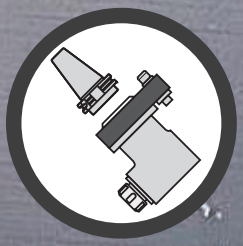
GERARDI

MADE IN ITALY



2

2

Modular angle heads series!

EVOLUTION LINE

Teste Angolari / *Angle Heads*

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Teste Angolari / *Angle Heads*

EVOLUTION LINE

Velocità / *High-speed*
10.000 Rpm

Internal coolant
fino a / Up to
70Bar

Teste Angolari Modulari ! - Modular Angle heads !



from 2.11 to 2.61

SERIE ATC / ATC SERIES

Le teste ATC (Automatic Tool Change) sono ideali per le macchine di produzione a controllo numerico con cambio utensili automatico. Sono trasportabili automaticamente dal magazzino utensili al mandrino macchina e viceversa. Corpo testa orientabile di 360° su ASSE MANDRINO.
Sulle teste modello FMU, il supporto del mandrino portautensile ha possibilità di inclinarsi di ±90°. Se la testa non è in posizione di lavoro, un sistema di aggancio impedisce la rotazione del cono rispetto al corpo testa.

ATC angle heads are ideal for CNC machines with automatic tool change and can be automatically transferred from the tool store to the machine spindle and vice-versa. Angle head body adjustable at 360° on SPINDLE AXIS. On FMU heads, the cutter spindle housing can be adjusted at ±90°. If an ATC angle head is not placed into the machine spindle, a locking system prevents shank rotation relative to the head body.



from 2.63 to 2.68

SERIE MTC / MTC SERIES

Linea di teste per le macchine non dotate di cambio utensili automatico. Le teste MTC (Manual Tool Change) vanno montate manualmente e fissate al mandrino tramite flangiatura.Sulle teste modello FMU, il supporto del mandrino portautensile ha la possibilità di inclinarsi e di posizionarsi di ±90°.

This is a range of heads is for conventional machines without automatic tool change. MTC angle heads (Manual Toll Change) are manually mounted on the machine headstock through a flange. On FMU heads, the cutter spindle housing can be adjusted at ±90°.



Flangia universale
Universal Flange

*** Prolunga - Extension**
(Opzionale - Optional)



Coni Intercambiabili
Interchangeable Shanks

Coni intercambiabili per un utilizzo su più centri di lavoro. Una sola testa per più centri di lavoro

Interchangeable driven tapers to fit any machine spindle. One head for many machines



Cuscinetti ABEC 9
ABEC 9 Ball Bearings

Ciascun albero di trasmissione è supportato da una coppia di cuscinetti a contatto obliquo, precaricati in classe di precisione ABEC 9 e lubrificati con grasso a vita.

Shafts supported by sets of super precision pre-loaded angular contact bearings with Long Life grease lubrification and ABEC 9 accuracy rating



Corpo testa in acciaio
Steel head body

Corpo testa orientabile a 360° con pressurizzazione interna. In acciaio trattato, massima rigidità e resistenza alla corrosione. Minima dilatazione termica

Treated steel head body with 360° position and internal air pressure, maximum rigidity and corrosion resistant. Minimum thermal expansion



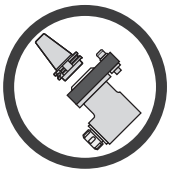
Ingranaggi Gleason
Gleason Spiral bevel gears

Ingranaggi conici spiroidali in materiale ad alta resistenza, rettificati per garantire minore riscaldamento e rumorosità ed elevato numero di giri. Calcolo computerizzato della coppia conica degli ingranaggi (gleason): più denti in presa, più coppia in uscita, maggior numero di ore di lavorazione, rumorosità quasi assente.

Ground spiral bevel gears in the highest performance materials able to guaranteed less warming and noise and the highest Rpm. Computerized computation of the data of the set gears more than one tooth working during mesch, more power transmitted, longer gear life, almost no noise

Le teste angolari Gerardi della nuovissima Linea Evolution nascono da solide basi tecniche e dall'esperienza maturata in 40 anni trascorsi al fianco dei nostri clienti durante i quali abbiamo risolto i problemi più variegati cercando la soluzione migliore e garantendo sempre l'elevata qualità ed affidabilità dei nostri prodotti. 104 modelli di teste angolari standard, ideati, realizzati e distribuiti in oltre 50 paesi nel mondo dalla Gerardi S.p.A., corredati da una gamma di opzioni che ne completano le potenzialità applicative e prestazionali.

The new Evolution line of Gerardi angle heads has been designed from a technical base derived from 40 years experience of solving thousands of production problems, finding optimum solutions and always guaranteeing the highest product quality 104 standard angle head types are now offered, designed, built and distributed in more than 50 countries the world over by Gerardi S.p.A., and available with a range of options to complete their application and performance potentials.



SCAN IT TO SEE

THE WEB PAGE



Linea di teste angolari modulari
Modular angle heads series!



Uscite regolabili FMU
FMU Adjustable output

Operazioni orizzontali, verticali e angolari con una sola testa. Uscita completamente regolabile con angolazione ±90°

Vertical, horizontal and angular machining operations with one angle head only. Fully adjustable output ±90°



Refrigerante10BAR attraverso il perno
Standard 10BAR coolant through the pin

Teste Slim, ideali per MICROLAVORAZIONI
Slim Angle heads ideal for MICROMACHINING

PASSAGGIO REFRIGERANTE - COOLANT TYPES:



10bar

» **Perno**
» **Utensile**
» Positioning pin
» Tool



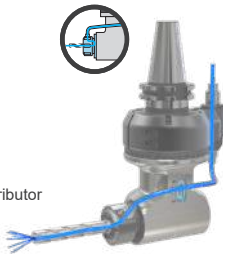
10bar

» **Perno**
» **Distributore**
» **Utensile**
» Positioning Pin
» Rotating Distributor
» Tool



up to 70bar

» **Cono**
» **Distributore**
» **Utensile**
» Shank
» Rotating Distributor
» Tool



up to 150bar

» **Perno**
» **Ghiera ReCool**
» **Utensile**
» Positioning Pin
» ReCool Nut
» Tool

2

MODULARITÁ SENZA
MODULARITY WITHOUT

UNA SOLA TESTA PER PIÚ CENTRI DI LAVORO
ONE HEAD FOR MANY MACHINES

Coni intercambiabili per un utilizzo su più centri di lavoro!!
Interchangeable drive tapers to suit any machine spindle!!





F90-10 / ATC
ISO-40 / 65

+



HSK-63

+



STOP-BLOCK

UN INVESTIMENTO CHE SI RIPAGA VELOCEMENTE !!
QUICKEST RETURN ON YOUR INVESTMENT !!

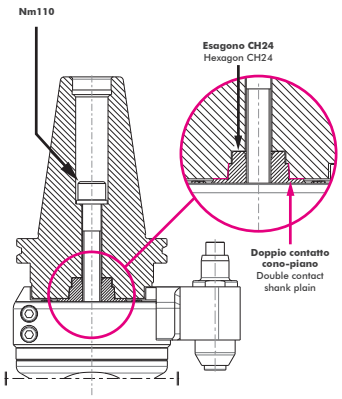
COMPROMESSI
COMPROMISES

UN SOLO CENTRO DI LAVORO CON PIÚ TESTE
THE SAME MACHINE WITH MANY HEADS

Lavorare nelle migliori condizioni risparmiando sui costi di acquisto !!
A system to save costs !!



UNA SOLUZIONE
APERTA PER IL LAVORO DI OGGI ,
PENSANDO A QUELLO DI DOMANI
BE REAY FOR TOMORROW
WITH THE HEAD YOU BUY TODAY !!



PERNO DI POSIZIONAMENTO MODULARE INTERCAMBIABILE A SCELTA
A CHOICE OF MODULAR INTERCHANGEABLE ARRESTER PINS

IL DOPPIO CONTATTO CONO E PIANO ASSICURANO RIGIDITÀ E PRECISIONE !!
THE UNIQUE GERARDI TAPER AND FACE LOCATION ENSURE RIGIDITY AND ACCURACY !!

Novità / *News*

Evolution Line

Nuovi Modelli di Teste Angolari Integrali

New Types of Integral Angle Heads



STD 90° LONG SERIES

Teste angolari light con corpo in alluminio FL90-13L e FL90-16L
New light angle heads with aluminum body FL90-13L and FL90-16L



FMU SERIES

Testa angolare light in alluminio FLU con angolazione regolabile da 0° a 180°
New angle head light FLU with aluminum bodies with adjustable angle from 0° to 180°



STD 90° SERIES

Testa angolare F90-20L con cono integrale
Angle head model F90-20L with integral shank



OFFSET SERIES

Gamma di teste disassate con refrigerante interno fino a 70bar.
New offset heads range with internal coolant up to 70 bar.

Esempi applicativi / *Applications examples*

Linea Evolution

Teste angolari integrali serie ATC (Cambio utensile automatico)

Integral angle heads ATC series (Automatic tool change)



SLIM SERIES

Ideali per Microlavorazioni in spazi ristretti
Ideal for Micromachining in narrow spaces



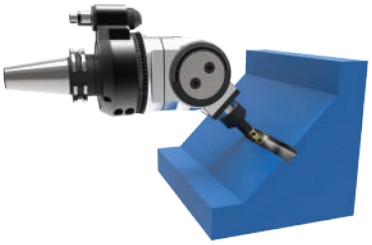
STD 90° SERIES

La serie ideale per fresature, forature e maschiature a ±90°
The ideal series for milling, drilling and tappint at ±90°



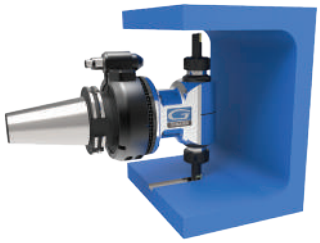
COOLANT SERIES

La serie di teste angolari con passaggio refrigerante dal perno, uscita utensile 10bar
With coolant input from the main positioning pin and output through the tool at 10bar



FMU SERIES

La serie di teste angolari con angolazione regolabile da 0 ± 90°.
Angle heads series with adjustable angle from 0 ± 90°.



DOUBLE SERIES

La serie di teste angolari ideali per fresature, forature e maschiature attraverso 2 mandrini contrapposti di 180°
Angle Heads series for milling drilling and tapping through 2 opposite outputs



OFFSET SERIES

Testa angolari disassate per lavorazioni in spazi ristretti con opzione passaggio refrigerante dal cono, uscita utensile 70 BAR
Offset series for machining in narrow spaces with coolant input directly from machine spindle and output through the tool at 70 BAR

2

SIMBOLOGIA DATI TECNICI
TECHNICAL DATA LOGOS

Rapporto trasmissione Ratio	**Numero di giri** Revolutions per minute Rpm	**Carico assiale** Axial load N	**Coppia** Torque Nm	**Peso** Weight Kg	**Uscita** Output Ø	**Maschio** Tapping M	**Pinza** Collet Ø

INDICE OPZIONI
OPTIONS INDEX

OPZIONI OPTIONS	**Alta velocità** High speed	**Spina per posizionamento rapido** Quick positioning pin	**Interasse speciale** Special pitch	**Lunghezze speciali** Special lenght	**Flangia Multipoint** Multipoint flange	
PASSAGGIO REFRIGERANTE COOLANT	**Attaverso il perno** Through the Pin **10bar** (standard) ROTAZ. a SECCO DRY RUNNING √	**Perno » Distrib » Utensile** Pin » Distributor » Tool **10bar** ROTAZ. a SECCO DRY RUNNING √	**Cono » Distrib » Utensile** Shank » Distributor » Tool **70bar** ROTAZ. a SECCO DRY RUNNING NO	**Distributore » Utensile** Distributor » Tool **10bar** ROTAZ. a SECCO DRY RUNNING NO	**Perno » Ghiera » Utensile** Pin » Distrib » Tool **ReCool NUT**	
USCITA OUTPUT	**Uscita HSK** HSK output	**Uscita ISO** ISO output	**Uscita portafresa** Shell mill holder output	**Uscita WELDON** WELDON output	**Uscita C.** C. output	**Doppia uscita** Double ouput

ATC SERIES
AUTOMATIC TOOL CHANGE

1 YEAR WARRANTY



INGRANAGGI - GEARS
Ingranaggi Gleason con evolvente rettificato massime performances e minori vibrazioni

Gleason ground spiral bevel gears maximum performances and minimum vibration



STOP BLOCK
con bussola cementata e guarnizione
with case hardened bushingand gasket



CUSCINETTI - BEARINGS
Cuscinetti a sfera a contatto obliquo in classe di precisione ABEC 9

Angular contact preloaded ball bearings of precision class ABEC 9

DESIGN
Il Design compatto, insieme alle specifiche descritte, consente: alte perfomances, elevate velocità, lunga durata degli utensili.

The Compact design, along with mentioned specifications, allows: highest performances, high speeds, long tools life



Albero cementato, temprato, rettificato
Case hardened and ground shank and shaft

Perno di riferimento con sbloccaggio automatico del porta utensile
Positioning pin with automatic release

Gruppo antirotante modulare
Modular antirotation group

Passaggio refrigerante 10BAR attraverso il perno
Standard 10BAR coolant through the pin

Anello graduato
Graduated ring

Corpo testa orientabile a 360° con pressurizzazione interna.
In acciaio trattato, massima rigidità e resistenza alla corrosione. Minima dilatazione termica.

Treated steel head body with 360° position and internal air pressure, maximum rigidity and corrosion resistant. Minimum thermal expansion

USCITE - OUTPUTS:
- Portapinza ER (standard)
- Weldon
- Portafresa
- Speciale
- ER collet (standard)
- Weldon
- Shell mill holder
- Special

Ciascun albero di trasmissione supportato da cuscinetti a contatto obliquo, che garantiscono rotazioni dell'albero-cono e dell'uscita portautensile entro 0,01 mm
Each transmission shaft is supported by slanting bearings that ensure the shaft with shank and the toolholder output rotations within 0,01mm.

LIGHT SERIES
ANGLE HEADS LIGHT SERIES

LIGHT SERIES



Serie **LIGHT**

da pag 2.13 a 2.19

Caratteristiche tecniche principali:
- **Design ottimizzato per un miglior rapporto qualità prezzo.**
- **Corpo in alluminio.**
- **Riduzione significativa del peso.**
- **Perno di posizionamento conico.**

LIGHT Series

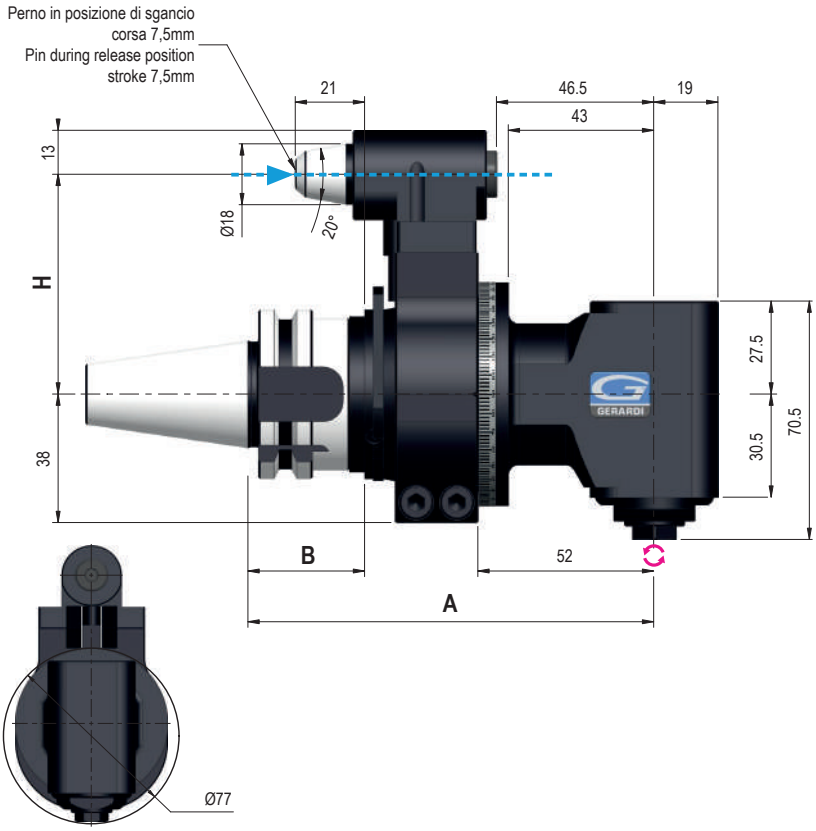
from page 2.13 to 2.19

Main technical features:
- Design studied for a best price-quality ratio.
- Aluminum body.
- Weight reduction.
- Conic positioning pin.

IDEALI PER MACCHINE UTENSILI FANUC / BROTHER / JINGDIAO - IDEALS FOR FANUC / BROTHER / JINGDIAO MACHINE TOOLS

FL90-7

TYPE 0





Dati tecnici - Technical data

Ratio 1:1	ISO / BT 30 Kg 2,1 ISO / BT 40 Kg 2,5
Rpm 8.000	Ø 7
N 150	M 6
Nm 5,6	ER11 Ø1/7

Senso di rotazione Contrario al mandrino - Direction of rotation Opposite to the machine spindle

Coni - Shanks	SK DIN 69871		CAT ANSI B5.50		BT MAS 403		HSK DIN 69893	
Grandezza - Size	30	40	40	30	40	63	80	
Dual contact (Optional)								
H Standard Ø18	65	65	65	65	65	65	65	
A	120	120	120	120	120	129	129	
B	35	35	35	35	35	44	44	

IMBALLO & PESO - PACK WEIGHT:
Valigetta - Bag 5,5Kg

DOTAZIONE STANDARD - STANDARD EQUIPMENT
Valigetta / Stop block / Chiavi di servizio
Tubetto di grasso / Libro istruzioni
Special bag / Stop block / Wrenches / Grease tube / Instruction book

OPZIONI - OPTIONS

PINZA - COLLET - ER11 - Ø1/7

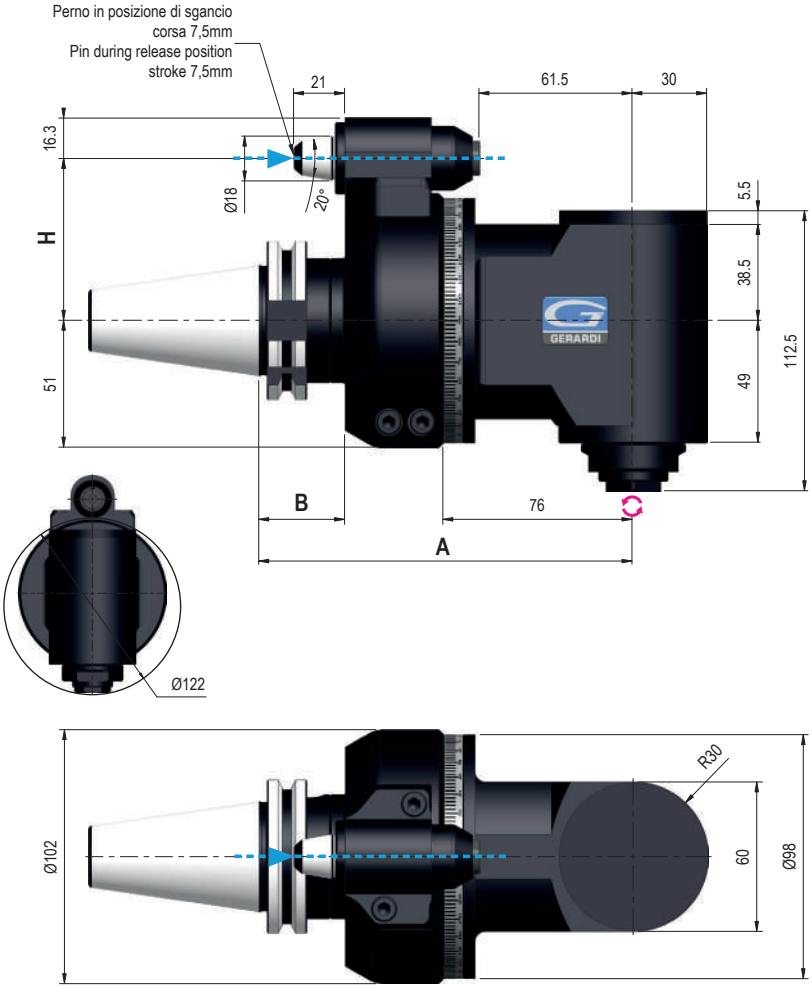
INTERASSE SPECIALE - SPECIAL PITCH - Cono > Perno - Shank > Pin

2

FL90-13

TYPE 1





Dati tecnici - Technical data

Ratio 1:1	**ISO / BT 30** Kg 5 **ISO / BT 40** Kg 5 **ISO / BT 50** Kg 7,5
Rpm 6.000	Ø 13
N 560	M 10
Nm 19	ER20 Ø1/13

Senso di rotazione Contrario al mandrino - Direction of rotation Opposite to the machine spindle

Coni - Shanks		**SK** DIN 69871			**CAT** ANSI B5.50		**BT** MAS 403			**HSK** DIN 69893			**C.ISO** 26623			**KM**			ISO DIN 2080	
Grandezza - Size		30	40	50	40	50	30	40	50	63	80	100	C5	C6	C8	63	80	100	40	50
Dual contact (Optional)																				
H	Standard Ø18	65 / 80	65 / 80	80	65 / 80	80	65 / 80	65 / 80	80	65 / 80	80	80	65 / 80	65 / 80	80	65 / 80	80	80	65 / 80	80
	110 - Ø18 110 - Ø28																			
A		150	150	150	150	150	150	150	158	159	159	159	-	-	-	-	-	-	-	-
B		35	35	35	35	35	35	35	43	44	44	44	-	-	-	-	-	-	-	-

IMBALLO & PESO - PACK WEIGHT:
Valigetta - Bag 10,5Kg

DOTAZIONE STANDARD - STANDARD EQUIPMENT
Valigetta / Stop block / Chiavi di servizio
Tubetto di grasso / Libro istruzioni
Special bag / Stop block / Wrenches / Grease tube / Instruction book

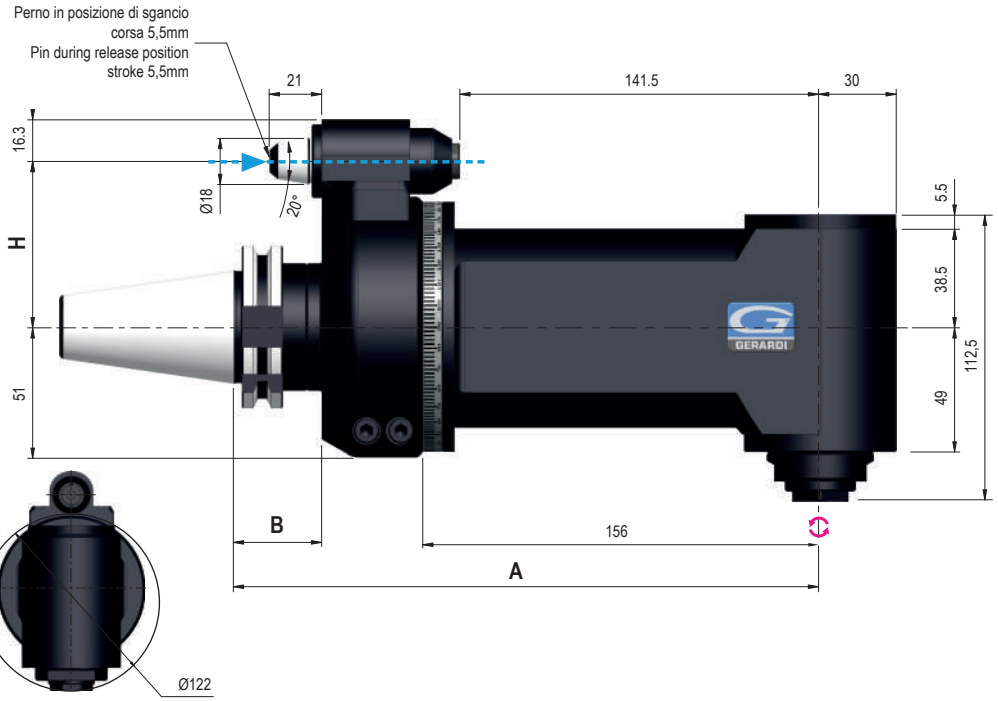
OPZIONI - OPTIONS

PINZA - COLLET - ER20 - Ø1/13

INTERASSE SPECIALE - SPECIAL PITCH - Cono > Perno - Shank > Pin

FL90-13L

TYPE 1





Dati tecnici - Technical data

Ratio 1:1	ISO / BT 30 Kg 5,7 ISO / BT 40 Kg 8
Rpm 6.000	Ø 13
N 560	M 10
Nm 19	ER20 Ø1/13

Senso di rotazione Contrario al mandrino - Direction of rotation Opposite to the machine spindle

Coni - Shanks	SK DIN 69871			CAT AaNSI B5.50		BT MAS 403		HSK DIN 69893			C.ISO 26623			KM			ISO DIN 2080	
Grandezza - Size	30	40	50	40	50	40	50	63	80	100	C5	C6	C8	63	80	100	40	50
Dual contact (Optional)																		
H Standard Ø18	65 / 80	65 / 80	80	65 / 80	80	65 / 80	80	65 / 80	80	80	65 / 80	65 / 80	80	65 / 80	80	80	65 / 80	80
H 110 - Ø18 110 - Ø28																		
A	230	230	230	230	230	230	238	239	239	239	-	-	-	-	-	-	-	-
B	35	35	35	35	35	35	43	44	44	44	-	-	-	-	-	-	-	-

IMBALLO & PESO - PACK WEIGHT:
Valigetta - Bag 15Kg

DOTAZIONE STANDARD - STANDARD EQUIPMENT
Valigetta / Stop block / Chiavi di servizio
Tubetto di grasso / Libro istruzioni
Special bag / Stop block / Wrenches / Grease tube / Instruction book

OPZIONI - OPTIONS

PINZA - COLLET - ER20 - Ø1/13

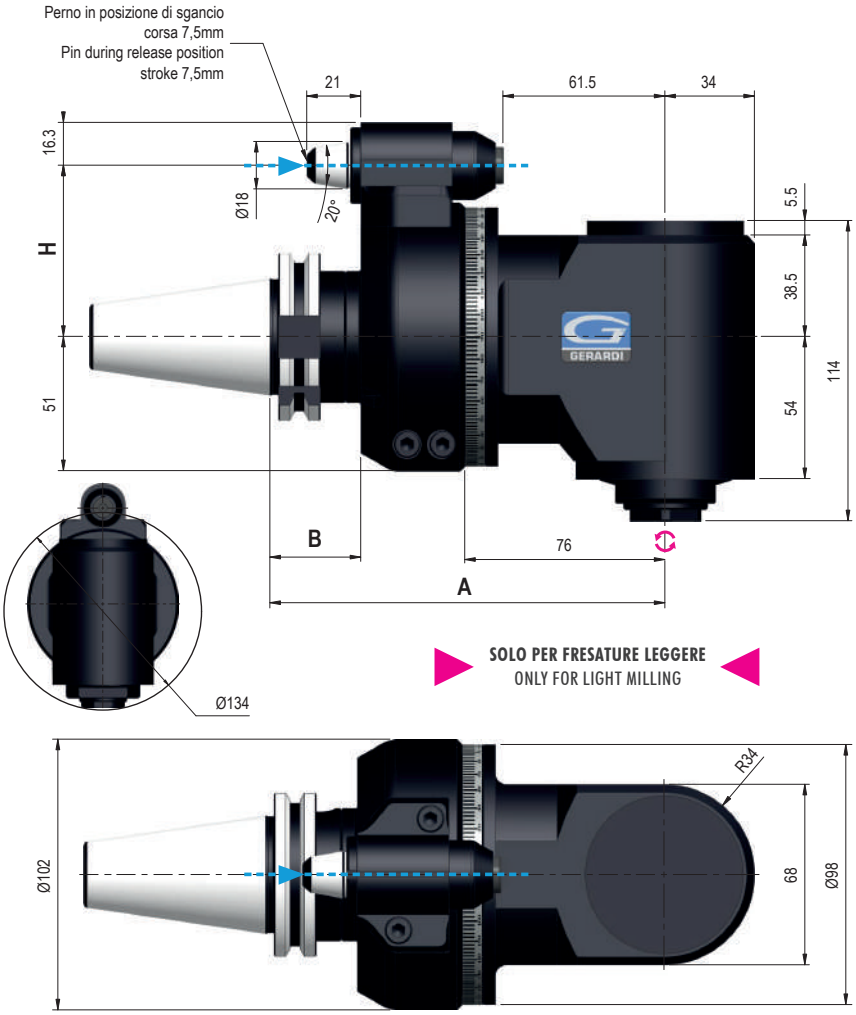
INTERASSE SPECIALE - SPECIAL PITCH - Cono > Perno - Shank > Pin

2

FL90-16

TYPE 1





Dati tecnici - Technical data

Ratio 1:1	**ISO / BT 40** Kg 5 **ISO / BT 50** Kg 7,5
Rpm 4.000	Ø 16
N 850	M 12
Nm 30	ER25 Ø1/16

Senso di rotazione Contrario al mandrino - Direction of rotation Opposite to the machine spindle

Coni - Shanks		**SK** DIN 69871		**CAT** ANSI B5.50		**BT** MAS 403		**HSK** DIN 69893			**C.ISO** 26623			**KM**			**ISO DIN** 2080	
Grandezza - Size		40	50	40	50	40	50	63	80	100	C5	C6	C8	63	80	100	40	50
Dual contact (Optional)																		
H	Standard Ø18	65 / 80	80	65 / 80	80	65 / 80	80	65 / 80	80	80	65 / 80	65 / 80	80	65 / 80	80	80	65 / 80	80
	110 - Ø18 110 - Ø28																	
A		150	150	150	150	150	158	159	159	159	-	-	-	-	-	-	-	-
B		35	35	35	35	35	43	44	44	44	-	-	-	-	-	-	-	-

IMBALLO & PESO - PACK WEIGHT:
Valigetta - Bag 10,5Kg

DOTAZIONE STANDARD - STANDARD EQUIPMENT
Valigetta / Stop block / Chiavi di servizio
Tubetto di grasso / Libro istruzioni
Special bag / Stop block / Wrenches / Grease tube / Instruction book

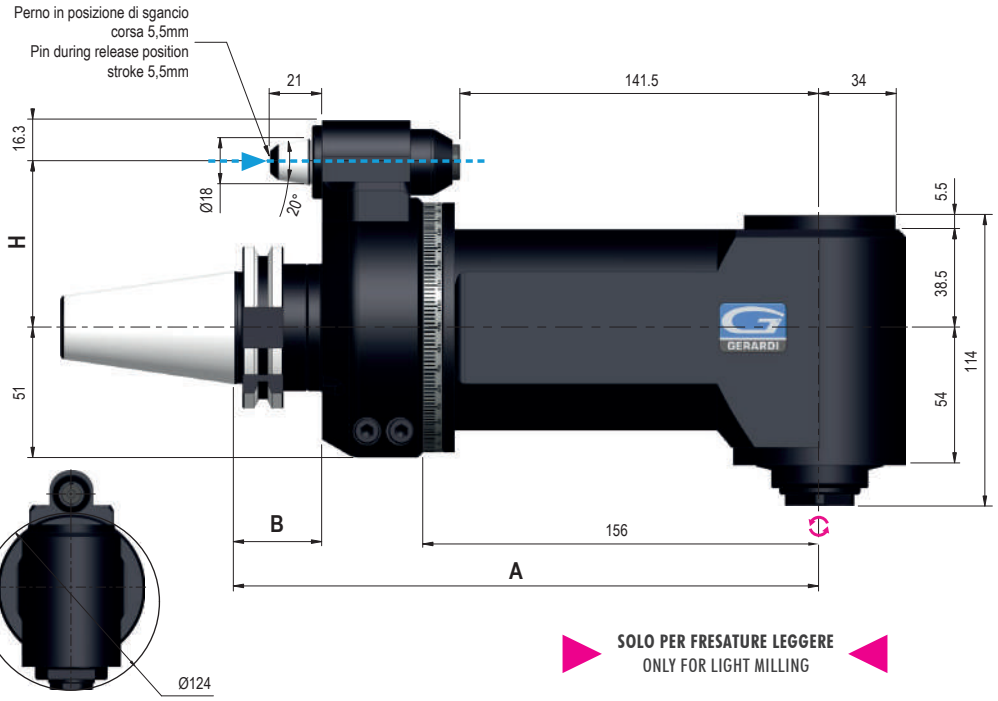
OPZIONI - OPTIONS

PINZA - COLLET - ER25 - Ø1/16

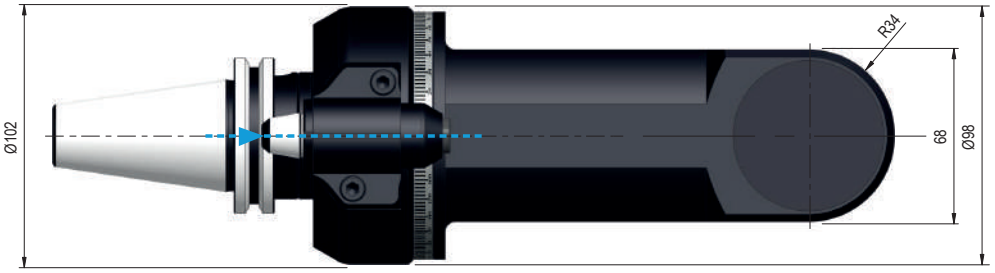
INTERASSE SPECIALE - SPECIAL PITCH - Cono > Perno - Shank > Pin

FL90-16L

TYPE 1



SOLO PER FRESATURE LEGGERE
ONLY FOR LIGHT MILLING





Dati tecnici - Technical data

- Ratio 1:1
- Rpm 4.000
- N 850
- Nm 30
- ISO / BT 30 Kg 6,5
- ISO / BT 40 Kg 8,5
- Ø 16
- M 12
- ER25 Ø1/16

Senso di rotazione Contrario al mandrino - Direction of rotation Opposite to the machine spindle

Coni - Shanks	SK DIN 69871		CAT AaNSI B5.50		BT MAS 403		HSK DIN 69893			C.ISO 26623			KM			ISO DIN 2080	
Grandezza - Size	40	50	40	50	40	50	63	80	100	C5	C6	C8	63	80	100	40	50
Dual contact (Optional)																	
H Standard Ø18	65 / 80	80	65 / 80	80	65 / 80	80	65 / 80	80	80	65 / 80	65 / 80	80	65 / 80	80	80	65 / 80	80
H 110 - Ø18 110 - Ø28																	
A	230	230	230	230	230	238	239	239	239	-	-	-	-	-	-	-	-
B	35	35	35	35	35	43	44	44	44	-	-	-	-	-	-	-	-

IMBALLO & PESO - PACK WEIGHT:
Valigetta - Bag 11,5Kg

DOTAZIONE STANDARD - STANDARD EQUIPMENT
Valigetta / Stop block / Chiavi di servizio
Tubetto di grasso / Libro istruzioni
Special bag / Stop block / Wrenches / Grease tube / Instruction book

OPZIONI - OPTIONS

PINZA - COLLET - ER25 - Ø1/16

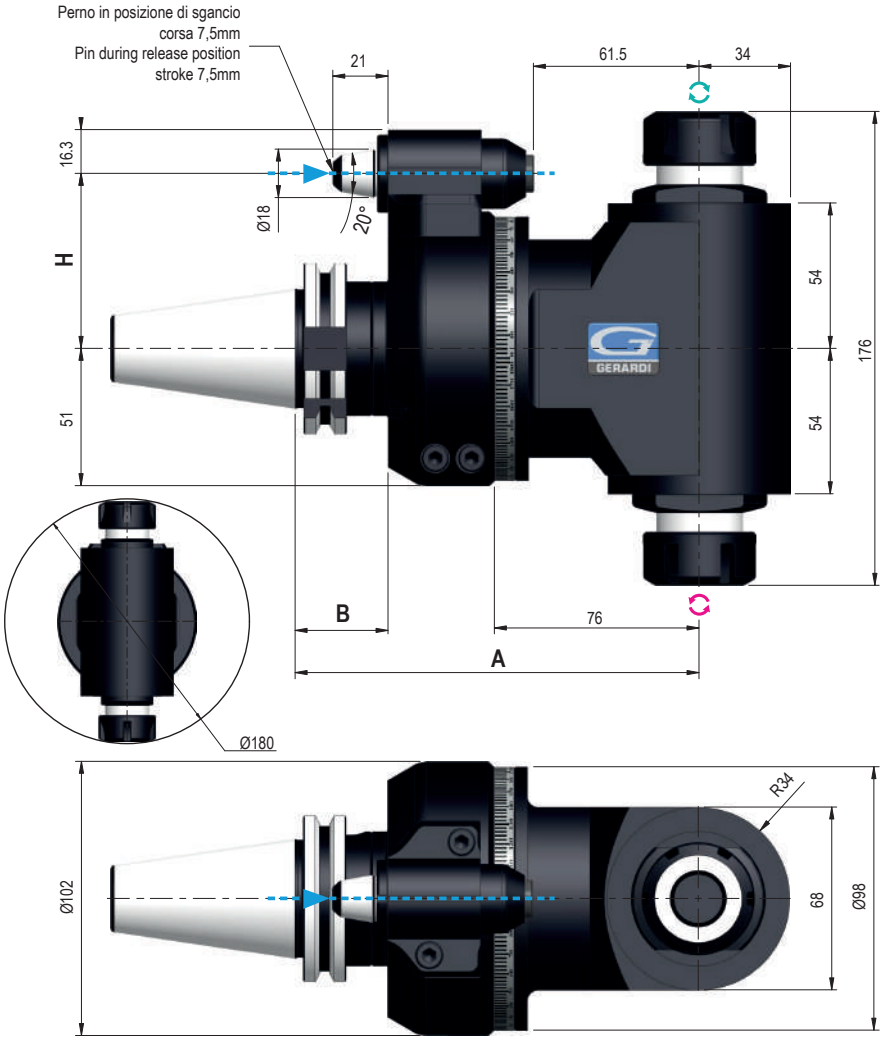
INTERASSE SPECIALE - SPECIAL PITCH - Cono > Perno - Shank > Pin

2

FL90-16 2U

TYPE 1





Dati tecnici - Technical data

Ratio 1:1		Kg 6	
Rpm 4.000		Ø 16	
N 850		M 12	
Nm 30		ER25 Ø1/16	

Senso di rotazione Uguale e Contrario al mandrino - Direction of rotation Same & Opposite to the machine spindle

Coni - Shanks	SK DIN 69871		CAT AaNSI B5.50		BT MAS 403		HSK DIN 69893			C.ISO 26623			KM			ISO DIN 2080	
Grandezza - Size	40	50	40	50	40	50	63	80	100	C5	C6	C8	63	80	100	40	50
Dual contact (Optional)																	
H Standard Ø18	65 / 80	80	65 / 80	80	65 / 80	80	65 / 80	80	80	65 / 80	65 / 80	80	65 / 80	80	80	65 / 80	80
H 110 - Ø18 110 - Ø28																	
A	150	150	150	150	150	158	159	159	159	-	-	-	-	-	-	-	-
B	35	35	35	35	35	43	44	44	44	-	-	-	-	-	-	-	-

IMBALLO & PESO - PACK WEIGHT:
Valigetta - Bag 9Kg

DOTAZIONE STANDARD - STANDARD EQUIPMENT
Valigetta / Stop block / Chiavi di servizio
Tubetto di grasso / Libro istruzioni
Special bag / Stop block / Wrenches / Grease tube / Instruction book

