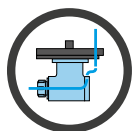


OPZIONE REFRIGERANTE INTERNO INTERNAL COOLANT OPTION

Opzione B
B option



Up to 40bar



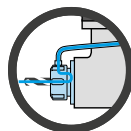
Mandrino macchina » Distributore » Utensile
Machine spindle » Rotating Distributor » Tool

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
30/40 BAR NON POSSIBILE - NOT POSSIBLE

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

Opzione Re-Cool
Re-Cool option



10bar

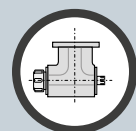


Perno » Ghiera ReCool » Utensile
Positioning Pin » ReCool Nut » Tool

Passaggio refrigerante interno l'utensile per mezzo della ghiera ReCool.
Internal coolant through the tool from the special nut ReCool

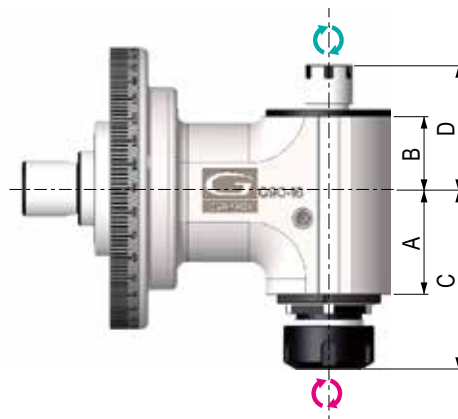
PAG. 1.77 - PAG. 1.77

OPZIONE DOPPIA USCITA serie MTC DOUBLE OUTPUT OPTION MTC series



Disponibile per i modelli - Available for following types:

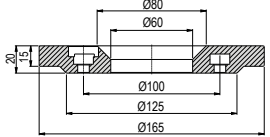
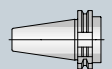
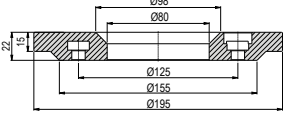
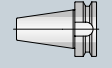
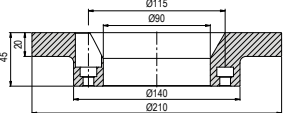
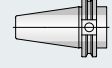
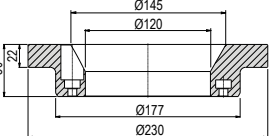
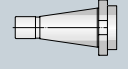
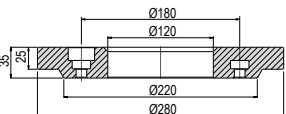

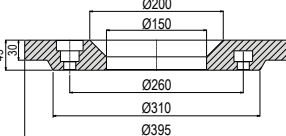

| MODELLO MODEL | USCITA OUTPUT | A | B | C | D |
|---------------------------|---------------------|----|----|-------|------|
| G90-5 / G90-7 / G90-7L | ER-11 ER-8 MINI | 20 | 20 | 38 | 34 |
| G90-10 / G90-10L | ER-16 ER-11 MINI | 37 | 28 | 52 | 44,5 |
| G90-16 / G90-16L | ER-25 ER-16 MINI | 47 | 35 | 81,5 | 58,5 |
| G90-20 / G90-20L | ER-32 ER-20 MINI | 66 | 46 | 103,5 | 72,5 |
| G90-30 / G90-30L | ER-40 ER-25 MINI | 79 | 53 | 120 | 82 |



