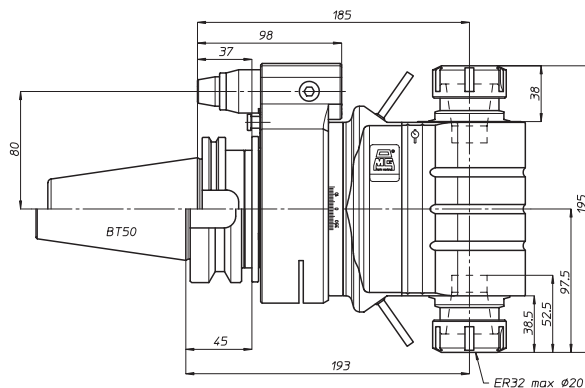
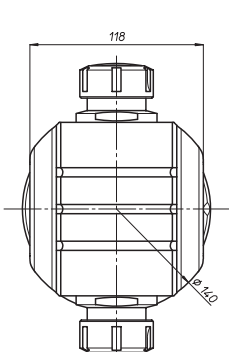
Appendice tecnica  
Technical supplement

testa ad angolo - angle head

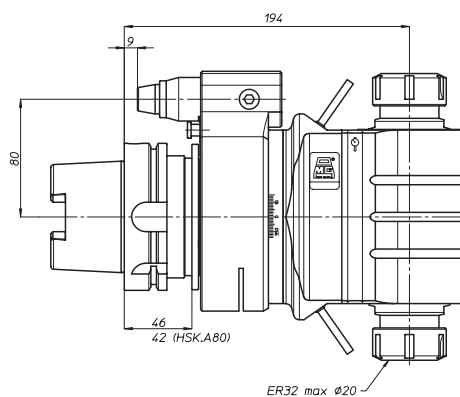
# TA20.2P



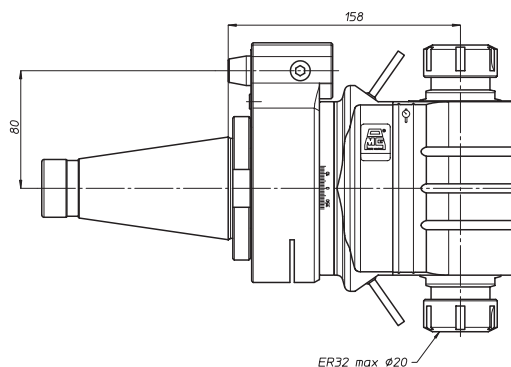
TA20.2P-DIN69871.A45  
 TA20.2P-DIN69871.A50  
 TA20.2P-ANSI B5.50 CAT50  
 TA20.2P-MAS403.BT50



TA20.2P-DIN69893.HSK.A80  
 TA20.2P-DIN69893.HSK.A100



TA20.2P-DIN2080.50  
 TA20.2P-ANSI B5.18 NMTB50



peso/weight



15 kg

rotazione/rotation

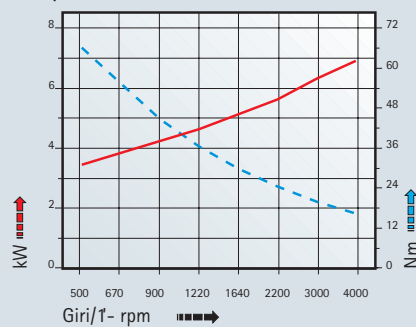


input



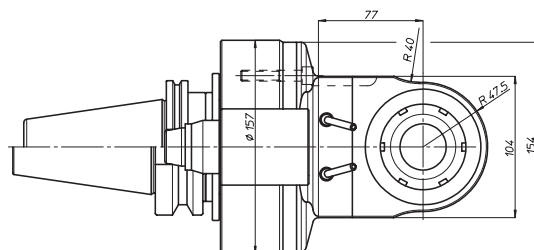
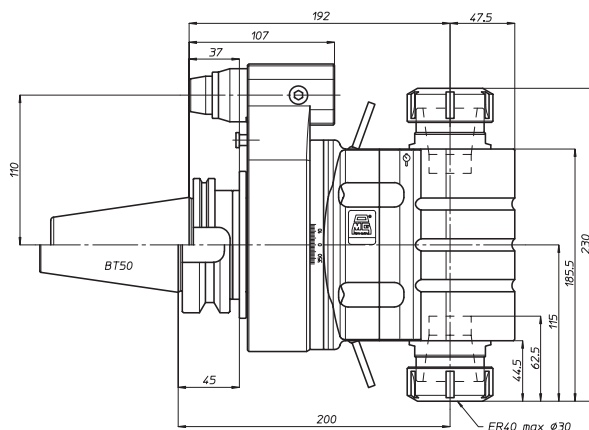
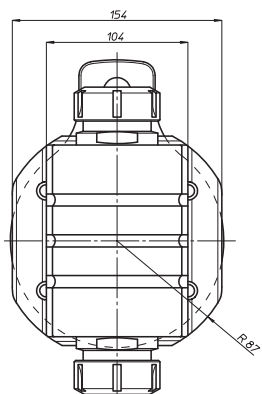
output

prestazioni performances **TA20.2P**

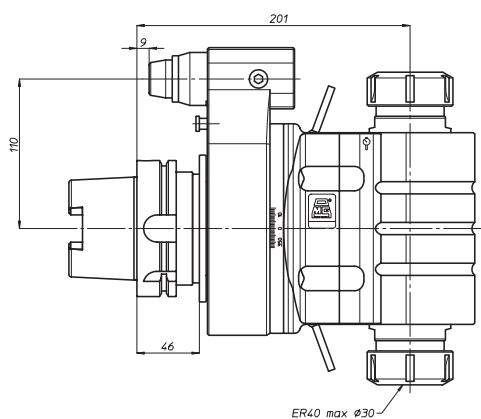


# TA26.2P

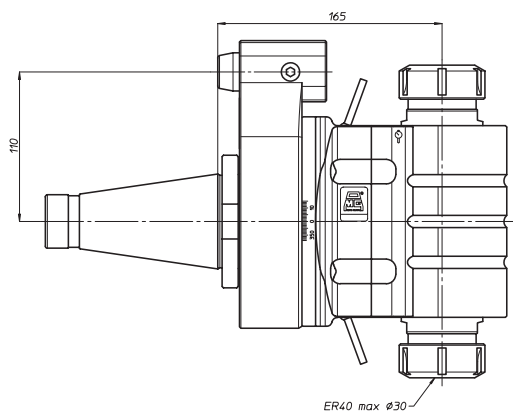
TA26.2P-DIN69871.A50  
 TA26.2P-ANSI B5.50 CAT50  
 TA26.2P-MAS403.BT50



TA26.2P-DIN69893.HSK.A100



TA26.2P-DIN2080.50  
 TA26.2P-ANSI B5.18 NMTB50



peso/weight



22,5 kg

rotazione/rotation

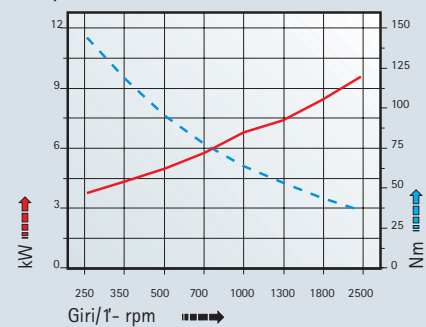


input



output

prestazioni performances **TA26.2P**



TA

MO

HT

VH

TSI/TSX

T

MT-TC-TC3

Accessori  
Accessories

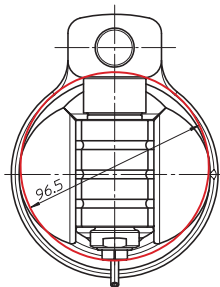
Appendice tecnica  
Technical supplement



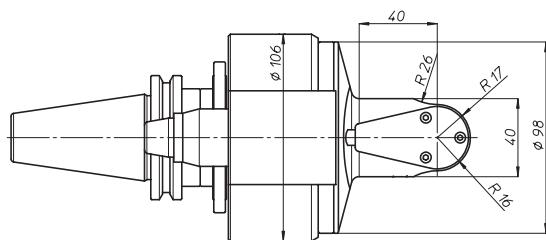
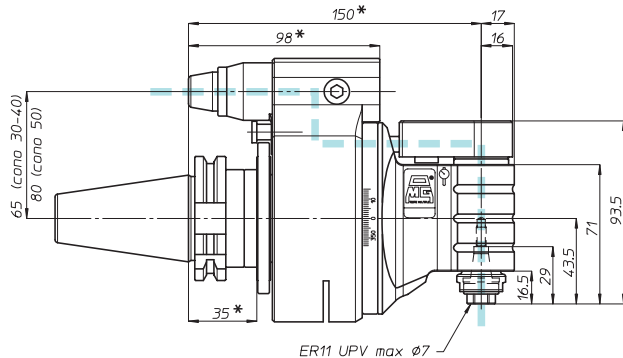
testa ad angolo - angle head

# TA07.PD

- TA07PD-DIN69871.A30
- TA07PD-DIN69871.A40
- TA07PD-DIN69871.A45
- TA07PD-DIN69871.A50
- TA07PD-ANSI B5.50 CAT40
- TA07PD-ANSI B5.50 CAT50
- TA07PD-MAS403.BT40
- TA07PD-MAS403.BT50

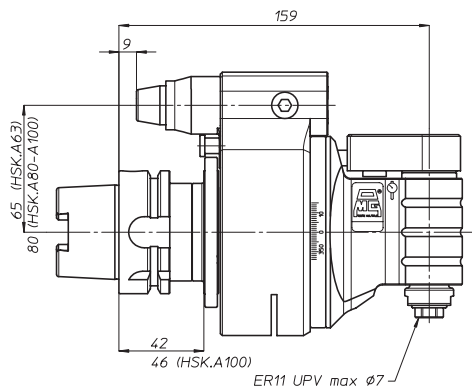


Diametro minimo del foro in cui entra la testa

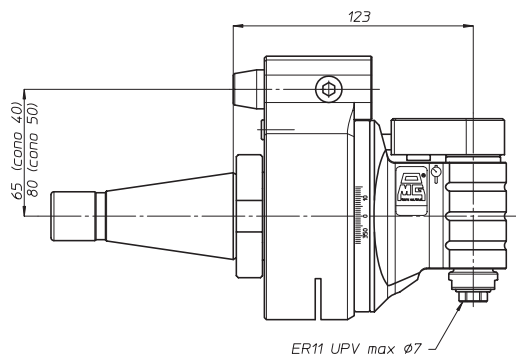


\* Con cono BT50 aumentate le quote di 8 mm  
Increase the quote by 8 mm when using BT50 shank

- TA07PD-DIN69893.HSK.A63
- TA07PD-DIN69893.HSK.A80
- TA07PD-DIN69893.HSK.A100



- TA07PD-DIN2080.40
- TA07PD-DIN2080.50
- TA07PD-ANSI B5.18 NMTB40
- TA07PD-ANSI B5.18 NMTB50



peso/weight



5 kg



7 kg

rotazione/rotation

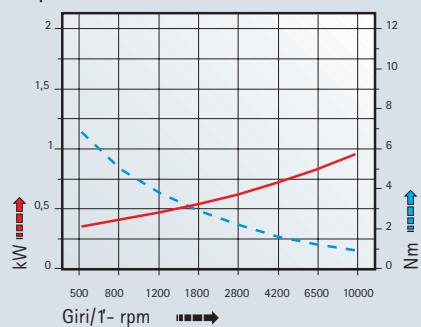


input



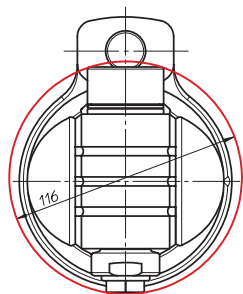
output

prestazioni performances TA07.PD

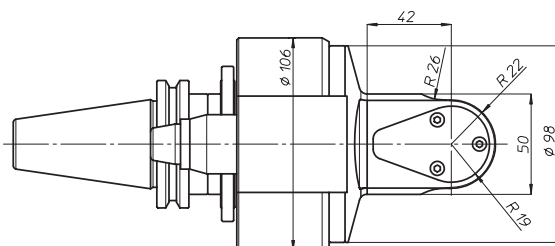
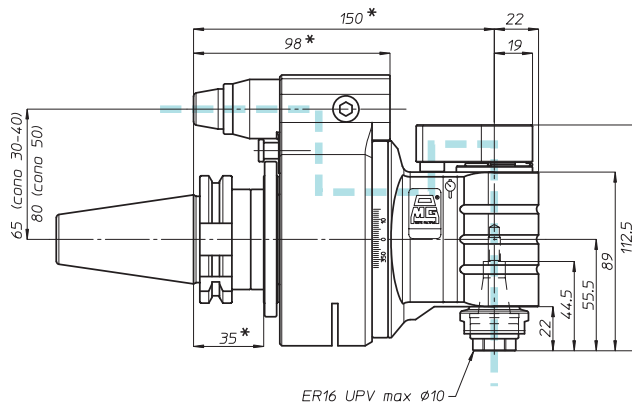


# TA10.PD

- TA10PD-DIN69871.A30
- TA10PD-DIN69871.A40
- TA10PD-DIN69871.A45
- TA10PD-DIN69871.A50
- TA10PD-ANSI B5.50 CAT40
- TA10PD-ANSI B5.50 CAT50
- TA10PD-MAS403.BT40
- TA10PD-MAS403.BT50

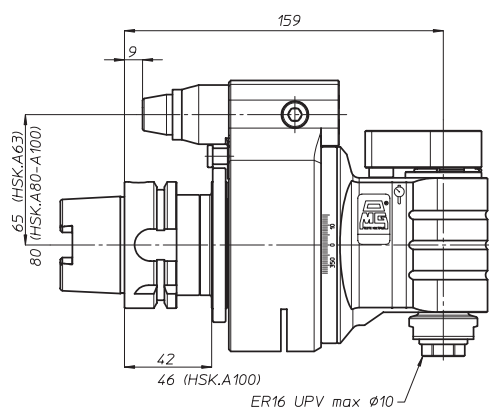


Diametro minimo del foro in cui entra la testa

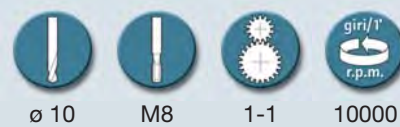
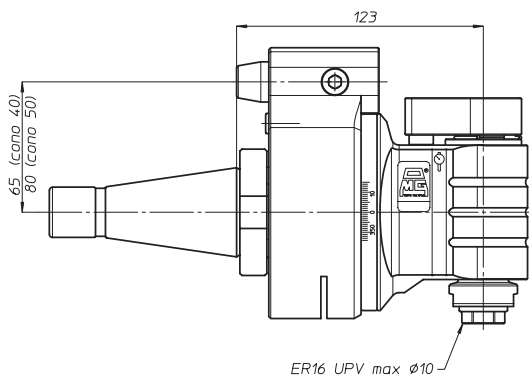


\* Con cono BT50 aumentate le quote di 8 mm  
Increase the quote by 8 mm when using BT50 shank

- TA10PD-DIN69893.HSK.A63
- TA10PD-DIN69893.HSK.A80
- TA10PD-DIN69893.HSK.A100



- TA10PD-DIN2080.40
- TA10PD-DIN2080.50
- TA10PD-ANSI B5.18 NMTB40
- TA10PD-ANSI B5.18 NMTB50



peso/weight



5,5 kg



7,5 kg

rotazione/rotation

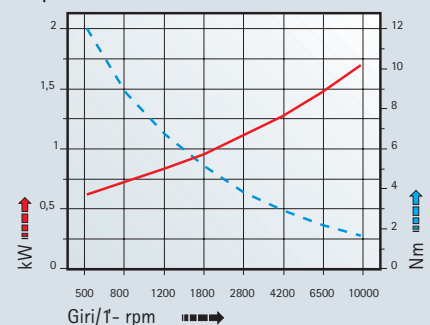


input



output

prestazioni performances TA10.PD

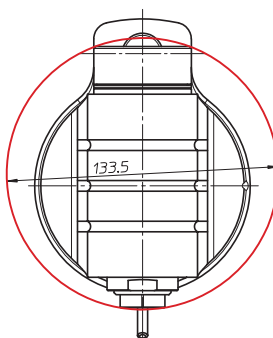


testa ad angolo - angle head

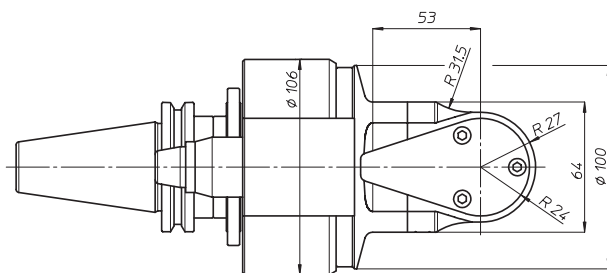
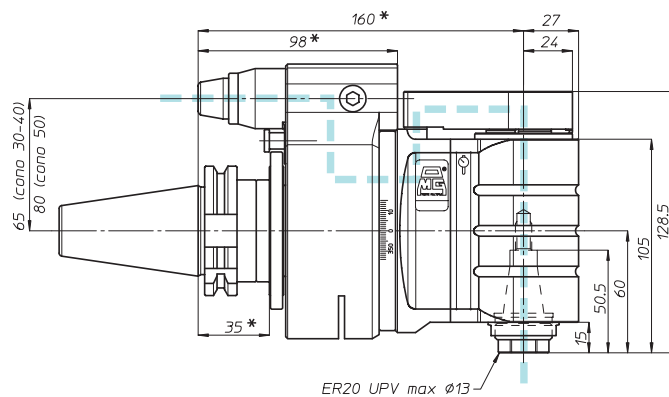
# TA13.PD



- TA13PD-DIN69871.A40
- TA13PD-DIN69871.A45
- TA13PD-DIN69871.A50
- TA13PD-ANSI B5.50 CAT40
- TA13PD-ANSI B5.50 CAT50
- TA13PD-MAS403.BT40
- TA13PD-MAS403.BT50

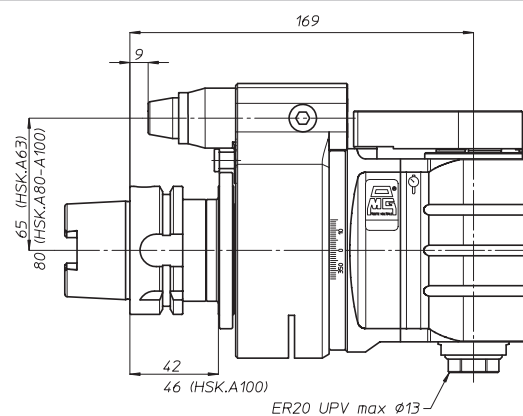


Diametro minimo del foro in cui entra la testa

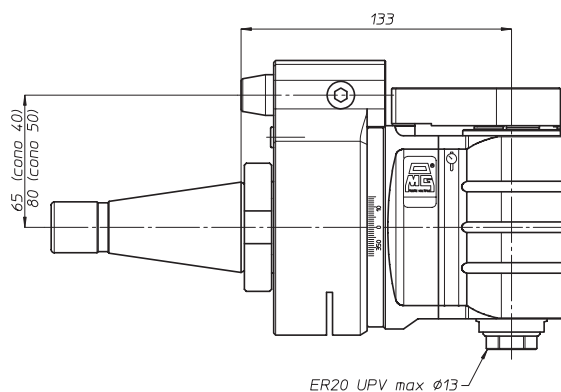


\* Con cono BT50 aumentate le quote di 8 mm  
Increase the quote by 8 mm when using BT50 shank

- TA13PD-DIN69893.HSK.A63
- TA13PD-DIN69893.HSK.A80
- TA13PD-DIN69893.HSK.A100



- TA13PD-DIN2080.40
- TA13PD-DIN2080.50
- TA13PD-ANSI B5.18 NMTB40
- TA13PD-ANSI B5.18 NMTB50



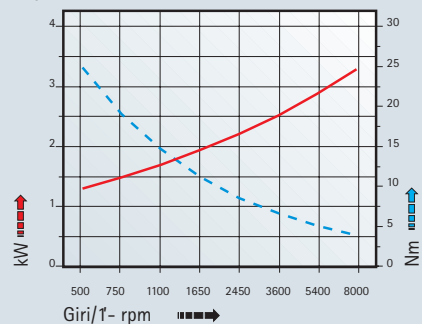
peso/weight



rotazione/rotation

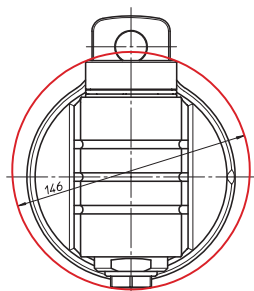


prestazioni performances TA13.PD

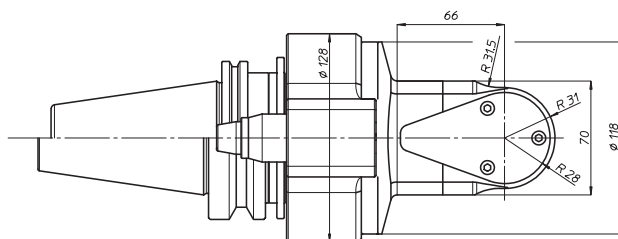
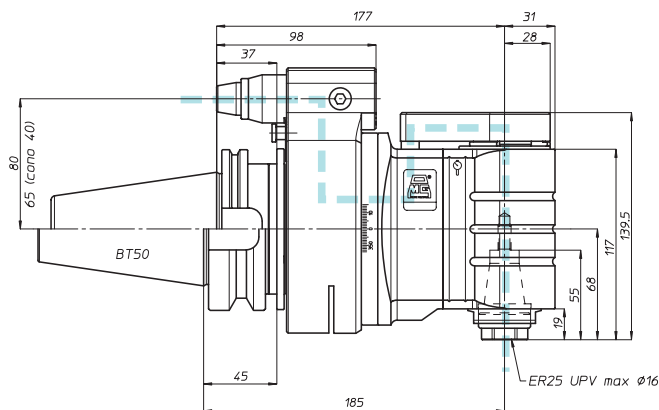


# TA16.PD

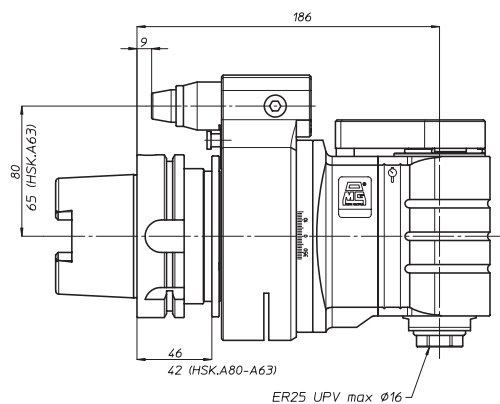
TA16PD-DIN69871.A40  
 TA16PD-DIN69871.A45  
 TA16PD-DIN69871.A50  
 TA16PD-ANSI B5.50 CAT40  
 TA16PD-ANSI B5.50 CAT50  
 TA16PD-MAS403.BT40  
 TA16PD-MAS403.BT50



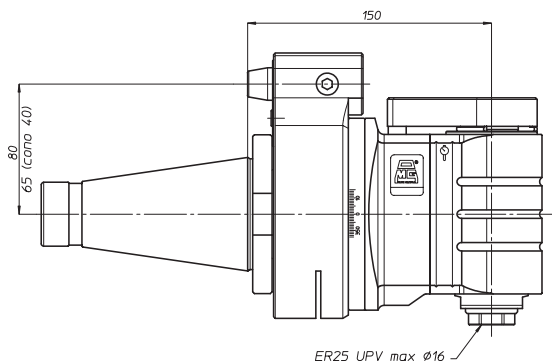
Diametro minimo del foro in cui entra la testa



TA16PD-DIN69893.HSK.A63  
 TA16PD-DIN69893.HSK.A80  
 TA16PD-DIN69893.HSK.A100



TA16PD-DIN2080.40  
 TA16PD-DIN2080.50  
 TA16PD-ANSI B5.18 NMTB40  
 TA16PD-ANSI B5.18 NMTB50



Ø 16

M12

1-1

5000



10 bar

peso/weight



7,7 kg



12 kg

rotazione/rotation

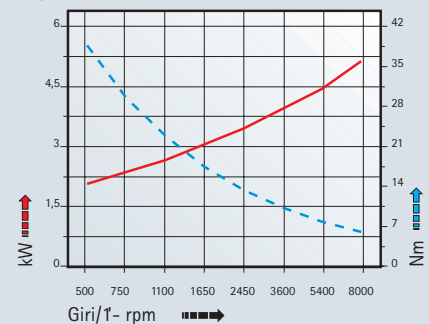


input



output

prestazioni performances TA16.PD





TA

MO

HT

VH

TSI/TSX

T

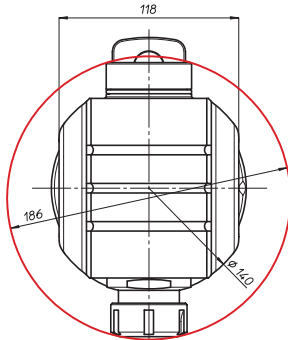
MT-TC-TC3

Accessori  
AccessoriesAppendice tecnica  
Technical supplement

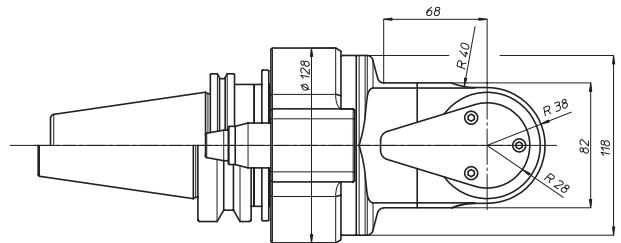
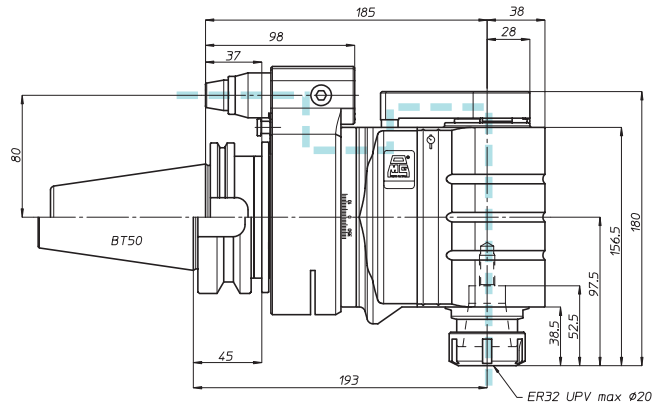
testa ad angolo - angle head

# TA20.PD

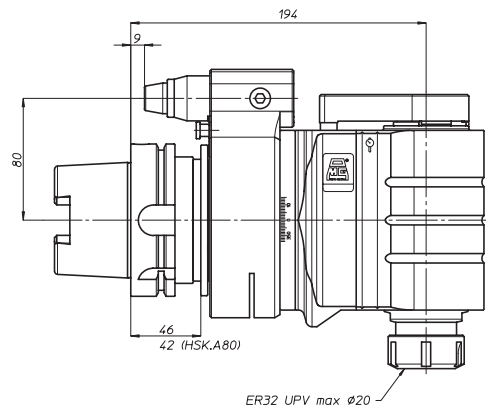
TA20PD-DIN69871.A45  
TA20PD-DIN69871.A50  
TA20PD-ANSI B5.50 CAT50  
TA20PD-MAS403.BT50



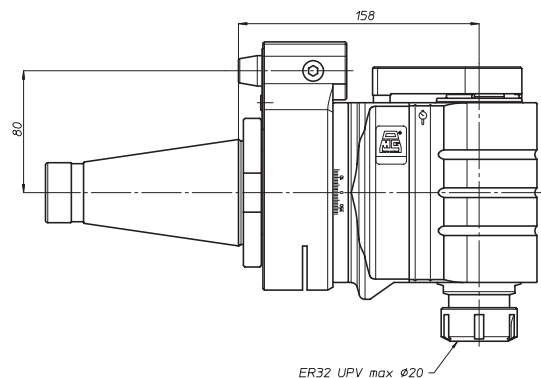
Diametro minimo del foro  
in cui entra la testa



TA20PD-DIN69893.HSK.A80  
TA20PD-DIN69893.HSK.A100



TA20PD-DIN2080.50  
TA20PD-ANSI B5.18 NMTB50



Ø 20

M14

1-1

3500



8 bar

peso/weight



14,5 kg

rotazione/rotation

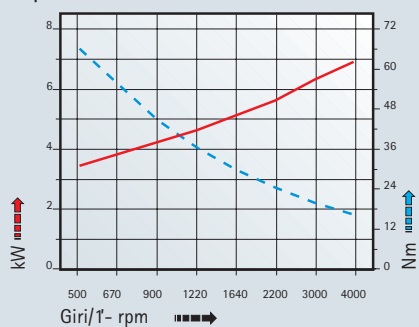


input



output

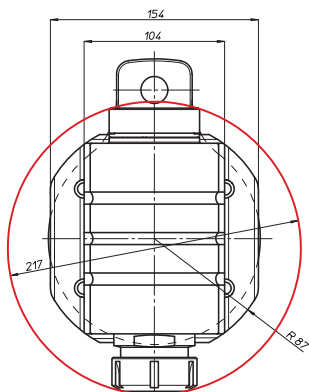
prestazioni  
performances **TA20.PD**



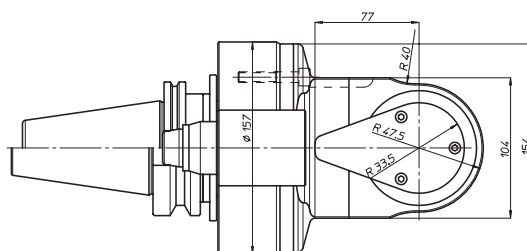
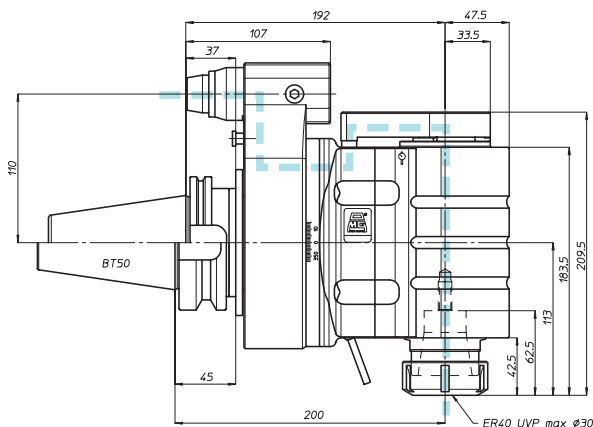


# TA26.PD

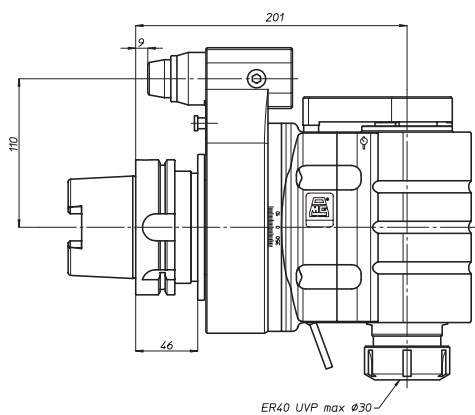
TA26PD-DIN69871.A50  
 TA26PD-ANSI B5.50 CAT50  
 TA26PD-MAS403.BT50



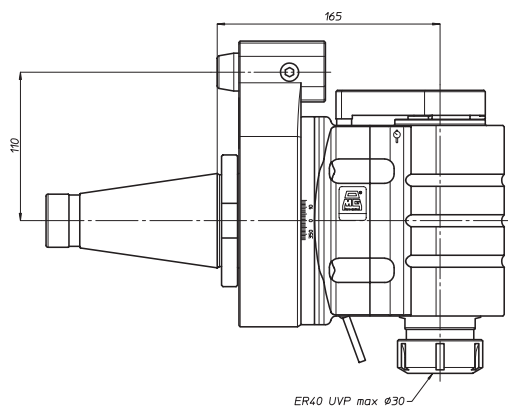
Diametro minimo del foro  
 in cui entra la testa



TA26PD-DIN69893.HSK.A100



TA26PD-DIN2080.50  
 TA26PD-ANSI B5.18 NMTB50



ø 26



M20



1-1



2500



8 bar

peso/weight



22 kg

rotazione/rotation

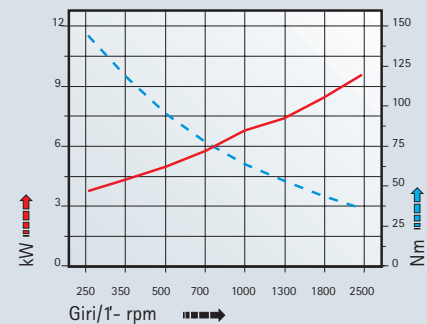


input



output

prestazioni performances **TA26.PD**



TA

MO

HT

VH

TSI/TSX

T

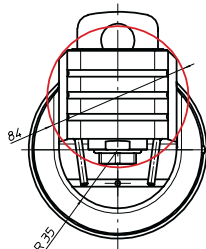
MT-TC-TC3

Accessori  
AccessoriesAppendice tecnica  
Technical supplement

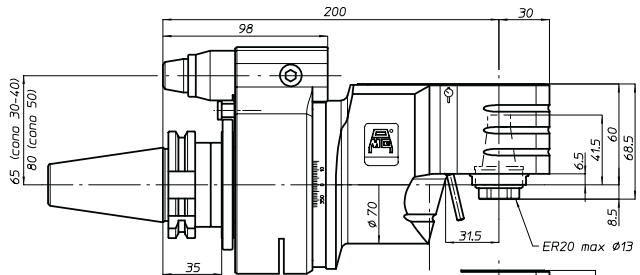
testa ad angolo - angle head

# TA013...

TA013...-DIN69871.A40  
 TA013...-DIN69871.A45  
 TA013...-DIN69871.A50  
 TA013...-ANSI B5.50 CAT40  
 TA013...-ANSI B5.50 CAT50  
 TA013...-MAS403.BT40  
 TA013...-MAS403.BT50



Diametro minimo del foro  
in cui entra la testa



TA013.P



ø 13

M10

1-1

4500

peso/weight



7,5 kg



10,5 kg

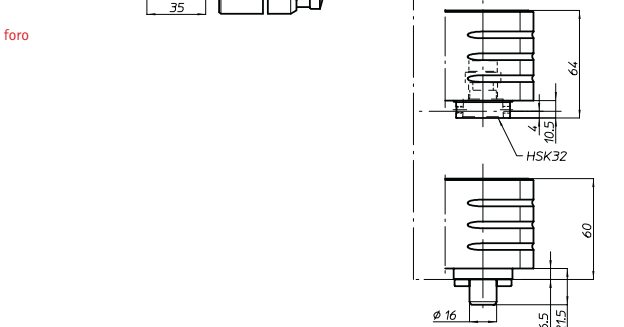
rotazione/rotation



input

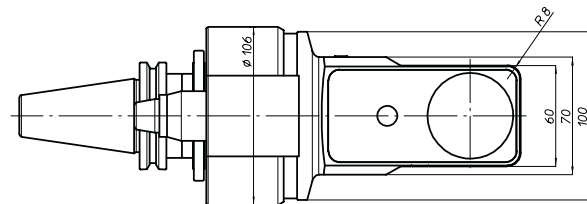


output

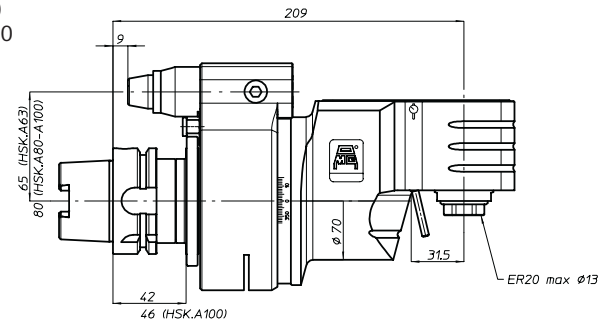


TA013.H

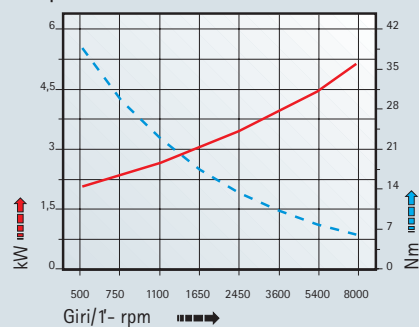
TA013.F



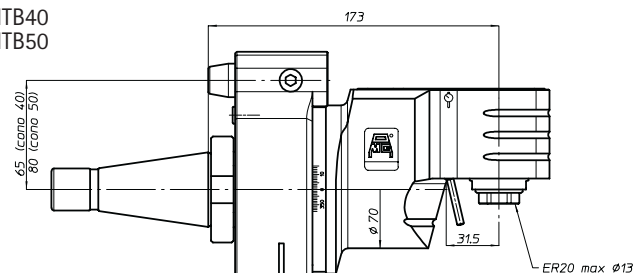
TA013...-DIN69893.HSK.A63  
 TA013...-DIN69893.HSK.A80  
 TA013...-DIN69893.HSK.A100



prestazioni  
performances **TA013P**

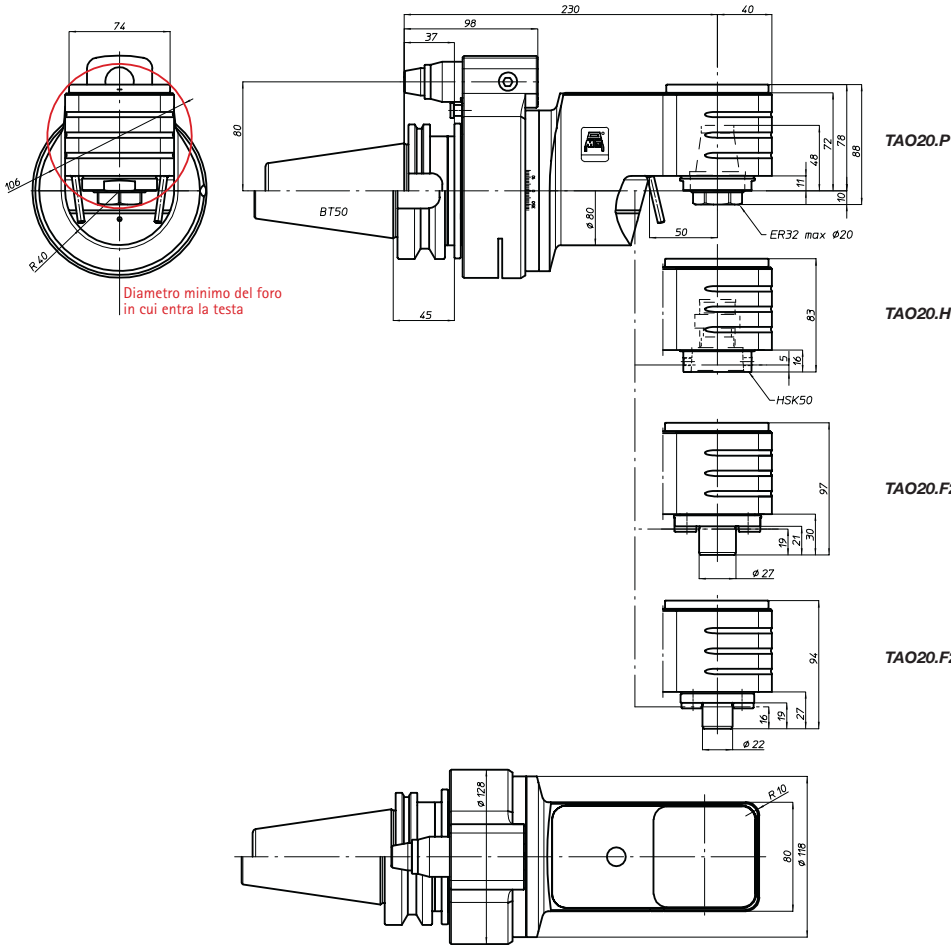



TA013...-DIN2080.40  
 TA013...-DIN2080.50  
 TA013...-ANSI B5.18 NMTB40  
 TA013...-ANSI B5.18 NMTB50




# TAO20...

TAO20...-DIN69871.A45  
 TAO20...-DIN69871.A50  
 TAO20...-ANSI B5.50 CAT50  
 TAO20...-MAS403.BT50





  $\varnothing 20$ 
 M14
  1-1
  giri/1' / r.p.m. 3500

peso/weight

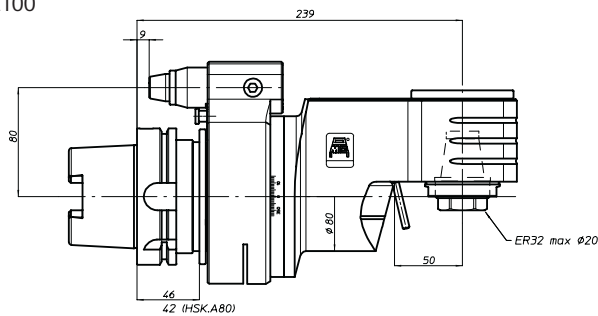
 50

14,5 kg

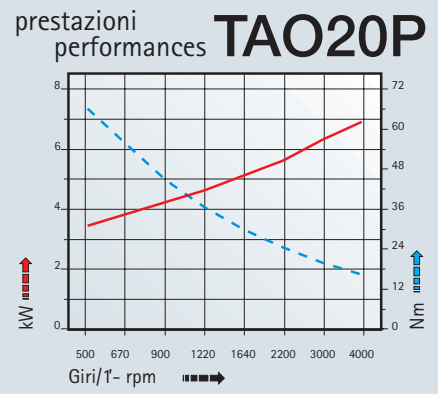
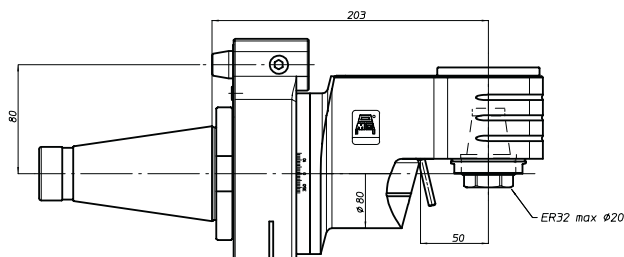
rotazione/rotation

 input
  output

TAO20...-DIN69893.HSK.A80  
 TAO20...-DIN69893.HSK.A100



TAO20...-DIN2080.50  
 TAO20...-ANSI B5.18 NMTB50



TA

MO

HT

VH

TSI/TSX

T

MT-TC-TC3

Accessori  
Accessories

Appendice tecnica  
Technical supplement

TA

MO

HT

VH

TSI/TSX

T

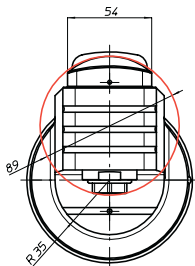
MT-TC-TC3

Accessori  
AccessoriesAppendice tecnica  
Technical supplement

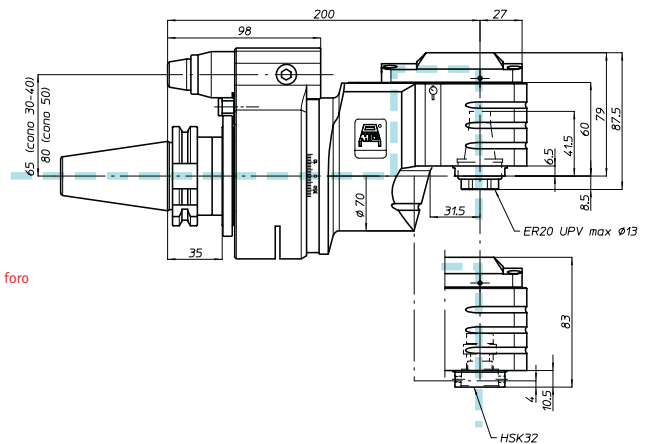
testa ad angolo - angle head

# TAO13...D

TAO13...-DIN69871.A40  
 TAO13...-DIN69871.A45  
 TAO13...-DIN69871.A50  
 TAO13...-ANSI B5.50 CAT40  
 TAO13...-ANSI B5.50 CAT50  
 TAO13...-MAS403.BT40  
 TAO13...-MAS403.BT50

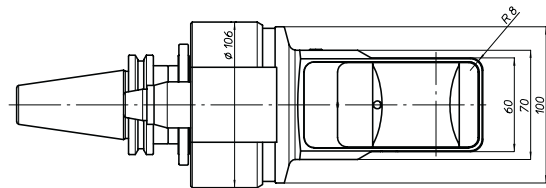


Diametro minimo del foro  
in cui entra la testa



TAO13.PD

TAO13.HD



ø 13

M10

1-1

4500



40 bar

peso/weight



7,5 kg



10,5 kg

rotazione/rotation



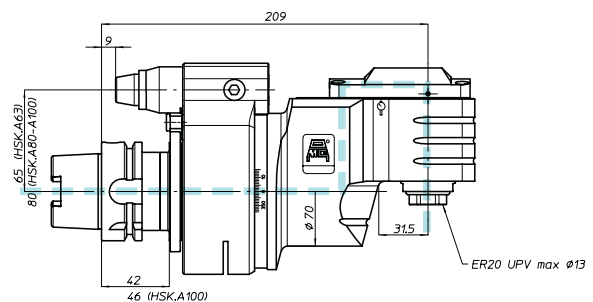
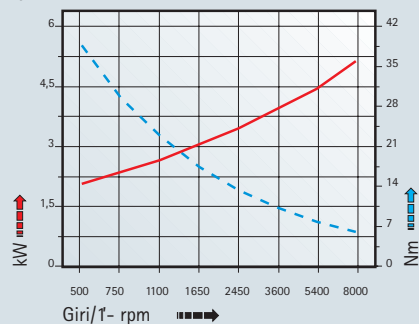
input



output

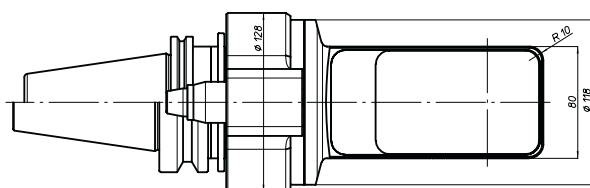
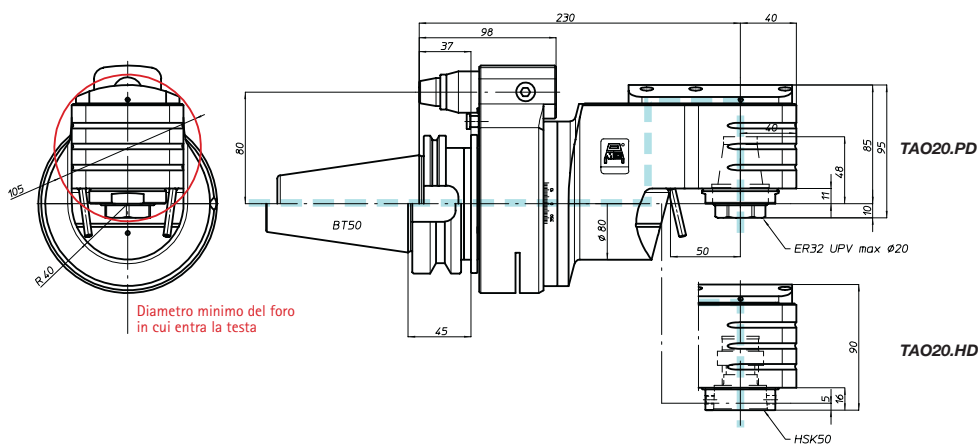
TAO13...-DIN69893.HSK.A63  
 TAO13...-DIN69893.HSK.A80  
 TAO13...-DIN69893.HSK.A100

prestazioni  
performances **TAO13.PD**

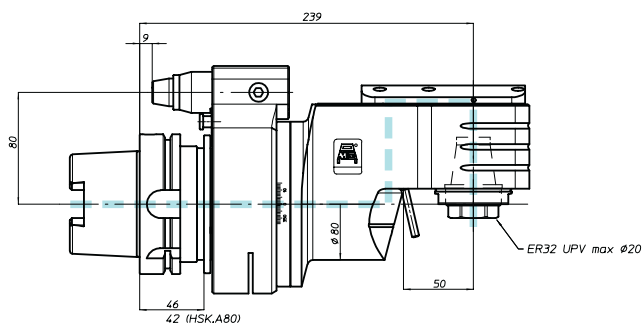







# TAO20...D

TAO20...-DIN69871.A45  
 TAO20...-DIN69871.A50  
 TAO20...-ANSI B5.50 CAT50  
 TAO20...-MAS403.BT50




TAO20...-DIN69893.HSK.A80  
 TAO20...-DIN69893.HSK.A100





  $\varnothing 20$    
  M14   
  1-1   
  giri/1' / r.p.m. 3500  
 40 bar

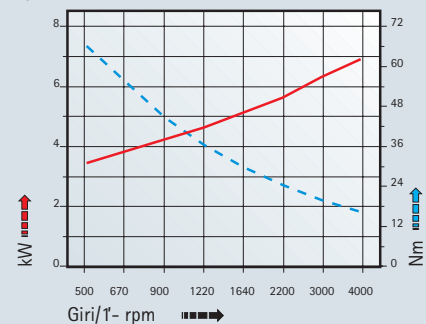
peso/weight

 50  
 14,5 kg

rotazione/rotation

 input   
 output

## prestazioni performances TAO20.PD



TA

MO

HT

VH

TSI/TSX

T

MT-TC-TC3

Accessori  
Accessories

Appendice tecnica  
Technical supplement



testa ad angolo - angle head

# TAV10.P



TAV10P-DIN69871.A40  
 TAV10P-DIN69871.A45  
 TAV10P-DIN69871.A50  
 TAV10P-ANSI B5.50 CAT40  
 TAV10P-ANSI B5.50 CAT50  
 TAV10P-MAS403.BT40  
 TAV10P-MAS403.BT50



peso/weight



6,4 kg



8,5 kg

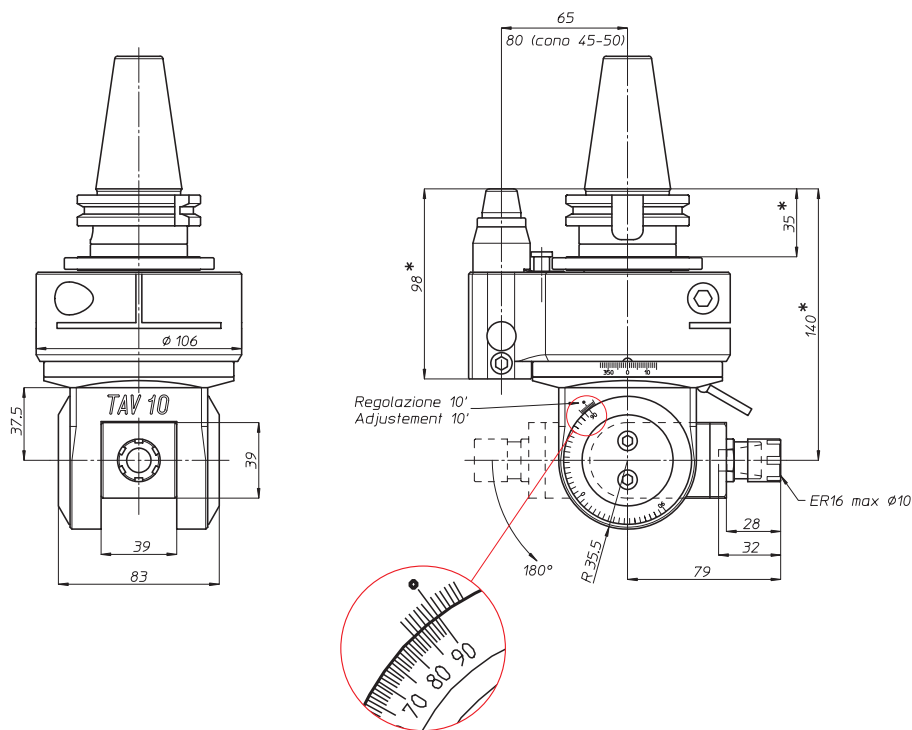
rotazione/rotation



input



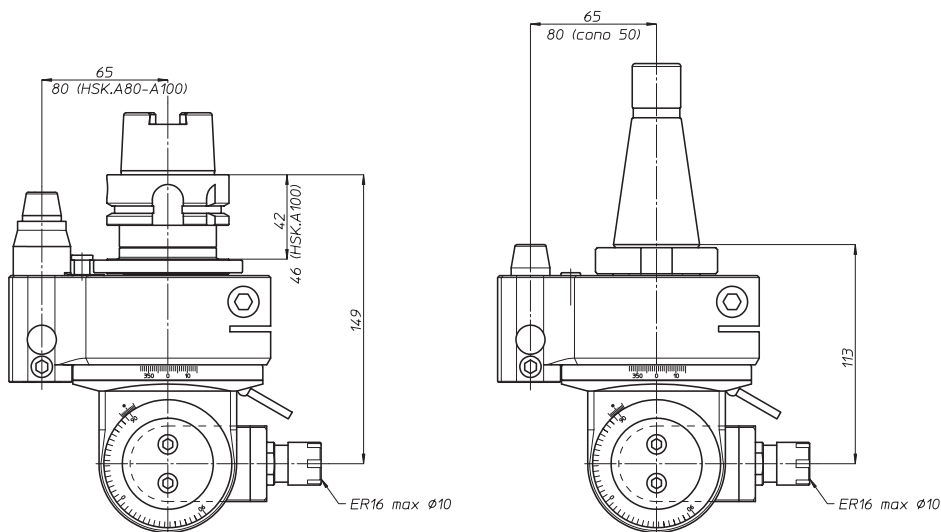
output



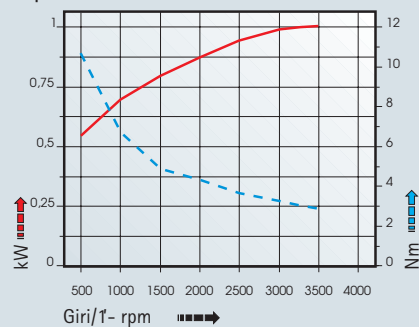
\* Con cono BT50 aumentate le quote di 8 mm  
 Increase the quote by 8 mm when using BT50 shank

TAV10P-DIN69893.HSK.A63  
 TAV10P-DIN69893.HSK.A80  
 TAV10P-DIN69893.HSK.A100

TAV10P-DIN2080.40  
 TAV10P-DIN2080.50  
 TAV10P-ANSI B5.18 NMTB40  
 TAV10P-ANSI B5.18 NMTB50



prestazioni performances **TAV10.P**



TA

MO

HT

VH

TSI/TSX

T

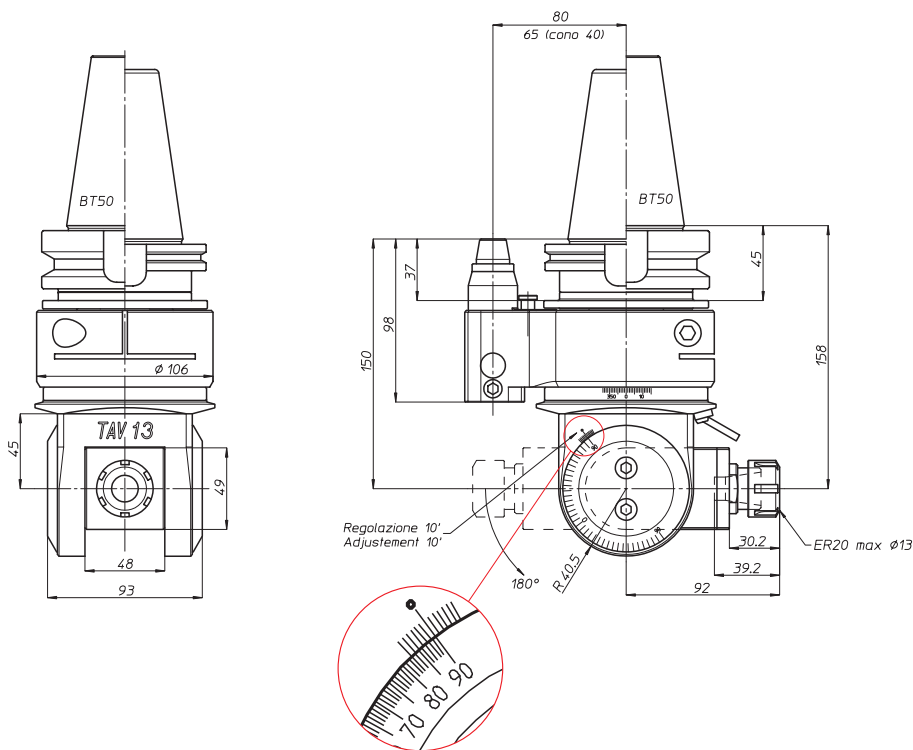
MT-TC-TC3

Accessori  
Accessories

Appendice tecnica  
Technical supplement

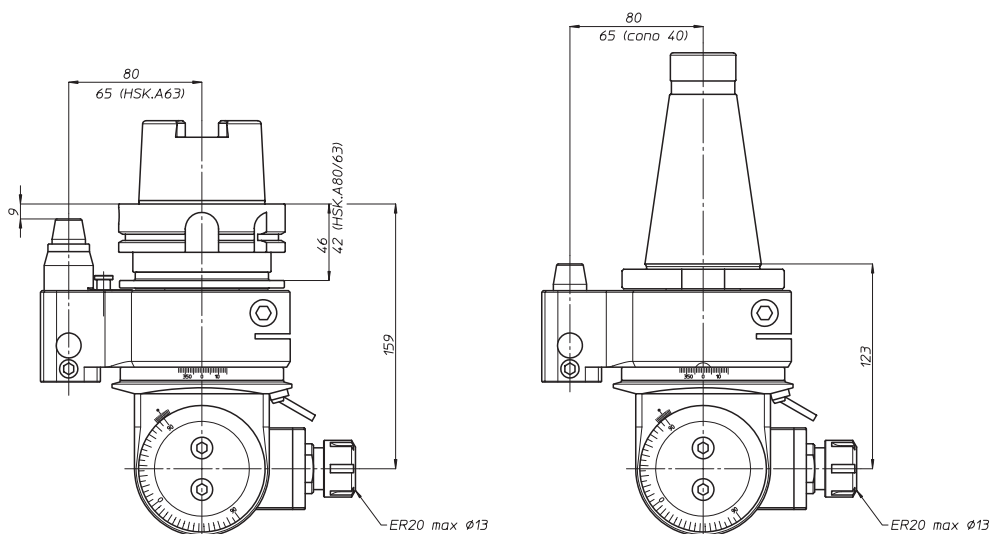
# TAV13.P

TAV13P-DIN69871.A40  
 TAV13P-DIN69871.A45  
 TAV13P-DIN69871.A50  
 TAV13P-ANSI B5.50 CAT40  
 TAV13P-ANSI B5.50 CAT50  
 TAV13P-MAS403.BT40  
 TAV13P-MAS403.BT50



TAV13P-DIN69893.HSK.A63  
 TAV13P-DIN69893.HSK.A80  
 TAV13P-DIN69893.HSK.A100

TAV13P-DIN2080.40  
 TAV13P-DIN2080.50  
 TAV13P-ANSI B5.18 NMTB40  
 TAV13P-ANSI B5.18 NMTB50



peso/weight



7,8 kg



10,5 kg

rotazione/rotation

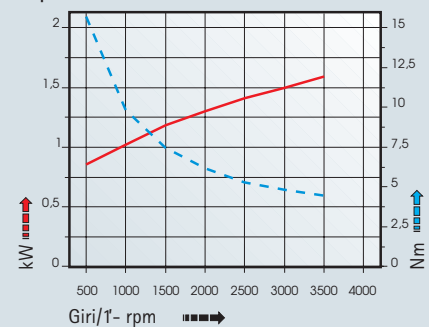


input



output

prestazioni performances **TAV13.P**



TA

MO

HT

VH

TSI/TSX

T

MT-TC-TC3

Accessori  
Accessories

Appendice tecnica  
Technical supplement

testa ad angolo - angle head

# TAV20.P

TAV20P-DIN69871.A50  
TAV20P-ANSI B5.50 CAT50  
TAV20P-MAS403.BT50



peso/weight



18,5 kg

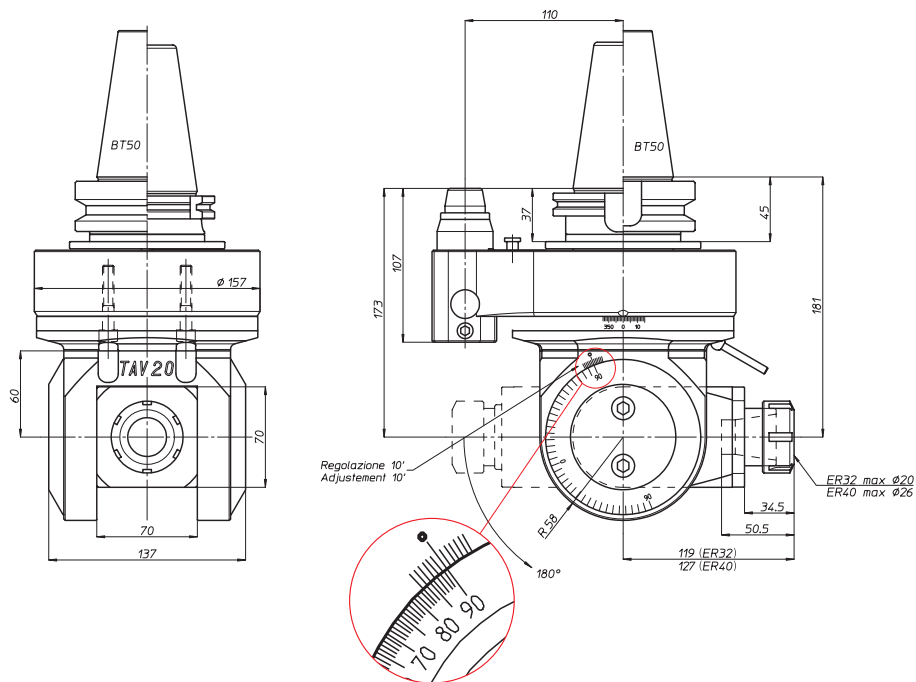
rotazione/rotation



input

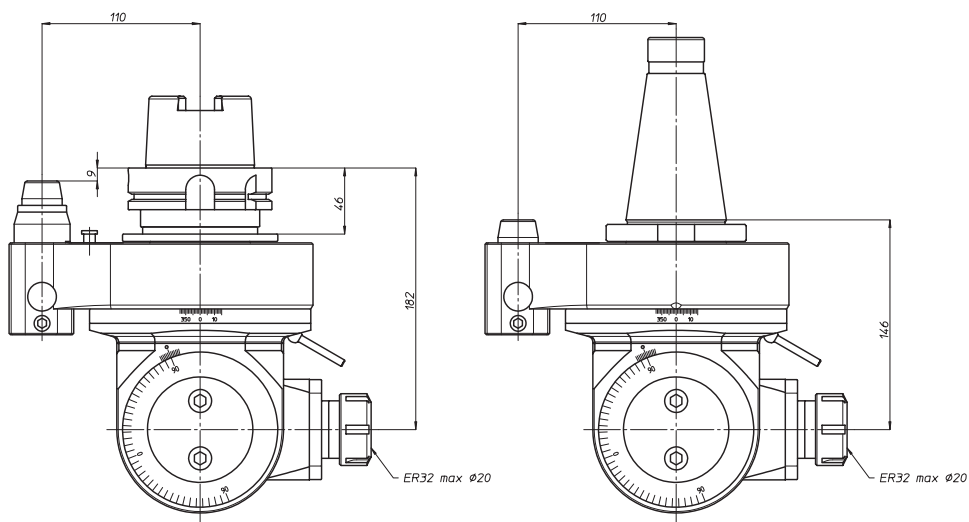


output

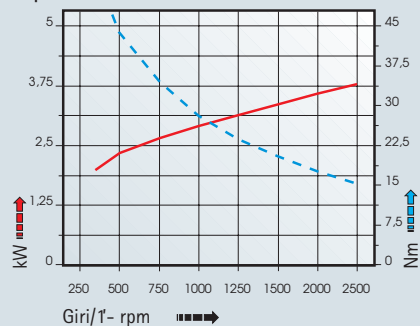


TAV20P-DIN69893.HSK.A100

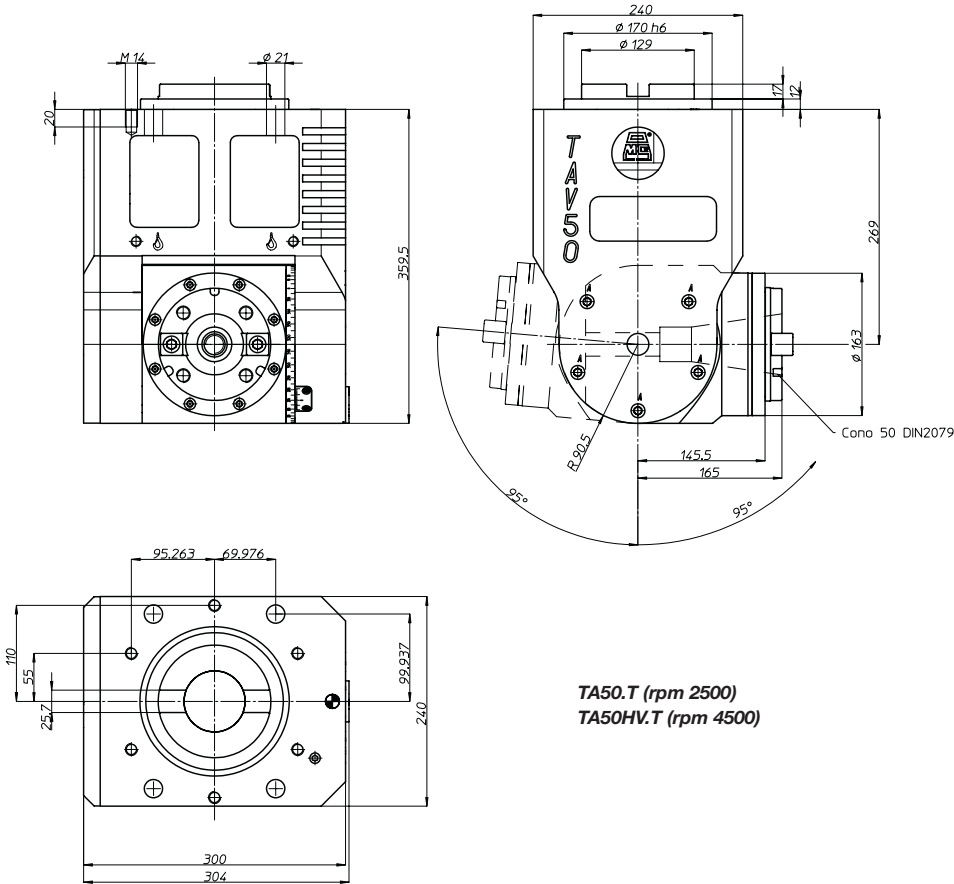
TAV20P-DIN2080.50  
TAV20P-ANSI B5.18 NMTB50