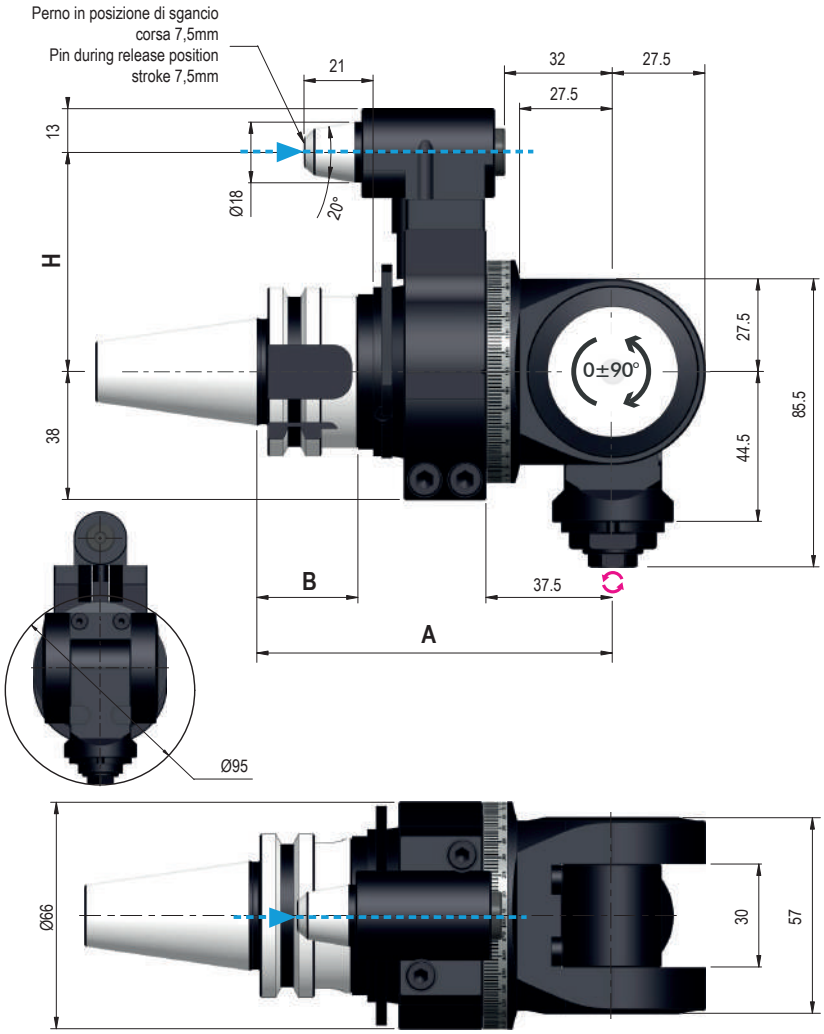
OPZIONI - OPTIONS

PINZA - COLLET - ER25 - Ø1/16

INTERASSE SPECIALE - SPECIAL PITCH - Cono > Perno - Shank > Pin

FLU-7

TYPE 0





Dati tecnici - Technical data

Ratio 1:1	ISO / BT 30 Kg 2,2 ISO / BT 40 Kg 2,6
Rpm 8.000	Ø 7
N 85	M 6
Nm 5,6	ER11 Ø1/7

Senso di rotazione Contrario al mandrino - Direction of rotation Opposite to the machine spindle

Coni - Shanks	SK DIN 69871		CAT ANSI B5.50	BT MAS 403		HSK DIN 69893	
Grandezza - Size	30	40	40	30	40	63	80
Dual contact (Optional)							
H Standard Ø18	65	65	65	65	65	65	65
A	105,5	105,5	105,5	100,5	105,5	114,5	114,5
B	35	35	35	30	35	44	44

IMBALLO & PESO - PACK WEIGHT:
Valigetta - Bag 5Kg

DOTAZIONE STANDARD - STANDARD EQUIPMENT
Valigetta / Stop block / Chiavi di servizio
Tubetto di grasso / Libro istruzioni
Special bag / Stop block / Wrenches / Grease tube / Instruction book

OPZIONI - OPTIONS

PINZA - COLLET - ER11 - Ø1/7

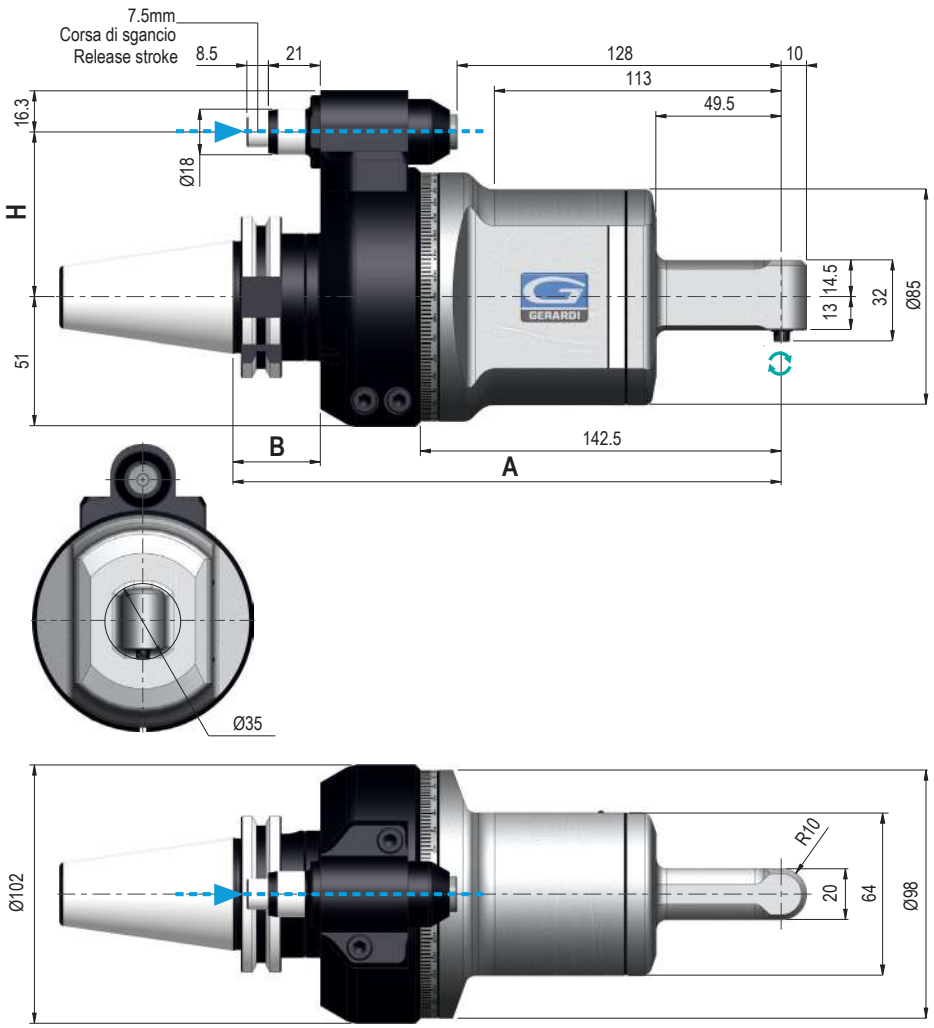
INTERASSE SPECIALE - SPECIAL PITCH - Cono > Perno - Shank > Pin

2

FS90-3

TYPE 1





Dati tecnici - Technical data

Ratio 1:1,2308	ISO / BT 40 Kg 6,7 ISO / BT 50 Kg 9,1
Rpm 8.000	Ø 3
N 70	M 3
Nm 3,5	6023E Ø1/3

Senso di rotazione Uguale al mandrino - Direction of rotation Same as the machine spindle

Coni - Shanks	SK DIN 69871			CAT AaNSI B5.50		BT MAS 403		HSK DIN 69893			C.ISO 26623			KM			ISO DIN 2080	
Grandezza - Size	30	40	50	40	50	40	50	63	80	100	C5	C6	C8	63	80	100	40	50
Dual contact (Optional)																		
H Standard Ø18	65 / 80	65 / 80	80	65 / 80	80	65 / 80	80	65 / 80	80	80	65 / 80	65 / 80	80	65 / 80	80	80	65 / 80	80
H 110 - Ø18 110 - Ø28																		
A	216,5	216,5	216,5	216,5	216,5	216,5	224,5	225,5	225,5	225,5	220,5	220,5	220,5	216,5	216,5	216,5	216,5	216,5
B	35	35	35	35	35	35	43	44	44	44	39	39	39	-	-	-	35	35

IMBALLO & PESO - PACK WEIGHT:
Valigetta - Bag 10,5Kg

DOTAZIONE STANDARD - STANDARD EQUIPMENT
Valigetta / Stop block / Chiavi di servizio
Tubetto di grasso / Libro istruzioni
Special bag / Stop block / Wrenches / Grease tube / Instruction book

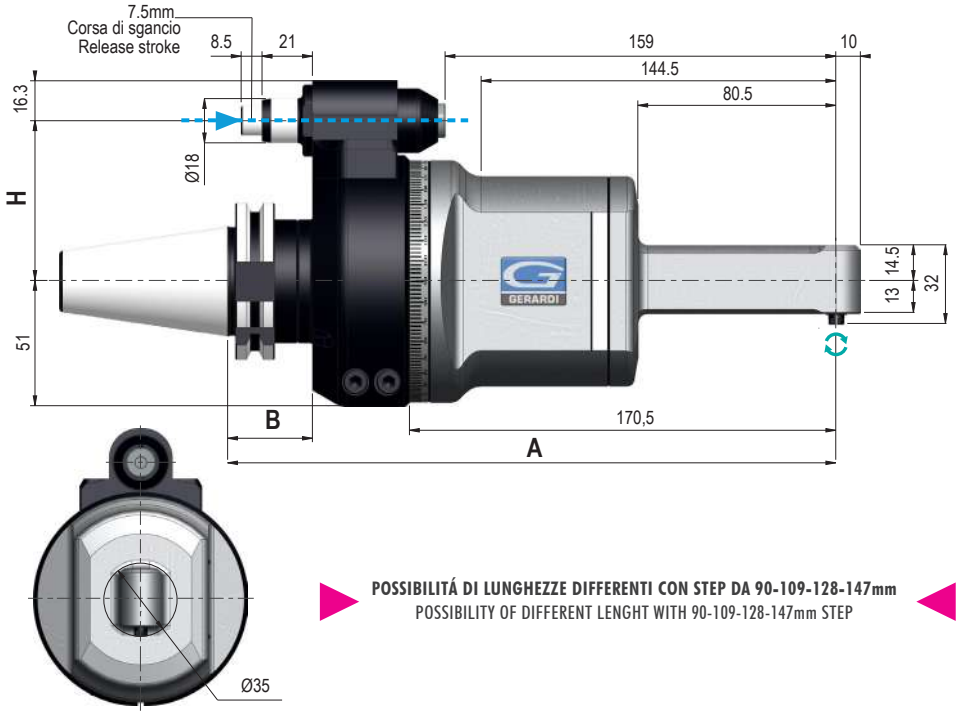
OPZIONI - OPTIONS

PINZA - COLLET - 6023E **p. 2.84**

INTERASSE SPECIALE - SPECIAL PITCH - Cono > Perno - Shank > Pin

FS90-3L

TYPE 1





POSSIBILITÁ DI LUNGHEZZE DIFFERENTI CON STEP DA 90-109-128-147mm
POSSIBILITY OF DIFFERENT LENGHT WITH 90-109-128-147mm STEP

Dati tecnici - Technical data

Ratio 1:1,2308	ISO / BT 40 Kg 6,7 ISO / BT 50 Kg 9,1
Rpm 8.000	Ø 3
N 70	M 3
Nm 3,5	6023E Ø1/3

Senso di rotazione Uguale al mandrino - Direction of rotation Same as the machine spindle

Coni - Shanks	SK DIN 69871			CAT AaNSI B5.50		BT MAS 403		HSK DIN 69893			C.ISO 26623			KM			ISO DIN 2080	
Grandezza - Size	30	40	50	40	50	40	50	63	80	100	C5	C6	C8	63	80	100	40	50
Dual contact (Optional)																		
H Standard Ø18	65 / 80	65 / 80	80	65 / 80	80	65 / 80	80	65 / 80	80	80	65 / 80	65 / 80	80	65 / 80	80	80	65 / 80	80
H 110 - Ø18 110 - Ø28																		
A	247,5	247,5	247,5	247,5	247,5	247,5	255,5	256,5	256,5	256,5	251,5	251,5	251,5	247,5	247,5	247,5	247,5	247,5
B	35	35	35	35	35	35	43	44	44	44	39	39	39	-	-	-	35	35

IMBALLO & PESO - PACK WEIGHT:
Valigetta - Bag 12Kg

DOTAZIONE STANDARD - STANDARD EQUIPMENT
Valigetta / Stop block / Chiavi di servizio
Tubetto di grasso / Libro istruzioni
Special bag / Stop block / Wrenches / Grease tube / Instruction book

OPZIONI - OPTIONS

PINZA - COLLET - 6023E p. 2.84

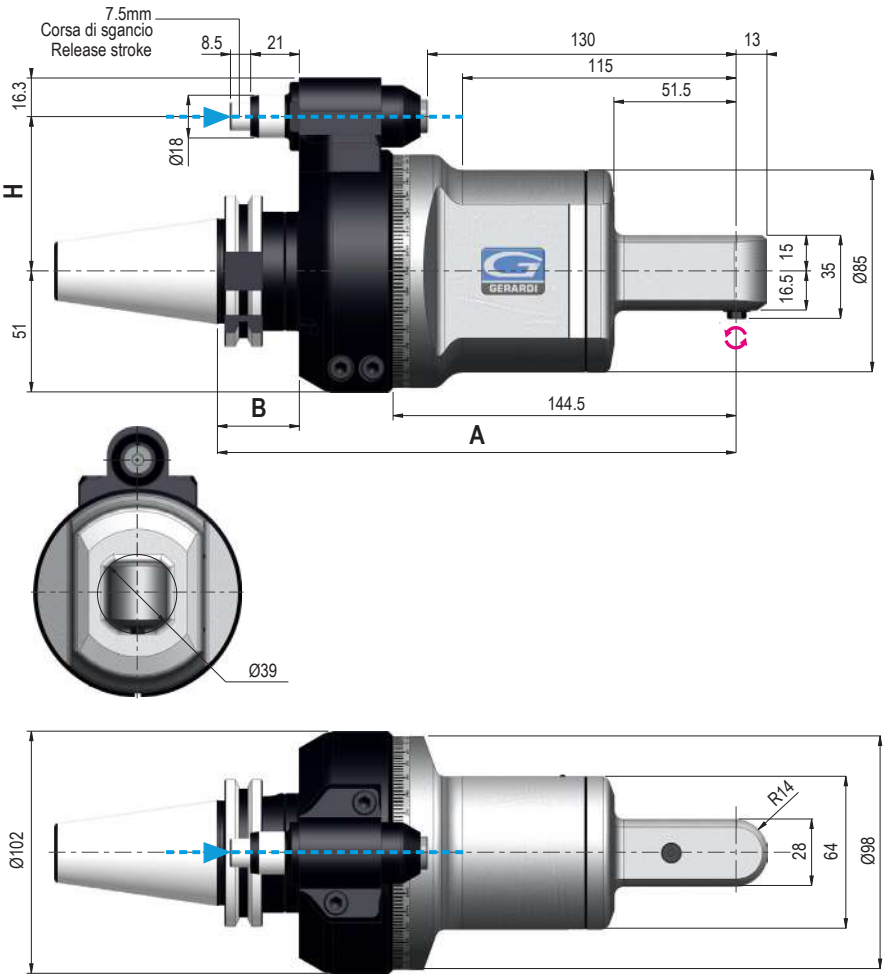
INTERASSE SPECIALE - SPECIAL PITCH - Cono > Perno - Shank > Pin

2

FS90-4

TYPE 1





Dati tecnici - Technical data

Ratio 1:1	**ISO / BT 40** Kg 7 **ISO / BT 50** Kg 9,4
Rpm 8.000	Ø 4
N 120	M 3
Nm 6	600E Ø1/4

Senso di rotazione Contrario al mandrino - Direction of rotation Opposite to the machine spindle

Coni - Shanks		**SK** DIN 69871			**CAT** ANSI B5.50		**BT** MAS 403		**HSK** DIN 69893			**C.ISO** 26623			**KM**			**ISO DIN** 2080	
Grandezza - Size		30	40	50	40	50	40	50	63	80	100	C5	C6	C8	63	80	100	40	50
Dual contact (Optional)																			
H	Standard Ø18	65 / 80	65 / 80	80	65 / 80	80	65 / 80	80	65 / 80	80	80	65 / 80	65 / 80	80	65 / 80	80	80	65 / 80	80
	110 - Ø18 110 - Ø28																		
A		218,5	218,5	218,5	218,5	218,5	218,5	226,5	227,5	227,5	227,5	222,5	222,5	222,5	218,5	218,5	218,5	218,5	218,5
B		35	35	35	35	35	35	43	44	44	44	39	39	39	-	-	-	35	35

IMBALLO & PESO - PACK WEIGHT:
Valigetta - Bag 10,5Kg

DOTAZIONE STANDARD - STANDARD EQUIPMENT
Valigetta / Stop block / Chiavi di servizio
Tubetto di grasso / Libro istruzioni
Special bag / Stop block / Wrenches / Grease tube / Instruction book

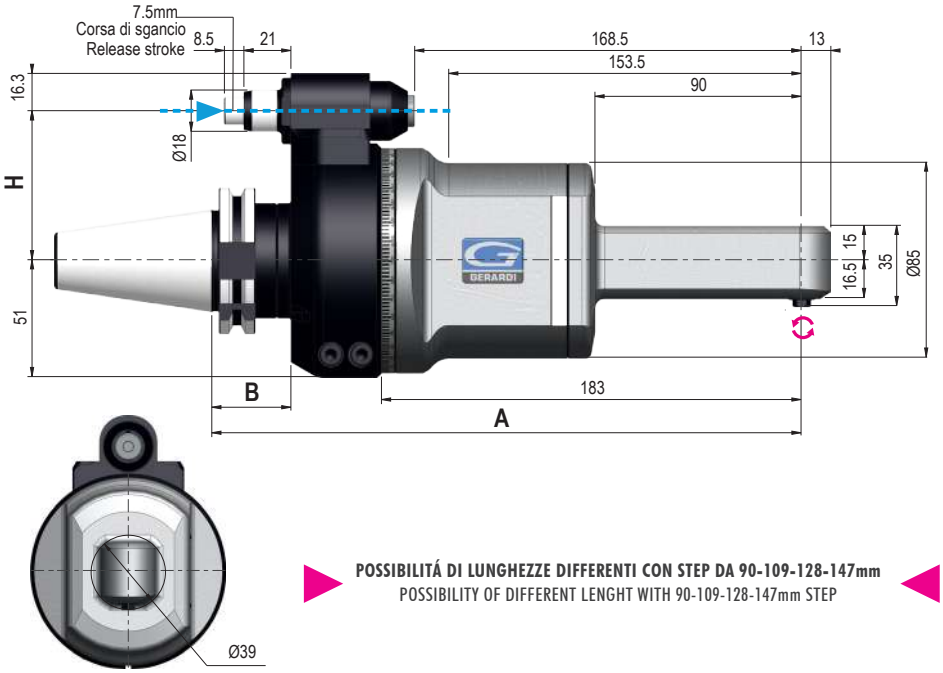
OPZIONI - OPTIONS

PINZA - COLLET - 600E **p. 2.84**

INTERASSE SPECIALE - SPECIAL PITCH - Cono > Perno - Shank > Pin

FS90-4L

TYPE 1





POSSIBILITÁ DI LUNGHEZZE DIFFERENTI CON STEP DA 90-109-128-147mm
POSSIBILITY OF DIFFERENT LENGHT WITH 90-109-128-147mm STEP

Dati tecnici - Technical data

Ratio 1:1	ISO / BT 40 Kg 7 ISO / BT 50 Kg 9,4
Rpm 8.000	Ø 4
N 120	M 3
Nm 6	600E Ø1/4

Senso di rotazione Contrario al mandrino - Direction of rotation Opposite to the machine spindle

Coni - Shanks	SK DIN 69871			CAT AaNSI B5.50		BT MAS 403		HSK DIN 69893			C.ISO 26623			KM			ISO DIN 2080	
Grandezza - Size	30	40	50	40	50	40	50	63	80	100	C5	C6	C8	63	80	100	40	50
Dual contact (Optional)																		
H Standard Ø18	65 / 80	65 / 80	80	65 / 80	80	65 / 80	80	65 / 80	80	80	65 / 80	65 / 80	80	65 / 80	80	80	65 / 80	80
H 110 - Ø18 110 - Ø28																		
A	257	257	257	257	257	257	265	266	266	266	261	261	261	257	257	257	257	257
B	35	35	35	35	35	35	43	44	44	44	39	39	39	-	-	-	35	35

IMBALLO & PESO - PACK WEIGHT:
Valigetta - Bag 12Kg

DOTAZIONE STANDARD - STANDARD EQUIPMENT
Valigetta / Stop block / Chiavi di servizio
Tubetto di grasso / Libro istruzioni
Special bag / Stop block / Wrenches / Grease tube / Instruction book

OPZIONI - OPTIONS

PINZA - COLLET - 600E **p. 2.84**

INTERASSE SPECIALE - SPECIAL PITCH - Cono > Perno - Shank > Pin

2

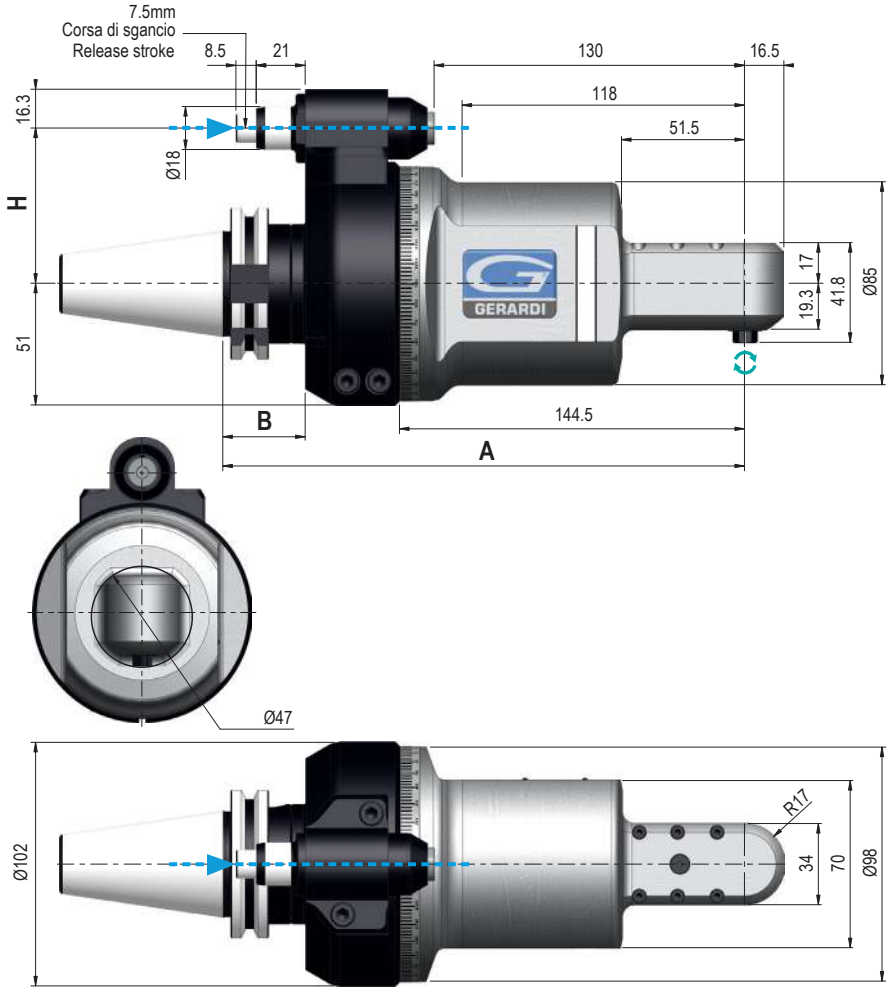
FS90-6

TYPE 1



Dati tecnici - Technical data

Ratio 1:1	ISO / BT 40 Kg 7,2 ISO / BT 50 Kg 9,6
Rpm 8.000	Ø 6
N 150	M 6
Nm 8	601E Ø1/6



Senso di rotazione Uguale al mandrino - Direction of rotation Same as the machine spindle

Coni - Shanks	SK DIN 69871			CAT ANSI B5.50		BT MAS 403		HSK DIN 69893			C.ISO 26623			KM			ISO DIN 2080	
Grandezza - Size	30	40	50	40	50	40	50	63	80	100	C5	C6	C8	63	80	100	40	50
Dual contact (Optional)																		
H Standard Ø18	65 / 80	65 / 80	80	65 / 80	80	65 / 80	80	65	80	80	65	80	80	65	80	80	65	80
H 110 - Ø18 110 - Ø28																		
A	218,5	218,5	218,5	218,5	218,5	218,5	226,5	227,5	227,5	227,5	222,5	222,5	222,5	218,5	218,5	218,5	218,5	218,5
B	35	35	35	35	35	35	43	44	44	44	39	39	39	-	-	-	35	35

IMBALLO & PESO - PACK WEIGHT:
Valigetta - Bag 10Kg

DOTAZIONE STANDARD - STANDARD EQUIPMENT
Valigetta / Stop block / Chiavi di servizio
Tubetto di grasso / Libro istruzioni
Special bag / Stop block / Wrenches / Grease tube / Instruction book

OPZIONI - OPTIONS

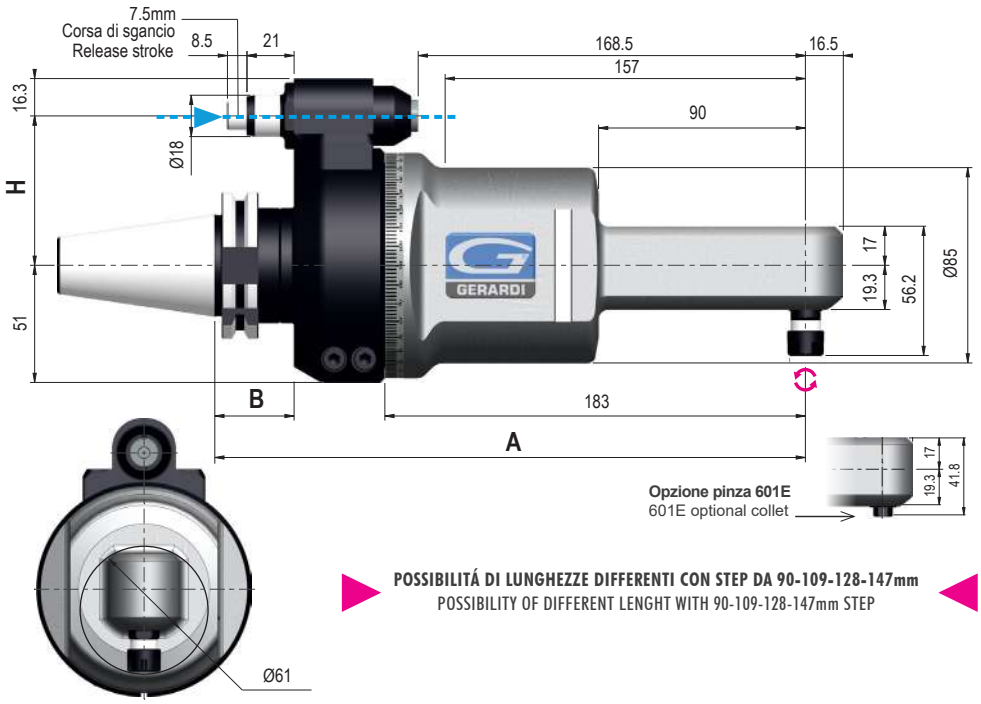
OUTPUT - ER11 Ø1/7

PINZA - COLLET - 601E Ø1/6 **p. 2.84**

INTERASSE SPECIALE - SPECIAL PITCH - Cono > Perno - Shank > Pin

FS90-6L

TYPE 1



POSSIBILITÁ DI LUNGHEZZE DIFFERENTI CON STEP DA 90-109-128-147mm
POSSIBILITY OF DIFFERENT LENGHT WITH 90-109-128-147mm STEP



Dati tecnici - Technical data

Ratio 1:1	ISO / BT 40 Kg 7,2 ISO / BT 50 Kg 9,6
Rpm 8.000	Ø 7
N 150	M 6
Nm 8	ER11 Ø1/7

Senso di rotazione Contrario al mandrino - Direction of rotation Opposite to the machine spindle

Coni - Shanks	SK DIN 69871			CAT AaNSI B5.50		BT MAS 403		HSK DIN 69893			C.ISO 26623			KM			ISO DIN 2080	
Grandezza - Size	30	40	50	40	50	40	50	63	80	100	C5	C6	C8	63	80	100	40	50
Dual contact (Optional)																		
H Standard Ø18	65 / 80	65 / 80	80	65 / 80	80	65 / 80	80	65 / 80	80	80	65 / 80	80	80	65 / 80	80	80	65	80
H 110 - Ø18 110 - Ø28																		
A	257	257	257	257	257	257	265	266	266	266	261	261	261	257	257	257	257	257
B	35	35	35	35	35	35	43	44	44	44	39	39	39	-	-	-	35	35

IMBALLO & PESO - PACK WEIGHT:
Valigetta - Bag 11,5Kg

DOTAZIONE STANDARD - STANDARD EQUIPMENT
Valigetta / Stop block / Chiavi di servizio
Tubetto di grasso / Libro istruzioni
Special bag / Stop block / Wrenches / Grease tube / Instruction book

OPZIONI - OPTIONS

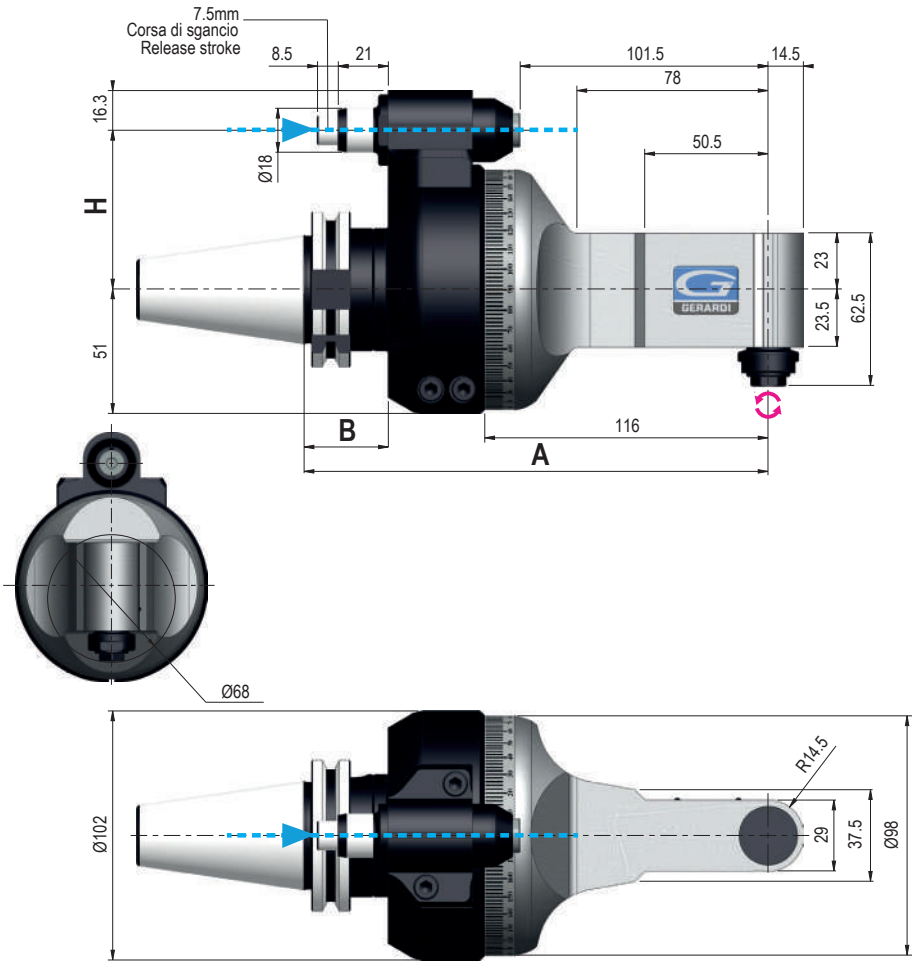
OUTPUT - 601E Ø1/6 (**Pinze** - Collets Page 2.84)
PINZA - COLLET - ER11 Ø1/7 **p. 2.84**
INTERASSE SPECIALE - SPECIAL PITCH - Cono > Perno - Shank > Pin

2

F90-7

TYPE 1





Dati tecnici - Technical data

Ratio 1:1	**ISO / BT 40** Kg 5,6 **ISO / BT 50** Kg 7,5
Rpm 10.000	Ø 7
N 180	M 6
Nm 11	ER11 Ø1/7

Senso di rotazione Contrario al mandrino - Direction of rotation Opposite to the machine spindle

Coni - Shanks	SK DIN 69871			CAT AaNSI B5.50		BT MAS 403		HSK DIN 69893			C.ISO 26623			KM			ISO DIN 2080	
Grandezza - Size	30	40	50	40	50	40	50	63	80	100	C5	C6	C8	63	80	100	40	50
Dual contact (Optional)																		
H Standard Ø18	65 / 80	65 / 80	80	65 / 80	80	65 / 80	80	65 / 80	80	80	65 / 80	65 / 80	80	65 / 80	80	80	65 / 80	80
H 110 - Ø18 110 - Ø28																		
A	190	190	190	190	190	190	198	199	199	199	194	194	194	190	190	190	190	190
B	35	35	35	35	35	35	43	44	44	44	39	39	39	-	-	-	35	35

IMBALLO & PESO - PACK WEIGHT:
Valigetta - Bag 10Kg

DOTAZIONE STANDARD - STANDARD EQUIPMENT
Valigetta / Stop block / Chiavi di servizio
Tubetto di grasso / Libro istruzioni
Special bag / Stop block / Wrenches / Grease tube / Instruction book

OPZIONI - OPTIONS

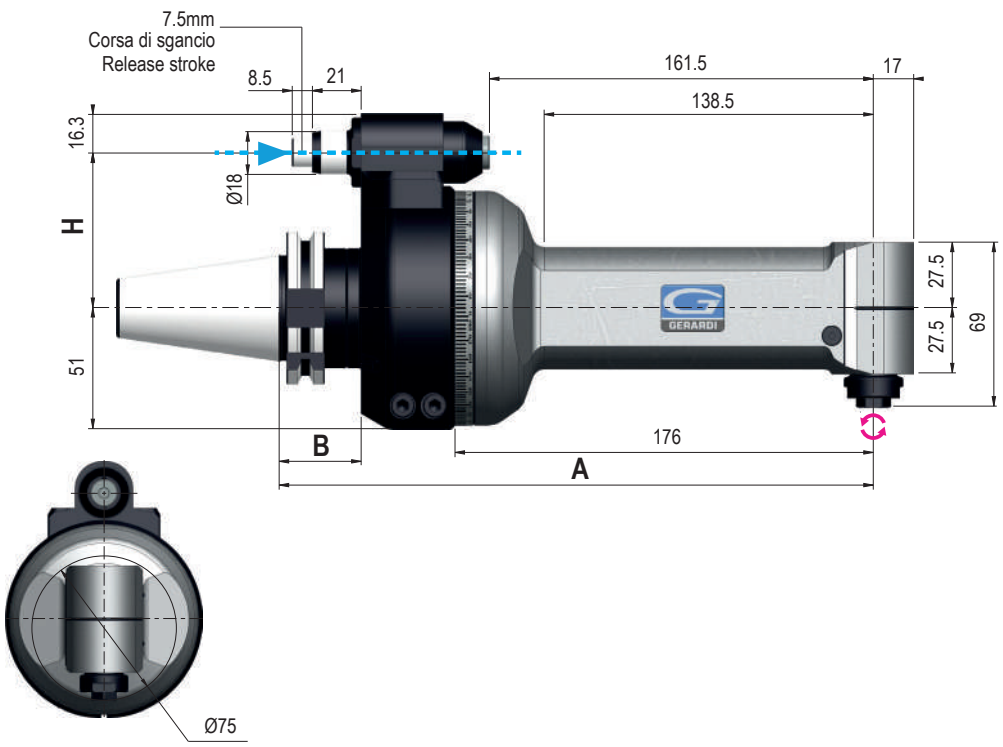
OUTPUT - Weldon Max Ø10

PINZA - COLLET - ER11 Ø1/7

INTERASSE SPECIALE - SPECIAL PITCH - Cono > Perno - Shank > Pin

F90-7L

TYPE 1





Dati tecnici - Technical data

Ratio 1:1	ISO / BT 40 Kg 6,5 ISO / BT 50 Kg 8,8
Rpm 10.000	Ø 7
N 180	M 6
Nm 11	ER11 Ø1/7

Senso di rotazione Contrario al mandrino - Direction of rotation Opposite to the machine spindle

Coni - Shanks	SK DIN 69871			CAT AaNSI B5.50		BT MAS 403		HSK DIN 69893			C.ISO 26623			KM			ISO DIN 2080	
Grandezza - Size	30	40	50	40	50	40	50	63	80	100	C5	C6	C8	63	80	100	40	50
Dual contact (Optional)																		
H Standard Ø18	65 / 80	65 / 80	80	65 / 80	80	65 / 80	80	65 / 80	80	80	65 / 80	65 / 80	80	65 / 80	80	80	65 / 80	80
H 110 - Ø18 110 - Ø28																		
A	250	250	250	250	250	250	258	259	259	259	254	254	254	250	250	250	250	250
B	35	35	35	35	35	35	43	44	44	44	39	39	39	-	-	-	35	35

IMBALLO & PESO - PACK WEIGHT:
Valigetta - Bag 11,5Kg

DOTAZIONE STANDARD - STANDARD EQUIPMENT
Valigetta / Stop block / Chiavi di servizio
Tubetto di grasso / Libro istruzioni
Special bag / Stop block / Wrenches / Grease tube / Instruction book

OPZIONI - OPTIONS

OUTPUT - Weldon Max Ø10

PINZA - COLLET - ER11 Ø1/7

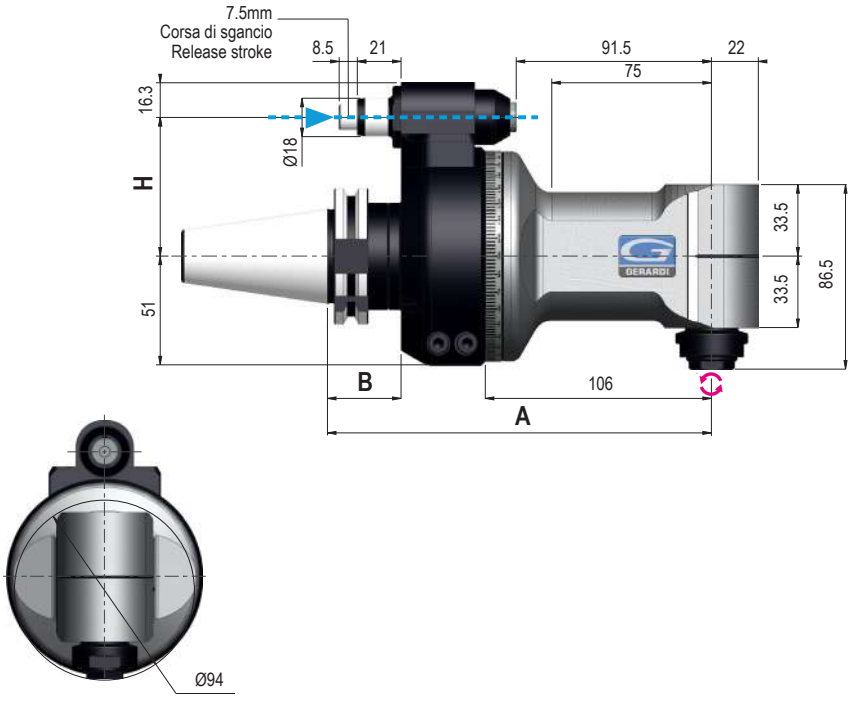
INTERASSE SPECIALE - SPECIAL PITCH - Cono > Perno - Shank > Pin