Teste angolari MTC doppia uscita
Double output MTC angle heads



CONI / FLANGE / PROLUNGHE SHANKS / FLANGES / EXTENSIONS

| TESTA ANGOLARE ANGLE HEADS | | FLANGIA UNIVERSALE UNIVERSAL FLANGE | | PROLUNGA EXTENSION | | CONO MODULARE MODULAR SHANK | |
|--|--------------|--|---|-----------------------|---|---|---|
| MODELLO MODEL | TIPO TYPE | Code | | H | Code | Code | MODELLO MODEL |
| G90-5 G90-7 / 7L G90-10 / 10L G90-16 / 16L GMU-16 G90-16 / 16L 2U | 1 | 9.UF.00001 NO FLANGE |  | 50 100 200 | 9.GEX.10050 9.GEX.10100 9.GEX.10200 | 9.SK30.ISO | SK DIN 69871  30/40/50 |
| G90-20 / 20L GMU-20 G90-20 / 20L 2U | 2 | 9.UF.00002 NO FLANGE |  | 50 100 200 | 9.GEX.20050 9.GEX.20100 9.GEX.20200 | 9.SK40.ISO 9.SK50.ISO | BT MAS 403  30/40/50 |
| G90-30 / 30L G90-30 / 30L 2U | 3 | 9.UF.00003 NO FLANGE |  | 100 150 | 9.GEX.30100 9.GEX.30150 | 9.SK40.CAT40 9.SK50.CAT50 | CAT ANSI B5.50  40/50 |
| G90-S40 | 4 | 9.UF.00004 NO FLANGE |  | | | 9.SK30.2080 9.SK40.2080 9.SK50.2080 | ISO DIN 2080  30/40/50 |
| G90-S40XL G90-S40XLxx GMU-S40-125 GMU-S40 | 5 | 9.UF.00005 NO FLANGE |  | | | 9.HSK.63000 9.HSK.80000 9.HSK.10000 | HSK DIN 69893  63/80/100 |
| G90-S50 G90-S50XLxx GMU-S50 | 6 | 9.UF.00006 NO FLANGE |  | | | 9.CPT.C5000 9.CPT.C6000 9.CPT.C8000 | C. ISO 26623  C5/C6/C8 |

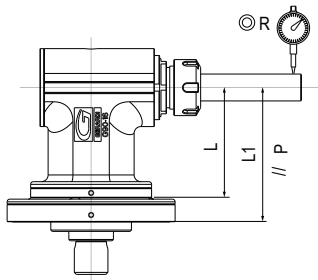
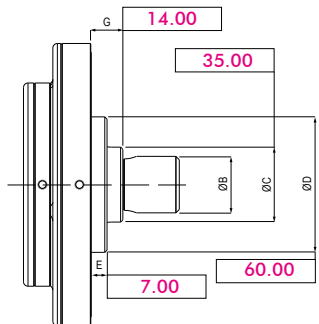
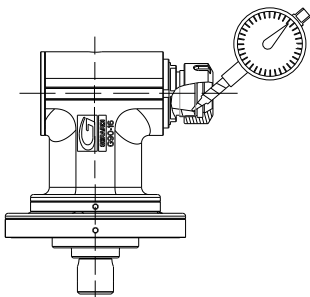
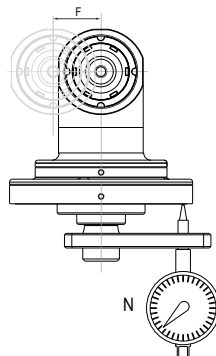


Senza cono -100 €
No shank -100 €

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 | TIPO DI CONTROLLO Test type | RAFFIGURAZIONE Drawing | ERRORE Error |
|---|---|---|--|---|--|
| <p>Quota e parallelismo da filo cono ad asse principale. Oscillazione asse utensile.</p> <p>Height and parallelism from gauge line to main axis. Runout cutter axis.</p> |  | <p>Ammesso Allowed A= ±0,03 R=±0,025 P=±0,015/100</p> <p>Rilevato Checked</p> <p>L = +0,020 L1 = +0,010 R = 0,025 P = 0,012/100</p> | <p>Verifica delle quote per l'attacco del cono e della flangia.</p> <p>Main input shaft dimension checked.</p> |  | <p>Ammesso Allowed E/G=0,1/-0,5 C/D=+0/-0,03</p> <p>Rilevato Checked</p> <p>B = 25h7 ok E = -0,100 G = -0,150 C = -0,020 D = -0,030</p> |
| <p>Oscillazione mandrino porta utensile.</p> <p>Runout in cutter spindle.</p> |  | <p>Ammesso Allowed 0,010</p> <p>Rilevato Checked</p> <p>0,008</p> | <p>Perpendicolarità e disassamento tra gli assi principali.</p> <p>Perpendicularity and offset between main axes.</p> |  | <p>Ammesso Allowed F = ± 0,020 N = 0,010/100</p> <p>Rilevato Checked</p> <p>F = 0,015 N = 0,010/100</p> |

RODAGGIO TESTA - RUN-IN

| RPM in entrata RPM | Durata Time | Temperatura Ambiente Room Temperature | Temperatura 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 | | | | |