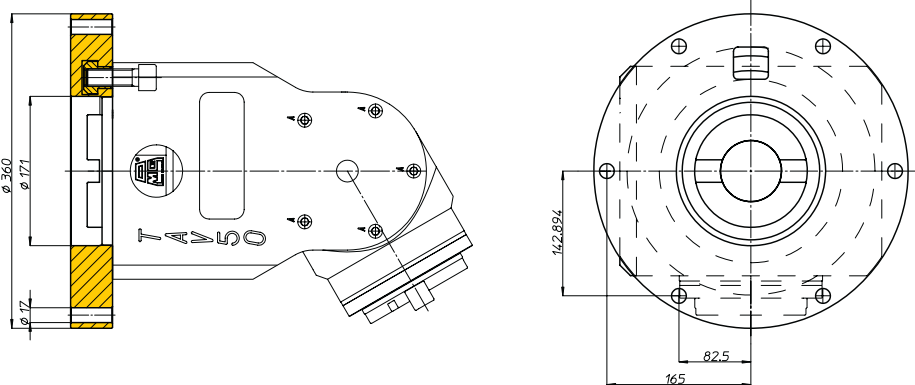
prestazioni performances **TAV20.P**



# TAV50.T



## esempio di collegamento - connection example



ø 45	M36	1-1 1-2	2500 4500

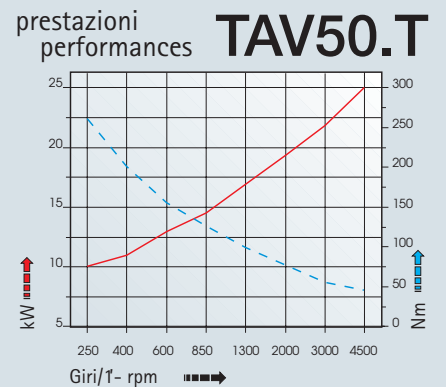
peso/weight

145 kg

rotazione/rotation

input

output

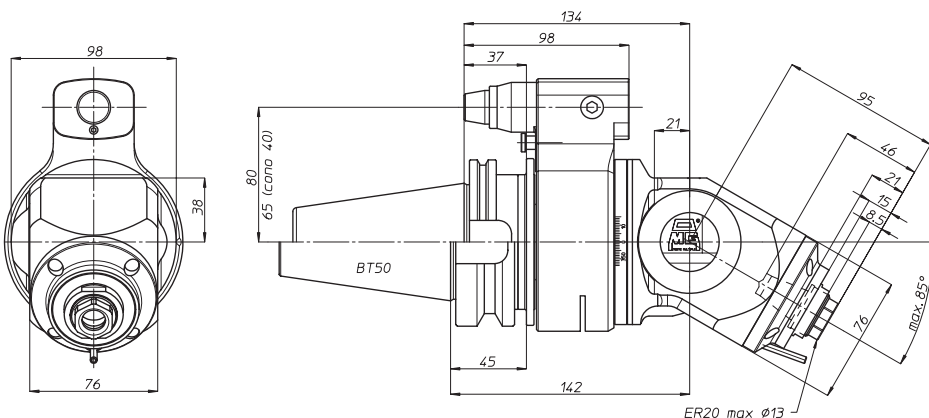


testa ad angolo - angle head

# TAF13.P



TAF13P-DIN69871.A40  
 TAF13P-DIN69871.A45  
 TAF13P-DIN69871.A50  
 TAF13P-ANSI B5.50 CAT40  
 TAF13P-ANSI B5.50 CAT50  
 TAF13P-MAS403.BT40  
 TAF13P-MAS403.BT50



peso/weight



6,5 kg



8,5 kg

rotazione/rotation

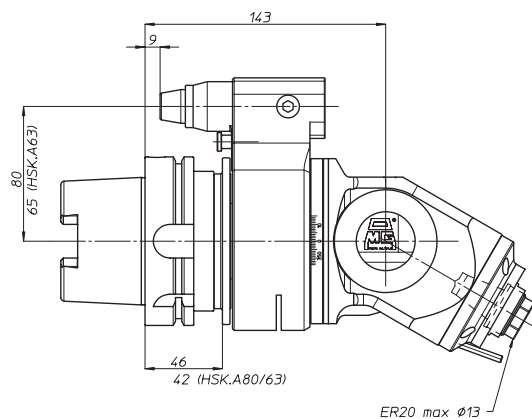


input

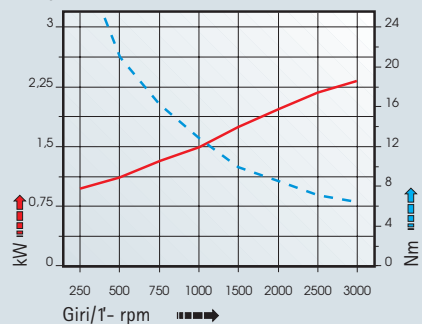


output

TAF13P-DIN69893.HSK.A63  
 TAF13P-DIN69893.HSK.A80  
 TAF13P-DIN69893.HSK.A100



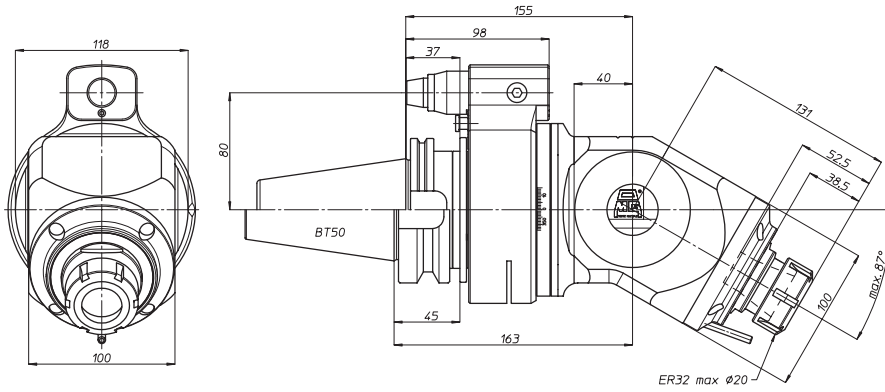
prestazioni performances **TAF13.P**



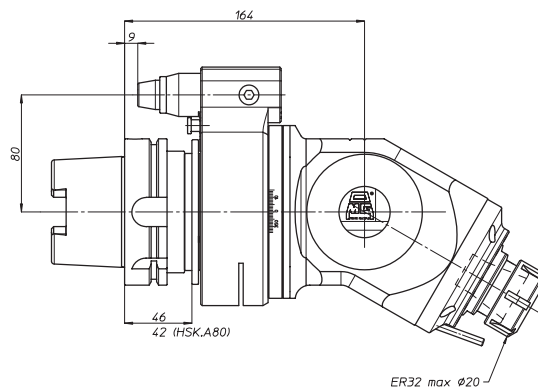


# TAF20.P

TAF20P-DIN69871.A45  
 TAF20P-DIN69871.A50  
 TAF20P-ANSI B5.50 CAT50  
 TAF20P-MAS403.BT50



TAF20P-DIN69893.HSK.A80  
 TAF20P-DIN69893.HSK.A100



peso/weight



13,5 kg

rotazione/rotation

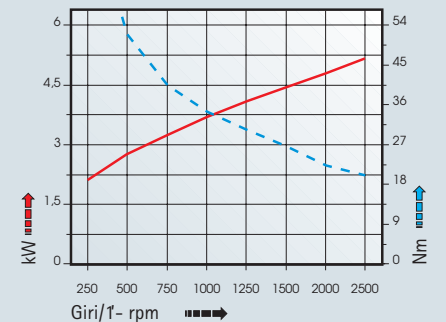


input



output

prestazioni performances **TAF20.P**



TA

MO

HT

VH

TSI/TSX

T

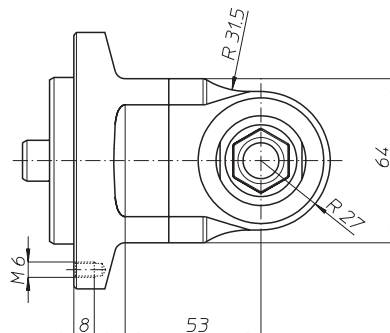
MT-TC-TC3

Accessori  
Accessories

Appendice tecnica  
Technical supplement

testa ad angolo - angle head

# TA13P.T



peso/weight



3,5 kg

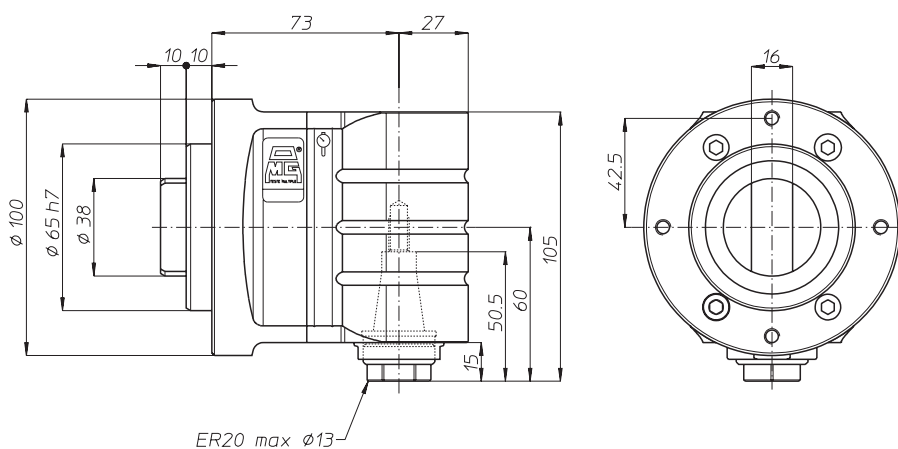
rotazione/rotation



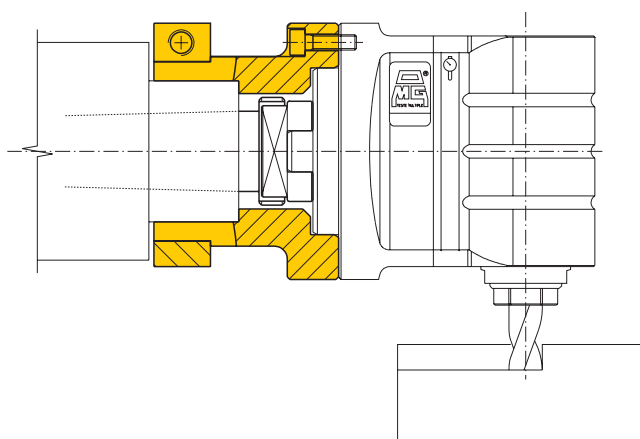
input



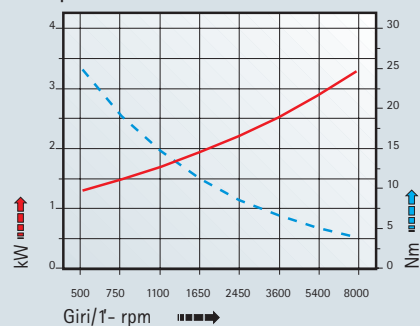
output



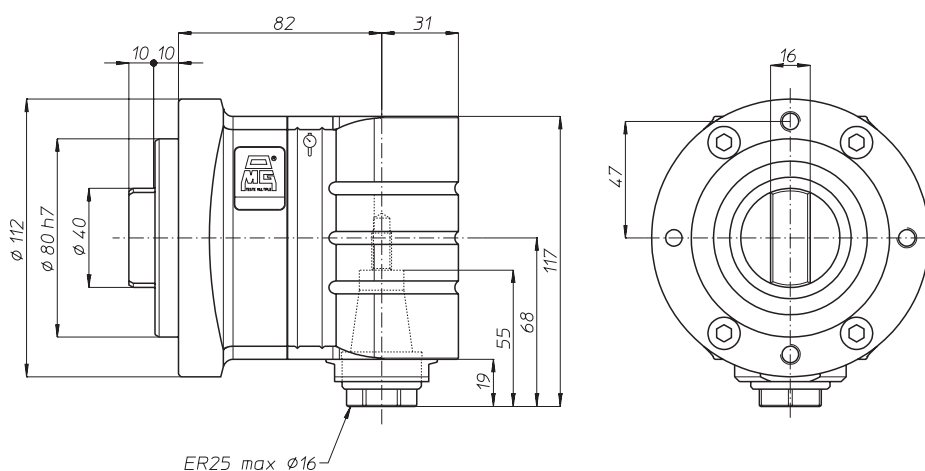
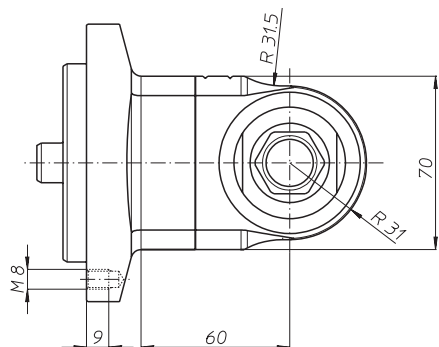
esempio di collegamento - connection example



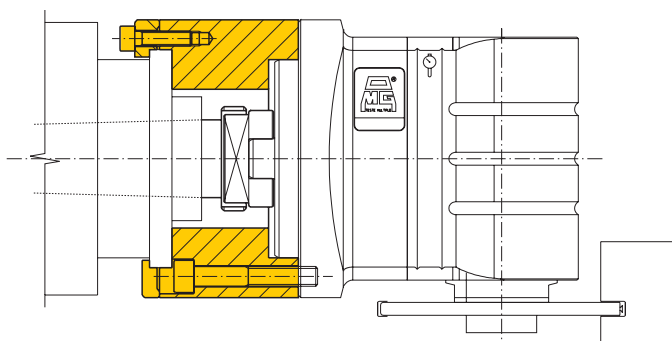
prestazioni performances TA13P.T



# TA16P.T



## esempio di collegamento - connection example



peso/weight



5 kg

rotazione/rotation

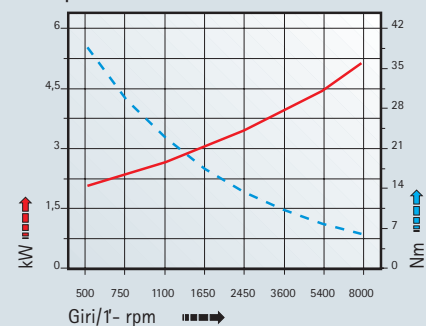


input



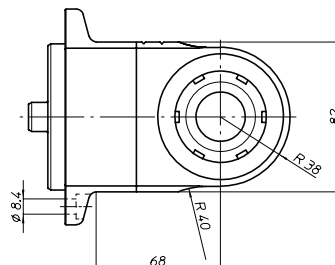
output

prestazioni performances **TA16P.T**

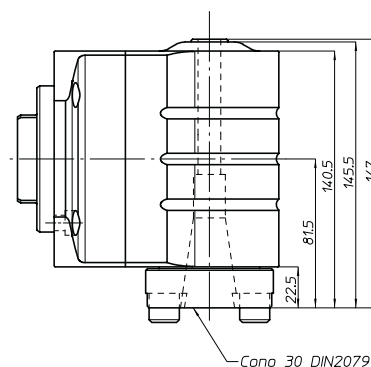
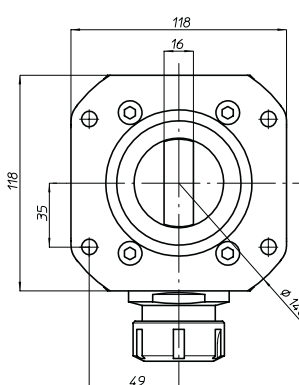
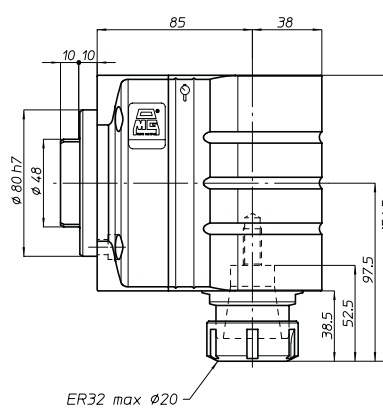
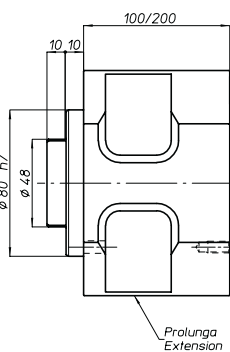


testa ad angolo - angle head

# TA20...T

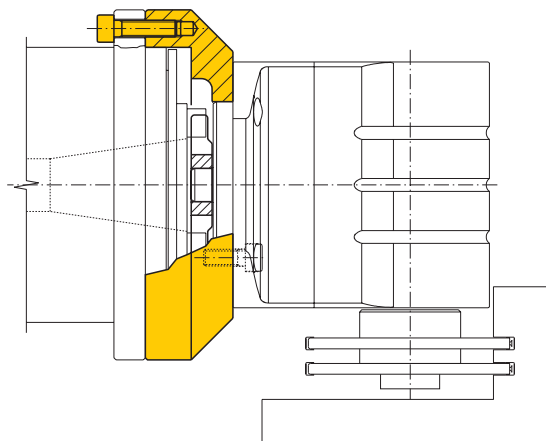


TA20P.T



TA20.30.T

esempio di collegamento - connection example



peso/weight

head  
kg  
7,5 kg

extension

kg  
L 100=7,5 kg  
L 200=15 kg

rotazione/rotation

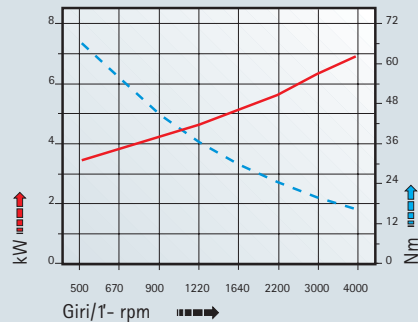


input

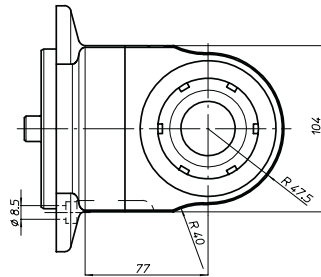


output

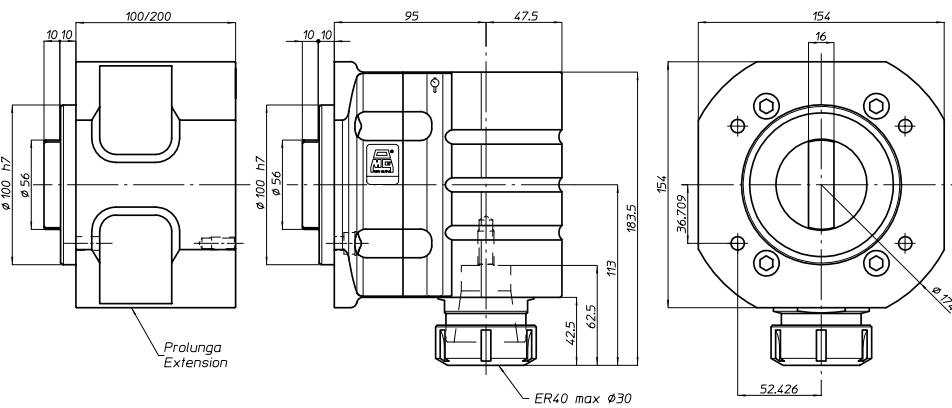
prestazioni performances TA20...T



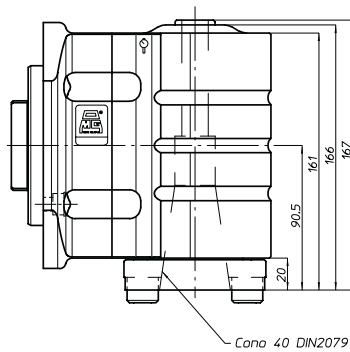
# TA26...T



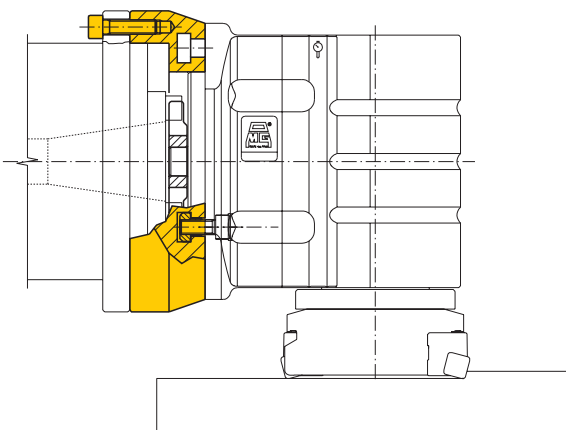
TA26P.T



TA26.40.T



## esempio di collegamento - connection example



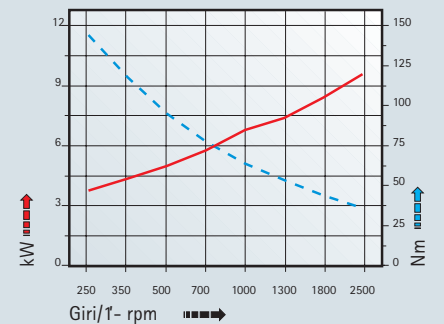
### peso/weight



### rotazione/rotation



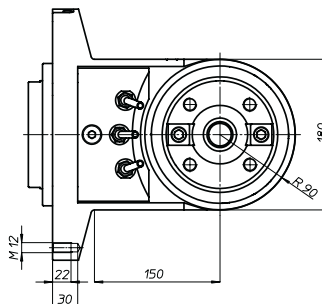
## prestazioni performances TA26...T





testa ad angolo - angle head

# TA50.T



TA50.T (rpm 2500)  
TA50HV.T (rpm 4500)



peso/weight



95 kg

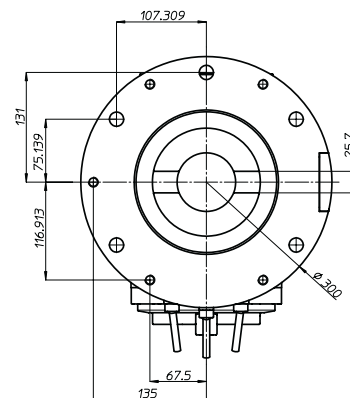
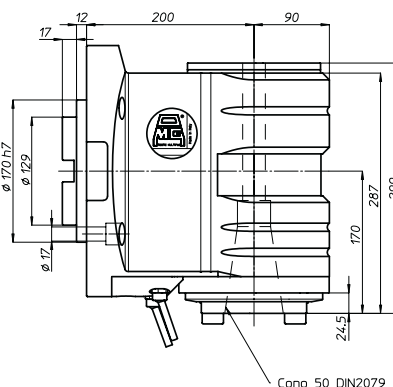
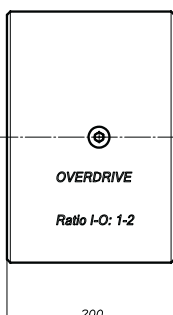
rotazione/rotation



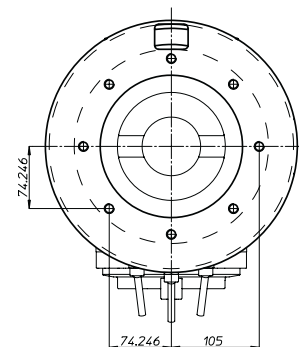
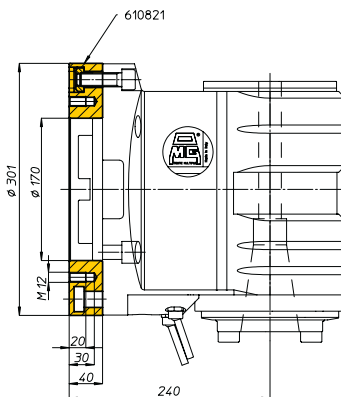
input



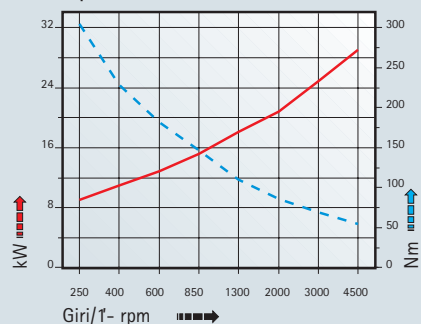
output



esempio di collegamento - connection example



prestazioni performances TA50.T





TA

MO

HT

VH

TSI/TSX

T

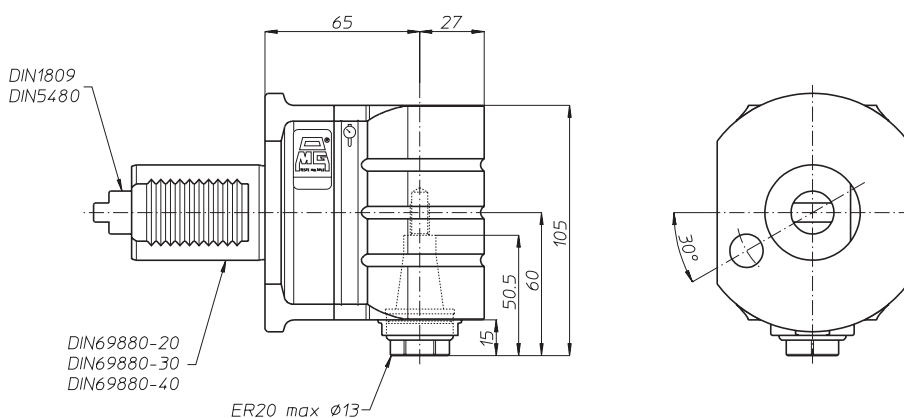
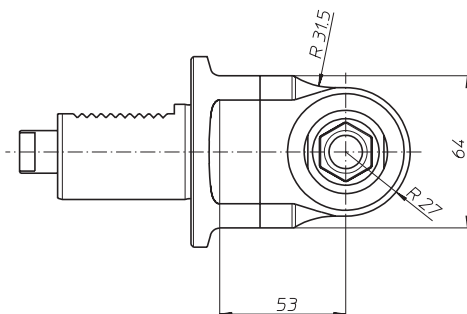
MT-TC-TC3

Accessori  
Accessories

Appendice tecnica  
Technical supplement

testa ad angolo - angle head

# TA13P.VDI



peso/weight



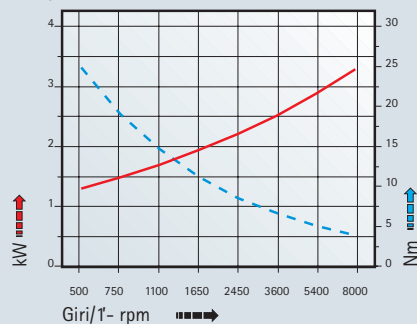
rotazione/rotation



soluzioni speciali - special solutions

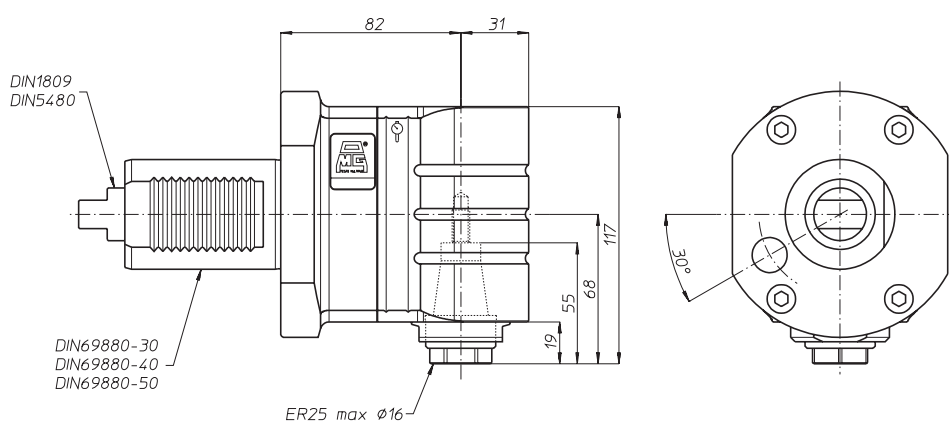
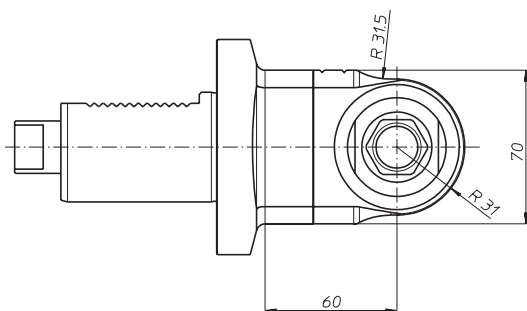


prestazioni performances TA13P.VDI





# TA16P.VDI



## soluzioni speciali - special solutions



peso/weight



6,5 kg

rotazione/rotation

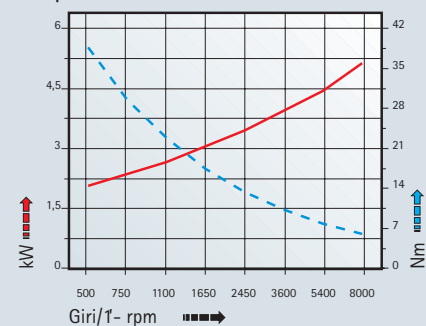


input



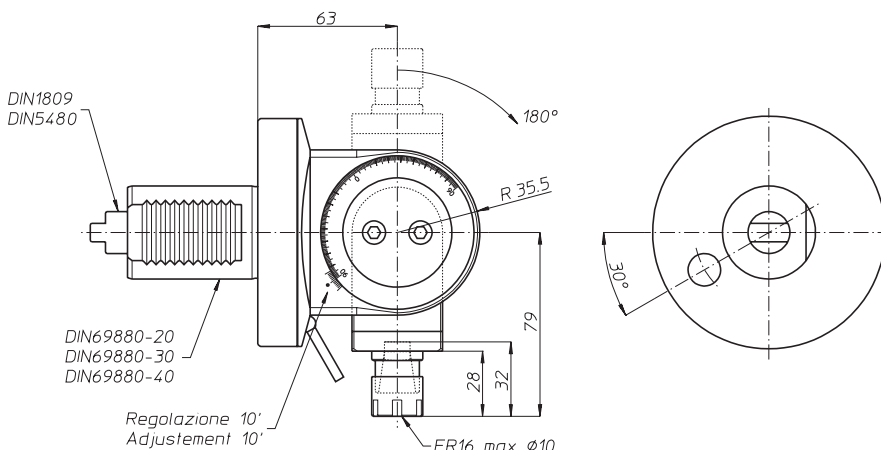
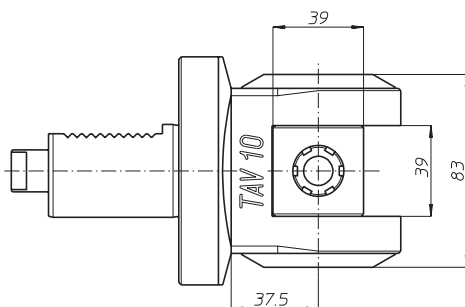
output

prestazioni performances TA16P.VDI



testa ad angolo - angle head

# TAV10P.VDI



peso/weight



3,5 kg

rotazione/rotation



input

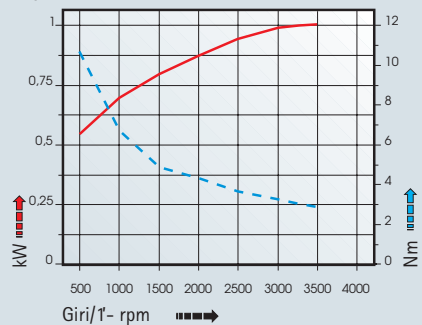


output

soluzioni speciali - special solutions



prestazioni performances **TAV10P.VDI**





# TAV13P.VDI

TA

MO

HT



VH

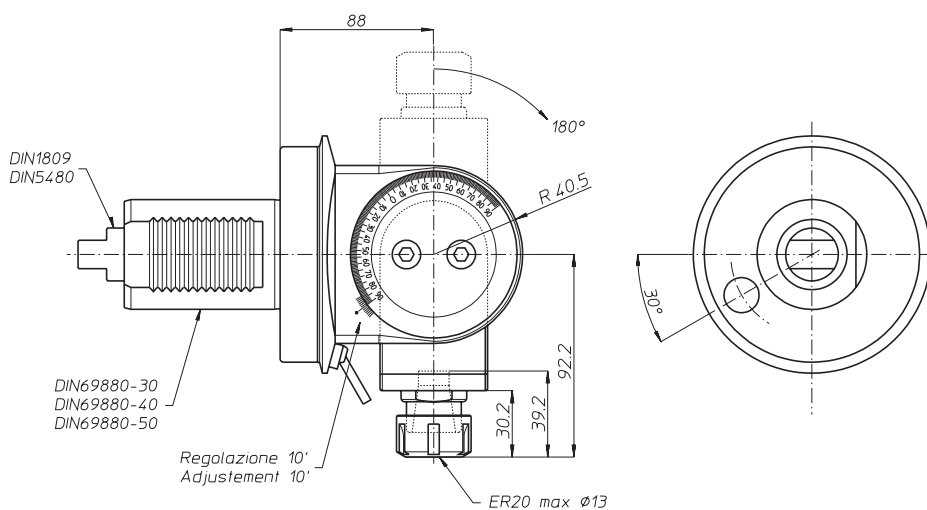
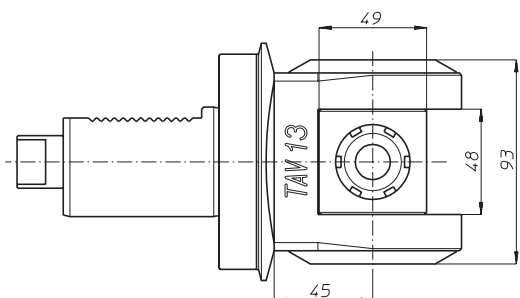
TSI/TSX

T

MT-TC-TC3


Accessori  
Accessories

Appendice tecnica  
Technical supplement





-   $\varnothing 13$
-  M10
-  1-1
-  giri/1' r.p.m. 3000

peso/weight

 5,5 kg

rotazione/rotation

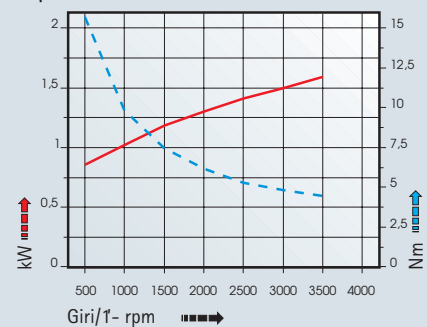
 input

 output

## soluzioni speciali - special solutions



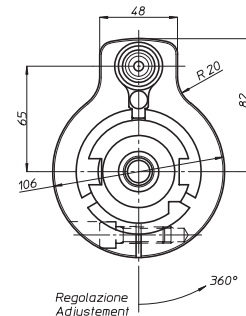
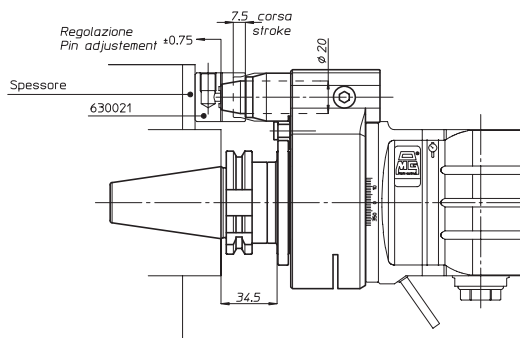
## prestazioni performances TAV13P.VDI





# Antirotante Torque arm

Teste con cono 30-40  
Heads with 30-40 shank



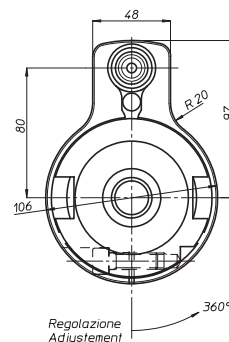
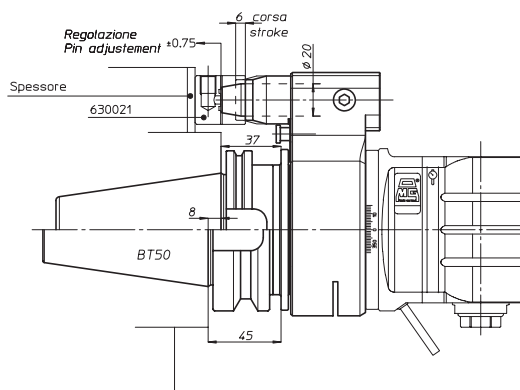
Il gruppo antirotante ricopre una funzione di fondamentale importanza nella qualità di lavorazione della testa ad angolo. Per questo motivo i tecnici della OMG hanno studiato e messo a punto un antirotante di nuova concezione i cui punti salienti sono:

- Il perno conico
- La registrazione assiale del perno
- Adduzione del liquido passante per il corpo testa

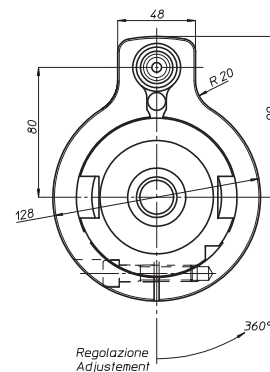
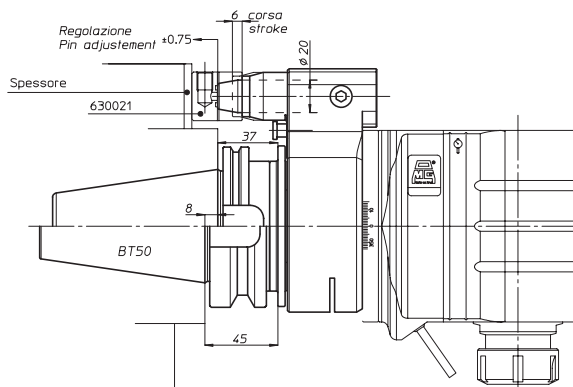
Il perno conico e la propria registrazione assiale di mm 1.5 permettono una maggiore rigidità del sistema antirotante rispetto ai tradizionali, dotati di perni di mm 18 perché si eliminano i giochi con conseguente miglioramento della rigidità sia angolare che assiale.

L'adduzione del liquido passante per il corpo testa, la cui uscita avviene tramite un ugello direzionabile, offre il vantaggio di non avere tubi "volanti" che possono muoversi durante le lavorazioni.

Teste TA04-TA06-TA07-TA10-TA13-TAV10-TAV13-TAF13 con cono 50  
TA04-TA06-TA07-TA10-TA13-TAV10-TAV13-TAF13 heads with 50 shank



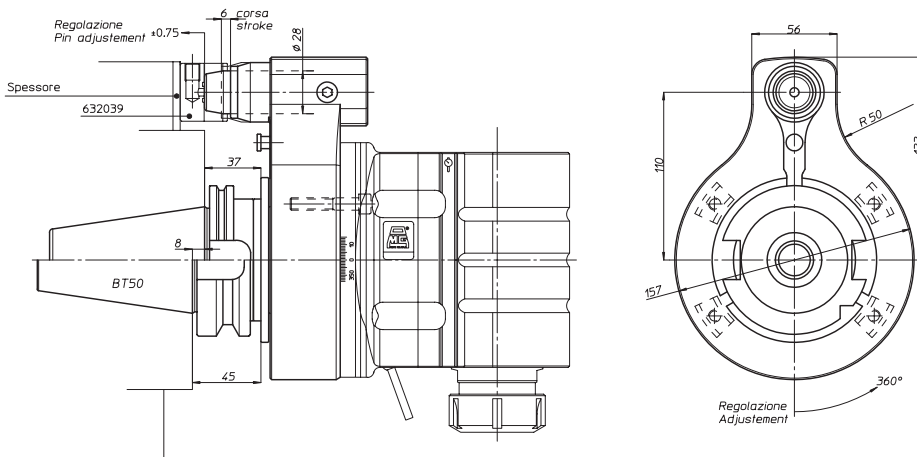
Teste TA16-TA20-TAF20  
TA16-TA20-TAF20 heads



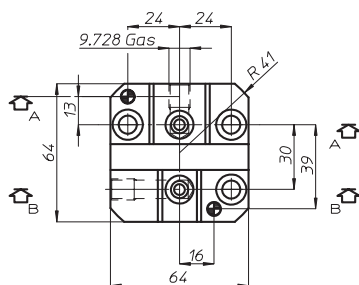
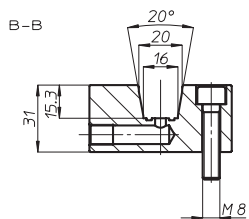
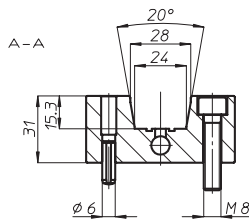
Quando possibile, nella Vostra applicazione, posizionate il perno conico dalla parte apposta al mandrino della testa ad angolo.

# Antirotante Torque arm

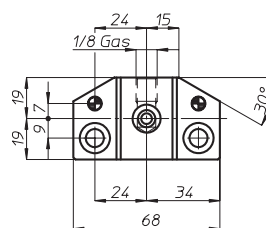
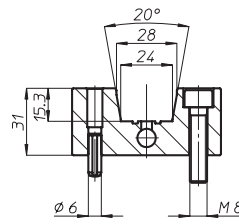
Teste TA26-TAV20  
TA26-TAV20 heads



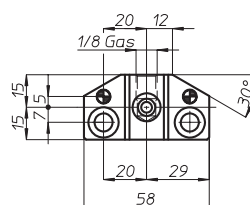
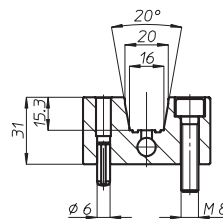
Double Stop-block (cod. 632041)



Stop-block (cod. 632039)



Stop-block (cod. 630021)



The antirotation system is crucial as far as angle-head machining quality is concerned. For this reason OMG technicians have designed and developed a new antirotation system with the following characteristics:

- conical pin
- axial pin adjustment
- coolant through the head

The conical pin and its 1.5 mm axial adjustment ensure upgraded antirotation system strength compared to traditional systems, featuring 18 mm diameter pins, because play is eliminated, thereby improving both angular and axial strength.

By sending the coolant through the head, thanks to an adjustable nozzle, the added advantage is achieved of eliminating "free" pipes that could move during machining operations.

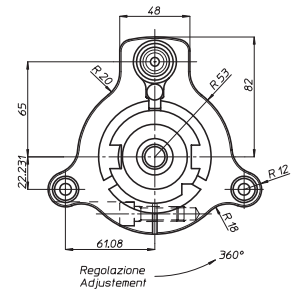
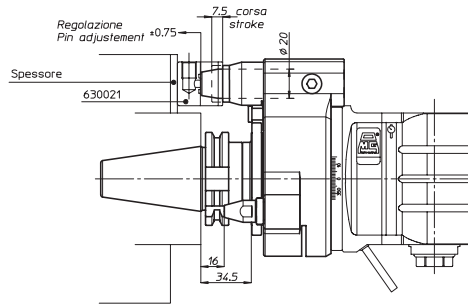


Position the conical pin on the opposite side of the angle head spindle when possible in your application.



# Antirotante TRIBLOCK Torque arm TRIBLOCK

Teste con cono 40  
Heads with 40 shank

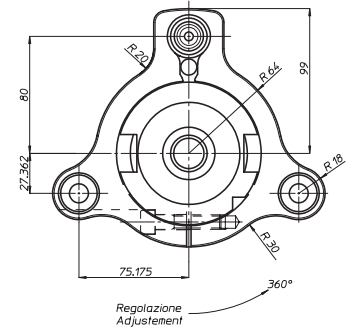
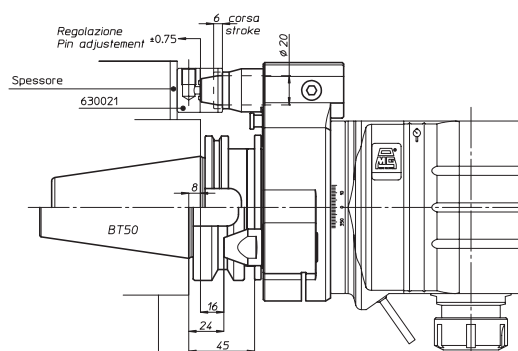


Il gruppo antirotante TRIBLOCK ricopre una funzione di fondamentale importanza quando alla testa ad angolo è richiesto

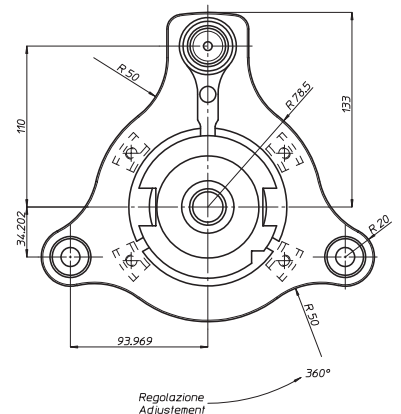
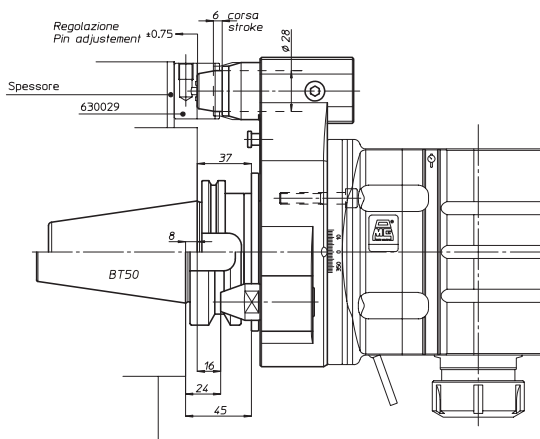
- Di eseguire una lavorazione più pesante
- Di essere più lunga dello standard
- Una finitura superficiale eccellente

Il TRIBLOCK è dotato di tre punti di appoggio di cui uno è lo standard come nei precedenti e due supplementari da registrare tramite un rasamento. Questi tre punti, allargando l'appoggio di base della testa ad angolo, consentono di ottenere una rigidità superiore allo standard. Quando poi si richiede alla testa di essere immagazzinata su di un supporto esterno al magazzino standard, ecco che il TRIBLOCK utilizza i propri tre punti per posizionare la testa

Teste con cono 50  
Heads with 50 shank



Teste TA26 - TAV20  
TA26 - TAV20 heads

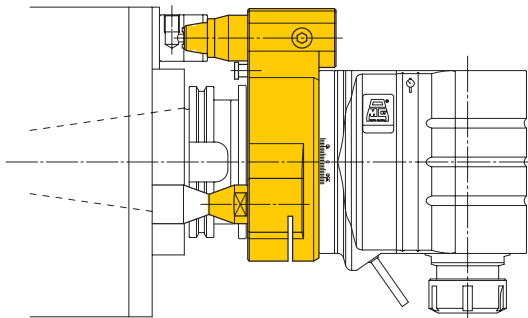


Quando possibile, nella Vostra applicazione, posizionate il perno conico dalla parte apposta al mandrino della testa ad angolo.



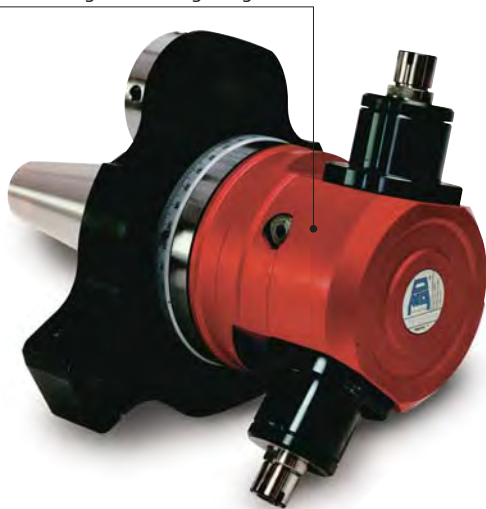
# Antirotante TRIBLOCK Torque arm TRIBLOCK

Sul mandrino macchina  
On spindle machine



## TFS 25994

Testa bimandrino di foratura peso Kg18  
Twin drilling head, weight Kg18

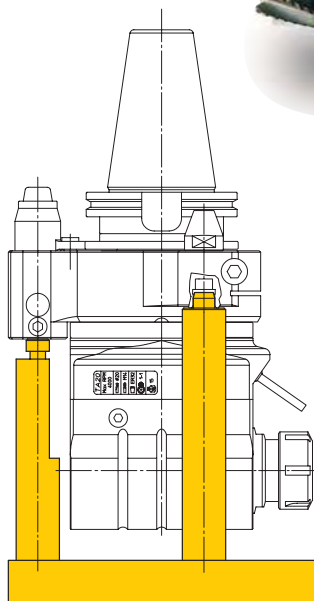


## TFS 39195

Testa bimandrino di fresatura n° 2 frese  $\phi$  100 peso Kg 33  
Twin milling head, nr. 2 milling cutter  $\phi$  100 weight Kg 33



Sul supporto da tavola  
On rack table



*The Triblock antirotation system is of crucial importance when it comes to:*

- doing difficult jobs
- having a head that is longer than standard
- achieving an excellent surface finish

*The Triblock system features three supporting points, one of which is standard, as in the previous version, plus two additional ones that need adjusting by means of a spacer. These three points, by extending the angle-head supporting base, provide above-average standards of strength.*

*When the head has to be stored on a support outside the standard magazine, the Triblock system uses the three points to position the angle heads.*



*Position the conical pin on the opposite side of the angle head spindle when possible in your application.*

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HT

VH

TSI/TSX

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MT-TC-TC3

Accessori  
Accessories

Appendice tecnica  
Technical supplement

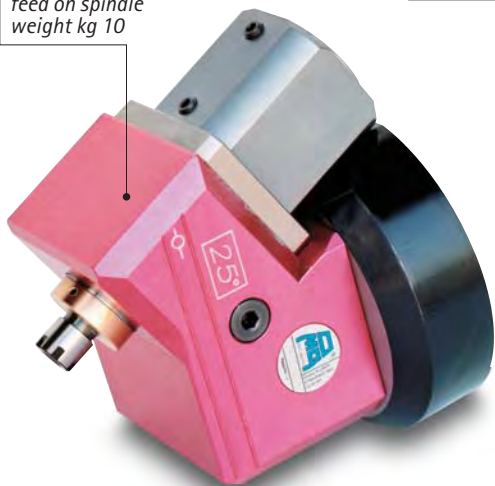


# Teste ad angolo speciali

## Special angle heads

**TFS 37299**

Testa ad angolo con mandrino ad avanzamento idraulico  
peso kg 10  
Angle head with hydraulic feed on spindle  
weight kg 10

**TFS 36699**

Testa ad angolo bimandrino registrabile  
peso kg 29  
Adjustable twin angle head,  
weight kg 29

**TFS 44298**

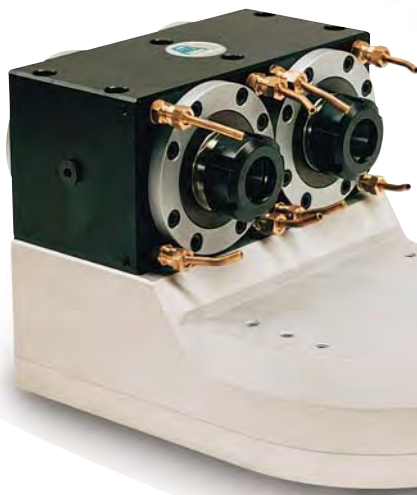
Testa ad angolo con mandrino ribaltato  
peso kg 8,5  
Reverse spindle angle head  
weight kg 8,5



Testa ad angolo bimandrino con triblock  
peso kg 36  
Twin angle head with triblock  
weight kg 36

**TFS 16696**

Doppia testa ad angolo disassata rispetto all'asse macchina  
peso kg 24  
Twin spindle angle head not in line with the machine spindle  
weight kg 24

**TFS 19997**

Testa ad angolo bimandrino per foratura.  
Angolo fra i mandrini 35°  
peso kg 6,7  
Twin drilling angle head.  
Spindle angle 35°  
weight kg 6,7



# Teste ad angolo speciali Special angle heads

## TFS 09400

Testa di fresatura  
con n°2 frese  $\phi 125$   
peso kg 20  
*Milling angle head with  
nr. 2  $\phi 125$  milling cutter  
weight kg 20*



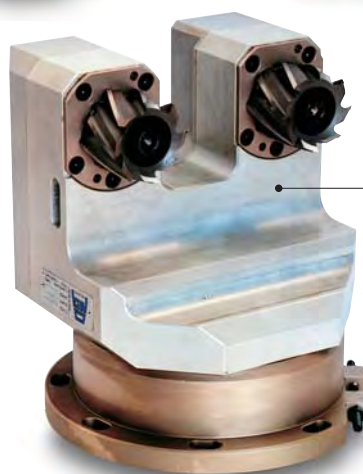
## TFS 12095

Testa ad angolo di  
foratura peso kg 5  
*Drilling angle head  
weight Kg 5*



## TFS 21701

Testa di fresatura  
a due mandrini paralleli  
peso kg 14  
*Milling angle head.  
With two parallel spindle  
weight kg 14*



## TFS 20298

Testa bimandrino di fresatura  
n°2 frese  $\phi 120$  peso kg 25  
*Twin milling angle head, nr.2  
milling cutter  $\phi 120$   
weight kg 25*



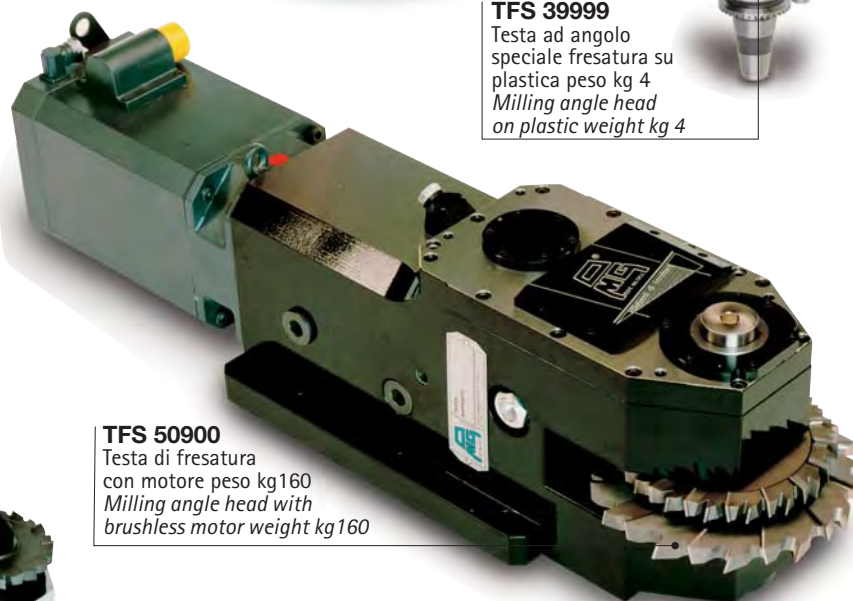
## TFS 39999

Testa ad angolo  
speciale fresatura su  
plastica peso kg 4  
*Milling angle head  
on plastic weight kg 4*



## TFS 50900

Testa di fresatura  
con motore peso kg160  
*Milling angle head with  
brushless motor weight kg160*



## TFS 24196

Testa ad angolo bimandrino per  
fresatura su scatola del cambio  
peso kg 70  
*Twin milling spindle angle head  
on gear box weight kg 70*



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HT

VH

TSI/TSX

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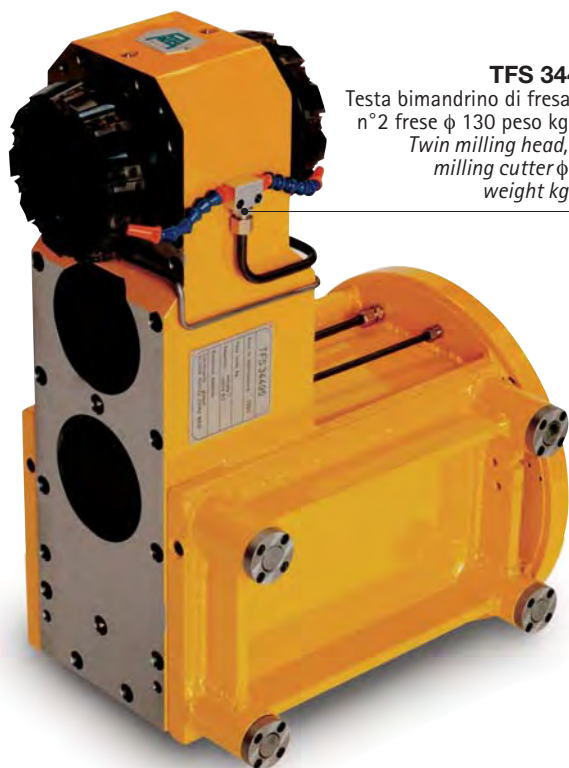
MT-TC-TC3

Accessori  
AccessoriesAppendice tecnica  
Technical supplement



# Teste ad angolo speciali

## Special angle heads



### TFS 34495

Testa bimandrino di fresatura  
n°2 frese  $\phi$  130 peso kg 290  
*Twin milling head, nr.2  
milling cutter  $\phi$  130  
weight kg 290*

### TFS 08993

Testa ad angolo speciale  
con doppia coppia  
di mandrini contrapposti  
peso kg 18  
*Angle head with two  
opposite twin spindles  
weight kg 18*



### TFS 13198

Testa ad angolo  
disassata per foratura  
peso kg 5  
*Angle head with  
shift spindle  
weight kg 5*



### TFS 39998

Testa ad angolo  
universale.  
Preso utensili  
ISO50  
peso kg 580  
*Angle head  
with tool  
shank ISO50  
weight kg 580*



### TFS 39997

Testa ad angolo speciale  
bimandrino per foratura e  
maschiatura peso kg 16  
*Twin angle head for  
drilling and tapping  
weight kg 16*

### TA 17292

Testa ad angolo di fresatura  
n°2 frese per legno  
peso kg 3  
*Twin angle head with nr.2  
milling cutter for wood  
weight kg 3*



# Teste ad angolo speciali Special angle heads



**TFS 38995**  
Testa di foratura  
attacco HSK63 peso kg 5  
*Drilling angle head with  
shank HSK63 weight kg 5*



**TFS 23301**  
Testa ad angolo di foratura  
a tre mandrini peso kg 5,9  
*Drilling angle head with  
three spindle weight kg 5*



**TFS 13094**  
Testa ad angolo disassata  
rispetto all'asse macchina  
peso kg 17  
*Angle head not in line  
with the machine spindle  
weight kg 17*



**TA 05500**  
Testa ad angolo di fresatura  
con fresa  $\phi$  125 peso kg 17  
*Milling angle head with  $\phi$ 125  
milling cutter weight kg 17*



**TFS 13898**  
Testa di fresatura  
fresa  $\phi$  100 peso kg 22  
*Milling angle head  
milling cutter  $\phi$  100  
weight kg 22*



**TFS 28394**  
Testa ad angolo di fresatura  
n°2 frese a disco peso kg 25  
*Twin milling angle head, nr. 2  
disk cutter weight kg 25*

TA

MO

HT

VH

TSI/TSX

T

MT-TC-TC3

Accessori  
AccessoriesAppendice tecnica  
Technical supplement

# Teste ad angolo speciali Special angle heads



**TFS 12101**  
Testa di fresatura  
con cono ISO30  
peso kg 16  
*Milling angle head  
with ISO30 spindle  
weight kg 16*



**TFS 36994**  
Testa bimandrino  
di fresatura  
n°2 frese  $\phi$  60  
peso kg 15,5  
*Twin milling head, nr.2  
milling cutter  $\phi$  60  
weight kg 15,5*

**TFS 09596**  
Testa ad angolo di foratura  
con passaggio refrigerante  
attraverso il mandrino peso kg 21  
*Drilling angle head with coolant  
through the spindle weight kg 21*



**TA 34397**  
Testa ad angolo  
di fresatura  
con cono ISO20  
peso kg 0,9  
*Milling angle head  
with shank ISO20  
weight kg 0,9*



**TFS 35698**  
Testa ad angolo di fresatura  
con fresa  $\phi$  100 peso Kg34  
*Milling angle head, with  
milling cutter  $\phi$  100  
weight Kg 34*



**TA 45700**  
Testa di fresatura bimandrino  
per frese  $\phi$ 160 peso kg 30  
*Twin milling angle head for  
 $\phi$ 160 milling cutter weight kg 30*

TA

MO

HT

VH

TSI/TSX

T

MT-TC-TC3

Accessori  
AccessoriesAppendice tecnica  
Technical supplement



# Teste ad angolo speciali

## Special angle heads

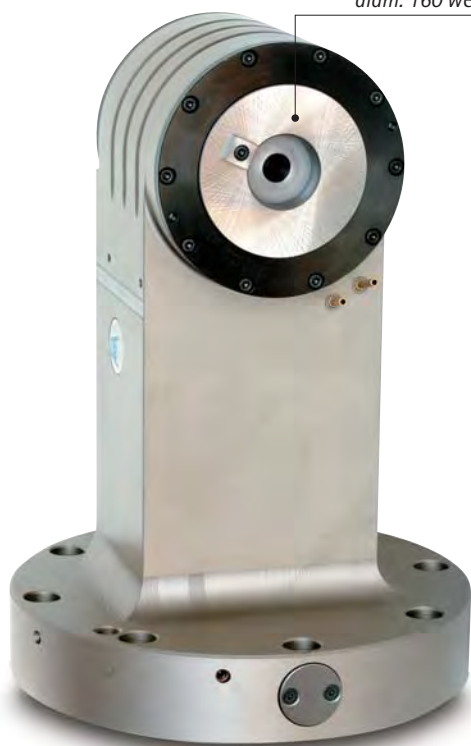


**TFS 05303**  
 Testa ad angolo di fresatura  
 con fresa diam. 7 peso Kg 8  
*Milling angle head with milling  
 cutter diam. 7 weight Kg 8*

Testa ad angolo TA26T  
 con prolunghe modulari  
*Angle head TA26T  
 modular extention*



**TA 09603**  
 Testa ad angolo di alesatura con  
 utensile diam. 160 peso Kg 77  
*Milling angle head with boring tools  
 diam. 160 weight Kg 77*



**TFS 40601**  
 Testa ad angolo bimanodrino, angolo  
 tra i due mandrini 176° peso Kg 13  
*Twin angle head, angle spindle to  
 spindle 176° weight Kg 13*



**TFS 06003**  
 Testa ad angolo di  
 fresatura con fresa  
 diam. 110 peso Kg 210  
*Milling angle head with  
 milling cutter diam. 110  
 weight Kg 210*



# Teste ad angolo speciali

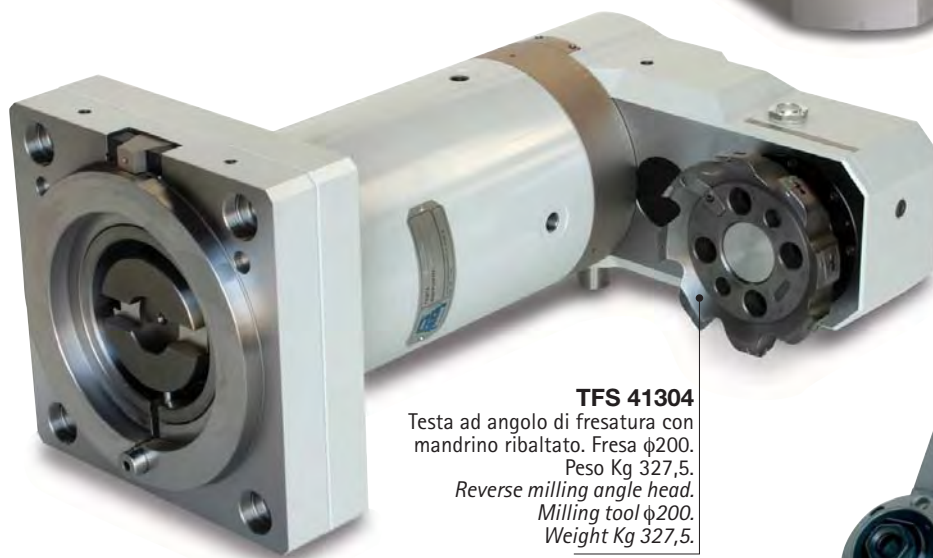
## Special angle heads



**TAS 30505**  
 Testa ad angolo di foratura  
 HSK100 entrata e uscita.  
 Peso Kg 50.  
*Drilling angle head, HSK 100  
 input-output. Weight Kg 50.*



**TAS 15505**  
 Testa ad angolo di  
 foratura e fresatura,  
 attacco utensile  
 CAPTO C4 automatico.  
 Peso Kg 130.  
*Drilling and milling  
 angle head, automatic  
 tools changer CAPTO C4.  
 Weight Kg 130.*



**TFS 41304**  
 Testa ad angolo di fresatura con  
 mandrino ribaltato. Fresa  $\phi 200$ .  
 Peso Kg 327,5.  
*Reverse milling angle head.  
 Milling tool  $\phi 200$ .  
 Weight Kg 327,5.*



**TAF 37503**  
 Doppia testa ad angolo di  
 foratura.  
 Twin drilling angle head.



**TFS 34004**  
 Testa ad angolo di foratura  
 a 3 mandrini a  $120^\circ$ .  
 Peso Kg 18.  
*Drilling angle head, n 3  
 spindles at  $120^\circ$ .  
 Weight Kg 18.*

# Teste ad angolo speciali

## Special angle heads

TA

MO

HT

VH

TSI/TSX

T

MT-TC-TC3

Accessori  
AccessoriesAppendice tecnica  
Technical supplement

**TAS 41504**  
Testa ad angolo mandrino di fresatura. Peso Kg 338.  
*Twin milling angle head. Weight Kg 338.*



**TFS 33303**  
Testa ad angolo disassata per foratura. Peso Kg 9,4.  
*Angle head with shift drilling spindle. Weight Kg 9,4.*

**TFS 28603**  
Testa di fresatura con n°4 frese a disco  $\phi 125$ . Peso Kg 218.  
*Milling head, n°4 milling disc cutter  $\phi 125$ . Weight Kg 218.*



**TFS 33503**  
Testa ad angolo di lucidatura con doppia rotazione, sia corpo che utensile. Peso kg 6,5.  
*Polish angle head with double rotation: body and tools. Weight Kg 6,5.*



**TFS 12005**  
Testa ad angolo disassata per fresature  $\phi 150$ . Peso Kg 48.  
*Shift spindle angle head, milling tools  $\phi 150$ . Weight Kg 48.*







## moltiplicatori di giri spindle speeders

I moltiplicatori di giri serie "MO" sono stati studiati e definiti con l'intento di offrire un prodotto che possa assicurare la massima affidabilità e precisione nelle operazioni di fresatura e foratura. Dalla progettazione al controllo statico e dinamico del prodotto finito, i nostri moltiplicatori sfruttano le più avanzate conoscenze tecniche e tecnologiche.