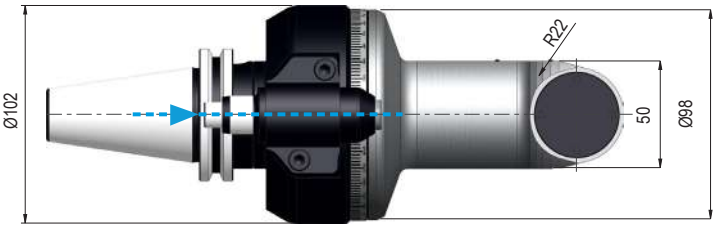
2

F90-10

TYPE 1







Dati tecnici - Technical data

Ratio 1:1	ISO / BT 40 Kg 5,8 ISO / BT 50 Kg 8
Rpm 10.000	Ø 10
N 400	M 8
Nm 14	ER16 Ø1/10

Senso di rotazione Contrario al mandrino - Direction of rotation Opposite to the machine spindle

Coni - Shanks	SK DIN 69871			CAT AaNSI B5.50		BT MAS 403			HSK DIN 69893			C.ISO 26623			KM			ISO DIN 2080	
Grandezza - Size	30	40	50	40	50	30	40	50	63	80	100	C5	C6	C8	63	80	100	40	50
Dual contact (Optional)																			
H Standard Ø18	65 / 80	65 / 80	80	65 / 80	80	65 / 80	65 / 80	80	65 / 80	80	80	65 / 80	65 / 80	80	65 / 80	80	80	65 / 80	80
H 110 - Ø18 110 - Ø28																			
A	180	180	180	180	180	180	180	188	189	189	189	184	184	184	180	180	180	180	180
B	35	35	35	35	35	35	35	43	44	44	44	39	39	39	-	-	-	35	35

IMBALLO & PESO - PACK WEIGHT:
Valigetta - Bag 10,5Kg

DOTAZIONE STANDARD - STANDARD EQUIPMENT
Valigetta / Stop block / Chiavi di servizio
Tubetto di grasso / Libro istruzioni
Special bag / Stop block / Wrenches / Grease tube / Instruction book

OPZIONI - OPTIONS

OUTPUT - Shell mill holder Ø16

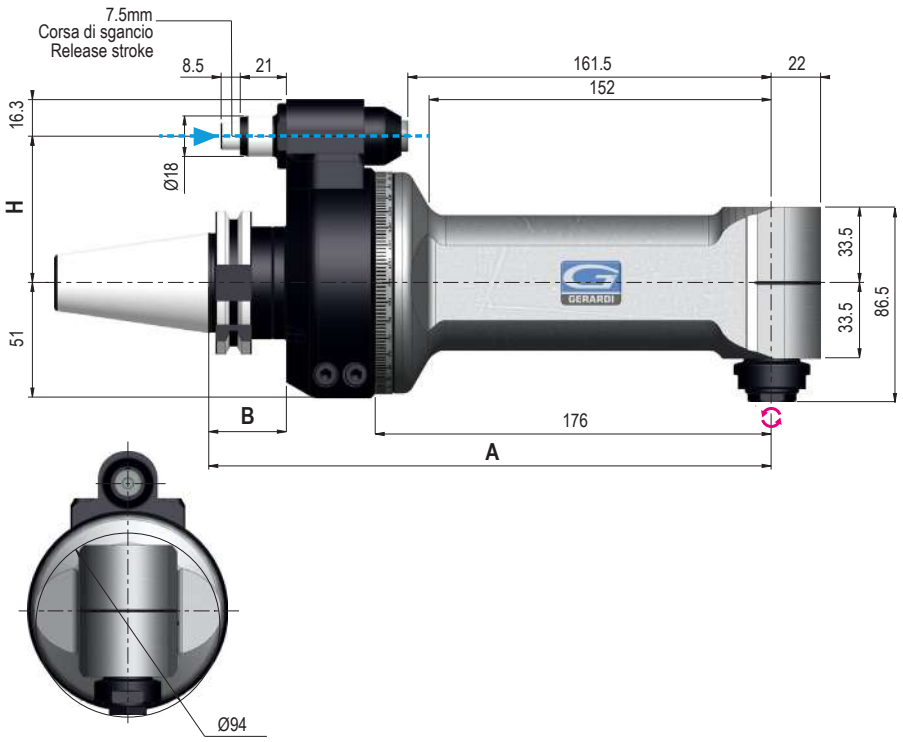
OUTPUT - Weldon Max Ø10

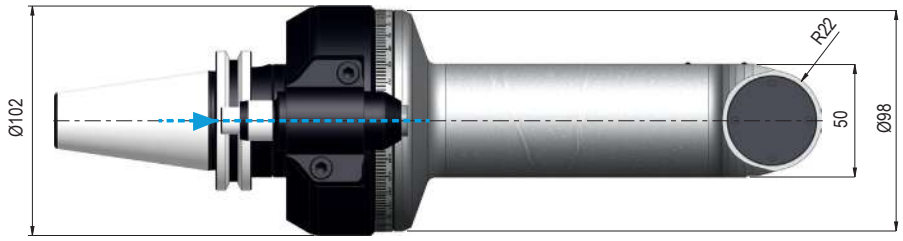
PINZA - COLLET - ER16 Ø1/10

INTERASSE SPECIALE - SPECIAL PITCH - Cono > Perno - Shank > Pin

F90-10L

TYPE 1







Dati tecnici - Technical data

Ratio 1:1	ISO / BT 40 Kg 7,5 ISO / BT 50 Kg 9,8
Rpm 10.000	Ø 10
N 400	M 8
Nm 14	ER16 Ø1/10

Senso di rotazione Contrario al mandrino - Direction of rotation Opposite to the machine spindle

Coni - Shanks	SK DIN 69871			CAT AaNSI B5.50		BT MAS 403		HSK DIN 69893			C.ISO 26623			KM			ISO DIN 2080	
Grandezza - Size	30	40	50	40	50	40	50	63	80	100	C5	C6	C8	63	80	100	40	50
Dual contact (Optional)																		
H Standard Ø18	65 / 80	65 / 80	80	65 / 80	80	65 / 80	80	65 / 80	80	80	65 / 80	65 / 80	80	65 / 80	80	80	65 / 80	80
H 110 - Ø18 110 - Ø28																		
A	250	250	250	250	250	250	258	259	259	259	254	254	254	250	250	250	250	250
B	35	35	35	35	35	35	43	44	44	44	39	39	39	-	-	-	35	35

IMBALLO & PESO - PACK WEIGHT:
Valigetta - Bag 13Kg

DOTAZIONE STANDARD - STANDARD EQUIPMENT
Valigetta / Stop block / Chiavi di servizio
Tubetto di grasso / Libro istruzioni
Special bag / Stop block / Wrenches / Grease tube / Instruction book

OPZIONI - OPTIONS

OUTPUT - Shell mill holder Ø16

OUTPUT - Weldon Max Ø10

PINZA - COLLET - ER16 Ø1/10

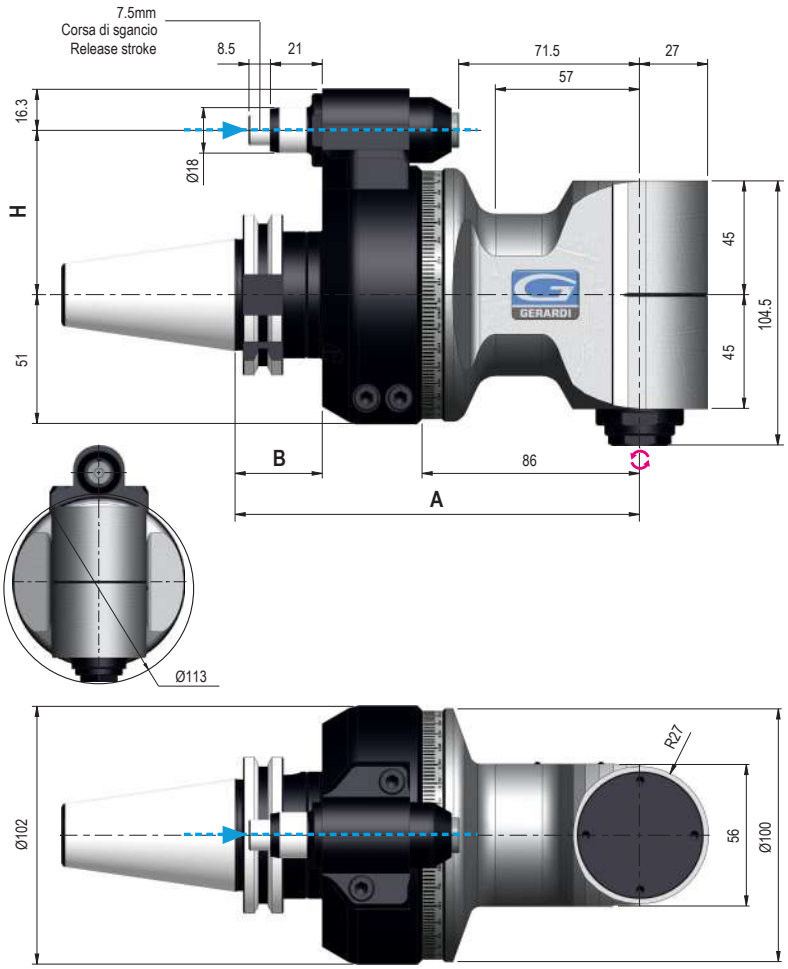
INTERASSE SPECIALE - SPECIAL PITCH - Cono > Perno - Shank > Pin

2

F90-13

TYPE 1





Dati tecnici - Technical data

Ratio 1:1	ISO/BT40 6,5 Kg ISO/BT50 9 Kg
Rpm 8.000	Ø 13
N 810	M 10
Nm 38	ER20 Ø1/13

Senso di rotazione Contrario al mandrino - Direction of rotation Opposite to the machine spindle

Coni - Shanks	SK DIN 69871		CAT ANSI B5.50		BT MAS 403		HSK DIN 69893			C.ISO 26623			KM			ISO DIN 2080	
Grandezza - Size	40	50	40	50	40	50	63	80	100	C5	C6	C8	63	80	100	40	50
Dual contact (Optional)																	
H Standard Ø18	65 / 80	80	65 / 80	80	65 / 80	80	65 / 80	80	80	65 / 80	80	80	65 / 80	80	80	65 / 80	80
H 110 - Ø18 110 - Ø28																	
A	160	160	160	160	160	168	169	169	169	164	164	164	160	160	160	160	160
B	35	35	35	35	35	43	44	44	44	39	39	39	-	-	-	35	35

IMBALLO & PESO - PACK WEIGHT:
Valigetta - Bag 9,5Kg

DOTAZIONE STANDARD - STANDARD EQUIPMENT
Valigetta / Stop block / Chiavi di servizio
Tubetto di grasso / Libro istruzioni
Special bag / Stop block / Wrenches / Grease tube / Instruction book

OPZIONI - OPTIONS

OUTPUT - Shell mill holder Ø16

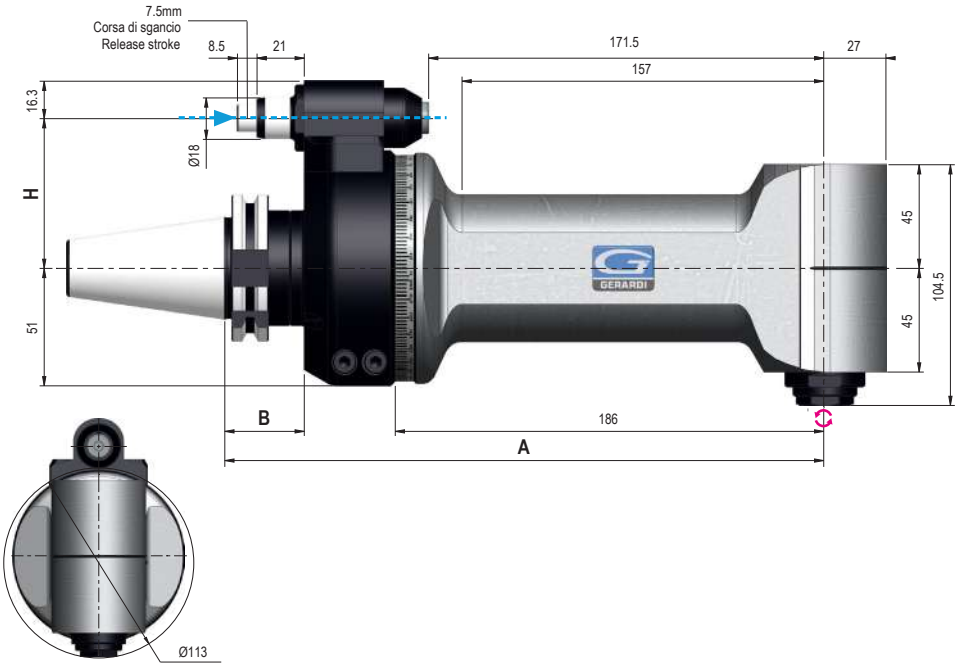
OUTPUT - Weldon Max Ø16

PINZA - COLLET - ER20 Ø1/13

INTERASSE SPECIALE - SPECIAL PITCH - Cono > Perno - Shank > Pin

F90-13L

TYPE 1





Dati tecnici - Technical data

Ratio 1:1	ISO/BT40 9,5 Kg ISO/BT50 12 Kg
Rpm 8.000	Ø 13
N 810	M 10
Nm 38	ER20 Ø1/13

Senso di rotazione Contrario al mandrino - Direction of rotation Opposite to the machine spindle

Coni - Shanks	SK DIN 69871		CAT AaNSI B5.50		BT MAS 403		HSK DIN 69893			C.ISO 26623			KM			ISO DIN 2080	
Grandezza - Size	40	50	40	50	40	50	63	80	100	C5	C6	C8	63	80	100	40	50
Dual contact (Optional)																	
H Standard Ø18	65 / 80	80	65 / 80	80	65 / 80	80	65 / 80	80	80	65 / 80	80	80	65 / 80	80	80	65 / 80	80
H 110 - Ø18 110 - Ø28																	
A	260	260	260	260	260	268	269	269	269	264	264	264	260	260	260	260	260
B	35	35	35	35	35	43	44	44	44	39	39	39	-	-	-	35	35

IMBALLO & PESO - PACK WEIGHT:
Valigetta - Bag 12,5Kg

DOTAZIONE STANDARD - STANDARD EQUIPMENT
Valigetta / Stop block / Chiavi di servizio
Tubetto di grasso / Libro istruzioni
Special bag / Stop block / Wrenches / Grease tube / Instruction book

OPZIONI - OPTIONS

OUTPUT - Shell mill holder Ø16
OUTPUT - Weldon Max Ø16
PINZA - COLLET - ER20 Ø1/13
INTERASSE SPECIALE - SPECIAL PITCH - Cono > Perno - Shank > Pin

2

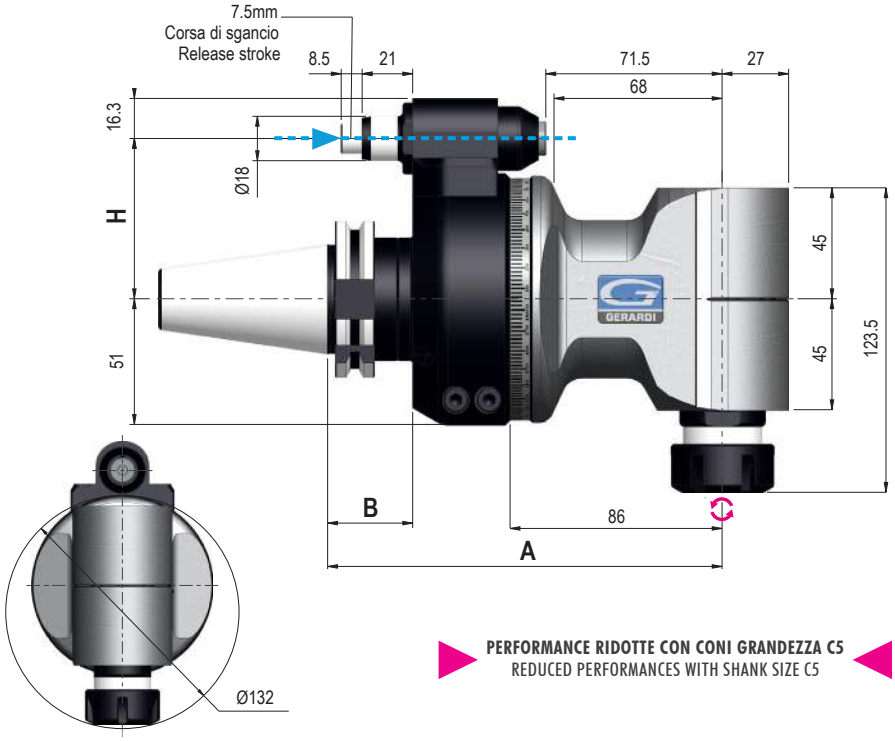
F90-16S

TYPE 1

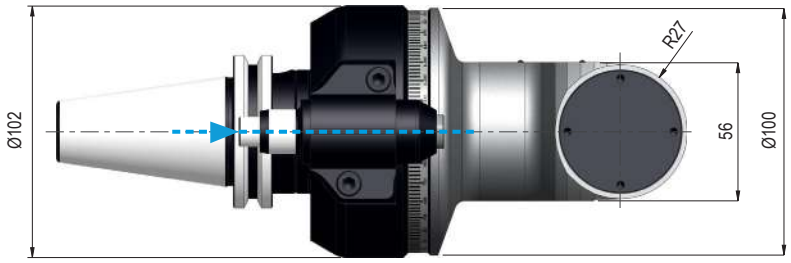


Dati tecnici - Technical data

Ratio 1:1	ISO / BT 40 Kg 6,4 ISO / BT 50 Kg 8,7
Rpm 8.000	Ø 16
N 810	M 12
Nm 38	ER25 Ø1/16



PERFORMANCE RIDOTTE CON CONI GRANDEZZA C5
REDUCED PERFORMANCES WITH SHANK SIZE C5



Senso di rotazione Contrario al mandrino - Direction of rotation Opposite to the machine spindle

Coni - Shanks	SK DIN 69871			CAT ANSI B5.50		BT MAS 403		HSK DIN 69893			C.ISO 26623			KM			ISO DIN 2080	
Grandezza - Size	30	40	50	40	50	40	50	63	80	100	C5	C6	C8	63	80	100	40	50
Dual contact (Optional)																		
H Standard Ø18	65 / 80	65 / 80	80	65 / 80	80	65 / 80	80	65 / 80	80	80	65 / 80	65 / 80	80	65 / 80	80	80	65 / 80	80
H 110 - Ø18 110 - Ø28																		
A	160	160	160	160	160	160	168	169	169	169	164	164	164	160	160	160	160	160
B	35	35	35	35	35	35	43	44	44	44	39	39	39	-	-	-	35	35

IMBALLO & PESO - PACK WEIGHT:
Valigetta - Bag 12Kg

DOTAZIONE STANDARD - STANDARD EQUIPMENT
Valigetta / Stop block / Chiavi di servizio
Tubetto di grasso / Libro istruzioni
Special bag / Stop block / Wrenches / Grease tube / Instruction book

OPZIONI - OPTIONS

DOUBLE OUTPUT - ER25 - ER25

OUTPUT - Shell mill holder Ø16

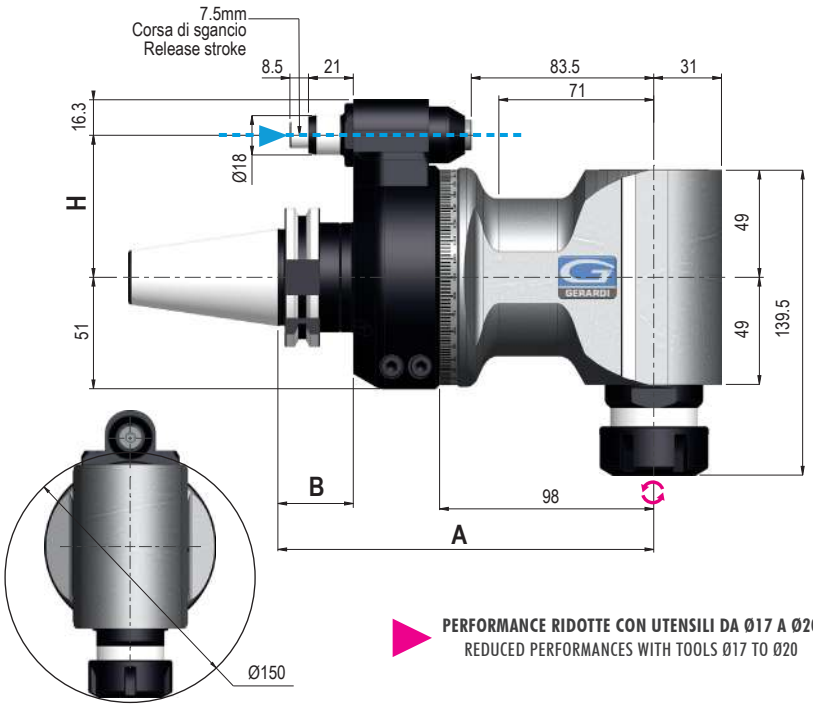
OUTPUT - Weldon Max Ø16

PINZA - COLLET - ER25 Ø1/16

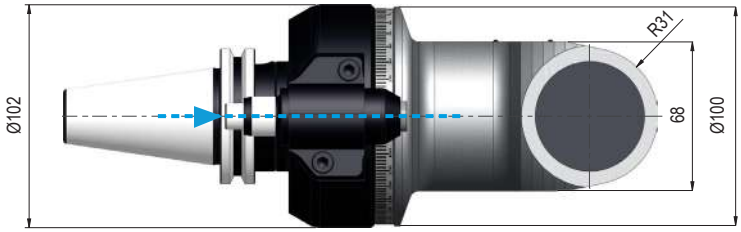
INTERASSE SPECIALE - SPECIAL PITCH - Cono > Perno - Shank > Pin

F90-20S

TYPE 1



PERFORMANCE RIDOTTE CON UTENSILI DA Ø17 A Ø20
REDUCED PERFORMANCES WITH TOOLS Ø17 TO Ø20





Dati tecnici - Technical data

Ratio 1:1	ISO / BT 40 Kg 7 ISO / BT 50 Kg 12
Rpm 5.000	Ø 20
N 1.040	M 16
Nm 55	ER32 Ø2/20

Senso di rotazione Contrario al mandrino - Direction of rotation Opposite to the machine spindle

Coni - Shanks	SK DIN 69871			CAT AaNSI B5.50		BT MAS 403		HSK DIN 69893			C.ISO 26623			KM			ISO DIN 2080	
Grandezza - Size	30	40	50	40	50	40	50	63	80	100	C5	C6	C8	63	80	100	40	50
Dual contact (Optional)																		
H Standard Ø18	65 / 80	65 / 80	80	65 / 80	80	65 / 80	80	65 / 80	80	80	65 / 80	65 / 80	80	65 / 80	80	80	65 / 80	80
H 110 - Ø18 110 - Ø28																		
A	160	160	160	160	160	160	168	169	169	169	164	164	164	160	160	160	160	160
B	35	35	35	35	35	35	43	44	44	44	39	39	39	-	-	-	35	35

IMBALLO & PESO - PACK WEIGHT:
Valigetta - Bag 10,5Kg

DOTAZIONE STANDARD - STANDARD EQUIPMENT
Valigetta / Stop block / Chiavi di servizio
Tubetto di grasso / Libro istruzioni
Special bag / Stop block / Wrenches / Grease tube / Instruction book

OPZIONI - OPTIONS

OUTPUT - Shell mill holder Ø16/22/27

OUTPUT - Weldon Max Ø20

PINZA - COLLET - ER32 Ø2/20

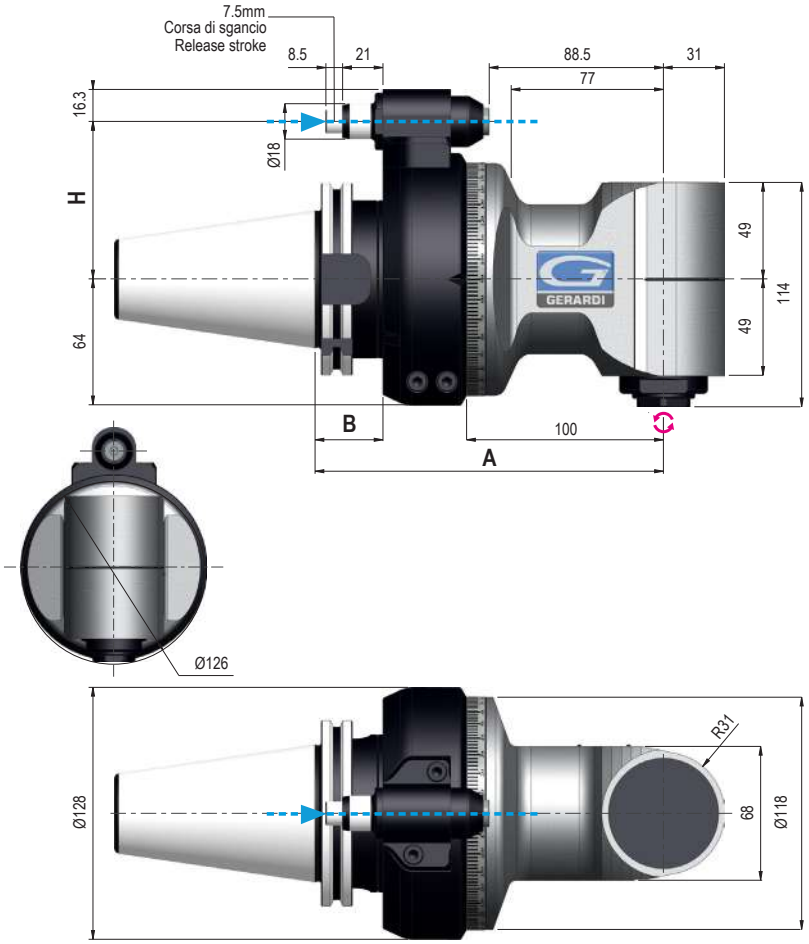
INTERASSE SPECIALE - SPECIAL PITCH - Cono > Perno - Shank > Pin

2

F90-16

TYPE 2





Dati tecnici - Technical data

Ratio 1:1	ISO/BT40 7,7 Kg ISO/BT50 11,7 Kg
Rpm 5.000	Ø 16
N 1.040	M 12
Nm 55	ER25 Ø1/16

Senso di rotazione Contrario al mandrino - Direction of rotation Opposite to the machine spindle

Coni - Shanks	SK DIN 69871	CAT ANSI B5.50	BT MAS 403	HSK DIN 69893		C.ISO 26623	KM		ISO DIN 2080
Grandezza - Size	50	50	50	80	100	C8	80	100	50
Dual contact (Optional)									
H Standard Ø18	80	80	80	80	80	80	80	80	80
H 110 - Ø18 110 - Ø28									
A	177	177	185	186	186	181	177	177	177
B	35	35	43	44	44	39	-	-	35

IMBALLO & PESO - PACK WEIGHT:
Valigetta - Bag 10,5Kg

DOTAZIONE STANDARD - STANDARD EQUIPMENT
Valigetta / Stop block / Chiavi di servizio
Tubetto di grasso / Libro istruzioni
Special bag / Stop block / Wrenches / Grease tube / Instruction book

OPZIONI - OPTIONS

OUTPUT - HSK 32

OUTPUT - Shell mill holder Ø16/22

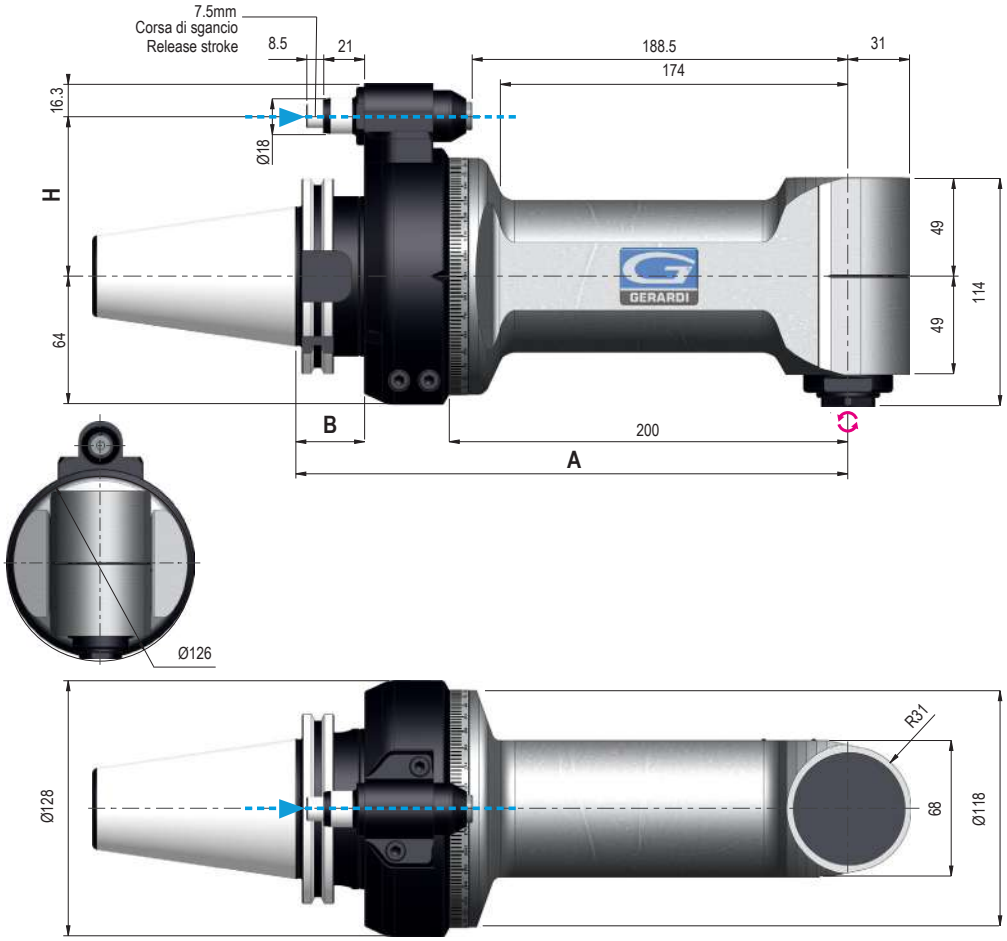
OUTPUT - Weldon Max Ø20

PINZA - COLLET - ER25 Ø1/16

INTERASSE SPECIALE - SPECIAL PITCH - Cono > Perno - Shank > Pin

F90-16L

TYPE 2





Dati tecnici - Technical data

Ratio 1:1	ISO/BT50 15,5 Kg
Rpm 5.000	Ø 16
N 1.040	M 12
Nm 55	ER25 Ø1/16

Senso di rotazione Contrario al mandrino - Direction of rotation Opposite to the machine spindle

Coni - Shanks	SK DIN 69871	CAT AaNSI B5.50	BT MAS 403	HSK DIN 69893		C.ISO 26623	KM		ISO DIN 2080
Grandezza - Size	50	50	50	80	100	C8	80	100	50
Dual contact (Optional)									
H Standard Ø18	80	80	80	80	80	80	80	80	80
H 110 - Ø18 110 - Ø28									
A	277	277	285	286	286	281	277	277	277
B	35	35	43	44	44	39	-	-	35

IMBALLO & PESO - PACK WEIGHT:
Cassa in Legno - Wooden Box 27Kg

DOTAZIONE STANDARD - STANDARD EQUIPMENT
Cassa in Legno / Stop block / Chiavi di servizio
Tubetto di grasso / Libro istruzioni
Wooden Box / Stop block / Wrenches / Grease tube / Instruction book

OPZIONI - OPTIONS

OUTPUT - HSK 32

OUTPUT - Shell mill holder Ø16/22

OUTPUT - Weldon Max Ø20

PINZA - COLLET - ER25 Ø1/16

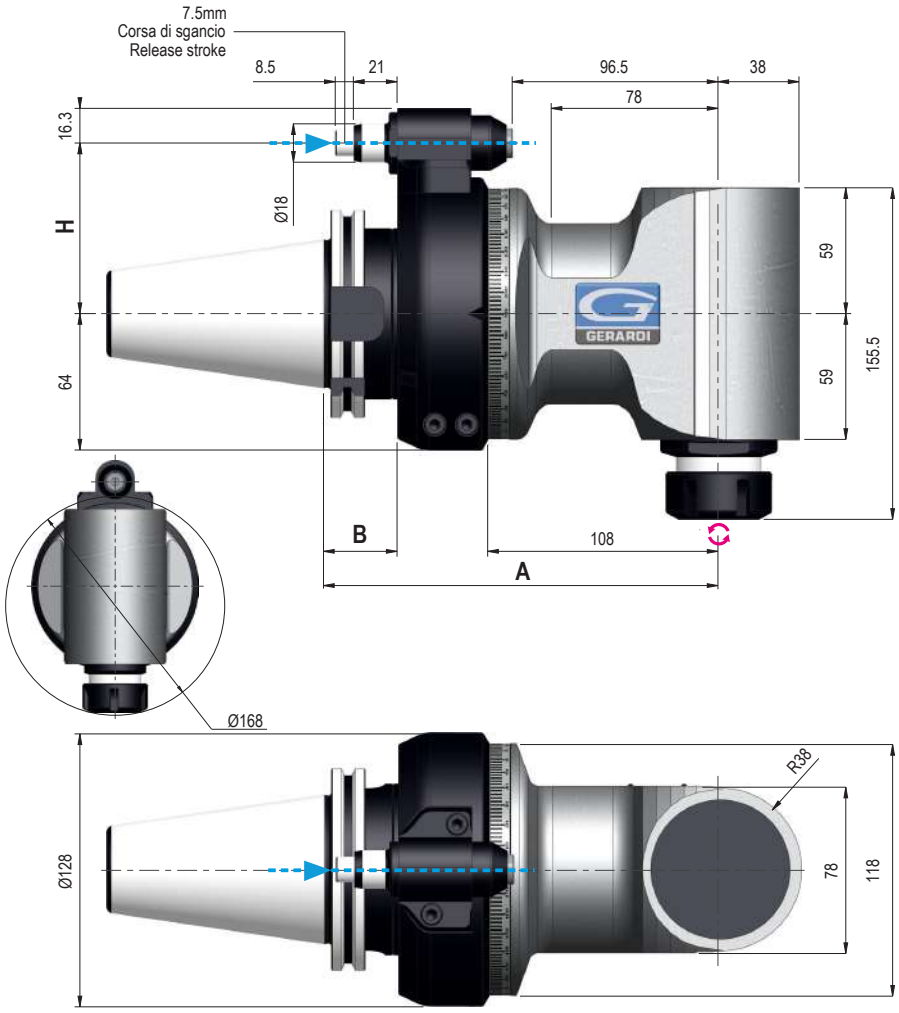
INTERASSE SPECIALE - SPECIAL PITCH - Cono > Perno - Shank > Pin

2

F90-20

TYPE 2





Dati tecnici - Technical data

Ratio 1:1	ISO/BT50 14,5 Kg
Rpm 3.500	Ø 20
N 1.460	M 14
Nm 90	ER32 Ø2/20

Senso di rotazione Contrario al mandrino - Direction of rotation Opposite to the machine spindle

Coni - Shanks	SK DIN 69871	CAT AaNSI B5.50	BT MAS 403	HSK DIN 69893		C.ISO 26623	KM		ISO DIN 2080
Grandezza - Size	50	50	50	80	100	C8	80	100	50
Dual contact (Optional)									
H Standard Ø18	80	80	80	80	80	80	80	80	80
H 110 - Ø18 110 - Ø28									
A	185	185	193	194	194	189	185	185	185
B	35	35	43	44	44	39	-	-	35

IMBALLO & PESO - PACK WEIGHT:
Cassa in Legno - Wooden Box 27,5Kg

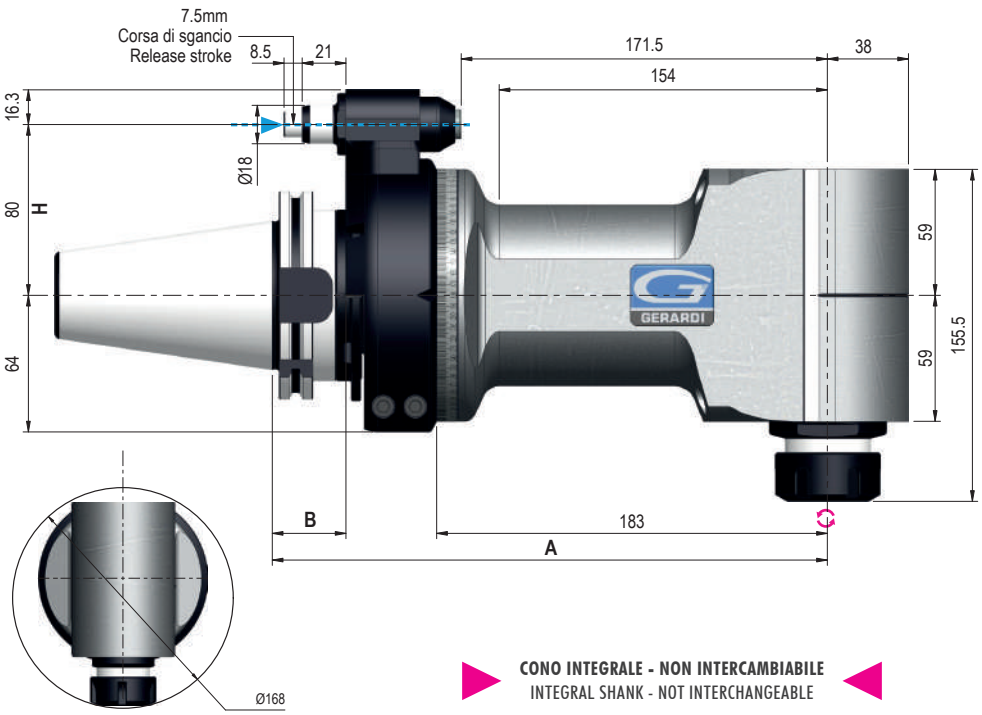
DOTAZIONE STANDARD - STANDARD EQUIPMENT
Cassa in Legno / Stop block / Chiavi di servizio
Tubetto di grasso / Libro istruzioni
Wooden Box / Stop block / Wrenches / Grease tube / Instruction book

OPZIONI - OPTIONS

OUTPUT - HSK 40
OUTPUT - Shell mill holder Ø22/27/32
OUTPUT - Weldon Max Ø25
OUTPUT - ER 40
OUTPUT - C4
OUTPUT - ISO-CAT-BT 30
PINZA - COLLET - ER32 Ø2/20
INTERASSE SPECIALE - SPECIAL PITCH - Cono > Perno - Shank > Pin

F90-20L

TYPE 2





CONO INTEGRALE - NON INTERCAMBIABILE
INTEGRAL SHANK - NOT INTERCHANGEABLE

Dati tecnici - Technical data

Ratio 1:1	ISO/BT50 19 Kg
Rpm 3.500	Ø 20
N 1.460	M 14
Nm 90	ER32 Ø2/20

Senso di rotazione Contrario al mandrino - Direction of rotation Opposite to the machine spindle