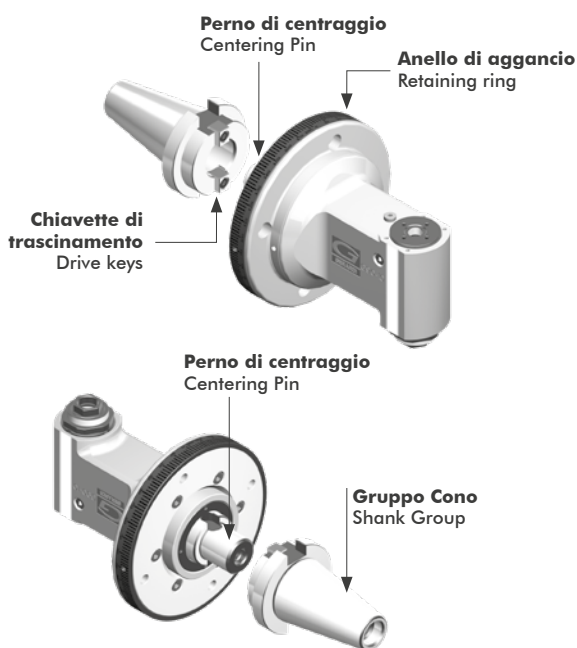
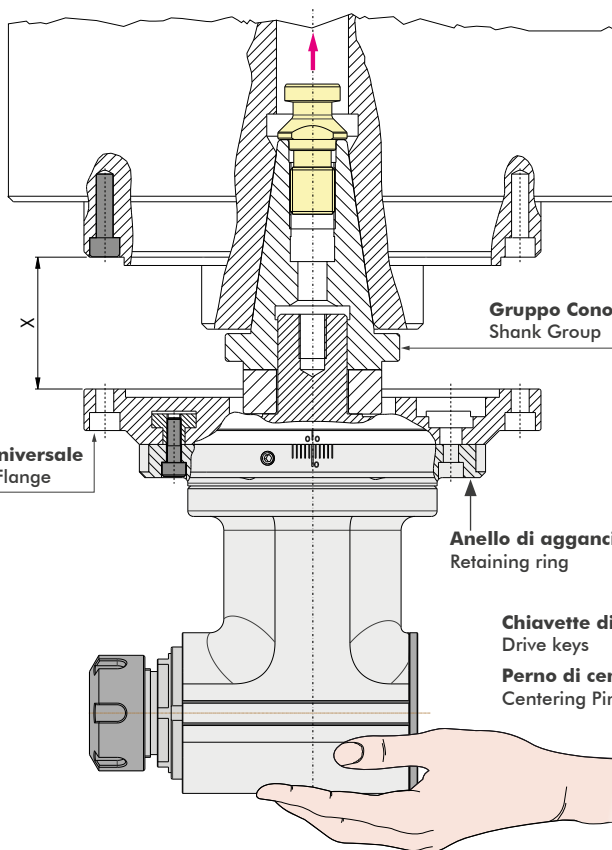
| | | |
|------------------------------|-----------------------|--------------------------|
| Revisioni - Revisions | Timbro - Stamp | Data - Date |
| | | Firma - Signature |