- Giri max. in continuo 22.000 (oltre a richiesta)
- Utilizzati specialmente in operazioni di finitura
- Possibilità di montaggio manuale o automatico
- Consentono alla macchina di ruotare a bassi regimi di giri
- Possibilità di utilizzare utensili in metallo duro

La costruzione compatta, i componenti in acciaio trattato termicamente, gli ingranaggi rettificati sull'evolvente permettono la trasmissione di potenze elevate con ottimi livelli di silenziosità. Il mandrino è supportato da cuscinetti a sfere di precisione a contatto obliquo precaricati che gli conferiscono un'elevata rigidità e precisione di rotazione entro mm 0.01

- Due o tre ingranaggi satelliti per elevate potenze trasmissibili
- Attacco utensile speciale a richiesta (Komet, DIN 1835, ecc...)
- Adduzione liquido refrigerante attraverso il centro utensile a richiesta
- Attacco macchina a richiesta (Cono Morse, DIN 69880, ecc...)
- Perno antirotante intercambiabile e perciò personalizzabile dal cliente

I moltiplicatori possono essere montati su macchine tradizionali o con cambio utensile automatico. La lubrificazione è assicurata con grasso a base sintetica a lunga vita che non richiede praticamente interventi di manutenzione. Il certificato di collaudo che troverete allegato ad ogni moltiplicatore garantisce la qualità del prodotto. Robustezza, versatilità, facilità d'impiego e di manutenzione sono caratteristiche che hanno sempre contraddistinto la nostra produzione ed i moltiplicatori di giri ne sono una conferma.

*The "MO" series of multipliers has been designed and developed to offer a product that ensures maximum reliability and precision in milling and drilling. From design to static and dynamic testing of the finished product, our multipliers utilise the most advanced technical and technological know-how.*

- Max. 22,000 continuous revs (higher ratings on request)
- Used in particular for finishing operations
- Manual or automatic mounting option
- Allow the machine to rotate at low rpm
- Possibility of using hard metal tools

*The compact construction, the heat-treated steel parts and the ground gears on the involute guarantee transmission of high power ratings with amazingly low noise levels. The spindle is supported by a set of preloaded precision ball bearings with oblique contact that ensure greater strength and rotation precision within 0.01 mm.*

- Two or three planetary gears for high transmission power ratings
- Special tool attachment on request (Komet, DIN 1835, etc.)
- Coolant through the tool centre, on request
- Machine connection, on request (Morse Cone, DIN 69880 etc.)
- Interchangeable anti-rotation pin which can therefore be customised by the buyer

*The MO series of multispindles can be mounted on traditional machines and on machines with automatic tool change.*

*The MO series of multispindles is lubricated with a long-life synthetic grease that is practically maintenance free.*

*The test certificate attached to each multiplier guarantees the quality of the product. Our products have always stood out for their sturdiness, flexibility and easy use and maintenance and the MO series of multispindles is additional proof of such outstanding features.*

DIN 69871/ANSI B5.50 CAT .....	2-2
DIN 2080/ANSI B5.18 NMTB.....	2-3
MAS 403 BT.....	2-4
DIN 69893.....	2-5
Soluzioni speciali/Special executions .....	2-6
Stop Block/Stop Block .....	2-7
Adattatore/Adapter .....	2-7
Collaudo/Test result .....	2-8
Galleria fotografica/Photographic gallery .....	2-9
Accessori/Accessories .....	8-1



TA

MO

HT

VH

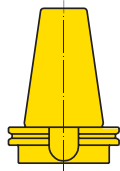
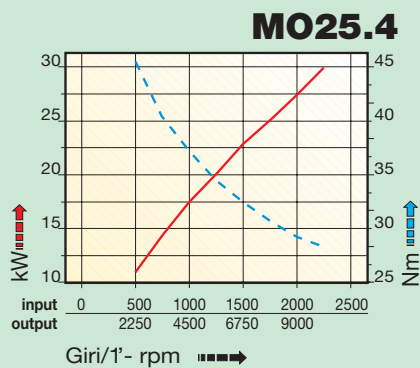
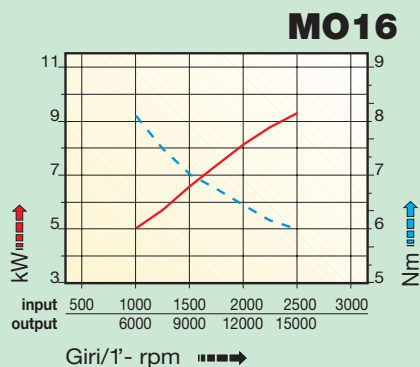
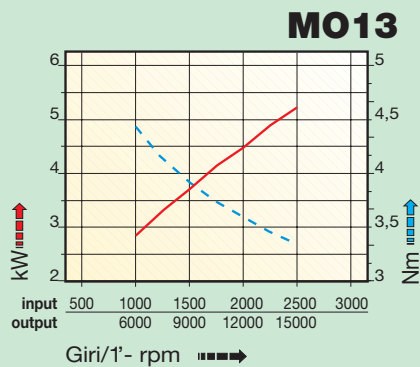
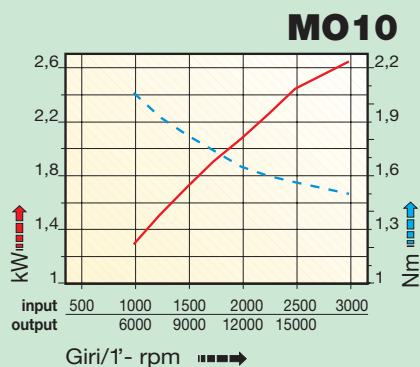
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MT-TC-TC3

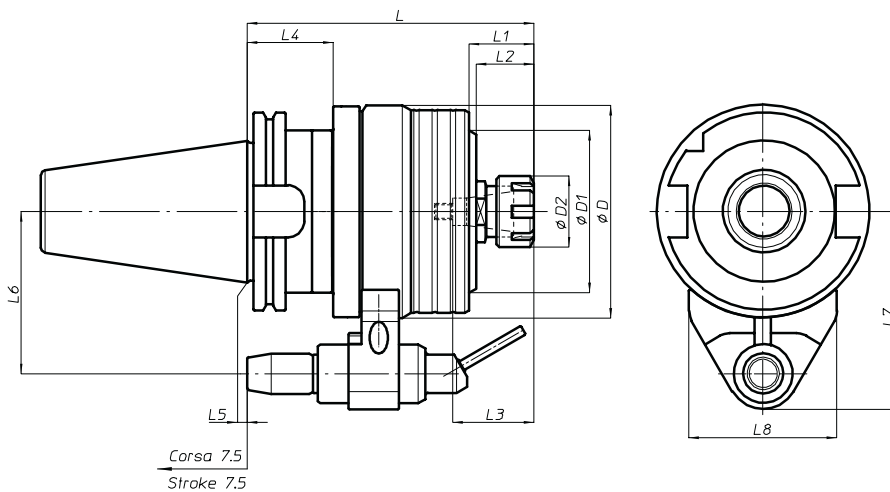
Accessori  
Accessories

Appendice tecnica  
Technical supplement



# DIN 69871

## ANSI B5.50 CAT

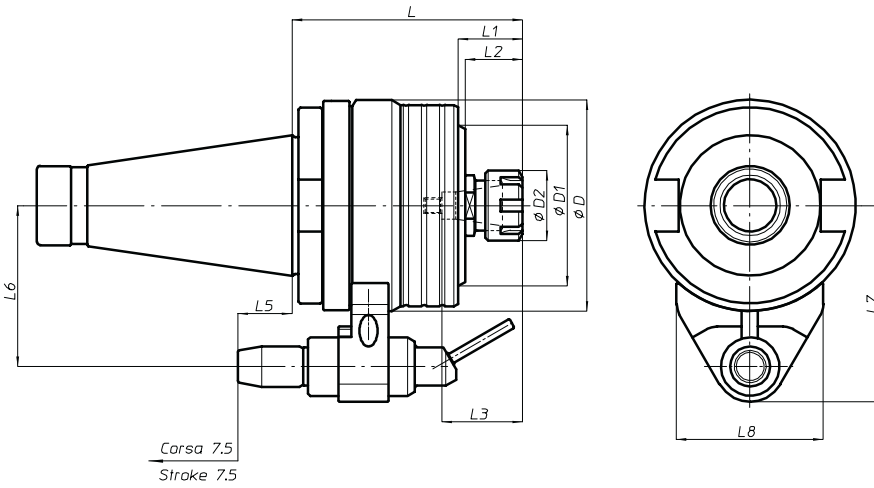
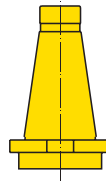


Modello Type	MO 10				MO 13			MO 16		MO 25.4		
Cono Shank DIN	30	40	45	50	40	45	50	45	50	50		
Cono Shank CAT	40		50		40		50		50		50	
Rapporto Ratio	1 - 6				1 - 6			1 - 6		1 - 4,5		
N. giri max RPM	22.000 *				15.000 *			12.000 *		10.000 *		
Peso Weight	3,3	3,7	4,3	6,5	5,8	6,7	8	9	10	20		
Pinza Collet	ER 16 max Ø 10				ER 20 max Ø 13			ER 25 max Ø 16		ER 40 max Ø 30		
D	84				105			123		169		
D1	65				80			100		120		
D2	24				35			42		63		
L	132				141,5			155,5		196		
L1	32				32			34		67,5		
L2	28				28,5			29		40,5		
L3	36,5				40			43		64		
L4	35				35		42		35		35	
L5	0				0			0		0		
L6	65		80		80		80		110			
L7	82,5		97,5		97,5		97,5		127,5			
L8	71				73			75		75		
Forza assiale Axial thrust	60 daN				90 daN			110 daN		300 daN		

\* n° giri max per lavorazioni continuative  
speed at 100% duty cycle

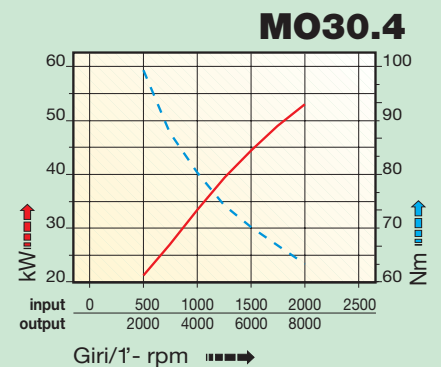
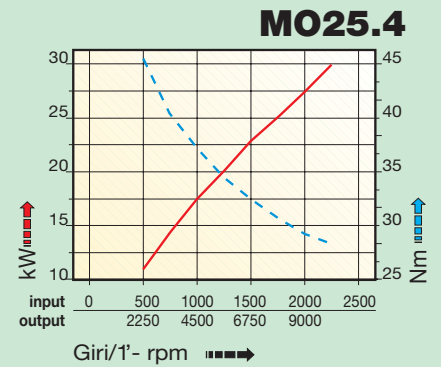
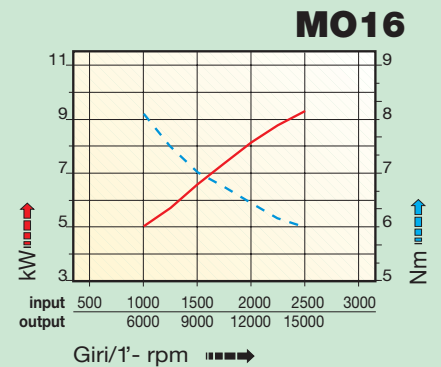
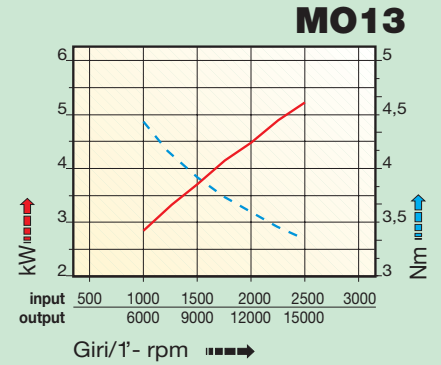
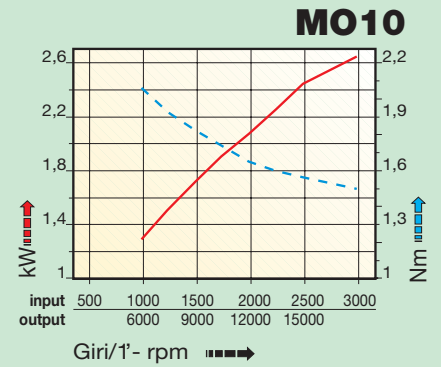
# DIN 2080

# ANSI B5.18 NMTB



Modello Type	MO 10			MO 13			MO 16			MO 25.4	MO 30.4	
Cono Shank DIN	40	45	50	40	45	50	40	45	50	50	50	
Cono Shank NMTB	40	50	40	50	50	50	50	50	50	50		
Rapporto Ratio	1 - 6			1 - 6			1 - 6			1 - 4,5	1 - 4	
N. giri max RPM	22.000 *			15.000 *			12.000 *			10.000 *	8.000 *	
Peso Weight	3	3	4,8	6,3	5	6	7,3	7,4	8	9,3	20	30
Pinza Collet	ER 16 max Ø 10			ER 20 max Ø 13			ER 25 max Ø 16			ER 40 max Ø 30	ER 50 max Ø 34	
D	84			105			123			169	185	
D1	65			80			100			120	114	
D2	24			35			42			63	78	
L	110	102	105	105	111	114,5	125	128,5	184,5	236		
L1	32			32			34			67,5	85,5	
L2	28			28,5			29			40,5	60,5	
L3	36,5			40			43			64	90	
L5	14,5	11,5	13	9,5	15	12	12	12	12	12		
L6	65	80	80	80	80	110	110	110	110	110		
L7	82,5	97,5	97,5	97,5	97,5	127,5	127,5	127,5	127,5	127,5		
L8	71			73			75			75	75	
Forza assiale Axial thrust	60 daN			90 daN			110 daN			300 daN	400 daN	

\* n° giri max per lavorazioni continuative  
speed at 100% duty cycle



TA

MO

HT

VH

TSI/TSX

T

MT-TC-TC3

Accessori  
Accessories

Appendice tecnica  
Technical supplement

TA

MO

HT

VH

TSI/TSX

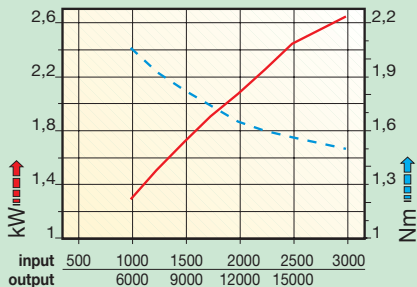
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MT-TC-TC3

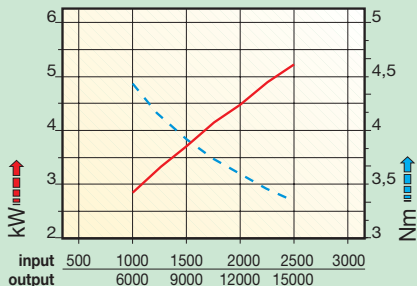
Accessori  
Accessories

Appendice tecnica  
Technical supplement

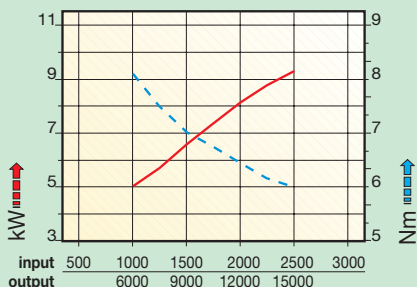
**MO10**



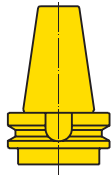
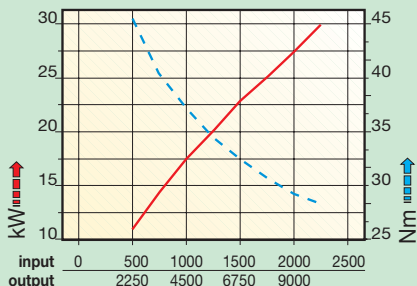
**MO13**



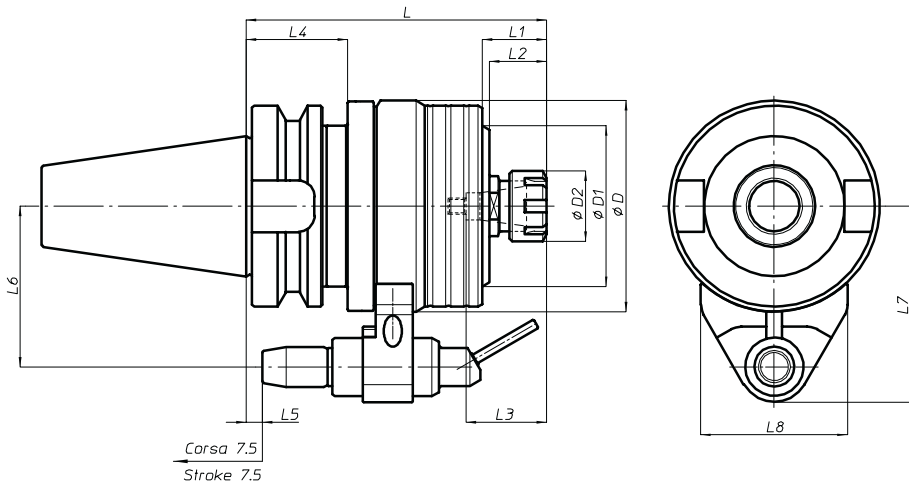
**MO16**



**MO25.4**



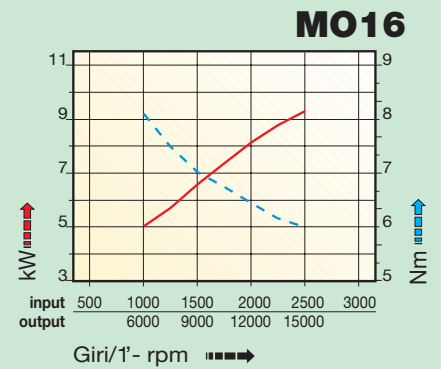
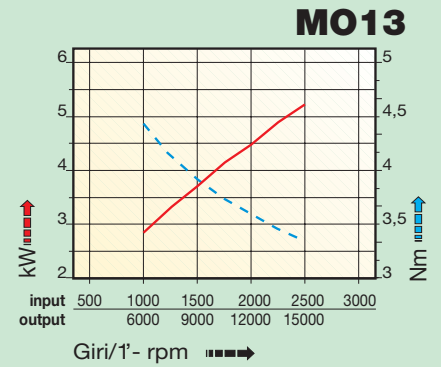
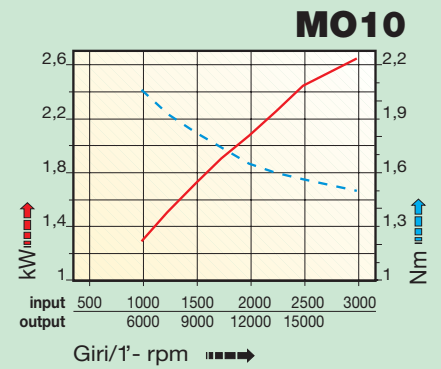
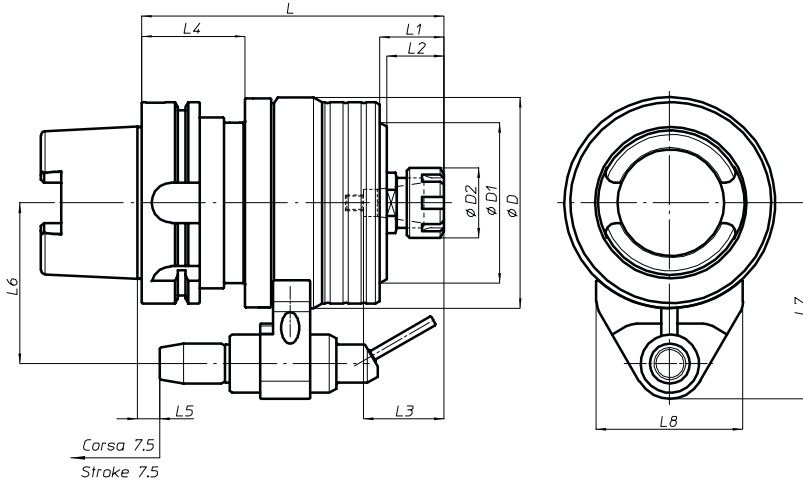
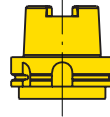
# MAS 403 BT



Modello Type	MO 10			MO 13		MO 16		MO 25.4	
Cono Shank	30	40	50	40	50	50	50	50	
Rapporto Ratio	1 - 6			1 - 6		1 - 6		1 - 4,5	
N. giri max RPM	22.000 *			15.000 *		12.000 *		10.000 *	
Peso Weight	3,3	3,7	6,5	5,8	8	10	10	20	
Pinza Collet	ER 16 max Ø 10			ER 20 max Ø 13		ER 25 max Ø 16		ER 40 max Ø 30	
D	84			105		123		169	
D1	65			80		100		120	
D2	24			35		42		63	
L	132	132	40	141,5	149,5	163,5	163,5	202	
L1	32			32		34		67,5	
L2	28			28,5		29		40,5	
L3	36,5			40		43		64	
L4	42,5	42,5	50,5	34,5	50,5	41	41	41	
L5	0			8		7,5		6	
L6	65			80		80		110	
L7	82,5	97,5	97,5	97,5	97,5	97,5	97,5	127,5	
L8	71			73		75		75	
Forza assiale Axial thrust	60 daN			90 daN		110 daN		300 daN	

\* n° giri max per lavorazioni continuative  
speed at 100% duty cycle

# DIN 69893



Modello Type	MO 10			MO 13			MO 16	
Cono Shank	63	80	100	63	80	100	80	100
Rapporto Ratio	1 - 6			1 - 6			1 - 6	
N. giri max RPM	22.000 *			15.000 *			12.000 *	
Peso Weight	3,3	3,7	6,5	5,8	8		10	
Pinza Collet	ER 16 max Ø 10			ER 20 max Ø 13			ER 25 max Ø 16	
D	84			105			123	
D1	65			80			85	
D2	24			35			42	
L	141			150,5			164,5	
L1	32			32			44	
L2	28			28,5			32,5	
L3	36,5			40			52	
L4	42			42	51,5		56	
L5	9			9			8,5	
L6	65	80		80			80	
L7	82,5	97,5		97,5			97,5	
L8	71			73			75	
Forza assiale Axial thrust	60 daN			90 daN			110 daN	

\* n° giri max per lavorazioni continuative  
speed at 100% duty cycle

TA

MO

HT

VH

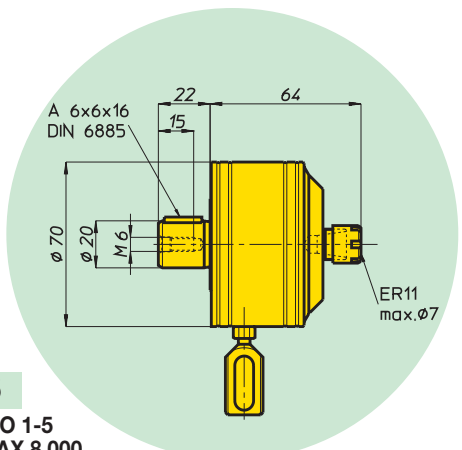
TSI/TSX

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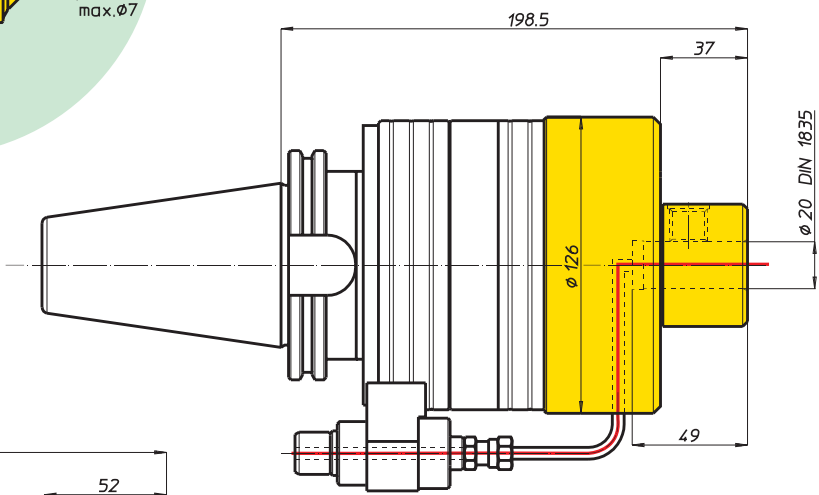
MT-TC-TC3

Accessori  
Accessories

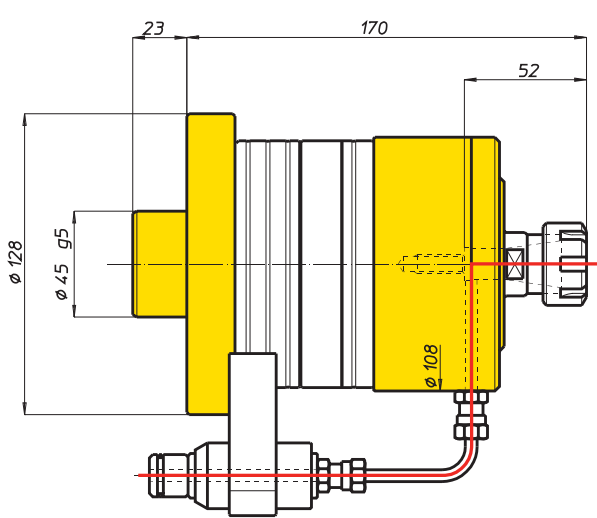
Appendice tecnica  
Technical supplement



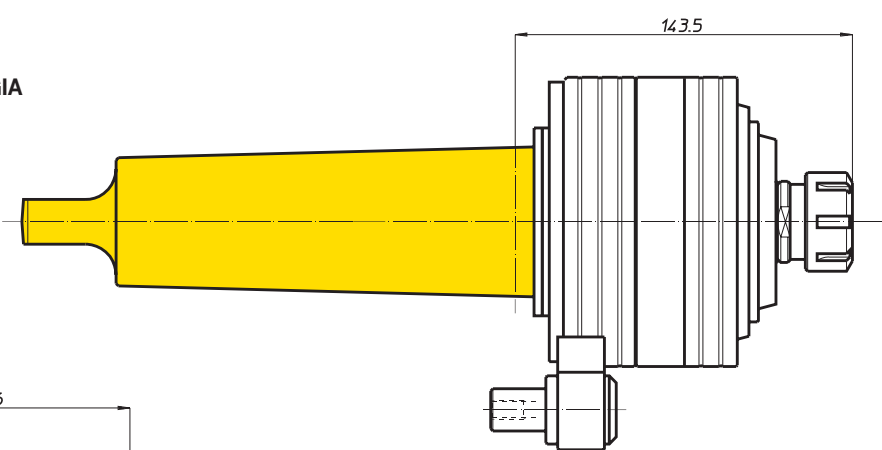
**MO 7.5**  
**RAPPORTO 1-5**  
**N° GIRI MAX 8.000**  
**RATIO 1-5 MAX RPM 8.000**



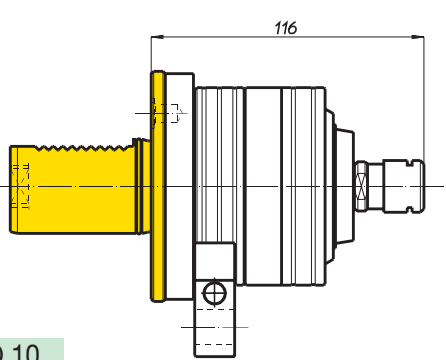
**MO 16**  
**CON ATTACCO DIN 69871- 50,**  
**SERRAGGIO UTENSILE DIN 1835 Ø 20**  
**E LIQUIDO REFRIGERANTE PASSANTE**  
**PER IL CENTRO**  
*WITH SHANK DIN 69871- 50*  
*CONNECTING TOOLS DIN 1835 Ø 20*  
*WITH INTERNAL COOLING*



**MO 13**  
**CON ATTACCO SPECIALE A FLANGIA**  
**E LIQUIDO REFRIGERANTE**  
**PASSANTE PER IL CENTRO**  
*WITH SPECIAL SHAFT*  
*AND INTERNAL COOLING*

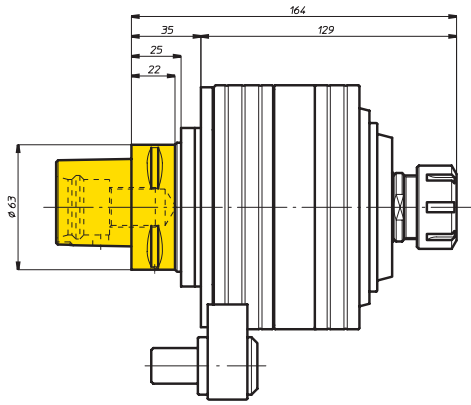


**MO 16**  
**CON ATTACCO CONO MORSE 6 DIN 228**  
*WITH SHANK MT 6 DIN 228*



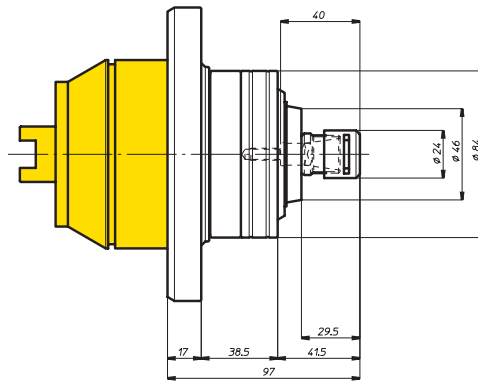
**MO 10**  
**CON ATTACCO DIN 69880 - 40 x 63**  
*WITH SHANK DIN 69880 - 40 x 63*





MO 10

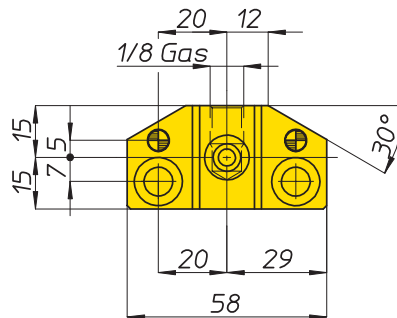
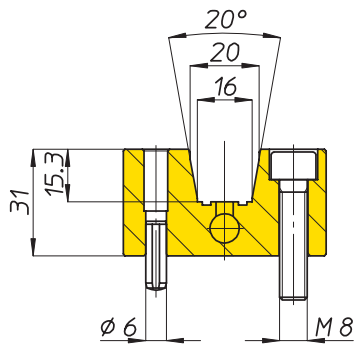
CON ATTACCO CAPTO C6  
WITH SHANK CAPTO C6



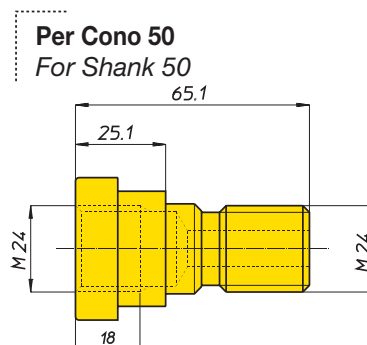
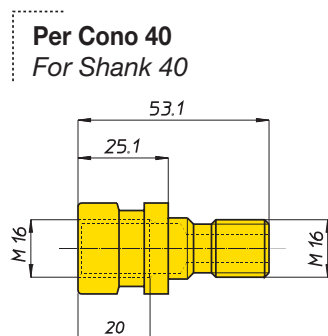
MO 10

CON ATTACCO SPECIALE PER TORRETTA A REVOLVER  
WITH SPECIAL CONNECTION TO REVOLVER HEAD

## STOP BLOCK (cod. 630021)



## ADATTATORE DA DIN 69871 A DIN 2080 (o Maho System) ADAPTER FROM DIN 69871 TO DIN 2080 (o Maho System)



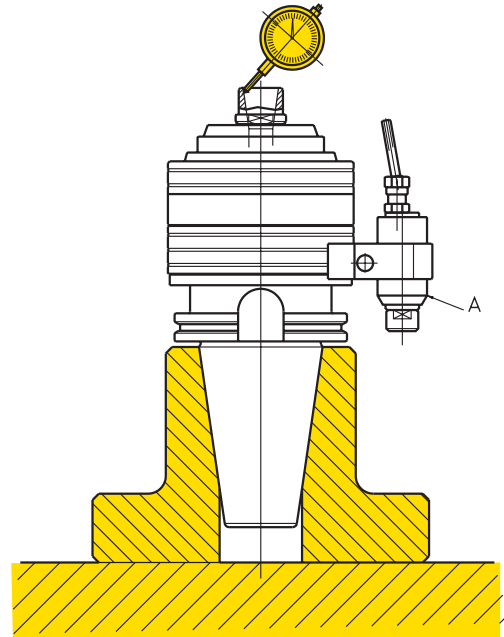
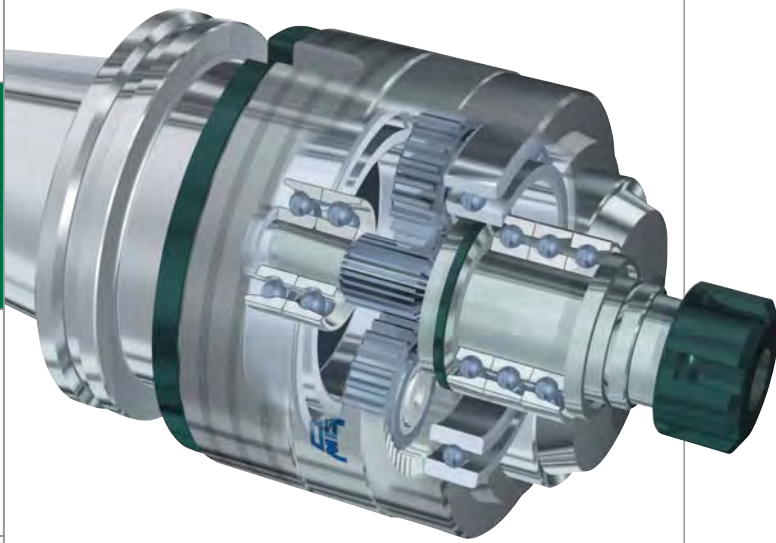


Fig. 1

### COLLAUDO

Ogni moltiplicatore di giri ha allegato il proprio certificato di collaudo dove sono riportate le proprie caratteristiche tecniche, il numero di matricola, i risultati ottenuti dai test eseguiti sul nostro banco prova BP03, il valore della concentricità tra il cono e la sede pinza il cui valore massimo è mm 0.01. Per verificare il valore della concentricità occorre disporre il moltiplicatore come in fig. 1, fermare il perno A e ruotare il cono. Il valore letto sul comparatore millesimale è la concentricità tra l'asse del cono e l'asse del mandrino.

### TEST RESULT

Every spindle speeder has his test certificate in which there are the technical characteristics, the serial number, the results of the tests made on our BP03 testing table, the concentricity value between the shank and the collet (max. value 0,01 mm). To verify the concentricity value it is necessary to have the spindle speeder as from picture N°. 1, stopping the pin "A" and rotating the shank. The value on the mm comparator is the concentricity between the shank axe and the spindle axe.

### CERTIFICATO DI COLLAUDO

#### BANCO PROVA BP03

Data Prova: 10/07/2003

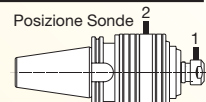
Articolo: MO 10.6

Matricola: 1315

N° Max Giri Uscita: 18000

Rapporto Entrata-Uscita: 1-6

N° Giri Uscita = N° Giri Entrata \* Rapporto



Prova	N° Giri Entrata	Temp.(°C) Sonda 1	Temp.(°C) Sonda 2	Temp. Ambiente
1	1000	45,40	43,20	24,60
2	1500	40,80	36,80	24,60
3	2000	44,20	42,00	24,80
4	2500	48,80	42,00	24,80
5	3000	49,20	38,60	25,00

Concentricità Max Cono - Mandrino: 0,008

### TEST RESULT

#### TEST STAND BP03

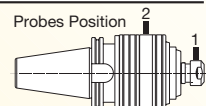
Test Date : 10/07/2003

Item: MO 10.6 Code: 1315

Max Output RPM: 18000

Ratio Input-Output: 1-6

Output RPM = Input RPM \* Ratio



Test	Input RPM	Temp.(°C) Probe 1	Temp.(°C) Probe 2	Environment Temp.
1	1000	45,40	43,20	24,60
2	1500	40,80	36,80	24,60
3	2000	44,20	42,00	24,80
4	2500	48,80	42,00	24,80
5	3000	49,20	38,60	25,00

Max Runout between Taper and Spindle: 0,008

# Galleria fotografica Photographic gallery

TA

MO

HT

VH

TSI/TSX

T

MT-TC-TC3

Accessori  
Accessories

Appendice tecnica  
Technical supplement

Moltiplicatore di giri M010  
M010 spindle speeder



Moltiplicatore di giri M013  
M013 spindle speeder



Moltiplicatore di giri M016  
M016 spindle speeder



Moltiplicatore di giri M025.4  
M025.4 spindle speeder



Moltiplicatore di giri M030.4  
M030.4 spindle speeder





# serie HT

## torrette a revolver turret heads

Le torrette a revolver serie **HT** sono una novità della produzione O.M.G. Nate dall'esigenza di aumentare la flessibilità delle macchine utensili, possono eseguire lavorazioni di foratura, filettatura, alesatura, fresatura. Trovano collocazione direttamente sul mandrino della macchina o, con motorizzazione propria, montate su slitte a uno o più assi di movimento.

Disponibili in tre grandezze, hanno la possibilità di montare teste multiple, teste ad angolo e moltiplicatori di giri per aumentare la velocità dell'utensile. Tutte le versioni utilizzano un sistema di posizionamento tramite corona Hirth; questa soluzione costruttiva permette grande precisione, grande rigidità nelle lavorazioni di fresatura e alesatura di finitura, grande ripetitività.

- Costruzione torretta in acciaio e ghisa.
- Mandrini montati su cuscinetti di precisione.
- Mandrini con diverso attacco utensile (DIN55058, Komet, HSK, ecc) intercambiabili sulla stessa torretta.
- Mandrini in presa diretta con la presa di forza per sfruttare appieno la potenza
- Sistema idraulico di bloccaggio-sbloccaggio corona Hirth.
- La stessa motorizzazione permette la rotazione della torretta e la rotazione dei mandrini.
- Rotazione torretta bidirezionale per ricercare più velocemente il mandrino necessario alla lavorazione da eseguire.
- Refrigerante indipendente per ogni mandrino.
- Possibilità del refrigerante di passare attraverso il centro del mandrino.
- Lubrificazione effettuata a grasso o con miscela olio-aria.
- Pressurizzazione torretta
- Connettore unico per l'interscambio dati tra la torretta ed il cnc.

La serie **HT**, quindi, conferma la capacità di O.M.G. di affinare la gamma degli strumenti ad elevata affidabilità per le lavorazioni industriali e di puntare al centro delle esigenze della propria clientela offrendo sempre, come risorsa per l'innovazione, la versatilità dei propri prodotti.

*The **HT** series of turret heads are a novelty in the O.M.G. production range. Inspired by the need to increase the flexibility of machine tools, they are able to perform drilling, tapping, boring and milling. They can be installed directly on the machine spindle or, with their own drive, mounted on slides with one or more movement axes.*

*Available in three sizes, they can be fitted with multispindle heads, angle heads and multipliers for greater tool velocity.*

*All versions use a positioning system based on a Hirth crown gear, providing utmost precision, excellent strength in milling and finishing boring and outstanding repeatability.*

- Turret made of steel and cast iron
- Spindles mounted on precision bearings
- Spindles with different tool connections (HSK, Komet, DIN55058, etc.) which can be interchanged on the same turret
- Spindles directly engaged with p.t.o. to exploit power to the full
- Hydraulic Hirth crown gear locking-release system
- Single drive rotates both turret and spindles
- Two-way turret rotation for quicker retrieval of the spindle needed for the next process
- Separate coolant for each spindle
- Coolant through the spindle centre
- Lubrication with grease or oil-air mixture
- Pressurised turret
- Single connector for data exchange between turret and cnc.

*The **HT** series once more reflects O.M.G.'s ability to constantly perfect its range of highly reliable tools for industrial machining and to target the exact needs of its customers, offering product versatility as a resource for innovation.*



Caratteristiche/Features.....	3-2
Applicazioni/Applications .....	3-3

TA  
MO  
HT  
VH  
TSI/TSX  
T  
MT-TC-TC3  
Accessori  
Accessories  
Appendice tecnica  
Technical supplement

TA

MO

HT



**HT 160**

VH

TSI/TSX



**HT 250**

T

MT-TC-TC3



**HT 360**

Accessori  
Accessories

Appendice tecnica  
Technical supplement



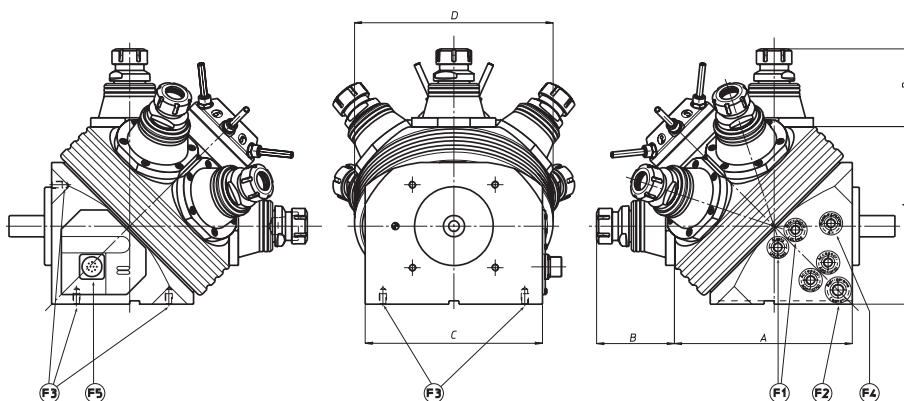
**F1** circuito olio per bloccaggio-sbloccaggio torretta  
oil circuit for turret locking-release

**F2** entrata refrigerante utensili  
coolant tools

**F3** fori fissaggio torretta  
turret fixing holes

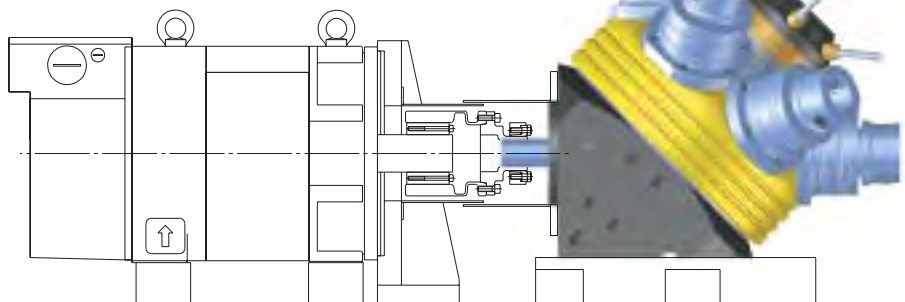
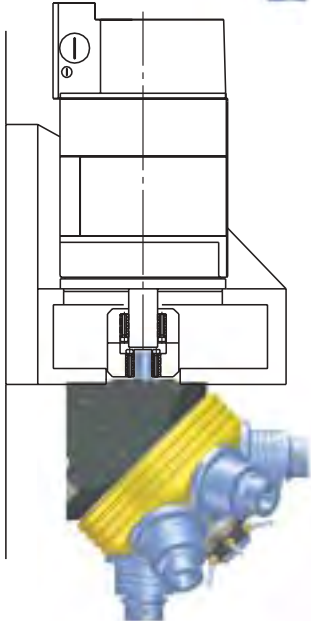
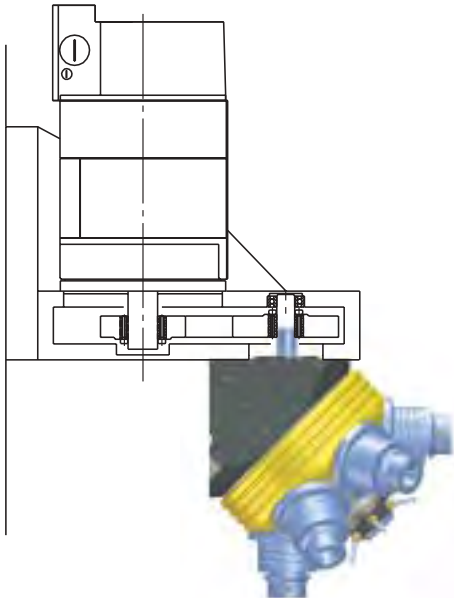
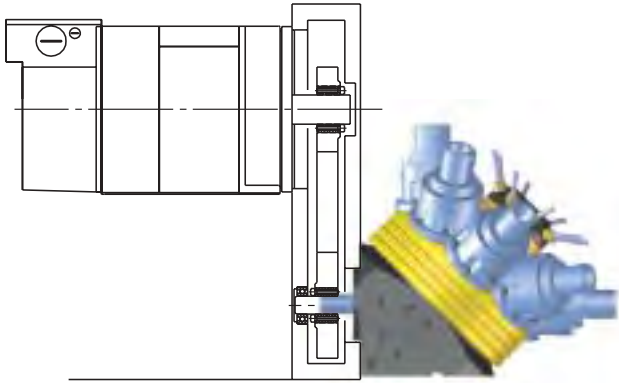
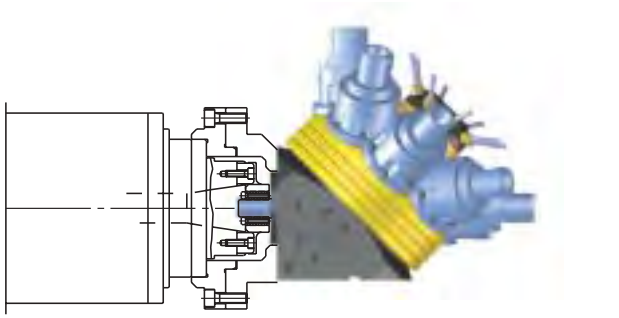
**F4** entrata olio-aria  
input oil-air

**F5** connettore elettrico  
electric connector



**HT 160      HT 250      HT 360**

<b>n° di posizioni max</b> max nr. of position		6	6-8	6
<b>coppia trasmissibile al mandrino</b> transmitting torque by spindle	Nm	80	300	800
<b>n° giri max mandrino</b> max rpm spindle		12.000	10.000	8.000
<b>precisione di posizione mandrini</b> precision of spindles positioning		± 3"	± 3"	± 3"
<b>potenza motore</b> motor power	approx Kw	3	6,5	16
<b>tempo di rotazione (1/6 di giro)</b> indexing time 1/6 of rotation	sec	0,9	1,1	1,5
<b>diametro corona Hirth</b> dimension rings Hirth	mm	160	250	350
<b>A</b>		160	250	360
<b>B</b> dipende dal tipo di mandrino to depend on the spindle type	approx mm	70/80	100/120	120/160
<b>C</b>		160	250	350
<b>D</b>		180	280	400
<b>tipi di mandrini disponibili</b> type of spindles		ABS, HSK, ER, DIN 55058		
<b>peso</b> weight	kg	35	140	300



TA

MO

HT

VH

TSI/TSX

T

MT-TC-TC3

Accessori  
Accessories

Appendice tecnica  
Technical supplement





# serie VH

## teste multiple ad assi variabili variable axis heads



1965

Lo sviluppo della **serie TE**, una linea completa di teste ad assi variabili, rappresenta l'innovazione degli anni '70 che sancisce a pieni voti il successo e la notorietà del marchio O.M.G.

Gli anni '80 sono dedicati al perfezionamento della linea **TE** e all'introduzione di due nuove serie; la **TEM** e la **TEF**. Il risultato è la messa a punto della più completa gamma di teste ad assi variabili presenti sul mercato nazionale ed internazionale.

L'impiego di nuove tecniche computerizzate firmano la notorietà e l'immagine del marchio O.M.G.: un nome diffuso e conosciuto da tutte le aziende, piccole e grandi, un'immagine mai smentita ma sottolineata nelle numerose campagne pubblicitarie realizzate.

L'ultima generazione, la **serie VH**, racchiude gli elementi di tecnologia e know how delle teste multiple ad interassi fissi. Si tratta di strumenti ad alta prestazione che consentono agli utilizzatori l'impiego ottimale di tutte le più avanzate tecnologie applicate agli utensili.

La **VH** rappresenta una serie completamente diversa, sia sotto il profilo tecnologico che estetico: un prodotto per il quale anche la ricerca ergonomica è stata assolutamente meticolosa.



1983

*The **TE series**, a complete range of variable axes heads, represented a major company achievement in the seventies: it was a success and brought OMG into the limelight.*

*The eighties were characterised by upgrades to the **TE** range and the addition of two new series **TEM** and **TEF**.*

*Together this forms the most complete range of variable axis heads on domestic and international markets.*

*Cutting-edge technologies in production processes and the use of new computerised methods are the hallmarks of the O.M.G. brand name and image thanks to which the company has won renown among small and large enterprises alike, an image that has never lost its importance but which is, instead, stressed by frequent advertising campaigns.*



Now

*The latest generation, the **VH series**, bears witness to the technology and "know how" of multispindle heads with fixed centres and allows the end user to fully exploit the latest developments in tool manufacturing.*

*This new **VH series**, so different in terms of technology and aesthetics, is also the result of meticulous ergonomic research.*



VH 04 .....	4-2
VH 06 .....	4-4
VH 08 .....	4-6
VH 10 .....	4-8
VH 13 .....	4-10
VH 18 .....	4-12
VH 25 .....	4-14
VH 101 .....	4-16
VH 181 .....	4-17
Regolazione utensili/Tool settings .....	4-18
Esecuzioni speciali/Special executions .....	4-19
Galleria fotografica/Photographic gallery .....	4-20
Accessori/Accessories .....	8-1

Dimensione mandrini/Spindle dimensions.....	9-3
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TA

MO

HT

VH

TSI/TSX

T

MT-TC-TC3

Accessori  
AccessoriesAppendice tecnica  
Technical supplement

Teste multiple ad assi variabili • Variable axis heads

CAPACITA' FORATURA  
DRILLING CAPACITY  $\phi 5$

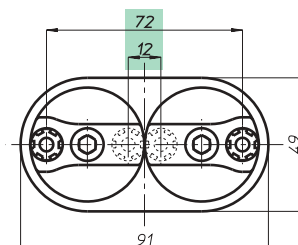
VH

modello 04

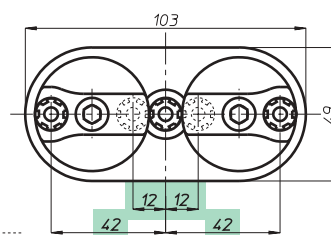


Testa modello Head type	VH 042	VH 043 L	VH 043	VH 044
Articolo Article	VH 042 P	VH 043 LP	VH 043 P	VH 044 P
Attacco utensile Type of spindle	Pinza ER 8 - $\phi$ max 5			
Articolo Article				
Attacco utensile Type of spindle				
N. mandrini Spindles nr.	2	3	3	4
Campo di lavoro min.	12	12 + 12	$\phi$ 18,5	$\phi$ 29,5
Centre distances max.	72	42 + 42	$\phi$ 78,5	$\phi$ 89,5
Capacità foratura	Acciaio Rm 500 N/mm <sup>2</sup> - $\phi$ 4			
Drilling capacity	Ghisa GG25 - $\phi$ 5			
Maschiatura Tapping	M 3			
Rapporto Ratio	1 - 1			
Velocità RPM	4000			
Peso Weight	Kg. 0,95	1,05	1,4	1,9

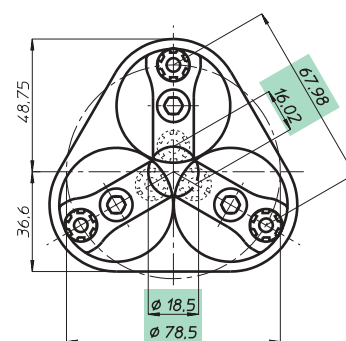
VH 042



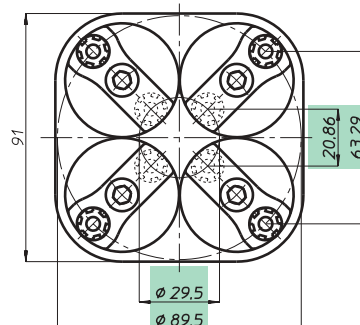
VH 043 L



VH 043



VH 044

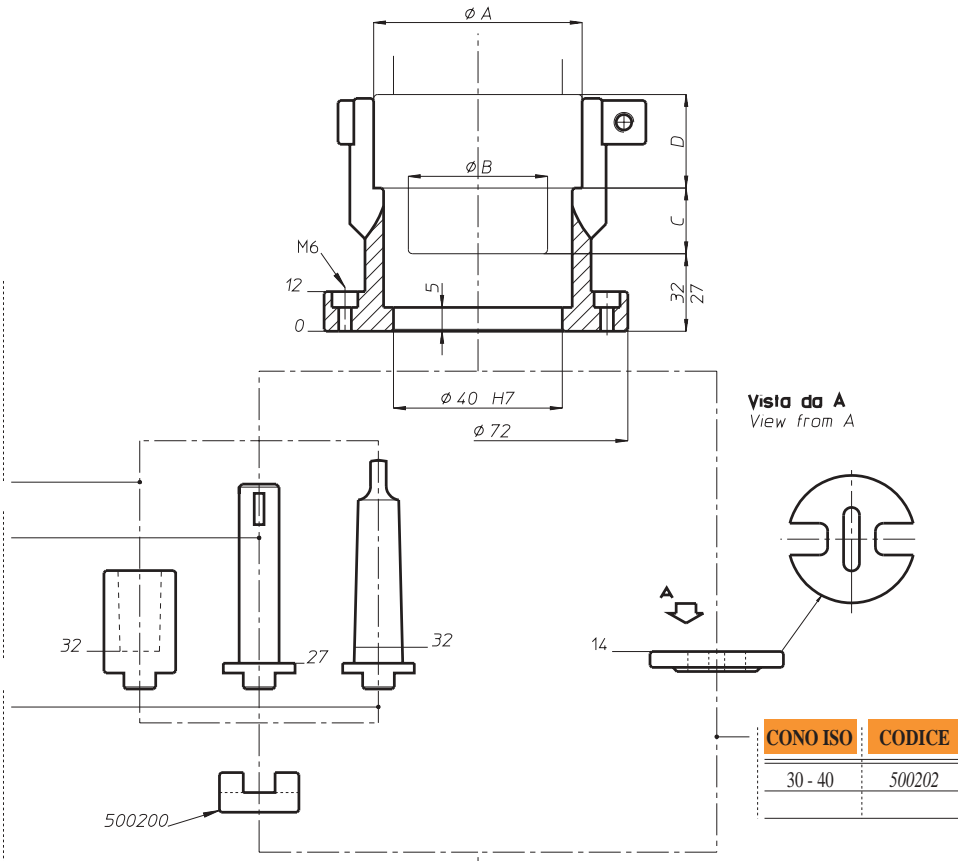


**NOTA:** A.B.C.D. dati macchina  
 NOTE: A.B.C.D. machine features

DIN 238	CODICE
B 10	011277
B 12	011278
B 16	011279
B 18	011280

DIN 55058	CODICE
16	525405
20	525406
28	525407

DIN 228	CODICE
CM 1	011115
CM 2	011120
CM 3	011125



Teste multiple ad assi variabili • Variable axis heads

TA

MO

HT

VH

TSI/TSX

T

MT-TC-TC3

Accessori  
Accessories

Appendice tecnica  
Technical supplement

TA

MO

HT

VH

TSI/TSX

T

MT-TC-TC3

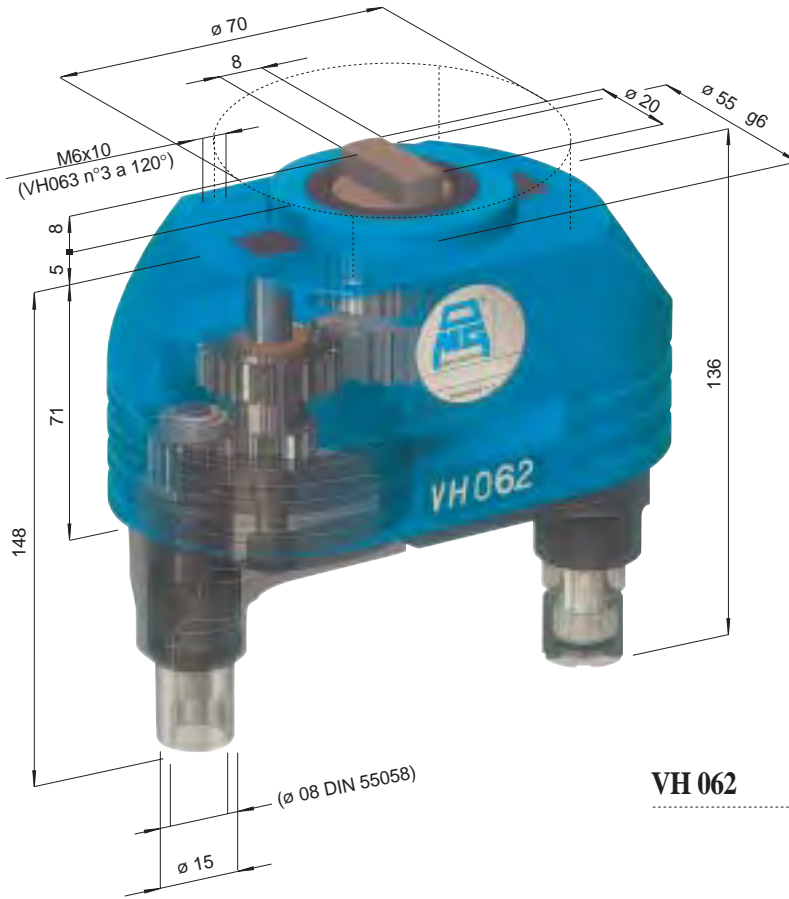
Accessori  
AccessoriesAppendice tecnica  
Technical supplement

Teste multiple ad assi variabili • Variable axis heads

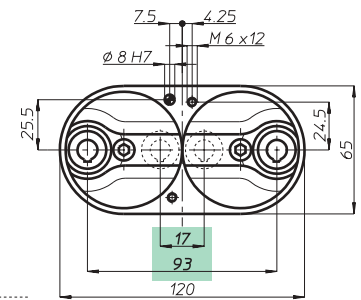
**CAPACITA' FORATURA**  
**DRILLING CAPACITY**  $\phi 7$

**VH**

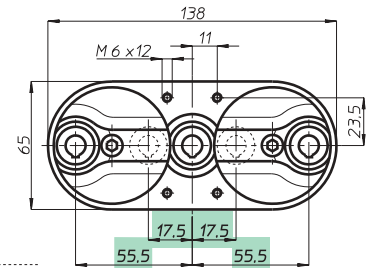
**modello 06**



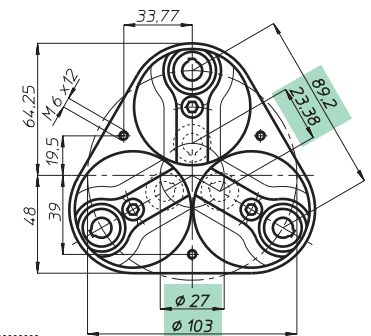
**VH 062**



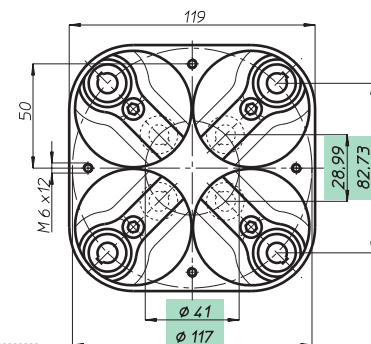
**VH 063 L**



**VH 063**



**VH 064**



Testa modello Head type	VH 062	VH 063 L	VH 063	VH 064
Articolo Article	VH 062 P	VH 063 LP	VH 063 P	VH 064 P
Attacco utensile Type of spindle	Pinza ER 11 - $\phi$ max 7			
Articolo Article	VH 062 D	VH 063 LD	VH 063 D	VH 064 D
Attacco utensile Type of spindle	DIN 55058 - $\phi$ 8			
N. mandrini Spindles nr.	2	3	3	4
Campo di lavoro min.	17	17,5 + 17,5	$\phi$ 27	$\phi$ 41
Centre distances max.	93	55,5 + 55,5	$\phi$ 103	$\phi$ 117
Capacità foratura	Acciaio Rm 500 N/mm <sup>2</sup> - $\phi$ 6			
Drilling capacity	Ghisa GG25 - $\phi$ 7			
Maschiatura Tapping	M 5			
Rapporto Ratio	1 - 1			
Velocità RPM	4000			
Peso Weight	Kg. 1,65	1,95	2,3	3,1