Coni - Shanks	SK DIN 69871	CAT AaNSI B5.50	BT MAS 403	HSK DIN 69893		C.ISO 26623	KM		ISO DIN 2080
Grandezza - Size	50	50	50	80	100	C8	80	100	50
Dual contact (Optional)									
H Standard Ø18	80	80	80	80	80	80	80	80	80
H 110 - Ø18 110 - Ø28									
A	260	260	268	269	269	264	260	260	260
B	35	35	43	44	44	39	-	-	35

IMBALLO & PESO - PACK WEIGHT:
Cassa in Legno - Wooden Box 33Kg

DOTAZIONE STANDARD - STANDARD EQUIPMENT
Cassa in Legno / Stop block / Chiavi di servizio
Tubetto di grasso / Libro istruzioni
Wooden Box / Stop block / Wrenches / Grease tube / Instruction book

OPZIONI - OPTIONS

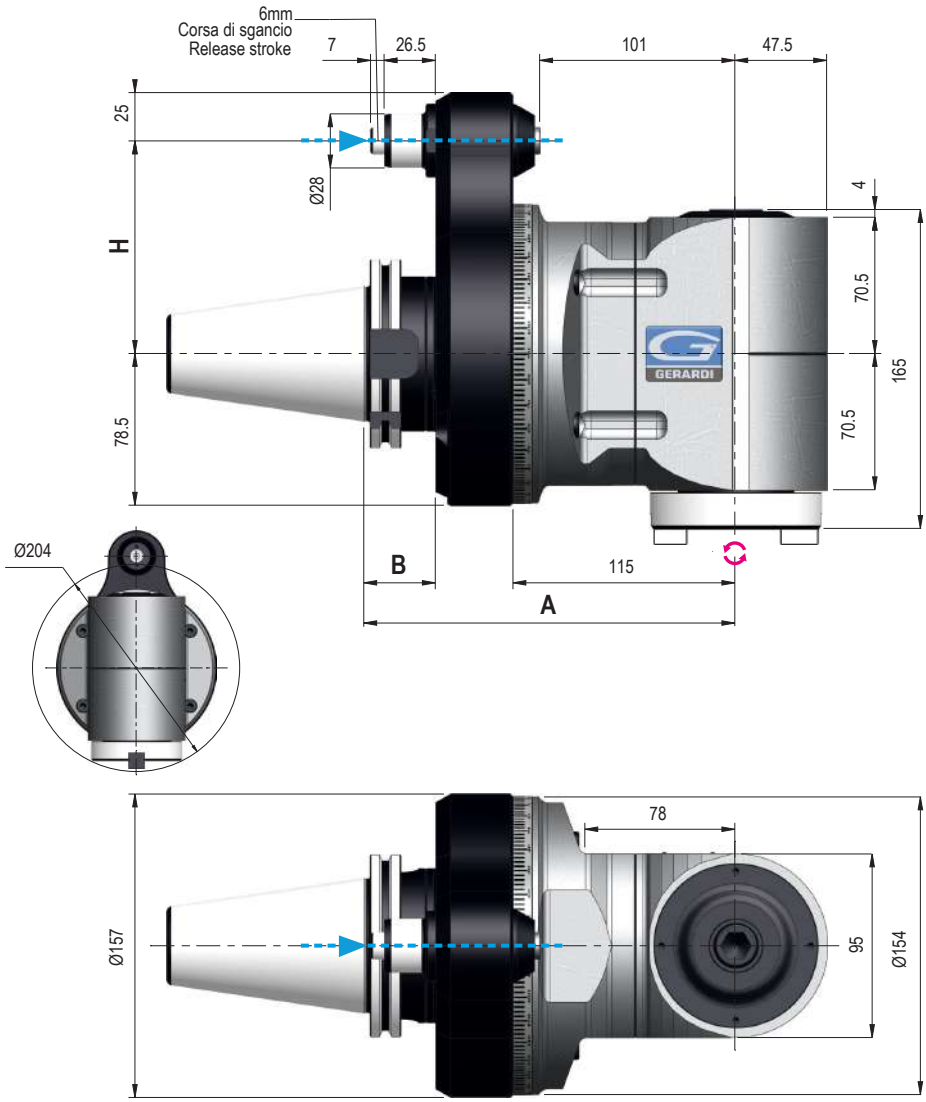
OUTPUT - HSK 40
OUTPUT - Shell mill holder Ø22/27/32
OUTPUT - Weldon Max Ø25
OUTPUT - ER 40
OUTPUT - C4
OUTPUT - ISO-CAT-BT 30
PINZA - COLLET - ER32 Ø2/20
INTERASSE SPECIALE - SPECIAL PITCH - Cono > Perno - Shank > Pin

2

F90-S40

TYPE 3





Dati tecnici - Technical data

Ratio 1:1	ISO/BT50 22 Kg
Rpm 2.500	Ø 26
N 3.020	M 20
Nm 165	ISO-CAT BT 40

Senso di rotazione Contrario al mandrino - Direction of rotation Opposite to the machine spindle

Coni - Shanks	SK DIN 69871	CAT AaNSI B5.50	BT MAS 403	HSK DIN 69893		C.ISO * 26623	KM		ISO DIN 2080
Grandezza - Size	50	50	50	80	100	C8	80	100	50
Dual contact (Optional)									
H Standard Ø28	110	110	110	110	110	110	110	110	110
A	192	192	200	201	201	196	192	192	192
B	37	37	45	44	44	39	-	-	37

IMBALLO & PESO - PACK WEIGHT:
Cassa in Legno - Wooden Box 36Kg

DOTAZIONE STANDARD - STANDARD EQUIPMENT
Cassa in Legno / Stop block / Chiavi di servizio
Tubetto di grasso / Libro istruzioni
Wooden Box / Stop block / Wrenches / Grease tube / Instruction book

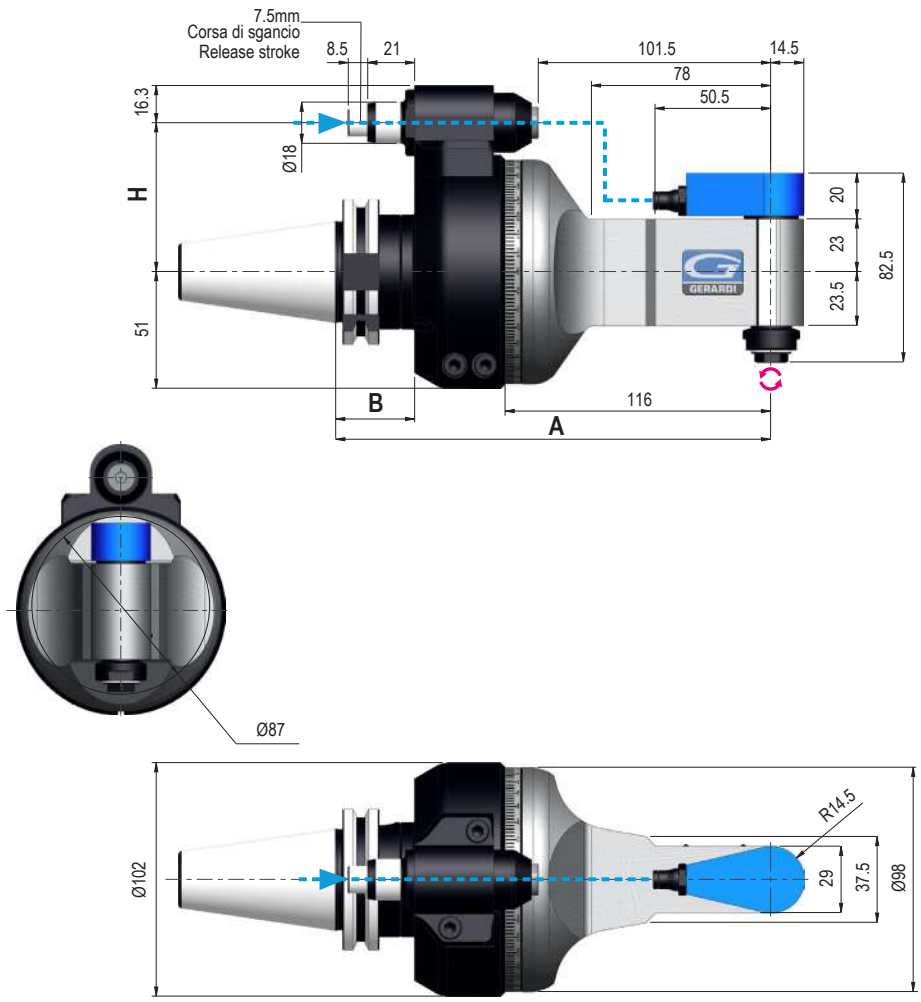
OPZIONI - OPTIONS

OUTPUT - HSK 63
OUTPUT - C5
OUTPUT - ER40 (Ø3-30)
INTERASSE SPECIALE - SPECIAL PITCH - Cono > Perno - Shank > Pin

*** Cono integrale - non intercambiabile** Integral shank - not interchangeable

F90-7 10BAR

TYPE 1





Dati tecnici - Technical data

Ratio 1:1	ISO / BT 40 Kg 5,6 ISO / BT 50 Kg 7,5
Rpm 10.000	Ø 7
N 180	M 6
Nm 11	ER11WP Ø1/7

Senso di rotazione Contrario al mandrino - Direction of rotation Opposite to the machine spindle

Coni - Shanks	SK DIN 69871			CAT AaNSI B5.50		BT MAS 403		HSK DIN 69893			C.ISO 26623			KM			ISO DIN 2080	
Grandezza - Size	30	40	50	40	50	40	50	63	80	100	C5	C6	C8	63	80	100	40	50
Dual contact (Optional)																		
H Standard Ø18	65 / 80	65 / 80	80	65 / 80	80	65 / 80	80	65 / 80	80	80	65 / 80	65 / 80	80	65 / 80	80	80	65 / 80	80
H 110 - Ø18 110 - Ø28																		
A	190	190	190	190	190	198	198	199	199	199	194	194	194	190	190	190	190	190
B	35	35	35	35	35	35	43	44	44	44	39	39	39	-	-	-	35	35

IMBALLO & PESO - PACK WEIGHT:
Valigetta - Bag 10Kg

DOTAZIONE STANDARD - STANDARD EQUIPMENT
Valigetta / Stop block / Chiavi di servizio
Tubetto di grasso / Libro istruzioni
Special bag / Stop block / Wrenches / Grease tube / Instruction book

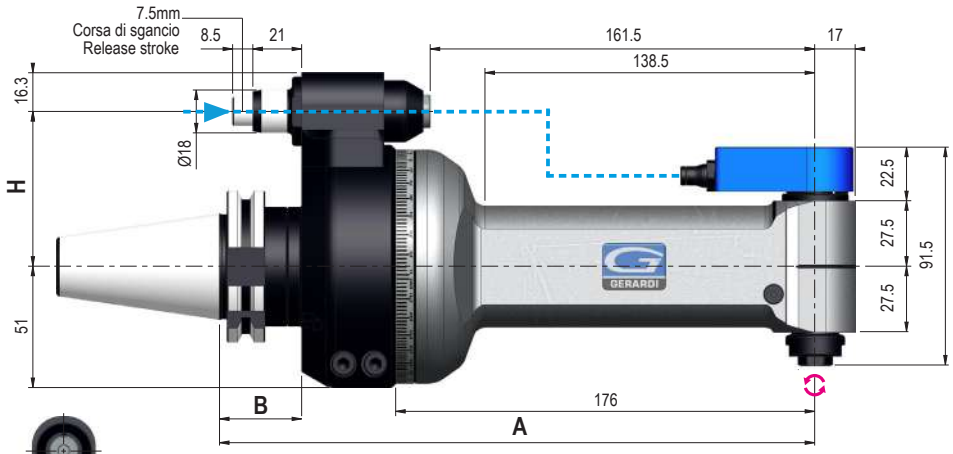
OPZIONI - OPTIONS

PINZA - COLLET - ER11 WP Ø1/7
OUTPUT - Weldon Max Ø10
PINZA - COLLET - ER11 Ø1/7
INTERASSE SPECIALE - SPECIAL PITCH - Cono > Perno - Shank > Pin

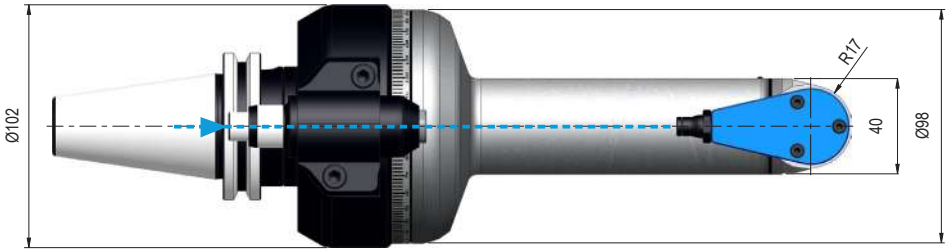
F90-7L 10BAR

TYPE 1









Dati tecnici - Technical data

Ratio 1:1	**ISO / BT 40** Kg 6,6 **ISO / BT 50** Kg 8,6
Rpm 10.000	Ø 7
N 180	M 6
Nm 6	ER11 WP Ø1/7

Senso di rotazione Contrario al mandrino - Direction of rotation Opposite to the machine spindle

Coni - Shanks	SK DIN 69871			CAT AaNSI B5.50		BT MAS 403		HSK DIN 69893			C.ISO 26623			KM			ISO DIN 2080	
Grandezza - Size	30	40	50	40	50	40	50	63	80	100	C5	C6	C8	63	80	100	40	50
Dual contact (Optional)																		
H Standard Ø18	65 / 80	65 / 80	80	65 / 80	80	65 / 80	80	65 / 80	80	80	65 / 80	65 / 80	80	65 / 80	80	80	65 / 80	80
H 110 - Ø18 110 - Ø28																		
A	250	250	250	250	250	250	258	259	259	259	254	254	254	250	250	250	250	250
B	35	35	35	35	35	35	43	44	44	44	39	39	39	-	-	-	35	35

IMBALLO & PESO - PACK WEIGHT:
Valigetta - Bag 12Kg

DOTAZIONE STANDARD - STANDARD EQUIPMENT
Valigetta / Stop block / Chiavi di servizio
Tubetto di grasso / Libro istruzioni
Special bag / Stop block / Wrenches / Grease tube / Instruction book

OPZIONI - OPTIONS

PINZA - COLLET - ER16 - Ø1/10

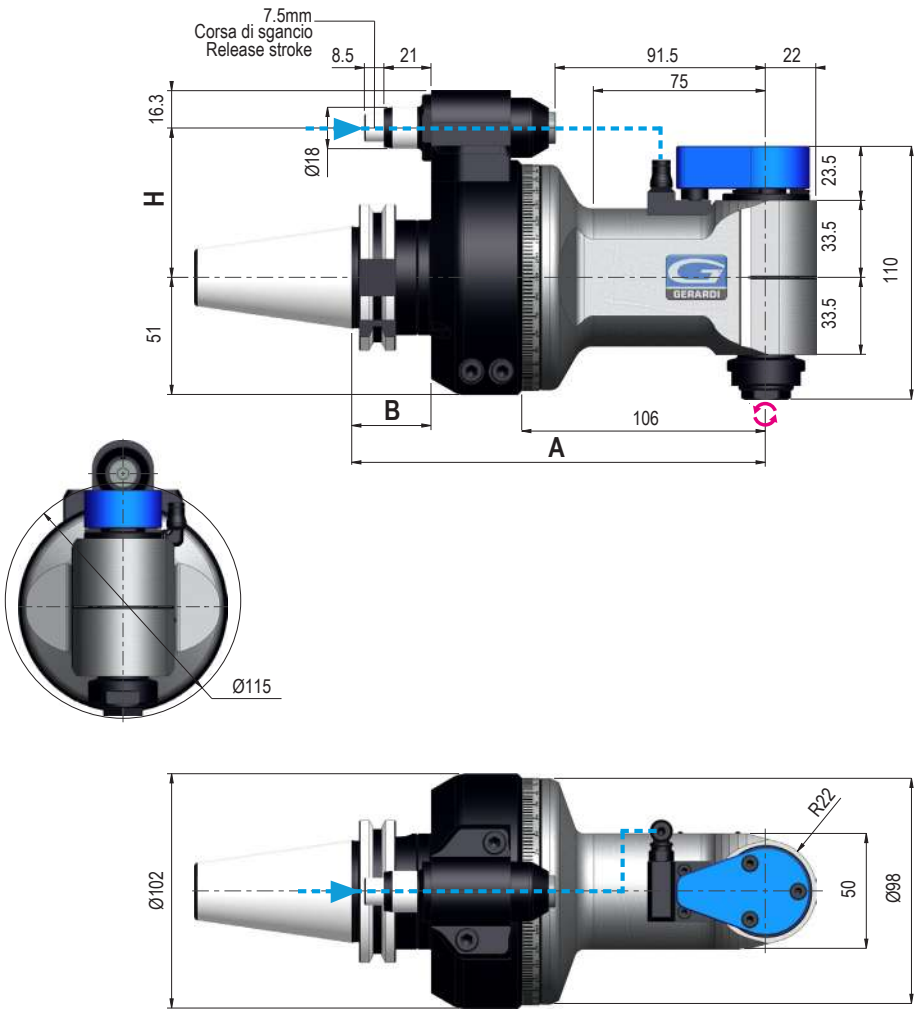
OUTPUT - Weldon Max Ø10

PINZA - COLLET - ER11 WP Ø3/10

INTERASSE SPECIALE - SPECIAL PITCH - Cono > Perno - Shank > Pin

F90-10 10BAR

TYPE 1





Dati tecnici - Technical data

- Ratio 1:1
- ISO / BT 40 Kg 5,8 — ISO / BT 50 Kg 8
- Rpm 10.000
- Ø 10
- N 400
- M 8
- Nm 14
- ER16 WP Ø1/10

Senso di rotazione Contrario al mandrino - Direction of rotation Opposite to the machine spindle

Coni - Shanks	SK DIN 69871			CAT AaNSI B5.50		BT MAS 403		HSK DIN 69893			C.ISO 26623			KM			ISO DIN 2080	
Grandezza - Size	30	40	50	40	50	40	50	63	80	100	C5	C6	C8	63	80	100	40	50
Dual contact (Optional)																		
H Standard Ø18	65 / 80	65 / 80	80	65 / 80	80	65 / 80	80	65 / 80	80	80	65 / 80	65 / 80	80	65 / 80	80	80	65 / 80	80
H 110 - Ø18 110 - Ø28																		
A	180	180	180	180	180	180	188	189	189	189	184	184	184	180	180	180	150	153
B	35	35	35	35	35	35	43	44	44	44	39	39	39	-	-	-	35	35

IMBALLO & PESO - PACK WEIGHT:
Valigetta - Bag 11Kg

DOTAZIONE STANDARD - STANDARD EQUIPMENT
Valigetta / Stop block / Chiavi di servizio
Tubetto di grasso / Libro istruzioni
Special bag / Stop block / Wrenches / Grease tube / Instruction book

OPZIONI - OPTIONS

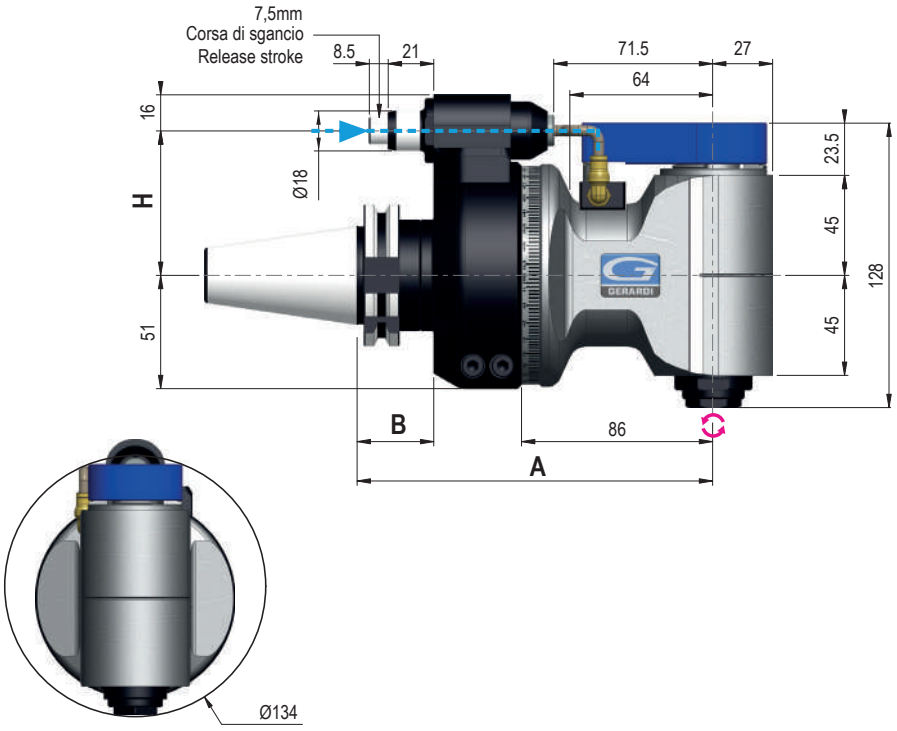
PINZA - COLLET - ER16 - Ø1/10
OUTPUT - Weldon Max Ø10
PINZA - COLLET - ER11 WP Ø3/10
INTERASSE SPECIALE - SPECIAL PITCH - Cono > Perno - Shank > Pin

2

F90-13 10BAR

TYPE 1





Dati tecnici - Technical data

Ratio 1:1	ISO/BT40 6,3 Kg
Rpm 8.000	Ø 13
N 810	M 10
Nm 27	ER20 Ø1/13

Senso di rotazione Contrario al mandrino - Direction of rotation Opposite to the machine spindle

Coni - Shanks	SK DIN 69871		CAT ANSI B5.50		BT MAS 403		HSK DIN 69893			C.ISO 26623			KM			ISO DIN 2080	
Grandezza - Size	40	50	40	50	40	50	63	80	100	C5	C6	C8	63	80	100	40	50
Dual contact (Optional)																	
H Standard Ø18	65 / 80	80	65 / 80	80	65 / 80	80	65 / 80	80	80	65 / 80	80	80	65 / 80	80	80	65 / 80	80
H 110 - Ø18 110 - Ø28																	
A	160	160	160	160	160	168	169	169	169	164	164	164	160	160	160	160	160
B	35	35	35	35	35	43	44	44	44	39	39	39	-	-	-	35	35

IMBALLO & PESO - PACK WEIGHT:
Valigetta - Bag 10Kg

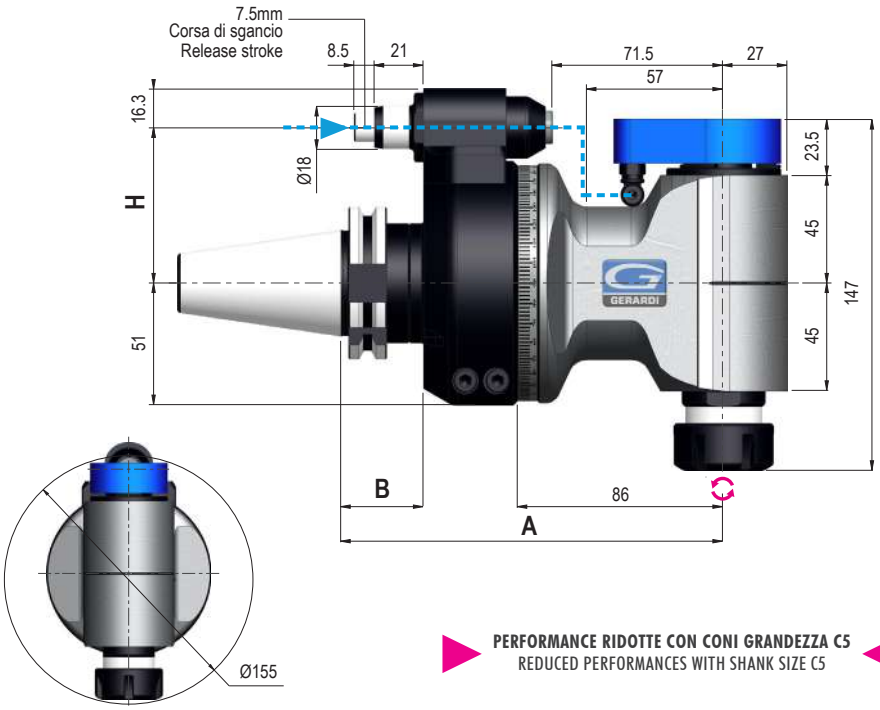
DOTAZIONE STANDARD - STANDARD EQUIPMENT
Valigetta / Stop block / Chiavi di servizio
Tubetto di grasso / Libro istruzioni
Special bag / Stop block / Wrenches / Grease tube / Instruction book

OPZIONI - OPTIONS

OUTPUT - Shell mill holder Ø16
OUTPUT - Weldon Max Ø16
DOUBLE OUTPUT - ER20 - ER20
PINZA - COLLET - ER20 Ø1/13
PINZA - COLLET - ER20 WP - Ø1/13
INTERASSE SPECIALE - SPECIAL PITCH - Cono > Perno - Shank > Pin

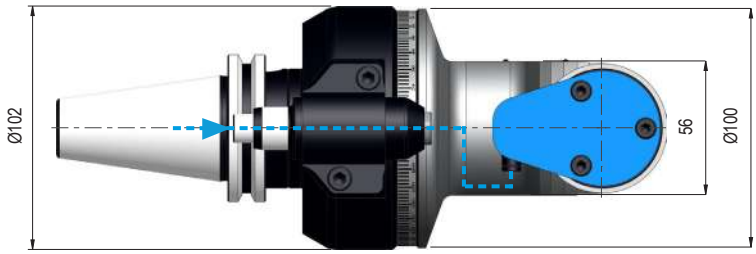
F90-16S 10BAR

TYPE 1





PERFORMANCE RIDOTTE CON CONI GRANDEZZA C5
REDUCED PERFORMANCES WITH SHANK SIZE C5



Dati tecnici - Technical data

- Ratio 1:1
- Rpm 8.000
- N 810
- Nm 38
- ISO / BT 40 Kg 6,5
- ISO / BT 50 Kg 9
- Ø 16
- M 12
- ER25 WP Ø1/16

Senso di rotazione Contrario al mandrino - Direction of rotation Opposite to the machine spindle

Coni - Shanks	SK DIN 69871		CAT AaNSI B5.50		BT MAS 403		HSK DIN 69893			C.ISO 26623			KM			ISO DIN 2080	
Grandezza - Size	40	50	40	50	40	50	63	80	100	C5	C6	C8	63	80	100	40	50
Dual contact (Optional)																	
H Standard Ø18	65 / 80	80	65 / 80	80	65 / 80	80	65 / 80	80	80	65 / 80	65 / 80	80	65 / 80	80	80	65 / 80	80
H 110 - Ø18 / 110 - Ø28																	
A	160	160	160	160	160	168	169	169	169	164	164	164	160	160	160	160	160
B	35	35	35	35	35	43	44	44	44	39	39	39	-	-	-	35	35

IMBALLO & PESO - PACK WEIGHT:
Valigetta - Bag 12Kg

DOTAZIONE STANDARD - STANDARD EQUIPMENT
Valigetta / Stop block / Chiavi di servizio
Tubetto di grasso / Libro istruzioni
Special bag / Stop block / Wrenches / Grease tube / Instruction book

OPZIONI - OPTIONS

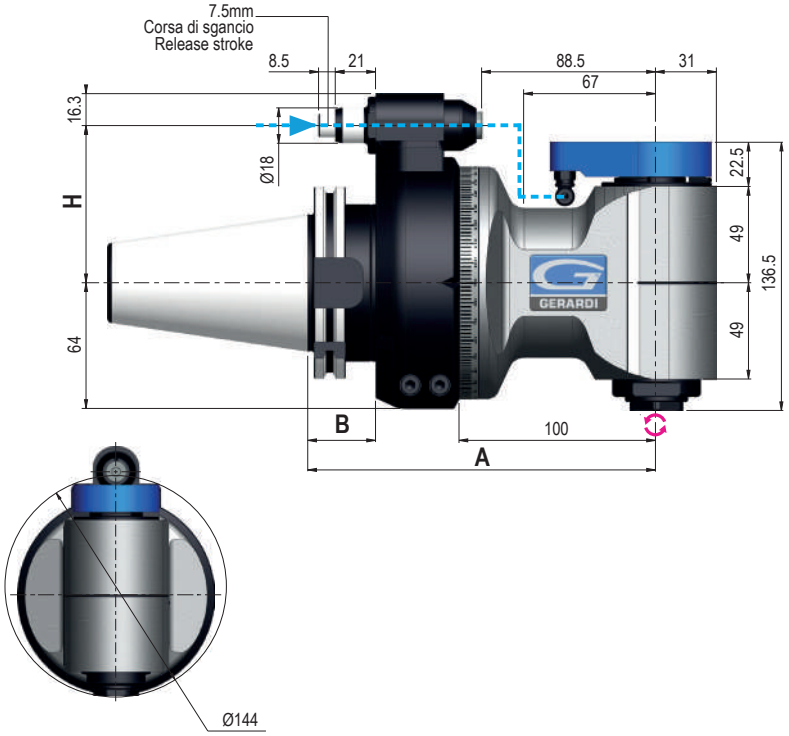
OUTPUT - Weldon Max Ø20
PINZA - COLLET - ER25 Ø1/16
PINZA - COLLET - ER25 WP Ø3/16
INTERASSE SPECIALE - SPECIAL PITCH - Cono > Perno - Shank > Pin

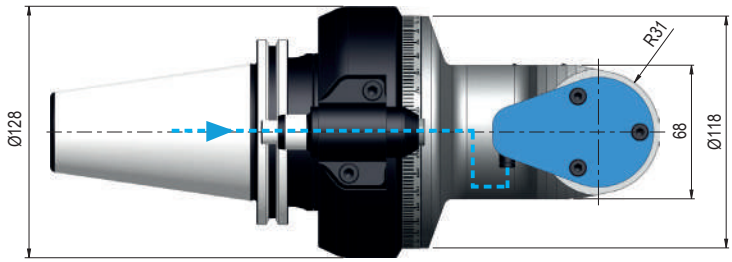
2

F90-16 10BAR

TYPE 2







Dati tecnici - Technical data

Ratio 1:1	ISO/BT40 7,7 Kg ISO/BT50 11,7 Kg
Rpm 5.000	Ø 16
N 1.040	M 12
Nm 55	ER25 WP Ø1/16

Senso di rotazione Contrario al mandrino - Direction of rotation Opposite to the machine spindle

Coni - Shanks	SK DIN 69871	CAT AaNSI B5.50	BT MAS 403	HSK DIN 69893		C.ISO 26623	KM		ISO DIN 2080
Grandezza - Size	50	50	50	80	100	C8	80	100	50
Dual contact (Optional)									
H Standard Ø18	80	80	80	80	80	80	80	80	80
H 110 - Ø18 110 - Ø28									
A	177	177	185	186	186	181	177	177	177
B	35	35	43	44	44	39	-	-	35

IMBALLO & PESO - PACK WEIGHT:
Valigetta - Bag 15Kg

DOTAZIONE STANDARD - STANDARD EQUIPMENT
Valigetta / Stop block / Chiavi di servizio
Tubetto di grasso / Libro istruzioni
Special bag / Stop block / Wrenches / Grease tube / Instruction book

OPZIONI - OPTIONS

OUTPUT - HSK 32

OUTPUT - Weldon Max Ø20

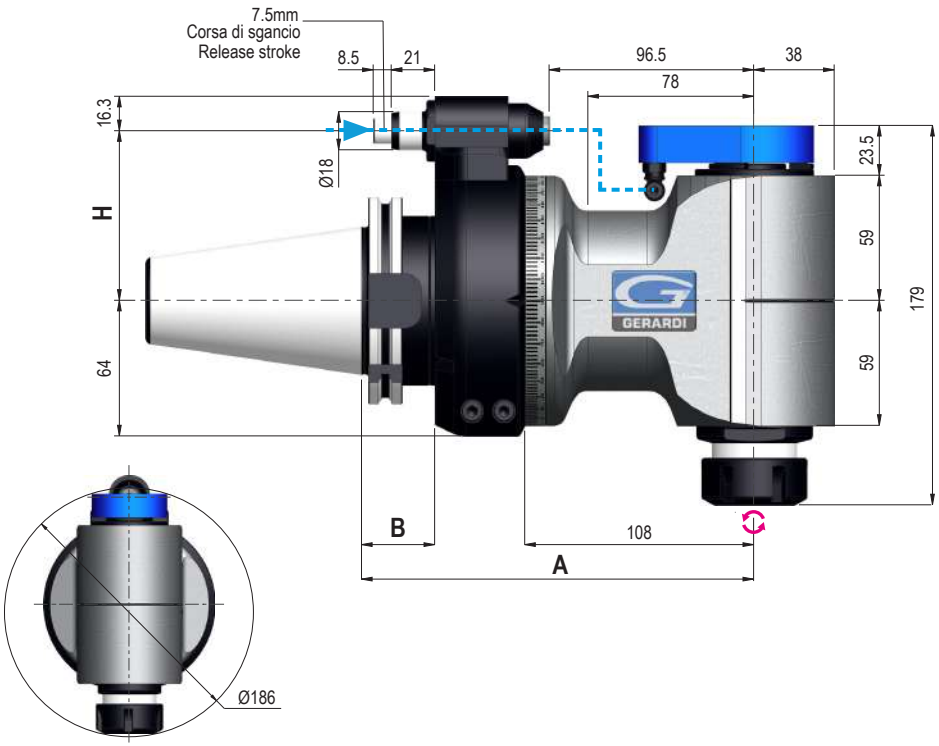
PINZA - COLLET - ER20 Ø1/13

PINZA - COLLET - ER20 WP - Ø1/13

OUTPUT - Shell mil holder Ø16

F90-20 10BAR

TYPE 2





Dati tecnici - Technical data

Ratio 1:1	ISO/BT50 14,5 Kg
Rpm 3.500	Ø 20
N 1.460	M 14
Nm 90	ER32 WP Ø2/20

Senso di rotazione Contrario al mandrino - Direction of rotation Opposite to the machine spindle

Coni - Shanks	SK DIN 69871	CAT AaNSI B5.50	BT MAS 403	HSK DIN 69893		C.ISO 26623	KM		ISO DIN 2080
Grandezza - Size	50	50	50	80	100	C8	80	100	50
Dual contact (Optional)									
H Standard Ø18	80	80	80	80	80	80	80	80	80
H 110 - Ø18 110 - Ø28									
A	185	185	193	194	194	189	185	185	185
B	35	35	43	44	44	39	-	-	35

IMBALLO & PESO - PACK WEIGHT:
Valigetta - Bag 17Kg

DOTAZIONE STANDARD - STANDARD EQUIPMENT
Valigetta / Stop block / Chiavi di servizio
Tubetto di grasso / Libro istruzioni
Special bag / Stop block / Wrenches / Grease tube / Instruction book

OPZIONI - OPTIONS

OUTPUT - Shell mill holder
OUTPUT - Weldon Max Ø25
OUTPUT - HSK 40
OUTPUT - ER40
PINZA - COLLET - ER32 Ø2/20
PINZA - COLLET - ER32 WP - Ø3/20
OUTPUT - C4

2

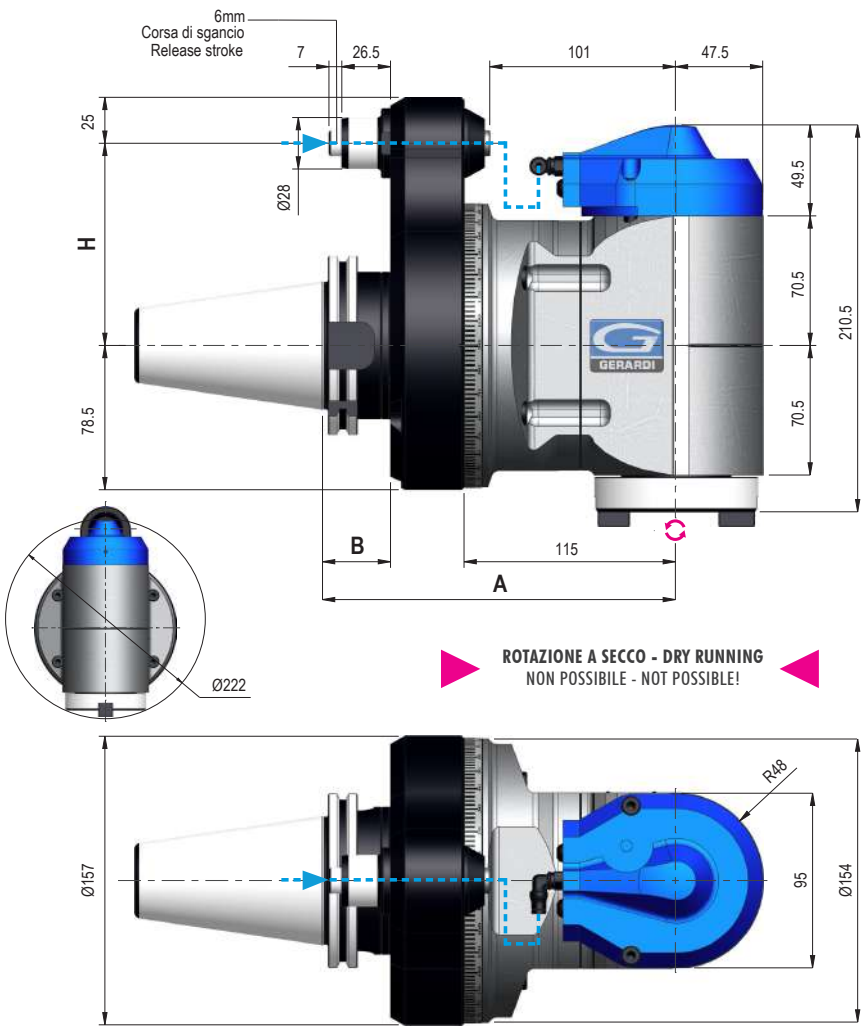
F90-S40 70BAR

TYPE 3



Dati tecnici - Technical data

Ratio 1:1	ISO/BT50 22 Kg
Rpm 2.500	Ø 26
N 3.020	M 20
Nm 165	ISO40 CAT40 BT40



Senso di rotazione Contrario al mandrino - Direction of rotation Opposite to the machine spindle

Coni - Shanks	SK DIN 69871	CAT ANSI B5.50	BT MAS 403	HSK DIN 69893		C.ISO * 26623	KM		ISO DIN 2080
Grandezza - Size	50	50	50	80	100	C8	80	100	50
Dual contact (Optional)									
H Standard Ø28	110	110	110	110	110	110	110	110	110
A	192	192	200	201	201	196	192	192	192
B	37	37	45	44	44	39	-	-	37

IMBALLO & PESO - PACK WEIGHT:
Cassa in Legno - Wooden Box 36Kg

DOTAZIONE STANDARD - STANDARD EQUIPMENT
Cassa in Legno / Stop block / Chiavi di servizio
Tubetto di grasso / Libro istruzioni
Wooden Box / Stop block / Wrenches / Grease tube / Instruction book

OPZIONI - OPTIONS

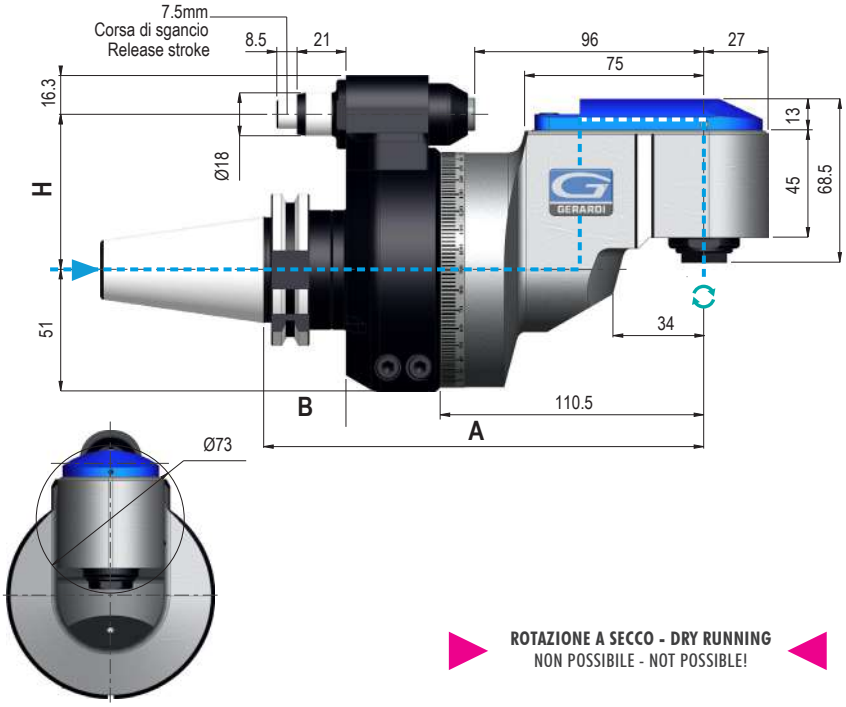
OUTPUT - HSK 63

OUTPUT - C5

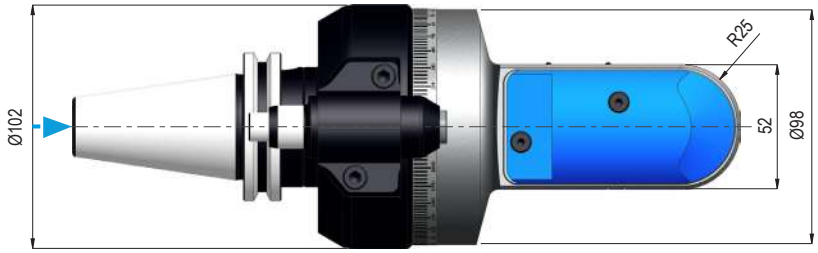
*** Cono integrale - non intercambiabile** Integral shank - not interchangeable

FR90-10 70BAR

TYPE 1



ROTAZIONE A SECCO - DRY RUNNING
NON POSSIBILE - NOT POSSIBLE!