ESEMPIO di MONTAGGIO MOUNTING EXAMPLE

DISTANZIALE REALIZZATO IN OPERA SPACER TO BE MADE

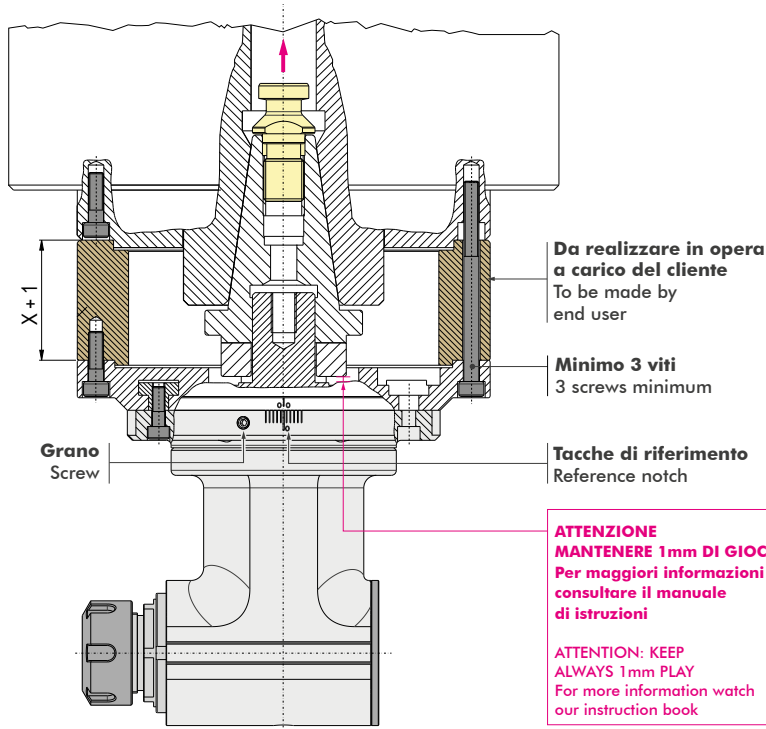
FASE 1 - STEP 1

- 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 $X + 1$ mm
- 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 $X + 1$ mm 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.



ATTENZIONE
MANTENERE 1mm DI GIOCO
Per maggiori informazioni
consultare il manuale
di istruzioni

ATTENTION: KEEP
ALWAYS 1mm PLAY
For more information watch
our instruction book

PINZE - COLLETS

SCHAUBLIN



| MODELLO MODEL | PINZA COLLET | Ø | Code |
|------------------|-----------------|--|------------|
| GR90-5 | Schaublin P6 | 0,3 - 0,4 - 0,5 - 0,6 - 0,7 - 0,8 - 0,9 | 9.P6.D0XXX |
| | | 1 - 1,1 - 1,2 - 1,3 - 1,4 - 1,5 - 1,59 (1/16") - 1,6 - 1,7 - 1,8 - 1,9 | |
| | | 2 - 2,5 - 3 - 3,5 | |
| | | 4 - 4,5 - 5 | |

Esempio di ordinazione: Schaublin P6 - Ø0,3 = 9.P6.D003 - Ø1,59 = 9.P6.D0159

Example to order: Schaublin P6 - Ø0,3 = 9.P6.D003 - Ø1,59 = 9.P6.D0159

ER-DIN 6499

Foratura-fresatura / drilling-milling



| MODELLO MODEL | PINZA COLLET | Ø | Code |
|---|-----------------|----------|----------------|
| G90-5 | ER8 | Ø0,5 / 5 | 9.ER.08000/... |
| GL90-7 G90-7 / 7L | ER11 | Ø1 / 7 | 9.ER.11000/... |
| GL90-7 G90-7 / 7L | ER11 WP | Ø3 / 7 | 9.ER.11WP0/... |
| GTU 10 GL90-10 G90-10 / 10L GR90-10 | ER16 | Ø1 / 10 | 9.ER.16000/... |
| GL90-10 / B G90-10 / 10L / B G90-10 / 10L / RI GR90-10 / RI | ER16 WP | Ø1 / 10 | 9.ER.16WP0/... |
| GMU-13 / 13L | ER20 | Ø1/13 | 9.ER.20000/.. |
| GL90-16 G90-16 / 16L GMU-16 GR90-16 G90-16 / 16L 2U | ER25 | Ø1 / 16 | 9.ER.25000/... |
| GL90-16 B / RI G90-16 / 16L / B G90-16 / 16L / RI GR90-16 / RI | ER25 WP | Ø1 / 16 | 9.ER.25WP0/... |
| G90-20 / 20L G90-20L/272 GMU-20 G90-20 / 20L 2U | ER32 | Ø2 / 20 | 9.ER.32000/... |
| G90-20 / 20L / B G90-20L/272 / B G90-20 / 20L / RI | ER32 WP | Ø2 / 20 | 9.ER.32WP0/... |
| G90-30 / 30L G90-30 / 30L 2U | ER40 | Ø3 / 30 | 9.ER.40000/... |
| G90-30 / 30L / B G90-30 / 30L / RI | ER40 WP | Ø3 / 30 | 9.ER.40WP0/... |