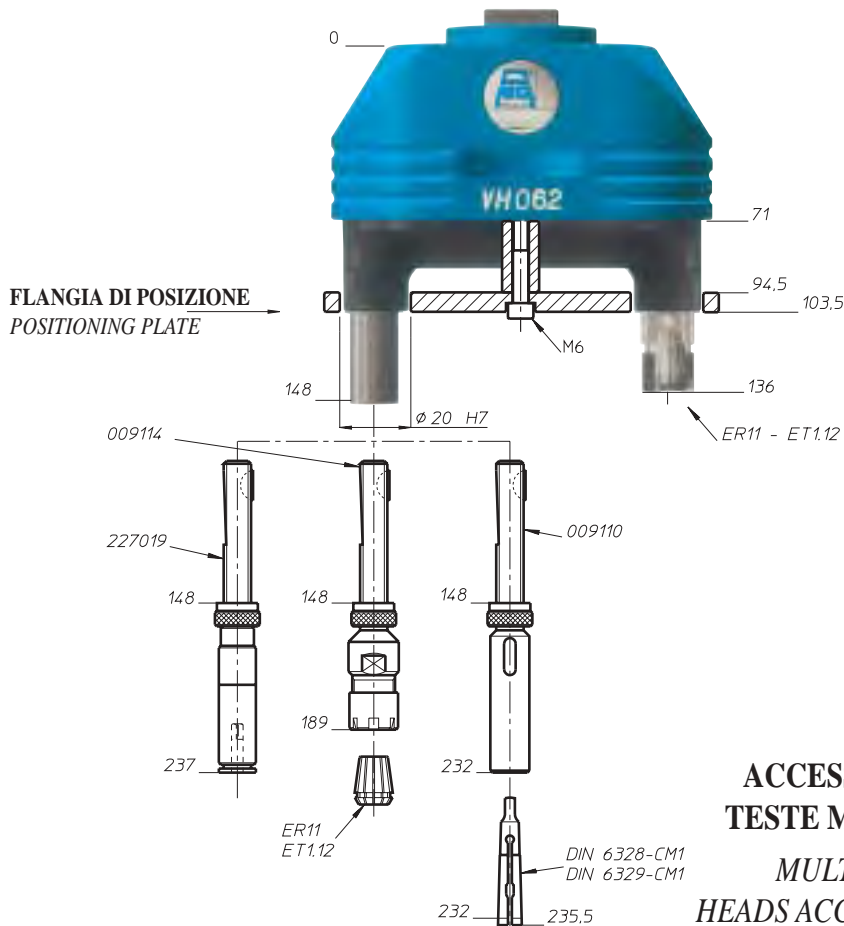
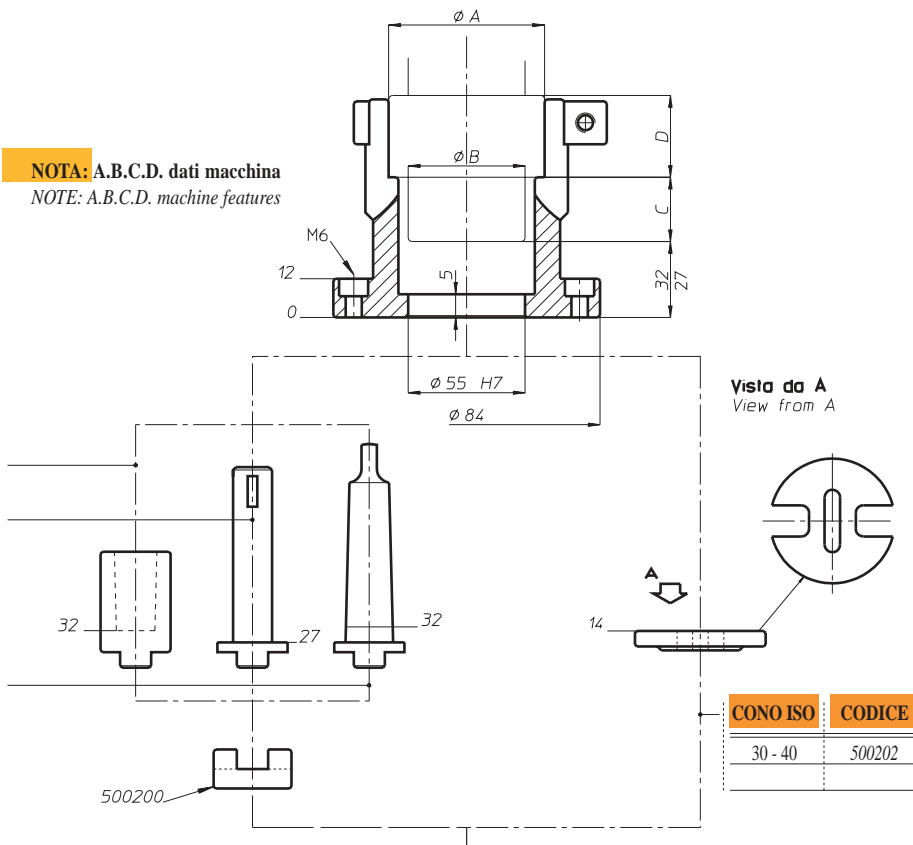


NOTA: A.B.C.D. dati macchina  
NOTE: A.B.C.D. machine features

DIN 238	CODICE
B 10	011277
B 12	011278
B 16	011279
B 18	011280
B 22	011281
B 24	011282

DIN 55058	CODICE
16	525405
20	525406
28	525407
36	525408

DIN 228	CODICE
CM 1	011115
CM 2	011120
CM 3	011125
CM 4	011130
CM 5	011136



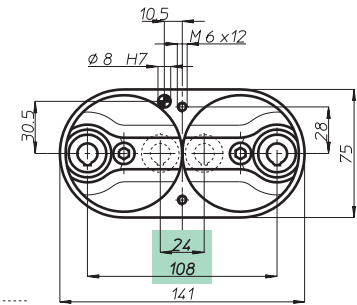
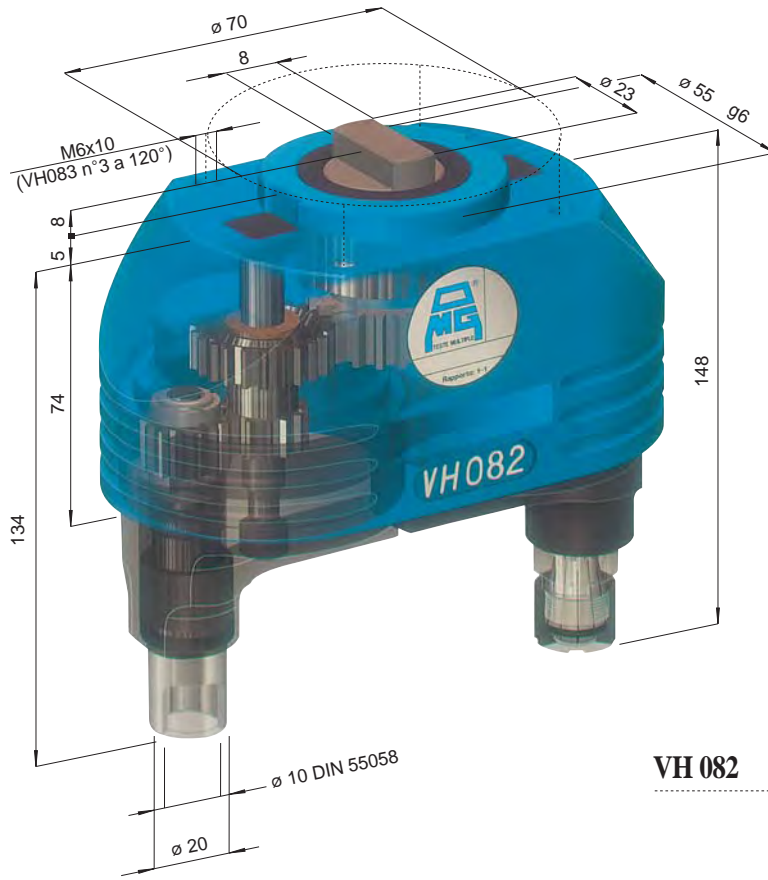
**ACCESSORI PER  
TESTE MULTIPLE**  
*MULTISPINDLE  
HEADS ACCESSORIES*

Teste multiple ad assi variabili • Variable axis heads

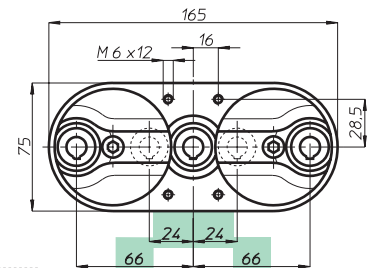
**CAPACITA' FORATURA**  
**DRILLING CAPACITY** **Ø10**

**VH**

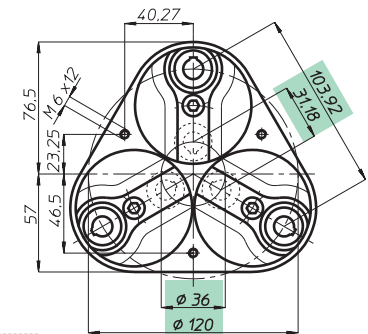
**modello 08**



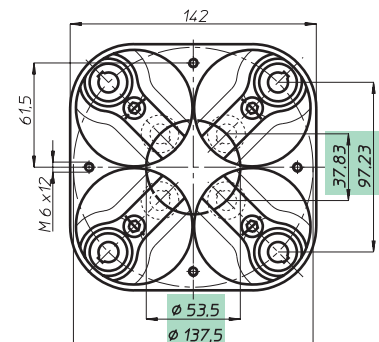
**VH 082**



**VH 083 L**



**VH 083**



**VH 084**

Testa modello Head type	<b>VH 082</b>	<b>VH 083 L</b>	<b>VH 083</b>	<b>VH 084</b>	
Articolo Article	VH 082 P	VH 083 LP	VH 083 P	VH 084 P	
Attacco utensile Type of spindle	Pinza ER 16 - Ø max 10				
Articolo Article	VH 082 D	VH 083 LD	VH 083 D	VH 084 D	
Attacco utensile Type of spindle	DIN 55058 - Ø 10				
N. mandrini Spindles nr.	2	3	3	4	
Campo di lavoro min. Centre distances	24	24 + 24	Ø 36	Ø 53,5	
max.	108	66 + 66	Ø 120	Ø 137,5	
Capacità foratura Drilling capacity	Acciaio Rm 500 N/mm <sup>2</sup> - Ø 8				
Maschiatura Tapping	Ghisa GG25 - Ø 10				
Rapporto Ratio	M 6				
Velocità RPM	1 - 1				
Peso Weight	4000				
	Kg.	2,2	2,9	3,4	4,6

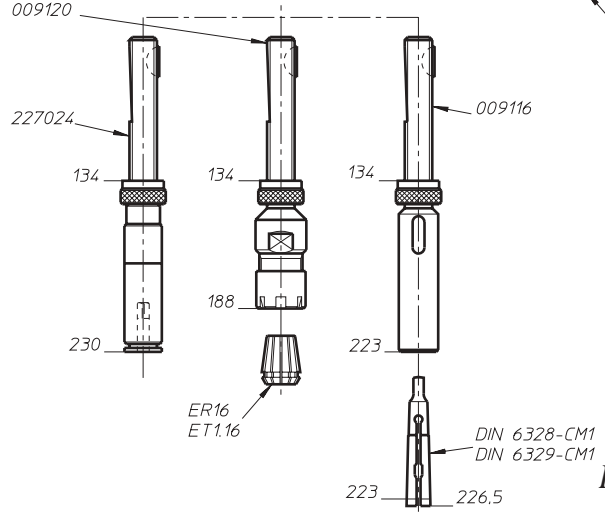
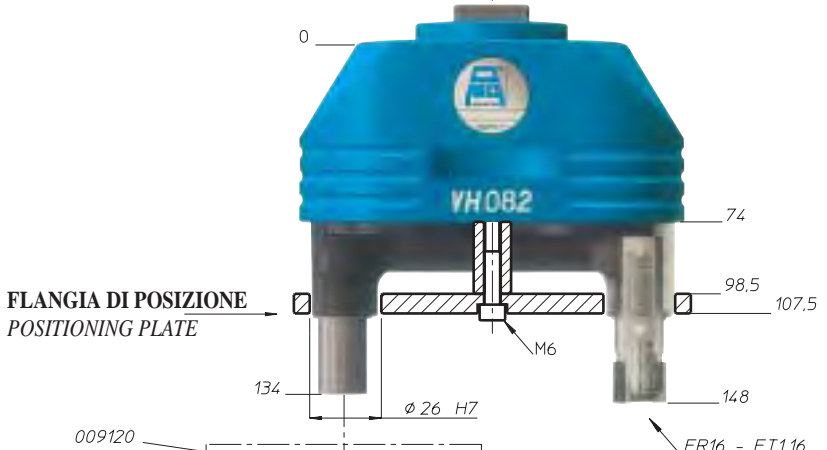
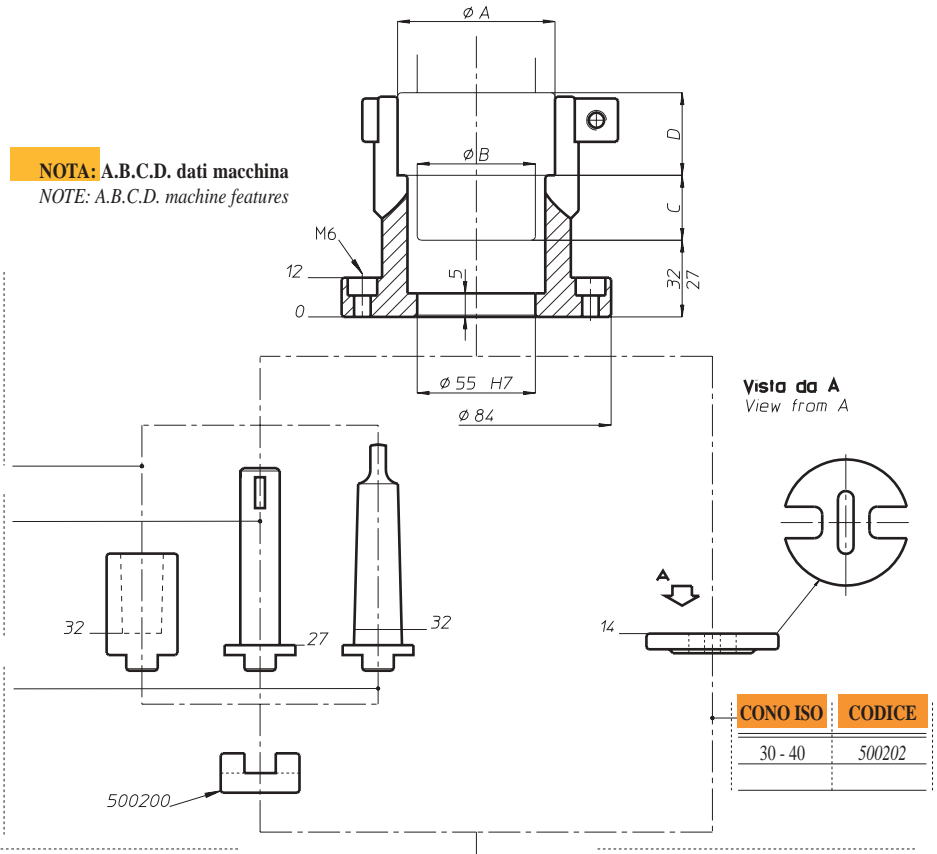
Teste multiple ad assi variabili • Variable axis heads

NOTA: A.B.C.D. dati macchina  
NOTE: A.B.C.D. machine features

DIN 238	CODICE
B 10	011277
B 12	011278
B 16	011279
B 18	011280
B 22	011281
B 24	011282

DIN 55058	CODICE
16	525405
20	525406
28	525407
36	525408

DIN 228	CODICE
CM 1	011115
CM 2	011120
CM 3	011125
CM 4	011130
CM 5	011136



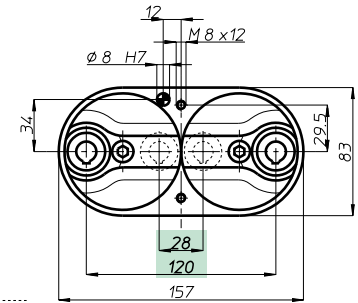
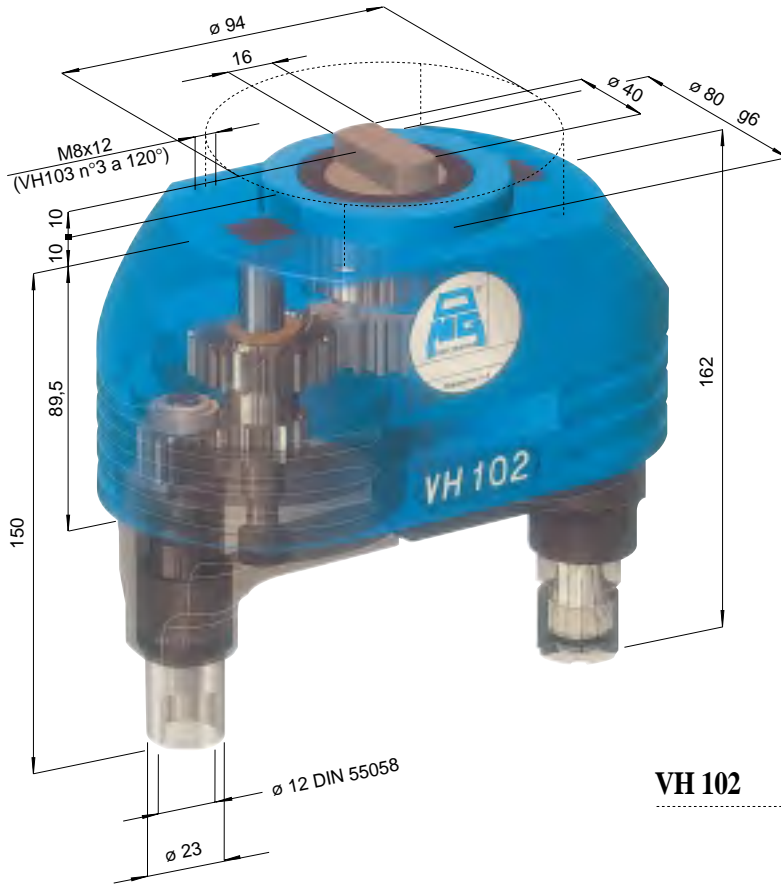
**ACCESSORI PER  
TESTE MULTIPLE**  
**MULTISPINDLE  
HEADS ACCESSORIES**

Teste multiple ad assi variabili • Variable axis heads

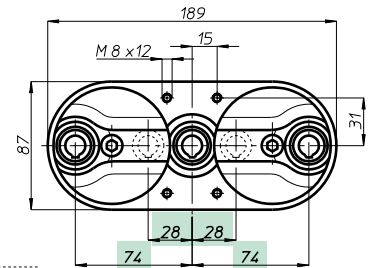
**CAPACITA' FORATURA**  
**DRILLING CAPACITY** **Ø12**

**VH**

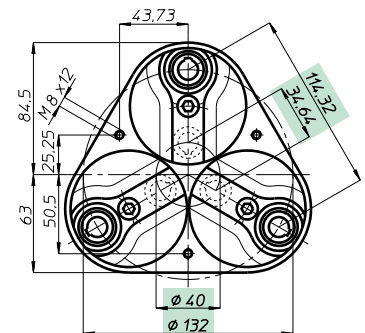
**modello 10**



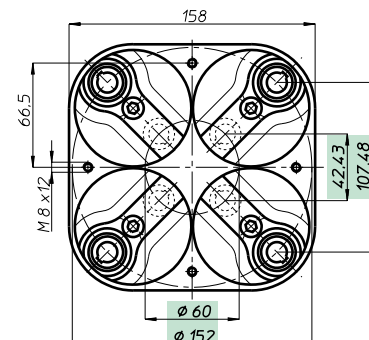
**VH 102**



**VH 103 L**



**VH 103**



**VH 104**

Testa modello Head type	VH 102	VH 103 L	VH 103	VH 104
Articolo Article	VH 102 P	VH 103 LP	VH 103 P	VH 104 P
Attacco utensile Type of spindle	Pinza ER 16 - Ø max 10			
Articolo Article	VH 102 D	VH 103 LD	VH 103 D	VH 104 D
Attacco utensile Type of spindle	DIN 55058 - Ø 12			
N. mandrini Spindles nr.	2	3	3	4
Campo di lavoro min.	28	28 + 28	Ø 40	Ø 60
Centre distances max.	120	74 + 74	Ø 132	Ø 152
Capacità foratura	Acciaio Rm 500 N/mm <sup>2</sup> - Ø 10			
Drilling capacity	Ghisa GG25 - Ø 12			
Maschiatura Tapping	M 8			
Rapporto Ratio	1 - 1			
Velocità RPM	3500			
Peso Weight	Kg. 3,5	4,9	4,9	7,2

Teste multiple ad assi variabili • Variable axis heads



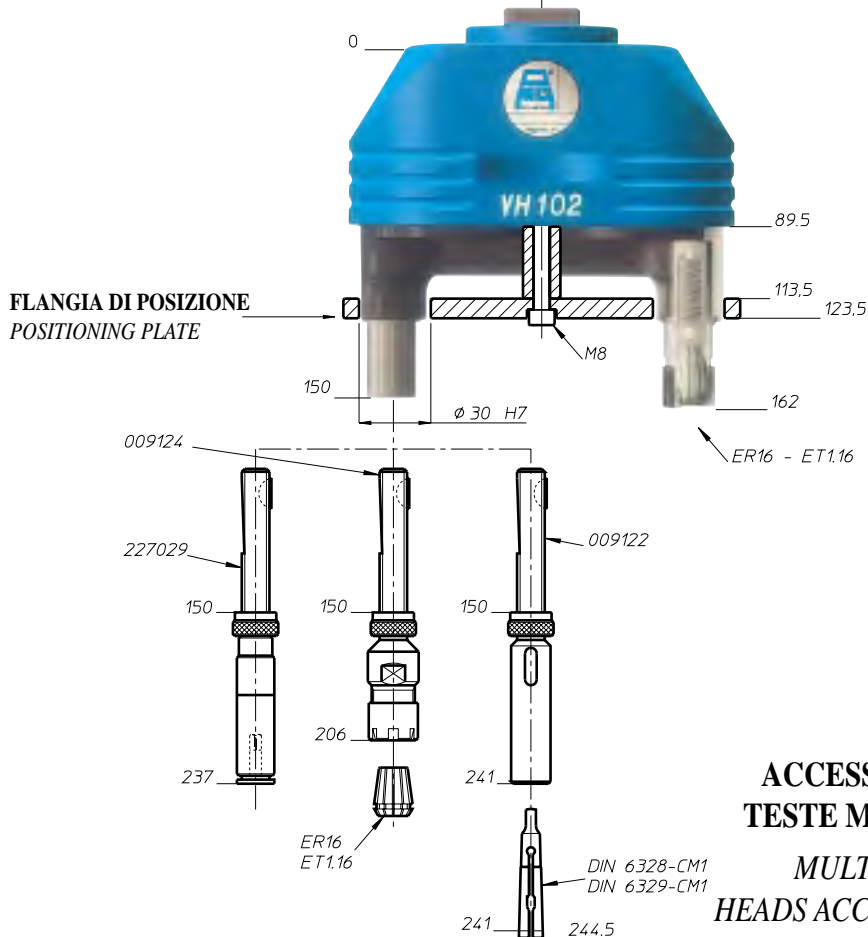
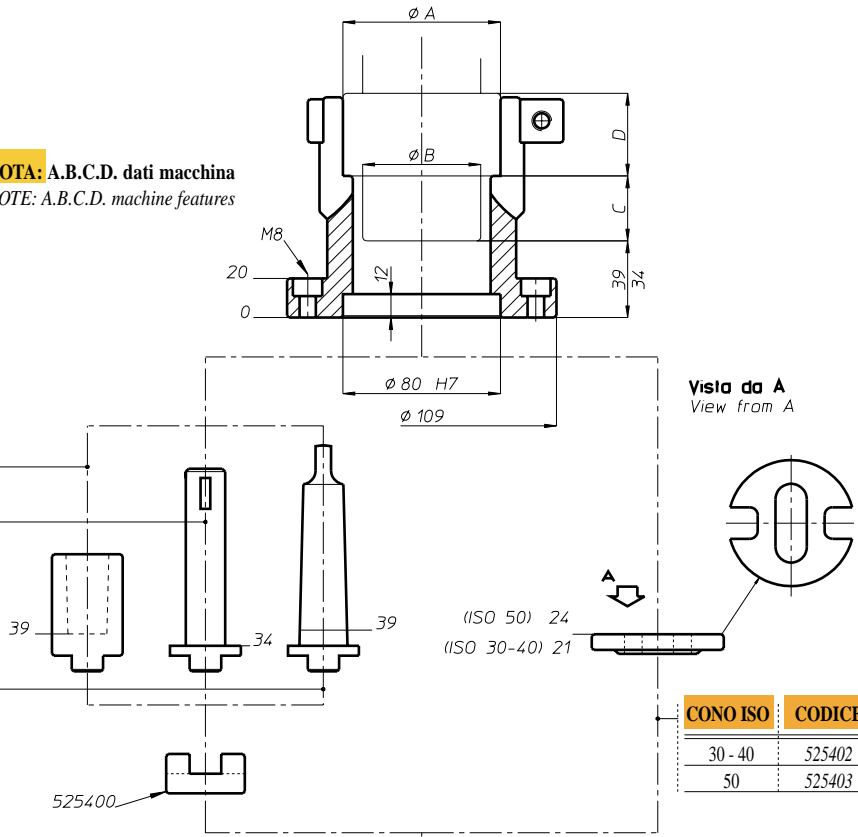
# MANICOTTO DI COLLEGAMENTO - CONNECTION COLLAR

**NOTA:** A.B.C.D. dati macchina  
 NOTE: A.B.C.D. machine features

DIN 238	CODICE
B 10	011277
B 12	011278
B 16	011279
B 18	011280
B 22	011281
B 24	011282

DIN 55058	CODICE
16	525405
20	525406
28	525407
36	525408

DIN 228	CODICE
CM 1	011115
CM 2	011120
CM 3	011125
CM 4	011130
CM 5	011136



**ACCESSORI PER  
 TESTE MULTIPLE  
 MULTISPINDLE  
 HEADS ACCESSORIES**

Teste multiple ad assi variabili • Variable axis heads

TA

MO

HT

VH

TSI/TSX

T

MT-TC-TC3

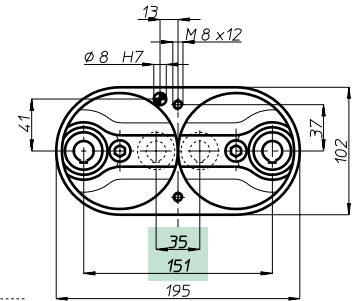
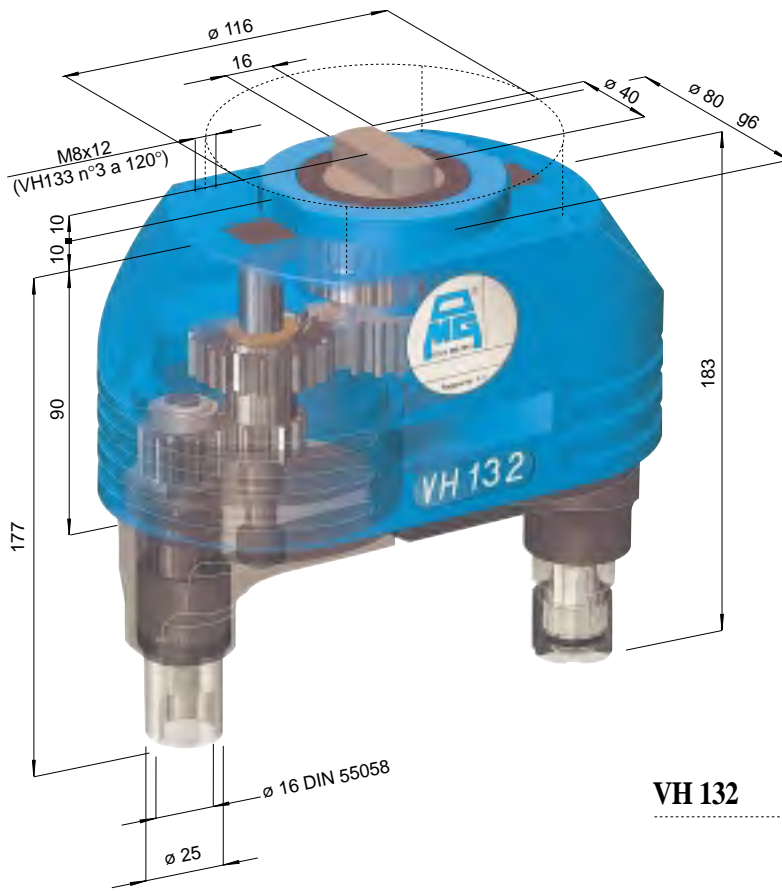
Accessori  
 Accessories

Appendice tecnica  
 Technical supplement

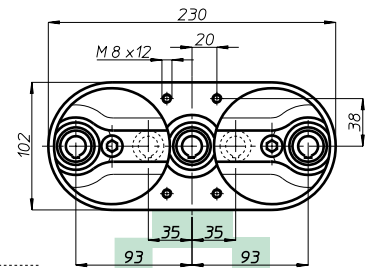
**CAPACITA' FORATURA**  
**DRILLING CAPACITY** **Ø14**

**VH**

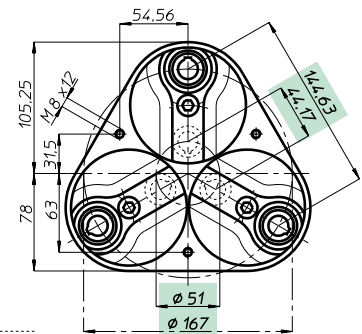
**modello 13**



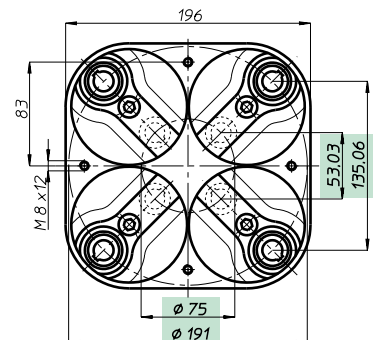
**VH 132**



**VH 133 L**



**VH 133**



**VH 134**

Testa modello Head type	VH 132	VH 133 L	VH 133	VH 134
Articolo Article	VH 132 P	VH 133 LP	VH 133 P	VH 134 P
Attacco utensile Type of spindle	Pinza ER 20 - Ø max 13			
Articolo Article	VH 132 D	VH 133 LD	VH 133 D	VH 134 D
Attacco utensile Type of spindle	DIN 55058 - Ø 16			
N. mandrini Spindles nr.	2	3	3	4
Campo di lavoro min. Centre distances min.	35	35 + 35	Ø 51	Ø 75
Campo di lavoro max. Centre distances max.	151	93 + 93	Ø 167	Ø 191
Capacità foratura Drilling capacity	Acciaio Rm 500 N/mm <sup>2</sup> - Ø 13			
Maschiatura Tapping	Ghisa GG25 - Ø 14			
Rapporto Ratio	M 12			
Velocità RPM	1 - 1			
Peso Weight	3000	Kg.		
	5,3	7,2	7	10,8

Teste multiple ad assi variabili • Variable axis heads

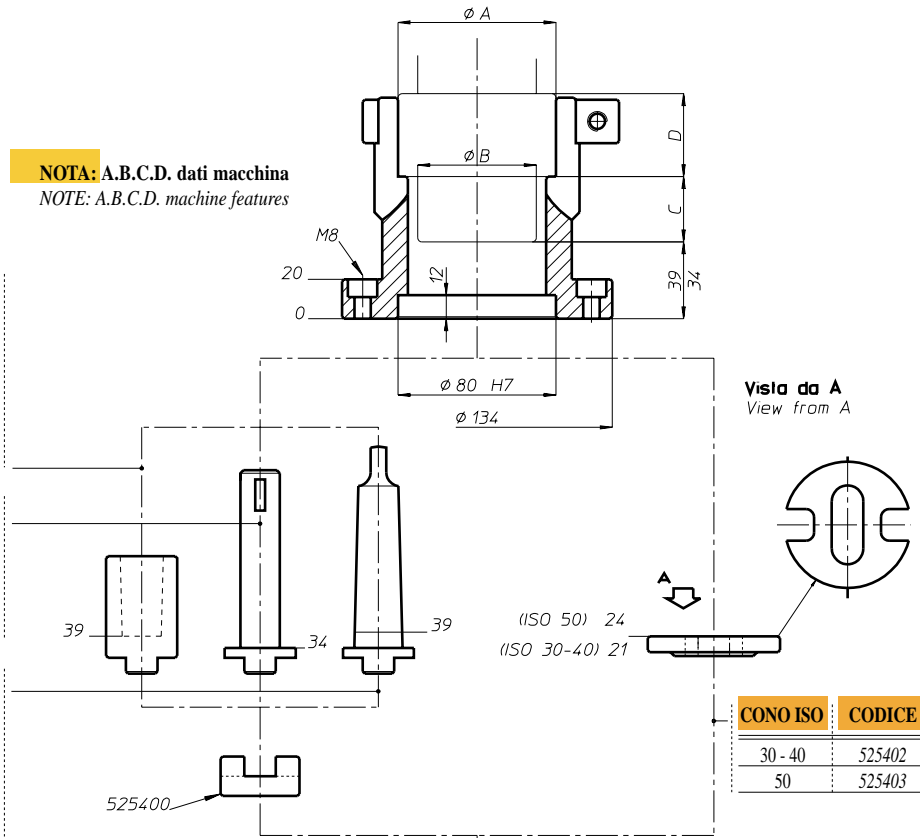
# MANICOTTO DI COLLEGAMENTO - CONNECTION COLLAR

**NOTA:** A.B.C.D. dati macchina  
**NOTE:** A.B.C.D. machine features

DIN 238	CODICE
B 16	011279
B 18	011280
B 22	011281
B 24	011282

DIN 55058	CODICE
16	525405
20	525406
28	525407
36	525408

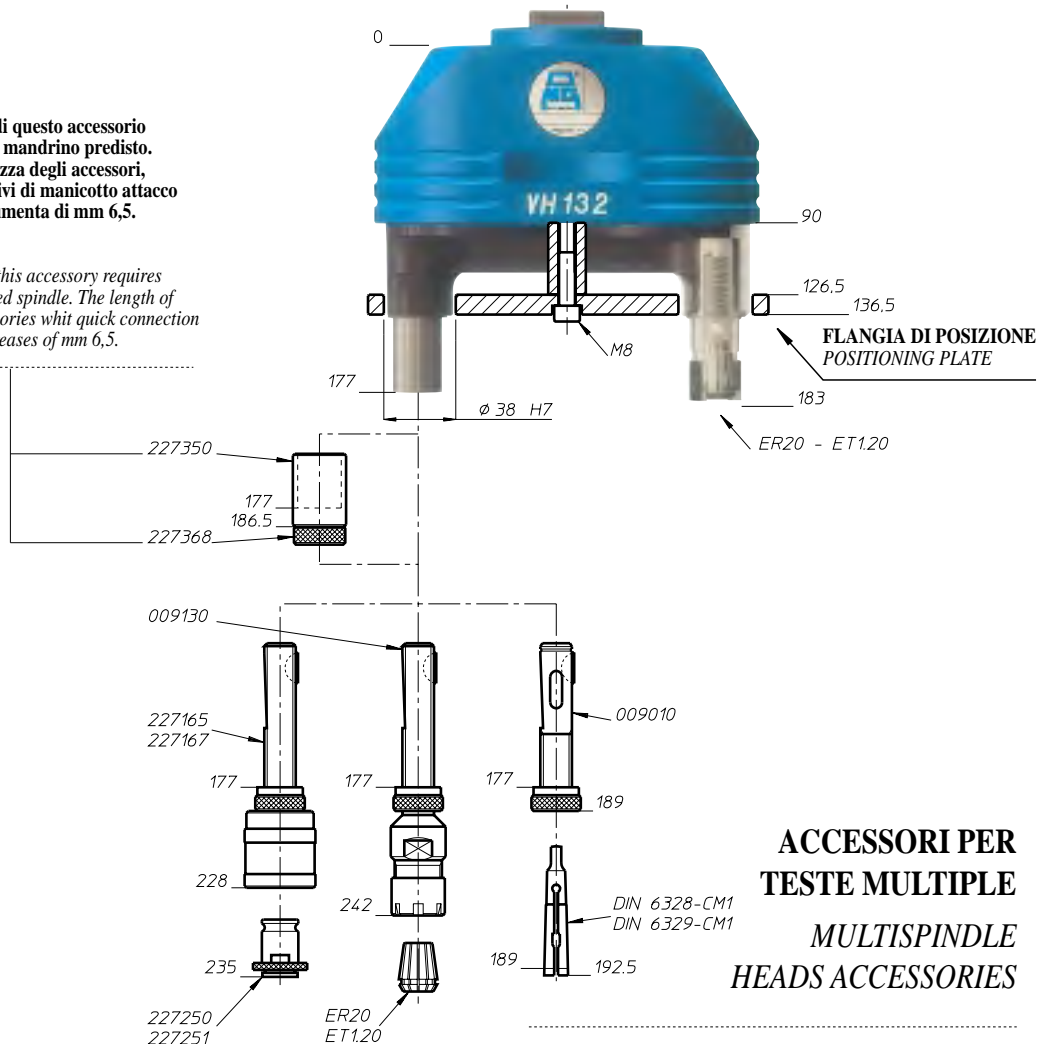
DIN 228	CODICE
CM 2	011120
CM 3	011125
CM 4	011130
CM 5	011136



**NOTA:**

l'utilizzo di questo accessorio richiede il mandrino predisto. La lunghezza degli accessori, comprensivi di manicotto attacco rapido, aumenta di mm 6,5.

**NOTE:**  
 the use of this accessory requires prearranged spindle. The length of this accessories whit quick connection sleeve increases of mm 6,5.



Teste multiple ad assi variabili • Variable axis heads





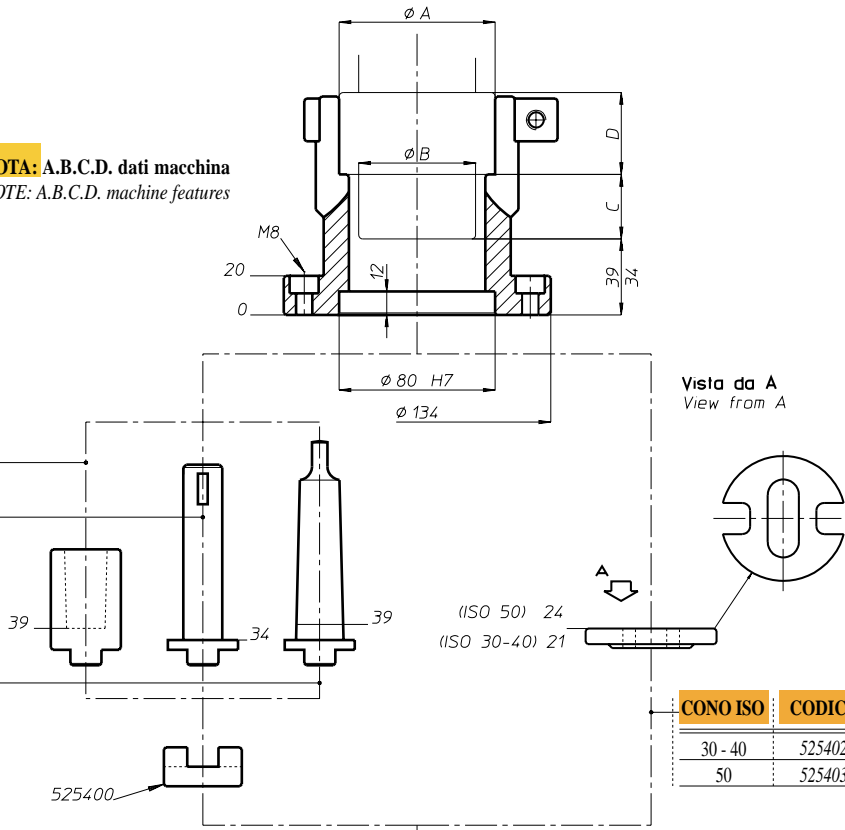
# MANICOTTO DI COLLEGAMENTO - CONNECTION COLLAR

**NOTA:** A.B.C.D. dati macchina  
**NOTE:** A.B.C.D. machine features

DIN 238	CODICE
B 16	011279
B 18	011280
B 22	011281
B 24	011282

DIN 55058	CODICE
16	525405
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28	525407
36	525408

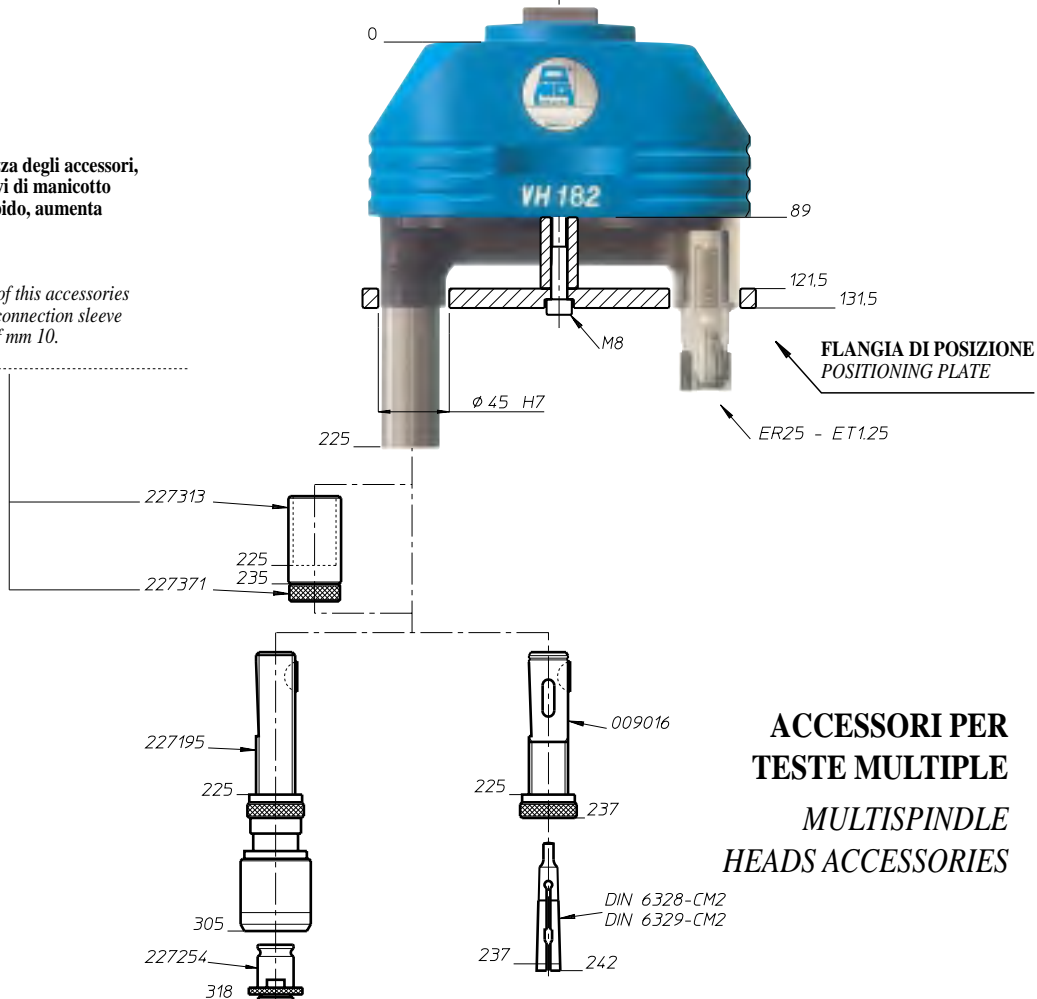
DIN 228	CODICE
CM 3	011125
CM 4	011130
CM 5	011136



**NOTA:**

La lunghezza degli accessori, comprensivi di manicotto attacco rapido, aumenta di mm 10.

**NOTE:**  
 The length of this accessories whit quick connection sleeve increases of mm 10.



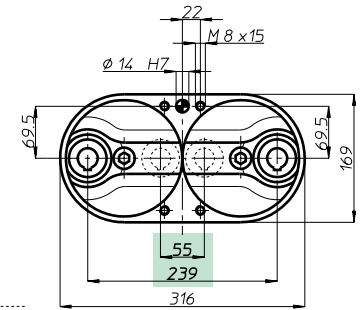
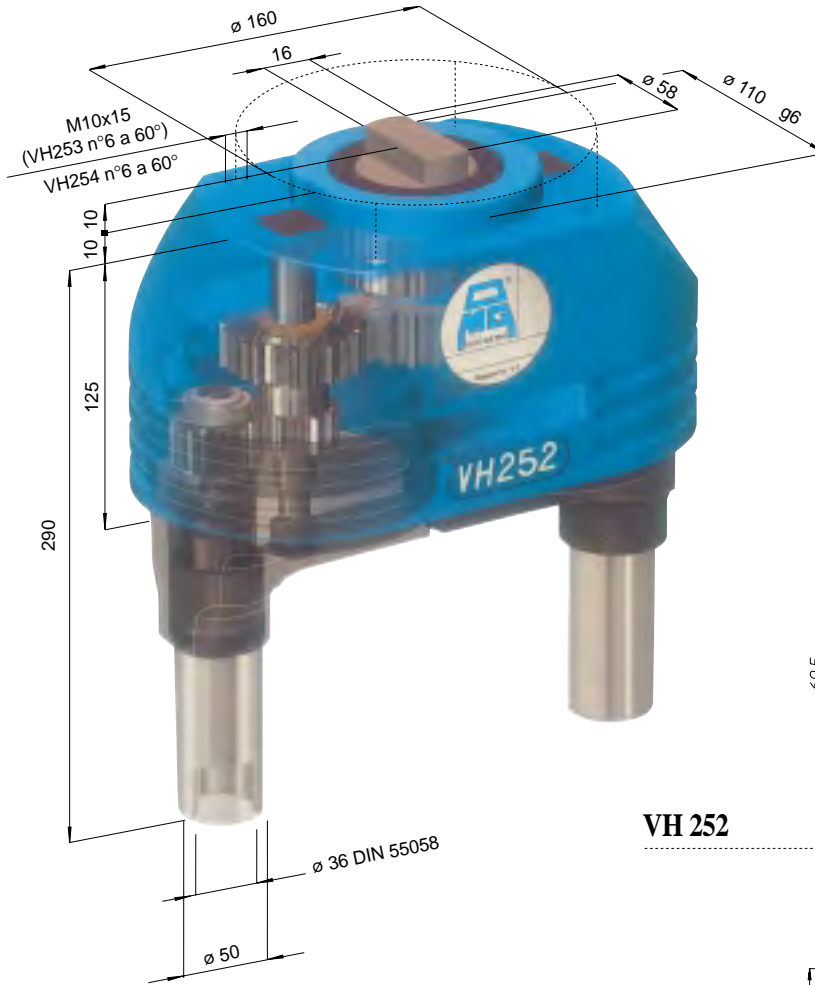
**ACCESSORI PER  
 TESTE MULTIPLE  
 MULTISPINDLE  
 HEADS ACCESSORIES**

Teste multiple ad assi variabili • Variable axis heads

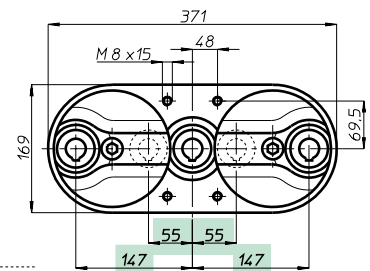
**CAPACITA' FORATURA**  
**DRILLING CAPACITY** **ø28**

**VH**

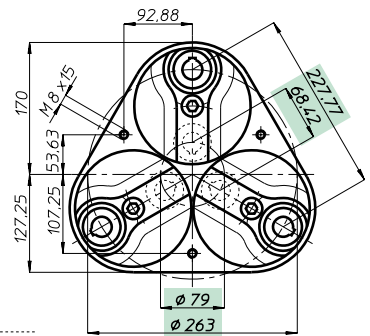
**modello 25**



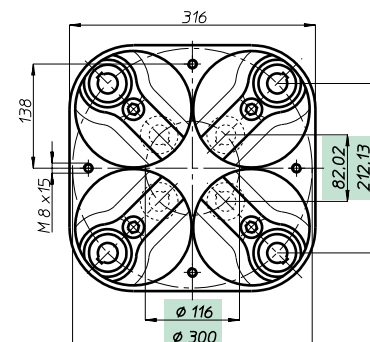
**VH 252**



**VH 253 L**



**VH 253**



**VH 254**

Testa modello Head type	VH 252	VH 253 L	VH 253	VH 254
Articolo Article				
Attacco utensile Type of spindle	DIN 55058 - ø 36			
Articolo Article	VH 252 D	VH 253 LD	VH 253 D	VH 254 D
Attacco utensile Type of spindle	DIN 55058 - ø 36			
N. mandrini Spindles nr.	2	3	3	4
Campo di lavoro min.	55	55 + 55	ø 79	ø 116
Centre distances max.	239	147 + 147	ø 263	ø 300
Capacità foratura	Acciaio Rm 500 N/mm <sup>2</sup> - ø 25			
Drilling capacity	Ghisa GG25 - ø 28			
Maschiatura Tapping	M 20			
Rapporto Ratio	1 - 1			
Velocità RPM	2000			
Peso Weight	Kg. 27	32	39,5	52

Teste multiple ad assi variabili • Variable axis heads

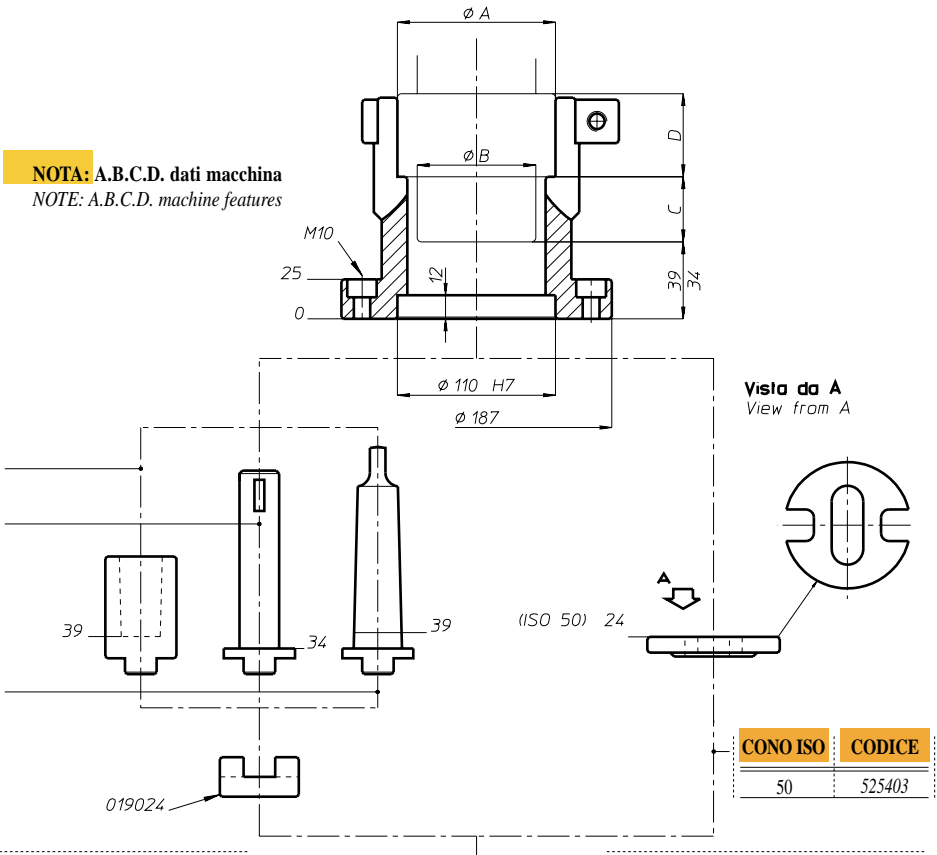
# MANICOTTO DI COLLEGAMENTO - CONNECTION COLLAR

**NOTA:** A.B.C.D. dati macchina  
 NOTE: A.B.C.D. machine features

DIN 238	CODICE
B 18	011280
B 22	011281
B 24	011282

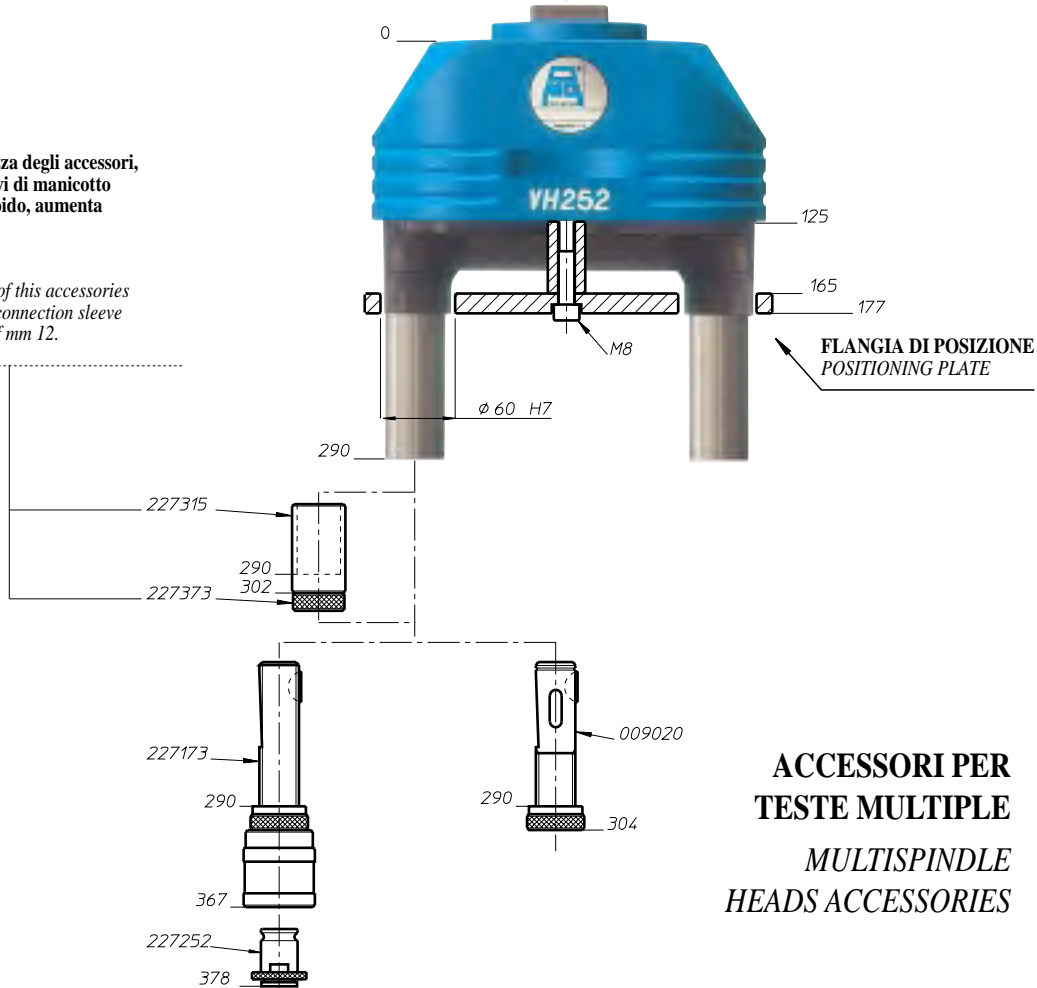
DIN 55058	CODICE
16	525405
20	525406
28	525407
36	525408

DIN 228	CODICE
CM 3	011125
CM 4	011130
CM 5	011136



**NOTA:**  
 La lunghezza degli accessori, comprensivi di manicotto attacco rapido, aumenta di mm 12.

**NOTE:**  
 The length of this accessories whith quick connection sleeve increases of mm 12.



**ACCESSORI PER  
 TESTE MULTIPLE  
 MULTISPINDLE  
 HEADS ACCESSORIES**

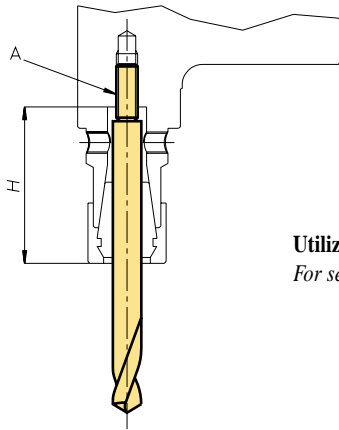
Teste multiple ad assi variabili • Variable axis heads







### FORATURA CON PINZE ER DRILLING WITH ER COLLETS

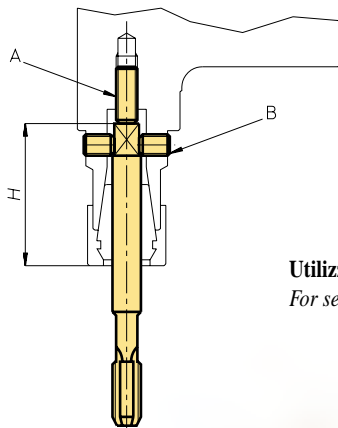


Utilizzare la vite A per registrare l'altezza utensile  
For setting the tool length, use the screw A

Testa Head	VH 04	VH 06	VH 08	VH 10	VH 13	VH 18
H max	23	27	44	44	52	49

NOTA: nella testa VH04 e VH06 la vite A non è presente  
NOTE: in the head VH04 and VH06 there isn't the screw A

### MASCHIATURA CON PINZE ER TAPPING WITH ER COLLETS



Utilizzare la vite A per registrare l'altezza utensile e le viti B per bloccare il quadro del maschio  
For setting the tool length, use the screw A; locking the tap square with the screws B

Testa Head	VH 04	VH 06	VH 08	VH 10	VH 13	VH 18
H	23	27	38	38	44	49

NOTA: nella testa VH04 e VH06 la vite A non è presente  
NOTE: in the head VH04 and VH06 there isn't the screw A



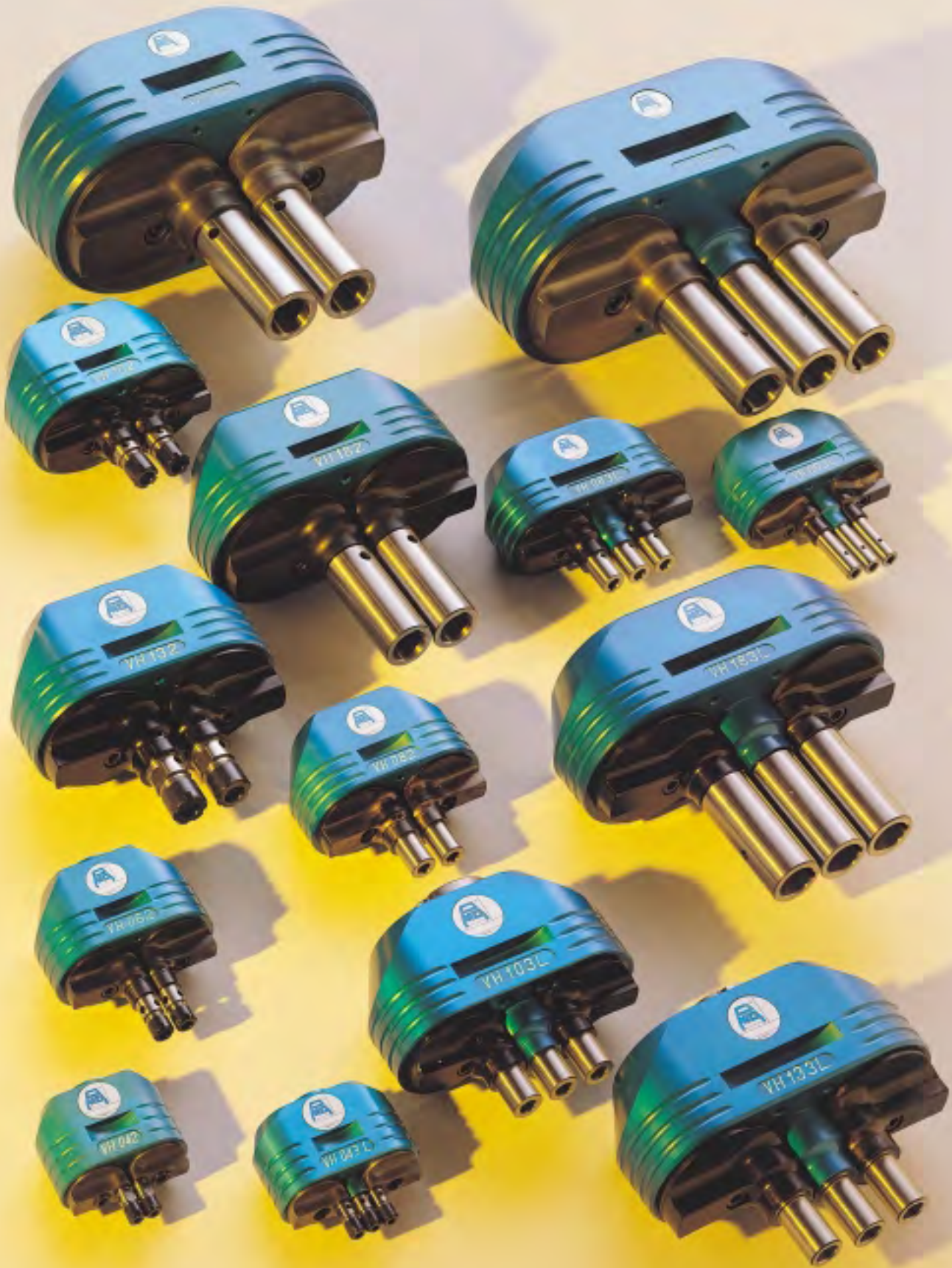
<b>VH 042 LP</b>	n° 2 mandrini a pinza, min. 24 max. 84	<i>2 spindles for spring collets min. 24 max. 84</i>
<b>VH 042P R. 1-2</b>	n° 2 mandrini a pinza, min. 12 max. 72 rapp. 1-2	<i>2 spindles for spring collets min. 12 max. 72 ratio 1-2</i>
<b>VH 062 LP</b>	n° 2 mandrini a pinza, min. 35 max. 111	<i>2 spindles for spring collets min. 35 max. 111</i>
<b>VH 062 LD</b>	n° 2 mandrini DIN 55058-8 min. 35 max. 111	<i>2 spindles DIN 55058-8 min. 35 max. 111</i>
<b>VH 062/1</b>	n° 1 mandrino a pinza, min. 8,5 max. 46,5	<i>1 spindle for spring collets min. 8,5 max. 46,5</i>
<b>VH 062P R.1-2</b>	n° 2 mandrini a pinza min. 17 max. 93 rapp. 1-2, 067	<i>2 spindles for spring collets min. 17 max. 93 ratio 1-2,067</i>
<b>VH 062P CNC40</b>	n° 2 mandrini a pinza min. 17 max. 93 completa di cono ISO 40	<i>2 spindles for spring collets min. 17 max. 93 with shank ISO 40</i>
<b>VH 063P CNC40</b>	n° 3 mandrini a 120° a pinza min. 27 max. 103 completa di cono ISO 40	<i>3 spindles at 120° for spring collets min. 27 max. 103 with shank ISO 40</i>
<b>VH 064P CNC40</b>	n° 4 mandrini a 90° a pinza min. 41 max. 117 completa di cono ISO 40	<i>4 spindles at 90° for spring collets min. 41 max. 117 with shank ISO 40</i>
<b>VH 064/3P</b>	n° 3 mandrini a pinza min. 41 max. 117	<i>3 spindles for spring collets min. 41 max. 117</i>
<b>VH 081 P</b>	n° 1 mandrino a pinza min. 0 max. 42	<i>1 spindle for spring collets min. 0 max. 42</i>
<b>VH 082 LP</b>	n° 2 mandrini a pinza min. 48 max. 132	<i>2 spindles for spring collets min. 48 max. 132</i>
<b>VH 082 LD</b>	n° 2 mandrini DIN 55058 - 10 min. 48 max. 132	<i>2 spindles DIN 55058 - 10 min. 48 max. 132</i>
<b>VH 082 P R. 1-2</b>	n° 2 mandrini a pinza min. 24 max. 108 rapp. 1-2	<i>2 spindles for spring collets min. 24 max. 108 ratio 1-2</i>
<b>VH 082P CNC 40</b>	n° 2 mandrini a pinza min. 24 max. 108 completa di cono ISO 40	<i>2 spindles for spring collets min. 24 max. 108 with shank ISO 40</i>
<b>VH 082PFM</b>	n° 2 mandrini a pinza min. 24 max. 108 fora/maschia	<i>2 spindles for spring collets min. 24 max. 108 drilling and tapping</i>
<b>VH 083 LP CNC40</b>	n° 3 mandrini in linea a pinza min. 24+24 max. 66+66 completa di cono ISO 40	<i>3 spindles on line for spring collets min. 24+24 max. 66+66 with shank ISO 40</i>
<b>VH 084P CNC 40</b>	n° 4 mandrini a pinza min. 53,5 max. 137,5 completa di cono ISO 40	<i>4 spindles for spring collets min. 53,5 max. 137,5 with shank ISO 40</i>
<b>VH 084/3P</b>	n° 3 mandrini a pinza min. 53,5 max. 137,5	<i>3 spindles for spring collets min. 53,5 max. 137,5</i>
<b>VH 101 P 102 LP</b>	n° 2 mandrini a pinza min. 56 max. 148	<i>2 spindles for spring collets min. 56 max. 148</i>
<b>VH 102 LD</b>	n° 2 mandrini DIN 55058-12 min. 56 max. 148	<i>2 spindles DIN 55058-12 min. 56 max. 148</i>
<b>VH 102 P CNC 40</b>	n° 2 mandrini a pinza min. 28 max. 120 completa di cono ISO 40	<i>2 spindles for spring collets min. 28 max. 120 with shank ISO 40</i>
<b>VH 102P R. 1-2</b>	n° 2 mandrini a pinza min. 28 max. 120 rapporto 1-2	<i>2 spindles for spring collets min. 28 max. 120 ratio 1-2</i>
<b>VH 102 PFM</b>	n° 2 mandrini a pinza min. 28 max. 120 fora/maschia	<i>2 spindles for spring collets min. 28 max. 120 drilling and tapping</i>
<b>VH 102-220 P</b>	n° 2 mandrini a pinza min. 128 max. 220	<i>2 spindles for spring collets min. 128 max. 220</i>
<b>VH 102-300 P</b>	n° 2 mandrini a pinza min. 208 max. 300	<i>2 spindles for spring collets min. 208 max. 300</i>
<b>VH 104D R.1-2</b>	n° 4 mandrini a 90° DIN 55058-12 min. 60 max. 152 rapp. 1-2	<i>4 spindles at 90° DIN 55058-12 min. 60 max. 152 ratio 1-2</i>
<b>VH 104P CNC50</b>	n° 4 mandrini a 90° a pinza min. 60 max. 152 completa di cono ISO 50	<i>4 spindles at 90° for spring collets min. 60 max. 152 with shank ISO 50</i>
<b>VH 132 LP</b>	n° 2 mandrini a pinza min. 70 max. 186	<i>2 spindles for spring collets min. 70 max. 186</i>
<b>VH 132 LD</b>	n° 2 mandrini DIN 55058-16 min. 70 max. 186	<i>2 spindles DIN55058-16 min. 70 max. 186</i>
<b>VH 132D CNC50</b>	n° 2 mandrini DIN 55058-16 min. 35 max. 151 completa di cono ISO 50	<i>2 spindles DIN55058-16 min. 35 max. 151 with shank ISO 50</i>
<b>VH 132P CNC50</b>	n° 2 mandrini a pinza min. 35 max. 151 completa di cono ISO 50	<i>2 spindles for spring collets min. 35 max. 151 with shank ISO 50</i>
<b>VH 132 W12</b>	n° 2 mandrini foro cilindrico diam. 12 min. 35 max. 151	<i>2 spindles diam. 12 min. 35 max. 151</i>
<b>VH 132-260 D</b>	n° 2 mandrini DIN 55058-16 min. 144 max. 260	<i>2 spindles DIN 55058-16 min. 144 max. 260</i>
<b>VH 134P CNC50</b>	n° 4 mandrini a 90° a pinza, min. 75 max. 191 completa di cono ISO 50	<i>4 spindles at 90° for spring collets, min. 75 max. 191 with shank ISO 50</i>
<b>VH 181 R 1-2</b>	n° 1 mandrino diam. 16 min. 16,5 max. 82,5 rapp. 1-2	<i>1 spindle diam. 16, min. 16,5 max. 82,5 ratio 1-2</i>
<b>VH 182 LP</b>	n° 2 mandrini a pinza, min. 82 max. 214	<i>2 spindles for spring collets, min. 82 max. 214</i>
<b>VH 182 LD</b>	n° 2 mandrini DIN 55058-28 min. 82 max. 214	<i>2 spindles DIN 55058-28 min. 82 max. 214</i>
<b>VH 182 W16</b>	n° 2 mandrini foro cilindrico diam. 16 min. 41 max. 173	<i>2 spindles diam 16, min. 41 max. 173</i>
<b>VH 182 P CNC 50</b>	n° 2 mandrini a pinza, min. 41 max. 173 completa di cono ISO 50	<i>2 spindles for spring collets, min. 41 max. 173 with shank ISO 50</i>
<b>VH 182 P R.1-2</b>	n° 2 mandrini a pinza, min. 41 max. 173 rapp. 1-2	<i>2 spindles for spring collets, min. 41 max. 173 ratio 1-2</i>
<b>VH 182D R. 1-2</b>	n° 2 mandrini DIN 55058-28 min. 41 max. 173 rapp. 1-2	<i>2 spindles DIN 55058-28, min. 41 max. 173 ratio 1-2</i>
<b>VH 183 L W16</b>	n° 3 mandrini foro cilindrico diam. 16 min. 41+41 max. 107+107	<i>3 spindles diam.16 min. 41+41 max. 107+107</i>
<b>VH 252 LD</b>	n° 2 mandrini DIN 55058-36 min. 110 max. 294	<i>2 spindles DIN 55058-36, min. 110 max. 294</i>



*Teste multiple ad assi variabili • Variable axis heads*







*Teste multiple ad assi variabili • Variable axis heads*





TA

MO

HT

VH

**TSI/TSX**

T

MT-TC-TC3

Accessori  
Accessories

Appendice tecnica  
Technical supplement

teste di fresatura  
*twin spindle milling heads*

Le teste **TSI-TSX** progettate a due mandrini paralleli o convergenti sono adatte in lavorazioni di fresatura ed in particolare per la smussatura dei denti di ingranaggi. Durante lo studio di queste teste, la nostra attenzione si è concentrata sulla disposizione dei cuscinetti del mandrino, poichè nella smussatura si utilizzano anche utensili in metallo duro ed il tutto deve sopportare un elevato numero di urti. Ne è derivata una costruzione solida, compatta, affidabile e di aspetto gradevole. Varie sono le caratteristiche tecniche delle teste **TSI-TSX** e sintetizzandone alcune possiamo dire che: il corpo è in lega di alluminio, i supporti mandrino in ghisa e la loro regolazione avviene con un'unica azione dell'operatore, i mandrini possono ruotare concordi o discordi e la lubrificazione della testa è a grasso. La loro realizzazione si è resa possibile in virtù dell'esperienza acquisita nella costruzione di teste multiple, dalla conoscenza dei processi produttivi e dalla capacità di saper proporre, per ogni particolare esigenza, prodotti qualificati.