Dati tecnici - Technical data

Ratio 1:1	ISO / BT 40 Kg 6,2 ISO / BT 50 Kg 8,7
Rpm 6.000	Ø 10
N 500	M 8
Nm 25	ER16 WP Ø1/10

Senso di rotazione Contrario al mandrino - Direction of rotation Opposite to the machine spindle

Coni - Shanks	SK DIN 69871		CAT AaNSI B5.50		BT MAS 403		HSK DIN 69893			C.ISO 26623			KM			ISO DIN 2080	
Grandezza - Size	40	50	40	50	40	50	63	80	100	C5	C6	C8	63	80	100	40	50
Dual contact (Optional)																	
H Standard Ø18	65 / 80	80	65 / 80	80	65 / 80	80	65 / 80	80	80	65 / 80	65 / 80	80	65 / 80	80	80	65 / 80	80
H 110 - Ø18 110 - Ø28																	
A	184,5	184,5	184,5	184,5	184,5	192,5	193,5	193,5	193,5	188,5	188,5	188,5	184,5	184,5	184,5	184,5	184,5
B	35	35	35	35	35	43	44	44	44	39	39	39	-	-	-	35	35

IMBALLO & PESO - PACK WEIGHT:
Valigetta - Bag 12Kg

DOTAZIONE STANDARD - STANDARD EQUIPMENT
Valigetta / Stop block / Chiavi di servizio
Tubetto di grasso / Libro istruzioni
Special bag / Stop block / Wrenches / Grease tube / Instruction book

OPZIONI - OPTIONS

NO COOLANT - SENZA PASSAGGIO REFRIGERANTE

OUTPUT - Weldon Max Ø10

PINZA - COLLET - ER16 Ø1/10

PINZA - COLLET - ER16 WP Ø3/10

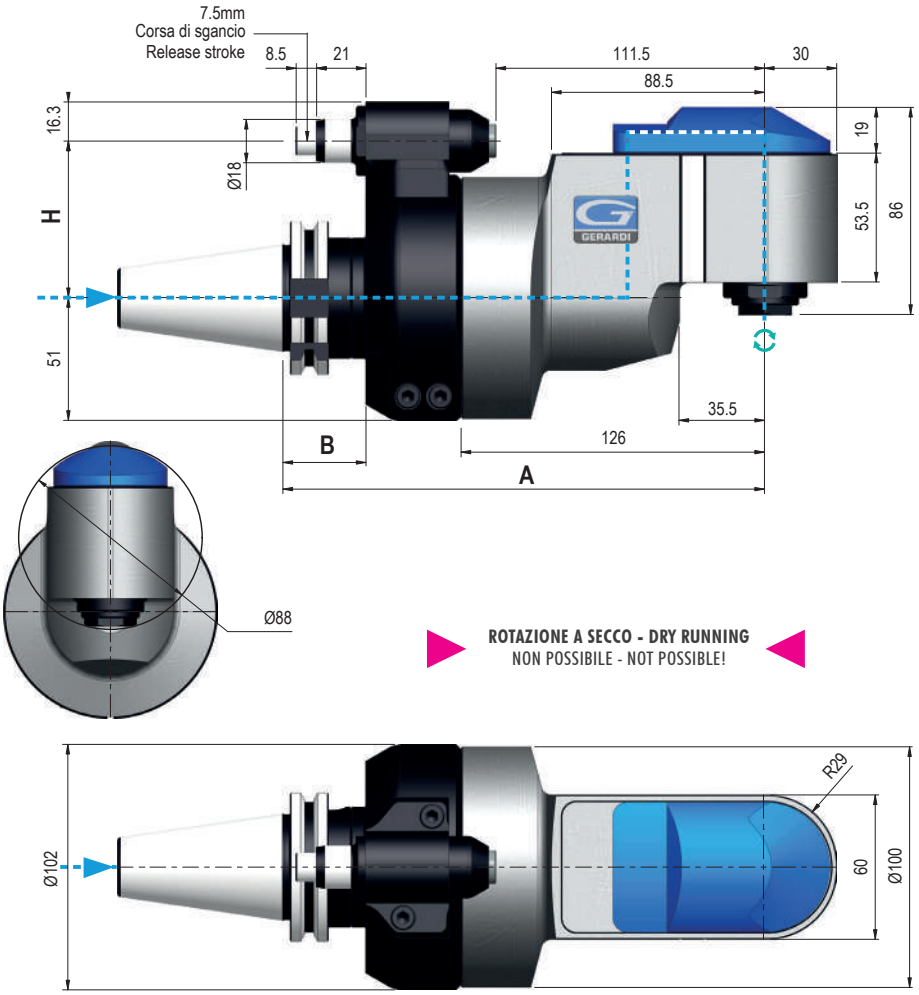
INTERASSE SPECIALE - SPECIAL PITCH - Cono > Perno - Shank > Pin

2

FR90-13 70BAR

TYPE 1





Dati tecnici - Technical data

Ratio 1:1	ISO/BT40 7,5 Kg ISO/BT50 10,5 Kg
Rpm 4.500	Ø 13
N 570	M 10
Nm 45	ER20 WP Ø1/13

ROTAZIONE A SECCO - DRY RUNNING
NON POSSIBILE - NOT POSSIBLE!

Senso di rotazione Uguale al mandrino - Direction of rotation Same as the machine spindle

Coni - Shanks	SK DIN 69871		CAT AaNSI B5.50		BT MAS 403		HSK DIN 69893			C.ISO 26623			KM			ISO DIN 2080	
Grandezza - Size	40	50	40	50	40	50	63	80	100	C5	C6	C8	63	80	100	40	50
Dual contact (Optional)																	
H Standard Ø18	65 / 80	80	65 / 80	80	65 / 80	80	65 / 80	80	80	65	80	80	65	80	80	65	80
H 110 - Ø18 110 - Ø28																	
A	200	200	200	200	200	208	209	209	209	204	204	204	200	200	200	200	200
B	35	35	35	35	35	43	44	44	44	39	39	39	-	-	-	35	35

IMBALLO & PESO - PACK WEIGHT:
Valigetta - Bag 16Kg

DOTAZIONE STANDARD - STANDARD EQUIPMENT
Valigetta / Stop block / Chiavi di servizio
Tubetto di grasso / Libro istruzioni
Special bag / Stop block / Wrenches / Grease tube / Instruction book

OPZIONI - OPTIONS

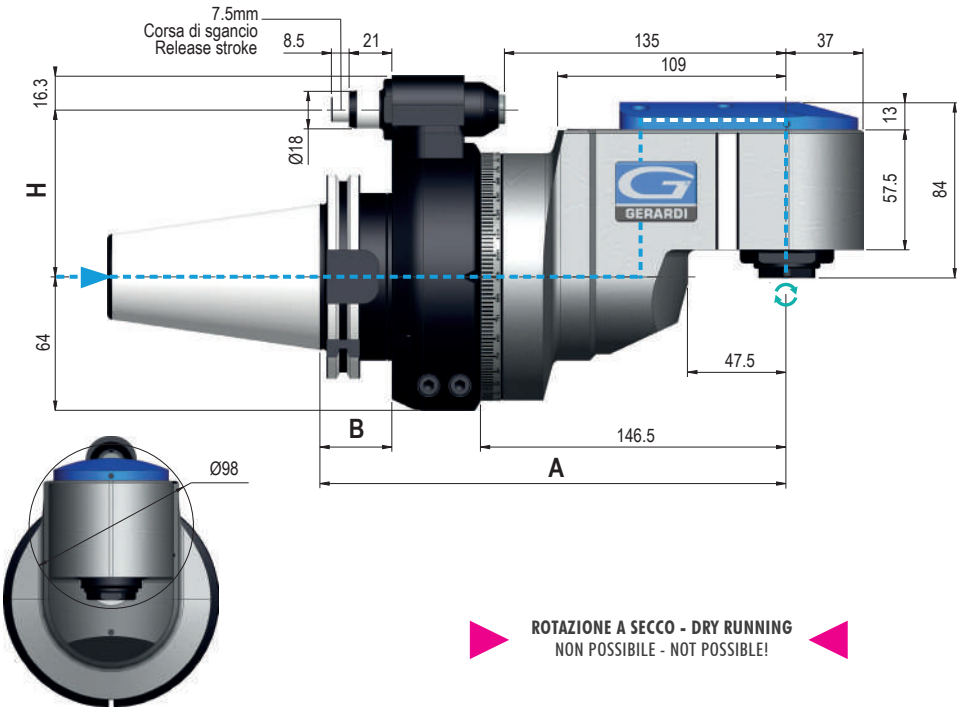
NO COOLANT - SENZA PASSAGGIO REFRIGERANTE

PINZA - COLLET - ER20 WP Ø3/13

INTERASSE SPECIALE - SPECIAL PITCH - Cono > Perno - Shank > Pin

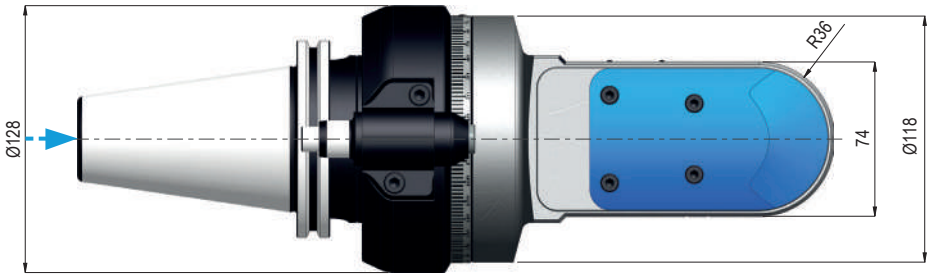
FR90-16 70BAR

TYPE 2





ROTAZIONE A SECCO - DRY RUNNING
NON POSSIBILE - NOT POSSIBLE!



Dati tecnici - Technical data

Ratio 1:1	ISO/BT50 11,7 Kg
Rpm 4.000	Ø 16
N 810	M 12
Nm 90	ER25 WP Ø1/16

Senso di rotazione Uguale al mandrino - Direction of rotation Same as the machine spindle

Coni - Shanks		SK DIN 69871	CAT AaNSI B5.50	BT MAS 403	HSK DIN 69893		C.ISO 26623	KM		ISO DIN 2080
Grandezza - Size		50	50	50	80	100	C8	80	100	50
Dual contact (Optional)										
H	Standard Ø18	80	80	80	80	80	80	80	80	80
	110 - Ø18 110 - Ø28									
A		223,5	223,5	231,5	232,5	232,5	227,5	223,5	223,5	223,5
B		35	35	43	44	44	39	-	-	35

IMBALLO & PESO - PACK WEIGHT:
Valigetta - Bag 17Kg

DOTAZIONE STANDARD - STANDARD EQUIPMENT
Valigetta / Stop block / Chiavi di servizio
Tubetto di grasso / Libro istruzioni
Special bag / Stop block / Wrenches / Grease tube / Instruction book

OPZIONI - OPTIONS

NO COOLANT - SENZA PASSAGGIO REFRIGERANTE

OUTPUT - Weldon Max Ø16

OUTPUT - HSK 32

PINZA - COLLET - ER25 WP Ø3/16

PINZA - COLLET - ER25 Ø1/16

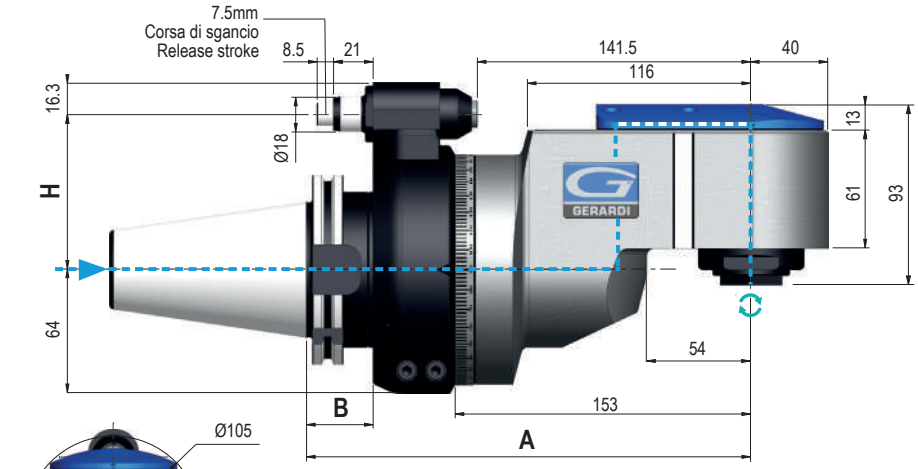
INTERASSE SPECIALE - SPECIAL PITCH - Cono > Perno - Shank > Pin

2

FR90-20 70BAR

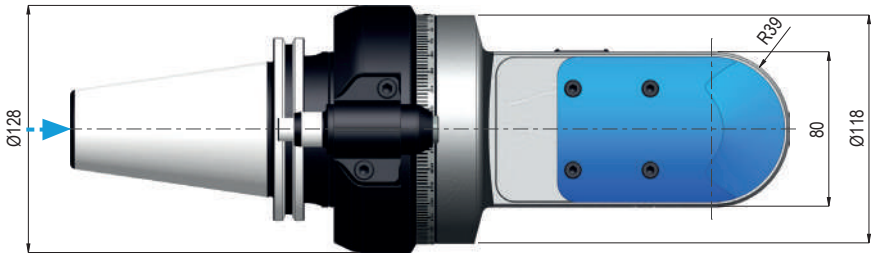
TYPE 2







ROTAZIONE A SECCO - DRY RUNNING
NON POSSIBILE - NOT POSSIBLE!



Dati tecnici - Technical data

Ratio 1:1	ISO/BT50 14,5 Kg
Rpm 3.500	Ø 20
N 1.150	M 14
Nm 95	ER32 WP Ø 2/20

Senso di rotazione Uguale al mandrino - Direction of rotation Same as the machine spindle

Coni - Shanks	SK DIN 69871	CAT AaNSI B5.50	BT MAS 403	HSK DIN 69893		C.ISO 26623	KM		ISO DIN 2080
Grandezza - Size	50	50	50	80	100	C8	80	100	50
Dual contact (Optional)									
H Standard Ø18	80	80	80	80	80	80	80	80	80
H 110 - Ø18 110 - Ø28									
A	230	230	238	239	239	234	230	230	230
B	35	35	43	44	44	39	-	-	35

IMBALLO & PESO - PACK WEIGHT:
Valigetta - Bag 19Kg

DOTAZIONE STANDARD - STANDARD EQUIPMENT
Valigetta / Stop block / Chiavi di servizio
Tubetto di grasso / Libro istruzioni
Special bag / Stop block / Wrenches / Grease tube / Instruction book

OPZIONI - OPTIONS

NO COOLANT - SENZA PASSAGGIO REFRIGERANTE

OUTPUT - Weldon Max Ø20

OUTPUT - HSK 50

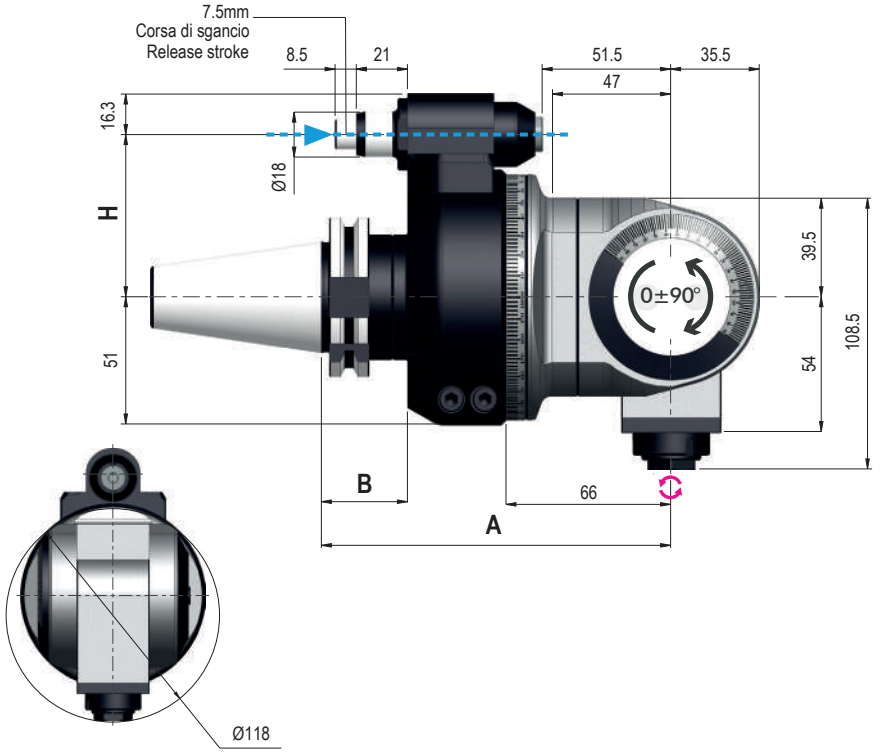
PINZA - COLLET - ER32 Ø1/20

PINZA - COLLET - ER32 WP Ø3/20

INTERASSE SPECIALE - SPECIAL PITCH - Cono > Perno - Shank > Pin

FMU-10

TYPE 1





Dati tecnici - Technical data

- Ratio 1:1
- Rpm 8.000
- N 550
- Nm 12
- ISO / BT 40 Kg 6,3
- ISO / BT 50 Kg 8,8
- Ø 10
- M 8
- ER16 Ø1/10

Senso di rotazione Contrario al mandrino - Direction of rotation Opposite to the machine spindle

Coni - Shanks	SK DIN 69871		CAT AaNSI B5.50		BT MAS 403		HSK DIN 69893			C.ISO 26623			KM			ISO DIN 2080	
Grandezza - Size	40	50	40	50	40	50	63	80	100	C5	C6	C8	63	80	100	40	50
Dual contact (Optional)																	
H Standard Ø18	65 / 80	80	65 / 80	80	65 / 80	80	65 / 80	80	80	65 / 80	65 / 80	80	65 / 80	80	80	65 / 80	80
H 110 - Ø18 110 - Ø28																	
A	140	140	140	140	140	148	149	149	149	144	144	144	140	140	140	140	140
B	35	35	35	35	35	43	44	44	44	39	39	39	-	-	-	35	35

IMBALLO & PESO - PACK WEIGHT:
Valigetta - Bag 12Kg

DOTAZIONE STANDARD - STANDARD EQUIPMENT
Valigetta / Stop block / Chiavi di servizio
Tubetto di grasso / Libro istruzioni
Special bag / Stop block / Wrenches / Grease tube / Instruction book

OPZIONI - OPTIONS

REFRIG - COOLANT - dal Cono - Through Shank 70bar - **Dry running NO**

OUTPUT - Weldon Max Ø10

PINZA - COLLET - ER 16 Ø1/10

INTERASSE SPECIALE - SPECIAL PITCH - Cono > Perno - Shank > Pin

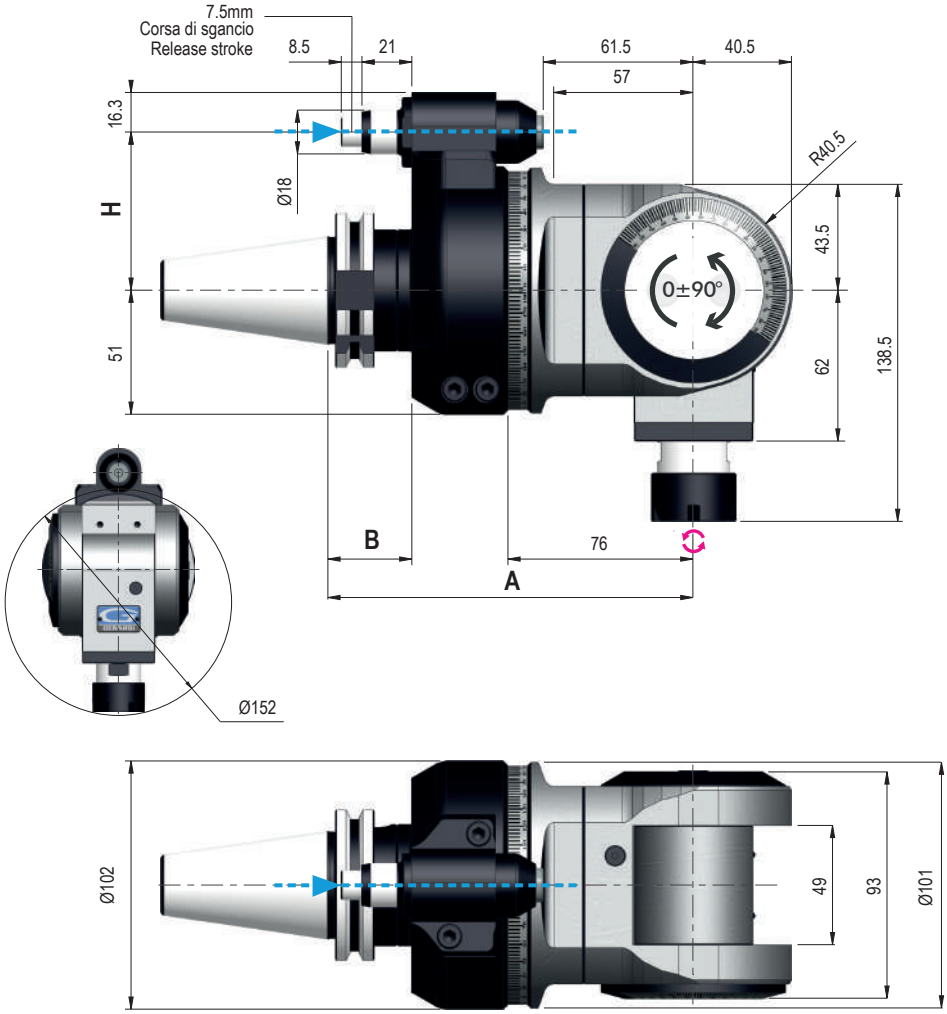
FMU-16

TYPE 1



Dati tecnici - Technical data

Ratio 1:1	**ISO / BT 40** Kg 8,2 **ISO / BT 50** Kg 10,5
Rpm 6.000	Ø 16
N 630	M 12
Nm 15	ER25 Mini Ø 1/16



Senso di rotazione Contrario al mandrino - Direction of rotation Opposite to the machine spindle

Coni - Shanks	SK DIN 69871		CAT AaNSI B5.50		BT MAS 403		HSK DIN 69893			C.ISO 26623			KM			ISO DIN 2080	
Grandezza - Size	40	50	40	50	40	50	63	80	100	C5	C6	C8	63	80	100	40	50
Dual contact (Optional)																	
H Standard Ø18	65 / 80	80	65 / 80	80	65 / 80	80	65 / 80	80	80	65 / 80	65 / 80	80	65 / 80	80	80	65 / 80	80
H 110 - Ø18 110 - Ø28																	
A	150	150	150	150	150	158	159	159	159	154	154	154	150	150	150	150	150
B	35	35	35	35	35	43	44	44	44	39	39	39	-	-	-	35	35

IMBALLO & PESO - PACK WEIGHT:
Valigetta - Bag 14Kg

DOTAZIONE STANDARD - STANDARD EQUIPMENT
Valigetta / Stop block / Chiavi di servizio
Tubetto di grasso / Libro istruzioni
Special bag / Stop block / Wrenches / Grease tube / Instruction book

OPZIONI - OPTIONS

REFRIG - COOLANT - dal Cono - Through Shank 70bar - **Dry running NO**

OUTPUT - Weldon Max Ø16

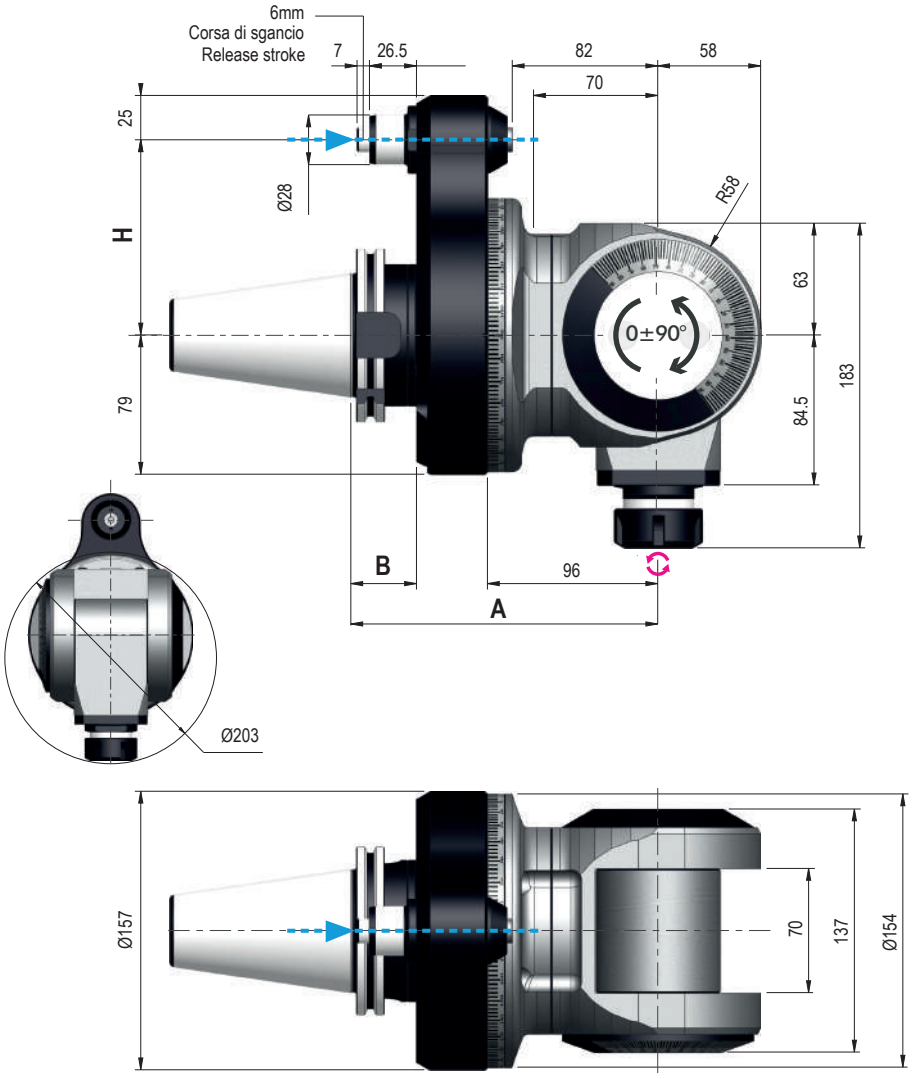
PINZA - COLLET - ER 25 Ø1/10

INTERASSE SPECIALE - SPECIAL PITCH - Cono > Perno - Shank > Pin

FMU-20

TYPE 3





Dati tecnici - Technical data

Ratio 1:1	ISO/BT50 22 Kg
Rpm 4.000	Ø 20
N 1.740	M 16
Nm 60	ER32 Mini Ø2/20

Senso di rotazione Contrario al mandrino - Direction of rotation Opposite to the machine spindle

Coni - Shanks	SK DIN 69871	CAT AaNSI B5.50	BT MAS 403	HSK DIN 69893		C.ISO * 26623	KM		ISO DIN 2080
Grandezza - Size	50	50	50	80	100	C8	80	100	50
Dual contact (Optional)									
H Standard Ø28	110	110	110	110	110	110	110	110	110
A	173	173	181	182	182	177	173	173	173
B	37	37	45	44	44	39	-	-	37

IMBALLO & PESO - PACK WEIGHT:
Cassa in Legno - Wooden Box 36Kg

DOTAZIONE STANDARD - STANDARD EQUIPMENT
Cassa in Legno / Stop block / Chiavi di servizio
Tubetto di grasso / Libro istruzioni
Wooden Box / Stop block / Wrenches / Grease tube / Instruction book

OPZIONI - OPTIONS

REFRIG - COOLANT - dal Cono - Through Shank 70bar - **Dry running NO**

OUTPUT - Weldon Max Ø25

OUTPUT - ER40

OUTPUT - HSK 50

PINZA - COLLET - ER32 Ø2/20

PINZA - COLLET - ER40 Ø3/30

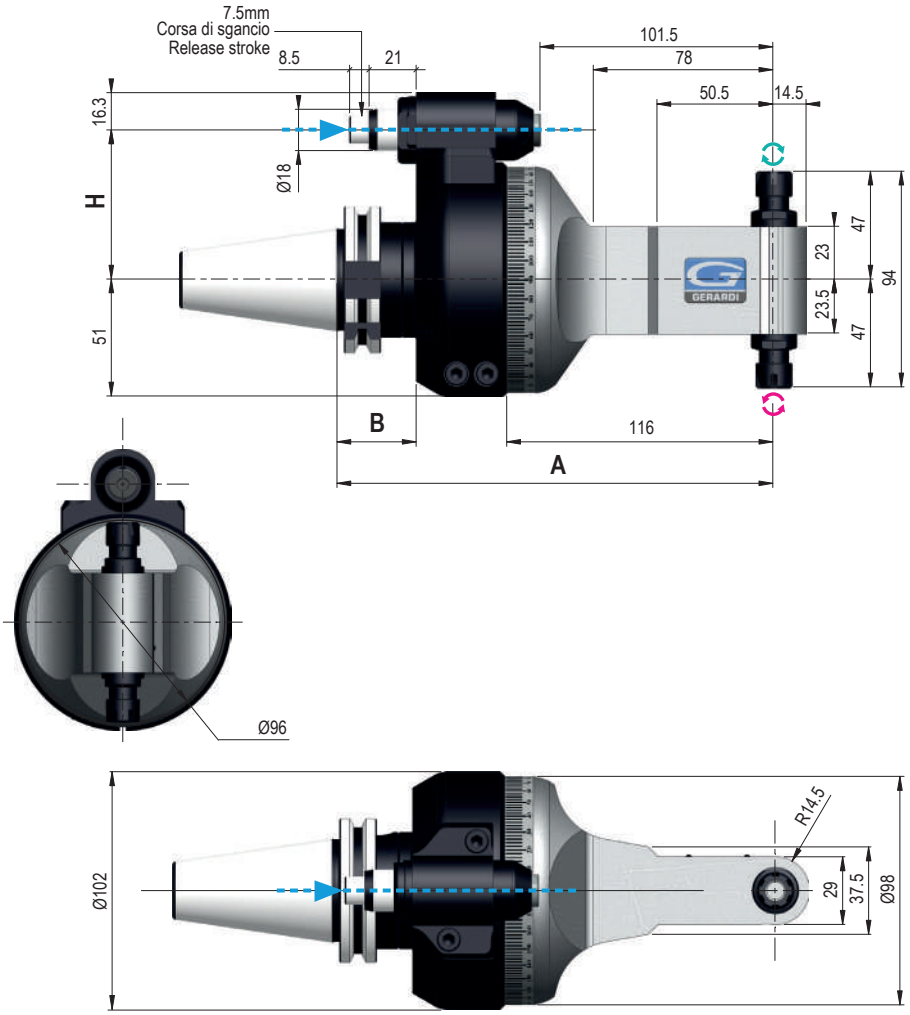
*** Cono integrale - non intercambiabile** Integral shank - not interchangeable

2

F90-7 2U

TYPE 1





Dati tecnici - Technical data

Ratio 1:1	**ISO / BT 40** Kg 5 **ISO / BT 50** Kg 7
Rpm 10.000	Ø 7
N 180	M 6
Nm 11	ER11 Mini Ø1/7

Senso di rotazione Uguale e Contrario al mandrino - Direction of rotation Same & Opposite to the machine spindle

Coni - Shanks	SK DIN 69871			CAT AaNSI B5.50		BT MAS 403		HSK DIN 69893			C.ISO 26623			KM			ISO DIN 2080	
Grandezza - Size	30	40	50	40	50	40	50	63	80	100	C5	C6	C8	63	80	100	40	50
Dual contact (Optional)																		
H Standard Ø18	65 / 80	65 / 80	80	65 / 80	80	65	80	65	80	80	65	80	80	65	80	80	65	80
H 110 - Ø18 110 - Ø28																		
A	190	190	190	190	190	190	198	199	199	199	194	194	194	190	190	190	190	190
B	35	35	35	35	35	35	43	44	44	44	39	39	39	-	-	-	35	35

IMBALLO & PESO - PACK WEIGHT:
Valigetta - Bag 8,5Kg

DOTAZIONE STANDARD - STANDARD EQUIPMENT
Valigetta / Stop block / Chiavi di servizio
Tubetto di grasso / Libro istruzioni
Special bag / Stop block / Wrenches / Grease tube / Instruction book

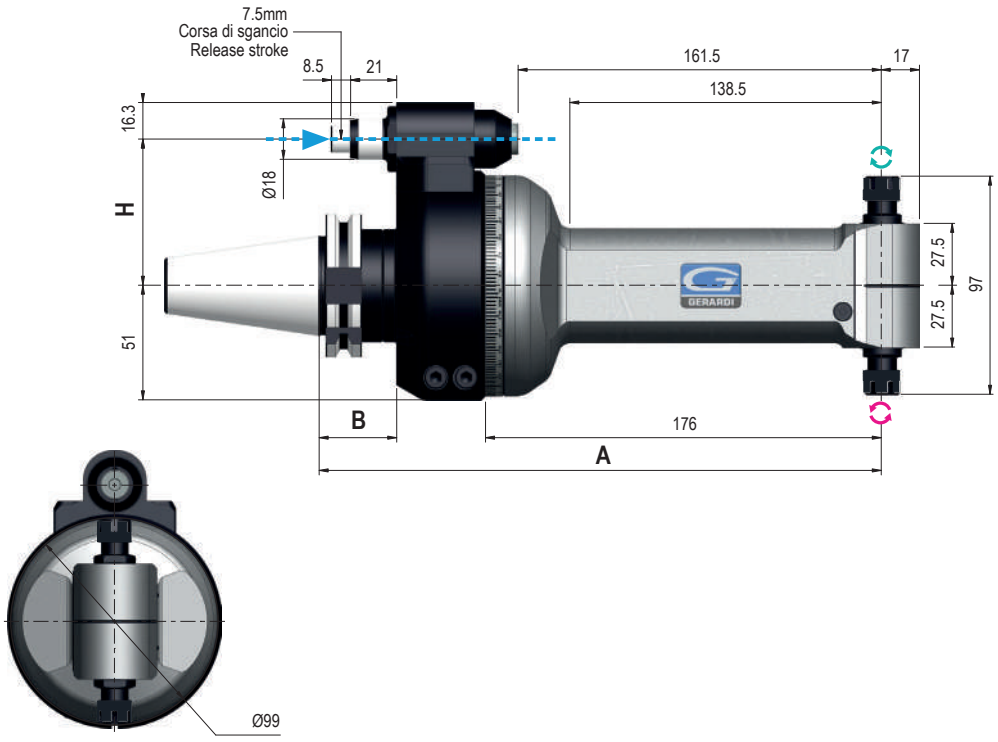
OPZIONI - OPTIONS

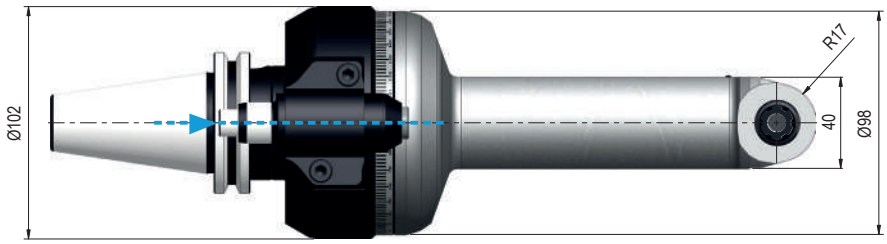
PINZA - COLLET - ER11 Ø1/7

INTERASSE SPECIALE - SPECIAL PITCH - Cono > Perno - Shank > Pin

F90-7L 2U

TYPE 1







Dati tecnici - Technical data

- Ratio 1:1
- Rpm 10.000
- N 180
- Nm 11
- ISO / BT 40 Kg 6,3
- ISO / BT 50 Kg 8,3
- Ø 7
- M 6
- ER11 Mini Ø1/7

Senso di rotazione Uguale e Contrario al mandrino - Direction of rotation Same & Opposite to the machine spindle

Coni - Shanks	SK DIN 69871			CAT AaNSI B5.50		BT MAS 403		HSK DIN 69893			C.ISO 26623			KM			ISO DIN 2080	
Grandezza - Size	30	40	50	40	50	40	50	63	80	100	C5	C6	C8	63	80	100	40	50
Dual contact (Optional)																		
H Standard Ø18	65 / 80	65 / 80	80	65 / 80	80	65 / 80	80	65	65	80	65 / 80	65 / 80	80	65	80	80	65	80
H 110 - Ø18 110 - Ø28																		
A	250	250	250	250	250	250	258	259	259	259	254	254	254	250	250	250	250	250
B	35	35	35	35	35	35	43	44	44	44	39	39	39	-	-	-	35	35

IMBALLO & PESO - PACK WEIGHT:
Valigetta - Bag 9,5Kg

DOTAZIONE STANDARD - STANDARD EQUIPMENT
Valigetta / Stop block / Chiavi di servizio
Tubetto di grasso / Libro istruzioni
Special bag / Stop block / Wrenches / Grease tube / Instruction book