Maschiatura / tapping



| PINZA ET1 (compensate) COLLET ET1 (compensation) | Code |
|---|------------|
| - | - |
| - | - |
| - | - |
| ET 1-16 (M2 - M8) | 9.ET.16000 |
| - | - |
| - | - |
| ET 1-25 (M2 - M12) | 9.ET.25000 |
| - | - |
| - | - |
| ET 1-32 (M3,5 - M16) | 9.ET.32000 |
| - | - |
| - | - |

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 ES - STD

CHIAVI - WRENCHES ES - STD

1

| MODELLO MODEL | GHIERA NUT | Code | COPPIA SERRAGGIO CLAMPING FORCE (Nm) | |
|------------------|---------------|------|--|--|
| GR90-5 | - | - | - | |

| CHIAVI WRENCHES | Code | |
|--------------------|------|--|
| - | - | |
| - | - | |



| MODELLO MODEL | GHIERA NUT | Code | COPPIA SERRAGGIO CLAMPING FORCE (Nm) | |
|---|---------------|--------------|--|--|
| G90-5 | ER8 | 9.ER.080ES | 5 (6) | |
| GL90-7 G90-7 / 7L | ER11 ES | 9.ER.110ES | 12 (15) | |
| GL90-7 G90-7 / 7L | ER11 ES | 9.ER.110ES | 12 (15) | |
| GTU 10 GL90-10 G90-10 / 10L GR90-10 | ER16 ES | 9.ER.170ES/C | 24 (30) | |
| GL90-10 / B G90-10 / 10L / B G90-10 / 10L / RI GR90-10 / RI | ER16 ES | 9.ER.160ES | 24 (30) | |
| GMU-13 | ER20 STD | 9.ER.20STD | 28 (35) | |
| | ER20 AX | 9.ER.200AX | 52 | |
| GL90-16 G90-16 / 16L GMU-16 GR90-16 G90-16 / 16L 2U | ER25 STD | 9.ER.25STD | 32 (40) | |
| | ER25 AX | 9.ER.250AX | 80 | |
| GL90-16 B / RI G90-16 / 16L / B G90-16 / 16L / RI GR90-16 / RI | ER25 STD | 9.ER.25STD | 32 (40) | |
| G90-20 / 20L G90-20L/272 GMU-20 G90-20 / 20L 2U | ER32 STD | 9.ER.32STD | 136 (70) | |
| | ER32 AX | 9.ER.320AX | 104 | |
| G90-20 / 20L / B G90-20L/272 / B G90-20 / 20L / RI | ER32 STD | 9.ER.32STD | 136 (70) | |
| G90-30 / 30L G90-30 / 30L 2U | ER40 STD | 9.ER.40STD | 176 (220) | |
| G90-30 / 30L / B G90-30 / 30L / RI | ER40 STD | 9.ER.40STD | 176 (220) | |

| CHIAVI WRENCHES | Code | |
|--------------------|------------|--|
| CH-8 STD | 9.CH.08STD | |
| CH-21 ES | 9.CH.210ES | |
| CH-17 ES | 9.CH.170ES | |
| CH-27 ES | 9.CH.270ES | |
| CH-17 ES | 9.CH.170ES | |
| CH-27 ES | 9.CH.270ES | |
| CH-17 ES | 9.CH.170ES | |
| CH-32 ES | 9.CH.320ES | |
| CH-17 ES | 9.CH.170ES | |
| CH-32 ES | 9.CH.320ES | |
| CH-32 ES | 9.CH.320ES | |
| CH-20 STD | 9.CH.20STD | |
| CH-20 AX | 9.CH.200AX | |
| CH-39 ES | 9.CH.390ES | |
| CH-25 STD | 9.CH.25STD | |
| CH-44 ES | 9.CH.440ES | |
| CH-25 AX | 9.CH.250AX | |
| CH-39 ES | 9.CH.390ES | |
| CH-25 STD | 9.CH.25STD | |
| CH-46 ES | 9.CH.460ES | |
| CH-32 STD | 9.CH.32STD | |
| CH-32 AX | 9.CH.320AX | |
| CH-46 ES | 9.CH.460ES | |
| CH-32 STD | 9.CH.32STD | |
| CH-59-ES | 9.CH.590ES | |
| CH-40STD | 9.CH.40STD | |
| CH-59-ES | 9.CH.590ES | |
| CH-40STD | 9.CH.40STD | |