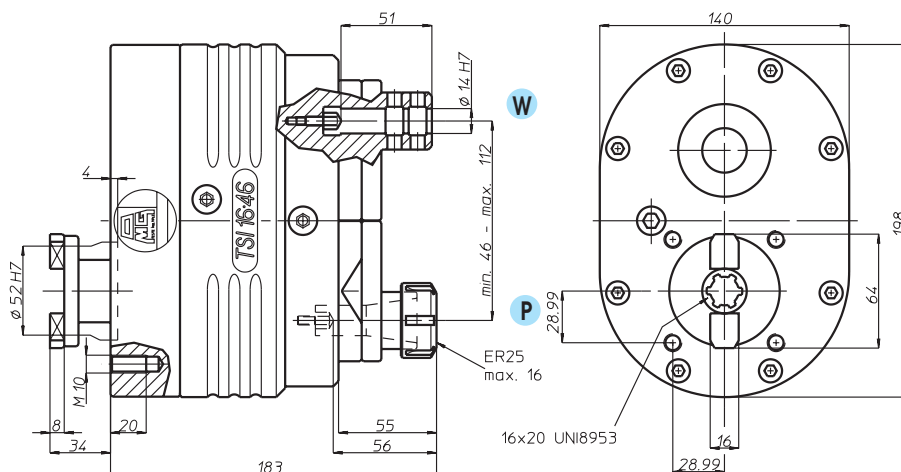
*The **TSI** and **TSX** heads with 2 parallel or convergent spindles are suitable for milling and chamfering gear teeth. Special care has been taken with the position of the spindle bearing, because hard metal tools are also used for chamfering and the entire machine has to withstand many knocks and bumps. The result is a solid, compact, reliable unit that also has an appealing look. The **TSI** and **TSX** heads have many different features among which: an aluminium alloy body, cast iron spindle supports, simply and easily adjusted by the operator. The spindles may turn in the same direction or in opposite directions and the head is lubricated with grease. The production of these heads was made possible thanks to the experience acquired in the construction of multispindle heads, our knowledge of production processes and our ability to know how to cater for individual requirements with qualified products.*

TSI 1646.....	5-2
TSI 1681.....	5-2
TSI 16180.....	5-3
TSI 16210.....	5-3
TSX 13C.....	5-4
TSX 13D.....	5-4
Esecuzioni speciali/ <i>Special executions</i> .....	5-5
Accessori/ <i>Accessories</i> .....	8-1



testa di fresatura - twin spindle milling head

# TSI 1646



	TSI 16-46C-P TSI 16-46C-W	TSI 16-46D-P TSI 16-46D-W
--	------------------------------	------------------------------

rotazione mandrini  
spindle rotation



rapporto ratio

1-2      1-2

giri max rpm

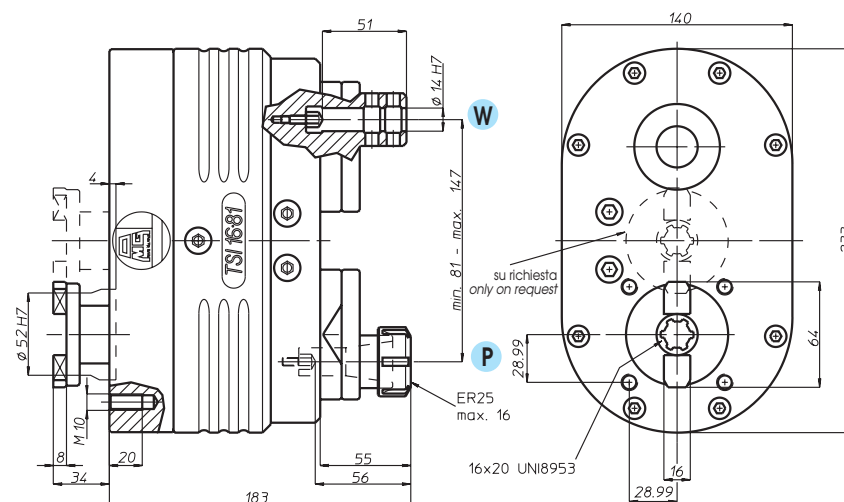
3.000      3.000

peso weight

12 kg      12 kg

testa di fresatura - twin spindle milling head

# TSI 1681



	TSI 16-81C-P TSI 16-81C-W	TSI 16-81D-P TSI 16-81D-W
--	------------------------------	------------------------------

rotazione mandrini  
spindle rotation



rapporto ratio

1-2      1-2

giri max rpm

3.000      3.000

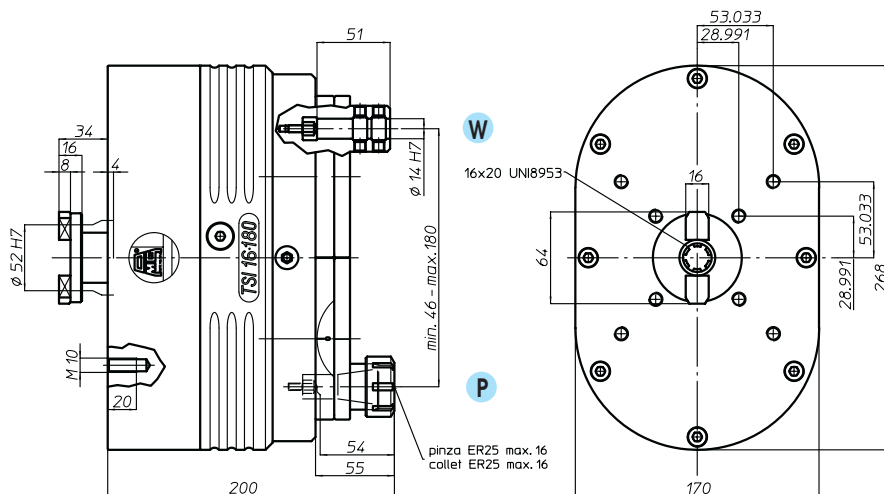
peso weight

13,5 kg      13,5 kg



testa di fresatura - twin spindle milling head

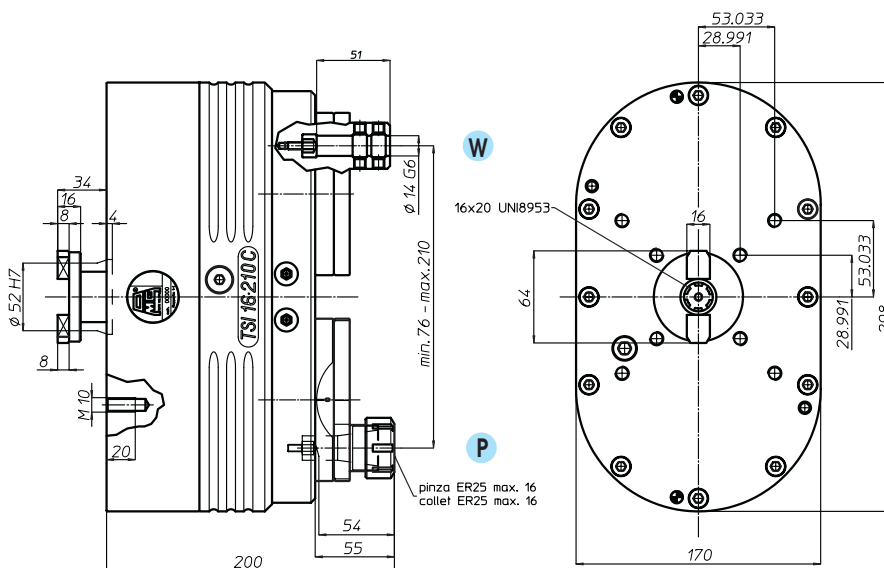
# TSI 16180



	TSI 16-180C-P TSI 16-180C-W	TSI 16-180D-P TSI 16-180D-W
<b>rotazione mandrini</b> spindle rotation		
<b>rapporto</b> ratio	1-1	1-1
<b>giri max</b> rpm	3.000	3.000
<b>peso</b> weight	22,5 kg	22,5 kg

testa di fresatura - twin spindle milling head

# TSI 16210



	TSI 16-210C-P TSI 16-210C-W	TSI 16-210D-P TSI 16-210D-W
<b>rotazione mandrini</b> spindle rotation		
<b>rapporto</b> ratio	1-1	1-1
<b>giri max</b> rpm	3.000	3.000
<b>peso</b> weight	22,5 kg	22,5 kg

TA

MO

HT

VH

TSI/TSX

T

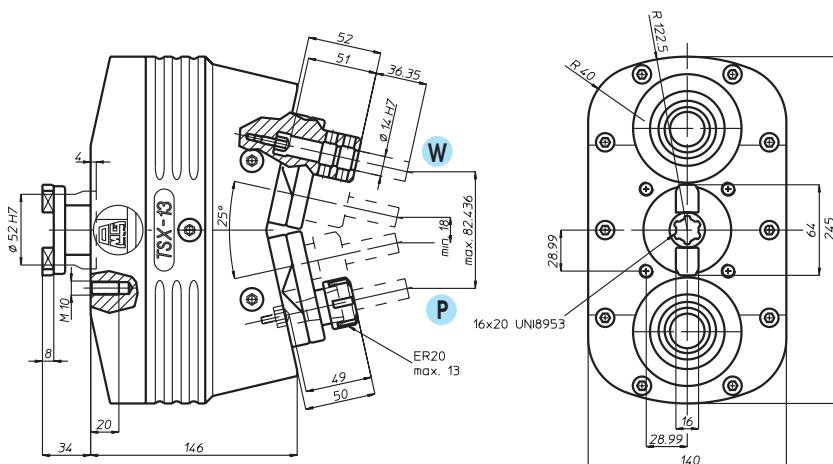
MT-TC-TC3

Accessori  
Accessories

Appendice tecnica  
Technical supplement

testa di fresatura - twin spindle milling head

# TSX 13C



TSI 13C-P  
TSI 13C-W

rotazione mandrini  
spindle rotation



rapporto  
ratio

1-1

giri max  
rpm

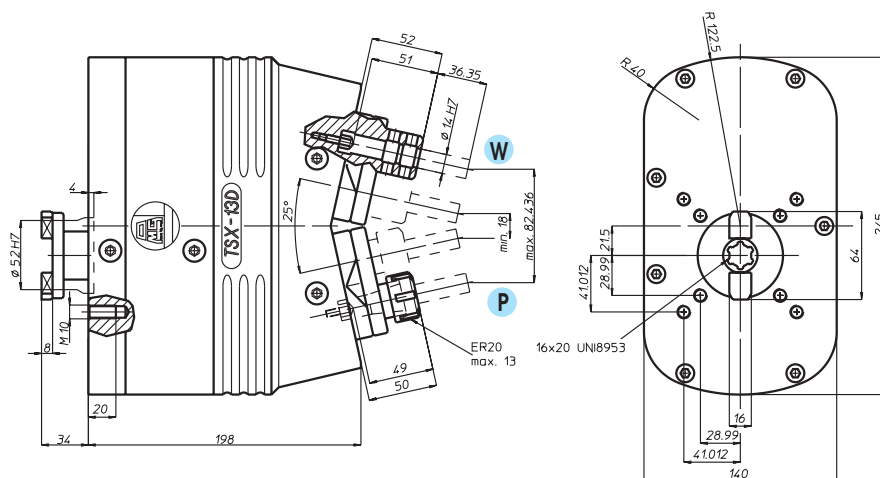
3.000

peso  
weight

15,5 kg

testa di fresatura - twin spindle milling head

# TSX 13D



TSI 13D-P  
TSI 13D-W

rotazione mandrini  
spindle rotation



rapporto  
ratio

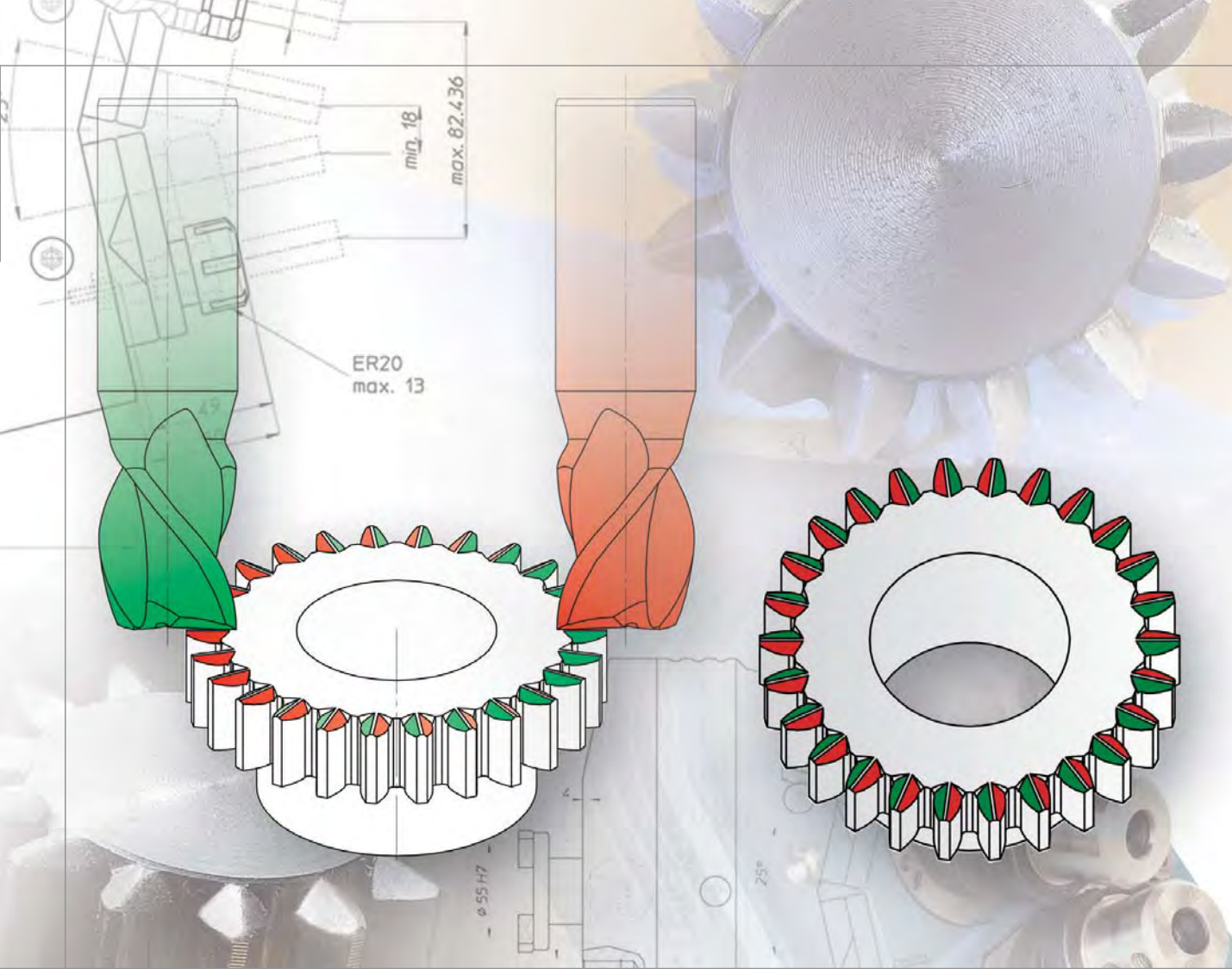
1-1

giri max  
rpm

3.000

peso  
weight

21 kg



esecuzioni speciali - *special executions*









## teste multiple a giunti universali adjustable joint multispindle heads

Le teste multiple a giunti universali sono in produzione dal 1961; nel corso degli anni hanno subito modifiche e aggiornamenti, confermando però la validità dell'idea e lasciando inalterate le caratteristiche salienti:

- possibilità di utilizzo sia in foratura che in maschiatura
- possibilità di posizionamento nello spazio dei gruppi mandrino, vincolato soltanto dalle dimensioni dello stesso e dall'area di lavoro
- adattabilità a tutti i tipi di trapani o a soluzioni speciali
- vantaggiose soprattutto quando è necessario modificare di frequente gli interessi dei fori
- ampia gamma di modelli per le diverse esigenze

Sono disponibili a magazzino le seguenti versioni:

- serie **T-TS** a base circolare per l'esecuzione di massimo 12 fori; massima capacità di foratura diam. mm 22, interasse minimo mm 15 e massimo mm 350
- serie **TL** a base lineare per l'esecuzione di massimo 12 fori; massima capacità di foratura diam. mm 22, interasse minimo mm 17 e massimo mm 610
- serie **TR** a base rettangolare per l'esecuzione di massimo 16 fori; massima capacità di foratura diam. mm 22, interasse minimo mm 32 e massimo mm 395x345
- serie **TM-TRM** a base circolare e rettangolare per l'esecuzione di massimo 26 fori; grazie alle loro caratteristiche tecniche possono eseguire i più diversi schemi di foratura e maschiatura su macchine con potenza adeguata.

Il catalogo è congegnato per avere un preciso riscontro delle caratteristiche di tutte le teste a giunti universali e delle varie soluzioni possibili con esse; le nuove schede tecniche, gli esempi di attrezzature, gli accessori e le tabelle Vi guideranno nella scelta opportuna. Qualora il Vs. lavoro non sia eseguibile con questa serie di teste, il Ns. ufficio tecnico Vi fornirà la soluzione alternativa con la serie VH ad interassi variabili o con teste ad assi fissi appositamente disegnate e costruite.

*The universal joint multispindle heads have been in production since 1961; over the years they have been modified and updated, without however refuting the goodness of the idea and always leaving major features unaltered:*

- possibility of using for both drilling and tapping
- possibility of multi-positioning the spindle units, restricted only by the size of the spindle and of the working area
- suitable for all types of drills or for special solutions
- especially useful when the need arises to frequently change the hole centre distances
- broad range of models for different requirements

*The following versions are in stock:*

- series **T-TS** with round base for making up to 12 holes; max drilling capacity dia. 22 mm, minimum centre distance 15 mm, max centre distance 350 mm
- series **TL** with linear base for making up to 12 holes; max drilling capacity dia. 22 mm, minimum centre distance 17 mm, max centre distance 610 mm
- series **TR** with rectangular base for making up to 16 holes; max drilling capacity dia. 22 mm, minimum centre distance 32 mm, max centre distance 395x345 mm
- series **TM-TRM** with round and rectangular base for making up to 26 holes; thanks to their technical features, they are able to execute a series of different drilling and tapping patterns on machines of adequate power.

*The catalogue is compiled so as to provide a precise reference for all the adjustable joint heads and the various possible solutions these offer. Thanks to the new technical sheets, equipment examples, accessories and charts, you will find making the right choice much easier.*

*In the event of this series of heads not providing the solution for your job, our technical department can provide alternative solutions with the variable centre distance VH series or fixed-axis heads, specially designed and made for you.*

T2.....	6-2
T4.....	6-3
T7.....	6-4
T10.....	6-5
T12/TS12.....	6-6
T15/TS15.....	6-7
T18/TS18.....	6-8
T22/TS22.....	6-9
TL20/4.....	6-10
TL20/6.....	6-11
TL20/8.....	6-12
TL40/12.....	6-13
TL40/16.....	6-14
TL40/22.....	6-15
TL60/12.....	6-16
TL60/16.....	6-17
TL60/22.....	6-18
TR2/12.....	6-19
TR2/16.....	6-20
TR5/12.....	6-21
TR5/16.....	6-22
TR8/22.....	6-23
TM400.....	6-24
TM500.....	6-25
TRM43.....	6-26
TRM73.....	6-27
TRM43-2P.....	6-28
TRM73-2P.....	6-29
Mandrini per TM-TRM/TM-TRM spindles.....	6-30
Attrezzature/Equipment.....	6-32
Manicotto di collegamento/Connection collar ...	6-34
Accessori/Accessories.....	8-1

TA

MO



# T2

Codice testa  
Head code

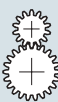
Codice mandrino  
Spindle code

HT



N° prese di moto  
Nr. spindle drives

08



Rapporto  
Ratio

1-1

VH



Capacità di foratura  
Drilling capacity

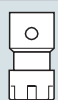
4



Maschiatura  
Tapping

M4

TSI/TSX



Attacco utensile  
Type of spindle

Pinza ER 8

T



Peso gruppo testa  
Head weight

Kg 3,25

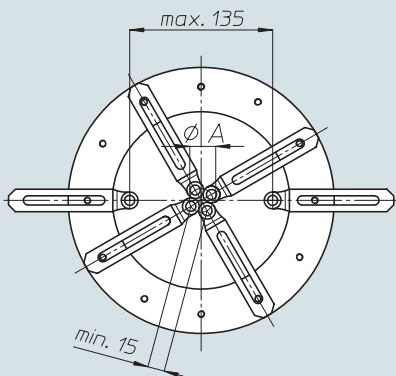


Peso gruppo mandrino  
Spindle-set weight

Kg 0,3

MT-TC-TC3

area di lavoro  
working area



Ø A      n° mandrini

15	2
17,5	3
21,5	4
26	5
30	6
35	7
39,5	8

6-2

Accessori  
Accessories

Appendice tecnica  
Technical supplement

testa modello  
head type

**T2**

prese di moto  
drives

**08**

presa di moto attacco Rapido  
drive quick connection

**R**

capacità foratura  
drilling capacity

**R**

**4**

serie leggera  
light serie

**P**

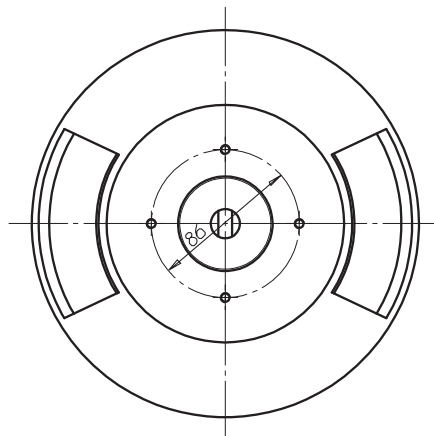
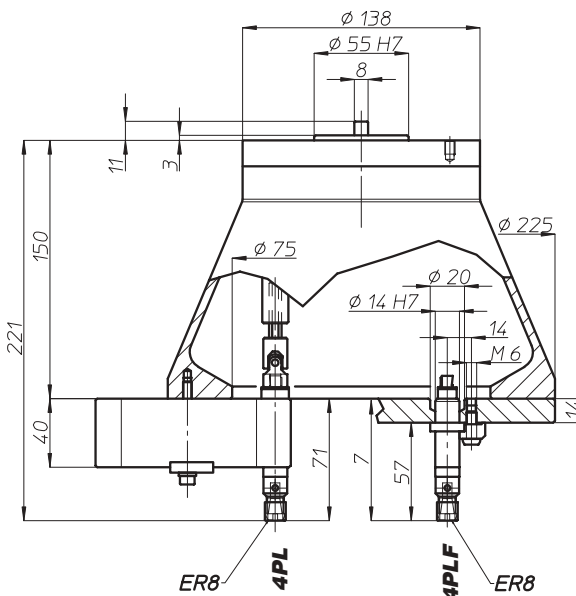
**L**

**F**

trasmissione attacco Rapido  
transmission quick connection

ER 8

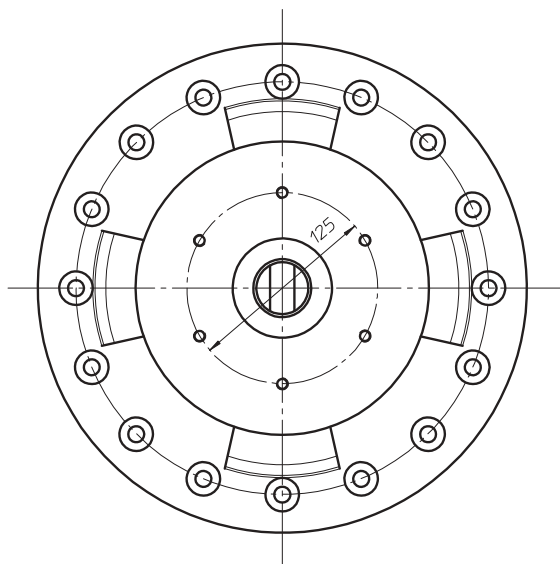
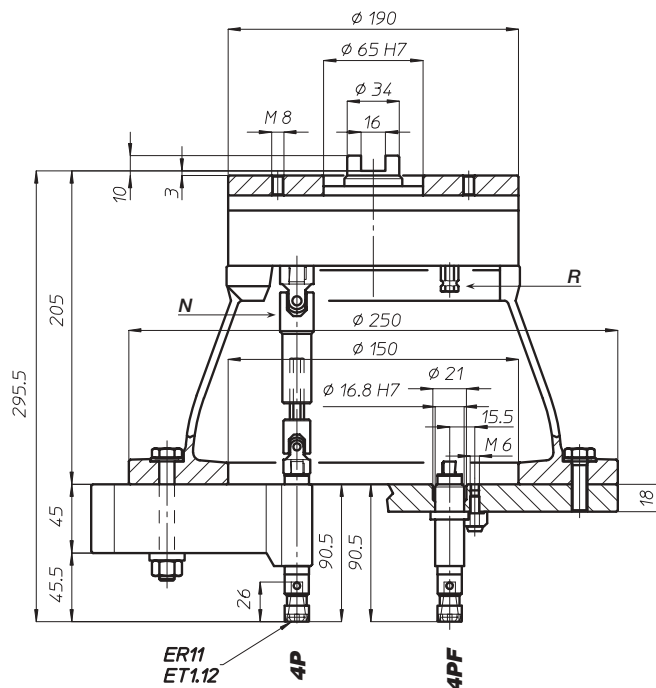
astuccio  
fixed spindle



# T4

Codice testa  
Head code

Codice mandrino  
Spindle code



N° prese di moto  
Nr. spindle drives

08-12



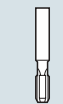
Rapporto  
Ratio

1-1



Capacità di foratura  
Drilling capacity

acciaio R=500 N/mm<sup>2</sup> 4  
ghisa: GG25 5



Maschiatura  
Tapping

M4



Attacco utensile  
Type of spindle

P Pinza ER11



Peso gruppo testa  
Head weight

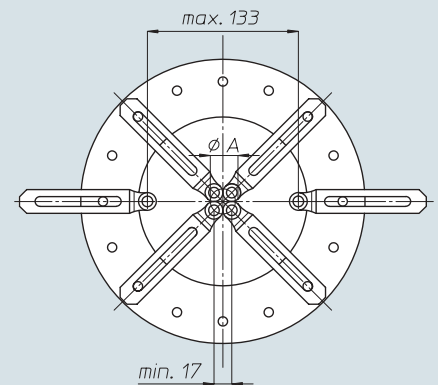
Kg 9,5



Peso gruppo mandrino  
Spindle-set weight

Kg 1

area di lavoro  
working area



Ø A	n° mandrini
20	3
24,5	4
29,5	5
34,5	6
39,5	7
45	8

6-3

TA

MO

HT

VH

TSI/TSX

T

MT-TC-TC3

Accessori  
Accessories

Appendice tecnica  
Technical supplement

TA



MO

# T7

HT

Codice testa  
Head code

Codice mandrino  
Spindle code



N° prese di moto  
Nr. spindle drives

08-12



Rapporto  
Ratio

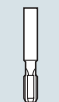
1-1



Capacità di foratura  
Drilling capacity

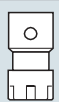
acciaio R=500 N/mm<sup>2</sup>  
ghisa: GG25

6  
7



Maschiatura  
Tapping

M5



Attacco utensile  
Type of spindle

D DIN 55058 Ø10  
P Pinza ER11



Peso gruppo testa  
Head weight

Kg 10



Peso gruppo mandrino  
Spindle-set weight

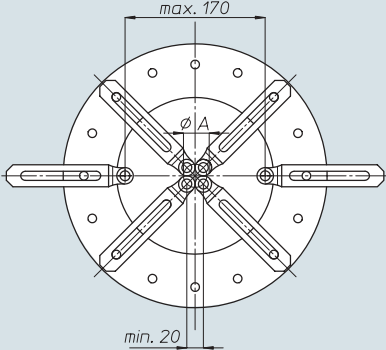
Kg 1,1

TSI/TSX

T

MT-TC-TC3

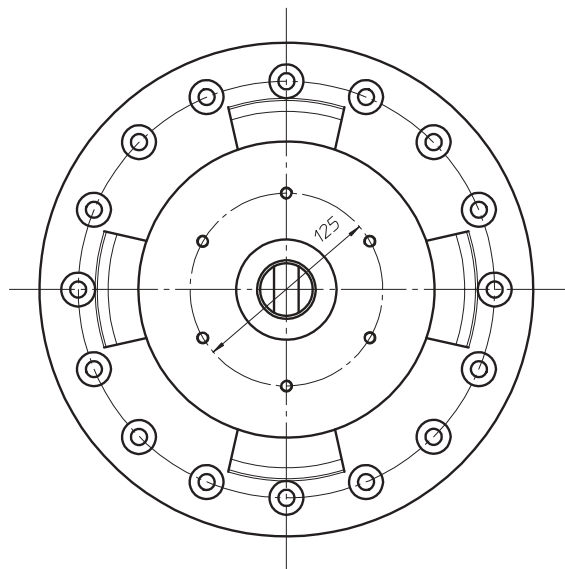
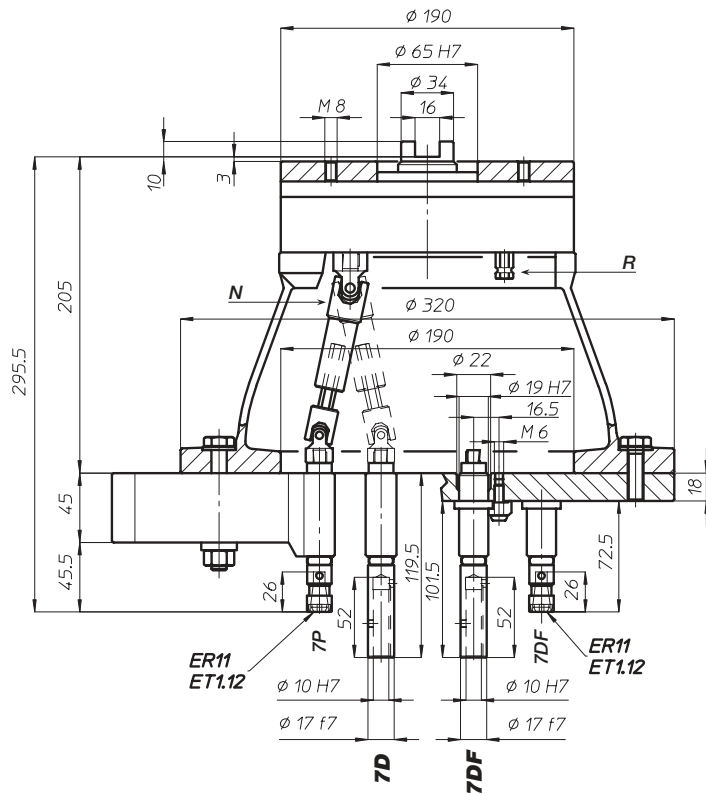
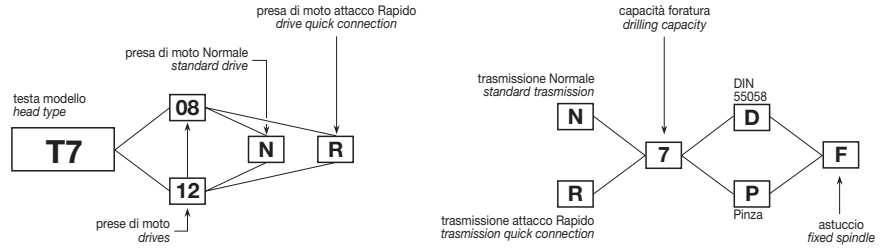
area di lavoro  
working area



Ø A n° mandrini

23,5	3
28,5	4
34,5	5
40,5	6
46,5	7
52,5	8
59	9
65,5	10
71,5	11
77,5	12

6-4



Accessori  
Accessories

Appendice tecnica  
Technical supplement





TA



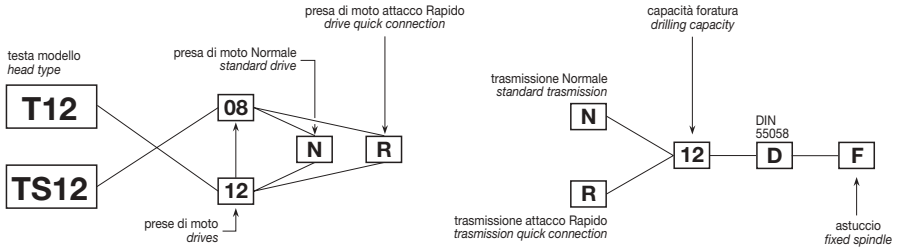
MO

# T12-TS12

HT

Codice testa  
Head code

Codice mandrino  
Spindle code



VH



N° prese di moto  
Nr. spindle drives

08-12



Rapporto  
Ratio

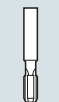
1-1



Capacità di foratura  
Drilling capacity

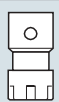
acciaio R=500 N/mm<sup>2</sup>  
ghisa: GG25

10  
12



Maschiatura  
Tapping

M8



Attacco utensile  
Type of spindle

D DIN 55058 Ø16



Peso gruppo testa  
Head weight

T12: Kg 20  
TS12: Kg 22,5



Peso gruppo mandrino  
Spindle-set weight

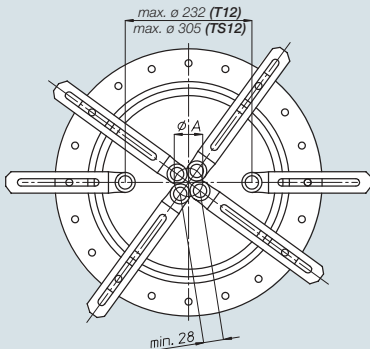
Kg 2

TSI/TSX

T

MT-TC-TC3

area di lavoro  
working area

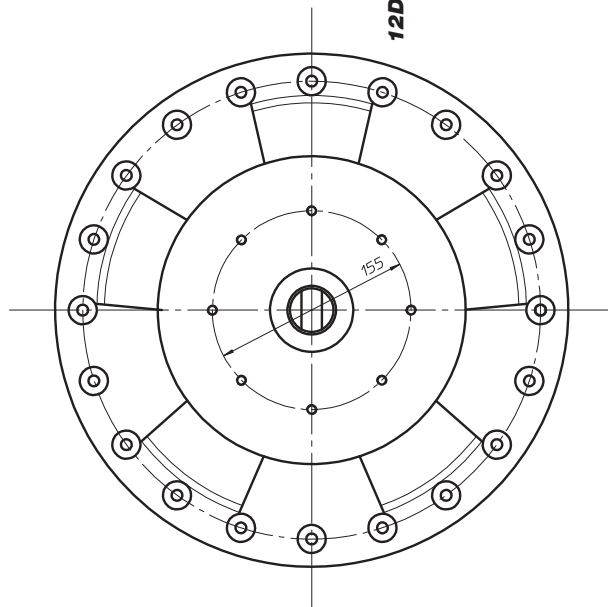
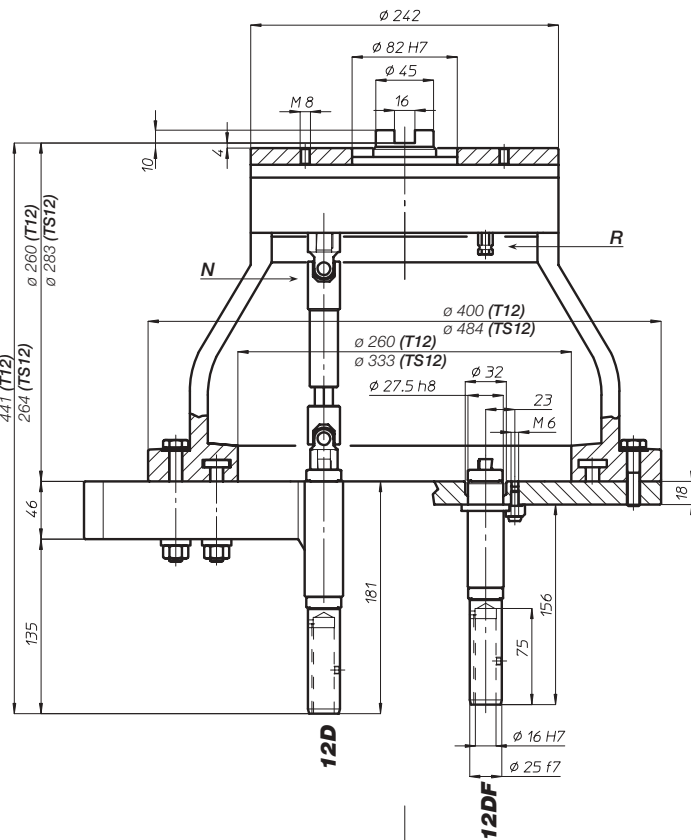


Ø A	n° mandrini
33	3
40	4
48	5
56,5	6
65	7
74	8
82,5	9
91	10
100	11
108,5	12

6-6

Accessori  
Accessories

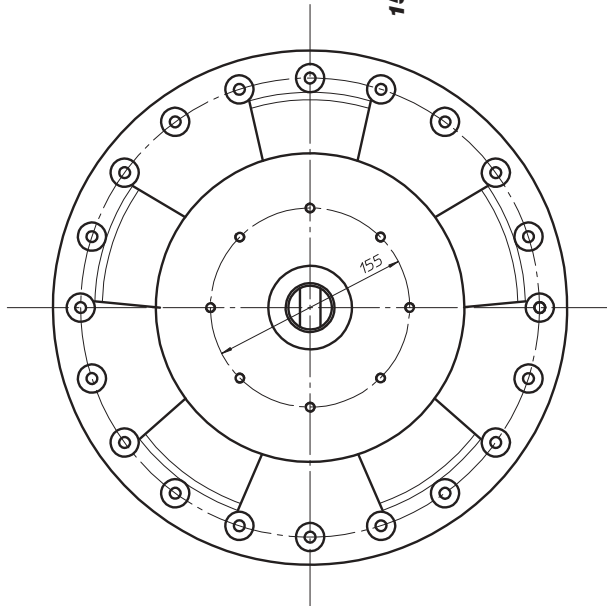
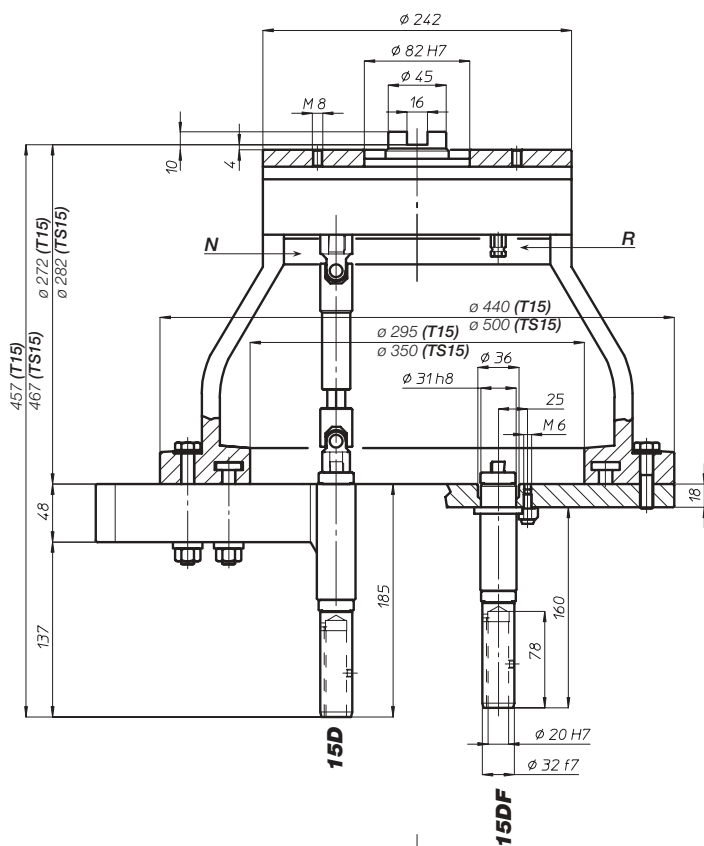
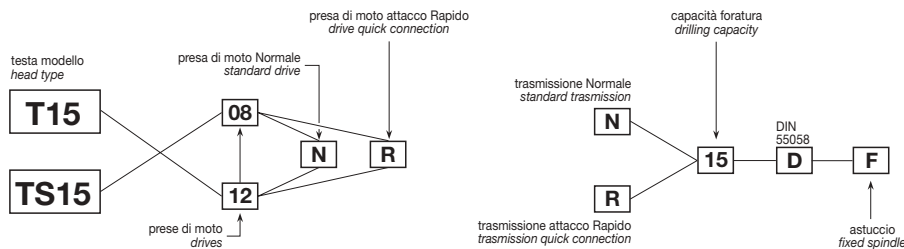
Appendice tecnica  
Technical supplement



# T15-TS15

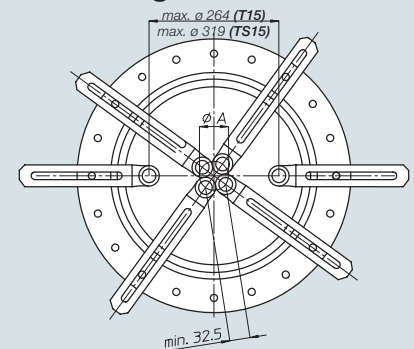
Codice testa  
Head code

Codice mandrino  
Spindle code



	N° prese di moto Nr. spindle drives	08-12
	Rapporto Ratio	1-1
	Capacità di foratura Drilling capacity	acciaio R=500 N/mm <sup>2</sup> 13 ghisa: GG25 15
	Maschiatura Tapping	M12
	Attacco utensile Type of spindle	D DIN 55058 Ø20
	Peso gruppo testa Head weight	T15: Kg 21,5 TS15: Kg 24,5
	Peso gruppo mandrino Spindle-set weight	Kg 2,6

area di lavoro  
working area



Ø A	n° mandrini
38	3
46,5	4
56	5
65,5	6
75,5	7
85,5	8
95,5	9
105,5	10
116	11
126	12

TA

MO



# T18-TS18

Codice testa  
Head code

Codice mandrino  
Spindle code

HT



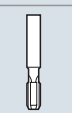
N° prese di moto  
Nr. spindle drives **08**

VH



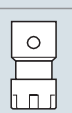
Capacità di foratura  
Drilling capacity  
acciaio R=500 N/mm<sup>2</sup> **16**  
ghisa: GG25 **18**

TSI/TSX



Maschiatura  
Tapping **M14**

T



Attacco utensile  
Type of spindle  
**D** DIN 55058 Ø25



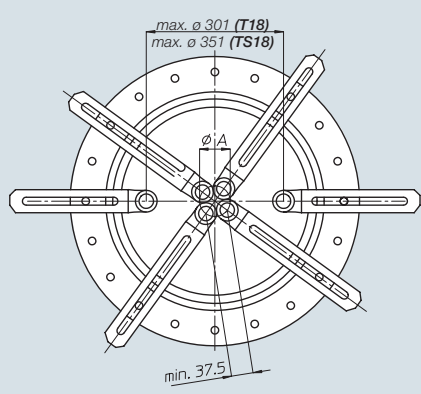
Peso gruppo testa  
Head weight  
T18: **Kg 25**  
TS18: **Kg 26,5**



Peso gruppo mandrino  
Spindle-set weight **Kg 3,3**

MT-TG-TC3

area di lavoro  
working area



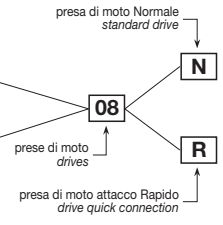
Ø A	n° mandrini
44	3
53,5	4
64,5	5
75,5	6
87	7
98,5	8

6-8

testa modello  
head type

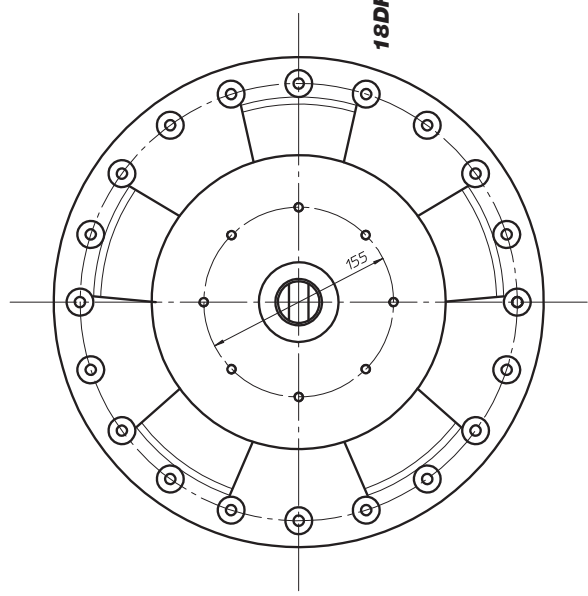
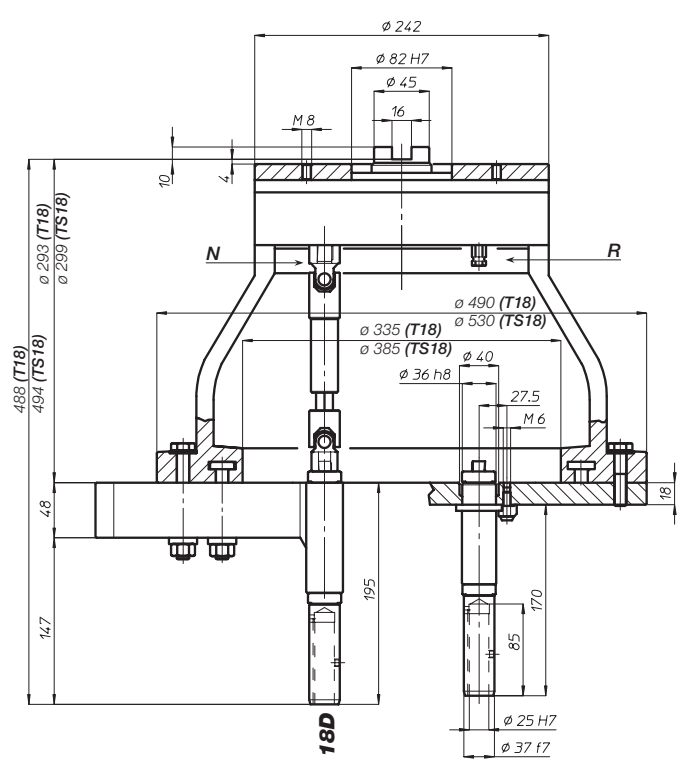
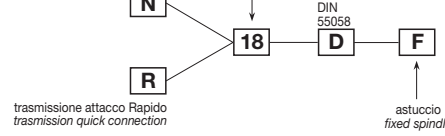
**T18**

**TS18**



capacità foratura  
drilling capacity

trasmissione Normale  
standard trasmission **N**



Accessori  
Accessories

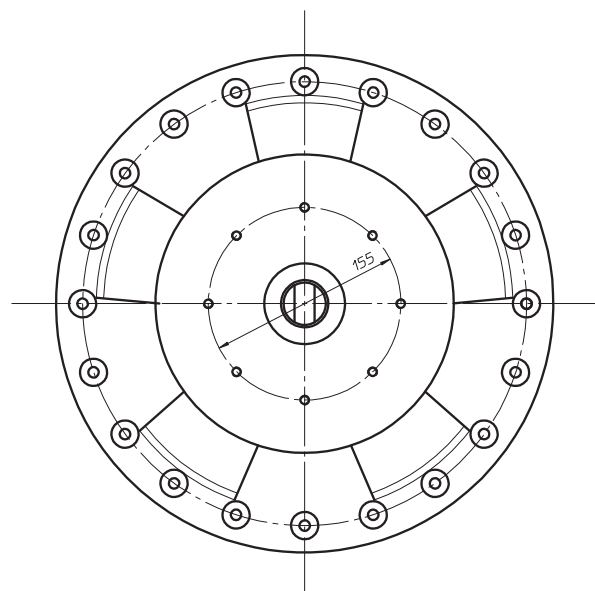
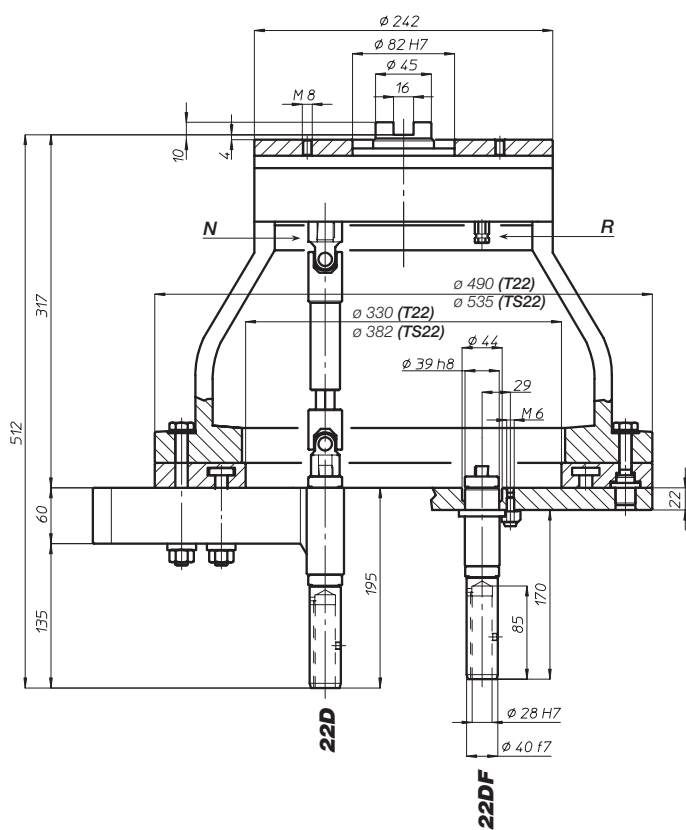
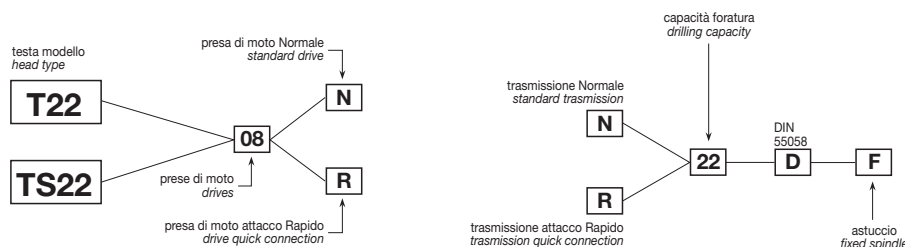
Appendice tecnica  
Technical supplement



# T22-TS22

Codice testa  
Head code

Codice mandrino  
Spindle code



N° prese di moto  
Nr. spindle drives

08



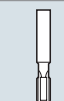
Rapporto  
Ratio

1-1



Capacità di foratura  
Drilling capacity

acciaio R=500 N/mm<sup>2</sup> 20  
ghisa: GG25 22



Maschiatura  
Tapping

M16



Attacco utensile  
Type of spindle

D DIN 55058 Ø28



Peso gruppo testa  
Head weight

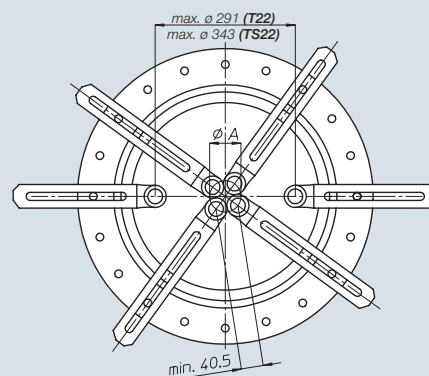
T22: Kg 38,5  
TS22: Kg 41



Peso gruppo mandrino  
Spindle-set weight

Kg 5,5

area di lavoro  
working area



Ø A	n° mandrini
47,5	3
58	4
69,5	5
81,5	6
94	7
106,5	8

6-9

TA

MO

# TL20/4



Codice testa  
Head code

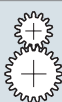
Codice mandrino  
Spindle code

HT



N° prese di moto  
Nr. spindle drives

08



Rapporto  
Ratio

1-1

VH

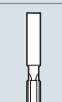


Capacità di foratura  
Drilling capacity

acciaio R=500 N/mm<sup>2</sup>  
ghisa: GG25

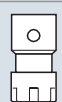
4  
5

TSI/TSX



Maschiatura  
Tapping

M4



Attacco utensile  
Type of spindle

P Pinza ER11

T



Peso gruppo testa  
Head weight

Kg 13,5



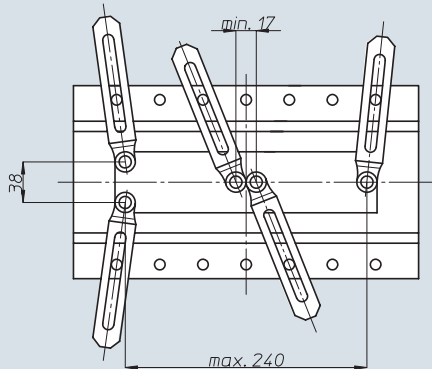
Peso gruppo mandrino  
Spindle-set weight

Kg 1

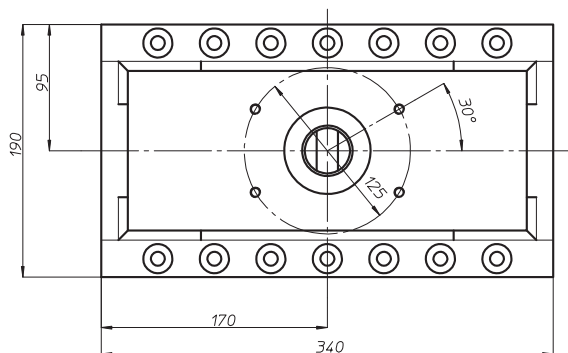
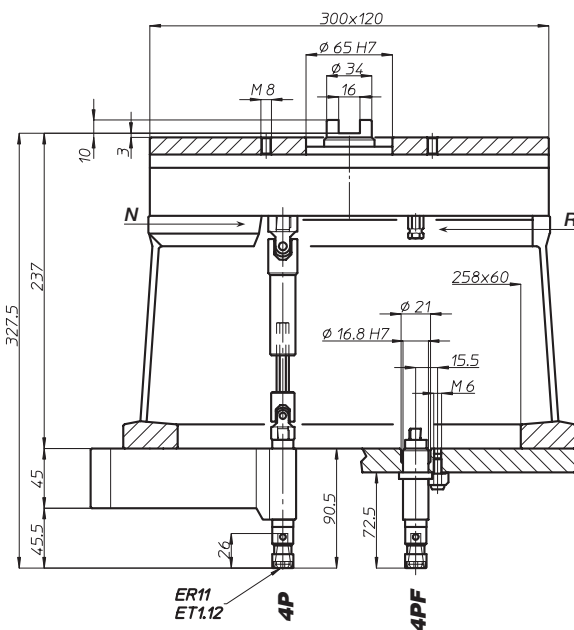
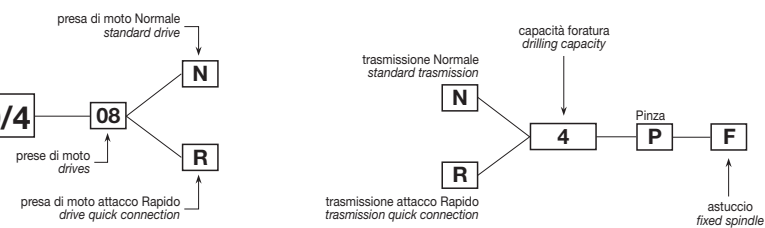
MT-TC-TC3

Accessori  
Accessories

area di lavoro  
working area



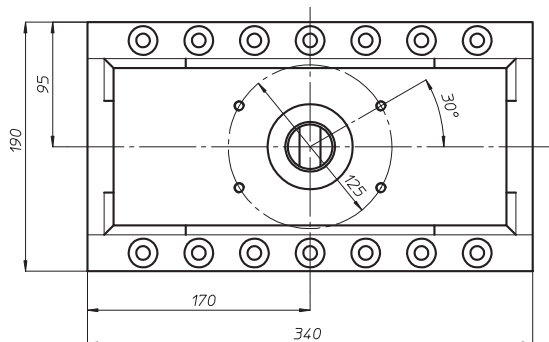
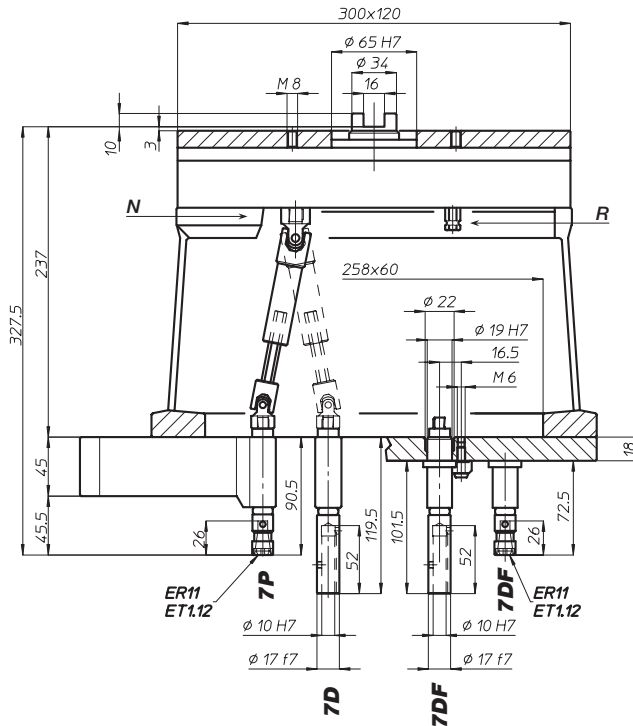
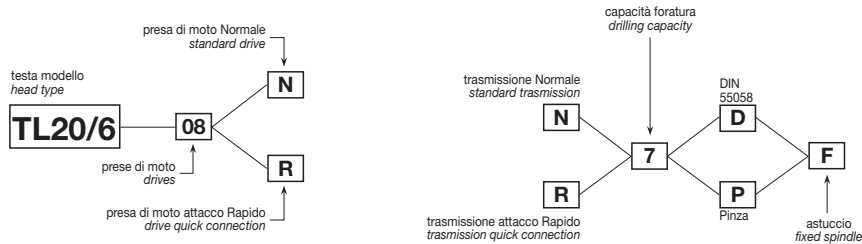
Appendice tecnica  
Technical supplement