OPZIONI - OPTIONS

PINZA - COLLET - ER11 Ø1/7

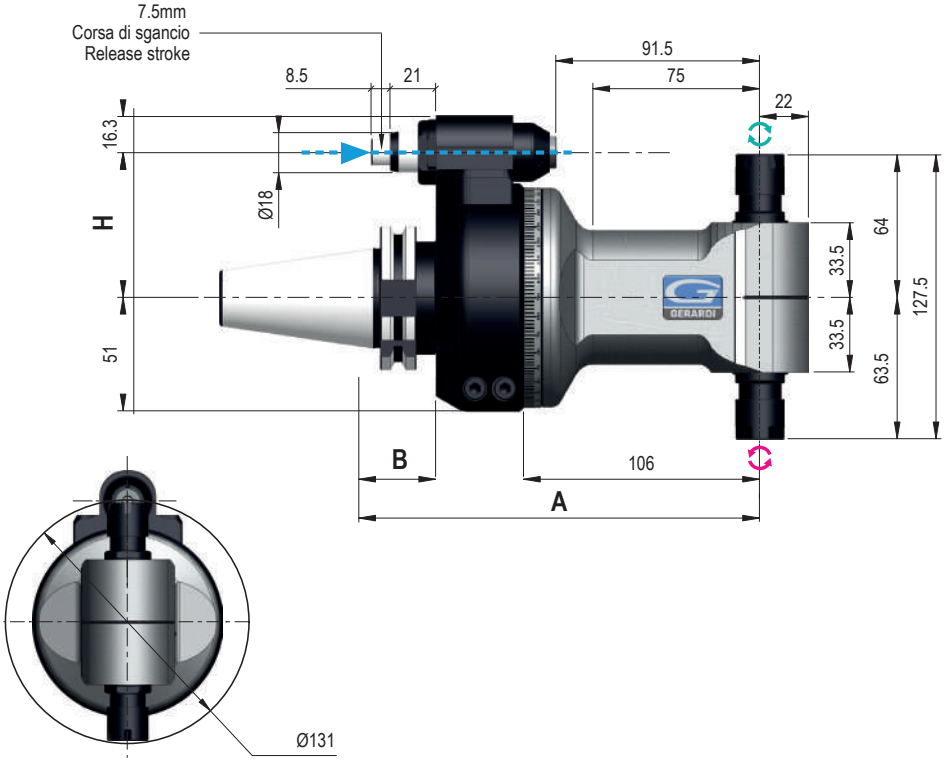
INTERASSE SPECIALE - SPECIAL PITCH - Cono > Perno - Shank > Pin

2

F90-10 2U

TYPE 1





Dati tecnici - Technical data

Ratio 1:1	**ISO / BT 40** Kg 6,1 **ISO / BT 50** Kg 7,5
Rpm 10.000	Ø 10
N 400	M 8
Nm 14	ER16 Mini Ø1/10

Senso di rotazione Uguale e Contrario al mandrino - Direction of rotation Same & Opposite to the machine spindle

Coni - Shanks	SK DIN 69871			CAT ANSI B5.50		BT MAS 403		HSK DIN 69893			C.ISO 26623			KM			ISO DIN 2080	
Grandezza - Size	30	40	50	40	50	40	50	63	80	100	C5	C6	C8	63	80	100	40	50
Dual contact (Optional)																		
H Standard Ø18	65 / 80	65 / 80	80	65 / 80	80	65	80	65	80	80	65	80	80	65	80	80	65	80
H 110 - Ø18 110 - Ø28																		
A	180	180	180	180	180	180	188	189	189	189	184	184	184	180	180	180	180	180
B	35	35	35	35	35	35	43	44	44	44	-	-	-	-	-	-	35	35

IMBALLO & PESO - PACK WEIGHT:
Valigetta - Bag 8,5Kg

DOTAZIONE STANDARD - STANDARD EQUIPMENT
Valigetta / Stop block / Chiavi di servizio
Tubetto di grasso / Libro istruzioni
Special bag / Stop block / Wrenches / Grease tube / Instruction book

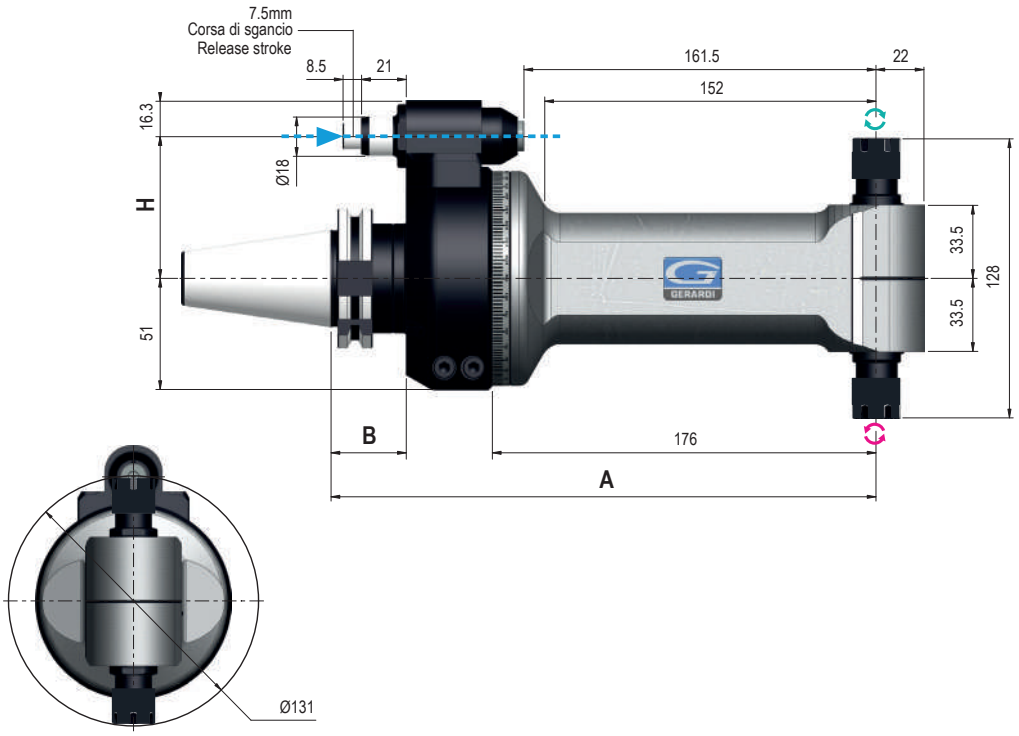
OPZIONI - OPTIONS

PINZA - COLLET - ER16 Ø1/10

INTERASSE SPECIALE - SPECIAL PITCH - Cono > Perno - Shank > Pin

F90-10L 2U

TYPE 1





Dati tecnici - Technical data

- Ratio 1:1
- Rpm 10.000
- N 400
- Nm 14
- ISO / BT 40 Kg 6,9
- ISO / BT 50 Kg 8,3
- Ø 10
- M 8
- ER16 Mini Ø1/10

Senso di rotazione Uguale e Contrario al mandrino - Direction of rotation Same & Opposite to the machine spindle

Coni - Shanks	SK DIN 69871			CAT AaNSI B5.50		BT MAS 403		HSK DIN 69893			C.ISO 26623			KM			ISO DIN 2080	
Grandezza - Size	30	40	50	40	50	40	50	63	80	100	C5	C6	C8	63	80	100	40	50
Dual contact (Optional)																		
H Standard Ø18	65 / 80	65 / 80	80	65 / 80	80	65	80	65	80	80	65	80	80	65	80	80	65	80
H 110 - Ø18 110 - Ø28																		
A	250	250	250	250	250	250	258	259	259	259	254	254	254	250	250	250	250	250
B	35	35	35	35	35	35	43	44	44	44	-	-	-	34,5	34,5	34,5	35	35

IMBALLO & PESO - PACK WEIGHT:
Valigetta - Bag 10Kg

DOTAZIONE STANDARD - STANDARD EQUIPMENT
Valigetta / Stop block / Chiavi di servizio
Tubetto di grasso / Libro istruzioni
Special bag / Stop block / Wrenches / Grease tube / Instruction book

OPZIONI - OPTIONS

PINZA - COLLET - ER16 Ø1/10

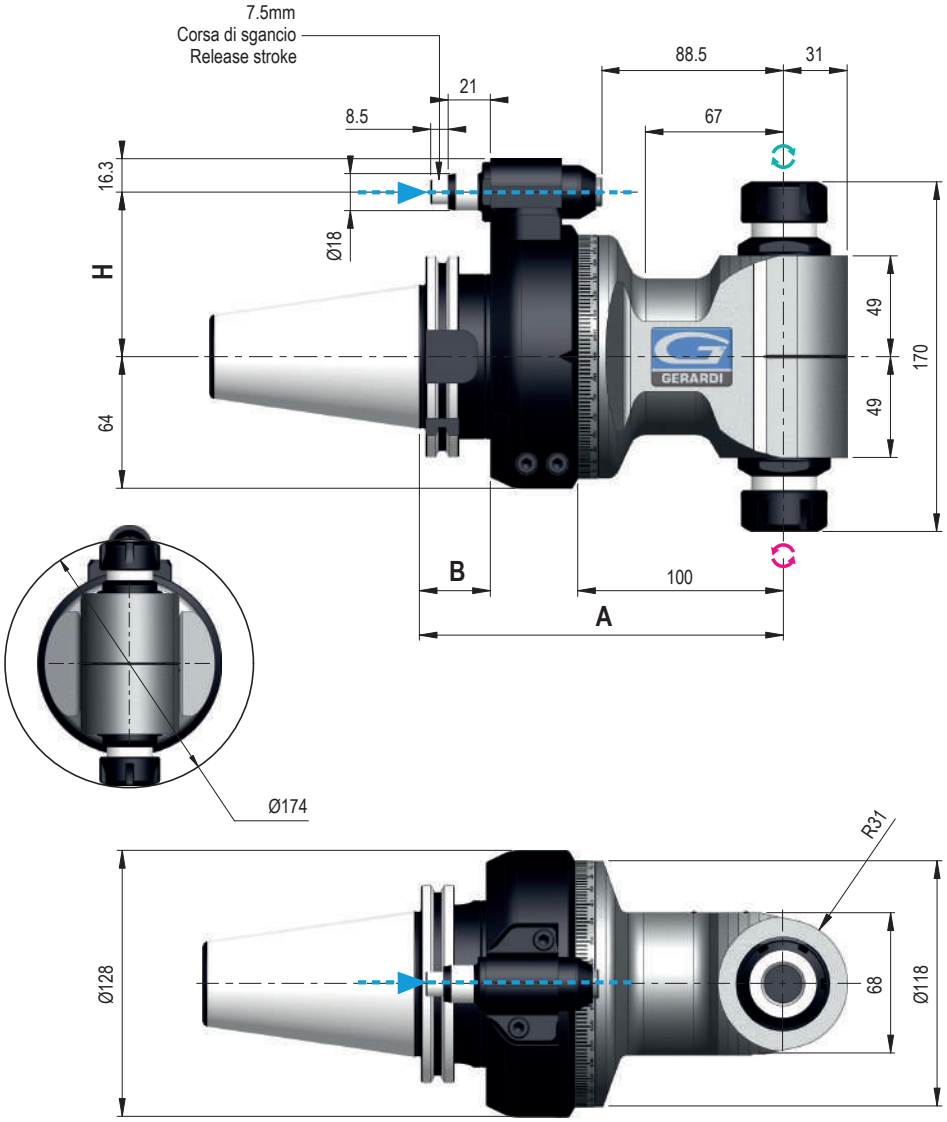
INTERASSE SPECIALE - SPECIAL PITCH - Cono > Perno - Shank > Pin

2

F90-16 2U

TYPE 2





Dati tecnici - Technical data

Ratio 1:1	Kg 11
Rpm 5.000	Ø 16
N 1.040	M 12
Nm 46	ER25 Ø1/16

Senso di rotazione Uguale e Contrario al mandrino - Direction of rotation Same & Opposite to the machine spindle

Coni - Shanks	SK DIN 69871	CAT ANSI B5.50	BT MAS 403	HSK DIN 69893		C.ISO 26623	KM		ISO DIN 2080
Grandezza - Size	50	50	50	80	100	C8	80	100	50
Dual contact (Optional)									
H Standard Ø18	80	80	80	80	80	80	80	80	80
H 110 - Ø18 110 - Ø28									
A	177	177	185	186	186	181	177	177	177
B	35	35	43	44	44	-	-	-	35

IMBALLO & PESO - PACK WEIGHT:
Valigetta - Bag 14Kg

DOTAZIONE STANDARD - STANDARD EQUIPMENT
Valigetta / Stop block / Chiavi di servizio
Tubetto di grasso / Libro istruzioni
Special bag / Stop block / Wrenches / Grease tube / Instruction book

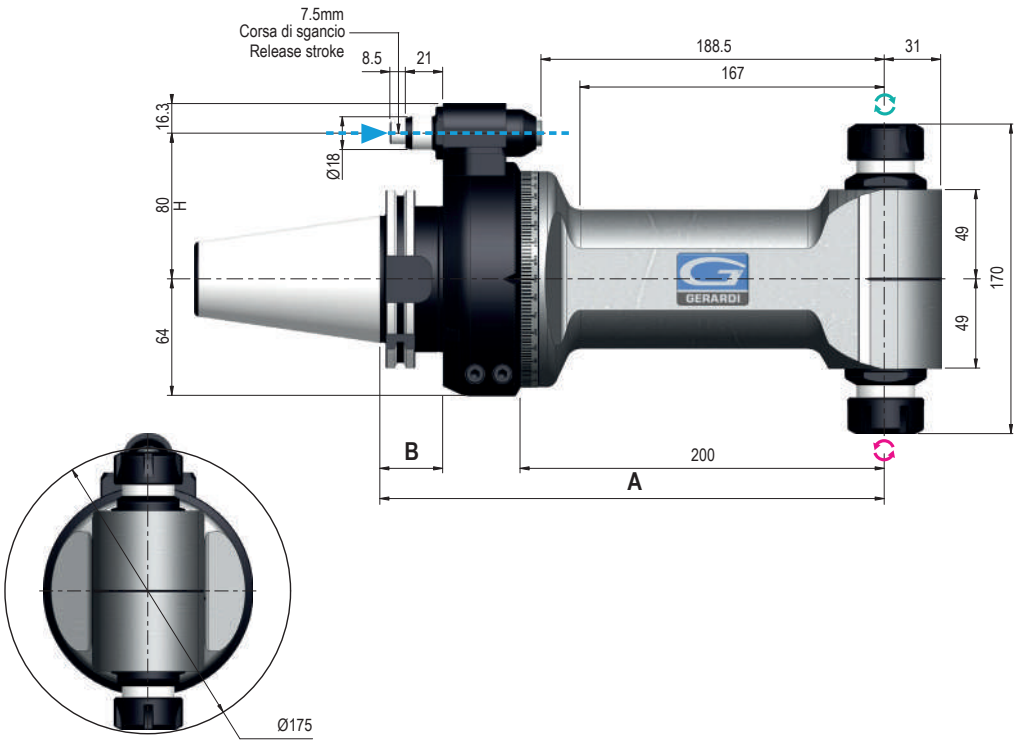
OPZIONI - OPTIONS

PINZA - COLLET - ER25 Ø1/16

INTERASSE SPECIALE - SPECIAL PITCH - Cono > Perno - Shank > Pin

F90-16L 2U

TYPE 2





Dati tecnici - Technical data

Ratio 1:1	Kg 11
Rpm 5.000	Ø 16
N 1.040	M 12
Nm 46	ER25 Ø1/16

Senso di rotazione Uguale e Contrario al mandrino - Direction of rotation Same & Opposite to the machine spindle

Coni - Shanks	SK DIN 69871	CAT AaNSI B5.50	BT MAS 403	HSK DIN 69893		C.ISO 26623	KM		ISO DIN 2080
Grandezza - Size	50	50	50	80	100	C8	80	100	50
Dual contact (Optional)									
H Standard Ø18	80	80	80	80	80	80	80	80	80
H 110 - Ø18 110 - Ø28									
A	277	277	285	286	286	281	277	277	277
B	35	35	43	44	44	-	-	-	35

IMBALLO & PESO - PACK WEIGHT:
Cassa in Legno - Wooden Box 25Kg

DOTAZIONE STANDARD - STANDARD EQUIPMENT
Cassa in Legno / Stop block / Chiavi di servizio
Tubetto di grasso / Libro istruzioni
Wooden Box / Stop block / Wrenches / Grease tube / Instruction book

OPZIONI - OPTIONS

PINZA - COLLET - ER25 Ø1/16

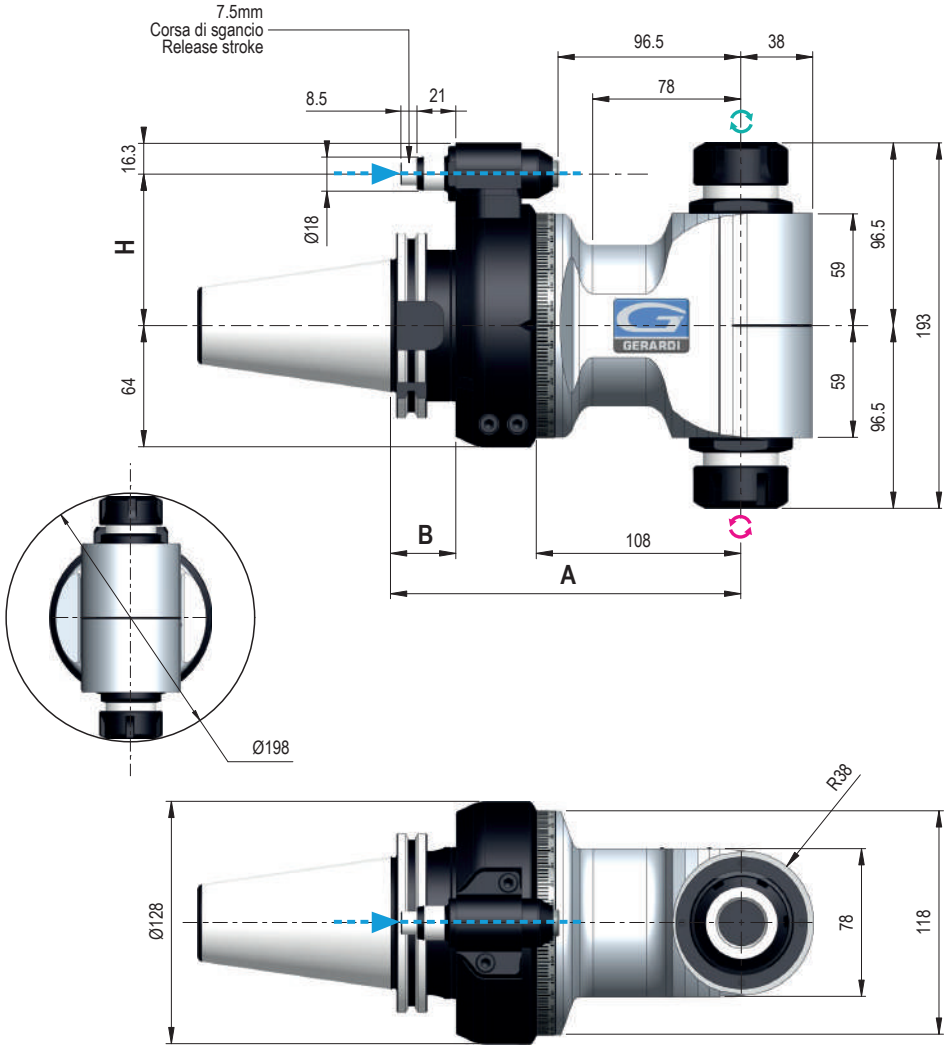
INTERASSE SPECIALE - SPECIAL PITCH - Cono > Perno - Shank > Pin

2

F90-20 2U

TYPE 2





Dati tecnici - Technical data

Ratio 1:1	Kg 15
Rpm 3.500	Ø 20
N 1.460	M 14
Nm 90	ER32 Ø2/20

Senso di rotazione Uguale e Contrario al mandrino - Direction of rotation Same & Opposite to the machine spindle

Coni - Shanks	SK DIN 69871	CAT ANSI B5.50	BT MAS 403	HSK DIN 69893		C.ISO 26623	KM		ISO DIN 2080
Grandezza - Size	50	50	50	80	100	C8	80	100	50
Dual contact (Optional)									
H Standard Ø18	80	80	80	80	80	80	80	80	80
H 110 - Ø18 / 110 - Ø28									
A	185	185	193	194	194	189	185	185	185
B	35	35	43	44	44	39	-	-	35

IMBALLO & PESO - PACK WEIGHT:
Valigetta - Bag 16,5Kg

DOTAZIONE STANDARD - STANDARD EQUIPMENT
Valigetta / Stop block / Chiavi di servizio
Tubetto di grasso / Libro istruzioni
Special bag / Stop block / Wrenches / Grease tube / Instruction book

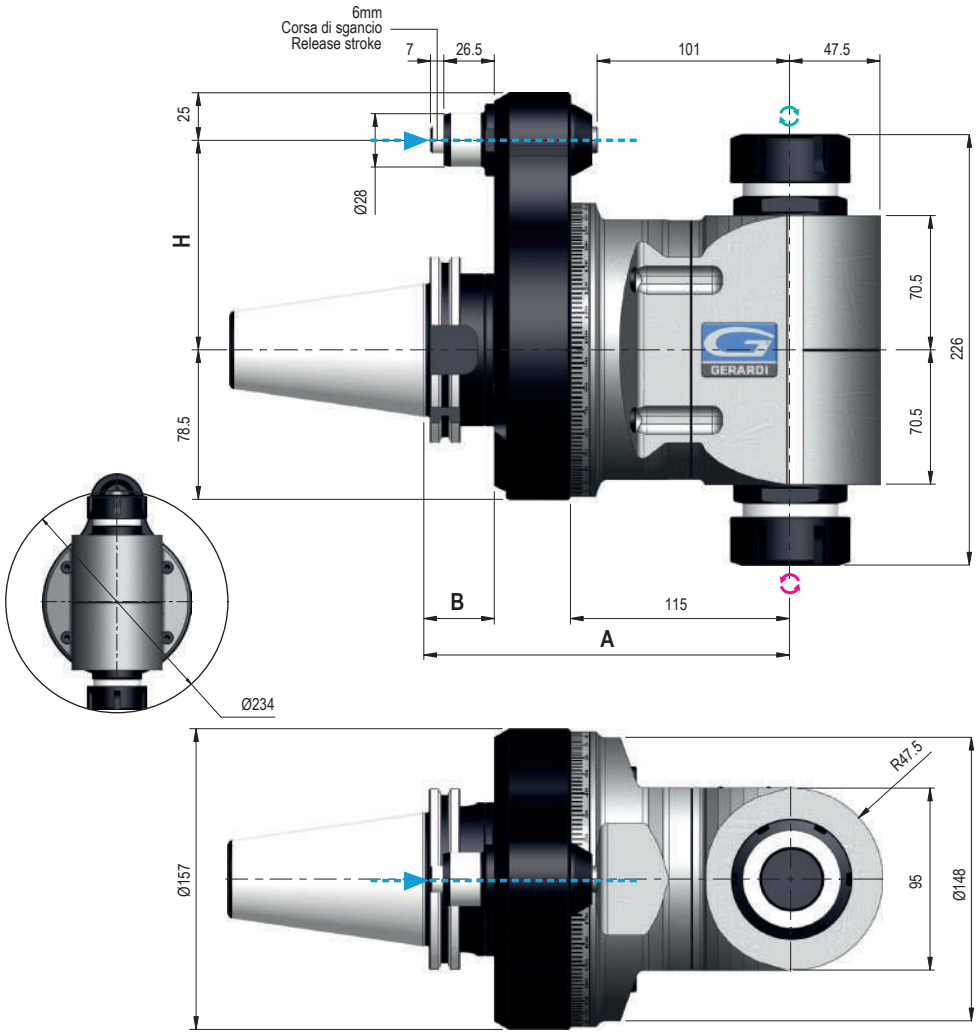
OPZIONI - OPTIONS

PINZA - COLLET - ER32 Ø2/20

INTERASSE SPECIALE - SPECIAL PITCH - Cono > Perno - Shank > Pin

F90-30 2U

TYPE 3





Dati tecnici - Technical data

Ratio 1:1	Kg 22,5
Rpm 2.500	Ø 26
N 3.020	M 20
Nm 165	ER40 Ø3/30

Senso di rotazione Uguale e Contrario al mandrino - Direction of rotation Same & Opposite to the machine spindle

Coni - Shanks	SK DIN 69871	CAT AaNSI B5.50	BT MAS 403	HSK DIN 69893		C.ISO * 26623	KM		ISO DIN 2080
Grandezza - Size	50	50	50	80	100	C8	80	100	50
Dual contact (Optional)									
H Standard Ø28	110	110	110	110	110	110	110	110	110
A	192	192	200	201	201	196	192	192	192
B	37	37	45	44	44	39	-	-	37

IMBALLO & PESO - PACK WEIGHT:
Cassa in Legno - Wooden Box 36Kg

DOTAZIONE STANDARD - STANDARD EQUIPMENT
Cassa in Legno / Stop block / Chiavi di servizio
Tubetto di grasso / Libro istruzioni
Wooden Box / Stop block / Wrenches / Grease tube / Instruction book

OPZIONI - OPTIONS

PINZA - COLLET - ER40 Ø3/30

INTERASSE SPECIALE - SPECIAL PITCH - Cono > Perno - Shank > Pin

*** Cono integrale - non intercambiabile** Integral shank - not interchangeable

2

Esempi applicativi / *Applications examples*

Evolution Line

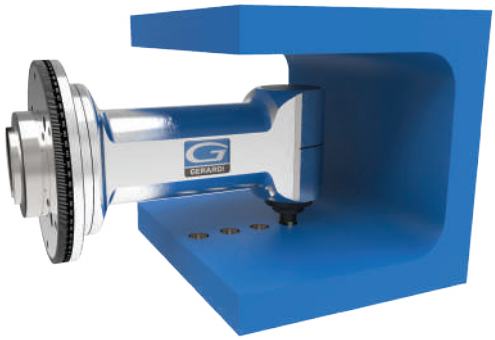
Teste angolari modulari serie MTC (Cambio utensile manuale)

Modular angle heads MTC series (Manual tool change)



STD 90° SERIES

La serie ideale per fresature, forature e maschiature a 90°
The ideal series for milling, drilling and tappint at 90°



STD 90° SERIES

La serie di teste angolari lunghe per lavorazioni più in profondità
Long angle head series for machining at deep positions



XL SERIES

La serie di teste angolari XL per centri di lavoro di grosse dimensioni ideali per grosse asportazioni.
XL angle head series for large machine tools ideal for heavy duty cutting.

MTC SERIES
MANUAL TOOL CHANGE

1 YEAR WARRANTY



INGRANAGGI - GEARS
Ingranaggi Gleason con evolvente rettificato massime performances e minori vibrazioni

Gleason ground spiral bevel gears maximum performances and minimum vibration



CUSCINETTI - BEARINGS
Cuscinetti a sfera a contatto obliquo in classe di precisione ABEC 9

Angular contact preloaded ball bearings of precision class ABEC 9

2

DESIGN
Il Design compatto, insieme alle specifiche descritte, consente: alte perfomances, elevate velocità, lunga durata degli utensili.

The Compact design, along with mentioned specifications, allows: highest performances, high speeds, long tools life

Anello graduato
Graduated ring



USCITE
OUTPUTS:
- Portapinza ER (standard)
- Weldon
- Portafresa
- Speciale

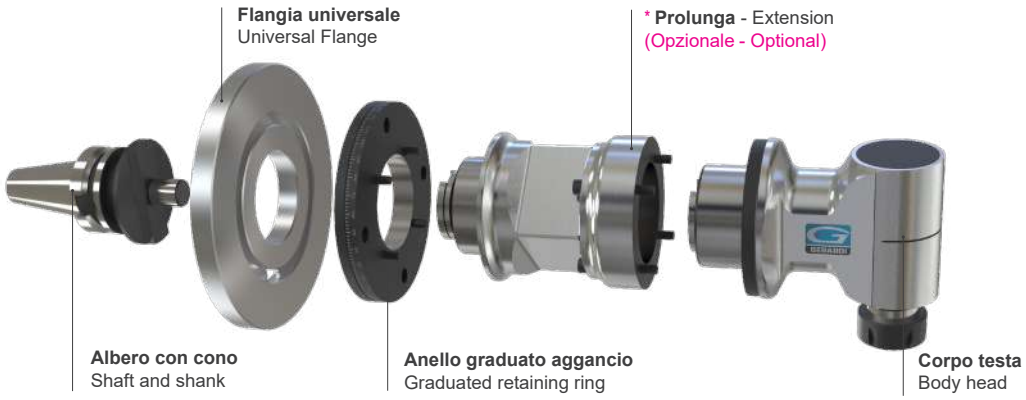
- ER collet (standard)
- Weldon
- Shell mill holder
- Special

Corpo testa orientabile a 360° con pressurizzazione interna. In acciaio trattato, massima rigidità e resistenza alla corrosione. Minima dilatazione termica.

Treated steel head body with 360° position and internal air pressure, maximum rigidity and corrosion resistant. Minimum thermal expansion

PROLUNGHE - EXTENSIONS
Sulla serie di teste MTC è possibile variare la lunghezza del corpo aggiungendo il modulo di prolunga (pag. 2.81)

On MTC series is possible to extend the lenght of the body by adding an extension (pag. 2.81)

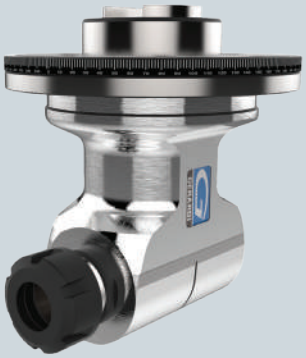


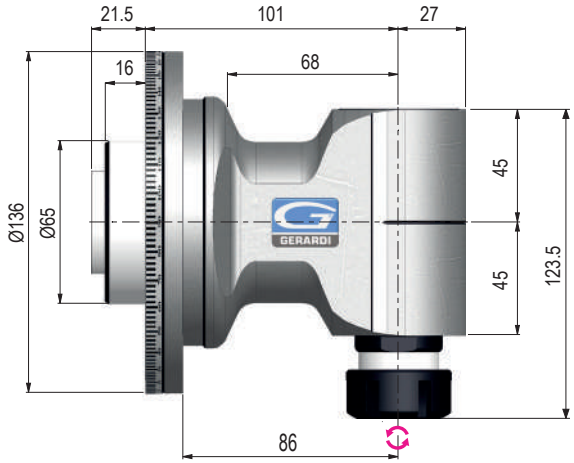
Massimo 2 elementi di prolunga ammessi - Max. 2 extensions admitted.

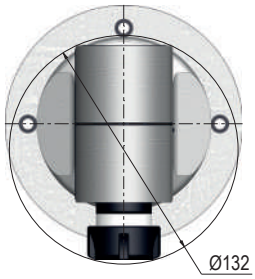
2

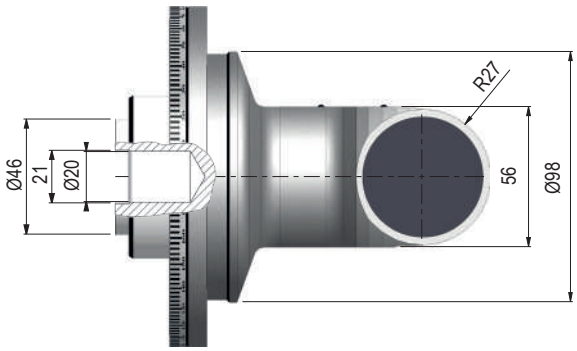
F90-16S

TYPE 1









Dati tecnici - Technical data

Ratio 1:1	6 Kg
Rpm 8.000	Ø 16
N 810	M 12
Nm 38	ER25 Ø 1/16

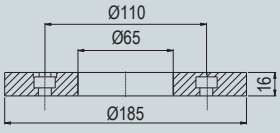
Senso di rotazione Contrario al mandrino - Direction of rotation Opposite to the machine spindle

Coni - Shanks	SK DIN 69871			CAT AaNSI B5.50		BT MAS 403		HSK DIN 69893			C.ISO 26623			KM			ISO DIN 2080		
Grandezza - Size	30	40	50	40	50	40	50	63	80	100	C5	C6	C8	63	80	100	30	40	50

FLANGIA UNIVERSALE - UNIVERSAL FLANGE

TIPO - TYPE **1** (pag - page 2.81)

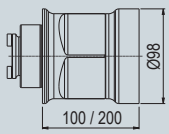




PROLUNGA - EXTENSION

TIPO - TYPE **1**





IMBALLO & PESO - PACK WEIGHT:

Valigetta - Bag 16,5Kg

DOTAZIONE STANDARD - STANDARD EQUIPMENT

Valigetta / Flangia Universale / Cono std / Chiavi di servizio
Tubetto di grasso / Libro istruzioni
Special bag / Universal flange / Shank / Wrenches / Grease tube / Instruction book

OPZIONI - OPTIONS

REFRIG - COOLANT - Refrigerazione Interna

OUTPUT - Weldon Max Ø16

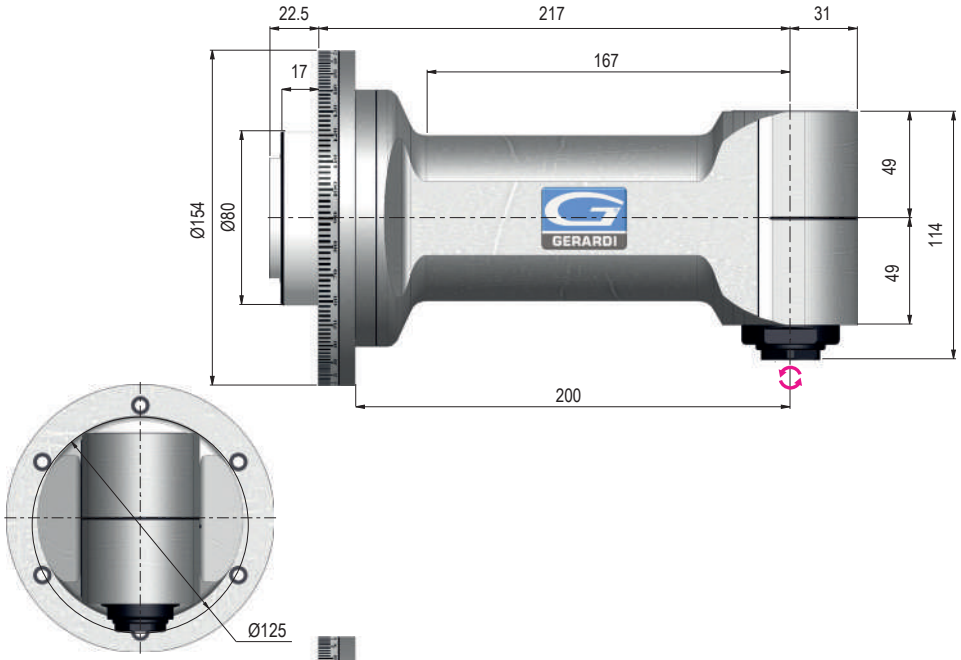
OUTPUT - Shell mil holder Ø16

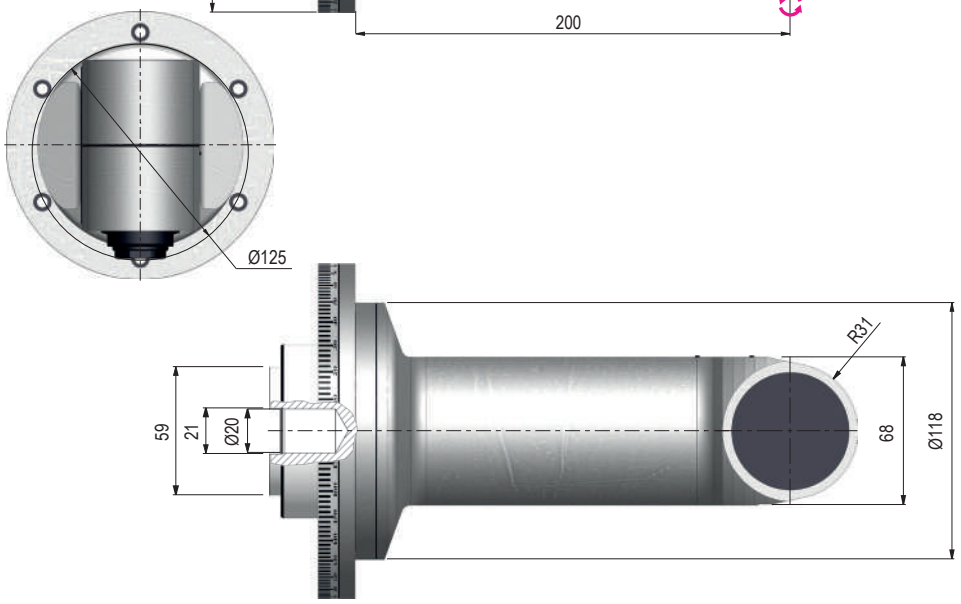
DOUBLE OUTPUT - ER25 - ER25

PINZA - COLLET - ER25 Ø1/16

F90-16L

TYPE 2







Dati tecnici - Technical data

Ratio 1:1	7,5 Kg
Rpm 5.000	Ø 16
N 1.040	M 12
Nm 55	ER25 Ø1/16

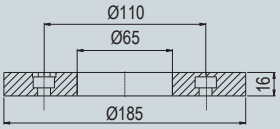
Senso di rotazione Contrario al mandrino - Direction of rotation Opposite to the machine spindle

Coni - Shanks	SK DIN 69871			CAT AaNSI B5.50		BT MAS 403		HSK DIN 69893			C.ISO 26623			KM			ISO DIN 2080		
Grandezza - Size	30	40	50	40	50	40	50	63	80	100	C5	C6	C8	63	80	100	30	40	50

FLANGIA UNIVERSALE - UNIVERSAL FLANGE

TIPO - TYPE **2** (pag - page 2.81)

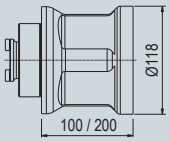




PROLUNGA - EXTENSION

TIPO - TYPE **2**





IMBALLO & PESO - PACK WEIGHT:

Valigetta - Bag 18Kg

DOTAZIONE STANDARD - STANDARD EQUIPMENT

Valigetta / Flangia Universale / Cono std / Chiavi di servizio
Tubetto di grasso / Libro istruzioni
Special bag / Universal flange / Shank / Wrenches / Grease tube / Instruction book

OPZIONI - OPTIONS

REFRIG - COOLANT - Refrigerazione Interna

OUTPUT - Weldon Max Ø20

OUTPUT - Shell mil holder Ø16-22

OUTPUT - HSK 32

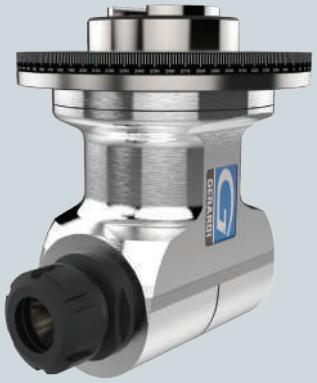
DOUBLE OUTPUT - ER25 - ER25

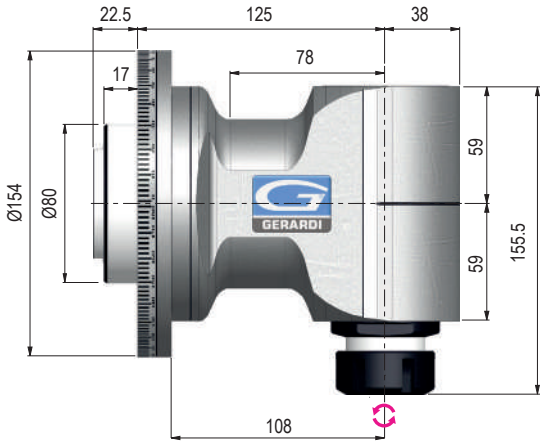
PINZA - COLLET - ER25 Ø1/16

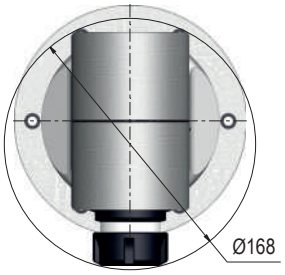
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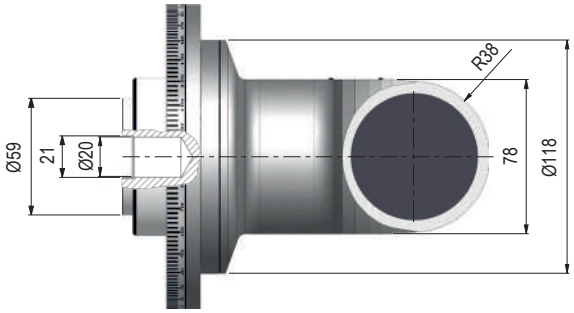
F90-20

TYPE 2









Dati tecnici - Technical data

Ratio 1:1	7,5 Kg
Rpm 3.500	Ø 20
N 1.460	M 14
Nm 90	ER32 Ø 2/20

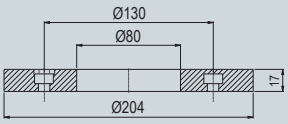
Senso di rotazione Contrario al mandrino - Direction of rotation Opposite to the machine spindle

Coni - Shanks	SK DIN 69871			CAT ANSI B5.50		BT MAS 403		HSK DIN 69893			C.ISO 26623			KM			ISO DIN 2080		
Grandezza - Size	30	40	50	40	50	40	50	63	80	100	C5	C6	C8	63	80	100	30	40	50

FLANGIA UNIVERSALE - UNIVERSAL FLANGE

TIPO - TYPE **2** (pag - page 2.81)

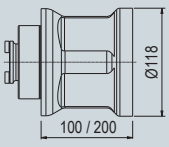




PROLUNGA - EXTENSION

TIPO - TYPE **2**





IMBALLO & PESO - PACK WEIGHT:

Valigetta - Bag 18Kg



DOTAZIONE STANDARD - STANDARD EQUIPMENT

Valigetta / Flangia Universale / Cono std / Chiavi di servizio
Tubetto di grasso / Libro istruzioni
Special bag / Universal flange / Shank / Wrenches / Grease tube / Instruction book

OPZIONI - OPTIONS

REFRIG - COOLANT - Refrigerazione Interna - 10 bar

OUTPUT - Shell mill holder Ø22/27/32

OUTPUT - Weldon Max Ø25

OUTPUT - ER 40

OUTPUT - C4

OUTPUT - ISO-CAT-BT 30

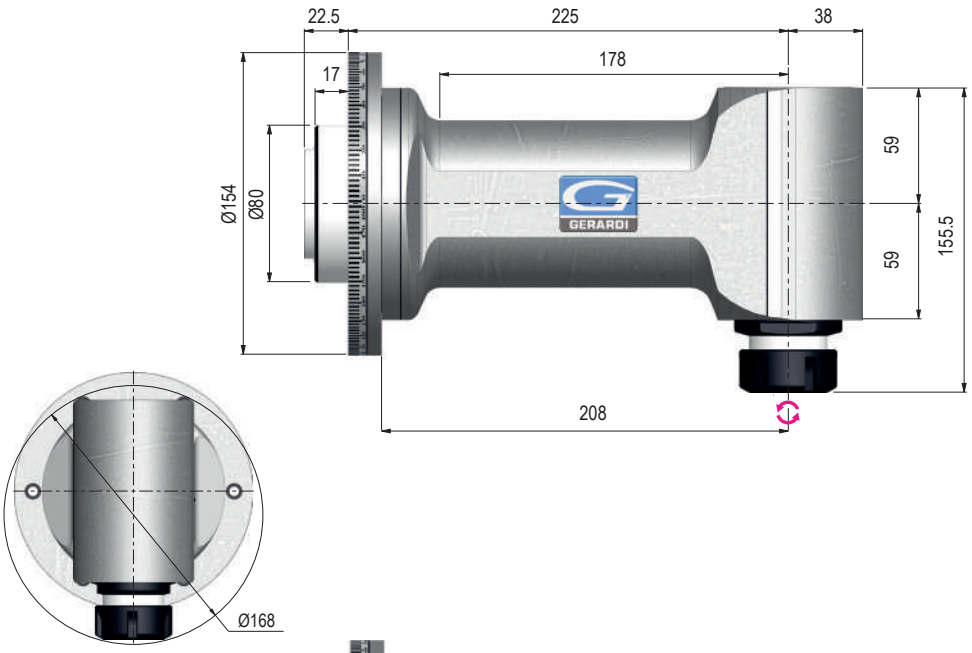
OUTPUT - HSK 40

DOUBLE OUTPUT - ER32 - ER32

PINZA - COLLET - ER32 Ø2/20

F90-20L

TYPE 2





Dati tecnici - Technical data

Ratio 1:1	10,5 Kg
Rpm 3.500	Ø 20
N 1.460	M 14
Nm 90	ER32 Ø2/20

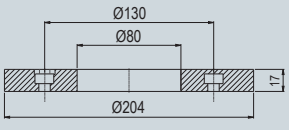
Senso di rotazione Contrario al mandrino - Direction of rotation Opposite to the machine spindle

Coni - Shanks	SK DIN 69871			CAT AaNSI B5.50		BT MAS 403		HSK DIN 69893			C.ISO 26623			KM			ISO DIN 2080		
Grandezza - Size	30	40	50	40	50	40	50	63	80	100	C5	C6	C8	63	80	100	30	40	50

FLANGIA UNIVERSALE - UNIVERSAL FLANGE

TIPO - TYPE **2** (pag - page 2.81)

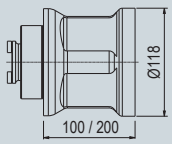




PROLUNGA - EXTENSION

TIPO - TYPE **2**





IMBALLO & PESO - PACK WEIGHT:

Valigetta - Bag 21Kg

DOTAZIONE STANDARD - STANDARD EQUIPMENT

Valigetta / Flangia Universale / Cono std / Chiavi di servizio
Tubetto di grasso / Libro istruzioni
Special bag / Universal flange / Shank / Wrenches / Grease tube / Instruction book

OPZIONI - OPTIONS

REFRIG - COOLANT - Refrigerazione Interna - 10 bar

OUTPUT - Shell mill holder Ø22/27/32

OUTPUT - Weldon Max Ø25

OUTPUT - ER 40

OUTPUT - C4

OUTPUT - ISO-CAT-BT 30

OUTPUT - HSK 40

DOUBLE OUTPUT - ER32 - ER32

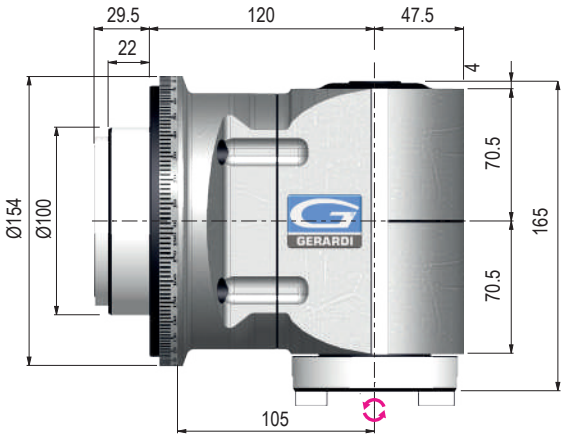
PINZA - COLLET - ER32 Ø2/20

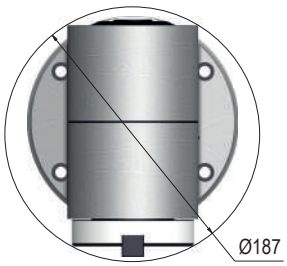
2

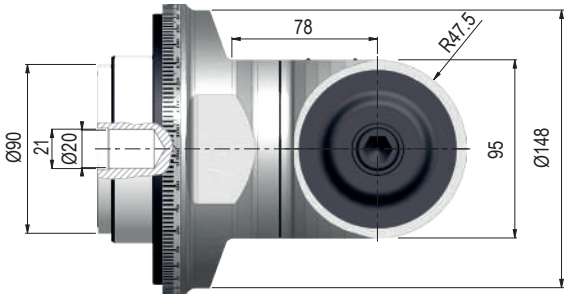
F90-S40

TYPE 3









Dati tecnici - Technical data

Ratio 1:1	21 Kg
Rpm 2.500	Ø 26
N 3.020	M 20
Nm 165	ISO40 CAT40 BT40

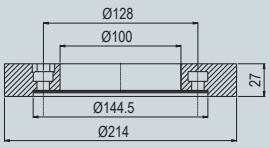
Senso di rotazione Contrario al mandrino - Direction of rotation Opposite to the machine spindle

Coni - Shanks	SK DIN 69871		CAT AaNSI B5.50		BT MAS 403		HSK DIN 69893			C.ISO 26623			KM			ISO DIN 2080	
Grandezza - Size	40	50	40	50	40	50	63	80	100	C5	C6	C8	63	80	100	40	50

FLANGIA UNIVERSALE - UNIVERSAL FLANGE

TIPO - TYPE **3** (pag - page 2.81)

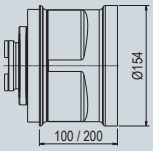




PROLUNGA - EXTENSION

TIPO - TYPE **3**





IMBALLO & PESO - PACK WEIGHT:

Cassa in Legno - Wooden Box 46Kg

DOTAZIONE STANDARD - STANDARD EQUIPMENT

Valigetta / Flangia Universale / Cono std / Chiavi di servizio

Tubetto di grasso / Libro istruzioni

Special bag / Universal flange / Shank / Wrenches / Grease tube / Instruction book

OPZIONI - OPTIONS

REFRIG - COOLANT - Refrigerazione Interna - 10 bar

OUTPUT - HSK 63

OUTPUT - C5

DOUBLE OUTPUT - ER40 - ER40

OUTPUT - ER40 (F90-30)

PINZA - COLLET - ER40 (F90-30)

Teste Angolari / *Angle Heads*
ACCESSORIES

Accessori Evolution Line - Evolution Line Accessories

Ampia gamma di accessori e partri di ricambio per tutta la gamma di teste angolari Evolution. Le ghiere e le pinze sono costruite in acciaio temprato e rettificato con macchine utensili ad alta precisione.

Wide range of accessories and spare parts for all types of angle heads Evolution line. Nuts and collet are produced with top quality steel and they are hardened and grinded with high precision.

SCAN IT AND FIND OUT MORE

1 YEAR WARRANTY



from 2.70 to 2.71

Ghiere ReCool
Re Cool nuts

Con queste ghiere speciali è possibile ottenere il passaggio refrigerante fino a 150BAR tramite utensile anche su teste che non prevedono questa opzione

With these special nuts it is possible to get coolant through the tool (Up to 150BAR) even on angle heads which do not have this option.



from 7.12 to 7.15

Cambi Rapidi
Quick changes

Il cambio rapido dell'utensile permette di ridurre i tempi morti della macchina. Tempi di installazione ridotti e possibilità di presetting a bordo macchina.

The quick change of preset tools shortens downtime of machine. Reduced set-up times and offline tool presetting possibility.



from 7.4 to 7.6

Pinze ER
ER Collets

Pinze ER, pinze biconiche realizzate in acciaio e adatte al serraggio di utensili secondo normativa DIN 6499

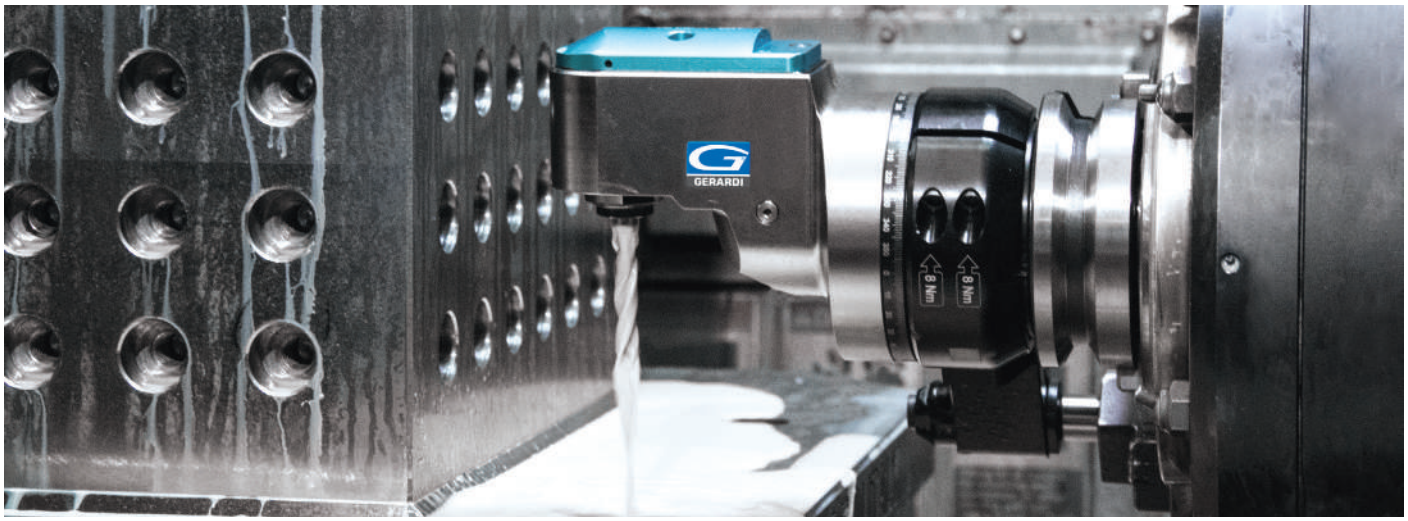
ER Collets, steel biconical collets for tool clamping according to DIN6499 regulation.



2

OPZIONE REFRIGERANTE INTERNO
INTERNAL COOLANT OPTION

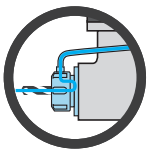
10bar	**Opzione B -** B Option 10bar	**Opzione RI -** RI Option UP TO 70bar	**Opzione Re-Cool -** Re-Cool Option UP TO 150bar
			
Perno » Utensile Positioning Pin » Tool	**Perno » Distributore » Utensile** Positioning Pin » Rotating Distributor » Tool	**Cono » Distributore » Utensile** Shank » Rotating Distributor » Tool	**Perno » Ghiera ReCool » Utensile** Positioning Pin » ReCool Nut » Tool
Passaggio refrigerante esterno all'utensile 10bar External coolant 10bar through the tool	**Passaggio refrigerante interno all'utensile 10bar dal perno attraverso distributore rotante** Internal coolant 10bar through the tool from positioning pin and through rotating distributor	**Passaggio refrigerante interno all'utensile da 30 a 70 bar dal cono e attraverso il distributore rotante** Internal coolant through the tool from 30 to 70 bar from the shank and through the rotating distributor	**Passaggio refrigerante interno l'utensile per mezzo della ghiera ReCool.** Internal coolant through the tool from the special nut ReCool
	ROTAZIONE A SECCO - DRY RUNNING **POSSIBILE -** POSSIBLE	**ROTAZIONE A SECCO -** DRY RUNNING **NON POSSIBILE -** NOT POSSIBLE	**Vedi pagine -** See Pages **7.16 - 7.18**



Testa angolare FR90-10B 70bar in lavorazione - Angle heads FR90-10B 70bar during works

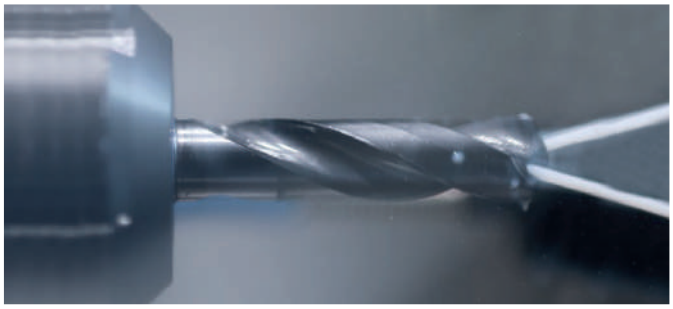
RE COOL NUTS

NEW 2026

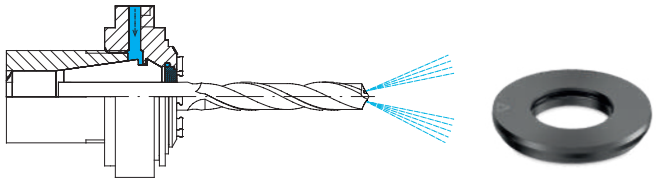


DISCHETTI A TENUTA STAGNA PER GHIERE - SEALING DISKS FOR NUTS

REFRIGERAZIONE INTERNA - INTERNAL COOLANT



DISCHETTO A TENUTA STAGNA - SEALING DISK **GDS**

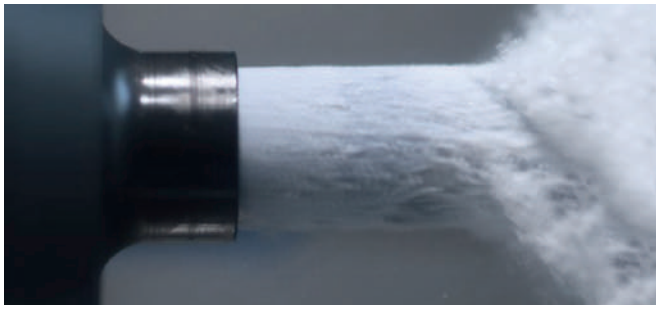


CARATTERISTICHE PRINCIPALI - KEY FEATURES

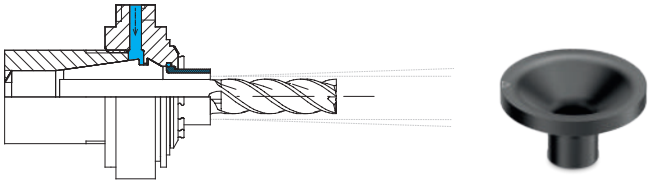
- **Facile aggiunta della lubrorefrigerazione interna con Ghiera ReCool, con il dischetto a tenuta stagna GDS**
- **Precisa refrigerazione del tagliente e migliore asportazione di truciolo**
- **Ideale soprattutto per elevate profodità**
- **Lubrificazione e refrigerazione del tagliente**
- **Ottima finitura superficiale**

- Achieve internal cooling with ReCool nuts and the use of our sealing disk GDS
- Precise cooling at the cutting edge and improved chip removal
- Particularly suitable for deep cavities
- Lubrication of cutting edge and cooling
- Best surface quality

REFRIGERAZIONE PERIFERICA - PERIPHERAL COOLANT



DISCHETTO PER REFRIGERAZIONE - FLUSH DISK **GKS**



CARATTERISTICHE PRINCIPALI - KEY FEATURES

- **Facile aggiunta della lubrorefrigerazione periferica con Ghiera ReCool, con il dischetto per refrigerazione GKS**
- **Applicabile su teste e motorizzati con refrigerante interno con apposita ghiera STDC - MINIC - AXC**
- **Lubrorefrigerante lungo l'utensile fino al tagliente**
- **Ideale per profondità medie**

- Achieve peripheral cooling with ReCool nuts and the use of our coolant flush disk GKS
- Applicable on Angle Heads and Driven Tools with internal coolant through suitable nut STDC - MINIC - AXC
- Coolant is fed along the side of the tool to the cutting edge
- Can be used for moderate cavities

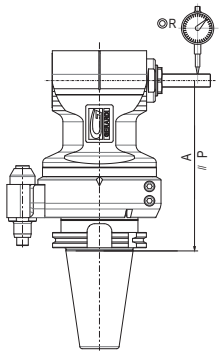
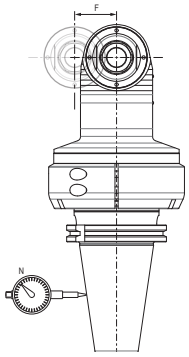


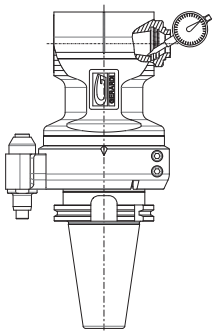
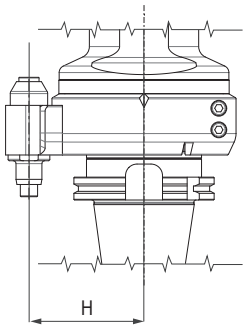
Per maggiori informazioni vedi da pagina 7.16 - 7.18 - See from page 7.16 to 7.18

2

ESEMPIO SCHEDA DI COLLAUDO
INSPECTION SHEET EXAMPLE

Tipo - Type	G90-16 ATC
Codice - Code	9.G90.16000
Numero seriale - Serial number	18-011
Attacco cono - Input shank	CAT50 - H=80
Note speciali - Special notes	

TIPO DI CONTROLLO Test type	**RAFFIGURAZIONE** Drawing	**ERRORE** Error
Quota e parallelismo da filo cono ad asse principale. Oscillazione asse utensile. Height and parallelism from gauge line to main axis. Runout cutter axis.		**Ammesso** Allowed A= ±0,03 R=±0,025 P=±0,015/100 **Rilevato** Checked A = +0,010 R = 0,015 P = 0,012/100
Concentricità tra cono e asse principale. Disassamento tra gli assi principali. Concentricity beetween shank and main axis. offset beetween main axis		**Ammesso** Allowed F= ±0,02 N=±0,02 **Rilevato** Checked F = 0,010 N = 0,016

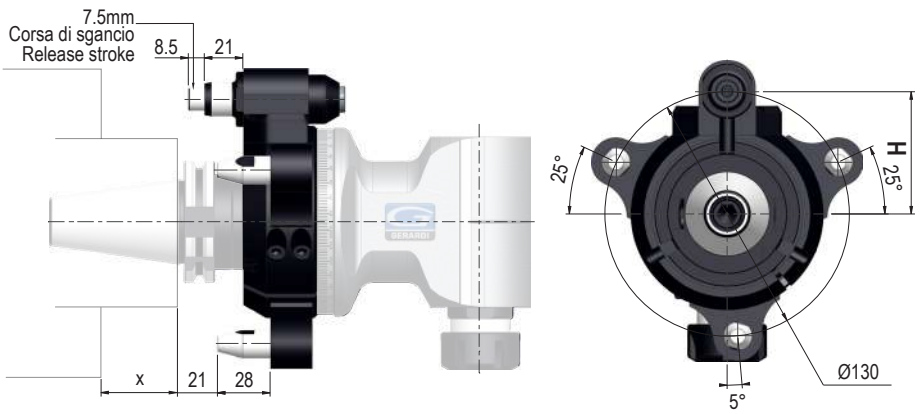
TIPO DI CONTROLLO Test type	**RAFFIGURAZIONE** Drawing	**ERRORE** Error
Oscillazione mandrino porta utensile. Runout in cutter spindle.		**Ammesso** Allowed 0,010 **Rilevato** Checked 0,008
Interasse cono-perno di posizionamento. Pitch shank-positioning pin.		**Ammesso** Allowed 0,010 **Rilevato** Checked -0,010

RODAGGIO TESTA - RUN-IN

RPM in entrata RPM	**Durata** Time	**Temperatura Ambiente** Room Temperature	**Temperaratura Sonda** Sensor Temperature	**Note** Notes
1000	00:10:00	22°	27°	
2000	00:10:00		32°	
3000	00:05:00		36°	
4000	00:05:00		42°	
5000				
6000				

Revisioni - Revisions	**Timbro -** Stamp	**Data -** Date
		Firma - Signature

SISTEMA ANTIROTANTE MULTIPOINT
MULTIPOINT ANTIROTATION SYSTEM



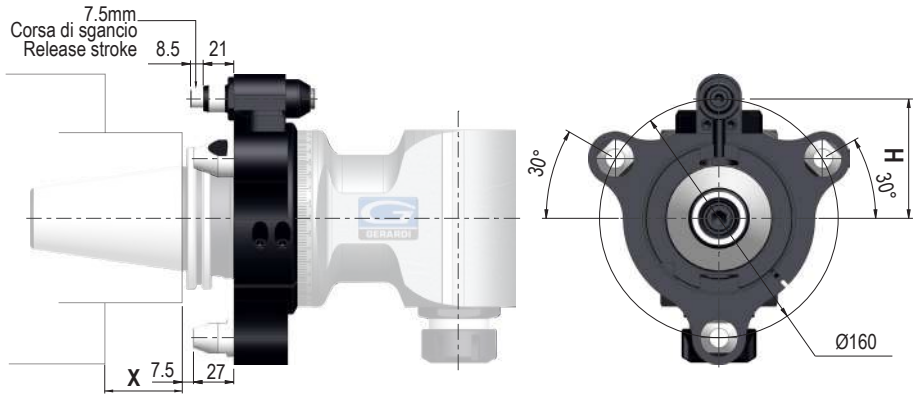
TYPE 1

Code: 9.GAT1./...*

Teste ad angolo con interasse H=65
Angle heads with centre distance H=65

Coni Shank	SK 40	BT 40	BT 50	Solo flangia Only Flange**

****In caso di acquisto contestuale alla testa angolare**
In case of purchase together with angle head



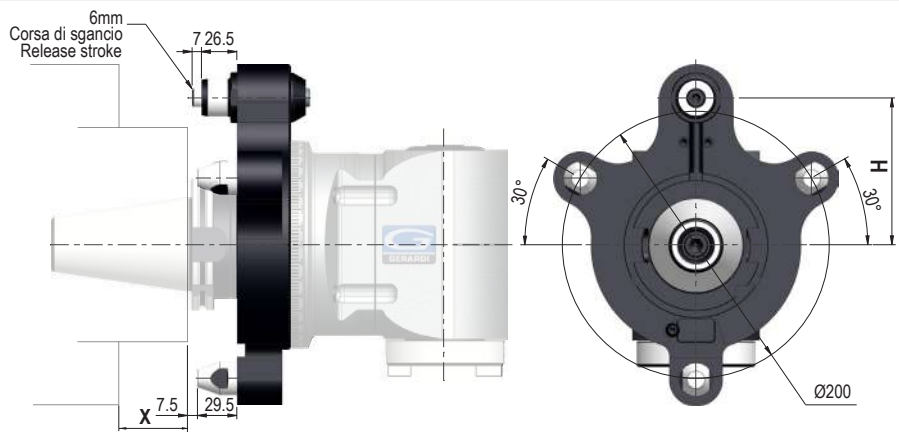
TYPE 2

Code: 9.GAT2./...*

Teste ad angolo con interasse H=80
Angle heads with centre distance H=80

Coni Shank	SK 50	BT 50	CAT 50	HSK 80	Solo flangia Only Flange**

****In caso di acquisto contestuale alla testa angolare**
In case of purchase together with angle head



TYPE 3

Code: 9.GAT3./...*

Teste ad angolo con interasse H=110
Angle heads with centre distance H=100

Coni Shank	SK 50	BT 50	Solo flangia Only Flange**

**** In caso di acquisto contestuale alla testa angolare**
In case of purchase together with angle head



Il sistema antirotante MULTIPOINT è composto da 4 punti d'appoggio di cui uno standard e tre supplementari ed è stato studiato per i seguenti motivi:
- Garantire una rigidità superiore allo standard
- Poter eseguire lavorazioni pesanti
- Annullare ogni tipo di vibrazione
- Applicabile ad ogni tipo di mandrino macchina

The anti-rotation MULTIPOINT system is made of 4 brace points (one standard and 3 additional) for:
-Granting a higher than standard rigidity
-Allowing heavy duty machining
-Avoiding any type of vibration
-Mounting on any type of machine spindle



* **In fase di ordine specificare tipo di cono e grandezza** - In case of order specify shank type and size

ESEMPIO di MONTAGGIO SERIE ATC
ATC SERIES MOUNTING EXAMPLE

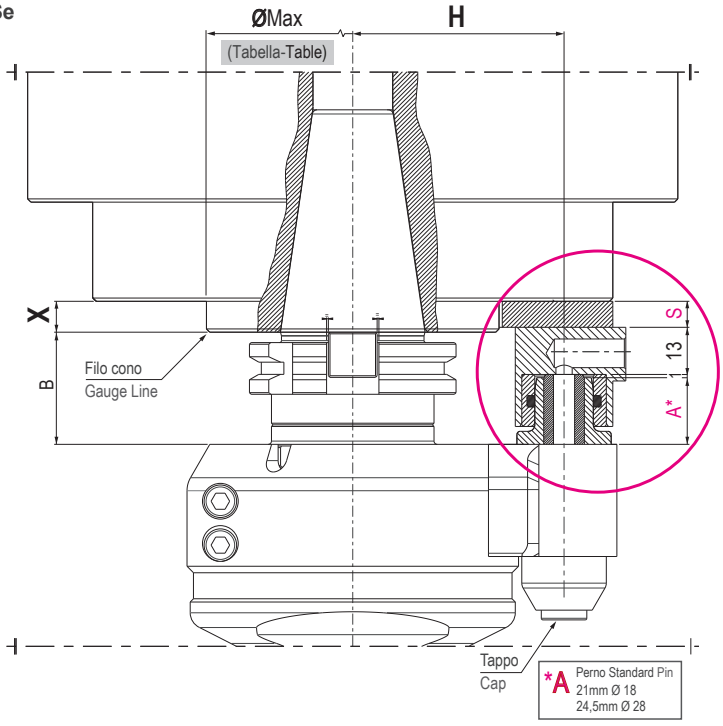
PER UN CORRETTO ORDINE VERIFICARE L'IDONEITÀ DEL PERNO DI POSIZIONAMENTO
FOR A RIGHT PURCHASE ORDER CHECK THE POSITIONING PIN SUITABILITY

1) STOP-BLOCK GIÀ PRESENTE SUL MANDRINO MACCHINA

- Per Stop-block Gerardi è sufficiente indicare il tipo di testa, interasse H, diametro perno ed altezza perno
- In caso di Stop-block NON Gerardi, inviateci il disegno del suddetto e del mandrino macchina per determinare il perno. Se possibile si consiglia di smontare lo stop block presente e di utilizzare il nostro standard.

STOP-BLOCK ALREADY MOUNTED ON THE MACHINE SPINDLE

- For Gerardi items, please indicate the type of Angle Head, the H dimension, the pin diameter and height.
- For non-Gerardi items, please send us the stop-block and the machine spindle drawings in order to design the right pin. If possible, we suggest you to use Gerardi standard stop block, taking off the one already placed on the machine.



2) NESSUNO STOP-BLOCK MONTATO SUL MANDRINO MACCHINA

Rilevare la quota X sul mandrino della macchina e mediante la seguente formula calcolare lo spessore del distanziale. In caso di spessori inferiori a 8 mm è possibile richiedere un apposito stop-block con base lavorabile (Pag. 2.77)

NO STOP-BLOCK MOUNTED ON THE MACHINE SPINDLE

Please check the X dimension on the machine spindle and calculate the width of the spacer through the following formula. In case of widths of less than 8 mm, a special stop block with machineable base can be ordered (Page 2.77)

S=X+B-35

S=X+B-38,5

Se sei in possesso di una testa angolare con perno Ø18
If you have an Angle Head with pin Ø18

Se sei in possesso di una testa angolare con perno Ø28 If you have an Angle Head with pin Ø28

X	B
12mm	35mm (SK40)
S= X (12) + B (35) - 35 = 12	

Esempio di calcolo spessore distanziale
Example of calculation for spacer thickness

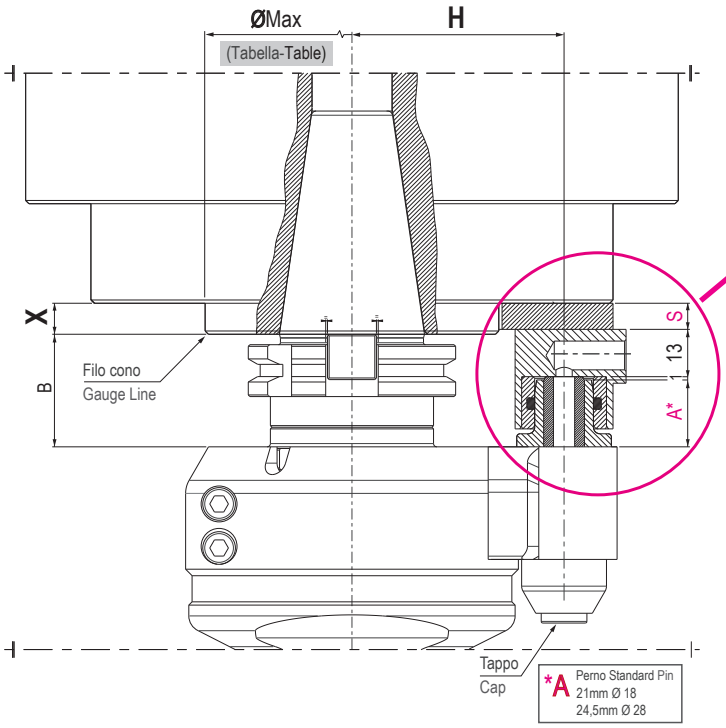
ESEMPIO di MONTAGGIO SERIE ATC
ATC SERIES MOUNTING EXAMPLE

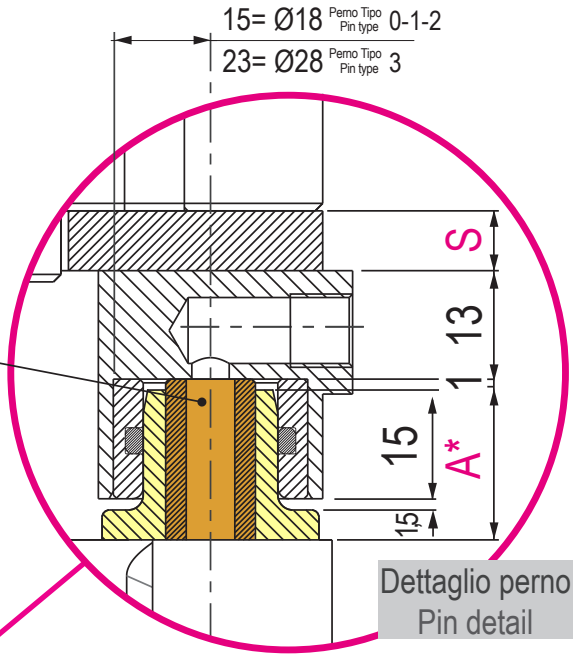
PER UN CORRETTO ORDINE VERIFICARE L'IDONEITA' DELL'INTERASSE "H"
FOR A RIGHT PURCHASE ORDER CHECK PITCH "H" SUITABILITY

Verificare l'idoneità dell'interasse "H" tramite tabella - Check pitch "H" through table

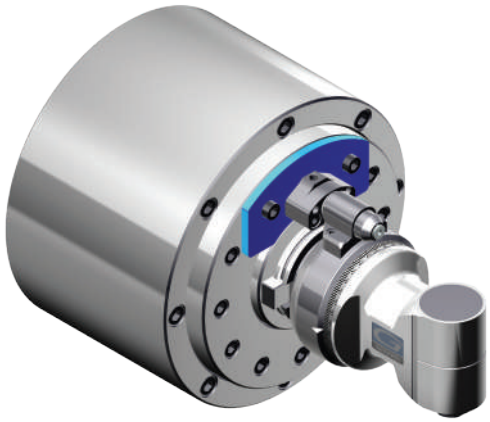
TABELLA
TABLE

PERNO PIN	"H" INTERASSE - PITCH	Ø MAX
Ø18	65	99
	80	129
	110	189
Ø28	110	172





Dettaglio perno
Pin detail



ATTENZIONE - ATTENTION

Il distanziale per il posizionamento dello stop-block, deve essere realizzato di uno spessore tale da comprimere il perno di sgancio NON per l'intera corsa, ma in modo da lasciare sempre 1mm di gioco.
I calcoli della pagina precedente sono già fatti in tal senso.

The spacer for the stop-block must be done in order to push the release pin NOT for the whole stroke release, but leaving always 1mm play. Previous page calculations are already considering this issue.