# TL20/6

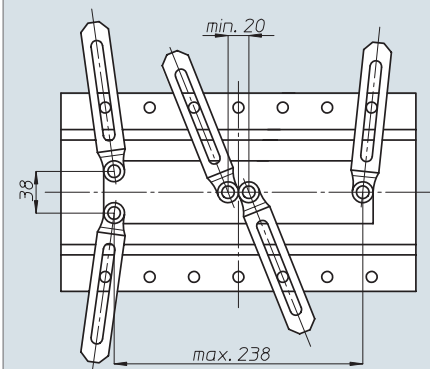
Codice testa  
Head code

Codice mandrino  
Spindle code



	N° prese di moto Nr. spindle drives	<b>08</b>
	Rapporto Ratio	<b>1-1</b>
	Capacità di foratura Drilling capacity	acciaio R=500 N/mm <sup>2</sup> ghisa: GG25
		<b>6</b> <b>7</b>
	Maschiatura Tapping	<b>M5</b>
	Attacco utensile Type of spindle	D DIN 55058 ∅10 P Pinza ER11
	Peso gruppo testa Head weight	<b>Kg 13,5</b>
	Peso gruppo mandrino Spindle-set weight	<b>Kg 1</b>

area di lavoro  
working area



# TL20/8

TA

MO



Codice testa  
Head code

Codice mandrino  
Spindle code

HT



N° prese di moto  
Nr. spindle drives

08

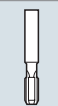
VH



Capacità di foratura  
Drilling capacity

acciaio R=500 N/mm<sup>2</sup> 8  
ghisa: GG25 10

TSI/TSX



Maschiatura  
Tapping

M6

T



Attacco utensile  
Type of spindle

D DIN 55058 Ø12  
P Pinza ER16



Peso gruppo testa  
Head weight

Kg 13,5

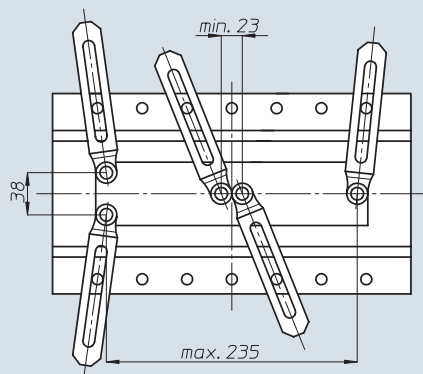
Peso gruppo mandrino  
Spindle-set weight

Kg 1,5

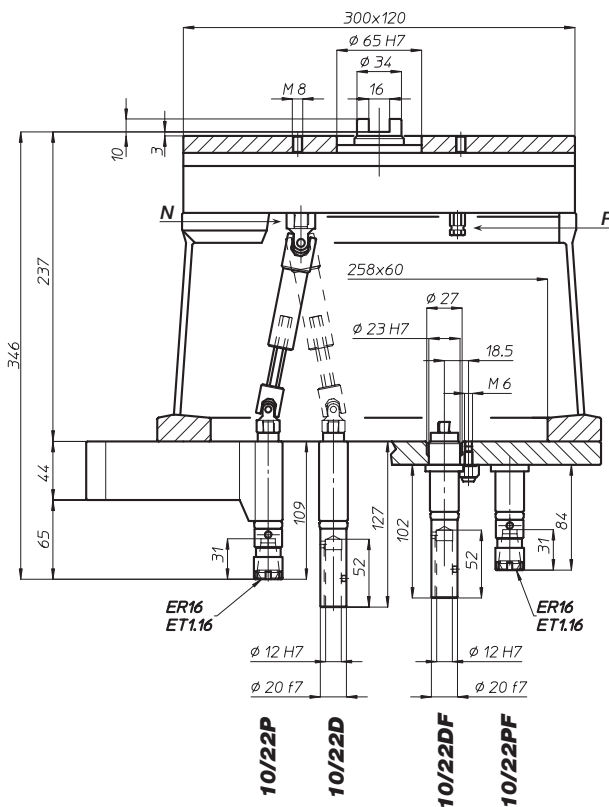
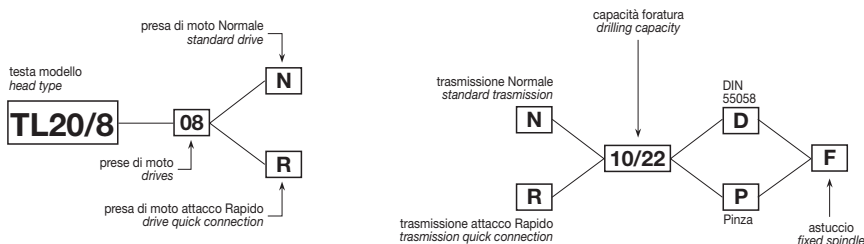
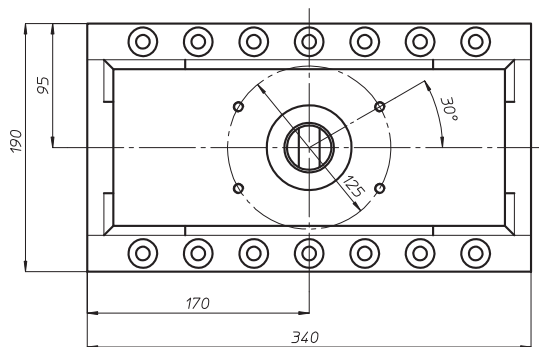
MT-TC-TC3

Accessori  
Accessories

area di lavoro  
working area



Appendice tecnica  
Technical supplement

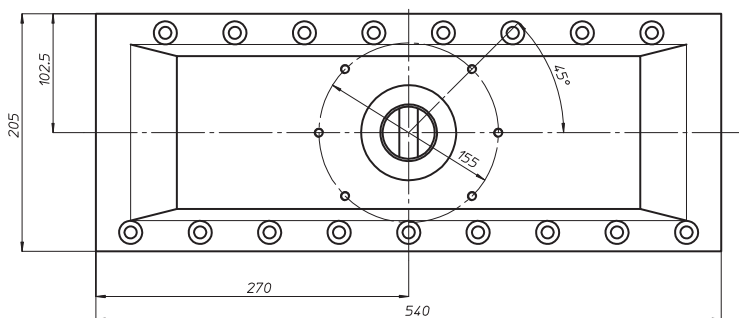
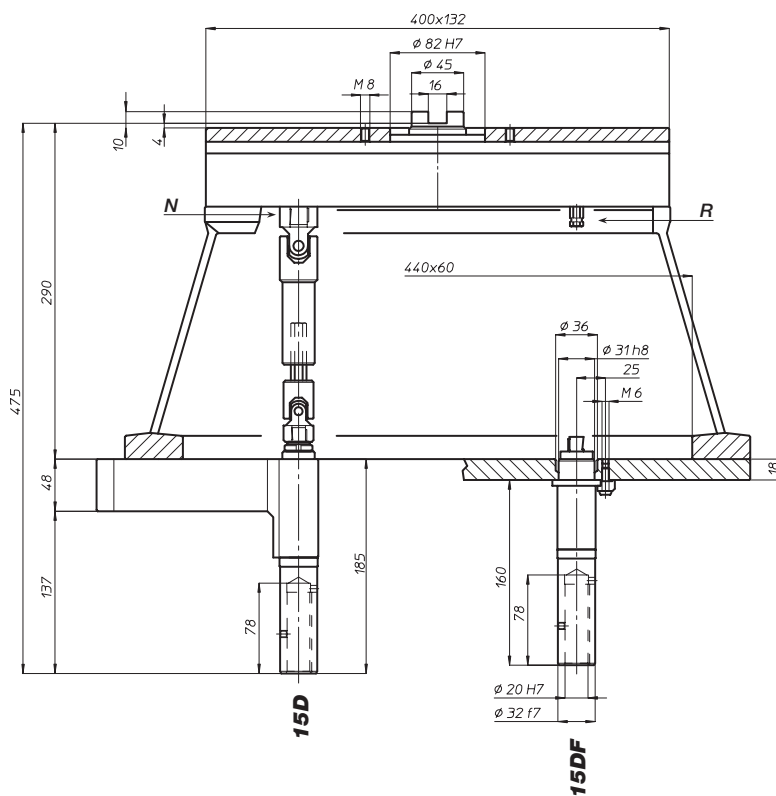




# TL40/12

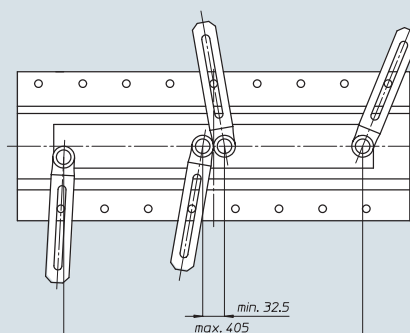
Codice testa  
Head code

Codice mandrino  
Spindle code



	N° prese di moto Nr. spindle drives	08
	Rapporto Ratio	1-1
	Capacità di foratura Drilling capacity	acciaio R=500 N/mm <sup>2</sup> 13 ghisa: GG25 15
	Maschiatura Tapping	M12
	Attacco utensile Type of spindle	D DIN 55058 Ø20
	Peso gruppo testa Head weight	Kg 25
	Peso gruppo mandrino Spindle-set weight	Kg 2,5

area di lavoro  
working area



TA



MO

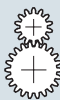
# TL40/16

HT



N° prese di moto  
Nr. spindle drives

08



Rapporto  
Ratio

1-1

VH



Capacità di foratura  
Drilling capacity

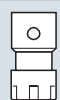
acciaio R=500 N/mm<sup>2</sup> 16  
ghisa: GG25 18

TSI/TSX



Maschiatura  
Tapping

M14



Attacco utensile  
Type of spindle

D DIN 55058 Ø25

T



Peso gruppo testa  
Head weight

Kg 26



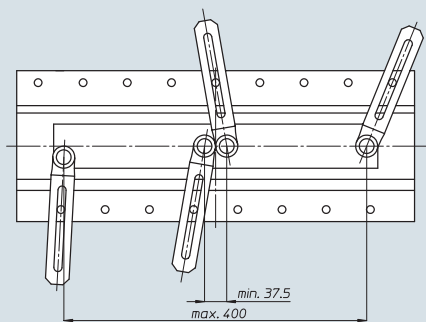
Peso gruppo mandrino  
Spindle-set weight

Kg 2,5

MT-TC-TC3

Accessori  
Accessories

area di lavoro  
working area

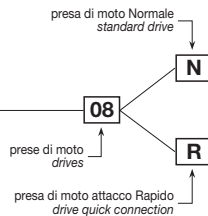


Appendice tecnica  
Technical supplement

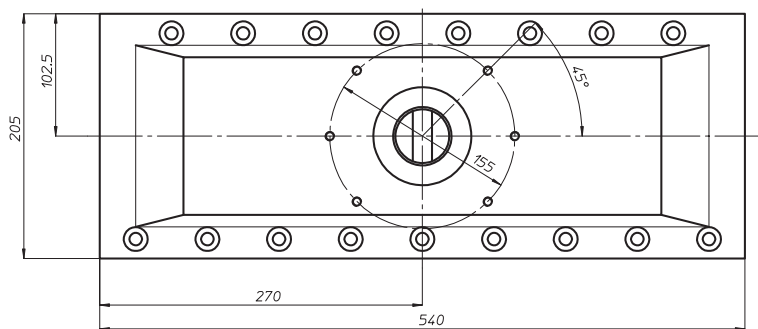
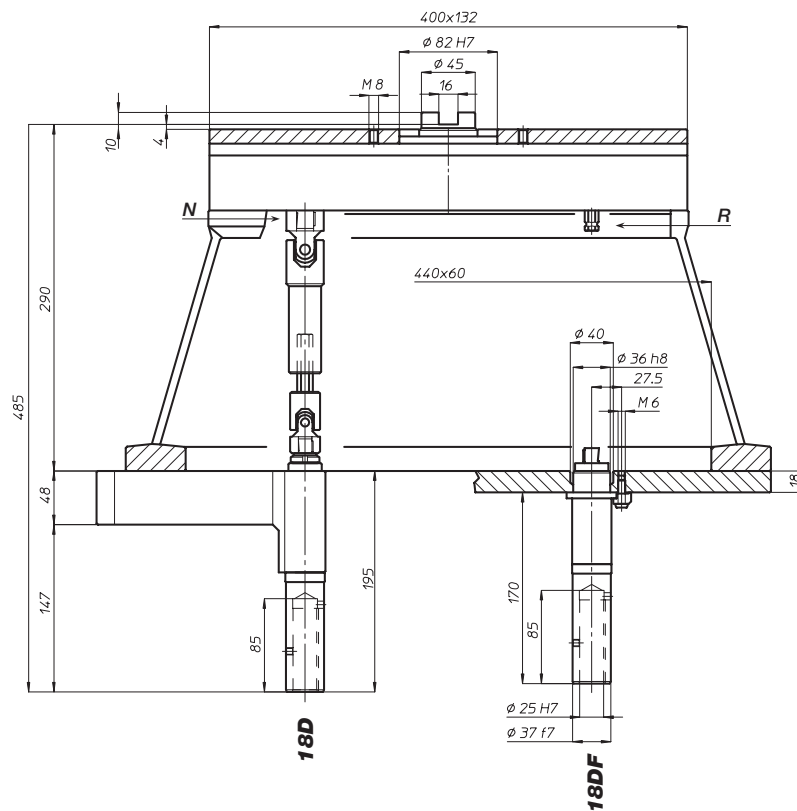
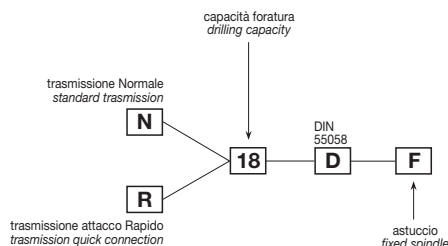
Codice testa  
Head code

testa modello  
head type

TL40/16



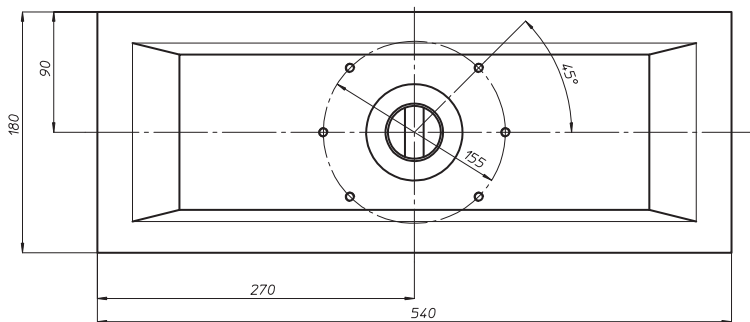
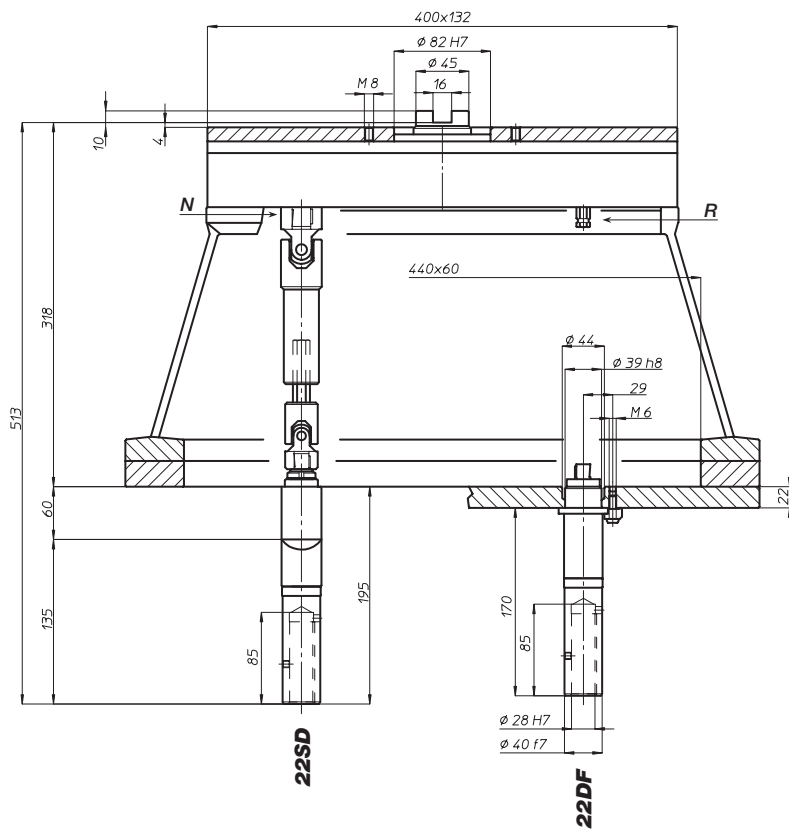
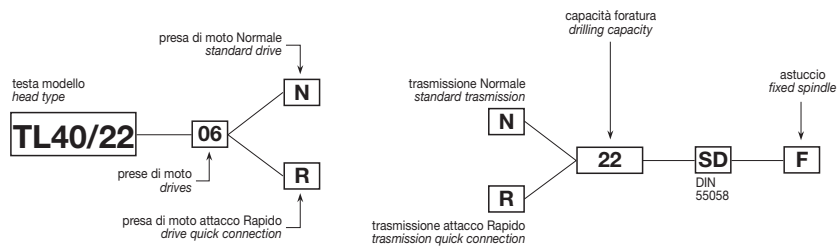
Codice mandrino  
Spindle code



# TL40/22

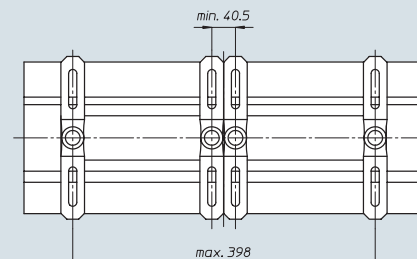
Codice testa  
Head code

Codice mandrino  
Spindle code



	N° prese di moto Nr. spindle drives	<b>06</b>
	Rapporto Ratio	<b>1-1</b>
	Capacità di foratura Drilling capacity	acciaio R=500 N/mm <sup>2</sup> <b>20</b> ghisa: GG25 <b>22</b>
	Maschiatura Tapping	<b>M6</b>
	Attacco utensile Type of spindle	<b>D</b> <b>DIN 55058 Ø28</b>
	Peso gruppo testa Head weight	<b>Kg 37</b>
	Peso gruppo mandrino Spindle-set weight	<b>Kg 5</b>

area di lavoro  
working area



TA



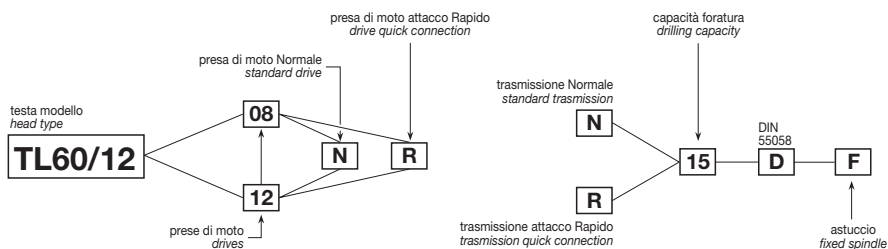
MO

# TL60/12

HT

Codice testa  
Head code

Codice mandrino  
Spindle code



VH



N° prese di moto  
Nr. spindle drives

08-12



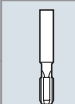
Rapporto  
Ratio

1-1



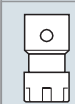
Capacità di foratura  
Drilling capacity

acciaio R=500 N/mm<sup>2</sup> 13  
ghisa: GG25 15



Maschiatura  
Tapping

M12



Attacco utensile  
Type of spindle

D DIN 55058 Ø20



Peso gruppo testa  
Head weight

Kg 34,5



Peso gruppo mandrino  
Spindle-set weight

Kg 2,5

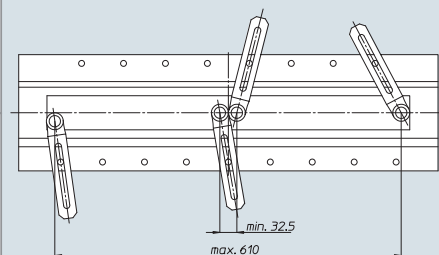
TSI/TSX

T

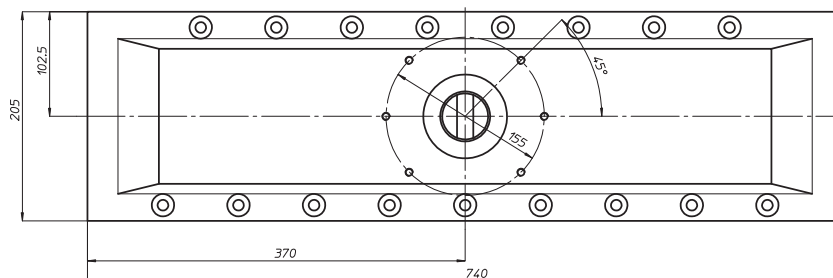
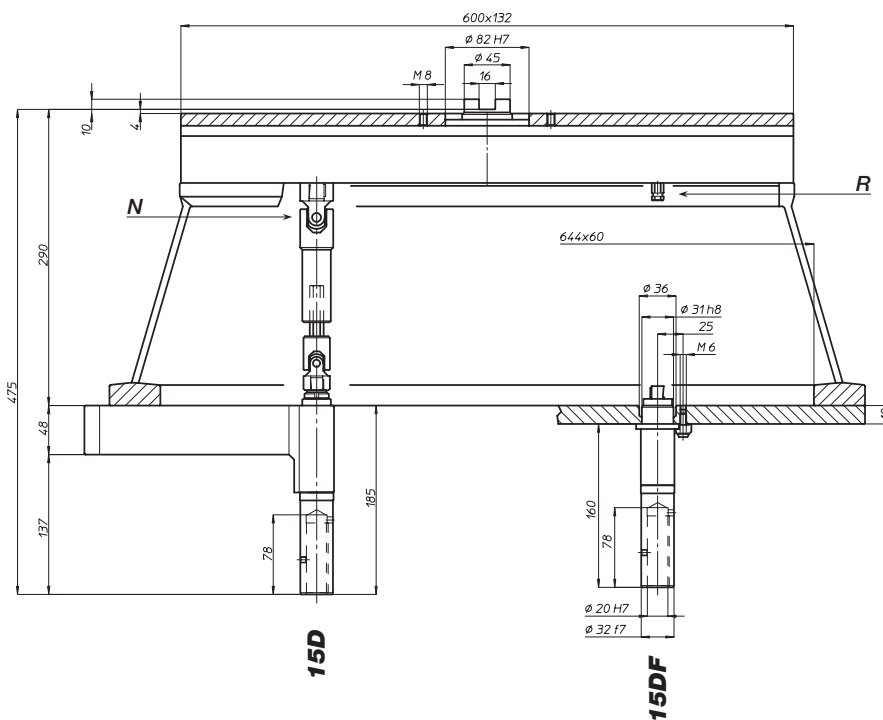
MT-TC-TC3

Accessori  
Accessories

area di lavoro  
working area



Appendice tecnica  
Technical supplement

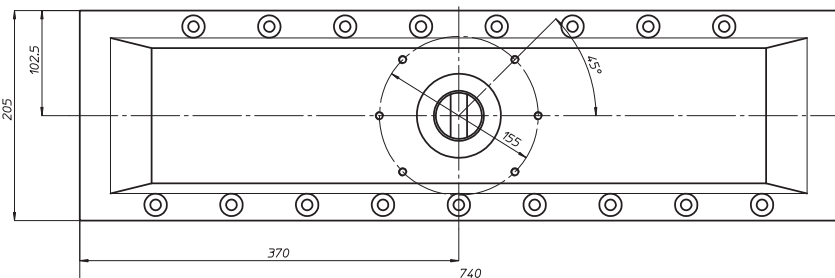
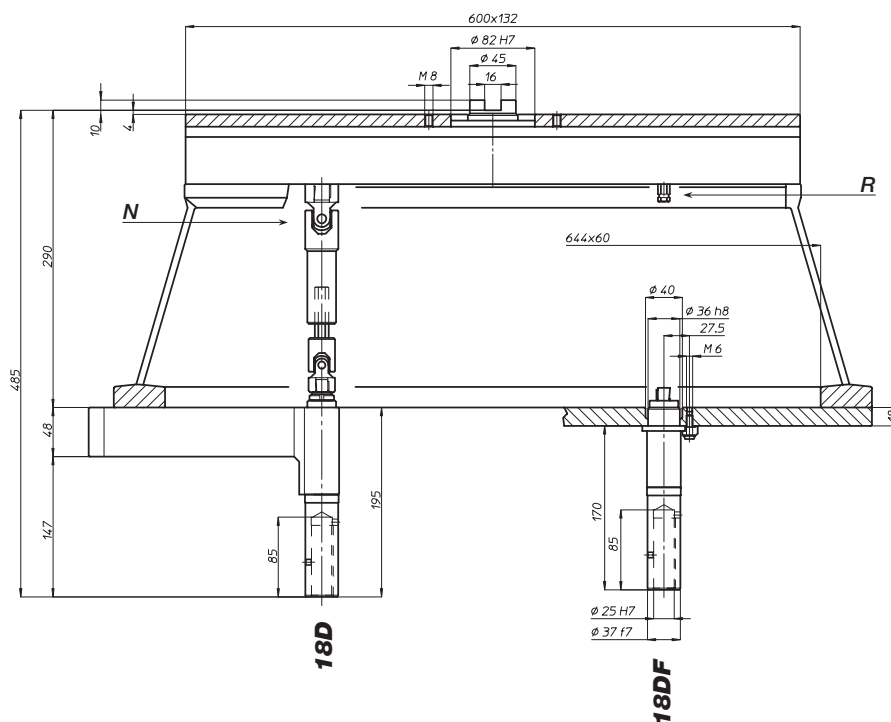
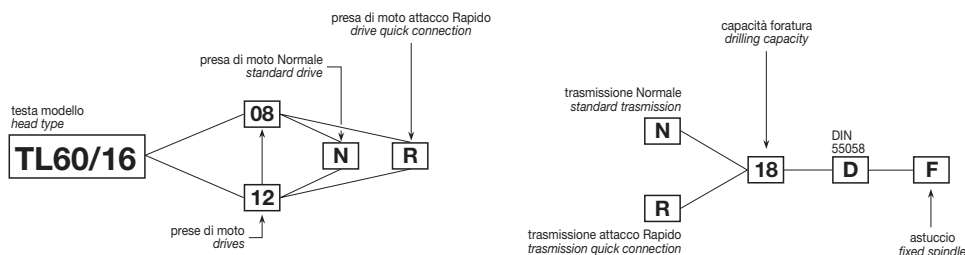




# TL60/16

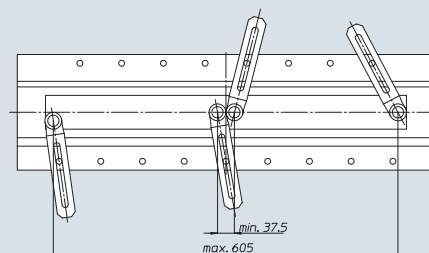
Codice testa  
Head code

Codice mandrino  
Spindle code



	N° prese di moto Nr. spindle drives	08-12
	Rapporto Ratio	1-1
	Capacità di foratura Drilling capacity	acciaio R=500 N/mm <sup>2</sup> 16 ghisa: GG25 18
	Maschiatura Tapping	M14
	Attacco utensile Type of spindle	D DIN 55058 Ø25
	Peso gruppo testa Head weight	Kg 36
	Peso gruppo mandrino Spindle-set weight	Kg 2,5

area di lavoro  
working area

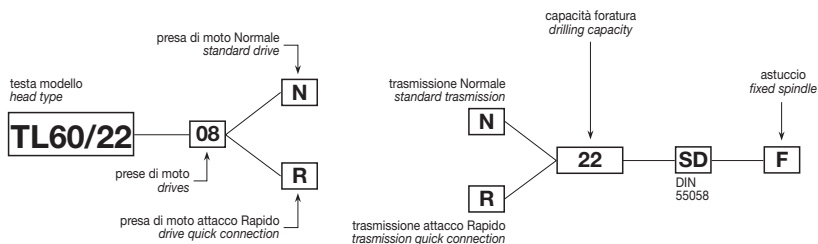


# TL60/22



Codice testa  
Head code

Codice mandrino  
Spindle code



TA

MO

HT

VH

TSI/TSX

T

MT-TC-TC3

Accessori  
Accessories

Appendice tecnica  
Technical supplement



N° prese di moto  
Nr. spindle drives

08



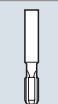
Rapporto  
Ratio

1-1



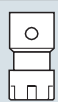
Capacità di foratura  
Drilling capacity

acciaio R=500 N/mm<sup>2</sup> 20  
ghisa: GG25 22



Maschiatura  
Tapping

M16



Attacco utensile  
Type of spindle

D DIN 55058 Ø28



Peso gruppo testa  
Head weight

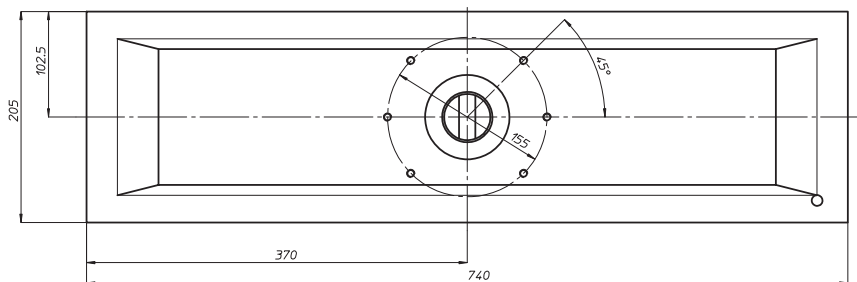
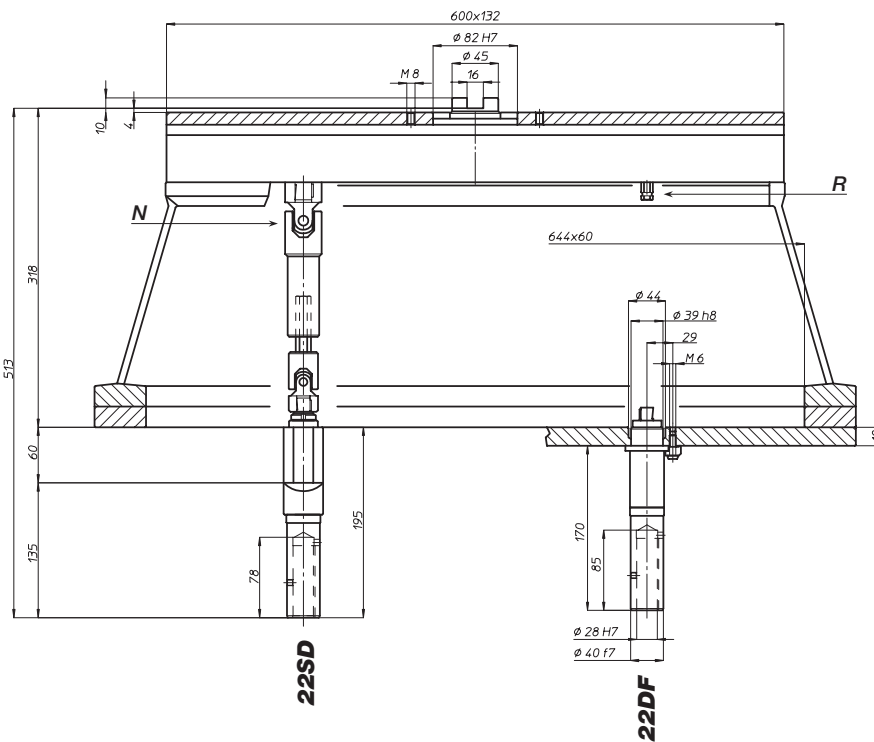
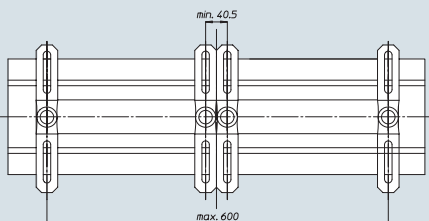
Kg 47,5



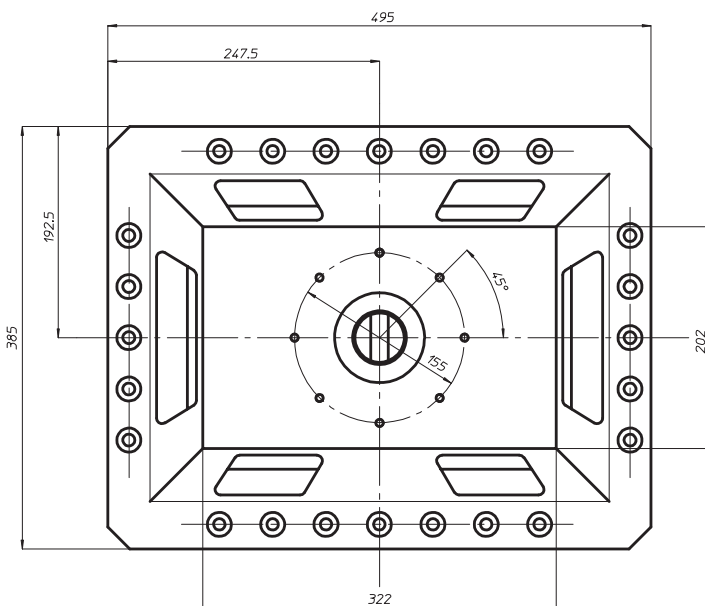
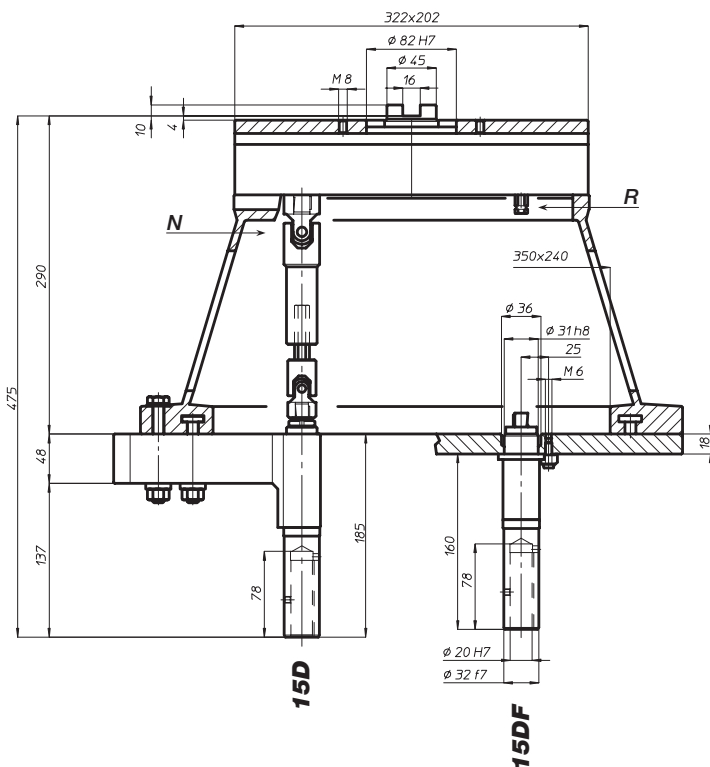
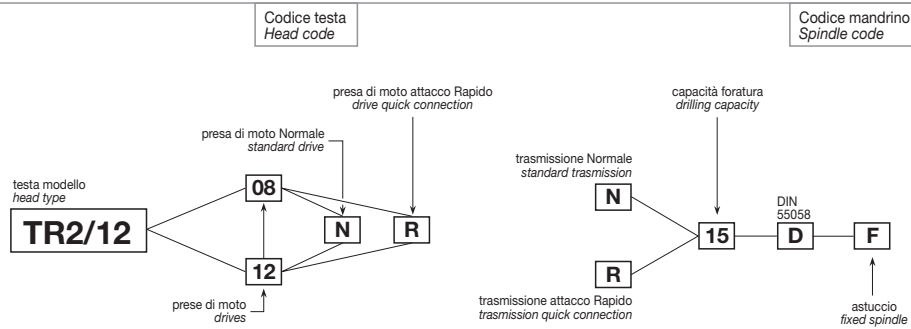
Peso gruppo mandrino  
Spindle-set weight

Kg 5

area di lavoro  
working area

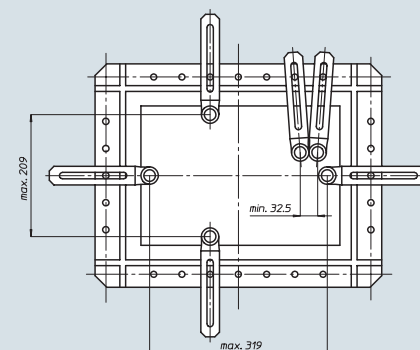


# TR2/12



	N° prese di moto Nr. spindle drives	8-12
	Rapporto Ratio	1-1
	Capacità di foratura Drilling capacity	acciaio R=500 N/mm <sup>2</sup> 13 ghisa: GG25 15
	Maschiatura Tapping	M12
	Attacco utensile Type of spindle	D DIN 55058 Ø20
	Peso gruppo testa Head weight	Kg 30
	Peso gruppo mandrino Spindle-set weight	Kg 2,6

area di lavoro  
working area



TA

# TR2/16

MO



Codice testa  
Head code

Codice mandrino  
Spindle code

HT



N° prese di moto  
Nr. spindle drives

10



Rapporto  
Ratio

1-1

VH



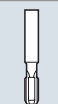
Capacità di foratura  
Drilling capacity

acciaio R=500 N/mm<sup>2</sup>  
ghisa: GG25

16

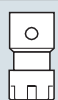
18

TSI/TSX



Maschiatura  
Tapping

M14



Attacco utensile  
Type of spindle

D DIN 55058 Ø25

T



Peso gruppo testa  
Head weight

Kg 31



Peso gruppo mandrino  
Spindle-set weight

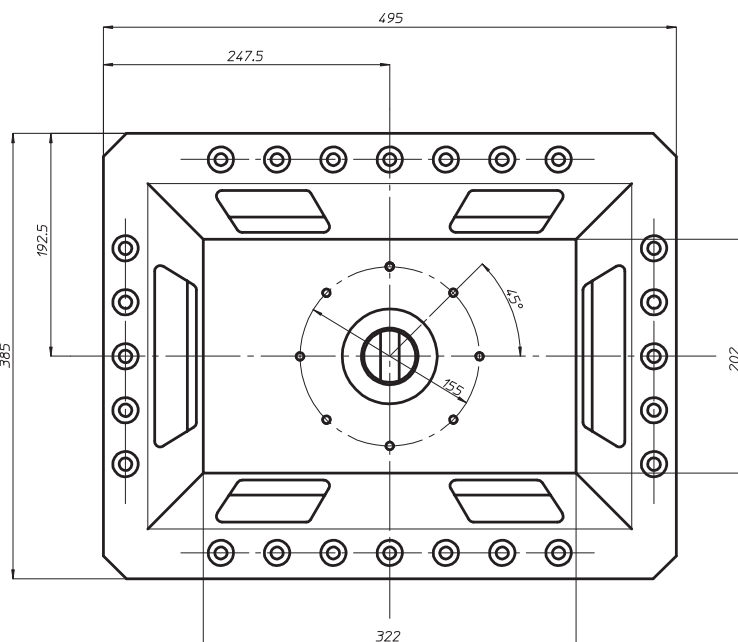
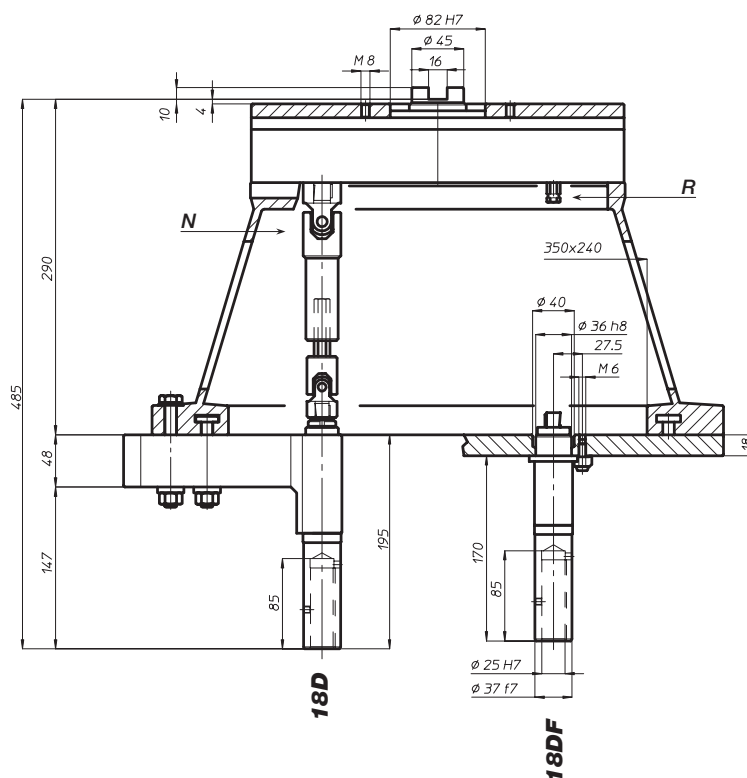
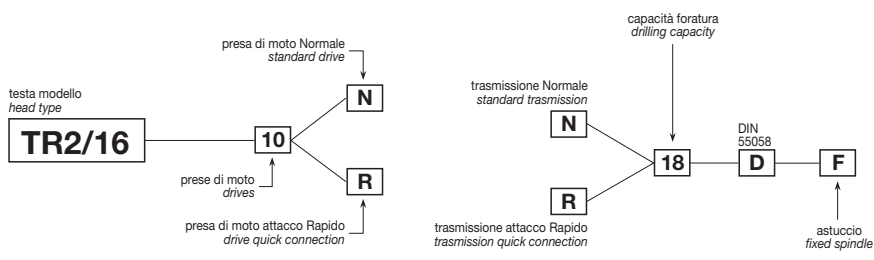
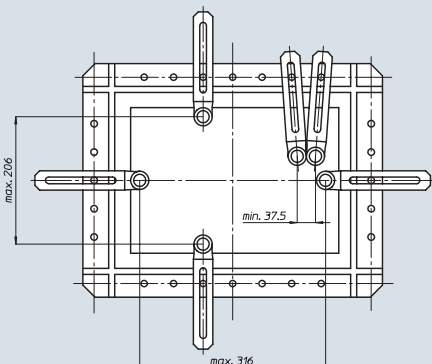
Kg 3,3

MT-TG-TC3

Accessori  
Accessories

area di lavoro  
working area

Appendice tecnica  
Technical supplement

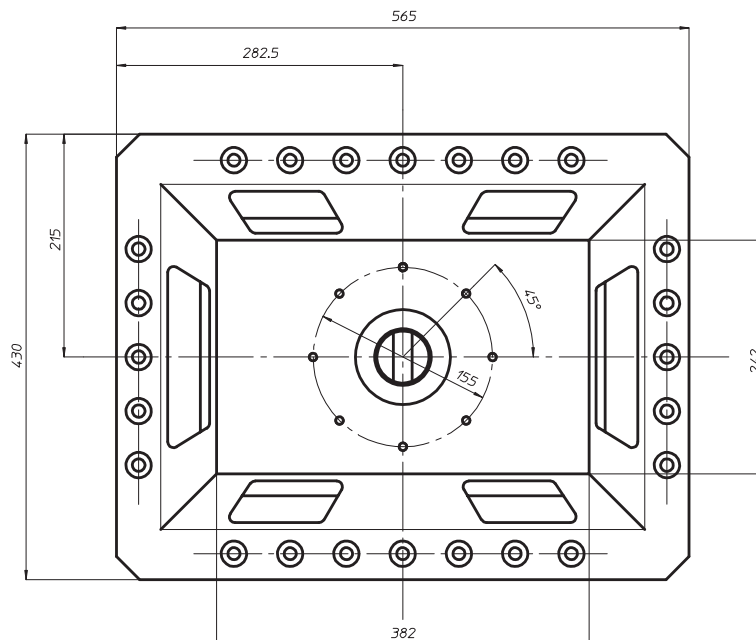
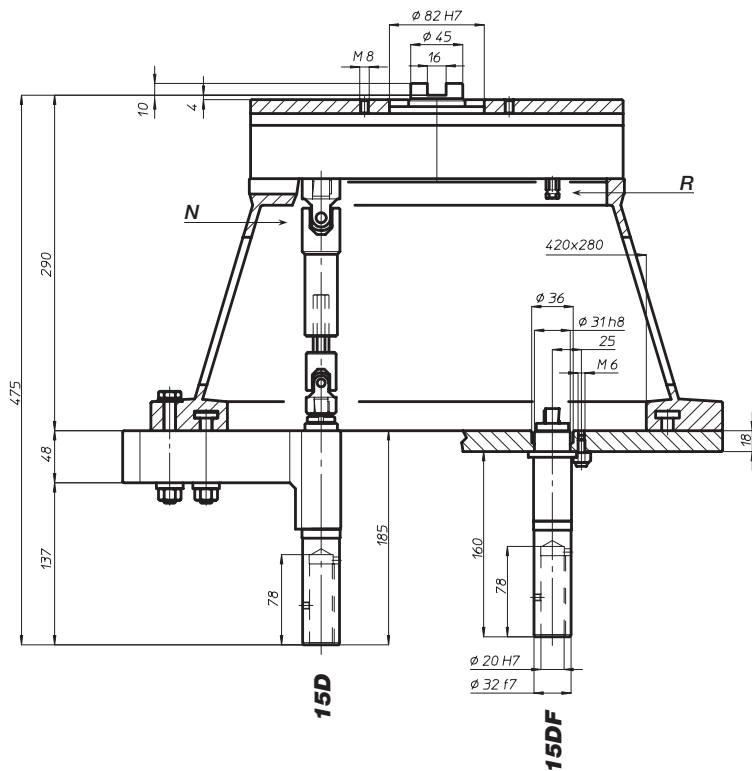
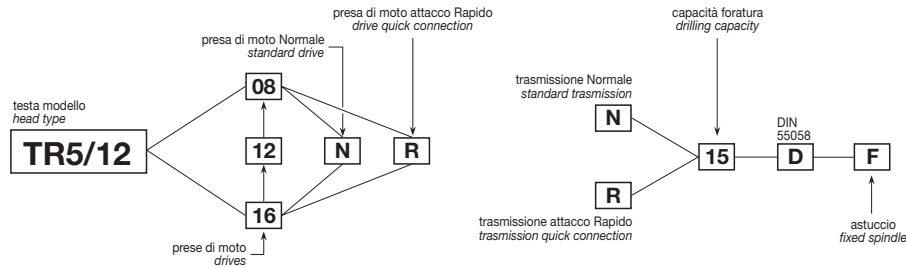




# TR5/12

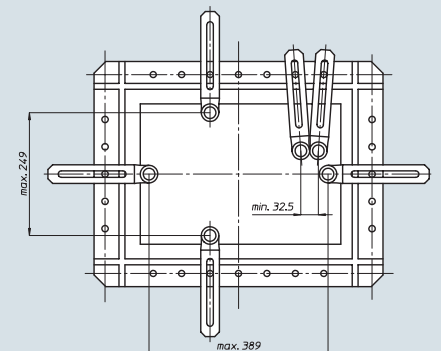
Codice testa  
Head code

Codice mandrino  
Spindle code



	N° prese di moto Nr. spindle drives	08-12-16
	Rapporto Ratio	1-1
	Capacità di foratura Drilling capacity	acciaio R=500 N/mm <sup>2</sup> 13 ghisa: GG25 15
	Maschiatura Tapping	M12
	Attacco utensile Type of spindle	D DIN 55058 Ø20
	Peso gruppo testa Head weight	Kg 34,5
	Peso gruppo mandrino Spindle-set weight	Kg 2,6

area di lavoro  
working area



TA



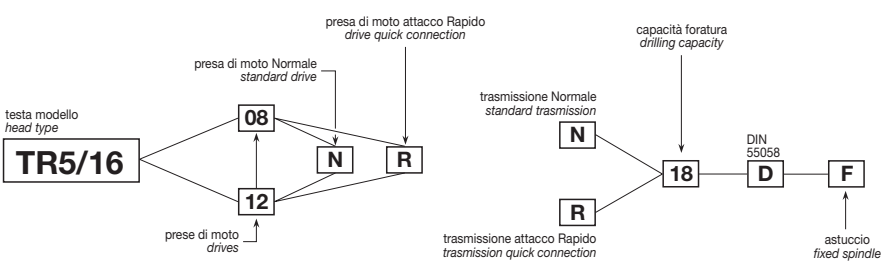
MO

# TR5/16

HT

Codice testa  
Head code

Codice mandrino  
Spindle code



VH



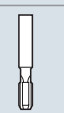
N° prese di moto  
Nr. spindle drives **08-12**



Rapporto  
Ratio **1-1**



Capacità di foratura  
Drilling capacity  
acciaio R=500 N/mm<sup>2</sup> **16**  
ghisa: GG25 **18**



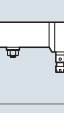
Maschiatura  
Tapping **M14**



Attacco utensile  
Type of spindle **D DIN 55058 Ø25**



Peso gruppo testa  
Head weight **Kg 36**



Peso gruppo mandrino  
Spindle-set weight **Kg 3,3**

TSI/TSX

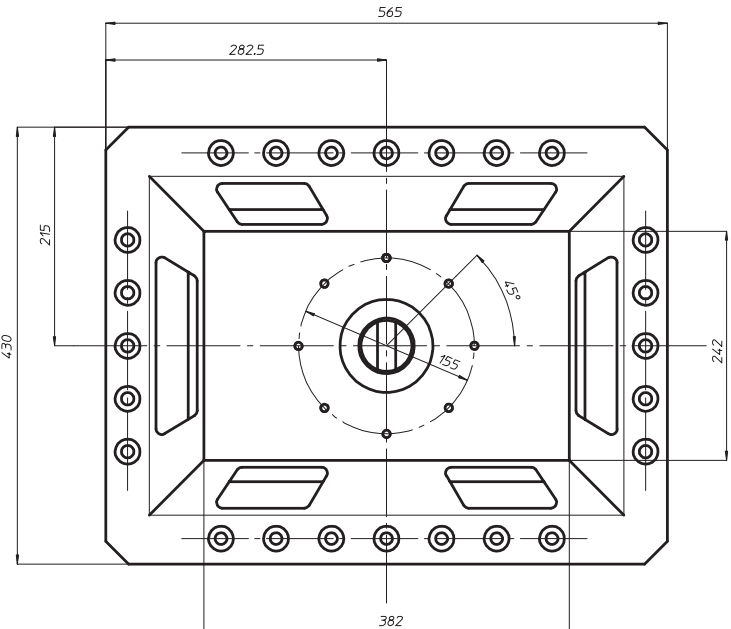
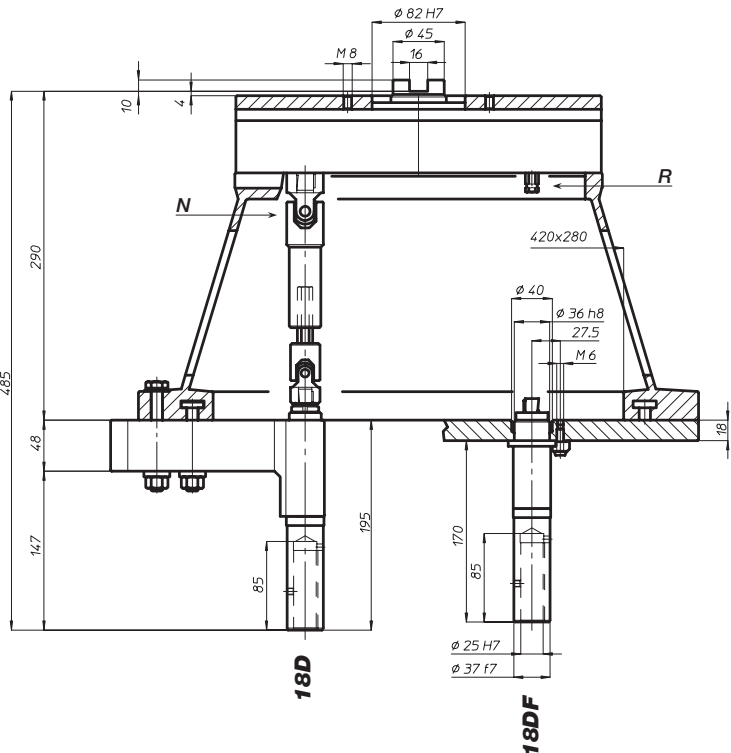
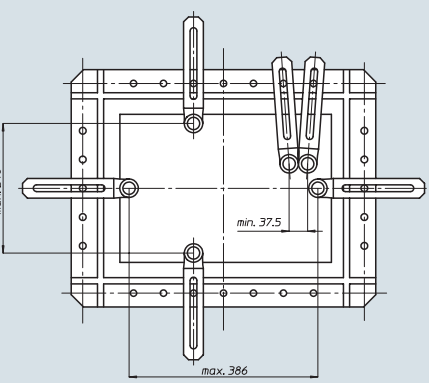
T

MT-TC-TC3

Accessori  
Accessories

Appendice tecnica  
Technical supplement

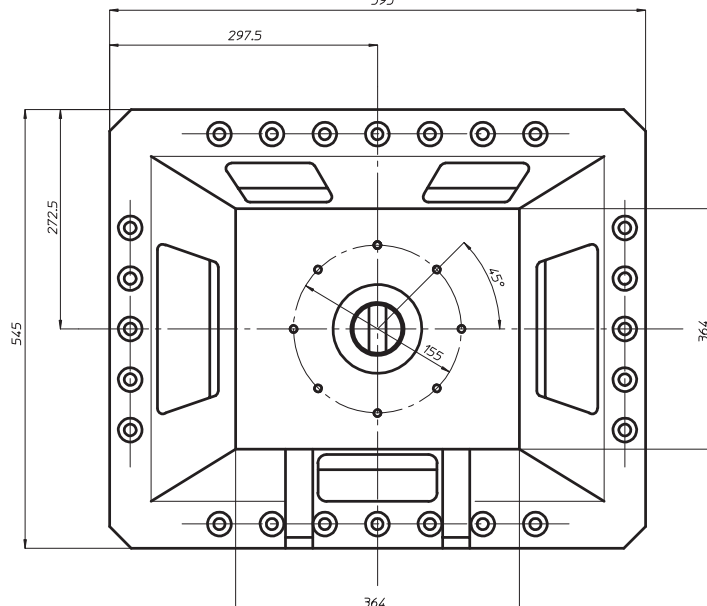
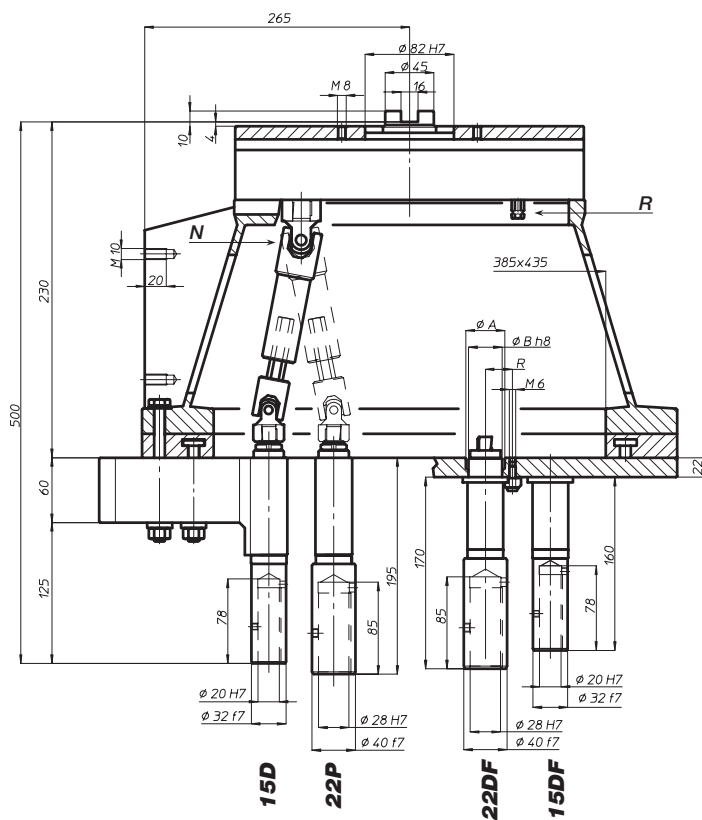
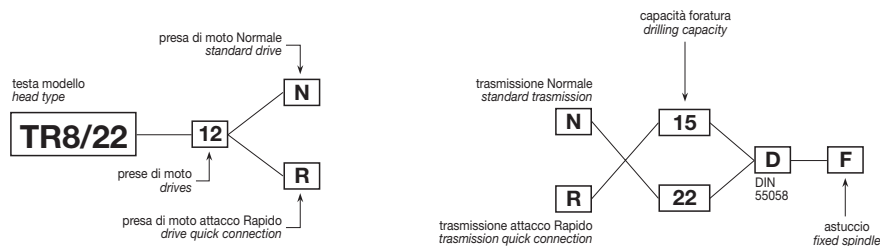
area di lavoro  
working area



# TR8/22

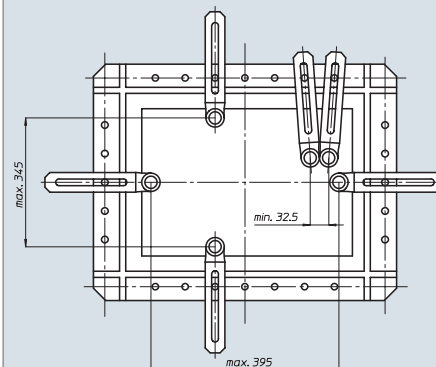
Codice testa  
Head code

Codice mandrino  
Spindle code



	N° prese di moto Nr. spindle drives	<b>12</b>
	Rapporto Ratio	<b>1-1,5</b>
	Capacità di foratura Drilling capacity acciaio R=500 N/mm <sup>2</sup> ghisa: GG25	<b>15D: 13 22D: 20</b> <b>15D: 15 22D: 22</b>
	Maschiatura Tapping	<b>15D: M12</b> <b>22D: M16</b>
	Attacco utensile Type of spindle	<b>D DIN 55058 Ø20-Ø28</b>
	Peso gruppo testa Head weight	<b>Kg 86</b>
	Peso gruppo mandrino Spindle-set weight	<b>15D: Kg 4</b> <b>22D: Kg 5,5</b>

area di lavoro  
working area



TA  
MO  
HT  
VH  
TSI/TSX  
T  
MT-TG-TC3  
Accessori  
Appendice tecnica  
Technical supplement

# TM400



Codice testa  
Head code

testa modello  
head type

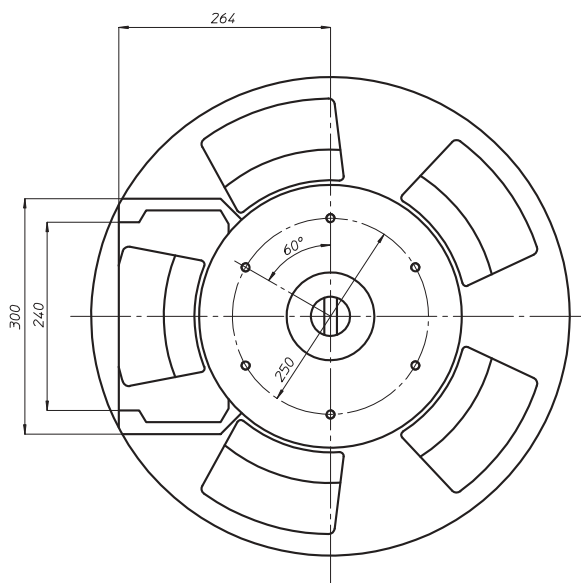
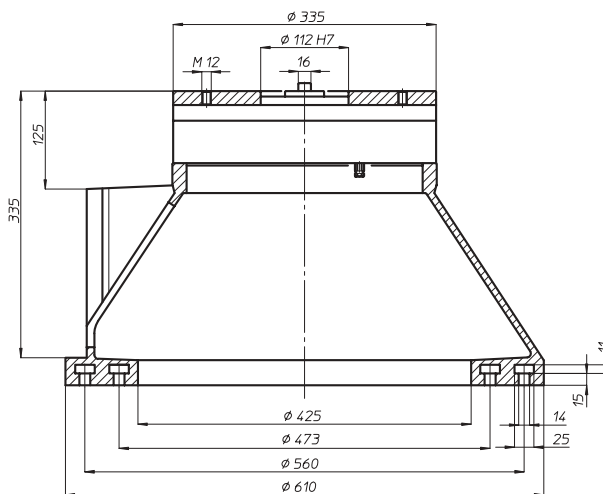
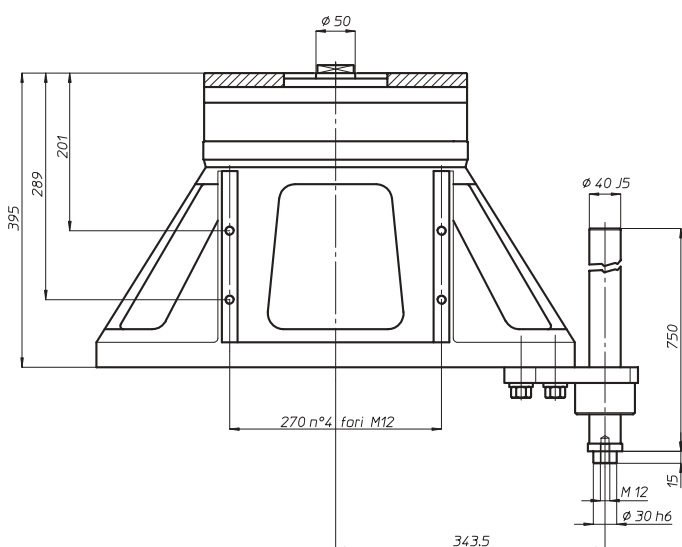
**TM400**

**12**

**R**

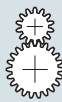
prese di moto  
drives

presa di moto attacco Rapido  
drive quick connection



N° prese di moto  
Nr. spindle drives

12



Rapporto  
Ratio

1-1



Peso  
Weight

Kg 105

area di lavoro  
working area

Ø 385



# TM500



testa modello  
head type

**TM500**

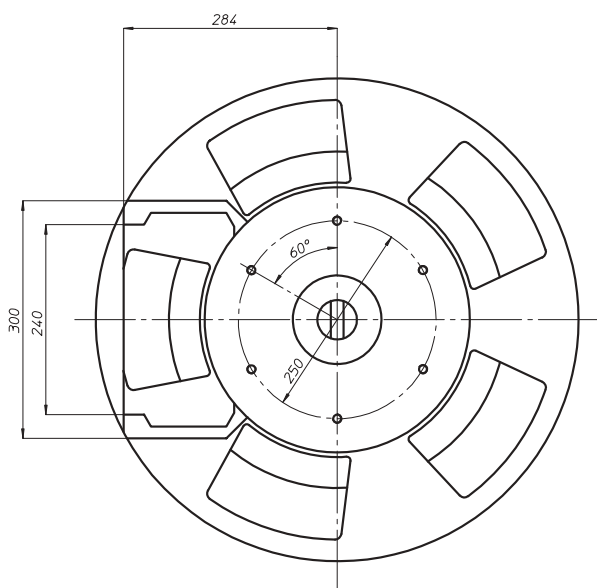
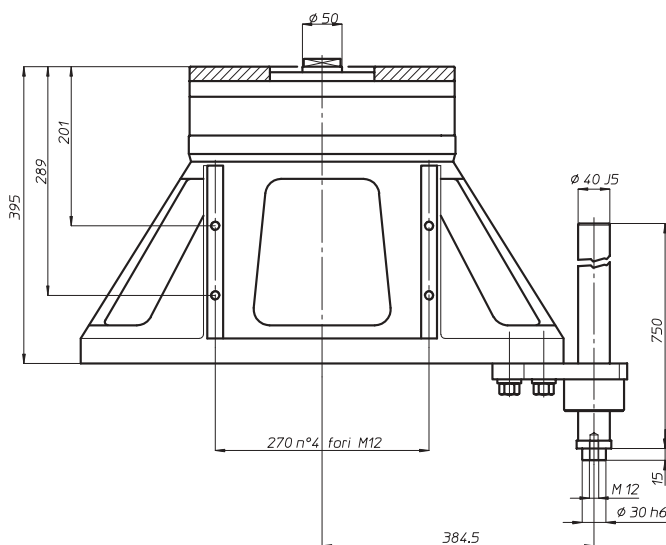
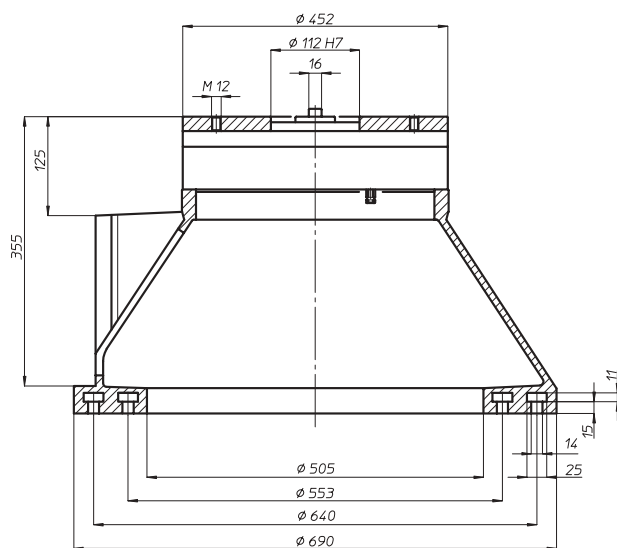
**18**