2

STOP-BLOCK Standard

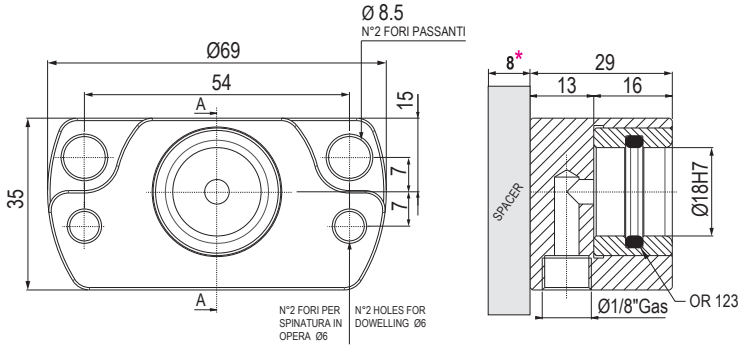
Ø18



Con bussola temprata - with hardened bushing

STOP BLOCK Code	
9.INDEX.18	
NO STOP BLOCK INCLUDED	

BUSHING Code	
9.G18.INDEX.2	



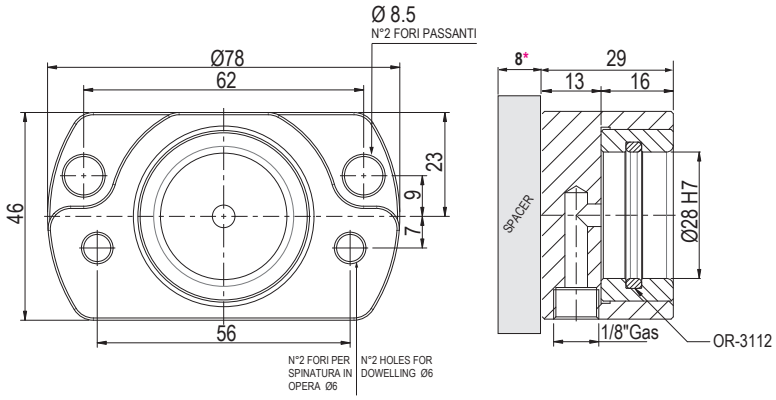
Ø28



Con bussola temprata - with hardened bushing

STOP BLOCK Code	
9.INDEX.28	
NO STOP BLOCK INCLUDED	

BUSHING Code	
9.G28.INDEX.2	



STOP-BLOCK Conico - Conical

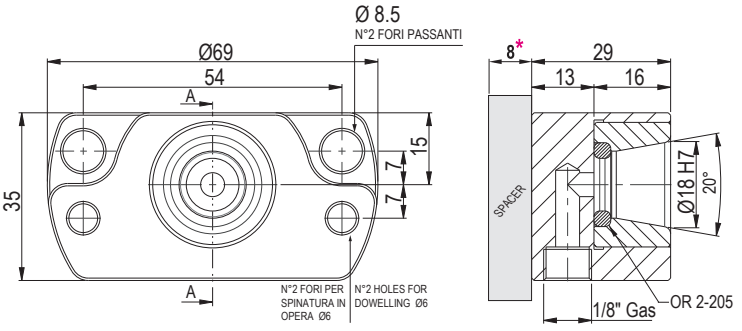
Ø18



Con bussola temprata - with hardened bushing

STOP BLOCK Code	
9.INDEX.18C	
NO STOP BLOCK INCLUDED	

BUSHING Code	
9.G18.INDEX.2C	



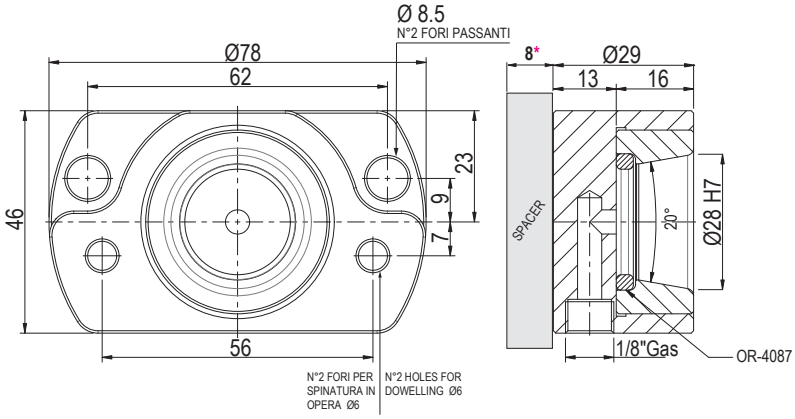
Ø28



Con bussola temprata - with hardened bushing

STOP BLOCK Code	
9.INDEX.28C	
NO STOP BLOCK INCLUDED	

BUSHING Code	
9.G28.INDEX.2C	



* **Misura minima per distanziale sotto la quale è necessario utilizzare lo stop-block lavorabile**
Specer minimum dimension under this dimension it is necessary to use the machineable stop-block

STOP-BLOCK Lavorabile** - Machineable**

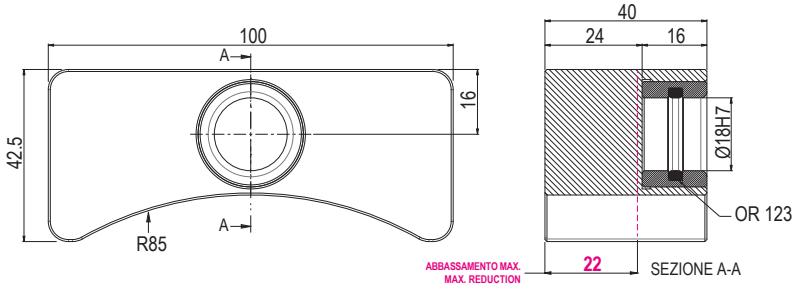
Ø18



Con bussola temprata - with hardened bushing

STOP BLOCK Code	
9.G18.INDEX	
NO STOP BLOCK INCLUDED	

BUSHING Code	
9.G18.INDEX.2	



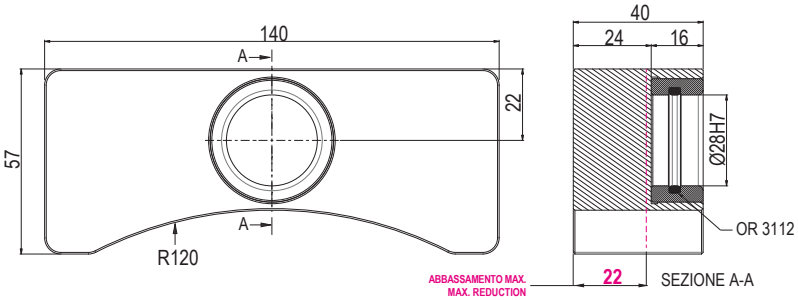
Ø28



Con bussola temprata - with hardened bushing

STOP BLOCK Code	
9.G28.INDEX	
NO STOP BLOCK INCLUDED	

BUSHING Code	
9.G28.INDEX.2	



STOP-BLOCK Lavorabile conico** - Conic machineable**

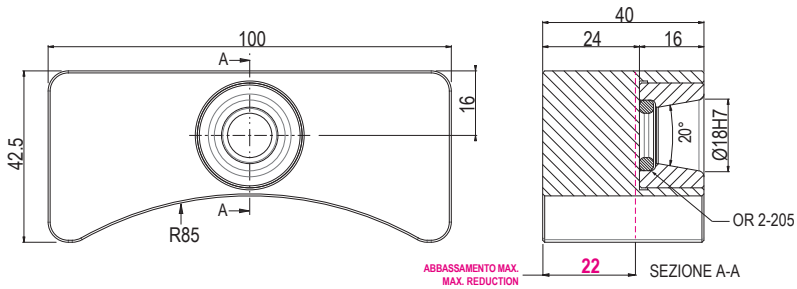
Ø18



Con bussola temprata - with hardened bushing

STOP BLOCK Code	
9.G18.INDEXC	
NO STOP BLOCK INCLUDED	

BUSHING Code	
9.G18.INDEX.2C	



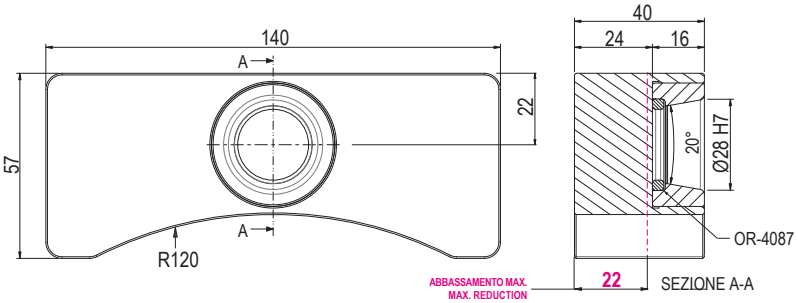
Ø28



Con bussola temprata - with hardened bushing

STOP BLOCK Code	
9.G28.INDEXC	
NO STOP BLOCK INCLUDED	

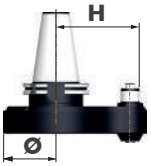
BUSHING Code	
9.G28.INDEX.2C	

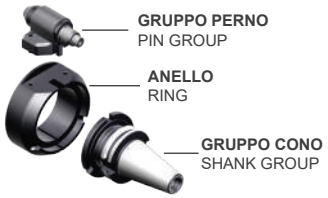


** **A richiesta** - On request

2

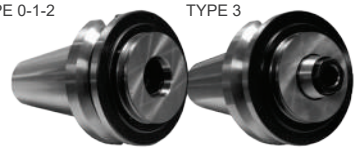
GRUPPO ANTIROTANTE
ANTI-ROTATION GROUP





TIPO 0-1-2
TYPE 0-1-2

TIPO 3
TYPE 3

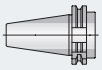
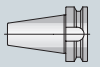
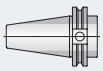
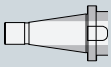




GRUPPO ANTIROTANTE
ANTI-ROTATION GROUP

MODELLO MODEL	TIPO TYPE	Code
FLU-7 FL90-7	0 (Ø66)	9GA05C_136 9GA05C_146 9GA05C_336 9GA05C_346 9GA05C_446 9GA05C_566
FL90-13 FL90-16 / 2U	1 (Ø102)	9GA15C_136 9GA15C_146 9GA15C_336 9GA15C_346 9GA15C_446 9GA15C_566
FS90-3 / 3L FS90-4 / 4L FS90-6 / 6L F90-7 / 7L 2U F90-13 / 13L F90-16S F90-20S* F90-7 / 7L 10BAR F90-10 / 10L* 10BAR F90-13 / 13L 10BAR F90-16S 10BAR FMU-10-16 FR90-10 FR90-10 70BAR		9GA11C_136 9GA11C_146 9GA11C_246 9GA11C_336 9GA11C_346 9GA11C_358 9GA11C_446 9GA11C_458 9GA11C_566 9GA11C_588 9GA11C_518 9GA11C_656 9GA11C_668 9GA11C_688 9GA11C_246 9GA11C_258
F90-16 / 16L 2U F90-20 F90-S30* F90-16 10BAR F90-20 10BAR FR90-20 70BAR FR90-16* FR90-20*	2 (Ø128)	9.GA21C_158 9.GA21C_458 9.GA21C_358 9.GA21C_588 9.GA21C_518 9.GA21C_668 9.GA21C_688 9.GA21C_258
F90-S40 F90-S40 70BAR F90-30 (ER40)* 2U FMU-20	3 (Ø157)	9.GA3.2C_151 9.GA3.2C_451 9.GA3.2C_351 9.GA3.2C_581 9.GA3.2C_511 9.GA3.2C_251

GRUPPO CONO
SHANK GROUP

Code	MODELLO MODEL
9.SK30.0ATC 9.SK40.0ATC 9.BT30.0ATC 9.BT40.0ATC 9.CT40.0ATC 9.HSK63.0ATC	**SK** DIN 69871  30/40/50
9.SK30.1ATC 9.SK40.1ATC 9.BT30.1ATC 9.BT40.1ATC 9.CT40.1ATC 9.HSK63.1ATC	**BT** MAS 403  30/40/50
9.SK30.1ATC 9.SK40.1ATC 9.SK50.1ATC 9.208040.1ATC 9.BT30.1ATC 9.BT40.1ATC 9.BT50.1ATC 9.CT40.1ATC 9.CT50.1ATC 9.HSK63.1ATC 9.HSK80.1ATC 9.HSK100.1ATC 9.C5.1ATC 9.C6.1ATC 9.C8.1ATC 9.208040.1ATC 9.208050.1ATC	**CAT** ANSI B5.50  40/50 **ISO** DIN 2080  30/40/50
9.SK50.2ATC 9.CT50.2ATC 9.BT50.2ATC 9.HSK80.2ATC 9.HSK100.2ATC 9.C6.2ATC 9.C8.2ATC 9.208050.2ATC	**HSK** DIN 69893  63/80/100 **C.** ISO 26623  C5/C6/C8
9.SK50.3ATC 9.CT50.3ATC 9.BT50.3ATC 9.HSK80.3ATC 9.HSK100.3ATC 9.208050.3ATC	**KM**  63/80/100

ANELLO
RING

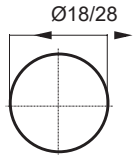
Code	Ø
9FA630120	**Ø66**
9FA636000	**Ø102**
9FA636007	**Ø128**

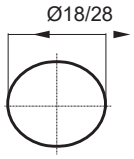
FLANGIA INTEGRALE
INTEGRAL FLANGE

Code	Ø
9FA636008	**Ø157**

A richiesta: Specificare per gruppi antirotante a 70BAR Esempio: (9.GA1.SK40 49/70) (Chip Balluf su coni HSK)
On request: Specify for 70BAR antirotation group Example: (9.GA1.SK40 49/70) (Chip Balluf on HSK shanks)

GRUPPO PERNO
PIN GROUP







STANDARD 2 AXIS	ON REQUEST 1 AXIS	GRUPPO PERNO PIN GROUP

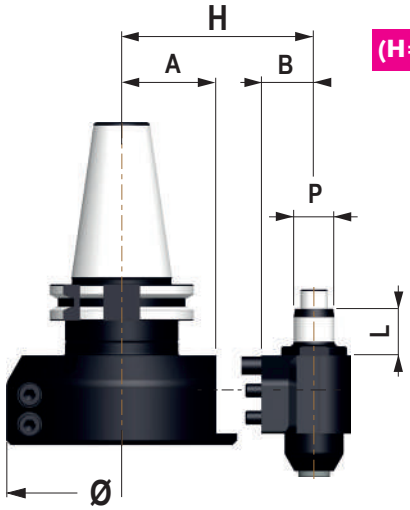
PERNO CILINDRICO CYLINDRICAL PIN	PERNO ELLITTICO ELLIPTIC PIN	P	L	H	€
9GP05C_i65	-	Ø18	21	65	
9GP15C_i65	9GP13C_i65	Ø18	21	65	
9GP11C_i65	9GP13C_i65	Ø18	21	65	
9GP11C_i80	9GP13C_i80	Ø18	21	80	
9GP11C_110	9GP13C_110	Ø18	21	110	
9GP12C_110	9GP14C_110	Ø28	26,5	110	
9GP21C_i80	9GP23C_i80	Ø18	21	80	
9GP21C_110	9GP23C_110	Ø18	21	110	
9GP22C_110	9GP24C_110	Ø28	26,5	110	

SPECIALE - SPECIAL	
Perno STD accorciato / Perno speciale STD Short Pin / Special Pos. Pin	
Gruppo antirotante speciale Special Anti-rotation group	

ATTENZIONE - ATTENTION

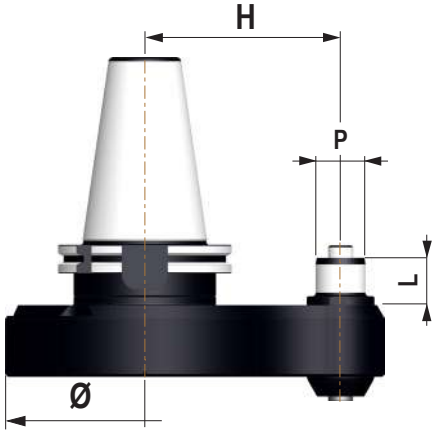
In caso di utilizzo di più teste angolari su un'unica macchina viene consigliata la seguente configurazione: Prima testa angolare (Master) assemblata con perno cilindrico per il posizionamento preciso dello stop block successive teste angolari (Secondarie) assemblate con perno ellittico per sopperire ad eventuali difformità dell'interasse.

In case of use of more than one Angle head on the same machine, the following configuration is suggested:First Angle head (Master) – supplied with cylindrical pin for the accurate positioning of the stop block. Additional angle heads (Secondary) – supplied with elliptic pin to balance any potential pin difference.



(H= A+B)

Gruppo antirotante tipo 1 - 2 (Anello + Gruppo perno)
Anti-rotation group type 1-2 (Ring + Pin group)



Gruppo antirotante tipo 3 (Flangia integrale)
Anti-rotation group type 3 (Integral flange)

In caso di perni speciali fare riferimento alla tabella a Pag. 1.93 - See Page 1.93 for special pins

2

OPZIONE REFRIGERANTE INTERNO
INTERNAL COOLANT OPTION

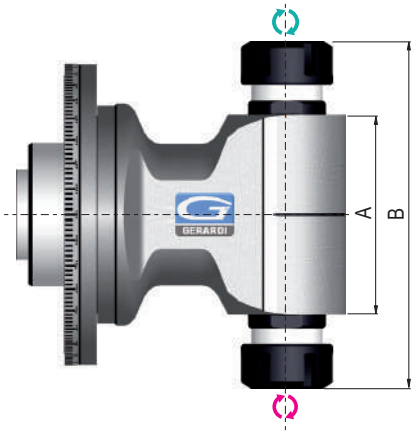
Opzione B - B Option **Up to 10bar**	Opzione Re-Cool - Re-Cool Option **UP TO 150bar**
	
Mandrino macchina » Distributore » Utensile Machine spindle » Rotating Distributor » Tool	**Perno » Ghiera ReCool » Utensile** Positioning Pin » ReCool Nut » Tool
Passaggio refrigerante interno all' utensile. **Dal mandrino macchina e attraverso il distributore rotante** Internal coolant through the tool from the machine spindle and through rotating distributor. **ROTAZIONE A SECCO** - DRY RUNNING **10 BAR POSSIBILE** - POSSIBLE	**Passaggio refrigerante interno l'utensile per mezzo della ghiera ReCool.** Internal coolant through the tool from the special nut ReCool. **Vedi pagine** - See Pages **7.16 - 7.18**

Passaggio refrigerante interno tramite cono » Distributore » Utensile SU RICHIESTA
Internal coolant through shank » roatating distributor » tool ON REQUEST

OPZIONI DOPPIA USCITA SERIE MTC
DOUBLE OUTPUT OPTIONS MTC SERIES

Disponibile per i modelli - Available for following types:

MODELLO MODEL	USCITA OUTPUT	A	B	
F90-16S 2U	ER-25	90	157	
F90-16 2U		98	170	
F90-16L 2U				
F90-20 2U	ER-32	118	193	
F90-20L 2U				
F90-30 2U	ER-40	141	226	

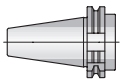
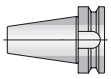
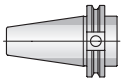
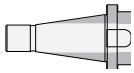
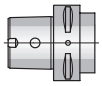


Teste angolari MTC doppia uscita - Double output MTC angle heads

CONI MODULARI
MODULAR SHANKS

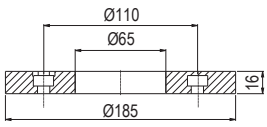
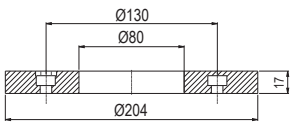
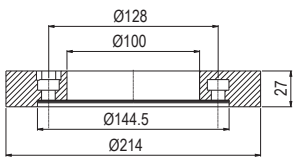
Senza cono -103 € - No shank -103 €

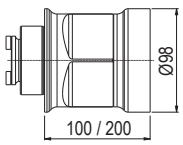
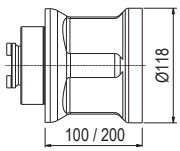
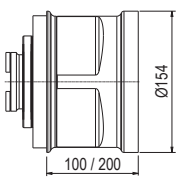
CONO MODULARE MODULAR SHANK

SK DIN 69871	BT MAS 403	CAT ANSI B5.50	ISO DIN 2080	HSK DIN 69893	C. ISO 26623	KM
						
30/40/50	30/40/50	40/50	30/40/50	63/80/100	C5/C6/C8	63/80/100
Codes	**Codes**	**Codes**	**Codes**	**Codes**	**Codes**	**Codes**
9.SK30.MTC	9.BT30.MTC	9.CT40.MTC	9.208040.MTC	9.HSK.63.MTC	9.C5.MTC	9.KM.63.MTC
9.SK40.MTC	9.BT40.MTC	9.CT50.MTC	9.208050.MTC	9.HSK.80.MTC	9.C6.MTC	9.KM.80.MTC
9.SK50.MTC	9.BT50.MTC			9.HSK.100.MTC	9.C8.MTC	9.KM.100.MTC

FLANGE / PROLUNGHE
FLANGES / EXTENSIONS

* **Con l'acquisto della flangia universale il kit di 4 dadi è già incluso nel prezzo**
* The nuts kit is just included in the price of the flange purchase

TIPO TYPE	1	2	3	4
MODELLO MODEL	F90-16S	F90-16L F90-20	F90-S40	F90-S50
FLANGE UNIVERSALI * UNIVERSAL FLANGE *				
Codes	**Codes**	**Codes**	**Codes**	**Codes**
9.FL.F90T1	9.FL.F90T2	9.FL.F90T3	9.FL.F90T4	
T NUTS KIT 9.FL.F90T1D	T NUTS KIT 9.FL.F90T2D	T NUTS KIT 9.F90.F90T3D		
NO FLANGE	NO FLANGE	NO FLANGE		

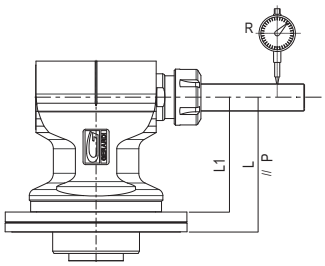
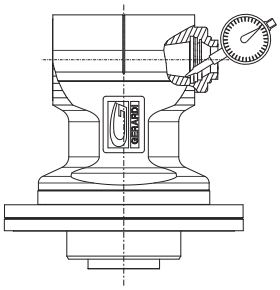
TIPO TYPE	1	2	3	4
PROLUNGA EXTENSION				

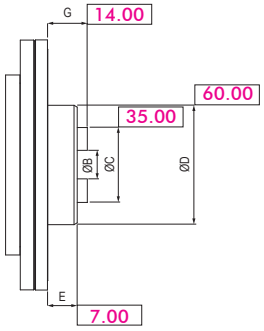
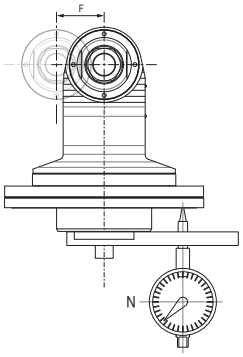
H	Codes	H	Codes	H	Codes	H	Codes
100	9.FEX.10100	100	9.FEX.20100	100	9.FEX.30100	300	9.FEX.40300
200	9.FEX.10200	200	9.FEX.20200	200	9.FEX.30200		

2

ESEMPIO SCHEDA DI COLLAUDO
INSPECTION SHEET EXAMPLE

Tipo - Type	G90-16 MTC
Codice - Code	9.G90.16001
Numero seriale - Serial number	17-127
Attacco cono - Input shank	DIN-69871/40
Note speciali - Special notes	

TIPO DI CONTROLLO Test type	**RAFFIGURAZIONE** Drawing	**ERRORE** Error
Quota e parallelismo da filo cono ad asse principale. Oscillazione asse utensile. Height and parallelism from gauge line to main axis. Runout cutter axis.		**Ammesso** Allowed A= ±0,03 R=±0,025 P=±0,015/100 **Rilevato** Checked L = +0,020 L1 = +0,010 R = 0,025 P = 0,012/100
Oscillazione mandrino porta utensile. Runout in cutter spindle.		**Ammesso** Allowed 0,010 **Rilevato** Checked 0,008

TIPO DI CONTROLLO Test type	**RAFFIGURAZIONE** Drawing	**ERRORE** Error
Verifica delle quote per l'attacco del cono e della flangia. Main input shaft dimension checked.		**Ammesso** Allowed E/G=0,1/-0,5 C/D=+0/-0,03 **Rilevato** Checked B = 25h7 ok E = -0,100 G = -0,150 C = -0,020 D = -0,030
Perpendicolarità e disassamento tra gli assi principali. Perpendicularity and offset between main axes.		**Ammesso** Allowed F = ± 0,020 N = 0,010/100 **Rilevato** Checked F = 0,015 N = 0,010/100

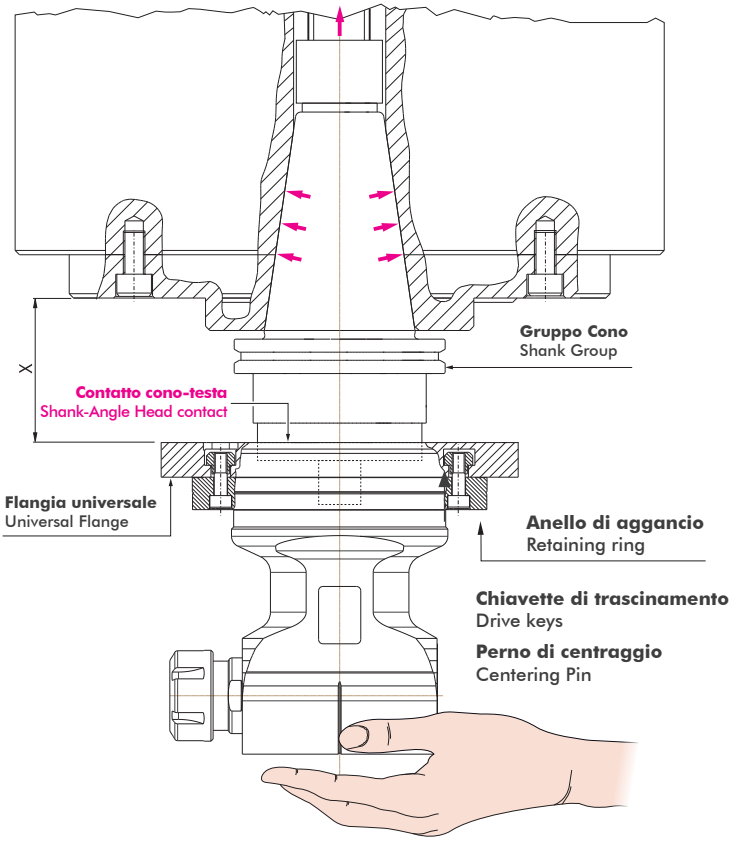
RODAGGIO TESTA - RUN-IN

RPM in entrata RPM	**Durata** Time	**Temperatura Ambiente** Room Temperature	**Temperaratura Sonda** Sensor Temperature	**Note** Notes
1000	00:10:00	20°	28°	
2000	00:10:00		37°	
3000	00:05:00		41°	
4000	00:05:00		48°	
5000				
6000				

Revisioni - Revisions	**Timbro -** Stamp	**Data -** Date **Firma -** Signature

ESEMPIO DI MONTAGGIO SERIE MTC
MTC SERIES MOUNTING EXAMPLE

DISTANZIALE REALIZZATO IN OPERA
SPACER TO BE MADE

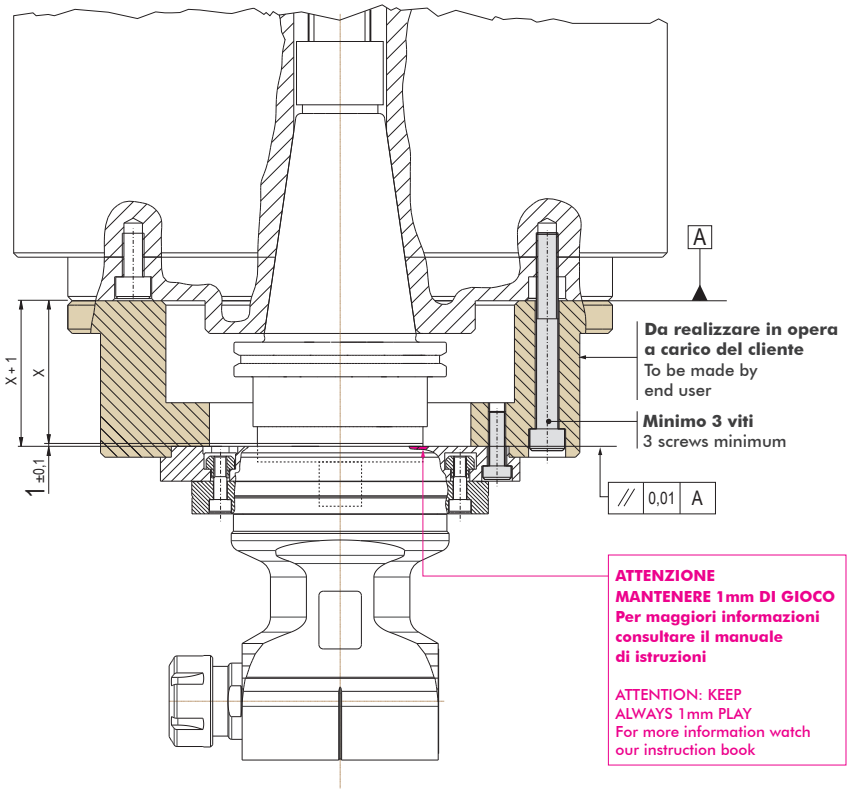


FASE 1 - STEP 1

- Montare l'anello di aggancio e la flangia universale sulla testa
- Applicare il cono alla testa
- Inserire la testa nel mandrino macchina.
- Rilevare la misura "X"

- Mount the retaining ring and the universal flange
- Mount the shank on the Head.
- Mount the head into the machine spindle.
- Check dimension "X"





FASE 2 - STEP 2

- Realizzare un distanziale con spessore X+1mm
- Rimontare il tutto in macchina.
- Orientare e posizionare correttamente la testa angolare
- Azzerare l'anello graduato tramite il grano e le tacche di riferimento

- Make a spacer with X + 1mm thickness.
- Reassemble the Head on the machine.
- Turn the angle head in the correct position.
- Set the graduated ring by rotating the screw to the 0 position.

2

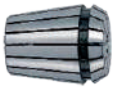
PINZE - COLLETS
6023E - 600E - 601E



MODELLO MODEL	PINZA COLLET	Ø	Code		Ø Intermedi - Intermediate	
FS90-3 FS90-3L	6023E	1,0	9.60.23E00/...		1,1 - 1,2 - 1,3 - 1,4	
		1,5 - 2 - 2,5			1,6 - 1,7 - 1,8 - 1,9 - 2,1 - 2,2 - 2,3 - 2,4	
		3,0			2,6 - 2,7 - 2,8 - 2,9	
FS90-4 FS90-4L	600E	1,0	9.60.0E000/...		1,1 - 1,2 - 1,3 - 1,4	
		1,5 - 2 - 2,5			1,6 - 1,7 - 1,8 - 1,9 - 2,1 - 2,2 - 2,3 - 2,4	
		3,0 - 4,0			2,6 - 2,7 - 2,8 - 2,9 ÷ 3,9	
FS90-6 FS90-6L	601E	1,0	9.60.1E000/...		1,1 - 1,2 - 1,3 - 1,4	
		1,5 - 2 - 2,5			1,6 - 1,7 - 1,8 - 1,9 - 2,1 - 2,2 - 2,3 - 2,4	
		3-3,5-4-4,5-5-5,5-6			3,1 ÷ 3,9 - 4,1 ÷ 4,9 - 5,1 ÷ 5,9	

Esempio di ordinazione: 600E - Ø2,3 = 9.60.0E000/2,3
Example to order: 600E - Ø2,3 = 9.60.0E000/2,3

PINZE HP - COLLETS HP
HIGH PRECISION ER-HP COLLETS
Foratura-fresatura / drilling-milling



PRECISIONE - RUN OUT
≤ 0,005

Maschiatura / tapping



MODELLO MODEL	PINZA COLLET	Ø	Code		PINZA ET1 (compensate) COLLET ET1 (compensation)	Ø	Code	
FL90-7 FS90-6L F90-7 / 2U F90-7L / 2U FLU-7	ER11	Ø1 / 7	9.ER.11HP0 / ...		-		-	
F90-7B F90-7LB	ER11 WP	Ø3/ 7	9.ER.11WP0/...		-		-	
FL90-10 F90-10 / 2U F90-10L / 2U FMU-10	ER16	Ø1 / 10	9.ER.16HP0 / ...		ET 1 - 16 (M1 - M6)	Ø1,4 / 6	9.ET.16000	
FR90-10 70BAR F90-10B FMU-10	ER16 WP	Ø3/ 10	9.ER.16WP0/...		-		-	
F90-13 F90-13L FL90-13	ER20	Ø1/13	9.ER.20HP0 / ...		ET 1 - 20 (M2 - M8)	Ø2,2 / 7	9.ET.20000	
F90-13B FR90-13 70BAR	ER20 WP	Ø3/13	9.ER.20WP0/...		-			
FL90-16 - 2U F90-16S F90-16 / 2U F90-16L / 2U FMU-16	ER25	Ø1 / 16	9.ER.25HP0 / ...		ET 1 - 25 (M2 - M12)	Ø2,5 / 10	9.ET.25000	
FR90-16 70BAR F90-16SB F90-16B F90-16LB FMU-16	ER25 WP	Ø3 / 16	9.ER.25WP0/...		-		-	
F90-20 / 2U F90-20L F90-20S FMU-20	ER32	Ø2 / 20	9.ER.32HP0 / ...		ET 1 - 32 (M3,5 - M16)	Ø4,5 / 12,5	9.ET.32000	
FR90-20 70BAR F90-20B FMU-20	ER32 WP	Ø3 / 20	9.ER.32WP0/...		-		-	
F90-30 / 2U	ER40	Ø3 / 30	9.ER.40HP0 / ...		ET 1 - 40 (M6 - M16)	Ø6 / 16	9.ET.40000	
F90-30B	ER40 WP	Ø3 / 30	9.ER.40WP0/...					

Esempio di ordinazione: ER25 - Ø10=9.ER.25000/10 - Example to order: ER25 - Ø10=9.ER.25000/10

WP= Resistenza all'acqua - WP= Waterproof

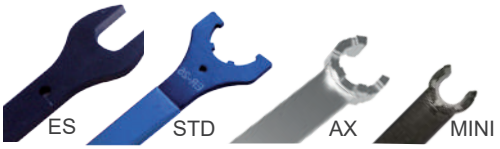
GHIERE
NUTS

MODELLO MODEL	GHIERA NUT	Code	
FS90-3 FS90-3L	-	-	
FS90-4 FS90-4L	-	-	
FS90-6 FS90-6L	-	-	

CHIAVI
WRENCHES

CHIAVI WRENCHES	Code	
CH-5,5	9.CH.55000	
CH-7	9.CH.70000	
CH-9	9.CH.90000	





MODELLO MODEL	GHIERA NUT	COPPIA DI SERRAGGIO TORQUE (Nm)	Code	
FL90-7 FS90-6L F90-7 / L F90-7B / 7LB	ER11 ES	12 (15)	9.ER.110ES	
	ER11 AX		9.ER.110AX	
F90-7 2U	ER11 Mini	12 (15)	9.ER.1100M	
F90-10 / 10L F90-10B	ER16 ES	24 (30)	9.ER.160ES	
	ER16 AX		9.ER.160AX	
F90-10 2U	ER16 Mini	24 (30)	9.ER.1600M	
FL90-13	ER20 ES	28 (35)	9.ER.200ES	
	ER20 AX		9.ER.200AX	
FMU-10	ER16 ES	24 (30)	9.ER.160ES	
	ER16 AX		9.ER.160AX	
FR90-10 70BAR	ER16 ES	24 (30)	9.ER.160ES	
	ER16 AX		9.ER.160AX	
F90-16S F90-16SB	ER25 STD	32 (40)	9.ER.25STD	
FL90-16 F90-16 / 16L F90-16B	ER25 ES	32 (40)	9.ER.250ES	
	ER25 AX		9.ER250AX	
FMU-16	ER25 Mini	32 (40)	9.ER.2500M	
FR90-16 70BAR	ER25 ES	32 (40)	9.ER.250ES	
	ER25 AX		9.ER250AX	
F90-20 F90-20B	ER32 STD	136 (70)	9.ER.32STD	
FMU-20	ER32 STD	136 (70)	9.ER.32STD	
FR90-20 70BAR	ER32 ES	136 (70)	9.ER.320ES	
	ER32 AX		9.ER.320AX	
F90-S40 (ER40)	ER40 STD	176 (220)	9.ER.40STD	

CHIAVI WRENCHES	Code	
CH-13 ES	9.CH.130ES	
CH-22 ES	9.CH.220ES	
CH-11 AX	9.CH.110AX	
CH-11 Mini	9.CH.1100M	
CH-17 ES	9.CH.170ES	
CH-19 ES	9.CH.190ES	
CH-30 ES	9.CH.300ES	
CH-16 AX	9.CH.160AX	
CH-16 Mini	9.CH.1600M	
CH-22 ES	9.CH.220ES	
CH-36 ES	9.CH.360ES	
CH-22 ES	9.CH.220ES	
CH-20 AX	9.CH.200AX	
CH-19 ES	9.CH.190ES	
CH-FMU10	9.FA.610086	
CH-16 AX	9.CH.160AX	
CH-19 ES	9.CH.190ES	
CH-27 ES	9.CH.270ES	
CH-16 AX	9.CH.160AX	
CH-32 ES	9.CH.320ES	
CH-25 STD	9.CH.25STD	
CH-27 ES	9.CH.270ES	
CH-38 ES	9.CH.380ES	
CH-25 AX	9.CH.250AX	
CH-25 Mini	9.CH.2500M	
CH-27 ES	9.CH.270ES	
CH-27 ES	9.CH.270ES	
CH-36 ES	9.CH.360ES	
CH-25 AX	9.CH.250AX	
CH-47 ES	9.CH.470ES	
CH-32 STD	9.CH.32STD	
CH-40 ES	9.CH.400ES	
CH-32 STD	9.CH.32STD	
CH-32 ES	9.CH.320ES	
CH-47 ES	9.CH.470ES	
CH-32 AX	9.CH.320AX	
CH-52 ES	9.CH.520ES	
CH-40 STD	9.CH.40STD	

MODULAR QUICK CHANGE ADAPTORS 2.0

COMPATIBILI CON TUTTE LE USCITE ER - COMPATIBLE WITH ALL ER OUTPUTS

SISTEMA MODULARE
MODULAR SYSTEM



Facile e veloce sistema modulare universale per cambiare rapidamente diverse tipologie di utensili.

An easy modular system to replace quickly any tool you need.

VANTAGGI
ADVANTAGES



Aiutano a ridurre i costi-extra per l'acquisto di nuovi motorizzati o teste angolari.

The costs for further requirements of spindle units can be reduced by using the universal quick change adaptors

ALTE PRESTAZIONI
HIGH PERFORMANCE



Ghiera con cuscinetto a sfera e losanga di trascinamento removibile per una maggiore rigidità.

High rigidity thanks to the ball bearing nut and the removable diamond plate

COMPATIBILITÀ
COMPATIBILITY



Ampia gamma di uscite disponibili adatte al montaggio su qualsiasi tipologia di motorizzato o testa angolare con uscita ER

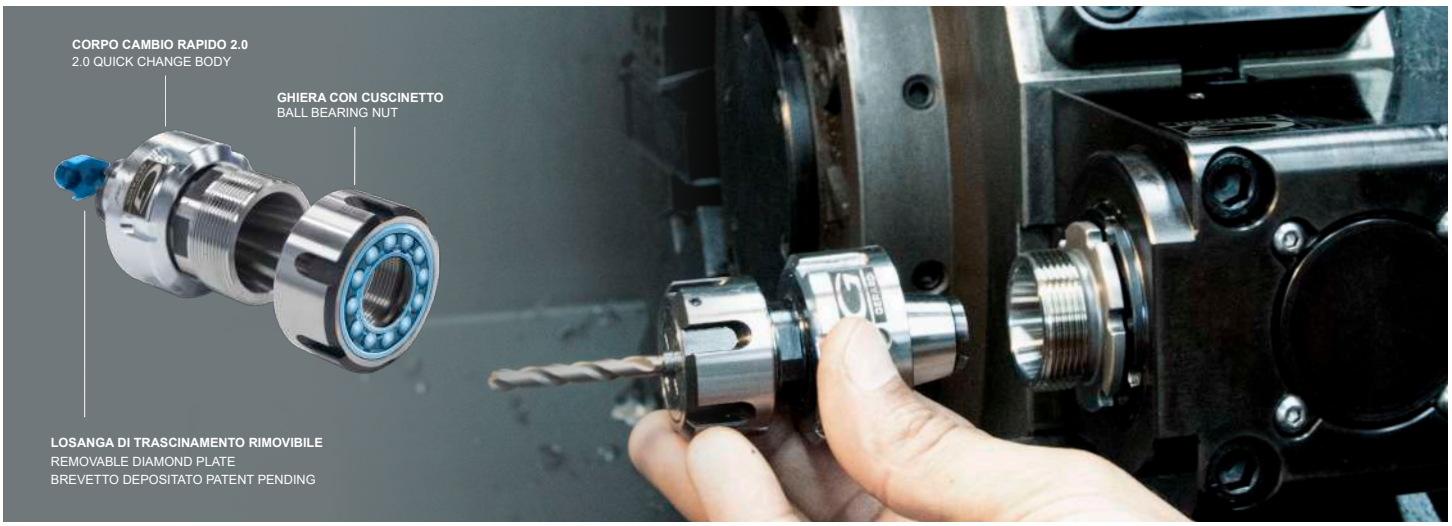
Wide range of outputs available. Ball bearing nut and removable diamond plate for highest rigidity.

I cambi rapidi modulari Gerardi mantenendo il presetting precedentemente realizzato consentono un notevole risparmio dei costi ed un ottimizzazione dei tempi ciclo. Sono perfettamente compatibili con tutti i motorizzati e le teste angolari aventi uscita ER DIN6499 e possono essere utilizzati sia con refrigerante interno che esterno.

- **Nuovi cambi rapidi modulari 2.0 a FORTE SERRAGGIO, 100% Made in Italy.**
- **Prestazioni garantite e maggior rigidità sui motorizzati Gerardi grazie alla losanga di trascinamento (rimovibile) e alla ghiera con cuscinetto a sfera.**
- **Adattabili a motorizzati con uscita refrigerante sia interna che esterna.**

The Gerardi modular quick change adaptors keep the tool presetting previously made and allow great costs and machining times saving. They are perfectly compatible with all driven tools and angle head with ER DIN6499 output and they can be used with internal or external coolant.

- Universal HIGH TORQUE modular quick change adaptor 100% Made in Italy.
- Guaranteed higher rigidity and performances on Gerardi driven tools thanks to the removable diamond plate and the ball bearing nut
- Suitable for ER toolholder with external and internal coolant supply



Vedi Pagine 7.14 - 7.15 - See pages 7.14 - 7.15

ER OUTPUTS COMPATIBLE

2 YEARS GUARANTEED

100% MADE IN ITALY