**R**

prese di moto  
drives

presa di moto attacco Rapido  
drive quick connection

Codice testa  
Head code



	N° prese di moto Nr. spindle drives	<b>18</b>
	Rapporto Ratio	<b>1-1</b>
	Peso Weight	<b>Kg 145</b>

area di lavoro  
working area  
**Ø 465**

# TRM43



Codice testa  
Head code

testa modello  
head type

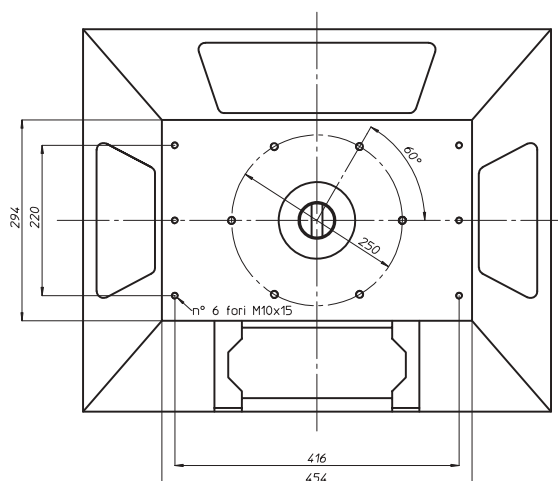
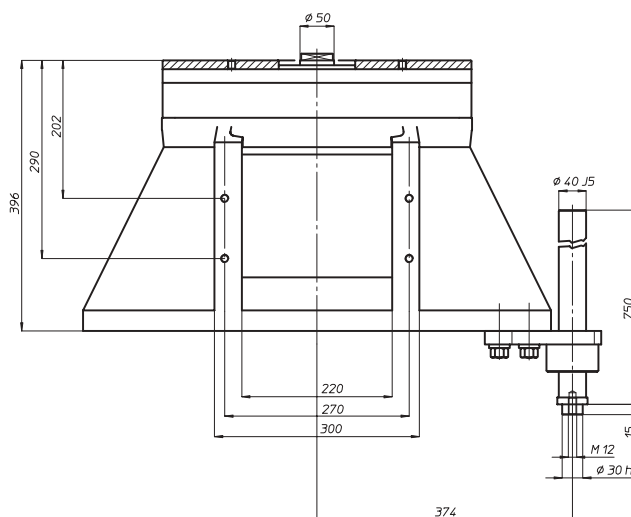
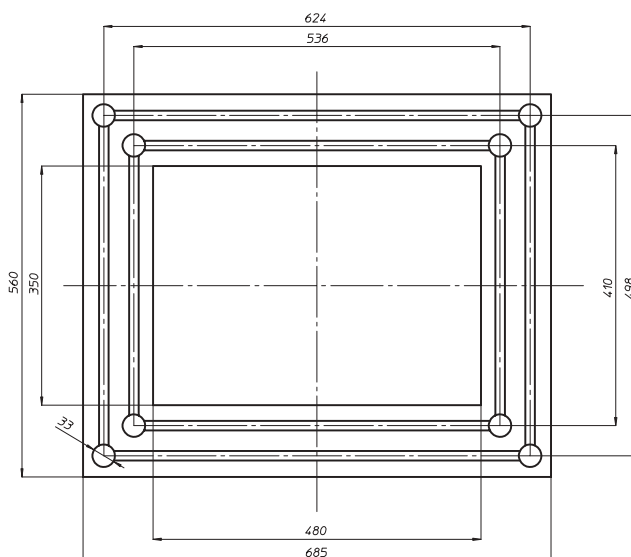
**TRM43**

**16**

**R**

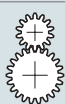
prese di moto  
drives

presa di moto attacco Rapido  
drive quick connection



N° prese di moto  
Nr. spindle drives

16



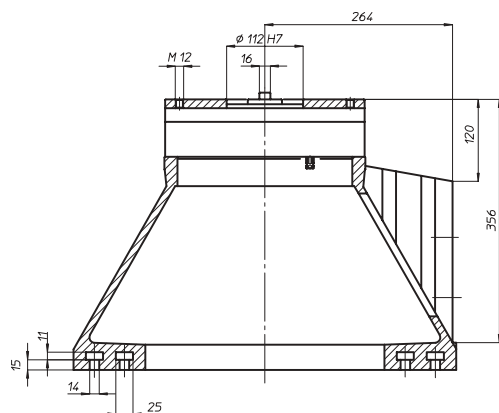
Rapporto  
Ratio

1-1



Peso  
Weight

Kg 135



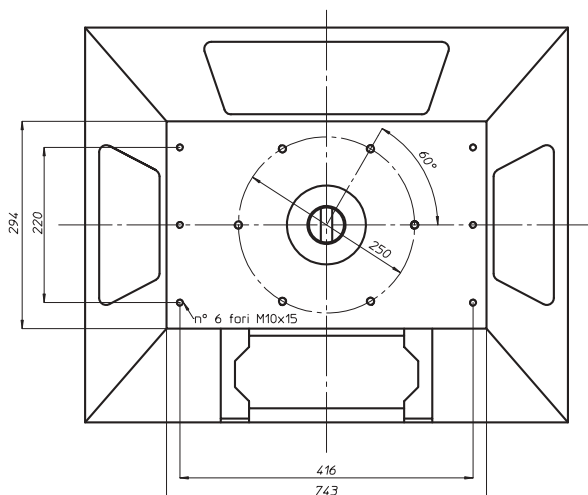
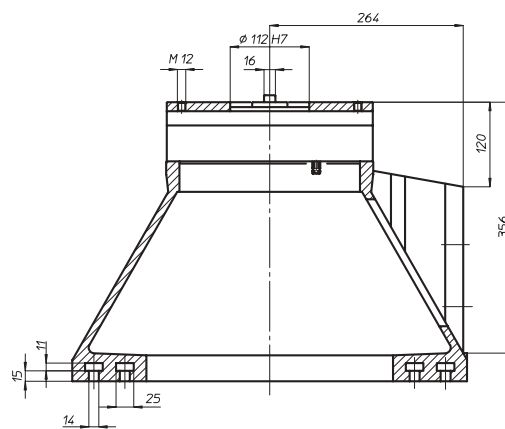
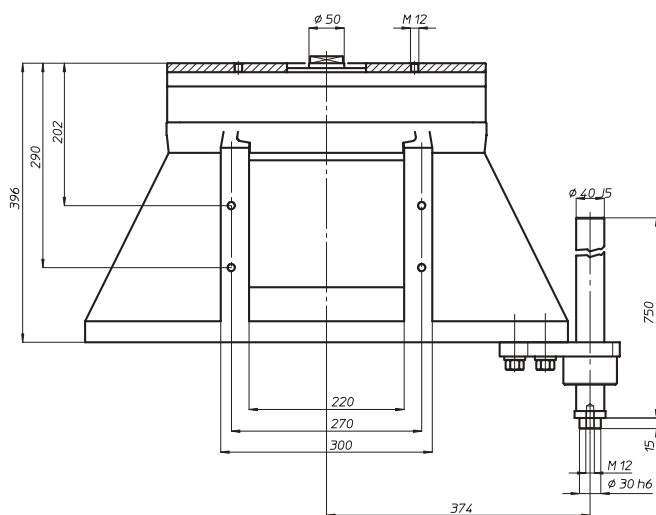
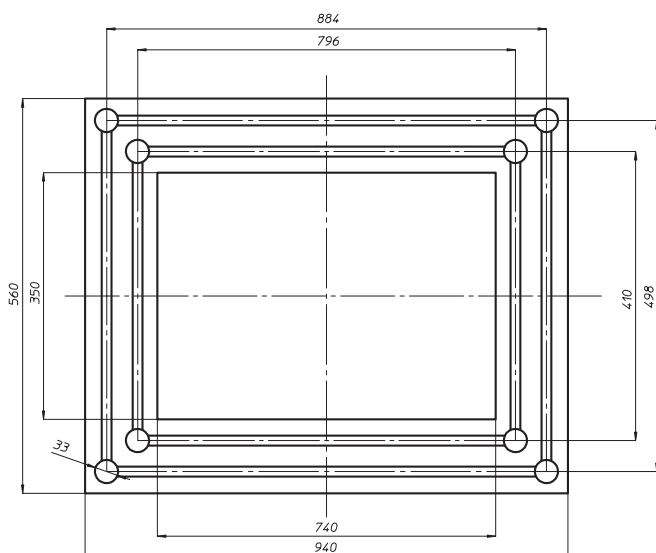
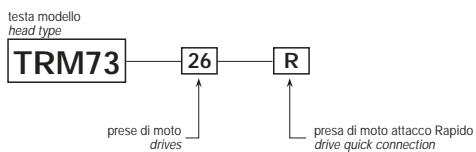
area di lavoro  
working area

**300 x 440**

# TRM73



Codice testa  
Head code



	N° prese di moto Nr. spindle drives	26
	Rapporto Ratio	1-1
	Peso Weight	Kg 210

TA

MO

HT

VH

TSI/TSX

T

MT-TC-TC3

Accessori  
Accessories

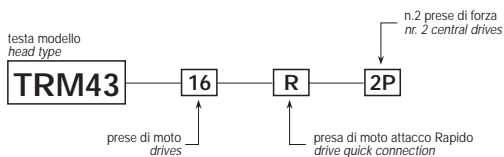
Appendice tecnica  
Technical supplement

area di lavoro  
working area  
**300 x 700**

# TRM43-2P



Codice testa  
Head code



N° prese di moto  
Nr. spindle drives

8+8



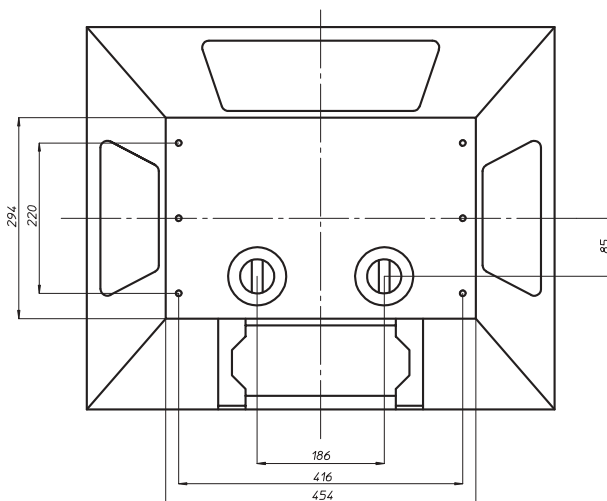
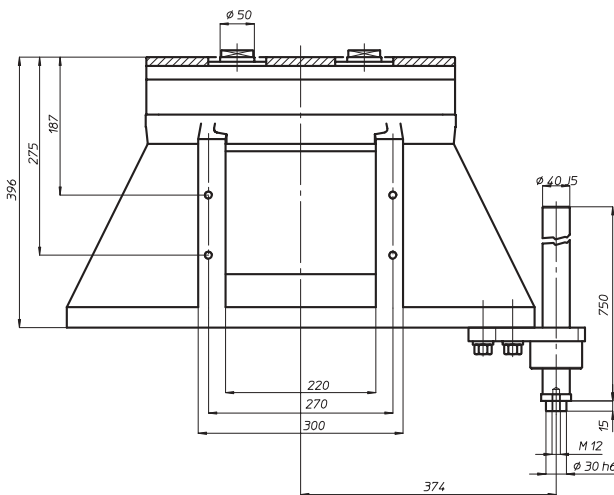
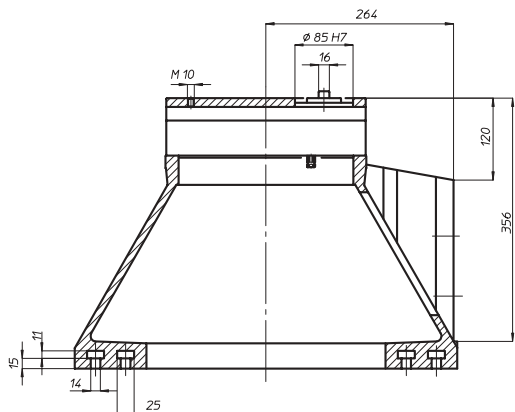
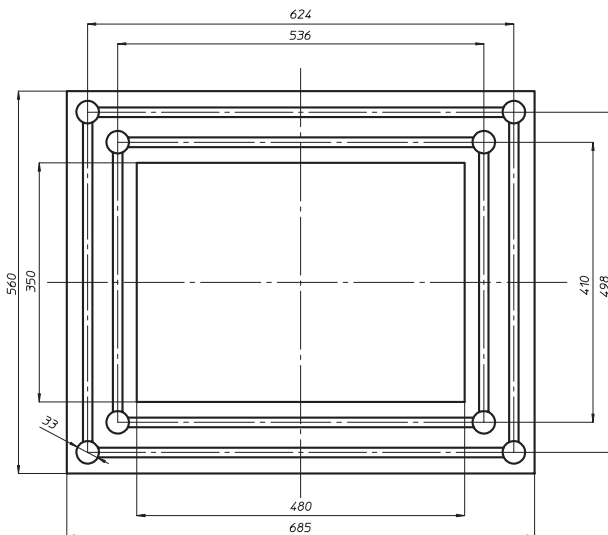
Rapporto  
Ratio

1-1



Peso  
Weight

Kg 140



area di lavoro  
working area

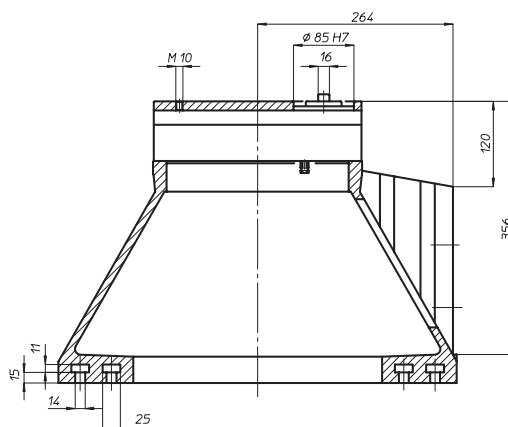
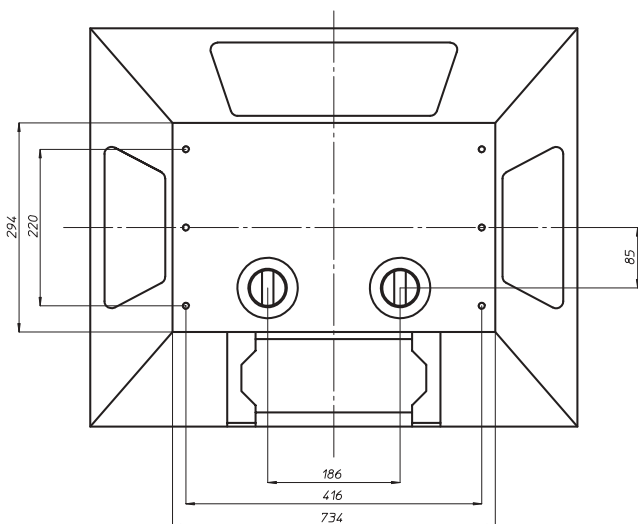
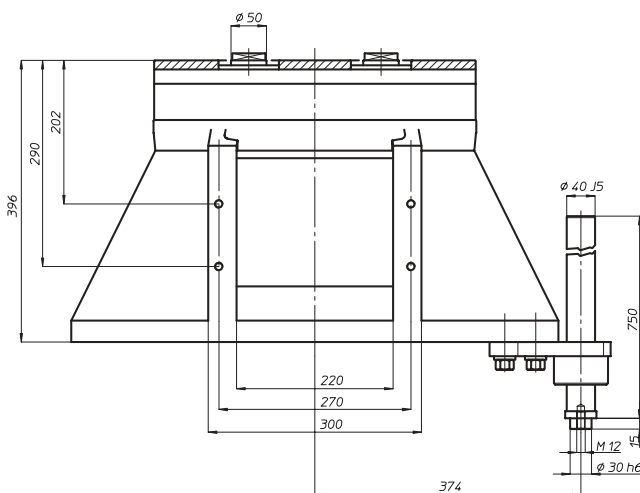
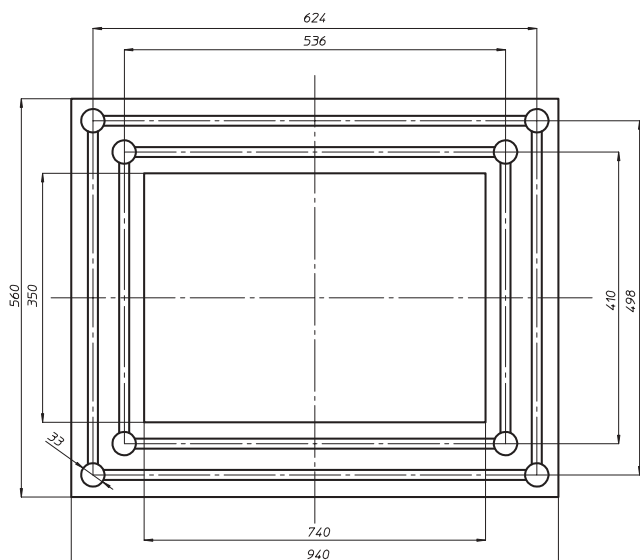
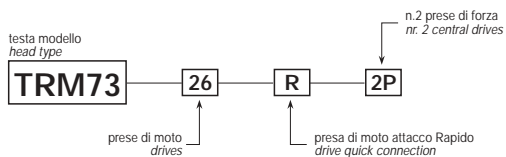
300 x 440



# TRM73-2P

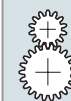


Codice testa  
Head code



N° prese di moto  
Nr. spindle drives

13+13



Rapporto  
Ratio

1-1



Peso  
Weight

Kg 210

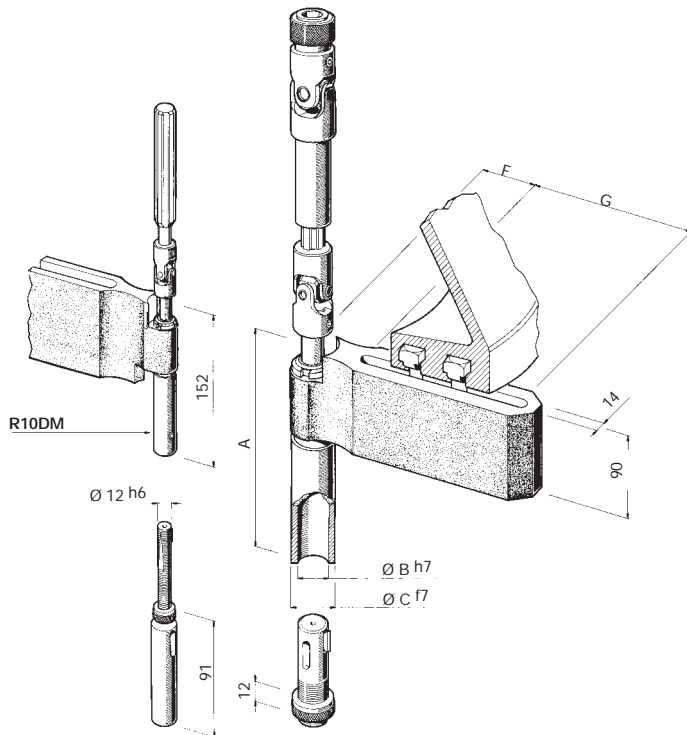
area di lavoro  
working area

300 x 700



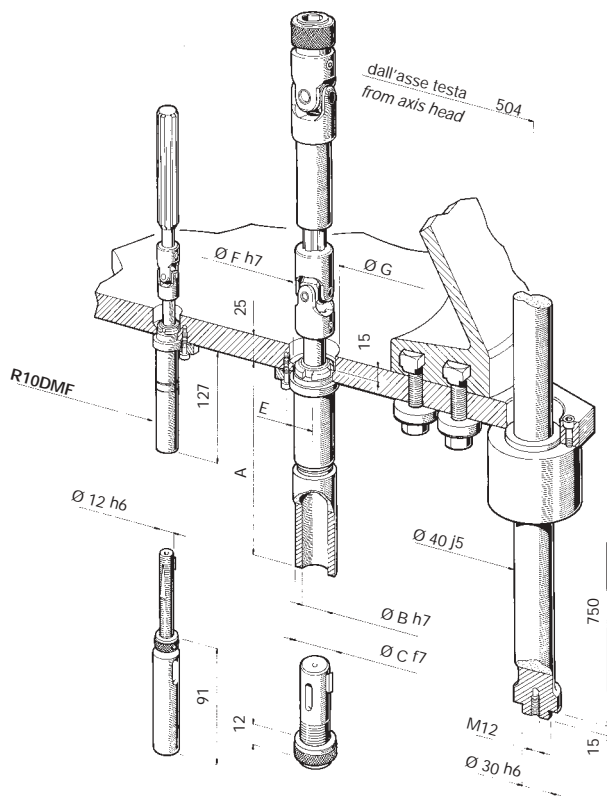
# solo per teste TM-TRM for TM-TRM heads only

## su staffa - on arm



Tipi mandrini spindles type	10DM	15DM	22DM
Codice code	R10DM-S5 R10DM-S6	R15DM-S5 R15DM-S6	R22DM-S5 R22DM-S6
Capacità maschiatura tapping	M6	M12	M16
Corsa maschiatura Tapping stroke	40	40	40
A	152	208	217
ØB h7	12	20	28
ØC f7	20	32	40
F	59	55	55
G	200 270	200 270	200 270
Interasse minimo center distance	23	32,5	40,5
Peso weight	4,0 4,5	5,2 5,7	6,6 7,4

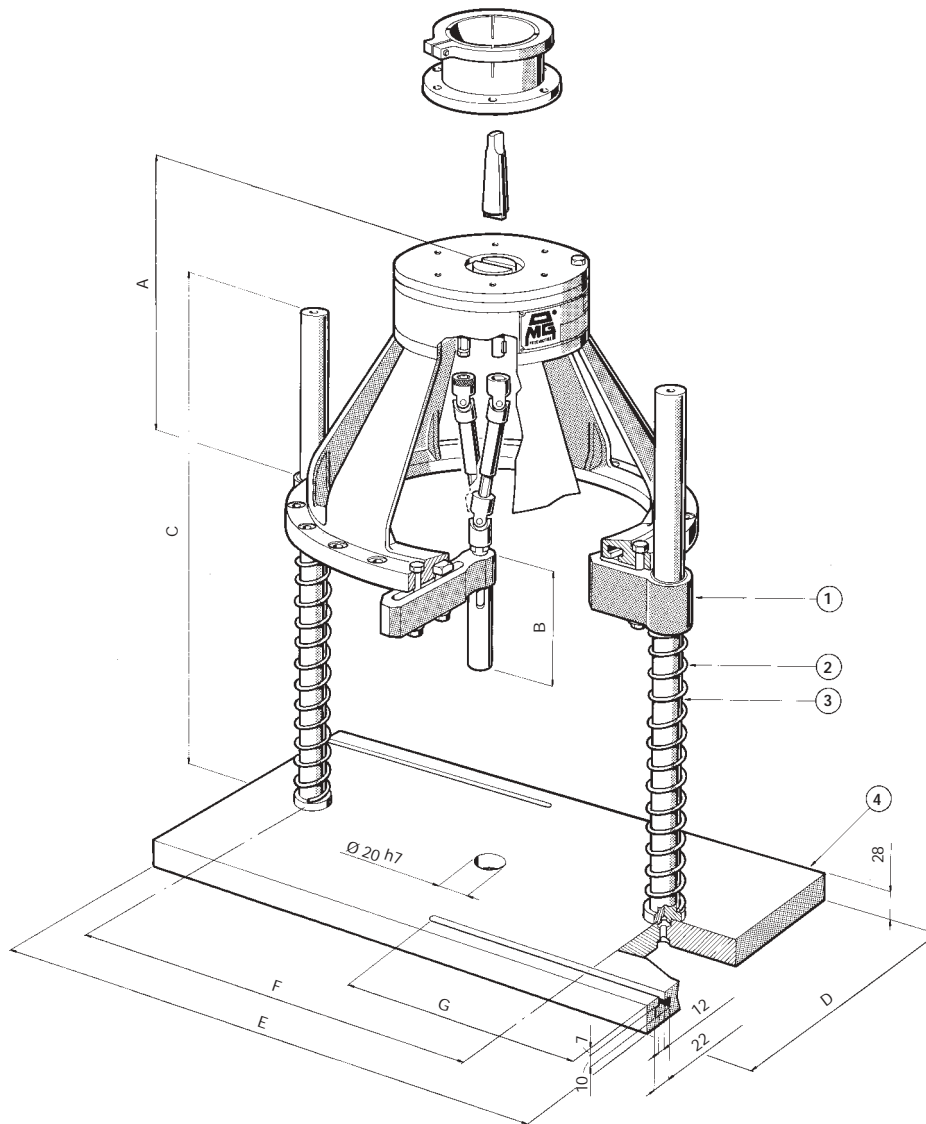
## su astuccio per flangia fissa - fixed plate spindle



Tipi mandrini spindles type	10DM	15DM	22DM
Codice code	R10DMF	R15DMF	R22DMF
Capacità maschiatura tapping	M6	M12	M16
Corsa maschiatura Tapping stroke	40	40	40
A	127	183	192
ØB h7	12	20	28
ØC f7	20	32	40
E Interasse vite M6 distance crew M6	18,5	25	29
ØF h7	23	31	39
ØG	27	36	44
Interasse minimo center distance	23,5	32,5	40,5
Peso weight	2,0	2,6	3,8

# attrezzature per teste multiple multispindle heads equipment

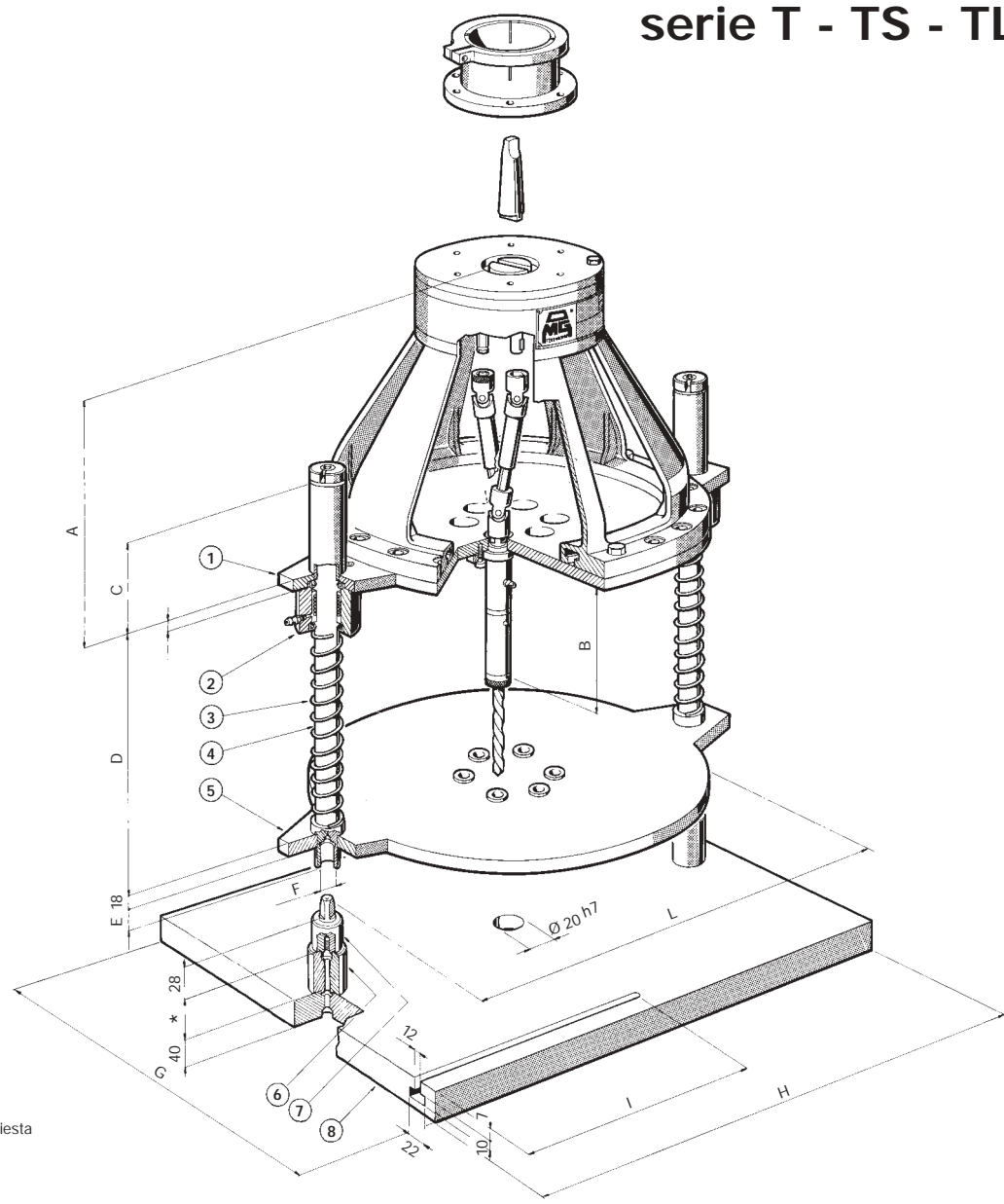
## serie T - TS - TL - TR



Modello testa head type	A	B		C	D	E	F	G	1	2	3	4
		DIN 55058	Pinza ER						supporto di guida guide bush	molla spring	colonna column	base base
T4	205	91,5	76				280					076081
T7	205	101,5	76				350	300	076123	076126	076120	076082
T10	236	109	94,5	500	250	500	404					076083
T12	260	172					454					076084
TS12	283	172					542					076085
T15	272	175					492					076086
TS15	282	175		650	300	650	552	350	076133	076136	076130	076087
T18	293	185					540					076088
TS18	299	185					582					076089
T22	317	185					540					076090
TS22	317	185					582					076091
TL20/4	237	91,5	76									
TL20/6	237	101,5	76	500	250	500	400	300	076123	076126	076120	076092
TL20/8	237	109	94,5									
TL40/12	290	175										
TL40/16	290	185				650	604	350				076093
TL40/22	318	185										
TL60/12	290	175										
TL60/16	290	185		650	300	850	804	450	076133	076136	076130	076094
TL60/22	318	185										
TR2/12	290	175										
TR2/16	290	185				650	548					076095
TR5/12	290	175										
TR5/16	290	185					629					076096

# attrezzature per teste multiple multispindle heads equipment

## serie T - TS - TL - TR



\* a richiesta

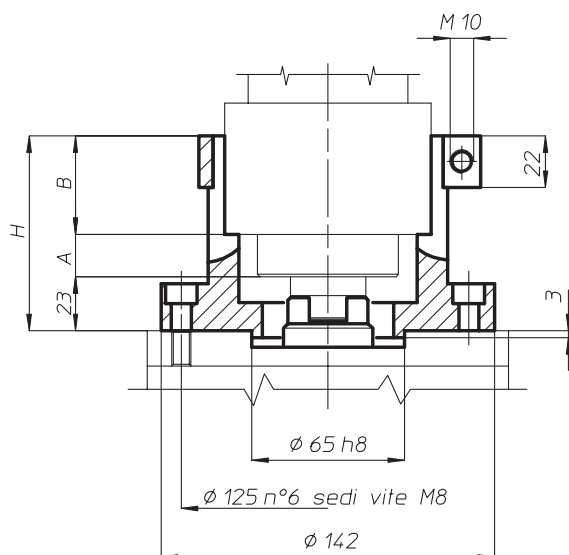
Modello testa head type	A	DIN 55058	B Pinza ER	C	D	E	ØF <sup>H7</sup>	G	H	I	L	1 flangia fissa fixed plate	2 cartuccia di guida guide bush	3 molla spring	4 colonna column	5 maschera drilling jig	6 distanziale spacer	7 puntale push-rod	8 base base
T4	205	91,5	76								280	076001				076051			076081
T7	205	101,5	76	70	280	22	10	250	500	300	350	076002	076122	076126	076121	076052	-	076127	076082
T10	236	109	94,5								404	076003				076053			076083
T12	260	172									454	076004				076054			076084
TS12	283	172									542	076005				076055			076085
T15	272	175									492	076006				076056			076086
TS15	282	175		100	405	27	18	300	650	350	552	076007	076132	076136	076131	076057	-	076137	076087
T18	293	185									540	076008				076058			076088
TS18	299	185									582	076009				076059			076089
T22	317	185									540	076010				076060			076090
TS22	317	185									582	076011				076061			076091
TL20/4	237	91,5	76																
TL20/6	237	101,5	76	70	280	22	10	250	500	300	400	076012	076122	076126	076121	076062	-	076127	076092
TL20/8	237	109	94,5																
TL40/12	290	175																	
TL40/16	290	185							650	350	604	076013				076063			076093
TL40/22	318	185																	
TL60/12	290	175																	
TL60/16	290	185		100	405	27	18	300	850	450	804	076014	076132	076136	076131	076064	-	076137	076094
TL60/22	318	185																	
TR2/12	290	175																	
TR2/16	290	185																	
TR5/12	290	175							650	350	548	076015				076065			076095
TR5/16	290	185									629	076016				076066			076096



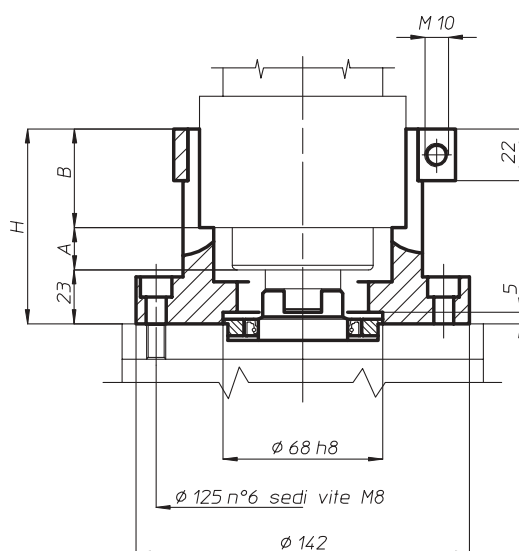
# Attacco Cono Morse trascinatorio Morse Taper with driving dog

T4 - T7 - T10 - TL20...

**Versione standard**  
*Standard version*

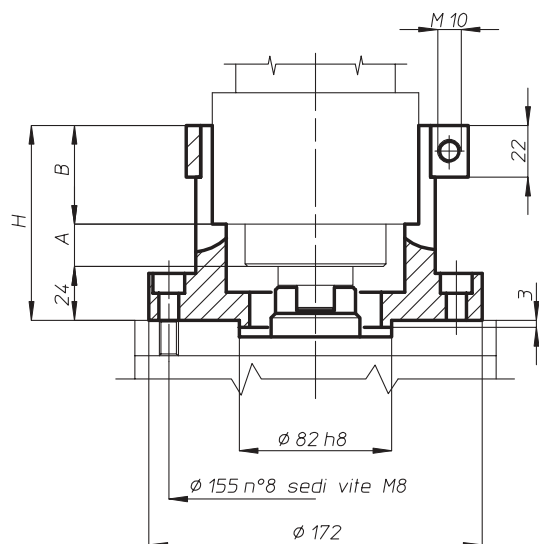


**Solo versione orizzontale**  
*For horizontal use only*

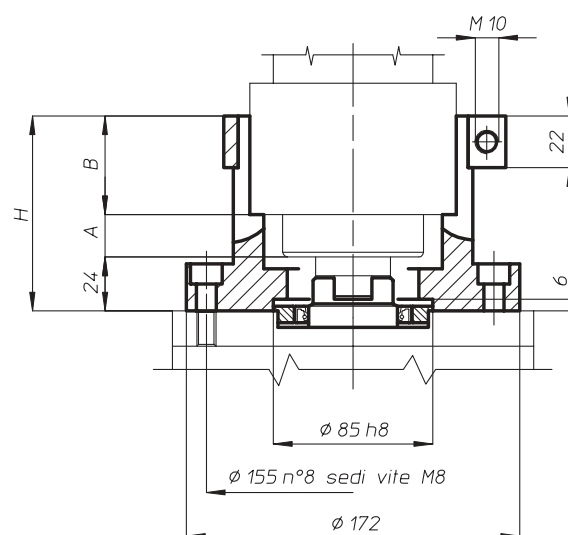


T12 - T15 - T18 - T22 - TL40... - TL60... - TR2... - TR5...

**Versione standard**  
*Standard version*



**Solo versione orizzontale**  
*For horizontal use only*







# teste multiple ad assi fissi *fixed multispindle heads*

system **MT**



system **TC**

system **TC3**



serie **TFS**



MT.....	7-2
TC.....	7-3
TC3.....	7-4
TFS.....	7-5

Galleria fotografica/Photographic gallery..... 7-6

TA

MO

HT

VH

TSI/TSX

T

MT-TC-TC3

Accessori  
Accessories

Appendice tecnica  
Technical supplement

teste multiple flessibili ad assi fissi  
*multispindle heads with fixed centers distance*

system **MT**



Il sistema MT si utilizza dove gli interassi e le capacità di torsione sono ridotte. L'interasse minimo realizzabile è mm 10 perché al di sotto di tale misura verrebbero a mancare i requisiti di sicurezza caratteristici dei prodotti O.M.G.. Le realizzazioni MT, generalmente, hanno dimensioni contenute, pochi mandrini (3 o 4), peso ridotto (kg 2) e sono lubrificate con grasso long-life. È possibile eseguire con la medesima testa filettature con passo differente.



Tutta la componentistica, trattata termicamente, ruota interamente su cuscinetti offrendo la possibilità di raggiungere velocità di rotazione di 10.000 giri al minuto. Nonostante le caratteristiche minute, si possono comunque realizzare teste con un ragguardevole numero di mandrini (oltre 20) e con corpi di una certa dimensione.



*The MT system is for small centre distances and low torque requirements. The minimum centre distance is 10 mm; below this heads reliability becomes questionable. MT units are normally very compact and with 3 or 4 spindles weigh little - 2 kg for example - and are permanent grease lubricated. Rotating*



*components are hardened and ground, and are carried in anti-friction bearings enabling these heads to run up to 10.000 rpm. In special cases, MT heads are built with large bodies and high numbers of spindles - even in excess of 20.*





# system TC

Migliaia di realizzazioni sia per trapani, unità, macchine combinate, centri di lavorazione con cambio automatico dell'utensile sono state costruite con il sistema TC, la serie di media capacità. La sua caratteristica principale sta nell'essere la più grande normalizzazione in materia di teste multiple oggi sul mercato. Corpi testa il lega di alluminio delle più varie forme e dimensioni sono normalizzati. Partendo da un interasse minimo di mm 16 si può realizzare qualsiasi figura il cliente richieda; mandrini con tutti i



tipi di attacchi utensili (a pinza DIN 6499, DIN 55058, Komet ABS, DIN 1895, ecc.) ruotano su cuscinetti a rullini selezionati, su cuscinetti a sfere a contatto obliquo di precisione, su cuscinetti a rulli conici, tutti indifferentemente per potere utilizzare qualsiasi tipologia di utensile. I mandrini di maschiatura a patrona partono da un interasse di mm 28. Colonne mobili o fisse per maschiare guida utensili completano l'intera gamma. È permesso inoltre superare abbondantemente la soglia dei 10.000 giri al minuto per ottemperare alle elevate velocità richieste dagli utensili.



*Many TC system - medium capacity - heads have been supplied for drilling machines, unit head applications, special machines and machining centres. Outstanding is that this standardised series has become the industries Modular multi-head market leader. Head bodies of many sizes and form have been rationalised.*

*With a minimum centre distance of 16 mm holes patterns can be provided for any client need; spindles with all types of tool connection (DIN 6499 collets, DIN 55058, Komet, ABS, DIN 1895, etc.) are carried in combinations of selected needle, precision angular contact ball and taper rolling bearings to suit all tool types. Threading spindles with lead nuts give a minimum centres distance of 28 mm; additionally, fixed and movable columns with bush lates for tool guidance are available when required. When the tolls or work demand. TC series head spindles can be run excess of 10.000 rpm.*



TA

MO

HT

VH

TSI/TSX

T

MT-TC-TC3

Accessori  
Accessories

Appendice tecnica  
Technical supplement

teste multiple flessibili ad assi fissi  
*multispindle heads with fixed centers distance*

# system TC3

La serie TC3 è l'espressione dell'alta tecnologia O.M.G.. È il sistema di teste utilizzato per trasmettere elevate potenze su grosse unità, rototraslanti, macchine col cambio automatico delle teste. Massicce, solide, dal peso elevato (anche kg 900) non hanno limiti di utilizzo che non siano quelli della macchina utensile. Il corpo, normalmente in fusione di ghisa sferoidale, racchiude tutto il cinematismo rettificato, con lubrificazione forzata e prssurizzato. Vari tipi di mandrini sono disponibili



su questo tipo di teste e tra essi particolarmente indicati sono quelli supportati da cuscinetti a contatto obliquo di precisione adatti ad operazioni di foratura senza guida utensile, alesatura, fresatura; in questo caso all'interno della testa si hanno due tipi di lubrificazione, ad olio per gli ingranaggi elicoidali ad evolvente rettificato e a grasso per tutti i gruppi mandrino. Anche questa serie si può equipaggiare con maschere guida utensili su colonne mobili o fisse, adduttori per refrigerante passanti per il centro dell'utensile. Molte macchine utensili non potrebbero funzionare senza queste teste multiple e la qualità delle lavorazioni dipende esclusivamente dalla loro precisione, tanto che si potrebbero definire vere e proprie "macchine utensili".



*The TC3 series is the expression of O.M.G.'s cutting-edge technology. This system of heads is used for transmitting high powers on large units, rotational-translating, machines with automatic head change. Sturdy, strong, of heavy weight (up to 900 kg) they have no restrictions as regards use excepting those of all machine tools.*

*The body, normally made of spheroidal cast iron, encloses all the ground kinematic mechanism, with forced and pressurised lubrication. Various types of spindles are available on this type of head and, among these, especially appropriate are those supported by precision oblique contact bearings suitable for drilling operations without tool jigs, boring, milling; in this case, inside the head are two types of lubrication - oil for the helical gears with ground involute and grease for all the spindle units. This series can also be equipped with tool jigs on moving or fixed columns, coolant feeders passing through the centre of the tool.*



*Many machine tools could not operate without these multiple heads and the quality of machining operations depends on their precision alone, to the extent that they could be considered "machine tools" in their own right.*





# serie TFS

TFS: Testa Fissa Speciale. Speciale perché la sua progettazione è unica in quanto nasce per soddisfare richieste specifiche e particolari per le quali non può essere utilizzato nessuno degli standard già esistenti.

A differenza delle altre serie speciali MT-TC-TC3 che siamo riusciti a standardizzare e quindi a redigere delle tabelle tecniche, per la serie TFS possiamo presentarvi solo immagini, in quanto la loro unicità non ci permette di definire alcuna scheda tecnica, se non una specifica per ogni testa.

In breve:

1- non hanno limiti di dimensioni perché dipendono dalla macchina su cui verranno applicate;

2- possono trasmettere potenze fino e oltre il limite della macchina stessa;

3- possono equipaggiare una qualsiasi macchina utensile o far parte di applicazioni particolari.

Tutta la testa ed i suoi componenti sono studiati propriamente per soddisfare le caratteristiche di lavorazione che il pezzo, gli utensili e il cliente richiede.

TFS: Special Fixed Head. Special because of its unique design, intended to cater for specific requirements and parts for which no existing standards can be used.

Unlike the other special series MT-TC-TC3 which we have managed to standardise and for which we have consequently drawn up technical charts, for the TFS series, we are only able to provide you with images because their uniqueness makes it impossible to define any technical sheet, except a specific one for each head.

In short:

1- there are no dimensional limits because these depend on the machine on which they are to be fitted;

2- they can transmit powers up to and beyond the limit of the machine itself;

3- they can equip any machine tool or become part of special applications.

The entire head and its component parts have been designed to satisfy the machining characteristics that the piece, the tools and the customer require.



TA

MO

HT

VH

TSI/TSX

T

MT-TC-TC3

Accessori  
Accessories

Appendice tecnica  
Technical supplement

TA



MO



HT



VH



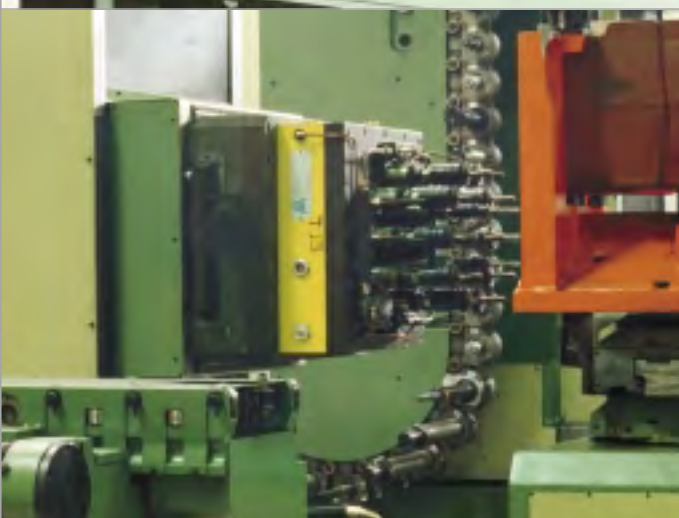
TSI/TSX



T



MT-TC-TC3



Accessori  
Accessories



Appendice tecnica  
Technical supplement





TA

MO

HT

VH

TSI/TSX

T

MT-TC-TC3

Accessori  
Accessories

Appendice tecnica  
Technical supplement



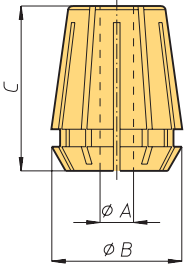


# ACCESSORI ACCESORIES

Pinze DIN 6499 forma B - tipo ER <i>Spring collets DIN 6499 form B - ER type</i> .....	8-2
Pinze DIN 6499 <i>Spring collets DIN 6499</i> .....	8-2
Pinze di maschiatura con compensazione - tipo ET1 <i>Tapping collets with compensation - ET1 type</i> .....	8-3
Pinze di maschiatura senza compensazione - tipo ER <i>Tapping collets without compensation - ER type</i> .....	8-3
Pinze <i>Collets</i> .....	8-3
Pinze porta maschi DIN 6328 <i>Tapholder collets DIN 6328</i> .....	8-4
Pinze porta punte DIN 6329 <i>Toolholder collets DIN 6329</i> .....	8-4
Ghiere esagonali per pinze DIN 6499 <i>Exagon clamping nut for spring collets DIN 6499</i> .....	8-5
Ghiere equilibrate per pinze DIN 6499 <i>Balanced clamping nut for spring collets DIN 6499</i> .....	8-5
Ghiere per pinze DIN 6499 <i>Clamping nut for spring collets DIN 6499</i> .....	8-5
Inseri registrabili porta utensili a cono Morse DIN 6327/1 <i>DIN 6327 adjustable adapters for morse taper shank tools</i> .....	8-6
Inseri registrabili porta utensili a cono Morse DIN 6327/2 <i>DIN 6327 adjustable adapters for morse taper shank tools</i> .....	8-6
Inseri registrabili porta utensili a cono Morse (Norma OMG) <i>Adjustable adapters for morse taper shank tools (OMG norm)</i> .....	8-7
Insero porta pinze per utensili a gambo cilindrico (DIN 6327) <i>DIN 6327 adjustable adapters for cylindrical shank tools</i> .....	8-7
Mandrini per maschiare con diametro ridotto <i>Tapping spindles with reduced diametre</i> .....	8-8
Mandrini a cambio rapido per maschiare con compensazione assiale <i>Quick change tapping chucks with axial compensation</i> .....	8-8
Mandrini a cambio rapido per maschiare con compensazione assiale e spostamento parallelo all'asse <i>Quick change tapping chucks with axial compensation and radial parallel floating</i> .....	8-9
Mandrini a cambio rapido per maschiare con spostamento parallelo all'asse <i>Quick change tapping chucks with radial parallel floating</i> .....	8-9
Mandrini a cambio rapido per maschiare con compensazione assiale <i>Quick change tapping chucks with axial compensation</i> .....	8-9
Bussole porta maschio a cambio rapido con frizione destra e sfere <i>Quick connection tap-holder bushes with ball right clutch</i> .....	8-10
Bussole porta maschio a cambio rapido <i>Quick connection tap-holder bushes</i> .....	8-10
Manicotti ad innesto rapido <i>Quick connection sleeves</i> .....	8-11
Ghiere ad innesto rapido <i>Ring nuts</i> .....	8-11
Bussole di riduzione da cono Morse a cono Morse DIN 2195 <i>Morse taper reduction bushes DIN 2195</i> .....	8-11
Chiavi per ghiera <i>Clamping nuts spanner</i> .....	8-12



TA



### Pinze DIN 6499 forma B - tipo ER Spring collets DIN 6499 form B - ER type

ER 8		phi B=8,5		C=15											
Codice Code	224400	224401	224402	224403	224404	224405	224406	224407	224408						
phi A	1 - 0,5	1,5 - 1	2 - 1,5	2,5 - 2	3 - 2,5	3,5 - 3	4 - 3,5	4,5 - 4	5 - 4,5						

ER 11		phi B=11,5		C=18											
Codice Code	224411	224412	224413	224414	224415	224416	224417	224418	224419	224420	224421	224422	224423		
phi A	1 - 0,5	1,5 - 1	2 - 1,5	2,5 - 2	3 - 2,5	3,5 - 3	4 - 3,5	4,5 - 4	5 - 4,5	5,5 - 5	6 - 5,5	6,5 - 6	7 - 6,5		

ER 16		phi B=17		C=27,5											
Codice Code	224426	224424	224425	224467	224436	224429	224430	224431	224432	224433	224434	224435			
phi A	1 - 0,5	1,5 - 1	2 - 1,5	2,5 - 2	3 - 2,5	4 - 3	5 - 4	6 - 5	7 - 6	8 - 7	9 - 8	10 - 9			

ER 20		phi B=17		C=27,5											
Codice Code	224451	224437	224450	224409	224410	224440	224441	224442	224443	224444	224445	224446	224447	224448	224449
phi A	1 - 0,5	1,5 - 1	2 - 1,5	2,5 - 2	3 - 2,5	4 - 3	5 - 4	6 - 5	7 - 6	8 - 7	9 - 8	10 - 9	11 - 10	12 - 11	13 - 12

ER 25		phi B=26		C=34												
Codice Code	224468	224469	224470	224471	224472	224454	224455	224456	224457	224458	224459	224460	224461	224462	224463	224464
phi A	1 - 0,5	1,5 - 1	2 - 1,5	2,5 - 2	3 - 2,5	4 - 3	5 - 4	6 - 5	7 - 6	8 - 7	9 - 8	10 - 9	11 - 10	12 - 11	13 - 12	14 - 13

Codice Code	224465	224466													
phi A	15 - 14	16 - 15													

ER 32		phi B=33		C=40											
Codice Code	224473	224474	224476	224477	224478	224479	224480	224481	224482	224483	224484	224485	224486	224487	
phi A	2,5 - 2	3 - 2,5	4 - 3	5 - 4	6 - 5	7 - 6	8 - 7	9 - 8	10 - 9	11 - 10	12 - 11	13 - 12	14 - 13	15 - 14	

Codice Code	224488	224489	224490	224491	224492										
phi A	16 - 15	17 - 16	18 - 17	19 - 18	20 - 19										

ER 40		phi B=41		C=46											
Codice Code	224499	224500	224501	224502	224503	224504	224505	224506	224507	224508	224509	224510	224511	224512	224513
phi A	3 - 2	4 - 3	5 - 4	6 - 5	7 - 6	8 - 7	9 - 8	10 - 9	11 - 10	12 - 11	13 - 12	14 - 13	15 - 14	16 - 15	17 - 16

Codice Code	224514	224515	224516	224517	224518	224519	224520	224521	224522	224523	224524	224525	224526		
phi A	18 - 17	19 - 18	20 - 19	21 - 20	22 - 21	23 - 22	24 - 23	25 - 24	26 - 25	27 - 26	28 - 27	29 - 28	30 - 29		

ER 50		phi B=52		C=60												
Codice Code	224530	224531	224532	224533	224534	224535	224536	224537	224538	224539	224540	224541	224542	224543	224544	224545
phi A	6 - 4	8 - 6	10 - 8	12 - 10	14 - 12	16 - 14	18 - 16	20 - 18	22 - 20	24 - 22	25 - 23	26 - 24	28 - 26	30 - 28	32 - 30	34 - 32

MO

HT

VH

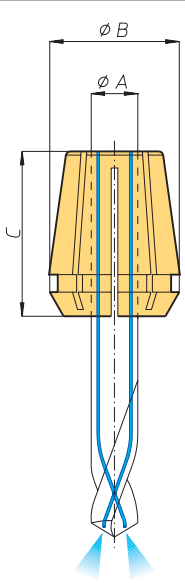
TSI/TSX

T

MT-TC-TC3

Accessori  
Accessories

Appendice tecnica  
Technical supplement



### Pinze DIN 6499 Spring collets DIN 6499

ER 16 UPV		phi B=17		C=27,5											
Codice Code	235205	235206	235207	235208	235209	235210	235211	235212							
phi A	3	4	5	6	7	8	9	10							

ER 20 UPV		phi B=17		C=27,5											
Codice Code	235215	235216	235217	235218	235219	235220	235221	235222	235223	235224	235225				
phi A	3	4	5	6	7	8	9	10	11	12	13				

ER 25 UPV		phi B=26		C=34											
Codice Code	235228	235229	235230	235231	235232	235233	235234	235235	235236	235237	235238	235239	235240	235241	
phi A	3	4	5	6	7	8	9	10	11	12	13	14	15	16	

ER 32 UPV		phi B=33		C=40											
Codice Code	235246	235247	235248	235249	235250	235251	235252	235253	235254	235255	235256	235257	235258	235259	235260
phi A	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17

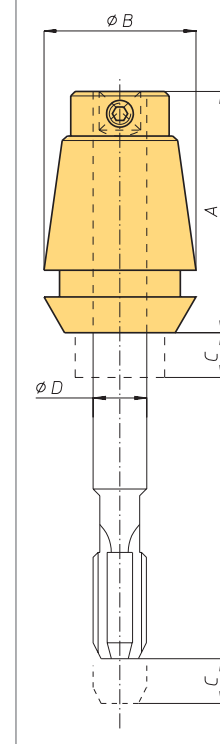
Codice Code	235261	235262	235263												
phi A	18	19	20												

ER 40 UPV		phi B=41		C=46											
Codice Code	235266	235267	235268	235269	235270	235271	235272	235273	235274	235275	235276	235277	235278	235279	235280
phi A	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19

Codice Code	235281	235282	235283	235284	235285	235286	235287								
phi A	20	21	22	23	24	25	26								

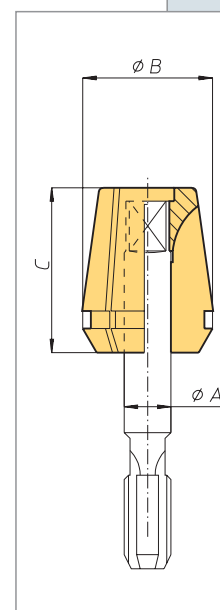
Pinze di maschiatura con compensazione - tipo ET1  
Tapping collets with compensation - ET1 type

ET 1-12	A=21,5	$\phi B=11,5$	C=5,5	CAPACITÀ M2 - M4						
Codice Code	224650	224651	224652	224653	224654					
$\phi D$	1,4	2,2	2,5	2,8	3,5					
ET 1-16	A=27	$\phi B=17$	C=7	CAPACITÀ M2 - M8						
Codice Code	224658	224659	224660	224661	224662	224663	224664	224665		
$\phi D$	1,4	2,2	2,5	2,8	3,5	4	4,5	6		
ET 1-20	A=31	$\phi B=21$	C=7	CAPACITÀ M2 - M10						
Codice Code	224670	224671	224672	224673	224674	224675	224676	224677		
$\phi D$	2,2	2,5	2,8	3,5	4	4,5	6	7		
ET 1-25	A=34	$\phi B=26$	C=8	CAPACITÀ M2 - M12						
Codice Code	224682	224683	224684	224685	224686	224687	224688	224689	224690	224691
$\phi D$	2,2	2,5	2,8	3,5	4	4,5	6	7	8	9
ET 1-32	A=43	$\phi B=33$	C=10	CAPACITÀ M35 - M16						
Codice Code	224695	224696	224697	224698	224699	224700	224701	224702	224703	
$\phi D$	4	4,5	6	7	8	9	10	11	12	
ET 1-40	A=54	$\phi B=41$	C=13	CAPACITÀ M5 - M20						
Codice Code	224706	224707	224708	224709	224710	224711	224712	224713	224714	
$\phi D$	6	7	8	9	10	11	12	14	16	



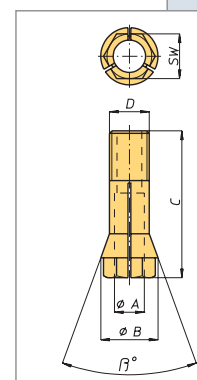
Pinze di maschiatura senza compensazione - tipo ER  
Tapping collets without compensation - ER type

ER 16 GB	$\phi B=16$	C=27,5										
Codice Code	224585	224587	224588	224589	224590							
$\phi A$	4,5	6	7	8	9							
ER 20 GB	$\phi B=20$	C=31,5										
Codice Code	224593	224595	224596	224597	224598	224599	224600					
$\phi A$	4,5	6	7	8	9	10	11					
ER 25 GB	$\phi B=25$	C=34										
Codice Code	224604	224606	224607	224608	224609	224610	224611	224612	224613	224614		
$\phi A$	4,5	6	7	8	9	10	11	12	14	16		
ER 32 GB	$\phi B=32$	C=40										
Codice Code	224617	224619	224620	224621	224622	224623	224624	224625	224626	224627	224628	224629
$\phi A$	4,5	6	7	8	9	10	11	12	14	16	18	20
ER 40 GB	$\phi B=40$	C=46										
Codice Code	224634	224635	224636	224637	224638	224639	224640	224641	224642	224643	224644	224645
$\phi A$	6	7	8	9	10	11	12	14	16	18	20	22



Pinze Collets

600E	$\phi B=9$	C=28,5	D=M6 x0,75	SW=7	$\beta^\circ=20^\circ$						
Codice Code	224574	224575	224576	224577	224578	224579	224580				
$\phi A$	1,5	2	2,5	3	3,5	4	4,5				
601E	$\phi B=11$	C=30	D=M8 x0,75	SW=9	$\beta^\circ=20^\circ$						
Codice Code	224728	224729	224730	224731	224732	224733	224734	224735	224736	224737	
$\phi A$	1,5	2	2,5	3	3,5	4	4,5	5	5,5	6	





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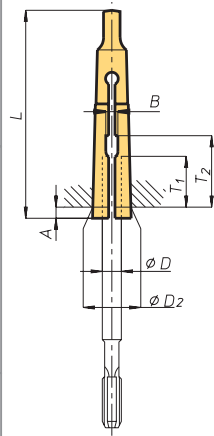
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Accessories

Appendice tecnica  
Technical supplement



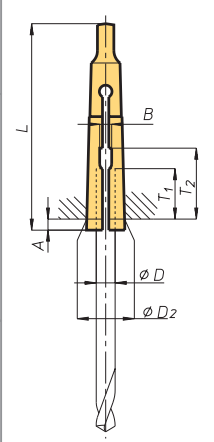
Pinze porta maschi DIN 6328  
Tapholder collets DIN 6328

DIN 6328 - CONO MORSE 1 D2 = 12.065A = 3,5 L = 65,5								
D	2,5	2,8	3,5	4	4,5	6	7	8
Codice Code	224000	224002	224008	224010	224012	224018	224022	224024
B	2,2	2,2	2,8	3,1	3,5	5,1	5,7	7,3
T1	15	15	16	16	18	19,5	19,5	22
T2	19	19	21	24	24	26	27	30

DIN 6328 - CONO MORSE 2 D2 = 17.78 A = 5 L = 80							
D	6	7	8	9	10	11	12
Codice Code	224112	224116	224120	224122	224126	224128	224134
B	5,1	5,7	6,4	7,3	8,3	9,3	9,3
T1	19,5	19,5	19,5	22	23	24	24
T2	26	26	27	22	32	34	34

Pinze porta punta DIN 6329  
Toolholder collets DIN 6329

DIN 6329 - CONO MORSE 1 D2 = 12.065 A = 3,5 L = 65,5																					
D	3	3,2	3,5	3,7	4	4,2	4,5	4,7	5	5,2	5,5	5,7	6	6,2	6,5	6,7	7	7,2	7,5	7,7	7,5
Codice Code	224164	224166	224168	224170	224172	224174	224176	224178	224180	224182	224184	224186	224188	224190	224192	224194	224196	224198	224200	224202	224200
B	1,8		2,2		2,4		2,7			3,2			3,8								
T1	20					22					22										
T2	25				26				29				29								

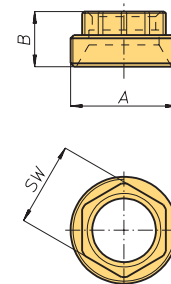


DIN 6329 - CONO MORSE 2 D2 = 17.78 A = 5 L = 80																
D	5,5	6	6,5	7	7,5	8	8,5	9	9,5	10	10,5	11	11,5	12	12,5	13
Codice Code	224260	224262	224264	224266	224268	224270	224272	224274	224276	224278	224280	224282	224284	224286	224288	224300
B	3,2			3,8			4,8			5,3			6,3			
T1	22					25					28					
T2	29					33					39					

### Ghiere esagonali per pinze DIN 6499 Exagon clamping nut for spring collets DIN 6499

Ghiera Nut	Codice Code	$\phi$ A	B	SW	Coppia serraggio Clamping force (Nm)
ER 11AS	224951	M18 x1	10,5	13	24 (30)
ER 16AC	224950	M24 x1	13,5	19	56 (70)
ER 20AC	224952	M28 x1,5	14,5	22	80 (100)
ER 25AC	224953	M32 x1,5	16,5	25	104 (130)

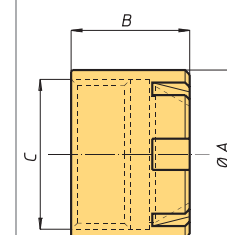
Tra parentesi valore massimo - Between brackets max. value



### Ghiere equilibrate per pinze DIN 6499 Balanced clamping nut for spring collets DIN 6499

Ghiera Nut	Codice Code	$\phi$ A	B	C	Coppia serraggio Clamping force (Nm)	
					Pinze con scarico Spring collet with extractor	Pinze senza scarico Spring collet without extractor
ER 16MB	224921	24	12	M19 x1	40 (50)	56 (70)
ER 20MB	224922	34	18,5	M24 x1	32 (40)	80 (100)
ER 25MB	224923	42	20,5	M32 x1,5	104 (130)	104 (130)
ER 40MB	224924	63	29	M50 x1,5	176 (220)	176 (220)

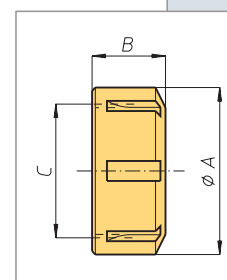
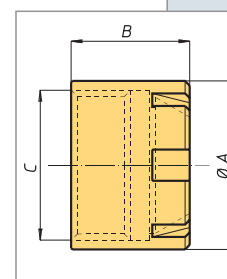
Tra parentesi valore massimo - Between brackets max. value



### Ghiere per pinze DIN 6499 Clamping nut for spring collets DIN 6499

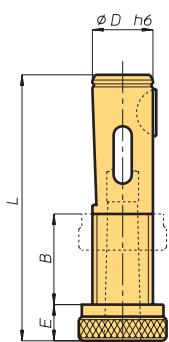
Tipo Type	Codice Code	$\phi$ A	B	C	Coppia serraggio Clamping force (Nm)	
					Pinze con scarico Spring collet with extractor	Pinze senza scarico Spring collet without extractor
ER 8M	224900	12	10,8	M10 x0,75	5 (6)	5 (6)
ER 11M	224902	16	12	M13 x0,75	12 (15)	16 (20)
ER 16M	224904	22	18	M19 x1	24 (30)	24 (30)
ER 20M	224906	28	19	M24 x1	28 (35)	28 (35)
ER 25M	224908	35	20	M30 x1	32 (40)	32 (40)
ER 20UM	224910	34	19	M25 x1,5	32 (40)	80 (100)
ER 25UM	224912	42	20	M32 x1,5	104 (130)	104 (130)
ER 32UM	224914	50	22,5	M40 x1,5	136 (170)	136 (170)
ER 40UM	224916	63	25,5	M50 x1,5	176 (220)	176 (220)
ER 50UM	224918	78	35	M64 x2	240 (300)	240 (300)

Tra parentesi valore massimo - Between brackets max. value



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MT-TG-TC3  
Accessori  
Accessories  
Appendice tecnica  
Technical supplement

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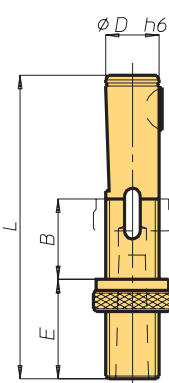


Inserti registrabili DIN 6327/1 porta utensili a cono Morse  
DIN 6327/1 adjustable adapters for morse taper shank tools

Codice-code	Grandezza-size	Cono Morse-Morse taper	$\phi$ D <sup>h6</sup>	Filettatura-Thread	B	E	L	Linguetta-Woodruff key
009010	D 16 x 1	1	16	Tr 16 x 1,5	28	12	85	5 x 6,5
009012	D 20 x 1	1	20	Tr 20 x 2	28	12	88	5 x 7,5
009014	D 25 x 2	2	25	Tr 25 x 2	30	12	95	6 x 9
009016	D 28 x 2	2	28	Tr 28 x 2	30	12	95	6 x 9
009018	D 32 x 3	3	32	Tr 32 x 2	36	12	118	8 x 11
009020	D 36 x 3	3	36	Tr 36 x 2	36	14	118	8 x 11
009022	D 48 x 4	4	48	Tr 48 x 2	47	18	144	10 x 13

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Inserti registrabili DIN 6327/2 porta utensili a cono Morse  
DIN 6327/2 adjustable adapters for morse taper shank tools

Codice-code	Grandezza-size	Cono Morse-Morse taper	$\phi$ D <sup>h6</sup>	Filettatura-Thread	B	E	L	Linguetta-Woodruff key
009024	F 16 x 1 x 25	1	16	Tr 16 x 1,5	28	37	110	5 x 6,5
009026	F 16 x 1 x 50					62	135	
009028	F 16 x 1 x 75					87	160	
009030	F 16 x 1 x 100					112	185	
009032	F 20 x 1 x 25	1	20	Tr 20 x 2	28	37	113	5 x 7,5
009034	F 20 x 1 x 50					62	138	
009036	F 20 x 1 x 75					87	163	
009038	F 20 x 1 x 100					112	188	
009040	F 25 x 2 x 25	2	25	Tr 25 x 2	30	37	120	6 x 9
009042	F 25 x 2 x 50					62	145	
009044	F 25 x 2 x 75					87	170	
009046	F 25 x 2 x 100					112	195	
009048	F 28 x 2 x 25	2	28	Tr 28 x 2	30	37	120	6 x 9
009050	F 28 x 2 x 50					62	145	
009052	F 28 x 2 x 75					87	170	
009054	F 28 x 2 x 100					112	195	
009056	F 32 x 3 x 25	3	32	Tr 32 x 2	36	37	148	8 x 11
009058	F 32 x 3 x 50					62	178	
009060	F 32 x 3 x 75					87	208	
009062	F 32 x 3 x 100					112	238	
009064	F 36 x 3 x 25	3	36	Tr 36 x 2	36	37	148	8 x 11
009066	F 36 x 3 x 50					62	178	
009068	F 36 x 3 x 75					87	208	
009070	F 36 x 3 x 100					112	238	
009072	F 48 x 4 x 25	4	48	Tr 48 x 2	47	37	184	10 x 13
009074	F 48 x 4 x 50					62	224	
009076	F 48 x 4 x 75					87	264	
009078	F 48 x 4 x 100					112	304	

VH

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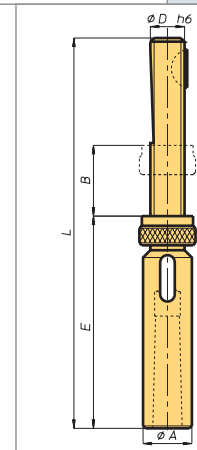
MT-TC-TC3

Accessori  
Accessories

Appendice tecnica  
Technical supplement

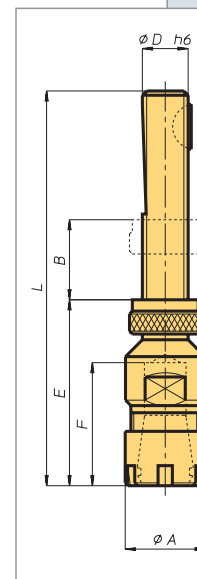
Inserti registrabili porta utensili a cono Morse (Norma OMG)  
Adjustable adapters for morse taper shank tools (OMG norm)

Codice-code	Grandezza-size	Cono Morse-Morse taper	$\phi D^{h6}$	Filettatura-Thread	$\phi A$	B	E	L	Linguetta-Woodruff key
009110	Tr 8 x 1	1	8	Tr 8 x 1	16,8	16	84	126	2 x 3,7
009116	Tr 10 x 1	1	10	Tr 10 x 1,5	19,5	18	89	138	3 x 5
009122	Tr 12 x 1	1	12	Tr 12 x 1,5	22	18	91	138	3 x 5



Inserto porta pinze per utensili a gambo cilindrico (DIN 6327)  
DIN 6327 adjustable adapters for cylindrical shank tools

Codice-code	Grandezza-size	$\phi D^{h6}$	Filettatura-Thread	$\phi A$	B	E	F	L	Pinza-Collet	Linguetta-Woodruff key
009112	Tr 8 ER 8	8	Tr 8 x 1	12	16	36	23	75	ER 8	2 x 3,7
009114	Tr 8 ER 11	8	Tr 8 x 1	16	16	41	28	80	ER 11	2 x 3,7
009118	Tr 10 ER 11	10	Tr 10 x 1,5	16	18	43	28	93	ER 11	3 x 5
009120	Tr 10 ER 16	10	Tr 10 x 1,5	22	18	54	39	104	ER 16	3 x 5
009124	Tr 12 ER 16	12	Tr 12 x 1,5	22	18	56	39	106	ER 16	3 x 5
009130	Tr 16 ER 20	16	Tr 16 x 1,5	28	28	65	47	136	ER 20	5 x 6,5
009140	Tr 20 ER 20	20	Tr 20 x 2	32	28	65	47	139	ER 20	5 x 7,5
009145	Tr 20 ER 25	20	Tr 20 x 2	35	28	61	44	135	ER 25	5 x 7,5
009170	Tr 28 ER 32	28	Tr 28 x 2	50	30	65	49	147	ER 32	6 x 9



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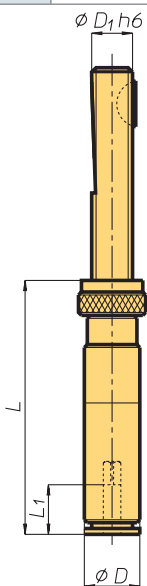
TSI/TSX

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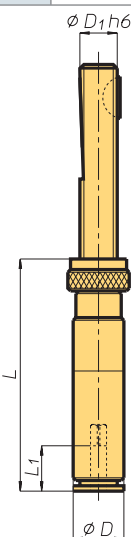
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Appendice tecnica  
Technical supplement



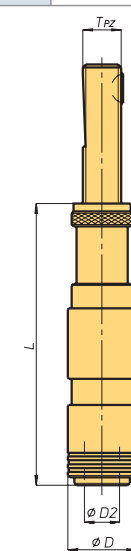
Mandrini per maschiare con diametro ridotto  
Tapping spindles with reduced diameter

Codice code	Mandrino Spindle				$\phi D$	$D_1$	L	$L_1$
227015	MM. 15 D - 20.20 - 8x1 Tpz	M1 - M6	2.5 - 6	20	0	13.5	8	109
227016	MM. 15 D - 20.15 - 8x1 Tpz			15	5			104
227017	MM. 15 D - 20.10 - 8x1 Tpz			10	10			99
227018	MM. 15 D - 20.5 - 8x1 Tpz			5	15			94
227019	MM. 15 D - 20.0 - 8x1 Tpz			0	20			89
227020	MM. 16 D - 20.20 - 10x1,5 Tpz	M1 - M8	2.5 - 8	20	0	15.5	10	116
227021	MM. 16 D - 20.15 - 10x1,5 Tpz			15	5			111
227022	MM. 16 D - 20.10 - 10x1,5 Tpz			10	10			106
227023	MM. 16 D - 20.5 - 10x1,5 Tpz			5	15			101
227024	MM. 16 D - 20.0 - 10x1,5 Tpz			0	20			96
227025	MM. 17 D - 20.20 - 12x1,5 Tpz	M4 - M12	4.5 - 10	20	0	19	12	107
227026	MM. 17 D - 20.15 - 12x1,5 Tpz			15	5			102
227027	MM. 17 D - 20.10 - 12x1,5 Tpz			10	10			97
227028	MM. 17 D - 20.5 - 12x1,5 Tpz			5	15			92
227029	MM. 17 D - 20.0 - 12x1,5 Tpz			0	20			87



Mandrini per maschiare con diametro ridotto  
Tapping spindles with reduced diameter

Codice code	Mandrino Spindle			$\phi D$	$D_1$	L	$L_1$
227030	MR. 0 - 10x1.5 Tpz	M1 - M10	2.5 - 7.2	14	10	44	15
227031	MR. 0 - 12x1.5 Tpz				12		
227032	MR. 1 - 12x1.5 Tpz	M4 - M14	4.5 - 11.3	19	12	52	17
227033	MR. 1 - 16x1.5 Tpz				16		
227034	MR. 2 - 20x2 Tpz	M8 - M24	7 - 18	31	20	77	30
227035	MR. 2 - 28x2 Tpz				28		
227036	MR. 3 - 28x2 Tpz	M14 - M36	11 - 28	48	28	95	44
227037	MR. 3 - 36x2 Tpz				36		
227038	MR. 4 - 36x2 Tpz	M22 - M48	18 - 36	60	36	132	71
227039	MR. 4 - 48x2 Tpz				48		







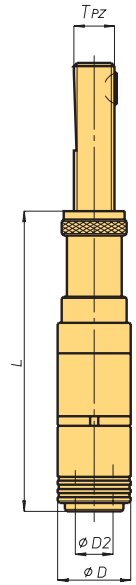
Mandrini a cambio rapido per maschiare con compensazione assiale  
Quick change tapping chucks with axial compensation

Mandrino Spindle		D	$D_2$			16x1,5 Tpz	Codice Code	20x2 Tpz	Codice Code	L	28x2 Tpz	Codice Code	36x2 Tpz	Codice Code
MF 0-5D-20-10	M1 - M10	23	13	20	10	0	116	227060	116	227061				
MF 0-5D-15-15				15	15		111	227062	111	227063				
MF 0-5D- 0-30				0	30		96	227064	96	227065				
MF 1-5D-30-10	M3 - M12	35	19	30	10	1	148	227066	148	227067	148	227068		
MF 1-5D-20-20				20	20		138	227069	138	227070	138	227071		
MF 1-5D- 0-40				0	40		118	227072	118	227073	118	227074		
MF 2-4D-30-10	M8 - M20	50	31	30	10	2			172	227075	172	227076	174	227077
MF 2-4D-20-20				20	20				162	227078	162	227079	164	227080
MF 2-4D- 0-40				0	40				142	227081	142	227082	144	227083
MF 3-3D-30-10	M14 - M33	72	48	30	10	3				218	227084	220	227085	
MF 3-3D-20-20				20	20					208	227086	210	227087	
MF 3-3D- 0-40				0	40						188	227088	190	227089







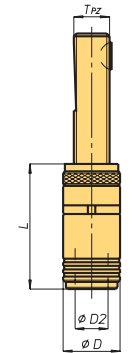
Mandrini a cambio rapido per maschiare con compensazione assiale e spostamento parallelo all'asse  
Quick change tapping chucks with axial compensation and radial parallel floating

Mandrino Spindle		D	D <sub>2</sub>				16x1,5 Tpz	Codice Code	20x2 Tpz	Codice Code	L	28x2 Tpz	Codice Code	36x2 Tpz	Codice Code
MFC0-5D-20-10	M1 - M10	23	13	0,25	20	10	0	138	227090	138	227091				
MFC0-5D-15-15					15	15		133	227092	133	227093				
MFC0-5D- 0-30					0	30		118	227094	118	227095				
MFC1-5D-30-10	M3 - M12	35	19	0,5	30	10	1	163	227096	163	227097	163	227098		
MFC1-5D-20-20					20	20		153	227099	153	227100	153	227101		
MFC1-5D- 0-40					0	40		133	227102	133	227103	133	227104		
MFC2-4D-30-10	M8 - M20	50	31	1	30	10	2			196	227105	196	227106	174	227077
MFC2-4D-20-20					20	20				186	227108	186	227109	164	227080
MFC2-4D- 0-40					0	40				166	227111	166	227112	144	227083
MFC3-3D-30-10	M14 - M33	72	48	1,5	30	10	3					252	227084	220	227085
MFC3-3D-20-20					20	20				242	227116	210	227087		
MFC3-3D- 0-40					0	40				222	227118	190	227089		






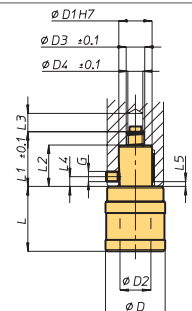
Mandrini a cambio rapido per maschiare con spostamento parallelo all'asse  
Quick change tapping chucks with radial parallel floating

Mandrino Spindle		D	D <sub>2</sub>				16x1,5 Tpz	Codice Code	20x2 Tpz	Codice Code	L	28x2 Tpz	Codice Code	36x2 Tpz	Codice Code
MFC 0	M1 - M10	23	13	0,25	0		65	227131	65	227132					
MFC 1	M3 - M12	35	19	0,5	1		70	227133	70	227134	70	227135			
MFC 2	M8 - M20	50	31	1	2				96	227136	96	227137	98	227138	
MFC 3	M14 - M33	72	48	1,5	3						136	227139	138	227146	






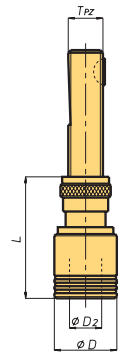
Mandrini a cambio rapido per maschiare con compensazione assiale  
Quick change tapping chucks with axial compensation

Codice Code	Mandrino Spindle				D	D <sub>1</sub>	D <sub>2</sub>	D <sub>3</sub>	D <sub>4</sub>	L	L <sub>1</sub>	L <sub>2</sub>	L <sub>3</sub>	L <sub>4</sub>	L <sub>5</sub>	G	Chiavetta DIN 6885	
227185	MKD0.GC	M1 - M10	0	6,5	6,5	26	15	13	8,2	6	37	32	18,5	11	6	3	M5	5x3x12
227186	MKD1.GC	M3 - M12	1	7,5	7,5	36	20	19	11,2	9	39	33	24,5	11	6	3	M6	6x4x16
227187	MKD2.GC	M8 - M20	2	12,5	12,5	53	25	31	13,2	11	63	39	30,5	20	8	4	M8	6x6x20






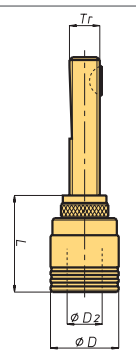
Mandrini a cambio rapido per maschiare con compensazione assiale  
Quick change tapping chucks with axial compensation

Mandrino Spindle				φD	φD <sub>2</sub>	28x2 Tpz	Codice Code	36x2 Tpz	L	Codice Code	48x2 Tpz	Codice Code
AKD 1 - ..	M3 - M12	1	20	20	32	19	65	227190	67	227191	71	227192
AKD 2 - ..	M8 - M20	2	20	25	50	31			83	227193	87	227194
AKD 40 - ..	M6 - M18	4	20	20	40	26	80	227195				



Mandrini a cambio rapido per maschiare con compensazione assiale  
Quick change tapping chucks with axial compensation

Mandrino Spindle				φD	φD <sub>2</sub>	16x1,5 Tpz	Codice Code	28x2 Tpz	L	Codice Code	36 x2 Tpz	Codice Code
MKD-0 - Tr.	M1 - M10	0	6,5	6,5	26	13	49	227165				
MKD-1 - Tr.	M1 - M12	1	7,5	7,5	36	19	51	227167		227165		
MKD-2 - Tr.	M4 - M20	2	12,5	12,5	53	31			75	227171		
MKD-3 - Tr.	M4 - M33	3	20	20	78	48					77	227173



TA

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TSI/TSX

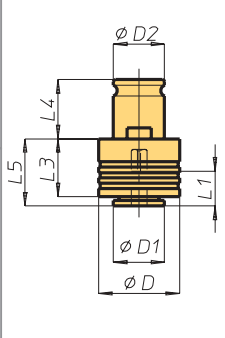
T

MT-TC-TC3


Accessori  
Accessories

Appendice tecnica  
Technical supplement

TA



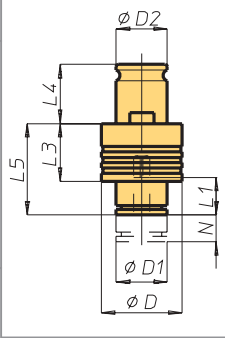
Bussole porta maschio a cambio rapido con frizione destra e sfere  
Quick connection tap-holder bushes with ball right clutch

Codice Code	Bussola Bush		$\phi$ Gambo maschio Tap shank diameter	$\phi D$	$\phi D_1$	$\phi D_2$	$\phi I_1$	$\phi I_3$	$\phi I_4$	$\phi I_5$
227206	BFS 0	M1 - M10	2,5 - 7,2	23	13	13	15	20	19,5	21
227207	BFS 1	M3 - M12	3,5 - 11,3	32	19	19	17	25	21,5	25
227208	BFS 2	M8 - M20	7 - 18	50	30	31	30	31	35	34
227209	BFS 3	M14 - M33	11 - 28	72	48	48	44	41	55,5	45
227010	BFS 40	M6 - M18	6 - 14	40	25	26	30	27	32	30


MO

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VH

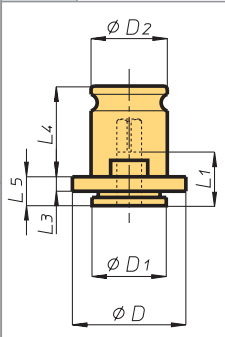


Bussole porta maschio a cambio rapido con frizione destra e sfere  
Quick connection tap-holder bushes with ball right clutch


Codice Code	Bussola Bush		$\phi$ Gambo maschio Tap shank diameter	N	$\phi D$	$\phi D_1$	$\phi D_2$	$\phi I_1$	$\phi I_3$	$\phi I_4$	$\phi I_5$
227211	BFSR 0	M1 - M10	2,5 - 7,2	8	23	13	15	15	20	19,5	28
227212	BFSR 1	M2 - M12	3,5 - 11,3	10	32	19	17	17	25	21,5	33
227213	BFSR 2	M8 - M20	7 - 18	15	50	30	30	30	31	35	59
227214	BFSR 3	M14 - M33	11 - 28	25	72	48	44	44	41	55,5	82

TSI/TSX

T



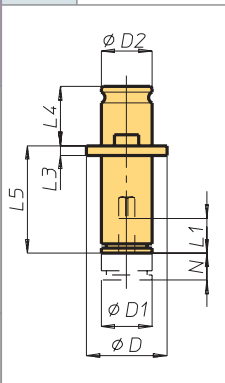
Bussole porta maschio a cambio rapido  
Quick connection tap-holder bushes

Codice Code	Bussola Bush		$\phi$ Gambo maschio Tap shank diameter	$\phi D$	$\phi D_1$	$\phi D_2$	$\phi I_1$	$\phi I_3$	$\phi I_4$	$\phi I_5$
227250	BFC 0	M1 - M10	2,5 - 7,2	22	13	13	15	4	19,5	7
227251	BFC 1	M3 - M12	3,5 - 11,3	30	19	19	17	4	21,5	7
227252	BFC 2	M8 - M20	7 - 18	48	30	31	30	5	35	11
227253	BFC 3	M14 - M33	11 - 28	70	48	48	44	6	55,5	14
227254	BFC 40	M6 - M18	6 - 14	40	25	26	30	5	32	13


MT-TC-TC3

Accessori  
Accessories

Appendice tecnica  
Technical supplement

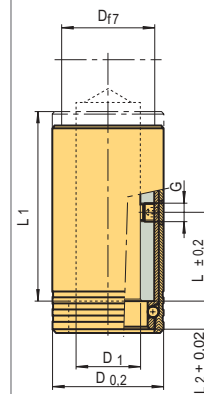


Bussole porta maschio a cambio rapido  
Quick connection tap-holder bushes

Codice Code	Bussola Bush		$\phi$ Gambo maschio Tap shank diameter	N	$\phi D$	$\phi D_1$	$\phi D_2$	$\phi I_1$	$\phi I_3$	$\phi I_4$	$\phi I_5$
227255	BFCR 0	M1 - M10	2,5 - 7,2	8	22	13	13	15	4	19,5	28
227256	BFCR 1	M3 - M12	3,5 - 11,3	10	30	19	19	17	4	21,5	33
227257	BFCR 2	M8 - M20	7 - 18	15	48	30	31	30	5	35	59
227258	BFCR 3	M14 - M33	11 - 28	25	70	48	48	44	6	55,5	82

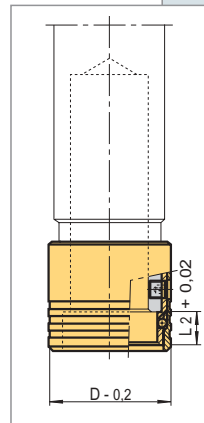
### Manicotti ad innesto rapido Quick connection sleeves

Codice Code	Manicotto Sleeve	$\phi D$	$\phi D_1$	$\phi D_3$	L	L <sub>1</sub>	L <sub>2</sub>	G
227309	AIRFA. 12	24	12	20	22	48	9	M5
227310	AIRFA. 16	30	16	25	34	64	9,5	M6
227311	AIRFA. 20	38	20	32	34	70	11	M6
227312	AIRFA. 25	45	25	37	38	76	12	M8
227313	AIRFA. 28	48	28	40	38	78	12	M8
227314	AIRFA. 32	55	32	45	45	89	14	M8
227315	AIRFA. 36	60	36	50	45	97	16	M8
227316	AIRFA. 48	80	48	67	57	122	20	M10



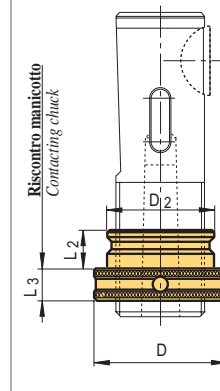
### Manicotti ad innesto rapido Quick connection sleeves

Codice Code	Manicotto Sleeve	$\phi D$	$\phi D_1$	$\phi D_3$	$\phi D_4$	L	L <sub>1</sub>	L <sub>2</sub>	G
227350	AIRFCA. 16	27	16	25	22	8	30	9,5	M5
227351	AIRFCA. 20	34	20	32	28	8	30	11	M5
227352	AIRFCA. 25	41	25	37	34,5	8	32	12	M6
227353	AIRFCA. 28	44	28	40	37	8	32	12	M6
227354	AIRFCA. 32	49	32	45	41	9	39	13,5	M6
227355	AIRFCA. 36	55	36	50	46	9	39	16	M6
227356	AIRFCA. 48	73	48	67	61	11	51	20	M8



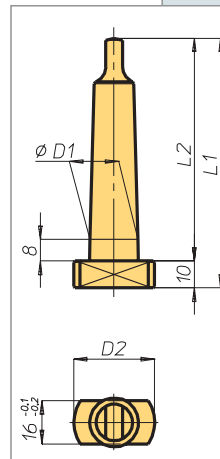
### Ghiere ad innesto rapido Ring nuts

Codice Code	Ghiera Nut	$\phi D$	$\phi D_2$	L <sub>2</sub>	L <sub>3</sub>
227367	GIRF. 12	21,5	16,4	9	9
227368	GIRF. 16	26	19,9	9,5	9
227369	GIRF. 20	33	25,4	11	9
227370	GIRF. 25	40	31,9	12	10
227371	GIRF. 28	42	33,9	12	10
227372	GIRF. 32	47	37,9	13,5	10
227373	GIRF. 36	54	43,4	16	10
227374	GIRF. 48	72	57,9	20	14

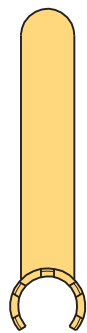


### Trascinatori a cono Morse Morse taper with driving dog

Codice Code	Cono Morse Morse Taper	A	B	l <sub>1</sub>	l <sub>2</sub>	l <sub>3</sub>	D <sub>1</sub>	D <sub>2</sub>	D <sub>3</sub>	R	$\beta$
011120	2	8	6,3	93	83	16	17,78	28	13,5	6	1°25' 50"
011125	3	8	7,9	112	102	20	23,825	30	18,5	7	1°26' 16"
011130	4	8	11,9	135,5	125,5	24	31,267	42	24,5	8	1°29' 15"
011135	5	8	15,9	167,5	157,5	29	44,399	50	35,7	10	1°30' 26"
011136	6	8	19	228	218	40	63,348	62	51	13	1°29' 36"



TA

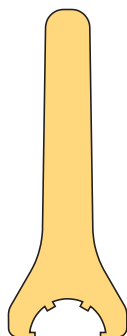


Chiavi per ghiera  
Clamping nuts spanner

Chiavi Keys	Codice Code	Per ghiera For clamping nut
CE 8M	231300	ER8M
CE 11M	231302	ER11M
CE 16M	231306	ER16M
CE 20M	231309	ER20M
CE 25M	231313	ER25M

MO

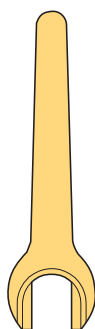
HT



Chiavi Keys	Codice Code	Per ghiera For clamping nut
CE 20U	231315	ER20UM
CE 25U	231314	ER25UM
CE 32U	231320	ER32UM
CE 40U	231321	ER40UM
CE 50U	231323	ER50UM

VH

TSI/TSX



Chiavi per ghiera  
Clamping nuts spanner

Chiavi Keys	Codice Code	Per ghiera For clamping nut
CE 16MB	231322	ER16MB

T

MT-TC-TC3

Accessori  
Accessories

Appendice tecnica  
Technical supplement

# Appendice tecnica

## *Technical supplement*

calcolo momento torcente e potenza <i>estimate torque and power</i> .....	9-2
manicotti di collegamento <i>connection collars</i> .....	9-3
DIN 228 - DIN 55058 .....	9-4
DIN 6499 .....	9-5
DIN 6499-B.....	9-6
DIN 69893 Forma A.....	9-7
DIN 69871 Forma A.....	9-8
MAS 403.....	9-9
DIN 2080 .....	9-10
Maschi.....	9-11



# calcolo momento torcente e potenza estimate torque and power

La OMG, con questo diagramma, desidera offrire la possibilità di calcolare con velocità e ottima approssimazione, il momento torcente e la relativa potenza necessaria per l'esecuzione delle forature. Scegliendo l'appropriato avanzamento sull'ascissa, congiungendo con il relativo diametro di foratura, in ordinata si leggerà un determinato valore del "coefficiente  $\beta$ "; moltiplicando questo per la resistenza del materiale si otterrà il momento torcente. Applicando poi la formula

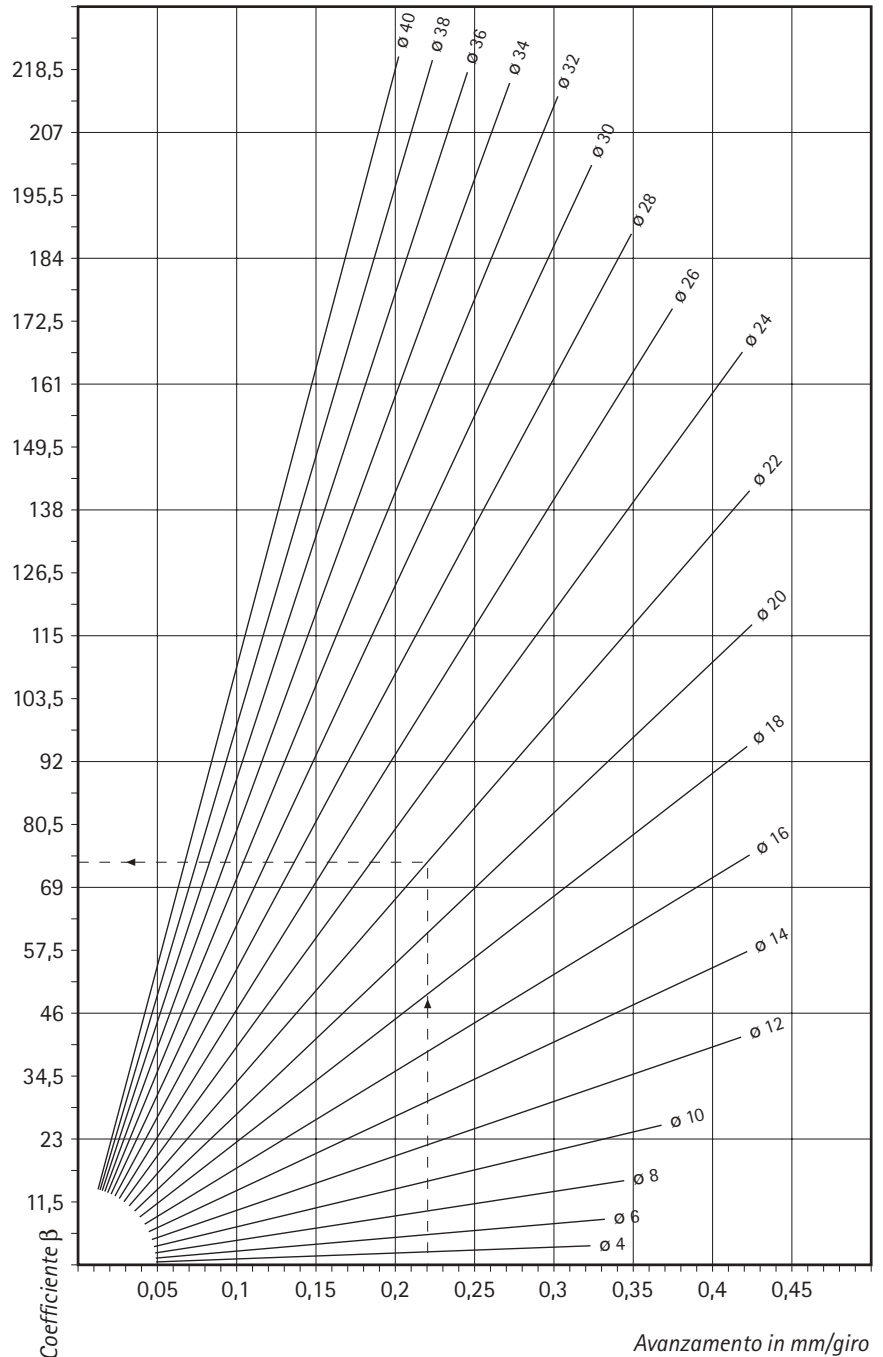
$$N = \frac{M_t \times n}{9549,3}$$

dove  $n$  è il n° di giri, si otterrà la potenza  $N$  espressa in kW

With this diagram, OMG makes it possible to calculate the torque and corresponding power necessary for drilling quickly and with maximum approximation. By selecting the proper feed on the abscissa and adding it to the corresponding drilling diameter on the ordinate, a certain «coefficient  $\beta$ » value is obtained. By multiplying this by the material strength, the torque can be found. Then, by applying the formula,

$$N = \frac{M_t \times n}{9549,3}$$

where  $n$  is the number of revolutions, it is possible to determine power  $N$  expressed in kW.



Es:

$a = 0,22$  mm/giro  
 punta Ø 22  
 giri/1' = 230  
 $R = 500$  M/mm<sup>2</sup>  
 coefficiente  $\beta = 73$

$$M_t = \frac{73 \times 500}{1000} = 36,5 \text{ Nm}$$

$$N = \frac{36,5 \times 230}{9549,3} = 0,88 \text{ kW}$$

# manicotti di collegamento connection collars

**Dimensioni estremità mandrini macchine utensili per la costruzione del manicotto di collegamento.**  
*Spindles dimensions off machine-tools to manufacture the connection collar.*

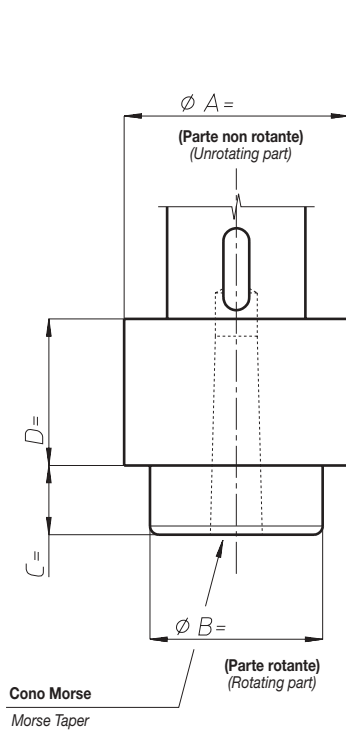


Fig. 1

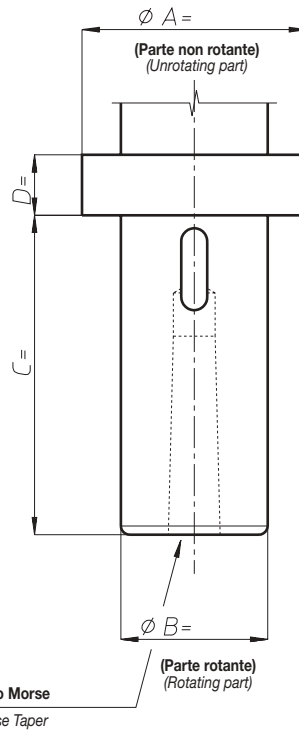


Fig. 2

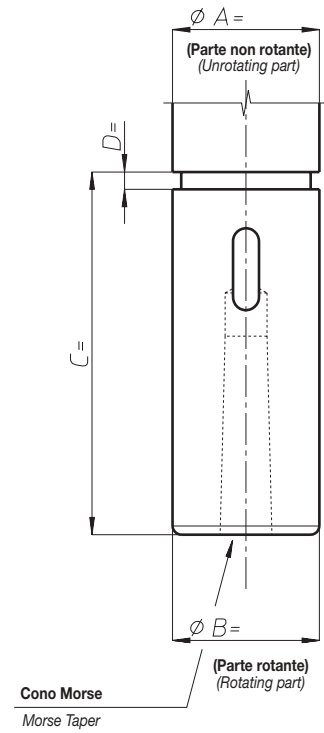


Fig. 3

**Se nessuna figura si adatta alla vostra macchina, disegnate qui l'estremità mandrino.**  
*If no picture fits your machine, draw here the spindle end.*

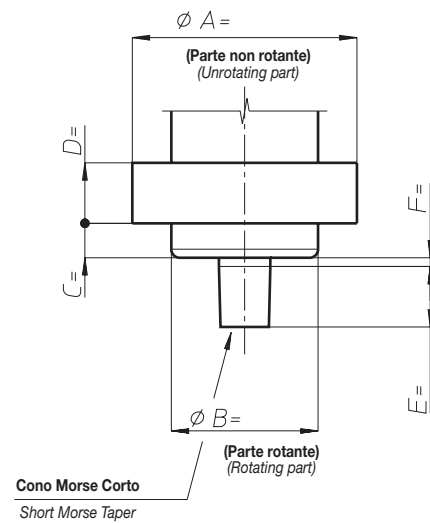
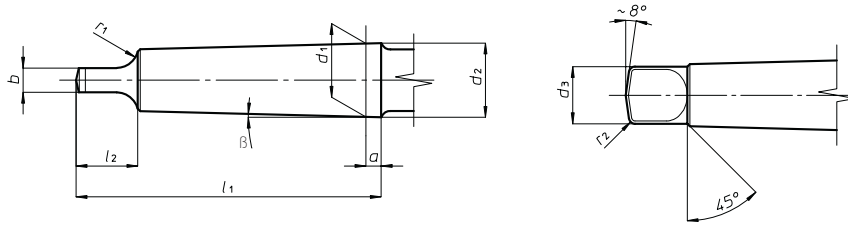


Fig. 4

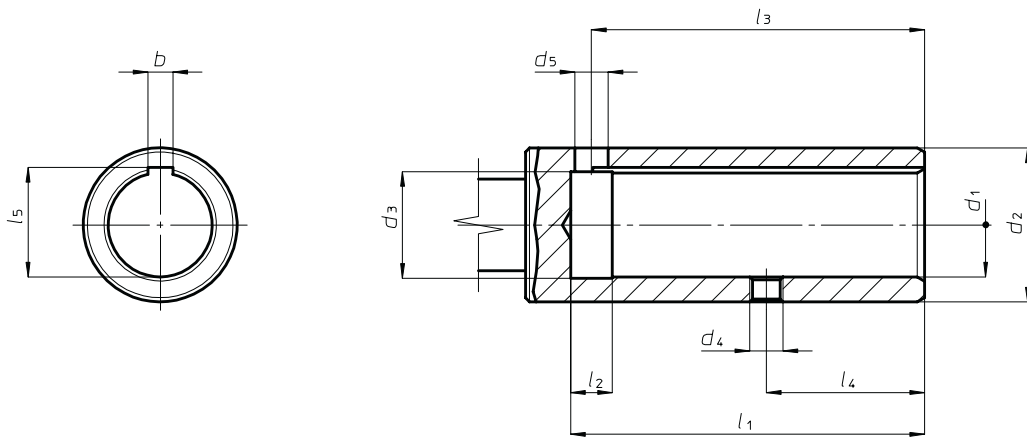
# DIN 228

Cono Morse  
Morse taper



Cono Morse Morse Taper	a	b <sup>h13</sup>	d <sub>1</sub>	d <sub>2</sub>	d <sub>3max</sub>	l <sub>1max</sub>	l <sub>2max</sub>	r <sub>1</sub>	r <sub>2</sub>	β
0	3	3,9	9,045	9,2	6	59,5	10,5	4	1	1°29' 27"
1	3,5	5,2	12,065	12,2	8,7	65,5	13,5	5	1,2	1°25' 43"
2	5	6,3	17,780	18	13,5	80	16	6	1,6	1°25' 50"
3	5	7,9	23,825	24,1	18,5	99	20	7	2	1°26' 16"
4	6,5	11,9	31,267	31,6	24,5	124	24	8	2,5	1°29' 15"
5	6,5	15,9	44,399	44,7	35,7	156	29	10	3	1°30' 26"
6	8	19	63,348	63,8	51	218	40	13	4	1°29' 36"

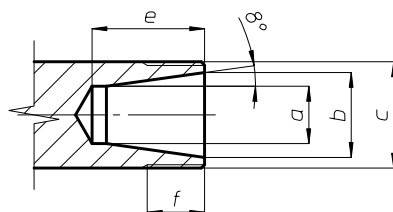
# DIN 55058



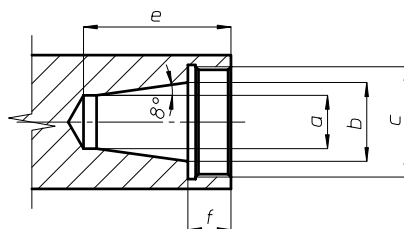
Grandezza Size d <sub>1H7</sub>	8	10	12	16	20	25	28	32	36	48
b	2	3	3	5	5	6	6	8	8	10
d <sub>2</sub> f7	15	18	20	25	32	37	40	45	50	67
d <sub>3</sub>	8,6	10,6	12,6	16,6	20,6	25,6	28,6	32,8	36,8	48,8
d <sub>4</sub>	M4	M5	M5	M6	M6	M8	M8	M8	M8	M10
d <sub>5</sub>	3,5	5	5	6	6	8	8	10	10	12
l <sub>1</sub> min	42	52	52	75	78	85	85	106	106	129
l <sub>2</sub>	8	8	8	8	8	10	10	10	10	12
l <sub>3</sub>	35	48	48	70	73	80	80	101	101	123
l <sub>4</sub> ±0,1	16	22	22	34	34	38	38	45	45	57
l <sub>5</sub> <sup>+0,3</sup> <sub>0</sub>	9	11,1	13,1	17,3	21,3	26,7	29,7	33,7	37,7	50,1

Sedi delle pinze ER  
ER housing

# DIN 6499



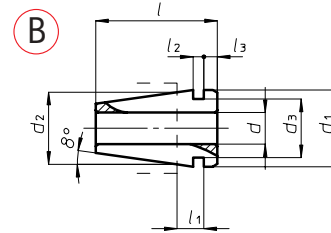
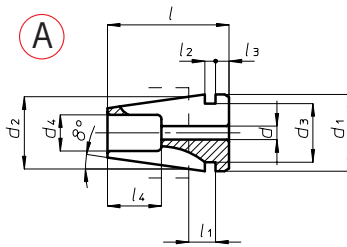
Grandezza Size	Serraggio Clamping	a	b <sub>±0,05</sub>	c	e	f
ER8	0,5... 5,0	5,2	8	M10x0,75	13,0	7,5
ER11	0,5... 7,0	7,5	11	M13x0,75	17,0	10,0
ER16	0,5... 10,0	10,5	16	M19x1,00	22,0	13,0
ER20	0,5... 13,0	13,5	20	M24x1,00	26,5	13,5
ER25	0,5... 16,0	18,0	25	M30x1,00	29,0	14,0
ER16	0,5... 10,0	10,5	16	M22x1,50	22,0	13,0
ER20	0,5... 13,0	13,5	20	M25x1,50	26,5	13,5
ER25	0,5... 16,0	18,0	25	M32x1,50	29,0	14,0
ER32	1,0... 20,0	23,5	32	M40x1,50	34,0	16,0
ER40	2,0... 30,0	30,5	40	M50x1,50	38,0	17,0
ER50	4,0... 34,0	38,0	50	M64x2,00	48,0	24,0



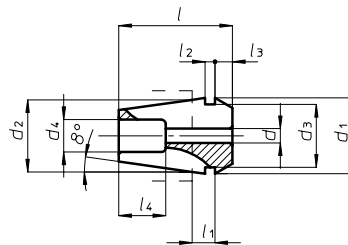
Grandezza Size	Serraggio Clamping	a	b <sub>±0,05</sub>	c	e	f
ER11	0,5... 7,0	7,5	11	M18x1,00	23,0	7,0
ER16	0,5... 10,0	10,5	16	M24x1,00	32,0	10,0
ER20	0,5... 13,0	13,5	20	M28x1,50	37,5	11,0
ER25	0,5... 16,0	18,0	25	M32x1,50	41,0	12,0
ER32	1,0... 20,0	23,5	32	M40x1,50	48,0	14,0

# DIN 6499-B

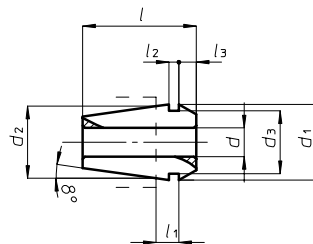
Pinze  
Collets



Grandezza Size	d	d1	d2	d3	d4	l	l1	l2	l3	l4	Disegno Picture
ER8	0,5... 2,5	8,5	8,0	6,5	4,0	13,5	2,98	1,2	1,5	6,0	A
ER8	3,0... 5,0	8,5	8,0	6,5	-	13,5	2,98	1,2	1,5	-	B



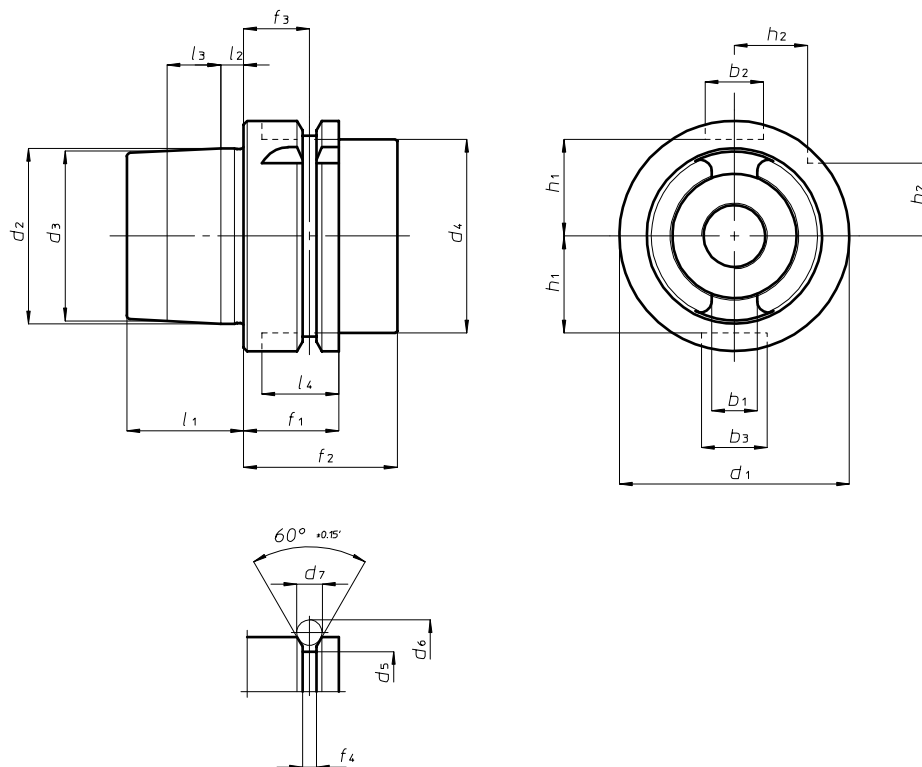
Grandezza Size	d	d1	d2	d3	d4	l	l1	l2	l3	l4
ER11	0,5... 2,5	11,5	11,0	9,5	5,0	18,0	3,80	2,0	2,5	9,0
ER16	0,5... 4,5	17,0	16,0	13,8	7,5	27,5	6,26	2,7	4,0	10,0
ER20	1,0... 6,5	21,0	20,0	17,4	9,0	31,5	6,36	2,8	4,8	13,0
ER25	1,0... 7,5	26,0	25,0	22,0	12,0	34,0	6,66	3,1	5,0	15,0
ER32	2,0... 3,5	33,0	32,0	29,2	15,0	40,0	7,16	3,6	5,5	20,0
ER32	4,0... 7,5	33,0	32,0	29,2	15,0	40,0	7,16	3,6	5,5	15,0
ER40	3,0... 3,5	41,0	40,0	36,2	20,0	46,0	7,66	4,1	7,0	21,0
ER40	4,0... 8,5	41,0	40,0	36,2	20,0	46,0	7,66	4,1	7,0	18,0
ER50	4,0... 10,0	52,0	50,0	46,0	20,0	60,0	12,60	5,5	8,5	26,0



Grandezza Size	d	d1	d2	d3	l	l1	l2	l3
ER11	3,0... 7,0	11,5	11,0	9,5	18,0	3,80	2,0	2,5
ER16	5,0... 10,0	17,0	16,0	13,8	27,5	6,26	2,7	4,0
ER20	7,0... 13,0	21,0	20,0	17,4	31,5	6,36	2,8	4,8
ER25	8,0... 16,0	26,0	25,0	22,0	34,0	6,66	3,1	5,0
ER32	8,0... 20,0	33,0	32,0	29,2	40,0	7,16	3,6	5,5
ER40	9,0... 30,0	41,0	40,0	36,2	46,0	7,66	4,1	7,0
ER50	12,0... 34,0	52,0	50,0	46,0	60,0	12,60	5,5	8,5

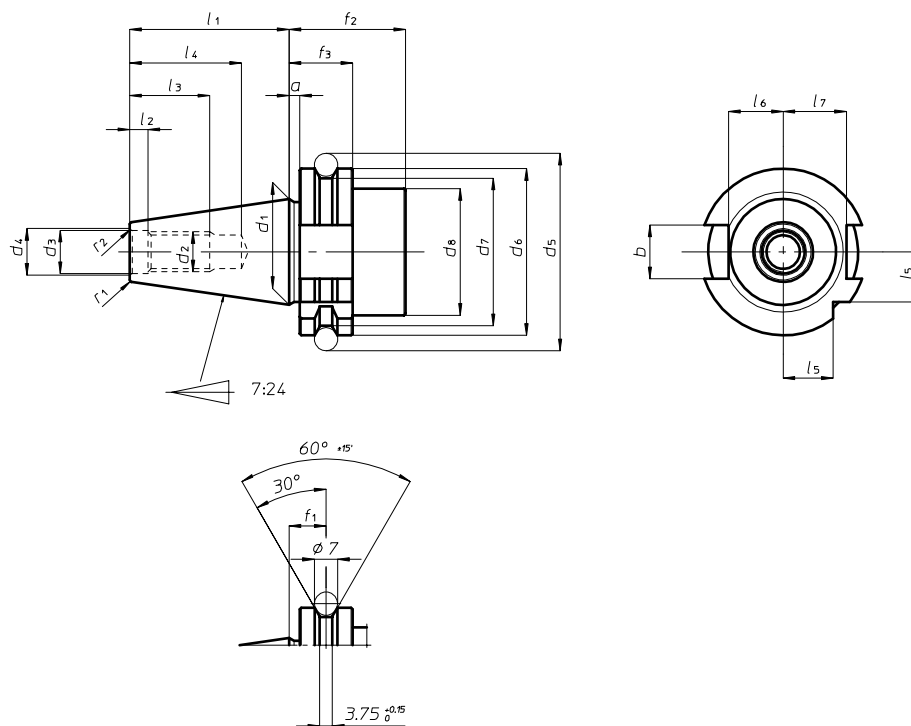


# DIN 69893 Forma A



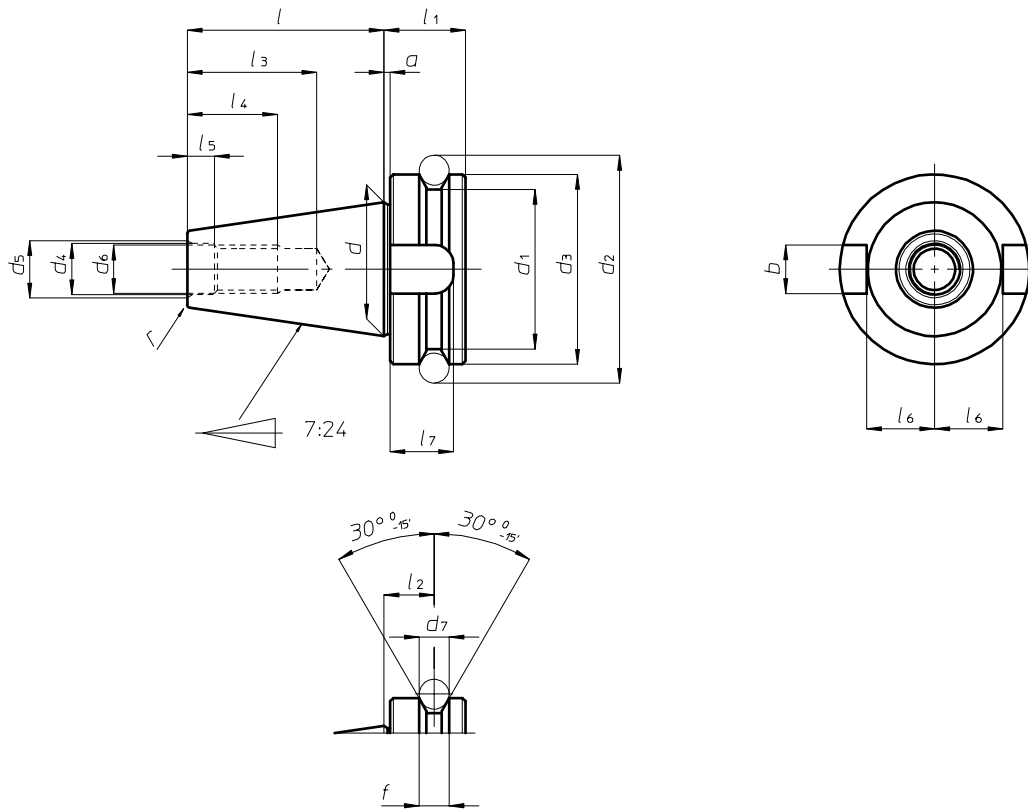
	HSK50	HSK63	HSK80	HSK100
$b_1$ H10	10,5	12,5	16	20
$b_2$ H10	12	16	18	20
$b_3$ H10	14	18	20	22
$d_1$ H10	50	63	80	100
$d_2$	38 <sup>+0,009</sup> / <sub>+0,006</sub>	48 <sup>+0,011</sup> / <sub>+0,007</sub>	60 <sup>+0,013</sup> / <sub>+0,008</sub>	75 <sup>+0,015</sup> / <sub>+0,009</sub>
$d_3$	36,900 <sup>+0,006</sup> / <sub>+0,003</sub>	46,530 <sup>+0,007</sup> / <sub>+0,003</sub>	58,100 <sup>+0,008</sup> / <sub>+0,003</sub>	72,600 <sup>+0,009</sup> / <sub>+0,003</sub>
$d_4$ max	42	53	67	85
$d_5$ $\frac{0}{-0,1}$	43	55	70	92
$d_6$ $\frac{0}{-0,1}$	59,3	72,3	88,8	109,75
$d_7$	7	7	7	7
$f_1$ $\frac{0}{-0,1}$	26	26	26	29
$f_2$ min	42	42	42	45
$f_3$ $\pm 0,1$	18	18	18	20
$f_4$ $\frac{+0,15}{0}$	3,75	3,75	3,75	3,75
$h_1$ $\frac{0}{-0,2}$	21	26,5	34	44
$h_2$ $\frac{0}{-0,3}$	15,5	20	25	31,5
$l_1$ $\frac{0}{-0,2}$	25	32	40	50
$l_2$	5	6,3	8	10
$l_3$	11	14,7	19	24
$l_4$	19	21	22	24

# DIN 69871 Forma A



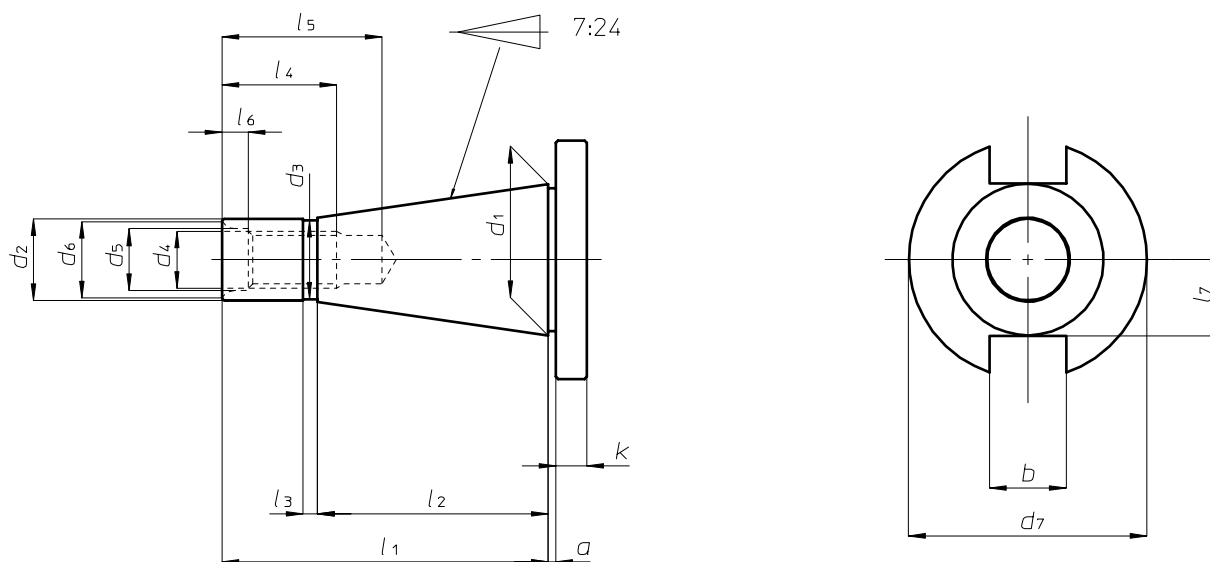
Grandezza Size	30	40	45	50
a $^{+0,1}_{-0,1}$	3,2	3,2	3,2	3,2
b h12	16,1	16,1	19,3	25,7
d <sub>1</sub>	31,75	44,45	57,15	69,85
d <sub>2</sub>	M12	M16	M20	M24
d <sub>3</sub> H7	13	17	21	25
d <sub>4</sub> max	14	19	23,4	28
d <sub>5</sub> $^{+0,05}_{-0,05}$	59,3	72,3	91,35	107,25
d <sub>6</sub> $^{0}_{-0,1}$	50	63,55	82,55	97,50
d <sub>7</sub> $^{0}_{-0,5}$	44,3	56,25	75,25	91,25
d <sub>8</sub> max	45	50	63	80
f <sub>1</sub> $^{+0,1}_{-0,1}$	11,1	11,1	11,1	11,1
f <sub>2</sub> min	35	35	35	35
f <sub>3</sub> $^{0}_{-0,1}$	19,1	19,1	19,1	19,1
l <sub>1</sub> $^{0}_{-0,3}$	47,8	68,4	82,7	101,75
l <sub>2</sub> $^{+0,5}_{0}$	5,5	8,2	10	11,5
l <sub>3</sub> min	24	32	40	47
l <sub>4</sub> min	33,5	42,5	52,5	61,5
l <sub>5</sub> $^{0}_{-0,3}$	15	18,5	24	30
l <sub>6</sub> $^{0}_{-0,4}$	16,4	22,8	29,1	35,5
l <sub>7</sub> $^{0}_{-0,4}$	19	25	31,3	37,7
r <sub>1</sub>	0,6 $^{0}_{-0,3}$	1,2 $^{0}_{-0,5}$	2 $^{0}_{-0,5}$	2,5 $^{0}_{-0,5}$
r <sub>2</sub> $^{0}_{-0,5}$	0,8	1	1,2	1,5

# MAS 403



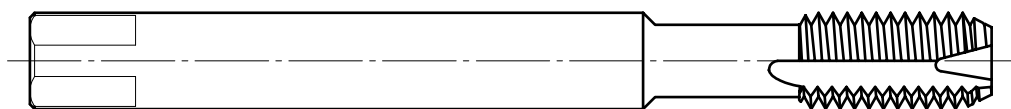
Grandezza Size	30	40	50
a $\pm 0,4$	2	2	3
b H8	16,1	16,1	25,7
d	31,75	44,45	69,85
d <sub>1</sub> $^{0,1}_{-0,3}$	38	53	85
d <sub>2</sub>	56,144	75,679	119,019
d <sub>3</sub> H8	46	63	100
d <sub>4</sub> H8	12,5	17	25
d <sub>5</sub>	14,5	19	27
d <sub>6</sub>	M12	M16	M24
d <sub>7</sub>	8	10	15
f $^{+0,1}_{0}$	8	10	15
l $\pm 0,15$	48,4	65,4	101,8
l <sub>1</sub>	22	27	38
l <sub>2</sub> $\pm 0,1$	13,6	16,6	23,2
l <sub>3</sub>	34	43	62
l <sub>4</sub>	24	30	45
l <sub>5</sub> $^{+0,5}_{0}$	7	9	13
l <sub>6</sub> $^{0}_{-0,2}$	16,3	22,6	35,4
l <sub>7</sub>	17	21	31
r	0,5	1	1

# DIN 2080



Grandezza Size	30	40	45	50
a $\pm 0,2$	1,6	1,6	3,2	3,2
b H12	16,1	16,1	19,3	25,7
d <sub>1</sub>	31,75	44,45	57,15	69,85
d <sub>2</sub> a10	17,4	25,3	32,4	39,6
d <sub>3</sub>	16,5	24	30	38
d <sub>4</sub>	M12	M16	M20	M24
d <sub>5</sub>	13	17	21	26
d <sub>6</sub> max	16	21,5	26	32
d <sub>7</sub> $\begin{smallmatrix} 0 \\ -0,4 \end{smallmatrix}$	50	63	80	97,5
k $\pm 0,15$	8	10	12	12
l <sub>1</sub>	68,4	93,4	106,8	126,8
l <sub>2</sub>	48,4	65,4	82,8	101,8
l <sub>3</sub>	3	5	6	8
l <sub>4</sub>	24	32	40	47
l <sub>5</sub> min	33,5	42,5	52,5	61,5
l <sub>6</sub> $\begin{smallmatrix} +0,5 \\ 0 \end{smallmatrix}$	5,5	8,2	10	11,5
l <sub>7</sub> max	16,2	22,5	29	35,3

# MASCHI



Maschi (mm) (pollici)	ISO 529		DIN 371 (DIN 2181)		DIN 357 DIN 376		DIN 352		JAPAN JIS		US STANDARD		
	(Ø)	(□)	(Ø)	(□)	(Ø)	(□)	(Ø)	(□)	(Ø)	(□)	(Ø)"	(□)"	
M 1.0		2,50	2,10	-	-	2,50	2,10	-	-	3,00	2,50	-	-
M 1.1		2,50	2,10	-	-	2,50	2,10	-	-	3,00	2,50	-	-
M 1.2		2,50	2,10	-	-	2,50	2,10	-	-	3,00	2,50	-	-
M 1.4		2,50	2,10	-	-	2,50	2,10	-	-	3,00	2,50	-	-
M 1.6	1/16	2,50	2,10	-	-	2,50	2,10	-	-	3,00	2,50	0,141	0,110
M 1.7		2,50	2,10	-	-	2,50	2,10	-	-	3,00	2,50	-	-
M 1.8		2,50	2,10	-	-	2,50	2,10	-	-	3,00	2,50	0,141	0,110
M 2.0		2,80	2,10	2,50	2,00	2,50	2,10	-	-	3,00	2,50	0,141	0,110
M 2.2		2,80	2,10	2,80	2,24	2,50	2,10	-	-	3,00	2,50	0,141	0,110
M 2.3		2,80	2,10	2,80	2,24	2,50	2,10	-	-	3,00	2,50	-	-
M 2.5	3/32	2,80	2,10	2,80	2,24	2,50	2,10	-	-	3,00	2,50	0,141	0,110
M 2.6		2,80	2,10	2,80	2,24	2,50	2,10	-	-	3,00	2,50	-	-
M 3.0	1/8	3,15	2,50	3,15	2,50	3,50	2,70	3,00	-	4,00	3,00	0,141	0,110
M 3.5		3,55	2,80	3,55	2,80	4,00	3,00	2,50	2,10	4,00	3,00	0,141	0,110
M 4.0	5/32	4,00	3,15	-	-	4,50	3,40	2,80	2,10	5,00	4,00	0,168	0,131
M 4.5	3/16	4,50	3,55	-	-	6,00	4,90	3,50	2,70	5,00	4,00	0,194	0,152
M 5.0		5,00	4,00	-	-	6,00	4,90	3,50	2,70	5,50	4,50	0,194	0,152
M 6.0	1/4	6,30	5,00	-	-	6,00	4,90	4,50	3,40	6,00	4,50	0,255	0,191
M 7.0	5/16	7,10	5,60	-	-	7,00	5,50	5,50	4,30	6,20	5,00	0,318	0,238
M 8.0		8,00	6,30	-	-	8,00	6,20	6,00	4,90	6,20	5,00	0,318	0,238
M 9.0		9,00	7,10	-	-	9,00	7,00	7,00	5,50	7,00	5,50	0,381	0,286
M 10.0	3/8	10,00	8,00	-	-	10,00	8,00	7,00	5,50	7,00	5,50	0,381	0,286
M 11.0		8,00	6,30	-	-	-	-	8,00	6,20	8,00	6,20	0,381	0,286
M 12.0	1/2	9,00	7,10	-	-	-	-	9,00	7,00	8,50	6,50	0,367	0,275
M 14.0	9/16	11,20	9,00	11,20	-	-	-	11,00	9,00	10,50	8,00	0,429	0,322
M 16.0	5/8	12,50	10,00	12,50	-	-	-	12,00	9,00	12,50	10,00	0,480	0,360
M 18.0	11/16	14,00	11,20	14,00	-	-	-	14,00	11,00	14,00	11,00	0,542	0,406
M 20.0	13/16	14,00	11,20	14,00	-	-	-	16,00	12,00	15,00	12,00	0,652	0,489
M 22.0	7/8	16,00	12,50	16,00	-	-	-	18,00	14,50	17,00	13,00	0,697	0,523
M 24.0	15/16	18,00	14,00	18,00	-	-	-	18,00	14,50	19,00	15,00	0,760	0,570
M 27.0	1 1/16	20,00	16,00	20,00	-	-	-	20,00	16,00	20,00	15,00	0,896	0,672
M 30.0	1 3/16	20,00	16,00	20,00	-	-	-	22,00	18,00	23,00	23,17	1,021	0,766

US STANDARD: in pollici



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